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READERS in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria and Sugar; Light, Roentgen, Radium, *X* Rays; Status Lymphaticus and Thymus; Eye, Ophthalmia and Vision; Bicycle and Cycle; Motor and Automobile; Association, Institution, and Society; Paris, France; Berlin, Prussia, Germany; Vienna, Austria, etc. Subjects dealt with under the various main headings in the JOURNAL have been set out in alphabetical order under their respective headings—for example, "Act, Workmen's Compensation," "Correspondence," "Leading Articles," "Literary Notes," etc.; while under "Original Articles," will be found a list of those who have contributed papers on scientific and clinical subjects, with the titles of their contributions.

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THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

LONDON: SATURDAY, JULY 5TH, 1913.

PELLAGRA IN ENGLAND:

AN ACCOUNT OF FOUR RECENT CASES,

WITH A DESCRIPTION OF

THE HISTOLOGICAL CHANGES IN THE NERVOUS SYSTEM

AND AN ACCOUNT OF

THE HISTORY AND NATURAL HISTORY OF THE DISEASE.

[With Special Plates.]

PELLAGRA is a disease which has hitherto attracted little attention from practitioners in the United Kingdom. Probably it is a rare disease here, for were it common, as it is in certain districts of Italy where it is well known to the public as well as to the profession, its symptoms, whether it runs a swift or a slow course, are sufficiently marked to have ensured its general recognition long ere this.

The cutaneous and nervous systems are those in which the disease produces its most characteristic effects, and the series of papers here brought together are illustrated by Mr. Terzi's fine coloured drawing of the appearances in the case of a boy who died of acute pellagra in St. Thomas's Hospital under the care of Dr. C. R. Box. The histology of the changes in the nervous system observed by Dr. F. W. Mott in Dr. Box's case, and in a case from Egypt, are illustrated by coloured drawings and a series of photomicrographs.

The boy who died in St. Thomas's Hospital had never been out of England, and the disease in him ran a rapid course, lasting not more than about four months. It is now recognized beyond any reasonable doubt that an elder brother, who had been for a short time an inmate of St. Thomas's Hospital in 1910, also suffered from pellagra, but in a much more chronic form, for the history of his illness extended over six years. This elder boy was born in Kilkenny, but was taken when an infant to Leyton in Essex, where his younger brother was born; later on the family removed, first, to Catford, a southern suburb of London, and afterwards to Slough. In the case of the younger of these two boys the disease certainly began about a year ago, while he was living at Slough. Another brother, younger than either of these, has shown unmistakable signs of the disease in a mild form this spring, as is recorded by Dr. W. M. Sadler, of Slough, in Dr. Sambon's paper. This youngest boy was born at Catford, but has lived for the last three or four years at Slough. The cause, therefore, must have existed either at Catford, or Slough, or both.

Dr. Sambon believes it to be an insect-borne infection, conveyed probably by species of *Simulium*, a biting insect which passes its larval and pupal stages in running water. These stages and the perfect insect are shown in the drawings by Mr. Terzi, reproduced to illustrate the paper in this issue by Dr. Sambon, who has also supplied photographs of the Lymington river in which he has found the larvae and pupae of *Simuliidae*, and of one of its tributary streams in the New Forest, near which the perfect insect of two species of *Simulium*, together with species of Culicoides, were obtained. He was led to search for them by the occurrence of a case of pellagra recognized by Dr. Wallace Kay, of Lymington, whose clinical notes are embodied in Dr. Sambon's paper. Dr. Sambon also gives photographs of a stream in Transylvania, and of an irrigation canal, with a considerable current, in Italy, both inhabited by *Simulium*, for comparison with the stream and river in Hampshire.

In October, 1912, Dr. Sambon and Dr. Albert J. Chalmers contributed to this JOURNAL a critical summary of the scanty facts bearing on the endemic occurrence of the malady in these islands, and showed that it was endemic, to a limited extent at least, in some of the eastern districts of Scotland north of the Forth, and in the Shetland Islands. Two of the cases described by them had been recognized by Dr. Cranston Low of Edinburgh, one in 1909, and the other in 1911. It is probable that the lady whose case is described by Dr. Hammond from Shanklin, Isle of Wight, which he believes was an example of pellagra, contracted the disease that caused her death in Banffshire.

I.

FATAL PELLAGRA IN TWO ENGLISH BOYS.

BY

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PHYSICIAN TO OUT-PATIENTS, ST. THOMAS'S HOSPITAL, AND PHYSICIAN TO THE LONDON FEVER HOSPITAL.

ON September 20th, 1912, a lad, E. T., aged 8, was admitted to St. Thomas's Hospital at his parents' request, because they feared that he was developing an obscure nervous disease similar to one which had affected his brother for several years, and finally caused his death at the age of 13.

HISTORY.

The patient, E. T., was born at Leyton, in Essex; later, resided for five years at Catford, in the suburbs of London, and finally removed with his family to Slough. His father and mother are English and not related to each other. His father is an army pensioner, and for the last eighteen months had suffered from aortic disease. The mother was quite healthy. Besides the patient they had had nine children. Five of these are living. One died of laryngeal diphtheria; one of an "acute toxaemia," after an illness of twenty-four hours; and one, to whom reference will be made later, from an illness which was no doubt pellagra.

Onset of Illness.

The patient's nervous symptoms were first noticed in June, 1912, three months before he came under observation, when he "fainted" whilst playing cricket. The "faints" recurred on several occasions. Twitching movements of the limbs and also a transitory convergent squint were noticed later.

On Bank Holiday, August 5th, there occurred a new sort of seizure. He had been stooping but suddenly stood erect, threw his head backwards and would have fallen if not caught. The body became rigid, but consciousness was not lost. Similar attacks occurred several times, always with a premonitory feeling of giddiness. He had never bitten his tongue or been observed to foam at the mouth. Recently he had become more and more unsteady in his movements.

CONDITION ON ADMISSION.

The boy appeared to be of average intelligence. His memory was good and he answered questions readily, but proved to be of an emotional disposition and easily moved to tears. His weight was 43 lb., or 9 lb. below the average for his age. His father attributed this to failure of appetite, saying that there was always plenty of food for the family.

Nervous System.

He was able to walk, but his gait showed a mixture of spasm and ataxy. He moved stiffly with his legs wide apart. The feet were raised high from the ground, steppage fashion, and there was a decided tendency to stagger, this being increased by closure of the eyes.

On the day of admission, whilst his gait was being investigated, he had one of the seizures which had been described by his parents. His head was stiffly retracted, he became rigid, and would have fallen backwards if not prevented. The attack lasted for a few moments only and consciousness was not lost. He cried quietly all the time.

A coarse nystagmus which accompanied all movements of the eyes was always present, and his speech was rather indistinct. These were the only abnormalities of the cranial motor mechanism. The pupils were active and equal; the optic papillae were quite healthy. Hearing, vision, taste, and smell proved to be normal.

Even when lying in bed the muscles of the arms and legs, particularly the latter, were in a condition of moderate rigidity, but they were not wasted, and there was no appreciable weakness. All voluntary movements appeared stiff. It was also evident, particularly when he was being photographed, that irregular, spasmodic movements of small range were apt to appear both in face and limbs, producing slight jerks which suggested the effect of a faradic shock.

There were no deformities of the feet or hands, and the spinal column was straight.

All the deep reflexes, both in arms and legs, were increased but no clonus could be elicited; the plantar reflex was always flexor in type; the cremasteric, abdominal, epigastric, and corneal reflexes were present.

Sensibility to all forms of stimuli was unimpaired. Subsequently Dr. Sandwith pointed out that there appeared to be some paravertebral tenderness which could be elicited by making firm pressure alongside the vertebral spines, on the right side from the second to the ninth dorsal, and on the left from the seventh cervical to the fourth dorsal.

The boy swallowed both solids and liquids with ease, but all the time he was under observation there was incontinence of both urine and faeces.

Alimentary System.

There was an insignificant rawness of the edges of the tongue and an inflammatory condition of the skin immediately surrounding the anus. The appetite was very capricious and the bowels were inclined to be loose, being opened two or three times a day; later there was a more decided tendency to diarrhoea.

The cardio-vascular and respiratory systems showed no signs of disease. The urine contained neither albumen nor sugar.

The Skin Lesions.

The patient presented a symmetrical erythematous dermatitis of striking distribution which afforded the clue to the nature of his disease. It is well shown in the coloured plate by which this paper is illustrated.

The inflammation involved the backs of the hands and wrists, the orbital regions and bridge of the nose, the nape of the neck and backs of the ears, and, to a slight degree, the points of the elbows.

On the face the dermatitis crossed the bridge of the nose, encircled both eyes and spread slightly on to the malar regions. The skin over this area was reddish in colour, resembling acute sunburn. It was somewhat thickened and showed a decided tendency to desquamate in small branny scales. The eyelids were slightly swollen and the conjunctivae were injected, presenting a lacrymose appearance. The skin of the nape of the neck was less red and rather more scaly, the lateral extensions of the dermatitis behind the ears and to the adjacent mastoid regions were quite symmetrical. The hair of the back of the scalp was dry, lustreless, and thin.

The eruption on the hands had a rougher appearance. When viewed from the dorsal aspects it terminated by a sharp margin across the arm, four fingerbreadths above the wrist. It covered the backs of both hands, extended on to the fingers in less marked form, and on the dorsum of each terminal phalanx assumed a brownish tint which was in marked contrast with the red colour of the rest of the affected area. The nails were healthy, but shallow ulcerations were found in several of the interdigital clefts. The palms of the hands escaped, but the dermatitis showed a tendency to extend from the backs of the wrists across the palmar aspects, especially from the radial side.

At the points of the elbows a brown scaliness of the skin was evident, and, although there was no red eruption on the feet or legs, the skin of each shin when lightly rubbed assumed a very powdery appearance.

When the lad was first admitted the dermatitis had a fairly bright red appearance, but the colour gradually faded to a brownish tint. At no time did he appear to experience either pain or irritation in the affected parts.

Cerebro-spinal Fluid: Blood.

As the result of lumbar puncture, 15 c.cm. of clear cerebro-spinal fluid were withdrawn. The pressure was not increased. The fluid was examined in the clinical laboratory of the hospital, under the direction of Dr. L. S. Dudgeon. No cells were seen, no globulin was found, and the Wassermann reaction was negative.

At the same time the blood was also examined. This too gave a negative Wassermann reaction, and the count was as follows:

Erythrocytes, 3,475,000 per c.mm.
Haemoglobin, 65 per cent.
Colour index, 0.9.
Leucocytes, 5,140 per c.mm.

Differential count:

Polynuclears, 59.5 per cent.
Polynuclear eosins, 1.75 per cent.
Small lymphocytes, 28.5 per cent.
Large lymphocytes, 5 per cent.
Large hyaline cells, 5.25 per cent.


TERZI

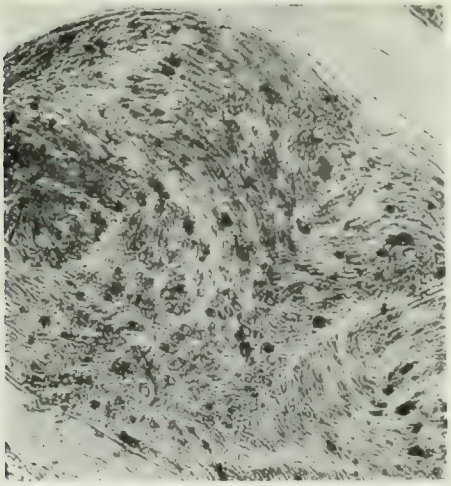


Fig. 1.—Transverse Section—Sciatic Nerve.
Marchi method. Mag. 120.

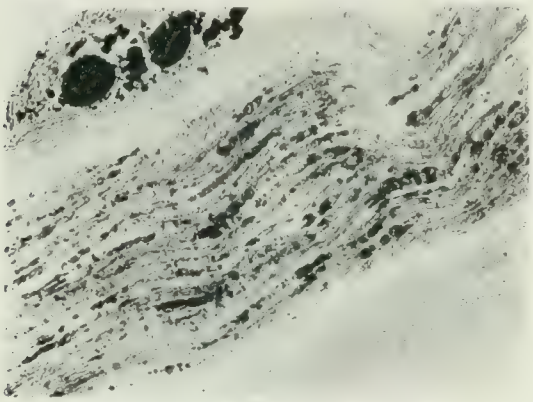


Fig. 2.—Longitudinal Section—Sciatic Nerve.
Marchi method. Mag. 160.

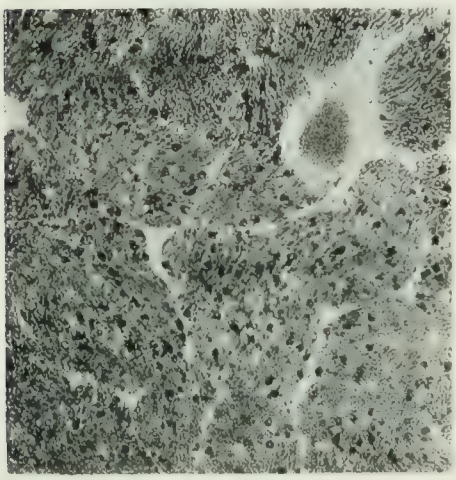


Fig. 3.—Cauda Equina. *Marchi method. Mag. 80.*

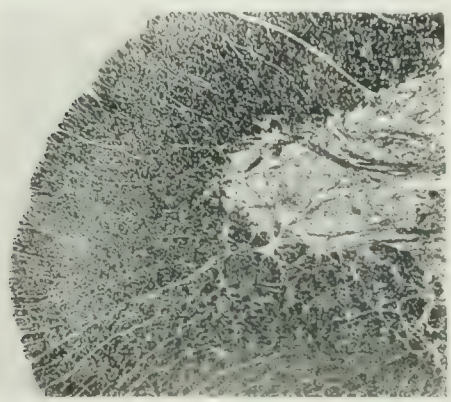


Fig. 4.—Spinal Cord—Cervical Region. Cerebellar Tract.
Weigert-Pal method.

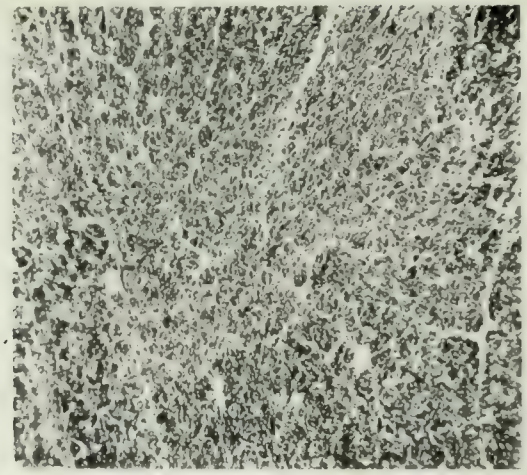


Fig. 5.—Spinal Cord—Cervical Region. Cerebellar Tract.
Weigert-Pal method. Mag. 80.

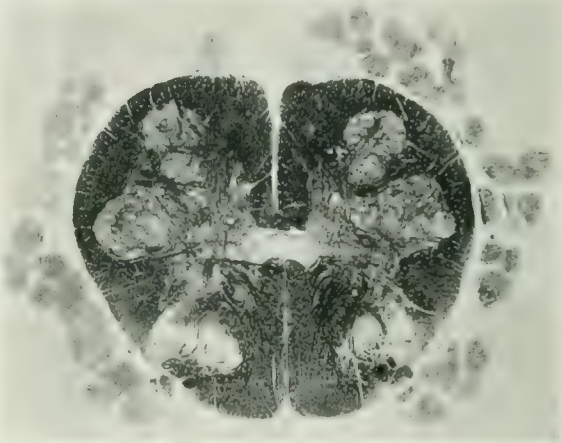


Fig. 6.—Spinal Cord Lumbar Region. *Weigert-Pal method.*

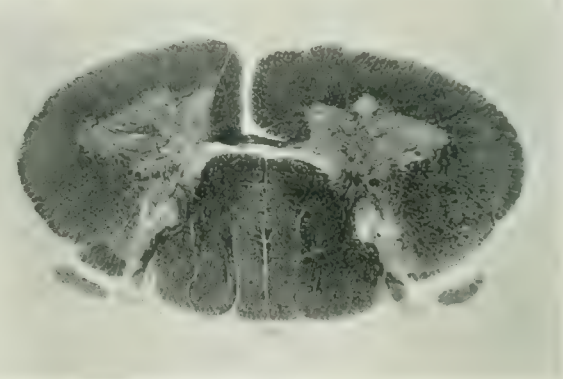


Fig. 7.—Spinal Cord—Cervical Region. *Weigert-Pal method.*

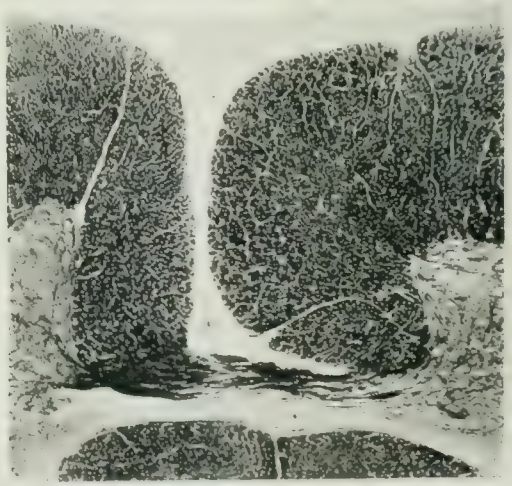


Fig. 8.—Direct Pyramidal Tracts—Cervical Region.
Weigert-Pal method

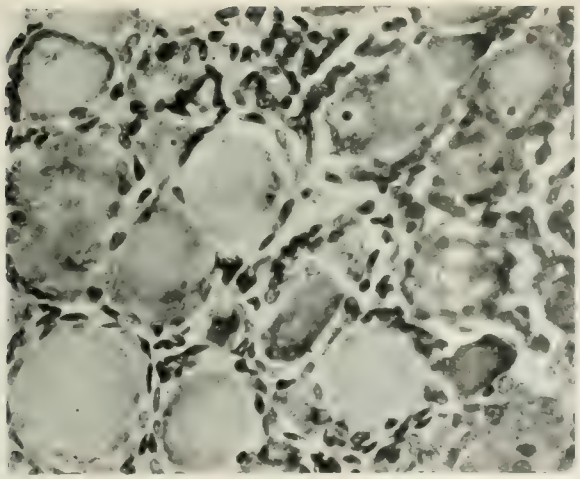


Fig. 9.—**Posterior Spinal Ganglion.**
Polychrome Blue method. Mag. 480.

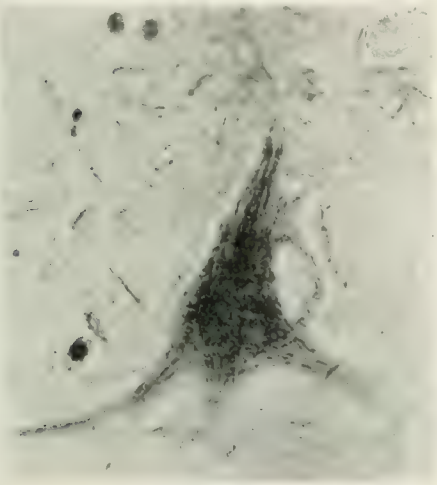


Fig. 10.—**Betz Cell Motor Cortex.**
Cajal method. Mag. 700

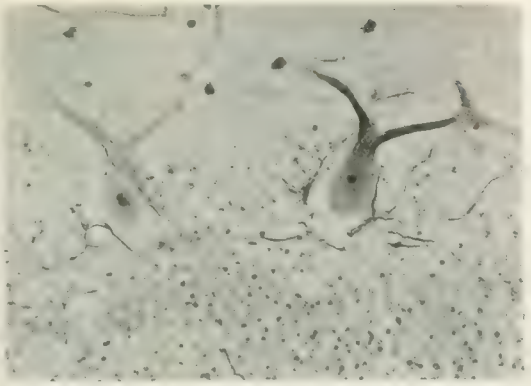


Fig. 11.—**Purkinje Cells (Cerebellum).**
Bielschowsky method. Mag. 300.

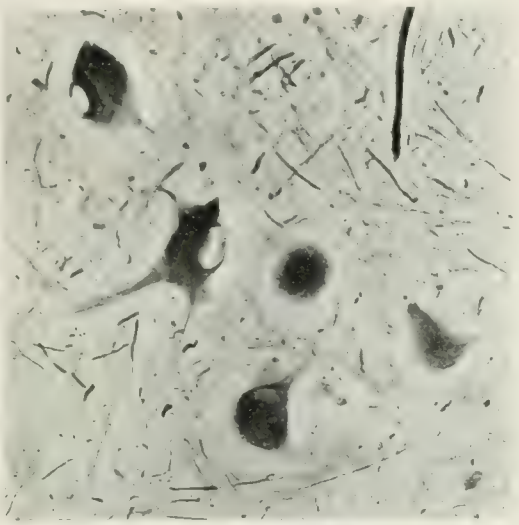


Fig. 12.—**Anterior Horn Cells.**
Bielschowsky method. Mag. 350.

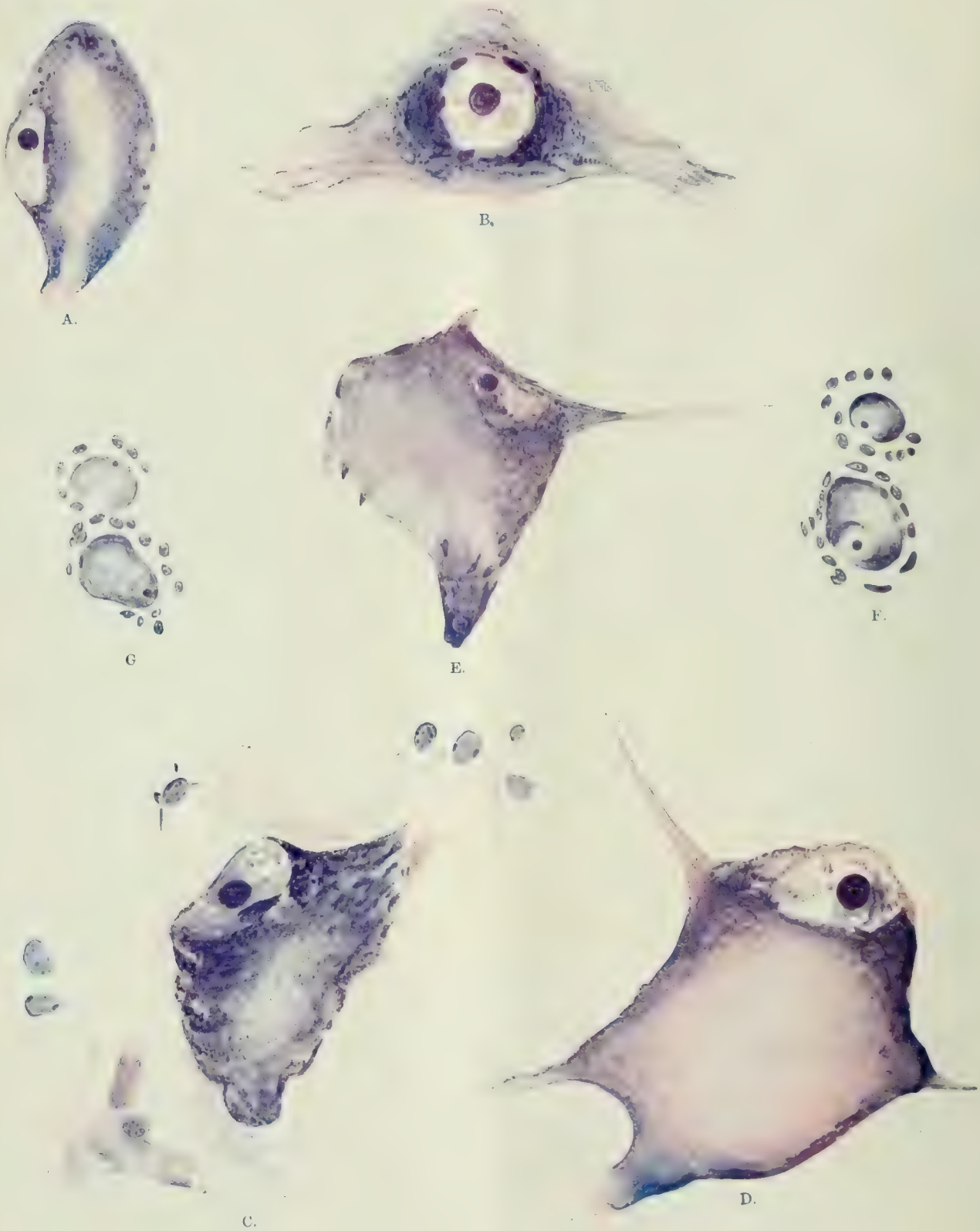
SAMBON: PELLAGROUS DERMATITIS.



Pellagrous Dermatitis. Stage of desquamation. This patient had a large bleb on the back of the left hand. Italian case.



Pellagrous Dermatitis. Hands swollen and oedematous. Italian case.



A. Cell, Clarke's column. Cervical Region (Box).
B. Cell, Anterior Horn. Cervical Region (Box).
C. Betz cell, Motor Region (Box).
D. Betz cell, Motor Region (Pearson).
E. Cell, Anterior Horn (Pearson).
F. and G. Posterior Spinal Ganglion Cells.

DIAGNOSIS.

The eruption was recognized as pellagra, owing to its resemblance to the photographs in Drs. Lavinder and Babcock's translation of Dr. Marie's book on the disease. A copy of this work had been given to me by Dr. J. J. Watson of Columbia, S.C., who visited England in 1910.

PROGRESS.

On some days the patient was decidedly more tremulous than on others. Shock-like twitches of the muscles of the face, arms, and legs continued to appear. There were no more cerebral seizures, but a tendency to adductor spasm was superadded to the first observed extensor rigidity of the legs. Spasm of the calf muscles also caused a tendency to walk on the toes. The knee-jerks remained exaggerated, but no extensor response was ever obtained from the soles, and no true clonus appeared.

The patient vomited on one or two occasions, and the appetite was variable, but, notwithstanding this, he put on weight rapidly during the first week, only to lose it again later as he became progressively weaker. The state of the bowels, tending to increasing looseness, has already been mentioned.

During the latter part of his life he developed slight delusions, believing, among other things, that his father was under his bed.

Until the last three days his temperature was practically normal, only rising slightly on one or two occasions.

About a fortnight before death an acute suppurative balanitis made its appearance, and ultimately it became necessary to slit up the prepuce. This was effected under nitrous oxide anaesthesia three days before he died. The patient was very stuporous afterwards, but did to a certain extent regain consciousness. Whilst in this condition the knee-jerks remained exaggerated, and a pseudo-clonus was obtained at the ankle, but no extensor response from the soles. The jerky movements of the limbs continued to occur at intervals. The pulse now became accelerated, and began to fail, whilst respiration was very irregular. The day after the anaesthetic the temperature rose to 101.6°, but soon fell to normal. The next day it barely touched 99.5°. On the third day it ran up to 100.4°, and the pulse rose to 160. After a short stage of irritability the patient died on October 18th, 1912.

NECROPSY.

The *post-mortem* examination was carried out two and a half hours after death.

The body was not greatly emaciated. Fat was still present in the subcutaneous tissues and in the omenta. The eruption could be recognized on the hands and wrists, the elbows, the neck and the face as a brownish scaly thickening.

The mouth, fauces, and tongue showed no macroscopic lesions. The lower third of the interior of the gullet was bile-stained, but the mucous membrane appeared normal. The gastric mucosa was coated with adherent mucus, but not injected, ulcerated, or wasted. The only striking point in connexion with the small intestine was the quantity of mucus present in it. The edges of the ileo-caecal valve were purple and superficially ulcerated; the ulceration extended on to the adjacent wall of the caecum. In the colon itself, near the splenic flexure, was a circular cicatrix, about half an inch broad, and slightly ulcerated at its margin. The appendix was normal in its proximal two-thirds. A tight stricture had caused the distal third to become bulbous. It contained inspissated pus. The mesenteric glands were enlarged; one or two of them contained caseous material which was calcifying. The largest glands were not much bigger than peas. There was no peritonitis, either old or recent. The liver was fatty-nutmeg in appearance and not enlarged. The gall bladder contained dark bile. The weight of the liver was 24 oz. The spleen weighed 2¼ oz. It was normal in colour, and the cut surface presented nothing remarkable. The adrenals and pancreas appeared quite healthy. The kidneys weighed 6½ oz. They were a little swollen, and on section had a pale oedematous appearance. Their capsules could be stripped readily. The bladder, ureters, and rectum were healthy. The prepuce had been slit dorsally, and was somewhat thickened from recent inflammation.

The pleurae and pericardium were free from inflammation or adhesions. The right and left lungs weighed 4 and 5 oz. respectively. They were slightly over-inflated and everywhere crepitant. No tubercles were found in lungs or bronchial glands. The heart weighed 2¾ oz. It was free from valve lesions and its muscle dark and firm. The marrow in the femur and ribs was bright red. The dura mater was healthy, as also were the great venous sinuses of the brain. The pia arachnoid was not oedematous and showed no opacities. The spinal meninges also were healthy. The ventricles of the brain were not distended, and it was difficult to be sure of any sclerosis of the cord before hardening.

A culture made from the blood immediately after death showed, according to Dr. Dudgeon's report, the presence of *Streptococcus pyogenes*.

HISTORY OF THE BROTHER'S FATAL ILLNESS.

R. T., aged 11 years, was admitted to St. Thomas's Hospital on September 27th, 1910, and remained under observation for a fortnight only. He was the sixth child of the family, and, unlike his brother, was born in Kilkenny, but only resided there for five months, the family then leaving that part and removing to Essex.

For several years, possibly six, he had been weak on his legs, and was dull and backward with his studies. He suffered with incontinence of urine. Latterly he had become worse in every way, and for a few weeks his speech had been very indistinct.

In hospital he mostly lay curled up in bed. His mental condition was dull. He was very slow to answer questions and easily moved to laughter. His voice was low-pitched, and he said he could not speak loudly. There was marked weakness of both arms and legs, but no picked-out atrophy of muscles. There was also a tendency to spasticity, particularly in the lower limbs. When he attempted voluntary movements with the hands a coarse intention tremor was noticeable. When he tried to walk his movements were very unsteady; he showed a marked tendency to sway laterally, and almost over-balanced when he turned round. All the arm reflexes were decidedly brisk. The knee-jerks were exaggerated, especially on the right side. No clonus was obtained in the lower limbs, but the plantar reflexes were both extensor in type and there was a double claw-foot.

Movements of the eyes were not limited in any direction, but lateral movements were accompanied by a coarse nystagmus. The optic papillae, fundi, and media were quite normal, but a high degree of hypermetropia was present in both eyes. The pupil reactions were sluggish but complete.

Deglutition was normal. With regard to micturition, sometimes the urine was retained, sometimes there was incontinence.

No defect in cutaneous sensibility could be discovered.

The chest was well formed and its movements good. No pulmonary disease was found. The heart's area was not increased. There were no murmurs. The pulse was regular and varied from 72 to 96.

The temperature was normal throughout.

The only anomaly in the digestive system lay in the action of the bowels. At first these were constipated and enemata necessary. Later there was a somewhat troublesome diarrhoea which needed treatment.

The blood was examined for a Wassermann reaction, with negative result, and the cerebro-spinal fluid showed no globulin and no Wassermann reaction. Not enough for a cell count was obtained.

But little is known about the eruption. It was not specifically described in the notes, or indeed specially noticed in hospital, but in the account of his state on admission he is described as being of a high colour and somewhat tuberculous facies, whilst later a compound tar ointment was prescribed, presumably for the face. We have since learnt from his mother that he did have a rash which appeared three or four years before he came under observation at the hospital; that this rash appeared in the summer only on successive years; and that it was not so pronounced as the rash in his brother's case. It involved the face, neck, and the hands, but did not cause any septic spots between the fingers.

The boy was discharged in fourteen days in much the same condition as when admitted, the disease being diagnosed as an anomalous form of combined degeneration of the cord in some respects resembling Friedreich's ataxy. No suspicion of pellagra arose at the time.

We heard later that he died in January, 1911, but could not ascertain from the parents the immediate cause of his decease. No *post-mortem* examination was made. Both boys were alleged to be fond of popcorn or parched maize, but only had the means to buy it occasionally.

II.

THE HISTOLOGICAL CHANGES IN THE NERVOUS SYSTEM OF DR. BOX'S CASE OF PELLAGRA,

COMPARED WITH CHANGES FOUND IN A CASE OF PELLAGRA DYING IN THE ABASSIEH ASYLUM, CAIRO.

By F. W. MOTT, M.D., F.R.S.,

PATHOLOGIST TO THE LONDON COUNTY ASYLUMS; PHYSICIAN TO CHARING CROSS HOSPITAL.

Method Employed for Preparation of Specimens.

The brain, spinal cord, and a few of the posterior spinal ganglia and a small piece of the sciatic nerve were sent for examination. Portions of tissue obtained from various parts of the central nervous system were separately hardened and fixed in Müller's fluid for subsequent examination by the Marchi method for recent degeneration, and by the Weigert and Weigert-Pal methods for fibre system degenerations. Other portions were hardened for a few days in 5 per cent. formalin, and transferred to alcohol in successive strengths for examination by Nissl methods; some portions of the formol fixed tissues were subjected to the Bielschowsky method for demonstration of fibril changes in the cells.

The Müller hardened tissues were treated by the celloidin method before sections were cut by the Jung microtome.

The formol hardened specimens were embedded in paraffin and cut in the Cambridge rocking microtome. The sections were 10 μ in thickness. (The number and letters refer to the figures on the special plate.)

Changes in the Fibres.

The changes observed in the fibres by the Marchi method were as follows:

Sciatic Nerve.—Recent scattered degenerated fibres were found in all the longitudinal and transverse sections of the sciatic nerve, not limited to any bundle of fibres, but general, though somewhat unequal in numbers in all. Fig. 1 shows one of these bundles in transverse section; the black dots are the degenerated fibres. Fig. 2 shows a bundle in longitudinal section; owing to the piece of nerve not having been pinned out on cork when placed in the hardening fluid before I received it, the fibres are curled, consequently the sections have cut many of the fibres obliquely.

Cauda Equina.—The roots of the cauda equina show similarly scattered degenerated fibres (Fig. 3).

Spinal Cord.—There is general diffuse and scattered degenerated fibres throughout the white matter, more marked in the postero-lateral and posterior median columns than elsewhere.

Changes in the Fibre Systems.

The changes observed in the fibre systems by the Weigert and Weigert-Pal methods were as follows: There is a slight general diffuse sclerosis throughout the white matter of the cord in all regions, but in certain regions there is a perceptible naked-eye combined sclerosis affecting the direct cerebellar and Gowers's tracts, Goll's column, and the crossed pyramidal tracts. The ascending degenerations are very observable, as Fig. 4 shows in the cervical region. This is to be expected, because in this region all the fibres belonging to these tracts have taken up a definite position; consequently disappearance of the fibres and replacement by neuroglia tissue is more obvious to the naked eye, but microscopic examination in any part of the cord shows the outfall of fibres in these systems and their replacement by neuroglia.

The descending degeneration in the crossed pyramidal tracts is obvious to the naked eye, but, aided by a hand lens, is very evident in the lower lumbar and sacral regions (Fig. 6). Examination microscopically shows an outfall of fibres and replacement by glia tissue of the crossed pyramidal systems in any part of the course. The direct tract is much larger on one side than the other, and in the cervical region a well-marked outfall of fibres with sclerosis is observable with a low magnification. This is more obvious on the side where the direct tract is the larger. Some scattered sclerosis can be observed in the pyramids of the medulla.

Changes in the Central Nervous System.

As to the changes observed in sections of the cerebrum, cerebellum, pons, medulla, spinal cord, and spinal ganglia cut by the paraffin method, and stained by Nissl, Polychrome, Giemsa, logwood and eosin, and Van Gieson methods, it may at once be said that in none of the sections examined was there any evidence of meningeal or perivascular infiltration with lymphocytes or plasma cells, or with polynuclear leucocytes. Consequently the terminal streptococcal infection had not invaded the cerebro-spinal fluid, and could not, therefore, account for the changes in the neurones by a local inflammatory condition. The absence of chronic meningo-encephalitis and meningomyelitis, so characteristic of protozoal diseases, contraindicates the protozoal theory of the origin of pellagra, yet it does not disprove it, for in malaria the vessels may be filled with the organisms and yet no inflammatory perivascular and meningeal reaction is seen; moreover, although all the changes are like those produced by a chronic toxaemia, yet the cause of that toxaemia has not been satisfactorily determined. Whether the two ulcers found in the intestines had any relation to a chronic toxic infection it is difficult to say. The combined sclerosis is not unlike that found in a pernicious anaemia which we know may be due to a streptococcal toxaemia.

By any one of the methods mentioned the following changes may be observed:

All the posterior spinal ganglion cells show in varying degrees a marked chromatolysis, swelling of the cell, disappearance of the Nissl granules, except at the periphery, and frequently eccentric position of the nucleus (Figs. G and F). All the anterior horn cells and their homologues in the medulla and pons show varying degrees of perinuclear chromatolysis; in some instances the cells are so markedly swollen, and the nucleus is so eccentric, that it appears as if the cell were dead (Fig. D). There was a marked chromatolysis of the cells of Clarke's column.

The Betz cells of the cortex showed similar changes (Figs. C and D), but not so marked; likewise the cells of Purkinje; the pyramidal cells of the cerebral cortex did not appear to be markedly affected.

Wherever the nervous system was examined the cells which normally have a Nissl pattern seemed to show a change in the nature of a disappearance of the granules, partial or complete, without any evident changes in the vessels of an inflammatory nature to account for the same. Seeing that there is a combined sclerosis of the cord, obviously these changes could not be of quite recent origin, and therefore capable of being explained by the terminal generalization in the blood of streptococci from the balanitis. Moreover, my experience tells me that the nerve-cell changes rather indicate a chronic toxaemia.

Changes in the Cells.

The changes observed in the cells by Bielschowsky fibril method were that the anterior horn cells (Fig. 12) and the cells of Purkinje (Fig. 11), also the Betz cells, but to a less degree, showed in varying degrees, in different parts of a section and in various regions examined, fibril changes similar in character. Some cells show hardly any fibrils, others a few, others appear quite normal (Fig. 10), as if they had been affected in different degrees of intensity by the poison. This is not an unusual condition of things in chronic toxic conditions affecting the nervous system.

Comparison of these changes in the cells of Dr. Box's case with those of a pellagrous patient who died at the Abassieh Asylum—for the notes and material of which I am indebted to Dr. R. W. J. Pearson—show that there is no essential difference. There is a combined sclerosis

of the spinal cord more marked in the Egyptian case; there are the same changes in all the ganglion cells of the spinal cord and brain, and there are no signs of acute or chronic vascular or meningeal inflammatory changes.

The following are Dr. Pearson's notes of his case:

REPORT OF AN EGYPTIAN CASE.

A native woman, belonged to the Mudirieh of Menoufieh. Nationality, Egyptian; aged 30 years; religion, Moslem. Not addicted to alcohol or hasheesh. First attack; admitted September 18th, 1911; died November 16th, 1911. Bodily state on admission: height, 150 cm.; weight, 6 st.; nutrition, bad; temperature, 37.1° C.; facial expression, good; eyes—pupils round, central and equal; both eyes react to light and accommodation; pulse—weak, small and quick, 120 per minute; heart—pulmonary sound accentuated, otherwise normal; tongue—clean and steady; lungs—slight rhonchi in right lung near apex; respirations—17 per minute; bowels—has diarrhoea. Extremities—pellagrous rash over dorsum of hands and back of forearms, over dorsum of feet, over the knees, and the backs of the elbows. Nervous system—reflexes; knee-jerks exaggerated; no ankle clonus nor Babinski; speech—she speaks in syllables, due to weakness; gait—affected, due to weakness; sleep—good. Mental—does not know the day nor date, she speaks fairly sensibly; says she came to Cairo for her illness; does not see visions nor hear voices.

September 19th, 1911. The patient has a dull melancholic expression. She is very depressed. She is disconnected in time and space; does not know where she is, or what day or date it is. Her mental reaction is very slow, and she seems to have great difficulty in expressing herself. She is very confused and incoherent. Her physique is below the average and she is much emaciated. She has a pellagrous rash on the face, round the eyes, and across the nose, also on the hands and forearms, feet and legs, knees and elbows. She has a marked tenderness on pressure over the posterior nerve roots. Her tongue is denuded of epithelium, and her parotids are markedly thickened. Her lungs are sound. Her heart has a very feeble action and there are haemic murmurs at the base. Her chest wall is sound. Her eyes react to light and on accommodation. Her knee-jerks are increased; no ankle clonus nor Babinski's sign. She denies hasheesh and alcohol, and there is no history of them. She says she is very poor and has eaten a lot of dhurra shawi. There are no signs of syphilis. She has pellagrous diarrhoea, and is in a very weak condition. She is not suicidal.

October 11th, 1911. The general condition of the patient has slightly improved. Mentally she is not so confused now, and her mental reaction is quicker than on admission. The pellagrous (black) rash over her nose and eyelids is beginning to peel off, also the rash on her hands and feet. She has a peculiar gait, very like the gait of paralysis agitans, without the tremors of that disease. Her head and shoulders stoop forward in a "hunchback" fashion. Her knees are flexed and she walks flat-footed. Her muscular system is wasted and weak, and the patient supports herself with the skeletal system and ligaments rather than the muscles. The diarrhoea is getting somewhat better. Her tongue is denuded of epithelium. The enlargement of the parotids persists. Her knee-jerks are still exaggerated, but there is no ankle clonus nor Babinski's sign. She still has marked tenderness over the posterior nerve roots. Her eyes react to light and accommodation.

October 26th, 1911. The pellagrous rash is reappearing on the elbows, but is completely peeled off from the face and hands, leaving a whitish inelastic skin. The patient is getting more shaky and unable to sit up. She has stomatitis; she says she is well and strong.

November 2nd, 1911. The patient is helpless and depressed. She is chattering and incoherent; in a condition of typhoid pellagra.

November 16th, 1911. The patient died at 6 a.m. after prolonged exhaustion.

Extract from Post-mortem Notes.—The *post-mortem* examination was made on November 11th, 1911. Condition of body and external appearances: Very emaciated, with black pellagrous rash on feet and hands, elbows, etc.; parotids markedly enlarged and tongue denuded of epithelium; markedly anaemic. Calvaria—450 grams, thickened and dense. The brain was kept for examination later and was not cut at the *post-mortem* examination. The dura mater was a good deal thickened and was adherent to the calvaria, so much so that the brain had to be removed with the calvaria still *in situ*, and afterwards carefully separated from it. There was a distinct excess of cerebro-spinal fluid. The spinal fluid below the medulla (where it is cut in removing the brain) had a lot of blackish-brown pigment in the membranes, which was granular to the feel. Heart—160 grams, pale, anaemic, flabby, and somewhat atrophied; no organic lesions of the valves; no atheroma of the aorta or coronary arteries. Right lung—300 grams; some pearly old adhesions all along anterior border. At the base of the right lung a small cavity, necrotic in origin, was found; no signs of tubercle; congested at base. Left lung—some pearly old adhesions along anterior border and surface of lung; no signs of tubercle; congested at base. Liver—1,040 grams; anaemic, otherwise normal; gall bladder contained some blackish liquid bile; no gall stones. One bilharzia worm was found in the specimen of portal blood taken. Right kidney—100 grams; somewhat hard and fibrous; capsule strips easily; pelvis congested. Left kidney—120 grams; capsule strips easily; somewhat fibrous; pelvis congested. Spleen—170 grams; very congested; soft and friable. Intestines—the small intestine in normal condition; the large intestine in condition of chronic colitis with denudation of epithelium and patches of marked congestion with ecchymoses and arborization of blood vessels. The stomach dilated and thinned with denudation of epithelium. The intestines as a whole showed the thinning and transparency typical of pellagra.

The bladder had granular sandy patches of bilharziosis. The spinal cord was removed and preserved for examination.

This case came from a district where the maize which the people had eaten was very bad. My assistant, Mr. Mann, has made a preliminary examination of this maize, and he finds that compared with sound maize there was a considerable diminution of phosphorized lipoids. It is possible that any impoverishment of diet, by which certain essential substances in the blood fall below the physiological minimum, may play an important part in the degenerative process of the nervous system. Still, here we find these two cases of Dr. Box, in which diseased maize certainly could not have played any part in the production of degeneration of the nervous system, similar in histological details to those of a case which had come from a pellagrous district in Egypt, where unsound maize had been a staple article of diet. It seems that we must look for some other etiological factor as the essential cause of this disease, and we can but admire Dr. Sambon's enthusiasm and energy in the endeavour to show the protozoal origin of pellagra by its epidemiology.

I wish to express my indebtedness to my assistant, Mr. Charles Geary, for the photomicrographs and preparations, and to Major Fink for drawing the coloured plate.

NOTE.—The whole of the photomicrographs—Figs. 1 to 12—are of microscopical preparations from Dr. Box's case.

III.

THE NATURAL HISTORY OF PELLAGRA.

WITH AN ACCOUNT OF TWO NEW CASES IN ENGLAND.

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IN an article published jointly with Dr. A. J. Chalmers in the JOURNAL of October 26th, 1912, I endeavoured to show that pellagra is not foreign to the British Isles as hitherto believed, and that its presence in Scotland can be traced back with certainty to the year 1863. At that date a typical indigenous case from Arbroath, Forfar, was recognized by Dr. James C. Howden, then Superintendent of the Montrose Royal Asylum, and published three years later in the April number of the *Journal of Mental Science*. Prior to this we find two probable cases mentioned by Dr. E. Billod in his *Traité de la Pellagre* (Paris, 1865, p. 101). Both occurred in the same family, inhabiting some remote village in the "extreme north-east of Scotland," and were notified to Dr. Billod in December, 1860, by Dr. W. A. F. Browne, at that time Inspector-General of the Scottish Lunatic Asylums.

From 1866 we have to come down to 1906 for the next record of an indigenous case, and that a very doubtful one from Cheshire, published by Dr. Andrew Cassels Brown in the *Practitioner* of May, 1906.

In the *Edinburgh Medical Journal* of September, 1909, Drs. R. Dods Brown and R. Cranston Low described an indubitable case in a young woman from Shetland, who was admitted to the Royal Edinburgh Asylum on July 13th, 1908.

In 1912 I journeyed with Dr. Chalmers through the eastern districts of Scotland to visit places where we knew that pellagra cases had occurred, and we were able to establish that the disease is certainly endemic in Fifeshire, Forfarshire, Aberdeenshire, and the Shetland Islands. We reported several new cases, and amongst them, thanks to Dr. R. Cranston Low's courtesy, we were able to describe the unpublished case of a woman from Colingsburgh, Fifeshire, who had died of typical pellagra in Edinburgh in 1911.

On my return to London I found a letter from Dr. F. M. Sandwith informing me of the presence of a possible case at St. Thomas's Hospital under the care of Dr. Box. I went to the hospital with Dr. Chalmers, and we found the case to be absolutely typical. (The coloured plate shows

the appearances.) It was the first indubitable case recognized in England, and the patient, a boy 8 years of age, had never left the neighbourhood of London (Leyton, Catford, Slough). Dr. Box told us that the brother of this pellagrin had died, presumably of the same affection, the year previous, but that the disease had not been recognized at the time. Dr. Box's case was so characteristic and interesting that, with his kind permission, I got Drs. Cantlie, MacLeod, Pernet, and Abraham to see it. Dr. MacLeod had already examined several pellagrins from the north of Italy in Rome, at the time of the International Dermatological Congress in April, 1912, and had visited with me Zagarolo, a district at the foot of the Prenestini mountains, where the disease is endemic. Two more British cases have recently come to my knowledge—one from Beaulieu in the New Forest, Hants, the other from Slough, Bucks. Of the first case I was informed in November, 1912, by Dr. Wallace Kay of Lymington. I went to Lymington with Dr. Chalmers, and we were shown a typical pellagrin recovering from a severe recurrence. The characteristic dermatitis having reappeared in April this year, I returned to Lymington with Dr. McClure and Mr. Amoruso to study both the patient and the locality.

The following is a note by Dr. Kay:

> G. L. was born in Beaulieu of English parents, and has never been out of the district. He is a strong, well-built man, 36 years of age. His occupation is that of kitchen gardener, and his economic conditions are good. He states that he has never used maize as an article of food, but may have crunched a grain or two occasionally, whilst giving it to fowls. Close to where he lives there are streams harbouring *Simuliidae*, and he says that at times in the evening he has been bitten by small black flies while gardening. When first I saw him last year, about the end of February, he presented a symmetrical erythematous dermatitis involving the face, the neck, the dorsum of the hands and feet, and the scrotum. He complained of weakness, of headache, and of dizziness, especially when rising from the stooping posture. His eyes had a startled look, his hands showed tremor, and he was very depressed at times. Pressure along the spine provoked pain, and the knee-jerks were somewhat exaggerated and unequal. There was diarrhoea.
>
> The present illness appears to have begun in 1911, towards the end of the summer, with a sunburn-like redness which affected the back of the hands only, lasted about one month and then went away. At the time the patient did not seek advice.
>
> Early in February, 1912, the rash reappeared, first on the back of the hands, then round the neck and on the face, later on the dorsum of the feet, and lastly on the scrotum. It lasted until the middle of December, the epidermis desquamating like ordinary scurf. The hands and lips were swollen and the patient complained of a feeling of burning in the erythematous areas which was increased by exposure to sunlight. Indeed, in order to protect the affected parts he wore a muffler round his neck and covered his hands with linen gloves.
>
> The patient during winter apparently recovered, but this year, towards the end of April, again the eruption appeared on hands and face. Up to the time of writing it has remained limited to these parts, but he has not exposed himself to the sun, so it is hardly fair to judge.
>
> When one considers all the foregoing points, the appearance of the first eruption at the end of summer, its second appearance at the beginning of spring and its third recurrence also in spring, the remission of symptoms and improvement during winter, the bilaterally symmetrical erythema with subsequent desquamation, the vertigo, the tremor, the depression of spirits, the bodily weakness, the burning of hands and feet, the diarrhoea, etc., one cannot help but come to the conclusion that the case is one of true pellagra.

So far I have not seen another case, but I have really had no time to hunt for them.



Lymington River, Boldre Bridge.

Together with Mr. Amoruso, who assisted me in my earlier Italian investigations, I followed the Lymington river between Lymington Bridge and Brockenhurst and examined many of its tributary streams. In all of them we found larvae and pupae of Simuliidae. In some there were two and perhaps three different species. The larvae and pupae were attached either to stones or to water weeds and driftwood. A favourite site seemed to be that part of the Lymington river between Boldre Bridge (see photograph) and the foot bridge west of Rodlease Rough, which was full of submerged aquatic plants and great patches of water crowfoot (*Ranunculus aquatilis*) in the full glory of its snow-white bloom. In one small stream at the bend of the Boldre Road between Boldre Grange and Sandy Down we found numerous Simulium larvae attached to a piece of submerged newspaper. Nowhere, however, were we able to find any Simuliidae on the wing except in the forest along the stream running through Dawkins Bottom, east of Setley, which is shown in another photograph. Here we were able to capture several kinds of blood-sucking flies, amongst which were two species of Simulium and two species of Culicoides. Mr. E. E. Austen, Dipterologist to the British Museum, kindly determined these flies, and found the Simuliidae to be *Simulium lineatum*, Mg. (*apud* Roubaud) and *Simulium reptans*, L. (var. *fasciatum*, Roubaud); and the Ceratopogoninae to be *Culicoides pulicaris*, L., and *Culicoides varius* (Winn.), both of which are common and widely distributed in the British Isles. Drawings by Mr. Terzi of *S. reptans* and of larva and pupa are reproduced to illustrate this article.

The second case I have to mention is that of F. T., a boy of 7, brother of Dr. Box's patient, and the third person to be attacked by pellagra in the one family. Dr. W. M. Sadler of Slough, who attends the family, very kindly supplied the following information:

Attention was first drawn to the boy in February of this year by his parents, who noticed a reddish, somewhat scaly appearance of the cheeks which was not unlike that noticed on the brother who died of pellagra at St. Thomas's Hospital. He had a similar eruption on the dorsum of the hands extending to the wrists. The boy was quiet, but not dull. The knee-jerks were a little brisk, but there was no spasticity or ataxy of upper or lower limbs, nor diarrhoea. The rash during the four months he has been under observation has gradually faded and no other symptoms have appeared. On the cheeks and hands now there is a little roughness. The parents stated that he has not eaten maize at all.

I had the opportunity of examining this child in London at the end of May, when the eruption was disappearing, but both the face and hands still presented unmistakable evidence of the characteristic dermatitis. The face lesions were complicated by a secondary streptococcal impetigo which I had noticed also in the brother that died at St. Thomas's Hospital.

In this patient the eruption was slight and was not accompanied by any other appreciable symptoms. The case was exactly similar to many I have seen amongst the children inhabiting pellagrous districts abroad. It would have been overlooked, like the majority of cases in this stage, if not specially looked for. Both the brothers who died of the disease had presented similar slight manifestations prior to the more severe recurrences which put an end to their lives. Believing such mild pellagrous conditions to be of the greatest epidemiological importance, I showed the little pellagrin to Drs. Cantlie, MacLeod, Newham, McClure, and G. C. Low. Together with Dr. Low I examined the boy's blood, and we noticed, as usual, a relative increase of the lymphocytes (small lymphocytes) which appears to be a characteristic feature of pellagrin blood.



Stream in New Forest.

It would be of the greatest interest and importance to know precisely where and how the three T. children acquired pellagra.

As in the other British cases, maize is out of the question. Popcorn (parched maize) was suggested as a possible factor in the case that died in St. Thomas's Hospital, but the parents have assured me that, so far as they know, their children never eat maize in any form. Neither can poverty play any part, because the T.'s are in good economic conditions, and the food of the children has been always plentiful and good. The family came from Kilkenny to Leyton in 1899. At Leyton they resided for about five years, then they moved to Catford for another period of five years, finally settling in Slough. Of the three pellagrin children, the first was born in Kilkenny a few months before coming to England, the second was born in 1904 at Leyton, the third in 1906 at Catford. Whilst at Leyton the T.'s often spent long hours at Wanstead Park close to the Roding river; in Catford the children were frequently in Ladywell Park playing along the Ravensbourne river, which flows through the park for over a mile. In Slough they live quite close to a small stream which runs by the side of Ragstone Road. Mr. Amoruso visited all these places, and found Simulium larvae and pupae in the Roding, in the Ravensbourne, and in the Slough stream.

The little boy who presented a pellagrous rash this year for the first time was never at Leyton, therefore he must have contracted the disease either at Slough or Catford. The first case, which remained unrecognized, died soon after going to live at Slough, and had presented a rash on the face, neck, and hands during the spring or summer of three or four successive years; therefore he must have contracted the disease either at Catford or, possibly, at Leyton. The second pellagrin, Dr. Box's case, might have contracted the disease in any of the three above-mentioned localities; but, taking into consideration the three cases, it would seem more reasonable to suppose that all contracted it at the same place, and therefore at Catford, which seems to offer very suitable conditions.

Of course I exclude direct contagion, because the literature almost entirely and my own experience are unequivocally opposed to it. Pellagra is essentially an endemic disease. Like malaria, yellow fever, sleeping sickness, and other endemic diseases, it has its scattered, strictly limited stations, invariably and necessarily associated with the same peculiar ecological conditions. Within these stations the disease is rampant and affects newcomers; outside these stations it cannot be contracted, notwithstanding close and continued association with immigrant pellagrins. The most essential and striking physiographical feature in the pellagra station is the more or less swiftly-flowing stream. Pellagra appears to be linked to briskly-running water just as necessarily as malaria is linked to stagnant water. Indeed, it is interesting to note that in countries such as Italy and Roumania, where both malaria and pellagra prevail extensively, the two diseases, though overlapping in places, exhibit a decidedly inverse distribution. Pellagra prevails chiefly in the Piedmont section of the highlands trenched by lively streams; malaria prevails in the swampy lowlands.

In the non-endemic areas of pellagra countries, pellagrins are, as a rule, either absent or very scarce, and one rarely finds more than one or, at most, two cases in a single family or household; the patients are usually adults who work, or who have worked at some time or other, at some distance from home; young children who have never left the place are not affected. Within the endemic stations the disease is not limited to a few adults, but, as a rule, attacks all ages, both sexes, and entire families. Indeed, in certain places in Italy, such as Costapennacchio, near Nocera Umbra, Paradiso, and Rivotorto, near Assisi, Villa Pitignano and Cordigliana, near Perugia, Morra and S. Leo Bastia, near Città di Castello, I found practically the entire population to be affected, exactly as is the case with regard to malaria in many malarious localities. In my "Progress Report" of 1910 I gave the name and address of several families of no less than eight, ten, or more members, all presenting unmistakable signs of the disease.

Many more examples were met with by Dr. Chalmers and myself in places along the Brenta river in Southern Tyrol, and along the Brenta and Piave in Italy. Not infrequently, however, in families which have long resided in an endemic centre, the disease, although always evident in young children, is rarely manifest in the adults, who seem to have acquired a relative immunity not unlike that which is observed with regard to malaria in the inhabitants of malarious localities.

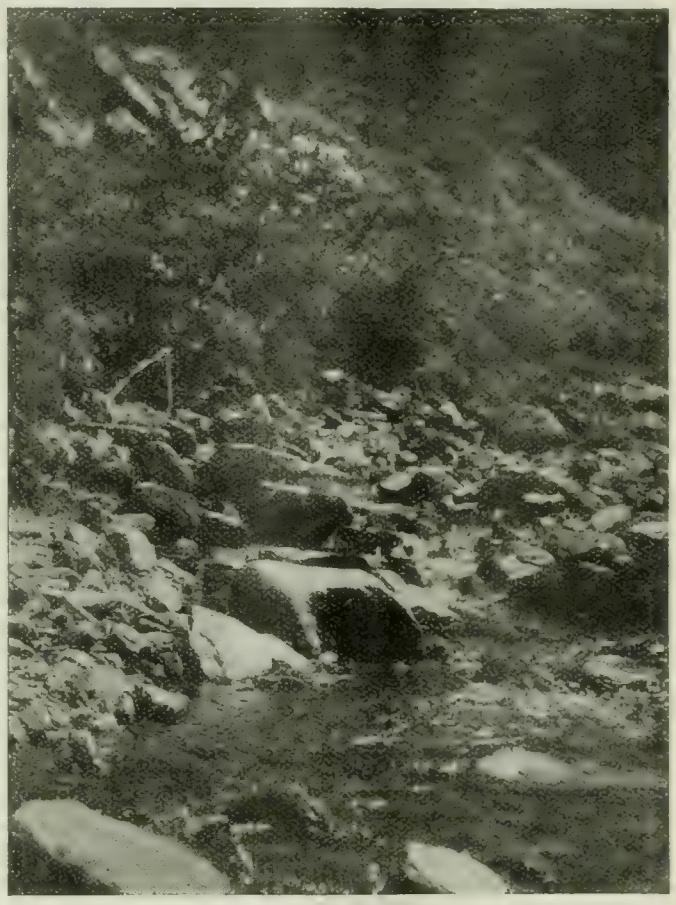
No place can be looked upon as a true pellagra station unless the disease is found to occur in very young children who have never been out of the locality. A number of authors, both old and recent, assert that pellagra is very rare in young children. My personal experience is that children are very liable to contract it, and that, within active pellagra stations, the incidence of the disease in young children is exactly the same as that of malaria in the children of malarious localities. The youngest case I can mention is that of an infant, Luigi Anselmi, of Le Cupe, on the Nestore stream, near Abbadia di Petroja, Italy, who developed the disease in 1911, when only 3 months old. At the time of my visit he still presented unmistakable evidence of the characteristic rash on the face and the dorsum of hands. Of the nine members of the Anselmi family living at Le Cupe no fewer than seven were manifestly pellagrins. They complained of the "mosciolini" (little flies) which at times were exceedingly troublesome, and I found numerous larvae and pupae of Simulium on the stones in the bed of the Nestore. On the left bank of the stream I met the youngest members of the Anselmi family driving a herd of pigs, which I was told also suffered each spring from a pellagra-like erythema.

I have seen two other infants who were attacked by the disease at the ages of 4 and 5 months respectively. But such early cases are somewhat rare, the disease occurring, as a rule, between the sixth and eighteenth month. Pellagra, in fact, may occur at any age, and I have seen it frequently in elderly men and women who had contracted it for the first time after their fiftieth year of life. In several cases I found that the children had contracted it long before their parents, for the simple reason that they had gone to work in a pellagrous district several years before their parents.

One of the most important facts which I can bring forward in support of my theory of the etiology of pellagra is that of the almost inevitable infection of persons recently settled in a pellagrous locality. I have had the opportunity of observing it again and again. In my "Progress Report" I mentioned a few examples, such as that of the Pavinato family seen at Chiesanuova, near Padua, in the presence of Surgeon-General Blue, U.S.A., Captain Siler, U.S.A., and Dr. Lavinder. The Pavinato family consisted of a man, his wife, and five children. The parents were apparently healthy, but the five children presented evident signs of pellagra. All had contracted the disease during the same week, in the spring of the previous year, soon after reaching Treponti, a pellagrous locality amongst the Euganean hills in the province of Padua.

In the same year, at the Pellagrosario of Città di Castello, I had the opportunity of examining Veronica Pierni and her seven months' old infant, both pellagrins. The mother had contracted the disease during the previous year, soon after moving from a healthy village in the Apennines to Passano, on the stream of the same name. In November, 1911, the family Bruni moved from Lerina, near Vicenza, to a place called Contrada Rebecca, in S. Pietro in Gù (Padua). Early in May of the following year three out of its four members had developed marked symptoms of pellagra.

At a place called Pugliola, on the Puglia stream, in the province of Perugia, Drs. Magnini and Lupatelli of Deruta took me to see a boy, 8 years old, who was born and nursed till 5 months old in prison; then, in March, 1903, he was sent to foster parents at Pugliola. Here he developed severe pellagra in less than two weeks.



Kis Riska, a typical Simulium stream at Hideg Szamos, Transylvania.

At Castione della Presolana, a mountain district in the province of Bergamo, Professor Balp took me to see Giovanni Ferrario, a powerfully-built man, 63 years of age, who had spent most of his life working in the mine districts of France and Germany. Nine years ago he had given up mining, and had bought some land in the neighbouring province of Brescia. There he contracted the disease the very first year he took up field work on his own property. When I saw him he was recovering from the fifth recurrence. This man had two sons; both had contracted pellagra many years before their father. Both had contracted it at the same time in the province of Brescia, whither they had gone together for field labour, one being 11, the other 9 years of age at the time. Their mother and sister, who had never been out of Castione, had always enjoyed perfect health.

These and many other cases that I might quote show very clearly, I think, that even strong, healthy people are liable to contract pellagra on moving into an endemic centre of the disease, and that infection usually takes place within the first epidemic season soon after exposure to the specific infective agent. Therefore, in this respect, pellagra is analogous to malaria, yellow fever, sleeping sickness, and other infectious diseases, with well-defined topographical limitations, which limitations are explained by and are dependent upon the biological necessities of their special insect intermediaries with corresponding topographical limitations.

Even in the old literature of pellagra cases can be found illustrating this fact in a striking manner. Thus, Balardini states that, according to Dr. Catotti of Borgonato and Dr. Ferrari of Orizinovi, the Tyrolese mountaineers who used to come to Lombardy in winter and return to their mountains early in spring, escaped the disease, whilst those who remained to work in the fields "after one year, or little more, contracted the disease."

The most interesting and suggestive observation I was able to make refers to the distribution of pellagra amongst

the islands of the Venetian Lagoon. Venice, with its urban population, is, as is well known, and as is the case in all towns, entirely free from pellagra. The island of Lido, just opposite, is likewise immune. Murano, close by, with its industrial population of world-famous glass-blowers, is also quite free. The islands that harbour pellagrins are: Pellestrina and Chioggia between Lido and the mainland to the south where the Brenta and the Adige flow out into the sea, and the group of islets formed by Burano, Torcello, Mazzorbo, S. Erasmo, etc., between Lido and the mainland to the north about the mouth of the Piave. Both Pellestrina and the Burano group of islets are inhabited principally by fishermen, who fish in various parts of the Lagoon, and not infrequently, especially in spring, for weeks together, along the mainland coast.

Burano is a small islet entirely covered by closely clustered houses. As a town one would naturally expect it to be entirely free from pellagra, just like the neighbouring town-islands of Venice and Murano, yet many of its inhabitants are pellagrins. But, whilst on the neighbouring mainland, and in all pellagrous districts throughout the world, the disease is, as a rule, more prevalent amongst women than men, the Burano pellagrins are almost exclusively men. Moreover, whilst on the mainland the disease is especially common in very young children, in Burano it has never been known to occur in girls, and only very rarely in boys, and not before their tenth year of age. Another interesting and telling fact is that whilst the disease is very common amongst the fishermen, it has never been seen in any of the Burano artisans who go every day to work at the Venice arsenal.



Irrigation canal near Padua, Italy. The water-weeds in the bed of the stream were literally covered by the larvae and pupae of Simuliidae.

It is obvious, therefore, that Burano is not an endemic centre, and that its fishermen, who are very heavily taxed by the disease, contract it whilst fishing along the mainland coast, and especially near the mouths of the Brenta and other streams flowing into the Lagoon, where, they told me, they are at times greatly molested by veritable swarms of small biting flies. This explains why, contrary to the general rule, the disease in this island is restricted almost entirely to adult males and to the older boys who go out fishing with their relatives, and often sleep on the mainland. It explains the immunity of the men permanently employed at the Venice arsenal. It explains the immunity of the Burano women and girls who remain continually on the island to work at that wonderful needle-made lace, the "punto-in-aria," for which the island is famous. It explains the exceptional occurrence of the disease in the very few women who go to work in the fields of the neighbouring mainland. It excludes any idea of direct contagion, either by contact or sexual intercourse. It excludes house infection and direct aërial conveyance. It disposes of the maize hypothesis, because all the Burano people eat the same maize bought in the non-affected town of Venice, and it entirely overthrows the belief in hereditary transmission—a belief which, strange to say, has been most tenaciously held by the majority of "zeists." To my mind, all these facts strongly support the theory that pellagra is an insect-borne disease.

In the narrow, dyke-like island of Pellestrina the conditions are somewhat different. Here nearly one-third of the pellagrins are women, and a few cases have been reported in children who are said never to have been out of the island. There are no streams in Pellestrina any more than at Burano, and infection, if really local, can take place only by means of wind-carried insects from the almost contiguous mainland. In the same island also malaria has been observed in children who have never been out of the island, and the local physician, a well read and intelligent man, told me that *Anophelinae* are not indigenous, but that they suddenly appear and as suddenly disappear with certain winds.

A clinical fact to which I attach much importance, on account of the light it throws upon the etiology of pellagra, is that of the "recurrence" of the characteristic dermatitis and other symptoms every year until the patient either recovers, temporarily subdues the disease, or succumbs. These recurrences continue in patients far removed from the place in which the disease was contracted, and placed in asylums in which not only their surroundings are completely changed, but also their food and other habits.

Three years ago I brought over to London a young pellagrin girl of Promano, a pellagrous locality near Città di Castello, Perugia. This patient had had the disease since early childhood, and her mother, also a pellagrin, had committed suicide during a period of recurrence. The change of food and life habits soon wrought a wonderful improvement in the patient's condition; and yet, in the spring of 1911, and again in April last year, she presented all the symptoms of the usual recurrence—weakness, headache, vertigo, strangeness of behaviour, and redness of hands and face, followed by furfuraceous desquamation of the epidermis of the affected areas.

These recurrences are in every way analogous to the recurrences which are seen in malarial subjects. I do not mean malarial relapses occurring at short intervals during the epidemic season, but the seasonal return to activity of the malarial parasites after their winter latency or "hibernation." It is this seasonal revival of the *Plasmodidae*, in old malarial subjects, that ensures the continuance and dissemination of the disease. Every year we notice first a veritable efflorescence of recurrences in old cases, at the season in which the new mosquito brood begins to assume the imago stage, then after an interval, during which the parasite undergoes its sporogonic cycle within the insect host, the new cases begin to crop up more and more numerous. The very same thing occurs in pellagra. In the first place, we have the spring recurrences in old cases occurring sometimes a little earlier, sometimes a little later, according to the more or less favourable meteorological conditions, then, later in the season, the new cases commence to appear.

Having made this observation in Italy in 1910 I was pleased to learn the year after in Bukarest that it was

fully endorsed by popular experience in Rumania. Drs. Lupu and Mironescu told me that it is common knowledge amongst the Rumanian peasantry that in old cases the pellagrous eruption "*o data cu coltue ierbei*," that is to say, occurs in March, "at the time when the new grass begins to sprout," whilst in new cases it appears always later, in April, May, or even June, obviously suggesting an insect intermediary and the necessary time for the transmission of the causative agent from previously infected cases to new subjects.

In my "Progress Report," published in 1910, I stated that I believed that the *Simuliidae* might eventually prove to be the insects concerned in the transmission of pellagra, especially on account of their topographical and seasonal peculiarities.

The *Simuliidae* are minute (1 to 4½ mm.), thick-set, dark-coloured flies, provided with moderately long legs, often banded with white, and large, broad transparent wings. Seen in profile, their strongly arched and downy thorax and the head with short, stout antennae give them a peculiar appearance, which is vividly depicted by the American name of "buffalo gnats." They have a peculiar darting flight, and the females are vicious biters (the males are inoffensive). The eggs are laid in patches on stones or water weeds, to which they are fixed by means of a gelatinous substance. The larvae are unmistakable. They have an elongated club-shaped body of a greenish-brown colour supplied with a large terminal sucker at the larger posterior extremity by means of which they attach themselves to pebbles, water weeds, and drift wood. The head is strongly chitinized, and bears two large fan-like appendages which, being alternatively retracted and expanded, serve to direct food into the gullet. Just below the head and on the median line of the first body-ring is a conspicuous proleg directed forwards and upwards and tipped by a small sucker. The larva spins a silken thread which offers a further means of attachment, and serves to weave the characteristic pocket or slipper-like cocoon at the time of pupation. The cocoon is open at the larger anterior end, from which protrudes the anterior portion of the pupa with two lateral tufts of long breathing filaments. At the time of pupation a bubble of air gathers round the splitting pupa case, and the emerging fly rises in it to the surface of the water without wetting its large iridescent wings.



Fig. 1.— Larva of *Simulium*. × 8.

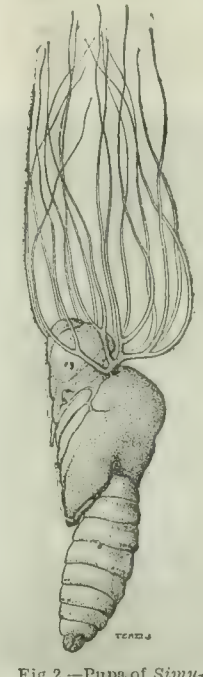


Fig. 2.—Pupa of *Simulium*. × 8.



Fig. 3.—Perfect insect, *Simulium reptans*, L. × 12.

Simulium.—Larva, pupa, and perfect insect. From drawings by Mr. A. Terzi for the *Manual of Tropical Medicine* by Castellani and Chalmers. (Baillière, Tindall, and Cox. 1913.)

The *Simuliidae* have a world-wide distribution, and are equally at home in tropical and arctic regions. They are found, as a rule, along briskly flowing water, be it a mere brooklet or a wide torrential river. Their seasonal incidence varies with the species and with the special ecological conditions of each place. In temperate regions, as a rule, they appear early in spring, and give rise to one or more broods. Inundations greatly favour their spread and prevalence.

I spoke of the *Simuliidae* in general, and not of a single species, being fully cognisant of the conditions in other arthropod-conveyed diseases, such as malaria, trypanosomiasis, spirochaetosis, etc., but several writers, and amongst them Professor Howard, the learned entomologist of the United States, have accused me of incriminating only *Simulium reptans* and of wrongly ascribing to this fly a world-wide distribution. I may have spoken of *Simulium reptans* as a likely species, and I may have stated that, like *Anopheles maculipennis*, it is found both in the Palearctic and Neartic Regions, but I have certainly neither stated that *Simulium reptans* has a cosmopolitan distribution, nor that it is the one and only species likely to be concerned in the propagation of pellagra. Indeed, as stated in my report, in Italy the species I found most frequently and abundantly were *Simulium pubescens* and *Simulium ornatum*, var. *fasciatum*. Moreover, how can one speak of the distribution of *Simulium reptans* when entomologists are not yet agreed as to what is to be called *Simulium reptans?* Far from limiting to one single species of the family *Simuliidae* the rôle of pellagra transmission, I am inclined to extend the number of possible carriers and include certain blood-sucking midges, such as *Leptoconops*, for instance, which belong to the family *Chironomidae*. Of *Leptoconops*, until quite recently, we had no knowledge whatever, and even now we know very little about it. The reason for considering *Leptoconops* a possible carrier is based chiefly on observations made by Dr. Chalmers in the Nile Delta. In 1911 Dr. Chalmers visited Zagazig and other pellagra districts in Lower Egypt, and made a very diligent search for Simulium larvae. He did not find any, and his negative results were confirmed by Mr. Gough, the Government entomologist. On the other hand, he obtained from the fellahin a very definite history of small, black blood-sucking flies appearing in swarms, and Dr. Gough told him that this fly scourge of the Delta is undoubtedly *Leptoconops*. Species of *Leptoconops* have also been found by Dr. Chalmers and myself in the pellagra districts of Italy and Transylvania.

Since the publication of my report, in 1910, several American investigators, such as Drs. Wood, Roberts, Grim, Morse, Fitts, Johnson, Elrod, have confirmed my topographical findings, and some have adopted my theory of the etiology, suggesting, however, that the insect intermediary might be either the stable-fly (*Stomoxys calcitrans*) or some mosquito. As already stated in my report, I see no reason for incriminating either stable-flies or mosquitos. If, as I believe, pellagra is an insect-borne disease, the insect carrier must coincide geographically, topographically, seasonally, and in every other respect with the disease. This appears to be so in the case of the *Simuliidae*, and may be so in the case of certain little known midges, such as the one I have mentioned.

The two new cases reported in this paper, together with the others previously recorded, show that pellagra is widely distributed throughout England and Scotland, and that notwithstanding the apparent latency of the disease it behoves us to look very seriously into the matter.

So long as pellagra was supposed to be a kind of food poisoning, due to the consumption of maize damaged by certain moulds, such as the green species of penicillium, a few cases, widely scattered in space and time, could be of no great consequence; but if we believe the disease to be an infection, and an insect-borne infection, as my researches have very forcibly suggested, then these cases assume a very different aspect; they appear as links in a regular chain of cases, the majority of which must have passed unnoticed whilst fostering and spreading a distemper of great gravity.

The example of the United States of America is most instructive. A few years ago pellagra was believed to be unknown. Spitzka, in his *Treatise on Insanity*, published in 1883 (p. 124), says: "Pellagrous insanity will not be

discussed in this volume, as it does not occur in America." Sir William Osler, in the sixth edition of his *Practice of Medicine*, published in 1906, states that the disease "has not been observed in the United States." In 1907 George H. Searcy reported an epidemic of pellagra at the Mount Vernon Asylum for Negroes, Alabama. The same year Drs. J. W. Babcock and J. J. Watson recognized the disease at the State Hospital for the Insane at Columbia, South Carolina. Babcock and Watson's report aroused considerable attention, and, although at first it was received with scepticism and was even made the object of ridicule, it led to a thorough investigation of the matter, with the result that now pellagra is known to prevail in no fewer than thirty-three States, and that since its recognition in 1908 over 30,000 cases are computed to have occurred (Lavinder).

As in Italy, France, Spain, Rumania, Transylvania, Corfu, Egypt, and wherever and at whatever time pellagra has been recognized, so in the United States we are told the same old story of its sudden appearance as a new disease; but cases had been recognized in New York and Massachusetts as early as 1863, and Dr. Babcock has traced back the disease in South Carolina to 1834.

It was in 1735, in Spain, in the district of Oviedo, that pellagra was first recognized as a distinct morbid entity by Don Gaspar Casal, but the disease had long been known under the name of *mal de la rosa* in the pueblos along the rivers Nalon and Nera. At that time the disease must have been as widely distributed throughout the Iberian peninsula as it is now. In 1740 Feijoo stated that it prevailed in Galicia. In 1820 Joaquin Eximeno pointed out that the *mal del Higado* in the districts of Alcaniz, Daraca, Terruel, and Morella in Aragon was no other than pellagra. In 1835 Mendez Alvaro recognized it in Quintamar de la Orden, Corral de Almaguer, and Villamayjos de Santiago, where it was called *flema salada*; and in 1847 D. Juan Andres Enriquez found it, under the name of *mal de monte*, at the confluence of the rivers Duero and Tormes.

In Italy the first published account of the disease was written in 1771 by Frapolli, who adopted the name *pelagra*, by which it was known to the Lombard peasantry. When he wrote, the disease already occupied the very same places in which it now prevails, ranging throughout the north of Italy from the Julian Alps to the Alps of Piedmont and from Lake Maggiore to the river Tiber. Professor Giuseppe Antonio Pujati had observed it in Feltre in 1740, and, according to Terzaghi, it had been seen ten years earlier at Sesto Calende on Lake Maggiore. Dr. Carlo Brabanti had observed it in 1730 at Campo S. Piero, Padua, and, according to Albera, Dr. Bava had noticed it as early as 1720 in the Ligurian mountains. It is interesting to notice that Frapolli spelt the name pellagra with one *l*, in the Spanish manner, and that other Italian popular names of the disease, such as *mal rosso*, *salso*, and *calor del fegato* are the exact equivalents of the Spanish popular names *mal de la rosa*, *flema salada*, and *calor del Higado*. It is therefore justifiable to assume that they arose during the Spanish predominance which lasted from 1530 to 1700. It is also quite possible that the name of the rose in Scotland still in use amongst the peasantry to indicate any erythematous affection of the skin may have a similar origin. The history of pellagra in Italy is most interesting and takes us back to the thirteenth century, when we may possibly recognize in the very stigmata of the gentle friar of Assisi this scourge of the humblest and lowliest.

In France pellagra was first described by Jean Hameau in 1829, but the inhabitants of the Landes and of the Pyrenean valleys knew it by diverse popular names, such as *Dartres*, *gale de Saint Ignace*, *gale de Saint Agnan*, *mal de Sainte Rose*, *mal de Saint-Amans*, *mal des Saintes-Mains*. These names were much older than the recollections of the oldest local practitioners to whom the disease had always been familiar. For ages the Gascony pellagrins had been in the habit of flocking to Bascons to procure a soothing ointment from the hands and feet of an old crucifix for their own erythematous extremities.

In the Southern Tyrol the disease is no less ancient than in other parts of Europe. Michele Comini observed it in 1795, and ten years earlier the great poet and naturalist, Goethe, referred to it in the account of his journey from Brenner to Verona.

According to Dr. Alexander Takács, pellagra appeared in Hungary in 1877 in the district of Magasfalva, but Bouchard in his *Recherches nouvelles sur la pellagre*, published in 1862, states that it had been observed by Professor Sigmund, of Vienna, in various parts of Hungary, and especially along the banks of the Danube and Theiss.

Turning to Africa, we find that pellagra was first recognized by Abeille, a French army surgeon, in 1832, amongst the Arab tribes of La Calle between Bone and Tunis. In 1847 Pruner reported it from Egypt and in 1858 Emile De Bucherie observed it in the valley of the Bou Merzoug in Algeria. Hirsch, in a note to the chapter on pellagra in his *Handbook of Geographical and Historical Pathology* says: "The statements as to the occurrence of pellagra in Hungary and the Banat, in Egypt and in Algiers, are based upon quite untrustworthy information." Recent observations have fully confirmed the earlier statements and show that pellagra is widely distributed throughout the African continent. In 1893 Dr. F. M. Sandwith demonstrated that the disease not only occurs but is greatly prevalent in Egypt, and in 1907 Dr. Ferrer confirmed its presence in Algeria. In 1891, Myles reported it from Tokar on the Red Sea. Later, Sandwith found it amongst coloured lunatics from South Africa on Robben Island. In 1910 Dr. Hugh S. Stannus discovered it in Nyasaland, and in 1912 Dr. P. A. Nightingale described cases in Rhodesia under the name of "zëism." According to Dr. Nightingale the disease he has termed zëism is "most certainly *not* pellagra," but his description of the symptoms and the picture he gives of one of his cases show quite plainly that the disease he reports is most certainly pellagra. I am in possession of further information of a somewhat vague nature indicating the possible presence of the disease in Zululand, Abyssinia, and the West Coast.

In the West Indies pellagra is also of recent recognition. We know that it is found in Cuba, Jamaica, Porto Rico, Antigua, St. Lucia, Barbados, Trinidad, and other islands, but until quite recently it was confounded with sprue and other diseases.

Our knowledge of the distribution of pellagra is still very incomplete, not only in tropical countries, but even in Europe. With regard to Asia, we have hardly any information at all, and yet it must prevail over wide tracts of that continent. In 1902 Dr. U. Ray observed it in North Behar, India, and quite recently (1912) Dr. Sidney Sheppard has recognized it in the Straits Settlements. Our information with regard to South America and Australasia is very scant indeed. In Europe there are many places where it probably prevails unrecognized. In 1820 Henry Holland stated that he had seen cases in Iceland resembling the pellagra which he had observed in Italy. Possibly the disease occurs in the Scandinavian peninsula. Certainly it has been observed in places in Russia and in Poland. To the knowledge that we have of the distribution of pellagra in Italy we must add the southern provinces and the islands of Sicily and Sardinia. In 1883 Professor Silvio Venturi observed some cases in the province of Catanzaro, Calabria, and as far back as 1819 we find reports of cases from Cattanea, Sicily. In 1903 Dr. Guido Garbini described five typical cases of pellagra in Messina, but he labelled them "pseudo-pellagra" because they occurred in people who had never eaten maize.

That pellagra should have long escaped recognition in most countries is, perhaps, not surprising; but what is truly extraordinary is that it should continue to be overlooked and remain unheeded in places after due recognition.

In France it is now generally believed that the disease has completely died out. This opinion, unfortunately, is erroneous. Together with Dr. Chalmers, I saw a few cases in the Landes in 1911, and the same year Drs. Voivenel and Fontaine described 20 cases observed by them in the asylums of Auch (Gers) and Saint-Lizier (Ariège). It is certain, however, that pellagra has become far less prevalent in the Landes, and it is important to notice that simultaneously malaria has likewise almost entirely disappeared from the region. About fifty years ago both pellagra and malaria were rampant; now a case of either disease is looked upon as a rarity. The simultaneous regression of pellagra and malaria has been brought about by the same agencies—namely, improved drainage, intense

cultivation, greater prosperity, and, last but not least, the introduction of great quantities of fish in all the streams and collections of water. In the case of the *Anopheles*-conveyed malarial infection one can readily understand the operation of these improvements, introduced not for the purpose of combating disease, but on agricultural and economic grounds. I believe that the rise and fall of both malaria and pellagra, occurring simultaneously and under identical changes in the conditions of environment, is a fact which strongly suggests analogous causative agents (protozoal organism and insect carrier) in the etiology of these two diseases.

A CASE OF PELLAGRA IN ENGLAND.

PROBABLY CONTRACTED IN SCOTLAND.

BY

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Recorded cases of pellagra in the United Kingdom appear to be sufficiently rare to make it important to publish a short account of what I believe was undoubtedly an example of this disease.

A young lady, aged 33, from Banffshire, was sent to Shanklin in the early summer, 1911, on account of her health. She usually led an active outdoor life, playing golf, gardening, and so on, but in the spring of 1911 she began to suffer from persistent headache, lassitude, loss of appetite, constipation, coated tongue, abdominal pain and tenderness, most marked over the right iliac fossa. These symptoms were associated with an evening temperature of 99° to 99.6° F.

When I first saw the patient the general impression was that of one suffering from a chronic toxaemia, probably of intestinal origin. In view of the abdominal pain over the right iliac fossa and the absence of any other discoverable focus, I thought very possibly the appendix was responsible. My partner, Dr. J. Cowper, agreed with this opinion and in due course removed the appendix; although it showed some signs of catarrh, such as might have spread from the caecum, there was nothing very definitely wrong with it. The patient made a rapid recovery from the operation and for three or four weeks seemed much better, having a normal evening temperature and comparative freedom from her toxic symptoms; so much so that we began to congratulate ourselves that, after all, we were right and the appendix had been the cause of her condition.

Then the abdominal pain and tenderness returned, so that even lightly to touch the abdomen made the patient wince. This was coupled with the passage of most offensive stools, containing mucus and a gradually increasing amount of blood, until the haemorrhage became really profuse and required urgent treatment to check it. Under the impression that I had now to deal with a case of ulcerative colitis, and as (owing to the previous removal of the appendix) appendicostomy was impossible, colonic douches of hazeline, adrenalin chloride, etc., were tried, together with various intestinal antiseptics (for example, acetozone, salol, beta-naphthol, guaiacol cinnamate, of which the acetozone was the most effective), and subcutaneous injections of sea-water plasma. In February, 1912, the faeces were examined with a view to having a vaccine prepared. Numerous colonies of *B. coli* with a short streptococcus were isolated, from which a vaccine was made and given during the next three months. This treatment appeared to do some good; the haemorrhage ceased and the motions were more healthy, the headache was less persistent and the temperature steadier, but the patient still remained in a toxaemic condition; her breath had a most peculiar musty odour, which continued more or less throughout her long illness.

In the late spring of 1912 she was taken out into the garden and for two or three days somewhat exposed to the sun; this was quickly followed by the appearance of an erythematous dermatitis over the back of the hands and wrists: the palms escaped, but on the wrists it crept round to the front as described by Dr. Charles Box; a little later it came on the cheeks and round the lips. At first we regarded it as a severe sunburn, but soon bullae appeared, and there was considerable suppuration especially from the lips and between the fingers. A little later the tongue and mouth became ulcerated; various applications were tried but with little benefit, the dermatitis subsiding very slowly.

About June, 1912, the patient entered on another phase of her disease. The toxic symptoms, which had for a time lessened, again became more evident, the headache was now quite acute, there was constant nausea and complete loss of appetite; she became very drowsy, could with difficulty be roused to answer questions, and finally was only semiconscious. I took 10 c.cm. of the blood, and it was examined by the Clinical Research Association, but with a negative result; daily subcutaneous injections of saline were tried, together with collosol argentum given hypodermically. After lasting some three weeks this condition gradually passed, the patient recovering sufficiently to get out in a bath chair, but only as an emaciated wreck of her normal self.

In the autumn of 1912 the abdominal pain and tenderness, which had never completely ceased, became more and more acute, and dominated all the other symptoms. The pain was always referred to an area (about 2 by 3 in.) in the middle line just below the umbilicus; it was always worse just before and after the bowels acted. Nothing gave any relief. At last, thinking it might be due to some adhesions secondary to the ulceration, I asked Mr. F. J. Steward to see the case, and, if he thought necessary, to operate. This he did on September 26th, 1912, but found nothing to explain the pain, although the whole of the intestines were very anaemic, the large intestine dilated and so extraordinarily thin as to be quite translucent. After this the patient's condition gradually went from bad to worse. She complained of constant and intense "heartburn" which nothing relieved. There was complete anorexia: jerky movements of the head, with spasms spreading from the shoulders over the body, developed: these were always most marked when the patient attempted to do anything, but except when under the influence of some sedative hardly ever left her. The knee-jerks were exaggerated. The cerebro-spinal fluid obtained by lumbar puncture was examined and found to be normal and sterile. The emaciation became extreme. To add to the pitiful misery of the patient the ulceration of the mouth and tongue returned and was deeper and more acute than before. A swab taken from the ulcerated surface of the tongue demonstrated the presence of a long streptococcus. Painting the surface with lunar caustic gave relief but did not really check the process; associated with this was profuse salivation.

Towards the end mental symptoms set in, the patient with a feverish activity writing long, rambling letters, often incoherent. She now evinced an appetite for the most extraordinary mixtures in the way of food, all dishes being made excessively sweet. There was also an unnatural anxiety to be left alone, apparently with a desire to try and get to the windows, but with what object was not clear. The prostration and cachexia became more and more marked, and finally the patient died on April 25th, 1913.

Permission for an examination of the abdomen was obtained, but revealed nothing further than had been noticed at the time of the laparotomy in September. There was apparently nothing to account for all the acute abdominal pain nor to show the source of the intestinal haemorrhage which had been such a marked feature at the beginning of the illness.

Looking back on the case with the three fairly definite stages—(1) the intestinal, (2) the dermatitis, (3) the nervous and mental derangement—there is little room for doubt that it was a case of pellagra.

As to the origin of the illness in this particular instance, I could elicit nothing definite—there was no history of eating maize: on the other hand, her sister tells me the patient was a frequent victim to insect bites, which were particularly troublesome in her case.

One of the difficulties in recognizing this disease, apart from its rarity and the scanty description of it given in the English textbooks, is the slow and interrupted way in which the clinical picture is unfolded, just as it would be difficult to interpret a cinematographic film the unwinding of which was unduly protracted.

On May 28th a bill before the Pennsylvania Legislature, amending the existing law so that vaccination should be required only in times of epidemic, was thrown out.

ON PSYCHO-ANALYSIS.*

BY

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I.

THE past few years have been uncommonly fruitful in psychological research of use in clinical practice, more especially in enriching our meagre store of methods of investigating and treating many of the everyday cases of psychical disorders. It is to one of the most helpful of these methods that these two lectures will be devoted.

To begin with, it may be recalled that these disorders have been classified as (1) psycho-neuroses, (2) neuroses, and (3) psychoses. The first named never have any but psychical origins—perhaps long since passed out of mind—and their symptoms are the end links of an unbroken psychological chain stretching back to the starting point. They are, from first to last, exclusively psychical, and can be cured only by tracing the cause and removing it like a foreign body from the mind. With the neuroses, on the other hand, the primary cause is physical, the symptoms lasting only so long as the cause continues to act, and, needless to say, they cannot be remedied by psychical methods alone: to this group belongs, among others, neurasthenia. Lastly, the psychoses result from toxic influences on the brain matter, the best known being the polyneuritic psychosis (Korsakoff's psychosis) associated with alcoholic peripheral neuritis.

As the psycho-neuroses alone are of interest to us here, the only additional specification that need be made is that this class is itself divided into three clinical groups—hysterias, phobies (horrors and uncontrollable fears), and obsessions (fixed ideas).

With this outline in our minds, it goes without saying that psycho-neuroses are not to be treated without an understanding of psychology, that is, of the science which, to quote the definition of the term, is concerned with "the nature, functions, and phenomena of the human soul or mind." The clinician, therefore, who proposes to treat psycho-neurotic patients must base his work on a deeper insight into the human mind than is afforded by the experimental psychology which deals with sensory stimuli, motor reactions, and the like. And, in contemplating this departure, he need not hesitate for fear of being drawn into metaphysical or theological speculation; on the contrary, he will find no occasion to move outside the firm ground of practical medicine.

Nevertheless, every new development in science, while its facts are as yet few, stands in need of a working hypothesis to help it to further observations. As to what hypothetical conception of the mechanism of the human mind will best serve psychology in the long run opinion is likely to differ, but, thanks to Professor Freud, one is already to hand which has proved itself at once a key to the nature of many psychical disorders and a guide to their cure. This work of Freud's, or, rather, that part of it on which is based the clinical method of psycho-analysis, will now be considered, any apparent dogmatism of statement in the following account being attributed, it is hoped, to the necessity of compressing a large subject within the limits of a lecture.

II.

At the springhead of human nature is feeling, pleasant and unpleasant, which shapes itself into desires, themselves the motive force to action; and once action has been taken gratifying a desire, the feeling it embodies is discharged. Feeling (psychologically "affect") of the one kind or the other is attached in greater or less degree to all ideas. Moreover, when a new idea seeks entry to the mind, the kind of feeling bestowed upon it is not a matter of chance but is determined by the kind already attached to similar ideas previously entertained—a precedence of events leading back ultimately to the emotions and ideas of childhood, and conferring upon this age a hitherto unsuspected importance in moulding the affective attributes of the adult.

This influence of the past on the present mental life is of cardinal importance. For, suppose we postulate in every individual a mind that is two-storied—an upper chamber, small and furnished with the thoughts and feelings of the moment, and a lower, large and filled with the thoughts and feelings which, in the past, after serving their brief purposes above, have been put away as memories—we have a picture of a consciousness which is transitory, and a subconsciousness which reaches back through an unbroken series of states of consciousness to the beginning. This subconsciousness will contain the entire panorama of the past.

The contents of consciousness pass down into subconsciousness, where, as memories, they wait to be recalled. These memories prove to be arranged, not haphazard, but on a system which keeps together those most nearly related, either in point of resemblance or of time or of both. Further, these memories preserve their vitality indefinitely, no matter how deeply buried beneath the ever-growing mass of subsequent memories. It may be concluded, therefore, that the subconscious mental life is continuous, consecutive, and indestructible from childhood onwards.

But this conception needs elaborating, more particularly in its affective bearings. Subconsciousness is the source from which feeling is drawn to be imparted to every new idea. But since, as has been shown, the choice of the kind of feeling lies with past experience, the mind will, as a rule, approach every new experience under the influence of past feelings—an act of mental prejudice which consciousness habitually acquiesces in, or, rather, never suspecting the bias, is at no special pains to render null. In fine, consciousness, rarely permitted to approach a new matter without subconscious prepossessions, is overruled (or guided, as the case may be) by what has gone before, a conclusion once again emphasizing the psychological importance of childhood.†

The operations of the faculty of memory are made possible by the orderly arrangement which associates every memory with kindred memories preceding and following it, so that when the wish to recall some particular memory arises the method is to lay hold of the near end of the chain and to draw it link by link into consciousness until the required memory is found. Memory, therefore, is essentially a process of mental association.

It is not to be supposed, however, that consciousness is powerless to regulate the admission of memories. On the contrary—and here we come to another phenomenon of the greatest practical importance—it exercises habitually a censorship, a janitor's office, the door being freely open to pleasant recollections, but closed to others whenever possible. Furthermore, memories which are peculiarly distressing will often be forcibly pent up in subconsciousness—a psychological act known as "repression"—and never be permitted to invade consciousness.

But apart from all conscious efforts to remember and to forget, there are means by which memories can find their own way into consciousness, whether wanted or not, though only under the impulse of strong feeling. During sleep, for example, when the control of consciousness is withdrawn, thoughts and feelings, more especially such as have been repressed, may emerge from subconsciousness to occupy the theatre of the mind with dreams. On such occasions several desires or fears, the heritage of many years, will often crowd into one and the same dream, where they figure in fantastic and extravagant disguises, symbolic of their real meanings. The task of psychologically interpreting this symbolism, though not easy, discloses the subconscious influences that mostly dominate the dreamer's waking life.

III.

The outlets, when a wish or desire presses upon the mind, are three—two healthy, one morbid. The average individual, in these circumstances, first recognizes the existence of the desire (psychologically, he accepts the idea with its feeling into his consciousness), and then decides on one of the two healthy courses open to him. Either he determines to gratify it, in which event the feeling, finding a natural outlet, is discharged, and he is rid of his desire. Or, weighing the benefits of this simple

* The substance of two lectures delivered at the Polyclinic, London.

† On the vast majority of occasions the superior control of the intellect is not invoked, and never on the occasions that count in producing a psycho-neurosis.

release against various criteria—prudential, social, ethical, religious, and so on—he decides against gratifying it, whereupon these opposing considerations swamp the feeling, and again he is rid of his desire.

But the psycho-neurotic, though no doubt following one of these courses on most occasions, adopts a third in respect to some wish (or fear), which becomes of great significance in his mental life. A wish, for example, enters his mind, which he either finds unattainable or is unable to bring himself to the point of action to gratify; but, at the same time, the thought of its realization is so pleasant to him that he equally fails to turn upon it those intellectual or moral forces which could quench it. Instead, he retains it in his consciousness, to play with it in his fancy. But, with it pressing all the while for gratification, a psychical situation may follow which, at first unpleasant, ultimately becomes intolerable. Should this happen, some escape must be made. And this, if both the healthy courses are still rejected, is by way of forcibly thrusting or repressing the desire into subconsciousness. Here, however, though it is no longer thought about, its feeling, never having been discharged, struggles for recognition, and demands an outlet. A state of psychical conflict is the result, the pent-up feeling contending against the repressing forces of consciousness. In the end a compromise is effected, the feeling being diverted into a morbid channel, along which it flows to make its reappearance as a psycho-neurotic symptom. If it emerges blended with some bodily process, it stands henceforth as a hysterical symptom—headache, tremor, vomiting, etc. Moreover, the symptom, by relieving psychical tension, expresses subconsciously the gratification of the repressed wish and on this account affords the patient satisfaction.

By what psychological mechanism in this deflection of feeling brought about? Briefly, the desire (that is, idea plus feeling) has been dealt with by forcibly separating the two parts. The idea, no longer buoyed up by feeling, sinks out of sight to the bottom of the mind. The feeling, liberated and unattached, is not thus easily disposed of, however, but is transferred to some other content of consciousness which, now supported by an unwonted amount of feeling, rises prominently and insistently before the mind. If, as is often the case, the normal feeling thus added to is derived from a bodily source of feeling, the region of the body thus concerned will become invested in consciousness with abnormal feeling, figuring conspicuously in the mind and becoming a symptom of hysteria. But if the liberated feeling is added to some purely intellectual idea, this, equally buoyed up with excessive feeling, projects unduly into consciousness, and what was originally, perhaps, a trivial thought becomes an obsession or a phoby.

It is to be particularly emphasized that any such psychological disturbance, though apparently subsiding, leads, in point of fact, to a definitely morbid state of mind. The patient, far from gaining real relief, has merely shifted the burden from consciousness to subconsciousness, and henceforth labours under a psychical disorder which, inevitably interfering with the healthy functioning of his mind, handicaps him, more or less, in his daily life.

At the same time it must be recognized that a natural tendency towards a return to health is never wanting: *vis medicatrix naturae* is as potent in mental as in bodily complaints. In the former it aims at terminating the psycho-neurosis by withdrawing the feeling from the morbid channel into which it has passed, and sending it up into consciousness, there to be got rid of by one of the two healthy courses. The repressed feeling, therefore, is always ready to attempt to break forth from its confinement, however slight the provocation. Often this is some trivial occurrence which in ordinary circumstances would, by the association of memories, recall the repressed thought. Some such passing incident is enough to set the repressed feeling in commotion, with the result of renewing the old psychical conflict and determining a return or an exacerbation of the hysterical symptom. In all these attacks the resistance still comes from consciousness which successfully withstands the attempted invasion.

It should be explained that any mass of feeling thus repressed is spoken of as a "complex." The psycho-neurotic, therefore, lies at the mercy of his submerged complexes (in many cases more than one complex must be reckoned with), and these feelings, at no time under control, are all the more formidable for working subconsciously. The essential pre-requisite to the cure of a psycho-neurosis is the identification of the complexes. The practical means to this end will be described later.

With regard to the important question of the starting-point of the psycho-neurotic habit of mind, Freud has identified this with a derangement of the sexual feelings in childhood. He has shown that, contrary to the general assumption, these feelings assert themselves, not at the time of puberal change but in very early life, at least as soon as the pleasurable sensations to be derived from the genitalia are apprehended. They cannot fail, therefore, to be of great account among the affective influences of childhood, and least of all are they to be overlooked in the problems of morbid psychology. The treatment of this aspect of a case requires to be handled judiciously, and it would be incorrect to assume that every psycho-neurosis, before it can be cured, must necessarily be traced to an infantile sexual origin. Freud himself records a case in point ("The Case of Miss Lucy R.," *Selected Papers on Hysteria*), where a successful result was attained without carrying the investigation into the patient's childhood, and in an example I shall give later a cure was effected without any reference to sexual matters. Nevertheless, the weight of evidence is that sexual feeling (using the term not in its narrower meaning but to include also the various manifestations of love—filial, maternal, etc.) plays the leading part in causation, and the treatment, therefore, may not be efficacious until the condition has been traced to its source.

IV.

Turning now to practical methods, let us suppose the attention of the mind to be bent upon some one thought. Before long another thought will be found to rise in its place, and this in its turn will be succeeded by another, and so on—a sequence which, never fortuitous, follows the lines of subconscious associations. This mental process of passing from thought to thought without any conscious direction is known as "free association." As it plays a leading part in psycho-analysis, the following simple example will not be out of place. In putting together the notes for these lectures I had occasion to call upon my memory for Professor Janet's views on hysteria, and was working over them step by step, when suddenly there flashed upon the screen of my mind a picture, vivid as life, of a military statue bathed in sunshine; at the same instant, though no inscription was visible, I knew that it commemorated General Buller. The mental connexion between this obtruding thought and Janet's views on hysteria was completely hidden from me until traced by free association. The thought which then succeeded that of Janet's views was of his book of lectures on the *Major Symptoms of Hysteria*. Next came the recollection that these lectures had been delivered (as stated in the preface) before a medical gathering in the United States. This in its turn brought to mind another medical gathering—of the British Medical Association—which I myself had attended to read a paper some few years ago at Exeter. And then, once again, up came the statue of General Buller. I now recalled myself on the top of an electric tram at Exeter, passing, on my left hand, this statue, which at the time was in the full sunlight of a summer morning.

If this method of free association is employed by a psycho-neurotic, some of his chains of thought are bound to lead, sooner or later, and generally sooner, towards a submerged complex. In fact it offers the surest means of rapidly tracing the disorder to its origin; sometimes, indeed, with its help, a morbid conflict twenty or even thirty years ago, and altogether forgotten, will be brought to light within a few minutes. On the other hand, not every thought can be thus relied on, and, unless much time is to be wasted in unproductive associations, some means of preliminary selection is needed. What is wanted is a ready method of exploring a patient's mind to ascertain in what directions the complexes are to be sought. Just as, with a case of an organic disease, it is customary to make a routine examination of all the systems, to be amplified by a more detailed investigation of any organ that appears to be not healthy, so, in a psychical disorder, a general survey of the mind is indispensable if the

thoughts associated with complexes are to be speedily recognized.

This need is met by the "word association" method first made known by Jung of Zurich. A series of words ("stimulus words"), not fewer than 100 in number and preferably 200, is prepared from among the nouns, verbs, and adjectives in everyday use, care being taken to include, so far as possible, references, direct and indirect, to all the human emotions. These words are then read over, one by one, to the patient, who has been previously instructed to listen attentively and to reply to each as quickly as he can with the first word that occurs to him. His "reaction words" are noted, and the time taken to reply measured by a stop-watch. At the end of the test it is commonly found that, while the replies to many, probably most, of the stimulus words have been made without difficulty and within two or three seconds (the average reaction time being 2.4 seconds), the result in the minority of instances is very different. The reaction time may be 30 or 40 seconds or even longer. Sometimes a reply is not forthcoming or it is merely a repetition of the stimulus word. Yet again, it may take the form of a question or an explanation, the patient forgetting his instructions.

The practical value of this method is as great as its *rationale* is simple. It hangs on the fact that words in ordinary use establish different associations in different minds, so that each stimulus word tends to awaken the memories which happen to have clustered round it in the patient's past mental life. Should any word in the list have become associated with an emotional experience, this latter is likely to be stirred; but, on the other hand, if it is an experience which has been repressed by a psychoneurotic, its readmission to consciousness will be stoutly resisted. For all that, however, the stimulus word being unexpected by the patient, his consciousness, taken off its guard as it were, is not quick enough to prevent the subconscious feeling from being set in commotion, and in an instant the old opposing forces are arrayed against each other, with the result that for a few moments the patient's attention is distracted and he forgets his instructions. Perhaps the first word that rises in his mind will be rejected, since it would lead perilously near to the complex, and another has to be sought and, if found, substituted, the reaction time being, of course, prolonged. Not infrequently the stimulus word will be found to occasion obvious agitation or mental confusion, which the patient may endeavour to hide from himself by hastening with an explanation or a question. In fine, the word association method is a rapid means of testing the patient's feelings on one or two hundred subjects; it is like the ringing of a handful of sovereigns to detect any that are unsound.

The following example, taken from a case of hysteria, will illustrate the application of the method.

Stimulus Words.	Reaction Words.	Reaction Times.
Water	River	1.8
Child	Boy	1.6
To pay	Money	1.0
Finger	—	26.0
Cold	Fire	1.2
Sad	The first word I thought of was "wise," but that hasn't any connexion, has it?	12.0
Pride	Vanity	2.2
To fall	To hurt yourself	0.8
Fur	Coat	1.4
Dear	—	34.0
To quarrel ...	Yes, but it's so silly. A boy.	30.0
Big	Man	1.4
Family	Mother	3.0
Contented	Mind	1.4
Nice	—	44.0

It will be noticed that while the replies to the majority of these test words were given well within the average time, five of them were delayed for from twelve to forty-four seconds. In three of these no reply was made, and in the other two the responses were wide of the instructions. It could be concluded, therefore, that each of these five had impinged upon a submerged complex. Without superfluous detail it may be explained that the patient in this case was a hysteric, and proved to be the subject of, amongst others, two complexes. One was connected with her engagement, which, though she was in love with her fiancé, she had broken off on account of his habits of life. The other was related to a lifelong series of unpleasant experiences with drunkenness. Her fiancé, a couple of years after becoming engaged, took to drink. A few years previously her brother, convalescing at home after a serious illness abroad, fell among dissolute companions, and the patient was involved in many distressing scenes when, to screen him from their father, she used to go to his help on his return in the small hours drunk and incapable. Earlier still, when she was only a child, her father himself would come home occasionally from business under the influence of drink, at these times showing violence to her mother, and her experiences at that age proved to be the starting point of the drunkenness complex.

To return to the five words: two of them, "dear" and "to quarrel," proved on association, as might be expected, to refer to the patient's engagement complex. The significance of the other three, "finger," "sad," and "nice," was quite obscure until the method of free association was employed. The association to the first ran: "finger," "ring-finger," "wedding-ring," and thence direct to the engagement complex. The second brought the following: "sad," "sad news," "sad news in a letter," after which the patient called to mind the particular letter from her fiancé, soon after their engagement was ended, telling her that he was leaving England for good two days later; and this recollection led, in its turn, to that of a parting interview the next day, which had been followed, on the next day again and at the hour he sailed, by an attack of hysteria. Lastly, the associations to "nice" were "nice," "nasty," "nasty habits," "Why can't you doctors cure people of drunken habits?" and so immediately to the other submerged complex.

V.

Jung's method, therefore, indicates the associations to be followed up without necessarily disclosing the nature of the complexes. These are to be found, as in the case just mentioned, with the help of the patient's free associations to such of the stimulus words as caused psychoneurotic reactions. In passing to this stage it is important to realize that the associations, implying as they do the re-entry of repressed thoughts into consciousness, will not be readily followed up by the patient, whose resistance, on the contrary, becomes stronger the more nearly a complex is approached. Not that this defensive attitude is deliberate; the patient is probably only too anxious to assist, but, when it comes to the point, his morbid habit of mind proves too strong and he finds himself unable to speak what is entering his mind. This resistance is, perhaps, the greatest obstacle in the way of psychoanalysis, and is to be overcome only by perseverance, patience, and sympathetic handling. To some extent it can be weakened by first explaining the method to the patient, giving him an account of normal psychological processes and the manner in which a psychoneurosis develops. At the same time it is often well to point out the difficulties in his path, however anxious he may be to avoid them, and to let him understand that they can be and, if a cure is to be made, must be overcome.

The resistance is to be looked for in various guises. Most commonly it shows itself by a sudden check in the flow of associations, the patient affirming that no thought now rises to his mind; but though this will sometimes be true, it is more often a signal that a complex has come into sight. Again, some unpleasant thought that has entered the mind may be withheld and another offered in its place. Here, however, the break in the sequence of thought may attract notice. On yet other occasions, when an association is being pushed against resistance, the patient will make little of the matter, suggesting it is not worth following up. Not a great deal of experience, however, is needed to recognize these subterfuges. In fact, it

may be said that, within limits, the more readily an association is forthcoming, the less likely is it to be leading towards a complex. Nevertheless, the resistance once overcome, and the complex forced up into consciousness, the patient is willing enough, as a rule, to fill in the details. This applies, however, only to the particular experience under analysis, the resistance being renewed, perhaps as vigorously as before, as soon as the next stratum of subconsciousness is about to be opened.

When a few of these word-associations have been investigated, light will probably be thrown on several others, and fresh lines of advance suggested. Finally, as the case is gradually worked out, a significant fact can be expected to unfold itself, namely, that the first emotional experience to be brought into consciousness leads to an earlier, and this to others still earlier. Indeed, in most if not all cases it will be found that the complexes date back to some emotional disturbance in childhood.

As supplementing the word-association method, the analysis of the patient's dreams is invaluable. Without any attempt to go at all fully into this aspect of the method, it may be said that though, as was explained in a previous lecture, repressed desires and fears are ready to disclose themselves in dreams, even here a certain resistance is encountered—the janitor sleeps with one eye open. Consequently, it is by no means unusual for a desire to appear so disguised by symbolism as to be recognizable only after analysis. Most dreams, therefore, present a twofold meaning, the one superficial and apparent, the other underlying and real; psychologically speaking, they comprise a "manifest content" and a "latent content." The latent content—which alone can elucidate a psycho-neurosis—is found by free association to the manifest content, the patient filling his mind with some detail of his dream, more especially one connected with feeling, and following up its associations.

When at last a complex has been traced to its origin, how is it to be made away with? This can only be done by bringing it well into the patient's consciousness, talking about it, discussing it, looking at it this way and that, the patient for his part setting loose the feelings so long pent up, no matter how painful the scene. In this way the morbid deflection is righted, subconsciousness is unburdened, and the mind put in the way of resuming its healthy functions. Already the analysis will have traced for the patient the steps in the development of his morbid symptoms, and now the reasons must be put before him for the resistance which has kept the feeling in repression. Finally, since long habit will have left him but little practised in consciously recognizing his feelings and desires, still less in submitting them to control, he needs must remodel his attitude towards his own mental phenomena—on the one hand accepting feelings as an integral part of the mind, indispensable, indeed, to its full development, on the other acknowledging the higher faculties of reason and judgement as the final court of appeal against their impositions.

To bring the subject to a close, a few words must be said on the actual procedure to be followed in the consulting-room. The case having been diagnosed, the first visit should be allotted to an explanation of the method of treatment, together with a general outline of normal and morbid psychological processes. The second may be devoted to the patient's own account of his life-history; and though, as subsequent analyses almost invariably prove, he will pass over or, at most, touch only very lightly on the matters of greatest moment in his mental life, this visit is by no means time lost, but serves to establish confidence and mutual understanding. The third visit may be set apart for the word association test, and the subsequent progress will be planned according to its results. The patient, when freely associating, should lie on a couch, his eyes closed, the better to keep his attention from being drawn elsewhere, while the physician takes up a position behind the head of the couch, where his presence is least likely to be obtrusive. In the earliest associations—at any rate before the patient has grown accustomed to the method, and perhaps, is still a little sceptical of its success—the following plan may be adopted to start each refractory association. The patient is warned that pressure is about to be made, for a few moments, with the hands upon his forehead, and that, when this is released, a thought or a picture will rise to his mind. As soon as this has been done, he is asked, "What thought has come to your mind?" or, "What picture do you see?"

VI.

As may well be supposed, the reports of cases investigated on these lines often run to some length, but the following two examples are chosen as being short and representing the most prevalent variety of psycho-neuroses, the phobics. The first illustrates the use of free association, the second the value of dream analysis.

In the first the patient was affected by the very common phoby of darkness, her fear dating back as long as she could remember. Though of middle age, she was unable to venture out alone after dark without being dogged by fear until she was safely home again, while even to go upstairs at night, if the lights were out, was an ordeal to her. For many years she had never trusted herself to sleep without a light burning in her room all night.

On associating to the thought of this fear she recalled various occasions when it had specially affected her, and finally came to one which, she felt assured, was the starting point. As a young girl she was on a visit to a schoolmate in the country, and one afternoon the two walked to a neighbouring village to call on some friends. At tea she felt herself growing anxious lest their return should be delayed until after dark, but, though she urged her companion to leave in good time, they lingered talking and did not set out until after night had fallen. During their three-mile walk home along dark country lanes the patient was filled with a vague but intense fear, and to this experience she attributed her phoby.

Two points in this account suggested the need for further analysis. First, her anxiety showed itself at tea-time when it was still light; obviously, therefore, the fear antedated this evening walk. Secondly, it is open to question whether any one goes in fear of darkness *per se*; this phoby, when analysed, commonly proves to be, not a fear of darkness, but of what may happen under the cover of darkness. The analysis, therefore, was continued, the real, though unsuspected nature of the phoby being speedily unmasked. She recalled that she was afraid, not of the darkness itself, but of the dark country lane, and, next, that this fear was really a fear of meeting some one in the lane. But this, again, resolved itself into a fear, not of merely meeting, but of being spoken to by some one. Finally, she found that the real fear at the back of her mind was that, meeting some one in the dark lane who should stop her under pretence of speaking, she would be attacked and murdered.

This conclusion necessitated a free association to the thought of being murdered. At once an incident came to mind from her early childhood, when she had listened to a conversation between her father and mother about a railway murder which had been committed—in Yorkshire, she inclined to think—as the train passed through a tunnel. This was the first murder she had known of, and the account terrified her; she particularly remembers the impression made upon her by the fact that the murderer waited for the covering darkness of a tunnel before attacking his victim. From that time she has harboured the fear of being herself murdered in some dark place, though, until the phoby was analysed, she had not consciously distinguished it from a phoby of darkness. When, after this short analysis, she was made to understand that because some unknown individual was murdered a quarter of a century and more ago in a Yorkshire tunnel, therefore she kept her bedroom light burning, and generally went in present fear of being murdered in the dark, the phoby speedily passed under control, and within a week or ten days was dispelled.

In the other example, illustrating the value of dream-analysis, the patient was profoundly and, indeed, painfully influenced in her daily life by a morbid horror of death and everything connected with death; not its least distressing aspect being a dread of live burial. Unable to remember a time when the thought of death was without these feelings, she had come to regard them as almost natural, but, nevertheless, so completely was she at their mercy that her fervent wish had always been to set herself free from them. As might be expected in these circumstances, she was unable to offer any explanation of the origin of the psycho-neurosis.

On one of her visits, however, she mentioned a dream of the previous night. It was quite brief. In it she saw her mother lying dead; she regarded the spectacle with the utmost composure. With the help of free association to the thought of the dream, she recalled first an identical dream some six month ago; then another of the same sort about a year before the second; and from this passed from one such dream to another (occasionally her father, but usually her mother figuring in them as dead) until it became evident that this particular dream had recurred at varying intervals for more than twenty years. Finally, she recalled an instance from her very early teens. Instead, however, as seemed probable, of continuing the series back to her earlier childhood, she now said that a picture rose before her mind. She saw herself as a little child of four or five, playing on a hearthrug, while, close by on a couch, lay an old gentleman. She recognized him as a friend and near neighbour of her parents. She remembered that she used often to be allowed to go to his house, and would play on the hearthrug while he, presumably an invalid, reposed on the couch, talking to her. She also remembered that on these occasions the wife was never present, and, looking back on these visits, she was inclined to think that she was sent to be company for the old man when his wife went out.

Asked to associate to the thought of this neighbour, she at once recalled how, on going to the house as usual one morning, she was met in the hall by the wife, who told her that the old man was dead. And now followed the incident which was the cause of her lifelong phoby. The wife led her upstairs into the death chamber. The child said she was afraid, but the other, telling her there was nothing to be afraid of, crossed the room and drew back the sheet from the figure on the bed. This frightened her the more. The wife, thinking, it must be supposed, to act reassuringly, then compelled the little child to approach the corpse, to put out her arm and touch its cold cheek. The sensation filled her with penetrating horror. For days she could not get it out of her mind. Then, child-like, she began to reason with herself. If, she argued, her old friend had died, as they called it, and grown cold, other people probably died and grew cold. In that case her mother (for whom she bore great affection) must die and grow cold. The thought of this took hold of her, supplanting the recollection of the icy feel of the dead man, but at the same time drawing to itself the intense feeling of this earlier experience; and thereafter, so the patient recalled, whenever she was alone she brooded on the thought of her mother's death, at night crying herself to sleep with the same thought. This went on for several years until, when she was in her very early teens, her mother became seriously ill and the child was packed off to relatives in the country. Here, where no one knew the fear that was eating out her heart, no one troubled to keep her too well informed of her mother's progress. And then, for the first time, she dreamed that she saw her mother lying dead, but the sight moved her not at all.

The result of this illness was to leave her with an intensified horror of everything suggesting death. About this time, moreover, she learnt, from a conversation between an elder brother and sister over their school lessons, the story of the Black Hole of Calcutta, and the thought of the fate of Surajah Dowlah's victims haunted her until she imagined a similar end for herself. This new terror, working on the old, engendered yet another monstrous fear—namely, that she might be buried alive, and, reviving in her coffin, be suffocated to death.

For brevity, this sombre history has been given only in outline, but, in conclusion, the following fact, which was gradually established by the analysis, though hitherto unknown to the patient, must be added. When any incident in her daily life touched, all subconsciously, this death-complex—such as passing a funeral in the street, calling on a sick friend, or seeing an actor die on the stage—the effect was a severe headache, very often violent enough to incapacitate her.

THE late Professor Duhring has left about £16,000 to the University of Pennsylvania and the hospital connected therewith. Part is to be applied to the foundation of a museum of cutaneous diseases, and a sum of £10,000 is allocated to the hospital for the maintenance of wards of free beds for the treatment of skin diseases.

OBSERVATIONS ON THE TOXAEMIAS OF PREGNANCY, AND ON EUGENICS FROM THE OBSTETRIC STANDPOINT.

Being part of a Valedictory Address delivered before the Section of Obstetrics and Gynaecology of the Royal Society of Medicine by the Retiring President.

BY

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EUGENICS, or the well-being of the race, is now one of the prevailing instincts of our generation. The value of the potential mother and her unborn babe as a national asset is becoming increasingly recognized. I propose to examine the subject very shortly from the medical and the social point of view.

1. THE MEDICAL IMPORTANCE OF EUGENICS FROM THE OBSTETRIC STANDPOINT.

The crux of the whole question is the safety of the mother and child during pregnancy, labour, and the puerperium.

The facts that over 3,000 women (3,179 in 1909) die every year in England and Wales from puerperal septic disease and accidents of childbirth, and that in the same year 99,430 infants died during their first year of life, and that in addition there were about 19,000 stillbirths, make this statement a self-evident truth. It will not be possible to speak now of many of the causes of this maternal and infantile mortality, but I would like to say a few words on the efforts being made to unravel the pathological mysteries of the toxaemias of pregnancy which directly or indirectly cause a large proportion of this terrible waste of life.

The Toxaemias of Pregnancy.

In my presidential address of October, 1911, I alluded to several diseases, both in obstetrics and gynaecology, the etiology or pathology of which was to a large extent undecided, and amongst them I instanced in obstetrics the toxaemias of pregnancy, ectopic gestation, phlegmasia alba dolens, pyelonephritis of pregnancy, and hydatidiform degeneration of the chorion, with its not infrequent sequela, chorion-epithelioma.

As regards the toxaemias of pregnancy, I drew attention to the increasing recognition of the fact that investigations should be made by physiological and pathological chemists regarding the auto-toxaemias, if our knowledge of the etiology and treatment of hyperemesis gravidarum, chorea gravidarum, albuminuria, eclampsia, acute yellow atrophy of the liver, and puerperal insanity is to be increased. In printing my address, the BRITISH MEDICAL JOURNAL[1] published a leading article, entitled, "Where Chemistry and Medicine Meet," and the *Lancet*[2] also published an article on "The Return to Chemistry," both expressing their cordial concurrence with my views. These leading articles helped materially to stimulate interest in the subject. There is no doubt that during these last two years more progress has been made in our knowledge of the functions of the placenta and of the function and interaction of the ductless glands, including the ovary and its lutein tissue, than was previously possible. Dr. Blair Bell and Miss McIlroy have been working on these lines for some years, but a whole army of experts are now engaged in this form of research.

If the foreign journals are examined, more particularly the German, it will be seen that this chemical investigation and the effects of injection of glandular extracts upon animals is becoming increasingly prominent.

As further evidence of the interest now attached to the chemical aspect of the toxaemias of pregnancy, I would allude to the large numbers of books recently published on the "internal secretory organs" or on "the function of the ductless glands," in every case dealing with the influence exerted by the secretions of these organs upon menstruation, pregnancy, lactation, and the puerperium in both animals and man.

The clear advice in the report of the Royal Commission on the University of London as to the need of the perfect equipment of the "hospital unit" is only another indication that it is now being generally recognized that clinical

work can only be scientifically and satisfactorily carried on if the medical officer in charge has at his disposal laboratories suited for the complete examination, treatment, and demonstration of every case. Such laboratories would be devoted to physiology, bacteriology and vaccine-therapy, bio-chemistry, microscopy, *x*-ray and electrical work, and a general laboratory for the students.

At hospitals in London all these laboratories to some extent already exist for the general use of the staff, except perhaps the bio-chemical laboratory as a separate entity, and it is this particular method of research which, in my opinion, is now the most important for the efficient and scientific management of every obstetric and gynaecological hospital unit.

Much has been done by bacteriology to explain puerperal septicaemia, as well as various local and general infections such as gonorrhoea, bacilluria, syphilis, pyelitis of pregnancy, etc., but physiological chemistry is now needed to help.

In general medicine microbes do not explain gout, diabetes, Graves's disease, Hodgkin's disease, or even rheumatoid arthritis. Physiology has unravelled some of the mysteries of myxoedema, acromegaly, and Addison's disease, but none of these diseases can be fully explained without further light from physiological chemistry. In our own special subjects microbes do not sufficiently explain eclampsia and the other toxaemias of pregnancy. Our ignorance of the causation of puerperal albuminuria and eclampsia, acute yellow atrophy of the liver, hyperemesis gravidarum, chorea of pregnancy, and puerperal insanity is still profound.

It is now well established that in addition to the physiological functions of the placenta, the ovaries, and the mammary glands, these organs have important internal secretions which may be either neutral, toxic, or antitoxic under different circumstances.

The Placenta.

Much excellent work has been done of late on the chemical physiology of the placenta.

It seems clear that ferments are produced by the trophoblastic layers of the chorionic epithelium of the placenta, and that these exert a destructive action upon the surrounding maternal tissues. By this action toxins are apparently normally produced and auto-toxaemia may result, under circumstances at present unknown to us. These enzymes or ferments can be demonstrated according to Abderhalden in the blood of pregnant women from the sixth week of gestation to a fortnight after delivery, and their presence provides us with a method of serum-diagnosis of pregnancy which Dr. Herbert Williamson considers absolutely reliable. With the object apparently of neutralizing these toxins, and of preventing auto-toxaemia by rendering the woman immune, antibodies are formed, and are found in the maternal blood between the sixth and fourteenth weeks of pregnancy, the period of the maximum destructive activity of the chorionic epithelium.

Mosbacher[3] has also shown that syncytial cell albumen of the early human placenta contains a toxin which is able to produce fatal anaphylaxis in guinea-pigs in thirty minutes, but he finds that antibodies which neutralize the syncytial toxin are found in the blood of pregnant women right up to the end of the gestation period.

These toxins have not yet been isolated, nor is their chemical composition known with any more certainty than in our student days, so that we do not even know if Abderhalden and Mosbacher are speaking of the same toxins.

Acidosis in Pregnancy Toxaemia.

The importance of the phenomena of acidosis in pregnancy toxaemia, on which Dr. Walter Swayne read a paper last session, has led to much attention being paid to that aspect of the question. In an article published in the *Lancet* on May 17th, 1913, Dr. Herbert Williamson further discusses the problem of the diagnosis of the albuminuria of pregnancy, and considers that we are justified in concluding that a condition of acidosis is found constantly in severe cases of pregnancy toxaemia and not in cases of severe chronic nephritis, unless toxaemia has been superadded. If this be so it is a great gain to our previous knowledge on the subject, and clears the line for further discoveries and for more intelligent methods of treatment.

Internal Secretion of the Ovaries and of the other Ductless Glands.

The physiology of ovarian secretion was discussed during last session by Dr. Louise McIlroy in a most valuable contribution, and during this session Dr. Blair Bell, in the Arris and Gale Lectures at the Royal College of Surgeons, has added some valuable facts and suggestions to our knowledge of the genital functions of the ovaries and of the other ductless glands. He dwelt especially upon the effect of removal or disease of the thyroid, the pineal, the pituitary, the thymus, and the suprarenal glands upon functions of the ovaries and the uterus. He further dwelt upon the organic harmony of the ductless glands in health in regard to the genital functions, and upon their altered inter-relations in disease. A valuable review by Dr. Louise McIlroy in the May number of the *Journal of Obstetrics and Gynaecology of the British Empire* has brought our knowledge of ovarian secretion up to date.

As regards the action of the internal secretions of the ductless glands, it is now established that there is not only an organic and functional harmony between them, but a compensatory interaction between all the glands as well. Each gland acts in a particular manner upon the blood stream passing through its tissues, altering its chemical constitution by a chemical process, and often adding to it important organic bodies of vital importance to the well-being of the individual. If any organic disease or abnormality exist in a particular gland, the missing or altered function seems often to be taken on by other ductless glands, so that the individual is saved from disaster. In other cases the altered metabolism of one gland upsets the normal metabolism of other ductless glands and the individual is seriously affected.

The significance of the whole subject of internal secretion is enormous, and its full recognition is still in its infancy. Dr. Blair Bell, in his Arris and Gale Lectures, said: "It is probable that every cell in the body is a ductless gland and has some influence on the life and functions of the rest." If so, it is easily seen how groups of functionally similar cells can, by forming organic products, act as chemical messengers, or "hormones," as Dr. Starling has called them, and influence the whole body organization. Dr. Blair Bell has also proved in the above lectures that these "hormones" exert a special influence upon "the reproduction of the species in all its intricate necessities." When the ovaries and the other reproductive organs atrophy and become functionally inactive, he further says, "the genital functions of the rest of the ductless glands cease, and the rearrangement of the metabolism that follows produces what are known as the symptoms of the menopause." He suggests that a knowledge of the special function of each of the ductless glands and a close study of the particular menopause phenomena in each case may enable us to treat the symptoms with more success than at present. To treat all the ills of the menopause with ovarian or lutein extract when the symptoms point to the effects of altered metabolism of another ductless gland is not logical.

Lactation.

Physiological chemistry is throwing much light upon the physiology of lactation. It has long been known that lactation is not determined by nerve excitation. A case of my own, when normal parturition and lactation followed complete paraplegia below the fifth dorsal vertebra from an accident six months previously, confirmed this. Recently Sir Edward Schäfer, F.R.S.,[4] showed experimentally that mammary secretion is induced as the result of galactagogue hormones circulating in the blood derived from the posterior lobe of the pituitary body, from the corpus luteum and the involuting uterus, and from the lactating mammary gland itself, whilst hormones derived from the placenta and the fetus during pregnancy have an inhibitory effect.

2. The Endowment of Motherhood.

The nation—all civilized nations—in these days of a lessening birth-rate, is waking up to the realization that a pregnant woman and her unborn babe is a national asset worthy of every care and consideration.

We hear much nowadays of the "endowment of motherhood." The Obstetrical Society of London by its successful efforts, spread over fifty years, to improve the

condition of lying-in women and to lessen infantile mortality has done much to endow motherhood in its truest and most comprehensive sense. The "endowment of motherhood" is not only to be obtained by providing financial assistance to the mother, as is done, for instance, by the maternity benefit of the Insurance Act after labour. The chief aim of those seeking to endow motherhood should be to give every mother an assurance of security and well-being during the whole time of pregnancy, labour, and the puerperium, each of which is to her a period of anxiety and stress.

Apart also from all sentiment or sympathy with the individual, "the unmarried mother and the unwanted child," as Harold Begbie phrases it, demand both our professional consideration and the protection of the State.

During the Pregnancy.

This security should be ensured during the pregnancy by skilled professional advice followed by wise, tactful supervision. For the professional advice to be really effectual, a sufficient and in many cases a pelvic examination of every pregnant woman should be made during the middle months of gestation, especially if she be a primigravida. Her urine, also, should be scientifically examined, especially as regards albumen, and if she has previously had abortions or stillbirths the quantity of urea should also be estimated. If evidence be forthcoming that toxaemia is present, or that labour may be abnormal or difficult, the practitioner should be able to arrange for the woman to continue under expert supervision. This is difficult, even in private practice, but almost impossible under our existing conditions as regards the poorer classes. Dr. J. W. Ballantyne's[5] suggestion of a pre-maternity or pregnancy ward or pavilion seems the best way of meeting the case. The necessary treatment could then be carried out. If surgical treatment were required it could either anticipate or accompany the onset of labour as occasion demanded, instead of being adopted, as it often is now, as an emergency operation, after repeated pelvic examinations or instrumental attempts at delivery before admission. We know that "pregnancy wards" reduce the risk of all obstetric operations enormously; Caesarean section, for instance, has its maternal mortality reduced from 34.3 per cent. in cases previously examined, etc., to 2.2 per cent. in clean cases, such as those who had been inmates of a prematernity ward.[6]

Paul Barr[7] shows that in placenta praevia cases, out of 108 patients treated as "emergency cases," he had 10 deaths from infection, whereas no deaths occurred from this cause in 48 cases in the pre-maternity wards. This plan is now adopted in many of our lying-in hospitals or wards in large cities, but to ensure such security to every pregnant woman a routine examination during the middle months is essential, as well as suitable accommodation within a reasonable distance.

From the point of view of the unborn child, routine examination of the mother during pregnancy and adoption of appropriate treatment is essential if we are to have any success in dealing with intrauterine mortality. Eugenics should begin before birth, not afterwards. A child has the right to be born healthy.

Careful inquiry should be made as to the causes of previous abortions or stillbirths, and of the deaths of previous children soon after birth, for I am convinced that congenital syphilis, entirely unsuspected, is not infrequently the cause of both fetal and early infantile mortality. As small doses of mercury given to the woman during pregnancy will in such cases often give her a healthy child, every effort should be made to tactfully discover whether such treatment is indicated. It must be remembered that, apart from a history of stillbirths, etc., a woman may show no indication of specific infection. Sometimes information can be obtained by inspecting the mother's other children. There is no doubt that apart from congenital syphilis, which varies in importance in different nationalities, and even in different localities (urban and rural), the three main causes of stillbirth are albuminuria (toxaemia), pelvic contraction, and malpresentations.

It has been computed that, if women were properly examined in pregnancy, half the stillborn children would be saved. If so, this would mean an annual saving of nearly 10,000 fetal lives in England and Wales, for, omitting abortions, there were 2,312 stillbirths notified in London alone during 1910, or 2.2 per cent. of the total births. If this proportion holds good for England and Wales, the number of stillbirths in that year would be 19,736, and we could hope to save 9,800 lives by routine prophylactic measures.

Chambrelent[8] has a large clinic for pregnant women in Bordeaux, and he there examined 642 pregnant women during 1910. He found that 135 women presented complications or abnormalities requiring special care, and as a result of such care the birth mortality was reduced to 2.85 per cent., or a saving of two-thirds as compared with the official figure.

The registration of births should, in my opinion, be compulsory, not only after "viability" as regards births and stillbirths, but should be enforced at every period of pregnancy. If this were done, and the practitioner or midwife were also requested to state the apparent cause of the death or of the expulsion of the ovum, we should, as a first result, begin to realize how little we know of the causes of intrauterine mortality, and, as a second result, we would obtain some statistical knowledge of the huge waste of life continuously going on, and in time would arrive at some precise knowledge as regards etiology and prophylaxis.

Much good might be done by a careful examination both of the fetus, placenta, and membranes, in all abortions and stillbirths in our hospitals. This would accustom the student to that particular type of investigation, and might encourage a continuance of it when in private practice later on. This plan was adopted in 180 consecutive cases of stillbirth by Dr. Herbert Spencer between 1887 and 1900, and his paper of nearly 100 pages[9] is one of the most valuable and suggestive in our annals, showing, amongst other things, that haemorrhages into the brain and other organs are a frequent cause of death during labour.

During Labour.

There is no doubt that the prospect of obtaining the 30s. maternity benefit under the Insurance Act enables poor women to approach the time of labour with a greater sense of security than heretofore, and if some arrangement or pre-arrangement could be arrived at by which the benefit could be paid as soon as the birth was notified, its advantages would be very much greater.

Expert or hospital treatment can usually also be secured if special surgical interference be required.

During the puerperium, however, there is often little or no skilled supervision after the first ten days, and the early cessation of supervision tends to encourage the mother to return to work and to married life at a much too early date. The early return to work is the cause of much maternal illness, which is often pelvic, and leads to either a disinclination for, or even to a dread of future pregnancies, or to real physiological inability to conceive again, or to intrauterine fetal death if pregnancy should again supervene. The child too often suffers, even more than the mother, from the latter's early return to work. Errors of diet, neglected ophthalmia, or uncleanliness may each cause permanent ill health. Much is being done in large cities where factory girls are numerous to encourage rest during the earlier period of uterine involution, and the medical and sickness benefits of the Insurance Act further encourage this, but much more requires to be done.

Schemes to provide home nursing for insured persons by arrangement between local nursing associations and approved societies now being organized bid fair to be very successful. Approved societies and Insurance Committees have the power under the Act "to grant subscriptions for the support of district nurses," and Queen Victoria's Jubilee Institute for Nursing the Sick Poor, and town and county district nursing associations throughout the country, acting in harmony with these approved societies and with the Central Midwives Board, are doing much and can do much more to lessen the risk of maternal illness and infantile mortality during the few weeks following labour.

Infantile mortality under 1 year of age in England and Wales was 163 per 1,000 in 1899, and is now about 105. This represents a saving of life of over 52,000 infants a year. Very much, however, remains to be done, for in 1909 there were 99,430 deaths of infants in England and

Wales under one year of age, and nearly 40,000 of these died in the first month of life. Out of 1,000 births 11.5 children die in the first twenty-four hours of life, 24.6 infants in the first week, 30.3 in the first fortnight, and 39.75 during the first month. Roughly speaking, out of every 10 children who die in the course of their first year of life, 4 die in their first month.

If the nation could come to look upon maternity as a blessing and worthy of every encouragement and support, and could secure to the newborn child a month's healthy start in life, many of these babes who now die from the ignorance of their mothers, from unhealthy environment, or improper or insufficient food, would survive. It must be remembered, too, that a healthy child who has survived the first month of life has every chance of growing up well, for it is the weakling who dies, not the robust child of a happy, healthy mother. Infantile mortality is being greatly diminished in localized areas by organized home visiting and nursing, and by special effort to encourage lactation instead of artificial feeding, and if the nation, as a result of its appreciation of motherhood and of the greater relative value of the life of the newborn, can make these local efforts a national one, and at the same time avoid the moral disaster of pauperization, the race cannot fail to be improved, and the wealth and stability of our country thereby must be proportionately increased. Our Section will not fail to encourage progress in the scientific portions of such an obstetric ideal.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A CASE OF NON-FATAL VERONAL POISONING.

ON account of the largeness of the dose, among other reasons, the following case of veronal poisoning seems worth recording. The patient, a man aged 45, who had been in the habit of taking veronal freely on account of sleeplessness, was admitted to hospital in a totally unconscious condition. His face was flushed, the cheeks puffed out at each respiration, and the breathing was stertorous; there was no corneal reflex, and the pupils were insensitive and unusually contracted. There was also incontinence of urine and faeces.

As no history could be obtained, and the symptoms pointed to poisoning from some preparation of opium, the stomach was washed out with a weak solution of potassium permanganate, while $\frac{1}{50}$ gr. atropine sulphate was given hypodermically and repeated twice within the next two hours. Hot coffee was also given rectally at intervals.

Immediately after the gastric lavage the corneal reflexes returned, but otherwise the condition remained unaltered until four days after admission, when signs of returning consciousness appeared. The patient then gradually improved, and was, on the fifth day after admission, able to give a definite history of what had happened. He stated that he had taken 125 gr. of veronal in one dose.

It is a point of interest that the symptoms differed entirely from those usually associated with veronal poisoning, and that the treatment adopted would have been regarded as contraindicated had we known that veronal was the poison taken; its tendency was to lock up the secretions rather than to increase them by means of diuretics. Nevertheless the patient recovered, though the dose taken was, so far as I can learn, one of the largest ever swallowed without a fatal result.

Let me also add that as the stomach washing took place at least five hours after the poison had been taken, it was probably useless, for I understand that veronal leaves the stomach within the first two or three hours after its introduction. Hence practically the whole of the poison taken must have been absorbed, and yet the patient recovered.

Bradford. J. BROWNING ALEXANDER, M.B., Ch.B.

ETIOLOGY OF BERI-BERI.

THE memorandum at page 1271 of the JOURNAL of June 14th is interesting, and I have no doubt similar evidence could be supplied from all countries in which beri-beri is endemic.

I cannot quote statistics or figures from the official reports of the Brazilian sanitary authorities as I have not the opportunity of seeing them here, but I can state certain facts in regard to the province of Matto Grosso, in the far interior of Brazil—facts which ought to be faced by those who are seeking proofs of the "polished rice" theory of beri-beri.

The facts are the following:

1. Beri-beri has occurred and does occur in the southern Amazon regions, and in Matto Grosso in people who have never eaten rice of any kind at all.

2. Members of the various expeditions sent by the Brazilian Government for the defining of frontiers between Matto Grosso and Bolivia or Peru, and of the exploring and surveying expeditions of railway and telegraph companies in the heart of Matto Grosso, who sickened of beri-beri, had come from other provinces and had been polished-rice eaters all their lives, but had never contracted beri-beri until they came to the districts where that disease is endemic. Why had they not contracted beri-beri in Rio de Janeiro or in Rio Grande do Sul, where they had similar conditions of climate and temperature in which to eat their polished rice as they had when they went to the beri-beri districts of Matto Grosso? I know of Brazilian military men who were invalided down country from Acre on the Brazilian-Peruvian frontier, where they had contracted beri-beri. They ate polished rice amongst other things provided in their rations, but they had always eaten polished rice before going there. A German friend of my own, an explorer and geologist, accompanied an expedition to the far north of Matto Grosso. Forty members of the party died of what from my friend's description I consider was beri-beri. Yet these people had eaten polished rice for years before going to the beri-beri country.

3. In my own practice I have had various cases of beri-beri brought to me from Matto Grosso. The curious thing about those cases, which were undoubted examples of beri-beri, was that the patients were of the farming agricultural class, who grew their own rice, cleaned it themselves, and ate it brown in the grain, and had never, except perhaps by accident, eaten imported polished rice, and yet there they were—prostrate with beri-beri.

All due credit must be given to the earnest investigators who are seeking out the etiology of this obscure disease, and due consideration ought also to be given to the views of those who do not hold the current theory. Let us hope the investigators get outside their laboratories and study the disease of beri-beri in the countries where it is endemic. For there are many who see the cases and know the regions from which they come that cannot accept the food theory of its etiology, but believe that the causative agent is to be found only in the endemic districts.

Belén, Paraguay. J. W. LINDSAY, M.B.

As one who has suffered from beri-beri it is with the keenest interest that I note any observations in regard to it, and I feel that the present accepted theory as to its cause at least requires modifying; there has been too great a tendency to accept the case for vitamin deficiency as proven, if made, to refer to rice dietary only.

In the BRITISH MEDICAL JOURNAL of September 14th, 1912, there is, in a lecture by Dr. Leonard Hill, on the Influence of Muscular Exercise and Open Air on the Bodily Functions (p. 601), a statement which I had hoped would be referred to by somebody interested in the subject. Alluding to the Labrador fishermen, whose diet is quoted as in the main "white bread, tea stewed in the pot till black, fish occasionally, a little margarine and molasses . . . old dark-coloured flour" (note there is no mention of rice), he says: "In consequence of this diet beri-beri has become rife to a most serious extent, and the hospitals are full of cases."

The valleys of the Amazon and its tributaries furnish a larger number of cases than is ordinarily supposed. In a paper by my late chief, Dr. Carl Lovelace, of the Candelaria Hospital, Porto Velho, Brazil, published in the

Journal of the American Medical Association, December 14th, 1912 (vol. lix, pp. 2134–37), figures for the period January 1st, 1908, to January 1st, 1912, are given. Of 30,430 admissions, 963 were diagnosed as beri-beri. As my own case forms one of the number, and as I resided in the country for a year previous to being invalided out, I can speak with authority as to the diet not containing rice in a sufficiency to have a causal relation to the beri-beri incidence.

Brazilians of the peasant class, rubber gatherers (*seringueros*) and river men, etc., who are those most frequently affected, live on cassava (*farinha*), dried meat (*xarque*), bacon and red beans, with some rice and bananas when obtainable; but not on rice as a staple.

Personally for six months I ate no rice, and for a further six months only in curry, and that as an aside to a liberal diet of fresh meat and fish, eggs, fruit, vegetables, including potatoes and bread; in all twelve months not more than 2 pints of rice were eaten in any form. Alcohol as a cause of the neuritis, venereal disease, and malaria can be absolutely excluded.

These facts are given in the hope that some further light may be thrown on the causation of a disease whose etiology still seems to require investigation. Deficiency there may be, but some additional determining factor seems to be indicated, some complement wanted.

JAMES D. LAIDLAW.

Late Surgeon with the Madiera Mamoré Railway, Brazil.

A NOTE ON THE ACTION OF MESCAL.

SOME years ago I carried out a series of personal experiments, in conjunction with Dr. Havelock Ellis, on the effects of the reputed deliriant mescal (*Anhalonium lewinii*), making use of a strong infusion of the seeds or "buttons" of the plant; but, in my own case, with entirely negative results.

The full dose of the fluid extract of anhalonium (Parke, Davis, and Co.) is given in the *Extra Pharmacopoeia* as ɱx. I recently swallowed ɱl diluted, on an empty stomach, but again with negative results. However, acting on the advice of a literary acquaintance, a latter-day magician well known in the West End of London, who claims to have administered this form of the drug to hundreds of his clients, I proceeded to a dose of ɱc.

Fifteen minutes afterwards I experienced slight dyspnœa accompanied by transient headache, which symptoms were rapidly followed by intermittent tetanoid spasms in the hands and feet, and with a sensation of general *bien aise*. A sense of egotistical concentration, together with a delightful feeling of irresponsibility towards one's surroundings, succeeded, and lasted, in all, eleven hours.

No spectral illusions were present, however; neither there was any vertigo nor subsequent drowsiness.

The heart was accelerated during the whole of the period, the radial pulse varying between 80 and 90. The pupils were unaffected, and the digestive powers were undiminished.

London, S.W. BERNHARD SMITH, L.M.S.S.A.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

KASHMIR MISSION HOSPITAL.

A CASE OF CALCULI IN THE KIDNEY, URETER, BLADDER, AND URETHRA.

(By ERNEST F. NEVE, M.D., F.R.C.S.Edin., Surgeon to the Hospital.)

THE following case presents some unusual features. The patient was a Mohammedan, aged 36, who was admitted to the hospital with a history of pain in the vesical region, associated with difficulty in micturition for the previous five months.

On examination the urine showed an abundant deposit of uric acid and oxalate crystals, together with pus corpuscles and epithelial cells; it was also found that the urethra was partly obstructed.

On December 9th, 1912, two stones were removed by Dr. Jeffries from the urethra, and another small one was crushed and washed out of the bladder.

For the next twelve days or so the patient was more comfortable, but on December 22nd there were renewed symptoms of vesical irritation. A skiagram was taken, and showed a dark line running vertically downwards parallel with and one inch from the right border of the lumbar vertebrae.

Consequently on December 23rd, and with the kind help of Dr. Jeffries, I performed nephrolithotomy. One stone, weighing 85 grains, was removed from the kidney substance, and three from the renal pelvis. These weighed respectively 84, 30, and 20 grains, and were highly polished; the largest was branched. Four other calculi were removed with a scoop from the ureter about four to five inches from its attachment to the kidney. These averaged 15 grains each, and were also like polished marble. A lithotrite was then passed into the bladder, in case any stones had been pushed down, but none were found.

The wounds in the kidney were carefully closed with fine silk, and the line of parietal incision closed with sutures and without drainage. Healing took place by first intention, and was uneventful, except that on the first two evenings after the operation the temperature rose to 99.8° F.

REMARKS.—The somewhat dilated ureter no doubt favoured drainage of the kidney through the bladder. It is uncommon to find such a wide distribution of calculi. In the absence of renal colic or localized pain, the recognition of stones lodged in the ureter is not easy, but in such cases a distinct *x*-ray shadow at once draws attention to their presence.

Reports of Societies.

WIGAN MEDICAL SOCIETY.

AT a meeting on May 29th, Dr. J. THOMSON SHIRLAW, the President, in the course of a paper on the *Treatment of inoperable cancer by gland substances*, showed a patient, a woman aged 47, who had been treated by him since the end of July, 1911. When first seen she had a ragged ulcer with infiltrated edges on the right side of the pharynx, involving the œsophagus. The case was sent to Mr. Thelwall Thomas, Liverpool, who returned it as one of inoperable malignant disease of pharynx. The treatment consisted wholly of the exhibition of tabloids containing thyroid gland 6 grains, suprarenal $\frac{1}{3}$ grain, and pituitary $\frac{1}{15}$ grain. There was slow gradual improvement. By November she had put on 6 lb. in weight, could swallow much better, and felt stronger; towards the end of December could swallow anything except butcher's meat. In January, 1912, she weighed 5 lb. more than in November, and later still put on an additional 2 lb., so that she had gained 13 lb. in all. She had not had any tabloids for six months, but was still quite well. There remained at the site of the ulcer a certain amount of thickening and induration. Cancer, the exhibitor suggested, was due to two things: (1) Local irritation, (2) loss of a regulator of cell growth. The first resulted in the production of a large stock of young blood whose exuberant energy it was difficult to keep in subjection. "Malignancy was the insanity of function." The regulator of cell growth was a secretion of some of the ductless glands, which about middle age began to get exhausted. Cancer was due to the disturbance of the natural laws which governed the chemistry of the tissues, the result being that cells of an irritated tissue remained on and formed a tumour.

PROFESSOR A. POGOGEFF, Director of the Moscow Museum of Sociology, by way of celebrating the two hundredth anniversary of the death of Bernardo Ramazzini, the first writer on diseases of occupation, has suggested an international exhibition to be held at Moscow in the spring of 1914. The exhibition is intended to display the means for the protection of workers in all branches of industry. The scheme has received the approval of the Russian Minister of Industry and Commerce, of the Moscow Society of Medical Officers of Works, and of many medical institutions in Germany and Austria.

Reviews.

DIAGNOSIS AND TREATMENT OF DISEASES OF THE HEART.

In the second edition of his work on the diagnosis and treatment of diseases of the heart,[1] Professor BRAUN gives a comprehensive description of the prevalent views as to heart failure. He sets out briefly and concisely the chief factors connected with the physiology of the heart and blood vessels, including in the description the more recent views of the mechanism of the heart-beat from the standpoint of the myogenic theory. The author shows that he is conversant with the advances that have been made by the use of instrumental methods of investigation, and he embodies these results in his description of the symptomatology of the diseases of the heart, which otherwise follows conventional lines. He deals next with the treatment of heart affections, discussing at considerable length the use of digitalis and its allies. In dealing with cardiac remedies, it is interesting to note that he has not a word to say for the cardiac stimulant which the average British physician holds in such respect—namely, strychnine; but, on the other hand, he has his own favourite cardiac stimulants in camphor and caffeine. This shows that therapeutic beliefs, like religions, may vary with the locality. There are special articles on hydrotherapy and treatment by mechanical means by Drs. Strasser and Bum. These chapters are followed by others dealing with diseases of the endocardium, myocardium, pericardium, valvular diseases, and arterial disease, and the care of the injured heart. An index, which we find confused and inadequate, closes the volume.

The author deals with the phenomena revealed by means of the polygraph and electrocardiograph, but he does not assimilate the facts, treating them as of only academic importance, and failing to recognize that they throw a new light on the question of heart failure, and serve in many ways as a guide to treatment and prognosis. The author shows his unquestioning trust in the traditional view of heart failure, taking as an illustration what is supposed to happen in aortic regurgitation. Here he tells us dilatation and hypertrophy set in, which are at first compensatory; later the ventricle begins to fail, dilates further, and sends regurgitant blood back into the left auricle; this becomes embarrassed, and induces stasis in the lungs and engorgement of the right heart, with tricuspid regurgitation, dropsy, enlarged liver, and all the signs that are usually assumed to be evidences of heart failure arrived at in this particular way. If in place of accepting this belief, which has been handed down from one generation of teachers to another, Professor Braun had set himself to see what happened in aortic regurgitation, he would have found that the majority of such patients die of heart failure, and never show any of these signs affecting the lungs, liver, and right heart. Moreover, if he had carefully noted and appreciated all the symptoms in those who did show these signs, he would have found that other symptoms appeared, which revealed that there were other factors causing the signs of heart failure. This lack of appreciation of the signs associated with heart failure is seen in the manner in which the author deals with the subject of auricular fibrillation. He has failed to grasp the significance of the condition, missing not only the diseases which produce it, but its effect in altering the whole mechanism of the heart's action, in embarrassing the force which maintains the circulation, and in modifying the heart's reaction to drugs, especially those of the digitalis group.

He not only follows closely the conventional methods of describing heart failure, but adopts the usual rule-of-thumb methods of prescribing remedies. The article on digitalis does not bear the stamp of a practical acquaintance with the action of the drug acquired by the careful observation of its effect on different cases, so as to note the varied results and to correlate these results with the different forms of heart lesion. The opinions of many people are given with little discrimination. The result is that the reader, in place of getting a balanced judgement the result of the author's personal experience, gets a bewildering variety of opinions and methods with no suggestion as to their practical application. In fact, a lack of discrimination seems to run through the whole subject of treatment, so that for any particular affection a variety of drugs, baths, and methods are recommended; investigation has shown many of them to be of little or no use, but the reader finds no guidance as to which are the more serviceable. We encounter the familiar fallacy of treating symptoms as if they were diseases. Angina pectoris may arise from a variety of causes, and it is no more than common sense to determine that the treatment should be in accordance with the cause. But the author boldly gives a series of drugs which should be used, without any proper indication that discrimination is needed. Perhaps this tendency to take a symptom for a disease is best seen in the treatment of irregularities. Although the author describes the various irregularities, and seems to realize that irregularities are of varied significance and arise from a variety of causes, yet we find that the effects of heat and cold upon irregularities are described without any reference to the kind of irregularity, and with no appreciation of the fact that irregularities arise from different causes, and react differently to such stimuli as heat and cold.

Although we have felt bound to point out the faults which we believe to exist in the book, we recognize that, judged by the standard so often applied to books dealing with this department of clinical medicine, it would be counted as excellent, up to date, and worthy of praise. But if clinical medicine is ever to get out of its backward state, the habit of taking things for granted must be given up, and authors must be required to have accurately observed and tested their statements, and to give clearly the reasons for the faith that is in them.

[1] *Diagnose und Therapie der Herzkrankheiten.* Von Prof. Dr. L. Braun. Zweite, vollständig umgearbeitete Auflage. Berlin and Wien: Urban and Schwarzenberg. 1913. (Sup. roy. 8vo, pp. 373. Mk.12. Geb. Mk 14.)

A MANUAL OF TROPICAL MEDICINE.

THE second edition of CASTELLANI and CHALMERS'S *Manual of Tropical Medicine*[2] is a most comprehensive work. The book has grown, including index and list of authorities, from 1242 to 1747 pages, an increase of just over 500 pages. So quickly does tropical medicine move ahead that a new edition was necessary, and the growth in the number of pages gives a very good idea of the vast amount of work accomplished since the first edition saw the light. The same system has been adopted in the present as in the first edition. Part I is an introduction; Part II discusses the causation of disease in the tropics; Part III describes the diseases of the tropics, (*a*) fevers, (*b*) general diseases, (*c*) systemic diseases. In addition to the index, there is a list of authorities. Part II contains the zoological description of the protozoa and metazoa, malarial parasites, trypanosomes, helminths, insects of different kinds, especially those that bite—tsetse flies, mosquitos, tabanidae, fleas, ticks, etc.; and also of the vegetable parasites—the fungi. Bacteria are not dealt with, as otherwise the book would have become too unwieldy. This section—the parasitic causes of disease—contains over 500 pages. It is this knowledge of zoology that constitutes the difference between tropical and what may be termed "home medicine." In the former the student must have a first-hand acquaintance with the protozoa—a major part of his work lies in this realm—and also with helminthology and entomology, and, in addition, must know pathology, bacteriology, and general medicine just as the student at home. This means an enormous amount of extra study, a system of study now becoming so large that it is almost impossible to encompass it in one book. Castellani and Chalmers have done this, however, and the way in which they have broken up the matter under the headings described above is judicious. The student learns his zoology, the different species of parasites he will meet with, and then sees what diseases they cause and studies these in detail. Within the pages of the manual an enormous number of facts and observations are accurately recorded, and the position the authors hold in the world of tropical medicine guarantees that this

[2] *Manual of Tropical Medicine.* By Aldo Castellani, M.D.Florence, and A. J. Chalmers, M.D.Vict.and Liv., F.R.C.S.Eng., D.P.H.Camb. Second edition. University Series. London: Baillière, Tindall, and Cox. 1913. (Demy 8vo, pp. 1779; 15 plates, 630 figs. 21s. net.)

should be so. By their care, assiduous attention to detail, and solid hard work they have undoubtedly advanced their book to a first place in the literature of the subject, and the manual is now looked upon, and rightly so, as a standard work.

Such being the case, is there anything to criticize adversely in the pages? There are a few things but not, perhaps, many, of serious import. Most of what may be termed the faults—or, in plain English, mistakes of the first edition—have now disappeared, and further imperfections do not seem to have been added. There is one thing, however, that it is necessary to point out, and that is that in incorporating new work authors should be very careful to state whether or not it has been confirmed. As so many people at once jump to the conclusion that if anything appears in a standard textbook it must be true it is desirable to deal very clearly with this matter. The reputed life-history of the organism of syphilis (pp. 408–409) is a case in point. So far as is known, not only has this not so far been adequately confirmed, but many leading proto-zoologists do not accept it. The student reading the description in the book, however, will certainly not bear away such an impression.

Finally, what must be described as a serious blot in a work of such merit is the index. Quite possibly the writers of the book handed this over to some one else to do, but, if they did, then all that can be said of it is that the task has been very indifferently accomplished; this is marked also in the list of authorities. Readers will readily find these inaccuracies themselves, and to many they cause much irritation and dissatisfaction. Take, for example, the entry "Joseph Chamberlain." Under this distinguished statesman's name is included work on beriberi in the Philippine Islands—need we say manifestly a mistake.

However, though pointing out these minor inconsistencies, we have nothing but praise for the work as a whole, and especially for the fair way in which various workers' views on different subjects are noted. It is, as already said, a standard work on tropical medicine. Possibly, when the time comes for another edition, it may be well to make it into a system of tropical medicine, with several authors who would each write on his own special subject. Again, if the matter increases as rapidly as in the past, one volume will not contain it all, and for convenience in handling it will be well to issue the work in two volumes.

PSYCHO-ANALYSIS.

A GOOD deal has been heard lately, and a good deal more is likely to be heard in the near future, of psycho-analysis. It professes to apply to the study and treatment of the psycho-neuroses, one of the time-honoured methods of general clinical medicine—the study of the history of the individual patient from early youth. It proceeds upon a theory and follows a method which its exponents consider to be well and clearly defined. The elementary or basis hypothesis on which its theory and practice both rest is familiar to every one—that every event and state of feeling is recorded, and as it were filed away, in the brain in an orderly manner, so that it may be brought back into consciousness by a suitable stimulus. Often, perhaps usually, the mental process by which a past sensation is brought into the light of consciousness is too rapid to be analysed, as when a scent brings up a circumstance of childhood or youth. In other cases the process is slower and easily followed; we seem to work backward from one memory to another until we lay hold of that of which we are in search. The process may be compared to finding one's way by the recognition of landmarks, once familiar, along a path, crossed by many others, which we have not traversed for many years. On this analogy the psycho-analyst would be a companion with a theory of the direction in which the path will most probably lead.

The name best known in association with this method is that of Professor Freud of Vienna. He has written several books, some of which have been reviewed in these columns on their appearance, and many articles. He has many followers and collaborators, and a congress of psycho-analysts was held not long ago, but Professor Freud is so well recognized as the leader and inspirer that the theory and method are often spoken of as Freudism. It is probably more difficult to write clearly and concisely in German on a complicated subject than in some other languages; at any rate, Professor Freud has not overcome the difficulty, and his translator acknowledges that he has found it far from easy to make certain of the meaning of some passages. It would, perhaps, be a mistake to assume that the obscurities of his style are due to the usual cause, which is want of clearness of thought, but the difficulty exists, and the English-speaking world of medicine owes a debt of gratitude to Dr. BRILL for his translations of two of Freud's volumes, the one,[3] *Selected Papers on Hysteria and other Psycho-neuroses*, published as one of the Nervous and Mental Disease Monographs of the *Journal of Nervous and Mental Disease* (New York), and the other,[4] *The Interpretation of Dreams*, issued with a warning note by the publisher, in a separate volume. In the same series of monographs there is another volume, a translation by Dr. C. R. PAYNE of Hitschmann's book, which in its English dress has the title, *Freud's Theories of the Neuroses*. Taken together they will enable a student of the subject to form an independent judgement on the validity and value of the theory and method.

The method depends for its success upon the consent of the patient to allow his, or usually her, mind to work freely backward and to give the analyst the frank truth about each recovered memory. As Dr. Forsyth explains in the lecture published elsewhere in this issue, the psycho-neurotic sooner or later comes to a point about which she is unwilling to be frank, usually declaring it to be of no importance. This gives the psycho-analyst his cue and he becomes the chief actor in the comedy, for Freud's theory or discovery—his new psychology, as Dr. Brill might say—turns on this reticence. It is, he says, in its origin protective. An unbidden guest comes out of the darkness of the subconscious and knocks at the door of consciousness in the healthy and the psycho-neurotic alike. The healthy man either takes him in and satisfies his hunger, or, if a guest improper to be entertained, turns him out and slams the door in his face, with the injunction never to return. The psycho-neurotic does neither—he conceals his unbidden guest, but remains conscious of his presence, and the wretched thing will pop his head out or rattle his chains behind the arras. The psycho-neurotic may try to forget, and may in time succeed in forgetting, the intruder's existence, but the secret fear remains. When he is reminded of the truth he turns away from it, closes his mind to it, and tells the psycho-analyst that it is in truth only a rat and not a ghost. By perseverance the psycho-analyst drags the hidden thing into the light, and then, like a ghost at cockcrow, it vanishes, and the fear or obsession vanishes with it. Professor Freud and his disciples do not tell us why; it is an empirical observation, so that we must know that it has occurred in many instances and that the morbid condition has not recurred, before we can accept as proved this law of "the new psychology."

Dr. Forsyth gives a very striking instance of the cure—the cure, at any rate, for a time—of that very common fear, the dread of darkness. We believe that other psychologists, also new, but of a different school, trace it much further back, to a period when the remote ancestors of modern psycho-neurotics went in bodily fear of the spirits that walked in darkness, so that the fear of the dark is probably so deeply rooted in the human brain as to approach the instinctive. But, indeed, it is only within the last two centuries or so that even in the most settled civilization a man might walk through a town without a fear, well founded in reason and experience, of the material evils and corporeal dangers the darkness might contain for him.

There is another even older and more powerful and fundamental instinct, which mankind shares with nearly all living things, to which Freud and some others of his

[3] *Selected Papers on Hysteria and other Psycho-neuroses.* By Professor S. Freud. Authorized translation by A. A. Brill. (Roy. 8vo, pp 223; 2.50 dols.) *Freud's Theories of the Neuroses.* By Dr. Eduard Hitschmann, of Vienna. Authorized translation by Dr. C. R. Payne. Nervous and Mental Disease Monograph Series. Nos. 4 and 17. (Roy. 8vo, pp. 164. 2.00 dols.) New York: The Journal of Nervous and Mental Disease Publishing Company. 1913.

[4] *The Interpretation of Dreams.* By Professor Dr. S. Freud. Third edition. Authorized translation by A. A. Brill. London: George Allen and Co., Limited. 1913. (Demy 8vo, pp. 522. 15s. net.)

school attach much importance in psycho-analysis—so much importance, indeed, that it seems for them to have overshadowed all others. Dr. Forsyth passes over this part of the subject very lightly, but it is in this direction that danger lies, and it ought not to be blinked.

The extravagances of some of the psycho-analysts are repudiated by Professor Freud, but he is himself ready to go a very long way, and some of his conclusions appear somewhat grotesque. Freud believes and teaches that sexual sensations become obtrusive at a very early age—in very earliest infancy, in fact—and some of the opinions to which this belief leads, as set out in the *Interpretation of Dreams*, and in Hitschmann's book, but especially in the former, will seem to many readers extravagant. They are, perhaps, harmless, but so much can hardly be said of the opinions also held by Professor Freud, if we understand him aright, as to hysteria and psycho-neuroses. In the etiology of hysteria the main factor for him is a suppressed or repressed state of consciousness having origin in one of the primary appetites—hunger or thirst or the sexual, but usually the last—and in that of a psycho-neurosis a suppressed memory, always sexual, and usually dating from childhood or infancy.

The patient, perhaps, or probably, a young woman, lies on a couch; the psycho-analyst sits beside her with his hand on her head and asks her to tell him frankly every thought and picture that passes through her mind. He times her responses, and when there is delay in response, assumes that there is something to hide, that there is a "protective" influence at work guarding against the emergence and acknowledgement of the real memory at the back of her mind. As he is imbued with the idea that she probably has some obsession of sexual origin, he is disposed to seek in that direction. Evidently the situation contains elements of danger for the professional reputation of the psycho-analyst, and it would not be prudent for him to neglect any of those precautions usually observed by members of the profession in the clinical examination of hysterical women. It contains also an element of danger for the patient, who as a result, it may be, of imperfect or incomplete analysis, may receive advice from her psycho-analytic physician repugnant to the ordinary code of morality. Professor Freud himself relates a case which illustrates the danger of the emphasis laid on the sexual factor. One of his disciples, inadequately instructed and insufficiently painstaking, allowed himself to be hurried into giving advice which seriously alarmed and deeply outraged his patient, who was saved by a prompt resort to the ministrations of Professor Freud himself.

We have said that the English-speaking profession is under a debt of gratitude to Dr. Brill for the translation of the two books mentioned. We do not wish to detract from that acknowledgement, but it must be said that the debt would have been greater had Dr. Brill, with the help of experts, seriously tackled the task of finding intelligible equivalents for some of Freud's terms, and had he not too often, perhaps in despair, descended to literal translation.

DOWELL'S INCOME-TAX LAWS.

THERE is no more complete guide to the intricacies of the law relating to the income tax than DOWELL'S book entitled, *The Acts relating to Income Tax*.[5] A seventh edition, revised, altered, and considerably enlarged by Mr. J. E. PIPER, has recently been issued. This publication is recognized as a work of the first authority on income-tax law, and is universally resorted to by accountants, solicitors, barristers, and others requiring information on the subject. In the hands of the present editor, who is an assistant solicitor to the Board of Inland Revenue, the scope of the work has been considerably enlarged, and its utility much extended. In spite of its semi-official character there is no trace of officialism in the very clear and impartial way in which the questions dealt with are discussed.

All the Acts relating to the income tax are given in full, and a concise statement of the points raised in every case of any importance that has been decided by the courts is given, with, frequently, a verbatim extract of the material portion of the judgement. The decided cases follow the various sections of the Acts that deal with the principal point raised in the case, and the editor has been lavish in repeated references to the leading cases whenever any aspect of the provisions of the Acts has been elucidated in the courts.

In addition to the ample information as to the judicial decisions, each main section of the Acts is prefaced by pertinent remarks in the way of general explanation, a feature especially useful to the non-expert searcher after information as to the general effect of the income-tax laws, who is, moreover, assisted by a very complete index of sixty-two pages. There are, in addition, accounts of the history and of the machinery of the assessment and collection of the tax, and much information of a general character bearing on the rules of construction followed in interpreting the Acts.

The opportunity afforded by a review of this work may be taken to remind our readers of some aspects of the income-tax law and administration that are sometimes overlooked. There is, for example, the rule that a successor is liable to be charged on the basis of the average profits of his predecessor, with the important proviso that if the successor finds that his profits are less, he can claim to have the assessment adjusted to the amount of his own profits; this applies not only when there is a complete succession, but also where there is any change in a partnership and the profits of the practice are found to have been reduced in consequence of the change. Moreover, where a medical man gives up his practice without disposing of it, he is entitled to have the assessments of the last three years reviewed, and if they have been in excess of the actual profits of those years to obtain repayment of the income tax on the balance. Again, the cost of a new motor car is a proper allowance as an expense to be set against the profits so far as the outlay represents the cost of replacing another car.

There is one concession to practitioners in general practice who also hold public appointments that does not appear, so far as we know, in any of the publications dealing with the income tax—namely, that they are allowed the option of treating the salary and fees received from such offices as though the sums were part of the receipts of the general practice. The effect of this concession is that no separate income-tax return need be made under Schedule E for the profits of the office, but only one general return under Schedule D, to include the profits derived from appointments on the average of the three preceding years. In addition to the convenience of making a single return, there is the added advantage that it is not necessary to make a separate calculation of the expenses relating to each appointment, and the consequent complication in the practitioner's accounts is thus avoided.

[5] *The Acts relating to Income Tax.* By the late Stephen Dowell, M.A. Seventh edition; revised, altered, and considerably enlarged by J. E. Piper, LL.B.Lond. London: Butterworth and Co. 1913. (Demy 8vo, pp. 940. 22s. 6d. net.)

NOTES ON BOOKS.

THE twenty-second issue of *The Annual Charities Register and Digest*[6] is edited, as usual, by Mr. C. S. LOCH, and equally, as usual, contains sufficient information to fill five or six ordinary works on the subject of philanthropic enterprise. The section dealing with individual institutions occupies about half the volume, and classifies them according to the special object which they have in view, an adequate account of all those working in London or available by its inhabitants being included. The term "charity," it should be noted, is liberally interpreted, almost any enterprise which is benevolent in its character and whose function it is to help to prevent financial or other distress being taken to be included within its scope. The rest of the volume is occupied by a review of the work of the year, by articles by well-known authorities on the various special forms of charity for physical and mental defects, and by an introduction. The section which modestly bears the latter title is in effect a carefully documented essay of some 250 closely printed pages on the subject of philanthropic work as a whole and the legal conditions attaching to its performance. A final feature of this reference book, which is not only highly useful but a monument of industry, is an index containing, we calculate, upwards of 8,000 references.

[6] *The Annual Charities Register and Digest.* Twenty-second edition. By C. S. Loch. London: Longmans, Green, and Co. 1913. (Post 8vo. pp. 1052. 5s. net.)

Sir RICKMAN GODLEE has published in a volume his Hunterian Oration[7] before the Royal College of Surgeons of England last February, and has added a number of interesting illustrations. The frontispiece is a portrait of John Hunter from a drawing by Sir Nathaniel Holland in 1793, and reproductions of Sharp's engravings after the portrait of Reynolds and of the death mask of Hunter are also given. There are a series of portraits of the conservators of the museum, William Clift, Sir Richard Owen, Quekett, Sir William Flower, Professor Charles Stewart, and of the present distinguished conservator, Dr. Arthur Keith. Other illustrations include a view of Leicester Fields from a print of 1753, a drawing of Hunter's house at Earl's Court and of the copper for macerating bones, and a drawing of the museum in 1800 which seems to prove that there was then a large amount of vacant space.

MEDICINAL AND DIETETIC PREPARATIONS.

A New Quinine Derivative.

WE have received from the English agents, Messrs. Widenmann, Broicher and Co. (1, Fenchurch Avenue, London, E.C.), a sample of hydrochloride of hydroquinine, recently placed on the market by Messrs. Zimmer and Co., Frankfort-a-M. This compound has the formula $C_{20}H_{26}N_2O_2.HCl.2H_2O$; the base thus differs from quinine by containing two additional atoms of hydrogen. Hydroquinine has long been known as an alkaloid occurring to a small extent with quinine in cinchona bark, and its physiological action has been regarded as similar to that of quinine. It is now, however, being prepared synthetically from quinine, and is therefore available in any required quantity. The hydrochloride, which is a white powder of very bitter taste, not only has the advantage of very great solubility (1 part dissolving in about 0.5 part of water, against 34 parts required for quinine hydrochloride), but according to the statements supplied its effect in destroying the parasitic protozoa is considerably greater than that of the quinine salt. The high solubility makes it a very convenient salt for hypodermic administration, and it appears likely, therefore, to be very largely used in malaria and similar cases.

Emetine.

The very striking success with which emetine has been administered hypodermically in amoebic dysentery has naturally led to a large demand for its salts in forms suitable for hypodermic use. Messrs. Burroughs, Wellcome and Co. (Snow Hill, London, E.C.) have submitted samples of their preparations of this drug, which comprise tabloid hypodermic emetine hydrochloride ⅓ grain and ½ grain, and vaporole emetine hydrochloride, the same doses being contained in 1 c.cm. of solution, sterilized and hermetically sealed. In order to enable the emetine to be given orally also the same firm has introduced tabloid emetine hydrochloride ½ grain, keratin-coated. Administration by the mouth, if the drug is protected from the action of the gastric juice by the keratin coating, has obvious advantages, as the patient can take the prescribed dose with ease. Sir Pardey Lukis, in the address on dysentery published in the JOURNAL on June 28th, referred to the fact that Leonard Rogers had administered the drug by the mouth with good effect, though its action was less rapid than when given hypodermically, and in the same issue Dr. G. C. Low recorded a case (p. 1369) which well illustrates both the convenience and the efficacy of the method.

Melubrin.

Additions to the already large number of synthetically prepared antipyretics and analgesics are continually being made; one of the latest has been submitted to us by Messrs. Meister, Lucius, and Brüning, Limited (3, Jewry Street, London, E.C.), who have put it on the market with the name "melubrin." Its chemical name is phenyl-dimethyl-pyrazolone-amidomethane-sulphonate of sodium, from which it is seen that it is a derivative of antipyrin. It is claimed that it can replace salicylic acid in articular and muscular rheumatism, influenza, and other cases, while it is said to possess the advantages of being without effect on the digestion or the circulation, and practically free from any toxicity. The sample submitted was in the form of tablets of 0.5 gram (7½ grains) each; examination showed it to be easily soluble in water and practically tasteless—both points in its favour. If experience shows its therapeutic activity to be equal to what is claimed for it, it may prove to be a valuable addition to medicine.

Digipuratum.

We have previously drawn attention to the purified extract of digitalis which Messrs. Knoll and Co. (8, Harp Lane, London, E.C.) supply under the name "digipuratum" in powder and tablets. It is described as a mixture of the active glucosides or gluco-tannoids of digitalis, after removal of digitonin and other substances allied to the saponins and inert matter; the product is stated to be physiologically standardized. The same firm has now submitted a sterilized solution of digipuratum which is supplied in ampoules each containing 1 c.cm., equivalent to 1½ grains of digitalis leaf; this is intended for subcutaneous, intramuscular, or intravenous injection, for which it appears to be suitable.

Bismosal.

Bismosal is the name given by Messrs. J. C. Arnfield and Sons, Ltd. (Stockport), to a mixture which they prepare containing bismuth and salol; the distinctive feature of this mixture, a sample of which we have examined, is that the bismuth is present in the form of hydroxide, and remains permanently suspended. The value of bismuth and salol in various disorders of the alimentary canal is well recognized, and the preparation appears likely to be useful.

Byno-lecithin.

We have received from Messrs. Allen and Hanburys, Limited (Bethnal Green, London, E.), a sample of bynolecithin, which is a combination of their liquid extract of malt, bynin, with the alkaloids of cinchona and nux vomica, and lecithin. Our analysis showed the amount of the latter to be 1 per cent., or about 4½ grains in an ounce. Lecithin seems often to be more easily assimilated than other forms of phosphorus, and when presented in combination with tonics and readily assimilable carbohydrates, as here, it may prove a useful adjuvant to the dietetic treatment of nervous exhaustion.

ROYAL MEDICAL BENEVOLENT FUND.

AT the June meeting of the Committee eighteen cases were considered, and grants amounting to £120 voted to twelve of the applicants. Appended is an abstract of the cases relieved:

1. Widow, aged 55, of M.R.C.S., L.R.C.P. Has supported herself since husband's death nearly twenty-five years ago, but at present is out of work and is going into a hospital for an operation. Voted £2, and case to be reconsidered after leaving the hospital.

2. Widow, aged 83, of L.S.A. Has an annuity of £30 and a small allowance from a nephew, but is a confirmed invalid both physically and mentally, and requires help for unavoidable expenses. Voted £5.

3. Daughter, aged 49, of M.R.C.S. No income, and suffers from a chronic complaint which makes occupation impossible. Is practically dependent on this fund and a sister who can only earn a few shillings a week. Voted £12.

4. Wife, aged 38, of M.R.C.S., L.R.C.P. Husband used to have a fair practice in London, but broke down in health three years ago, and is now abroad incapacitated and unable to help. No income; slight help from a brother-in-law and takes a boarder. Five children, aged 13 to 5. Voted £10.

5. Widow, aged 32, of M.R.C.S., L.R.C.P. No income, but, having been trained as a mental nurse, has taken a small house and hopes to obtain resident patients. One son, aged 6. Voted £10.

6. Daughters, aged 42 and 40, of late M.R.C.S. Ten years ago started a lodging-house at a seaside place, and having had two successive bad seasons are unavoidably in difficulties, which they hope will be temporary. Voted £10.

7. Widow, aged 48, of L.S.A. No income; is being given lessons in dressmaking by the Guild and hopes to obtain boarders. Four children, aged 19 to 9. Relieved once, £10. Voted £12.

8. Widow, aged 54, of M.R.C.S. Income very small and is obliged to live at Margate with an invalid daughter who for more than three years has had to use a spinal carriage. Relieved twice, £10. Voted £5.

9. Widow, aged 55, of L.R.C.P.Edin. No income; no children; health too feeble for regular occupation. Relieved twice, £20. Voted £12.

10. Widow, aged 46, of L.R.C.P., L.R.C.S.Edin. No income and suffering from an incurable complaint. Relieved once, £20. Voted £18.

11. Daughter, aged 68, of late M.R.C.S. Only income about £12 a year and is confined to bed by a grave spinal disease. Relieved twice, £24. Voted £12.

12. Widow, aged 65, of M.R.C.S. Practically dependent on letting lodgings and is not in good health. Relieved eight times, £94. Voted £12.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, London, W.

[7] *The Hunterian Oration.* By Sir Rickman J. Godlee, Bart., P.R.C.S., B.A., M.S., M.D.Dub. London: J. Bale, Sons and Danielsson. 1913. (Demy 8vo, pp. 45; illustrations 13. 2s. 6d. net.)

Nova et Vetera.

SOME FIGURES IN MEDICAL HISTORY.

SANCTORIUS.

Santorio Santorio, or, in the Latinized form that was customary in his day, Sanctorius, though now only a name to students of physiology, must be counted among the great innovators in medicine. He founded no system, and appears to have thought that he was only giving more precision to the old Galenic theories by applying methods of exact measurement to the human body. Of his life very little is known, and it may be surmised that it was uneventful; indeed he must have spent a considerable part of it in the weighing chair which is here represented. He was born at Capo d'Istria in the territory of the Venetian Republic in 1561, studied medicine at Padua, where in due course he took his doctor's degree. After travelling in Poland, Croatia, and Hungary he returned to Italy, and after practising his profession at Venice for some years he was appointed professor of medicine at Padua in 1611. He won great fame as a teacher, and attracted students in large numbers to his lectures by the originality of his thought. In 1624 the Republic of Venice invited him to return to that city to practise. So highly were his services valued that although he had left the university the State continued to pay his salary till his death, which occurred at Venice in 1636 in the 75th year of his age.



At Padua he came under the influence of Galileo, and this doubtless led him to the application of instruments of precision in medicine. The work by which the name of Sanctorius still survives in medical history is his *Medicina Statica*, or medical statics, which was published at Venice in 1614. It passed through many editions and was translated into several languages. There are at least two English versions: One originally printed at London in 1676 under the title *Rules of Health*, and described as "Englished by J. D.": the other, with a commentary, by John Quincy, the third edition of which was printed in London in 1723. Quincy, speaking of the previous English version, says, rightly enough:

> The Translator has retained so many Terms and Latin Phrases, that the Original I should think as easie to an Englishman as the other, had it not gone off so much that at this time it is hardly to be met with.

The Latin text was issued with a commentary by Dr. Martin Lister (London, 1701). Of Lister's edition, Quincy somewhat unkindly says:

> Dr. Lister has also given an Edition in Latin, with his Notes upon each Aphorism; but hardly with any other advantage to the World than making Sanctorius, who was before scarce, more common to be met with. Indeed I cannot make any large acknowledgement for his Assistances in what I have done, although I hardly omitted consulting him upon every aphorism, for in most I found my author more intelligible than his commentator.

Lister, in his preface, says no discovery, except that of the circulation of the blood [which came later], can be compared with that of the insensible perspiration by Sanctorius. The book is dedicated to Nicolaus Contrarenus, Senator of Venice and Moderator of the University of Padua. In it Sanctorius acknowledges the encouragement given him by Contrarenus during nearly forty years, and begs his aid as a defender against "the froward crowd of Zoiluses." The book consists of eight sections of aphorisms, the reason for the selection of this form being that he wished to imitate Hippocrates, "our great dictator," whose steps he had always thought it an honour to follow.

In the *Medicina Statica* Sanctorius gives the results of experiments on the variations in the weight of his own body prolonged over thirty years. He seated himself in a specially constructed balance. The figures of this differ somewhat in slight details in various editions and translations; the one reproduced here is given in Martin Lister's edition. Essentially it was a chair suspended to a steelyard. The beam, he says, was fastened to the rafters "at a secret place in a room above that where you take refection, because it would be unsightly in the same room; as also by reason of the unlearned to whom all things that are unusual seem ridiculous. Now the chair being a finger's breadth from the floor stands firm so that it cannot easily be shaken." In the introduction to his book Sanctorius says:*

> It is a thing new, and not before heard of in medicine, that any one should be able to find out the exact weight of insensible perspiration, nor has any one of the philosophers or physicians attempted the doing of any thing in that part of the medical faculty. I am the first that has essayed it, and (if I am not mistaken) brought the art to perfection, by reason and the experience of thirty years.

After weighing the food and drink which he required for twenty-four hours, Sanctorius compared the total

*In the quotations from Sanctorius made in this article we use the translation by "J. D." (London, 1676).

weight with that of the faeces and urine excreted during the same period. From this he calculated the amount of waste lost by insensible perspiration. He discriminated carefully between insensible perspiration and sweat. He held that the weighing chair indicated exactly the daily insensible perspiration; "which perspiration," he says, "not well considered, medicine for the most part proves vain and ineffectual; for all indispositions almost are the productions of a lesser or larger perspiration than is requisite." A person seated in the chair can see when he has taken the right proportion of meat and drink, "beyond which or short of which we are prejudiced."

Then the remote part of the beam is a little elevated, and the chair withal immediately descends a little. The descent of the chair tells the person sitting in it that he has taken the requisite amount of his refection.

The aphorisms are grouped under the following headings: (1) Of the ponderation of insensible perspiration; (2) of air and waters; (3) of meat and drink; (4) of sleep and vigilance; (5) of exercise and rest; (6) of venery; (7) of the affections of the mind; (8) answer to the "staticomastix" [evidently a critic who remains for us anonymous]. It is impossible within the limits of space at our disposal to give anything like a complete analysis of the laborious observations of Sanctorius. Moreover, this would be superfluous at the present day, because, as he reckoned only the outgoings — and some of these very imperfectly—taking no account of the partial compensation caused by the interchange of gases in the skin, the results cannot be accepted as accurate. In estimating his value it is the method of exact measurement that forms his distinctive merit. Michael Foster * says that Sanctorius "stands out as the forerunner in the early years of the seventeenth century of that statical method of physiological inquiry which during the latter half of the nineteenth century produced such useful results." Sanctorius cared more for practical guidance than for theoretical conclusions. His doctrine as to perspiration was grossly misunderstood by many physicians in the seventeenth and eighteenth centuries, and was made the basis for the inordinate sweating which was used in the treatment of many diseases. He regarded his balance as a means of helping a man to live by rule in the matter of diet. But he went far beyond this, for apparently he weighed himself before and after sleep, after exercise—walking, riding, driving—after sexual excitement, after study, and so forth. He even attempted to weigh the emotions, such as anger and gladness, that are generally regarded as imponderables. In fact, he illustrated the almost inevitable tendency of a man to push a new idea beyond reasonable bounds. He clearly foresaw that he would encounter opposition and misunderstanding, and he warns the reader that human nature, not only among the vulgar but also among the learned, "not conducted by a love of the truth, but hurried away by ambition or the vain letchery of contradiction or pure envy, will rise up against this new art and will heavily inveigh against it though they are not so much as acquainted with the very name of it."

The main outlines of his doctrine have already been indicated. A few points of his teaching may be briefly mentioned, with some of his aphorisms as specimens of his style. He says that the insensible perspiration alone commonly exceeds all the sensible perspirations taken together. If the meat and drink consumed in one day weigh 8 lb., the insensible transpiration ordinarily amounts to 5 or thereabouts. The quantity varies somewhat according to diversity of nature, climate, seasons, age, diseases, food, and other circumstances. That weight which to any one is such as that when he goes up some steepy place he feels himself lighter than he is wont, is the exact standard of good health. There are two kinds of insensible transpiration—one immediately after sleep, upon the completion of the concoction, and after this there is an increase of strength; the other, in the waking state, is occasioned by crude humours and causes impairment of strength.

That perspiration which eases the body of a great, and that an unprofitable, burthen is not that which is attended with sweating, but that invisible perspiration or breathing, such as that which in the space of four and twenty hours in winter may exhale 50 ounces or more. Invisible perspiration becomes visible either when there is an excess of nutriment or when there is a remission of heat, or by reason of violent motion. . . . If by ponderation, thou shalt find that the matter of usual perspiration is retained in the body, and that the party does neither sweat nor urine for some days after, infer thence that the retained matter prognosticates future corruption. . . . The secret and insensible perspiration eases us more than all the sensible ones put together; for, after sleep, before there be any evacuation of the sensible excrements, every one feels lighter, because he is really become lighter by three pound or thereabouts. In the space of one night there are commonly evacuated, of urine sixteen ounces more or less; of concocted excrements by stool four ounces; and by occult perspiration forty and above. There are many, who, in the space of four and twenty hours evacuate as much, by insensible perspiration, as they do by stool in the space of fifteen days.

One wonders how Sanctorius discovered the dogmatic statement contained in the last sentence.

He held strongly that health stands in a constant relation to the amount of the insensible perspiration. This may be diminished by the greater abundance of the excretion by the bowel and the bladder, and most diseases arise from this cause. The secret of long life is revealed in the following propositions:

Observe in the morning, after a somewhat plentiful supper over night, that sort of greater perspiration which may be completed in thyself in the space of twelve hours; grant it to have amounted to fifty ounces. Some other morning after having fasted over night yet with this proviso that thou didst not exceed at thy dinner the day before, make the same observation; let us admit the perspiration to have amounted to twenty ounces: this foreknown pitch, upon that moderate proportion of meat and other non-natural causes, which will be likely to reduce thee daily to the mean between fifty and twenty ounces; and that mean will be thirty-five ounces. Thus mayst thou live a long and healthful life, nay haply arrive to that of a hundred years.

On the question of alteration of weight Sanctorius is quite sound. He says:

The health of that body is more firm and of longer continuance, whose weight in the process of many years is neither augmented nor diminished, than that of a body whose weight is altered every year. . . . It is an ill sign when a healthy person becomes of less weight than usual, it being supposed his course of life be the same as before.

He says elsewhere:

There would be uninterrupted healthfulness, even to the extremity of age, if men's bodies were kept in an equal weight during the four seasons of the year.

If the weight of the body be augmented in the space of five or six days, it is not to be taken off of a sudden, but by degrees; for abstinence from food, if it be extraordinary, hurts the stomach, the brain, and the heart, and, after a while, the whole body. But he attributes some remarkable properties to the perspiration:

The perspirable matter consists of two parts, to wit, a light, and a ponderous. The ponderous part is so exuberant that living creatures are generated of it, as punaizes [bugs] lice and the like. From the more ponderous part of perspiration do proceed the contagious infections of such as lie together: for the light part vanishes, but the more ponderous, being adhesive, does infect.

Lice are generated, he says elsewhere, because the perspiration of the malignant ichor, or thin matter, is obstructed.

In these days, when there is so much talk of the secret of old age, some hints from Sanctorius may not be inappropriate:

Old men prolong their lives by frequent spittings; for these being retained within the body as being incapable of coction or digestion, hinder perspiration; the consequences thereof are suffocation and death. . . . Old men reach not decrepid age by reason of the weakness of their expulsive faculties. Thence it comes to pass, that when they drink more than it was requisite they should, they urine less and perspire less than they were wont. The remedy is that the subtraction be equivalent to the addition.

He had views on ventilation much in advance of those of his contemporaries:

Nothing is more apt to take away putrefaction, than for one to use much ventilation, not only that which is procured by what is drawn in, but also by what is evacuated through the insensible passages.

But he had not the true light on the subject of open air, for he says:

That air which is over cool, moist, or windy, obstructs perspiration: whence it happens, that such as keep within

* *Lectures on the History of Physiology during the Sixteenth, Seventeenth, and Eighteenth Centuries.* Cambridge, 1901, p. 146.

doors, as, for example, women, are not troubled with coughs, catarrhs, or inflammations of the lungs.

On diet he has some notions as to which we must leave the reader to form his own judgement:

The use of swine's flesh and mushrooms is hurtful, as well because these do not perspire, as because they suffer not other meats eaten with them to perspire. Upon the eating of swine's flesh and mushrooms the body commonly perspires less than it is wont by a third part of a pound. Melons perspire so little, that they abate about a fourth part of the usual perspiration. That retention of the perspiration caused by melons is evacuated by urine or sweating. Grapes and green figs perspire but little, and somewhat hinder the perspiration of other meats; haply because they are sensibly evacuated. That kind of food does perspire best of all, and conveniently nourishes, whose weight is not felt in the belly.

Bodies are with less trouble reduced to their usual weight, if men take four pounds (*sic*) of meat at dinner, and four at supper, observing a convenient interval, than if they take six at dinner and two at supper.

The body is made more ponderous by four ounces of meat that is of much nutriment, such as pork, eels, and all fat things, than by six ounces of meat that is of little nourishment, such as are small fishes, chickens, small birds, and the like.

But his practical teaching is sound enough:

If thou canst but find out every day what quantity of meat is convenient for thee, thou wilt know how to preserve thy vigour and life a long time. . . . That quantity of meat is to be received into the body which nature is able to concoct, digest, and perspire.

He adds:

You will find what quantity of meat you should eat, if for several days together you observe that the body after sleep is without any trouble reduced to the same weight.

He condemns intemperance in drink:

In these our days, drinking, even in temperate persons, is disproportionate: for men eat commonly after the rate of twelve ounces, but drink after that of forty, and above. . . .

Then it is the proper time to take refection, when the body shall be reduced to that weight, yet healthful, which it was of a little before the party had eaten the day before. And this only Apollo himself shall find out without the balance.

But if the unusual weight of the overnight's drinking be not taken off, either by the strength of the concoctive faculty, or by corruption the next day, take the advice of these two verses:

Si nocturna tibi noceat potatio vini,
Hoc tu manè bibas iterum, & fuerit medicina.

This seems to be a scientific version of the familiar advice of the toper, "Take a hair of the dog that has bitten you."

Sanctorius knew the evil influence of mental disturbance on digestion, for he says:

He who goes to supper with a disturbed mind, digests much less than another, who is undisturbed and cheerful.

The relations between sleep and perspiration are set forth in the following aphorisms:

Undisturbed sleep is so great a promoter of perspiration that, in the space of seven hours, fifty ounces of the concocted perspirable matter do commonly exhale out of strong bodies.

A man sleeping the space of seven hours is wont, insensibly, healthfully, and without violence, to perspire twice as much as one awake. . . .

Short sleeping proceeds from the acrimony of the perspirable matter, which is not evacuated; but the retention of the perspirable matter is commonly occasioned by nature's being more than usually employed about some other internal functions.

The acrimony of the perspirable matter which is retained, very often ascends up to the head, disturbs sleep, and diverts the perspiration of the superior parts. . . . A person sleeping perspires twice as much as one waking. Thence came that remarkable saying, two hours of rest in a person awake are but equivalent to one of sleep. . . .

Sleep about four hours after meat is best; for then nature is least employed about the first concoction, it better recruits what was lost, and more promotes perspiration. . . .

There is no cause does more frequently interrupt sleep than the corruption of a man's meat. This is caused by the sympathy there is between the stomach and the brain.

Of exercise he says:

There are two kinds of exercises, one of the body, the other of the mind: that of the body evacuates the sensible excrements; that of the mind the insensible rather, and especially those of the heart and brain, where the mind is seated.

Violent exercise of mind and body renders bodies of lighter weight, hastens old age, and threatens untimely death. Of physical exercises he gives the preference to walking; he has something to say of dancing, which may be commended to the attention of the controversialists who have recently been discussing the acrobatic displays now fashionable among the "smart set."

Moderate dancing, without any capering or jumping, comes near the commendation of moderate walking; for it moderately expels the concocted perspirable matter.

The physical effects of the emotions are dealt with in the following aphorisms:

Amongst the affections of the mind, anger and alacrity render men's bodies lighter, fear and sadness more ponderous; and the rest of the affections operate answerably to their participation of these.

In grief and fear that which is lighter perspires, but what is more ponderous is left behind; in gladness and anger there is perspiration of both.

Hence it comes to pass that such as are subject to fear and grief are apt to be troubled with obstructions, hardness of the parts, and hypochondriacal affections. . . .

Nothing contributes more to freedom of respiration than satisfaction and consolation of mind. . . .

They who carry grief along with them to their beds perspire so much the less that night; and the next day their bodies continue more than usually ponderous. . . .

Fear and grief, as we find by statical experiments, are taken off by the evacuation of the gross perspirable excrements; anger and alacrity by that of the tenuious.

Too much gladness was considered to have a bad effect:

A continual gladness for many days together hinders sleep, and renders a man weaker.

Vegetarians will approve of the following aphorism:

Parsley, and other aliments that are opening, induce joy; pulse, fat meat, and other things which incrassate, and presently fill the cavities of the passages, cause grief.

Sanctorius, as may be gathered from the specimen of his aphorisms we have quoted, only gives his conclusions without details of his experiments. His tone is oracular, and he not seldom has something of the obscurity of oracles. Sometimes indeed a frivolous reader—if any such should have patience to read him—will be reminded of a passage in Ferdinando and Elvira in the *Bab Ballads* where an anxious inquirer is said to have received the following answer from the author of *Proverbial Philosophy*:

"A fool is bent upon a twig, but wise men dread a bandit."
Which of course was very clever; but I didn't understand it.

But he cannot be denied the glory which he claims of having opened up a new path in medical science, though Payne, in his masterly sketch of the history of medicine in the *Encyclopaedia Britannica*, does not think his name worthy of mention. His contemporaries saw in him a second Hippocrates, and set up a marble statue in his honour. Baglivi as well as Martin Lister places his discovery on the same level as that of the circulation of the blood. Boerhaave, in his *Methodus Studii Medici*, says after mentioning Galen:

Neither must we ever lose sight of Sanctorius's *Medical Statics*. If I speak my thoughts freely, none of the physicians who wrote before him treated the subject with so much accuracy, for he instructs us how nourishment is assimilated by the powers of the human body and what kinds of food admit of that degree of subtilty that they may exhale without dregs, and also what kinds of food suit a weak constitution and what a strong, and indeed there is no book upon medicine written with the same degree of perfection.

He speaks of the insensible perspiration as *Sanctoriana Perspiratio*. Hallé, in his *Treatise on Health*, published in the *Encyclopédie Méthodique* (Art. Médecine, t. 7), says that the work of Hippocrates marks the first epoch of hygiene, and that of Sanctorius the second, and he says that at a time when "the wisest physicians were those who scrupulously traced the footsteps of the ancient Greeks, who confined themselves to the study of their works, and were occupied in confirming the precepts of their masters by new observations, he alone had the courage to extend the range of his inquiries which they seemed to have circumscribed, who opened up for himself a new path and pointed out to his successors a method hitherto unknown of penetrating the secrets of nature."

It is only fair to recall the fact that Nicolaus Cusanus anticipated him to some extent in the application of statical experiments to medicine. He wrote a treatise on the advantages that physicians might derive from the application of such experiments to the human body with the object of ascertaining the proportions of sensible and insensible evacuations.

But when every deduction is made, it is unquestionable that Sanctorius has left his footprints on the sands of time as one of the great pioneers of science. He was not a man of one idea. He had a singularly inventive mind. Besides the work which has been dealt with, he was the author of *Methodus errorum vitandorum qui in arte medica contingunt*, Venetiis, 1603; *Commentaria in primam sectionem aphorismorum Hippocratis*, Venetiis, 1629; *Commentarius in primum fen primi libri Canonis Avicennae*, Venetiis, 1626; *De remediorum inventione*, Venetiis, 1629. He was the first who applied the thermometer to the human body to ascertain the degree of fever. The instrument he employed for the purpose was an adaptation of that invented by Galileo; he demonstrated it to his pupils thirteen years before he published—or rather buried—a description of it in his commentary on Avicenna (1626). He invented an instrument for the measurement of the pulse-rate, and he enumerated no fewer than one hundred and thirty-three variations of its beat. Another of his inventions was an instrument to demonstrate the rising of the sap in the vessels of plants.

He also devised a trocar and cannula "by which an opening may be rapidly made in the windpipe when suffocation is imminent, especially in infants," and which may also be used for tapping the abdomen in dropsy. A vessel resembling a bronchitis kettle for distributing steam, narcotic vapours, and cooling odours in the sick room; and, finally, cupping glasses fitted with exhausting syringes, described and figured at least twenty years before Guericke is supposed to have invented the air pump.*

It is truly wonderful that a man should have accomplished so much when physical science was yet in its infancy. The work he did is all the more remarkable when it is remembered that his concept of disease was that of Hippocrates and especially Galen.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE (LONDON, 1913).

SECTION OF TROPICAL MEDICINE AND HYGIENE.

THE Section of Tropical Medicine and Hygiene, of which the President is Surgeon-General Sir David Bruce, is holding discussions as follows:

Thursday, August 7th.—Plague. Reporters: Professor Dr. S. Kitasato, Tokyo; Major W. Glen Liston I.M.S. Dr. Simond has promised to take part in the discussion.

Friday, August 8th.—Beri-beri. Professor Dr. C. Eijkmann, Utrecht; Professor Dr. B. Nocht, Hamburg; Professor Schaumann, and Mr. Funk will take part in the discussion.

Saturday, August 9th.—Sanitary Organization in the Tropics (jointly with the Section of Naval and Military Medicine). Colonel P. Hehir, I.M.S., Stabsarzt; Dr. Hintze, Berlin; Professor Sir Ronald Ross, K.C.B.; Colonel King, I.M.S.; Professor Plehn. Professor W. J. Simpson, and Dr. Edm. Sergent will take part.

Monday, August 11th.—Leishmaniasis. Professor A. Laveran, Paris; Dr. Nattan-Larrier, Paris; Dr. C. Nicolle, Tunis; Sir William Leishman, will take part in the discussion.

Tuesday, August 12th.—Relapsing Fevers. Dr. C. Levaditi, Paris; Professor F. G. Novy, U.S.A. A part will be taken in the discussion by Dr. A. Balfour and Dr. Darling.

Papers have been received on the prevention of malaria in troops in India and on ulcerated and spongy gums in Indian troops, both by Colonel Hehir. The following papers have been promised: Dr. Castellani, Yaws; Captain Craig, U.S.A., Dengue; Dr. Robert Doerr, Vienna. Phlebotomus Fever; Professor Katsurada. Japan, Schistosomiasis; Dr. van Loghem, Utrecht: (1) On the Yellow Fever Danger for Asia after the Opening of the Panama Canal; (2) The Difference between Vibrio Cholera and Vibrio el Tor; Dr. Stephens, Liverpool, Blackwater Fever; Professor Th. von Wasielewski, "Zur Kenntnis der Halteridienkrankheit der Vögel; mit Demonstration."

The Section will meet in the Physical Chemistry Theatre on the ground floor of the Imperial College of Science. An epidiascope will be available for demonstration at the sittings. The sectional entertainments will include visits to the London Tropical School and probably to the Liverpool Tropical School. A dinner will be held.

The Secretary is Dr. A. G. Bagshawe, Imperial Institute, London.

* Withington, *Medical History from the Earliest Times* (London, 1894), p. 315.

SECTION OF PSYCHIATRY.

The meetings of this Section are to be held in the Chemical Library of the Imperial College of Science and Technology, South Kensington.

The President of the Section is Sir James Crichton-Browne, and the Acting Secretary Dr. Maurice Craig (54, Welbeck Street, W.).

The following are the discussions arranged and the names of reporters.

Thursday, August 7th.—The Psychiatric Clinic, its Aims (Educative and Therapeutic), and the Results Obtained in respect to Promotion of Recovery. Reporters: Dr. Adolf Meyer, Baltimore, U.S.A.; Professor Dr. Sommer, Giessen.

Friday, August 8th.—Psycho-Analysis. Reporters: Professor P. Janet, Paris; Dr. Karl Jung, Küsnach-Zürich.

Saturday, August 9th.—The Psychoses of Infection and Auto-intoxication. Reporter: Ghr. Professor Dr. K. Bonhöffer, Breslau.

Monday, August 11th.—The Syphilitic and the Para-syphilitic Insanities. Reporters: Professor Dr. W. v. Bechterew, St. Petersburg; Dr. A. Marie, Villejuif.

Tuesday, August 12th.—The Psychology of Crime (jointly with Section XIX). Reporters: Professor Comm E. Morselli, Genoa; Professor W. Weygandt, Friedrichsberg, Hamburg.

The afternoon meeting on Saturday, August 9th, will be held at Claybury Asylum, when a pathological demonstration will be given by Dr. Mott. and Dr. Robert Jones will show members of the Congress round Claybury Asylum.

Dr. E. Goodall, of the Mental Hospital, Cardiff, has undertaken the arrangements of the museum specimens for this Section, and is working with Mr. Armit, who is responsible for the management of the general museum of the Congress. Arrangements have been made for showing the plans of several of the London County Asylums. Facilities will be given for members to visit Bethlem Royal Hospital, the London County Council Asylums, Darenth Colony for mentally inflicted persons, and Holloway Sanatorium, Virginia Water.

Entertainments.

A garden party has been arranged, by the kindness of the governors of Bethlem Royal Hospital, on Thursday, August 7th, and those who wish will have an opportunity of visiting the wards of this ancient and royal hospital for the insane.

The sectional dinner will take place on Thursday, August 7th, at the Imperial Restaurant, Regent Street (7s. 6d., exclusive of wine). Each member is expected to pay for his own dinner and that of any guest he may ask.

The Lord Mayor of Cardiff has most kindly issued an invitation to lunch to those members of the Section desirous of visiting the Cardiff Mental Hospital. As this will mean a whole day excursion from London, the date has been fixed for Wednesday, August 13th, the day following the closing of the Congress. This mental hospital is thoroughly worth a visit, as it is one of the latest and most completely equipped mental hospitals in the country. Those who desire to go are requested to apply for tickets as soon as possible, in order that the Lord Mayor may have time to arrange for the luncheon, etc.

THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on June 20th, when Dr. J. F. Allan was in the chair. The accounts presented showed that the sickness claims were decreasing with the advent of the warmer weather. The number of claims for accidents in connexion with motor cycles and cars is increasing, and the severity of some of these is shown by the fact that one member at least has been on the sick list for two years, and many others of varying duration from two months downwards. Fractures of the arm from back fire when starting are the most frequent cause of accident. The society charges no extra premium for members using motor cars or motor cycles. The new business was well up to the average. A letter was read from Sir Alan Reeve Manby emphasizing the necessity of joining when young, and of the great feeling of security it gave to him to know that if necessary he could always rely on the society's benefits when disabled. He urged all young struggling doctors to join at once. Prospectuses and all further information can be obtained from the Secretary, Mr. Bertram Sutton, 33, Chancery Lane, W.C.

ONE HUNDRED YEARS AGO.

VACCINATION IN 1813.

IN 1813 Edward Jenner was still alive; he was 64 years old, and he had ten years before him in which to enjoy the public recognition of the value of the great discovery which he had made. It was in this year that the University of Oxford conferred on him the degree of M.D. Six years had elapsed since vaccination had been made compulsory in Bavaria and three since Denmark had followed suit; but forty years were to pass before the United Kingdom, Jenner's own land, was to take this great forward step in preventive medicine, although in twenty-seven years—namely, in 1840—Parliament was able to spare a few hours from the consideration of the penny post and other matters for the passing of an Act which provided for the payment of vaccination fees out of the rates. This Act, however, simply recommended vaccination, and left the parent free to say whether he would have his child protected by it or not, so slight was then the conscience of the community respecting the safeguarding of all persons against the diseases of some. Even the Act of 1853, although it nominally made vaccination compulsory, was practically very imperfect until it was strengthened by those of 1867 and 1871, which established and arranged for the payment of vaccination officers.

In 1813, however, all this legislation was still in the future. Seventeen years previously (in May, 1796) Jenner had performed his first vaccination; two years later he had published his *Inquiry into the Causes and Effects of the Variolae Vaccinae*, and other papers appeared from his pen in 1799, 1800, and 1801. Vaccination about this time spread to America, France, Spain, Portugal, Turkey, Greece, and the Mediterranean generally; the Royal Jennerian and London Vaccine Institution was founded in 1802–3, and was replaced with Government aid by the National Vaccine Establishment in 1808; and although it began about this time to be evident that Jenner had been wrong in thinking that vaccination conferred a lifelong immunity against small-pox, it was generally recognized that he had made one of the greatest advances in the healing art and had given a boon of incalculable value to the whole world. The whole world, however, had not yet the opportunity of participating in the priceless blessing of protection from small-pox, for the simple reason that there were many countries, especially islands, where no vaccine material could be got. In these days when lymph in capillary tubes goes everywhere by post it is difficult to realize that in 1803 the only way in which vaccination could be made possible in Spanish America was by sending out from Spain children who had not had small-pox and vaccinating one or two of them each week until the voyage was ended, and the last batch of children landed with their pustules in a ripe state to furnish lymph for the babies and adults on the other side. So in 1813 there were chances all over the world for ship surgeons and the like to carry Jenner's great boon to lands in which small-pox reigned supreme and to repeat there the beneficent experiment of vaccination on a large scale.

Such a chance came to William Scot, surgeon in the Honourable East India Company's service, and he told the story of what happened in the July part of the *Edinburgh Medical and Surgical Journal*,[1] under the title of "Report on the State of Vaccination in certain Districts of India, and in the Isles of France and Bourbon."

This William Scot was possibly the man who graduated M.D. at Glasgow University in 1786. There were several William Scotts in Edinburgh during these years, one in 1786 also, and it is true that the paper in the *Edinburgh Medical and Surgical Journal* was dated from Edinburgh; but these men spelt their names with two *t's*, whilst the Glasgow graduate had only one *t* in his name. In Innes Addison's *Roll of the Graduates of the University of Glasgow* (p. 540, 1898) this William Scot is described as a native of Edinburgh; it is stated that he "probably practised in London," and that he was admitted a Licentiate of the Royal College of Physicians of London on April 2nd, 1792. Whether this be the man or not, there seems to be good reason for identifying him with the William Scot who in 1824 published at Madras a "Report on the epidemic cholera as it has appeared in the territories subject to the presidency of Fort St. George"; this was a book of about 350 pages with a map, and it was evidently much thought of, for it was translated into French (1831) and into German (1832). There is no physician or surgeon of the name of William Scot or Scott in the *Dictionary of National Biography*.

From January, 1806, to September, 1810, Dr. Scot was in charge of vaccination throughout a district on the Coromandel coast, extending about 150 miles alongshore and fifty miles inland. There, with the help of four native vaccinators, he vaccinated upwards of 40,000 persons. Although he invited reports of failures, feeling sure that in so large a number of cases there must have been some, yet none was given in. The efficacy of the protection was soon tested, for, whilst small-pox was never totally absent from the Coromandel coast, an epidemic of it occurred once a year between April and October, and made these months a time of universal terror and dismay. Let us note the changed state of things in April, 1809; in that month Surgeon Scot reported to the superintendent-general of vaccination in Madras that he had no information of any small-pox being in the neighbourhood. Again, in June he wrote: "The small-pox has not appeared this year in these districts, contrary to custom"; and again, in August, he reported upon the "unprecedented exemption," and even suggested that perhaps the cooler weather might partly explain it. When 1810 came, however, and brought with it no such peculiarity of season, Dr. Scot was forced to ascribe the continued happy exemption from small-pox to its true cause, vaccination. Here is his final report in September, 1810, before he proceeded on foreign service: "During my superintendence of vaccination in the Nellore and Ongole districts upwards of 40,000 persons have been vaccinated, and none can now be procured to undergo this process but such as are of a very tender age; and I have proof of the efficacy of my labours, in the exemption of these districts from the epidemic small-pox, *for two years past*, though infection has been frequently introduced."

But whilst Surgeon Scot's success in India was complete and striking, he was observant enough to notice and comment upon a disquieting circumstance; this was the sudden and marked fall in the number of persons coming forward for vaccination as soon as the scourge was seen to be checked. So early was this characteristic result of the success of vaccination evident! Of course, the apathy of the native was partly to be blamed; in the absence of a powerful stimulus, he became careless; but yet there is here a characteristic which has been noted many times in the past hundred years, and has never been more prominent than at the present moment. The very completeness of the success of vaccination has ever been the great factor in the opposition which has sprung up against the procedure.

Dr. Scot next had an opportunity of trying the experiment of vaccination in the Mauritius (Isle of France) and in the Île de Bourbon (Réunion). He introduces the subject of the Mauritius experiment somewhat ingenuously in the following sentences:

> It was always an object of solicitude with the British in India to extend the blessings of vaccination as widely as possible, and the French islands, more than once, received fresh supplies of the virus, when, by neglect or mismanagement, it had been lost. When the expedition was preparing at Madras, for the reduction of the Mauritius in 1810, I offered my services to the Government for conveying thither the vaccine disease. They were immediately accepted. We have thus the singular but gratifying spectacle of a Government taking an active interest in the ulterior welfare of a people, at the very moment when its energies were directed to their conquest and subjugation.

Yes, we may agree, it was a rather singular spectacle, but many such paradoxes arise when a war of conquest and a campaign of hygiene are waged simultaneously. One thinks, too, of the story of the walrus and the carpenter, and their offer to the oysters to come for a walk along the briny beach.

Be this as it may, Surgeon Scot had an opportunity after the capitulation of the islands, of attempting the systematic protection of the population against small-pox. He found that there was vaccine in the Mauritius and Bourbon, but there was no proper system of vaccination, and this defect seemed to have arisen from a spirit of jealousy among the private practitioners. "No one being appointed and paid by Government to conduct vaccination, it was the peculiar province of none, and every

[1] *Edin. Med. and Surg. Journ.*, vol. ix, pp. 256–269, July 1st, 1813.

practitioner resisted the interference of another with those families by whom he was employed." This difficulty was removed by the appointment of Surgeon Scot as superintendent, with two French surgeons acting under him and in the pay of the Government. One of the surgeons was to vaccinate the population of Port Louis, the capital of the Mauritius, and the other that of St. Denis, the capital of the Île de Bourbon: both were to keep up a stock of vaccine by inoculations of infants. A proclamation was issued explaining the whole arrangements; the public was informed regarding the dangers of small-pox and instructed in the means of prevention, the medical men were reassured that no invasion of their privileges was in contemplation, and the civil authorities were enjoined to carry out the orders of the superintendent and to give him every assistance. Scot had two purposes to carry out: One was the immediate vaccination of the adult population, and the other was the successive vaccination of the children as they were born. The plan adopted was as follows: The Isle of France was divided into nine districts and that of Bourbon into eight: in each of these was a *commissaire civil*, his deputy, and secretary. This officer was armed with the authority of a magistrate, and in his office was a register of every person resident in his district, with a record of births, marriages, and deaths. Dr. Scot first secured authentic copies of these documents as well as a regular quarterly return of births: then he got the vaccinators' returns and compared them therewith, and so he was able to form a correct idea of the state of vaccination in the islands and to have at his disposal all the infant subjects for the preservation of the vaccine. Further, he traversed both islands in all directions, giving information and explanations freely. These, of course, are the veriest commonplaces of vaccination as it is known to this generation, but it was not so in 1813, and in estimating Dr. Scot's wisdom and administrative skill we must not forget this.

But human nature was not different in those days from what it is now, notwithstanding the fact that small-pox was then no spectre, but a stern and cruel reality. Here is a sentence from the superintendent's report: "I soon found that it would be necessary to force the people to pay attention to their own interests; for, though it was evident to their reason that the measures recommended were necessary and salutary, their idleness, their levity, and their indifference but ill seconded my best exertions." Nevertheless, wonderfully good results were got, when in July, 1811, some cases of small-pox were brought from Madagascar on board the captured French frigates, and the contagion was established on the shore: for, from that time till the end of November, only between 40 and 50 cases occurred, and amongst them only 7 were believed to have been vaccinated. Now this was an extraordinary contrast with previous experiences. In 1756, when the small-pox first appeared in the Mauritius in an epidemic form, it was calculated that two died out of every five attacked by it; in 1771 the island was almost depopulated, and in 1792 more than 20,000 people perished in a third epidemic which then raged. Dr. Scot was fully entitled to speak of the astonishing contrast, even under the disadvantageous circumstances which prevailed, and to express his belief that such a change "must carry conviction to the most sceptical mind." And there was a degree of conviction too, for he was able to write: "The inhabitants now venerate the name of Jenner, and, associating it with the gloomy recollections of 1792, lament that his labours had not been consummated at a more early period."

After some interesting remarks on the peculiarities of the skin of the negro in connexion with the performance of vaccination, Dr. Scot went on to refer to two matters in which he had followed the suggestions given by Mr. Bryce. This was no doubt the J. Brice who published a book in Edinburgh in 1802 (second edition in 1809), *Practical Observations* on the inoculation of cow-pox, pointing out a test of a constitutional affection in those cases in which no fever is perceptible. One matter was the utility of a second inoculation on the fifth day after vaccination as a test of the efficacy of the first. This test was recommended in all cases, and was adopted in many by the surgeons working under Dr. Scot. The other matter was the employment of the dry crust for the propagation of the vaccine infection, as described by Bryce. Dr. Scot found that it was nearly or fully as successful as the recent virus. He gives an interesting illustration of its usefulness in emergencies:

> During the existence of small-pox at the Isle of France, in September, 1811, some slave-ships were seized at Port Louis by one of our frigates. The slaves were landed, to the number of 359, and put into one large building; 39 of them had evidently had the small-pox. As no time was to be lost in a case of such urgent danger, I immediately inoculated 320 of them, with the matter of crust dissolved in water, there not being sufficient recent virus to be had for this purpose. I had previously taken measures to have always at hand a large supply of these crusts, to send to distant quarters, or to meet any emergency. Of these 320 inoculations, 174 took effect, and only 53 of the 146 failures took the disease on a second inoculation, which was still performed principally, though not entirely, with the matter of crust. The other failures were tried again and again with recent virus; 84 resisted every attempt, and 9 were sent to hospital, of whom I cannot at this time give any account.

By the word "failure," Dr. Scot, of course, meant that no pustule followed inoculation. He was much pleased with the dry crust method, and regarded it as an important improvement, especially for hot climates, where the preservation of the virus was difficult.

Difficulties were gradually yielding, and Dr. Scot's plan or method was beginning to get into full working order when, towards the close of 1811, he was ordered to England in charge of one of His Majesty's frigates. There are details in connexion with the scheme which have not been alluded to, chiefly of the nature of fines for want of care in the after-management of the inoculation and for neglect to report results. An attempt was also being made to reduce the number of concealed births among the slaves in the islands. Dr. Scot is modest regarding the value of his plan. He wrote: "I am fully sensible that a plan of this arbitrary nature would not be practicable in England to its full extent; but it was perfectly compatible with the laws and government of the French islands before and after their capture, and may perhaps apply to many of our other colonies."

This hundred-year-old record of the successful control of small-pox by vaccination has many modern details in it. The people's gratitude and veneration of the name of Jenner in the presence of the object lesson of a severe epidemic, their amazing apathy in the absence of such a reminder, their disinclination to brook compulsion even for their own good, and their inveterate tendency to neglect precautions and to evade restrictions in all circumstances—these are present as well as past phenomena in the history of vaccination.

EPSOM COLLEGE.

SIR HENRY MORRIS, the Honorary Treasurer of Epsom College, presided at the annual general meeting of governors on June 27th at the office in Soho Square, W. The proceedings began by the announcement of the result of the polling, the successful candidates being as follows:

Pensionerships.

	Votes.
Simpson, Maria	6,567
Stickland, Clara	5,642

Foundation Scholarships.

Smyth, Samuel D.	13,149
Woodhouse, James Y.	7,410
Clarke-Baylis, Walter E. H.	7,328
Gillam, Geoffrey G.	6,701
Alexander, John V.	5,527
Hare, Kempton P.	5,324
Simmons, John W.	5,234
Blake, Edgar V. M.	5,182
Thyne, William	4,726
Hickling, John W. T.	4,703

Susan Harriet Tait Annuitant: Black, Maud M. 4,581

Treasurer's Address.

In proposing the resolution that the report and the income and expenditure account for the past year be received and approved, the CHAIRMAN emphasized the urgent need of new subscriptions and donations, as there had been a slight decrease in the numbers of donors and subscribers during the past year. He referred to the possibility of contributions being diverted to another medical charity for which they all had the greatest sympathy in consequence of its having received the prefix "Royal," thus causing its title to approximate to that by

which the College was known for fifty years—namely, the Royal Medical Benevolent College. He observed that it might be necessary for the Council to take steps in the near future to emphasize the fact that the royal medical foundation attached to the College has as its special object the provision of fifty pensions of £30 a year each for necessitous medical men or their widows, and a high class education, together with board, clothing, and pocket money, for fifty necessitous sons of medical men.

In commenting on the expenditure of the sum of £6,232 14s. 6d. on structural alterations and extensions at the College, he remarked that as the College had been built sixty years, and was in an exposed situation on Epsom Downs, it was natural that the cost of maintaining the buildings in good condition should be high, apart from the increased accommodation needed as a result of the extension of the methods of education and the rapid growth of the numbers in the school. In 1904 there were 227 boys, in 1908 the number had increased to 264, whilst there had been a steady slight increase from year to year, until last year the number reached 294. No one could visit the College and inspect the teaching arrangements without coming to the conclusion that the educational work at the College was of a highly satisfactory standard. It was impossible for boys to have a better education than that provided on both the classical and modern sides. He referred to the fact that extraordinary expense again had to be incurred, as the chapel spire was in a dangerous condition, and during the gales in March and April the Lower School gymnasium was completely blown down. Furthermore, it would soon be necessary to extend the accommodation in the College chapel, and he was looking forward to the time when an isolation block for infectious cases could be provided, as well as a pavilion in the playing fields worthy of the College and its position amongst the great secondary schools of England. In conclusion, he said that the profession might well be proud of Epsom College, and that the subscribers and donors could rest assured that their contributions would be expended to the best possible advantage.

Report of Council.

The report of the Council to the governors stated that there were at the present time on the books of the College 48 ordinary pensioners, 9 Pugh pensioners, 10 France pensioners, 16 Da Silva pensioners, 3 Morgan annuitants, 5 Highett pensioners (of whom 2 receive £30 a year and 3 receive £10 a year), 1 Cheyne annuitant, 4 Brodie Sewell pensioners, 2 Christie pensioners, and 1 Sir Thomas Smith pensioner. Since the last annual general meeting, H. W. Hodges had won a classical exhibition at Hertford College, Oxford, and A. J. M. Lander had gained a similar exhibition at Sidney Sussex College, Cambridge. Seven boys had passed the whole or a part of the first examination for medical degrees of the University of London; twenty-two boys had passed the matriculation examination of the same university, three of them being in the first division; fourteen boys had gained the higher certificate of the Oxford and Cambridge Schools Examination Board; fifteen had obtained school certificates; and eighteen had gained lower certificates. The general work of the College and the discipline had, as usual, been satisfactory; cricket, football, and hockey had been played with vigour and success; and the various school institutions were in a flourishing condition. Last year there were over 150 members in the Officers' Training Corps, of whom five passed the examination for certificate "A."

The report having been adopted, the retiring members of Council and the auditors were re-elected, and Surgeon-General Sir A. M. Branfoot and Sir Francis H. Champneys were elected members of the Council to fill vacancies.

Vote of Thanks to Sir Henry Morris.

The proceedings concluded with the passing of a cordial vote of thanks to Sir Henry Morris for the great services which he renders to the College as treasurer, which was moved by Sir WILLIAM CHURCH, Chairman of the Council, and seconded by Sir JAMES REID. In returning thanks, Sir HENRY MORRIS referred in appreciative terms to the assistance rendered to him by the Council and the various committees, as well as by the permanent staff at the office in London and at the College.

SCIENCE NOTES.

ON June 20th Professor F. G. Benedict gave a lecture, in the Physiological Laboratory of the University of London, on the work of the Carnegie Nutrition Laboratory at Boston, of which he is Director. Professor Benedict perhaps may be called the Sanctorius of the twentieth century, for the last refinements of modern apparatus which are being applied to the study of nutrition in that laboratory include weighings performed with objects similar to those of Sanctorius, though with vastly greater accuracy. The organization of the laboratory is of the most elaborate kind, and the Director is approaching his problems in an admirable spirit which impels him to take nothing for granted. Evidence of this is afforded by the fact that one of the first pieces of work he made public was contained in a recent essay on the composition of the atmosphere, with special reference to its oxygen contents. In this essay he gave an historical account of the investigations of the atmosphere from the days of Scheele and Priestley to the present time. This was followed by an account of the experimental work of the Nutrition Laboratory, which has been engaged in an elaborate inquiry into the nature of respiratory exchange in relation to metabolic processes. The research involved, according to an article signed T. E. T., in *Nature* of June 19th, (1) the estimation of the comparative oxygen content of uncontaminated outdoor air under all conditions as to the direction and strength of the wind, of the temperature, of cloud formation, of the barometer, and of the weather, including rain, snow, fog, and mist; (2) a study of the influence of the temperature of the reagent upon its absorptive power; (3) an examination of the air over the North Atlantic Ocean; (4) on the summit of Pike's Peak; (5) in the crowded streets of Boston and in the subways of New York and Boston. Such a programme, of course, necessitated the analysis of many hundred samples of air, and the greatest care in control in verification, especially in tracking down and eliminating sources of possible error. A routine method was eventually worked out and showed that no material fluctuation could be detected over a period extending from April, 1911, to January, 1912. The composition of the air was found to be constant, in spite of all alterations in weather conditions, barometric or thermometric changes, changes in humidity, in the direction and strength of the wind, and in the state of vegetation. The average results of 212 analyses showed 0.031 per cent. of carbon dioxide and 20.9 per cent. of oxygen. Dr. Benedict concludes, therefore, that air is a physical mixture with the definiteness of composition of a chemical compound. While the combustion of fuel and the vital processes of men and animals result in a local increase in carbon dioxide and decrease in oxygen on the one hand, and vegetable growth results in a decrease in carbon dioxide and increase in oxygen on the other, the extraordinary rapidity with which the local variations in the composition of the air are equalized is accentuated by the observations on street air, which show but the slightest trace of an oxygen deficit. The laboratory has been engaged in a very elaborate inquiry into the nature of respiratory exchange in relation to metabolic processes, and much of Dr. Benedict's lecture was devoted to describing the complicated instrumental equipment in use and in illustrating the means discovered for detecting sources of fallacy. He stated that he was preparing a full report on the result of his investigations, and its publication will be awaited with much interest.

Much welcome light has been shed recently on the causation and modes of conveyance of measles. The infective agent is commonly believed to reside in the blood, nasal and oral secretions, and in the scales, but experimental proof has been lacking. Anderson and Goldberger in 1911 produced experimental results of the highest importance. They showed that the disease could be conveyed to monkeys by inoculation with human blood from cases of measles. The infective power of the blood began to diminish rapidly soon after the first appearance of the rash, and the period of infectivity is therefore probably confined to the pre-eruptive and early eruptive stage. The infective agent in the blood in a number of cases was found to be capable of passing through the pores of a

Berkefeld filter, and thus belongs to the growing order of ultramicroscopic viruses. It can withstand desiccation or freezing for twenty-four hours, but is killed by heating to 55° C. for a quarter of an hour. Normal monkeys exposed to contagion of experimentally infected monkeys developed measles after an incubation period of five to eleven days. The nasal and oral secretions from human cases within forty-eight hours of the onset of the rash reproduced the disease in monkeys on hypodermic injection, but as the disease progressed the infectivity of these secretions diminished and was lost. This agrees with the clinical opinion that cases of measles are not infective towards the end of convalescence. Anderson and Goldberger failed to demonstrate the presence of the virus in the scales four to seven days after the appearance of the eruption. These findings have been corroborated by other observers. Nicolle and Conseil succeeded in infecting monkeys with blood withdrawn twenty-four hours previous to the appearance of the rash, and Lucas and Prizer observed Koplik spots in experimentally infected animals.

LITERARY NOTES.

A NEW work by Sir William Osler, dealing with the evolution of modern medicine, will be published during the autumn by the Yale University Press, whose books are issued in this country by Mr. Frowde's successor, Mr. Humphrey Milford.

Mr. Milford will also shortly publish for the Royal Society of Literature a work in two volumes, entitled, *Syrian Anatomy, Pathology, and Therapeutics, or the Book of Medicines*, edited by Dr. E. A. Wallis Budge. The work contains the text of the great Syriac *Book of Medicines*, edited from a rare manuscript in the possession of Dr. Budge, together with an introduction and an English translation. These, it is stated, are here published for the first time.

It is announced that *Science Progress*, a quarterly periodical published by Mr. Murray, will henceforth be issued under the editorship of Sir Ronald Ross. Among the scientific articles are two independent studies of "Woman's Place in Nature" as seen from different points of view, and a paper on "Scientific National Defence" by a military expert.

The Syndics of the Cambridge University Press announce that they have recently taken over the publication of the *Biochemical Journal*, which has now become the property and the official organ of the Biochemical Society. The journal, which will be issued from six to eight times a year, will be under the editorship of W. M. Bayliss, D.Sc., F.R.S., University Professor of General Physiology, University College, London, and Arthur Harden, D.Sc., F.R.S., University Professor of Biochemistry, Lister Institute, London. Inquiries concerning details of publication and all questions concerning subscriptions should be addressed to Mr. C. F. Clay, Cambridge University Press, Fetter Lane, E.C.

The University of London Press has at present in preparation a book by Dr. R. Fortescue Fox, entitled, *The Principles and Practice of Medical Psychology, being the Science of Treatment by Waters and Baths*. It will be published in July.

Fabricius ab Aquapendente, Harvey's teacher at Padua, died in 1603. He has been called the father of modern surgery. The Senate of Venice conferred upon him the Order of St. Mark and an annual pension of 1,000 crowns. He had a cabinet set apart for presents which he received instead of fees, with this inscription, *Lucri neglecti lucrum*.

Mr. E. V. Lucas, in his charming book entitled, *A Wanderer in Holland*, says that Samuel Ireland, one of Johnson's contemporaries, and father of William Henry Ireland, author of *Vortigern* and other Shakespeare forgeries, wrote *A Picturesque Tour Through Holland, Brabant, and Part of France* in 1789, in which he mentions a whimsical signboard which he saw somewhere in Holland, but which Mr. Lucas, to his regret, failed to find. It was a tree bearing fruit, and the branches filled with little naked urchins, seemingly just ripened into life, and crying for succour; beneath, a woman holds up her apron, looking wistfully at the children, as if entreating them to jump into her lap. On inquiry, Ireland found it to be the house of a sworn midwife, with this Dutch inscription prefixed to her name: "Vang my, ik zal zoot zin"—that is, "Catch me, I'll be a sweet boy." "This new mode of procreation, so truly whimsical, pleased me," Ireland adds, "not a little."

Some colleagues, pupils, and admirers of the distinguished Italian physiologist, Luigi Luciani, propose to present him with a commemorative medal struck at the Royal Mint from a design by the well known sculptor G. Tonnini, on the occasion of the completion of his great *Treatise on Physiology*.

Dr. A. F. Le Double, of Tours, has just published (Vigot Frères, Paris) a work entitled, *Bossuet, anatomiste et physiologiste*. The "Eagle of Meaux" had a strong bent towards medicine and the sciences which form its foundation. He studied anatomy under the famous surgeon Duverney with his pupil the Dauphin. In his sermons there are many illustrations from anatomy and physiology expressed in his incomparable style. He is said to have gone to the dissecting room for practical knowledge, and a proof that he understood what he was talking about is that he does not fall into the absurdities which few preachers escape who allude to such matters for purposes of edification. According to Dr. Le Double, Bossuet not only learnt all that was known in the seventeenth century but foresaw certain truths which have been established since his day.

The first number of a new periodical, entitled the *British Journal of Surgery*, has just been issued. It is to be published quarterly under the direction of an editorial committee, consisting of Sir Berkeley G. A. Moynihan (Leeds), chairman; Sir Charles B. Ball, Mr. Arthur Barker, Sir William Bennett, Mr. Frederic F. Burghard, Mr. F. M. Caird, Sir W. Watson Cheyne, Mr. Edred M. Corner, Mr. T. C. English, Mr. C. H. Fagge, Sir Rickman J. Godlee, Sir A. Pearce Gould, Mr. Sampson Handley, Mr. Robert Jones, Sir W. Arbuthnot Lane, Mr. Geo. H. Makins, Mr. Mayo-Robson, Mr. Rutherford Morison, Sir Thomas Myles, Mr. R. H. Parry, Mr. D'Arcy Power, Mr. Thomas Sinclair, Mr. Harold J. Stiles, Mr. E. H. Taylor, Mr. J. Lynn Thomas, Mr. H. Alexis Thomson, and Mr. William Thorburn. Mr. E. W. Hey Groves (Bristol) is editorial secretary, and there is an imposing array of collaborators. In the prospectus the committee states:

> It seems to us that British surgery at the present time has two urgent wants:
> 1. *A periodical devoted solely to surgery;* and
> 2. *An association of those engaged in the practice or teaching of surgery, or in surgical research,* for the promotion of scientific advance by regular meetings and discussions. (Such a body would, by its corporate existence, encourage progress from within, as well as make it easier for its members to keep in touch with surgical progress as represented by similar associations in other countries.)
>
> The establishment of an association may possibly be facilitated by the publication of the journal, and both may be best promoted by starting the periodical, for which we now plead.

In an introductory note Sir Rickman Godlee states that it is the intention of those who are responsible for the new journal that it shall include the best, and, as far as may be, only the best, British surgical work of the day. It will contain original articles, comments, reviews, and criticisms. In the first number the place of honour is given to a portrait of Lord Lister, with a short note on the work which he accomplished. The other contents are as follows:—David Newman: Renal Varix and Hyperaemia as Causes of Symptomless Renal Haematuria. D'Arcy Power: Gall Stones—a Plea for Earlier Operation. Albert Carless: A Case of Perineo-Scrotal Dermoid Cysts. Sampson Handley: The Technique of Butlin's Operation of Marginal Resection of the Tongue. G. E. Gask: Autoplastic Graft of Fibula into Humerus after Resection for Chondro-sarcoma, with observations on Bone Grafting. H. Morriston Davies: The Influence of the First Costal Cartilage on Apical Tuberculosis, based on a study of 402 specimens. Robert Jones and S. Alwyn Smith: On Rupture of the Crucial Ligaments of the Knee, and on Fractures of the Spine of the Tibia. Robert E. Kelly: Intratracheal Anaesthesia. There are also critical reviews and reports of visits to surgical clinics at home and abroad. There is an interesting article on instructive mistakes and short notes of rare and obscure cases. The *British Journal of Surgery* is published by John Wright and Sons, Ltd., of Bristol. It is excellently printed and well illustrated.

British Medical Journal.

SATURDAY, JULY 5TH, 1913.

THE FUTURE DEVELOPMENT OF THE ASSOCIATION.

In the Supplement of the present issue will be found the Supplementary Report of Council, giving an account of its doings since the issue of its Annual Report on May 3rd. It is to be hoped that no member of the Association will be deterred from reading this document by the fact that its length makes the task seem at first sight rather formidable. The Report is not only an interesting record of work accomplished, but a testimony to the wide range of activities of the Association. In addition to the matters which may be said to be more or less routine, the Report deals with two or three subjects of quite exceptional interest. On these, and on two reports which appeared in the Supplement of June 21st, the attention of the members of the Association should be focussed. These documents deal with the organization of the profession and the future development of the Association, questions which the events of the last two years have forced into prominence.

The Association has been greatly developed as a fighting machine during the last ten years; before its reconstitution in 1902-3 its medico-political activities covered a much smaller field, and the Divisions were unborn. Comparatively early in its new career the Association had forced upon it a fight for the protection of the interests of the profession, from which even an old and well-tried organization could not have emerged unscathed. The history is fresh in all our minds, and it is not necessary to say more now than that though the Association succeeded in making great improvements in the National Insurance Act—an achievement for which it has not yet had from the profession the recognition it deserves and will undoubtedly later receive—certain weaknesses in the organization of the profession have been disclosed, and call for earnest attention.

During the past session much of the time of the Council and its committees has been spent in examining the breaches made in the profession's defence, in estimating how far these were due to the almost irresistible power of the State and how far to technical weaknesses in the defence, and how they can be remedied by alterations in the methods of organization. The result of all this cogitation will be seen in the scheme of the Metropolitan Counties Branch Council and the comments of the Council thereon, published in the Supplement of June 21st; the Report of the Council on the Referendum and Postal Vote published at the same time; and the reports appearing in the present issue of the Supplement on the Possibilities of Extension of the Powers of the Association and on the proposed Special Fund for the organization of the profession. These reports require to be co-ordinated in the mind of any member who really wishes to know where the Association stands and to take his share in determining what its future is to be.

It will perhaps be most convenient if the reader will take first the report on the Extension of the Powers of the Association (Supplement, page 15). In it will be found a history of the steps which the Association has taken in recent years to free itself from the trammels necessarily imposed upon it by its registration as a company with limited liability conducted not for profit. Those who are impatient of these trammels should try to cast their minds back to the time when the founders of the Association, after nursing it through its infancy, came to the conclusion that to safeguard its funds and to restrict the liability of the members of its executive, it was necessary to give the organization the protection of the Companies Act. That was the legitimate and in fact the only proper course to take at that time, and under the Companies Act the Association has grown and prospered. New problems have now arisen, and when it is desired to deal with them it is found that the funds and property which the Association has accumulated through all these years are impressed with certain restrictions inherent in any limited liability company. These restrictions, though they have not prevented the Association becoming what it is—namely, the one representative organization of the profession in the British Empire—prevent it from doing certain things which are ardently desired by many members. These things when analysed, as they are in the Report, are seen to involve only one or two matters of first-rate importance, but these are outside the scope of any limited company.

The Report describes the various ways which seemed open to the Association in order that it might meet the new needs with new methods, and arrives at the conclusion that there are probably only two ways open; that both are technically outside the scope of the Association, and that it is impossible for the Association, while retaining its identity and its property, to widen its scope in the manner desired by some members. For the consideration of the two available methods we must refer our readers to the Report itself, where they will also find a thorough discussion of a question which has aroused considerable attention recently, and will be debated at the forthcoming Representative Meeting—namely, the proposal to form a medical union registered under the Trade Union Acts. We hope members will carefully follow the discussion in the Report for themselves in order that they may have in mind the materials for forming a definite conclusion on a matter of the utmost importance to the profession.

Assuming, as on legal advice we must, that the Association can only continue its work as a limited liability company registered under the Companies Act, we come naturally to the consideration of the internal changes necessary to adjust it to new circumstances. Here the reader will note the interesting discussion in the Report of the question whether the recent failure of the profession and the Association in December and January last was really due to defects in organization, or was not rather due to the fact that it had not been sufficiently realized that the concessions made by the Government, in response to the pressure of the Association, had persuaded many practitioners that if the profession had not won its battle entirely, it had at any rate gained so much as to make it worth their while to give the terms a trial—that is, that the failure of the Association was really due to its success. It is an interesting question, which we leave our readers to decide for themselves with the help of the Report. Turning to internal and technical changes, we have

the suggestions of the Metropolitan Branch Council (SUPPLEMENT, June 21st); some of them the Council has not hesitated to endorse, while in respect of others it makes comments which it is hoped will assist the Divisions in forming a judgement.

The proposals of the Metropolitan Branch Council to limit the power of the Divisions and to increase that of the Branches will undoubtedly give rise to animated debate both in the Divisions and in the Representative Meeting. They should be discussed entirely on their merits and irrespective of the *status quo*, for the only question which really matters is, "Will the new proposals, if adopted, give greater efficiency?" The bold proposal definitely to change the character of the Representative Body from that of a meeting of instructed delegates to that of a deliberative assembly, put forward by the Metropolitan Counties Branch Council, is emphatically endorsed by the Council, which sees in the events of the past few months the condemnation of a system of pure delegation involving the restriction of the discretion of a Representative by a resolution passed, it may be, three months before he is called upon to give his vote. Here, again, we have in the Report of Council dealing specially with this point a discussion of first principles, and also of the inner meaning of the events of last winter, which cannot fail to interest those who read it.

At this point members will find it convenient to consider the Report on the Referendum and Postal Vote (SUPPLEMENT, June 21st, p. 563). It deals with a question which has long been a vexed one in the Association. Some would regard the adoption of the postal vote as a great improvement in the organization of the Association. Others would look upon it with grave suspicion as tending to give members an excuse for staying away from Division meetings where alone there can be that discussion which is so useful a preliminary to the formation of a considered opinion. There are, however, active and interested members who find it very difficult to attend Division meetings, but would gladly take advantage of the new method. Whether the postal vote would tend to smaller interest in the Division meetings is open to argument. If it did it might be a bad thing for the Association. In the meantime there are in the Report under consideration several questions which Divisions are asked to answer, and thus to give to Representatives an opportunity of voicing the opinion of their constituents in the Representative Meeting.

Finally, we come to the most revolutionary of all the reports, and one which should be studied with an open mind by every member. That is the Report on the proposed Special Fund for the organization of the profession (SUPPLEMENT, page 25). It is a bold attempt to deal in a comprehensive fashion with the problems of how the profession ought to be organized, what such organization would cost, and how the money is to be raised. The voting on the proposal will be a touchstone for those members of the profession who have been declaring that the organization of the profession is about as bad as it can be, and that it should be put right at once by any method, however revolutionary and at whatever cost. The Council here presents a method, bold, simple, comprehensive, and cheap—cheap, that is to say, if the work proposed to be done is compared with the modest demand on the individual members of the profession. For an annual subscription of £5 doctors are now offered a chance of organizing themselves in a manner equal, if not superior, to that of any of the large trade unions, and also an opportunity of participating in certain insurance advantages which should appeal with great force to many members of the profession. If the plan were accepted and put into operation it would place the profession in a position to face with equanimity the struggles which must come soon in connexion with the Insurance Act and its inevitable developments. The Report is one which will, we believe, interest every practitioner who reads it. It does not blink the difficulties, and it may need modification, but the nature of its reception will at any rate give an answer to the important question, "Is the profession really anxious to be efficiently organized on up-to-date lines, and is it willing to pay the price?"

There are many other items of interest in the Supplementary Report of the Council, but we hope we have said enough to ensure that every reader of this article will at once read the Report for himself and will see that the Representative of his constituency when he goes to Brighton has some clear indication of the line his colleagues would like him to take there.

"TYPHOID SPINE."

IN a paper[1] read a short time ago before the Section of Medicine in the Royal Academy of Medicine in Ireland, Sir John Moore describes an interesting case of the rare condition known as "typhoid spine." The patient, a solicitor of 38, had a protracted attack of enteric fever, with epistaxis and intestinal haemorrhage. A tedious and uneventful convalescence set in, but after a few days was interrupted by pains in the back and lower limbs. Believing them to be of rheumatic origin, the patient tried to walk them off, but without success. They continued in the back, groin, and hip for some three weeks, when Sir John Moore detected a globular swelling behind and somewhat above the left hip; it gave a sense of fluctuation when palpated, and a surgeon was called in The diagnosis of a "cold abscess" was corroborated, and operation advised. On cutting down on the tumour next morning it disappeared, and only a few drops of blood were drawn off by aspiration; it was thought that possibly the wasted gluteal muscles formed a sac which simulated a tumour. A fortnight later there had been much pain in the lower limbs and in the back, at first on one side, then on the other; the back was literally as stiff as a poker, particularly the left erector spinae muscle. A fortnight after this, nearly eighteen weeks after the onset of the attack of enteric fever, the lower extremities looked wasted and were markedly paretic; co-ordination and sensation were unaffected, the knee-jerks were exaggerated, but ankle-clonus and Babinski's sign were not present. The patient could walk fairly well, once he was out of bed and had got his back straight. The lumbar region and upper sacrum were tender on pressure. The diagnosis seemed to lie between early tuberculous disease, toxic peripheral neuritis, and "typhoid spine." A skiagram was taken, and showed definite osteo-periostitis on the left side of the third lumbar vertebra, spreading down to the fourth. Dr. W. G. Harvey, the skiagrapher, considered the *x*-ray appearances strongly against the idea of tuberculous infection. The patient was treated by rest, with massage to the back and limbs, and recovery was complete in two and a half months.

The occurrence of periostitis as a sequel of enteric fever has been regarded as fairly common since Sir James Paget first called attention to the subject.

[1] *Dublin Journal of Medical Science*, June, 1913.

As it usually occurs during or after convalescence from the attack—as much as seven years afterwards in a case recorded by Buschke—it probably escapes diagnosis in many instances. Thus Wilson records fifteen cases of periostitis occurring in 1,618 patients admitted to the London Hospital with enteric fever in ten years, and adds that at least five other patients were admitted to the hospital during that time, with periosteal abscess subsequent to enteric fever for which they had been treated elsewhere. Probably the majority of the cases do not go as far as suppuration, as, indeed, appears to have been the fact with Sir John Moore's patient.

It must not be imagined that periostitis of the vertebral column, spondylitis, or perispondylitis, are always and necessarily the cause of "typhoid spine." This non-committal term was coined in 1889 by Gibney in America, and has the advantage of including in its scope the minority—perhaps a very small minority—of the cases of "typhoid spine," in which there is no organic lesion and the condition is a neurosis, as Osler claims, and similar to the "irritable spine" that may occur after railway accidents and the like. It must be confessed that the pathological anatomy of "typhoid spine" is not yet properly known. This uncertainty is due to want of opportunity to study its lesions *post mortem;* about 100 cases have been recorded in the literature, but only one patient has died and been examined, when it was reported that there was "considerable periostitis of the dorsal spine with an obscure lesion of the spinal cord." The most recent writers[2] on the subject, however, go so far as to assert that the disease is a spondylitis, due to infection with the *Bacillus typhosus* and no other microbe. In favour of this view is the fact that spinal cyphosis often follows "typhoid spine," and was even present in two of the six "neurotic" cases recorded by Osler; suppuration has occurred in a few instances, though Wilson in 1906 could find no such case recorded in the literature. It may happen that the appearance of a "typhoid spine" coincides with the reappearance of a Widal's reaction in the patient's serum; so much so, indeed, that a relapse may be suspected, especially as the temperature may rise and oscillate between 100° and 103° F. for a time (Wilson).

Once the rarity of the condition has been admitted, the diagnosis of "typhoid spine" should not be difficult when its symptoms or signs appear either during the attack of enteric fever, or while the patient is convalescent from it, as is most commonly the case. Pain is the first symptom, and may be of the very greatest severity; Wilson describes it as "so electrifying in its sudden intensity as to be incomparable with any other sensation in the patient's experience; it was as if the spine had been broken across, the patient feeling that something had given way in his back. This most intense pain only lasted some seconds, but it was followed by several hours of severe pain during which the patient tried to fix his spine in a position of extension by placing his hands under the small of the back." Pains along the course of the neighbouring spinal nerves are common, as are "starting pains" at night and cramps of the muscles. Motor signs, paresis and wasting, are not rare; the sphincters are not often implicated. Physical signs corresponding to the perispondylitis that usually underlies the condition have been generally recorded; redness and swelling of the soft parts near the affected vertebrae with tenderness of the vertebral spines, and lateral or antero-posterior displacement of the vertebral bodies; in four-fifths of the cases it is the lumbar region that is attacked, and the local diagnosis has been much facilitated by use of the *x* rays. The presence of a marked Widal's reaction and of a leucocytosis in the blood would be much in favour of a "typhoid spine," and so would the presence of excess of albumen in the cerebro-spinal fluid; it seems that the *Bacillus typhosus* cannot be found or cultivated in either the circulating blood or the cerebro-spinal fluid of these patients. If, however, the "typhoid spine" does not come on till convalescence is over, and if the attack of enteric fever escapes due attention for any reason, the diagnosis of vertebral tuberculosis will very naturally be made, or perhaps the diagnosis of vertebral osteo-arthritis or peripheral neuritis if the case is free from gross physical deformity. The extreme rarity of "typhoid spine" and the great frequency, comparatively speaking, with which tuberculosis of the spinal column occurs, do much to justify such an error. But the error will be corrected if the blood serum is examined and Widal's reaction found, and if the history of a recent attack of enteric fever is obtained. "Typhoid spine" habitually comes on slowly and progresses irregularly; it lasts for from three to twelve months, suppuration is rare, death has been recorded but once in a hundred cases. And so the prognosis is good, although recovery may long be incomplete and permanent spinal curvature may be left.

[2] R. J. Weissenbach et J. Bonhoure, *Gaz. des Hôp.*, Paris, 1912, vol. lxxxv, p. 1775.

PELLAGRA IN GREAT BRITAIN.

THE recognition within a short time of cases of pellagra—a disease not previously supposed to exist in Great Britain—first in Scotland and more recently in England, is a matter of such considerable importance that it has seemed well to publish a series of papers in this issue, describing the general clinical features and the pathological lesions, including a description of the changes in the nervous system, written by Dr. Mott, together with an account of the natural history of the disease by Dr. Sambon. It is hoped that the coloured illustration of the cutaneous lesions of one of the cases under the care of Dr. Box in St. Thomas's Hospital will contribute to the recognition of any cases which may occur in Great Britain in the future.

The etiology of the disease is uncertain; it has heretofore been commonly attributed, especially in Italy where it is very prevalent, to the eating of damaged maize. Dr. Sambon has for some time maintained that it is an infective disorder transmitted by a small biting insect, the larval and pupal stages of which are passed in running water, and, with the assistance of Dr. Alfred J. Chalmers, he collected and published, partly in this JOURNAL, much evidence in support of this thesis. The prevalence of the disease in the United States having been established, the problem of its etiology was attacked with much energy in that country. The attempt to produce the disease in animals by means of spoiled maize and other foodstuffs failed, and the investigators then prosecuted their inquiry on the hypothesis that pellagra is caused by a living micro-organism, and not by a chemical poison. In the last issue of the *Journal of the American Medical Association* (June 21st, 1913), which reached this country after Dr. Sambon's paper in this issue had been prepared, Dr. William H. Harris published, from the laboratories of pathology and bacteriology of the Tulane University, New Orleans, a preliminary note on the experimental production of pellagra in the monkey (*Macacus*

rhesus) by filtrates of the affected tissues from fatal cases of uncomplicated pellagra.

Experiments on three rhesus monkeys are described. The animals were injected subcutaneously, intravenously, and intracranially with large quantities of filtrates through a Berkefeld filter from the tissues (brain, spinal cord, erythematous skin, inflamed intestinal mucous membrane) obtained from cases of typical pellagra shortly after death. The tissues were ground up together in a mortar with equal amounts of normal saline solution. Monkey 1, after showing immediate pressure symptoms, recovered from the operation, and remained apparently normal for many months, when irregular dark patches developed on the face, forearms, hands, back, and sides of the body. The animal gradually grew thin and weak, and finally died with all the signs of pellagra. Monkey 2 was inoculated on December 2nd, 1912. It remained apparently normal for a period of two months, and on February 12th, 1913, it was again inoculated with filtrates from another typical case of pellagra. Early in May it showed irregular patches of a copper or turkey-red colour about the face. On May 10th these patches were raised, considerably darkened, very dry, and more clearly defined; they extended across the nose, and spread in wing-like manner on either side under the eye and over the cheek. At this time copper-coloured lesions had appeared on the summit of the concha of both ears and the external canthus of the eyes, and also over the backs of the hands. There was a distinct symmetry in the bilateral arrangement and shape of these lesions. Subsequently the animal became depressed, emaciated and weak, slight diarrhoea developed, and there was considerable salivation; the tip of the tongue was granular and the papillae considerably enlarged. On May 28th the skin lesions had become almost black, and were beginning to crack and scale. Monkey 3 was inoculated on February 12th, 1913, with the same material as was used for the second injection of Monkey 2. At the date of the report it was in good condition but presented about the face a few irregular rust-coloured macules, quite like the early lesions of Monkey 2.

Microscopical sections of the affected skin of Monkey 1 showed lesions identical with those known to be characteristic of the skin in human pellagra (extensive hyperkeratosis of the epidermis, marked increase in the depth of the papillae, and abundant pigmentation in the deeper portions of the corium where many chromatophores had wandered into the deeper strata). According to Dr. Harris these experiments would indicate that a Berkefeld filtrate derived from human pellagrous tissues and inoculated into the monkey may cause in the latter all the essential clinical signs and symptoms, together with the pathological picture seen in the disease in man. Furthermore, they suggest that the cause of pellagra is a filterable virus or a micro-organism capable of passing through the pores of certain Berkefeld filters.

The significance of these experimental results is obvious; they go far to confirm the hypothesis advanced and maintained with so much courage and industry by Dr. Sambon. The investigations carried out by him during the last few years in Italy, Spain, France, Roumania, Transylvania, and Tyrol were undertaken at the suggestion of Mr. Wellcome, who has generously provided for the expense incurred. We are informed that Dr. Sambon will shortly go to the United States, in response to an invitation to join the Thompson McFadden Pellagra Commission, which is working in Spartenburg, South Carolina. After that he will proceed, by arrangement with Mr. Wellcome, to the West Indies, at the invitation through the Colonial Office of the Governments of Barbados and other West Indian colonies, to investigate the disease there.

It is unlikely that pellagra is anything but uncommon in this country. At the same time the fact that three cases have been discovered recently in a single family suggests the possibility that in certain districts it may be more common than at present seems probable. The disease is serious not only because it directly endangers life, but because an attack, as any one who studies Dr. Mott's observations will be led to expect, may be followed by extensive nervous degenerations. In districts where it prevails it is a frequent cause of dementia, and every asylum contains many of its victims in a condition of premature senile decay. In the acute and subacute attacks arsenic appears to be the most useful remedy, and if combined with early removal from the conditions and the locality in which the attack has developed the prognosis in the less severe cases seems not unfavourable. Recurrence is always to be feared and guarded against, but there is some evidence that a mild attack may produce a certain degree of immunity in the individual.

ABERDEEN, JULY, 1914.

At the quarterly meeting of the Council of the British Medical Association on July 2nd it was resolved to recommend the acceptance of the invitation of the Aberdeen Branch to hold the annual meeting of the British Medical Association in Aberdeen in 1914, and that Sir Alexander Ogston, K.C.V.O., M.D., should be chosen President-elect for the year 1913–14. In consenting to accept the unanimous nomination of the Aberdeen Branch, Sir Alexander Ogston has given great satisfaction to the members of that Branch, and this feeling will be shared by all members of the Association, for his reputation is worldwide, and in every part of the British Empire there are old pupils of his who look back to their student life with gratitude to him for his teaching and example. Though he has retired from active work in the Aberdeen Medical School, he retains his interest in its affairs. He is Emeritus Regius Professor of Surgery in the University of Aberdeen, and Consulting Surgeon to the Aberdeen Royal Infirmary. He is also Surgeon in Ordinary to His Majesty the King in Scotland.

THE MUSEUM OF THE ROYAL COLLEGE OF SURGEONS.

On the recommendation of the conservator, Professor A. Keith, it has been decided that the annual exhibition of specimens added to the museum of the College during the past twelve months shall be continued for three weeks, instead of being restricted to the latter days of the week on which the election of members of the Council are held. This arrangement is very advantageous and convenient, as since voting by papers has been granted there is no longer the crowd of Fellows and their friends who used to fill the museum and the library on the first Thursday in July. Now that the show of additions will be on view for three weeks, and will be held in the museum and hall of the College instead of in the council chamber, there will be ample time for visitors and students to become acquainted with the numerous novelties of interest which otherwise might have been completely overlooked. Mr. Shattock and Mr. Beadles, aided by members of the staff of many hospitals, have arranged not only a large number of additions, but also a great number of specimens already in the collection now classified according to the most advanced

ideas. Of the special series, only that illustrating diseases of the female organs has been permanently classified and furnished with a catalogue kept on the shelves of the museum for public use. But during the past twelve months Mr. Shattock and Mr. Beadles have steadily proceeded with the work of developing the series of general pathology now so conveniently arranged on the ground floor of the museum. The new and important series of infective processes and diseases, which has been incorporated in the collection illustrating general pathology, has occupied much time in its preparation and arrangement, and contains a large number of specimens illustrating diseases caused by micro-organisms and other parasites. Many pathological preparations associated with cases recently made public have been stored up on the shelves of the museum since last July. Among them is the skeleton showing progeria, contributed by Mr. Hastings Gilford, Sir B. Moynihan's example in which the oesophagus was united to the upper part of the small intestine, the patient surviving the excision of the stomach for nearly four years, and a hydrocephalic ancient Egyptian skull, described by Dr. Douglas Derry and presented by Professor Flinders Petrie. Mr. Mayo Robson has presented a collection of gall stones removed in the first series of operations which he carried out for their extraction. Dr. Wakelin Barratt has prepared and given to the museum some models illustrating the process of normal and abnormal division of the nucleus of the cell, which have a direct bearing on the problems relating to cancer. Mr. Albert Carless contributes an instructive preparation representing the pathology of ectopia vesicae and other specimens. Under the direction of Mr. Arthur Cheatle, Mr. J. F. Colyer, and Mr. Mayou, the aural, dental, and ophthalmic collections have been put into excellent order. Mr. B. H. Walton, through Sir John Tweedy, has given to the surgical instrument series a bag with a set of instruments formerly belonging to Sir William Fergusson. The medico-legal collection has been augmented by a set of cervical vertebrae showing fractures caused by official hangings. The teratological collection is enriched by some curious preparations demonstrating the effects of in-and-in breeding, and the physiology of pseudo-hermaphroditism. Under the superintendence of Professor Keith and the Physiological Curator Mr. Burne, the anatomical and physiological series have been enlarged by several unusually fine sets of preparations. Many of the dissections have been made by Mr. William Pearson, who has completed fifty-seven years of service, and others by Mr. H. C. Wilson, the assistant prosector, with the assistance of the foreman, Mr. Finerty. The conservator's annual report notes what a large number of papers dealing directly with work done or specimens prescribed in the museum have been published since the issue of the last report in 1912.

OBSTETRICAL FORCEPS.

THE catalogue of the obstetrical forceps in the Museum of the Royal College of Surgeons has been completed and already typewritten for use in the museum after the manner recently adopted in the pathological collection. This series includes about sixty forceps, solely such as are devised for the saving of the fetus, and the cephalotribes and cranioclasts will shortly be catalogued as a separate series. The greater number of the "saving" forceps belong to the loan collection of the Royal Society of Medicine, once constituting the museum of the Obstetrical Society of London. Several of the earliest post-Chamberlen forceps—Dusée's, Grégoire's, and Levret's—are represented, as well as Smellie's, in which the blades are broadest at the tips, which meet when the lock is closed. There is an instructive subseries of the instruments designed by Orme, Lowder, and Haighton, teachers in the United Borough Schools during the last thirty years of the eighteenth century. They are all short forceps; the blades are broadest at the base and do not meet when the lock is closed. Osborn's and Denman's follow. The former obstetrician endeavoured to make a light but not very long instrument with pelvic curve. Denman designed a straight forceps, also light; both his and Osborn's are broadest at the tips, like Smellie's, while, as in the Orme-Lowder type, the tips do not touch when the lock is closed. Dietrich Busch's forceps is represented; it is practically the same as the instrument of his father (Johann D. Busch), noteworthy as the first to bear the "finger-rests" for traction, often attributed to Naegele and Simpson, but described by J. D. Busch in 1796. Another subseries illustrates several instruments with a joint or screw on the right blade for facilitating its application. The forceps of the Hamiltons, of Conquest, and of David Davis are here represented. David Davis's remarkable set of forceps—symmetrical, unsymmetrical, jointed, and unjointed—intended for all kinds of emergencies, stand by themselves. In one the tip of the longer blade is made, by a complicated spring mechanism, worked from the lock, to bend over the fetal face in transverse vertex presentations; it bears a double leather lining with flannel sandwiched between the two layers, an arrangement positively repulsive to the aseptic obstetrician of the present day. Some of Davis's forceps had enormous fenestrae. Murphy, his successor, condemned the whole of them, and invented a forceps of his own, which is also represented in this collection. Radford's symmetrical and unsymmetrical blades are also to be seen, as are Assalini's and Lazarewitch's, with blades that do not cross, and Mursinna's, which bears Osiander's curious "block lock," a mechanism quite unlike the French, English, and German joints. There are as well numerous mid-nineteenth century forceps, many still in use, and most at least remembered. They show the manifold conscientious attempts made by obstetricians—successors to Smellie, Orme, and Denman—to find a compromise between traction power and compression power, lightness and strength. Amongst them is a Churchill's forceps, according to his original design, in which the fenestrae are limited to the upper part of the blades. Kristeller's remarkable dynamometrical forceps, quite a work of art, with brass fittings and slides and scales, and ebony mounts, has at least the merit of being conspicuous. The series stops short just before the traction forceps came into vogue. Aveling's forceps is included in the series, and, when inspecting it, let us remember that its inventor honestly expressed his opinion, when he first made it public, that it solved the traction problem, speaking incredulously at the same time, of M. Tarnier's ingenious invention, which seemed to him hardly likely to come into general use.

GHOSTS AND GAS.

MAN, in spite of our boasted progress in knowledge, is still almost as full of superstition as he was when he walked encompassed by evil spirits who threatened him in every act of his life. The investigation of ghost stories is still regarded by many persons of fair understanding as a matter worthy of serious attention, and not a few people who pass for strong minded would find an excuse for not passing a night in a haunted house. Everyone knows the description in the *Professor at the Breakfast Table* of the creakings, and crackings, and sounds of all kinds heard "when you are lying in bed in a lone attic of a dark night." These will often play such a devil's sonata, even on the nerves of the sceptic, that his philosophy will desert him, and he will mutter, like the professor's friend, *Pater noster, qui es in coelis!* for he is "damp and cold, and sitting bolt upright, and the bed trembling so that the death-watch is frightened and has stopped ticking!" An instructive story is told in our American contemporary *Science* for May 9th by Dr. Franz Schneider, junior, of the

Department of Biology and Public Health, Massachusetts Institute of Technology. He was invited to examine a large and handsome house in Boston, which was getting a reputation of being haunted. He localized the trouble in the third and fourth stories, which were occupied by the children and servants. Their sleep was disturbed by strange sensations. The servants awoke in the night with a feeling of oppression, "as if some one were tapping on me," or with a "creepy feeling going all over me with a feeling of being paralysed." Sounds as of some one walking about the house were also heard. These sensations often continued after the sleeper was thoroughly awake, and even after the lights had been turned on. The children complained of people lying on them, and of strange men frightening away sleep from their pillows. They looked pale and sluggish in the morning, and did not respond to the stimulus of cold water. These things, which were often repeated, had extended over the period of about two months during which the family had occupied the house. Former tenants had suffered in the same way, and it was said walking apparitions had been seen. The solution of the problem was prosaically simple. Dr. Schneider found that the large amount of "furnace" gas escaping from a viciously defective hot-air furnace was the source of the ghostly visitations. In consequence the dwellers in the house were bathed in an atmosphere of diluted flue gases. To make matters worse, a small boiler for a steam heating system had been placed within the firebox directly over the fire, the effect being to cool the top of the fire and so promote incomplete combustion. Flue gases, especially when combustion is incomplete, contain considerable amounts of sulphurous oxide and carbon monoxide. Furnace gas was diffused in the house, and was often so strong that the eyes watered and an appreciable effect was felt in the throat—symptoms at once suggestive of sulphur. For the most serious symptoms the carbon monoxide was responsible. The feelings of oppression and other mental disturbances are typical of the more acute forms of poisoning with this gas, while anaemia, malnutrition, loss of psychic powers, and diminished vigour are characteristic of a chronic condition. It seems probable that the belief in walking spirits was encouraged by real noises coming from an adjoining house. Any such noises would be likely to be exaggerated in the case of persons startled out of sleep in the night while suffering from the effects of carbon monoxide. The tainted atmosphere was sufficient to cause creepy sensations and delusions of ghosts. We commend this story of the successful "smelling out" (in a literal sense) of spooks to the attention of the Society of Psychical Research.

THE ADVISER TO THE GOVERNMENT OF CHINA.

WE have repeatedly called attention to the large part played in the government of our colonies by medical administrators. One of the ablest of these is Sir William McGregor, Governor of Queensland, who has had exceptional experience as a colonial administrator. Another doctor who has gained a position of vast influence and responsibility in a great empire is Dr. George Ernest Morrison, a native of Australia and a graduate of Edinburgh. After earning distinction as a journalist as Peking correspondent of the *Times*, he was last year appointed Political Adviser to the President of the Chinese Republic. We learn from the *Australasian Medical Gazette* of May 24th that a letter of congratulation was recently forwarded to Dr. Morrison by the Australian Chinese Association, and that the President of the Association (Mr. Yinson Lee) received the following reply from him: "It is indeed gratifying to me to learn that my appointment has met with the approval of my fellow citizens in Australia. I only hope I will be able to do work that will justify my appointment. I have taken up my new work full of confidence in the future of China. In the course of the last few years I have visited every province in her vast territory except Tibet. It is impossible to travel in the interior and to witness the amazing resources of the country and the energy and industry of the people, and not to be inspired with confidence in the future. When, in the course of time I return to Australia, I trust that I shall be able to feel that I have done something, however small, in assisting in the development of a country in which the best part of my life has now been spent, and for whose people I have entertained the warmest feelings of respect and friendship." We are proud to claim Dr. Morrison as a member of the medical profession, and we have no doubt that he will be able to accomplish much in shaping the future destinies of China.

STENCH AND SENTIMENT.

THE French memoirs of the seventeenth and eighteenth centuries are full of disgusting details of the insanitary state of Paris, including the Louvre itself. The palace of the French kings was open to the public more freely than the White House at Washington is to the citizens of the great Republic of the West. Taking into account the fact that the customs of the French people, as of most other nations in the good old days, were filthier in some respects than those of primitive man, the state of the dwelling of the sovereign may easily be imagined. The sovereign and his suite, who were constantly swallowing purges and taking enemas, used nightstools, with the result that the atmosphere was such as only Swift could describe. Visitors to the palace relieved nature openly in the courtyards and even on the stairs, in defiance of ordinances doubtless prompted by some sudden sensitiveness of the royal nose. The mere reading about these things almost makes a modern reader sick. But probably among those to the manner born it caused no inconvenience, and the recollection of the stenches of the Louvre and Versailles in later days were even associated in loyal breasts with tender feelings of regret for the past. The famous architect Viollet-le-Duc says that even in the unsavoury details that have been referred to the old tradition was revived at the Restoration. He remembered the stenches which pervaded the corridors of Saint Cloud in the days of Louis XVIII. One day when a mere boy he visited the palace at Versailles in the company of an elderly lady who had been an ornament of the court of Louis XV. In going about they found their way into a passage where their nostrils were assailed by the foulest odours. The old lady inhaled these with the deepest pleasure, exclaiming rapturously, "*Ah! cela me rappelle un bien beau temps!*" It is well known that the olfactory nerve often retains impressions more vividly than any of the other senses; hence the smell of a flower will call up in an old man the memory of a scene of youthful love or awaken forgotten associations. It is natural enough, therefore, that a once familiar stench should bring back a vanished past. But an old court beauty finding food for a fine sentiment in a stink is what Carlyle would call a comico-pathetic figure.

THE CAMBRIDGE RESEARCH HOSPITAL.

THE Treasurers of the Cambridge Research Hospital have received a sum of £300 from Mr. G. Bidder, of Cambridge, for the purchase of an additional acre of land. Mr. J. H. Wills, of Chiddingstone Castle, Kent, has also promised £300 for current expenses. The objects of the hospital, the work it has done, and the recent extension of its scope, have on several occasions been set forth in the BRITISH MEDICAL JOURNAL, but we may briefly remind our readers that it is under the direction of a Committee for

the Study of Special Diseases, among the members of which are Sir Clifford Allbutt, Sir Richard Douglas Powell, Sir Thomas Barlow, Sir William Church, Sir Henry Morris, and Sir W. Watson Cheyne. The treasurers of the Committee are Sir William Church, Sir Clifford Allbutt, Professor Sims Woodhead, and Mr. T. S. Strangeways, Lecturer in Special Pathology in the University of Cambridge, who was justly described by Sir Clifford Allbutt at the opening of the new hospital as "the heart and soul of the institution." The hospital is intended for the investigation of chronic diseases, such as rheumatoid arthritis, and a large number of observations has already been published. The work of the institution has from the beginning been hampered by want of funds, and, although it has been greatly helped by the munificence of benefactors, particularly Dr. R. C. Brown, of Preston, it is to be hoped that further support will be forthcoming. The objects of the hospital should appeal with special force to the medical profession, for it exists for the discovery of means of relieving a class of diseases which are a source of great suffering to patients and of corresponding anxiety to doctors.

AUSTRALIAN INSTITUTE OF TROPICAL MEDICINE.

The Australian Institute of Tropical Medicine at Townsville, Queensland, was opened by the Governor, Sir William McGregor, on June 28th, and on June 30th Sir Ronald Ross received the following telegram: "Have opened Australian Institute Tropical Medicine and join staff in sending you greetings—McGregor." The institute, which has received generous financial support from the Commonwealth Government, was started in 1909 to further the scientific study of the diseases peculiar to tropical Australia, and to afford opportunities for the training of medical men in this department of medicine. In the following year Dr. Breinl, of the Liverpool School of Tropical Medicine, who had been appointed Director, arrived at Townsville, and the organization of the institute has since proceeded apace. It is under the general control of a committee appointed by the universities of Sydney, Melbourne, Adelaide, and the Government. The committee of the Townsville General Hospital maintains in its wards, free of charge, patients under special observation, and gives to the Director and his assistant every facility for clinical investigation.

THE LATE SIR JONATHAN HUTCHINSON.

At the meeting of the Council of the British Medical Association on July 2nd a resolution was adopted, all the members standing, expressing the Council's deep sense of the loss which the medical profession has sustained by the death of Sir Jonathan Hutchinson, F.R.C.S., F.R.S. The resolution recorded that during his long and busy life he showed in many ways his interest in the British Medical Association. He had been for a time Editor of its Journal; he had been the moving spirit in the institution, at Oxford in 1868, of the Pathological Museum which now forms so valuable a part of the annual meetings of the Association; he had been President of the Section of Surgery in 1876, and of that of Dermatology in 1890, and had delivered the Address in Surgery in 1881 and again in 1895. The Council desired to assure the family of Sir Jonathan Hutchinson that in expressing its own regret and sympathy, it at the same time expressed the unanimous feeling of every member of the British Medical Association.

THE OXFORD OPHTHALMOLOGICAL CONGRESS.

As already announced, the Oxford Ophthalmological Congress for 1913 will begin at Keble College, Oxford, on Thursday, July 17th, and on the previous evening the members will dine together informally in the hall of the college. On the afternoon of July 17th cases will be exhibited and operations demonstrated at the Eye Hospital, and the official dinner of the Congress will take place at Keble College that evening under the chairmanship of Sir William Osler. A discussion on the present position of ophthalmology will be opened on the afternoon of Friday, July 18th, at the Eye Hospital, by the Master of the Congress, Mr. R. W. Doyne. Afterwards tea will be taken in the gardens of Worcester College, and in the evening there will be a smoking concert at Keble College. During the course of the Congress addresses will be given by Professor Emil von Grósz (Budapest), on the methods of cataract extraction practised in the Royal Hungarian University Eye Hospital, No. 1, Budapest; by Dr. John O. McReynolds (Dallas, Texas), on the nature and treatment of pterygium; by Dr. J. Igersheimer (Halle), upon recent investigations of inherited syphilis of the eye; by Lieutenant-Colonel R. H. Elliot (Madras), on trephining in glaucoma, acute and chronic; by Dr. J. W. Mawas (Paris), on the pathogeny and pathological anatomy of retinitis albuminurica; by Dr. Franz Deutschmann (Hamburg), on the pathogenesis of sympathetic ophthalmitis; by Mr. N. C. Ridley (Leicester), on plastic operations about the eye; by Dr. T. Harrison Butler (Leamington Spa), on the operative treatment of trichiasis; and by Dr. F. W. Edridge-Green (London), on new facts illustrating the theory of vision. A scientific and commercial museum will be open in the Department of Physiology on the mornings of July 17th and July 18th. Further particulars can be obtained on application to the Secretary of the Congress, Mr. Sydney Stephenson, at 33, Welbeck Street, London, W.

THE SUPPLEMENT.

Owing to the length of the Supplementary Report of Council dealing with matters of great importance to the Association and to the publication of the text of the National Insurance Act (1911) Amendment Bill, with explanatory comments, the Supplement for this week is of unusual dimensions. In spite of this increase in the bulk of the Supplement it has been necessary to carry over the reports of a number of meetings of Branches and Divisions of the Association and of Local Medical Committees to a later issue.

The Chelsea Hospital for Women has received from the Drapers' Company a promise of £500 towards its rebuilding fund for the current year and of a similar amount for 1914. A bed will be endowed in the name of the Company.

The Hampstead General and North-West London Hospital has received the motor ambulance so kindly offered to the institution by the President, H.I.H. the Grand Duke Michael. In co-operation with the London County Council, which is contributing to the cost of maintenance and arranging for special telephone facilities, the ambulance will be available for street accidents in North-West London. It will be, we believe, the first motor ambulance for this purpose operating in the metropolitan area outside the City of London.

Owing to the facilities provided by a wealthy and generous Indian gentleman, Seth Hiranand, Dr. H. T. Holland and his colleagues who are stationed at Quetta, where there is a regular hospital in connexion with the Church Missionary Society, have been invited to spend a few weeks each year at Shikarpur, Sindh. The account which Dr. Holland gives of one day's work at this place is worth recording. There were 480 out-patients with 123 operations, of which 74 were for cataract. Dr. Holland and his colleagues, Dr. Somerton Clark and Dr. V. H. Starr, commenced operating at 8.45 a.m., and continued operating until nearly 3 p.m., when they had done over 80 operations. Between 3.45 and 6.30 p.m. they did the remainder of their operating work, their only assistants being one nurse, one compounder, and three dressers. It is hoped that the society may obtain funds to enable it to carry on permanent work at Shikarpur.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

National Insurance Act Amendment Bill.—It is currently reported that the second reading of this bill will probably be taken at the end of next week or on Monday or Tuesday, July 14th and 15th, and it is said that the bill will be sent to Standing Committee C, under the chairmanship of the Right Hon. H. W. Wilson.

Mental Deficiency Bill.

The Committee on the Mental Deficiency Bill met on Thursday, June 26th, and on Tuesday, July 1st.

On June 26th, when Clauses 20 to 25 were added to the bill, the greater part of the time of the Committee was occupied in discussing a large number of amendments put down by Mr. Martin to Clause 20, which deals with the establishment of the Commissioners. The principal amendments were directed to avoiding the sharing of responsibility between the Secretary of State and the Lord Chancellor and making the Secretary of State more directly responsible. The legal Commissioners are to be appointed by the Lord Chancellor alone, and the other Commissioners and the Chairman by the Secretary of State alone, the consultation of the Secretary of State with the Lord Chancellor, as required in the bill, being deleted.

Clause 21 was amended by providing that the various inspectors and other officers and servants of the Commission shall include women as well as men.

Clause 23 was amended to secure that mental defectives who speak Welsh only shall be in the care of others who can speak their own language.

It was also provided that the Commissioners may make such efforts as may be necessary to provide suitable treatment for the mentally defective, and a further amendment to Clause 23 requires that at least one of the Commissioners shall visit every certified institution, certified house, or approved home once a year and inspect those committed to them. It was also provided that each of these places shall be visited at least one other time every year, and that every defective under guardianship shall be visited at least twice a year. The two last groups may be visited either by the Commissioners or by their inspectors.

To Clause 25, which provides that the county councils and the county borough councils shall be the local authorities under the Act, an amendment was proposed to constitute the Common Council of the City of London as an authority for the City. After a short discussion it was rejected by the Committee without a division.

The Committee on July 1st dealt with Clauses 26 to 41, except that the financial provisions were held over and, after considerable discussion, Clause 35 was withdrawn for redrafting.

On Clause 26, which determines the committees to be set up by local authorities to have care of the mentally defective, it was provided, on the motion of Mr. Goldsmith, that the majority of the committee should consist of members of the Council; and an amendment was carried by Mr. Dickinson which provided that the words "some shall be women" should take the place of the proposal in the clause with respect to the persons appointed on the committee that "one at least shall be a woman." No other material amendments were made, with the exception of a small but valuable addition which will enable measures to be taken to aid in the securing of improved methods of diagnosis and treatment.

A prolonged discusson took place on Clause 35, which provides that on the application of a board of guardians the Board of Control may, subject to the consent of the Local Government Board, approve buildings or other premises provided singly or jointly by boards of guardians for the reception and care of the mentally defective, and that boards of guardians may enter into agreements with local authorities for the reception and maintenance in them of defectives, subject to the approval of the Local Government Board. The proposal was strongly opposed on the ground that mentally defective children should be wholly removed from workhouses and from the Poor Law authority, and that it should not be possible to have buildings approved on the application of a board of guardians only. Mr. Ellis-Griffiths consented, on the part of the Government, that the application should be a joint one by the local authority and of the board of guardians. He said at the same time that it was desirable not to lose the use of existing institutions which were of a proper character. Ultimately the clause was withdrawn for redrafting, to meet the criticisms of the Committee.

Mental Deficiency Bill (Scotland).—On June 27th, after the debate on the appointment of a Committee to consider the proceedings of the House, the debate on the second reading of this bill was resumed and concluded, and the bill was finally agreed to without a division. With the exception of Mr. Wedgwood, those who took part in the debate were generally friendly to the bill, though many members had important and useful criticisms to make, especially with regard to the securing of the rights of parents of defectives and to the authority set up by the bill. In this latter respect, Sir Henry Craik contended that the arrangements provided in the English bill were preferable to those in the Scottish bill. In the English bill every local authority is required to constitute a special committee for the care of the mentally defective, which shall contain persons having knowledge and experience in this matter, and some of them must be women. In the Scottish bill the School Boards of each district are given authority in this matter, and Sir Henry Craik contended that their proper function was educational, and that they were not properly fitted to deal with matters of this kind; that there was no guarantee that women should be members of the board, as ought to be the case, nor was it provided that any of the members should have special knowledge or experience in this matter. His contention received support from other members, and Mr. Duncan Millar pointed out the great importance of providing that the asylums officers should be properly provided for under the bill in regard to superannuation. He referred to the grievances to which many of these officers at present were subject, and contended that the present opportunity should be made use of to provide a remedy. The bill was read a second time.

Elementary Education (Defective and Epileptic Children) Bill.—The debate on the second reading of this bill was begun on June 27th, after the second reading of the Scottish Mental Deficiency Bill. In introducing the bill, the President of the Board of Education, Mr. Pease, said that it was an essential preliminary to dealing successfully with the problem of the feeble-minded that the local educational authorities, by the provision of special schools, should be enabled to secure that all doubtful cases of feeble-minded children had an opportunity of being properly diagnosed; secondly, of determining which of them were educable and which were not; and, thirdly, of providing industrial and manual training suitable to their capacities, and to train them in habits of good conduct and self control. He said that 176 authorities had already taken some steps in connexion with a special school service of this kind; that 52 maintained schools of their own; that 173 of them contributed to the support of schools already established, and that in 100 cases contributions were made to special schools situated in areas outside their own. He said that about 12,000 children were already being provided for in this way, and he thought that there were about 12,000 more who needed similar provision. In respect of the day schools, it was proposed to increase the Treasury grant from £4 4s. to £6 a head, and, in the case of the residential schools, to double the grant of £6, making it £12. This would mean that in the course of two or three years the contribution from the Board of Education to local authorities in respect of these children would be increased from £45,000 to £200,000 a year. He stated his desire to meet all reasonable objections, especially in regard to securing proper recognition of the legitimate rights of parents, whose confidence it was essential to secure and to maintain. The rejection of the bill was moved by Mr. Goldsmith, who contended that the schools proposed to be set up were not of a suitable character in many respects;

that it would mean a duplication of authorities, and that the financial provision was insufficient. He also contended that the results of the training in the existing special schools, as quoted by the President of the Board of Education, to the effect that nearly half the boys and girls were so trained that they could, and did, obtain good and promising employment, was unduly optimistic, and that the results in Liverpool and other places did not justify so sanguine an anticipation. The debate was interrupted at 5 o'clock under the Standing Orders, and was adjourned.

Dogs (Protection) Bill.—The Committee on this bill was continued on July 2nd. The resolute opposition offered by Dr. Chapple, Sir Philip Magnus, Sir Henry Craik, and other members of the Committee was maintained. After a long discussion the word "inoculation" was inserted before the word "experiment" in the second line, the amendment being carried by two votes. The effect of this amendment is to limit the prohibition solely to inoculation experiments. After lunch no quorum was obtained, and the Committee adjourned to Wednesday, July 9th. Less than two lines of the bill have been obtained so far, and in view of the lateness of the session it may fairly be assumed that for all practical purposes the bill is dead.

Vivisection.—Mr. Lynch asked whether the Home Secretary could state the number of establishments in this country licensed for vivisection purposes or for research work involving experiments on living animals: how many persons were now in possession of licences and certificates authorizing them to perform such experiments; how many dogs were employed for this purpose during 1912; what proportion this bore to the total number of animals so employed; and when the annual return of vivisection experiments would be published.—Mr. McKenna said that the total number of registered places in Great Britain was 109. The number of persons holding licences was 568. Most of the holders of licences also held one or more certificates. The total number of experiments performed during 1912 was 83,559. He could not give the exact number of experiments on dogs—888 experiments were performed under the certificates which allow experiments on dogs or cats, but the returns did not show how many were on either kind of animal. In addition to these, some of the 2,584 experiments performed under licence only, without certificate, might have been experiments on dogs. The annual return was almost ready for publication, and would, he hoped, be issued shortly.

Colour Vision Tests.—In answer to questions from Captain O'Neill, Mr. John Ward, and Mr. Lynch, the President of the Board of Trade stated that he was aware of the facts concerning the second mate of the steamship *Star of India*. That officer had passed the eyesight test in October, 1912, but failed in the colour tests on April 4th. This was owing to the introduction of the lantern test, and had he presented himself a fortnight earlier, when this test was not in use, he would have been regarded as efficient, and been able to remain for years in a service which he would now be compelled to leave. The lantern tests had been made obligatory on the advice of the committee appointed in 1910, and it was the duty of the Board to ensure as far as possible that no man whose colour vision was defective should serve as a watch-keeping officer at sea. He sympathized with such cases, and it was a question for consideration whether anything could be done to find employment for the persons affected. It was not a fact that the shades between green and blue in the lantern used were so fine that it was difficult for ordinary persons to decide which colour was which. The case did not demonstrate that the lantern test was the sole reliable test or the only one that should be used in the public interest, but it did show that it was a most important test. It was, however, desirable to have several concurrent tests.

Bacteriology of Milk.—Dr. Chapple asked the President of the Board of Agriculture if, in view of the admission of some of the veterinary officers under the Tuberculosis Order, 1913, that they were unfamiliar with the microscopic appearance and method of identification of the bacillus of tubercle, he would give the names of the various schools throughout the kingdom where short courses on the bacteriology of milk in connexion with the Tuberculosis Order are given.—Mr. Runciman said that he was informed that special classes in connexion with the Tuberculosis Order were held at the Royal Veterinary College, London, and at the University of Liverpool. Arrangements were also being made for similar classes at the Veterinary College, Glasgow.

Lead Compounds (Departmental Committee).—In reply to Mr. Agg-Gardner, the Home Secretary said that the Chairman of the Departmental Committee appointed to inquire into the use of lead compounds informed him that the Committee had now completed the taking of evidence, which had been very voluminous, and was engaged in considering it. He was unable to say definitely when the report would be ready, but it would be presented at the earliest possible moment.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

London County Council.

Medical and Dental Treatment of School Children.

As the agreements with the authorities of 12 hospitals, 21 school treatment centres, and 1 ringworm school for the treatment of the ailments of London school children expire on July 31st, the Children's Care Subcommittee submitted to the Education Committee of the London County Council on July 2nd proposals for the year beginning August 1st, 1913.

It was proposed that provision should be made for the treatment of 83,998 defects, as compared with 76,138 last year, or, excluding minor ailments, of 71,678 defects, against 65,798 last year—a net increase of 7,900. The subcommittee stated that experience had shown that the number of throat defects was now less than in previous years, despite the fact that the range of inspection was more complete. It was therefore proposed to reduce the number of such cases in drawing up the new agreements.

In several cases, heavy initial charges having been met, the subcommittee proposed that the capitation payment of 2s. should be made on the first 1,000 cases only. The existing agreements should be renewed in the case of the following: Charing Cross, Metropolitan Ear, Nose, and Throat, Metropolitan, Miller, Poplar, Queen's, Royal Eye, Royal London Ophthalmic, and St. Mary's (Paddington) Hospitals, and with the committees of the Home and Infirmary for Sick Children (Sydenham), St. Marylebone Dispensary, and St. Cecilia's and Woolwich (Dental) School Treatment Centres. Renewals subject to modifications in the number of cases to be dealt with were recommended in the following cases:

Belgrave Hospital for Children, London Hospital, the Marylebone, Rotherhithe, and Shoreditch Nursing Treatment Centres, Deptford Children's Health Centre, the St. George's Dispensary, St. George's Mission, St. Mary's Ringworm School, Women's Hospital for Children, and the following school treatment centres: Fulham, Hackney, Hammersmith, Islington, Norwood, Peckham, Poplar, St. Pancras, and Wandsworth.

The subcommittee did not propose to renew the agreement with the governing body of the Woolwich and Plumstead Cottage Hospital, but suggested the establishment of the school treatment centre under the direction of a committee of local practitioners in a more central position in Woolwich. It recommended also that facilities for the dental treatment of children should be provided in Westminster at the Western Dispensary, and at the Hackney and South London Treatment Centres and the London Hospital. The number of dental cases to be treated at each centre should be 1,540.

The Education Committee approved the whole of these proposals.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

TUBERCULOSIS ARRANGEMENTS IN EDINBURGH.

IN connexion with the decision of the Town Council of Edinburgh, referred to in last week's issue (see p. 1390), respecting the tuberculosis arrangements for the city, there has been, as was inevitable, a good deal of criticism. Thus the Town Council and the Burgh Insurance Committee are blamed by some for not taking over the Royal Victoria Hospital and Dispensary, which have been regarded elsewhere as a pattern worthy of imitation, and they have been reproached with preparing a "patchwork scheme" of their own. It has even been stated that if no agreement can be come to with the Royal Victoria Dispensary the Town Council is ready to build a dispensary of its own, but this is a matter upon which it is safe to say that the ratepayers will demand to be heard. The warrant of the Astor Report was freely referred to in the discussions, but it seems to have been forgotten that one of the recommendations of that report was that existing institutions should be made use of in local schemes wherever possible; the Royal Victoria Dispensary, say the critics, is such an existing institution. The Town Council is blamed also for proposing to crowd all the tuberculosis cases into the City Hospital at Colinton Mains, when they might be grouped according to the stage of the disease reached, and the Royal Victoria Hospital and Farm Colony utilized for the earlier ones and for those requiring prolonged supervision respectively; the later cases could then be sent to Colinton Mains. Again, from another direction, criticism of the scheme has come: the medical profession, with almost complete unanimity, has condemned the placing of the clinical side of tuberculosis under the public health officials, as was clearly indicated in our columns last week (see p. 1389), but the protest, if one may judge from the debate in the Town Council meeting, does not appear to have had much, or indeed any, effect.

Sir Alexander Christison, Bart., the President of the Royal Victoria Hospital for Consumption, in a letter which was published in the *Scotsman* on June 26th, has made known the proposed heads of agreement submitted by the city, and the replies made to them by the committee of the hospital. These proposed heads number six in all, but most interest attaches to the replies to the council's suggestions on two—namely, that the dispensary's functions should be limited to the giving of dispensary treatment, including medicines, to such persons as may be sent to the dispensary, and that the existing agreement by which the corporation has ten beds at its disposal in the Royal Victoria Hospital should be brought to an end. On both these subjects the directors of the hospital take a different view from the Town Council; they deprecate the limitation of the dispensary's uses, and they regret the departure from the arrangement concluded many years ago between successive conveners of the Public Health Committee and themselves, to the effect that a certain proportion of the cases of tuberculosis occurring in the city should be treated in the Royal Victoria Hospital. Whether or not these criticisms will have any effect upon the arrangements accepted by the Town Council remains to be seen; but, at the same time, it is not to be denied that a forward step of great importance has been taken in the municipal treatment of tuberculosis.

JOINT TUBERCULOSIS SANATORIUM FOR THE SOUTH-EASTERN COUNTIES OF SCOTLAND.

Reference has already been made (vide JOURNAL for June 28th, p. 1391) to the negotiations going on for the establishment of a combined tuberculosis sanatorium for the South-Eastern Counties of Scotland; and a further step was taken in the matter on June 25th, when the Midlothian County Council, at a special meeting, unanimously accepted the draft scheme. The counties included under the geographical designation of south-eastern are Berwick, Haddington, Linlithgow, Midlothian, Peebles, Roxburgh, and Selkirk. The draft agreement now goes to the Local Government Board for discussion; there are nine proposals in the scheme, and to these as finally adjusted reference will be made later.

QUEEN MARY'S NURSING HOME, EDINBURGH.

The new nursing home in Edinburgh for patients of limited means, to which reference was made in these pages a few weeks ago (May 31st, p. 1185), is to be known in future as "Queen Mary's Nursing Home," and is to be under the patronage of Her Majesty the Queen. These are the tidings contained in a letter to Dr. Chalmers Watson from Her Majesty's private secretary, bearing the date June 24th.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

EMIGRATION FROM IRELAND.

FROM the Registrar-General's returns it appears that during the month of May the number of emigrants (natives of Ireland) who left Irish ports was 6,069, as compared with 4,720 in the same month last year, an increase of 1,349. For the first five months of the present year Irish emigrants numbered 15,961, as against 14,070 in the same period last year, a total increase of 1,891; of this increase Ulster was responsible for 1,031. As pointed out recently, there has been a steady decline in the number of emigrants for many years past, but now this has changed to a steady increase.

HOSPITAL ACCOMMODATION IN ROSCOMMON.

At the last meeting of the Roscommon Board of Guardians a letter was read from the Local Government Board, stating that, owing to the additional work arising in connexion with the sanatorium provisions of the Insurance Act, it had found it necessary to increase the number and rearrange the duties of their staff of medical officers' inspectors. They had accordingly appointed Dr. Florence Dillon assistant temporary medical inspector of the union infirmary and hospital for Roscommon Union. Dr. Dillon would be required to make inquiries on the subject of infant mortality in the workhouse, and also to inspect the children's and female wards.

DISTRICT COUNCIL AND MEDICAL OFFICER.

The Stranorlar Rural District Council, by its action in refusing the request of its medical officer for a bonus for extra work, has shown that it does not think him worthy of the same consideration as the sanitary subofficer. Dr. Johnston, who has had almost forty years' service, during which time all his applications for an increase of salary have been refused, recently had an outbreak of typhus fever in his district which involved a great deal of extra work, including even the putting of those who died into their coffins, as nobody else could be got to do it. Seeing that the sanitary subofficer had been granted a bonus of £2 for his extra work, Dr. Johnston applied to the rural district council for a bonus, which was refused. He then wrote to the Local Government Board, which informed the council that the medical inspector had reported that a large amount of additional work had been thrown upon Dr. Johnston, that he had certainly not spared himself, had incurred considerable personal risk in attending the cases, and that his request ought to be acceded to. At the last meeting of the council, when the letter was considered, a proposal was made to give Dr. Johnston a bonus of £5; this was amended to 3 guineas. One of the councillors pointed out that Dr. Johnston had undertaken all the work himself instead of asking for extra medical assistance, which would have meant extra expense to the ratepayers. On a vote being taken, 6 voted for granting a bonus, and 8 against.

India.

[*FROM OUR SPECIAL CORRESPONDENT.*]

KASHMIR MISSION HOSPITAL.

SOME interesting glimpses of life in Kashmir are supplied by the report for the year 1912 of the Mission Hospital in that country, while for those whose personal experience enables them to read between the lines there is plenty to suggest how great an amount of enduring energy, enthusiasm, and patient skill must be necessitated

by the undertaking. It involves seemingly three more or less distinct enterprises—visiting and preaching in as many localities of Kashmir as possible, the charge of a State leper hospital, and the working of a hospital provided with both in-patient and out-patient departments. Apart from minor surgery, the year's operations included 1,170 eye cases, the removal of over 500 tumours, some 400 miscellaneous operations including laparotomies and various ear, nose, and throat procedures, and 530 operations on bones and joints. Taking the whole of the operations as a total of 5,000, the mortality was only about 0.5 per cent. Of the tumour operations, 92 were for the removal of "kangri" cancers. Conservative surgery, it is pointed out, has to be pushed to the utmost limits owing to the intense prejudice of the people of the country against amputations. Owing to the great prevalence of chronic ophthalmia, eye operations have usually to be preceded by long preliminary treatment, and an investigation of the bacteriological condition of the conjunctival sac. The annual cost of a bed is put down as only £10; some two-thirds of those in use are supported personally by various friends of the mission, and the year's work seemingly ended with a small balance in hand. On this, as on many other facts revealed in the report, Dr. Arthur Neve and his colleagues and assistants are greatly to be congratulated. The interest of future reports would be much increased by a succinct summary of the history of the mission, since its commencement, of its scope, and of the size of the hospital maintained.

A New Medical Society.

A preliminary meeting of medical men was held in Rajkot in April to consider the question of the formation of a medical association for Kathiawar, and it was unanimously decided that there was a real need for an organization of this nature. Those present then agreed to inaugurate a society, to be called the Kathiawar Medical Society, and a committee was thereupon elected, with Major Hooton, I.M.S., as president, and entrusted with the framing of draft rules and regulations to be submitted for approval at the first regular meeting of the society. It is proposed to hold quarterly meetings, at which cases may be shown and papers read, and also to establish a circulating library and reading-room in Rajkot.

King George V Antituberculosis League, Bombay.

The scheme represented by this title arose from a desire to commemmorate the King's visit to India. Mr. Ratan Tata, a prominent citizen of Bombay, suggested for this purpose the organization of a campaign against tuberculosis, and offered under certain conditions to contribute Rs. 150,000 to this end. Lord Sydenham, the Governor of Bombay, expressed his warm approval of the movement, the Municipal Corporation of Bombay promised support, and the scheme was launched at a public meeting. The secretarial work was undertaken by Drs. Turner and Choksy, who have now issued a prospectus in which the objects aimed at by the league are defined to be: (1) Notification of disease; (2) tuberculosis dispensaries; (3) education of the people; (4) medical inspection of school children; (5) supervision of milk and food-supplies; (6) a special fund to relieve distress; and (7) to arouse public interest in tuberculosis. A central dispensary and laboratory have already been established, with a medical man and nurse to treat tuberculous cases, and it is proposed to organize eleven others in the town and, as the scheme develops, to open tuberculosis departments at some of the existing municipal dispensaries. It only remains for the Bombay public to respond to this most commendable proposal by contributing generously to an excellent undertaking.

The Cocaine Traffic in Bombay.

The Bombay Government states that there is no evidence as yet that the change in the law has put a check on the operations of the illicit importers. The cocaine habit appears to be extending, and unless concerted measures are taken to cut off the supply of the drug at its source in Europe it is not possible for a preventive staff at Bombay to do more than put, from time to time, a temporary check on the nefarious traffic.

Special Correspondence.

BERLIN.

Drug Advertisements in German Medical Journals.—The Spirochaete in General Paralysis of the Insane.—The Radio-therapy of Carcinoma Uteri and of Uterine Myoma.—The X-ray Treatment of Fibroids.

The police regulations of 1912, for the district of Berlin, prohibit the public advertisement of drugs and proprietary medicines, the sale of which, unless absolutely harmless, is only permitted to chemists and drug stores. They did not specify that scientific journals were exempt from this regulation, and a medical editor was recently prosecuted and fined for allowing the insertion in his supplement of an advertisement for an anteconceptional preparation, although the wording of it was admittedly in medical terms. The result of this "test" case has aroused an animated discussion as to what constitutes an advertisement, and to what extent the promulgation to the medical profession of therapeutic advances should be legally authorized. The regulation applies only to the Berlin area, but it is not difficult to foresee that evil consequences might ensue from its general adoption. Nearly all the supplementary pages of German medical journals are filled with drug advertisements, and in a considerable majority are the main source of income, and therefore of their existence. Moreover, the main channel of information from the commercial laboratory to the physician would be closed, and many valuable adjuncts in pharmacy remain unknown to him. The injustice of such a position to all concerned is sufficiently obvious, and it is hoped that common sense will prevail and force the withdrawal or amendment of this measure. On the other hand, it cannot be gainsaid that those responsible for it had in mind the alleviation of a public nuisance. The market has been flooded with chemical products, which under high-sounding names profess to cure not only symptoms but the diseases themselves, and the overworked practitioner is obviously not in a position to separate the good from the bad. The subject was thoroughly discussed at a medical congress in Wiesbaden, with the fruitful result that a permanent drug commission was appointed, whose function it is to examine into and test experimentally the claims of the preparations and secret remedies advertised in the medical journals. The results of its labours are sent annually to the profession for guidance, and have proved not only useful to them, but, above all, most salutary in their restraining influence on the commercial chemist.

Professor Noguchi's discovery of spirochaetes in the cortex cerebri of general paralytics was reported in the BRITISH MEDICAL JOURNAL last March (p. 464). Considerable interest was aroused at the last meeting of the Berlin Medical Society by a communication, which had the honour to be read by Professor Wassermann, from Professor Marinesco of Bucharest. It stated that in 26 cases of general paralysis of the insane he had twice succeeded in demonstrating the spirochaete in the cortex, more especially in the neighbourhood of the cerebral vessels, and that one of these cases had suffered from syphilitic meningitis. Marinesco ascribes the apparent rarity of their presence in his cases to his own faulty technique, and voices the opinion that in general paralysis of the insane we are face to face with the result of the direct action of the spirochaete on the cells of the brain cortex. The failure of specific therapy in these cases is probably due, he thinks, to a special affinity of the organisms for nervous tissue. A most important observation on this subject was contributed by Forster and Tomaszewski (of the Charité Hospital in Berlin) to the *Deutsche medizinische Wochenschrift* of June 26th. Not content with *post-mortem* material, they undertook the method of brain puncture, devised by Neisser and Pollak, in living subjects, and succeeded in demonstrating by dark-ground illumination active spirochaetes in both the cases examined. The results of their experiments on animals are now awaited.

A report of Bumm's experience with thorium and *x* rays in the treatment of malignant disease of the cervix uteri

and external genitalia was given in the letter from Berlin published on June 21st, and the discussion which followed his pronouncement was also noted. At the Gynaecological Congress at Halle, Professor Krönig of Freiburg, whose name is equally well known as a gynaecologist, recorded his results with the method in 176 cases of carcinoma; 26 of these, treated with unfiltered or very slightly filtered doses both locally and by the abdomen, without surgical intervention of any kind, after, in some cases, a temporary improvement, all died of the disease. It is worthy of note that 64 cases were operated on radically, and then treated prophylactically with *x*-ray and thorium applications; 43 of these cases were treated without a filter, and 23 died of carcinoma, whilst of 21 cases treated with very hard filtered *x* rays and thorium, not one has manifested a recurrence as yet, although 14 of them were treated more than a year ago. In 56 cases the patients who had refused operation were treated exclusively with strong filtered *x* rays and mesothorium in high dosage. The results in 8 of these cases were reported by Krönig at the International Gynaecological Congress in 1912. Of the remaining 48 only 18 are still under treatment, and 17 of these may be regarded as cured; 5 died during treatment, and 7 refused further applications. Krönig summarizes his conclusions by stating that the best chance for radio-therapeutic success is to use only large doses of mesothorium and hard *x* rays, which must be filtered to avoid the production of skin lesions. Professor Döderlein of Munich stated that in his opinion the therapeutic field in cases of malignant disease had been considerably enlarged by the introduction of this treatment. His own experiments led him to believe that mesothorium rays specifically affected carcinoma cells and caused them to degenerate, and that the clinical amelioration of the haemorrhages, suppuration, and induration went hand in hand with this microscopic change. The results of the mesothorium treatment of myomata and other uterine diseases were enthusiastically reported on by Gauss and Koniski of Freiburg at the same meeting. Without taking into account the age of the patients, the amount of haemorrhage or size of the tumour, they had treated 80 cases, of which 42 were myomata, exclusively by this method: 30 cases had recently been discharged as cured, and in them amenorrhoea with shrinkage, and in some cases complete disappearance of the tumour, had since set in. The average total time of irradiation in each case was 175 hours.

Professor von Hirsch of Munich reports results he has obtained in the *x*-ray treatment of 46 cases of myoma and 35 of fibrosis uteri (*Fortschritte auf dem Gebiete der Röntgenstrahlen*). The treatment adopted in Munich differs from that in other clinics mainly in that smaller doses of *x* rays are used. Hirsch does not use the method indiscriminately in all cases, and lays down certain contra-indications. He has never yet encountered a failure, and maintains that by means of *x* rays the organic function can be definitely abolished and amenorrhoea produced in any patient, irrespective of age. These opinions found support in the recently published discussions of the Gynaecological Congress at Halle, and it would seem that the radical treatment of fibroids will in the future be placed in the hands of the radiologist.

UNDER the will of the late Miss Jeannie Pollok, of Pollokshields, the University of Glasgow receives a bequest of £10,000 for the foundation of a research lectureship in materia medica, while the Victoria Infirmary in the same city receives a like sum for the endowment of a ward.

OVER 2,000 members of the Juvenile Health Crusade, a branch of the Women's Imperial Health Association, whose object is to teach children the elements of health, and especially all that concerns the care of the teeth, took part in a very successful fête held at the Crystal Palace on June 28th. Prizes for the best kept teeth were presented by Lady Helmsley, President of the association, who spoke a few words of encouragement to the children, and a short address was delivered by Mr. George Thomson, one of the founders of the British Dental Hospital, who advised his audience to eat hard food and masticate it as much as possible. Later in the afternoon a charming concert was given by the children in the Great Hall of the Palace.

Correspondence.

THE PROPOSED REFORM OF THE CONSTITUTION.

SIR,—The Metropolitan Counties Branch Council having entrusted me with the responsible duty of bringing its scheme of reform before the Representative Meeting at Brighton, I was very pleased to read the letter of Dr. J. Roberts Thomson, in which he, in a most lucid and logical manner, practically outlines our scheme.

His evidence is all the more valuable inasmuch as he was Chairman of Council during the time the new constitution was being debated and finally issued; and also because at first he doubted its power for good, and acted on conservative lines. He fully recognizes, what has induced my council to formulate such a scheme, that when defects are found they should at once be remedied, in opposition to some who think that the present is not a proper time to deal with such matters, although failing to state any good reasons for such delay. One altogether fails to see what advantage is to accrue by leaving imperfect machinery to go on, becoming still more defective by flux of time.

We surely all desire that our Association should have as perfect a machinery as can be devised, and that its working should be efficient, economical, and rapid, so that whatever demands may be made on it, its members may feel that it will respond effectively.

With regard to the postal vote, I am quite convinced that its absence is a real grievance, as it is quite obvious that all men cannot attend the Divisional meetings, and so it is impossible to get the real opinion of the practitioners in such area.

It is quite possible that even if granted, men will fail to use it as they might, owing to that fatal apathy which seems so real a disease in the medical polity, but in that case the disfranchisement would be entirely of their own doing, the postal vote having brought the chance into their own homes.

I should like to thank Dr. Roberts Thomson for his testimony to the Metropolitan Counties Branch Council scheme, and sincerely hope that most Representatives will share his views.—I am, etc.,

London, S.W., June 28th. M. G. BIGGS.

SIR,—Dr. Thomson in his valuable contribution on this subject speaks from the point of view of the casual observer, and also with the authority of a past Chairman of Council. Perhaps it will not be out of place for one who has been in the thick of the fight to endeavour to criticize, with all due respect, some of his proposals, and then briefly to enunciate the lines on which, in my opinion, the reconstitution will probably develop.

I. The vested interest in Council seats has got to go. It is dying, but the death struggle is prolonged and painful. The Divisions are waking up, and in my experience the longer a man has been on the Council the more likely he is to run a risk of becoming suspect. This may be regrettable, but in many cases it has proved to be but an intelligent anticipation of events.

II. Here I venture to disagree with Dr. Thomson. I think that during the past two years the voice of the profession has been obtained by Division meetings, which were, as a rule, very well attended, and to a large extent the absentees belong to a class that cannot be got at by any means short of a personal canvass.

III. No one can traverse the statement that the voicing of the Association by delegates has not proved a success. One can reasonably go considerably further and say deliberately that it has proved a ghastly failure. A huge body of men, tied to vote one way, and one way only, on pain of instant dismissal, meet together at enormous expense and solemnly go through the farce of trying to convert each other, but each is obliged to turn a deaf ear to information of the most vital importance, and the deliberations can have only one result. This would be exercuciatingly comic if the results were not so abominably tragic.

Let us, then, consider the proposed changes:

1. That the Representative Body will have to cease to be a body of delegates is certain, but it can only come

about by the gradual education of the members to the obvious difficulties of their Representatives in the present position, and, what is more important, by a gradual re-establishment of the confidence which has been so cruelly maltreated. I am most emphatic that the time is not ripe for the Council to suggest the change as a recommendation to Divisions.

2. It will never do for the Representative Body to elect the Council from its own members. The Representative Body has that power now to the extent of electing four members, and used its power last July with most disastrous results. I make bold to say that it is nothing short of an anachronism that the Representative Body should replace on the Council men who have deliberately and of set purpose been defeated at the polls by their Divisions. I urge the following reasons against Dr. Thomson's suggested method of election:

(*a*) The scope for wire-pulling is too great where the electorate is gathered together in one place.

(*b*) The vested interest would consequently gain a new lease of life.

(*c*) Any Representative capable of making a soul-stirring oration, apart from his capability as a worker, would stand a good chance of election.

3. That the Council should be the executive of the Representative Body is desirable if only to prevent that body from pleading impotence when it ought to do something that it does not want to do, and only becoming aware of its power when it wants to do something which it ought not to do.

5 and 6. These deal with the postal vote. Before having had two years' experience of honorary secretary's work I was a believer in the postal vote. To-day I stand confessed a hardened convert. As an instance, let us take the recent election in the South-Eastern Branch. There were four candidates, two of whom did an enormous amount of work, while the other two certainly did not sit still. What was the result of the postal vote? Just over one in three voted. I fear that a postal vote on any question, unless backed by a personal canvass, would never yield a 50 per cent. result. Therefore let us stick to the Division meetings, which do good by bringing men together.

My own ideas as to the reconstitution are drastic, and may possibly be described in some particulars as reactionary. Briefly:

(*a*) Abolish the Representative Body; it is costly, futile, and unwieldy.

(*b*) Give the Council supreme power and let it meet once a month. This should be feasible if the Council consisted almost entirely of general practitioners elected on a territorial basis.

(*c*) Make all members of Council *ex officio* members of all the Divisions in their constituency, and get them to attend as many meetings as possible.

(*d*) Appoint paid travelling secretaries, whose duty it would be to travel about lecturing, attending meetings, and as far as possible calling on individuals. I am of opinion that this work properly carried out would obviate the necessity of a Representative Body, and would be much more efficacious and infinitely cheaper.

That, Sir, is my rough idea, and in order to escape the charge of having cribbed any points from the very excellent report of the State Sickness Insurance Committee, I may tell you that I laid my scheme before the members of the Dartford Division three weeks ago.

Let me conclude my remarks with an appeal to the members to unite in one great effort to preserve the integrity of our only organization. If we are to have protection we must pay for it. Our present subscription would not buy the JOURNAL at a bookstall, and yet how much more do we expect of it. Something must be done, and that at once, to restore confidence. We must have a policy and a definite one. Panel work is either derogatory or it is not. The Association has twice emphatically affirmed that it is; our mouthpiece, the JOURNAL, says it is not. This sort of thing cripples enthusiasts; how much more does it kill the ordinary member. It cannot go on. A definite pronouncement will have to be made at Brighton. Those of us who have the welfare of the Association at heart must hope the minority will stick loyally to the majority, but if compromise is the outcome of the July meeting, there will be a landslide the magnitude of which may lead to a disaster.—I am, etc.,

Gillingham, Kent, July 1st. C. COURTENAY LORD.

EVIDENCE FOR AND AGAINST TUBERCULIN.

SIR,—I have been hoping every week that some well-known authority on tuberculin would bring some heavy artillery to bear upon the article of Dr. Batty Shaw of May 5th, of which the outcome was that tuberculin is therapeutically useless.

I am constrained now to submit some obvious criticisms of his results because I believe them to be seriously misleading, and because they form a pretext for depriving tuberculous patients of tuberculin in that large class of doctors who are prejudiced against the use of tuberculin.

I am aware that my deficient critical faculty will make me miss many points, but my clinical impressions on the value of tuberculin should be worth recording for several reasons—partly because I started as an unbeliever and remained sceptical for the first four years, during which I was using Wright's doses partly controlled by the opsonic index in my own laboratory. But during the next four years of using tuberculin by the Continental method of almost reactionless increase of dosage every five days or so, I became convinced that tuberculin did the patient a great deal of good in perhaps the majority of cases in which I tried it. I quite admit that in many cases I could not be sure that any result was produced, and that in a very few the remedy was not tolerated and was soon abandoned. These clinical impressions were formed from my in-patients and out-patients at a general infirmary and a children's hospital, and from my private practice. The effect of improved surroundings in in-patients was always allowed to wear off before giving a new remedy like tuberculin. Otherwise, of course, all conclusions are fallacious.

Physical signs are too variable from day to day to constitute a reliable guide to the action of a remedy, except, perhaps, in that stage at which they become absent and remain so. But marked gain in energy and well-being following each injection are often obviously in relation of cause and effect, and cases which exhibit this feature generally do very well. If you have a remedy which often produces this marked and admirable result, generally associated with gain in weight and strength, it seems to me obvious that that remedy is doing the patient good clinically, and helping him to fight his disease in a way which no other remedy does in tuberculosis. Often to such patients I have said, "You know there are many doctors who say that tuberculin does no good to your disease." A scornful laugh, and "I know better," is the type of their reply.

Statistics I cannot submit, but I do not think they are of much value in so protean a disease as phthisis, or with a remedy like tuberculin which produces effects few of which can be measured or even adequately rendered into words.

It is the custom for men of science rather to sneer at clinical impressions. I remember doing it myself when I was a physiologist. But I submit that clinical impressions when scrupulously arrived at are of solid and scientific value. We can often arrive at a sound conclusion as to the value of a remedy long before we can at all understand its value. And yet Dr. Batty Shaw's chief evidence against tuberculin consists of theoretical reasonings based on the theory of immunity and on the absence of evidence in animal experiments. Now in both these departments of science our knowledge is extremely incomplete and daily growing. If clinicians find as a matter of fact that tuberculin does tuberculous patients a great deal of good, it becomes the duty of the theorists and experimentalists to modify the theory and find the reason of the discrepancy in the animal experiments. To give an agricultural illustration, farmers knew very well that a crop of clover did good to the land long before the

bacteriologists discovered the explanation—namely, that the bacteria which were provided with board and lodging in the tubercles of the clover roots were able to convert the unassimilable nitrogen of the air into assimilable compounds. My point is that careful unbiassed observations summated by the human mind are apt to turn out more reliable in this baffling kind of inquiry than theories and experiments which are still in a state of flux and being daily extended and amended.

Dr. Shaw's third indictment against tuberculin is based on the admirable method of comparing the progress of patients treated with and without tuberculin. That method was applied to diphtheria antitoxin in the days when it was still on its trial, several hundred cases being tried with and without it in Germany. The results of the test abundantly verified the clinical impressions which had been formed of its great value. But suppose only nineteen cases of diphtheria had thus been tested, half with antitoxin and half without it. With such small numbers, in so variable a disease as diphtheria, the arithmetical verdict might very well have been entirely misleading. And yet on that small number of nineteen patients is based the weighty indictment of Drs. Shaw and Rigg. No, Dr. Shaw must earn the gratitude of all of us by continuing his excellent experiments on a much larger scale, which will, I believe, reverse his present verdict.

But I hope he will give tuberculin a fair chance next time. His present method of compressing a strong course of tuberculin into three months, with doses every two days, according to an almost cast-iron scheme, seems to me certain to do more harm than good. No wonder his tuberculin patients had to spend much of their time in bed. Generally a patient is poorly and headachy the day after an injection, and it is during the next two or three days that he reaps the benefit. But in this test the patient had no sooner started to benefit from one injection when he was upset by another. To get the best out of tuberculin it must be given by a very experienced man; whereas it was given by Dr. Rigg when he was a house-physician, and hence gaining his experience, and without the guidance of Dr. Shaw. The dosage and their spacing should be adapted to the idiosyncrasy of each patient, and given without a time limit. It needs no statistics to prove that tuberculin given faultily will do more harm than good.

But, apart from its clinical merits, we must not forget the psychic benefit to the patient of meeting his doctor every few days, of having his physiological errors pointed out, and feeling that something potent is being done for him. This psychic effect alone must be of some clinical value.

Another great advantage of tuberculin treatment is that it can be carried out at home. Fine climates and sanatoriums are grand things if you never leave them, but to have to return with tinkered lungs to those home surroundings which originally caused the *sound* lungs to become diseased too often spells relapse. Whereas a cure with the aid of tuberculin in spite of home surroundings should have a much greater chance of permanence.

The authors of these two papers must not think, because I have found much to criticize from the clinical standpoint, that I have not also found in their papers much to admire and to earn my sympathy in the perhaps insuperable difficulties of the task they set themselves.—I am, etc.,

Hull, June 22nd. FRANK C. EVE.

P.S.—Since writing my letter on the very favourable clinical impressions which I had formed on tuberculin, and my criticisms on the papers of Drs. Shaw and Rigg, another contribution has appeared by Dr. Watkin in the BRITISH MEDICAL JOURNAL of June 28th. He describes 22 cases treated half with and half without tuberculin, with similar results to Dr. Rigg's cases. But, as they were nearly all febrile cases—only 2 afebrile patients had tuberculin—my criticisms apply to these results with even greater force. For, if three months' treatment is far too short a time for (1) a course of tuberculin, (2) to judge of its final effect on physical signs, and (3) on the patient's health, then *a fortiori* it is much too short a period for febrile cases, which are very much more tedious to treat. Dr. Watkin very fairly admits, too, that two cases showed increase of fibrosis although the râles were stationary or improving. This shows that râles are *not* reliable as an index of progress of the case. But as all three papers I am criticizing are admittedly based upon râles as the one reliable criterion of progress, it is evident that their conclusions have a most sandy foundation. The "controlled" use of tuberculin seems to me to be a far more difficult piece of work than these authors would have us to believe. I doubt if it be possible to form reliable conclusions on this subject except by careful, honest, and extensive clinical impressions, and these are not easy to form.

SIR,—Allow me to draw attention to an error in my article on The Controlled Use of New Tuberculin, published in the BRITISH MEDICAL JOURNAL of June 28th. In putting the 22 results in a different form, the number of cases which remained *in statu quo* was given as 11 instead of 10; and the number of those which were worse as 5 instead of 6.

The paragraph should have read as follows:

A. Of 6 cases which improved, 3 had been treated with tuberculin, 3 had not.
B. Of 10 cases which remained *in statu quo*, 5 had been treated with tuberculin, 5 had not.
C. Of 6 cases which were worse, 3 had been treated with tuberculin, 3 had not.

—I am, etc.,

ARTHUR C. WATKIN, M.R.C.S., L.R.C.P., D.P.H.

Shrewsbury, July 1st.

THE TREATMENT OF NEURASTHENIA.

SIR,—I never thought I should live to see an article so much to my mind as that in the BRITISH MEDICAL JOURNAL of June 28th, on The Comforts and Discomforts of Old Age. It will help those who read it to avoid some pitfalls which swallow prematurely so many of our profession. When you were good enough to print a letter from me in which I said I could cure neurasthenia in three days, I was inundated with letters from all parts of the world, from New York to Hong Kong, written by members who themselves were victims of that sad condition, wishing to know how that could be done. I was sorry I could not undertake to answer them individually; but one of my correspondents from Australia thought it would be by making them fast; and I have little doubt that fasting will cure most diseases, but there is danger in making some cases fast, and fortunately it is not necessary to withhold all food, to which few patients are inclined to submit. Having read your excellent article I feel inclined to say with a pious old man, "Now, Lord, let Thy servant depart in peace," for I feel sure that a stone is set rolling whose impetus will soon smash many orthodox theories and revolutionize the whole practice of medicine. Old as I am, I have managed to attend pretty regularly our annual meetings and do what I could by word of mouth to warn my brethren of the danger that lurks unsuspected in food, but each year I have been saddened by missing so many of my acquaintances, struck down by what is called sudden, and certainly premature, death. I fear that I will not be able to leave my work so as to attend the annual meeting this year, but I hope that some discussion will be directed to the subject of food reform, the importance of which your article emphasizes. I was so impressed with the importance of food as a cause of disease that I wrote what, but for some trouble with the printer, would have appeared some years ago in book form. If it should never appear I now feel sure that others will enter the lists and advocate the cause as strenuously as I could do, so that if I should fall by the way, suddenly perhaps, owing to some indiscretion—for even Homer at times nodded—my efforts will not be missed; and if this should be my last opportunity of addressing my fellow members, I should like to say, for the sake of those suffering from neurasthenia who wrote to me, with whom I have good reason to sympathize, that if they have sufficient will power left to eat only once in the twenty-four hours, and little enough then, they will soon get quit of the gloom which makes life a burden and this world a hell. If they have not

sufficient will power left, restraint alone will save them from premature, though it may be welcome, death.—I am, etc.,

Hawick, June 28th. JOHN HADDON, M.D.

LIQUID PARAFFIN.

SIR,—Since the recent publication of some articles in the BRITISH MEDICAL JOURNAL and elsewhere on the investigations made here on the subject of tar and pitch cancer, we have received several inquiries as to whether there is any danger in the use of "liquid paraffin" as a purgative. We beg, therefore, that you will allow us to explain that, as far as we know, this paraffin is harmless for that purpose.

The question arose because we mentioned that auxetics and kinetics, substances which can be detected in coal tar, and pitch, and which seem to be the predisposing cause of pitch cancer, have also been detected in refined petroleum. Now, liquid paraffin is not the same thing as refined petroleum, although the latter is sometimes called "refined paraffin" or "paraffin oil." It is true that they are both fractions in the distillation of petroleum, but refined petroleum or paraffin oil (which contains auxetic) distils over at temperatures from 150° C. to 300° C., whereas the so-called liquid paraffin does not come over until a temperature of not lower than 360° C. is reached. The auxetics in tar seem to be volatile at temperatures from 300° C. to 320° C. The refined petroleum contains substances (including auxetic) which are soluble in water, but it is never taken internally; the liquid paraffin, on the other hand, if pure, is insoluble in water, dilute acids, or alkalis, and it is probable, therefore, that its action as a purgative is only mechanical. Nevertheless, we have tested liquid paraffin with living cells in the same way as the other tests with coal tar, and pitch were made, and the result was entirely negative as regards causing cell proliferation.—We are, etc.,

H. C. ROSS.
J. W. CROPPER.

The John Howard McFadden Research Fund, S.W., June 24th.

VERONAL POISONING.

SIR,—We read with much interest an editorial article entitled "Veronal Poisoning," which appeared in the BRITISH MEDICAL JOURNAL of March 15th, p. 566. There are two passages, however, in this article on which we would like shortly to comment, in the hope that perhaps our remarks may be of service to you for future reference.

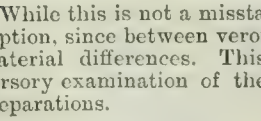
1. Veronal . . . was placed on the market as a harmless hypnotic by the German chemists who introduced it, and it is only as a result of numerous fatalities following its use that the dangerous properties of the drug have become recognized.

As no doubt you know, the firm we represent, in conjunction with Mr. Merck, Darmstadt, were responsible for the introduction of veronal, and we have very carefully examined all the statements that have been made officially with reference to the hypnotic. Nowhere, however, can we find support for the words "harmless hypnotic" beyond the statement that the preparation is said to be relatively harmless in therapeutic doses, which statement we believe you will agree with us is fully upheld by the highest authorities in this country, and elsewhere. We have from the first understood that the hypnotic is an exceedingly potent one, and have always laid stress on the danger of exceeding the therapeutic doses.

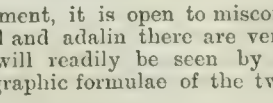
2. Adalin and bromural are related to veronal in composition.

While this is not a misstatement, it is open to misconception, since between veronal and adalin there are very material differences. This will readily be seen by a cursory examination of the graphic formulae of the two preparations.

Veronal.



Adalin.



Adalin is to be looked upon as a modification of di-ethyl-acetyl-urea, a derivative of acetic acid, which only contains one carboxyl group, whilst veronal is di-ethyl-malonyl-urea, a derivative of malonic acid, which contains two carboxyl groups. Adalin is therefore derived from a monobasic acid; veronal, on the other hand, from a dibasic acid.

Professor Emil Fischer, the discoverer of veronal, said that it was the cyclic structure of the urea-derivative of di-ethyl-malonic acid that made it so much more powerfully hypnotic than di-ethyl-acetic acid. These facts are fully supported by clinical experience.

Veronal is undoubtedly a powerful hypnotic. Adalin, on the other hand, can only be described at the most as a hypnotic of medium strength. It is better described as a sedative of especial value in simple nervous insomnia. It produces sleep indirectly by the removal of excited conditions preventing it. As a matter of fact, the chief claim for the preparation is that it stands midway between the pure sedatives, such as bromides and valerian, and the powerful hypnotics veronal, sulphonal, trional, etc., on the other.

Further, you will no doubt agree that it is incorrect to assume that two or more drugs of similar chemical composition (formula) of necessity have the same toxicity. Professor Dixon may be quoted on the point:

When the composition of a drug is altered, be it ever so little, its physical characters also change, its volatility, solubility, osmotic properties, ionization, all or any of which may *considerably modify* its pharmacological action.

It is therefore impossible to draw up general laws forecasting the action of a molecule when it has been subjected to some small change in composition without knowing the physics of such a change.

In conclusion, we would just like to say that we, as much as any one else, deplore the untoward results that have attended the indiscriminate use of veronal, but that we know that generally the result has been due to gross overdosage. Further, we cordially welcomed the restrictions imposed on the sale of the preparation afforded by its being placed on the poisons schedule.—We are, etc.,

London, E.C., June 17th. THE BAYER CO., LTD.

ASPIRIN AND ACETO-SALICYLIC ACID: A CORRECTION.

SIR,—With reference to our communication on "A Case of Aspirin Poisoning," in the JOURNAL of May 24th, we desire to make a correction. Notwithstanding the fact that the word "aspirin" was written on the case-sheet, the preparation sent to the ward from the dispensary was not aspirin but aceto-salicylic acid of another make. This circumstance having now come to our notice, we consider it only fair to the Bayer Company to make known this fact, and to express our regret that the term "aspirin" was employed instead of aceto-salicylic acid. We are, of course, aware that the term "aspirin" can only be applied to the product of the Bayer Company, who originally introduced the drug, and who, we understand, make a special feature in maintaining the standard arrived at by the early pharmacological and clinical experiments.—We are, etc.,

JAMES LINDSAY, M.D., M.R.C.P.,
Honorary Physician.
A. J. BRUCE LECKIE, M.D.,
Resident Medical Officer.

Royal Mineral Water Hospital, Bath, June 26th.

A CONSTITUTIONAL POINT.

SIR,—If the questions at issue were only personal I should leave the Home Secretary's accusations to recoil upon their author, but as it is vital to the professional safety of the Fellows and Members of the Royal College of Surgeons of England that unanswered slanders should not be bandied about secretly among their colleagues and concealed from the accused persons, I cannot allow Sir Rickman Godlee's letter to pass without comment.

I say *secretly*, because for six weeks I was kept in ignorance of Mr. McKenna's communication to the College.

The principal facts are clear—namely, that the Home Secretary accused Mr. Mansell Moullin and myself of having made complaints against the professional conduct and skill of two medical practitioners. We made no such complaints, and the inaccuracy of the Home Secretary's accusations have elsewhere been demonstrated.[1]

[1] *Manchester Guardian, Globe*, etc., June 25rd.

The President of the College says I have "a fixed idea" that he is conspiring against me. I consider this description of my attitude is calculated to damage me in the eyes of my professional colleagues.

The Home Secretary sent the accusations to the President on May 5th. On either May 5th, 6th, or 7th Sir Rickman Godlee held a consultation at the Home Office with Sir Edward Troup, in the course of which (I am informed by Mr. Mansell Moullin) he told the Home Office that that department could bring a libel action against us.

The documents were subsequently placed before the Council at its regular meeting on May 8th.

With regard to Sir Rickman Godlee's statement that he replied to my letter, asking to be informed of the charges against me, before he received my solicitor's first letter, I made my statement relying on the dates of posting. I accept Sir Rickman Godlee's statement that the letter which did not reach me till the following morning was written on the previous day before the receipt of my solicitor's first letter.—I am, etc.,

London, W., June 23rd. VICTOR HORSLEY.

TREATMENT OF TAENIA BY THYMOL.

SIR,—In the Epitome of Current Medical Literature, June 7th, Art. 348, I have read about the treatment of taenia by thymol.

As far back as 1898 I ordered a large supply of tabloids (5 grains each), which were specially made for me by Messrs. Burroughs, Wellcome and Co., for the treatment of this intestinal parasite. I know I was the first to employ thymol for this purpose, and it has proved itself a most successful form of treatment in my hands. I administer one or two tabloids in the early morning with a tumblerful of water, and generally in the evening of the same day the tapeworm is passed in a stool which has a strong odour of thyme.

The *Journal de médecine et de chirurgie pratiques* for May 25th, 1913, Art. 24051, deals with this subject, and it states that I was led to try thymol in cases of taenia because of its satisfactory results in ankylostomiasis.—I am, etc.,

Puerto Orotava, Teneriffe, June 16th. GEORGE V. PEREZ.

Public Health AND POOR LAW MEDICAL SERVICES.

ILLNESS CAUSED BY SEWER GAS.

IN a case heard at the recent Hertfordshire assizes a householder recovered from the Urban District Council £125 4s. 6d. damages for illness and expense caused by sewer gas escaping from a ventilating shaft which the council had erected in the road near the house in 1911. According to the report in the *Times*, the plaintiff and his family suffered from diphtheria, headache, and diarrhoea from September, 1911, to July, 1912, when the shaft was removed. The questions left to the jury were: (1) Were the plaintiffs injured by the smell from the shaft? (2) If so, was the shaft improperly erected, or the sewer kept so as to be a nuisance or injury to health? And (3) Did the defendants act with reasonable care?

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Reigate Borough.—The population of the borough of Reigate at the middle of 1912 was estimated at 28,834. The net birth-rate was 17.1 per 1,000 and the net death-rate 10.7 per 1,000. The infant mortality-rate was equal to 61 per 1,000 births. A very complete disinfecting station came into operation during the year. In addition to a high-pressure steam disinfecting machine there is also installed a steeping tank for stained textile articles, which would be spoilt by the steam apparatus, and a fumigating cupboard for other articles which cannot be disinfected by steaming or soaking. In this cupboard formalin vapour has been used, and experiment has shown that non-sporing bacteria, such as *B. coli*, have been killed, but that the spores of *B. subtilis* have not been destroyed even when the wool containing them was exposed direct to the vapour. Dr. A. E. Porter, the medical officer of health, points out, however, that as diphtheria and typhoid fever, and probably scarlet fever, are due to non-sporing micro-organisms, the fumigating process is presumably sufficient for surface disinfection after these diseases. Dr. Porter refers to the tendency of public health legislation to impose large administrative duties upon county councils while leaving much of the spade work to be carried out by the sanitary authorities. He thinks it is open to argument whether this is a desirable arrangement in a large county like Surrey, where the standard of public health is relatively high. The result at Reigate is, he says, that much useless clerical work is entailed, whilst the reciprocal benefit received is negligible. He points out that this tendency is to be found in some of the provisions of the Milk and Dairies Bill, the consideration of which should be watched by the local authorities concerned. A hybrid arrangement, he says, whereby administrative and executive duties are shared by the larger and smaller authorities, cannot fail to be accompanied by overlapping, by regrettable delays, and by unnecessary clerical and other work.

Medico-Legal.

CLAIM FOR DAMAGES AGAINST A NURSING HOME.

ONE of the judges of the King's Bench Division of the High Court and a special jury were occupied during the greater part of June 12th and June 13th in hearing an action for damages brought against the authorities of St. Peter's Nursing Home at St. Albans. The plaintiff, a road contractor's foreman, was the husband of a woman who died from puerperal fever and who had been attended by a midwife supplied by the institution in question, and the persons cited by name as defendants included several medical men who act as honorary medical advisers to the managing committee of the home, which is conducted on a purely philanthropic basis. The claim for damages was based upon the ground that the defendants were under a contractual obligation to attend the plaintiff's wife during her confinement, and that, while doing so, they had, through negligence, infected her with puerperal fever and thus caused her death.

The facts proved, as reported in the *Herts Advertiser* and the *Times*, were that the midwife sent by the home to attend the plaintiff's wife was in attendance also on a woman who a day later died from puerperal fever, and that when the condition of this first patient became known their midwife was withdrawn from attendance on the plaintiff's wife and another sent in her place, the first midwife thus visiting the plaintiff's wife only during the first twenty-four hours. This attendance, it was alleged, however, constituted negligence, because in the circumstances there should have been no attendance by this midwife at all. The defence put forward was to the effect that this attendance was inevitable; though the attack from which the first patient suffered terminated fatally very rapidly, it had not run a normal course, and the condition was not, and could not be, recognized in time for the midwife's attendance on any other patient to be prevented.

The jury agreed that the contract was to provide a nurse, but they were unable to agree whether there was any negligence on the part of the nurse or of the matron. As they added that there was no likelihood of their agreeing on the question of negligence they were discharged.

Judgement was not entered for either side, and the net result would seem to be that while the plaintiff is at liberty, should he be so disposed, to bring a further action, the defendants, including the medical men among them, have been involved in heavy expenditure.

INFANT LIFE PROTECTION.

AT the recent Dundrum Petty Sessions a woman was summoned by an inspector under the Infant Life Protection Act for having failed to notify the local authority that she had accepted for nursing and maintenance three children under the age of 7 years. One of the three children had died since the inspector's visit, while the woman had tried to prevent the inspector seeing the premises. She had been fined last May for a similar offence, and on that occasion she promised not to take any more children, as her house was reported to be unsuitable. The defendant was sentenced to six months' hard labour.

INQUEST FEES.

J. A. asks to whom he should apply for his fee as medical witness in an inquest case, where, having given the evidence required, the coroner neglects to forward the fee even on a second application.

*** In the circumstances stated application should be made to the County Treasurer, who, although only able to pay out money in connexion with inquests under the coroner's certificate, would doubtless communicate with the coroner in order to clear up the point.

THE Italian Government has under consideration the question of founding an institute for the study of tropical diseases. The Superior Council of Public Instruction, to which the matter was in the first instance referred, recommended the foundation of a tropical institute in connexion with the University of Naples. The question has now been submitted to the Colonial Minister, who will decide whether the institute shall be at Naples or Tripoli.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examinations indicated:

THIRD M.B. (*Part II, Medicine, Surgery, and Midwifery*). (*New Regulations*).—W. A. Anderson, M. Avent, O. G. H. Campbell, J. D. Clarke, H. F. Comyn, H. A. Douglas, J. R. Griffith, J. R. Heath, A. N. Hodges, R. Hodson, G. L. Keynes, L. R. King, J. H. Newmarch, A. B. Paul, M. N. Perrin, W. A. Pocock, E. Ll. N. Rhodes, A. C. Roxburgh, E. L. K. Sargent, L. W. K. Seargill, R. Sherman, G. A. Smythe, V. F. Soothill, W. A. Stokes, J. Ll. M. Symms, F. J. Thorne, J. M. Wallace, M. H. Watney, A. J. Waugh.

THIRD M.B. (*Part II, Medicine, Pathology, and Pharmacology*). (*New Regulations*).—K. B. Aikman, E. J. Y. Brash, G. M. Chapman, H. Y. Mansfield, D. N. Seth-Smith, W. J. F. Symons, E. S. Taylor.

UNIVERSITY OF DURHAM.

Degrees.

THE following were among the degrees conferred at a meeting of the Senate on June 24th:

M.D.—W. Barkes, G. E. Lloyd, G. C. M'Gonigle, Matilda A. Sinclair.

M.D. (*for Practitioners of Fifteen Years' Standing*).—J. W. Alexander, M. B. Foster, J. M. Handy, E. T. MacIntyre, R. Price, R. C. Tweedy.

M.B.—E. Babst, R. E. Bell, G. Carse, H. Fairclough, A. C. Jap, R. L. Kitching, G. E. W. Lacey, C. W. Morris, Nora Murphy, C. A. B. O'Neill, E. Phillips, J. L. Pringle, C. O. Shackleton, J. S. Soutter, G. S. Woodman.

B.S.—E. Babst, G. Carse, H. Fairclough, A. C. Jap, R. L. Kitching, G. E. W. Lacey, C. W. Morris, Nora Murphy, C. A. B. O'Neill, E. Phillips, J. L. Pringle, C. O. Shackleton, J. S. Soutter, G. S. Woodman.

B.HY.—E. E. Norman.

Examinations.

The following candidates have been approved at the examinations indicated:

FIRST M.B. (*All Subjects*).—W. Duncan, *M. J. Erdberg, H. H. Bailey, G. M. Kerry, S. A. Shehid. (*Chemistry and Physics only*).—P. V. Anderson, N. Briggs, J. A. Berry, J. S. Clark, E. C. Dunlop, S. E. Goulstine, C. G. Irwin, H. M. Leete. (*Elementary Anatomy and Biology only*).—J. N. Alexander, M. C. Joynt, P. Murphy, F. Newman, H. Sterne-Howitt.

SECOND M.B. (*Anatomy and Physiology*).—*G. A. Clark, *J. Gilmour, H. C. Broadhurst. J. Brumwell, N. Braithwaite, Mary R. Campbell, R. Hunter. J. Horsley, J. D. Johnson, H. A. Lake. J. K. R. Landells, N. A. Martin, G. N. Metzger, T. W. Shaw, W. O. F. Sinclair, F. R. Sturridge.

THIRD M.B.—H. H. Elliot, I. D. Evans, Mary S. Gordon, Ethne Haigh, E. E. D. Lau, L. Magoe, J. E. Measham, J. D. Proud, F. B. Robson, P. Savage, A. Smith, W. Stott.

* Second Class Honours.

UNIVERSITY OF DUBLIN.

AT a meeting of the Senate on June 26th the following were among the degrees conferred:

M.CH. (*Honoris Causâ*).—Sir R. H. Woods.

M.D.—G. E. Adam, R. J. Attridge, E. J. H. Garstin, J. F. Nicholson, J. N. G. Nolan, J. A. G. Ponton, J. H. C. Thompson, R. T. Vaughan.

M.A.O.—S. G. S. Haughton.

M.B., CH.B., B.A.O.—E. N. Bateman, H. Boyers, H. B. F. Dixon, Mabel A. Dobbin, H. L. D'O. Duckworth, R. A. G. Elliott, G. F. Evans, C. D. Goodenough, D. H. Hadden, R. S. G. Halpin, B. Johnson, T. J. Kelly, D. L. M'Cullough, R. J. R. Mecredy, G. J. Merrick, C. J. O'Reilly, J. T. Simpson, J. A. Small.

The Services.

CENTENARIAN INDIAN MEDICAL OFFICERS.

THE note in the JOURNAL of March 15th, page 570, on Surgeon-Major Henry Benjamin Hinton, who attained the age of 100 on March 7th, 1913, calls to mind the fact that he is not the first officer of the Indian Medical Service who has attained that patriarchal age within the last few years. India is not generally regarded as a sanitorium, even now, but no less than three officers of the Indian Medical Service, on the Bengal retired list, have reached 100 years of age within the last fifteen years, the other two being John Bowron and Thomas Lambert Hinton.

John Bowron was born in February, 1799, and entered the Subordinate Medical Department in Bengal as a medical pupil, on July 1st, 1813, at the age of 14. On September 7th, 1816, he became apothecary, and on December 20th, 1825, received a commission as assistant surgeon. He became surgeon on December 16th, 1840, retired on December 31st, 1851, with over thirty-eight years' service, and drew his pension for another forty-seven years, dying at Hove, Sussex, on March 5th, 1899, a few weeks after completing his century. He served in the Punjab war of 1848-49.

Thomas Lambert Hinton was born on May 1st, 1808, educated at Oxford and Paris, took the M.R.C.S. and L.S.A. in 1833, and entered the Bengal Medical Service as assistant surgeon on January 30th, 1842. He only spent a few years in India, resigning his commission on October 24th, 1845, after which he settled in practice at home. He was for many years Surgeon to Reading Dispensary. He died at St. Leonards on June 14th, 1906, having passed the century by some six weeks.

The two Hintons, we understand, were not related to each other, which increases the singularity of the coincidence that both should enter the Indian Medical Service, and both should live to the age of 100. T. L. Hinton, though five years senior in age to H. B. Hinton, was three years his junior in the service.

The careers of these three centenarians differ a good deal. Bowron certainly spent forty years in India, probably over fifty. For, entering the subordinate service at 14, he was probably born in India. During his twelve years' service in the inferior grade he must have had a pretty rough time. Whether he saw any active service at this stage does not seem to be recorded. H. B. Hinton also spent nearly thirty years in India, seeing active service in four campaigns, including two of the hardest ever fought in India—the two Sikh wars. T. L. Hinton spent less than four years in the East. The greater part of his life was spent in the quieter and less eventful career of a country practitioner in England, a career probably as much exposed to risks to life and health as those of his namesake and of Bowron.

ORDER OF THE MEDJIDIEH.

THE King has granted permission to Captain R. G. Anderson, R.A.M.C., to accept and wear the Imperial Ottoman Order of the Medjidieh of the Fourth Class, conferred upon him by the Khedive of Egypt in recognition of valuable services rendered.

TERRITORIAL FORCE.

THE King has conferred the Territorial Decoration upon the undermentioned officers of the Territorial Force: Surgeon-Major Percy B. Mackay, Yorkshire Dragoons (Queen's Own) Yeomanry; Major Martin A. Cooke, London Mounted Brigade Field Ambulance; Major Christopher Vise, M.D., attached to the Fourth Battalion, Queen's Own (Royal West Kent Regiment); Major Stephen Nesfield, attached to the Eighth (Ardwick) Battalion, Manchester Regiment; Major John B. Stevens, M.B., attached to the Sixth (Renfrewshire) Battalion (Princess Louise's) Argyll and Sutherland Highlanders.

THE late Dr. John Frederick Joseph Sykes, M.O.H. St. Pancras, left estate valued at £5,699.

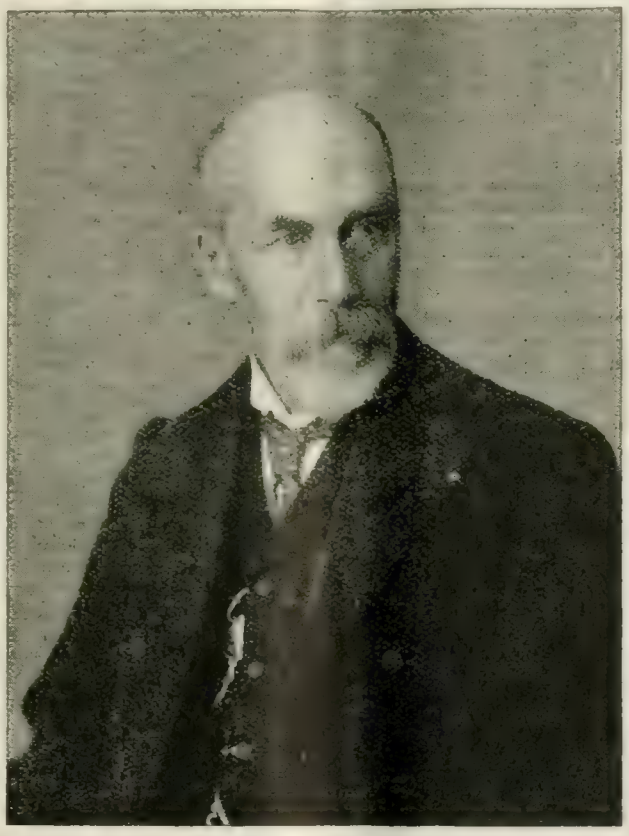
THE twenty-fifth annual report of the Invalid Children's Aid Association states that during the year 1912 over 2,000 new cases were referred to the central office and nearly 1,500 children were sent away, while over 2,000 more were sent through the various branches of the association. Few of these children remained away for less than three months, and many were sent for a year or even longer. The sum expended on the board and travelling expenses of the children in 1912 was £5,291; the amount received at the central office during the whole year was £9,883; this, with the £7,582 collected by the branches, made a total income of £17,000. The income of the association in 1912 exceeded that of the previous year by some £1,600 at the central office and by £1,886 at the branches. The expenditure at the central office amounted to £9,426; of this, £6,360 was spent directly on the children and £1,100 on rent, salaries, and other incidental expenses. For the first time in its history the association had a balance all through the year, this being due to the decision of the Executive Committee in 1911 to accept the profits from the Sunday cinematograph show under the agreement with the London County Council. The amount received during 1912 from this source was £1,290, part of which was treated as capital and placed on deposit. Owing to objections from various quarters, however, this arrangement had been discontinued. The number of branches of the association in the suburbs and outlying districts of London, many of which were self-supporting, had increased; and in the course of the present year it was expected that at least two more would be added to the fifteen already in existence. The demands on the association from those outside London also continued to increase, and there were at present 713 country children on the register, of whom 463 were entered in 1912. These cases received every assistance from the association, which stipulated, however, that the London funds did not bear any of the cost, and that all expenses incurred should be raised locally.

Obituary.

RODERICK MACLAREN, M.D.,

CONSULTING SURGEON TO THE CUMBERLAND INFIRMARY, CARLISLE.

By the death of Dr. Roderick Maclaren the North of England loses one of its most distinguished surgeons and Carlisle one of its most eminent citizens. Although his health had been failing for the last eighteen months, he appeared to have derived much benefit from a three months' holiday in Italy in the spring of this year, and he resumed his professional work on his return about the middle of April. He continued at work until June 11th, when he saw some patients—for the last time, as it proved. On the following day he went with Mrs. Maclaren to Keswick to visit his old friend and fellow-student, Dr. Knight. After a drive round Derwentwater and a visit to Crosthwaite Church, he had a seizure on the road, followed by hemiplegia and aphasia. He was removed to Dr. Knight's residence, and died there on June 17th.



DR. RODERICK MACLAREN.
(Photograph by S. W. B. and D. H. Jack, Carlisle.)

Dr. Maclaren was the elder son of Mr. Roderick Maclaren, an officer in H.M. Customs, and was born at Dumfries in 1844. He was educated with his brother, the late Dr. James Maclaren, Medical Superintendent of the Larbert Asylum, and some others, under a private tutor at Crieff. Among his companions was the late Professor D. J. Cunningham, of Edinburgh, and in an appreciation appended to the obituary notice published in this JOURNAL under date July 3rd, 1909, Dr. Maclaren gave a graphic account of his school life. From Crieff he proceeded to the University of Edinburgh, matriculating in 1860 and graduating M.D. in 1865, having previously obtained the Licentiateship of the Royal College of Surgeons. Soon after his graduation he was appointed resident house-surgeon of the Carlisle Dispensary, and devoted himself with such zeal and energy to the duties that his health, which was never robust, broke down. Symptoms of lung trouble supervened, and, being advised to take a sea voyage, he left England in November, 1866, in a sailing ship for Australia. During the voyage he made careful observations of the climatic conditions, the effect of alcohol on patients suffering from phthisis, and the class of cases which is most likely to receive benefit from a long sea voyage. These observations were embodied in a paper entitled "On a Long Sea Voyage in Phthisis Pulmonalis," which was published in the *British and Foreign Medico-Chirurgical Review*, January, 1871. While at sea he had a somewhat exciting experience, which probably first turned the bent of his mind to surgery. A mutiny broke out, and he found an opportunity of exercising his skill in the extraction of bullets from the bodies of several members of the crew.

The immediate object of the voyage was entirely successful. He returned to England completely restored to health, and commenced practice in Carlisle in 1867. He was appointed surgeon to the Carlisle Dispensary in 1869, and medical officer to the Fever Hospital in the same year. In these appointments he rendered valuable service. During an epidemic of small-pox he accumulated convincing evidence of the protective influence of vaccination, and wrote an interesting paper on the treatment of small-pox by the local exclusion of light. As surgeon to the dispensary he performed several major operations on persons in humble life in their own homes in circumstances which imposed a heavy responsibility on the operator. This was before the days of district nurses, and it is a high tribute to his ability and resourcefulness that he was able to overcome the difficulties with which he had to contend. The impression which his success produced was so great both on the profession and the public that when a vacancy in the office of surgeon at the Cumberland Infirmary occurred, in the spring of 1874, he had little difficulty in satisfying the governors that he was the candidate best fitted for the appointment. Three years later he became senior surgeon, and held this office until 1903. On his retirement he was appointed consulting surgeon.

When he joined the staff of the infirmary he relinquished his other appointments, and he threw his whole energy into his new work. At this period the profession was greatly divided as to the value of Lister's discoveries. Dr. Maclaren was an ardent disciple of Lister, and introduced his technique into the infirmary.

He was always fully alive to the importance of keeping himself abreast with the latest discoveries of modern science in matters of professional knowledge and surgical technique, and he spared neither time nor trouble to obtain this end. He was an enthusiast in his professional work, and he inspired confidence not only by his manipulative skill but by his sound common sense, his quiet dignified manner, and by his firmness of character. He was most painstaking in his investigation of disease, and when he had once formed an opinion he was not easily shaken in his decision. He was held in high esteem by his professional brethren, and over a wide area in the north of England and south of Scotland his aid as a consultant was frequently invoked. In this respect his loss will be keenly felt. He always was jealous of the good name and welfare of his profession, and his advice was sound as his expression of opinion was lucid and to the point.

His services to the Association are especially deserving of recognition. He was an original member of the Cumberland and Westmorland Branch, and took an active part in its organization. He soon after advocated the expansion of the area of the Branch to the South of Scotland and the changing of its name to the Border Counties Branch. For two years he acted as Secretary of the Branch, and in 1879 he filled the office of President. For many years it was his ardent desire that the Association should hold one of its annual meetings in Carlisle, and it was largely at his instigation that in 1895 an invitation was sent to the Council to hold the annual meeting in Carlisle in 1896. He acted as Treasurer for the meeting, and to his business capacity and knowledge of affairs the success of the meeting was largely due. By universal consent he was selected to deliver the Address in Surgery, and in congratulating him on the selection of "a fresh and very suitable subject" for the address—namely, "Preventive Surgery"—the JOURNAL said: "In this as in other

respects the choice of a successor to the many distinguished surgeons who in past years have performed a like function has been fully justified." That this was not the language of mere compliment is shown by the fact that when Mr. Pye-Smith, Professor of Surgery in the University of Sheffield, delivered the Address in Surgery in 1908 he paid a graceful tribute to his predecessor in the following terms: "Prophylaxis is, it seems to me, as real and valuable in surgery as it is in medicine and obstetrics, or even in sanitary science, a thesis ably maintained from this chair twelve years ago by Dr. Roderick Maclaren, and well worthy of our renewed consideration to-day." Dr. Maclaren represented the Branch in the Central Council for four years—namely, 1899 to 1903—and when the change of constitution was effected he was unanimously appointed the first Chairman of the English Division of the Border Counties Branch. To the Division he contributed a series of three addresses on a subject of much practical importance. These were subsequently published in the JOURNAL, and were entitled, "The Relations of Medical Men to (1) their Brethren, (2) their Patients, and (3) the State." Including the papers already enumerated, he contributed more than forty papers to the meetings of the Branch, many of which were published in the JOURNAL. He also contributed several articles to the Manchester and Liverpool *Hospital Reports*, and at least one paper to the Edinburgh Medico-Chirurgical Society.

The value of his services to the Cumberland Infirmary were not limited to his purely professional duties. From the first he took an active part in the administrative work of the hospital, and his practical mind, progressive ideas, and business knowledge were of the utmost value. Many important improvements were carried out largely on his initiative.

He was for many years consulting surgeon to the Border Counties Home for Incurables, and medical referee under the Workmen's Compensation Act, frequently sitting as assessor with the County Court Judge.

Apart from professional work he was a man of many activities. He had strong artistic and literary tastes, was a good amateur photographer, an original member of the Carlisle Literary and Scientific Society as well as of the Carlisle Microscopical Society, and for forty years a member of the local Antiquarian Society. He had a good knowledge of wood-carving and carpentry, and was a skilled taxidermist. His knowledge of mechanics he turned to practical account by the invention of several appliances which he found useful in practice.

During his summer holidays he went for many years annually to Switzerland and indulged in Alpine climbing. His observations on glacial erosion formed the subject of an interesting popular lecture. He was fond of travel, and in later life he visited in his holidays Austria, Italy, Spain, Turkey, Greece, and some portions of North Africa.

In 1875 Dr. Maclaren married a daughter of the Rev. D. Campbell, minister of North Knapdale, Argyllshire, and she with her three sons, the eldest of whom is Mr. Norman Maclaren, F.R.C.S., surgeon to the Cumberland Infirmary, survive him.

The large attendance at the funeral on June 20th testified to the universal respect in which Dr. Maclaren was held by all classes of the community. In addition to representatives of the Cumberland Infirmary, there was a large gathering of leading citizens and about forty members of the medical profession from all parts of Cumberland.

Dr. CRERAR, retiring President of the Border Counties Branch, at the meeting held in Carlisle on June 27th, made the following remarks:

It seems fitting that at this stage of our proceedings I should rise to propose a resolution recording our high appreciation of the work and personality of the late Dr. Roderick Maclaren. We are met to-day under the shadow of a loss which I am safe in saying is personal to every one here. Dr. Maclaren had been associated for many years with the British Medical Association in the Border Counties. He was an original member of the old Cumberland and Westmorland Branch, and took a large part in all its activities. He filled all the offices possible in our Branch. His membership and active interest have terminated only at his death. It cannot but be that to many of us his removal leaves a sense of loss which time may soften but cannot eradicate. He had been Secretary and President of the Branch. He was the first Chairman of the English—the Cumberland—Division of the Association. He acted on all our committees. He represented us on the Central Council of the Association. We looked upon him as one of our Nestors. To him and to his old friend (and our old friend) Dr. Barnes were entrusted the responsibilities associated with the Ethical Committee. The work of that Committee at no time has been onerous, but the unanimity with which he was elected is a testimony to the regard in which we held him. The position he attained in our profession was appropriately recognized by his being invited to deliver the Address in Surgery when the annual meeting was held in Carlisle in 1896. To him the community, the profession, and the British Medical Association owe much gratitude for services ably and generously rendered. We deplore the loss of a trusted comrade and leader, of a capable and resourceful surgeon, of a helpful and discriminating consultant, of a man who was at once a type and an epitome of all that is best in an honourable and beneficent profession. Dr. Crerar concluded by moving the following resolution, which was unanimously adopted:

> That this meeting desires to place on record its high appreciation of the memorable services rendered to the Border Counties Branch by the late Dr. Maclaren during the last forty-five years; its sincere regret at his death, and its deep sympathy with Mrs. Maclaren and her family in their bereavement; and that the President of the Branch be requested to convey to Mrs. Maclaren this expression of opinion.

Sir THOMAS CLOUSTON writes:

I knew Dr. Maclaren intimately for over fifty years—from the time he began to study anatomy under me till his death. He was a hard worker all his life—strenuous, modest, conscientious, sympathetic to his patients, loyal to his friends, and entirely devoted to his profession. In his youth he was one of the best makers of anatomical and pathological dry preparations I have ever known. He often expressed regret that his large practice left him so little time to record his surgical experiences. He was intensely interested in medical ethics, and wrote an admirable essay on the subject. I never heard him speak uncharitably of one of his professional brethren. His personality was a charming one. A shy but friendly and unassuming manner, a soft voice, with a humorous twinkle in his bright eye, were very distinctive. They covered a will of unusual force, and in no way lessened the confidence of his patients. He looked fragile, ate little, and made a brave fight against a certain constitutional delicacy, which did not, however, prevent his being a good walker and mountain climber. He gave the impression of working up to the limits of his strength, but he was seldom off duty except on his annual holiday in Switzerland, which he found set him up in a wonderful way.

Sir JOHN COLLIE sends us the following tribute to Dr. Maclaren's memory:

Dr. Maclaren possessed the rare combination of a gentle, almost shy and retiring disposition, with a strong personality. His keen, shrewd knowledge of the world, coupled with a profound acquaintance with the principles and practice of surgery and a wonderful manipulative dexterity, soon led to the large consulting practice he enjoyed. It is now nearly thirty years since I acted as his assistant at Carlisle, and I have never ceased to be thankful for the opportunities which that relationship gave. No one who knew Maclaren could fail to love and respect him, and most of his assistants developed into lifelong friends. There are many men now practising medicine who remember a kind and generous friend, whose standard of living has influenced their whole life. Intuitively he always seemed to know what ought to be done, and he did it regardless of the consequences. He was a man of action; he thought deeply, reasoned clearly, and always acted with decision and firmness. Expediency had no place in his vocabulary. Young men who are entering on medical practice have many lessons to learn during their first assistancy, and yet under Maclaren how gently but emphatically were these lessons taught. One example will suffice, and although it occurred nearly thirty years ago, it left an indelible impression on my mind. A young

married woman who had secondary syphilis was acutely ill, and it was apparent that she might die at any moment; she was nine months pregnant, and it might therefore be my duty, in my chief's absence, to attend her if she were *in extremis*. I must have said something which showed that I was prepared to neglect what Maclaren thought would be my obvious duty, for I well remember his genuine astonishment that I should for one moment hesitate in the event of her death in performing the necessary Caesarean section. The fact that his young assistant might have difficulty in selecting the psychological moment for operation, or have difficulty in performing it, did not seem to enter into his calculations. The unborn child had to be saved, and that was all Maclaren thought about.

Many have lost a true friend; all will feel that his life was an ennobling inspiration; he has left an enduring example, and those who knew him best and loved him, feel how true it is that "to live in the hearts of those we leave behind is not to die."

Mr. J. W. SMITH (Surgeon to the Manchester Royal Infirmary) writes: Twenty-five years ago I was for a year Dr. Maclaren's assistant. During that year's work together I found what a very sound surgeon he was, and subsequent experience has only served to accentuate that belief. He essentially possessed the "surgical instinct," as he himself defined it in his Address in Surgery at the Annual Meeting of the British Medical Association at Carlisle in 1896—"truly nothing but the capacity for taking a rapid and exhaustive mental survey of the patient and his surroundings, summing him up inside and out, and judging of his capacity for standing shock and for repair." This instinct, guided by his clear, logical mind, gave him a fine diagnostic power. His verdict in a case, showing his grasp of true surgical perspective, was apparently quick, and from his quiet and undemonstrative method seemed a simple and easy matter. But once arrived at it was adhered to steadily, though seemingly with some diffidence, and it was only arguments against it that brought to light its foundation on a clear and reasoned basis. Dr. Maclaren strove always to keep an open mind and rise to new surgical truths, as is well shown by his survey in the address of 1896 dealing with preventive surgery. But his success depended not only on his skill in diagnosis and knowledge of surgical principles, an equally important factor was his operative technique. His movements, deft and quick yet steady and certain, made operations look easy. There was no attempt to impress onlookers, but his appreciation of true surgical perspective was shown by the exactitude devoted to important details, and the absence of what has been termed "the upholstery of the operating table." Young graduates who had the opportunity of assisting him learnt much, and I think he would gain from all, as he did from me, admiration as a fine surgeon, esteem as a man—*Integer vitae scelerisque purus*—and affection as a friend.

ALFRED WILLETT, F.R.C.S.,

CONSULTING SURGEON, ST. BARTHOLOMEW'S HOSPITAL.

WE regret to record the death, on June 30th, of Mr. Alfred Willett, a surgeon who, until some ten years ago, played an important, though very quiet, part in the professional life of London. During his active career he had a house in Wimpole Street, but of late years he had spent his time between his house in Oxford Square, Hyde Park, and his country residence, Wyndham Croft, Turner's Hill, Sussex. It was at the latter place that his death took place in the 77th year of his age.

Mr. Willett was born at Brighton in 1837, his father being the late Mr. W. Willett, of Portland House, Brighton, and his mother a daughter of the late Mr. William Verrall, of Lewes. He received his professional education at St. Bartholomew's Hospital, and with the fortunes of that institution and of the Royal College of Surgeons of England he was closely associated during the whole of his career. Among the more important offices that he filled at the former were those of warden of the College and demonstrator of practical surgery at the medical school, while later he lectured at different periods both on systematic and clinical surgery. The hospital itself he served successively as assistant surgeon and full surgeon, and finally retired under the age clause and was appointed consulting surgeon.

Of the Royal College of Surgeons he became a Member in 1859, and, except as examiner, he was never connected with any other degree-granting body. He was admitted to the Fellowship of the College in 1862, and during the last twenty years of his career he took a more or less continuously active part in the administration of its affairs. He was first elected a member of its Council in 1887, and was again chosen a member at the election in 1895. For a year previous to the latter date he had filled the office of vice-president, and he again filled it in 1897, in which year he delivered the Bradshaw Lecture. Other institutions with which he was connected were Queen Charlotte's Hospital, St. Luke's Hospital for Lunatics, the Foundling Hospital, and the Evelina Hospital for Children. He was a member of the board of management of the Metropolitan Convalescent Institution, and one of the Court of Directors of the Royal Sea-Bathing Hospital at Margate. Further work done by him was as examiner in surgery to the University of Cambridge and the Royal College of Physicians of London. King Edward's Hospital Fund for London was another body indebted to him for much excellent work. He was a member both of its general council and also of its distribution committee, and in connexion with the latter he acted as a hospital visitor. He was a member of the British Medical Association, and was Vice-President of the Section of Surgery at the annual meeting in London in 1895.

Like many other surgeons of vast clinical experience, Mr. Willett exhibited a great restraint in the matter of putting opinions he had formed into a permanent written form. He was, however, a constant attendant at meetings of the Royal Medical and Chirurgical Society, of which he was at one time president, and one or two papers by him dealing with osseous malformations are to be found in the *Transactions* of that society. As a surgeon he was conspicuous rather for the care that he took in diagnosis, in the performance of operations, and in the matter of after-care than for brilliancy of technique. His general tendencies as a surgeon were conservative, but he always kept himself very much up to date, and was by no means averse from giving careful trial to new methods. In regard to the treatment of deformities by operative procedures—a subject to which he devoted his Bradshaw Lecture—he was in some degree a pioneer.

Of quiet and somewhat reserved manners, Mr. Willett was not one of those surgeons who attract a large following of students whenever they visit their wards, but those who served him as dressers or as house-surgeons well knew how much there was to be learnt from him, and that good work always obtained due recognition at his hands.

He married in 1867 the only daughter of the late Sir George Burrows, F.R.S., and has left a large family, which includes two daughters as well as several sons. A memorial service was appointed to be held at the church of St. Bartholomew the Less—the church of the parish constituted by St. Bartholomew's Hospital—on Friday, July 4th.

WILLIAM GROUNDS BOOTH, L.R.C.P.I., L.M.,

REPRESENTATIVE IN REPRESENTATIVE MEETINGS OF THE MANCHESTER (CENTRAL) DIVISION.

IT is with great regret that we record the death, on June 25th, of Dr. William Grounds Booth, the Representative of the Manchester (Central) Division. Dr. Booth had suffered from diabetes for many years, and his death was not unexpected. For the last two years it had been necessary for the Manchester (Central) Division to appoint a Deputy Representative to attend the meetings of the Representative Body, as Dr. Booth's health had not been fit to stand the strain of prolonged meetings.

Dr. Booth was the son of a chemist in Ancoats, Manchester, where he was born 63 years ago. Young Booth qualified as a pharmaceutical chemist, and some little time after the father died, leaving the business to the son. At this stage Booth decided to take up medicine, and for some years studied at Owens College, keeping up his business the while. In 1887 he obtained the licences of the Irish Colleges, and henceforth practised as a physician and surgeon at his old home, giving up his chemist's business. He at once joined the Association, and soon acquired

a reputation among his brethren for straightness and fearlessness of action. When the Manchester (Central) Division was formed some twelve years ago he was appointed its first Representative in Representative Meetings, a post he held with great distinction to himself and satisfaction to his brother members till his death. It is remarkable that year after year a Division which consists largely of consultants should have renewed their confidence in a general practitioner as their Representative. When his health failed two or three years ago no one would hear of his place being filled up by another, and Dr. T. Arthur Helme was appointed to act as deputy. Dr. Booth was for a year Chairman of the Division about eight years ago, and was also Chairman of the North Manchester Medical Union, as well as a member of the Manchester Clinical, Medical, and Pathological Societies, and at one time co-secretary of the Medico-Ethical Society. Dr. Booth never married.

He was much interested in the work of the Royal Society for the Prevention of Cruelty to Animals, and for over twenty years was a member of the Committee of the Manchester branch of that body. When he saw a burly carter attacking his horses, he would think nothing, though himself of slight and rather frail build, of going up to him and forcibly remonstrating with him. He was a lifelong teetotaler and an active supporter of the Church of England Temperance Society. In religious matters he showed an earnest desire to bring together once more the Church and Nonconformity, and was known as a very sincere Low Churchman.

His body was cremated at the Manchester Crematorium on June 28th; at the service at the crematorium, as well as at that preceding it at St. Peter's, Blossom Street, Ancoats, where he regularly attended, those who were present to pay their last token of respect to a very modest, upright, high-principled brother included Drs. McGlade and Alex. Fraser, representing the North Manchester Medical Union; Dr. Murray, Dr. Cunliffe, Mr. Howson Ray, and Dr. Henshaw (his partner for many years), representing the Manchester (Central) Division; Drs. Tytler, Simcock, Brown (Bacup), Williams, Smith, and many others.

We are requested to state that Dr. T. Arthur Helme, the chairman, and Dr. Tylecote, the honorary secretary, of the Manchester (Central) Division, were, to their great regret, prevented from attending the funeral.

EDWARD PRICHARD EVANS, M.R.C.S., L.R.C.P.,

M.O.H. MOUNTAIN ASH.

Dr. Edward Prichard Evans, of Mountain Ash, died at his residence in that town on June 4th, at the close of an illness which, beginning in 1911, had confined him to the house for the last three or four months. A man of many friends and justly popular wherever he went, his loss is the source of keen regret among all classes of society. He was born in Ystrad Mynach in 1854, and on leaving Cowbridge Grammar School commenced his medical education by apprenticeship to Dr. Leigh, of Llanfabon. He afterwards entered the medical school of the Middlesex Hospital, and took the diplomas of M.R.C.S.Eng., L.S.A.Lond., and L.R.C.P.Edin. in 1878. He became assistant to a medical man in Mountain Ash, and subsequently acquired and greatly extended the practice of his former principal. At the time of his death he was medical officer of health to the district, a medical officer and public vaccinator to the Pontypridd Union, surgeon to several collieries and to the Great Western Railway, and was on the Commission of the Peace for the county of Glamorgan.

A genial, truly kind-hearted man, a believer in his fellows and a lover of nature, and ever loyal to his friends, Dr. Evans, during his thirty-five years' residence in Mountain Ash, had endeared himself to a host of people. It was quite a small village when he first took up his residence there, and he took great pleasure in bearing tribute to the memory of those who had helped to build it up into what it now is—an important industrial centre. He never forgot the man from whom he acquired his first knowledge of medicine and surgery, and used to express his regret at the absence of apprenticeship in the medical curriculum of the present day. For his old hospital—the Middlesex—and those connected with it, his feeling was one almost of reverence; he seldom missed the inaugural and annual gatherings at the commencement of the winter session, and his presence at these will be greatly missed. The same remark applies to the gatherings of the British Medical Association, of which he was a very loyal member.

In private life Dr. Evans took much interest in Welsh literature, and especially Welsh poetry; few could read an englyn more correctly and impressively. Many of the verses which he used to repeat were composed by his own father—a Welsh bard of considerable repute—while others were derived from a collection of ancient Cymric poetry which the latter had brought together. Dr. Evans, whose funeral on June 7th was attended by a large concourse, is survived by five children—two daughters and three sons.

Dr. Jules Thiriar, professor of surgery in the University of Brussels, died suddenly while in the act of auscultating a patient. He had suffered for some time from myocarditis. He was the leading surgeon in Belgium, and had a great reputation as an operator. He was surgeon to the Hôpital Saint-Pierre for more than a quarter of a century. Professor Thiriar was born at St. Veaast (Hainault) in 1846, and was therefore 67 years old. He was medical adviser to King Leopold II for twenty years.

Surgeon-Lieutenant-Colonel Horace Parr Yeld, late of the Bengal Medical Service, died at Harrogate on June 21st. He was born on September 11th, 1847, educated at Glasgow University, took the diplomas of L.R.C.S. and L.R.C.P. at Edinburgh in 1870, and entered the I.M.S. as surgeon on March 31st, 1874. He became surgeon-major on March 31st, 1886, surgeon-lieutenant-colonel on March 31st, 1894, and retired on November 15th, 1894. His first ten years' service were spent in military employment, during which he served in the Afghan war in 1879, with the Thal Chotiali and Vitakri Field Force, receiving the medal. In 1884 he joined the Assay Department, and held the post of deputy assay master of the Calcutta and Bombay Mints successively during the next ten years.

Brigade-Surgeon Edward Sexton, of the Bombay Medical Service, retired list, died at Southsea on June 25th. He took the diploma of L.R.C.S. at Edinburgh and the degree of M.D. at St. Andrews in 1856, and in the same year entered the Medical Department of the Royal Navy. In 1857 he took part in the disarming of mutineers at Kidderpur, in Bengal, a small incident of the Mutiny. In 1858 he resigned his commission in the navy, and on February 10th, 1859, entered the I.M.S. as assistant surgeon, becoming surgeon on February 10th, 1871; surgeon-major on July 1st, 1873; and brigade-surgeon on September 15th, 1886. He retired on October 1st, 1889. His whole thirty years' service was spent in military employ—except for a short period in 1869–70, in the Calcutta Mint—the first few years in the Indian navy, afterwards in several different regiments of the Bombay army, including a spell of five years as staff surgeon at Poona. Besides the service in the Indian Mutiny mentioned above, he served in the second China war of 1860, taking part in the suppression of the Taeping rebellion and in the protection of the European settlements at Shanghai, and received the medal and clasp. He served also in the Abyssinian war of 1867–68, when he was in medical charge of the Third Dépôt Hospital, and received another medal.

Professor Bouchard, President of the French Association for the Study of Cancer, has placed at the disposal of that association a sum of £200 to be allotted as prizes to the author of the best work treating of the pathogeny of cancer. In accordance with the wish of the donor, the prize will be awarded for the first time at the end of 1915.

At the annual competitions in connexion with St. John Ambulance Brigade in Dublin, held on June 21st at Lord Iveagh's gardens, the Dublin Ambulance Challenge Cup was won by St. James's Gate No. 2 team, with a record of 201 marks out of a possible 250. The Belfast Fire Brigade was second, with 199½; and Messrs. Jacobs No. 2 were third, with 187. The Irish Women's Ambulance Challenge Cup, which was offered for the first time, was won by the Naas Nursing Division with 161 marks.

Medical News.

PROFESSOR VON DUNGERN of Heidelberg has been appointed Director of the Institute for Experimental Cancer Research recently established at Hamburg-Eppendorf.

THE next meeting of the Society for the Study of Inebriety will be held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, W., on Tuesday, July 8th, at 4 p.m., when Captain Arthur J. St. John, Honorary Secretary of the Penal Reform League, will open a discussion on "Inebriety and Crime."

THE summer luncheon of the Irish Medical Schools' and Graduates' Association will be held at the Hotel Metropole, Brighton, on Wednesday, July 23rd, at 1.30 for 1.45 p.m., the President, Dr. W. Douglas, in the chair. The general meeting of the members of the association will be held after the luncheon. Tickets (3s. each) may be obtained from Dr. Shepherd Boyd, Provincial Secretary, 7, Springfield Avenue, Harrogate, or during the meeting at the Hotel Metropole.

THE report for the year 1912 with regard to the Nightingale School for Nurses at St. Thomas's Hospital as usual affords testimony to the success of this institution and the value of the education which it affords. The preliminary training at the school is stated to be proving its value in weeding out unpromising pupils, the number of whom has steadily decreased in each of the last three years.

THE annual meeting and launch party of the Brussels Medical Graduates' Association will be held on Friday, July 11th, when the saloon launch *Empress of India* will leave Maidenhead Bridge for Henley at 12.15. The train starts from Paddington at 11.15 for Taplow, which is the nearest station for Maidenhead Bridge. Tickets, 12s. 6d., including launch, luncheon, and tea, may be obtained from the Honorary Secretary, Dr. Arthur Haydon, 23, Henrietta Street, Cavendish Square, W.

IN the advertisement columns this week will be found a notice from the Manchester Medical Mission, which is seeking some one to take over the work hitherto done by Dr. R. M. Fenn, who, after occupying the post of medical officer to the mission for some seventeen years, is about to go to South America in a similar capacity. From the annual report of this mission, which has been some forty years at work, it appears that the attendances last year numbered between 8,000 and 9,000. In addition to a medical officer and a surgeon, a missioner is attached to the institution. From what is stated in the report, the needs which it has hitherto fulfilled have been in no wise lessened by the National Insurance Act.

DR. DEBOVE has been elected Perpetual Secretary of the Académie de Médecine by 87 votes out of 90. He was sometime Dean of the Paris Faculty of Medicine and is now President of the French Anti-alcohol League. He is a man of great activity, and it is confidently expected that his initiative will stir up the Académie to make its influence felt by the Government and other public authorities. It is interesting to note that in the course of nearly a century there have been only six perpetual secretaries of the Académie: Pariset (1822–1827), Adelon as an interim official (1828–1830), Pariset again (1831–1847), Dubois (1847–1873), J. Béclard (1873–1887), Bergeron (1887–1900), Jaccoud (1901–1913). The average length of tenure of the office is a fraction over fifteen years.

AT the summer dinner of the West African Medical Staff, on June 16th, Dr. Prout was in the chair, and the guests included Sir H. Just, Under-Secretary of State for the Colonies, and Sir Ronald Ross. In the course of the evening Dr. Prout mentioned that the dinner was the thirteenth, and that its institution had been a success, since it had been the means of bringing together men who had few opportunities of meeting and had helped to promote a desirable feeling of *esprit de corps*. The West African Medical Staff was able to do distinguished work in connexion with the building up of the empire, and was a service whose members had reason to be proud of their position. In replying to the toast of "The Guests," Sir H. Just said that at the time when he was directly connected with the West African Medical Department of the Colonial Office there were comparatively few coast medical officers; they now formed a large and responsible body, the excellence of whose work was shown by the diminishing invaliding and death rates among West Coast officials. It had the entire sympathy of the Colonial Office, and could rely upon a fair and sympathetic hearing of any representations made with a view to increasing its efficiency. A similar note was struck by Sir Ronald Ross, who expressed a belief that the West African Medical Staff was destined to rank with the other great services of the empire. In proposing the toast of "The Chairman," Dr. Cameron Blair voiced the general regret that Dr. Prout was unable, through pressure of other work, to continue to act as president of the dinner club. Its inception and maintenance were due to him entirely, and officers of the service owed him much gratitude for what he had done. Dr. Prout having suitably acknowledged the toast, the formal proceedings then ended.

THE members of the profession in the district have resolved to make a suitable presentation to the late Chairman of the St. Pancras and Islington Division, Dr. R. M. Beaton, in recognition of the exceptional services rendered by him to the Division and to the medical profession at large. Dr. Beaton was formerly a member of the London County Council and chairman of its Public Health Committee, and is now a member of the Metropolitan Water Board. He thus brought a long and varied experience of public work as well as general practice to the business of the British Medical Association; for it he has done yeoman service as a member of the Council and of the Representative Body, and the confidence felt in his judgement was shown by his selection by the latter body as one of the five members to take part in the interview in which the wishes of the Association were finally placed before the Chancellor of the Exchequer in November, 1912. Members of the profession in St. Pancras and Islington believe that many members of the profession outside their boundaries will desire to contribute to the presentation, and subscriptions, which should not exceed 10s. 6d., may be sent to Dr. A. Brown, 1, Bartholomew Road, Kentish Town, N.W.

THE foundation of the Home Science and Economics Department of King's College for Women marks an epoch in the history of the higher education for women in this country. Hitherto educationalists have concerned themselves with the development of the intellectual side of women's nature alone; and the art of home-making and all that appertains to the rearing of children seem to have been regarded as a talent latent in every woman, which only required the magic words of the marriage service to bring it forth from the bushel beneath which its light had been hidden. The result has been the deaths of tens of thousands among the newly born, and loss of health and consequent disablement of many more who managed to survive the experimental methods of anxious but incompetent mothers. The evil, moreover, is by no means confined to the uneducated, but has been felt in every stratum of society, and the foundation of the new department at King's College should be welcomed by all who have the true interests of their country at heart. This addition of a domestic course to the London University curriculum for women and the establishment of a diploma in household and social science is the first attempt made by a university to train its women students to fulfil their natural destiny. It is true that a course of scientific instruction in hygiene for women comparable with the course given to men for the Diploma of Public Health was instituted some time ago at Bedford College, but with the object of training women for such public offices as those held by health visitors and sanitary inspectors, whereas the course at King's College aims rather at fitting them for the duty of wife and mother. The King's College students will receive scientific instruction in all matters connected with the organization of households, the care of young children, and the general health of the home; and there is every reason to believe that this scheme, which owes much of its success to the active interest taken in it by the Queen, will do much to mitigate the enormous annual waste in child life which at present forms such a blot on the fair face of our civilization. The new department will be housed in the "Queen Mary's Hostel," for which an excellent site has been found on Campden Hill. In spite of its independent existence, it will be in organic relation with the London University. The hostel will include the new buildings of King's College for Women as well as the necessary laboratories and lecture rooms for the home science students. Funds are urgently needed for its completion, and an appeal has recently been made to which it is to be hoped the public will respond with generosity. The movement is one of national importance, for the maintenance of our position at home and abroad depends largely upon physical efficiency, and the health of future generations lies in the hands of the potential mothers of the race. This attempt to fit women for marriage and motherhood as for a career cannot be too highly commended, and should receive the cordial support of all those who see in the rate of infant mortality, which, though lower than it was, is still much too high, and in the decline of the birth-rate the early evidences of national degeneration and decay.

Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Attiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

G. E. A. M. would like to hear views as to the etiology and possible treatment of the following case: The patient, a baby, weighed only about 5 lb., though said to be a full term child. It took the breast, but died when about 40 hours old. When first seen it was aged 36 hours, and was said to have been vomiting for some hours. As in the presence of G. E. A. M. it brought up about half a pint of black fluid, the total amount vomited must have been considerable. The fluid resembled meconium, but was not so green. The pulse was only 60; the bowels had not been moved, and the little finger could only be passed into the rectum for about half an inch. Subsequent to this some yellow-coloured faeces escaped. The treatment consisted in maintaining the temperature with hot bottles. No necropsy was obtainable.

LETTERS, NOTES, ETC.

SCARCITY OF SHIP SURGEONS.

MEDICO MARITIMO writes: The time seems opportune for ship surgeons to combine to get better conditions of service, for it is obvious from letters and advertisements that the demand exceeds the supply. Personally, I have had but limited experience, but I recently took a voyage on one of the great liners, and on my return, before I landed, I was asked to repeat the dose the following week, apparently without any inquiry. The hospital steward, who had been on the ship some years, told me he had never been twice with the same surgeon. I am not going to reiterate grievances. The ship surgeon has but little consideration from the officers, and little respect from the crew; a sort of tail that is not allowed to wag. But it was humiliating to find that the supercargo, who is a retired policeman, was receiving higher pay and provided with uniform. All this can be traced back to head quarters, because if the conditions of service were better, a better class of men would take up sea life. Now is the time, if there are any regular ship surgeons in the vertebrate division, to combine and make their terms. I think the basis of their demands should not be an increase of salary on passenger boats, but that all passengers, according to class, should pay a fixed tariff of fees, and not, as now, have "Gratuitous medical attendance" stuck up in every cabin. This is already done on some of the leading lines, such as the P. and O. and the German Hamburg-Amerika lines, with equal benefit to all on board, and it removes the galling grievance of ship doctors. The principle is admitted by our Government, which pays for emigrants and naval or military invalids. I have heard there is a Ship Surgeons' Association, and it would be well if the directors of shipping combines also became aware of its existence, for they are mortally afraid of the Seamen's Union.

DR. J. H. OGILVIE (Birtley, co. Durham), in a letter on the same subject, writes: It may astonish many to learn that the surgeon on board is not an officer at all, and cannot exercise any authority whatsoever, for he signs the ship's articles simply as a sailor man. If his ship pick up another in distress, his share of the salvage is paid at the rate of ordinary seaman's pay. If his vessel be wrecked, he can only insist on being sent home as a seaman, third class. He is allowed a room to himself, but it is almost always inferior to the rooms of the superior deck and engineer officers, the purser, and even the steward; it is often placed in an odd corner, and in many ships yet it is also the consulting-room and dispensary of the ship. Until recently the pay in most lines was £6 a month while the ship was absent from Great Britain. On arrival at a home port the pay ceases till the ship sails again. The scarcity of doctors has forced up the pay, but it is still insufficient. Consider the responsibility that rests on the shoulders of a doctor at sea. He must treat every disease intelligently, and must be prepared to operate for appendicitis or a ruptured duodenal ulcer, and to use midwifery forceps, even in a gale of wind, and that I know from experience is no joke.

A better time than this could not be for insisting on improvement. Doctors are very scarce, and will yet become scarcer. An Act of Parliament should be obtained to make the doctor an officer and to give him rank equal to the commanding officer, but subject to him. This will secure for him the complete control of his own department and enable him to compel such orders as he may give for the welfare of the vessel being carried out. The pay should be £20 a month for the senior or only medical officer, and £15 for the junior. The senior or only medical officer should be entitled to charge fees from passengers at a recognized scale—namely, 10s. 6d. for first class, 5s. for second class passengers; the third class may go free. (I remember in Cook's steamers on the Nile it was, and may be still, offensively and prominently stated in each state-room that the doctor is not at liberty to charge fees.) Such a system would enable the surgeon to make a suitable income and save him the discredit of taking tips like a steward.

The British Medical Association should approach the big shipping companies and ask them to join the Association in getting a suitable Act passed. If they refuse tell them the JOURNAL and the *Lancet* will strive to prevent doctors from going to sea, and that they will get the medical schools to join. Many years ago this kind of thing compelled Government to greatly improve the position of medical officers in the army and navy.

*** The matter is engaging the attention of the British Medical Association, and a Ship Surgeons' Subcommittee of the Medico-Political Committee has been constituted, but, owing to the great pressure of work due to matters affecting the Insurance Act, it has not met recently. The matter is referred to in the Supplementary Report of the Council published in the SUPPLEMENT for this week, p. 4.

THE DECLINING BIRTH-RATE.

DR. CHARLES STANDRING (Broadway, Worcestershire) writes: I was glad to see Dr. Dunlop's sensible letter. I recently attended a woman in a neighbouring village with her fourteenth baby. During her convalescence I ventured to suggest a slight limitation of this extravagance, knowing that eight of her children are on the "parish," and four are "degenerates." She said, "Oh, sir, the Lord will provide!" Surely this is the general opinion of crass improvidence, and should be prevented.

PURIFICATION OF WATER SUPPLIES.

UNDER the title of *The Purification of Water Supplies* has recently been published by the Paterson Engineering Company a well illustrated pamphlet dealing with the subject indicated in general and at the same time supplying information as to the purification systems introduced by this firm. It is so often laymen that have the chief voice in deciding what plans shall be adopted in dealing with a water supply that possibly the firm has been well advised in its choice of a method of drawing attention to its own system. But those already conversant with the general subject would probably have been better pleased had a more compact account of the three systems used by this firm been placed in their hands. These aim respectively at filtration, softening, and sterilization. The first-named is a rapid filtration system, which, though applied mechanically in varying fashions according to circumstances, depends in all cases on the admixture of measured quantities of water with measured quantities of a solution of aluminium sulphate. The principal claims made in respect of it are to the effect that the initial cost of the system is very much less than that of building ordinary slow filtration beds, while the area required is relatively very small; that contamination of the water during filtration is prevented owing to the fact that the beds are covered in; that the filtration is through an inorganic instead of an organic film, and cleansing of the bed can be rapidly performed; and that the water is not only rendered almost entirely bacteria free, but has all colouring matter and plumbo-solvent action eliminated at the same time. It may be added that the points in favour of this method and of its rivals are set forth in moderate terms and that the booklet as a whole will repay perusal. The London address of the firm is 12, Norfolk Street, W.C.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Lecture
ON
CANCER OF THE COLON.*

BY
SINCLAIR WHITE, M.Ch., F.R.C.S.,
SENIOR HONORARY SURGEON, SHEFFIELD ROYAL INFIRMARY; PROFESSOR OF SURGERY AND CHAIRMAN OF THE FACULTY OF MEDICINE, SHEFFIELD UNIVERSITY.

Cancer of the colon is usually a primary disease, but occasionally the bowel becomes involved by extension of the mischief from an adjacent viscus, such as the stomach. Infection by metastasis also is not unknown. Five years ago I met with an example of this in a female aged 34 years. She had an advanced cancerous growth in the mid-rectum and a small but well-defined nodule on the anti-mesenteric border of the sigmoid. The mucous membrane underneath the latter was implicated but not actually ulcerated, and it had all the appearance of being of recent formation. The nodule was removed in performing a colostomy preliminary to the extirpation of the rectal cancer, and is preserved in the pathological museum of the Sheffield University.

Age Incidence.

While most common between the ages of 40 and 65 years, the proportion of cases under the age of 40 years is much greater than obtains in cancer elsewhere. Maydl estimated that 14 per cent. of all intestinal cancers occur in patients under the age of 30 years, and nearly 17 per cent. between the ages of 30 and 40 years. This unusual age incidence should not be lost sight of.

Frequency and Distribution.

The relative frequency of the disease and its distribution have been worked out by Nothnagel from the abundant data available in the Vienna General Hospital. During the period of twenty-four years—1870–93—41,838 *post-mortem* examinations revealed 3.583 cases of cancer, of which 343 were situated in the intestines. The various parts were involved as follows: Duodenum, 7 cases; ileum, 10; colon, 164; rectum, 162. In the colon the distribution of the disease was—appendix, 2 cases; caecum, 23; sigmoid, 53; elsewhere, 86. Nothnagel's figures harmonize with similar statistics obtained from other and more recent sources, and may be taken as approximately correct.

Pathological Changes.

Almost invariably the disease is of the columnar-celled type. Starting in the glandular epithelium, it permeates the basement membrane, infiltrating the submucosa and, later, the muscular coats. The growth tends to spread circumferentially rather than in the long axis of the bowel, and it is quite common to meet with advanced cases in which little more than an inch of the length of the colon is involved. Two varieties of the disease require a brief description. One, the sclerosing variety, is of such relatively frequent occurrence that it may be regarded as the typical form. Growing very slowly, it leads to an annular constriction of the bowel which, if the patient lives long enough, will end in obstruction. It seldom produces a tumour larger than a bantam's egg, but the accumulation of solid faeces proximal to it may cause quite a large swelling. Internally there is a deep irregularly-shaped ulcer with hard everted edges, while externally the bowel presents a narrow transverse groove, just as if a piece of string had been tied around it. Many months may elapse before the peritoneum becomes invaded, but once this barrier has been surmounted dissemination is apt to be rapid.

The mesenteric glands are affected late, if at all; nor should it be assumed that when these glands are enlarged they are necessarily malignant, because simple hyperplasia from irritation is quite common.

The colon proximal to the growth becomes dilated and its muscular tissue greatly hypertrophied, while its colour approximates to that of striated muscle. Slight intussusception into the distal healthy bowel may cause a further narrowing of the contracted lumen.

In a minority of cases the disease is of the fungating type. In addition to extensive infiltration of the coats of the bowel, the growth sprouts into its interior, forming friable masses, which soon break down and give place to offensive ulcers. There is no constriction of the bowel with its consequent proximal hypertrophy and ultimate obstruction. It occurs most often in young people, and is characterized by rapid growth, early dissemination, and pronounced cachexia.

Symptoms.

There are, unfortunately, no early symptoms of cancer of the colon, and in hospital practice the patient rarely seeks advice until the advent of intestinal obstruction or some other late sequel of the disease. In the fungating variety highly offensive motions mixed with blood and pus, and rapid deterioration of health, are the usual factors which lead to a diagnosis; but in the sclerosing variety there may be nothing to indicate a departure from the normal until the diameter of the bowel has been seriously encroached on. The earliest manifestations of the disease are increasing difficulty in getting the bowels to act, occasional attacks of diarrhoea, alternating with days of complete constipation, and colicky pains associated with vigorous intestinal peristalsis. Later the abdomen becomes distended, the tongue dirty, and the breath offensive, while the appetite and digestion are impaired. The growth is sometimes palpable, especially when situated in the central portion of the descending colon, or in the caecum, but quite often it cannot be felt owing to its deep position and the associated flatulent distension.

Eventually a plug of solid faeces engages the stricture, and acute, or semi-acute, intestinal obstruction supervenes, or a similar condition may be brought about by partial intussusception and kinking of the bowel at the site of the disease. In other cases ulceration of the growth may go on to perforation. This catastrophe befell a lady I saw some years ago with Dr. Montague of Worksop. She had a sclerosing cancer of the pelvic colon, and in the interval between the consultation and the time fixed for operation the bowel gave way, flooding the pelvis with faeces.

Should there be only slight leakage, a barrier of inflammatory lymph aided by the friendly omentum may for a time arrest the spread of the mischief. In such cases the tumour, if it has been previously recognized, will be found suddenly to increase in size, and there will be all the signs of a sharp attack of localized peritonitis. I have twice observed this condition in hospital patients. In one case the diseased bowel was successfully resected, but in the second the temporary barrier broke down during the attempt to remove the growth, and a fatal peritonitis ensued. Occasionally perforation occurs some distance above the growth. I saw a case of this kind a few years ago with Dr. Samuel Mathews. The patient, a male aged 76 years, was suffering from acute obstruction of several days' duration due to a cancer of the sigmoid, and on opening the abdomen a large perforation was found in the caecum.

Diagnosis.

In obstruction from cancer of the colon distension always precedes vomiting, usually by some days, and the vomiting is not so rapidly progressive in character as when it is the result of strangulation. A marked feature in every case is the violent peristaltic movements of the hypertrophied proximal colon, which can be felt and seen through the abdominal walls. These movements are always associated with exacerbations of the abdominal pain, and the combination is characteristic of stricture of the colon. In the vast majority of cases at or beyond middle age stricture means cancer, but the prudent surgeon will think of other causes, such as syphilitic, dysenteric, or tuberculous ulceration, all of which may lead to stenosis of the large bowel. Again, a thorough examination of the pelvis should be made so as to exclude cancer of the rectum as well as tumours of the uterus or ovaries; and, lastly, faecal impaction consequent on atony of the colon must not be forgotten. In the latter condition peristaltic movements are conspicuous by their absence, obstruction is not absolute, and the upper rectum will be full of faeces. Tumours about the caecum the

* Based on a post-graduate lecture delivered at the Sheffield Royal Infirmary.

result of local tuberculous disease, actinomycosis, and especially chronic suppurative appendicitis, may simulate more or less closely malignant growths. Tuberculosis of the caecum is most common in females under the age of 40 years. The lump from the first is usually quite fixed, whereas one of the characters of a cancerous tumour of the bowel, until far advanced, is its free mobility. There will probably be long-continued diarrhoea, and always evening pyrexia, while obstruction is almost unknown. A retrocaecal chronic abscess with its thick, hard walls and enlarged mesenteric glands often causes perplexity, even after the abdomen has been opened. The fact that the lump is behind the caecum and does not appreciably encroach on its lumen should arouse suspicion, and cause the surgeon to separate it from the iliac fossa, when the escape of evil-smelling thick pus will reveal the true nature of the case. Of the possible sources of error in diagnosis this is undoubtedly the most dangerous.

Occasionally a faecal concretion or a foreign body becomes lodged in one of the saccules of the colon, and sets up chronic inflammatory changes, with the production of a tumour which, until exposed, may be indistinguishable from a cancerous growth. Quite recently I operated on a case of this kind where a large gall stone was the offending cause. The previous history indicated that the gall stone had escaped from the gall bladder more than a year previously.

Should the growth be impalpable it may still be possible to locate it more or less accurately. A distended transverse colon will limit it to or below the splenic flexure. Sigmoid growths may, in rare cases, be diagnosed by the use of the sigmoidoscope, while radiography conjoined with the use of bismuth gives valuable information. The patient himself will often accurately localize the seat of obstruction by noting the point where the painful peristaltic waves are arrested. On several occasions I have obtained confirmatory evidence of the site of obstruction by observing the amount of water that could be introduced into the rectum with the patient in the Trendelenburg posture.

TREATMENT.

Where obstruction is imminent, or existent, temporary relief may sometimes be afforded by enemata, but purgatives should be avoided, as they are worse than useless.

Seeing that the usual type of growth eventually leads to obstruction, unless the sufferer falls a victim to some intercurrent disease, it follows that in a large percentage of cases surgical intervention becomes obligatory sooner or later. With few exceptions, operative measures should be undertaken immediately a diagnosis has been established.

The facility with which even a large segment of the colon can be removed, and the usual absence of dissemination until late in the disease, make cancer of the large bowel exceptionally suitable for extirpation, and free resection should be the "operation of election"; but this ideal treatment is not possible in some cases because of the extent of the disease, while in others, for reasons which will be referred to later, it may not be expedient to carry it out.

Mortality attending Colectomy.

The mortality-rate attending the operation of colectomy, which until a few years ago amounted to upwards of 40 per cent., has been greatly reduced by improved operative technique, more especially by the adoption of a preliminary colostomy in all cases where intestinal obstruction is present. In the hands of experienced surgeons who make a judicious selection of their cases it probably does not now exceed 15 per cent., while some individual operators can show even better results.

Dr. W. J. Mayo has very kindly sent me the Rochester Clinic results for the year 1912 up to December 13th. They comprise 69 colectomies for cancer, with 10 operation deaths.

My own statistics are vitiated by the fact that the records of many of my hospital patients are missing, and it is not possible to trace them.

I have, however, a complete record of all my private cases. They amount to 26, and are spread over a period of fourteen years (1899–1913). In 15 of them acute, or semi-acute, intestinal obstruction was present when they were first seen, and in every instance was relieved by colostomy, the growths being removed after intervals varying from ten days to three weeks. Four patients died from the operation—two from pulmonary embolism on the sixth and thirteenth day respectively, one because of defective union of the divided bowel, and one from shock. Of the 22 patients who recovered from the operation, 5 have since died from recurrence of the cancer after intervals ranging from seventeen months to four years. In one of these impending obstruction was successfully overcome by "short-circuiting," and the patient lived in comparative comfort for eight months afterwards. All were singularly free from pain, and in all evidence of cancer of the liver was present towards the end. A sixth patient, although still alive after three and a half years, is known to have a local recurrence. There have been three additional deaths after intervals of eleven, four, and two years respectively, in which, although the immediate cause was other than cancer, no *post-mortem* examination was obtained.

Thirteen patients remain in apparent good health—8 after the lapse of periods ranging from fourteen to four years, and 5 who were operated on within the last three years.

A study of my fatal cases affords reason for hoping that in a future series the results might be better. Thus to have lost 2 patients out of 26 from pulmonary embolism was distinctly hard luck, all the harder because in both cases the immediate dangers of the operation had apparently been surmounted, and a smooth convalescence seemed assured. The death from shock was the outcome of a false optimism, the disease in this case being too advanced to justify radical treatment. The fourth fatality was occasioned by the passage of a large scybalum through the imperfectly healed bowel, and might not have occurred had a preliminary colostomy been done.

Limitations of Colectomy.

Let us for a moment consider the limitations which should be placed on colectomy, bearing in mind that it belongs to the class of "operations of expediency." First of all, it should never be resorted to in the presence of intestinal obstruction. The distended and congested proximal portion of the gut is quite unfit to take part in the reparative process essential to the success of a resection, while the inevitable toxaemia associated with the condition is an additional bar to success.

In these cases colostomy must be the first step, and, if it is to be followed by colectomy, at least a fortnight should intervene between the two operations. In the interval the diseased segment should be thoroughly irrigated so as to dislodge all faecal matter and render its interior as clean as possible.

Then we come to patients who have attained the age of 70 years or upwards, and whose expectation of life, under any circumstances, is limited to a few years. It is quite true that old age of itself does not necessarily add greatly to the risk of the operation, but a definite operation death-rate of at least 15 per cent. to such people becomes a most serious, if not fatal, objection; especially if it be borne in mind that in advanced life the disease is of relatively slow growth, and that comfortable, even active, life for several years is not incompatible with malignant stricture dealt with by colostomy. In my hospital practice two patients, both elderly females suffering from sigmoid cancer, lived useful lives for periods of upwards of four and five years respectively after colostomy.

Again, in the rapidly growing cancer of young people the results following attempts at radical cure are rarely satisfactory, and the procedure should be restricted to early cases.

Lastly, serious organic changes in other organs should negative its adoption.

Colostomy.

The alternative operative procedure is colostomy. This, or short-circuiting, should be done in cases unsuitable for resection, and, as already stated, it should be the first step in treating patients suffering from obstructive symptoms. Even in the absence of obstruction there is much to be said in favour of colostomy before proceeding to the more dangerous operation. The additional information gained by an intraperitoneal examination of the growth and the abdominal viscera will sometimes help the

surgeon, when in doubt, to decide in favour of radical treatment, while in others it will, by revealing the presence of secondary growths in the liver or elsewhere, exclude attempts to eradicate the disease. Moreover, by its adoption the risk of wound infection during the performance of colectomy can be greatly lessened, while the subsequent healing of the divided gut is greatly facilitated by the exclusion of the faecal stream and the absence of tension at the line of sutures. Furthermore, the experience of many surgeons is strongly in its favour. Thus, Anschütz states that in Mikulicz's clinic the effect of introducing it was to reduce the mortality-rate of colectomy from 52 per cent. to 20 per cent. All the fatalities I have had in my private practice occurred in cases where the single-stage operation was done, and I am so firmly convinced of the superiority of the two-stage procedure that I have employed it exclusively for the last five years.

Operative Technique.

Unless the patient's condition is so critical as to negative more than the minimal interference required for a colostomy, I explore through a medium subumbilical incision, large enough to admit one's hand. The site and extent of the growth are first investigated, and then the presence or absence of secondary growths ascertained. The information thus obtained assists one to decide whether radical or palliative measures shall be adopted, and protects the patient, so far as possible, against being subjected to a severe and useless operation if he should unhappily have a secondary growth in his liver.

If extirpation is held to be impossible or inexpedient, the colon is brought to the surface and opened a little way above the growth, so as to preserve the function of as much healthy bowel as possible; or, in the absence of obstruction, short-circuiting is substituted for colostomy in suitable cases. These comprise patients in whom the anastomosing portions of the bowel can be drawn outside the abdomen and their surfaces approximated without undue tension. Restricted to such cases, the operation is quite a safe one, and much to be preferred to colostomy.

In cases selected for resection and where the growth is distal to the hepatic flexure, the preliminary colostomy is made in the ascending colon, just above the caecum, and through a small special opening in the abdominal wall.

It is unnecessary to enter into all the details of the operation, but a few points may be dwelt on. It is essential to bring out a long loop of the colon with the growth in its centre, and it is usually necessary to divide the outer tense leaf of the mesocolon before this can be done. As it is separated from the mesenteric vessels by a layer of loose areolar tissue, no harm can result from its free division. The mesocolon should be examined for enlarged glands, and the distribution of its blood vessels carefully noted. There is very little lateral anastomosis between the terminal branches of the colic arteries, and, in order that the blood supply of the bowel, right up to the point of section, shall not suffer, the division of the mesentery must be through the boundaries between the areas supplied by the larger arterial branches.

Having decided on the length of bowel to be removed, a chain of interlocking silk sutures is inserted, well to the inside of any glands present, and so as to include a V-shaped portion of the mesentery with its apex pointing inwards. The mesocolon is now divided distally to the sutures, and the segment of bowel to be removed is quite free except at its ends. The entire space from whence the bowel has been raised, together with the wound in the abdominal wall, are securely packed with gauze, of which there should be several superimposed layers. The colon is divided between pairs of clamps placed at least 1 in., and further if possible, above and below the growth. The bowel should be divided obliquely, so that the antimesenteric edge of the portions left shall be slightly shorter than their mesenteric border.

The next thing to decide is how the continuity of the resected bowel shall be restored, and here we have a choice of three methods—axial, or end-to-end anastomosis; end-to-side, or lateral implantation; and side-to-side, or lateral anastomosis. Each of these in selected instances gives excellent results, but no one of them is suitable for every case.

Theoretically the ideal plan would be axial union, but there are difficulties in applying it to the class of cases under review. The circumference of the proximal end of the divided colon is always very much greater than that of its distal end, while its walls are two, three, or more times as thick; then there is the peritoneal hiatus between the layers of the mesocolon, which is generally considered to be a weak spot in the line of anastomosis; and, lastly, its successful accomplishment demands a higher grade of surgical technique than is required for either of the other methods. Generally speaking, it should be reserved for cases in which the length of bowel available after resection is too small to permit of an alternative procedure. In actual practice such cases are of frequent occurrence. The second plan—that by lateral anastomosis after invagination and closure of the ends of the bowel—should be "the method of election," but it is necessary for its safe adoption that the ends of the bowel should overlap for at least 4 in.

The method of lateral implantation, or end-to-side anastomosis, should be reserved for cases of excision of the caecum, for which it is especially applicable. Here, and perhaps here only in the surgery of the large bowel, Murphy's button may be advantageously employed. Occasionally, after the removal of a growth in the pelvic colon, it may be impossible to make a satisfactory anastomosis, owing to the shortness of the lower end of the bowel. In such cases the lower end must be closed, after invagination, and dropped into the pelvis, while the upper end is stitched to the skin and retained as a permanent artificial anus.

There are few operations in surgery in which good technique counts for so much, and every step in the procedure should be carried out deliberately and with infinite care.

Next to good suturing, the avoidance of wound infection is most important. This is best accomplished by the liberal use of gauze, the discarding of all instruments immediately they have become contaminated, and the frequent changing or disinfection of soiled gloves.

If there is reason to fear that the wound has been infected, the omentum should be used to isolate the operation area from the rest of the peritoneal cavity, and a drain tube should be inserted, but with good technique drainage is neither necessary nor desirable.

CASES.

The appended cases are quite typical of the disease. Two of them came under my care on consecutive days, and the third a few months later in the same year.

CASE I.

J. H. C., aged 56 years, seen in consultation with Dr. Graham Lander, of Hathersage, on January 30th, 1908. There was a three months' history of increasing difficulty in getting the bowels to act. There had been complete obstruction for seven days and vomiting for three days. The patient looked very ill and had a dry, brown tongue. He complained of abdominal pain which, while continuous, was subject to exacerbations every few minutes. The abdomen was distended and tympanitic but not tender. Contact of the hand with the abdominal wall induced vigorous intestinal movements. The rectum was empty. A diagnosis of acute intestinal obstruction due to stricture of the colon was arrived at. As the patient's house was in many ways unsuitable for an operation, he was taken to a surgical home in Sheffield. The journey of thirteen miles in a horse ambulance tried him a good deal, and it was felt that immediate surgical interference should be restricted to the irreducible minimum. Accordingly, under local anaesthesia, a small opening was made in the right semilunar line and the first presenting coil of distended intestine sutured to the skin and punctured. When the bowel had emptied itself a Paul's tube was inserted. Immediate relief was afforded and the vomiting ceased. When the abdominal distension had subsided a small, hard lump could be felt in the left iliac fossa.

On February 13th a cancerous growth of the upper end of the sigmoid was freely excised, the ends of the bowel being united axially by a double row of continuous suture. The growth was limited to 1½ in. of the length of the bowel, and had produced a very tight stricture. The mesenteric glands were not involved, and there was no evidence of secondary growths elsewhere. The patient's progress was interrupted by the development of a large right-sided pelvic abscess, but at the end of two months his condition was quite satisfactory, and, having tested the patency of the colon by forcing water from the artificial anus through the rectum, the opening, which proved to be in the ileum, 3 in. above the ileo-caecal valve, was closed.

He made an excellent recovery, and is now—five and a half years later—quite well, and filling with distinction, for the second year, the office of mayor of his town.

CASE II.

J. S., aged 59, seen in consultation with Dr. Menzies, of Worksop, on January 31st, 1908.

The patient had enjoyed robust health until a few months previously, when he began to have attacks of colicky pain in the abdomen and had to resort to the use of purgatives. A fortnight previously the pain became much more severe, and there had been complete obstruction of the bowels for eight days; vomiting had set in and was progressive in character. His abdomen was distended and tympanitic, while vigorous peristaltic movements could be seen and felt through the parietes. These were accompanied by a sharp increase of the pain. The rectum was empty. His pulse was of good quality, and his general condition, apart from the obstruction, satisfactory, but as the usual medical measures had failed to give relief it was thought best to operate forthwith.

The abdomen was opened in the middle line below the umbilicus and a thorough but ineffectual search made to find the obstruction. All that could be ascertained with certainty was that it was lower than the transverse colon. A second smaller opening was made over the caecum, and through this a portion of the distended ascending colon was withdrawn and stitched to the skin. Before introducing a Paul's tube the central wound was closed and sealed with collodion. The operation was immediately successful in relieving his symptoms, and the central wound healed under the first dressing.

In order to locate accurately the site of the obstruction he was placed in the high Trendelenburg position, and the lower colon filled with water under a pressure of two feet. About three pints could be introduced, and this observation, conjoined with what I had learnt during the exploration, enabled me to fix the point about the splenic flexure.

The patient, being now in very good condition, was taken to a surgical home in Sheffield, and the abdomen entered through the left semilunar line. A hard nodular tumour was found at the splenic flexure. After dividing the outer layer of the mesocolon, it was with difficulty drawn out of the wound. Several enlarged glands were present, and these, together with the growth, were freely excised, and an end-to-end anastomosis effected by continuous suturing. The wound had quite healed at the end of a fortnight, and, after testing the patency of the resected colon by injecting water into the rectum until it escaped from the colostomy opening, the artificial anus was closed. Aseptic healing resulted, and the patient returned to his home six weeks after the first of his three operations. He remained in excellent health for the succeeding eighteen months; then symptoms of obstruction reappeared. The abdomen was once more opened, and a local recurrence, together with a secondary nodule in the liver, were found. The colon was short-circuited by anastomosing the caecum with the sigmoid. This gave him the desired relief, and he lived in comparative comfort for another eight months. It is of interest to note that this patient had actually been gaining weight, and was not conscious of any loss of strength or vitality up to the onset of obstruction.

CASE III.

W. B., aged 55 years, was seen in consultation with Dr. George Booth, of Chesterfield, on September 29th, 1908.

The patient, who was stout and of sedentary habit, gave a history of chronic constipation for many years, but with the aid of purgatives and enemata he had had a hard motion almost daily until six days previously. Since then there had been complete obstruction, with recurrent attacks of acute abdominal pain accompanied by violent intestinal movements. The abdomen was greatly distended, and he complained of tenderness over the caecum and the sigmoid. The rectum was empty and ballooned. There had not been any vomiting, but his tongue was brown and dry, probably owing to morphine which he had taken. His urine contained 8 grains of sugar per ounce, and had constantly done so for at least seven years, but there was no polyuria. The pulse was 108 per minute, and of good quality.

He was conveyed to a surgical home in Sheffield. An enema of 4 oz. of mist. alba and 1 oz. of glycerine produced a free evacuation and he rapidly improved. Hydrostatic distension of the lower bowel suggested a block about the upper end of the sigmoid; but, in view of the long-continued glycosuria and his flabby condition, operative measures were put off in the hope that acute obstruction might not recur. He went home, but in a few days his troubles returned, and, with a full knowledge of all the facts in his case, he pressed for an operation. He was readmitted to the surgical home, and the abdomen explored through the right semilunar line. A small, hard, freely movable growth could be felt in the sigmoid. The liver and other abdominal viscera were examined for secondary nodules, but nothing abnormal was found.

The caecum was enormously dilated and its muscular tissue greatly hypertrophied. A Paul's tube was tied into it, and he was thereafter quite comfortable.

Fourteen days later the growth was excised through an opening on the left side. The resected ends of the bowels were united axially by continuous suturing. The operation caused much shock, and at its close the pulse-rate was 160 per minute. His subsequent progress was quite satisfactory, and at the end of a fortnight the caecal anus was closed. He remained quite well, except for his glycosuria, until the autumn of 1912, when without any premonitory warning acute obstruction supervened while he was on a holiday in the south of England. He was operated on, and a tense band which was causing the obstruction, was divided, but he did not recover. The operating surgeon failed to find any evidence of recurrence, but the abdomen was not fully explored, and there was no *post-mortem* examination.

CARCINOMA OF THE PROSTATE GLAND:

A STUDY OF THIRTY-THREE CASES.

BY

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THE subject of malignant tumours of the prostate gland is of considerable interest, but I propose to only deal with carcinoma. While sarcoma of the prostate is extremely rare, carcinoma of the prostate is by no means uncommon. Albarran's statistics show that 14 per cent. of all prostates which are taken away by operation turn out to be malignant; while H. H. Young, of the Johns Hopkins Hospital, Baltimore, goes even further, and states that 21 per cent. (that is, 1 in every 5 cases) of all enlarged prostates removed show a tendency to malignancy.

Some authorities definitely state that cancer of the prostate supervenes on a simple adenoma; others are equally positive that it does not. The practical importance of settling the question is that, if an innocent tumour is a precursor of a malignant growth, then it will be the duty of the surgeon to recommend that every benignly hypertrophied prostate gland be removed by operation immediately the patient seeks advice—that is, directly the condition begins to cause symptoms. Young of Baltimore, who has made a very careful study of the pathology of carcinoma of the prostate, says:

> It may begin as an isolated nodule in an otherwise benign hypertrophy; or a prostate enlargement, which has for many years furnished symptoms and signs of benign hypertrophy, may suddenly show signs of malignant hypertrophy.

As to the way cancer of the prostate spreads, Young's description is well worth quoting. He says:

> It spreads along the ejaculatory ducts into the space immediately above the prostate between the seminal vesicles and the bladder and beneath the fascia of Denonvilliers. Then the disease gradually invades the inferior surface of the trigone and the lymphatics leading towards the lateral walls of the pelvis, but involvement of the pelvic glands occurs late, and often the disease metastases into the osseous system without first invading the glands.

His operation for radical extirpation of the prostate in cancer was devised from observations made at operations and at autopsies. Like cancer of the thyroid gland, secondary deposits in carcinoma of the prostate are out of all proportion to the primary growth. The internal iliac lymphatic glands are the first group to be secondarily invaded.

I have collected notes of 33 cases of carcinoma of the prostate, and, although some of the records are incomplete, I have endeavoured to make a careful analysis of them. No case had secondary deposits in bone so far as I have been able to ascertain.

A.—SYMPTOMS.

1. *Duration.*

With regard to the period between the patient first noticing anything wrong and the onset of symptoms which compelled him to seek the aid of the surgeon, in 66 per cent. the onset of the initial symptom was within twelve months of him coming under the care of the surgeon; further, in 10 of these cases—that is, 30 per cent. of the total—the time was only three months.

	Cases.	
Within 3 months	10 = 30 %	
,, 6 ,, ...	2	66%
,, 9 ,, ...	3	
,, 12 ,, ...	7	
,, 18 ,, ...	1	
,, 24 ,, ...	5	
,, 3 years	2	
,, 4 ,, ...	2	
,, 25 ,, ...	1	
	33	

* Read before the Newcastle-upon-Tyne Division of the British Medical Association.

The average duration of these symptoms, excluding the last-mentioned case (which is probably not an accurate record), is fourteen and a half months.

I would call attention to the shortness of this interval compared with a simple hypertrophy of the gland, where it is not uncommon for the patient to have indications of his disease for ten to fifteen years before seeking advice.

2. *Age.*

While the youngest was 29 years old, and the senior case of the series aged 78, 26 cases out of the 33—that is, 78 per cent.—occurred between the ages of 55 and 74. Further, 30 per cent. of the total—that is, 10 cases—occurred between the ages of 65 and 69.

1	Case was aged ...	29
1	,, ,, ...	44
2	Cases were aged ...	52
5	Cases were between ...	55 and 59
5	,, ,, ,, ...	60 and 64
10	,, ,, ,, ...	65 and 69
6	,, ,, ,, ...	70 and 74
3	,, ,, ,, ...	75 and 78
33		

The average age was 61.

3. *Onset Symptom.*

Before the terminal stages it is uncommon for the bladder to be secondarily invaded from carcinoma of the prostate gland, therefore the vesical symptoms usually complained of are those of: (1) Partial obstruction; (2) retention of urine; or (3) superadded sepsis.

In 13 of the 33 cases—that is, 40 per cent.—the symptoms in carcinoma began with nocturnal frequency of micturition; 10 of the cases—that is, 30 per cent.—with gradual obstruction; in 4 cases there was sudden obstruction.

The Onset of Symptoms.

	Cases.
Nocturnal frequency	13 = 40 %
Gradual obstruction to urination ...	10 = 30 %
Sudden obstruction	4
Haematuria	2
Pain in perineum	1
Pain at end of the penis after micturition	1
Not stated	2
	33

4. *Frequency of Micturition.*

As an established symptom, increased frequency of micturition is the most prominent as a rule; if, however, retention of urine has supervened, normal micturition is rarely established.

With regard to the increased frequency of micturition, or not, at the early stage of the disease, in 26 of the 33 cases it was present day and night; in 4 cases during the night only; and in 3 it was not stated.

5. *Pain.*

The pain in carcinoma of the prostate is variable and not characteristic.

Situations of the Pain, if any, Complained of before Retention of Urine Supervened.

Base of sacrum	2 cases
Perineum	3 ,,
Along the length of the urethra... ...	5 ,,
End of the penis	5 ,,
Hypogastrium	5 ,,
No pain whatever	6 ,,
Not stated	7 ,,
	33

Relation of the Pain to Micturition prior to the Onset of Retention of Urine.

Before micturition	5 cases
During micturition	7 ,,
After micturition	8 ,,
Not stated	13 ,,
	33

6. *Urinary Stream.*

Of the 33 cases there were symptoms of gradual obstruction in 25, while in the remaining 8 the complete obstruction was sudden. Complete retention eventually supervened in 24 cases; in 8 of the series there was partial obstruction resulting in a more or less amount of residual urine, though the obstruction had not become absolute; and in the remaining case there was no residual urine. The last-mentioned was found accidentally in a man, aged 70, who came complaining of a direct inguinal hernia, and the prostatic condition was only discovered in the course of a routine examination.

7. *Haematuria.*

The statistics compiled from this series definitely confirm the orthodox view that haematuria is not common in carcinoma of the prostate. In 23 of the cases—that is, in nearly 70 per cent.—there was no bleeding at all; it was only present in 6; and in the other four cases it was not mentioned in the records.

The probability is that in the latter cases there was no haemorrhage, therefore we may assume that in all probability 27 out of the 33 cases had no bleeding. This would give a percentage of nearly 82 without haematuria.

With reference to the relation of haematuria to micturition, in the 6 cases mentioned, the blood preceded the urine in 5, and in the remaining case it appeared at the end of micturition.

Bleeding at the beginning of the flow of urine indicates that the prostatic urethra has become invaded by growth, while the appearance of blood at the end of micturition shows that the adjacent trigone of the bladder has become secondarily involved, which, as previously stated, is not common.

Referring to the general condition of the patient, emaciation was marked, but in the later stages only; the complication of secondary consecutive nephritis, due to back pressure upon the kidneys, was not a noticeable feature.

B.—Signs.

1. *Rectal Examination.*

Rectal palpation is, of course, the most important step in the diagnosis of a prostatic condition. I may be forgiven, therefore, if I mention a little detail in making this examination.

The rectum should be empty when the examination is made, and an enema should, if necessary, have been given some little time previously. Precautions should be taken to examine the prostate only when the bladder is empty. Unless the point is observed, no account can be taken of the alleged size of the prostate, whether this be normal or pathological. I have several times been present at the operation for suprapubic prostatectomy for a benign tumour, when expectations have been far from realized, and an enucleated prostate the size of a walnut only was retrieved, when the spectators had been promised one the size of a Tangerine orange! Therefore, to be accurate as to the existence of an enlargement or not, it is necessary to take the precaution of ascertaining that the bladder is empty before a rectal examination is made.

The patient may lie on his back, on his left side, or in the knee-elbow position. For an ordinary case I much prefer the knee-elbow posture, though if the case be difficult I use all three. I certainly think that the point concerning the fixity can best be made out with the patient in the knee-elbow position.

The lubricated examining finger, that is the index finger, should be kept fully extended until its whole length has been introduced through the anus; then, and not until then, is the palpation of the prostate to be begun; if the finger begins its investigations before its full introduction has been effected, a satisfactory examination may not be permitted by the patient. Rectal palpation in a case of carcinoma of the prostate is usually painful; in simple tumour it is only uncomfortable.

The points to ascertain are:

A. *Prostate.*

1. Whether it is enlarged or not.
2. If it is bilobed or not—that is, is there a median sulcus?
3. Its consistence—that is, whether the prostate is soft, elastic, hard, stony-hard, or cystic.
4. Its surface—whether it is smooth or nodular.
5. Whether the gland is fixed or not to the lateral pelvic wall.
6. Examine the median sulcus or the position of same with the cystoscope *in situ*, as recommended by Young.

(Of these I think Nos. 4 and 5—that is, nodules and fixity—are far and away the most important.)

B. *Seminal Vesicles.*

To see if there is any infiltration or not.

C. *Lateral Pelvic Walls.*

Examine the lateral walls of the pelvis, as far as palpable, in order to see if there are any glands infiltrated or not.

A marked feature in carcinoma is that the median raphe of the gland disappears and that the outline of the normal prostate has lost its bilobed, elastic, smooth, and movable characteristics.

In 23 cases of the series—that is, nearly 70 per cent.—there were nodules palpable on the surface of the gland together with fixity.

Enlargement without hardness ...	1 case
Hard only	1 ,,
Nodules without fixity	3 cases
Fixity without nodules	4 ,,
Nodules *and* fixity	23 ,,
Not stated	1 case
	33

With regard to the fixity, the normal groove between the pelvic wall and the prostate is filled up; moreover, the hardness of the gland is absolutely stony.

2. *Residual Urine.*

The residual urine should be estimated prior to cystoscopy. Before the surgeon passes the catheter for this purpose the patient will have a much better chance of voiding all the urine he can if he is standing up, and if this be done the observation on the amount of residual urine will be more accurate.

3. *Cystoscopy.*

A cystoscopic examination may be difficult, for the prostatic urethra is not only narrowed, but is often tortuous; therefore there is a tendency to obstruction and to bleeding. Again, the cystoscope is gripped by the prostatic urethra in a peculiar manner, and there is often a grating sensation when the instrument is moved onwards or is withdrawn.

Nodules on an intravesical enlargement, also secondary invasion of the bladder trigone (should this be present) may be seen. The absence of vesical calculus, or growth of the bladder, can be ascertained as an aid to the differential diagnosis.

C.—DIFFERENTIAL DIAGNOSIS.

The diagnosis of an advanced case of carcinoma of the prostate is comparatively easy. Briefly put, the symptoms of malignant growth of the prostate are those of a simple hypertrophy, but with the addition that the symptoms are very much quicker in declaring themselves and in becoming urgent. The symptoms of frequency of micturition, gradual obstruction to urination, in a man between 55 and 75 who has on rectal examination a stony-hard nodular prostate, which has lost the interlobar groove, and which is fixed to the walls of the pelvis, are conclusive evidence of carcinoma of the prostate. The difficult cases are where there are nodules without fixity of the prostate to the pelvic wall, or where there is fixity without the nodules.

I will briefly go over the various conditions which might be confounded with carcinoma of the prostate.

1. *Chronic Inflammation of the Prostate, especially in a Middle-aged Man.*

This is the hardest condition of all to diagnose from early carcinoma of the prostate, and in some cases it is practically impossible to tell whether it is simply a chronic inflammation, or whether it is a malignant growth in the early stages. Young makes a great point in the diagnosis of a rectal examination with the cystoscope *in situ*. If there is a definite hard band at the site of the interlobar groove between the examining finger and the cystoscope, then he considers the condition is one of malignancy. The cystoscope might possibly show nodules on an intravesical enlargement of the gland.

In such a case routine rectal examination would ascertain if the seminal vesicles were infiltrated, or if the enlarged glands on the pelvic wall were palpable. This variety of pathological prostate is usually fixed to the pelvic wall, and I then rely on the absence of nodules in diagnosing an inflammatory condition.

2. *Abscess of the Prostate.*

This in an elderly man has many times proved a difficult point in diagnosis. In one case in this series the malignant condition was complicated by recurring abscesses.

3. *Tertiary Syphilitic Prostatitis.*

Nodules are sometimes felt, but they are painless; they are stony-hard, and there may, or may not, be fixity of the gland. Signs of the condition elsewhere will help in the diagnosis—for example, perforation of the hard palate in the middle line, old adhesions of the iris, characteristic scars on the upper and outer aspect of the legs, etc.

4. *Tuberculous Prostatitis.*

This is rare after the age of 40. Nodules are felt by the examining finger, but they are better outlined than in the carcinomatous condition, and appear to be more on the surface; like tubercle everywhere, the foci tend to break down when areas of softening can be felt; tuberculous nodules elsewhere—for example, in the testes and vas—help in the diagnosis; if there is also tuberculous cystitis, this can be seen with the cystoscope, and the urine will contain tubercle bacilli.

5. *Carcinoma of the Base of the Bladder.*

This is sometimes difficult to diagnose from carcinoma of the prostate, but in this condition the normal elastic, bilobed, smooth-surfaced prostate can be felt in front of the growth—that is, nearer the anus. Moreover, one or both ureters are more likely to be involved, and the patient will then suffer from renal pain. The cystoscope will make the diagnosis.

6. *Phleboliths.*

These are superficial nodules, which are neither fixed nor tender. There is no fixity of the gland.

7. *Prostatic Calculi.*

Calculi occur in younger men, but they occasionally give rise to an error in diagnosis, as there is sometimes also fixity of the gland; moreover, such calculi, especially of the fig-seed variety, can simulate malignant nodules. An *x*-ray examination will settle the question.

8. *Vesical Calculus.*

A very large stone in the bladder has on some occasions caused an error in diagnosis. Radiography and cystoscopy will eliminate this possibility.

9. *Urethral Stricture with a Calculus in the Prostatic Urethra.*

Such a condition, where there is practically always a perineal fistula, may give rise to the doubt about carcinoma of the prostate. However, the urethroscope will show the stricture; the calculus may be felt in that portion of the urethra between the prostate gland and the triangular ligament. An *x*-ray examination will confirm the diagnosis.

10. *Sarcoma of the Prostate.*

Sarcoma is rare; it attacks young adults. Usually there is an enormous tumour which bulges into the rectum, and may even cause intestinal obstruction. It is extremely like an abscess in the prostate.

D.—PROGNOSIS.

In an endeavour to gauge the prognosis I have considered only those cases where the full course of the disease is known—that is, from the date of the onset of symptoms to the time of death.

I have been able to follow up 16 cases in the series as follows:

1	case lived	1 month	after onset of	symptoms
1	,,	4 months	,,	,,
1	,,	6 ,,	,,	,,
1	,,	8 ,,	,,	,,
1	,,	20 ,,	,,	,,
5	,,	2 years	,,	,,
1	,,	3 ,,	,,	,,
1	,,	3½ ,,	,,	,,
1	,,	4 ,,	,,	,,
2	,,	4½ ,,	,,	,,
1	,,	5½ ,,	,,	,,

This gives an average duration of twenty-eight months.

E.—TREATMENT.

In a proportion of cases operated upon, an adenomatous prostate with a carcinomatous nodule in its interior is enucleated. If, during this operation, any portion of the

gland is unduly adherent, malignancy must at once be suspected. The specimen on removal should be carefully sectioned, as a malignant nodule may be found in the middle, and any slight adherence of the gland to its "false capsule" may show the present boundary of the round celled infiltration, which is always present at the outermost edge of the growth.

Before it is possible actually to diagnose the condition of carcinoma, it is most probably too late to operate to obtain a radical cure. Young asserts that one only out of five prostates removed shows a malignant tendency; with such striking figures I think, therefore, we should very seriously ask ourselves if, in every case of benign tumour of the prostate, the gland should not be removed by operation immediately it is discovered.

The principal risk in the operation of prostatectomy is the condition of the kidneys, for back pressure from obstruction to urination destroys the renal secreting tissue. If the prostate be removed before such renal complications have supervened the operative mortality should be no greater than from a radical cure of inguinal hernia upon a person of the same age.

I consider that the enucleation, or attempted enucleation, of any prostate where there is a suspicion of malignancy is not justifiable. I have been present on at least two occasions when an attempt at enucleation had to be abandoned owing to furious bleeding: when once it begins it is extremely difficult to stop. Apart from this I cannot help feeling that a digital disturbance tends ultimately to much earlier dissemination.

Young devised an operation for a radical cure of carcinoma of the prostate, and the introduction of the operation followed observations which he had been able to make during operations and at autopsies. As mentioned previously, the spread of the condition always takes place backwards towards the seminal vesicles. His operation is an anatomical one, and aims at removing the whole of the prostate gland with the prostatic urethra, the seminal vesicles, part of the vasa deferentia, with the anterior portion of the base of the bladder. He sews the bladder to the membranous urethra, and relies upon the compressor urethrae for the maintenance of continence of urine. This operation can only be done on an otherwise strong, healthy patient, for it is a long operation. Unfortunately, all cases reported by Young have incontinence of urine, by day at any rate, and personally I consider a patient is better without such a so-called cure of the disease if he is to have his functions so seriously disturbed.

Where a positive diagnosis of carcinoma has been arrived at, let us consider the treatment schematically and think what is going to happen to the patient. If it is a suitable case for Young's radical cure, then the risks of the actual operation, also the probability of some incontinence of urine, will have to be put before the patient and the matter left in his hands. I think he will be wise if he refuses to accept the offer.

Provided the patient is within reach of a doctor, I think it is best not to have any treatment at all until it becomes necessary—that is, until symptoms supervene. The special liability to the sudden onset of retention of urine must be borne in mind. If he is failing to empty his bladder, then the question of catheter life must be discussed, and if this is instituted it is always best to use as large a catheter as possible; a hard—that is, not an india-rubber—catheter is preferable, because the more the prostatic urethra is kept stretched the longer will complete retention be delayed. Provided the patient is one who can be taught the essentials of asepsis, or provided he lives near enough to the doctor to have the catheter passed regularly, catheter life may be advised. There is always a danger of failure to get the catheter in and of the patient getting acute retention.

He should be given the following urinary antiseptic as a preventive to cystitis: Urotropine, grains 8; acid sodium phosphate, grains 30; aqua ad ʒss. Sig. ʒss t.d.s. Opium should be given as required for any pain.

The palliative operation of suprapubic cystostomy, for the purpose of establishing a permanent fistula, is, I consider, the best operative treatment for a malignant growth of the prostate, although I am not in favour of doing this: (1) Until retention is either imminent; or (2) unless complete retention has supervened, and no instrument can be passed into the bladder; or (3) unless there is great pain, due to, or independent of, catheterization.

If the patient wears a Pardoe's suprapubic rubber shield, he can be quite comfortable, and will be able to manage this excellent apparatus by himself. Another advantage of establishing a permanent fistula is, that if the patient has got bad cystitis, due to secondary infection, the bladder can be frequently irrigated through the suprapubic sinus with a minimum of discomfort.

The Bottini operation of incising the prostate by means of a sheathed knife introduced into the prostatic urethra has been tried in some cases. Some surgeons have reported favourably upon it, but it is attended with a mortality, and, as this cutting operation is done absolutely in the dark, it is not one that can be recommended.

Summary.

1. The average duration between the onset of symptoms and the patient seeing a surgeon was fourteen and a half months.
2. The average age was 61.
3. The onset symptom was increased nocturnal frequency of micturition in 40 per cent., and gradual obstruction to urination in 30 per cent. of the cases.
4. Pain was variable, and not characteristic.
5. Urinary obstruction was a marked feature—72 per cent. had complete retention, and a further 24 per cent. partial retention.
6. Haematuria was not common; probably 82 per cent. were without bleeding.
7. On rectal examination, 70 per cent. showed hard nodules, with fixity of the gland.
8. The average duration of the disease from onset of symptoms to death was twenty-eight months.
9. Young's statistics that 21 per cent. of removed prostates show a malignant tendency cannot be ignored. If these figures are accepted, it is a surgeon's duty to remove the gland by operation immediately it begins to cause symptoms. The risks of the operation then are smaller than the risks should malignancy supervene.
10. Treatment recommended when a diagnosis of carcinoma has been made:

(*a*) In the absence of residual urine, give a urinary antiseptic, with opium for the pain when necessary.

(*b*) If there *is* residual urine, begin catheter life, using a large-sized hard catheter; give a urinary antiseptic, with opium if necessary.

(*c*) If there is obstruction, *or*, if catheter life is intolerable, establish a permanent suprapubic drainage.

THE annual report of the Jamaica Malaria Commission for 1912 lays great stress on the necessity for intelligent sanitary inspection, without "which mosquito reduction and general sanitation cannot be effectively and economically compassed." The chief sources of malarial mosquitos are stated to be: (*a*) Sluggish streams and fresh-water swamps; (*b*) surface drains and gutters; (*c*) pools and ponds caused by rain water in natural depressions; (*d*) pools and puddles caused by waste from water pipes; (*e*) irrigation and drainage trenches. Quinine is now being taken by children in 250 schools, and the reports of teachers show that it has benefited the health of the children and to some extent improved the attendance. Quinine has also been distributed free through the district nurses to poor persons in the west end of Kingston, although that town, owing to a low rainfall and general configuration which favours good drainage, does not show a high malarial-rate in proportion to its population. At the northern portion of the town of Black River Dr. Neish found that 90 per cent. of the children examined were infected. The town of Port Antonio shows a marked advance in sanitation, chiefly owing to the extension of concrete drains and the filling up of swamp lands. There were in Jamaica 3,677 East Indian immigrants under indenture, beside time-expired coolies. During the past five years no fewer than 3,788 fresh coolies under indenture arrived in the island; they are on first arrival very susceptible to malaria, and the location of coolie barracks and the conditions on banana and sugar estates are favourable to the prevalence of the disease. These conditions have recently been investigated and reported on, at the request of the Government, with the view of steps being taken to remedy them. The general malarial incidence has dropped from 42 per cent. of the total hospital admissions in 1907 to 30 per cent. in 1911.

Presidential Addresses

TO THE

BRANCHES OF THE BRITISH MEDICAL ASSOCIATION.

LANCASHIRE AND CHESHIRE BRANCH.

SURGICAL MILESTONES.

By ROBERT C. BROWN, M.A.CANTAB., M.B., F.R.C.P.LOND., F.R.C.S.ENG.,
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"DID you see *Milestones?*" is a question very frequently put by the friends of those who have been spending a few days in London; and the reply is almost invariably, "Yes; I was delighted with it." And the play suggested to me a title for the remarks which I now propose to make to you on "some items in the progress of surgery and its auxiliaries between 1836 and 1913."

Milestones presents to our notice several families: animated discussions in reference to the relative value of wood, iron, and steel in the construction of ships; changes in the styles of ladies' dress at three periods—1860, 1885, and 1912; the pictorial illustrations which accompany the programmes showing the crinoline or inflated period, the dress improver with local prominence period, and the non-crinoline or collapsed period; daughters who resented the dictation of their parents as to whom they should marry, and a young lady who, in a moment of revolt, broke off her engagement in 1860, and repented ever afterwards having done so, and whom we recognize in 1912 as a charming old maid. The piece has been running since March, 1912, and is likely to continue to attract for some time to come.

The subject of my address is a much more serious and important one, and my milestones are: 1836, 1847, 1867, 1882, and 1895. The progress of surgery and its auxiliaries between 1836 and 1913 has conferred upon mankind benefits and blessings which cannot be too highly appreciated, although their great value is apt to be overlooked on account of our familiarity with them.

If any one had ventured to prophesy in 1836 that such operations as now come under the category of the surgery of the abdomen would be performed in 1913 he would have been regarded as a lunatic. I heard the late Sir W. Mitchell Banks tell his audience, at the opening of the operating theatre at the Liverpool Royal Infirmary by Sir F. Treves a few years ago, that if in the earlier part of his career he had attempted to perform operations which he was then undertaking as a portion of his daily work he would have landed himself in the hands of the police. The mention to him of such operations as gastro-enterostomy, or the removal of the uterus or of the prostate gland, would have made him shrug his shoulders and use some of the impressive language with which his friends were familiar.

First Milestone, 1836.

The modern system of nursing had its commencement in 1836. The credit of inaugurating the new order of things belongs to Germany, for it was at Kaiserwerth that the institute for training deaconesses was founded, and it was at this institute that Florence Nightingale acquired the practical knowledge which enabled her afterwards to turn her remarkable gift of organization to such brilliant account. During the nineteenth century the qualifications of nurses were greatly raised by the influence of Florence Nightingale, Mrs. Fry, and others, amongst the most important of whom may be numbered Queen Victoria, Queen Alexandra, and our present Queen. In 1877 the St. John Ambulance Association was founded, and in association with it lectures to women on home nursing and hygiene are now given regularly in all parts of the country. About ten days ago Queen Alexandra, accompanied by her sister the Dowager Empress of Russia, inspected at Devonshire House over eleven hundred of the nurses associated with the Queen Victoria Jubilee Institute. They came from all parts of England, Wales, Scotland, and Ireland. Every one of these women has had three years of hospital training and an additional special preparation for work in ill-equipped homes. They spend their days in the homes of the poor, going from case to case, dressing, advising, instructing, or contriving some rough-and-ready device for a back-country case where necessity must invent. The nurses in the early part of the century were of a type so graphically described by Dickens in *Martin Chuzzlewit*, *Sketches by Boz*, and other papers. Most of you will remember one of them, who was called Mrs. Gamp, and who Dickens tells us was a fat old woman with a husky voice; her face, the nose in particular, was red and swollen, and it was difficult to enjoy her society without being conscious of a smell of spirits. Her usual accompaniments were a species of gig umbrella, a pair of pattens, and a snuff-box. Mrs. Gamp lodged at a bird fancier's in Kingsgate Street, High Holborn, next door but one to the celebrated mutton-pie shop, and directly opposite the celebrated cats'-meat warehouse. Her bedroom was in the first floor front, and the window was easily assailable at night by pebbles, walking sticks, fragments of tobacco pipes, or a cabdriver's whip; these were all much more efficacious than the street-door knocker, which was so constructed as to wake the street with ease, and even spread alarms of fire in Holborn without making the smallest impression on the premises to which it was addressed. When thus vigorously applied every window in the street became alive with female heads. Every surgeon knows what an important auxiliary a good nurse is both before, during, and after an operation. It is unnecessary for me to offer an abstract notion of such a treasure, as all are familiar with concrete examples, and you also know how the nurses' home of to-day differs from that of Mrs. Gamp.

Milestone 1847.

When I became a student at King's College Hospital in 1855 anaesthetics had not been very long in general use, for it was only in 1846 that ether was employed, whilst chloroform was used for the first time in a surgical operation in the Edinburgh Royal Infirmary on November 15th, 1847. Sir James Simpson made the first experiment with chloroform in his own house on November 4th, 1847. Before chloroform was suggested to him by Waldie, a Liverpool chemist, Simpson personally experimented with several chemical liquids in the hope of finding something less disagreeable and persistent in smell than ether. The dream of Simpson's life had been to soothe the pain of his patients, and, before he realized his dream, he had been almost driven by the painful scenes which he witnessed in the operating theatre to abandon medicine for the law. Sir William Fergusson was in the height of his fame when I went to King's College Hospital. He had been appointed one of its surgeons in 1840, and as chloroform was not used until 1847, he had the experience of performing operations before the introduction of anaesthetics, and comparing it with that of performing operations under anaesthesia. He could tell us how patients narcotized with opium, or intoxicated with alcohol, and uttering piercing screams and sometimes startling oaths, were forcibly held down by strong assistants. He could contrast the agony which, before the introduction of chloroform, people had to undergo both in anticipation of and during the performance of surgical operations, with the comparative ease of mind with which such proceedings could after its introduction be contemplated.

Milestone 1867.

In 1867, the antiseptic or aseptic method of treatment (as it is now called) was introduced by Lord Lister, and as a result of it the number of operations performed for the cure of disease or deformity increased enormously, and rates of mortality which in some cases were scarcely less than 50 per cent. were reduced to as low a point as 1 per cent. Many diseases which were previously beyond the reach of treatment are now easily cured by an operation, and therefore an inestimable benefit has been conferred on mankind. The use of chloroform and other anaesthetics, by removing the fears and dangers attendant upon pain, led to a great increase in the number and complexity of operations, but the mortality following some of them was so terrible that they had to be abandoned. Ovariotomy was one of these, but since the introduction

of the antiseptic or aseptic method of treatment, it has been undertaken again, and performed with such remarkably successful results as to make it clear that the aseptic method was the one thing necessary to complete the usefulness of chloroform and other anaesthetics. The number of females who have not only been rescued from certain death by the operation of ovariotomy, but have been restored in the course of a few weeks to perfect health, is one of the most startling facts in the history of operative surgery. It is very interesting to read some remarks which Sir Frederick Treves made in 1897 and compare them with the state of affairs at the present time. He said: "Sixty years ago the operating room was the dirtiest room in the hospital; the surgeon operated in the dirtiest coat in his possession—a coat stiff with blood and animal filth; he was as proud of this blood-stained rag as a peer of ancient lineage may be of his faded ceremonial robes." An up-to-date operating theatre is an ideal of the most perfect cleanliness. The floor, walls, and roof are covered with glazed tiles, which can be washed with the greatest ease; there are no angles in which dust can accumulate, and the most complete arrangements are provided for washing the hands and the instruments; there is a separate room for the sterilization of the dressings, the basins, and other utensils, and for boiling the water; there is a room in which the patient is anaesthetized by a doctor in the presence of one nurse before being wheeled into the operating theatre; there is a room in which the surgeons hold their consultations, and the equipment of the lavatories is all that could be desired. On a dull day, or in the night, the theatre is brilliantly illuminated by electricity. The operating table is a model of ingenuity. The operating surgeon and his assistants wear a complete suit of white material, such as drill; they have caps on their heads and india-rubber gloves on their hands, and their faces are covered as far as the eyes with a mask of gauze, so that the eyes are the only portion of the body which is visible.

Milestone 1882.

In 1882 very valuable information was communicated by Koch in reference to the tubercle bacillus, although its existence had been discovered by Baumgarten a few years previously. The revolution which has been caused by the discovery of the tubercle bacillus is something like a romance. Attention has lately been called to the circumstance that the common household fly, which is such an annoyance to housekeepers, and with whose unpleasant tickling we are all so familiar, is a great friend of the tubercle bacillus and is a factor in the dissemination of tuberculosis, as well as of typhoid fever and other diseases.

Milestone 1895.

The *x* rays, one of the most important auxiliaries to the surgeon of the present day, were discovered in 1895. The wonderful revelations made by the *x* rays have excited profound interest and placed the treatment of fractures of the bones and dislocation of the joints on a more satisfactory basis than it ever was before. It is now possible to examine them as if the flesh was transparent, and not only to examine them, but also to take photographs of them. The position of bullets, needles, pieces of steel, and many other foreign bodies can be ascertained and photographed without resorting to the painful process, so long in vogue, of probing for them. Some of the diseases of internal organs can also be elucidated by the *x* rays, and by their agency several diseases of the skin can be cured.

The importance of the telephone to the surgeon can be best appreciated by supposing the privilege of using it to be withdrawn. The first successful exhibition of the telephone was made in London on July 14th, 1877. With the telephone the surgeon makes many of his appointments, both at the hospital and in his private practice; he gives instructions to his house-surgeons and others; he sends for a taxicab; when detained at an operation and unable to return home at the time appointed for his consultation hour, he is able to relieve the anxiety of the patients who are waiting to see him by explaining to his servant the cause of his detention. There is another use of the telephone which I can best illustrate by giving you a case which was recorded in some of the newspapers. The child of a young married lady was taken ill in the night with symptoms which she thought were those of croup, a disease of which she had had no previous experience. She at once telephoned to her medical man and asked him what she ought to do. His reply was, "Hold Johnny up to the telephone and let him cough." When this had been done the doctor told the lady that Johnny was not suffering from croup, that she might put him in bed again, and he would call and see him in the morning.

We did not hear much about appendicitis until 1901, when our dearly beloved peace-making King Edward VII narrowly escaped being taken from us by that disease. I remember that at the commencement of his illness the newspapers informed us that he was suffering from a "chill on the liver," a complaint which has no place in the recognized nomenclature of diseases. Sir Samuel Wilks has called attention to the fact that the disease existed and was recognized long before the term "appendicitis" was applied to it, and he has shown that Dr. Addison described "coecitis" or "typhlitis" in his regular course of lectures on medicine at least as early as 1836. Very little has been added since then except that which relates to bacteria and surgical treatment. Moreover, the distinct share of the appendix in the causation of the disease was recognized, although it was not credited with quite so much responsibility as we are now inclined to ascribe to it. In the index to Sir Thomas Watson's lectures on the *Principles and Practice of Physic*, which was the standard work when I was a medical student, neither in the 1857 edition nor in that of 1871 does the word "caecum" or "appendix" occur, but in the chapter which enumerates the causes of peritonitis there is the following passage: "It is a curious fact that the vermiform appendix of the caecum is not infrequently the seat of a penetrating ulcer."

I have traced little groups of glands in that slender tube, and I have known perforation to happen from the specific ulceration of typhoid fever, and from the accidental ulceration caused by a cherry-stone lodged there in one instance, and by a pellet of hard faecal matter in another. The last mentioned cause is of not infrequent occurrence. I and others can recall—and it is a painful reflection—many patients who were undoubtedly suffering from appendicitis, although we were not aware of the fact, and whose lives would probably have been saved by the operation which is now so frequently and successfully performed in all parts of the world and at all hours of the day and night. An American surgeon who is in favour of an early operation says: "The affected appendix is a cap which sometimes snaps, sometimes flashes, and sometimes causes an explosion, and none of us can tell in advance what is going to happen."

Few operations are more beneficent in their design or more successful in their result than those which have been undertaken for the removal of gall stones.

The lives of those who are liable to recurrent attacks of biliary colic, which cannot be prevented by medical treatment, are rendered miserable by the constant fear of a return of their trouble. Sir Thomas Watson says: "The pain that attends the passage of a gall stone is often dreadful. Perhaps there is no pain to which the body is subject that is more severe. You will not wonder at this when you consider that through a tube of which the natural size scarcely exceeds that of a goosequill there sometimes passes a stone as big as a walnut." Even the most simple and uncomplicated form of the operation—which consists in incising the abdominal wall, opening the gall bladder, removing the gall stones, and stitching the edges of the gall bladder to the abdominal wall, leaving a fistula which heals within a few weeks—would not be undertaken with safety before the adoption of the aseptic method of treatment.

The operation of tapping the chest, which is now performed so very frequently, must have been a somewhat unusual occurrence ten years before the introduction of Lord Lister's principles. Writing in 1857, Sir Thomas Watson, one of the most eminent physicians of that day and a colleague of Sir William Fergusson, said: "On six occasions I have myself witnessed the evacuation, by puncture, from the human pleura of a clear transparent liquid. Three of the patients recovered, three died. Again, I have twice seen pus let out by the primary puncture of the chest; one of these recovered and the other died. This constitutes the amount, or nearly so, of my

personal experience of the operation of paracentesis thoracis." In reference to healing up the orifice or keeping it open, Sir Thomas remarks: "On this point practical men differ. I should say, if pus comes out, by all means make the aperture large and keep it open; and inasmuch as detention of the pus would be injurious and the depending point is difficult to hit, and the orifice is apt to clog, I would do more than leave it open; I would draw the puriform fluid off twice a day by a siphon; if serum be let out, by all means close and heal the wound." He then mentions the circumstances under which he would re-open the wound. When I see fluid let out of the chest with that beautiful instrument, Dieulafoy's aspirator, I recall the only occasion on which I saw paracentesis thoracis performed at King's College Hospital. It was in 1858, and the fluid was conveyed, not through an india-rubber tube into a basin, but through a piece of chicken's intestine, the distal end of which rested under the surface of water which had been poured into a bucket.

When I went to King's College Hospital in October, 1855, Sir William Fergusson was in the height of his fame, and the brilliancy with which he performed an amputation or a lateral lithotomy, the delicate manipulation with which he operated for cleft palate, attracted many visitors to his theatre. Amputations, however, were becoming less and less frequent as the conservative method of excising the diseased joint, instead of removing the limb, was becoming more generally adopted. Indeed, Sir William Fergusson and Mr. Syme of Edinburgh were two of the chief pioneers in this branch of operative surgery. This was, of course, twelve or fifteen years before the introduction of antisepsis, but since this great revolution in treatment excisions have been more frequently undertaken and with more satisfactory results. But just as amputation has been superseded in suitable cases by excision, so excision is nowadays superseded by arthrectomy. In this operation, instead of sawing off layers of bone, diseased foci only are gouged out, and the resulting cavities are disinfected by carbolic acid and packed with sterilized iodoform. Influenced by Sir William Fergusson's great reputation, and attributing to him a power which he did not possess, many patients came to see him under the impression that he could restore to its normal flexibility and usefulness, in the course of a few days, an arm which had been fractured and from which the splints had only just been removed. He always treated these people with great kindness and sympathy, and informed them that in due course the limb would be as good as it was before the accident. He also instructed them to come and see him again in three months if by that time the limb had not recovered its normal flexibility and usefulness. Knowing, however, as he did that most of these patients would not be satisfied unless they had "something to take," he almost invariably told his house-surgeon to order them 5 grains of compound galbanum pill three times a day. The composition of this pill, I remember, was galbanum, myrrh, sagapenum, asafoetida, soft soap, and treacle.

In these days, when so many people are knocked down and run over by motor omnibuses, motor cars, and motor cycles, serious internal injuries are often sustained, which render it necessary to make an incision through the soft parts between the ribs and the hips, or, in other words, to do a laparotomy, for the purpose of exploration. Before the days of aseptic surgery this procedure would have been regarded as unjustifiable. Since its adoption, however, tears in the stomach, intestine, bladder, and other organs have been stitched up so as to prevent any further escape of their contents into the peritoneal cavity, and in this way many lives have been saved which would otherwise have been lost. Death from internal haemorrhage has also been prevented by discovering the bleeding vessel and ligaturing it. It is a very wonderful indication of the advance which has been made in operative surgery since the aseptic method of treatment was adopted, that cases are on record in which the entire stomach has been successfully removed, and that it is now no uncommon occurrence to remove the kidney, spleen, gall bladder, prostate gland, and uterus: to suture a perforating ulcer of the stomach, duodenum, and other portions of the intestine; to excise a diseased part of the stomach or intestine, and to unite the proximal and distal ends by suture. It has now even been undertaken to open the skull and remove a tumour from the brain, and to open the spinal canal for the removal of tumours from the spinal cord.

An American surgeon is said to have succeeded in transplanting the limb of one animal to some other animal, and in the transference of vital organs, such as the kidney, from one animal to another. We live in an age of wonders, and it will not be surprising if what has already been done for certain of the lower animals may be accomplished for human beings.

When we reflect on what operative surgery has accomplished between 1836 and 1913, we are disposed to wonder what its record will be at the end of the century, and perhaps to regret that we were not born seventy years later, in order that we might see the still further progress which will be made, not only in surgery, but in art, literature, and all other branches of knowledge. We ought to be very thankful that we have been allowed to live during a portion of the century which has been more remarkable than any of its predecessors for the discovery and invention of appliances which have added so much to the interest and enjoyment of life, and it is our duty to do our best to continue the good work which was carried on by those who have gone before us.

YORKSHIRE BRANCH.

THE DEFECTS OF THE INSURANCE ACT AND THEIR REMEDY.

By WILLIAM STANGER, F.R.C.S.Eng.,
President of the Yorkshire Branch.

The Insurance Bill threatened to place us in an entirely new relation to the State. It imposed upon those who accepted it a statutory obligation to attend insured persons. Our responsibility would therefore be doubled. Before it was to the patient alone, now it would be to the patient and the Insurance Commissioners. It is true many of us had been accustomed to take clubs, but this was partly as a charity, and the tie which bound us to clubs was one of mutual good will. We had not to keep records, file prescriptions; there was no question of medical inspection or of a court of complaints.

When the bill became an Act of Parliament, we were in this position: Those of us who had clubs found that almost all former club patients were now insured persons, and, worse still, many of our former private patients were now entitled to medical benefit in return for their weekly subscription of threepence or fourpence. We were therefore threatened with a great loss of income unless we accepted the Act.

In the meantime, owing to the action of the British Medical Association, and our unanimous refusal to work the Act as at first passed, the Chancellor was forced to make certain important concessions. The inadequate sum of 6s. was raised to 8s. 6d., or rather 9s., including 6d. for tuberculosis. The records were to be of the simplest kind. The medical inspection was declared to be only for statistical purposes, and the court of complaints was transformed into the Medical Service Subcommittee. The profession was very reluctant to give up its old freedom, which it valued far more than money. At the same time, it was felt that refusal to work the Act would mean to many men working in industrial districts absolute financial ruin, and this feeling became so strong that, when the time came to decide, a large majority of medical men, driven by economic necessity, resolved to accept the Act. At the present time, 18,600 doctors are treating 14 millions of insured persons.

On the whole, the Act has proved financially beneficial to those practitioners who work in industrial districts. In some cases their incomes have been doubled. On the other hand, doctors who work amongst the middle class have in many cases suffered a great loss. Patients who were well able to pay a moderate bill have to be treated now for 7s. a year. Doctors who practise amongst the upper class, and consultants and specialists, are not affected by the Act.

As we have accepted the Act, though with reluctance, it behoves us to try and improve it either by amendments to the amending bill which has been introduced, or by

pressing for improvements in the local administration of the present Act.

One great improvement has already been effected. I refer to the substitution of the card system of records for the old cumbrous day book.

I agree with Dr. Barnes, in his address to the Medical Defence Union, that it is important for doctors on the panel to keep careful records of the work they do, so as to be able to demonstrate the inadequacy of the present rate of payment.

We ought to press for increased representation on the Local Insurance Committees, and we ought also to be well represented on all subcommittees. The chief work is done by the subcommittees and then passed rapidly through the Insurance Committee's meetings; it is therefore specially important that we should be well represented on them. It is also most important that our representatives should be allowed to send deputies to take their places when they are not able to attend themselves.

The Medical Service Subcommittee, on which we are well represented, has taken the place of the proposed Committee of Complaints. So far it has proved useful. It is important, however, that its reports should be private, and that the same secrecy should be observed when the report is presented to the Insurance Committee. This, I am pleased to say, has been conceded by the West Riding Insurance Committee.

Miscarriages and Abortions: Anaesthetics.

The Act was rushed through Parliament in such a hurry and with so little consultation with the medical profession that it is full of injustices. What can be less equitable or less in accordance with all previous contract medical practice systems than to include attendance on miscarriages and abortions as part of medical benefit. These cases are often more troublesome than ordinary confinement, and should be paid for separately. It is the first time that any contract system has included attendance on persons for diseases caused by their own misconduct. By the Act, although payment for sick or disablement benefit is disallowed in these cases, they have a right to medical attendance. This is an anomaly against which we protest. One of the most absurd things in the Act is the inclusion of the administration of a general anaesthetic as part of the medical benefit to which insured persons are entitled. It was never the case under the club system, and I do not think insured persons desire it; but if they insisted on it as a right, it might lead to the dangerous practice of giving an anaesthetic and performing an operation simultaneously. They have no right to the service of any doctor except the one on whose list they are, and it can never have been expected that the doctor should pay the anaesthetist himself.

Malingering: Medical Referees.

A subject which has been exercising the minds of the profession is the question of medical referees. Malingering or valetudinarianism is a growing evil; it is not a new evil. Schoolboys have been liable to it, I suppose, since schools were invented. It has always been common in the army. It was aggravated by the Workmen's Compensation Act, and will no doubt go up by leaps and bounds under the Insurance Act. I am afraid that women are likely to be the greatest offenders. We hear of villages in Scotland where traumatic neurasthenia is a common subject of conversation. Under the old club system malingering was checked to some extent by the jealous watchfulness of the other members of the club, who were quick to note and report any sign of shamming. This check is absent in the Insurance Act. It is no one's interest to detect and expose the imposture. I have heard that men have openly boasted over their cups how they have cleverly deceived the doctors. Members of clubs, too, had a feeling of comradeship which made sponging on their fellow members almost impossible to a man of average moral sense. That feeling will be lacking in these huge approved societies with their thousands of members. Again, members of clubs entered them voluntarily, but insured persons are now forced to contribute, and many, I believe, are determined to get ninepence for their fourpence.

Now, medical men are not by training fitted to be detectives. We are accustomed to listen to complaints of our patients with sympathy, and all we think of is how to cure or relieve them. It is therefore important that in cases where we suspect fraud we should be able to call to our aid some man of special qualifications and aptitudes for the detection of malingering.

A medical man's position with regard to his patient is a delicate one. He is bound by strict rules of professional secrecy. He is also in a very vulnerable position, and any reflection on the bona fides of his patient might have very unpleasant consequences. In Bristol a physician has been appointed. He is called the medical adviser. His duties are to visit any case when requested by the medical attendant, the approved society, or the Insurance Committee, and arrangements are made so that an insured person does not know who sent the referee. This is an important point, as it prevents the friendly relation between doctor and patient from being disturbed. The Secretary of the Bristol Medical Committee reports that the appointment is working most satisfactorily. He is not a whole-time officer. He is paid at present £50 a quarter, which works out at 10s. a case. He was appointed by the Insurance Committee, which agreed to appoint the nominee of the Medical Committee. He is paid by the Insurance Committee out of its own funds.

In London it has been decided to appoint referees, but the details have not yet been worked out. If we decide that a medical referee is desirable, there are several questions to be considered:

I. Should there be one or more referees to an area? I myself think that in large areas like the West Riding there should be at least three referees. We cannot expect any man to have a universal knowledge of the art. Each man should be an acknowledged authority in either medicine, surgery, or such special branches as the eye or throat.

II. Should they have other duties? I do not see why these men should not act as advisers, not only in cases of suspected malingering, but in obscure cases where in private practice a second opinion would be desirable. A serious defect in the Act is the absence of any provision for a second opinion in the obscure and difficult cases we meet with from time to time. When the bill was introduced it was promised that the insured persons should have the same medical skill at their command as the rich have always had. Medical science has made such great advances of late years in all directions that it is impossible for a hard-worked general practitioner to keep pace with them. Instruments for diagnosis, such as the laryngoscope, the cystoscope, the ophthalmoscope, and many others have been invented, mastery of which requires a long course of training. A busy practitioner cannot be expected to take differential blood counts, to make *x* ray examinations, determine the blood pressure, or the opsonic index. Then there is the wide field of bacteriology, in which we must have help from men of special training. If the promise of the Government was sincere, arrangements would be made so that the panel doctor would be able to secure specially skilled help when he required it. I suggest that the medical referees, who will be chosen for their special skill in diagnosis, should also act as consultants. This is a private opinion of my own, and is not part of the programme of the British Medical Association.

III. Should they be whole-time officers? Dr. Cox thinks they should not, and I agree with him, and so does Dr. Eardley, from whom I gratefully acknowledge many admirable suggestions in preparing this address. Dr. Cox thinks that "a whole-time officer would soon degenerate into a more or less one-sided individual, a mere detective, who would be to some extent out of touch with our actual practice in its many and varied phases." It may be a question, however, whether this would be the case if he were to combine the duties of referee in cases of malingering with those of a general consultant.

IV. Should he be a panel doctor? The opinion of the British Medical Association Council is that he should not be on the panel. That, I think, we shall all agree to, but it might be an advantage to have a man who has been on the panel, and so gained an experience of that class of work.

V. *Method of Appointment.*—The view of the British Medical Association, with which I agree, is that the referees should be appointed centrally by the Commissioners on the nomination of the Local Medical Committee

concerned. This would prevent local wire-pulling and give them a status superior to officers appointed locally. They should only be removable by the authority by whom they are appointed. They should not be appointed for a limited time only, and if whole-timers they should be entitled to superannuation.

The Commissioners are already empowered by the Act to make these appointments, but where the money is to come from to pay them I do not know.

There are several other important matters which I will mention briefly, as I do not wish to take up too much time.

Mileage.

A grant has been made for this purpose, but it is absurdly inadequate. As the principle has been admitted, it will be the duty of Medical Committees to see that their districts get a fair share of the grant, and also to collect evidence to quote to the Commissioners that it is inadequate.

Certificates.

Among the minor worries of a panel doctor's life there is nothing more irritating than the constant duty of writing certificates. These have been multiplied of late by the approved societies, and I think we ought to have an authoritative ruling as to what certificates are required by the Act and what ought to be paid for. It is a question, too, which requires answering, whether we are bound to indicate the nature of the disease from which the patient is suffering, and if so, whether the Act sufficiently protects us from an accusation of having committed a breach of professional secrecy.

Itinerants.

The last point I shall mention is the intricate case of persons moving from one district to another, either for a holiday or for a change of air during convalescence, or for some other cause. To take money from the panel doctor in the district from which the patient removes to pay the doctor for attending him in the district to which he goes, is a breach of the agreement which entitles every practitioner to 7s. per annum for each person on his list.

The only satisfactory solution of the difficulty is for the Government to make a special grant. If that is refused, doctors and patients should be allowed to make their own arrangements.

Conclusion.

How are we to obtain these reforms? There is only one way. We must act loyally together, not allowing any selfish individual interests to divide us. We do not sufficiently trust one another. Want of trust is

> The little rift within the lute,
> Which by and by will make the music mute,
> The little pitted speck in garnered fruit,
> That rotting onward slowly moulders all.

With us union can only be achieved through the British Medical Association. The Association has made mistakes, but it is to the action of the Association through its various committees, and especially the State Sickness Insurance Committee, of which Dr. Cox is Secretary, that all the improvements in the administration of the Act are due, including the increased grant of one and three-quarter millions to the fund for medical benefits.

Medical men who are enjoying these extra fees and have not yet joined the Association should consider whether it is fair to allow the Association to work in their interest without making any return.

I hope in time the Association will include the whole of the practitioners of this country. We should then speak with an authority that would make our demand for all reasonable reforms irresistible.

I cannot conclude without paying a tribute of admiration for the work of our Local Medical Committee. I have carefully read the minutes of the various meetings of the West Riding Medical Committee, and am filled with admiration for the way they have worked for us and guarded our interests. They have an admirable chairman in Dr. May, and no committee could have a better or more indefatigable secretary than Dr. Eardley.

There are several other matters I should have liked to discuss, such as the question of extra payment for night calls and the franking of correspondence with the Insurance Committees, etc., but as we have some interesting scientific papers to listen to I will now conclude, thanking you for your kind attention.

ACUTE ENDOCARDITIS FOLLOWING GONORRHOEA.

By A. WILSON GILL, M.D.Edin.,
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The history of the following case is of interest in so far as it records the onset of acute endocarditis occurring soon after a sharp attack of gonorrhoea. It has been recently suggested that gonorrhoea is a more common cause of endocarditis than is usually supposed, but it is a causal factor as yet not commonly recognized. The record of this case tends to confirm this view.

The patient, who was 44 years of age, an engineman by occupation, contracted gonorrhoea about December 21st, 1912. His social conditions were good. He lived in a comfortable house and occupied a good position; he was a heavy smoker and practically a teetotaler; he had never had rheumatic fever nor any serious illness.

I saw him first on December 29th, 1912, on which date I began treatment by means of injections consisting of alum sulph. gr. 15, zinc sulph. gr. 15, pot. permang. gr. 1¼, dissolved in about one pint of water, and administered by means of a tank and catheter. He received one injection every day, and on January 21st he was completely cured. He reported himself about ten days afterwards quite well except for vague pains, which were thought nothing of.

I saw nothing more of him for about three weeks, when he again reported himself, and I was struck with his appearance. He complained of some shortness of breath and slight pain over the heart, and also of slight pains in his joints and in the back. He told me that since the Insurance Act came into force he had been under his insurance doctor, who diagnosed influenza, and at the same time told him that his heart was not strong. He had been advised to go to bed, but he could not rest there. At this time he was rather pale and easily exhausted, complaining of considerable dyspnoea but unwilling to give up work.

I lost sight of him for a week or two, and when I saw him again he was obviously ill, but still walking about. The shortness of breath was more distressing. The pains, though not severe, were still present, and his whole appearance suggested a severe toxaemia. His colour was ashy grey, almost slightly jaundiced, but he was still under treatment by his insurance doctor, so I had no opportunity of examining him.

On May 4th I was sent for to see him, as he was much worse. I found him in bed, very restless, and tossing about, as he could not get his breath. He had no appetite, and his temperature was 102° F. He was obviously very ill, and I did not care to disturb him much. I ascertained, however, that there were several crepitations at the bases of both lungs; that the liver was considerably enlarged, reaching almost to the umbilicus, and tender on pressure; and that both ankles were oedematous. The urine was scanty, but free from albumen. The pulse was regular, somewhat rapid, and of low tension. The apex beat was not palpable, partly owing to the thickness of the chest wall, and partly to the feeble action of the heart. By percussion, the apex appeared to be in the fifth space, about 1 in. outside the nipple line. The heart sounds were rather faint. At the apex there was a reduplication of the first sound, and a very faint systolic bruit, not conducted to any extent. Over the aortic cartilage a short systolic bruit was also evident.

Owing to the great restlessness of the patient, I did not examine him as fully as I should have liked, but insisted upon his staying in bed, and ordered a milk diet, and gave suitable drugs.

A bad prognosis was given to the friends.

Next day he felt better, having had a good night's sleep, but was still very restless, trying to find a comfortable position.

On May 6th I was sent for at 8 a.m. When I got to the house, the patient was dead, having jumped out of bed in an attack of cardiac asthma, and immediately collapsed.

There can be no doubt, I think, that the cause of the endocarditis in this case was the preceding attack of gonorrhoea, as the joint pains complained of were never like those of rheumatic fever, and the whole sequence of events seemed to date from this illness.

SPONTANEOUS REDUCTION OF A DISLOCATION OF THE CERVICAL VERTEBRAE.

BY

WILLIAM C. BENTALL, F.R.C.S.E.

On April 25th, 1912, I was called to Ulverston to see a patient who was under the care of Dr. Anderson of that place. As the call was by telephone, I learnt that there was a possible fracture of the spine, that Dr. Thurstan Holland had been to Ulverston the previous day and taken a skiagram of the injured spine, and I was to go prepared to operate if necessary to relieve any pressure on the cord. I therefore went first to Liverpool to see the *x*-ray plate, in which it could be seen that there was an increased interval between the third and fourth cervical vertebrae and that the lower edge of the body of the third was pushed forward over the upper edge of the body of the fourth; this edge was less sharp than below.

On reaching Ulverston I learnt that on April 21st the patient, aged about 65, fell from a tree. As he was standing on a horizontal part of the trunk his feet slipped from under him, and he fell on his back and slipped down; possibly while thus falling a projecting piece of wood struck his spine. As he lay upon the ground he was perfectly conscious and had no pain, but had no power in his arms and legs; breathing was gasping, and he was conscious of having to force it. After a while there was some pain across the back, passing from the shoulder blade up to the head. There was no vomiting and no irregularity of the organic reflexes.

That same night there was a slight movement of the legs which the following morning was increased. On April 24th an enema was given, and the sphincter control was perfect. There was no spontaneous pain, but on movement of the body there was pain at the back of the neck, and he was conscious of a creaking sensation, but this was not detected by others or by the doctor who examined him. There was an inability to turn in bed, and there was a "feeling of a band" felt across the liver on the evening of April 21st. This disappeared and occurred higher up, and became, in the words of the patient, "like a cane stretched round the chest obliquely, passing below the left armpit and over the right shoulder." On April 25th the band felt a little lower and wider, passing over the heart, and seeming to cause embarrassment on breathing.

I found the patient sitting in a chair, apparently not suffering, and ready to converse intelligently about the situation. As he sat he was able to move his legs slightly, but he could not move his arms. Movements of the head and back seemed a little restricted; being utterly helpless to rise or help himself, he was lifted on to the bed.

1. LEGS.

(*a*) *Sensory Functions.*—Babinski's sign was absent from both feet. The right foot was hypersensitive, and pin-pricks were felt more on the right foot than on the left. He described the same prick on each foot as "sharp on the right foot and blunt on the left." A scratch or a pinch showed the same from the knee to the ankle. The right leg was rather duller than the left to the various forms of sensibility.

(*b*) *Motor Functions.*—The power to move the right leg was delayed and sluggish, though only very slightly limited in extent, while the left seemed normal. The knee-jerks were normal on both.

2. ARMS.

(*a*) *Sensory Functions.*—The hands appeared a little swollen, and in both arms there was a greater sensation on the radial than on the ulnar side, while the median area was indefinite. There were no patches of lost sensation.

(*b*) *Motor Functions.*—Flexion and extension, feeble in the fingers and wrist, were absent from the arm and forearm. In the attempt to lift the forearm the pectorals and trapezii contracted; supination and pronation were feebly present on both forearms. The grip and motor power of the hand was less on the left than on the right, and reflexes were present.

3. THE TRUNK.

Nothing obvious was to be noticed. The superficial reflexes were absent on the left, present on the right. Inspiration was full and painless. Sensibility was present all over, but was rather less on the right side; the region of the band above referred to, just below the left clavicle, showed an area of markedly lessened sensibility. The neck behind was red from local application, the skin was coarse, and when pinched between the fingers, slightly nodular. There was no abrasion, but there was slight tenderness over the cervical vertebrae, while the rest of the spine might be handled with impunity. No crepitus or abnormal formation could be detected.

The pupils were active to both light and accommodation, but the right was rather sluggish. The heart sounds were normal, the mental temperament was vigorous. The respiratory system appeared normal.

The important locating fact was that the arms were hypersensitive on their radial aspects, which is the area supplied from the fifth cervical root.

Amongst the literature on the subject which I read up in the train *en route*, Horsley's dictum from the *Clinical Journal* guided my action. "If the lesion is acute and in the cervical region, then certainly wait. As regards the dorsal region, better to wait a little. As regards the lumbar region, I do not think you want to wait to operate."

The result of masterly inactivity was that in two months the patient walked into my consulting-room unaided and shook hands, but the finer movements were wanting, and he could not dress himself. On October 13th he was back at his office in Liverpool, could write well, but still was unable to button his collar.

Now, in June, 1913, fifteen months after the accident, he is able to carry on his work, but still has numbness in his finger-tips which hinders the finer movements being performed, and occasional twinges in the muscles of the neck.

A NOTE ON LOCAL ANAESTHESIA.

BY

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THE application of local anaesthetics is taking a very important place in the surgery of the present day, and is likely to replace the use of general anaesthesia in all minor and in many major operations. A field of out-patient surgery has thus been opened up which English hospitals have been somewhat slow to recognize, whilst in private practice the opportunities of the general practitioner have been greatly increased. The latter can now carry out in his consulting-room operations which have hitherto involved all the paraphernalia of general narcosis, and the only assistance required may be given by the patient himself.

The equipment required consists of a first-class syringe with fine needles of varying length. A Record syringe of 5 or 10 c.cm. capacity will answer all requirements. A few long blunt-pointed needles are useful for extensive infiltration.

The drugs chiefly used are cocaine, eucaine, novocain, and adrenalin. These all oxidize rapidly if exposed to the air in solution. All solutions should therefore be made up immediately before use, and when this is done it is possible to be certain that the solution is both active and sterile.

Local anaesthesia may be produced by four distinct methods: (1) Local application; (2) local infiltration; (3) nerve blocking—"regional" anaesthesia; (4) venous infiltration.

1. *Local Application.*

This is only used in relation to certain mucous membranes and raw surfaces. Its chief applications are in the nose, eye, and urethra. The nose may be plugged with strips of gauze soaked in a 20 per cent. solution of cocaine to which a few drops of 1 in 1,000 adrenalin have been added. In the eye 1 per cent. to 4 per cent. solutions may be used. In the urethra cocaine should only be used in 1 per cent. solution, as absorption is rapid, and toxic symptoms may be marked. This is the great disadvantage

of cocaine, and yet there is no drug to equal it in potency as a local application.

2. *Local Infiltration.*

This is the most generally useful method for minor surgical procedures. The nerve endings are paralysed by injections in their neighbourhood. The best solutions to use are 0.2 per cent. eucaine or 1 per cent. novocain, preferably in normal saline to which a few drops of 1 in 1,000 adrenalin are added. A very convenient method is to have gelatine capsules made up containing β eucaine 0.2 grams, and sodium chloride 0.8 grams. One of these is thrown into 100 c.cm. of boiling tap water when required, and, on cooling, 10 drops of 1 in 1,000 adrenalin chloride are added. The solution is then always fresh, always active, and always sterile. This amount will be sufficient for any ordinary operation, but, if necessary, twice or thrice as much may be used with perfect safety. The addition of adrenalin to these solutions is a very important advance. By constricting the vessels it not only prevents bleeding but limits the anaesthetic to the region required, increases its effect, and prevents its rapid absorption into the circulation and the resulting toxic symptoms.

In making the injection we adopt one of two methods: We may inject into the dermis or into the deep tissues. The former is essential along the line of incision, and should result in the raising of small swellings as the injection is made. Each swelling is itself anaesthetic, and may be used as the starting point for further injections. But if the deep tissues are to be entered, these too must be infiltrated, and in an extensive operation it will be better to carry this out as the various structures are exposed. In this way any superficial tumour can be removed, and even very extensive procedures carried out, with no shock and little or no haemorrhage. An important application of this method is to fractures and dislocations. Deep injections are made around the displaced ends of bone, the tissues around both surfaces being thoroughly infiltrated. In a few minutes all pain will have ceased, the reflex spasm of muscles will have disappeared, and the bones may be reduced to their normal relations with great ease.

3. *Nerve Blocking.*

By this means the whole region of distribution of the blocked nerve is rendered anaesthetic. The injection may be made into the nerve trunk or around it. In the former case the solutions already mentioned for infiltration may be used with very fine needles. In the latter case the solutions should be twice as strong and only small nerves should be dealt with. For large trunks endoneural injection is essential.

As an example of perineural injection we may take resection of a rib for empyema. Several cubic centimetres of solution are injected around the heads of the rib in question and of that above and below. The skin, the rib, and all the tissues to be divided will thus be rendered anaesthetic. Similarly, perineural injections around the median and ulnar nerves at the wrist will enable many operations on the hand to be performed. Endoneural injections of the brachial plexus have been extensively used by Krause for operations on the arms. An essential point of this method is that paraesthesia which should be felt in the nerve distribution after the needle is inserted and before any injection is made.

This method can be used wherever the nerves of the part are accessible—in the arms, the feet, the legs, the jaw, for example. It has the great advantage that it does not in any way interfere with the actual site of operation, and its only limits appear to be the anatomical knowledge and manipulative skill of the surgeon.

4. *Venous Anaesthesia.*

This most recent method of local anaesthesia we owe to Bier. It depends upon the extensive anastomosis between the superficial and deep veins. Some portion of a limb is emptied of blood by elevation, or an elastic bandage, and is cut off from the circulation by tourniquets above and below. Into one of the surface veins the anaesthetizing solution is injected under some pressure. The result is complete anaesthesia of the section of limb between the tourniquets by "infiltration" and complete anaesthesia of the limb below by "blocking." Either of the infiltrating solutions may be used, but no adrenalin should be added (Bier). A vein may be dissected up under local anaesthesia, but it is easier to insert a short needle into the vein while it is full, and to empty the limb rapidly by elevation. The tourniquet above the field of injection should be slowly removed at the end of the operation, to avoid a sudden flooding of the circulation with alkaloid. The limb will then return to its normal state in seven or eight minutes.

This very powerful method has wide applications, and can be used for the gravest operations on the limbs, provided a tourniquet can be placed above the site of operation. Its application in lacerations of hands and feet, in amputations, and in osteomyelitis, is obvious.

By one or other of the above methods almost any operation of modern surgery can be satisfactorily carried out. For minor surgery and for operations on the limbs these methods are far superior to general narcosis, and in special circumstances they may have advantages even in graver operations. They form a very powerful weapon with whose uses every practitioner should be familiar and upon which the surgeon and anaesthetist of to-morrow may largely rely.

Those who wish for further information on the subject will do well to refer to the following papers:

Gwynne Williams: Choyce's *System of Surgery*, vol. i, p. 680.
Braun: *Deut. med. Woch.*, January 2nd, 1913, p. 17. *Medical Review*, May, 1913, p. 269.
Kulenkampff: *Deut. med. Woch.*, October 3rd, 1912, p. 1878. *Medical Review*, January, 1913, p. 47.
Lenormant: *Presse méd.*, December 21st, p. 1066. *Medical Review*, May, 1913, p. 246.

ON DILATATION OF THE FALLOPIAN TUBES FOR STERILITY.

By T. HOPE LEWIS.
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Many women seek advice as to the cause of their sterility, and the usual means employed, after one is satisfied that the fault lies with the female, have, up to the present, been the correction of malpositions and flexions, the dilatation of the cervix uteri, curettement of uterus and cervix, and the cure of endocervicitis.

Though in many cases this is done, still impregnation does not take place. I am quite satisfied that there are many cases where the fault lies in the Fallopian tubes. I will briefly cite two cases which bear out my contention.

The first case in which I dilated the Fallopian tubes deliberately for sterility occurred some eight years ago. I had occasion to open Mrs. A.'s abdomen for an appendical trouble—in the quiescent period; she was a nullipara, married some five or six years, and very anxious for a child. She requested me to ascertain, if possible, while I was doing the appendicectomy what was the cause of her sterility. I opened the abdomen in the middle line, and found her uterus and ovaries were normal, but she had stenosis of both Fallopian tubes. I dilated them both from the ostium to the uterus. She made an uneventful recovery from the laparotomy, and within eighteen months gave birth to a healthy child. When last I heard of her she had had a second child.

This case gave me considerable food for thought, but it was not till April 19th, 1911, that I came across a case that gave me sufficient grounds for advising a deliberate laparotomy and dilatation of tubes as a cure of sterility. Mrs. N., aged 30, married four years, had never been pregnant. The catamenia began at 15, were regular and normal, though a little delayed at first; since marriage they had been regular; there was no pain at the period, but much pain ten days after the flow, "sickening, deadly pain across the lower abdomen"; it lasted three days and went away as suddenly as it appeared. It seemed a distinct case of "middle pain." I found that in her anxiety to get pregnant she had had the cervix dilated and curetted, and also the cervix slit up about a year after she was married. This did not have the desired effect. On examination, the vagina was found to be capacious; the cervix was slit bilaterally; the uterus seemed small, its position was normal, and the sound passed normally. I

explained the whole position to her and her husband and told them my opinion was that she had stenosis of the Fallopian tubes. They consented to a laparotomy, which was done on May 5th, 1911. On opening the abdomen, I found both tubes contained some three or four strictured portions in each. These I dilated with canaliculus and other probes, gradually increasing the size. I got well up to the uterine end of the tube in both.

The process of dilating these Fallopian tubes was somewhat difficult—that is, the probes did not pass the strictured portion easily, but with patience I felt at last that I had got through them all. I mention this to guide any one attempting a similar operation to have patience in worming the probe through. Each strictured portion showed up white when pressure was put upon it by drawing the tube over the end of the probe.

A good and rapid recovery was made from the laparotomy. The first good effect noticed was the cessation of the middle pain. Her last period was April 26th, 1912, and in February, 1913, she was delivered of a healthy male child in due course.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

PAPYRACEOUS FETUS PRESENTING AT A NEARLY FULL TIME LABOUR.

THE case is that of a woman aged 23, a multipara, having a good previous general health, with no evidence of syphilis in her parentage or in that of her husband. Her previous reproductive history was carefully inquired into, and showed no point of special interest. Menstruation was of the twenty-eight day type, and began when the patient was 11 years old. There were no intermenstrual symptoms. She married at 18, and within the two following years two healthy children were born, the confinements being normal in both cases.

In the present pregnancy the patient "felt life" when she appeared to be four and a half months pregnant, and about two weeks later she sustained a slight accident, falling a distance of about 2½ ft. The day before the accident she asserts that she distinctly "felt life," but afterwards these indications ceased; she thought the baby was dead.

A month later, that is, when she was about six months pregnant, she was seized with a severe attack of abdominal pain. It continued for about a week, and gradually subsided. It was limited to the lower part of the abdomen, and was not accompanied by vomiting or constipation. No doctor was called to attend at that time. She felt more breathless than usual towards the later stages of this pregnancy.

Two months later labour commenced and medical aid was summoned. She says she felt life one week before labour began. The abdomen had the appearance of an eight and a half months pregnancy. The fetal heart was faint and rapid. The head was not fixed in the pelvis. The os was about the size of half a crown and the membranes appeared to be intact. The patient, however, asserted most positively that the membranes had ruptured and a yellowish fluid had escaped. For some hours uterine contractions were feeble, but after rest, under the influence of opium, strong labour pains came on. Vaginal examination now revealed, in addition to the vertex presentation, what appeared to be a shrunken limb. Upon further investigation this was found to be a papyraceous fetus. This was removed and labour proceeded along the usual lines. After delivery of the child the uterus contracted strongly and in fifteen minutes a large placenta was expelled. Three hours later *post-partum* haemorrhage occurred. This was arrested by an intrauterine douche and ergot. She had no further trouble during the puerperium.

Examination of the placenta showed that about two-fifths was fibrotic and pale. To this portion a long thin umbilical cord was attached. The chorion and amnion were complete for each fetus, those for the papyraceous fetus being slightly shrivelled. Examination of the papyraceous fetus showed a typical appearance of a fetus which probably died about the sixth month of pregnancy.

It seems rare to have a papyraceous fetus presenting in front of its twin during a full-time or nearly full-time labour. The sudden onset of abdominal pain may have been due to the death of the fetus.

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EARLY DIAGNOSIS OF APPENDICITIS.

I WAS very much interested in the communication entitled "A Useful Sign in Acute Appendicitis," by Dr. John Blair, published in the issue of the BRITISH MEDICAL JOURNAL for June 14th. The study of abdominal physical signs and their interpretation has been to me a subject of great interest for many years, their very vagueness and obscurity having afforded me many hours of fascinating inquiry in order to solve them.

In the *Practitioner*, October, 1912, page 556, I published a paper entitled "Appendicitis, from a general practitioner's point of view." In this I laid great stress on the importance of two physical signs, which experience has taught me to be invaluable—namely, (*a*) a fullness or congestion of the right superficial circumflex iliac and the superficial epigastric veins and their radicles; (*b*) a slight rigidity of the muscles covering the lower right quadrant of the abdomen and a difference of tension in the right rectus abdominalis muscle.

I first had my attention drawn to these physical signs when anxiously watching appendicitis develop in a son of my own, then aged 10 years and 11 months, whose initial symptoms were most perplexing. For some time previous to his attack there had been slight abdominal pain, referred generally to the lower quadrant of the abdomen—namely, hypogastric, umbilical, and right iliac regions. From time to time he had passed a considerable quantity of mucus in his stools prior to this attack. He complained also of a transitory frontal headache. The pulse during these attacks varied from 76 to 80, and the temperature was raised by ½ to 1°. These were the main features of the initial symptoms. Two days before the attack became definitely localized to the right iliac region congestion of the right superficial circumflex iliac and the right superficial epigastric veins became marked, followed by slight rigidity of the muscles covering the lower right quadrant of the abdomen, together with a difference of tension in the right and left recti abdominalis.

Operation revealed an acutely inflamed appendix, whose apex was so virulently attacked as to show early signs of becoming gangrenous.

Since that time (October 2nd, 1910) I have never waited for the more classical symptoms to develop, but have had my cases operated upon immediately the above symptoms and physical signs have presented themselves, and have had the satisfaction of verifying their accuracy in every case, either by my surgical friends or myself when present at the operation.

There is another sign I have noticed in very virulent forms of appendicitis where an acute abscess is forming, and that is dilatation of the lymphatics of that area and oedema of the skin.

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ACCORDING to the *Journal of the American Medical Association*, delegates from the American Dermatological Association, the American Laryngological Association, the American Otological Association, the American Gynaecological Society, and other bodies, recently held a meeting in New York for the purpose of starting a campaign of publicity against cancer. Dr. George C. Clark, of New York, was elected president. Other societies interested in cancer problems are to be asked to join. The scheme is to enlighten American women on cancer by articles in women's magazines and nursing journals, by pamphlets distributed by nurses, social workers, doctors' and women's clubs, by instruction in nurses' training schools, and by lectures before women's clubs. The new organization, says our contemporary, seems to cover the same ground as other bodies already in existence and in the formation of which some of the same delegates and associations are co-operated. A movement is already on foot to correlate or amalgamate all these bodies into one effective national cancer league.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

WALSALL DISTRICT HOSPITAL.

A CASE OF APPENDICITIS SIMULATING INTUSSUSCEPTION.

(Reported by J. D. SPEID SINCLAIR, M.B., Ch.B.Glasg., Senior House-Surgeon.)

THE patient in the following case, a boy aged 3, was admitted at 11 p.m. on April 28th with a history to the effect that he had become ill suddenly six hours previously with vomiting, pain in the abdomen, and passing blood and mucus per anum.

State on Admission.—Temperature was 99.4°, pulse 128, respirations 28. The abdomen was quite flaccid and no swelling could be palpated, but he seemed to be extremely tender in the right iliac region.

Treatment.—As he seemed to be fairly comfortable and inclined to sleep, it was thought advisable to let him remain so, if possible, for the night. An enema of 6 oz. of olive oil was given without result. I saw him again at 12.30 a.m., when he was awake and very restless, and appeared to be having spasms of intestinal colic which lasted a few minutes; during the intervals of these spasms he dozed. At this juncture I ordered ⅓ grain of morphine to be given hypodermically, and he slept until 6 a.m., when he awoke and was extremely restless.

Operation.—During the day it was decided to open the abdomen. He was consequently anaesthetized, and the abdomen opened in the middle line. The appendix was found acutely inflamed and hypertrophied. The caecum at its junction with the ileum was also acutely congested and thickened, so much so as to suggest the presence of something within its lumen. In the first place the inflamed appendix was removed, and just as the stump was about to be invaginated two or three very active threadworms (*Oxyuris vermicularis*) wriggled from the lumen of the stump. Secondly, the caecum was incised in order to examine the interior and wash out the large bowel.

REMARKS.—Although innumerable threadworms were found in the lumen, the obstruction was caused by the congested and hypertrophied state of the walls. This condition would account for the passage of blood per anum. On splitting up the appendix afterwards it was found to be full of these worms. I report the case for three reasons, namely, that the signs and symptoms strongly suggested intussusception, that it is rare to find threadworms so high up in the bowel, and that it is still rarer to find them as the direct cause of acute appendicitis.

THE International Congress for Neurology, Psychiatry, and Psychology will be held at Berne in September (7th to 12th), 1914. The fact that in 1913 the neurologists and psychiatrists will twice within a few days have the opportunity of meeting in London and in Ghent made the Swiss Neurological Society consider the expediency of postponing the congress to a later period. But upon reflection they came to the conclusion that, owing to the ever-increasing development of all branches of medicine with which the physiology and pathology of the nervous system are connected, and the multiplicity of questions constantly arising in this department of science, the congress of 1914 would justify its existence by affording to the representatives of the world of science an opportunity for a further interchange of views on these subjects. The congress of 1914 will, like that of Amsterdam, include psychology, as a science indispensable to every neurologist and psychiatrist, amongst the subjects of discussion. On the other hand, it will not deal with questions relating to the nursing of the insane, because they are treated in the special congresses of psychiatry, one of which will take place this year in Moscow. The final arrangements for the organization of the congress of 1914, the composition of the national committee of patronage, of the international committee of propaganda, and the programme of questions proposed for discussion will be published later. The organizing committee consists of Professor Dr. Dubois, Berne, president; Professor Dr. von Monakow, Zurich, and Dr. P. L. Ladame, Geneva, vice-presidents; Dr. R. Bing, Basle, substitute; Dr. L. Schnyder, Berne, and Dr. O. Veraguth, Zurich, secretaries.

Reports of Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on July 2nd, Mr. J. M. COTTERILL, President, in the chair, Dr. W. RUSSELL, speaking of *Intestinal toxaemia*, said constipation lay at the root of many of the manifestations of alimentary toxaemia. Defective evacuation of the intestinal contents involved retention of the hepatic excreta, and one of the first results of constipation was to embarrass and impede the detoxicating function of the liver. In regard to absorption of bacterial toxins, almost the only established fact was the occurrence of putrefactive processes in the intestine as the result of excessive protein feeding. Comparative pathology confirmed this in showing that cirrhotic kidneys were rare in cattle and sheep, but relatively common in the carnivorous cat and dog. Another aspect of the question, which had been ignored, was the reflex effect of constipation upon the cardio-vascular system. Thus in a bilious attack the tense pulse was relaxed when the bowels were freely opened by a blue pill. Many of the clinical phenomena, erroneously referred to toxaemia, were really due to this abdomino-vascular reflex, which by constricting the systemic arteries produced a poor distribution of blood to the tissues and organs, and also grievously impeded the removal of the waste products of the tissues. Mr. ALEXIS THOMSON said that in intestinal stasis, as distinguished from constipation, there were abnormal changes in the faecal contents, as well as delay in their evacuation. Too much reliance need not be placed upon *x* rays as a guide to operative interference. Assuming the occurrence of a condition of stasis in the colon that required surgical relief, there was a choice of measures. Appendicostomy was safe and efficient. An artificial anus in sigmoid or caecum was sometimes effective. Finally, there was a variety of operations included under the term "entero-anastomosis," of which ileo-sigmoidostomy was the most familiar. Dr. CHALMERS WATSON said that evidence of the secondary effects produced by constipation on the intestinal mucous membrane could often be had in the unduly septic condition of the stools. A careful examination of the stools was of value both in diagnosis and treatment. He classified the cases in three groups: (1) Those with rheumatic or quasi-rheumatic symptoms; (2) cases of neurasthenia, in many of which there was a definite organic lesion of the alimentary tract; (3) cases of general disturbance, which finally issued in some local mischief, such as appendicitis or duodenal ulcer. Dr. M. DEWAR said the problem of constipation was best attacked from the standpoint of prevention, and that could only be done by an education of the public as to the dangers of constipation and the means of avoiding it. Dr. PRICE said the severe cases were not susceptible to amelioration by the physician. The use of *x* rays demonstrated not only the fact of stasis, but also the amount of large bowel affected by atony. The best operation was that one which saved as much of the large bowel as possible, short-circuiting only the atonic segment. Dr. GULLAND maintained that most cases got better without operation. Bacteriological examination of the faeces seldom threw light on the question of toxaemia. Remote conditions were often causal, and of these an obvious but often neglected one was a septic condition of the mouth and teeth. Mr. E. S. CARMICHAEL cited the case of a rachitic child, aged 2½, suffering from marked intestinal toxaemia, in whom ileo-pelvic colostomy was followed almost immediately by a regular daily movement of the bowels and by a rapid reduction in the size of the liver. Dr. G. D. MATHEWSON in a paper on *Conduction defects in the heart*, dwelt on the difficulty of their recognition by ordinary clinical methods, and of the clearness of their demonstration by the galvanometer. The diagnosis of minor defects in the auriculo-ventricular bundle was important as regards treatment. Digitalis, strophanthus, and squills all depressed the conductivity and were contraindicated in these conduction defects.

DR. WILLIAM J. MAYO, of Rochester (N.Y.), has been elected a foreign corresponding member of the Paris Académie de Médecine.

Reviews.

THE CEREBRO-SPINAL FLUID.

SINCE Quincke in 1891 introduced the operation of lumbar puncture into clinical practice a large number of observations have accumulated on the characters of the cerebro-spinal fluid in various diseases. *A Guide to the Examination of the Cerebro-spinal Fluid*[1] consists mainly of a compilation of the published observations together with descriptions of the methods employed in examining the fluid, and it also contains valuable criticisms and a full discussion of the results thus obtained. The authors have added largely to the published material from their own experience. The therapeutic use of lumbar puncture for the relief of abnormally high intradural pressure and the risks associated with the withdrawal of cerebro-spinal fluid during life are also considered.

Though primarily intended as a handbook for workers in clinical laboratories and for clinicians the work may almost rank as a monograph containing most of the knowledge and observations on the subject up to the date of publication. A good bibliography of German and French writers is given at the end of each part which greatly enhances its value, and there is an excellent index. The absence of reference to writers in the English language unfortunately detracts from its completeness—only one such writer is mentioned, and his name is misprinted on page 5.

The book is divided into three parts, a short historical notice, a general part in which the different characters of the cerebro-spinal fluid and the methods of examination are considered in detail, and a special part dealing with various diseased conditions seriatim.

In the general part the chemical and physical properties of the cerebro-spinal fluid and their alteration in disease are first considered; the increase of intraspinal pressure and its measurement are included here. A test for the total protein content which gives numerical results is rightly insisted on. The method recommended consists of adding Esbach's reagent to the fluid and centrifuging in a graduated conical tube. Various qualitative tests for protein are described, and reasons are given for preferring Nonne's test for globulin, known as Phase 1. This is carried out by mixing equal parts of the fluid and neutral hot saturated ammonium sulphate solution. The appearance of a trace of opalescence is sufficient to indicate a positive result. This test is considered to be of very great importance in the diagnosis of syphilitic conditions, though not conclusive in itself.

A large share—twenty-five pages—of this part is given up to serology. This consists mainly of a description of methods of testing for Wassermann's reaction with blood serum and cerebro-spinal fluid, and of preparing the reagents required. Stress is laid on the method of Hauptmann and Hoessli, for which larger quantities of cerebro-spinal fluid are used than for the original method, and finer results, said to be of diagnostic importance, are claimed.

The technique for testing the fluid for haemolysin (for sheep's corpuscles) and for complement are detailed, and the statement is made that both substances may be present in cases of meningitis, but that in general paralysis only haemolysin appears in the liquor.

For estimating the total number of cells, a modification of a Thoma-Zeiss haemocytometer is recommended, the fluid being placed in the counting chamber without previous centrifuging. By a normal count is meant 1 to 5 cells per c.mm., and the term "pleocytosis" is used for a count of 10 cells or more per c.mm.; a sample of fluid with 6 to 9 cells per c.mm. is placed in a boundary class between normal and pathological. The method has the drawback that when the cerebro-spinal fluid forms a fibrin clot on standing (which usually occurs in cases of tuberculous meningitis and in some other pathological conditions), the majority of the cells, unless the examination is made immediately after the withdrawal of the fluid from the spinal canal, are enclosed in the fibrin mesh, and the remainder of the fluid has an unduly small proportion. A large number of good plates (thirty-seven coloured) are given, showing the appearance of the cells and bacteria in microscopic preparations. The refinements of classification of the lymphocytes into lymphocytes with lobed nuclei, tailed lymphocytes, etc., are rather unsatisfying, although the terms no doubt represent the appearances met with.

The bacteriological section is concisely and carefully written. In addition to the pneumococcus and an anaërobic organism (*Streptococcus foetidus*) which was found in two cases, three varieties of streptococcus (according to Schottmüller's well-known classification by their characters in blood agar cultures) are mentioned as causing purulent meningitis. Besides the other well-known forms of bacteria associated with meningitis, a large number of micro-organisms are mentioned as occurring in certain rarer cases of meningitis.

Considerable importance is attached to a group of cases of infectious disease with symptoms of meningitis in which lumbar puncture shows pleocytosis and increase of pressure in the spinal canal, but no bacteria in the cerebro-spinal fluid. These are described as *Meningitis infectiosa circumscripta*, and are considered to represent some of those cases described as meningismus by French writers.

In the special part, besides detailing the changes found in the fluid in various morbid states, the authors direct attention, as occasion offers, to those diseases in which lumbar puncture is especially valuable for differential diagnosis, and also to the similarity of the characters of the fluid in certain pathological conditions.

It is rightly pointed out that in tuberculous meningitis the usual picture of a purely lymphocytic reaction may be modified by the presence of a number of polymorphonuclear cells, which may even exceed the lymphocytes in number and in one case reached the high percentage of 79.

The pressure of the cerebro-spinal fluid in the lumbar canal is stated to be high in the earliest stages of this disease in association with the earliest symptom—headache.

Very scanty reference is made to the acute and fatal form of meningitis due to haemophilic bacteria closely resembling the *Bacillus influenzae*, and there is no mention of the work published on the subject during the last few years by Cohen, Ritchie, Henry, and Batten.

The opinion is expressed that the number of cells and of meningococci in the lumbar puncture fluid bears no relation to the severity of the disease in cases of epidemic meningitis, and are no safe guide as to the effect of treatment.

The authors' somewhat sceptical comments (p. 105) on the serum treatment of epidemic cerebro-spinal meningitis appear to be due, in part at least, to a disregard of the results obtained with Flexner's serum.

The German clinicians have not had to contend with such severe epidemics as have occurred in America since the introduction of antimeningococcic serum, but evidence of satisfactory results following the injection of the serum by lumbar puncture has nevertheless been produced.

The cerebro-spinal fluid in acute poliomyelitis is described, in agreement with most writers on the subject, as being clear with a slight and purely lymphocytic pleocytosis, and no mention is made of the observations of Flexner and Clarke, which show that in the very early stages before the onset of paralysis the fluid may be turbid and contain a large number of cells, the polymorphonuclears in rare instances outnumbering the lymphocytes. Though this fact was first ascertained with respect to the experimental disease in monkeys, a similar observation is also recorded by Flexner for man.

It is stated that in herpes zoster the cerebro-spinal fluid may contain as many as fifty or sixty cells per cubic millimetre, an observation of interest in relation to the occasional association of this disease with epidemics of acute poliomyelitis and the suggestion that there is an etiological connexion between the two diseases.

The statements made as to the results of examination in those diseases in which lumbar puncture is less frequently performed, such as epilepsy, multiple sclerosis, and arterio-sclerosis, would be of more value if the number of examinations on which the statements are based had been given.

[1] *Leitfaden zur Untersuchung der Zerebrospinalflüssigkeit*. By F. Plaut, O. Rehm, and H. Schottmüller. Jena: G. Fischer. 1913. (8vo, pp. vii and 150; 5 figures and 21 plates, some coloured. Mk. 8.50 paper, Mk. 10 bound.)

Interesting observations are recorded of the occurrence of pleocytosis and increased pressure as long-lasting effects of injury to the skull, and remarks are added on the diagnostic and therapeutic importance of lumbar puncture in these cases.

Though the conclusions drawn from the results of lumbar puncture are only decisive in comparatively few diseases, it is not unlikely that in the future clinical medicine will receive still further assistance from this operation, and that the examination of the cerebro-spinal fluid will lead to further triumphs in diagnosis.

THE SURGERY OF THE SKULL AND BRAIN.

MANY medical practitioners, we believe, have the impression that the surgery of the head, except in some particulars, has not made the rapid progress so well recognized to have taken place in other regions. Traumatic conditions are not very often encountered, and the practitioner is perhaps apt to content himself with a provisional diagnosis and wait events; experience of tumour and pyogenic diseases is not extensive enough to give confidence, and again he waits events. In both instances the policy may be fraught with danger, and opportunities are lost of establishing a diagnosis by adoption of the many means now placed in our hands. In the preface to Mr. BATHE RAWLING'S admirable work on *The Surgery of the Skull and Brain*,[2] we are told that cranio-cerebral surgery, though still in its infancy, has progressed with leaps and bounds during the past few years. This volume presents the modern conception of what cranio-cerebral surgery is, and places in the surgeon's hands complete equipment for attacking the most difficult region of the body. The work is the product of ten years' research and experience. Let us say at once that the book is a frank success, and that the author has accomplished with the utmost credit the task which he set himself.

In discussing the special technique in operations on the skull and brain, the author emphasizes the importance of the precautions to be taken to prevent shock. An assistant should be set apart to keep a record during the operation of both blood pressure and pulse-rate; the lowering of blood pressure is the surest guide to the operator of approaching danger. In his judgement rapidity of operation is not essential; it is better to exercise the greatest diligence in controlling haemorrhage, and for that purpose each step of the operation must be deliberate.

The chapter on fractures of the skull has been written with great care, and the conclusions and theories are the result of many experiments and the outcome of painstaking observations. Over 300 cases were investigated with precise and well-defined objects in view—to obtain accurate statements as to the mode of injury, to note all objective signs of external injury, to observe carefully the clinical evidences during the progress of the case, and to compare all these with the *post-mortem* findings. Following these lines the author applies the well-known theories, and weighs them, with these results—that the theory of irradiation, with certain modifications, accounts satisfactorily for about 30 per cent. of basic fractures; that the *contre-coup* theory may be rejected entirely; that the bursting and compression theories account for only 5 per cent.; that the majority of fractures result from direct violence applied at or near the basic level, the fracture passing across the base in the general direction of the applied force, but not necessarily in the same straight line.

The treatment of fractures of the base and head injuries in general has been till recently—before decompression operations, lumbar puncture, and venesection were largely employed—by methods of more or less masterly inactivity. One great difficulty has been to know when to interfere. Mr. Rawling maintains that that difficulty is almost solved by a proper interpretation of temperature changes: "The temperature chart affords perhaps the most valuable basis on which rules can be formulated guiding the surgeon in in his line of treatment." Half-hourly temperature records are necessary, because the changes in temperature occur rapidly and are independent of any special lesion of bone or brain.

On the question of the results of operation for brain tumours the author holds the view that unless the tumour is readily exposed and equally readily removable, it is inadvisable to carry out further measures for its eradication. "The great secret in operating on a brain tumour lies in knowing when to terminate the attempt at removal of the tumour and when to rest content with decompression." This, we think, is sound surgery. Dash and brilliance have accomplished wonderful things in abdominal surgery; these qualities in brain work are to be in some measure replaced by caution, patience, and deliberateness in watching and interpreting inexplicable symptoms and peculiar signs.

The only unsatisfactory part of the book is the chapter on abscess of the brain and other complications arising from middle-ear disease. It is too short and the account too difficult to grasp and retain in the mind. If it were expanded and illustrated with the clinical histories of representative cases, and particularly with temperature charts, it would be brought up to the high level of the rest of the volume. Nothing fixes a true appreciation of the story of a case of infective sinus thrombosis so well as the graphic presentation of the great leaping temperatures. A few photographs, too, of, let us say, the spinnaker-like projection of the ear in a mastoid abscess or the facial aspect of a person suffering from cerebral abscess might be effective.

But we have really little else than praise for this book. The publishers' part is well done, the type is large and clear, and the illustrations are on the whole well chosen and suitable. Here and there in the text a purist might have reason to find fault with looseness of style and redundancy and inaptness of expression—such a phrase as "rhythmicities in respiration" (p. 176) rather jars—but on the whole the writing is good. The proof reader has, so far as we can discover, missed only one error—on p. 314 the diameter of the bore of a needle is said to be 1.5 cm.; probably mm. is intended.

DISEASES FOLLOWING ACCIDENT.

THREE years ago we reviewed at some length the excellent textbook of clinical diagnosis edited by Professor PAUL KRAUSE[3] with the co-operation of thirteen eminent German teachers, and we have now to acknowledge the receipt of a second edition. The editor claims that every chapter has been carefully revised and improved not only by additions but by compression. A new chapter has been added on diseases following accidents, a department of medicine which has in recent times acquired considerable importance. An unusual feature of the book, but one decidedly to be commended, is the insertion of short biographical notices after the names of eminent teachers and authors who have made important contributions to the subject of clinical diagnosis. Amongst British physicians so honoured we notice Thomas Addison, Richard Bright, Dominic Corrigan, John Cheyne, W. Gowers, William Stokes, and C. J. B. Williams. The admirable illustrations have been increased in number, yet the size of the volume is moderate compared with others which have appeared in recent years.

In the first edition Professor Mohr expressed himself doubtfully as to the value of Cammidge's reaction in pancreatic disease, and in the present edition he leaves it out altogether. Also in the former edition Professor Winternitz expressed a preference for a quantitative method of estimating albumen introduced by Tsuchiyas as better than that of Esbach, but in the present edition he describes Esbach's method as being that which is generally employed, and merely mentions Tsuchiyas's method as based on the same principle, but employing phosphotungstic instead of picric acid.

The chapter on diseases following accidents is short, but contains a considerable amount of information. It may be worth while to state the principles which Dr. Stursberg, the author of this section, recognizes as fundamental. He says that they refer only to the German insurance law,

[2] *The Surgery of the Skull and Brain.* By L. Bathe Rawling, F.R.C.S., Senior Demonstrator of Practical Surgery, Demonstrator of Operative Surgery, St. Bartholomew's Hospital, late Hunterian Professor. London: Henry Frowde; Hodder and Stoughton. 1912. (Cr. 4to, pp. 350; 96 figs. 25s. net.)

[3] *Lehrbuch der klinischen Diagnostik innerer Krankheiten.* Herausgegeben von Professor Dr. Paul Krause. Zweite Auflage. Jena: Gustav Fischer. 1913. (Sup. roy. 8vo, pp. 1075; Tfln. 5; figs. 440. Mk. 18; Geb., Mk. 20.)

but they appear to be of general application. He defines "accident" as "a bodily injury resulting from a sudden or at least temporary and not wilfully produced event"; it includes not only mechanical lesions but the effects of such harmful agencies as gases, heat and cold, so far as they take effect in a relatively short time, but excluding industrial diseases—for example, lead poisoning and the like. "Over-exertion" may be an accident if the work called for an unusual effort, and finally, an accident may be caused by emotional disturbance, such as fear in the presence of great danger. We may illustrate this last point by a case in which a large girder while being placed in position fell close to a workman without touching him, but caused such shock as to incapacitate him for some time. It is essential that the "accident" should occur during or arising out of the employment, and Dr. Stursberg includes accidents occurring on the way to work. It is not necessary to prove that the accident was the sole cause of the illness, if it can be shown to have had an important bearing upon the origin and course of the disease; and finally, the injured person is entitled to compensation if a pre-existent disease is made worse, "provided this aggravation of the condition is recognized to be serious." The opinion expressed must determine the extent of the resulting incapacity for work as affording a measure of the amount of compensation to be awarded, and the incapacity must be based upon the bodily and mental ability for wage-earning employment. The amount of incapacity must be measured by the percentage reduction resulting from the injury, taking it to have been at that time 100 irrespective of pre-existing disease. Stress is laid on the importance of examining the injured person as soon as possible after the accident, and of noting down in writing the particulars before these have become obscured by time or by conversations with other people; it is essential to know exactly how the accident happened and the immediate result; the course of subsequent events must be noted and the time at which the symptoms finally complained of made their appearance. The examination must be complete and not restricted to the part complained of, and sharp distinction must be made between objective and subjective symptoms. Tenderness on pressure must not be relied on too much, but dilatation of the pupils and increase of the pulse-rate on pressure over the painful spot should be looked for; loss of sensibility to touch is fallacious, but the reflexes of skin and mucous membranes give trustworthy information. It should be remembered that many healthy men are very insensitive to painful stimuli. Many objective symptoms may be simulated, such as Romberg's sign, muscular weakness, twitchings, hurried respiration, and the like. In all doubtful cases, where no organic disease can be detected, the case should be sent for observation to a hospital, as can be done in Germany. The medical examiner must in each case ask himself whether the alleged cause could have produced the results complained of, and secondly, whether it did so in the present instance.

The list of infections which the author thinks must be allowed to be possibly the result of injury is surprisingly long, including not only erysipelas, gangrene, glanders, plague and small-pox, tetanus, scarlatina, rabies, tuberculosis and syphilis, but acute rheumatism, gonorrhoeal rheumatism, and typhoid fever. All kinds of new growths may follow injuries or be made worse by them; the lungs may be injured mechanically, but bronchial catarrh, pneumonia, gangrene, abscess, tuberculosis, and pleurisy, may also result; heart disease by rupture of valves, endocarditis, myocarditis, pericarditis, cardiac neuroses, aneurysm, such constitutional diseases as diabetes and Graves's disease, leukaemia, gastric haemorrhages and ulceration, affections of the diaphragm, abscess, cirrhosis and syphilis of the liver, cholecystitis, pancreatitis, nephritis, renal calculus, concussion and contusion of the brain, meningitis, abscess, tubercle and syphilis of the brain, tabes, apoplexy, multiple sclerosis, haematomyelia, syringomyelia, myelitis, chronic poliomyelitis, amyotrophic lateral sclerosis, epilepsy, Parkinson's disease, and such functional neuroses as follow shock are also included in Dr. Stursberg's long catalogue. This enumeration of the possible consequences of accidents at least shows the magnitude of the question and the need for taking a wide outlook not restricted to the direct mechanical results. It may well be thought that the prospect is appalling as opening a wide door to litigation and foreboding an increase in the cost of workmen's insurance that was not foreseen when this legislation was begun.

JOSEPH BELL.

THE *Appreciation by an Old Friend*[1] of the late Dr. Joseph Bell is not a biography. It is well that Mrs. SAXBY has published her appreciation in this form, and has incorporated in it many of the appreciations which came from other pens and from other lips at the time of Dr. Bell's death. It preserves much that one wishes to know or to remember about a kindly personality, much also which one can hardly look for in the conventional biography if it should come to be written.

Of course, Joseph Bell was known in many parts of the world and by many people through the fact that Conan Doyle acknowledged that he had drawn his picture of Sherlock Holmes with "Joe Bell" as his model; there is no doubt about that, even if we admit, as we do freely, that the Edinburgh surgeon had a fame and a reputation which were far wider than the frontiers of Scotland or of Great Britain. One had only to say to an American or to a Continental visitor in Edinburgh, "That is Dr. Joseph Bell," and then to add, "the prototype of Sherlock Holmes," to realize at once that the second statement aroused far more interest than the first, and brought to mind some already acquired piece of information which the hearer had stored away in some part of his or her brain. But Mrs. Saxby has, we believe, found a mare's nest when she thinks or fears that the general public had got the notion that the kindly and tender-hearted doctor was a sort of avenging Nemesis of a detective officer. We have never met any one who had that impression of Dr. Bell, and we doubt whether more than a very few people have ever entertained it after having given the matter a moment's thought.

The writer of this notice had many talks with Dr. Bell about Conan Doyle's portraiture of Sherlock Holmes and about the degree to which he had received inspiration from his "old chief" in the Royal Infirmary, and he never got the impression that Dr. Bell was irritated by the use the novelist has made of his gifts of rapid diagnosis and of swift intuition. He remembers more than one occasion on which Dr. Bell told with some glee the original occurrence which Conan Doyle had utilized in another form in one of his books, chuckling over the greater point and flavour of the truth which was stranger than fiction. As a matter of fact, Dr. Bell was no hunter-down of criminals—no one ever thought that he was—but he was a persistent tracker of diseases to their most hidden and concealed lairs, and he used every one of his great gifts of quick observation, of keen recognition of small but essential points, of preternaturally rapid deduction, and of sane judgement, to find out and to cure the maladies which flesh is heir to. He was a detective in diagnosis, and there was none better.

We have said so much of this part of Dr. Bell's character as it is dealt with in Mrs. Saxby's book that we have left hardly any room to mention some of his other traits. There is no part of the *Appreciation* which is finer or more touching or truer of the great surgeon than that in which is told in beautiful words the manner in which Dr. Bell conveyed to Dr. Saxby the news of the serious nature of his illness. It must have been painful to Mrs. Saxby to give us this exquisite illustration of the doctor's "heart behind his head," but we thank her for the light it throws on the tender side of the personality of an old teacher and friend. There was another facet in Dr. Bell's many-sided character to which we do not think Mrs. Saxby has referred—we mean his love of his horses, and they were good horses, too. They were replaced in the later years of his life by a motor, but we never had the same feeling as we looked at Dr. Bell in that vehicle; we liked better to see him in his victoria behind his rapidly trotting pair of chestnuts.

[1] *Joseph Bell, M.D., F.R.C.S., J.P., D.L., etc.: An Appreciation by an Old Friend.* Edinburgh and London: Oliphant, Anderson, and Ferrier. 1913. (Med. 8vo, pp. 92, with 11 illustrations. 3s. 6d. net.)

A STATE MEDICAL SERVICE.

Professor Moore has reprinted in pamphlet form an address delivered by him before the Medico-Legal Society of London, in which are set forth what he forecasts or advocates as desirable as *First Steps Towards a State Medical Service*.[5] He begins by explaining the grounds upon which he estimates the annual economic loss to the nation from disease and its sequelae as well over 100 million pounds. Of this he considers that at least half could be saved by a properly organized preventive medical service, involving the expenditure of some 15 or 20 million pounds over and above that already spent under the Insurance Act and by local and central public bodies. Repudiating what he calls "the superficial and grotesque idea that diseases are eliminators of the unfit," he insists that it is for organized medicine to secure an environment free from the sources of infection, and so to annihilate rather than to cure such maladies as whooping-cough, measles, and scarlet fever. An annual saving of 80,000 to 100,000 young lives could thus, he believes, be readily effected.

In order that disease should be made a primary national consideration he advocates placing the control of the unified health service under a Cabinet Minister, possessing the necessary technical and administrative experience, directly responsible to Parliament and people. To this official should, he thinks, be transferred the permanent staffs of the present departmental health offices, for example, those of the Local Government Board, the Board of Education, and the Insurance Commission. The powers of medical officers of health are next to be increased; the treatment of school children enforced upon local authorities; a preventive medical corps of whole-time officers (some 2,000 at £500 per annum) appointed for the supervision of individual industries; the Poor Law Medical Service abolished, its worthiest infirmaries being taken over by the health authorities; the Insurance Act extended to include all members of the community, the capitation and panel system being replaced by a system of whole-time salaried service, with an average stipend of £500 net, holiday allowance, and retirement on pension at 65. There would also be provision for salaried consultants and an adequate corps of scientific investigators. The total cost of the service is estimated at twenty millions per annum. The first doubt that occurs to one is whether, supposing medical attendance were to be made free to all to-morrow, there would not be, just as in the case of education, a large minority who would resolutely decline to avail themselves of the privilege. That the future will see a steady growth in the importance and extent of preventive practice and that this will involve an increased measure of State co-operation and endowment, appears unquestionable, but that within any period which his mind can contemplate man can be relieved of his heritage of suffering we find it difficult to credit. The best interests of the community and of science demand that present schemes should stop short of the complete absorption and regimentation desired by Professor Moore.

PARTNERSHIPS AND ASSISTANTSHIPS.

Eighteen years have elapsed since the last edition of *Medical Partnerships, Transfers, and Assistantships*[6] appeared. It is divided into two parts. Part I deals with the value of practices, and contains suitable forms of (*a*) articles of partnership; (*b*) assignment of a medical practice; (*c*) agreement between a principal and an assistant. Part II contains notes on the law of partnership (including a commentary on the Partnership Act, 1890); a dissertation on goodwill and restrictions on practice. The authors also deal generally with introduction to patients and assistants, and throughout the various sections of the book illustrative cases are quoted. From the fact that the National Insurance Act is, so far as we have observed, nowhere referred to throughout the work, save in a footnote on p. 1, it must be assumed that the authors have considered that it has no very real bearing on the law of partnership. The forms will chiefly be of assistance to lawyers who have to draw up articles of partnership, and it is probable that the most useful part of the book to the general practitioner will be the chapter relating to goodwill and restrictions on practice, together with the appendix to that chapter which takes the form of a digest of cases. This is a most useful "digest," because it states enough of the facts of each case to enable the layman fully to appreciate "the point." An excellent index completes the new edition of a work which already has an established reputation. It will be useful not only to the medical practitioner, but also to legal advisers who negotiate between persons buying or selling practices.

[5] *First Steps Towards a State Medical Service.* By Benjamin Moore, D.Sc., F.R.S. London: State Medical Service Association. 1913. (Demy 8vo, pp. 28. 6d. net.)

[6] *Medical Partnerships, Transfers, and Assistantships.* New edition, revised and amplified. By William Barnard, M.A., LL.B., of the Inner Temple, Barrister-at-Law; and G. Betram Stocker, King's College, Cambridge, Managing Director of the Scholastic, Clerical, and Medical Association, Limited. London: The Scholastic, etc., Association, Ltd., 22, Craven Street. 1913. (Demy 8vo, pp. 300. 10s. 6d. net.)

NOTES ON BOOKS.

An English edition is now available of Dr. Charles Richet's book on *Anaphylaxis*,[7] a subject on which he first wrote in 1902, and in regard to which he must still be regarded as the leading authority. The translation is by Dr. Murray Bligh, of the Liverpool Royal Infirmary, who has managed to retain a good deal of the succinctness of the original wording, while in an interesting preface Dr. Thomas Bradshaw draws attention to the attractions of the whole subject and the importance of its study by medical men at a time when serums, vaccines, and their congeners are being increasingly used. A review of the French edition appeared at page 445 in our issue for August 26th, 1911. In this English edition the original bibliography is brought up to the end of 1912.

With the assistance of Mr. de Méric, of the French Hospital, Soho, Dr. Léon Blanc, of Aix-les-Bains, has produced an English translation of the treatise on the *Treatment of Tuberculosis*,[8] by Professor Albert Robin, which we reviewed last autumn. The considerable difficulties in the way of giving a work of this order an English dress appear for the most part to have been successfully surmounted, and since the standpoint from which the book is written is that of the general practitioner, the volume will no doubt be found useful. The whole subject is treated very comprehensively, the general characteristic of the teaching being to regard the constitution of each individual patient rather than the organism which has attacked it as the point of chief importance.

In the brief preface to the third edition of *Aids to Surgery*,[9] its author, Mr. J. Cunning, states that in response to a demand for a new edition, he has endeavoured to incorporate in it most of the advances made since the last was issued. This, we find, was in January, 1908, while the work, which made its first appearance in January, 1904, has been reprinted on several occasions. Apparently, therefore, medical students and others who desire to review rapidly the general subject of surgery find this volume useful. The present edition, however, is so poorly printed that, whatever the value of the contents of the volume may be, we should be sorry to recommend it to a class of reader whose ordinary studies already sufficiently tax their eyesight.

[7] *Anaphylaxis.* By Dr. Charles Richet. Authorized translation by Dr. J. Murray Bligh, with a Preface by Dr. T. R. Bradshaw. Liverpool: The University Press. 1913. (Crown 8vo, pp. 78. 3s. 6d. net.)

[8] *Treatment of Tuberculosis.* By Professor Albert Robin. Translated by Dr. Léon Blanc, with the assistance of Mr. H. de Méric. 1913. London: J. and A. Churchill. (Medium 8vo, pp. 624. 18s. net.)

[9] *Aids to Surgery.* By Joseph Cunning, M.B., B.S., F.R.C.S. Third edition. Students' Aid Series. London: Baillière, Tindall, and Cox. 1913. (Pott 8vo, pp. 424. 4s. net.)

Under the will of the late Miss Emily Josephine Troup of Saltwood, the North-Eastern Hospital for Children, Hackney Road, and the Hospital for Sick Children, Great Ormond Street, each receives a bequest of £500.

The twenty-first report of the Board of Health in New South Wales states that since 1883 the total number of persons admitted to the lazaret at Little Bay was 124. There were 55 deaths and 47 discharges during this time. During 1911, 7 persons were reported to the Board as being suspected lepers, and after careful inquiry 3 were duly certified as suffering from leprosy; 2 deaths occurred during the year, and the number remaining in the lazaret in December, 1911, was 20. Appended to the report is a very interesting article, called "Experimental Leprosy: a Perspective," by Dr. J. Ashburton Thompson.

MOUNT VERNON HOSPITAL, HAMPSTEAD.

IN March last we gave some account of a difference of opinion which had arisen between the medical staff and the Committee of Management of the Mount Vernon Hospital for Consumption and Diseases of the Chest. The institution consists of a chest hospital at Mount Vernon, a sanatorium for consumption at Northwood, Middlesex, and an out-patient department and office in Fitzroy Square. The difference of opinion had its origin in the proposal to sell the Mount Vernon Hospital. The following letter addressed to the Committee of Management of the hospital has been sent to us for publication:

129, Harley Street, W.,
June 20th, 1913.

To the Committee of Management of the Mount Vernon Hospital.

Gentlemen,

We, the undersigned members of the honorary medical staff of the Mount Vernon Hospital, greatly regret that we feel it our duty to protest strongly against the attitude which for the past few months the Committee of Management has adopted in reference to the Medical Board and its recommendations.

The recent summary dismissal of two physicians from their appointments at Northwood is not only in direct opposition to the recommendation of the Medical Board, but, as we are advised, is illegal and *ultra vires*.

Another objectionable feature of the conduct of the Committee of Management towards the Medical Board was the refusal of the former to accede to the request of the Medical Board of May 6th, 1913, to hold a joint conference, at which it was the intention of the Board to put the above and other questions before the Committee of Management in an amicable and in no sense contentious spirit, feeling, as they did, that their correct solution was vital to the interests of the hospital.

In conclusion, we, the undersigned, as a protest against the illegality and injustice of the recent actions of the Committee of Management, beg to give notice of our intentions to resign our positions as Honorary Medical Officers to the hospital on July 20th next, but without prejudice to any steps we may subsequently legally be advised to take, especially with regard to the institution of an inquiry into the management of the hospital. We take this course with the profoundest regret, inasmuch as it involves the severance of our connexion with an institution the interests of which we have had deeply at heart, and to which some, indeed many, of us have given a no inconsiderable portion of the best part of their professional lives.

(Signed) HERMANN WEBER,
CLIFFORD ALLBUTT,
WATSON CHEYNE,
F. W. TUNNICLIFFE,
ARTHUR LATHAM,
F. W. PRICE,
A. J. WHITING,
JAMES BERRY,
H. J. SCHARLIEB,
O. HARRISON ORTON,
ARNOLD GABRIEL,
E. D. D. DAVIS.

Sir,—It may not be out of place for me to state that it is owing to my wish to be associated with the resigning members of the consulting and visiting staffs that I am also resigning my appointment at Mount Vernon Hospital, Hampstead.

I am, Sir, yours faithfully,
J. W. LINNELL,
Medical Superintendent.

Mount Vernon Hospital, Hampstead,
July 9th, 1913.

THE late Mr. Henry Gibson Anderson, of Wimbledon, bequeathed £1,500 to Arbroath Infirmary, and £500 to the British Hospital at Montevideo, where the testator was formerly resident.

A SOCIETY of animal psychology is about to be formed in Germany on the initiative of Professor Krall, author of a work entitled *Horses which Think*. Dr. Krall proposes to establish a journal of animal psychology.

ANOTHER medical skyscraper is to be erected in Birmingham, Alabama, for the use of medical practitioners and dentists. It is to be called the Hygeia Building. It is a nine-story structure, and the top floor is to be used for lectures and meetings of societies.

LONDON WATER.

RESEARCH REPORT.

THE ninth research report of Dr. A. C. Houston, Director of Water Examination to the Metropolitan Water Board, has just been issued. It deals with the search for pathogenic microbes in "raw" river water and for the typhoid bacillus in sewage.

Introduction.

In his introduction to the report, Dr. Houston says it has always been urged that those researches which have turned out to be of a reassuring character should be regarded as assets in the bank of security, rather than as indicators that the work of purification is unnecessarily refined. He goes on to say that to speak of the Thames as an ideal source of supply would certainly be unwise, in view of the known circumstance that the river receives the drainage, more or less directly, from a large number of up-river towns. On the other hand, those who have spoken of the Thames as a sewage-polluted river have done so deliberately, and not incorrectly, in view of the undisputed fact that the river is observably contaminated with the more or less purified sewage from a large number of towns. But against this adverse view must be set the results of certain researches which legitimately seem to warrant one in looking on the river Thames with less disfavour than previously. For example, as was shown in the fifth research report, faecal streptococci are not uniformly present in the river water except in very sparse numbers. It has also been shown (sixth research report) that "uncultivated" typhoid bacilli die more speedily than their "cultivated" brethren in Thames water under conditions of storage, and also that "cultivated" typhoid bacilli cannot maintain their vitality for more than a few weeks. This conclusion, however, while distinctly comforting, is not, in Dr. Houston's opinion, one directly tending to exculpate the Thames as a source of water supply, although it shows that by adequate storage the river water can be brought into a condition of reasonable purity. In the present report particular attention is called to the negative results of an exhaustive search for the typhoid bacillus in samples of crude sewage, and these results, says Dr. Houston, will be found to form another link in the chain of evidence tending to reinstate the river Thames as a source of water supply, provided, however, the water is adequately stored antecedent to filtration.

Search for Pathogenic Microbes in River Water.

Under this heading Dr. Houston gives abstracts of researches previously described in his second, fifth, and seventh research reports,* and adds a further series of forty-two experiments, on exactly the same lines, carried out during 1911–12, the results of which may be summarized in tabular form (see table on p. 78).

Before proceeding to deal with the results of certain interesting experiments in which search was made for the typhoid bacillus in sewage, Dr. Houston again quotes the conclusions set forth in the seventh research report.

> In the past, the raw sources of London's water have been characterized by some as highly dangerous, by others as innocuous. No real justification existed for either statement. Inasmuch as the Thames and Lee are admittedly sewage-polluted rivers, they must be considered potentially dangerous; but it is impossible to form any idea of the degree of their actual infectious qualities except by prolonged investigations of such a nature as those just described. No one knows the extent to which sewage is actually infectious, and so no one can really estimate the degree of danger attachable to the consumption of sewage-polluted river water.

He goes on to say that it must not be supposed that the prolonged series of investigations described in the report show that the raw sources of London's water supply, although sewage polluted, are free from the microbes associated with epidemic water-borne disease. All that they show is this: that the typhoid bacillus and Gaertner's bacillus are not habitually present in small amounts—say about 10 c.cm.—of raw river water. He proceeds:

> Now, if, as has been shown, the typhoid bacillus, when added artificially in large numbers to river water cannot be isolated after from one to three weeks' storage, and if the typhoid

* Full abstracts from these reports were published in the BRITISH MEDICAL JOURNAL of December 19th, 1908, p. 1817; August 20th, 1910, p. 473; April 20th, 1912, p. 901.

Total Number of Colonies Subcultured.	Typhoid Part of Experiment.				Gaertner Part of Experiment.			
	Average Number of *Artificially* added Typhoid Bacilli per c.cm. of the *Raw* River Water.		Average Number of Typhoid Bacilli recovered from:		Average Number of *Artificially* added Gaertner Bacilli per c.cm. of the *Raw* River Water.		Number of Gaertner Bacilli recovered from:	
	Infected Sample A.	Non-infected Sample B.	Infected Sample A.	Non-infected Sample B.	Infected Sample A.	Non-infected Sample B.	Infected Sample A.	Non-infected Sample B.
8,699	0.99324	None	7.524 7.524 0.99324 = 1 typhoid to 7.5752 c.cm. of water	None	0.7277	None	18.31 18.31 0.7277 = 1 typhoid to 25.16 c.cm. of water	None (3? Gaertner microbes were isolated, but these were finally rejected).

bacillus cannot be found in, say, 10 c.cm. of river water which is destined to be stored for several weeks antecedent to filtration, then it becomes at once apparent that the facts revealed in this report acquire great practical significance. It is far from being suggested that they indicate that some relaxations in the processes of water purification are now justifiable. The proper inference to be drawn from them is that, if river water is stored for four weeks antecedent to filtration, the margin of security is apparently very great—far greater even than had been previously supposed in view of the practically negative results attending the long-continued search for the typhoid bacillus in river water. Yet again it is urged that these experiments should be interpreted as adding greatly to the feeling of security engendered by adequate storage—not as evidence that storage may not, after all, be vitally necessary.

Search for the Typhoid Bacillus in Sewage.

In common with other bacteriologists (notably Andrewes), Dr. Houston says he has for long felt the desirability of knowing something, however slight, of the actual disease-producing power of sewage. He draws attention in a footnote to the fact that, although the evidence that the typhoid bacillus is the cause of typhoid fever is not absolutely flawless, his experiments are based on the assumption that such is the case. The subject has become of additional interest and importance in view of our comparatively recent knowledge as regards "carriers." Some authorities (says Dr. Houston) consider that the proportion of "carriers" in an ordinary population may be about 3 or 4 per 1,000. The first "carrier" case whose urine he had an opportunity of examining* contained as many as 9,900,000 typhoid bacilli per cubic centimetre, but from the faeces of this patient no typhoid bacilli could be demonstrated. So far as infectious disease is concerned, the real enemy of mankind is man, and Dr. Houston believes that, if the immediate cause of what are recognized as "water epidemics" in the past could be precisely ascertained, it would in most cases be found that accidental infection of the supply by what is known as a "porter" or "carrier" of disease had occurred. The Metropolitan Water Board has, by interposing an increasing number of huge reservoirs between the river and the filter beds, taken a series of most important steps in reducing enormously, if not removing altogether, the chances of danger arising from any accidental specific pollution of the river *above* the intakes. Dr. Houston then passes to the results of experiments in which crude sewage itself was examined for the presence of the typhoid bacillus. Sewage contains such an enormous number of bacteria that it was quite impracticable to examine more than a very small amount of this substance. It was found, however, that it was possible to work with as much as 0.01 c.cm. of sewage, spread over not fewer than 10 plates, and therefrom to make 200 primary cultures. Each sample of sewage was divided into two equal portions, A and B. The A portion was purposely inoculated with a known number of typhoid bacilli, while the B portion was not inoculated. Most of the samples were of London (Barking) or Hendon sewage, but samples of Dublin, Belfast, Edinburgh, and Aberdeen sewage were also examined. Twenty-eight samples were examined altogether, and the average number of excremental bacteria as judged by the bile-salt agar test was 1,155,040 per cubic centimetre; 5,485 colonies were studied under A, and the same number under B, but not one on the B non-infected side gave the characteristics of the typhoid bacillus. The number of artificially added typhoid bacilli was on the average 205 per 0.01 c.cm. of sewage. In No. 1 experiment 175 typhoid bacilli were added to 0.01 c.cm of sewage, and 26 were recovered. Dr. Houston refers to his sixth annual report, which showed that the average number of excremental microbes per cubic centimetre of raw Thames water was 48, and says that even if it be assumed that *all* these were of sewage origin—which is putting matters at their worst, as presumably some, at all events, of the 48 microbes were derived from sources less objectionable than fresh crude sewage—the inference is surely warrantable that even if the Thames were twenty-four times more impure than it is, no typhoid bacilli could be present uniformly in 1 c.cm. of the water. In other words, the Thames, in its present condition, does not on the average contain a single typhoid bacillus per 24 c.cm. of water. Over 50 per cent. of the samples of raw Thames water contain *B. coli* in 0.1 c.cm., and less than 25 per cent. of the samples of filtered water originally derived from this source contain this microbe, even in 100 c.cm. Generally speaking, therefore, it may safely be concluded, on the basis of this test, that the purification processes improve the water at least 1,000 times. It is obvious, therefore, that if the conclusions so far drawn are to be relied upon, it requires some imagination to conjecture the possibility of an ordinary consumer of London water imbibing an infective dose of typhoid material from this source, always assuming the absence of any accidental infection of the water between the works and the tap. Dr. Houston goes on to say that a great many persons still consider that typhoid fever may be caused *directly* by sewer air, despite the almost complete absence of excremental microbes from the air of sewers. It is true that sewage bacteria may become detached by the bursting of bubbles, and so reach the atmosphere, but in view of the fact that sewage contains less than 1 typhoid bacillus per 1,000 excremental bacteria, it at once becomes apparent how difficult it is to associate typhoid fever directly with the inhalation of gases from drains or sewers.

Where is the Typhoid Bacillus?

Dr. Houston says it is by this time probably evident that one might ingest a large number of excremental bacteria without encountering a single typhoid bacillus, and it is difficult to believe that the ingestion of a solitary typhoid bacillus would be likely to produce typhoid fever even in a highly susceptible individual. American sanitarians especially attribute a considerable proportion of their total typhoid fever cases to the consumption of impure water. Were their contentions sound and Dr. Houston's data and inferences accepted as valid, it would seem to follow either that the American water supplies must contain a great many more excremental bacteria than is the case here, or else that their sewage contains relatively more typhoid bacilli, or that possibly both causes are operative. He is inclined to conclude that neither the quality of the American sewage nor the number of *B. coli* in their water supplies would altogether suffice to account for this apparent discrepancy. It is easy to believe, says Dr. Houston, that whenever an explosive widespread outbreak of typhoid fever occurs, such agencies as milk, and perhaps shellfish, having been satisfactorily excluded, the cause is in all probability to be found in the water supply. In such cases he would not be surprised to learn that investigation had revealed the fact that something in the

*A full account of this case was given in the BRITISH MEDICAL JOURNAL of February 4th, 1911, p. 261.

nature of an accident had occurred—that is to say, that some antecedent causative event had happened not *inherently* connected with the system of supply. Dr. Houston points out that it is difficult to define accurately what is meant by accident except by way of illustration. For example, if a workman engaged on the purification works was a typhoid "carrier," and his discharges, through negligence or impropriety, gained access in some way to the water, that would be in the nature of an accidental circumstance, not inherently connected with the source of supply or its mode of purification. He adds:

The Americans would seem to charge water supply as such, and independently of accident, with the causation of endemic typhoid fever, provided it is prevalent in abnormal amount. Their total typhoid death-rates give the presumption that, as compared at all events with European standards, the non-epidemic prevalence of typhoid fever in America is very considerable. To associate (as many of them seem to do) this excess rate with impure water is a grave charge to make unless the evidence is of a convincing character.

Dr. Houston gives the following table, extracted from McLaughlin's paper on The Eradication of Typhoid Fever (*Boston Medical and Surgical Journal*, vol. clxvi, No. 21, May, 1912), which shows the typhoid death-rate per 100,000 in certain European and American cities:

Fifteen Large Northern European Cities compared with Fifteen Largest American Cities.

European Cities.	Estimated Population.	Typhoid Fever Death-rates per 100,000	American Cities.	Population, 1910.	Typhoid Fever Death-rates per 100,000.
Edinburgh ...	321,000	1.3	Cincinnati ...	363,591	8.8
Munich ...	600,000	1.4	Boston	670,585	11.3
Stockholm ...	340,000	1.8	Jersey City ...	267,779	11.5
Dresden ...	550,000	2.2	New York ...	4,766,883	11.6
Antwerp ...	316,000	2.3	Newark ...	347,469	13.1
Berlin	2,000,000	2.9	Chicago ...	2,185,283	13.7
London ...	7,250,000	3.3	St. Louis ...	687,029	14.9
Copenhagen ...	465,000	3.6	Philadelphia...	1,549,008	17.5
Vienna ...	2,000,000	3.8	Cleveland ...	560,663	17.9
Liverpool ...	750,000	3.9	Buffalo ...	423,715	20.0
Belfast ...	385,000	3.9	Detroit ...	465,766	23.0
Birmingham...	825,000	3.9	Washington ...	331,069	23.2
Hamburg ...	950,000	4.1	Pittsburg ...	533,905	27.8
Lyons	525,000	4.4	Milwaukee ...	373,857	45.7
Paris	2,750,000	5.6	Minneapolis ...	301,408	58.7

Whatever be the cause at work, it is evident that these American cities compare very unfavourably with European cities. Dr. Houston's personal view is that the part played by water supply in causing endemic typhoid fever is apt to be exaggerated, and certainly such exaggerations are almost incompatible with the view that the customary draught (say, half a pint—about 284 c.cm.) of a satisfactory (perhaps even of an unsatisfactory) water supply does not contain 1,000 excremental bacteria, and therefore cannot be expected to contain a single typhoid bacillus. In this connexion sewage contamination is assumed; in cases where the pollution is from the urine of a typhoid carrier there may be no faecal bacteria, yet an abundance of typhoid bacilli. On the other hand, says Dr. Houston, it might be urged, especially in the case of unfiltered water, that the microbes are not only unequally distributed throughout the liquid, but may be aggregated together in masses, and that therefore, whilst the majority of consumers escape disinfection, some of the remainder might receive a superdose (spotted distribution). Against this must be set the fact that Dr. Houston has only twice been able to isolate the typhoid bacillus (? a typhoid-like microbe) from raw river water (29,470 cultures made from 257 samples), and on those two occasions only one such bacillus was found in each sample. The metropolitan river-derived water supply is all filtered before being sent into consumption, and this presumably reduces the danger of "spotted distribution" to a minimum in the case of London. Dr. Houston goes on to say that assuming an equal distribution of separated germs, the consumer could never, even with the worst of ill luck, receive in one draught an infective dose of typhoid fever, unless on the assumption that a solitary bacillus can start the infective process. Storage and filtration would, he believes, remove all likely danger from aggregated microbes, and would also tend to render separated microbes fairly equally distributed throughout a water supply. Dr. Houston considers that the devitalization of typhoid bacilli under conditions of thorough storage affords, especially when followed by filtration, adequate protection to the consumers of London water. Apart from the views enunciated in the report, he thinks that from the practical point of view the results may very properly suggest some such question as the following:

If the risk of using, for waterworks purposes, an initially impure river water is really less than was previously conjectured, under ordinary average day-by-day conditions, in what manner can we best devote our energies, so as *absolutely* to secure the safety of water consumers?

The answer is that attention should be concentrated on the avoidance of accident. He goes on to say that owing to the discovery of typhoid "carriers" the question of accidents has assumed a new and even deadly significance.

We know now that a relatively gross pollution, derived from the sewage of a large community, *may be* less dangerous than traces of contamination coming from a single individual of unknown health history. If the danger unit is a carrier (and some hold that three to four out of every 1,000 persons of the population are in this condition) his or her discharges may be 10,000 times more infectious than crude sewage, volume for volume.

The next questions to be asked are these:

Is there any gap in our armour in connexion with the methods of collection, storage, filtration, and distribution of water? Is there any possibility of a superdose of infective material in the immediate neighbourhood of, and just above our intakes? Are our storage reservoirs free from the possibility of fresh and dangerous pollution? What are the opportunities, actual or potential, for fresh contamination at the filtration works? Is our distribution system, in all its ramifications, so perfectly controlled that it is impossible for any adventitious pollution to take place?

It may be the case, says Dr. Houston, "that in many directions further control is impossible, and that our trust must be placed on the improbability of events occurring, such as, so far, have never been deemed at all likely to affect the metropolis. On the other hand, in the absence of an exhaustive inquiry into the whole subject, this *laissez-faire* attitude may not be completely justifiable."

In conclusion, Dr. Houston thinks that perhaps the best answer to the question, "Where is the typhoid bacillus?" is the following:

The home of the typhoid bacillus is not so much in impure water, or even in the crude sewage from a large community, as in the "factories" of disease, as exemplified by the "carrier" case. The danger of pollution (volume for volume) would seem to rank as follows: (1) The carrier unit—the concentrator and factory of disease—the genesis of epidemics. (2) The unit person of unknown health history who may be in the position of (1), and is therefore in a potential sense placed second, but who, in the great majority of cases, one would hope, is an almost negligible factor. (3) The collection of individuals on a large scale, exemplified, in a contaminating sense, by the sewage of a large town. Here the dangerous "carrier" element being reduced by dilution to normal proportions, less than one typhoid bacillus per 0.001 c.cm. of sewage might be anticipated to be present on the basis of the foregoing observations.

The report contains a large number of facts on which the conclusions are based; they are arranged in tabular form. There are also two diagrams illustrating the experiments, and a note on the "excess lime" method.

DR. ENRIQUE NUÑEZ has been appointed Minister of Sanitation in the Cabinet of President Menocal of Cuba.

UNDER the will of the late Mr. George Southern, of Walton-le-Dale, the Royal Victoria Infirmary at Preston and the Wigan Infirmary are each to receive, on the death of the testator's wife, a sum of £1,000 for the endowment of a bed.

ONE HUNDRED, AND TWO HUNDRED, YEARS AGO.

Heister's "Surgery."

Lying before the writer as he pens these lines is a fat quarto volume of the English edition of Laurence Heister's *Surgery*, in a rather battered condition, with its binding much loosened, with its fly-leaf wanting, but otherwise complete as to contents and plates. Written across the top of the page carrying the translator's preface is the following inscription: "Captain John McKerlie, R.N., found this Book swimming in the River Elbe off Cuxhaven after the French had evacuated the Town and Fortifications of Ritsbuttle in the year 1813, I think in the Month of June, while he had the Command of a Squadron in the German Rivers." Below is the signature, "Jno. McKerlie, R.N." This is not the only writing in the volume; there are short comments of a surgical nature here and there, and on the title page is "Jno. Honabin," perhaps the name of the original owner of the book, so strangely found swimming in the waters of the Elbe on that June morning a hundred years ago.

The military events referred to by Captain McKerlie—for by dropping into the first person singular he discloses the identity of the writer—were not of the first importance. There were so many occurrences of tremendous significance in 1813 that the evacuation of Ritzebüttel and its fortifications by the French is not even mentioned in histories of the period, such as the volume of the *Cambridge Modern History* dealing with the Napoleonic wars; but it was no doubt an exciting enough incident to the British squadron cruising off Cuxhaven and probably keeping watch upon recently annexed Heligoland, and to Captain John McKerlie in command. Ritzebüttel lies on the south or left bank of the Elbe at its mouth, near to Cuxhaven, with which it is now united (forming a delightful sea-bathing place); over against it is Brunsbüttel on the north bank; and between these two with an occasional look in at the mouths of the Weser, the Ems, and the Rhine, the ships under the Captain would be sailing to and fro in the summer days of 1813. The "line of the Elbe" was an expression frequently heard in military circles in these months, and in May Napoleon was winning battles at Lützen and Bautzen against the allies (Russians and Prussians), whilst the French reoccupied Hamburg at the very end of May; but in June the Emperor made what one can now see was the tactical blunder of the armistice of Pläswitz, and lost his strong position on the Elbe. He hoped to reorganize his forces, to win back Austria which had been gravitating to the allies, and, on the principle of *divide et impera*, to separate Prussia from Russia and conquer each in turn. But the star of Austerlitz had begun to wane; on June 21st came the news of the disastrous defeat of the French at Vittoria by the British under Wellington; just a few days before (June 14th, 15th) Great Britain signed treaties at Reichenbach with the allies, undertaking to pay a subsidy of two-thirds of a million pounds to Russia, and one of a million and a third to Prussia; and Austria declared war on France as soon as the armistice expired. The evacuation of Ritzebüttel was a small thing amongst these great events; but one can understand a little how Captain McKerlie and his squadron came to be cruising up and down watching "in the German rivers."

This happened a hundred years ago; but one has to go back nearly two hundred years to reach the time when Heister was writing the book a copy of which was picked out of the waters of the Elbe by lynx-eyed Captain McKerlie, R.N. This copy is one of the third edition of the English translation and carries the date 1748; the first edition of it appeared in 1743 and the second in 1745, whilst a fourth was needed in 1750, a fifth in 1753, a sixth in 1757, and a seventh in 1763. All these editions save the last were sent forth in London by W. Innys in Paternoster Row, and other publishers; but they do not reveal the name of the translator. The first German edition of Heister's *Chirurgie* appeared in Nürnberg in 1718, and many others followed; then the work made its appearance in Latin—in which language the author had originally begun to write it—under the title of *Institutiones Chirurgicae* in 1739 (Amsterdam) and 1740 (Venice), and there were many editions of it also; a French translation appeared in 1770, and an Italian one in the same year; and there was a Dutch one before 1776. Altogether one does not require to be told that it was an eminently successful work, and, since its author died in 1758, its career of usefulness continued long after the writer of it had passed away. Indeed, if its discovery in the Elbe in 1813 means that it was then in use, we must ascribe to it a life of nearly a hundred years—a remarkably long life for a textbook of surgery at any time, and one which it is doubtful if any of our present day treatises (since surgery advances with so rapid strides) can hope to attain.

Its author, too, was a great and a successful surgeon. He was born in 1683, and he died, as has been said, in 1758; his Christian name was Laurenz; he was a native of Frankfort-on-Main, that "free elective and commercial city of the Empire" where Goethe also first saw the light; and Baas describes him[1] as "the first German surgeon of complete scientific education." It is a striking comment upon the backwardness of German surgery in the close of the seventeenth and the beginning of the eighteenth century that Laurenz Heister, after beginning his education in Giessen, had to complete his medical studies in Holland.

Here is the story translated from Heister's own words in his preface:

> After having studied Physic with great Assiduity above Four Years in our *German* Universities, my Affections, being strongest for *Anatomy* and *Surgery*, led me to the then celebrated Professors Ruysch and Raw at *Amsterdam* in the Year 1706, whose Anatomical and Chirurgical Demonstrations I diligently attended for about the Space of a Year; during which Time I was also employed in frequent Dissections, and in trying Chirurgical Operations upon dead Subjects; in the mean Time omitting no Opportunities of being present at the Performance of any considerable Operation by these Professors, or by the other eminent Surgeons of the same City. By which Means, joined with an attentive Reading of the best Writers, I acquired a considerable Knowledge in Surgery.

Thirsting to make himself still more expert in his art, and hearing that there was "a sharp war in Flanders betwixt the French and the Dutch" in 1707, he went to the Dutch camp in Brabant to see the practice of the English, Dutch, and German surgeons there. So he spent the summer, and in the autumn he went to Leyden to study under Professors Bidloo, Albinus senior, and Boerhaave; he took his degree of Doctor there in 1708, and he then went back to the camp, where, to quote his words again:

> I found large Opportunities of learning and improving myself in Surgery, from the Multitude wounded, etc., in the several bloody Fights, particularly at the Siege of *Lisle*, and the Battles of *Oudenarde* and *Wynendale*. Upon the Approach of Winter again, I was determined to settle in the Practice of *Physic* and *Surgery* in *Holland* at *Amsterdam*, partly from the Delight I had in the Country, and partly through the Solicitations of the famous Ruysch, who respected me as a Son. Here therefore I staid the Winter and Part of the ensuing Spring, teaching *Anatomy* and *Surgery* to Students and Gentlemen, as Raw had done before me, who was now rejected for his ill Conduct or Misbehaviour.

In 1709 he was in the midst of the fighting once more, and, after the taking of Mons, he had his hands full indeed with the crowds of wounded.

> I had here therefore an ample Occasion to extend the Bounds of my Practice, and was obliged to put on that Intrepidity of Mind which Celsus requires as an essential Qualification in a Surgeon, and for want of which some, who are in other Respects skilful Operators, do frequently miscarry.

He was at Amsterdam again in 1710, and in the spring of that year he was, "beyond all his expectation," called by the Republic of Norimberg to teach anatomy and surgery in the University of Altorf. Here followed a part of his life which is specially interesting to us in this country. Heister says:

> Being therefore unwilling to neglect this honest and useful Calling, having obtained Leave from the Republic, I first made a Tour into Great Britain, where I was, from Spring to Autumn, collecting every thing new in the several Branches of Physic, and then, returning to Norimberg and Altorf, I assumed my new Professorship.

It was now that he began to write his work on surgery, for he felt the want of a convenient manual or compendious system of the art which should help the learners attending his lectures. There was no such compendium in

[1] Baas, *History of Medicine* (Handerson's translation), 1889, p. 663.

Germany, and to that cause he ascribed the slight skill and lack of enterprise exhibited by his fellow countrymen. "Daring quacks and itinerant operators" flourished in consequence. So he attempted the "composition of a chirurgical System to be subservient to his own lectures and auditors" during the years following his appointment (1710–1717), and from it grew the popular *Chirurgie*, or *Institutiones Chirurgicae*, which had so long a career of usefulness. It was first published in 1718, and its author says, somewhat ingenuously: "From this time it is that we have had better or more expert surgeons in Germany than before; many of which have since often declared to me, that they had drawn most of their knowledge from my Surgery." We are tempted to believe that Heister's trumpeter perished in the wars in Flanders! But the book was a good one all the same, and no doubt was of no little assistance to Heister, for in the year following its publication he received a call to the Public Professorship of Anatomy and Surgery in the Julian University of Helmstadt from "his Britannic Majesty, as Duke of Brunswick and Luneberg, under whom the University flourishes and is liberally supported." Helmstedt (as it is now spelt) lies between Hanover and Magdeburg, and about Heister's life there Baas writes: "He developed a great activity which embraced anatomy and surgery, and even botany; his books on surgery and anatomy in his time rendered him almost an autocrat in these branches; he also distinguished himself as a dentist, and especially as an oculist." It may be added "as an obstetrician" too, for almost the earliest separate lectures on midwifery were those delivered by Heister at Helmstedt in 1754.

Heister was not a man of one book. He wrote a *Compendium of Anatomy*, which, like his *Surgery*, was translated into foreign languages; he wrote also a *Compendium of the Practice of Physic*, and from his pen there came crowds of smaller works on all sorts of medical and surgical subjects. His was a name to conjure with in the eighteenth century, and, as we have seen, his reputation lived on into the nineteenth.

So much space has been given to the man that there are only a few lines left wherein to write of his *Surgery*. It is unnecessary to say that it is quite unlike a twentieth century Surgery. For one thing, it includes obstetric surgery, now dealt with separately; for another thing it has no hint in it of the coming triumphs of anaesthesia and asepsis, as is made painfully evident by the heart-rending pictures of men having legs and arms amputated with no amelioration of their sufferings; and there are chapters on setons, on phlebotomies in such curious places as under the tongue, and on "spongy tents" for keeping wounds open, which do not appear in the modern treatise on the art of the chirurgeon.

Reference has been made to the MS. notes on the margins of some of the pages in the copy of Heister's *Surgery* fished out of the German Ocean, but they are of small value or interest. They are not written in the same handwriting as the inscription by the Captain, but rather resemble that in which the name "Jno. Honabin" on the title page is traced. One of them is an annotation on the statement that in stone of the bladder the patient usually feels a pain, heat, or itching in the part of the bladder where the stone is lodged; in the margin we find "incorrect" written. Another refers to the advice given by Heister that the patient should have his bowels cleared out with a purging clyster before the operation of lithotomy; the reason given is "that he may not foul or obscure the surgeon's work with his faeces, which are generally discharged in cutting"; and the comment written in the margin is, "This is in consequence of fear, such is the power of the mind."

The one persistent and almost oppressive thought which Heister's *Surgery* arouses in the mind is the extraordinary difference there is between the surgery of to-day and that of two hundred years ago, and this is followed by the reflection that the surgery of one hundred years ago was far, far nearer to that of the century before than to that of the present time. We have good cause to be grateful to the surgeons of the nineteenth century for what they have done for suffering humanity; humanity must still suffer, but assuredly the terrific burden which was borne by our forefathers, more or less dumbly, is perceptibly lighter for us their descendants.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE (LONDON, 1913).

SECTION OF HISTORY OF MEDICINE.

THIS Section will meet in the Library of the Royal College of Physicians, Pall Mall, S.W., under the Presidency of Dr. Norman Moore. Each session will be fully occupied with the reading and discussion of independent papers, of which a final complete list will shortly be obtainable. In spite of the fact that this is the first International Congress of Medicine at which a section has been specially devoted to this subject, and in spite of the late date at which it was determined to organize it, the profession has testified abundantly to its interest in the subject by the very large number of contributions that have been promised from all parts of the British Empire, the Continent, America, and elsewhere. During the session of the Congress there will be exhibits of early medical books, manuscripts, and other objects of medical interest in the Royal College of Physicians.

The Section has also, in conjunction with Mr. H. S. Wellcome, organized the important Historical Medical Museum, which, as reported in our issue of June 28th, was formally opened on June 24th. It is displayed in extensive buildings in Wigmore Street, and will remain open for some three months.

The authorities of the British Museum have also kindly made arrangements for an exhibition of early medical books and coins and medals of medical interest, in the King's Library of the British Museum, from August 6th to 12th.

SUBSECTION OF ANAESTHESIA, GENERAL AND LOCAL.

The President of this Section is Dr. Dudley Buxton, and the meetings will be held in the Imperial College.

There will be five discussions, of which the first is on recent methods for producing analgesia, and the second on recent methods for producing general anaesthesia. The third discussion will be on the post-operative effects and toxaemias associated with anaesthetics, to be introduced by Dr. William Hunter. A large number of foreign visitors have notified their wish to take part in these discussions, and it is hoped that the British anaesthetists who have not sent in their names up to the present time will notify the Honorary Secretary, Dr. Herbert Scharlieb, C.M.G., 49, Wimpole Street, W., of their wish to speak. A number of papers have also been promised for the afternoon sessions.

The Ladies' Committee of the Subsection, in conjunction with the ladies of the Section of Surgery and the Subsection of Orthopaedics, have invited visitors to a garden party on August 8th. The President and Council of the Subsection will give a lunch on Sunday, August 10th, in the grounds of the Zoological Society, by kind permission of the Fellows of that society. Application for tickets should be sent to the Honorary Secretary.

SECTION OF MEDICINE.

Dinner.

The dinner of the Section of Medicine will be held at the Connaught Rooms, Great Queen Street, Kingsway, W.C., on Friday, August 8th, at 7.15 p.m. precisely. Tickets, price 25s. (including wine and cigars), may be obtained from Mr. George Bethell, 11, Chandos Street, Cavendish Square, W., up to August 5th, and after that date at the Central Bureau, Albert Hall. Applications for tickets must be accompanied by cheque or money order, payable to Mr. George Bethell. Members of Congress are requested to apply early for their tickets, so that suitable seating arrangements may be made.

THE Commission appointed by the Belgian Government to investigate the researches of Professor Heymans of Ghent on the antituberculous vaccination of bovines, after a series of tests and experiments on the largest scale, has reported that such vaccination is worthless.

THE twenty-sixth Congress of the French Surgical Association will be held in Paris on October 6th, 1913, under the presidency of Professor Kirmisson, surgeon to the Children's Hospital, Paris. The following questions are proposed for discussion: The curative treatment of ankyloses by cutting operations; surgery of the pelvic colon, excepting cancer; treatment of wounds of the skull by small projectiles. The general secretary is Dr. Walther, 68 rue de Bellechasse, Paris (7e).

FEEDING AND HYGIENE OF SCHOOL CHILDREN.

THE second annual conference organized by the National Food Reform Association to consider the question of diet, cookery, and hygiene in public elementary schools and public and philanthropic institutions, was held at the Guildhall on June 30th and July 1st.

The conference was opened by Mr. Alderman and Sheriff COOPER, who welcomed the delegates on behalf of the City Corporation.

Feeding of School Children.

Sir GEORGE KEKEWICH, who took the chair at the morning session on June 30th, said that he regretted that the Board of Education was not represented at that important conference, because it was of national concern that the children, before being educated, should be properly fed. The State had dealt with the matter to a certain extent, but it was only concerned with those who were suffering actually from want of food. He would like to see the principle of free feeding applied to all children in elementary schools, parents contributing according to their means, as was done in some foreign countries. Free food was the corollary of free education, and not a socialistic scheme.

Miss MARIAN E. CUFF, organizing superintendent of domestic subjects under the Bradford City Council, said that the science of nutrition was very closely allied to the science of eugenics on the one hand and to education on the other, for only the child who was well born and wisely fed could make the most of the education offered. To obtain the best results from the facilities afforded by the Provision of Free Meals Act the diet must be well balanced, varied, and palatable, and the feeding should be continuous throughout the year.

Dr. VICTOR J. BLAKE, school medical officer to the county borough of Portsmouth, said that the more or less general method adopted by local education authorities of recommending children for free meals through the medium of head teachers and school attendance officers, while perhaps satisfactory from a business and working point of view, seemed but to touch the fringe of what should be the ultimate object in view—the careful study, and, if possible, elimination of the many and varied causes of malnutrition among school children. The whole of the feeding of the school children throughout the country should be intimately associated with the work of the school medical service department, and directly supervised by its medical officers.

Mr. L. HADEN GUEST, assistant school medical officer under the London County Council, contended that the choice of the children to be fed should rest ultimately on the school doctor, for only in that way could the educational aspect be given its necessary prominence. To render meals effective they should be continued on Saturday and during the holidays, and children excluded from school on the ground of illness should be able to obtain school meals.

Sir JAMES YOXALL, M.P., presided at the afternoon session on June 30th, when Mr. W. A. NICHOLLS, of the National Union of Teachers, said that the provision of free meals was almost the necessary concomitant of free education. It was ridiculous to limit the feeding of the children to those days when the schools were in session. The good accomplished was undone if the child returned to school less fit than at the close of the previous session.

Mrs. WALKER BLACK (Durham) said that various facts of recent years had shown that the diet of school children was not satisfactory. Army statistics, commissions of various sorts, and the reports of school medical officers all showed that as a nation we were declining physically. The only remedy was to feed all the children at school at least in respect to the chief meal in the day, and to make those parents pay for it who were able to do so.

Personal Hygiene of School Children.

The LORD MAYOR presided at the morning session on Tuesday, July 1st, when a paper on the instruction of elementary school children in personal hygiene was read by Dr. W. SPENCER BADGER, school medical officer in Wolverhampton, who said that the practical application of personal hygiene was essentially a matter of domestic training and discipline, and it was upon the teacher that this duty usually devolved. The neglect of personal hygiene was most obvious in the elementary schools of large towns; and a general raising of the standards of thrift and cleanliness, therefore, was urgently required. Medical inspection and school nurses were now available to support the teachers' efforts, but the influence of the latter was far-reaching and would always remain supreme. He suggested that head masters and mistresses should make their assistants responsible for the personal hygiene of their own scholars.

Open-air Schools.

Dr. EDWARD J. MORTON, assistant school medical officer to the London County Council, described the diet, cookery, and hygiene at the County Council open-air schools, such as the one at Birley House, Forest Hill, where the majority of the pupils were drawn from the slums of South London. These children, who were nearly all suffering from malnutrition, weakness, and anaemia, and in some cases from tuberculosis and other debilitating diseases, were made to live a natural open-air life all the year round; and the result was a rapid building up of the tissues and the development of a healthy appetite. They received all their meals at the school, and their food might be described as a plain mixed diet. No invalid dietary was required, but each child consumed 27 oz. of solid food and 17 oz. of milk a day; and the total cost per week for each child amounted to 2s. 6d., of which 6d. was paid by the parents. The success of this system was amply demonstrated by the increase in weight and improved state of nutrition in the children.

Certified Schools.

In the afternoon session on July 1st, at which Lady EDMUND TALBOT presided, a paper on the diet, cookery, and hygiene in certified schools was read by Mr. J. ELLIS, Superintendent of the Industrial School at Hayes, Middlesex, who said that the certified schools admitted a very low type of child, usually underfed or wrongly fed from birth, below the normal height and weight, and rickety, scrofulous, or tuberculous. The schools proved how much might be done to combat even the worst cases of physical deterioration by means of judicious feeding, adequate sleep, and proper recreation. The diet, for obvious reasons, was somewhat restricted, and only the plainest cooking was attempted, but the children improved in weight and vigour until they were capable of bearing more strain than the average child of the same age, though they seldom recovered much of their deficiency in inches. This, however, was by no means an unhealthy sign, as the children had been, as it were, remade and reconstituted, and much useless tissue had been consumed in the process.

BY the will of the late Mr. Alfred Hugh Harman, founder of the Ilford Photographic Plate Company, King Edward's Hospital Fund for London is bequeathed the Southville Park Estate at Dulwich, while the Nursing Association at Shottermill receives shares and debentures in several public companies, a like gift being made to Haslemere Cottage Hospital. Under the same will the City of London Hospital for Diseases of the Chest and St. John's Hospital for Diseases of the Skin, Leicester Square, receive in cash £5,000 and £1,000 respectively.

THERE is now before the medical profession of Belgium a scheme proposed by the Antwerp Medical Union for the diminution and prevention of syphilis. Resolutions have been passed to the effect that university teaching of syphilography with a compulsory examination is necessary; that the public should be educated in the methods of prophylaxis; that patients should have free choice of doctor with a view to thorough treatment instead of the temporary improvement, with its consequent illusory sense of security got by treatment at a dispensary; that doctors and poor persons should have the right to have the diagnostic reactions made in public laboratories; that medicines should be distributed gratuitously to the poor, and that the rules which exclude venereal diseases from treatment in clubs and friendly societies should be abolished.

Nova et Vetera.

SOME FIGURES IN MEDICAL HISTORY.

JOHN CAIUS.

JOHN CAIUS, though he can scarcely be said to have contributed to the advance of medicine, deserves honourable remembrance by members of the profession of which he was one of the brightest luminaries in the sixteenth century. He flourished at the dawn of the new day of knowledge which marked the passing away of old beliefs and the breaking of old traditions. Caius's temper of mind was literary rather than scientific, and although in Italy he lived in close intimacy with Vesalius, who overthrew the idolatrous worship of Galen, which held men's minds in the bondage of authority, he always looked backwards to the past. But he did much by his scholarship to uphold the dignity of his profession. The high esteem in which he was held by his brethren is shown by his repeated election to the office of President of the London College of Physicians, and his reputation for skill in the art of healing won for him a large practice. Among his patients were many persons of distinction, including three Sovereigns — Edward VI, Queen Mary, and Queen Elizabeth. The wealth thus gained he used with enlightened liberality in adding to the buildings of Gonville Hall, Cambridge, of which he had been a scholar. His additions were so extensive that he made a new and handsome college out of what he called "the pore howse now called Gonville Halle." Hence he is deservedly called the second founder of Gonville and Caius College. The four hundredth anniversary of his birth was celebrated by the Master and Fellows of that foundation on October 6th, 1910. It had previously been decided that the quatercentenary should be further commemorated by the republication of his printed works. This has taken the form of a handsome volume most ably edited by the Master of the College, the Rev. E. S. Roberts.[1] The volume is introduced by a memoir of Caius's life, written by Dr. John Venn, who with notable industry and literary skill has made a critical digest of all available materials. Out of these, though they are for the most part of the kind congenial only to Dryasdust, he has produced an excellent biography. He has breathed life into the dry bones of forgotten academic controversies, and has given form and substance to what is for men of to-day only a pale shadow. Caius's foundation has a particular interest for us, as its distinctive character is that it is a medical college. The names of William Harvey and Francis Glisson and many others who have writ their names large in the history of medicine give it a special character and tradition which are most worthily maintained by the present very distinguished Regius Professor of Physic. The Royal College of Physicians has associated itself in the commemoration of a former President by sharing with Gonville and Caius College the labour and expense of issuing the volume.



IOHANNES CAIUS.

(Reproduced, by kind permission of the Master of Caius, from a portrait in "The Works of John Caius, M.D.")

In the sketch of Caius's career here given we have followed Dr. Venn's narrative as far as it deals with his life at Cambridge, adding some touches relating to his professional career from Munk's *Roll of the College of Physicians*, or rather from John Aikin's *Biographical Memoirs of Medicine in Great Britain from the Revival of Literature to the time of Harvey*,[2] from which Munk's account is avowedly taken.

John Caius was born at Norwich on October 6th, 1510. His father, Robert Caius, though living in Norwich, was of Yorkshire origin. His mother's name was Alice Wode, or Woda, though it is given by Cooper, who is followed by Munk and other biographers, as Wodanell, by an absurd misreading of an account of Caius given in some Italian record.[3] It has been conjectured that he was connected with some branch of the well-known Yorkshire family of Kaye or Kay, but the recent discovery of the sheets containing the bursars' accounts whilst Caius was a student do not confirm this. In these his name occurs in ten different forms (Kees, Keys, Keis, Kesse, Kaius, Keyse, Cayus, Keysse, Caius). It will be observed that all these forms end with the letter or the sound "s." This shows that the familiar pronunciation of his name is not a conventional rendering of the Latinized name Caius, but a perpetuation of the sound of the English name by which he was known amongst his contemporaries. But it may be pointed out that the name was sometimes written without the *s;* he is addressed by one poetical panegyrist as "Cay." Dr. Venn says that the name of the college should be written "Keys," not "Key's." Caius entered Gonville Hall on September 12th, 1529, at the age of 19; he was therefore considerably older than most of his contemporaries, who were sent to college at the age of 14 or 15. The College, like the University and the whole country, was going through a period of transition. There was still a number of monks sent by the various communities to which they belonged, and there was also a small but active body of resident fellows and masters of arts who were in sympathy with the new order of things in religion which was beginning to gain sway over the minds of men. A change was coming over the face of the University, and that this was not pleasing to Caius is shown by his disparaging comparison of the undergraduates of his day with those of 1538 when he went back to Cambridge for the first time. He graduated B.A. in January 1532–3, being first of his year in the order of seniority, that is, as Dr. Venn points out, he was what would now be called "senior wrangler." He commenced M.A. in 1535, was elected a Fellow of his college in 1533, and retained the fellowship till 1545. His bent in early life was towards

[1] *The Works of John Caius, M.D., Second Founder of Gonville and Caius College, and Master of the College, 1559–1573.* With a Memoir of his Life by John Venn, Sc.D., Senior Fellow and President of the College. Edited by E. S. Roberts, Master of the College. Cambridge: At the University Press. 1912.

[2] London, 1780.

[3] It is there stated that he was born *de parente Roberto Caio, e Aloicia Woda nell anno 1510*, etc. Obviously the name Woda and the following word *nell* (in the) became somehow fused together so as to form the name Wodanell.

divinity; and Dr. Venn conjectures that he had intended to enter the Church but was diverted to medicine by dislike of the Reformation. He was for his day an excellent classical scholar, and was a diligent student of Hebrew. He seems to have got at an understanding of Anglo-Saxon solely from the study of manuscripts. We may take it, therefore, that he had a decided taste for philology.

In 1539 he went, as was then the custom of Englishmen, to Padua to study medicine. He devoted four years to study in that famous centre of medical knowledge, "his best and most learned teacher" being Johannes Baptista Montanus. Vesalius, who was professor of anatomy at Padua from 1537 to 1544, was at that time engaged in the preparation of his great work, *De Fabrica Corporis Humani*, which first saw the light in 1543. Caius lodged for eight months in the same house as Vesalius, but his devotion to the ancients seems to have prevented his coming under the influence of his fellow-lodger.

Caius graduated doctor of arts and medicine at Padua in 1541. His classical knowledge must have brought him into note, for shortly after graduation he was appointed a professor of Greek dialectics at Padua, probably a unique distinction in the case of an Englishman. In 1543 he left Padua, and, after studying for a short time at Florence and at Pisa, he visited all the cities of Italy in which there were valuable libraries, public or private, the special object of his search being manuscripts of Galen and Hippocrates. He gave most of his time to the collation of these with the object of getting a correct text. He returned to England in 1544 or 1545, by way of Switzerland, Germany, and Holland. He probably stayed some time at Basle, as his work *De Methodo Medendi*, the preface of which is dated May 15th, 1544, was printed at the celebrated Frobenian press of that city. Probably at that time he became acquainted with Conrad Gesner, the celebrated naturalist, with whom he formed a close and lasting friendship. It was to Gesner's *Historia Animalium* that Caius supplied the description of a number of rare animals. The treatise on British dogs was written for him, but Gesner died before he could make use of it. Caius therefore revised and enlarged the work, which had been hastily written, and published it under his own name.

On his return to England he is said by Aikin and Munk to have practised his profession at Cambridge, Norwich, and Shrewsbury before settling in London. Dr. Venn, however, can find no authority for this statement, and he thinks it unlikely that Caius, who was always a great precisian in the matter of rules and forms, should have practised without an English qualification. He seems to have taken no steps to be incorporated as M.D., and he had no English qualification till he was elected a Fellow of the College of Physicians in 1547. He probably resided in Cambridge after his return from abroad for some time before settling in London. He ceased to be a Fellow of his college and left Cambridge on September 29th, 1545. He took a house in the parish of St. Bartholomew the Less, and practice soon came to him in a full tide. His professional standing was shown by his appointment as physician successively to Edward VI, to Mary, and to Elizabeth. It is said that Elizabeth dismissed him in 1568 because he lay under some suspicion of popery. Dr. Venn thinks that his frequent calls to patients of position in different parts of the country gave him the wide knowledge of the country which he evidently possessed. In his description of rarer animals he refers to what he had seen in various parts of the country from Cumberland to the sea off Selsey.

In the College of Physicians he soon became a power. He became an Elect in 1550 and was Consiliarius in that and the following year. He was chosen President of the College in 1555 and annually re-elected till 1560. He was again elected in 1562 and 1563. In 1564 he resigned, and in giving an account of his stewardship, he pleaded that, on the score of his age and the necessity of frequent visits to Cambridge, but especially his seven years' tenure of office, his many labours and great expenditure, he might be relieved from further service. But it would almost seem, says Munk, that the Fellows feared the College could not proceed in its functions without the help of Caius, for, notwithstanding this appeal, he was elected President once more in 1571.

He had a great love of symbolism, and to him is due the invention of the insignia of the office of president—the caduceus or silver rod, emblematic of a mild rule as contrasted with the iron rod of arbitrary authority; a book, signifying the knowledge which should be the basis of the College; a cushion, indicative of honour, and a seal, the sign and pledge of fidelity. Caius was zealous in upholding the rights and privileges of the College and took a leading part in a dispute which in the reign of Queen Elizabeth arose between the physicians and surgeons as to whether the surgeon might give inward remedies in sciatica, French pox, or any kind of ulcer or wound, etc. He denounced the unlawfulness of such practice on the part of the surgeons, against the Bishop of London and Master of the Rolls with such effect that the Queen's commissioners unanimously decided in favour of the physicians. He was so strict in his observance of the statutes of the College that though old he would not absent himself from the comitia without special permission.

Among Caius's greatest services to medical science are the lectures on anatomy which soon after his return from Italy he began to deliver in the Hall of the Barber Surgeons, who had a licence by their original charter of 1540 to claim the bodies of four criminals annually for purposes of dissection. These are the first demonstrations of the kind given in England of which there is any record. His lectures were greatly appreciated. Sir George Baker thinks that Caius lectured before the Barber Surgeons because there were no subjects available at the College of Physicians. It was not till 1564, probably at Caius's suggestion, that the College obtained the like permission. Caius was the first to introduce the teaching of practical anatomy into this country. His public lectures on the subject probably did more for the instruction of the profession of his day than his numerous writings.

But his greatest work is what was virtually a new creation of the college which bears his name. He conceived the design while he was yet a busy physician in London. After some considerable difficulties, legal and other, he obtained his charter of foundation and confirmation, dated September 4th—4th and 5th, that is to say—1557. Besides adding very largely to the buildings, Caius founded three fellowships and twelve scholarships. Soon afterwards he conveyed the first of the large gifts of land and money with which he endowed the new college. This consisted of three manors, Croxley, near Rickmansworth, Herts, Runcton Holme, and Burnham Wyndhams, the two latter in Norfolk. These were all originally monastic property, Croxley having belonged to St. Albans, Runcton to Bury St. Edmunds, and Burnham to Wymondham. If it be true, as Dr. Venn thinks, that he was always a Roman Catholic at heart, this fact may help to explain the reason of his giving these lands, which he bought of Queen Mary, for educational purposes. Being a man of religious mind, he celebrated his new foundation with a solemn service on March 25th, 1558. It was in the reign of Queen Mary, and Mass was performed with full rites. Caius, who knelt before the high altar after Mass, handed the caduceus, the cushion, the salver, and the book of statutes to the celebrating priest with the words, "We offer these to God, to the Blessed Virgin, and to our Society." The priest placed them on the altar. Later in the day there was a feast, which was provided by Caius at considerable cost. Before the party broke up the Vice-Chancellor, in the name of the whole University, in gratitude for his beneficence, offered Caius the degree of M.D. in accordance with his Padua degree, and with the same academic seniority.

Caius, who had now, while still in the prime of life, expended a large portion of his fortune, seems to have intended to continue his professional work in London. Fate, however, willed otherwise. Bacon, the Master of Caius, died on January 1st, 1558–9, and on January 24th Caius was, much against his will, elected in his place. At that time the affairs of the college were in great disorder. The old buildings stood badly in need of repair, and the college, in his own words, had become "an Augean stable."

It is sad to relate that a man who had done so much for the college was an unpopular ruler. He was prematurely aged, his health was undermined, and the natural austerity of his character was increased by his infirmities. His heart was in the past, and he was out

of sympathy with the new thought. The Fellows of the college were mostly puritans and bitter fanatics. They therefore looked on the Master with the suspicion of bigotry, and sought for opportunities of attack. These were afforded by some rather high-handed acts on Caius's part. Complaints were also made of his keeping copes, vestments, and other "popishe trumpery" in his college, and of his setting up a crucifix and other idols within its walls. Certain of his statutes were described as contrary to "God's true religion and repugnant to the laws of our sovereign Lady the Queen." This is probably a reference to a clause asking for prayers for his soul.

Meanwhile, Caius went on with his architectural additions to the college. From the day of his election to the mastership he devoted all the emoluments of his office to the improvement of the college. It is interesting to note that one of the royal licences which he obtained from the Queen included a formal grant of bodies for dissection. This was for the purpose that

They [the students] and their successors shall have forever at their free discretion and will without the contradiction of anyone, two human bodies for anatomy, condemned by law for theft or homicide, and dying in the town, castle or county of Cambridge. And that they may freely dissect them at their will with the reverence due to the human body for the increase of medical knowledge; and this without any payment.

He gave careful directions in his statutes concerning these dissections, desiring that

Every year during the winter there shall be spent by the students of our college on anatomy and on the worthy burial of the dissected bodies, at St. Michael's, 26s. 8d. The President and everyone residing in College, to attend the burial of the remains with as much respect and ceremony as if it were the body of some more dignified person; and this on account of the advantage they have thus received. And the master shall see that the students of medicine do not treat the body with any lack of respect or humanity.

It is to be feared, says Venn, that very inadequate use was made of this privilege. The foundation stone of the new buildings was laid on May 5th, 1565. Caius himself laid a stone inscribed with these words:

Dico istud Aedificium Sapentiae: pono hunc lapidem in fundamentum Aedificii in incrementum Virtutis et Literarum. In nomine Patris et Filii et Spiritus Sancti.

The quarrel between the Master and the puritan faction finally reached a head in the sacking of his rooms and the destruction of the ecclesiastical ornaments and vestments which he held sacred. Caius himself says the work of destruction was superintended by the Vice-Chancellor, Dr. Whitgift, the Master of Trinity, and Dr. Goade, the Provost of King's. It is not surprising that Caius should have left the college after such an outrage, sanctioned and even encouraged by the authorities of the University. He returned to his house in London in 1572.

For many months before his death his strength had been failing. In a letter to Archbishop Parker, dated from Cambridge the last day of June, 1573, he says:

I can not eate anything but yt swellyth in my stomocke and putteth me to payne longe after, so that I am afrayd to eate, and yf I eate not, such weaknes enseweth yt I am not able to systeyne my bodie and strength. And thus doubtfull of the one, the other will make an ende of me, yet content and submitting myselfe to Godes pleasure.

It may be remarked that Caius's feeble digestion led him to try a remedy which was formerly used by some physicians in wasting diseases. Dr. Venn quotes the following passage from a book by Dr. Muffet:

What made Dr. Kajus in his last sickness so peevish and so full of frets at Cambridge, when he suckt one woman (whom I spare to name) froward of conditions and of bad diet; and contrariwise so quiet and well when he suckt another of contrary disposition?

Muffet entered the college in 1572, when the condition of the Master must have been a matter of common talk. Here perhaps we may be allowed a digression on the method of treatment here referred to. The physician named wrote his name "Moffet"; his christian name was Thomas. He was a Fellow of the College of Physicians, and in 1588 was appointed Censor. He died in 1604. Among his works one entitled *Healths Improvement: or, Rules Comprizing and Discovering the Nature, Method, and Manner of Preparing all Sorts of Food used in this Nation*, was more than once reprinted. We have before us an edition printed at London in 1655, and "corrected and enlarged by Christopher Bennet, Doctor in Physick' and Fellow of the College of Physicians in London"; and another edited, with a life of the author, by Mr. Oldys and an introduction by R. James, M.D., printed at London in 1745. In each the passage quoted occurs with the following reflection:

Verily the diversity of their milks and conditions, which, being contrary one to the other, wrought also in him that sucked them contrary effects.

Elsewhere the author states that:

Neither is women's milk best onely for young and tender infants, but also for men and women of riper years, fallen by age or by sickness into consumptions.

Again he says:

The second sort (consumptions) is best recovered by sucking milk from a woman's breast, as most familiar to our livers and blood, needing no preparation (for it is onely blood discoloured) but onely application unto the flesh.

In G. J. Witkowski's *Les Seins et l'allaitement* there are several references to this treatment. A. Dupinet in 1622 states that the milk of women sucked from the breasts is good for consumptives, but points out that this treatment has its dangers. One of these has been referred to in the case of Caius. It may be remembered that Caligula was believed to have sucked his inhumanity from the breast of a nurse remarkable for her cruelty. Another is mentioned by Rivière (1635), who states that a fatal tuberculosis developed in a young woman who had given the breast to a consumptive Abbé. Geoffroy, Doctor Regent of the Faculty of Paris, in a Latin poem, entitled *Hygiène* (1774), says:

Nourish yourselves with milk, you whose strength has been exhausted by disease and who in the state of convalescence in which you are have no more vigour than a child at the breast. At once the use of this food reanimates your features, dissipates insensibly that mortal pallor which covered your face, fills out your cheeks which the bones seemed about to pierce and restores plumpness that pledge of health. After speaking of the various animals whose milk may be used, he says: There is none more likely to restore to you strength and health than that which your mouth will press out of the very breast of a woman.

This was held by some to be the best remedy for wasting diseases. Lemery speaks of it in 1759 and in the same century Tissot, after the example of Cornelius and others, ordered it for men fallen into debility. Milk was sucked direct from women's breasts by the Duke of Alba, and the life of Batholomew de las Casas, the famous denouncer of the cruelties of the Spaniards, is said to have been saved in this way by an Indian woman. A somewhat unedifying story is told by Capivaccio of a young consumptive to whom two wet nurses were assigned; their milk restored his strength to such an extent that he put each of them in a position of giving him a fresher secretion at the end of nine months. Witkowski himself says he cured an octogenarian suffering from dyspepsia with obstinate vomiting by making him suck the breast of two nurses alternately during three months. He adds that the faster Merlatti after his wager recovered his strength rapidly by this means, and it has been hinted that some fasting men use the same means to enable them to keep up their hunger exhibition. The most celebrated example of this kind of feeding is of course that of the Greek, Cimon, who in prison was suckled by his own daughter, an incident celebrated by painters and by poets.

On the occasion of his last visit Caius resigned the mastership to Dr. Legge, on June 27th, 1573, and in anticipation of his death, the day of which he is said to have foretold, he spent his last few days at Cambridge in busying himself about his monument and the place of his burial in the chapel.

On the 2nd, 3rd, and 4th of July, waiting upon the will of God and being stricken with years and disease, he gave orders for the construction of a chambered tomb in which his body should be laid to rest.

He died in his house in London on July 29th, 1573, utterly worn out, at the age of 62. He was buried in great state at Cambridge. His monument bears the simple inscription:

Vivit post funera virtus
Fui Caius.
Aetatis suae Lxiij. Obiit xxix Julii, A.D. 1573.

In 1714, during some alterations in the chapel, the grave of Caius was opened. The following account of the

appearance of the body given by Mr. Warren of Trinity Hall, quoted by Dr. Venn, may not be out of place here:

This brings to my mind what I saw in Caius College Chapel. I remember when they were repairing and beautifying that chapel, the workmen had broke a hole either by accident or design into Dr. Caius' grave, which was a hollow place lined with brick on the north side of the chapel at a little distance from his monument, which was a mural one. The lid of the coffin was off when I looked in with a candle fixed in a long cleft stick which the workmen furnished me with and with which I could survey the sepulchre very easily. The sides of the coffin were remaining, though in a disjointed and rotten condition. The body seemed to have been a very lusty one, and the coffin was pretty full of it; the flesh was of a yellowish-black colour, and yielded to the least touch of the stick and fell to pieces; the eyes were sunk deep into their sockets. A long grey beard, much like that we see in the picture of him, only this was grown very rough by long time; I think it was then about 145 years from the time of his death. I touched his beard with the stick, and turned it a little on one side; it accordingly lay on one side, having lost all manner of elasticity; I therefore brought it back to its right place again. The sight occasioned in me serious reflections, and I went away with such a regard as I thought due to the memory of so celebrated a man as Dr. Caius had been. (Warren MS. in Trinity Hall; quoted in Camb. Portfolio, p. 175.)

Professor Alexander Macalister, who measured the thigh-bone when the grave was opened in 1891, holds that Caius could not have been more than 5 ft. 1 in. Venn, however, thinks it more likely that his lower limbs were abnormally short, as it is improbable that a man so unpopular among those whom he ruled should not have been reminded of his physical deficiencies by some of those whom he had punished. They freely called him "atheist," "papist," and so forth; "surely a dwarf would have received these epithets in the form of what the grammarians call diminutives of contempt."

On the whole, we get the impression that Caius was a man of stern and somewhat gloomy temper, doubtless aggravated by the treatment which he received at Cambridge. He did not seek to hide his contempt for what he considered the indolence and indifference to learning of most of his juniors. But he was not incapable of friendship. He was learned in all the knowledge of his time, and had travelled and studied much, both at home and abroad. He had great reverence for the past, especially those who by their talents or their wealth had contributed to the advancement of his university and college.

His life in London was solitary and somewhat eccentric, as is shown by the following letter from Parkhurst, afterwards Bishop of Norwich, to Conrad Gesner. It is dated May 21st, 1559, a few months after Caius's election to the mastership of his new college:

As soon as I came to London I sought out your friend Caius that I might give him your letter; and as he was from home I delivered it to his maidservant for he has no wife nor ever had one. Not a week passes in which I do not go to his house two or three times. I knock at the door, a girl answers the knock, but without opening the door, and peeping through a crevice asks me what I want. I ask in reply where is her master, whether he is ever at home, or means to be. She always denies him to be in the house. He seems to be everywhere and nowhere and is now abroad, so that I do not know what to write about him. I shall certainly tell him something to his face whenever I have the chance to meet him and he shall know what kind of man he has to deal with.

The shifting currents of the times in matters of religion were distasteful to him. This may have helped to sour his character.

To judge from the inventory of the furniture of his house in London, he seems to have lived in surroundings of monastic simplicity. It may be conjectured that, like many men of the largest munificence for public purposes, his private life was extremely frugal. During his residence in London he paid a tribute of respect to his predecessor, Linacre, by having his body removed from an obscure corner of St. Paul's to a more conspicuous place. He had the following inscription placed on the tomb:

Vivit post funera virtus. Thomae Linacro clarissimo medico, Johannes Caius posuit, ann. 1557.

Caius was a voluminous author, but of his many compositions several were lost; others exist only in MS., and others again were first published after his death. The following list is given by Dr. Venn:

De Medendi Methodo . . . (Basle, 1544). *Galeni libri aliquot Graece . . .* (Basle, 1544). Some of these treatises had not previously been printed, and others have the text corrected from his own MSS. *Galeni de tuenda valetudine libri sex* (Basle, 1549). *A Boke of Counseill against the Disease commonly called the Sweate or Sweatyng Sicknesse* (London, 1552). This, which is the only one of his medical works containing anything original, was reprinted in 1844 and 1847. *Opera aliquot et versiones* (Louvain, 1556). *De Antiquitate Cantabrigiensis Academiae libri duo* (London, 1568); this was anonymous, the author being simply described as "Londinensis." It was republished in 1574, after his death, with his name, together with his *Historia Cantabrigiensis Academiae ab urbe condita: De Pronunciatione Graecae et Latinae linguae cum scriptione nova* (London, 1574). *De Canibus Britannicis. De rariorum animalium et stirpium historia.* A translation of this under the title *Of Englishe Dogges*, by Abraham Fleming, was printed at London in 1576. Fuller says that "when King James I. passed through the college the master thereof presented him a *Caius de Antiquitate Cantabrigiae*, fairly bound, to whom the King said, 'What should I do with this book? Give me rather *Caius de Canibus*.'" Lastly may be mentioned a book on his own works *De Libris Propriis* (1570). In this he mentions several other works. For instance juvenile translations of Greek and Latin authors, but these seem mostly to have been lost. The following MS. works are important: 1. *The Annales of Caius College:* this was printed in 1904. 2. *The Annales of the College of Physicians of London*, which are preserved in their library. Of other books some are lost, like his *History of Norwich*, which he commenced in early life and never finished.

His writings show that Caius was a linguist, a critic, a naturalist, and an antiquary as well as a physician. In his treatise on the pronunciation of Latin and Greek he speaks of the change which had occurred since his student days, and, like Milton, he advocates the use of the Italian vowel sounds. As for Greek, he wished, like the late Stuart Blackie, to have it pronounced after the modern Greek fashion. His controversy with Thomas Key of Oxford as to the respective antiquity of their universities is amusing from the assurance with which he attributes the foundation of Cambridge to one Cantaber, 394 years before Christ. The Oxford champion had only dared to claim an origin 1,267 years later!

Caius was greater than his works. He knew all that could be learnt in his time from his books. None but a few scholars will ever read them. But his name will live in the fine college with which his love of learning and his desire to promote medical knowledge led him to endow the University of Cambridge.

LITERARY NOTES.

SIR CLIFFORD ALLBUTT has written a book entitled *Arterial Disease and Angina Pectoris*, which will be published in the autumnby Messrs. Macmillan and Co.

Professor James Walker, of Edinburgh University, is just completing a *Textbook of Organic Chemistry for Students of Medicine*, which will shortly be published by Gurney and Jackson, London, and Oliver and Boyd, Edinburgh.

Messrs. Cassell and Company, Ltd., announce that they are about to publish a second edition of Dr. Herman's *Student's Handbook of Gynaecology*, revised by the author, with additions by Dr. Drummond Maxwell.

The first number of the *Journal of the American Medical Editors' Association*, which is the official organ of the American Medical Editors' Association, has just appeared. It is a monthly periodical. The editor and chairman of the Publication Committee is Dr. H. Edwin Lewis of New York. The aims of the *Journal* are said to be to publish the transactions of the annual meetings of the association, to keep the members informed concerning matters of current interest, and to promote in every way the best interests of the medical publications of America.

A committee has been formed to make arrangements for the commemoration of the seven-hundredth anniversary of the birth of Roger Bacon in 1914. Lord Curzon is the honorary president, Sir Archibald Geikie, K.C.B., chairman, and Lieutenant-Colonel H. W. L. Hime, the honorary secretary. It is proposed to erect a statue (by Mr. Hope Pinker) in his honour in the Natural History Museum at Oxford and to raise a fund for the publication of his works. The statue will be unveiled in July, 1914, with the rites customary on such occasions. It is further proposed to issue a memorial volume of essays dealing with various aspects of Roger Bacon's work, written by specialists in the various subjects; and to arrange for the editing and printing of Roger Bacon's writings, as far as funds will allow. It will be impossible, says the committee, to carry out the whole of this programme without the help of a Roger Bacon society. The establishment of

such a society may be one of the results of the Septingentenary celebration. Subscriptions should be sent to Colonel Hime, 20, West Park Road, Kew.

Messrs. William Hodge and Co., Edinburgh and London, announce a new volume of the series of Notable English Trials, entitled *The Trial of Eugene Aram*, by Eric R. Watson, Barrister-at-Law. This volume of the series differs from its predecessors in that, for reasons that can now merely be conjectured, only "maimed and imperfect reports of the trial," to quote from the *Gentleman's Magazine* of the period, appeared at the time, and it has been necessary to reconstruct this historic case very largely from the unpublished documents in the Record Office and elsewhere, which throw much fresh light on the amazing proceedings at the various inquests, and on the whole tend considerably to strengthen the case against the celebrated schoolmaster. The volume contains many hitherto unpublished illustrations relating to the trial.

It is the intention of the Syndics of the Cambridge University Press to issue a series of books dealing with the various subjects which come within the field of psychology. The extent of this field may be gauged from the titles of the volumes given below, which are already in preparation. The Cambridge Psychological Library will appeal not only to students of pure psychology, but also to those who are interested in such subjects as philosophy, religion, ethmology, sociology, art, education, medicine, physiology, and zoology. The following is a list of the volumes which it has already been arranged to publish: *Psychology*, by Professor James Ward, Sc.D., F.B.A.; *The Nervous System*, by Professor C. S. Sherrington, M.D., F.R.S.; *The Structure of the Nervous System and the Sense Organs*, by Professor G. Elliot Smith, M.D., F.R.S.: *Prolegomena to Psychology*, by Professor G. Dawes Hicks, Litt.D.: *Psychology in Relation to Theory of Knowledge*, by Professor G. F. Stout, F.B.A.; *Mental Measurement*, by W. Brown, D.Sc.: *The Psychology of Mental Differences*, by C. Burt, M.A.: *Collective Psychology*, by W. McDougall, M.B., F.R.S.; *The Psychology of Personality and Suggestion*, by T. W. Mitchell, M.D. The general editor is Charles S. Myers, M.D., Sc.D., University Lecturer in Experimental Psychology, and Director of the Psychological Laboratory.

The May number of *L'Hygiène* maintains the high standard established by this admirable periodical, both in regard to letterpress and illustrations. The contents are, as usual, varied in nature and strictly scientific, while written in language understanded of the people. Dr. "Horace Bianchon" writes in an interesting way on the hygiene of the great. M. Léon Mirman, Director of Hygiene and Public Assistance at the Ministry of the Interior, contributes a paper in which he advocates the formation of an independent Ministry of Hygiene and Social Providence and Assistance. His idea is to gather up into one administrative organism the existing public services of hygiene and other organizations for the promotion of the public welfare other than those relating to war, the navy, and the colonies. This Ministry would control all the funds voted for purposes of public assistance and hygiene, and those levied by the State on the *pari mutuel* and sports. The function of such a Ministry would be to direct and co-ordinate the systematic efforts for the hygienic defence of the race. The Minister would be able to speak with authority in the counsels of the Government, to point out, when the occasion arose, the inadequacy of the means available, and to ask Parliament for powers, and in conjunction with the Minister of Finance to demand new financial sacrifices. From him would come the impulse which, communicated to prefects, municipalities, friendly societies, would co-ordinate all works of private initiative, and all efforts at present without a central direction. By setting into harmonious play the different modes of action of the community, he would combat infant mortality and make the protection of sucklings effectual, and help in the promotion of the health of children and mothers by the control of milk supplies and the administration of maternity benefit. He would also organize a war against tuberculosis in the school, the factory, and the cottage, by alimentary hygiene, the hygiene of the dwelling, of the baths, disinfection, and so forth. He would also play an important part in the fight against alcoholism. M. Mirman argues strongly that such a Ministry would prevent an immense waste of power, and would prevent friction between existing departments which are independent. Dr. Maurice de Fleury writes on the hygiene of neurotics, with special reference to what he calls the neurasthenic mental state. Dr. E. Apert, of the Andral Hospital, general secretary of the Eugenics Society, describes the aims of this new science. A French Society of Eugenics has recently been founded in Paris. In an interesting article, entitled Princely Pastimes, Dr. Cabanès describes the manual and other occupations taken up by sovereigns and royal personages for amusement. Dr. Nathalie Federoff continues her study of human physiognomy, dealing this time with José Frappa and his work. The number ends with the usual collection of culinary receipts appropriate to the month, and with interesting little notes on hygiene.

The July issue of the *Arena* opens with an article by T. Ll. Humberstone on university representation in Parliament, who puts forward a sane plea for the retention of the university vote even if plural voting on a property qualification is abolished. Other points, such as the question of extending the suffage to women in the case of the university franchise, are also touched on. At the end of the article are printed some opinions on the main questions of university representation by several prominent authorities, among whom may be mentioned Mr. S. A. Donaldson, the Vice-Chancellor of Cambridge University, and Sir Alfred Hopkinson, Vice-Chancellor of the Victoria University, Manchester. The school dealt with this month is Radley, and among other noteworthy features may be mentioned the first half of an illustrated article on Oxford and Cambridge robes by Mr. Noel Barwell; a charmingly illustrated article on caravaning, by Captain E. Harvey Jarvis; a paper on guides, by Mr. F. G. Affalo; and an article entitled "When Famous Men of To-day were Women," by Mr. G. A. Wade. This last article contains some interesting reminiscences of prominent men who once took female parts in performances at the university dramatic societies. The illustrations, which have only been obtained after a long and arduous search through the thousands of negatives in the possession of Messrs. Hills and Saunders, form a unique record.

Dr. W. G. Dun (Glasgow) writes: In the interesting note which you publish in the JOURNAL of June 28th on "Louis Philippe as a Surgeon," you tell the story of the expert manner in which in 1833 the King bled a postboy. This is not the only instance which has been recorded of Louis Philippe's skill as a phlebotomist, for long before that date he displayed his ability in the same direction. In 1797, when Duke of Orleans, he travelled as an exile in the United States of America, where, with true republican simplicity, he was known as "Mr. Orleans." It is related:*

> That on one occasion Mr. Orleans having fallen from his horse, and feeling unwell, bled himself with such good results that he was asked to operate on an old chief, who improved so rapidly that the greatest honour that the tribe could confer was voted to the paleface, and which could not be declined without giving mortal offence. Mr. Orleans must sleep that night in the family wigwam of the chief; more than that, upon the family mat, and in the highest place of honour—between the grandmother and the grandaunt, the most venerable of the squaws. Orleans sincerely wished that his surgery had turned out differently.
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> Another time, on the same journey, the Duke was thrown out of a wagon, and lay insensible for some time. When consciousness returned he bled himself so successfully that the onlookers thought him a physician going West to "locate," and begged him to settle in their town, where a good doctor was needed. "Perhaps," he used to say, "I should have been happier there than as King of France."

The stories are a commentary on the times when even laymen knew how to bleed. How different from to-day, when most medical men have not even seen the little operation!

Gabriel Fallopius, the famous anatomist, whose name is enshrined in the tubes—really trumpets, *tubae*, to use his own expression—which he discovered, was one day consulted by a hypochondriac patient to whom he listened patiently for some time. Then he gave his diagnosis in a quotation from Terence: *Otio abundas, Antipho* (You have too much leisure, Antipho).

* *Century Magazine*, September, 1901, pp. 752, 756.

British Medical Journal.

SATURDAY, JULY 12TH, 1913.

FREE CHOICE OF DOCTOR.

No principle in connexion with the Insurance Act has been more strenuously fought for by the profession or has received more cordial endorsement by the public than that there should be freedom on the part of the insured persons to choose their own doctors. With the exception of that section of the public which is in favour of a State Medical Service, it is generally held by those who have practical knowledge of the subject that the unique relationship between doctor and patient which is such an attractive and valuable feature of private practice can only exist in its most effective form when the patient is at liberty to choose the doctor he likes best from among those whose services are open to him.

The adoption of the principle in the Insurance Act did more to distinguish favourably the contract practice under the Act from club practice as previously existing than any other of its provisions, and it is of the utmost importance that the profession and the public should jealously watch any attempts to limit it. It is interesting, therefore, to note the differences which exist in the application of the principle in different insurance areas. In some a very large percentage of doctors in general practice have accepted service under the Act, and the insured persons have an effective free choice. In other areas the proportion of general practitioners available is much lower, and the efficiency of the insurance medical service is correspondingly diminished. On both public and professional grounds it appears to be essential that no obstacles should be put in the way of placing at the disposal of the insured the services of all medical men whose practices lie amongst the working classes, and we see no reason why full legitimate advantage should not be taken of Clause 15 (3), which allows persons who desire it to make their own arrangements with doctors who for various reasons decline to join the panels. Yet the greatest differences exist among the Insurance Committees in their use of the discretionary powers conferred on them by this Section. Some, in direct defiance of the Act, have refused practically every application for permission to make arrangements outside the panel, without even a pretence of that consideration of each application which they are supposed to give. Much irritation has been caused to the public and to the profession by this high-handed action, which is calculated to aggravate the unpopularity of the Act among the classes it is supposed to benefit. Some Committees have for their own guidance established certain classes, such as persons in the employment of doctors not on the panel, persons actually ill at the time of application and under the care of a doctor not on the panel, and so on, and all who fall into these classes are allowed to make their own arrangements. Others have gone further, with great advantage to the insured persons concerned, and great saving of friction to the administrators of the Act, and have allowed practically every person to make his own arrangements who made a formal application. At the last meeting of the Surrey Committee, for example, the Chairman reported that between January and April such permission had been granted in practically every case, amounting to 601 in all, and it was said that in taking this line the Committee had been actuated by a desire to do what was fair to the insured persons and to the doctors. The Worcester City Committee takes an even wider view of its duty, and has allowed four persons to make their own arrangements with herbalists, and, although it is not definitely so stated, we take it that a Committee willing to allow arrangements with herbalists will raise no objection to similar arrangements in the case of qualified practitioners not on the panel.

It seems to be time that something approaching uniformity was established throughout the country, and we would suggest that the Commissioners, who earlier in the year led Committees to take a very stringent line in regard to these applications, should now inform them that, in the interests of the smooth working of the Act, if for no other reason, it is their duty to consider each application with a view not of finding a reason for rejecting it, but with a sincere desire to grant permission in every case in which there is no strong reason against it. We would further suggest that the best general test of the reasonableness of the application is the desire of the insured person himself. If he genuinely prefers the services of a practitioner outside the panel and is willing to stand the risk of having to pay the difference between the allowance made by the Insurance Committee towards his doctor's bill and the amount of that bill, there should be no hesitation in granting him permission to make his own arrangements. It may seem strange to the official mind, but the insured person is really a better judge of whether the services of the doctor are satisfactory than any committee is likely to be, so that the alleged need for the Committee to satisfy itself that the attendance given is satisfactory does not exist. Medical practice is such a personal matter that it may be said in general terms that if the person treated thinks he is getting good treatment and is satisfied, it will probably be better for him than any treatment imposed on him by an outside body. The person who wants to make his own arrangements and is prepared to pay for the privilege if necessary, may be trusted to see that he gets at least as good treatment as his neighbour. We would therefore urge upon all medical representatives on Insurance Committees, and upon the other members of these Committees also, that ample latitude should be allowed to insured persons to make their own arrangements as private patients with private practitioners. Such a course would be good for the administration of the Act, and it hardly needs to be said that those interested in it cannot afford to neglect any opportunities of lessening friction. It would allay the feeling of resentment very naturally rankling in the breasts of those doctors who, because they were unwilling to join the panels, see their old patients forced on to the lists of other practitioners, often to the great dissatisfaction of the latter, who do not want unwilling patients. It would be satisfactory to the doctors who have joined the panel because it is an application of the principle of free choice for which the profession has fought so hard. Finally, it would be popular with the insured person, who, after all, deserves a little consideration even in an Act which is meant to do him good whether he likes it or not.

HEREDITY AND DISEASE.

A PAPER contributed to the current number of *Brain* by Mr. E. J. Lidbetter, General Relieving Officer for Bethnal Green, and Mr. Nettleship, F.R.S., well illustrates the bewildering complexity of the problems raised by the minute study which is now being carried on in many directions into the facts of heredity. Mr. Nettleship has been able to establish the nature of the morbid process in certain members, blind or with defective sight, of a family whose pedigree was given by Dr. Mott in an earlier issue of the same periodical, and to ascertain that other members of the family suffered from lesser degrees of a similar abnormality. The pedigree shows an association between mental deficiency and ocular defects, the latter being partly developmental and partly morbid. The pathological changes are chiefly detachment of the retina, based upon disease of the choroid, but with iritis and secondary cataract in some cases. Both the mental and the ocular conditions are hereditary.

The details of the various cases make it probable that the ocular and mental defects are due to a common underlying cause, and do not stand to one another either as cause and effect or as accidental coincidences. The ocular changes are quite different from any of those commonly met with in cases of cerebral and spinal disease; optic neuritis, optic nerve atrophy, alterations in the pupillary reflexes, and ocular palsies were not observed. Though the age at which ocular degeneration or disease began in those affected by it cannot be stated with certainty, it certainly occurred early in life in several of them, and the persistence of later fetal structures (pupillary membrane and hyaloid artery) in several makes it probable that the whole of the abnormalities, ocular and cerebral alike, began as intrauterine arrests. Developmental bodily defects in the pedigree were not limited to the eyes; it was not found possible to extend the investigations to every member of the family, but a frequency of small stature was observed, and the occurrence of such special conditions as undescended testicle and in one of the girls of delayed growth and sexual evolution.

The pedigree is concerned with the three stocks, D., H., and C., which intermarried, but C. is of relatively small importance in the story. D. was a Scottish stonemason whose first child, a son, born in 1812, had one seeing eye only, and was an inmate of a London workhouse when 50 years of age; this man died leaving one son of whom nothing is known. H, the originator of the other stock, was a working furrier born in 1815 who was in a London workhouse from the age of 63 until he was removed to Claybury Lunatic Asylum where after two years he died at the age of 71. He married a woman of whom nothing is known, but neither of them was related to the D. family. They had five children, of whom one, a woman, became blind and insane, and two others, male and female, insane. D.'s second son, himself normal, married a woman of whom nothing is known except that she lived to a good age. They had four sons of whom two were insane paupers; the other two were not traced. The eldest D. of this generation—he died in Claybury Asylum aged 61—married the member of the H. family who became blind and insane. She had been in an asylum before her marriage at about the age of 30 and became blind at about the time of her marriage. The two evil heredities showed themselves concentrated in the next generation—the fourth from D., the Scottish stonemason, and the third from H., the furrier—for the union yielded five living children of whom only one (a female) was normal; the four sons were all abnormal—one became blind, one insane, and two became both blind and insane. The three blind in this generation all married women not related to them; the eye defect reappeared in their offspring—the fifth generation from D. One of the blind and insane men had a son who became blind, two daughters who became blind or had eye disease, and a third daughter who was both blind and insane. The other blind and insane man had eight children who survived infancy—four sons, of whom three were neither blind nor insane, but one was both; and four daughters, of whom two were blind, one insane, and one tuberculous. The blind man in this generation had two children who survived infancy, both sons, and one of them was blind. In this condensed account of the most striking features in the pedigree the term "blind" has been used to indicate eye defect, but both the degree of this defect and the age at which it came on varied. Of the three families of this last generation, numbering fifteen persons, all but one are chronic paupers.

Mott has called particular attention to earlier incidence or "anticipation" in respect to insanity, and in the pedigree compiled by Lidbetter and Nettleship there is evidence of such anticipation. The mental deficiency tended to appear at an earlier age in each succeeding generation. Thus, one man in the third generation who died insane at 66 had two sons, who died insane at 32 and 37. Of these two sons, the one who lived to 37 had two children, mentally deficient from birth; the other had five children, of whom four are living, and not one of them is normal, all having eye changes and defective sight, one being also an imbecile. But on the whole anticipation cannot be proved for the ocular defects. Mr. Nettleship gives some new instances of anticipation in diabetes, and also discusses other families in which there has been evidence of extensive disorganization of the choroid in infants associated with mental defects, but it is clear that further inquiries into this subject are requisite.

It may seem at first sight as though it ought to be possible to draw a moral from the history of the D.-H. family alliance, but on looking closer it is not easy to be quite sure what it is. All perhaps that can safely be done is to note, from the social point of view, how large a proportion of the adults of both sexes have become a burden on the community owing to defective mental or physical endowments, defects of both classes often being found combined in one individual. Of 65 individuals of the third, fourth, and fifth generation from the stonemason, D., 8, or perhaps 9, were or are insane, imbecile, or idiotic, without defective sight, 5 others were or are insane and blind, and 8 affected with the family eye changes but no mental defect; of the remaining 42 at least 16 have been ordinary paupers, leaving only 25 who can be called normal; but 2 are tuberculous, 3 died under 8 years of age, and several are still children; there have been in addition to the 65 persons recognized in this calculation a number of miscarriages and deaths in infancy. Summing up the figures, it is found that, of the 65, at least 40 (24 diseased and 16 paupers), or nearly two-thirds, were or are unsound in mind or eyes, or so circumstanced as to need aid from public funds.

For the eugenist the case is difficult. It does not seem that in the early generations there existed discoverable defects which in the present state of knowledge would have justified interference by the community with the freedom of the individual including

the right to marry. On the whole, the story rather favours the views of those who look to the operation of natural laws for the extinction of such tainted stock, for, though the fertility of the members, including that of some of the insane, was generally high, some of the insane had no issue, and the family seems to be tending to die out owing to early death, or "anticipation" in the onset of incapacitating disease.

In concluding this notice we may take the opportunity of congratulating Mr. Lidbetter on having been associated with Mr. Nettleship in an inquiry of so much interest and of expressing the hope that others similarly situated may show a like zeal in contributing to the advancement of the difficult science of heredity.

ANTI-NARCOTIC LEGISLATION IN THE UNITED STATES.

Much attention has been given during the last year or two by the Federal and State authorities in the United States to the prevalence of various drug habits among the population of that country and to the necessity for legislation to check the spread of such habits. Opium and its principal alkaloid morphine, and cocaine and its principal substitutes, are the drugs most subject to abuse; but others, such as acetanilid, chloral hydrate, and Indian hemp, are responsible for drug habits in many cases. Legislation on the subject hitherto has been mostly enacted by the individual States, and there is accordingly very great variation in the restrictions on the sale or possession of such drugs in different parts of the country, as well as on the sale of other poisons.

The United States Public Health Service has recently issued a report containing a digest[1] of the laws and regulations in force in the various parts of the United States relating to the possession, use, and sale of poisons and habit-forming drugs. It contains much information of interest. There is a table of cases of fatal poisoning which shows that deaths from poisoning (other than alcoholism) in the States in the last ten years have averaged about 5,000 a year, and that from a third to nearly half were suicidal. The figures relating to the prevalence of drug habits are necessarily more of the nature of estimates; they indicate a sufficiently serious state of things. A recent report of the Secretary of State is quoted as follows: "It has been estimated by the highest medical authorities that 50,000 pounds of opium should suffice for the medicinal needs of the American people; yet during the last ten years there has been an annual importation and consumption in the United States of over 400,000 pounds. Fully 75 per cent. of this opium is manufactured into morphine, and it is reliably estimated that at least 80 per cent. of such morphine is used by victims of the habit, to their personal detriment and with appalling effects on general society." The *Bulletin* continues: "In addition to the tremendous amount of opium unnecessarily consumed annually in the United States, it has been estimated that 150,000 oz. of cocaine are illegitimately used each year 'to make fiendish criminals of human beings.' In addition to the drugs enumerated above, hundreds of pounds, probably tons, of chloral and other hypnotic drugs are consumed annually by the people of this country, who, it has been asserted, are rapidly becoming hopelessly addicted to the habitual use of narcotic drugs of various kinds."

The problem how best to diminish the evil by legislation is, of course, difficult. Too much restriction may, on the one hand, interfere unduly with the legitimate use of the drugs in question, and, on the other, may lead to general evasion of the law. The summaries given of the laws which have been enacted in fifty-three political divisions show a wide range of stringency; in some States only cocaine and in others only opium and its preparations are the subject of special regulations, while in some many other drugs are also restricted, over and above the general regulations as to the sale of poisons. It is pointed out that "in many of the States anti-narcotic laws are so comprehensive that practically every retail druggist would be subject to fine or imprisonment were an attempt made to enforce the legislation ostensibly in force, while in other States the laws are so burdened with exceptions and provisos as practically to nullify every effort to control the traffic in narcotic drugs." The general principle of most of the laws is that the drug in question shall only be supplied on the written order of a physician, such order being retained by the druggist supplying, and no repetition being allowed except on a fresh order; restrictions as to the amount which may be supplied, and to the maximum amount which may be in the possession of any person, are also frequent. The *Bulletin* does not contain any specific recommendations as to the lines which any general legislation on the subject should take, but is confined to summarizing what is at present done.

Other matters in regard to which collated information is also given as to the law in the various States are the conditions regulating the practice of pharmacy, the sale of general poisons, restrictions on the sale of methyl alcohol, and the prevention and reporting of occupational intoxication, such as poisoning by working with compounds of lead, phosphorus, arsenic, etc. Many useful hints can be gleaned as to what is desirable in these matters, but no reports are given beyond the general remarks referred to above on the actual working of the various laws.

It appears that the compilers of the report have a good deal of faith in what can be done by legislation. They remark, in connexion with the 5,000 deaths annually attributed to the action of poisonous substances other than alcohol: "The extent to which this annual mortality is directly due to the inefficient laws or to the non-enforcement of otherwise efficient laws designed to restrict the sale and use of poisons is suggested by the statement, attributed to Thomas F. Darlington, that in the year 1906, following the enforcement of a New York City Board of Health Ordinance, the number of suicides from the use of phenol in that city was reduced from 343 to 36." It would be interesting to know, however, how far this reduction was due to suicides choosing some other poison, and it by no means follows that similar restrictions in regard to all poisonous substances, even if practicable, would have a proportionate effect.

[1] Digest of Laws and Regulations in force in the United States relating to the possession, use, sale, and manufacture of poisons and habit-forming drugs. *Public Health Bulletin*, No. 55. Washington: Government Printing Office. 1912.

The annual conference of the Museums Association will be held at Hull on July 14th, under the presidency of Mr. E. Howarth, Curator of the Sheffield Public Museum. Among the subjects to be discussed will be the experiments of Mr. J. A. Charlton Deas at the Sunderland Museum in showing museums to the blind; Professor Rathgen of Berlin will give a lecture on the decay and preservation of antiquities. The local secretary of the congress is Mr. T. Sheppard, of the Hull Museum.

THE SANITARY EDUCATION OF CHILDREN.

THE Women's Imperial Health Association (7, Hanover Square, W.) has issued the following rules for the children belonging to the Children's Health Crusade:

I will try to have my bedroom window open at the top and bottom, at night as well as by day, which will assist in preventing a cold.
I will try to have a bath at least once a week.
I will try to keep my head, face, hands, and finger-nails as clean as possible.
I will clean my teeth and rinse my mouth every morning on getting up, and at night on going to bed.
I will always wash my hands before eating food.
I will always eat slowly and chew my food well.
I will try to breathe through my nose by keeping my mouth shut.
I will not cough or sneeze without turning my face or holding a handkerchief before my mouth.
I will not spit upon floors, stairways, or sidepaths.
I will love and respect my parents, try to say a kind word or do a kind action every day, and be kind to all dumb animals.

There is, of course, nothing very novel about these rules' but they are sound and sensible. We only hope the little ones will keep their pledges. It cannot be denied, however, that children are for the most part not naturally cleanly in their habits. More than three centuries and a half ago Erasmus wrote a treatise, *De civilitate puerili*, and it may be interesting to compare his precepts with those of the modern decalogue just quoted. The book was dedicated to the young Prince Henry of Burgundy, and was addressed to young people of all classes and conditions. He recommends that the face should be washed in the morning with fresh water, but adds that it is useless to do it oftener. The Salernitans had recommended rubbing of the teeth, and in this Erasmus follows them, but he dwells rather on means not to be employed. The young reader is told that to clean his teeth with powders is altogether effeminate; to rub them with salt or alum is hurtful to the gums, and to wash them with urine is a Spanish fashion. Erasmus advised the use of toothpicks made of quill or bone. The hair was to be combed; this also was a precept of Salerno. But excessive attention to the hair was deprecated. Erasmus says that although one must be clean, one need not deck oneself out like a girl. Care must be taken not to harbour lice, for this is disgusting. He goes on to say that it is uncleanly to have a dirty nose. To blow it with one's cap or the tail of a coat is only for peasants; nor should it be cleaned on the arm or the elbow. He adds that it is not much less objectionable to blow one's nose with the hand and then wipe it on one's clothes. It is more decent to use a handkerchief, turning away if there be any distinguished person near. Common people, it may be inferred, had to bear the sight as best they could. The use of the handkerchief seems to have been a counsel of perfection, and Erasmus himself allows that the nose may be blown with two fingers—a method which according to some modern specialists is the most practically effectual, if not the most aesthetic. But if any of the secretion falls on the ground it must be hidden with the foot. Before Erasmus's day fashionable persons blew their noses with a single finger applied to one nostril, whilst they blew hard through the other. But the left hand had to be used, the right being reserved to take meat at table, for there were no forks. He does not forbid belching, a means of relief in which our free and easy forbears were apt to indulge. But he blames the abuse of eructation, and he recommends that pains should be taken to prevent children contracting the habit. With regard to flatulence of another kind, he does not agree with those who enjoin that children should retain the ventosity of the belly. If by ill chance the escape of wind is too noisy, the indecorum should be disguised by a discreet cough. Civility does not, he says, call upon us to make ourselves ill in order to get the reputation of being well brought up. Again, he says, to retain one's urine is contrary to health, but he advises that one should go aside to empty the bladder. It was, in fact, emptied pretty well everywhere in those days, even on the floor of rooms, but by preference up the chimney. Erasmus, who was a man of somewhat delicate constitution and dainty habit, evidently suffered much from the coarseness of his contemporaries. If he went to an inn, he says, people spoke to him with their faces close to his, sickening him with the fumes of garlic. They spat everywhere. Wet clothes were put to dry on the stove, and the whole room reeked of it. Some cleaned their boots at table. Everyone dipped his bread into the plate, and thus mopped up the sauce. If a plate went round, everyone tried to get the best bit without thinking of his neighbour. Some scratched their heads, others sponged their brows running with sweat. It is painful to have to admit that the people of this country were fouler than those on the Continent. Erasmus, writing to Cardinal Wolsey's physician, pointed out how the plague in England might be stopped. The houses, he said, were without any free ventilation, and were built without the least regard to this necessary condition of health. Windows were never opened, and no one cared to have a pure and wholesome air. The floors were beyond measure filthy. "They are usually," says the great scholar, "made of clay covered with rushes that grew in the fens, which are so slightly removed now and then that the lower part remains sometimes for twenty years together, and in it a collection of spittle, vomit, urine of dogs and men, beer, scraps of fish, and other filthinesses not to be named. Hence upon a change of weather a vapour is exhaled very pernicious to the human body." Erasmus's book, *De civilitate puerili*, was translated into every language and edited and re-edited from century to century. On many important points its teaching is not yet obsolete.

THE HEALTH OF THE RAND.

IN connexion with the outbreak on the Rand it has been stated that a leading factor in the discontent of the miners is the unhealthy conditions in which they work; indeed, a correspondent in the *Morning Post* has gone so far as to assert that when a white man makes up his mind to become a Rand miner he knows that he will only live for five years longer. In view of these statements the reports of the Medical Officer of Health for Johannesburg become of special interest, since the area of the municipality as extended by proclamations in 1902 and in 1903 covers a not inconsiderable part of the mining locality commonly known as the Rand. The latest report to hand covers the period July 1st, 1911, to June 30th, 1912, and shows that the total deaths from all cases among the white population numbered 1,628. This represents a gross death-rate of 12.5 per 1,000 of population, and when corrected for age and sex distribution amounts only to 13.3. This figure, so far from suggesting that there can be any very active cause of death at work in the Rand, would seem to indicate that, so far as the white population is concerned, Johannesburg and its neighbourhood must be unusually healthy, since its general death-rate is considerably lower than that of other great centres of population. In London, for instance, during the year 1911, the death-rate from all causes was equal to 15.0 per 1,000, in Glasgow to 17.7 per 1,000, in Dublin to 21.5 per 1,000, in Paris to 17.2 per 1,000, in Berlin to 15.6 per 1,000, and in Moscow to 27.2 per 1,000. Nor is a different impression left when the death-rates from various specific causes are examined. Thus the death-rate among the white population from all forms of tuberculosis was in the year in question 0.4 per 1,000, and the corresponding death-rate from rock-driller's pneumonia, or, as it is more commonly called, from miner's phthisis, 0.54 per 1,000. For the purpose of bringing these rates into focus the death-rates from certain other diseases may be quoted; thus the death-rate from pneumonia was 1.2 per 1,000, that from diarrhoeal

diseases 1.7 per 1,000, from heart disease 1.0 per 1,000, from cancer 0.4 per 1,000, and from influenza 0.2 per 1,000. The tuberculosis figure, it may be noted, can hardly be regarded as high; it is, indeed, two-thirds less than the figure for pulmonary forms of tuberculosis alone in London during the year 1911—namely, 1.34 per 1,000. Even if the view be taken that miner's phthisis and ordinary phthisis are closely associated, and the mortality-rates relating to these two causes are consequently added together, the resulting figure is still not high, since it still falls considerably short of the London figure for pulmonary tuberculosis alone, and the London figure, it should be remembered, is a much better figure than that of most large cities. It is, of course, not improbable that a considerable number of cases of phthisis which commence on the Rand end elsewhere; but, on the other hand, figures supplied in the report show that about 19 per cent. of all deaths from tuberculosis among Europeans in Johannesburg during the five years ending June 30th, 1912, were among persons regarded as infected before their arrival. The report does not throw any very clear light on the incidence of phthisis on miners as distinct from the rest of the white population, but such figures as are supplied do suggest that the ratio of deaths due to phthisis among miners must be considerably higher than among the rest of the white population; while, of course, the deaths from rock-driller's pneumonia occur solely among them. On the other hand, there is nothing to indicate that phthisis on the Rand runs an unusually rapid course or is exceptionally virulent, it being shown that about 23 per cent. of the cases among miners last over five years. On the whole, therefore, the report of the medical officer of health does not seem to offer much ground for believing that mining on the Rand is conducted on lines which, in regard to white employees, are exceptionally unfavourable when compared with rock-drilling mining elsewhere, and no support whatever for the assertion, which has been quoted, to the effect that it is so dangerous an occupation that no one who takes it up can expect to live more than five years.

THE PHYSIOLOGY OF THE CEREBELLUM.

IT is an extraordinary proof of the remarkable strides made by surgical technique that it has been possible to resect the cerebellum, and for the subject of this operation to be still living and in fair health at the end of eighteen months, so that the physiological effects of this remarkable operation can be studied. The case reported by Dr. Mees[1] was that of an infant born of a healthy mother and otherwise well formed, presenting in the occipital region a tumour as large as the rest of the head, to which it was attached by a pedicle as broad as the palm of the hand. It was fluctuating but not translucent, and there was a small superficial ulcer on the inferior aspect. The child was quiet, only cried from time to time, sucked well, and presented no nervous trouble or nystagmus. Intervention was indicated by the inconvenience caused by the size of the tumour, and the danger of its perforation if the ulcer became deeper. On the third day after birth the tumour was opened by a semicircular incision around the lower circumference, which opened the cavity and permitted the escape of blood-stained fluid. The sac, the walls of which were unequally thickened, was removed; a hole about 2 cm. in diameter was then seen in the lowest portion of the occipital bone; through this orifice a reddish-brown mass protruded as large as a hen's egg, which was supposed to be the deeply congested cerebellum. As this could not be reduced the left lateral ventricle was punctured through the great fontanelle, but without the desired result; and as the mass seemed then to possess little functional capacity it was amputated. The fourth ventricle was then laid bare. The pericranium and the dura mater were drawn together over the hole in the bone in order to prevent compression of the fourth ventricle. The operation was borne well, but hydrocephalus developed slowly, causing asymmetry of the skull, the right half being greater than the left; otherwise the child grew, although perhaps slowly. The ventricles were punctured four times, and each puncture was followed by rapid increase of weight. During the first few days after the operation the temperature oscillated between 38.5° and 40.5° C., but after the fourth day it became normal. At that time and subsequently the child occasionally vomited, and between the eighth and ninth week it vomited on twelve consecutive days. The pupils reacted to light, although somewhat slowly, and ophthalmoscopic examination showed nothing abnormal. Hearing was probably more disturbed, as acute sounds only seemed to be noticed. Nystagmus was induced when the child looked laterally, and there was inequality in the elevation of the two eyes. There was also a rotatory nystagmus in the direction opposed to the rotations, and nystagmus in the direction of the ear when this was irrigated with hot water. All the reflexes were present except the plantar, which at first was only obtained once (at the sixth month) and on the right side; a year and a half after birth, however, it was present on both sides, but, on the other hand, the corneal reflex was then absent. Sensibility was, so far as could be judged, normal; the upper extremities showed slight hypotonus, the lower some hypertonus; active and passive movements were absolutely normal; there was no cerebellar ataxy. In the course of the first year the asymmetry of the skull diminished, and the great fontanelle closed, although more slowly than usual, but the child continued to have a large head. The first tooth, an upper incisor, appeared at the fifteenth month. At the time of reporting, when the child was eighteen months old, it could neither sit up nor walk nor speak, although it made inarticulate cries. Excepting the nystagmus, the absence of the corneal reflex, the abnormal muscular tonus, and the occasional vomiting, there were no signs which could be attributed to the absence of the cerebellum. For the last nine months it had not been necessary to puncture, and the cerebrum appeared to supply the place of the cerebellum. In short, the prognosis did not appear to be very bad, although slow physical and mental development might be expected. The histological examination of the amputated cerebellum showed that the fourth ventricle had been opened, but apart from numerous haemorrhagic foci and of some consecutive necroses, there were no special changes. Microscopical examination suggested that the middle part only of the cerebellum was excised, and this was confirmed by the fact that the excised portion weighed only 50 grams, whereas the weight of the entire organ in a newly born child is about 150 grams. Wassermann's reaction was constantly negative with the fluid furnished by the four punctures. Although it appears to be doubtful whether more than the middle lobe of the cerebellum was removed, yet the case is of much physiological interest. Although stress should not be laid upon the want of symptoms in so young a subject, and in the classical example of congenital absence of the cerebellum known as Combette's case the patient was able to stand and walk up to shortly before her death, yet it may be noted that neither retraction of the head, head nodding, nor rolling movements of the body were present, although the last two are specially associated with lesions of the two central lobules. Should the case survive, and especially if its intelligence develops, it is to be hoped that Dr. Mees will report further upon it.

[1] *Beitraege zur Geburtshilfe und Gynaekologie*, 1913, xviii.

SPIRITUAL MIDWIFERY.

ST. LEONARD, a saint of the time of Clovis, for many centuries enjoyed a great reputation for helping women to an easy delivery and for the cure of sterility. In

former days queens, as well as women of the people, invoked the aid of St. Leonard in their hour of travail. The fact that at the birth of the Czarevitch prayers were addressed to the saint by the Court of Russia shows that faith in his power has not wholly died out even in this sceptical age. St. Leonard was born in the Orleans district, and when he was baptized Clovis himself, who held his father in great esteem, insisted on holding the babe over the font. When he grew up the King wished to keep him at Court, and offered him a bishopric. But the saint preferred the obscurity of the cloister. He therefore entered the celebrated monastery of Mici near Orleans. After a time he felt drawn to the life of a hermit, and after wandering about he found a place of retirement in an almost impenetrable forest, four leagues from Limoges. It had such a mysterious and terrible appearance that the people about believed it to be inhabited by dreadful monsters which devoured trespassers on their domain. There Leonard built himself a little hut, hoping that his retreat would be inaccessible; but he was discovered. One of the hunting lodges of the kings of France was built on a rock dominating the Vienne on the left of the present Limoges road, which is still called Clovis's rock, and thither went one day King Theodobert, grandson of Clovis, with his consort, Detheria. The queen, who was with child, was taken suddenly with the pains of labour. The situation seemed desperate, when the hermit hearing her cries came on the scene and applied spiritual treatment, with the result that the queen was safely delivered of a boy. The saint died in 559, and was buried in an oratory which he had built. Later, when a larger church was erected, his relics were translated thither. In a recent number of *Aesculape*, M. Septime Gorceix relates his life and traces the history of the belief in the efficacy of his relics. The cult of St. Leonard spread over almost the whole of Europe. He was venerated in France, in the Low Countries, in Germany, in Switzerland, in Poland, Scotland, England, Sardinia, and Sicily. Already in the sixth century he was credited with the power of breaking the chains of prisoners; possibly the two ideas of delivery became mixed. The relics were held in such great veneration that no part of them was ever detached except on the occasion of the birth of Louis XIV. As Louis XIII and Anne of Austria had been married for twenty-two years without issue, it was extremely important for the dynasty that there should be no mishap. The queen, by way of neglecting no precaution, asked for some of the relics of the saint when her time was coming near, and as appears from extant documents a part of the jaw was sent. She had an easy delivery, and the child grew up to be the Sun King. Besides relics of St. Leonard, the bolt which originally served to close the door between the church dedicated to him and its belfry acquired a great celebrity for the cure of sterility. As the legend grew the bolt was believed to be that with which the hermit closed his hut. Women who wished to have children came and shook the bolt, and, whether owing to the virtues of the bolt or not, M. Gorceix states that families without children have always been rare in that region. Thirty-two years ago it was possible to touch the bolt, but in 1880, when the church was undergoing repair, the door of the belfry, which had become useless, was taken away, and the part to which the bolt was attached cut out. Its trace was lost at Vichy in 1901. There is said to be some hope, however, that it may be recovered. To sum up, the reputation of the relics originated in a narrative, historical or legendary, of a miracle wrought on a woman in childbed by St. Leonard in his lifetime. To the supposed property of ensuring a safe delivery was gradually added that of curing sterility, and the bolt came to play a part in the legend as a phallic symbol to which the fecundating property of the relics was by an obvious association of ideas transferred.

THE LITERATURE OF TUBERCULOSIS.

A CAREFULLY summarized report on the progress of research in any subject must always be of real practical value to workers. The ever-increasing literature descriptive of tuberculosis research has within the last two years been thus dealt with by Dr. F. Köhler[1] in Germany, and an English translation, prepared by Dr. Ronald Krohn, has recently appeared. It deals only with the work of 1911, but an annual issue is promised which will doubtless be welcomed with the same appreciation as the present volume deserves. The large subject is arranged under definite headings, and a good index of names and subjects enables the reader to refer to the work of any particular authority or to any branch of the subject with equal ease. By far the larger number of references are to Continental work, and in every case where new ideas or special observations have to be recorded a sufficient abstract is appended. Thus, under the heading of the evil conditions prevailing in country places, full mention is made of the numerous circumstances incident to rural life which tend to the fostering and transmission of tuberculosis in a small community. The dangers of the bovine bacillus and its conveyance in milk to young children are evidently less regarded in Germany than in England, and the prevalence of the disease in infancy is attributed rather to dirt and direct infection from the human sufferer. In the section devoted to pathology it will be found that expert opinion is a good deal divided, and only those who have made special study of the subject will be able to keep pace with the ever-increasing evidence of the presence of "substances" in the tissues, the blood, and in the bacilli themselves, which are believed to react one upon another. It does not appear that any approach to general agreement has yet been reached, and the reader will doubtless turn to the chapters on prophylaxis and treatment with more hope of practical enlightenment. Tuberculin treatment naturally looms large in the forefront of the subject, but here again a marked variation may be noted between the results obtained by one observer and another, and it is not surprising to find that the search for a chemical specific still goes on. The artificial production of pneumothorax to check advanced unilateral disease has been a good deal used on the Continent, and success seems to have been obtained, in so far as temporary relief of suffering and prolongation of life for a longer or shorter period are concerned. It is maintained that the skilled introduction of nitrogen gas can be effected without any of the shock and dyspnoea consequent upon intrapleural escape of air from a ruptured lung. Dr. Krohn has done good service to the profession by thus placing in their hands a trustworthy summary of a year's work which will doubtless have the effect of saving much repetition and serve to indicate the lines upon which further research is most needed.

CAPTAIN THUNDERBOLT.

DR. HOWARD KELLY'S recently issued *Cyclopaedia of American Medical Biography*, besides immortalizing McDowell, Senn, Marion Sims, Horace Wells, Morton, and other truly famous men, rescues from oblivion some less celebrated, less honourable, yet still somewhat interesting members of the profession. Amongst the latter is John Wilson, better known in his day—long gone by—as "Captain Thunderbolt." Dr. Caverly, who has written the biography, believes that he was born in Scotland in 1784. He is said to have studied medicine in Edinburgh, but his degree is apparently a myth which the biographer passes over in absolute silence. Wilson appeared in the Eastern States in 1820. He taught as a schoolmaster and also studied medicine in Brookline and Dummerston.

[1] *Annual Report on the Results of Tuberculosis Research, 1911.* By Dr. F. Köhler of the Holsterhausen Sanatorium. Translated by Ronald E. S. Krohn, M.D.Lond. London: John Bale, Sons, and Danielsson, Ltd. 1913. (Med. 8vo, pp. 265; price 7s. 6d. net.)

The "Academy of Medicine" at Castleton seems to have given him the right to practise. He made money, and settled at Brattleboro in 1836. He lost much in an investment for setting up a sawmill, but gained a good practice. He was skilful, well educated, and a gentleman in appearance. He drove about the country "in a rather inferior carriage accompanied by a little boy." But he fell into intemperate habits, his practice dwindled, and he died in retirement, living with a young son on the banks of the Connecticut River. His death occurred in 1847, and a marble slab marks his grave in the Brattleboro cemetery. His wife, a Brattleboro lady, had long been divorced from him, partly on the ground of cruelty, but partly, she said, because she would not live with a robber. For strange suspicions were held about him ever after 1838, two years subsequent to his settling in the Connecticut Valley. A highwayman, Michael Martin, known as "Lightfoot," was hanged for robbery that year in a town in Massachusetts. Before his execution he confessed that he had passed through a long career of crime in Scotland, England, and Canada. He spoke of his companion and leader, a "Captain Thunderbolt," who bore a scar from a sabre wound in the neck and had one leg shortened after an injury from a musket ball. "Thunderbolt," it is related, once held up a stage coach on its way to London, and holding a pistol to a man's head, said, "Give me your money or I'll blow your brains out," to which the man replied, "Blow away; I'd as soon go to London without brains as without money." "Thunderbolt" seems to have appreciated both the joke and the man's courage, for it is said that he left him with a laugh. There appears to be a good deal of reason to suppose that "Captain Thunderbolt" was John Wilson; he led a secluded life, with few acquaintances and no intimates. His neighbours only knew him through his necessary errands when out shopping and going his rounds. His patients can hardly have been so "curious" as is the rule, especially in rural practice anywhere. He wore a big muffler round his neck all through the year, summer and winter, and is said to have become greatly excited whenever "Lightfoot's" confession was mentioned. Once, when he saw a copy at a patient's house, he threw it into the fire, an act not tending to disarm suspicion. In the delirium preceding his death it is said he prated about events which recalled incidents mentioned in the famous confession. Whatever the truth may be, this Connecticut Valley doctor was a mysterious personage.

LIFE EXPECTATION OF PREMATURE INFANTS.

The causes which lead to premature birth, and the fate of infants prematurely born, are questions of prime importance both as regards the individual and the race. Some interesting observations on this subject have been recently published by Detré,[1] who has examined 205 cases of premature birth and compared them with infants born at term in the same surroundings. In dealing with this problem it is first of all necessary to establish the fact of prematurity and then investigate the causes, both inherited and acquired. Detré draws attention to the high mortality, which is shown by the small number of premature cases (4.9 per cent.) among the sum total of observations in relation to the frequency of prematurity, which is stated to be about 30 per cent. The mortality is naturally greater in proportion to the prematurity. As regards the causes of premature birth, syphilis, as has long been known, plays an important part, and the author has endeavoured to throw further light on the frequency of syphilis in such cases by means of the Wassermann reaction. He remarks that syphilis may only manifest itself by retarded growth, and can only be demonstrated by the above reaction. Tuberculosis is also an important factor, especially when associated with syphilis. With regard to the future of the premature, the proportion who compare favourably with healthy infants born at term is, according to Detré, only 8.6 per cent. in infancy and 10.5 per cent. at puberty. Even after eliminating syphilis, tuberculosis, and faulty alimentation, the premature are still at a disadvantage, as they are deficient in stature and weight at puberty. Comparison of premature infants with others born at term from the same stock leads to the conclusion that the fact of retarded growth is independent of social conditions and also of heredity. Some such cases he observed were born during the ninth month of pregnancy, when the induction of premature labour is often practised. For this reason he considers that this proceeding is prejudicial to the race as well as to the individual. Here we think the author is exceeding his premisses, for, in the first place, persons of short stature are often of good physique, and still more often of high intellectual power. On the other hand, persons of abnormal height often die young, and seldom reach advanced age. Secondly, the future of any given infant is unknown and subject to many influences, hereditary and acquired. Certain men of high intellectual attainments have been premature infants—for instance, Victor Hugo (mentioned by Detré in the introduction to his thesis). It would, indeed, be an interesting study if it were possible to investigate the actual condition at birth of all the great people in history. At present it would seem preferable to run the risk of retarded growth by premature induction of labour, when this appears indicated, than to destroy a potential genius by craniotomy.

1. *Thèses de Paris*, 1911-12, No. 308.

The Servian Government is prepared to make definite arrangements with British surgeons who are willing to offer their services. Railway fare and luggage expenses will be paid to and from the seat of war. Board and lodging will be provided, and a salary paid of 600 francs (about £24) a month. Application should be made at once to the Servian Legation, 40, Pont Street, S.W.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

Mental Deficiency Bill.

Committee.

The consideration of this bill in Standing Committee B was continued on Thursday, July 3rd, when Clauses 41 to 63 were added to the bill, except that consideration of the money Clauses 43 and 44 was postponed.

A minor amendment was introduced into Clause 41 to express more definitely the meaning of the expression "place of residence." Clause 42, which deals with the application of the Asylum Officers' Superannuation Act, 1909, to the officers of the institutions provided by local authorities under the present bill, was amended, on the motion of Mr. Rupert Guinness, by the insertion of an amendment which gives power to the Secretary of State to increase the superannuation allowances or to reduce contributions, as the case may be, in respect of any officer or servant under that Act. It will be noticed that it does not enable the Secretary of State to reduce the superannuation allowance or to increase the officer's contribution.

An important amendment was made to Clause 45, which relates to the provisions dealing with certified houses. The amendment referred to was in the following terms:

> (*d*) A special report under Section 11 of this Act as to the mental and bodily condition of a defective detained in a certified house shall not be made by the medical officer of the house, or by any medical practitioner directly or indirectly interested in the house.

No material amendments were made to Clauses 46 to 48. An addition to the offences in relation to institutions detailed in Clause 49 was made on the motion of Mr.

Acland Allen, by making it an offence to secrete a patient in any institution or certified house or approved home.

Considerable discussion took place on Clause 52, which relates to abuse of female defectives, and eventually the clause was withdrawn. Clauses 53 to 59 were agreed to, with the exception of a few minor amendments, mainly consequential on others previously inserted.

An amendment to Clause 60, which relates to the Idiots Act, was made on the motion of Mr. Martin, the effect of which was to make it clear that the Board of Control shall make an order in the case of any hospital, institution, or licensed house which shall become and be treated as an approved home. Clauses 60 to 63 were then added to the bill, and the Committee adjourned on the question that Clause 64, which relates to the disqualification of defectives in institutions in receipt of old age pension.

No meeting of the Committee was held on Tuesday, July 8th, because the money resolution which must be passed by the House in order that the financial clauses of the Bill may be dealt with in Committee had not at that time been dealt with by the House. The Committee and Report stages of the financial resolution necessary to enable the Committee upstairs to complete their consideration of the bill were, however, passed after the third readings of the Home Rule and Welsh Disestablishment Bills on Monday and Tuesday, July 7th and 8th respectively. The opposition to the resolution was supported only by a small number of members, and chiefly rested on the contention that the additional number of Commissioners to be appointed—namely, three—was excessive. The Home Secretary pointed out that whilst the number of defectives to be dealt with in the early stages would probably not exceed 30,000, there would be a great amount of organizing and other work to do, and that the number of defectives to be dealt with before much time had elapsed would probably reach 60,000. The passage of the resolution through the House enabled the Committee to complete its work, and the next meeting was accordingly held on Thursday, July 10th.

The Dogs Bill.—The adjourned meeting of the Standing Committee on the Dogs Bill was held on Wednesday, July 9th. A prolonged debate took place upon a motion brought forward by Sir Henry Craik to omit the restrictions in the first clause with respect to disease. The whole time of the committee was occupied in debating this motion. Sir Henry Craik, Sir Philip Magnus, Dr. Chapple, Mr. Herbert, and others joined in the discussion. On the votes being taken it was found that the voting was equal, 10 voting for and 10 against the amendment. The Chairman gave his casting vote in favour of the clause as it stood in the bill. Subsequently it was found that no quorum was present and the committee was adjourned until Wednesday, July 16th. The effect of the meeting was that no further progress was made with the bill.

The Government's Educational Proposals. — Sir Philip Magnus asked the Prime Minister whether he could now say when the proposed Education Bill would be introduced, and whether time would be given for the discussion of the proposals on the first or second reading of the bill.—The Prime Minister said he could not say more than that at an early date the President of the Board of Education would make a full statement of the intentions and policy of the Government in regard to education.

Registration of Deaths.—Mr. Rupert Guinness asked the Prime Minister whether he was in a position to state when legislation would be introduced to reform the present system of registration of deaths, and more particularly to render burial impossible without the production to the registrar of deaths of a medical certificate as to the cause of death, or a certificate based on the verdict of a coroner's jury.—Mr. John Burns said he could not promise legislation on this subject, but an alteration which the Registrar-General was about to make, with his approval, in the instructions to registrars of deaths would secure that all deaths not certified by a registered medical practitioner should be reported to the coroner.

Vaccination (Lymph Reserve).—In reply to Mr. Bentham, who inquired as to the reserve of lymph provided by the Local Government Board, Mr. Burns said that during the year 1912 the Local Government Board took occasion to add to their reserve of lymph, and an additional number of calves were used for this purpose.

Local Government Board Laboratory.—The President of the Local Government Board, in reply to Mr. Astor, stated that the amounts expended during the last three financial years in connexion with the Local Government Board Laboratory were £1,455, £1,754, and £1,795 respectively. Mr. Astor asked whether the Local Government Board were expending upon scientific research any sum of money other than the £1,900 voted by Parliament for auxiliary scientific investigation, and the sums expended in connexion with the department's laboratory in London; and, if so, how much had been so spent during each of the last three years, and in connexion with what laboratory or other similar institution.—Mr. Burns replied that in addition to the £1,900 to which the hon. member referred, and the sums expended in connexion with the Board's pathological laboratory, the amounts expended in the last three financial years on what he was advised might be regarded as scientific research were £142, £120, and £80 respectively. Those sums were paid to investigators working privately.

Industrial Disease.—In reply to Mr. Steel-Maitland who asked whether power was given to the medical referee, in case of industrial disease, to consult any doctor who had previously had the case under consideration on his own initiative, without any application to that effect necessarily having been made by the parties themselves, the Home Secretary said that the regulations required that the referee should, before deciding on the matter referred to him, make a personal examination of the workman, and should consider any statements made or submitted by either party. There was nothing in the regulations to prevent the referee, if he should think it necessary, consulting any doctor who had previously had the case before him, but it would be a matter entirely for his own discretion.

Sir Victor Horsley.—Mr. Frederick Hall asked the Home Secretary the result of his communication to the Royal College of Surgeons as to the charges made by Sir Victor Horsley with reference to the treatment of Miss Lilian Lenton while in prison; and if he would submit the terms of his communication and reply thereto, in order to afford the House an opportunity of drawing its conclusions with regard to the serious allegations made and the grounds on which he addressed his complaint to the College of Surgeons.—Mr. Gulland said that, if the hon. member would move for the correspondence, he should be glad to lay it on the Table of the House.

"Hunger-Striking."—In reply to Mr. Newman, who inquired as to the number of cases of those who were adopting the hunger strike in prison and who were sentenced for offences other than those in connexion with the demand for the enfranchisement of women, Mr. Gulland said that he had no information of any cases other than the three which he mentioned in his reply of June 24th. It had then been stated that there were three such cases of male prisoners sentenced for burglary, obtaining goods by false pretences, and larceny, and these men were being forcibly fed.

Inspection of Hotel and Restaurant Kitchens.—Mr. McKenna in reply to Mr. Steel-Maitland, said that the Home Office had been advised by the Law Officers of the Crown that the kitchens of restaurants, etc., were not "workshops" within the definition in the Factory and Workshop Acts.

Influenza in St. Kilda.—In reply to Mr. Hogge in relation to the assistance which was recently sent by the Admiralty to the inhabitants of St. Kilda, Mr. McKinnon Wood said that the Medical Officer of the Local Government Board for Scotland, who went to St. Kilda, reported

that the epidemic of influenza there was practically over, and that before he left the island he satisfied himself that all the patients were convalescent.

Colour-Blindness Tests.—Lord Hugh Cecil asked the President of the Board of Trade whether by the directions of the Board a lantern test had recently been substituted for a wool test in respect to colour-blindness; whether nearly 50 per cent. of cases of colour-blindness detected by the lantern test passed the wool test; whether the defects of the wool test were pointed out nearly twenty-five years ago by Dr. Edridge-Green; and why the Board of Trade had so long preferred the advice of those who advocated the wool test.—Mr. Buxton said that on April 1st last a lantern test was introduced, and certain modifications were made in the wool test previously used for examining candidates. Of the failures in the first two months in which the new tests had been in force about 50 per cent. passed the modified wool test, but deficiency was detected by the lantern. The Holmgren wool test had been adversely criticized by Dr. Edridge-Green for many years. In adopting the test in 1894 the Board of Trade acted on the advice of a very strong committee of the Royal Society, presided over by Lord Rayleigh. The lantern test was adopted on the recommendation of a committee which was appointed in 1910 to consider whether any alterations in the sight tests were required.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Tuberculosis Arrangements in Edinburgh.

One or two further occurrences fall to be recorded concerning the tuberculosis arrangements in Edinburgh, to which references were made last week (Journal, July 5th, page 43), and on June 28th (p. 1389). One of these, the acceptance by Sir Robert Philip of the post of expert adviser, was intimated at the meeting of the Town Council on July 1st. In his letter Sir Robert stated that he gladly placed at the services of the town the experience he had gained after many years, and considered it an honour to have the opportunity of co-operating with the medical officer of health in measures for dealing with tuberculosis; he did not think it would be difficult to draft a working scheme which would be acceptable to every one concerned. Another incident which took place at the same meeting of the Town Council was the notice of a motion by Mr. Macpherson and Mr. Young to remit to the Public Health Committee to consider the expediency of the Royal Victoria Hospital, the dispensary, and the farm colony being transferred to the Corporation with instructions to confer with the directors, and ascertain whether it would be practicable to make satisfactory arrangements at present. A leading article in the *Scotsman* newspaper (July 2nd) comments on this notice of motion as a development which is equivalent to a new departure, and expresses the conviction that the inclusion of the institutions named above within the scheme would be advantageous to all concerned.

The opinion of the M.O.H. (Dr. Maxwell Williamson) on the utilization of the Colinton Mains Hospital for cases of tuberculosis is stated in his annual report. He has no doubt about the wisdom of arranging for the treatment of tuberculosis cases at Colinton Mains Hospital; he would place there patients not only in the later but also in the very early stages of the disease. There was accommodation there for 716 patients, and never since the opening of the hospital had more than 467 patients been under treatment at the same time; indeed last year the daily average of occupied beds had only been 353. The conclusion drawn is that there is a large amount of unused bed accommodation in the institution, and that since the building itself and its surroundings are eminently adapted for the treatment of tuberculosis on modern principles it should be fully utilized in the new tuberculosis arrangements.

As was indicated here last week (*vide* p. 43), one of the criticisms on the tuberculosis scheme was that it would crowd all the tuberculosis cases together into one building. Dr. Williamson seems to show that the risk of overcrowding at Colinton is neither great nor likely to be immediate. He is at pains to explain away the increase in the number of phthisis cases being intimated now as compared with some five years ago. In 1907 there were 651 cases notified, in the next year there were more, and so it had gone on till in 1912 there were 1,255 cases. This increase was really to be regarded as an indication of the greater care exercised in recognizing the existence of the disease early in its course. Consumption, like the general and the infantile death-rates, reached a higher rate in the densely populated parts of the city. In the Haymarket, Morningside, and Merchiston Wards, which might be regarded as the better-class districts, the notifications were 1.3, 1.4, and 1.9 per 1,000 respectively, whereas in the wards where tenement dwellings abounded, and where there were large numbers of houses of one or two rooms, the rate of phthisis notifications rose to 3.1 (in Gorgie Ward), to 4.5 (in St. Andrew's Ward), and to 7.4 (in St. Giles Ward).

The Public Health of Edinburgh.

Dr. Maxwell Williamson's annual report on the Public Health Department of the City of Edinburgh, was submitted to the Town Council on July 1st. In it he dwelt on the decrease in the mortality rates; forty years ago the rate reached 27 per 1,000; twenty years ago it was 20 per 1,000; twelve years ago it was nearly 18 per 1,000; and during the last three years it had been slightly over 14 per 1,000. It would be lower still if it were not for the densely populated wards, such as St. Giles, which has a mortality-rate-rate of 16.9 per 1,000, and for such parts of that ward as the Grassmarket and West Port, where it was as high as 22 per 1,000. With extremely rare exceptions the death-rate followed with wonderful precision the housing conditions, the density of the population, and the accompanying insanitary conditions attendant upon the general overcrowding of the community in certain districts. The conclusion was that the improved housing of the people must be secured if a further diminution in the number of deaths was to be brought about; there must be strict observance of such building regulations as tend to prevent the massing of an undue number of persons upon a limited area of ground; there must be close supervision to stop the subdivision of existing property for the accommodation of a larger number of persons than was sanctioned in the original building; all efforts which had been made during recent years for the condemnation and closing of houses found unfit for human habitation must be continued; and a higher standard should be imposed before such condemned property was again permitted to be occupied. There was no diminution in the cancer rate; indeed there was a slight increase in the recorded cases. Dr. Williamson points out the somewhat remarkable fact that for the past three or more years the cancer and tuberculosis death-rates have been practically the same; in 1910 they were 387 and 389 respectively, for 1911 they were 405 and 392, and for 1912 they were 400 and 406. There was a need for special hospital accommodation for cancer cases, and if this were provided the way would be paved for making the disease a notifiable one. A most hopeful feature in the health of the city was the continued fall in the infantile mortality. Only a few years ago the rate was 140 or 150 per 1,000, but in 1911 it fell to 115 per 1,000, and in 1912 it was as low as 110 per 1,000. As with the general so with the infantile death-rate: it would be much lower but for certain black spots in the city. Thus, in the St. Giles Ward the infantile rate was 155 per 1,000, while in Merchiston it was only 46; further, in one part of the St. Giles Ward—namely, in the Cowgate—the rate rose as high as 277 per 1,000, and in the not far distant Richmond Street district it was 232 per 1,000.

Nowadays the birth-rate part of a medical officer of health's report is more closely scanned than in the times when the population was going up by leaps and bounds. In 1912 there were only 6,700 births registered in Edinburgh, giving a rate of 20.81 per 1,000, or, after correction for country births, 19.71. This is a drop on the preceding year, and a reduction on all previous ones. Thus, in 1903, with a total population some 3,000 or so smaller than now, the births numbered 8,112, and the rate was 25.49. The natural increase of the population for 1912 was 1,645, and at this rate Edinburgh will require 136 years to double the number of its inhabitants.

WHOOPING-COUGH.

For some eighteen months there has been an unusual and widespread prevalence of whooping-cough in Scotland, with a considerable mortality.

In the sixteen principal towns (Glasgow, Edinburgh, Dundee, Aberdeen, Paisley, Leith, Greenock, Perth, Coatbridge, Motherwell, Kirkcaldy, Hamilton, Clydebank, Kilmarnock, Falkirk, and Ayr) there were 174 deaths during the first quarter of 1912, equivalent to a mortality of 32 per 100,000. During the second quarter of 1912 there were 168 deaths, equivalent to a mortality of 31 per 100,000. During the third quarter 156, and during the fourth quarter 190, which is equivalent to a mortality of 35 per 100,000.

In the first quarter of 1913 the deaths numbered 591 and during the second 427. The mortality was greatest between 1 and 5, but one death has occurred this year between the ages of 10 and 15. In these six months the mortality in children under 1 was also very heavy, particularly in March. The figures cited do not give an exaggerated idea of the heavy mortality from whooping-cough for the whole country, but probably rather the reverse, since in many country districts children suffering from this malady are allowed to go out of doors in all sorts of weather, however cold or wet. The deaths from whooping-cough during 1912 were 29 per cent. of the total zymotic deaths. To all appearance this will be considerably exceeded during 1913.

PUBLIC HEALTH IN INVERNESS-SHIRE.

Dr. John Macdonald, M.O.H. Inverness-shire, in his annual report for 1912, compares the birth- and death-rates for the past four years: For 1912 the birth-rate was 17.8 as against 19.1, 17.9, 19.2, and 18.6. The births exceeded the deaths by 197. Harris had again the highest rate, 22.5, although this was considerably below the rate of the previous year (25.7). The rates of the insular districts were, on the whole, higher than those of the mainland, the total rate being 18.8 as against 16.7.

The death-rate for 1912 was 14.6 as against 13.6, 14.6, 15.0, and 15.3 for the previous four years. The highest death-rate was in the Badenoch district, 17.8. Skye closely followed with 17.1.

Of the total number of deaths in the county, 194, or 21.4 per cent., were not certified by a doctor. As is usually the case, the largest number of uncertified deaths occurred in the islands. Taking the county as a whole, the number of uncertified deaths had decreased during the period since 1892, but certain parishes still retained the same high percentage due to the long distances from a doctor and the considerable expense involved in obtaining his services.

The infantile mortality-rate was 59.8, as compared with 72.7 in the previous year; 66 deaths of infants under 1 year were registered, of which 18, or 27.2 per cent., were uncertified.

The death-rate from phthisis on the mainland was 0.95, and in the islands 1.50. This can not be taken as the true rate owing to the large number of uncertified deaths, many of which were undoubtedly due to this disease. Under the Infectious Diseases (Notification) Act 228 notifications were received as compared with 153 in the previous year; this increase was largely due to scarlet fever, which was prevalent in most of the districts. The medical inspection of school children has yielded interesting information. Dr. Macdonald states that the condition of the teeth of children is receiving a degree of attention not hitherto paid to it, and some school boards have been able to do a great deal in this respect for necessitous children by reason of the treatment grant provided by the Government. Reference is made in the report to the relationship of tuberculosis with the housing question, and it is stated that while local authorities have not taken many active steps under the Housing and Town Planning Act, 1909, inspections have been carried out, but houses have been dealt with chiefly under the Public Health Act.

EDINBURGH ROYAL INFIRMARY RESIDENTS' CLUB.

The nineteenth annual general meeting of the Edinburgh Royal Infirmary Residents' Club was held on June 27th, with the President, Sir George T. Beatson, K.C.B., in the chair. The annual report of the Honorary Secretary (Dr. R. W. Johnstone) and the Honorary Treasurer (Dr. D. Halliday Croom) were read and adopted. Mr. J. M. Cotterill was elected President for the ensuing year, and Drs. J. V. Paterson and Torrance Thomson members of Committee. Dr. William Russell was elected an honorary member of the club. In the evening the members of the club dined together to the number of eighty-six. After the toast of "The King" had been honoured, Sir George T. Beatson proposed the "Floreat Residentia" in a most eloquent speech, in the course of which he traced much of the early history of the infirmary, and recalled many interesting reminiscences of his own days as student and resident under Lister. Dr. James Ritchie, a fellow Resident of Sir James Beatson, proposed "The Health of the President," quoting Henley's famous lines on the "House-Surgeon," of which Beatson was the original. In the course of the evening Dr. James, Dr. Malcolmson, Dr. A. E. Ritchie, and Dr. Pullon sang, and Mr. Dowden, Mr. Scot Skirving, and Dr. Claude Ker entertained the company with anecdotes and recitations.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

MEMORIAL TO THE LATE SIR HENRY SWANZY.

At a meeting held at the Royal College of Surgeons of Ireland, under the chairmanship of the President, it was announced by Mr. J. B. Story that a committee of 280 members had been formed to establish a memorial to the late Sir Henry Swanzy. The committee included 80 medical men resident in all parts of Ireland, 40 resident in Great Britain, and 42 eminent ophthalmologists and aurists in Paris, Rome, Vienna, Berlin, Upsala, Stockholm' Madrid, and other university towns in Europe, America, and Australia. Mr. Justice Barton, who moved the first resolution, said that he believed that nothing would have been nearer to Sir Henry Swanzy's heart than the completion of the Royal Victoria Eye and Ear Hospital; it would be consistent with this proposal that his personality should be represented in some bust, statue, or picture. The motion was seconded by the President and carried. An executive committee was appointed, with power to appoint secretaries and treasurers and to collect subscriptions. On the motion of Mr. J. B. Story, seconded by Sir John Moore, the Committee was instructed that the memorial should, if possible, take the form of the completion of the Royal Victoria Eye and Ear Hospital.

THE ROYAL HOSPITAL FOR INCURABLES.

At the annual meeting of the Royal Hospital for Incurables on July 3rd it was indicated that the governing body has in view a plan of considerable interest. Although the institution already provides accommodation for 213 patients and no beds are ever left vacant, it is not found possible to accord admission to more than about one-fourth of the number of those who are medically recommended as being hopelessly incurable and incapable of earning their living In view of this fact it is proposed to reconstruct the oldest portion of the present building so as to raise the total accommodation to 248 beds. The hospital dates back to the year 1743, and both treatment and maintenance are gratuitous.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

WOMEN'S HOSPITAL FOR SOUTH LONDON.

THE foundation stone of the new in-patient department of the South London Hospital for Women at Clapham Common was laid by Princess Louise, Duchess of Argyll, on July 1st. The Princess was received by Lady Tennyson (who took the place of Viscountess Castlereagh, chairman of the board of management), the Bishop of Southwark, Mrs. Scharlieb (consulting surgeon), and the honorary medical staff of the hospital, whilst a detachment of boy scouts acted as a guard of honour, and the entrance to the marquee was kept by students from the London School of Medicine for Women. After the presentation to the Princess of the Mayors of Wandsworth and Southwark, and the architect of the new building, Mr. M. E. Collins, an address of welcome

was read by Lady Tennyson, and Miss Douie described the aims of the new hospital, pointing out that it was the second hospital for women to be established in London, and therefore should not only afford much-needed opportunities for women doctors desiring hospital experience, but should also form a training ground for medical women who intended to practise in India or the Colonies. Its existence had been made possible by an anonymous donation of £35,000; in addition, £6,000 had been subscribed, but £15,000 more was needed to complete the institution. The out-patient department, opened on April 2nd by Viscountess Castlereagh, had had over 1,300 attendances; and the principal purpose of the in-patient department was to give medical attendance to women in South London and elsewhere who wished to be attended by women doctors only. In view of the want of women doctors in India as well as in this country, an appeal was being made on imperial grounds for public sympathy and support. The foundation stone was then laid by Princess Louise.

THE MAUDSLEY HOSPITAL.

The London County Council on July 1st accepted a tender of £43,248 for the erection of the Maudsley Hospital at Denmark Hill, Camberwell. The tender was £3,431 in excess of the asylums engineer's estimate, this being due to increases in the cost of material and labour. It has been decided to omit provision for a house for the medical superintendent, to cost £900, on the ground that it will be best for the medical superintendent to find his own residence in the vicinity of the hospital.

WOMEN AND THE RED CROSS SOCIETY.

The City of London Branch of the Red Cross Society held a most interesting competition on July 3rd, at the Guildhall, for two challenge trophies presented by Lady Vezey Strong and Lady Perks to the best team from the male and female Voluntary Aid detachments. Each team had to advance, render first aid, and transport a case to a clearing hospital, fifteen minutes being allowed for the task. Six women's and three men's teams competed. The judges were Colonel Culver James, Honourable Artillery Company, and Captain Grant, R.A.M.C., adjutant to the 1st London Division. The winners were the No. 5 men's team, 85 marks, and the women's No. 10 team, 83 marks. Afterwards an exhibition of transporting the injured by means of extemporized transport was given and an excellent clearing hospital established; the important equipment was found by Messrs. Maw and Co. The parade was formed up under the presidency of the vice-chairman, Lady Perks, who presented the prizes. Colonel J. Harper and Colonel Harrison, C.V.O., who represented the A.D.M.S. for the 1st and 2nd London Divisions, proposed a vote of thanks to the judges. Colonel P. Broome Giles, C.B., the City Director, proposed, and Lady Dimsdale seconded, a vote of thanks to Lady Perks. Afterwards the detachments were entertained by Lady Perks in the crypt. On the occasion of the King's review of the London Territorials, 60 males and 60 females, paraded for duty in uniform in Hyde Park.

WALES.

WOMEN AND THE RED CROSS SOCIETY.

DURING the second annual camp training of the British Red Cross Women's Brigade, Glamorgan, at Barry Island, a parade was held, at which Mr. J. Lynn Thomas, C.B., said that the first camp organized by Miss E. P. Hughes at Barry Island in 1911 was a landmark in the history of British Red Cross work in Great Britain, since it was the first ever held in time of peace. As the nominal head of the camp he was glad to say that the movement had the fundamental quality of showing how women might learn to render service as an organized body in the battle against disease. He then went on to speak of the domestic fly as the carrier of disease in peace and war. After referring to the part insects played in the dissemination of malaria, yellow fever, and sleeping sickness, and to the campaign successfully carried out against the two former diseases along the Suez Canal and in connexion with the building of the Panama Canal, he went on to say that the house-fly, though it only carried infection on its legs and mouth, conveyed it to food and to the eyes, nose, and lips of mankind, was a serious enemy to the human race. The house-fly took about eleven days to develop from the egg to the perfect insect. At Bloemfontein the flies were a plague, and it was a common and significant observation during the South African war that those who were continually on the move enjoyed far better health than those who were in stationary camps. Not only was typhoid fever conveyed by flies, but there was indubitable evidence that summer diarrhœa, fatal to so many infants and children, was also conveyed by the fly, and he believed that milk and other cold foods were infected with the tubercle bacillus by the same insect. An international campaign for the destruction of the domestic fly could be carried out primarily by women taking care that their houses were clean, and inducing the sanitary authorities to destroy the lairs or breeding grounds of the flies at least once a week. In that way the eggs and maggots would be removed before they developed.

THE POSITION IN SOUTH WALES.

A prolonged conference took place at Cardiff on Tuesday, July 8th, presided over by the Chairman of the Welsh Insurance Commission. The conference was attended by the members of the Welsh Commission; the Chairmen of the Glamorgan and Monmouth Insurance Committees and the Chairmen of the Medical Benefit Subcommittees; by the six medical men appointed by the South Wales colliery surgeons to conduct negotiations on their behalf; by Mr. Winston, Mr. Onions, and other representatives of the miners of the different collieries; and by Dr. Addison, who had been instrumental in promoting the conference. The medical men in Wales were represented by Drs. Greer, Naunton Morgan, Maclean, Thomas, Milligan, and Edwards.

We understand that an agreement was reached to the effect that it was desirable that the works systems should be approved under Section 15 (4) of the National Insurance Act instead of under Section 15 (3), and as to the conditions which should be sought for by agreement to apply to systems generally.

Steps were taken to initiate the formation of a conciliation board to deal with disputes in these areas, and, pending the formation of such a body, we understand that the medical men and the miners' representatives present expressed their willingness, unofficially, to use their good offices to endeavour to bring about settlements in the disputes which are prevailing at present.

The Chairman of the Welsh Commission and Dr. Addison were thanked for their services, and a hopeful feeling prevailed that the proceedings would lead to a settlement of the present troubles.

Correspondence.

THE PROPOSED REFORM OF THE CONSTITUTION.

SIR,—Most members of the Association are now willing to admit that its present constitution must be altered if it is to continue to attempt to represent the medical profession. This question is an old one; certainly it existed when I was President in 1907, and it may be well to call to mind the proposals which were adopted by a number of leading men in the Association who were representative of all the shades of opinion which then existed. These proposals were duly brought before the Representative Meeting at Sheffield in 1908, and their rejection had much to do with the subsequent loss of the Charter. They can be seen in a letter I published in the JOURNAL of November 14th, 1908 (p. 1520), together with the names of the gentlemen who took part in the discussion on the subject. These proposals were:

1. *On the Point of New Departures of Policy.*—That the decision of the Representative Body to adopt for the furtherance of the objects of the Association any of the means specified in Clause 2 (2) of the Charter not previously adopted shall require confirmation by another Representative Meeting. If so confirmed the proposal will then come before the Council, who may take a referendum.

2. *On Taking a Referendum.*—That the referendum, whenever taken, shall be by means of voting papers sent to every individual member of the Association.

3. *On the Election of Representatives.*—That nominations should be received by a certain date, and, in case of a contest, that the election shall be by voting papers sent to each member of the Division.

4. *As to Standing Committees.*—That each Standing Committee shall receive instructions from and report to the Council.

I am glad to see that two of these proposals have been brought forward by the Metropolitan Counties Branch Council, and I hope that these, at any rate, will be incorporated as part of the constitution of the Association. The Divisional meetings have, and must, prove a failure in scattered country districts, and it is unfair to disfranchise the country practitioner who cannot attend a Divisional meeting held, perhaps, at a town thirty miles from his residence, by an obstinate refusal to allow him to vote for his representative and a referendum by means of a postal vote. If he will not use his postal vote that is his affair, but it is absurd to expect him to sacrifice a day or half a day and travel, perhaps, ten to thirty miles in order to do so.

Personally I am in favour of all the six propositions put forward by Dr. Roberts Thomson in his able letter in the JOURNAL of June 28th, except that I think a meeting of the Representatives once a year is quite sufficient. If they then elect a small and competent body of men to act as the Council, the Association will be safe in their hands. The calling together of the Representative Body and the printing of its reports is a matter of great expense, and is, I think, quite unnecessary more than once a year. The members of the Association hardly, I think, realize the amount of money spent on meetings of the Representative Body, Council, and various Committees, together with the printing expenses entailed in connexion with them. A great economy in expense might be effected by curtailing these meetings, and the printing expenses involved in the circulation of reports so very long and tedious that I feel confident few members of the Association read them when printed in the SUPPLEMENT. It seems to me advisable to curtail the expenses connected with the Representative Meetings rather than to increase them by having two meetings of the Representative Body every year.—I am, etc.,

Exeter, July 7th. HENRY DAVY.

SIR,—As one of those who were on the Council with Dr. Roberts Thomson in the old days, and have had the honour of representing my Branch on many occasions since, may I with your permission say a few words on this subject?

I was on the opposite side to Dr. Thomson in the controversy to which he refers in 1902, but I am glad to see from his letter in your issue of June 28th that he has considerably modified the views I understood him to hold then. With regard to his present views, I am entirely in accord, with the exception of his condemnation of the principle of delegation. For my own part, in spite of the recent vote of the Central Council, I am strongly of opinion that this principle should be retained. Many of the reasons adduced in 1902 in favour of that principle, in my opinion, still hold good. Delegation, except in matters which are keenly felt by a Division to be essential for the welfare of its members, and are almost unanimously supported, is seldom resorted to, and in respect to everything else the Representatives are left free to follow their own judgement. Some Divisions never delegate anything to their Representatives, and none are compelled to; so that I cannot see the object of preventing such Divisions as desire to enforce certain opinions on their Representatives from doing so. Dr. Courtenay Lord says, "No one can traverse the statement that the voicing of the Association by delegates has not proved a success," but a "ghastly failure." With all respect, I must differ from him. The "ghastly failure" he alludes to was not, in my opinion, due to that cause. Except for the principle of delegation, there might have been a still more ghastly failure. Dr. Lord says "the scope for wire-pulling is too great where all the electorate is gathered together in one place." Where Representatives are not compelled to voice the opinions of those who sent them there on special questions, are they not open to "wire-pulling"? I think votes are quite as likely to be influenced at professional crises by wire-pulling as by the eloquence of opposing speakers. The eloquence, too, and convincing power may be on the wrong side. It can hardly be contended that some of the chief opponents of the wishes of the profession throughout the debates on the Insurance Bill were devoid of eloquence, and I think that they would certainly be in favour of the abolition of the principle of delegation.

Personally, I am in favour of a scheme of reform of the constitution on the lines suggested by Dr. Thomson or Dr. Biggs, provided that all Representatives are elected by a postal vote, and that any matters delegated to them shall be settled in a similar manner.

A small meeting such as in the past has often elected the Representative and delegated opinions in the name of the members of the Division is open to grave objection, and is not likely to furnish a proper representation of the members of the British Medical Association.—I am, etc.,

London, N.E., July 4th. MAJOR GREENWOOD.

PROPOSED SPECIAL ORGANIZATION FUND.

SIR,—I have carefully read Appendix XIX in the SUPPLEMENT (July 5th), and must confess that my feeling is one of keen disappointment—disappointment not only at the delay which has occurred since we of Newcastle-on-Tyne first submitted our scheme, but disappointment also that the Committee consider any compulsory scheme impracticable.

I beg, however, to differ from the Committee. We put forward a scheme whereby a fighting fund, ample for all purposes of protection, would have been built up, and surely it would have been an easy matter for the Committee in January to have agreed to our suggestion that each man on the panel should be asked to contribute so much for each person on his list. Any good insurance company, having agents in every district, would then have had every medical man called upon, and would have obtained the signature of every (or nearly every) man to an agreement binding him to so contribute. All the work would have been done by the insurance company and all the expense would have been borne by it, and at the end of three years, with a fund of over half a million at our disposal, we could have fought, and fought successfully, for our rights.

Now, sir, instead of this very desirable result, what will happen? You suggest that contributions may commence in 1914, so that at the end of the three years' trial, when we ought to be well prepared for the fight which is sure to come, we shall, if all goes well, have the magnificent sum of £30,000, instead of £500.000 which, under our scheme, we should have had. It is truly pitiful to find a body of men so willing to imitate the ostrich and hide their heads in the sand.

Again, this sum of £30,000, insufficient as it is, can only be relied upon if 10.000 men can be persuaded to contribute voluntarily. We must not forget that it will be infinitely more difficult now to get men to sign any sort of agreement to contribute than it would have been six months ago when all the men were full of ardour. I cannot help thinking that a glorious opportunity has been absolutely and hopelessly lost through the dilatoriness and want of business acumen of the Committee.

Let us look for a few minutes at this new scheme.

In the first place each man will be asked to contribute £5 a year, no matter what the size of his panel; whereas in the Newcastle scheme each man would contribute in proportion to the size of his panel. This surely would have been a much fairer way.

The question of sickness and accident and pensions is one of only secondary importance, and could have been discussed and terms arranged at any time before January, 1916. The creation of a substantial defence fund is, on the contrary, of the most urgent and pressing importance, and is a question which cannot be postponed, or any efforts of ours at the end of 1915 will be as hopeless as they were in December, 1912.

Another point which strikes me is the glaring disproportion between the estimated income and the estimated expenditure. Out of a total estimated income of £50,000 there will be a balance left of only £13,000. The expenditure, I take it, will be assured; but can we safely reckon

on the income? I think not! So that we are faced with a certain expenditure annually of £37,000 and a very uncertain income to offset it. It is difficult to realize that the promoters of this scheme are in earnest, for surely that way bankruptcy lies. To read of the new officials who are to be created, and of the new expenses to be undertaken, reminds one forcibly of a modern Government bill. Still, assuming for a moment that these officials and these expenses are absolutely necessary, under the Newcastle scheme the money to pay them would have been there in fact and not in imagination.

In Part III, paragraph 30, the Committee suggest that men serving on a panel could make arrangements whereby their contributions could be deducted from the moneys due to them by the clerks of the Insurance Committees.

Also in Part IV, paragraph 34 (c) the Committee suggest that the contributions be paid into a special fund independent of the funds of the Association.

I wish here to point out that both these suggestions are in the Newcastle scheme, and though the Committee distinctly favour them in their scheme, yet in ours they threw them out as impracticable. The only difference between us is that in our scheme the contributions deducted by the clerks of the Insurance Committees would have been paid into a special fund in the hands of an insurance company. This, I contend, is far preferable, as then there could be no possibility of loss, for in the event of the death of a contributor all moneys paid by him would be returned to his heirs, plus 3 per cent. compound interest. Also all money paid into the fund would be credited with compound interest at 3 per cent. Is the Committee prepared to guarantee either of these conditions? I am afraid they cannot do so.

I should like to mention just one more point. Our Newcastle suggestion is that at the end of 1915, if there were no war, and the very extent of our fighting resources would assure peace, we place £300,000 to form the nucleus of a sickness, accident, and pension fund. Now, taking the number of men working the panel at 15,000, that represents an average of £20 a head. This £20 would at once bring about a considerable reduction in premiums. For instance, a man of 30 would be able to insure 4 guineas a week for an annual payment of £5 17s. 6d. Again, the same man would ensure an annuity of £50 at age 65 (or could take a lump sum) by an annual payment of £7 2s., and, in addition, in the event of his death before 65 all his payments would be returned, plus 3 per cent. compound interest.

The advantages of the Newcastle scheme over that of the Committee seem to me to be so obvious and so pronounced that further comment would be useless.—I am, etc.,

Newcastle-on-Tyne, July 9th. E. F. PRATT.

A REAL DANGER TO THE BRITISH MEDICAL ASSOCIATION—DIVISIONAL AUTONOMY.

SIR,—I view with grave concern the future position of the British Medical Association if its local Divisions are to be allowed to continue to irritate or pin-prick its members through the power which they are now exercising in matters of policy which affect the whole of the medical profession, and not merely the parochial Divisions of its organization. The policy of the Association, as I understand it, should be carried out by its Divisions with the desire to encourage those who are not within its fold to enter.

I have felt for some time that one of the weak points in the constitution of the British Medical Association is the relegation of too much power to its Divisions in allowing them to start a policy, for good or ill, which may commit the Association to giving it its support without adequate consideration from a broader outlook by its Branches.

An illustration of many weaknesses which the Cardiff Division has recently shown is contained in the following letter which I received from its Honorary Secretary:

BRITISH MEDICAL ASSOCIATION.
Cardiff Division.

May 7th, 1913.

Dear Mr. Lynn Thomas,

I am instructed by the Executive Committee of the Cardiff Division to write and ask you if it is true as reported that you have been appointed Honorary Consulting Surgeon to the Glan Ely Sanatorium, administered under the King Edward VII Welsh National Memorial.

Further, I am requested to point out to you that such an institution is not a charity, but is partly maintained by the State, and it is therefore highly desirable in the interests of the profession that you should not act in an honorary capacity.

I am,

Yours faithfully,
ARTHUR L. THORNLEY,
Honorary Secretary.

My official connexion with the King Edward VII Welsh National Memorial is shown by the subjoined extracts from the minutes of its Executive Committee:

Executive Committee, February, 20th, 1913, at Shrewsbury:—"Resolved: That Mr. J. Lynn Thomas, C.B., F.R.C.S., Cardiff, be invited to accept the position of Honorary Consulting Surgeon to the Memorial Association."

Executive Committee, March 28th, 1913: "The Secretary submitted a letter from Mr. J. Lynn Thomas, C.B., F.R.C.S., Cardiff, accepting the invitation of the Committee to act as Consulting Surgeon to the Memorial Association."

The above information would have been placed at the disposal of the Cardiff Division either by myself or the association with which I am connected if it had been asked for as a matter of serious business. As I have had the honour in the past to be a member of the Council of the British Medical Association, may I be allowed to recall a principle which has guided me in my attitude towards the British Medical Association itself when matters of a national character are involved? When the first offer of the remuneration to the medical profession was made under the National Insurance Bill, I took the view that it was a matter which affected the *whole* of the profession, and pleaded that the machinery of the British Medical Association should be utilized to that end. This was done at a Branch meeting. Since the Chancellor of the Exchequer accepted the prevailing views of the profession on that point and raised the remuneration to the standard at which the National Insurance Act is being worked at to-day, the Cardiff Division has carried out a policy towards some of its members which has created a feeling of dissatisfaction and discontent to many of us; and, further, it has brought itself into public ridicule.

I wish to state that as long as I have the privilege to remain a member of the British Medical Association, I respectfully decline to recognize the power of a local Division to interfere with my actions in matters of a national character, and I am only prepared to discuss such actions, if questioned, with the highest tribunal of the Association itself.

I need hardly add that it gave me much satisfaction to continue to render every possible assistance to the Welsh National Memorial by becoming its honorary consulting surgeon, because I had been closely connected with it since its inception, long before the National Insurance Bill saw daylight, and the Act became a *fait accompli*.—I am, etc.,

Cardiff, July 2nd. J. LYNN THOMAS.

TYPHOID SPINE.

SIR,—In connexion with the editorial on Sir J. W. Moore's case, may I remark that I long ago departed from my original belief that the condition was always a neurosis? With the introduction of the *x* rays evidence was soon found of organic change. Cases are not so rare as stated in literature. There were seven at the Johns Hopkins Hospital to 1903, and I have seen five or six cases in consultation. As Dr. T. McCrae states, there are three groups of cases: (1) With marked neurotic or hysterical features which may disappear too rapidly to permit the belief that serious bone changes are present. (2) Cases with perispondylitis or periostitis. In his paper (1889) Gibney regarded the condition as "an acute inflammation of the periosteum and the fibrous structures which hold the spinal cord together." In my first paper (1894) I held that spondylitis might exist. The case reported by Sir John Moore belongs in this group. (3) The *x* ray may show a chronic osteo-arthritis with the formation of new bone in the lower dorsal and lumbar regions.

Even in very chronic forms the outlook is good; suppuration is very rare. The rapid and permanent recovery with psycho-therapy and its accessories supports my original contention that there are cases in which the dominant factor is a neurosis.—I am, etc.,

Oxford, July 7th. WILLIAM OSLER.

UNILATERAL PARALYSIS OF THE RECURRENT LARYNGEAL NERVE.

SIR,—My attention has been drawn to the report of my remarks at the May meeting of the Section of Laryngology of the Royal Society of Medicine in the discussion on Unilateral Paralysis of the Recurrent Laryngeal Nerve. In your report I am credited merely with having remarked on the difficulties of thoracic radiography. I am not aware of having expressed any opinion with regard to this. The really important part of my contribution to the discussion was the reference to two very singular cases of paralysis of the left vocal cord which I attributed to alcohol as a toxic agent, and in which recovery from the condition ensued. These cases seemed so unusual that I had great doubts about making the diagnosis, but in support of it I take the liberty of quoting an abstract of my description of the cases as published in the *Journal of Laryngology*, vol. xii, p. 540, which has probably been overlooked by collators of such cases owing to an error in the index of the volume.

CASE I.—A clergyman, aged 40, consulted me on account of weakness of his voice which came on suddenly at the commencement of a service. The condition persisted. I found complete immobility of the left vocal cord, both in respiration and phonation, in the cadaveric position. There were some very limited movements of the cartilage of Santorini. The thorax appeared to be absolutely normal, and it was impossible to elicit any evidence of previous specific infection in spite of the absolute candour of the patient. On inquiring further into his previous ailments I elicited the fact that he had recently suffered from sciatica on the left side, from which he had not yet completely recovered. He was still subject to paroxysms of pain, and there was a considerable degree of anaesthesia of the skin of the affected limb. It seemed to me more than probable that the so-called sciatica was a neuritis, and that the paralysis of the vocal cord depended upon an identical condition affecting the left recurrent laryngeal nerve. It only remained, then, to discover some cause sufficient to account for the production of these neurotic conditions. There were no signs of locomotor ataxy; and I thought of toxic neuritis. There was no indication of lead, mercury, or arsenic, and it was therefore necessary to approach the question of alcohol. There was complete absence of appetite in the morning, and the patient had frequently suffered from disturbances of the liver (acute gastritis); and I observed a singular negligence with regard to his dress, and even the general care of his person, which was quite out of harmony with his professional and social position—in fact, I suspected a tendency to the abuse of alcoholic stimulants. The patient admitted, in fact, that he drank at least a pint of strong stout at each meal, and that, in addition, he spent the evening up to a late hour in reading and drinking brandy and water. He had not the slightest idea that his excess in alcohol had given rise to his symptoms: but he allowed himself to be convinced, and undertook to make the sacrifice necessary for his recovery, namely, complete abstinence from alcohol. He obtained at the same time a short period of rest from his professional duties, during which he took fairly large doses of tincture of nux vomica. After a rest of some weeks he returned to his duties, and found his voice as strong and reliable as before his illness. I was able to assure myself, by laryngoscopy, that the movements of the vocal cord had again become normal. When last seen the voice was excellent, the larynx natural in every respect, and the sciatic symptoms had disappeared. The patient had lost his morning anorexia, he had certainly improved in his general condition, and was able to fulfil his duties without the least difficulty.

CASE II.—A lady, of middle age, consulted me on account of an obstinate cough, which fatigued her during the day and prevented her from sleeping at night. Beyond a slight bronchial catarrh I found nothing except a well-marked paralysis of the left vocal cord. During the examination of the chest I observed the cicatrix resulting from the amputation of the right breast, which had been carried out several years before on account of a tumour suspected of being cancerous. Under these circumstances I feared the development of a carcinomatous condition in the mediastinal glands, but beyond the paralysis of the left recurrent nerve there was no other sign of it. There was further no indication of syphilis or tuberculosis. I then elicited that the patient complained of well-marked nausea and loss of appetite in the morning, and that she was subject to bilious attacks. I recommended the greatest discretion in regard to alcohol and wrote to her family medical attendant, communicating to him my suspicion that there was a tendency to excess in alcohol, and asking him whether he had any reason to share it. He replied that such an idea had not occurred to him, and that he could hardly believe that the lady, who was well known and respected, could be thus affected. Two weeks later she returned, stating that the morning nausea had considerably diminished, but that she was still troubled with a cough. Her general condition had improved, but the vocal cord was still completely paralysed. The husband, who accompanied her, made the spontaneous inquiry as to whether the use of brandy would be injurious to his wife, because she had acquired the habit of taking frequent doses of it, on account of certain cardiac attacks, and that she "poured the spirit into a large glass without measuring it." This confirmation of my suspicion allowed me to speak openly, and I insisted that the daily allowance of stimulants should be limited to two glasses of Marsala. After another fortnight I saw the patient once more. The general condition had greatly improved; the husband assured me that the cough had diminished both by day and by night, and I made out some distinct movements of the left cord of slight extent but quite unmistakable. On examination at the end of another ten days the movements were still more pronounced and I ventured to assure the patient that the affection of the larynx did not depend in any way upon malignant disease.

It is a general rule that toxic paralyses are bilateral, hence these cases require all the more careful sifting, and this I hope justifies my intrusion upon your space.—I am, etc.,

London, W., July 7th. DUNDAS GRANT.

THE CAUSE OF ENLARGED TONSILS AND ADENOIDS IN CHILDREN.

SIR,—As a medical inspector who during the past five years has been engaged in the examination of large numbers of school children, I have been gradually led to the theory that the occurrence of "adenoids" is to a large extent a question of immunity, which is essentially the relation between an infection and the resistance called into play. The lymphatic system is pre-eminently the specialized defensive tissue of the body. Whenever an area is infected the corresponding lymphatic glands swell, and their defensive mechanism—probably a leucocytosis excited by bacterial toxins—comes into play.

The first stage in the production of adenoids is an infection of the naso-pharynx, either by the bacteria of a common cold or by those of some specific fever. There is a bacterial fight going on in this region, and, if the lymphoid tissue normally present in virtue of its immunity-producing elements—its cells and their derivatives—is able to arrest and destroy the invading organisms and their toxins, then matters come to an end—the cold will cease, the naso-pharyngeal discharge will gradually come to an end. On the other hand, in a delicate individual, if the resistance is not equal to the attack, the fight becomes chronic, and we have the chronic catarrh of this region, which is in other words the prolonged attempt to deal with an infection, and the equilibration takes years to complete. It is this chronic catarrh that leads to hypertrophy of the lymphoid tissue in the naso-pharynx. In the case of colds it is the repetition of the conditions in a susceptible individual that leads to the same result.

Resistance to disease often varies with different states of health and in different individuals, and chronicity of an infective disease is a measure to some extent of the poverty of the immunizing forces. It must often have been noticed how such an infection as a common cold varies in duration according to the state of health. In healthy individuals, in whom we may suppose the protective substances of the body are normal and have become equal to the commoner infections met with in everyday life, a rapid immunity is established. In delicate individuals and those susceptible to colds there is probably a diminution of these protective substances either in quantity or quality.

Adenoids, however, are not confined to the poor, and are occasionally met with in healthy and robust looking children; in these cases the virulence of the infection may have been the determining factor. The leucocytes of the blood (including lymphocytes) and their derivatives are the immunizing factors at work—the progenitors of the protective substances of the body, which are mostly of the nature of nucleo-proteins.

Among school children one finds a number in whom diet is at fault or deficient; especially is this the case with regard to proteins. We cannot expect these badly fed children to elaborate in their systems those protective substances in normal amount when protein diet is at fault.

Dr. Hugh Ashby (May 31st, p. 1159) thinks it possible to rule out all other theories of adenoids, and believes that adenoids and tonsils are an attempt on the part of Nature to augment the lymphoid tissue of the body. This may be so. If lymphoid tissue is lacking in children the subjects of adenoids, etc., why should Nature produce it in this region alone? If it is produced here alone, then the causes must be local. The benefit to children with

adenoids, derived from the exhibition of lymphatic gland extract might really be due to the administration of protective substances, and is very suggestive of a line of inquiry well worth following up.—I am, etc.,

London, E., June 2nd. FRANK B. SKERRETT.

THE TREATMENT OF PNEUMONIA.

SIR,—Professor Lindsay, in a lucid summary of 100 cases of pneumonia, says that he treats the disease "as an acute general infection, with special impact on the lungs, inducing a very intense type of toxaemia and involving special danger from the side of the heart." This is an accurate and concise description of the nature of the disease, and it is as an acute general infection I have treated pneumonia during the past eighteen years with a mortality of under 5 per cent.

I have relied in the main on one remedy, namely, quinine, which, when properly employed, very closely approaches a specific.

To obtain the maximum effect of quinine it must be given at the earliest possible moment in the illness; this is all-important.

Speaking of diagnosis, Professor Lindsay says: "The physical signs may be entirely latent for one, two, three, or more days."

It is just these one, two, three, or more days that are of supreme moment to the patient. To pursue expectant treatment is inexcusable. Though the physical signs of pneumonia may be absent, the general symptoms can only have one meaning, namely, that an acute systemic infection of some kind is present—an evanescent influenza it may be, possibly pneumonia, or some other grave infection.

There is no drug in any acute general infection comparable with quinine. There is nothing in the whole range of therapeutics so definite as the destruction of the malarial parasite through the action of a small percentage of quinine in the blood. Quinine may not act in other diseases in the same way as in malaria, but clinical experience of its use compels me to believe it is inimical to the progress of most acute infections.

The early administration of small and frequently-repeated doses, 2 or 3 grains every two or three hours, is adequate in most adult cases. It acts remarkably in limiting the spread of consolidation and in altering for the better the whole aspect of the disease. Most cases of pneumonia are suffering as much from the absorption of toxin from the alimentary canal as from the lung, and the first step in treatment must be a very thorough cleansing of the whole alimentary tract, and the neglect of this is frequently disastrous. It should be repeated daily throughout the course of the disease. At the outset calomel is invaluable where there are no reasons against it. Sodium sulphate I have constantly employed in combination with quinine in ½ or 1 drachm doses, being intermitted or increased as the condition of the patient indicated. This combination will get rid of toxin and relieve the circulation in the lung. There is a fear that purgatives may depress the heart in this disease, but they do so to an insignificant degree compared with the toxins they are employed to eliminate. In the early stages of the disease, and especially in plethoric individuals, their action is wholly beneficial, and they are essential throughout when used with judgement and discrimination.

I have not kept a record of all the cases of pneumonia I have treated. I have notes of over 20 consecutive cases between the ages of 60 and 84 years. These were cases of lobar pneumonia occurring in an extensive epidemic of influenza. Whether the pneumonia was due to the *Bacillus influenzae* or the pneumococcus I am not prepared to say. There were no deaths amongst these old people. One woman, aged 62, had a temperature of 106° and double pneumonia on the day of my first visit. Deaths from pneumonia in this epidemic were numerous, though none occurred in my practice, if I exclude two whom I saw the day before death. Vaccine and serum therapy have hitherto proved of little avail in pneumonia, and in view of the high death-rate and increasing prevalence of the disease, practitioners would do well to put to the test the line of treatment I have advocated.

It should be rarely necessary to examine a patient once the diagnosis is made. Pain will be met by the usual remedies, and there will be a few cases in which, in addition to the above treatment, strychnine and digitalis will be indicated; if they fail, alcohol is not likely to succeed.—I am, etc.,

London, S.W., June 10th. W. J. J. ARNOLD.

PSYCHO-ANALYSIS.

SIR,—In your issue of July 5th Dr. David Forsyth gives us a short and lucid exposition of the views of Freud. Freud holds that "the starting point of the psychoneurotic habit of mind" is "a derangement of the sexual feelings in childhood. . . . The weight of evidence is that sexual feeling (using the term not in its narrower meaning, but to include also the various manifestations of love—filial, maternal, etc.) plays the leading part in causation."

From the critical standpoint this Viennese authority has done good work; he has demonstrated that current "explanations" (such as, for example, bacterial or gastro-intestinal intoxication, impairment of metabolism, or of the internal secretions, etc.) are entirely inadequate to account for the bulk of these psychasthenic states. The essential causation lies deeper, at the mainsprings of human life and activity. Here we come to the emphasis which Freud has laid on "sex." He has, however, interpreted this far too narrowly, and much confusion has thereby been caused.

Prolonged experience and careful study of life force us to the teleological point of view that the individual exists essentially for the maintenance of the race or species. Accordingly there will be found in every individual certain deeply-based impulses or instincts which subserve this end of race preservation, and in a "normal" life the race-preserving instincts will tend to maintain a supremacy over those of self-preservation. Properly speaking, the principle called "altruism" is not something antagonistic to, qualifying, or added on to "egoism." In developing himself to the full, in expressing himself most completely, the individual makes his best possible contribution to the life of the race. Thus true egoism and altruism are merely two different aspects of the same principle. It is when this deep and fundamental impulse is checked, or in some way fails to find proper expression, that the psychoneuroses result. One of the most immediate and obvious forms taken by this race-maintaining impulse is the sexual appetite, and it is on this particular aspect that Freud has seized; in attempting, however, to include all the most fundamental springs of behaviour under the term "sexual," he has over-reached himself; he has tried to make the part include the whole. Dr. Forsyth says that Freud's use of the term "sexual feeling" covers not merely the narrower meaning, but "also the various manifestations of love—filial, maternal, etc." Obviously, if he goes so far he must also include all the highest aspirations—as duty, patriotism, etc.—by which men are moved, and to which they constantly sacrifice their material "interests"—in some cases even life itself. To call such motives "sexual" is obviously an absurd abuse of terms.

Freud has doubtless, in certain directions, rendered quite good service to psychology, but under the exaggerated form in which certain of his views are being interpreted—especially on the Continent—it is quite likely that their net result will be to bring about more "psychoneuroses" than they will ever be able to cure.—I am, etc.,

Edinburgh, July 6th. ARTHUR J. BROCK.

AN EPIDEMIC CHARACTERIZED BY ADENITIS, TONSILLITIS, AND CARDIAC COMPLICATIONS.

SIR,—On June 14th you kindly inserted an article by me on "An Epidemic Characterized by Adenitis, Tonsillitis, and Cardiac Complications." Would you allow me now to appeal to my medical brethren in the British Isles to watch carefully all cases of tonsillitis at the present time? In the epidemic in the midst of which I am working, an epidemic of an entirely new character, many of the cases (about 20 per cent. in the case of adults) are accompanied or followed by endocarditis, and another 20 per cent. by myocarditis. Further, this carditis is of an insidious nature, commencing without sign or warning of any kind, and frequently with a subnormal temperature, perhaps

best described in the words of my colleague, Dr. K., as "a smouldering endocardial fire."

The first case of this novel disease which I saw I mistook for influenza, and the second for diphtheria. I have seen it mistaken for mumps, for follicular tonsillitis, and for rheumatism.

I know of at least fifteen towns in which this curious disease has gained a foothold, and there must be many more in which it exists, but is not yet recognized. Where it gains a footing it spreads like influenza.—I am, etc.,

July 6th. S. T. P., M.D.

LEGAL RISKS OF MEDICAL EXAMINATIONS.

SIR,—In a recent case a medical man was mulct in damages at a county court upon the finding of a jury for having, it was alleged, forcibly examined a woman for an alleged accident. Those who read the case and know anything of this class of work will form their own opinion as to the justice of the verdict; but the fact is that the doctor was ordered to pay some twenty-five pounds damages, *and* his costs, which I take it would be not less than an equal sum.

Medico-legal examinations are now so frequent that it is well to have a clear understanding as to what is one's position in these matters. It goes without saying that forcibly to examine any one is an assault, and no one in his senses would be guilty of such an act of folly; but it may be contended that an examination was submitted to under threats, hints of dire consequences which might follow refusal, suggestions of monetary loss if the examination did not take place, and I think there is little doubt that anything which could be held to be a threat would very properly be construed by the courts as duress—that is, an examination by force—and it is well that medical men should appreciate that to establish duress no actual physical force need be proved.

Quite recently I received a letter from a lawyer in the City, demanding compensation under threat of legal proceedings, for an assault alleged to have been committed by me, the assault in question being the examination of a woman without the presence of her doctor or her friends. This assault, the lawyer stated, "he need hardly say, made her suffer in health." As it was alleged to have happened six months prior to the lawyer's letter, presumably the shock had been so great that she was unable even to visit the man of law.

I knew, of course, that no such case existed, and merely handed the matter over to Dr. Bateman, of the Medical Defence Union, who, after a good deal of correspondence, extracted from the lawyer and his precious client the explanation that the lady had mistaken my identity! Later, under pressure (when the tables were turned), an abject apology was obtained from the "assaulted" one by the Medical Defence Union's solicitor.

The object of this letter is to warn my friends who are engaged in medico-legal work to be particularly careful never to examine a patient—especially a woman—without writing for an appointment, and taking the usual precautions which will suggest themselves to any one who knows human nature.—I am, etc.,

London, W., July 7th. JOHN COLLIE.

EUGENICS FROM THE OBSTETRICAL STANDPOINT.

SIR,—In the BRITISH MEDICAL JOURNAL of July 5th Dr. Amand Routh, in his very practical remarks on the above subject, clearly shows that the true foundation of national health is to aim at raising healthy stock, which at the same time is certainly the most rational means of preventing disease. The present methods of national insurance, medical inspection of school children, tuberculosis dispensaries, etc., are all helping to improve the national health, but unfortunately the mischief in many cases has already been done, owing to neglect and ignorance during the first few years of life.

For the past few years, having been connected with an institution for "motherhood and infancy" (to which a school clinic has now been added), I have had ample opportunity of observing the benefit of such institutions. Moreover, they should certainly become national, and not be run at the expense of a few philanthropic individuals.

In reference to the causes of premature births and stillbirths, in my opinion the abuse of alcohol plays a very important part. For some years I have been struck by the fact how frequently mentally and physically defective children are associated with alcoholic excess in one or both parents, and I see no reason why, in certain cases, the alcoholic poison should not prove fatal before birth.—I am, etc.,

O. POLHILL TURNER, D.P.H.Lond., etc.

Hastings, July 7th.

ETHERINGTON-SMITH MEMORIAL.

SIR,—Will you kindly make known to your readers that the subscriptions which have been received and promised for the Etherington-Smith Memorial, including the sum collected by the Leander Club, amount to a little over £1,200.

This sum will probably be sufficient to carry out the structural alterations required to provide the memorial, which is to take the form of special sick quarters for the medical and resident staff at St. Bartholomew's Hospital, but will not supply any permanent endowment.

We desire, through you, to thank those of your readers who have already subscribed, and to make an earnest appeal to all who knew Etherington-Smith and have not yet done so to subscribe as liberally as they can to this fund.

Subscriptions should be sent to the Honorary Treasurer, Dr. T. W. Shore, Dean's Office, St. Bartholomew's Hospital, E.C.—We are yours faithfully,

(Signed) ANTHONY A. BOWLBY, C.M.G., Senior Surgeon to St. Bartholomew's Hospital.
W. B. CLOSE, C.U.B.C.
G. ACTON DAVIS, Acting Treasurer to St. Bartholomew's Hospital.
J. H. GIBBON, C.U.B.C.
W. P. HERRINGHAM, Senior Physician to St. Bartholomew's Hospital.
R. C. LEHMANN, C.U.B.C.
HOWARD MARSH, Professor of Surgery, Cambridge.
S. D. MUTTLEBURY, C.U.B.C.
GUY NICKALLS, O.U.B.C.
G. D. ROWE, O.U.B.C.
H. T. STEWARD, Leander Club.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE (LONDON, 1913).

SIR,—The secretary of the German National Committee, Professor Dr. Posner of Berlin, has written to me complaining with some bitterness of a notice in the July number of the *Ophthalmoscope* reflecting, as he justly remarks, not only on Professor Ehrlich, but on the Kaiser himself. The notice is apparently a translation from a French paper.

I should be obliged if you will allow me the opportunity to express my profound regret—first, that any insult should even inadvertently have been offered to Professor Ehrlich, and secondly, that it should have occurred at this particular moment.

I am perfectly sure that the Editor of the *Ophthalmoscope* would be the last to wish to affront so distinguished a scientist, and I anticipate that at the earliest opportunity he will, in the pages of his own journal, express his regret for the occurrence.—I am, etc.,

W. P. HERRINGHAM,
Hon. General Secretary of the Seventeenth International Congress of Medicine.

London, W., July 8th.

MEDICAL MUSEUM OF THE INTERNATIONAL MEDICAL CONGRESS.

SIR,—There is some danger that the splendour of the Historical Museum which Mr. Wellcome has organized in connexion with the Section of History of Medicine of the forthcoming International Congress of Medicine may overshadow the very important Medical Museum which is to form an intrinsic part of the Congress. Last year a committee was appointed—of which I have the honour of being chairman—to make all the necessary arrangements for a large Medical Museum, to be housed in the Imperial College of Science and Technology. According to the plan adopted by the committee, the Museum is to be

arranged in divisions, each section of the Congress having a division set aside for it. The Museum should thus cover the whole field of medicine.

The heavy task of organizing this museum has fallen chiefly on the honorary secretary of the committee, Mr. H. W. Armit, and it is in order that his task may be made somewhat easier that I venture to appeal to your readers, both at home and abroad. All exhibits should arrive at the Royal College of Science and Technology, South Kensington, London, S.W., between July 25th and August 2nd. The Museum must be ready by August 6th. Any specimen which is to be used at the various Sections of the Congress, or which illustrates any new medical discovery or observation, will be welcomed by the Museum Committee. No exhibit of a commercial nature will be accepted.

Ample accommodation is to be provided for formal and informal demonstrations in the museum, so that exhibitors will have opportunities for showing their specimens in the museum as well as at the sectional meetings of the Congress. The Museum Committee has covered all risks to the exhibitor by insurance. It will be evident that the organization of so large a museum is possible only if the specimens are received in good time and in a condition suitable for immediate exhibition.

A large number of most interesting exhibits are already promised. There will be a very full representation of the progress of our knowledge relating to the early stages of the development of the human ovum. Mr. James Berry is bringing together a very full exemplification of the pathological and clinical forms of aneurysm. Tumours of the pituitary, tumours of the breasts and nipples, orthopaedic methods, haemorrhage from the placental site are only a few instances of the special series which are being arranged, and for the completion of which further additions would be welcome. Radiology is to occupy a prominent position.

A special section of the museum, organized under the auspices of the International Association of Medical Museums, is to illustrate recent improvement in the methods of preserving and exhibiting museum specimens.

Mr. Armit has already prepared a large part of the descriptive catalogue of the museum. It is necessary that exhibitors should supply him now with particulars of the specimens they intend to show.

Certain exhibitions now being held have unfortunately deprived the Committee of assistance from the Royal Army Medical College and from the various schools of tropical medicine. Material dealing with plague, Leishmaniasis, papataci fever, etc., would be gladly received. Pharmacologists who have carried out experimental or clinical researches on the action of narcotics and sedatives are invited to send illustrative exhibits.

All applications for exhibition space should be made as soon as possible to the Honorary Secretary, Mr. H. W. Armit, Ravenhurst, Talbot Road, Wembley, Middlesex.—I am, etc.,

London, W.C., June 7th. ARTHUR KEITH.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following awards have been made:—*Theodore Williams Scholarships:* in Human Anatomy, Mr. G. Perkins; in Physiology, Mr. J. M. H. Campbell; in Pathology, Mr. J. J. Conybeare. The *Welsh Memorial Prize:* Mr. W. R. Greenshields.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on June 18th.

Election of Vice-Chancellor.

Dr. W. P. Herringham was re-elected Vice-Chancellor for the year 1913-14.

Conferment of Titles.

The title of Professor of Morbid Anatomy in the University has been conferred upon Mr. S. G. Shattock, of St. Thomas's Hospital Medical School.

The title of Emeritus Professor of Chemistry was conferred on Sir William Ramsay, K.C.B., D.Sc., F.R.S., who has occupied the chair of general and inorganic chemistry at University College since 1887.

Appointments.

Dr. C. G. Seligmann, F.R.C.P., has been appointed as from October 1st, 1913, to the University part-time chair of Ethnology tenable at the London School of Economics. He has been University Lecturer in Ethnology since 1910.

Dr. Edward Mellanby has been appointed lecturer in physiology in the Home Science Department of King's College for Women; Dr. H. E. Vincent medical officer of the University, vice Dr. E. J. Spriggs, resigned; and Mr. A. Thomas, M.B., B.S., reappointed Governor of the University College of Wales, Aberystwith.

Proposed Bequest to University College.

An offer was accepted from Dr. H. J. Johnston-Lavis, an old student of University College, and at one time Professor of Vulcanology in the University of Naples, to bequeath to University College his expensive collection of objects illustrative of geology, especially volcanic and igneous rocks.

Death of Dr. N. H. Alcock.

The minutes of the Senate contained a tribute to the memory of Dr. N. H. Alcock, Professor of Physiology in McGill University, who died in Montreal on June 12th. Some account of his career was given in these pages on June 21st, p. 1353.

University Studentship in Physiology.

The University Studentship in Physiology has been awarded to Miss Constance Leetham, B.Sc., of the London School of Medicine for Women, who proposes to work in the Physiological Laboratory of the School of Medicine for Women.

Award of University Medal.

The University medal at the M.B., B.S. Examination, May, 1913, has been awarded to Mr. Adrian L. Moreton, of St. Bartholomew's Hospital.

Appointment to Senate.

Dr. E. G. Graham Little has been re-elected a member of the Senate by Convocation as a representative of the Faculty of Medicine.

UNIVERSITY COLLEGE.

The following awards of scholarships and prizes have been made: The *Bucknill Scholarship* (value 135 guineas) to Mr. C. F. C. Cooke; the two *Medical Entrance Scholarships* (value 55 guineas each) to Messrs. E. Sakoschansky and T. M. Cunnington; the *Cluffe Prize* to Mr. J. H. Binning; the *Gold Medals* in Physiology and Pharmacology respectively to Messrs. J. H. Binning and E. Sakoschansky; and *Silver Medals* in Anatomy, Physiology, Organic Chemistry and Hygiene respectively to Messrs. J. H. Binning, C. W. Ellison, E. Sakoschansky, C. W. Ellison, W. M. A. Rahman, and H. A. Fawcett.

A course of ten lectures upon electrocardiography and heart sound records will be given by Dr. Thomas Lewis at the University College Hospital Medical School at 11 a.m. on Tuesdays and Fridays of each week, commencing Friday, July 25th. The lectures are free to all qualified men and medical students on presentation of their visiting cards.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.

The annual prize-giving ceremony at the medical school of St. Thomas's Hospital took place on June 24th, the principal awards distributed being as follows: The *Tite* scholarship for second-year students, Mr. W. Thomas; the entrance scholarships in science, Mr. A. H. Clarke (£150) and Mr. G. Moulson (£60); the university scholarship (£60), Mr. V. C. Pennell; the scholarship in arts (15 guineas), Mr. H. J. Blampied. The aggregate value of the *Musgrove* scholarship and *College* prize (£45) was divided between Mr. F. Molina and Mr. H. C. Jennings. Among fifth-year students Mr. K. H. McMillan received the £10 prize for medicine, Mr. R. M. de Mowbray two prizes of the same value for surgery and midwifery respectively, Mr. H. P. Dawson the prizes for public health and forensic medicine, and Mr. N. P. Lumb that for pharmacology, while the Hadden prize was divided between Mr. H. P. Dawson and Mr. R. M. de Mowbray. The *Bristowe* medal went to Mr. P. H. Mitchiner, the *Wainwright* prize to Mr. W. J. Hart, and the *Treasurer's gold medal*, for good conduct and general proficiency, to Mr. R. M. de Mowbray.

The awards were distributed by Lord Ampthill, who remarked that not only the hospitals, but also the medical schools, must be prepared for vital changes. The House of Commons was composed of politicians imbued with ideas quite different from those of medical practitioners and of men who were not learning by practical experience, but absorbing the teachings of doctrinaire professors. If the ideas represented by the National Insurance Act developed and the present plan of reconstructing national institutions according to German models was going to be carried much further, the public would be forced to discard many time-honoured maxims which in the past had served it well.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examinations indicated:

FIRST M.B., CH.B.—*Part III.* F. H. Anderson, Mercy D. Barber, W. T. G. Boul, Frances G. Bullough, C. F. J. Carruthers, C. G. Carson, J. Charnley, B. W. Conway, Ruth E. Conway, A. M. Cotes, J. C. T. Fiddes, E. W. Fish, J. B. Higgins, Alice M. A. Holt, N. Kletz, E. N. P. Martland, F. H. Moor, R. S. Paterson, A. B. Platt, Alice Reid, J. Schlosberg, H. Taylor, H. Tomlinson, F. White.

THIRD M.B., CH.B. (*Pharmacology, Therapeutics, and Hygiene*).—J. C. Bramwell, J. E. Brooks, R. Chevassut, J. S. Chorlton, A. T. Gibb, E. Granger, J. D. Kenyon, H. M. V. Mengershausen, J. F. O'Grady, F. G. Prestwich, J. Rigby, W. A. Rogerson, H. H. Stones, F. Vause, L. Walton, R. Willan.

FINAL M.B., CH.B. (*Forensic Medicine and Toxicology*).—Lily Allan, Ada L. Bentz, W. R. Blore, W. S. Booth, B. Browning, F. Chadwick, F. S. Charnock, J. W. Craw, L. S. Daly, N. H. Davison, *D. T. Harris, J. R. Jagger, *O. M. de Jong, Clara A. Lomas, R. MacGill, K. Maximus, Kate K. May, A. S. Paterson, Gladys H. Ramsden, J. R. B. Russell, P. Stocks, E. H. Walker, (*Obstetrics*). A. Barrett, C. H. Crawshaw, F. S. Charnock, L. S. Daly, F. K. Tomlinson. (*Medicine*).—A. Barrett, C. H. Crawshaw. (*Surgery*).—H. W. F. Williamson.

FINAL M.B., CH.B. (*All Subjects*).—*F. A. Bearn, *J. G. Bennett, F. C. Bentz, E. S. Brentnall, *G. Fildes, H. S. Hutchinson, H. Kempsey, E. Leahy, C. G. Lees, F. L. Newton, W. L. Nicholson, Gladys H. Ramsden, T. P. Robertson, J. Rothwell, C. M. Stallard, †A. V. Stocks, †P. Stocks, E. Talbot, H. D. Willis.

CH.M.—G. B. Warburton.

D. PSYCH. (*Part I*).—R. M. Stewart. (*Part II*).—E. Montgomery.

B.Sc. (*in Public Health*).—R. Briercliffe, C. Y. Wong.

* Awarded distinction in one or more subjects.
† Second-class honours.

UNIVERSITY OF LEEDS.

Degrees.

THE following were among the degrees conferred at a meeting of the Senate on July 5th:

M.B., CH.B.—F. H. Kitson, H. P. Shackleton, and *H. Sinson.

Examinations.

The following candidates have been approved at the examinations indicated:

FIRST M.B., CH.B. (*Part I and II*).—S. Adler, H. E. Charles, H. V. Horsfall, G. H. Hurst, L. Moses, J. H. Barker, N. Pick, L. G. Rimmington, W. H. Rowden, P. Shillito, C. H. Smith. (*Part I only*).—E. E. V. Glover. (*Part II only*).—R. Graham, C. R. Watson, C. M. Woodcock.

SECOND M.B., CH.B. (*Part I*).—Miriam Hutchinson, W. L. Ingham.

FINAL (*Part I, Pathology and Bacteriology*).—D. A. P. Clarke, H. Foxton, A. S. Hebblethwaite, J. Wilkinson. (*Part II, Forensic Medicine and Public Health*).—L. H. Butler, J. C. Gillies, H. L. Taylor, J. Wright.

D.P.H. (*both parts*).—W. C. Lyons.

* Second-class honours.

UNIVERSITY OF EDINBURGH.

Honorary Degrees.

THE medical recipients of the honorary degree of LL.D. at the Summer Graduation Ceremonial in the M'Ewan Hall on July 4th were Emeritus Professor Greenfield, who, to use the phrase of the Dean of the Faculty of Laws, "mature in knowledge and experience, though young in years, was appointed in 1881 to the Chair of Pathology and Clinical Medicine"; Dr. William Allan Jamieson, the University's first Lecturer on Diseases of the Skin; Mr. John Stewart, M.B., C.M., of Nova Scotia, "a typical representative of the noble army of Scots abroad," once house-surgeon under Lord Lister in the Edinburgh Royal Infirmary; and Geheimrat Professor F. Strassmann, the present incumbent of the chair of Forensic Medicine in the University of Berlin, occupying the "disputed borderland where the sister professions (of law and medicine) meet, and occasionally part with some loss of mutual respect."

UNIVERSITY OF ABERDEEN.

THE following were among the degrees conferred at a meeting of the Senate on July 8th:

LL.D.—David White Finlay, Emeritus Professor of Medicine, University of Aberdeen; Ronald Campbell Macfie, London.

M.D.—*J. L. Gordon, *W. K. Irwin, †J. Inkster, J. A. M. Clark, C. E. Greeson, R. W. Macpherson, G. C. Soutter.

CH.M.—F. W. Stuart.

M.B., CH.B.—‡G. Riddoch, A. L. Aymer, H. D. F. Brand, W. H. Brodie, F. F. Brown, J. T. Cameron, F. J. R. Cowie, W. I. Escoffery, Winniefred M. Gray, J. M. McLaggan, G. Pirie, F. Ritchie, R. S. Snowie.

D.P.H.—A. M. Brown, Elizabeth M. Edwards, W. A. Mearns, R. W. S. Murray, R. Richards, J. Ritchie.

* Honours for Thesis. † Commended for Thesis.
‡ First-class honours.

On the same occasion the John Murray Medal and Scholarship for the most distinguished M.B. graduate for the year was handed to Mr. G. Riddoch, and the George Thompson Fellowship to Mr. M. M. Cruickshank.

THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT the annual meeting of the Fellows on July 3rd for the election of four Fellows into the Council of the College in the vacancies occasioned by the retirement in rotation of Mr. Edmund Owen (St. Mary's) and Mr. C. H. Golding-Bird (Guy's), by the death of Mr. Clinton T. Dent (St. George's), and by the resignation of Mr. W. Bruce Clarke (St. Bartholomew's), Mr. James Ernest Lane (St. Mary's), Mr. Louis Albert Dunn (Guy's), Mr. Jonathan Hutchinson (London Hospital), and Mr. Holburt Jacob Waring (St. Bartholomew's) were elected Members of the Council. Mr. Dunn, being third on the poll, becomes substitute Member of Council for the late Mr. C. T. Dent until 1919, and Mr. Hutchinson, being fourth on the poll, becomes substitute Member of Council for Mr. Bruce Clarke until 1915. The number of Fellows who voted was 865; of these 852 sent their ballot papers through the post and 13 voted in person. The result of the poll was as follows:

Candidates.	Number of Votes.	Plumpers.
Mr. JAMES ERNEST LANE (St. Mary's) ...	448 ...	64
Mr. HOLBURT JACOB WARING (St. Bart's.)	437	57
Mr. LOUIS ALBERT DUNN (Guy's)	421 ...	68
Mr. JONATHAN HUTCHINSON (London) ...	407 ...	32
Mr. Walter George Spencer (Westminster)	312 ...	9
Mr. Henry Betham Robinson (St. Thomas's)	237 ...	25

Seven invalid ballot-papers were also received.

Thus the Council has received one member from the staff of St. Mary's Hospital, one from St. Bartholomew's, one from Guy's, and one from the London, in the place of one member from St. Mary's, one from Guy's, one from St. George's, and one from St Bartholomew's. The proportional representation of St. Bartholomew's, Guy's, and St. Mary's remains unchanged.

CONJOINT BOARD IN ENGLAND.

THE following candidates have been approved at the examination indicated:

SECOND COLLEGE (*Anatomy and Physiology*).—L. M. Banerji, H. W. Barnes, J. Brooks, J. K. J. Chambry, D. R. Curnock, P. A. Dargan, D. C. de Fonseka, D. H. Derry, K. J. Dikshit, J. D. Dimock, E. S. Disouky, H. M. Drake, G. G. Drummond, D. J. Evans, L. H. B. Evans, C. J. G. Exley, Z. Ezzat, M. Farag, A. A. Fitch, T. H. Gunewardene, A. B. Hacking, W. L. A. Harrison, A. N. Haworth, E. G. Howell, W. A. Hughes, F. N. Jayewardene, S. H. M. Johns, C. S. J. Kearney, L. M. Lister, M. Mahfooz, B. H. Mellon, H. Millett, F. Mohamed, G. E. Mullins, W. Ohlmüs, T. H. Rhys, G. C. Robinson, T. C. Russell, K. Sahib, W. H. Sarra, P. R. J. Schmidt, W. W. S. Sharpe, N. S. Tirard, R. O. Townend, A. A. Watkinson, C. J. L. Wells, H. E. P. Yorke.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examination indicated:

THIRD COLLEGE.—A. P. Adams, S. Barron, *W. P. Cooney, J. Dwyer, M. Fitzgibbon, E. G. Foley, S. E. Gordon, J. W. E. Graham, E. N. H. Gray, O. K. Kerrigan, M. J. Loftus, W. G. McConnell, M. Moran, T. O'Donoghoe, L. S. O'Grady, G. M. C. Powell, L. M. Rowlette, R. A. Ryan, T. J. Ryan, T. H. Sarsfield, B. Scher, J. A. Watson.

FINAL.—P. Ashe, J. D. Cherry, D. F. Curran, H. A. S. Deane, J. Devine, W. St. L. Dowse, T. R. Elliott, T. Gray, A. Humphreys, J. Kearney, J. Kelly, F. P. Kennedy, F. J. M. Kennedy, W. J. P. Lillis, R. J. May, P. M. Moriarty, E. J. B. Moynihan, B. J. Mullin, D. Mullin, B. Murphy, C. McDonnell, T. B. Newman, B. J. O'Donnell, G. E. Pepper, R. Slaney, T. S. Smith, G. N. Smyth.

* Honours.

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL OFFICERS' ASSOCIATION.

ANNUAL GENERAL MEETING, JULY 3RD, 1913.

THE annual general meeting was held at the Rooms of Medical Society of London, on July 3rd, Surgeon-General Evatt, C.B., President of the Association, being in the chair.

After the annual report of the Council and the balance sheet had been approved, Surgeon-General Evatt was elected President; Dr. D. B. Balding, Chairman of Council; Dr. Napper, Treasurer; Dr. Major Greenwood, Honorary Secretary; and Dr. Withers Green, Auditor.

The Poor Law Medical Service and the National Insurance Act.

Mr. E. J. Mott, Clerk to the Fulham Guardians, dealt briefly with the history of the Poor Law Medical Service, and expressed the opinion that the chief improvements in the system of outdoor medical relief had been the establishment of public dispensaries in large urban centres, and the beginning of a system of trained nursing for the outdoor sick poor. As to the effect of the Insurance Act he quoted monthly returns from November, 1912, to May, 1913, which seemed to show a slight diminution in the number of Poor Law patients during that period, but during that time trade had been exceptionally good. The general experience of Poor Law officials had been that it had largely devolved on them to see that the provisions of the Insurance Act were put into operation. To them was allotted the duty of seeing whether persons applying for Poor Law relief were insured persons. The district medical officer was constantly required to say whether an applicant, if an insured person, could be treated at home, and might thus be put in conflict with the panel doctor,

for if he decided that a case could be treated at home, the treatment had to be carried out by the latter. The Poor Law would be required to supply the deficiencies of the new system, and owing to the wording of certain clauses of the Act, it was extremely difficult to resist panel doctors, when recommending their insured persons to apply for admission to the infirmary. The various limitations in the Act affected a large number of insured persons, and would tend to drive them on to the Poor Law, although he admitted that the proposed amendments would tend to reduce the number. He drew attention to certain difficulties that would shortly embarrass the working of the Act, and pointed out that we were on the eve of the suspension of medical benefits to deposit contributors, who had not sufficient funds standing to their credit, and to members of approved societies who had fallen into arrear with their contributions. This would be followed by a demand that those who received no benefit should be released from the liability of contributing. In conclusion, he asked if the scheme was financially sound. Many of the approved societies were complaining of the heavy drain on their funds, and it was freely rumoured that unless some drastic steps were taken to lessen the outgoings, the financial stability of the societies would be seriously impaired. If at the present time, when trade was booming and work plentiful, there was financial doubt what was to be expected in the lean years that must inevitably follow?

The Insurance Act was at present far from popular, and there was a probability that before long it might be as unpopular as the Poor Law. Whether it was for the permanent good of the community or otherwise time alone could show. At any rate, for a long time to come there would be plenty of work for the Poor Law Medical Service.

The Present and Future of the Poor Law Infirmary.

Dr. Thackray Parsons briefly outlined the history of the Poor Law infirmary, and said that the modern infirmary provided for a greater variety of diseases than the general hospital; it was a mistake to suppose it was restricted to the treatment of chronic cases. The average of acute cases in infirmaries was 60 per cent. In the future much more would be expected of the Poor Law infirmary, both by the public and patient, and all modern treatment would have to be supplied. The Insurance Act would affect the Poor Law infirmary in two ways: (1) The number of phthisical and maternity cases would be reduced: (2) there would be an increased demand for institutional treatment. The Poor Law infirmary required a larger staff, and particularly a staff of specialists. In every area there should be infirmaries specially equipped to serve the special needs of an aggregation of unions, as it was unnecessary to furnish every infirmary with certain kinds of expensive medical apparatus. There should also be a special training centre for Poor Law nurses. He thought, too, that medical students should be admitted to the infirmary wards.

Dr. Major Greenwood, who proposed a vote of thanks to the readers of both papers, commented on Mr. Mott's opinion that medical relief was the least objectionable of all modes of relief, and was glad to hear him say that it ought to be restrained within reasonable limits. It followed that he was not in favour of granting medical relief to all at the public expense, as was advocated by a certain class of socialist reformers. His own experience was that the number of medical orders granted up to the end of the last quarter had shown little, if any, diminution on the number issued in previous years. The inclusion of payment for the treatment of tuberculosis in the capitation fees of panel doctors was not calculated to further the national crusade against tuberculosis. He agreed with Dr. Parsons that all sick wards in workhouses or infirmaries should be under a medical superintendent. With regard to the effect of the Insurance Act on Poor Law infirmaries, he thought a third item should have been added—namely, the increased institutional work that would be required of them in consequence of the crippling of the general hospitals.

Dr. Withers Green, in seconding the resolution, said he failed to see how medical students could be usefully admitted to infirmary practice. Already there was a dearth of students in the general hospitals.

Dr. Holder thought that through the Insurance Act there would be evolved later a new public medical service for the treatment of the people. In his opinion the Poor Law medical service would be greatly relieved and the public health much better preserved. All cases of venereal disease were now treated, which was an immense public gain. He alluded to the injustice inflicted on the Poor Law medical officers by the fact that in many cases the Insurance Act had greatly reduced the extra fees before payable. This considerably lessened the superannuation they would be entitled to.

Surgeon-General Evatt thought the future of the Insurance Act was absolutely assured, and that it would have a profound effect in improving national hygiene.

The resolution was carried unanimously, and the meeting concluded with a vote of thanks to the Chairman.

Obituary.

EDWARD WILKINSON ROUGHTON, B.S., M.D.Lond., F.R.C.S.Eng.,

SURGEON, ROYAL FREE HOSPITAL.

We regret to record the death, on June 10th, of Mr. Edward Wilkinson Roughton, of the Royal Free Hospital. It was due to malignant disease and took place in the 52nd year of his age. He received his professional education at St. Bartholomew's Hospital, where he early exhibited both a capacity for work and high mental ability. Becoming M.R.C.S. in 1883 he achieved the M.B. of the University of London in the same year, being awarded a gold medal in obstetrics and honours in medicine, and on proceeding to the M.D. in the following year was again awarded a gold medal. Two years later he was admitted to the Fellowship of the Royal College of Surgeons, and in 1887 took the B.S. degree of the University of London with such distinction as to receive a third gold medal and a university scholarship.

Meantime he had remained at work at St. Bartholomew's, where, in addition to being president of the Abernethian Society, he served as house-surgeon, resident midwifery assistant, and ophthalmic house-surgeon. For a time, too, he taught practical anatomy in the school, but did the greater part of his work in this province at St. Mary's Hospital, of whose school he was for some six years warden, as also demonstrator of anatomy. Indeed, it seemed at one time probable that he would remain permanently connected with St. Mary's, but in the event the major part of his career was devoted to the Royal Free Hospital, where he was at the time of his death the second on the list of ordinary surgeons, lecturer in surgery at the attached London School of Medicine for Women, and also in charge of the ear and throat department. He was also connected with the National Dental Hospital as visiting surgeon, and at one time on the list of examiners at the Royal College of Surgeons.

Though not a conspicuously active attendant at scientific gatherings, he was a Fellow of the Royal Society of Medicine and a member both of the Harveian and West London Medico-Chirurgical Societies, and two books came from his pen. The earliest of these was a textbook on general pathology and surgery, published in 1885, while another dealt with the surgery of diseases of the mouth, a subject on which he contributed some articles to the *Index of Treatment* in 1897, and to periodical literature. As a teacher he had the advantage of being able to make his subject interesting and his statements thereon clear, while as a surgeon he was neat and deliberate in point of technique and exhibited the wide knowledge which was to be expected of a man of his mental ability. In his work he showed no undue preference for accepted methods, and while a house-surgeon at St. Bartholomew's Hospital devised a splint which is still known by his name; in essence it is a single Cline, having attached to its lower border a foot-piece, which enables more control to be secured for the position of the foot in fractures around the ankle-joint.

Mr. Roughton was married and is survived by his wife, but left no children.

THE LATE MR. ALFRED WILLETT.

Mr. Herbert J. Paterson writes: Few surgeons can have inspired such admiration and respect on the part of their house-surgeons as did Mr. Willett. To say that all who had the privilege of working for him loved him and reverenced him is to express inadequately the feeling of his house-surgeons towards him. His qualities as a surgeon compelled admiration, and his qualities as a man endeared him to all. As a surgeon he was conspicious for

his power of accurate diagnosis. He was most painstaking in the investigation of his cases, and this, coupled with his long experience, resulted in a clinical acumen rarely equalled and probably never excelled. He had a remarkable memory, and when a former patient came to see him he could recall the details of his case with an accuracy which was a source of wonder to those around. When confronted with an obscure case he was able almost always to relate some similar case from his clinical storehouse. His diagnosis was rarely wrong. The writer remembers many ocasions on which he differed from nearly all his colleagues, and yet subsequent events proved his opinion to be correct. As a man his scrupulous honesty of purpose was apparent in his every action. Invariably to the humblest patient he used to point out the risks and consequences of an operation in a manner which might with advantage be more often imitated, and which was a valuable lesson to his house-surgeons and dressers. The regard in which he was held by his house-surgeons was enhanced by the pains he took to train them for their life's work. Once a week he would stand by for hours helping them to perform operations under his critical eye. Not a few surgeons of to-day owe their success to the lessons learnt from him in this way. More than this, by his example he taught them to be loyal to their colleagues, loyal to their profession, and loyal to themselves. In each of his house-surgeons he took a keen personal interest, and their after-careers were watched by him with fatherly interest, and their successes were to him a source of pride and satisfaction. A few months before he resigned his position at St. Bartholomew's the Prince of Wales visited the hospital. It was arranged that at the conclusion of the visit the senior physician and the senior surgeon were to be presented to His Royal Highness. Before the conclusion of the proceedings Mr. Willett quietly slipped out unobserved so that his successor should have the honour of the presentation. This kindly and unselfish action was characteristic of his fine feelings and consideration for others.

BRIGADE SURGEON JOHN A. ILLINGWORTH, retired pay, late Army Medical Department, died on June 16th at the age of 79. He joined the service as assistant surgeon in June, 1859, served with the 57th Regiment during the New Zealand War, 1860–61, and the 7th Foot on the North-West Frontier during the Eusofzai Expedition, 1863–64, for which he received medals. He became surgeon-major in 1875, and retired with the honorary rank of brigade surgeon on December 1st, 1880.

Medical News.

DR. CYRIL HARTLEY DURRANT has been appointed an official member of the Legislative Council of the Island of St. Vincent.

The third Cuban Medical Congress will be held at Havana in December, 1914. There will be an exposition in connexion therewith.

AT the last meeting of the Corporation of London the salary of Dr. F. J. Waldo, coroner for the City and for the borough of Southwark, was increased from £1,250 to £1,450 in respect of his work in the City.

THE first meeting of the Association of Italian Hygienists will be held at Milan in October. All the medical inspectors of schools in Italy will be invited to attend with the object of arriving at an agreement as to the mode of promoting the development of such inspection in Italy.

THE Vienna Society for the Investigation and Prevention of Cancer has established a laboratory for experimental work on the subject, mainly in the domain of chemistry and chemical therapeutics. It is to be amalgamated with the Spiegler Institute, which has been in existence nine years. Professor S. Fraenkel has been appointed director.

MR. ALFRED KING, of Worthing and Finsbury Square, by his will directed that after the payment of an annual sum to his wife of £2,500 and of small annual sums to other people, the remaining income of his estate should be allowed to accumulate, and, together with the whole principal, eventually be handed to Guy's Hospital and used for general purposes. The estate was sworn at a gross value of over £64,000.

TWO funds, both working for the benefit of women, are now making appeals for support, the one being the Factory Girls' Country Holiday Fund (Honorary Treasurer, Miss Canney, St. Peter's Rectory, Saffron Hill, E.C.), the other, the Women's Holiday Fund (Secretary, Miss Crawford, 76, Denison House, Vauxhall Bridge Road, S.W.). Each aims at securing for the beneficiaries a holiday of a fortnight or so in the country, the beneficiaries in each case saving up their pence week by week throughout the year in order to pay part of the expenditure. To the former we have frequently drawn favourable attention, and we have no doubt that the latter, which has been nineteen years in existence and caters for poor women of the working classes aged between 21 and 65 years of age, does equally good work.

THE executive committee appointed at the meeting called in November last to found a memorial to the late Admiral of the Fleet, Sir Frederick Richards, to which reference was made in our issue of November 9th, p. 1330, proposed that a public memorial should be erected and a trust fund created, the interest of which should be applied to some beneficent object connected with the Royal Navy. Donations of a little over £1,000 have been received, and it is estimated that at least an additional sum of £500 is needed. When the total amount available is known the proposals of the committee will be submitted to a general meeting of subscribers. Donations made payable to the "Richards Memorial Fund," and crossed "London County and Westminster Bank, 21, Lombard Street," may be sent to the Right Hon. the Viscount Goschen, 21, Lombard Street, London, E.C.; Admiral the Right Hon. Lord Charles Beresford, G.C.B., M.P., 1, Great Cumberland Place, Marble Arch, London, W.; Admiral Sir John Durnford, G.C.B., D.S.O., Catisfield, Farcham, Hants; Paymaster-in-Chief F. Harrison-Smith, C.B., R.N., Admiralty House, Portsmouth (Hon. Secretary to the Fund).

A DRAWING-ROOM meeting, at which Princess Marie-Louise of Schleswig-Holstein was present, was held by the Tuberculin Dispensary League at Old Swan House, Chelsea, on June 27th, in connexion with the proposal, which has received the sanction both of the borough council and of the Charity Commissioners, to take over the old Chelsea Dispensary. The report stated that the chief dispensary at 263, Kennington Road had been so crowded with patients that it had been found necessary to open it on two extra days in the week. The method of treatment was very popular with the patients, and an increasing interest was being shown in it by the medical profession. The Earl of Mayo, who presided, expressed the hope that in tuberculin a means had been found of fighting the grim disease consumption; whilst Mr. F. J. Welch, the Mayor of Chelsea, welcomed the establishment of a dispensary in that part of London. Dr. Annie McCall said that the great object should be to combat the disease in its early stages. Poor people did not like to confess to tuberculosis, as it was a notifiable disease. Dr. Mackeith, honorary laryngologist of the Kennington Road Dispensary, said he had been astounded at the results obtained by the administration of tuberculin. One patient, who seemed likely to die in about six weeks, was treated six months ago, and was now so far recovered as to be able to work. Under the Insurance Act other patients had been treated with good results so far, though it was too early to claim that a remedy for tuberculosis had been found. A valuable feature was that in some cases men were able to continue work during treatment. Dr. W. Camac Wilkinson, chairman and director of the Tuberculin Dispensary League, said he was responsible for the system of treatment being introduced to London. One of the obvious advantages was its adaptability to the circumstances and needs of the poor workers. In a large proportion of cases it was possible to get the most satisfactory results without the patient losing his occupation. Everything human failed sometimes, and so must the tuberculin treatment; but it was their duty to see that their failures were fewer than their successes, and this he claimed for tuberculin. The treatment would not, he thought, cost more than £1 a head, thanks to the voluntary assistance of the medical profession. If the amount of money spent on consumption under the Insurance Act were devoted to the system he advocated, the sum would be sufficient, or almost sufficient. The League asked for an income of £1,000 a year, and as much more as possible.

Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

ANTI-RHEUMATIC would be glad to hear the experience of practitioners in regard to the effect on a healthy nursling of the administration of salicylates to a rheumatic nurse.

ANSWERS.

MOTOR TYRE PAINT.

DR. THOMAS NORTH (London, W.), writes: "Beta" will find rubberclene, made by Messrs. S. and S. Harris, New Southgate, N., quite satisfactory. It does not easily come off, and does not injure the tyres. It can be obtained either white or grey, and I can speak for its good qualities after using it regularly for some years.

J. F. E. writes in answer to "Beta" that the following tyre paint will be found harmless and washable: Pulv. zinci ox., ℥ij; turpentine, ℥ij; petrol, ℥iij; rubber solution, ℥viij. Rub up the zinci ox. in a mortar or bowl with the turpentine, add the petrol and then shake up in a closed tin with the rubber solution (ordinary bicycle tube repair solution). For footboards and running-boards this white paint is economical and neat; it can be made grey by addition of lamp black.

LETTERS, NOTES, ETC.

MR. CHARLES WARD, F.R.C.S.I. (Pietermaritzburg, Natal), writes with reference to the note in the BRITISH MEDICAL JOURNAL of May 17th of a case of intrauterine chicken-pox: It might interest your correspondent to know that during the small-pox outbreak in the East End of London in 1870, when I was apprentice to the parish doctor of Shoreditch, we had a case of a woman confined when getting over the disease, and the child was born with the rash full out. It was vaccinated, and lived.

ST. BARTHOLOMEW'S HOSPITAL.

THE Clerk to the Governors of St. Bartholomew's Hospital asks us to state that the Helping Hand Legal Assistance Syndicate are not subscribers to the hospital, and that agents of the syndicate are not entitled to sell tickets entitling the holder to treatment at the hospital. The clerk informs us that the secretary to the syndicate has undertaken to withdraw the circular.

SHIP SURGEONS.

DR. THOMAS DUTTON (London, W.) writes: Having taken much trouble to try and improve this service some twenty years ago, and writing the chapter on ship surgeons in my work on *Sea Sickness* (second edition, deleted in the fourth edition), may I say I think now is a splendid opportunity to return to the agitation? The recommendations contained in the chapter (p. 63, second edition, 1891) might serve as a basis to improve the service. They are as follows: No surgeon shall be appointed medical officer of a ship unless he has served as assistant medical officer for twelve months on a ship of over 3,000 tons. Steamships carrying passengers and going a voyage occupying over twelve days (now five days) must carry a medical officer and an assistant medical officer. The duties of the medical officers should be strictly defined, particularly those relating to themselves and the master of the ship. Their uniform to be distinct from that of the other officers. Full surgeons to be paid £20 a month with board, and paid while in port. No medical officer to be appointed to a ship unless he is approved by a board of marine medical officers and shipowners. No medical officer should be dismissed from the Marine Medical Service until the charges are proved before the Medical Board. It is quite true a surgeon only signs articles as a common seaman at 1s. a month, and can be treated as such. I may add that my book was "boycotted" by many of the large shipping companies.

THE TREATMENT OF PERNICIOUS ANAEMIA.

DR. JAMES CRAIG (Llandudno) writes: I have been much interested in reading Dr. Byrom Bramwell's clinical lecture on the treatment of pernicious anaemia in your issue of May 24th, especially that part of the treatment which deals with the addition of mercury to the arsenic (salvarsan). I have treated any cases of pernicious anaemia which have come under my care during the whole of my professional career with arsenic. I have at the same time always employed mercury on the theory that it exercised a beneficial action on the liver, and in this way aided the good results obtained by arsenic. To begin with I gave the mercury internally, but for many years prior to 1894 I administered the mercury in every instance by inunction of the red iodide ointment into the skin over the liver.

In February, 1894, I published a paper in the *Provincial Medical Journal* describing the benefit ensuing on the inunction of the biniodide of mercury into the skin over the liver in cases of early cirrhosis of that organ, and in some cases of gastric ulcer. I did not mention idiopathic anaemia, as I had no statistics to show the difference obtained in the treatment of this disease with arsenic alone, and when it was combined with the employment of mercury. I am in the same position to-day, as the few cases of this disease that I have had under my care, I have always treated by arsenic and mercury.

In 1900 I again brought the inunction of the red iodide of mercury into the skin over the liver into notice in a paper read before the North Wales Branch of the British Medical Association, afterwards published in the *Scalpel* for July, 1900, under the title of "Changes in Hepatic Percussion Dullness." I still use this method of gradual introduction of mercury into the system of people suffering from many chronic diseases which, I believe, if not induced, are certainly maintained, by a disordered condition of the liver. I pointed out that in such cases the liver dullness is invariably diminished in extent.

In this paper I pointed out that in anaemia the "liver volume" is much diminished, not infrequently to such an extent as to yield no dullness on percussion. I also mentioned that I had examined the blood in a large number of cases of dysentery, gastric ulcer and gastric catarrh, malaria, and syphilis, and that in some of these cases in which the hepatic percussion dullness was much reduced, the number of blood cells and amount of haemoglobin were not "so markedly lessened as to account for the diminished liver volume." I had more opportunities of using the combination of arsenic internally with inunction of mercury into the skin over the liver in cases of chlorosis. In such cases the results were disappointing, so that I was compelled to return to the employment of iron and arsenic.

As I found that better results followed the addition of mercury to arsenic in the treatment of some cases of anaemia and pernicious anaemia, I reversed the process and added arsenic to mercury in the treatment of syphilis—a disease which at that time I had ample opportunities for studying. I have seen salvarsan administered intravenously, and I have notes of cases that have come under my care after its employment. The results are not so good as those I had obtained by my own method during the last thirty-five years.

The paper in the *Scalpel* was written to point out the original observation that in many diseases the extent of liver dullness, both relative and absolute, changes to a much greater extent than what is generally believed. I refer especially to diminution in extent of the dullness. I also emphasized, as strongly as I possibly could, the point that the lessening of the liver volume was altered by the simple method of treatment, inunction of the biniodide of mercury ointment into the skin over the liver, and that accompanying this increase in liver volume the diseases from which the patient was suffering were invariably much benefited. I had all the points mentioned in the above papers tested by competent physicians, who admitted that, so far as they knew, they were all original, and what is of much more importance, they were also very valuable.

AN EMETIC THAT WOULD NOT STAY.

DR. WILLIAM BABBINGTON, physician to Guy's Hospital in the early years of the last century, was an Irishman. He was described by Sir Astley Cooper as "the most delightful of men." He used to tell of a countryman of his for whom he had prescribed an emetic, and who said, "My dear doctor, it is of no use your giving me an emetic. I tried it twice in Dublin, and it would not stay on my stomach either time."

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE CONSERVATIVE TREATMENT OF TUBERCULOSIS OF JOINTS.*

BY

W. STEPHEN FENWICK, M.S., F.R.C.S.,

SENIOR ASSISTANT SURGEON, QUEEN'S HOSPITAL FOR CHILDREN; ASSISTANT SURGEON, CHARING CROSS HOSPITAL.

TEN to fifteen years ago it was customary to treat surgical tuberculosis of joints almost in the same way as cancer. One was advised to operate and remove tissues widely—even amputate—as soon as the diagnosis was made. In recent years, however, this practice has given way more and more to conservative measures, and particularly in surgical tubercle in childhood, of which I wish more especially to speak. There is still no doubt that in adults, where time is important, and the production of a speedy result essential, and where growing epiphyses have not to be reckoned with, the more radical measures are permissible, and even advisable, but in children I am becoming more and more convinced that extensive operative procedures are rarely, if ever, called for, and when necessity arises for them it is due to some gross error in diagnosis or treatment at the outset of the disease.

Let me turn for one moment to the consideration of some of the dangers of the radical operative procedures. First and foremost there is the danger of general tuberculosis and tuberculous meningitis.

At the annual meeting of the British Medical Association in Liverpool, in July last, H. J. Stiles opened a discussion, in the Section of Diseases of Children, on the after-results of major operations for tuberculous diseases of the joints, and gave the results of ten years' operative work. He had performed a total of 205 excisions of the hip, knee, ankle, and elbow joints, and out of this number there were 25 deaths—a percentage of 12. The deaths occurred, roughly speaking, from a few weeks up to one and a half years after operation and were chiefly within the first six months. The great majority of these deaths were from tuberculous meningitis and general tuberculosis. In a recent paper on the results of joint excisions C. A. Morton states that 9 per cent. died within two months of the same causes. Granted that the cases subjected to excision were advanced, I think, nevertheless, that the mortality from general tuberculosis occurring after the operation was very high, and that in all probability, if conservative measures had been persevered with, the death-rate would have been lower.

If we consider for a moment the nature of the operation—that cancellous bone with its large vessels is cut across—it is obvious how the dissemination of the tubercle bacillus is brought about. I think that even after conservative operations upon tuberculous joints there is probably a considerable amount of tuberculous material—bacilli and toxins—forced into the general circulation. If the dose be large, and the resisting power of the patient low at this time, general tuberculosis will result.

It is with the object of minimizing this danger that I strongly urge, before any operative procedure is undertaken on a tuberculous joint, that the resisting power of the blood be raised by a course of tuberculin.

Secondly, there is danger of direct shortening from resection of large portions of bone, often necessary to "get outside" a focus of disease.

Thirdly, there is the grave injury to the growing ends of the bone, with subsequent lack of growth, leading often to most appalling shortening. I have met cases in adults who had been subjected to excision of the knee-joint in childhood, with shortening of 12 inches. H. J. Stiles, whose results appear to compare very favourably in this respect with those obtained by others, in excision of the knee-joint has had 2 with shortening of over 5 in. Also arising from injury to the epiphysis, abnormal growth occurs, producing various curvatures which require cuneiform resection.

Finally, I may mention the immediate danger, always to be feared in these delicate children, of death under anaesthesia or from post-anaesthetic acidosis.

* A post-graduate lecture delivered at the Queen's Hospital on April 9th, 1913.

It may be accepted as a general principle that this is a disease from which recovery will take place naturally provided the best conditions, local and general, be furnished. I have met numerous cases, and one stands out particularly in my mind, in which joint pains were present for a considerable period and then disappeared without any form of treatment whatever, only to be followed again later, perhaps after six months or more, by undoubted tuberculosis of the joint. One cannot doubt that if Nature, unaided, were able to bring about a temporary cure, she would, assisted by the various means at our disposal, have produced a more lasting result.

At this hospital, situated as it is in the centre of a very large area densely populated with the poorest of people, we see an enormous number of cases of surgical tubercle, and are afforded an exceptionally good opportunity for studying the disease. To illustrate my remarks, I have chosen examples of tuberculosis of hip, knee, ankle, tarsus, shoulder (rare in children), elbow, and wrist.

Before commencing a description of the actual measures I adopt, let me say one or two words as to the diagnosis of tuberculous cases. A skiagram is taken as a matter of routine, and it is surprising how valuable this method is in the diagnosis of early tubercle, especially in those joints, such as the hip, in which most often the primary focus is in the bone.

When a doubt exists after *x* ray and careful clinical examination I employ either a hypodermic injection of Koch's old tuberculin 0.001 to 0.002 c.cm., or von Pirquet's cutaneous reaction. There are objections I admit to both these tests, but in certain cases they are of value. The old tuberculin injection is almost certain to produce in tuberculous cases a general reaction with a temperature of 101° to 102° F., and a rise in the pulse rate of 20 beats to the minute, a slight feeling of malaise, and some local reaction at the site of injection. I cannot help feeling, however, that it is possible (very remotely I admit) to do harm in certain cases by the test. One so endeavours, in the administration of tuberculin, to avoid a general reaction that I think one should be consistent and not evoke it as a test. However, with 0.001 c.cm. very little damage can be done. Von Pirquet's cutaneous reaction is absolutely safe, but I have so often seen it fail in cases undoubtedly tuberculous that I am bound to say that I do not regard a negative result with very great faith.

Hygienic treatment is of great importance, but is so well known that I will only say that in the Queen's Hospital, drawing as it does its patients from a district where feeding and other conditions are of the worst possible description, I give as a routine a mixture of equal parts of cod-liver oil, malt, and syr. ferri phos. co. ʒi–ii t.d.s., and I take measures to keep the bowels open. These children have to rest continuously for many months, and the absence of exercise produces often marked constipation. As a result of this the appetite falls off and they suffer from alimentary toxaemia in addition to tuberculosis. One eminent surgeon of this city advises the operation of short-circuiting to avoid this condition. Although not advocating any measure so heroic I employ means to achieve a similar result, and the best remedy I know is paraffinum liquidum (*B.P.*). One drachm twice or thrice a day will suffice as a rule, and after a week or so the dose can be reduced.

Rest—absolute and prolonged—is essential, and during the early weeks of treatment the patient is best kept in bed when dealing with the larger joints—hip and knee. A light extension helps to correct deformity, and relieves the starting pains which are often such a distressing feature of tuberculous disease of those joints.

Deformity of the hip and knee should be corrected very gradually, the level above the bed at which the weight acts being adjusted according to the amount of flexion present. The weight used should be as small as possible, for it must be remembered that harmful stretching of ligaments may easily be brought about. Temporary immobility in the case of the hip-joint can be obtained by a long Liston, but it is not advisable to trust to this too long—a double Thomas's splint should be made and fitted by the time that the extension is removed, usually after a month or six weeks.

If possible the child should be taken into the fresh air every day in some form of spinal carriage after the preliminary six weeks in bed. After six months a single

Thomas's splint may be obtained and the child allowed to get about on crutches with a patten on the sound side.

In the case of the knee-joint, after the preliminary extension and correction of deformity it is best to have a Thomas's knee-splint fitted, or in very poor people plaster-of-Paris may be used to immobilize the articulation. The advantage of Thomas's splint is that it prevents any weight being applied to the joint, at the same time allowing the patient to get about with crutches and a patten.

The ankle-joint should be immobilized in plaster at a right angle, or better, by a wooden back splint with a footpiece and a projection below, which prevents walking. Crutches and a patten can be used to allow the child to get about. In disease of the tarsus similar treatment should be adopted as for the ankle-joint. The shoulder in children—a rare articulation to be attacked by tubercle—is best and most simply immobilized by bandaging to the trunk with a small pad of wool well dusted with boracic powder in the axilla and between the arm and chest wall. The elbow should be fixed at a right angle with a wooden splint or plaster. The wrist is perhaps best kept at rest by an anterior wooden splint reaching as far as the metacarpo-phalangeal joints, so that movements of the fingers can be carried out.

Splints of celluloid or poroplastic have the advantage of lightness, and are of sufficient strength for the treatment of the joints of the upper limb.

After all signs of active disease have disappeared and immobilization has been carried out for a considerable period the great question of return to use arises. It is one of the most difficult matters to decide in the treatment of any joint as to when splints should be left off and movement allowed. Personally I rarely allow movement under six months, and in many cases insist on a year or two years' fixation.

I find the periodical examination by *x* rays of great value in determining the progress of the healing process in joint tubercle where foci are present in the bone. The reparative changes are accompanied by sclerosis, and this is shown in an *x*-ray picture. Having decided that splints may be left off, I first advise that freedom be given only at night. Then, if, after a fortnight or month, no untoward symptoms arise, I leave off splints during the daytime and allow massage and gentle movements. Thus, cautiously, a return to normal function is obtained.

Bier's Treatment.

In tuberculosis of any joint below the shoulder in the case of the upper limb, and the hip in that of the lower, venous engorgement should be obtained by Bier's elastic bandage.

Bier employs three methods to obtain congestion—the elastic bandage, the cupping glass, and the hot-air chamber; but practically only the first is applicable to almost every case.

Great care should be taken to obtain the right degree of constriction. Excessive pain should not be caused; in fact, many children appear to like the application. The pulse below should never be obliterated, and the blood should always return promptly when expressed from the skin with the finger. The limb below the bandage should be of a bluish-purple colour, never white; in some cases considerable oedema may develop.

I usually begin by applying the bandage for one hour and leaving it off for three; later three hours on and three off, except at night; and later still, in some cases, the bandage may be left on during sleep.

I employ Bier's treatment as a routine method.

Iodoform Injections.

A most useful adjunct to the treatment of joint tubercle is the injection of iodoform emulsion. In this hospital I have not used it for every case, but rather for those that have not improved as rapidly as I wished with immobilization and Bier's treatment.

It is claimed by some that the iodoform by liberating free iodine in the tissues directly attacks and destroys the tubercle bacilli; but I think that it acts chiefly by producing a sclerosis in and around the diseased area. The solution used is 10 parts iodoform in 80 parts glycerine and 20 of water. The iodoform, glycerine and water should be carefully sterilized, and the injection made into the joint cavity, and into the surrounding tissues; 1 to 2 oz. may be used. If any pus exists in the joint cavity it should be aspirated through the cannula before the injection is made. Considerable redness locally and a rise of temperature to 100° and 101° F. may follow the injection; but as a rule everything is normal by the second or third day after. The injections should be repeated three to four times at intervals of a fortnight.

Abscesses.

If abscess develops a needle of large bore connected to a Record syringe should be thrust into the cavity, and the contents sucked out. The syringe should then be detached, leaving the needle *in situ*, and filled with iodoform emulsion (1 to 2 oz.), which is then injected into the abscess cavity.

The needle should always be introduced through a considerable thickness of tissue and in an oblique manner, so as to avoid danger of sinus formation. Many surgeons prefer to make a small incision into the abscess, curette gently away the lining membrane, and after washing out with saline and injecting iodoform to close without drainage. This method I think very liable to lead to sinus formation with its attendant dangers of secondary infection.

Operation.

Some cases of joint tubercle will not yield to these measures, and we have to operate. Here again, however, I am very strongly in favour of the more conservative operation of arthrectomy or erasion as opposed to the radical excision. The advantages of arthrectomy are:

1. No extensive section of bone.
2. No loss of length.
3. No interference with the epiphysial line, and therefore no deficiency or abnormality in growth.

All these grave objections obtain in excision.

The joint surfaces are exposed through a suitable incision, diseased synovial membrane dissected away, and the tuberculous foci in the bony extremities curetted.

It may be argued that foci of disease are occasionally overlooked, and undoubtedly this may be so, but I am doubtful whether even the most careful excision always succeeds in removing all infected material. What probably happens most commonly is, that the surgeon removes the major portion of the disease, and Nature does the rest.

After arthrectomy considerable movement in the joint may be obtained; this in the upper limb is to be aimed at, but in the lower it is probably better to bring about ankylosis at the hip and knee when disease has progressed far enough to warrant operation. This result may be achieved readily by removing a thin scale of cartilage from the opposing joint surfaces.

It is occasionally necessary to excise joints in childhood, but this operation should be reserved for those cases in which there is either complete disorganization or ankylosis in a faulty position.

Amputation.

I am glad to be able to say that up to the present I have never performed amputation for tuberculous disease of a joint in a child. It should never, or very very rarely, be necessary in childhood, because time can be given for prolonged conservative measures.

I would only amputate for joint tubercle if in addition to extensive bone involvement there were also gross infection of soft parts, secondary infection with pyogenic organisms and amyloid disease.

Tuberculin.

I am very firmly convinced of the value of the administration of tuberculin in all cases of surgical tuberculosis, unless the infection with the bacilli is so grave as to cause a highly oscillating temperature or other grave signs.

No case of tuberculosis should be operated upon without a preliminary course of tuberculin, as this will, I am sure, help to guard against those distressing cases of general tuberculosis arising after operation. Tuberculin must not, however, be regarded as more than a useful adjunct. Alone it will not cure. All other means at our disposal should also be employed.

The methods of administering tuberculin are by hypodermic injection and by the mouth. The former is

obviously the more scientific, and the latter has been [illegible] as of no value. Nevertheless, it is a method that I have employed as a routine in the out-patient department, and I can speak of it in the highest possible terms. It has the merit of extreme ease of administration.

I have three bottles made up with normal saline containing in each ounce $\frac{1}{1000}$, $\frac{1}{100}$, and $\frac{1}{10}$ mg. of T.R.; ½ per cent. phenol to preserve the solution.

I commence by giving a child ʒj of the weak solution, or $\frac{1}{2000}$ mg., and the next week double the dose provided there has been no rise of temperature. In the out-patient department I rarely increase the dose beyond $\frac{1}{100}$ mg., as supervision is not easy.

I believe strongly in small doses to begin with, gradually increased and continued over a long time.

I have never seen any harm result. As a rule, after one or two doses the appetite and colour are better, and the lesion shows slight improvement.

I have here to-day a case of tuberculosis of the tarsus and metatarsus, which has had nothing in the way of treatment except tuberculin and cod-liver oil mixture. The child has run about on the diseased foot practically the whole time except for the first month of treatment, when, owing to the large swelling on the dorsum of the foot, it could not get its shoe on.

Before proceeding to demonstrate the cases of joint tuberculosis that I have collected here to-day, let me emphasize what I have already said, that surgical tuberculosis of joints in children can be cured and most efficiently cured, by the conservative measures which I have just now rapidly reviewed, and that the more radical methods are rarely required, and do not give such good results.

CASE I.—*T.B. Hip.* G. D., female, aged 8. First seen in April, 1912. Symptoms for three to four weeks. *X* ray shows [illegible] April, 1912. [illegible] in plaster at convalescent home. November [illegible] admitted. Knee very swollen. Synovial sac [illegible] pus. *X* ray showed erosion of cartilage and [illegible] femoral [illegible] ½ in. Knee [illegible].

CASE II.—*T.B. Joint.* F. A., female aged 2 years 6 months. [illegible] no bony [illegible] culin. *P* [illegible] some reduction in size of [illegible].

CASE IV.—*T.B. M* [illegible] subcutaneous nodule on buttock. *F* [illegible] of foot. [illegible] physis of [illegible] fectly. *X* ray shows mar[illegible]

[illegible] 1 in. *X* ray shows focus in neck sclerosed; some [illegible]

[illegible] 1912, swollen [illegible] by mouth; general condition improved; swelling [illegible] the same.

CASE VII.—*T.B. Wrist.* P. B., aged 5 years 3 [illegible] December, 1912. [illegible] movements of fingers good; no pain; general condition [illegible].

CASE VIII.—*T.B. Shoulder.* M.B., female, aged 3 years. September, 1912, swelling and pain right shoulder; abscess [illegible] introduced; healed per primam; arm fixed to chest by bandage;

[illegible] Wound sounder [illegible] in joint [illegible]

[illegible] ment which is increasing; walking well; finger practically [illegible]

Presidential Addresses

BRANCHES OF THE BRITISH MEDICAL ASSOCIATION.

METROPOLITAN COUNTIES BRANCH.

THE PROFESSION, THE PUBLIC, AND THE INSURANCE ACT.

By R. L. LANGDON-DOWN, M.B., M.R.C.P.

In entering upon the duties to which you have called me, may I be allowed to give expression to the two feelings which are uppermost in my mind? The first is the sense of the honour you have conferred upon me in placing me in the chair of this Branch for which I have had the greatest opportunity of [illegible] and the second is the sense of the responsibility that rests upon me. All I can say is that I will do my best to carry on the high traditions of the office, well assured that in this I shall have the help and support of all and [illegible] on the Council, as my predecessors have had in the past.

Since the report of the Council has issued death has [illegible] from among us a [illegible] member of our profession who was also a member of this Branch, and for a time served on the Council. Sir Jonathan Hutchinson, by his enthusiasm for medical education and by showing how much could be done to advance science by the method of patient observation, record and comparison, will always be remembered among the great men we [illegible] as pioneers in medicine. His name and memory [illegible] in a place in our thoughts to-day.

Reorganization.

The report of the Council for the past year shows that the Branch has been ready to take the lead in important matters of [illegible] policy such as the rearrangement of the boundaries of Branches, and the proposals it has made for strengthening and preserving the connexion of the Association with the members of the Royal Navy and the Army. The proposals before the Representative Meeting in this connexion should meet with and receive the support of the Branches. Meeting as we have recently done with the Council of the Association to confer with [illegible] the Association [illegible] the Insurance Act. [illegible] and the readiness to work [illegible] by the Metropolitan Branches during the latter part of last year was very remarkable and [illegible] great credit on them, and their [illegible] will fail to give weight to the opinions of the Branch in the Association, and any changes in the constitution which may give greater [illegible] to the Branches will naturally affect the work and responsibility of the Metropolitan Branch in an [illegible] degree.

The rearrangement of the Division boundaries in which this Branch took a very early part, following the [illegible] Act of Sir Lyon and Dr. Harvey, may seem to some to be [illegible] a mere piece of mechanical [illegible]. I venture to think it is of much more importance than that: it [illegible] a new meaning to a [illegible] principle of policy. Hitherto the [illegible] in [illegible] and [illegible] had been the convenience of [illegible] in attending meetings; now we have taken as the [illegible] the necessity for making our organization [illegible] with that of the organization for local government, and our boundaries tally as far as possible with those of local administrative areas.

The next step that lies immediately ahead of us is to bring the Local and District Medical Committees into closer touch with the Association. There is the danger that the men on these bodies may become so preoccupied with details of insurance work that they may lose sight of other matters of equal importance to the profession. No such isolated statutory bodies can properly replace the independent and co-ordinated activities of our Association. On the other hand, the local interest and personal activity which has been stimulated by the formation of these bodies should be utilized as far as possible to draw new strength to the Association.

Among our twenty-seven Divisions we now welcome representatives of the whole of Hertfordshire, Middlesex, and London; but we have no desire to annex for the sake of annexing, and if we were asked to part with some of our Divisions in Surrey, as is possible, we should, I feel sure, be guided by what we conceive to be the ultimate interests of the Association as a whole.

National Health Insurance.

In spite of this, owing to cleavage produced in the profession by the coming into operation of medical benefit under the Insurance Act and the attitude of hostility to that measure adopted by the Representative Meeting in January, there has been throughout the Association a situation most unfavourable to any vigorous action. There is a sense of unreality and ineffectiveness about our proceedings; meetings are less well attended, and Divisions are less interested in the doings of the Association.

Until some solution of our present difficulties and this state of suspense and uncertainty can be found, we cannot go vigorously ahead with the work before us. Our members are looking to us to take an active hand in modelling the regulations under the Act and in administering the Act and the regulations in the best interests of the profession.

We have most important questions in front of us in regard to the perfecting of our own constitution and organization. This will make large demands on our time and energy. How can we concentrate effectively on such work in our present frame of mind?

One of the most pressing problems requiring solution is that of the dependants of insured persons, to which is closely allied the question of the treatment of elementary school children found on inspection to be defective. Much may be done here by prompt and united action to prevent the mischief of underselling and to avoid the mistakes and difficulties that arose in connexion with the National Insurance Act. We ought to be preparing to help our members and others engaged in work under the Act with schemes under which by co-operation and specialization the work can be systematized and carried out under better and more convenient conditions, such as treatment centres, etc.

We have also to consider such questions as the provision of institution treatment, co-ordination of the hospitals with the men for scientific work, the provision of clinical laboratories, special appliances needed in treatment, the whole question of nursing, and many other points.

All these matters the Association is better fitted to deal with than any other body in the profession. And yet, in the uncertainty which exists as to our position and future action, we find ourselves weak and distracted owing to the absence of the necessary driving power, unanimity, and enthusiasm.

That this is a misfortune for the public interest no less than for the profession can hardly be doubted. There is nothing in the relations of the authorities with large bodies of the industrial and commercial world which leads to more difficulties and disagreements than the want of a well-organized, broad-based, independent representative body to speak in the name of the employers on the one hand and the employed on the other. That the Association should again be in a position to speak in the name of a united profession with vigour and decision is, I am convinced, a thing to be desired no less in the interests of the public, so that they may have a well-considered and authoritative statement of our views on any subject, than for the maintenance of the honour and interests of the profession.

I have therefore felt impelled to review the position of the profession in regard to this great change that has come over medical practice during the present year with a view to seeing if it is possible to find a course that shall bring us together again for the objects we all have in view, and in particular the unity and strength of our Association.

The Voluntary Club System.

That legislation of some kind in regard to provision of medical treatment had become necessary is a matter of general agreement. The existing arrangements had failed to bring medical assistance of an adequate kind to large sections of the people, and even where it had, the conditions were profoundly unsatisfactory to the medical profession. Whether the principle of club practice was originated by the doctors or the clubs I do not know, but the profession found it necessary in most industrial areas to adopt this plan if they were to be secure of even a moderate reward for the services they rendered to the people, and not press unduly on their patients' resources.

The essential vices of the voluntary club system were: (1) The fact that the club and not the patient was the employer of the doctor, and (2) that the appointments were practically put up to auction with all the consequent evils of underselling; in short, though admitted to be necessary, it was regarded by the profession as unsatisfactory. The attitude of the public in regard to provision for sickness may be briefly summed up in the following passage from a speech by one of the lay Insurance Commissioners.

> The important question that so often came up nowadays was how far professional work, unless effectively organized, could meet modern needs. These were difficult, but they had to be faced and thought out. All social reform must follow certain stages of progress. In the first place there was the position when there were only a few in the whole population who realized and enjoyed certain benefits as a result of their wealth and position. The next stage came when the many had begun to see what excellent effects followed on the possession of these advantages and arrangements, and then arrangements were made for the advantages to be more widespread through the community and made available for any who desired them. The third stage was when the community, having seen first the good effect on the few, and then the good effect on the many, came to realize that this particular thing, which was the luxury of the few and then the possession of the many, had become so important to the welfare of the whole that no one should be allowed to do without it. The question of health had now reached the third stage, when the community had said it was impossible to allow any one to go without suitable means for the mitigation of sickness. These obligations were in the interest of the community as well as of the individual.

The Attitude of the Association to the Insurance Bill.

The British Medical Association has from the first admitted the necessity for legislation to extend medical assistance to the poorer classes of the community, and the National Insurance Act was accepted in principle by the Representative Meeting as a means of attaining this end.

The main objects of the scheme were:

1. To provide effective medical assistance to the wage earner in every family, together with certain sickness and invalidity benefits.
2. To do this on the compulsory insurance principle, of which the essential feature is a regular small payment during health.

In agreeing to the principle of the Act, it must be taken that we agreed with these objects. Incidentally it may be mentioned that one of the indirect consequences of the payments being collected compulsorily, was to give them technically the status of taxes and public funds.

It hardly concerns us as to the sources from which the money was to be raised, but it seems clear that without direct aid from the national exchequer any improvement in the remuneration of the doctor would be very difficult; on the other hand, if one thing was more certain than another, it was that the State would inevitably insist upon an important voice in controlling the expenditure of such funds, and that all medical men who drew payment from or administered these funds would have to be in some degree public servants.

Assuming, then, as I think I may, the general acceptance of these principles of the Insurance Act by the profession, the next question that had to be settled was as to the form of medical practice to be adopted under the bill.

There were broadly three possible choices:

I.

A continuation of the friendly society system, under which the doctor was a direct servant of the society and the members had to put up with the medical man chosen for them. This was, as I have said, one of the root evils of the old contract practice system; it failed to provide or to foster the relations of confidence and trust between doctor and patient that are so essential to success in treatment, and it led often to perfunctory, ill-paid work, which was all that the doctor could afford to give in the circumstances, and which was all that those who received his treatment came to expect. The other evil of this system was the mutual distrust and jealousy engendered in the profession by constant underselling, and the inadequate level of payment which resulted from such competition, and which as an Association we strove, often in vain, to remedy.

II.

The second possible choice was the organization under the State of a salaried medical service. A scheme founded in part on this bssis was set forth in the admirable address delivered from this chair last year. In abstract logic there is much to recommend such a plan. It would solve many difficulties which still lie ahead of us. It has many keen advocates among advanced politicians, and even in our own ranks one is sensible of a movement in this direction.

Among the extreme supporters of this principle the ideal is the extinction of private practice. Others desire the persistence of private practice side by side with the State service.

The difficulty in this latter case is that the industrial classes could not afford to forego sickness benefit, and it is difficult to see how the State could administer sickness benefit except through its own salaried officers. The result of this would be that private practice would become restricted to the well-to-do classes, unless, indeed, the acceptance of sickness benefit came to be held to carry the stigma of pauperism, when we should be in practically te same position as under the old system.

But so far the idea of a State medical service has received the support of only a small minority both of the profession and the public. It is easy to see why the profession is hostile, for such a change would be far more revolutionary than the Act, and private practice would not merely be changed in character, but restricted to quite narrow limits or destroyed. The unreadiness of the public, as I believe, for such a change is based on a deep-seated, instinctive preference for an intimate and personal rather than for a purely official relationship between patient and doctor.

III.

We come, then, to the third alternative—that is, to maintain as far as possible under the Act the essential features of private practice.

The distinguishing character of private practice is the personal relation; this will on consideration be found to rest in the last resort on the right of the patient to change his doctor and on the right of a doctor to decline a patient. This principle was put in the forefront of our programme with the universal approval of the profession, and was adopted by the Government.

Whatever may have been said to the contrary (and undoubtedly extravagant things were said), free choice of doctor can never imply unlimited freedom of choice; even in ordinary private practice the choice is limited by such circumstances as the means of the patient, the place of his residence, the number of doctors available, etc. But even if there are only two doctors to choose from, the right to change from the one to the other serves to distinguish the relationship from that with a doctor appointed by an official, and in whose selection the patient has practically no voice; and, similarly, the correlative right of the doctor to refuse to treat a patient must be subject to certain slight practical limitations, but these do not destroy its effective value.

Similarly, seeing that the medical man working under the Act must be in some sense a public servant, there must be some conditions and regulations to which the doctor must submit; but with the right secured for both patient and doctor to exercise selection, and with the doctor free to follow his own line of treatment, as is practically assured, we have the nearest possible approach to private practice in its essentials.

One of the consequences arising out of this was the plan, also originally suggested by the Association, that in order that the public might know which doctors were willing to serve under the Act, and to help them in making their choice, a list of the doctors willing to serve should be published. This list we called a panel. It seems to be a practical and simple arrangement. But putting the name on the panel involves the acceptance of certain conditions, and there is a number of men willing to do the work and accept payment from and share in the administration of what have been decided to be public funds, but who are unwilling to subscribe to the conditions, and desire to make their own arrangements entirely free from public control. This, I submit, would be in direct contravention of one of the most firmly established rules of public policy in this country; also, if extensively allowed it would greatly impair the value of the Act from the point of view of collecting information and statistics.

I think it will be clear to those who have followed my argument that any attack on the panel system as such comes up against inexorable and inevitable conditions, and that the only alternative is some form of State service which would be equally or more distasteful to the objectors.

Compulsory National Insurance.

Let us consider the position. Pure private practice failed to meet the wants of the people; the old form of club practice stands universally condemned; the reception accorded locally to our carefully considered schemes for a public medical service organized by the profession showed that they were felt to be impracticable, and could not live side by side with a scheme of compulsory national insurance.

What other alternative is there than some form of State service more or less complete and universal? Can it be doubted that at the present time any such scheme would be regarded as more injurious to the profession than the present Act? If this is the only alternative, then let us realize that those who demand changes in the Act which are inconsistent with its fundamental character are in effect leading the way to far more drastic and sweeping changes, however little that may be their intention.

In regard to reasonable requests to make private arrangements within the conditions of the Act and the regulations, no obstacles are now being raised, and permission has been granted for a doctor to limit himself as to the number of patients he will attend, and to indicate the fact on a list. This right, coupled with the right of the doctor to select his patients, will secure for the able and experienced man in better class practice, if he exercises his selection rigidly, the advantages to which his superior ability entitles him. It is probably the case that in the first start of the Act the selection of the doctor was rather a happy-go-lucky affair, and that we are not yet in a position to judge of its results. The elimination of undesirables will begin next year.

It was at first feared that the bad lives would generally be refused, or would be left over for distribution among the doctors, often against their will. Experience seems to be showing that the bad lives had no difficulty in being accepted, and that the great mass of those who have not chosen a doctor and have to be allotted are persons who do not know what it is to be ill. Presumably, too, those doctors who join the service for a limited number of patients only will not be required to take any of the unallotted surplus. It is probable that this surplus will be disposed of by mutual arrangements among the doctors without any great hardship.

Another illustration of unexpected results is the fact that in South Wales the provision by which the insured are allowed to make their own arrangements is being utilized to re-establish some of the worst evils of the discarded system, and this will have to be carefully guarded against.

The Working of the Scheme.

But it will be said, and rightly, that the most important thing of all is that the medical service should be adequate and efficient.

What are the facts of the situation to-day? There are in the United Kingdom some 32,600 practitioners, of whom probably 2,000 have retired from practice, and about 5,000 more are in the category of medical officers of health, specialists, school doctors, asylum and Poor Law officers, etc., and so stand outside the ranks of those engaged in general practice, who thus number about 25,600 for the United Kingdom; if 2,200 be deducted for those in Ireland, we find that 23,400 are available for Insurance Act work in Great Britain.

The number of names on the panels is 18,000, which after full allowance for duplication, probably represents at least 15,000 individuals actually doing the work, or nearly two-thirds of the available members of the profession. Again, the members of the Association in Great Britain number 18,200, as compared with 29,800 in the profession as a whole. If the men working the Act are drawn in similar proportions from members and non-members, then of the 15,000 panel doctors 9,160 are members of the Association; that is more than half our members in this country.

I think it may be taken from this that the work is at present in the hands of a fair average sample of the medical profession, and the choice of doctor, though not as large as it might be, must still be ample in most places. In some areas every member of the profession has joined the panel. But it is not only the right men that must be secured, it is necessary if they are to maintain their high standard of work and efficiency that the remuneration and conditions should be such that the work need not be unduly hurried.

As regards the adequacy of the remuneration, it is far too early to come to a conclusion. The incidence of sickness is variable, and it is only right to bear in mind that the sickness experience of the first quarter of the year happened to be exceptionally heavy, and very different results may be shown in other quarters. Allowance must also be made for the fact that the surgery attendances for slight ailments would probably be excessive owing to the novelty of the opportunities enjoyed by the insured. But it is stated that in some cases the number of visits at the patient's home is far below expectation.

In any case it would seem *prima facie* that the 15,000 practitioners who continue to do the work are not altogether discontented with the payment received. We shall know better how results turn out at the end of a year.

As to the conditions of the work, the authorities have shown that they are anxious to reduce the clerical work to the lowest level possible. The relief from dispensing should be a great boon to many men. As far as I can gather in other respects the conditions are not burdensome and work easily as a rule.

We are, unfortunately, reading of complaints as to the inefficiency of the medical service under the Act, and there has been a tendency to welcome these complaints as evidence of the unsatisfactory nature of the conditions, and to use them as proof that the prophecies of evil were coming true. That in the early days of medical benefit, when the sudden and concentrated burden of the clerical work coincided with a period of exceptional sickness, some of the complaints arose from the inability of the doctors to cope with the work I think there can be no doubt, but in recent complaints I have noticed some which point to inefficient work from quite other causes.

First of all it may be said to be common ground that under the old and bad system inefficient work was inevitable. The same men have come into this work and their old habits are likely to persist for a time in some cases. But the machinery provided by the Act and the principle of free choice of doctor will in due course tend to raise the quality of the work now required and to crush out neglect and abuses. In any case before condemning the new system let us remember how bad things were before, and be sure that there is not already a great improvement.

Such defects in the working of the Act are a matter of regret, in the first place because they tend to throw discredit on the profession, also because they are being used by some of the public to prove that the service under the Act is from the nature of the case inadequate and inefficient. The remedy which many who are hostile to the Act desire is by no means an extension of the liberties of the profession under the Act or an increase of the remuneration of its services, but a universal State Medical Service, for which they have long been working.

On the other hand, the doctor, anxious to do his best for the invalid and finding himself often for the first time in a position to prescribe what is frequently most needed by the patient—namely, "money instead of medicine," and rest, which are available in the form of sickness benefit—may not at first have given sufficient thought to his responsibilities in the matter. When one case only is before one the needs of that case may seem trifling in comparison with the seemingly bottomless purse of the Insurance Fund.

But the doctor is placed in a position of trust. He has to administer public moneys for the benefit of his patient and at the same time to safeguard the insured as a whole against unnecessary or improper claims on their funds. It is clear that on the lowest grounds no more deadly injury could be inflicted on the principle of private practice among the insured than a failure to execute this trust without fear or favour; but, more than that, the reputation of the profession for honour and trustworthiness is at stake in this matter, and no words could be too strong to condemn the folly and disgrace of deliberate misconduct in regard to it. The appointment of medical referees is a valuable protection to doctors against unreasonable complaints on the part of the patient if the doctor is firm in resisting imposition.

It is quite possible that inadequate provision has been made to meet the really urgent demands of sickness benefit; if so, it is the duty of the profession to say so, and to make it clear on trustworthy evidence. I have no doubt that the profession, now that it realizes the position, will prove equal to the trust.

Income Limit.

Of all the points for which we contended last year that of the income limit is the only one which we completely failed to secure and in regard to which the Government did not go a long way to meet our wishes. Many men consider that they have suffered heavily by the transition owing to this, and we all regret that this is so. It seems, however, to be the one point on which there still appears to be no hope of relief from any quarter. And yet even in regard to this hardship I hear it said that, provided the remuneration is adequate, the income limit does not much matter in the long run. Whether the remuneration will prove adequate to this remains to be seen. In estimating this it is important always to bear in mind the possibility of error in comparing receipts based on a regular annual payment from a large sleeping *clientèle* with the spasmodic receipts based on actual attendance. It is only necessary to remind you that under a State scheme income limits might be abolished altogether. It seems to me that this is a case where something might still be done by approaching the Government in a cordial spirit to find a plan which should alleviate this hardship. In one minor respect the claims of the profession in regard to income limit have been met in the amending bill now before Parliament.

Method of Remuneration.

It will be in the memory of those who followed the meetings of the profession in 1911 and 1912 how prominently this matter figured in the forefront of our debates, how equally divided the Association was, and how hot the feeling. Since the Act came into force the attitude of the profession seems to have undergone a steady progressive change. In this Branch, I believe, the capitation method of payment has been generally adopted. In the discussion on the proposed public medical service scheme this method was that which secured the adhesion of the Branch Council. I believe it may be said that it has been very generally adopted by the country as a whole. This may be due to force of circumstances rather than to deliberate choice, and to the realization that in any case the fund to be drawn upon would be definitely limited in either case.

It is sometimes argued in favour of the system of payment by attendance that the doctor should not be asked to take the risk, but it is clear that if the amount of the remuneration fund is fixed the doctor must bear a risk in either case. On the one hand he has the risk of exceptional work for the same pay, and on the other the risk of exceptional unemployment with diminished income.

That the fund should be fixed is an essential part of an insurance system. Salaried officials have to bear a similar risk of exceptional work. It is often assumed in discussions of this matter that contract payment is incompatible with private practice; so far is this from being the case that in many of our smaller colonial settlements all the private practice among the white population, even of the best class, is run on the contract system with complete success and general satisfaction. That it inevitably involves scamping and shirking is a proposition which is contradicted by the experience of other walks of life, and I decline to believe it is true in the case of the medical profession.

But from the point of view of mere logic, if the Insurance Act is accepted in principle, as it has been, then, seeing that the fund for the payment of the doctors is limited, the service is essentially a contract, whether the distribution of the fund is to be on the basis of persons on the doctors' lists or attendances given. Any other system restores the very evils from which the old individual system suffered—the risk of bad debts and the unlimited risk to patient coming just when he is least able to bear it, and introduces the element of the money anxiety into the relation between the doctor and his patient, which may hamper the doctor in his work and the patient in his recovery. So bound up is the flat-rate system of fee with the unity of interest of patient and doctor from the preventive side of medical practice that I cannot help thinking that one day it will be extended to better class private practice in proportion to the means of the patient and on the foundation that every family would be compelled to choose a regular medical attendant. It may be looking a long way ahead and sound impossible to-day, but it would carry with it immense advantages to all concerned.

Concluding Survey.

I have ventured to carry your minds back over the familiar ground of this question from the very beginning, because it is only by viewing things as a whole that we see them in their right proportions and are able to subordinate that which is subsidiary to that which is fundamental and essential, and because it is here that our difficulties still lie.

It is only by standing back, so that one may get, as it were, a bird's-eye view of the situation in its broad outlines, that we can trace the direction in which the different roads are leading, and that we are reminded of the tracts of country we have left behind.

Also we are now able to reconsider the question at a time when we are beginning to test our anticipations and our fears in the light of actual experience, and this is much to be desired at a moment when some further decision must shortly be come to as to the attitude to be adopted by the Association.

May I say how such a survey strikes me? In the first place we are apt to underestimate the great influence we had in moulding the Act to our views in its broad aspect in the early stages, and also the successes we achieved as a result of our representations to the Government last autumn.

The next broad fact which we cannot ignore is that the Act is now in work and that a majority of our own members in this country are working under it and are apparently resolved to continue to work under it. How can we as an Association, in the face of this situation, maintain, as we did before medical benefit began to be administered, that the Act is to be condemned as derogatory and unworkable? Remember it is one thing for individual members or groups of members to continue to hold this view and to act upon it in their individual capacity, should they consider it their duty, by refusing to take service under its conditions, and another and very different thing to persist in condemning by resolution of the Association the action of those who, after experience of the work and in enormous numbers, apparently take a contrary view.

It is for those who continue working the Act to tell us their difficulties and in what respects we can help them to obtain improvements, when we ought to give them every assistance in our power.

It is a matter for those who are still dissatisfied and are standing outside and resisting to consider, on the one hand, whether they can bring the medical service of the Act to a standstill, and if so, whether that would lead to a satisfactory solution, or whether the outcome might not be infinitely more disastrous to private practice than the present position; and on the other hand, if that is not their intention or desire, whether they are likely by their present policy to induce the Government to concede their demands, or whether they would not do better to drop their hostility to the measure and by friendly negotiation and co-operation with the men on the panel seek to make the Act as fair and efficient as possible.

But whatever view they may take on these matters, I suggest that the time has come when the Association should officially dissociate itself from any such hostile action.

The present position is that the Act is on its trial; it is still being improved, and it is too early to pronounce judgement upon it; it is not yet time to curse it nor to bless it altogether.

Let us, then, withdraw our condemnations, which were based mainly on anticipations; pronounce no blessings, but wait and see. If we call a truce now we shall save ourselves from the risk of humiliation and the loss of prestige in the public eye, which would be the result of ineffectual action.

And as regards our own members and the profession generally, we shall gradually heal our dissensions, we shall close our ranks, renew our vitality, and clear the ground for the Association to exert in an effective and whole-hearted manner that influence on public opinion and future developments to which it is entitled by its representative character and its splendid work and achievements in the past.

SOUTHERN BRANCH.

MEDICINE AND EUGENICS.

By JOHN COWPER, M.B., C.M.Edin.,
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For some time past we have constantly had before us a subject closely affecting the relation of our profession to that of the general public. It came from without, having a political origin, and we had to face it, though not a few of us got rather weary of its changing aspects.

This year another subject, of a very different kind and origin, and of vastly greater ultimate significance, has been prominently brought before the notice of the people of this country, though it affects other countries as well as our own. I allude to the first Eugenic Congress, very appropriately held in London, the city in which Sir Francis Galton established his laboratory for the study of heredity as affecting the members of civilized communities.

Just as sanitary and hygienic reform was developed and pushed forward by the medical men so will this newer science rely to a large extent upon the same profession for the establishment in the minds of the community generally the grasping of the fundamental principles underlying it.

I do not assert that medical men alone have been the pioneers in the study of sanitation, hygiene, and heredity, but if you deduct the men who have had a medical education, whether they practised their profession or not, very little indeed would be left. Moreover, before any new studies bearing upon, and affecting, the lives of men and women can become effective the practical bearing has to be brought home to the minds of the people themselves, and in this respect I do not think that the profession to which we belong has had its due share of credit for the sanitary and hygienic reforms which it has been instrumental in bringing about, often not only without thanks or acknowledgement, but in the face of opposition and difficulty.

I am well aware that even amongst experts and medical men many of the questions in heredity are still theoretical, and some highly speculative, in spite of all the work that has been done in recent years. But besides these theoretical and speculative questions, certain well ascertained facts have emerged, as can easily be gathered from the treatises of such writers as Professor Thomson and Dr. Archdall Reid.

Darwin long ago pointed out that the factors determining the modification of organic beings are heredity and environment. The sanitary and hygienic reformer has given his attention to environment, and at the present day it must be admitted that all practical attempts to improve man's condition has been likewise aimed in the same direction. Such great strides have been made in the practice of our art, that we are apt to overlook the fact that all our efforts in the treatment of man's diseases and maldevelopments have been directed to his environment (sanitary and hygienic surroundings, baths, foods, drugs, massage, electricity, and surgery are all environmental).

Now, biologists, from Darwin downwards, have all placed a far higher value upon heredity than upon environment, and that view is even more pronounced in the writings of biologists of the present day. Nurture can do, and has done, much. Nature can do more. The stockmaster has realized and acted upon this fact. Certainly, he has made use of environment, but it has been as nothing in the production of our domestic breeds of animals compared with heredity—namely, the selection of favourable variations. The breeders of animals have, of course, unlimited control over their stock; the generations are much shorter, and animals have been selected almost entirely for physical characters. Even the dog has suffered much in this respect.

In the case of man, the modification of environment is comparatively easy; the guiding of heredity is intrinsically difficult and surrounded by conventions. In the case of disease, however, heredity has played an important part. No one can peruse Dr. Reid's book on *Alcoholism* without becoming firmly convinced of that fact, and the same applies to zymotic diseases. Natural selection is here the agent at work. So much has been done to ameliorate man's environment that there is great danger of our attributing too much to its influence.

In certain ways the processes are antagonistic. Up till recent times the human organism has been struggling to attain to a natural immunity to microbic disease, and attempting to maintain itself against exterminating influences by a process of the natural elimination of the most susceptible members. Modifying the environment is beginning at the other end; it is, indeed, a complete reversal of method, and the more we ameliorate the environment the more we render the average member of a community susceptible to any given disease. What we gain at one end we lose at the other. If, however, we can completely control any given disease (such as cholera and typhus), then susceptibility matters nothing so long as we can maintain that condition. Can we hope to gain a complete control over the tubercle bacillus? Recent statistical researches by Professor Karl Pearson seem to show that much of the amelioration which we medical men have been in the habit of attributing to recent methods of dealing with the disease is in reality due to a natural process of elimination, and he supports this view by stating that the most marked fall in the tuberculous death-rate occurred before the introduction of the sanatorium treatment.

This is a point of importance, for the greater the number of persons that are tided over to a marriageable age the smaller will be the average natural resistance to the disease. This is a factor that faces us in other branches, as, for instance, obstetrics. The higher the skill attained in the obstetric art the more difficult will childbirth become. Again, when the child is launched into the world, the manufacturing chemist, the skilled nurse and the doctor are all, rightly enough, combining to make the environment as favourable as possible. To realize this, one has only to compare our present infantile mortality with that of a few decades ago, or to compare the East of Europe with the West in that respect. To prevent Nature (heredity) stepping in and claiming her own, we must be prepared to go on continuously improving the environment of the infant, and the same argument applies to our falling death-rate. Such like factors have been pointed to as portentous evils, leading to race degeneration, but it does not appear to me that the process of attaining a natural immunity (tubercle, etc.) would thereby be prevented. Its attainment would be delayed. I may say here, in parenthesis, that the sanatorium isolation of the poor affected by tuberculosis is an inestimable benefit conferred upon the relatives of the tuberculous, and it appears to me that we ought to develop this system as they have done in America.

It must have struck most of us in inquiring into the hereditary history of patients, how little the majority of people know of the medical history of their ancestors and collateral relatives. Jonathan Hutchinson long ago suggested the advisability of the head of the family tabulating the diseases affecting his family. Unless some system is carried out, we cannot get sufficient data to be of any real value, except in rare cases. The importance of the problems of heredity is beginning to be generally recognized. For instance, is the assumption true that the slums of cities produce the kind of human inhabitant found there, or does the type gravitate there, having been ousted from better places? The need for more data is urgent, and we as a profession ought to press that need home, for without carefully collected statistics on a large scale all sorts of unsound measures devised to ameliorate the social conditions of the population, both in health and disease, are sure to be resorted to.

It would be outside the scope of this paper to enumerate even most of the many theories of heredity. Not to go back farther than to the French naturalist, Lamarck, who wrote in the early part of the nineteenth century, whose theory was that of the "transmission of acquired characters." That all organisms, including man, do make acquirements during their lifetime is an admitted fact. Certain organs are strengthened by use, while others decrease and degenerate from absence of functional activity. Lamarck believed that these acquirements are inherited, and he supposed that after many generations of this process definite results would accrue.

Darwin, writing later, accepted this view, but he had to account for the phenomena of sexual and asexual reproduction, regeneration of lost parts, variability, inheritance of inborn and acquired characters, and reversion to a previous ancestor. He then formulated his theory of pangenesis, which supposed that the various cells of the body throw off "gemmules," which were distributed both in the germ cells and somatic cells of the individual. After this, a current of opinion set in the direction of independence of the germ cells, and that these cells were not made up of samples of the body; that is to say, the germ cells produce germ cells and body cells, but body cells do *not* produce germ cells, but only contain and carry them on.

Professor Weismann was the great exponent of this view, and his theory of the continuity of the germ plasm is known to all. One very important point at once arises from this theory, and that is that acquired characters cannot be transmitted if the theory be correct. Starting from the solid ground of chromosomes, he passes on with theoretical entities to develop a highly complicated and speculative system, until as a scientific doctrine it is in imminent danger of languishing by the very luxuriance of its theoretical growth. Whatever the ultimate fate of his theory, he has done more to stimulate inquiry into the subject than any other living investigator. Most of the younger biologists have accepted Weismann's doctrine of the continuity of the germ plasm and the non-transmission of acquired characters, but this view does not entirely hold the field, as may be gathered from the presidential address of Professor Francis Darwin, the botanist, at the British Association in 1908. That address was devoted to the elaboration of what is usually known as the mnemic theory of heredity. This implies that every living cell, whether constituting a unicellular organism or a unit of a multicellular being, is possessed of a sort of organic memory. In the more highly organized forms of life the body plasm is coordinated and guided chiefly by means of a nervous system, and there we know with what facility difficult and complex processes become automatic (that is, what we are in the habit of calling unconscious) through repetition. In the germ plasm the ontogeny is regulated mainly or solely by the cell nuclei, or chromatin (Weismann's germinal substance); and Francis Darwin says, "May we not therefore consider it probable that the nucleus plays in the cell the part of a central nervous system?" Professor Hering had before this maintained "that ontogeny—the building up of the embryo—is actually and literally a habit." That is to say, one may liken each generation to the successive lessons in learning a

game or the playing of a musical instrument, or the details of an unknown road. The playing of a game or the musical instrument is learnt, and the road becomes so familiar, that complicated activities are performed without, as we say, thinking of them. Also there is the possible cumulative action of environment. Unhealthy conditions may exist for several generations before the effect becomes obvious, just as the soaking of water into a stratum of clay underlying sandstone goes on insidiously and unnoticed until the resulting landslip occurs suddenly, and is obvious at once.

Lastly, we may mention the Mendelian theory of heredity. Though historically Mendel published his views in 1866, they received no attention till 1900. Mendel's theory is important, for it is the antithesis of what was generally held, and what one may best call the theory of "blending"—namely, that a fair and dark parent or a short and tall one will have intermediate offspring, and that this will be a more or less continuous and uniform process. Mendel has established that in a large number of instances this is certainly not the case. He found that certain characters which vary are inherited discontinuously, and that there is not blending, but segregation. His now famous experiments were carried out on varieties of the edible pea, which grew in his monastery garden. He observed that the peas varied in certain characters; he noted these individual characters, ignoring the rest, and experimented upon one character at a time.

In both the edible and the sweet pea there is a tall and a dwarf variety. The tallest plants of the dwarf variety are shorter than the shortest individuals of the tall variety. Mendel found that in crossing the short and tall varieties all the progeny were tall—quite as tall as the tall variety. He then self-fertilized these tall hybrids, and they then produced some short and some tall, *but none intermediate*. Here is definite segregation.

Mendel looked upon the tallness and shortness as alternative characters, and as tallness alone appeared in the first cross, he spoke of it as "dominant," and the shortness as "recessive." A dominant character has some factor which is not present in its recessive alternative. By continuing this process the tall and short individuals can be completely segregated, so that they breed true for an indefinite number of generations. This same process has been found to apply to many characters in animals in which it has been tried.

Mendel explains these facts by supposing that the tall plant produces germ cells or "gametes," bearing the character tallness; the short plant the reverse. The hybrid contains both conditions; the cells resulting from the union of these gametes contain a double set of determinants for the various characters, one determinant of each pair being derived from the male and the other from the female. An individual, the production of two gametes and having this double character, is called a "zygote." Further, when the zygote contains two like characters, it is called a homozygote (two talls), when two unlike characters it is called a heterozygote (a tall and a short). The gist of Mendel's theory, then, is the segregation of pairs of characters (called by Professor Bateson allelomorphs) in the production of homozygote and heterozygote offspring, which, when self-fertilized or by others of the like constitution, breed true, whatever their ancestry.

These results are not merely of scientific interest but of practical application, as is shown by the work of Professor Biffen of Cambridge on varieties of wheat. While English wheats produce heavy crops, they are liable to attacks of a fungus known as "rust," and the grain is deficient in gluten, which renders it inferior to the hard foreign varieties for baking purposes. It was held that the highly glutinous hard foreign wheat could not be grown in the English climate, as the hard varieties imported for trial soon deteriorated. Professor Biffen, however, obtained a hard variety which kept its qualities when grown in England, but its yield was too low to be grown for profit, and it was also subject to "rust." Among the many varieties experimented with he found one that was immune to attacks of rust, though in other respects it was practically useless. He further found that these wheats in their characters of immunity to "rust," hardness of grain, and power of production exhibited Mendelian factors on an experimental breeding analysis, with the result that he produced a wheat combining hardness of grain, heavy yield, and complete immunity from "rust," and this wheat has been found to retain these qualities over the series of years it has been grown. Sufficient work has now been done to show that the same results can be obtained in the case of animals also. It is not my intention to add anything to the already interminable discussion on the important question of the "transmission of acquired characters." Much of the discussion has been over terms rather than facts, and some of the authorities are not yet agreed as to what constitutes an acquired character (vide *Nature*, February and March, 1912). This year a new edition of Weismann's book has been published, and in it Mendel's conception of segregation is accepted, and the author endeavours to reconcile his theory of heredity with the recent researches along Mendelian lines. The sexual cells are certainly segregated, but they are not shut up in hermetically sealed compartments until the moment of conjugation; in fact, they are nourished by the same blood and lymph as the rest of the body. The extremely dogmatic statements that are now current are liable to lead to the overlooking of a very important question, which may be of marked racial import. May not poisons, such as alcohol and toxins of various diseases, affect the germ cells previous to conjugation? Physiologists tell us that alcohol and various toxins do lower the vitality of cells. I can see no reason why toxic substances circulating in the blood and lymph should not affect the germ cells, and even produce pathological variations affecting the offspring built up from these cells. My late teacher, Professor Ewart, obtained results from experiments on pigeons suffering from malaria, which seem to indicate that the germ cells are liable to be influenced by fevers and other forms of disease that for the time being diminish the vitality of the parents. Further experiments may show that the germ cells are influenced in different ways by different diseases. In this case the birds infected were "recessive" while they were suffering from the malaria parasite, but were markedly "dominant" when well. In spite of all the material to gather from, there does not appear to be sufficient carefully collected data to decide whether alcoholism in parents produces degeneration in offspring. Possibly the data on this subject would need to be larger and more unequivocal than in others, for it is a curious psychological fact what a tendency there is to unconscious bias when considering the reaction of the body and spirit. The *odium alcoholicum* seems only to be second to the *odium theologicum*. Be that as it may, the environmental school appear to me to have left two points that might with great advantage have been dealt with. The evils of the over-indulgence in alcoholic drinks are admitted on all hands. That being so, the liquors containing the higher percentages are more detrimental, and a graduated duty in favour of the drinks containing the lower percentages would be of value. The other point is, why should not dipsomaniacs, with proper safeguards, be subject to compulsory certification, just as other maniacs are, not only for their own protection, but for that of their relatives?

Possibly none of these theories of heredity contain the whole truth, but nevertheless sufficient well ascertained facts and results have been obtained to compel us to consider our position and attitude towards them. Before sterilization or other drastic methods as already advocated by some enthusiasts can have any chance of application, we must know a great deal more of the hereditary history of the individual. We want vastly more carefully gathered statistics. It has been said that you can prove anything by statistics. That has arisen through the skilful handling of statistics by politicians for party purposes. A competent mathematician trained to deal with statistics can bring out the issue provided that the material collected is adequate and correct. Huxley's analogy of the mathematical process and the flour mill was an apt and sound one. A mill will grind both good and bad grain, and whether you get out sound flour or not depends upon what sort of corn you put in, perchance of wheat or some other grain. Take, as an example, the statistics dealt with by the Registrar-General as to the certified cause of death, and imagine his results with and without an autopsy. When all allowance has been made for what is merely apparent, it is the real increase in

nervous wreckage that confronts us. Where does it come from? In short, what is its heredity? I am not now speaking only of asylum cases, but one would have thought that the asylums would have produced available statistics. I find, however, that Dr. Clarke, of Banstead Asylum, when writing on this subject in the *Journal of Mental Science*, says: "We have no statistics of insanity that are of any practical use. In the tables published annually by the asylums and by the Commissioners, the defective histories swamp and entirely violate the good ones, and no table gives any information as to the normal relatives or offspring of the psychopathic." The treatment of criminals is said to be a failure, and it always will be a failure on the opposing lines adopted and suggested, for the reason that you will not alter the constitution of a man's nervous system by handing him over to the philanthropic humanist, who would treat him as a spoiled child, any more than by putting him in prison. A seizure of "grand mal" is not dealt with satisfactorily, either, by a strong man holding the victim down, or by an old lady administering soothing syrup with kind words. But do we lock up criminals to reform them? Surely we lock them up to protect society, as we excise a cancer to save the individual. Doubtless it is true that, in our administration, cases have been classed as criminals that should have been otherwise dealt with.

It appears to me that some form of segregation, however attained, is inevitable in the not very distant future, if we are to avoid a continuous increase in nervous degeneration. In making a diagnosis in our routine work we get the available facts and marshal them as best we can in order to draw what seems to us the soundest conclusion. But here we have criminals, lunatics, feeble-minded, epileptics, alcoholics, and a host of other neurotic degenerates, and yet we have hardly any facts to guide us as to their origin. It is really remarkable that we know so little not only of the heredity of these unfortunates, but also of our soundest and best stock. Surely it is the duty of a Government responsible for the destinies of a people to obtain information on this the most important factor determining the advance or degeneracy of their population. Powerful and thoughtful indictments have recently been made based on such statistics and facts as are available. Are we allowing to slide what, in his *Social Evolution*, Benjamin Kidd speaks of as "projected efficiency," and, as writers like the Whethams maintain, the sound stock to dwindle while the unsound are rapidly increasing?

Before we cry out in panic for a remedy we ought to demand the facts on which alone a diagnosis can be made. The influence of the medical profession in matters of this kind is great, and that is my reason for venturing to address you on what is only, on its broader aspects, a medical question.

A CASE OF PERFORATED COMMON BILE DUCT FOLLOWED BY SUBPHRENIC ABSCESS, OPERATION, AND RECOVERY.

By C. CAMPBELL-HORSFALL, M.B., Ch.B.Vict.,
NEWQUAY.

The patient in the following case, a married woman aged 45, had suffered for years from dyspepsia and spasmodic pains which were at times intense and radiated over the upper abdomen and chest. I saw her during two attacks, which were unmistakably due to gall stones, and it was during the last of these that occurred the catastrophe which is the basis of this note.

The patient had been seized with intense pain in the chest and upper abdomen and signs of common duct obstruction, jaundice, bile-stained urine, pale stools, and a moderate degree of fever. She had consented to operation, and this was to take place as soon as the acute symptoms had subsided. On March 14th I had left her comparatively comfortable, but on reaching home I had an urgent summons to return at once. I found her lying in bed quite immobile, pale and cold, pulse 120, and temperature 100°. It seemed that shortly after I had left she had been seized with an agonizing pain causing her to jump out of bed, and then collapsing. There was no rigidity of the abdominal muscles, nor was there any marked tenderness. Deep pressure in the region of the gall bladder produced a well marked diaphragmatic grunt.

The following day there was moderate distension of the abdomen; pulse 120, but temperature falling. From the anamnesis I concluded the common duct had ruptured, and so, with the assistance of Dr. Tonking of Camborne, I proceeded to explore her abdomen.

Operation.

Under ether anaesthesia I opened the abdomen through the upper right rectus. On opening the peritoneum bile-stained fluid and pus welled up into the opening. After shutting off the peritoneal cavity an exploration was made of the biliary region, and although one could trace the stream of bile and pus down to the region of the common duct, the actual tear could not be located; the gall bladder was shrunk. A rubber drain was carried down to the common duct and a cigarette drain placed in the right kidney pouch. An incision was next made over the pubes, and Douglas's pouch was found filled with bile-stained fluid; this was gently mopped away and a tube inserted. The visceral peritoneum did not show any marked inflammatory action.

Progress.

The pulse was much better after the operation, and the patient was put back to bed in the Fowler position and proctoclysis commenced. She quickly rallied from the operation. Next day she was fairly comfortable, but looked blue and the skin leaky. As there had been no vomiting and she was very thirsty cold water was allowed freely. The tubes were removed on the fifth day. The day following she complained of pain in her left side: the temperature went up to 103°, and pulse 112. A definite fluctuating mass could be made out on the left side.

The same evening under ether I evacuated a large collection of bile-stained material from this side and inserted a drain. There was a good deal of shock after this, but under salines and pituitary extract the pulse recovered and the patient seemed much easier. The temperature fell, but the pulse still remained rapid. In spite of this her condition was not satisfactory, respirations became more frequent, the upper part of the abdomen ceased to move, and on March 25th there was distinct evidence of another collection of matter in the upper abdomen.

Second Operation.

Under ether an incision was made through the left upper rectus, and at once one came upon a large accumulation of biliary matter, together with a quantity of mucus similar to the contents of the small intestine. The cavity could be traced up under the diaphragm towards the right side. A large drainage tube was put in and a counter-opening made in the left flank, with through-and-through drainage.

Result.

Almost at once there was a marked improvement in the patient's condition, and this continued. During this time she had an attack of pain and evidence of renewed blocking of the common duct, but whatever the cause it quickly subsided, and with the exception of some fluid in the left chest (which has now disappeared) her convalescence has been uneventful, and she is now in better health than she has been for many years past, and instead of denying herself foods is able to eat and digest anything.

This case is interesting, not only on account of the satisfactory result, but because the usual triad of symptoms—pain, vomiting, and muscular rigidity—accompanying an intra-abdominal catastrophe were conspicuous by their absence. There was no vomiting at any time, and previous to the first operation, beyond the distension there was nothing to indicate the focus of infection except the history of the case which was undoubtedly gall stone disease.

Rupture of the common bile duct is extremely rare. Perforations of the biliary system, though by no means frequent, form an important class in the production of abdominal catastrophes. McWilliams has collected 108 cases from the literature.

In a series of 3,180 operations on the biliary system, there were only 29 cases of perforation, or less than 1 per cent. In the series of 108 cases there were only 4 cases of perforation of the common duct.

1. *Kehr.*—Female, 51; symptoms four days; perforation of common duct; cholecystectomy. Died.
2. *Riedel.*—Male, 56; symptoms three days; perforation of common duct and gall bladder; cholecystotomy. Died.
3. *Routier.*—Female, 56; symptoms one day; perforation of common duct, free bile; cholecystotomy. Recovered.
4. *Neupert.*—Female, 42; Symptoms fourteen hours; perforation of common duct at juncture with cystic duct, free bile; cholecystectomy. Recovered.

To this number must be added my own case. The five cases show in a very graphic way the importance of early operation in these cases. In the first two the symptoms had been in progress for four and three days respectively, and both died. The other three were operated on within thirty-six hours after perforation, and all recovered.

In regard to the treatment of these cases, incision and drainage offer the only chance. The procedure in any one case must necessarily depend on the conditions found, remembering always that the patient should be conducted to a cure with the least possible sum total of hazard to his life.

PELLAGRA IN GREAT BRITAIN:

THREE NEW INDIGENOUS CASES.

BY

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To the number of indigenous cases of pellagra so far recognized within the United Kingdom, and published in the JOURNAL of July 5th, I must now add three others, one from Shropshire, a second one from Cardiganshire, and a third one from Napsbury Lunatic Asylum.

The first case was kindly notified to me on July 7th by Dr. L. E. Dickson, M.O.H. Bridgnorth. Dr. Dickson wrote as follows:

The interest attaching to any case resembling pellagra induces me to send you notes of a patient now under my care who presents many of the symptoms described as being present in the cases published in last week's BRITISH MEDICAL JOURNAL. My patient (see figure) is a girl of 7 years, who has always lived in Bridgnorth, and who, I am told by her parents, has never eaten any maize. Up till her fourth year she had no illness beyond childish ailments. She then commenced to have nocturnal enuresis, which has gradually become more troublesome. In her fourth year she also developed so-called "eczema" on the hands and face, which recurred each spring and lasted through the summer, disappearing in the winter. This year the rash appeared in April and has persisted till now, being worse during the sunny weather. About a month ago I was asked to see her, as she had been having some curious seizures which had become very frequent and alarmed her parents. These seizures, I was told, had first been noticed when she was 4 or 5 years old. Her mother says that she always calls out that she is giddy and then has a slight convulsive attack during which her left arm and leg twitch and she falls to the ground, but does not lose consciousness and has never bitten her tongue. They commenced to be more severe about a month ago, at the end of May. I have never seen her in one of these attacks.

The rash on the face and arms is symmetrical, covering the forehead, the malar prominences, the bridge of the nose, and the lips down to the chin. The upper eyelids are clear, and there is a clear space in front of each ear. A separate patch crosses the front of the throat. Both hands and forearms are covered up to the elbows. The skin is red and inflamed; there is considerable branny desquamation. Here and there, there are fissures in the skin, and one or two pustules. The eruption is accompanied by a sensation of burning or "scorching."

The tongue is clear with a little sore-looking red edge, but no actual ulceration. There is hyperaemia round the anus and over the buttocks, but no desquamation. The bowels are generally relaxed, and for a week there has been diarrhoea with offensive musty-smelling pale stools. The urine has been so far normal.

The girl's speech is affected, and she cannot articulate clearly; she is decidedly dull and below the mental standard for her age.

There is constant tremor of the hands, particularly the left, and twitching while asleep. The knee-jerks are slightly exaggerated. She is giddy and cannot stand with her eyes shut and feet close together. There has been no Babinski's sign until to-day.

Last night (July 6th) she had a more severe attack than usual when at tea, and I saw her about 6.30 p.m., when she was lying down, having then recovered from the seizure, which I was told affected only the left side.

This morning I saw her again and found her almost unconscious, breathing rapidly, with a rapid pulse and temperature 101.2° F. The diarrhoea had ceased, and she had taken no food since tea the night before. Her right arm and leg are now rigid, and there is right-sided facial paresis. She can move the arm and leg, but not freely, and sensation is diminished on the right side of the body. There is Babinski's reflex on the right side. No blood count has been made, and no examination of cerebro-spinal fluid.

As I have never seen any case of pellagra, I am unable personally to say whether this present case of mine resembles pellagra or not, and therefore hope I am not unnecessarily taking up your time by writing this short account to you. I need hardly say that if it in any way interests you it will give me pleasure to send you any further details.



Dr. L. E. Dickson's case of pellagra in a girl, aged 7 years, at Bridgnorth. Eruption on face, hands, and forearms.

Dr. Dickson's letter did not reach me until July 10th, when, on wiring, I found that the patient had died on July 8th. Nevertheless, I went to Bridgnorth and saw the body on the morning of July 11th. As I had expected from Dr. Dickson's description, the case was one of typical pellagra. The characteristic symmetrical dermatitis was well marked: it covered the face almost entirely, formed a broad band over the anterior aspect of the neck, covered the backs of the hands, encircled the wrists, and extended over the external surface of the forearms up to the elbows. Both Dr. Dickson and his partner, Mr. S. C. Padwick, who had seen the little girl the day before her death, stated that the skin lesions were of a brownish-red colour. The mother told me that the eruption had appeared each spring in the three previous years, disappearing completely in the winter, when the patient improved so greatly in health that she looked quite a different girl. Both parents assured me most emphatically that the child had never eaten maize in any form whatsoever.

I examined the remaining three children, but found no manifest evidences of pellagra, although, according to the mother, one of the girls seemed to have presented this last spring a slight rash on the backs of the hands. With Dr. Dickson and Mr. Amoruso I drove to the Cantreyn Brook north of the town, where I was told the children

frequently played. Here we found submerged stones and weeds literally covered by the larvae and pupae of *Simuliidae*. We also came across small swarms of the winged forms, and captured numerous specimens which have not yet been determined.

The second case is reported by Dr. D. Owen Williams, of Glandovey, Cardiganshire. He says:

After receiving last Saturday's issue of the BRITISH MEDICAL JOURNAL on the subject of pellagra, it occurred to me that I had recently attended a woman aged 63 or 68 at Borth, a seaside resort in Cardiganshire, who has had an erythema-like dermatitis on the backs of both wrists and hands. They were swollen, brownish-red in appearance, with scales coming off, and I thought that it might be a form of psoriasis. It caused much pain of a burning character. Soothing ointment suited it, and some days it appeared much better, but it soon reappeared again. It comes on in the spring and the autumn. I saw her daughter on Saturday afternoon, and she told me that the patient was much better, and I find that she has had it for a considerable number of years (over twenty). But what was curious in her case was that she had a sunburnt (in appearance) erythematous rash on the bridge of her nose (brownish-red), over an inch in length and about half an inch in width and bilateral. She also had (on the upper lip especially) similar brownish-red sunburn-like patches on the edges of the lips which were also swollen and dry. These patches caused an itching pain. They have now disappeared. When I first saw the patient, on April 4th, she seemed to have had a cold, but with no temperature above normal. She told me that she suffered from intense pain in the head. She also felt a little depressed and occasionally had a little pain in the lumbar region, but there were no other nervous symptoms or signs. She seems to have kept her age very well, and is somewhat stout in appearance.

Behind the house there is the river Serry (two or three yards away), and beyond this again, extending for some miles, is the Borth bog, and running immediately past the back of the house there is a watercourse (very often filled with weeds). This is the first year she had anything on the nose and lips.

This is certainly a case at least for differential diagnosis. I have never heard of any similar case having occurred in the district. Some twenty or thirty years ago there were occasional cases of ague in the villages at the other end of the bog.

What struck me about this woman were the patches on the nose and on the lips, and when I read about pellagra it seemed somewhat curious.

So far I have not had time to see this case, but Dr. Williams's notes leave little doubt as to the possibility of its being a case of pellagra.

On July 15th, Dr. G. S. Blandy informed me of a possible case at the Napsbury Lunatic Asylum, and said that both Dr. L. W. Rolleston, the superintendent, and he would be very pleased to show me the case if I cared to go. This I did at once. I found a young woman suffering from that grave form of the disease known by the name of typhoid pellagra. The patient was lying in a state of coma vigil, with lower extremities in forced extension, the feet in plantar flexion. She presented intense neuro-muscular excitement, tremors, subsultus tendinum, vivid hallucinations. She had been admitted on May 15th with slight fever, rapid pulse, and tendency to collapse, her mental condition being that of acute confusional insanity. About June 16th her physical condition became much worse, and she developed an intense stomatitis. On July 1st a pellagrous dermatitis appeared on face and backs of hands. On the face the eruption affects principally the middle of the forehead, the alae of the nose, the lips, and the chin. On the hands it occupies the backs, extending above the wrists, and forming a deeply pigmented band or cuff around each wrist. There are excoriations between the roots of the fingers and small pustules about the mouth. The mucosa of the lips, tongue, and inside the cheeks is markedly red and denuded. She has a tendency to loose stools. The urine contains albumen.

Dr. Blandy also told me of two other probable cases of pellagra which had died in the asylum—the one in July and the other in November, 1912.

The first was an old woman, aged 74, whose mental condition was one of confusion with motor restlessness and excitement. She was admitted on April 1st, 1912, and had several syncopal attacks while in the asylum. In June she developed a pellagrous eruption and in fact under the date of June 10th we find the following entry: "She recently sustained a burn on either hand as the result of the action of the sun," but the eruption healed very slowly. Towards the end of June she became more demented, and after a severe heart attack she developed bronchial catarrh and died on July 3rd. The autopsy revealed extreme arterial degeneration and chronic nephritis.

The second case was that of a woman, 37 years of age when admitted in 1906. It was a case of manic-depressive insanity, the excited phase predominating. She suffered from stomatitis and diarrhoea, ascribed to her debilitated condition. She also developed a pellagrous dermatitis, but the only mention of it appears in October, 1912, when we find the following entry: "A troublesome dermatitis is only now beginning to clear up." Dr. Blandy remembers that the eruption appeared on the forehead, around the mouth, on the alae nasi and on the backs of the hands. It was supposed that it had commenced as a severe sunburn as the patient had been running about in the open air without a hat, but it continued for so long that this explanation was felt to be very insufficient.

The indigenous cases so far recorded are now sufficient, I think, to show that pellagra is certainly endemic and widely distributed throughout the British Isles. It is to be hoped, therefore, that physicians, especially those practising in rural districts, will soon learn to recognize it, and then we shall know something about its prevalence. My experience of the history, epidemiology and distribution of pellagra in several countries leads me to believe that there must be hundreds of unrecognized cases in Great Britain. As the cases already described amply prove, the disease is one of extreme gravity, and it is to be hoped that, following the example set by the United States, the Government will institute an inquiry.

With regard to the etiology of pellagra, the British cases absolutely disprove the maize theory of its causation.

NODULAR LEUKAEMIA.

BY

GORDON R. WARD, M.B.LOND.,

LONDON.

A PAPER by Reid, of Belfast, and others in a recent issue of the JOURNAL[1] raises anew the interesting question of the "associated syndromes" of leukaemia. These are four in number, and with the exception of one, chloroma, they are not necessarily a part of leukaemia, but may be met with in other conditions. These other conditions are rather indefinite when one looks at classical descriptions, and in consequence great confusion has arisen. The syndromes have been raised to the status of distinct diseases, and all classes of case showing them have tended to be included as examples of these diseases without reference to their proper classification.

An example will make this more apparent. There may be in leukaemia a great multitude of skin lesions—more or less definite tumour formations—and these may even be preceded by a "pre-fungoid" stage. Such cases have been included in the literature of dermatology as examples of "mycosis fungoides" and "lymphodermia perniciosa of Kaposi." But these titles also cover many cases which, whatever may be their true nature, are not examples of leukaemia. Hence it is correct to state that many cases reported as mycosis fungoides are in reality cases of leukaemia, and the frequent absence of blood examinations makes a final decision impossible. But it is not possible to assert that all such cases are examples of leukaemia.

The four "associated syndromes" are as follows: The first is the syndrome in which one finds symmetrical skull tumours, often of a green colour, but not always, and resulting in blindness, deafness, etc. There may also be lesions of other bones, or, rather, of the periosteum in other situations. This syndrome has usually been called "chloroma," on account of the green colour of the lesions. All cases with a green colour and some others are examples

of leukaemia, but a similar syndrome may arise in suprarenal sarcoma. The green colour may be found in the marrow, etc., of cases of leukaemia which have no skull lesions, and may be absent in the skull lesions of other undoubted cases of leukaemia. Hence the syndrome is unduly limited in one direction and unduly enlarged in another if we make the green colour an integral part of it. Hence the suggestion of the name "nodular leukaemia" for this and some other manifestations, in order that the existence of tumours might be apparent, while the connexion with leukaemia was at the same time not overlooked.

The second syndrome is that above mentioned as the "mycosis fungoides" syndrome. It lacks any other name, and hence is properly included as nodular leukaemia if a multiplication of names that subsequent research may render quite valueless is to be avoided. In these cases there are a number of nodules either just under the epidermis or in the deeper subcutaneous tissue, and these are very commonly more or less symmetrical in distribution. They may come and go with great rapidity, but this is by no means always the case. A similar syndrome may occur in cases of sarcoma, but the leukaemic nodule very rarely, if ever, ulcerates through the skin, whereas the sarcomatous nodule may easily do so.

The third syndrome is often described under the name of Mikulicz's disease. It is characterized by swelling of the lacrymal, parotid, and submaxillary glands. The swelling is usually chronic and painless, and does not tend to suppurate. As a matter of fact this "symmetrical glandular syndrome" is not infrequently of greater extent than would appear, for, besides the glands mentioned, the mammae or ovaries or testes may be affected. The swellings are always symmetrical, and microscopically show an infiltration of the gland substance with cells similar to those seen in the blood. I would include examples of mammary swellings in the syndrome whether the salivary glands were infected or not, since there seems to be no reason to suppose that the problem of their involvement is in any way different from that of the other glands. This syndrome is met with in mumps, and in some other conditions, but rarely.

The fourth syndrome is that of persistent priapism. This of course may be met with in other conditions, but the most common single cause of persistent priapism has been shown by Warthin to be leukaemia. This, like the others, is of the nature of an infiltration, although some of the infiltrating cells may multiply *in situ* and give rise to more or less distinct nodules standing out from the surrounding infiltration. If the infiltration itself is too slight to be appreciated clinically the nodules will appear to be the sole lesions. But even in the case of skull nodules this is not, as a matter of fact, the case; there is always infiltration as well as nodule.

What, then, is leukaemia, if it can be associated with all these different syndromes, not as a result but as a primary and determining factor? In the first place, we are entitled to say that it is one of a definite group of diseases—that is, the generalized affections of blood-forming tissues. In this group are also Hodgkin's disease and the Gaucher type of splenomegaly. It is possible, but not yet proved, that multiple myeloma should be included. In all of these there is something acting which calls into activity the cells of all blood-forming tissues, marrow, glands, spleen, and often thymus and liver. In each of these places autopsy may reveal foci of active growth identical in all places but not of the nature of metastasis nor replacing the original tissue of the part except by passive pressure. All these foci are, in fact, proliferations of cells pre-existing in those positions. In Hodgkin's disease and in Gaucher splenomegaly there is a considerable body of opinion that the endothelial cells are the ones to be stirred up in this way to new and abnormal growth. These endothelial cells are almost certainly those of the lymphatic spaces and channels. In leukaemia we are not so sure what cell is affected first, although we know that a great variety of cells results—just as in Hodgkin's disease the abnormal cells are not all of the same type. But whatever cell it be it is very closely associated with the lymphatic channels, so closely that one cannot avoid the conclusion that it is the carrying off of these cells by these channels which produces the sudden changes in size of spleens, etc. This change is even more marked in the case of skin tumours or nodules. Whence do these come? Probably from lymphatic cells in association with lymphatic channels, for the only parts of the body in which these nodules may not be met with are precisely those in which lymphatic channels are not found—namely, the nerve tissues and cartilage. They may be found in the choroid plexus or on the periosteum, but no nearer. There is no particular difficulty in understanding that whatever calls forth such undue activity in normal blood-forming tissue may also call into existence blood-forming tissue in any part of the body where lymphatic cells and channels are found—in fact, it is clinically certain that this is the case.

It will be noted that this class of case is sharply separated from malignant growths—"cancers." These eat into surrounding tissues, they consume even bone. Leukaemic nodules infiltrate, but do not destroy, and they never touch bone. Other growths cause a reaction in the surrounding tissue—there is no reaction to leukaemic nodules. Sarcoma cells may eat their way through a vessel, and thus a very few fragments of tissue may escape into the blood stream, or they may grow as a solid cord through the length of a vessel, but the cells of leukaemia have natural access to vessels without destroying the walls—hence they are found in the blood stream in enormous numbers, but never as fragments of tissue, always as single cells. There is not on record any case of undoubted sarcoma in which the cells were found in the blood stream during an ordinary blood examination, there are no cases of any sort in which it was alleged that cells of any but a small round-celled sarcoma reached the blood stream, and these latter on investigation are found to be of no value when subjected to criticism. These statements are, of course, not made from a perusal of the literature of the whole world, but yet after considerable attention to the matter.

Leukaemia, as one of the generalized affections of blood-forming tissues, is distinguished by the type of cell involved. It differs plainly from that met with in Hodgkin's disease or in Gaucher splenomegaly. Nevertheless, although constantly different from these, it is not constantly the same. This is because the most specialized cells proliferate first. The stimulus may act on a primitive cell, but at first it is able to send out its children in the clothing to which the world is accustomed. But later the hurry begins to tell, and the daughter cells are less specialized; later still, the primitive cell itself comes forth, and then, as a rule, the patient dies.

The difference between the two types of leukaemia is more difficult to lay down, and, even if an individual view could be stated, it would not be accepted. Fortunately the treatment is the same, so that such a statement would be of theoretical rather than practical interest at the moment.

REFERENCE.

[1] BRITISH MEDICAL JOURNAL, June 21st, 1913.

A CASE OF ECTOPIA CORDIS.

BY WILLIAM ROLLAND, M.D.,

HONORARY ASSISTANT SURGEON, BOLTON INFIRMARY.

As these cases are of such rarity that they may be looked upon as teratological curiosities, it seems desirable that a recent example of the condition, which occurred in the practice of the writer, should be put on record.

The child was one of twins born on January 25th, 1912. As nearly as could be determined the pregnancy had only lasted six and a half months. The mother was a primipara, aged 38, under-sized, anaemic, and with a generally contracted pelvis. She was attended in her confinement by a midwife, and I was called in later to deal with a very adherent placenta, which had to be removed under chloroform. No history of congenital abnormality could be obtained on either side of the family. One of the twins (female) survived about six hours, its death being due to prematurity. It presented no abnormal condition. The other (male) was born dead, but death had evidently occurred only a short time before, probably owing to the pressure to which the heart must have been subjected during delivery.

Description of the Specimen.

The child has the ordinary size and appearance of a 6½ months fetus. (The shrivelled appearance in the photograph is due to prolonged immersion of the specimen in a preserving fluid.) The sternum is fissured longitudinally, the upper ends being about 1 inch apart: the lower ends are united by a transverse cartilaginous band. The costal cartilages unite with each half of the fissured sternum in the ordinary way. The heart is completely extrathoracic, lying in front of the gap in the sternum and held in place by the main vessels, which enter and leave the thorax through the fissure at about the level of the middle third of the sternum. The parietal pericardium is absent except for a small portion of its posterior wall, measuring 2 cm. in length and 1.5 cm. in breadth, which lies over the centre of the gap in the sternum, and is perforated by the main vessels. This portion of pericardium unites at its edges with the skin of the thorax, the two completely filling up the gap which is left between the separated halves of the sternum.



The heart itself has the normal appearance of that of a 6½ months fetus. There is no adhesion of the amnion to the visceral pericardium. No other abnormality could be detected in the specimen.

Remarks.

The cases of ectopia cordis which have been reported in this country are very few. Barnardo[1] records a case, closely resembling the present one, in which the child lived for six hours. Another case is noted by Owen and Williams.[2] The subject is very fully discussed by Ballantyne,[3] who gives numerous references to the literature of the subject. Besides referring to cases accompanied by sternal fissure (of which the present one is an example), he points out that there are two other chief varieties—ectopia suprathoracica, in which the heart is displaced upwards into the neck, and ectopia subthoracica, where there is displacement downwards through the diaphragm into the abdominal cavity or the sac of an exomphalos. A case of the latter variety is recorded by Holt.[4]

There seems to be some doubt as to the factors which tend to produce this deformity. Ballantyne suggests arrested development of the thoracic walls as the most likely explanation, and this view is supported by the fact that in some cases amniotic bands have been found attached to the heart and tending to pull it forward out of the thorax.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, 1896, ii, p. 1639. [2] *Lancet*, 1903, ii, 599. [3] *Antenatal Pathology and Hygiene*, p. 489. [4] *Med. News*, N.Y., 1897, lxxi, 769.

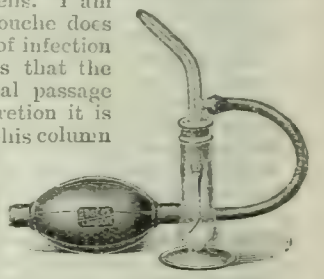
MESSRS. W. H. BEYNON AND CO., fine art publishers, Cheltenham, have issued a set of three drawings by Hanslip Fletcher, of King's College Hospital, which will be of interest to old students of that institution. They show the front entrance facing on to the back of the College of Surgeons, the main staircase, and the interior of the chapel. All three are excellent, and possess the charm which distinguished the Guy's Hospital set by the same artist, which we noticed some months ago. They are well reproduced in photogravure: the subscription for artist's signed proofs printed on indian paper with plate paper mounts is one guinea. The publishers offer to supply the prints complete in oak frames at an extra charge of 13s. 6d. the set. In view of the pending removal of the hospital to Denmark Hill, these drawings will form an interesting memorial of the old building.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A COARSE NASAL SPRAY TO AVOID THE DANGERS OF THE NASAL DOUCHE.

THAT there is always some risk attending the use of a nasal douche has long been recognized, and various devices to avoid these risks have been introduced from to time. First, there is the danger of the fluid mass of watery lotion entering the Eustachian tube and, by carrying in the diluted solution of muco-pus and organisms from the nasal passages, causing infection of the middle ear: this danger is so well known that it is sufficient to mention it. Secondly, there is the less recognized danger of spreading the infection from the nasal passages, or from, say, infected ethmoidal cells, to other still healthy sinuses, particularly other ethmoidal cells. I am convinced that the nasal douche does sometimes cause spreading of infection in this way. It is obvious that the lotion injected into a nasal passage forms a solution of the secretion it is intended to wash away, and this column of lotion may find its way into ethmoidal cells, or even into a frontal sinus. The danger is certainly lessened by the patient sniffing up the lotion instead of injecting it, but in cases in which it is not essential to have a mass of fluid flushing the nasal passages, these risks can be entirely avoided by using the far more comfortable coarse spray. As I could find no suitable spray for the purpose in the market, inasmuch as hitherto the fineness of a spray has been its special recommendation, I devised a very coarse nasal spray which Mr. Frank Rogers, of London, made for me, and which for the last two years I have found in every way satisfactory for all cases except those—for example, an antral empyema—in which a douche is essential; even in such cases it is often desirable for the cleansing of the nose apart from the sinus that must be lavaged. Rogers's coarse crystal spray being made of glass throughout, except for the cork and bellows, can always be boiled before using.



The principle of using a coarse spray for lavage instead of the very widely used douche is in my opinion a matter of very considerable importance.

Clifton. P. WATSON-WILLIAMS, M.D.Lond.

ADRENALIN IN WHOOPING-COUGH.

DURING a recent epidemic of whooping-cough in this neighbourhood, I found that the usual remedies completely failed in one instance—that of a delicate child of 7 years, whose case was complicated by attacks of bronchitis. She had been ill for about six weeks, the paroxysms still continuing to occur, on the average, every three or four hours, and the attacks of bronchitis becoming more and more serious, when I happened to read Dr. G. V. Fletcher's account of his adrenalin treatment of whooping-cough in the BRITISH MEDICAL JOURNAL for December 28th, 1912, and determined to try it.

I began with 3 minims of the 1 in 1,000 solution by the mouth every four hours, and almost immediately noticed a marked diminution in the severity and frequency of the paroxysms. I was soon able to limit the administration of the adrenalin to three times a day, and continued it thus for three weeks, at the end of which time the child had completely recovered from the cough and the bronchial symptoms, and had steadily improved in every other way, there being a total disappearance of the anaemia and wasting which had been produced by the persistent vomiting.

As this case occurred towards the end of the epidemic, I have had no opportunity of trying the treatment in any others, but this one instance seems to me to be so significant as to be worthy of mention.

WILLIAM J. LORD, M.R.C.S.Eng.,
Faringdon, Berks. L.R.C.P.Lond.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

PARSEE GENERAL HOSPITAL, BOMBAY.

A CASE OF COLI INFECTION OF THE BLADDER AFTER HYSTERECTOMY.

(Reported by F. R. PARAKH, M.D., Honorary Obstetrician and Gynaecologist.)

THE patient in the following case, a widow aged 42 years, was admitted on January 19th suffering from severe menorrhagia and metrorrhagia, which had commenced about two years previously. She had had two children, the last one being born twenty-two years before admission. On a previous occasion she had been curetted, but without any benefit.

State on Examination.—The uterus was found to be larger than usual, but in its normal position. The appendages and the parametrium seemed healthy.

Operation.—I decided to curette the uterus a second time and then cauterize it. For this purpose the cervix was dilated. The canal was brought up to No. 3 Hegar without difficulty, but on passing No. 4 the uterus ruptured in its lower segment, though very little force had been used. In consequence nothing further was done, and the patient was returned to bed. After a week's interval I opened the abdomen and performed a panhysterectomy by Doyen's method. She stood the operation well, and nothing untoward happened until the evening of the eleventh day, when her temperature was 101°, and she complained of pain before, during, and after micturition, constant desire to pass urine, slight burning during micturition, and a feeling of fullness in the bladder. A catheter-drawn specimen of urine showed specific gravity 1017, turbidity of colour, and a trace of albumen, while on centrifugalization a large number of pus cells and *B. coli* were found.

Result.—The patient was given a vaccine prepared from her own urine, and the bladder was washed out with boric lotion twice a day. In eight days all the symptoms disappeared, the temperature became normal, and she was discharged completely cured on the twenty-first day.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

OXFORD AND READING BRANCH.

AFTER the completion of the business of the annual meeting of the Branch at the Radcliffe Infirmary, Oxford, on July 11th, when the President, Sir WILLIAM OSLER, was in the chair, Dr. LAMBERT showed a case of *Anorexia nervosa*. The illness began two years ago with retching and pain in the epigastrium. She took very little food, and after the retching fits became semiconscious. Her weight was 3 st. 5 lb., more than 3 st. below the normal for her height. As even water by the mouth caused distressing fits of retching, she was fed with nutrient enemata, and later with small quantities of digestible food. She gained nearly a stone in three months.

Dr. FREEMAN (Reading) showed a case for diagnosis for Dr. Stewart Abram. A woman a year ago suffered from vomiting, headache, ataxia, and strabismus. At the present time there was no vomiting or headache, but her gait was ataxic and there was strabismus and some nystagmus. The fundus of both eyes was normal. Cerebellar tumour was the suggested diagnosis.

Mr. WHITELOCKE (Oxford) showed an interesting case—a man, aged 43, from whose thigh he had removed a large tumour, of eight to nine years' growth, growing from the great sciatic nerve. The tumour extended from the ischial tuberosity to the popliteal space, and in the course of removal the sciatic nerve had to be divided; a bridge of the external popliteal nerve was turned up and fixed to the upper end of the divided sciatic trunk. Mr. Whitelocke said he was surprised to find that at the first dressing the patient could flex the knee and move the ankle-joint. The only sensation lost was over the sole of the foot. The gracilis muscle was found to be the chief flexor. He mentioned a similar case recorded by Sir Frederick Treves, and another in which, after division of the anterior crural nerve, the tensor fasciae femoris muscle supplied by the gluteal was greatly developed, and enabled the patient to walk and stand. The tumour was a myxo-sarcoma, and other small fibromatous growths were found on the body of the patient, together with some slight pigmentation about the loins. It was apparently a case of Recklinghausen's disease.

Dr. FREEMAN (Reading) showed a man with a small infiltrated area on the chin, of one week's growth. He worked in a stable, and Dr. Freeman thought it might prove to be the papillary form of actinomycosis. Extragenital chancre had been suggested.

Dr. TURRELL (Oxford) gave a short account of some methods of electro-therapeutics, including (1) ionic medication, (2) high frequency, (3) diathermy. He indicated the chief fields for the use of these various methods, and gave some striking examples of the results to be obtained. Finally he showed 4 cases in process of treatment, where the results could be estimated: (1) Lupus of cheek. (2) Lupus of nose. (3) Birth-mark of face. (4) Acne rosacea.

Mr. E. C. BEVERS (Oxford) demonstrated the use of a filigree wire plaque in a case of ventral hernia, and showed the patient. He followed the method introduced eight years ago by Bartlett.

Discussion.

Dr. COLLIER (Oxford) opened a discussion on *Some drugs and their uses*. He drew attention to the use of phenacetin in doses of 20 grains in attacks of influenzal megrim and headache; if combined with 4 grains of caffeine, and half the dose repeated in an hour, success might be obtained when ordinary doses failed. Another drug, potassium iodide, could be given in very large doses in tertiary syphilis; 40 or 50 grains three times a day could be given, especially in cases of syphilis of the brain. Sodium salicylate he advocated for acute rheumatism in doses of 20 grains every two hours, until 80 grains had been given; then 15 grains every four or six hours. He mentioned the huge doses given by Dr. David Lees—100 to 150 grains in twenty-four hours in children with acute rheumatism, the maximum doses reaching 350 to 400 grains. Bismuth he considered should be given before food to relieve pain. He dealt with the use of morphine in kidney disease, and drew attention to the fact that American physicians were the first to advocate morphine in toxaemia, though Sir William Osler, in the last edition of his textbook, gave the credit to Sir Stephen Mackenzie. Finally Dr. Collier mentioned digitalis as an example of a drug which was often wrongly used. All cases of failing compensation of the heart should be treated for a day or two by rest in bed, before using digitalis.

Dr. DUIGAN, Dr. MALLAM, and Dr. LAMBERT took part in the discussion that followed.

THE Organizing Committee of the Seventeenth International Medical Congress has granted the use of the geological laboratory in the Royal School of Mines for the meetings of the Universal Esperanto Medical Association (Tutmonda Esperantista Kuracista Asocio). The meetings will be opened by a series of short lectures in many languages on Esperanto and the medical profession. Subsequently only Esperanto will be used. Intimations of papers have been received from Professor Sims Woodhead; Dr. Nemser (St. Petersburg); Dr. Sidlovsky (Moscow), "La rezultato de la enketo pri resukcesantaj infanoj de Moskvaj urbaj lernejoj;" Dr. Robin (Warsaw), "Pri la Sondado de la duodeno;" Dr. F. W. Alexander (London), "Sanigado per marakvo kaj elektro." Others are expected. The London Esperanto Club kindly invites all Esperanto medical men to a conversazione and concert in St. Bride's Institute, Ludgate Circus, on Friday evening, August 8th, at 7.45 p.m. Those who intend to be present at the meetings are asked to send their names to the president of the association, Mr. G. Jameson Johnston, F.R.C.S.I., 13, Lower Fitzwilliam Street, Dublin. The usual annual congress will take place in the University of Berne in the last week of August.

Reports of Societies.

EDINBURGH OBSTETRICAL SOCIETY.

At a meeting on July 9th, Dr. Haig Ferguson in the chair, Dr. McGibbon, in a paper on *Hereditary icterus*, gave details of a family in which the first child was healthy, but the next five children were jaundiced. The first of these survived, the fourth was stillborn, whilst the others died between the third and seventh day after birth. Dr. F. W. N. Haultain, in a paper on the *Use of veratrone in eclampsia*, reported 7 cases with only 1 death. He had used veratrum viride for many years with success, but the only valid preparation of it, the tincture, was impossible of administration by the mouth if the patient were comatose, and hypodermically it gave rise to much local irritation. Veratrone contained the essential alkaloids veratroidine and jervine, and was given hypodermically in 1 c.cm. doses. It had a marked effect in lowering the high blood pressure invariably present in eclampsia. The author was convinced that the high pressure had much to do with the convulsions. In every case the veratrone had a rapid influence on the blood pressure. Mr. Scott Carmichael, in a paper on *Tumours complicating pregnancy*, recorded (1) a case where Caesarean section was carried out in a twin pregnancy near full time for a fibroid growing from the lower uterine segment. After delivery of the twins supravaginal hysterectomy was performed. Three months previously a small tender pedunculated fibroid attached to the uterine fundus had been removed. The operation left the pregnancy undisturbed. (2) The case of a patient six months pregnant, in whom the abdomen was opened for acute intestinal obstruction, a loop of the pelvic colon being found to be encircled and strangulated by the long pedicle of an ovarian cyst. There was severe vaginal haemorrhage. Six days afterwards marginal placenta praevia was recognized, and the child was delivered after being turned.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

At a meeting held on July 1st, Dr. Constance Long, President, in the chair, Dr. A. Maud Dodd showed a case of *Adiposis dolorosa* in a woman aged 52. She proposed treatment by thyroid extract. Dr. Mary Scharlieb suggested the surgical removal of the masses in the same way that superfluous adipose tissue was sometimes removed from the abdomen. Dr. Agnes Savill, in a paper on some of the *Uses of electricity in medicine*, related her results from ionic medication in gynaecological work. An inflamed or ulcerated surface discharging pus healed rapidly when treated with copper or zinc ions, the metal ions being driven right into the substance of the tissue. Erosions of the cervix with muco-purulent discharge, which had resisted ordinary treatment for months or years, were cured in a few weeks. She also described in detail the treatment of a case of severe gonorrhoeal infection of the urethra and cervix, which had been entirely cured by means of zinc and copper cataphoresis in the course of three months. In applying ionic medication large and thick pads of lint (sixteen to twenty layers) should be placed between the metal electrode and the skin, thus enabling enormous currents to be used without causing pain. Discussing the uses of galvanism, the speaker claimed for it great value in the treatment of neurasthenia with gastric and intestinal atony. It was essential to administer small doses at first, and to insist on half an hour to an hour's rest after each sitting. She advocated the use of the rhythmical interrupted galvanic current in certain cases where nervous exhaustion was not marked. In a certain class of case, suffering from toxaemia with tainted breath and coated tongue, the speaker had found the sinusoidal current to be of unique value. These cases were frequently accompanied by indicanuria and perhaps slight pancreatitis, and were not improved by diet and galvanism. By the use of the sinusoidal current to the abdomen, in conjunction with Dr. Cammidge's dietary, excellent results had been obtained in several cases in which diet and drugs had failed. The effect of sinusoidal baths on cases suffering from mental depression was remarkable. The speaker next considered the employment of high frequency in various conditions, both local and general, and warned against its use in cases of low blood pressure, as it reduced the pressure still further and gave rise to fainting. One case of angina pectoris had improved remarkably under the treatment.

Reviews.

OBSTETRIC EMERGENCIES.

The handsome and well-illustrated volume on *Difficulties and Emergencies of Obstetric Practice*,[1] by Berkeley and Bonney, merits the attention of practitioners by its form and by the character of its content as well as by the manner of treatment. Omitting the routine in both the physiology and management of obstetric cases in general, it deals with clearness, emphasis, and unusual fullness with each and every aspect where difficulty or doubt is likely to arise. Wherever it is useful the scientific basis of the methods recommended is stated, and the ethical and legal points emerging in practice are handled with judgement, as are also the therapeutic measures necessary in the individual case. In an introductory chapter the difficulties of diagnosis are treated. In the reference to the difficulty of estimating the size of the uterus when the body is in the axial position the useful device of pushing the portio either to the pubic bone or the sacrum, so as to bring the fundus between the hands, is missing, while a search for Fig. 17, mentioned on p. 6, showed that it would have been well to give the page as well as the number of the illustration, which was found on p. 167.

The introductory chapter is followed by a valuable series devoted to affections of the various bodily systems and organs and including a special section on insanity from the pen of Dr. Hubert Bond. These chapters are exceedingly well done and seem to deal with almost every conceivable question, from sudden death to the marriage of first cousins. The prognosis is brought into accord with the most modern experience—a matter of great importance in heart disease and chorea and other conditions where older dogma founded on limited evidence was unduly grave. Misprints are very rare, but we may note the statement, "Acute yellow atrophy sometimes appears in an epidermic form."

Illustrations are freely used to make clear the difficulties arising from special conditions in the genital organs and also the various forms of abortion, from which we pass to the obstetric haemorrhages, where, on the whole, the methods of the Dublin school are approved. The remark (p. 271) that "compression of the aorta is a singularly unscientific proceeding" is a little unexpected from men like the authors, for they place themselves in conflict with most of those who have written on Momburg's method when they say "it has no action in promoting efficient uterine retraction."

A series of chapters on anomalies of the genital tract, presentation, pelvis, and fetus culminates in a detailed treatment of ruptures of the genital tract where the various surgical measures are adequately illustrated. In the chapter on fever in the puerperium, though the pathological basis is fully modern it is interesting to read the measures recommended for the vagina which one would not think of applying to the peritoneum. On p. 467 we read, "After every examination the canal should be swabbed out with pieces of wool mounted on forceps soaked in the antiseptic solution, whilst every labour should be terminated by a thorough irrigation of the vagina." In the puerperium early sitting up and vaginal douching are recommended. In the treatment of fever bacterial treatment is duly weighed, the value of continuous saline infusion is described, and of drugs alcohol is still termed the most valuable. In the section on subinvolution the recommendation of supporting appliances for the abdominal wall, while exercises for the muscles concerned are not mentioned, suggests that one of the essential gains from early movement in the puerperium is not fully appreciated by the authors.

[1] *The Difficulties and Emergencies of Obstetric Practice.* By Comyns Berkeley and Victor Bonney. London: J. and A. Churchill. 1913. (Roy. 8vo, pp. 798; 287 illustrations. 24s. net.)

The description of the operations is well done and fully illustrated and the various forms on the whole duly placed. In decapitation the minor advantage gained are by oblique division which leaves one arm attached to the head and one to the trunk is not mentioned. Under asphyxia of the newborn, while the authors clearly separate the conditions of deficient oxygenation and shock, they overlook the difference of action of the hot bath, and they do not mention the special importance of heart stimulation which can often be got by simple pressure from the precordia. A chapter on artificial feeding ends the text and the volume closes with a clear index which supplements the typographical arrangements that have been adopted to make the text easy of reference.

With due regard to the varieties of opinion, this book must be pronounced well balanced and well arranged, and it is likely to be useful to those practitioners who may find themselves in contact with the difficulties of obstetric practice. The mode of thought has a surgical trend and the authors do not omit to recommend a similar movement in the matter of fees.

ARTERIO-SCLEROSIS.

THE vast importance of unimpaired circulation through the complex system of vessels in the animal organism can hardly be exaggerated. Hence the integrity of the vessels themselves and the means by which they may be kept in health, or treated when diseased, have constantly engaged the attention of pathologists and clinicians in all countries. A very full account[2] of the state of present knowledge, made especially interesting by the manner in which the compiler puts forwards his own views, reaches us from Copenhagen. Dr. ARNE FABER, a pupil of von Recklinghausen in Strassburg and a practical worker in the schools and hospitals in Denmark, has studied the subject of arterio-sclerosis with a view to ascertaining the part played by disproportionate pressure within the vessels upon the walls of the vessels themselves. Admitting that some cause of weakness must have been produced in the vascular wall, whether from the local incidence of some general infective agency or from toxic influences, anaemia, or other blood condition, he maintains that actual disease first shows itself in the middle coat and that the intima always suffers later. The presence of high vascular tension, from any cause, then becomes an essential factor in the course of the morbid process, and the subsequent changes, particularly those of calcification, are followed out with great detail and well illustrated by a series of plates.

The work is comprehensive and remarkable for the skilled use of historical and general summaries, whereby the interest of the subject is kept alive and the continuity of the arguments maintained. Particular attention is paid to the morbid changes which may affect the elastic tissue, and the phenomena of fatty degeneration and of calcareous deposit are followed out with great care. The chapter dealing with the latter is especially worthy of note. The writer is able to record a considerable series of personal researches into the relations of the pathological changes in the inner and middle coats respectively, showing the influence of various infections or other causes of initial weakness of the vascular wall.

An interesting series of observations upon the vessels coursing in the tendo Achillis is recorded, as these vessels are more prone to calcification as age advances than any other of the smaller arteries of the body. The vessels in the tips of the papillary muscles in the left ventricle of the heart were likewise studied, as being in positions of constant use and activity; and there again the presence of fat globules and of calcareous deposit could be demonstrated in almost every case over 20 years of age. The whole work bears the impress of careful and enthusiastic study and observation and, although of necessity containing much that is familiar, it nevertheless presents old theories from a modern point of view, and will be found most useful as a summarized account of the whole subject, well arranged for reference, and furnished with a remarkably comprehensive bibliography.

[2] *Die Arteriosklerose: ihre Pathologische Anatomie, ihre Pathogenese und Aetiologie.* By Arne Faber, of the Pathological Institute of the Commune Hospital in Copenhagen. Jena: Gustav Fischer. 1912. (Sup. roy. 8vo, pp. 192. 9s.)

HUMAN EMBRYOLOGY.

MORE than eight years have passed since we reviewed the second edition of Professor A. KEITH'S work[3] on *Human Embryology and Morphology*, and now we have the pleasure of reading the third edition. With the growth of embryology it was inevitable that the work should grow in size. Over 120 illustrations have been added, several of the older figures have been replaced, and the result is that its usefulness to medical students and to medical men has been much increased.

Amongst the improvements to be noticed in the work is the fact that it now has a "real" beginning. Our knowledge of early ova and the implantation of the ovum on the uterine mucosa has been so greatly extended that it is possible to treat the subject of embryology synthetically, or in other words to tell the story from the beginning. To trace the rise of the human embryo from the ovum and the fetus from the embryo to the time about the end of the second month when all the organs are there in miniature, has now, to a considerable degree, become possible. Professor Keith has done well to seize the opportunity presented by the demand for a new issue to recast the first few chapters of the book. The well-known ova of Bryce and Peters naturally find a prominent place in the story, but it is unfortunate that the account of Grosser's remarkable embryo with a chordal canal (described in the human embryo for the first time) appeared too late to be included. Nevertheless, the first forty pages provide an excellent summary of a subject of great and abiding interest to medical men. Professor Keith is no mere descriptive writer. He believes—and in this teachers of anatomy are with him—that embryological facts tend to be barren and meaningless until they are interpreted in the light of our knowledge of the evolution of the human body. It is this attitude which gives the work a place to itself amongst embryological textbooks. On almost every page bare descriptive facts are made intelligible by appeals to evolution, and the bearing of these facts on medicine and surgery is not forgotten. The chapter dealing with the circulatory system is particularly good, and Professor Keith has included therein much of his own work relating to the embryology and pathology of the heart—a subject of great importance and one on which much light has been thrown during the last decade by himself and other workers. The book is now so well known that it only remains for us heartily to congratulate the author on the improvements in this edition, which in many respects is a new work and not a mere revision.

HEADACHES.

IN his treatise on *Headache*,[4] Dr. SIEGMUND AUERBACH gives a brief account of the several forms of headache, and arrives at conclusions on their pathogeny which, whether they will be generally accepted or not, are at least interesting speculations. He enters into more details on a comparatively unknown affection which he calls "nodular (rheumatic) headache," to which he had already called attention by a paper published ten years ago in Volkmann's *Sammlung klinischer Vorträge*, No. 361. He describes under that name an intense and persistent headache, which he alleges is commonly confounded with migraine or neurasthenic cephalalgia, but which differs from either of these in that it occurs chiefly in women of middle or advanced age; that it is not inherited; that in the absence of complications there is no nausea or vomiting; and that it is associated with nodular eruptions on the head. The nodules are of the size either of a millet seed or of a lentil, or even of a bean, and are situated in the subcutaneous tissue or in the fasciae of the occiput or the nape of the neck; at times also in the upper part of the back of the neck, extending as far as the shoulders. They are said to be very tender, and frequently difficult to detect except by the practised finger of the trained masseur. Of their nature the author is unable to offer a satisfactory explanation. The first observers of these formations attributed

[3] *Human Embryology and Morphology.* By Arthur Keith. Third edition. London: Edward Arnold. 1913. (Med. 8vo, pp. 480; figs. 442. 15s. net.)

[4] *Headache: Its Varieties, Their Nature, Recognition, and Treatment.* By Siegmund Auerbach. Translated by E. Playfair, M.B., M.R.C.P. London: Henry Frowde, and Hodder and Stoughton. 1913. (Cr. 8vo, pp. 214. 5s. net.)

them to an indurative inflammation of either the muscles or of their tendinous attachments or of the subcutaneous tissue; and they accordingly regarded them as products of a myositis or of a cellulitis. From these views Dr. Auerbach dissents. His opinion is that they are caused by "chills," however slight these may be, and more especially by the reduction of the local temperature from the evaporation of the water in washing the head. He surmises that they in all probability consist of circumscribed dilatations of lymph vessels, possibly filled with inspissated lymph; but he has not been able to satisfy himself on that point by anatomical investigation. He has indeed excised one nodule and examined it histologically, but has obtained no convincing results. As matters stand, Dr. Auerbach has never observed the onset of the affection, nor had he an opportunity of watching the course of the process during the development of its products, since all his patients had come under his notice only after they had been suffering for a long time from headache. We are inclined to think that the nodules may be, as he presumes, the cause of the pain. Still, nodules like those referred to occur on the scalp and on the side of the head without more than the slightest transient irritation, and it is not improbable that they differ in their nature and structure, as do the so-called tubercula dolorosa. The author did not look for nerve fibres in the one case which he had examined. But, whatever their origin may be, they are said to readily disappear on massage of the head preceded by the application of hot poultices, and thereon the pain is alleged to cease.

To obviate the difficulty of distinguishing between the numerous forms of headache, especially when it apparently constitutes a substantive disease, Dr. Auerbach urges that there should be a thorough examination of all the organs of each patient after a searching anamnesis. Only by this means will it be possible to obtain reliable data for rational treatment, unless it be supposed that for the cure or relief of headache nothing more is needed than one of the analgesics which chemical industry and commercial speculation have brought to the notice of practitioners and patients. The author has fully stated the several diagnostic elements, and it would be a truism to say that attention to them is of the utmost importance in the proper management of each case. It is only necessary to add that the book has been admirably translated by Dr. Ernest Playfair.

THE CARE OF PUBLIC WATER SUPPLIES.

THE care of public water supplies is one of the principal duties of sanitary authorities, and into what a wide yet precise science it has now expanded is shown by the second edition of Dr. THRESH'S *Examination of Waters and Water Supplies*.[5] The author writes as one having knowledge born of experience and tempered by judgement, and the great value of the book lies in the critical estimation and discussion of the statements made, and of the various processes described therein. In this second edition he has amplified and extended his previous work, beginning with the examination of sources of water supply, and afterwards discussing the various methods of examining water chemically, bacteriologically, and electrically, subjects on which he is an admitted authority.

In the early chapters he records some interesting incidents which have come within his personal experience, and gives a word of warning in regard to the use of the *Bacillus prodigiosus* as an experimental index of polluted sources. Later on he deals very lucidly with the value of present-day arguments on the utility or otherwise of the *Bacillus coli* group, and the presence of streptococci as indices of contamination, recent and remote. He demonstrates the importance of considering the quality rather than the quantity of the organic and inorganic constituents found in water from whatever source derived, and points out also that in all deductions the history of the water under examination should receive adequate consideration.

In regard to enteric fever, the author makes the pregnant statement that there is no question that many outbreaks of illness referred to drinking water have been due to other causes. There is an obvious and natural inclination to condemn a water supply when other sources of contamination have eluded explanation, but within the last few years the experience anent "typhoid carriers" has frequently cleared up the difficulty in tracing the cause of many obscure incidences of this disease. Dr. Thresh also discusses very ably the potency of the *Bacillus typhosus* in the presence of other forms of aquatic life.

The book is certainly very complete in its scope. The section on the analysis of water ends with a description of the estimation of solids by electric conductivity and the measurement of the radio-activity of water.

The chapters on chemical and bacteriological analysis are careful and full, and the book finishes with a series of plates in black and white, while a ready means of reference to the preparation of various reagents is given in the appendix. The type is clear and the index ample, and the volume can be strongly recommended as a complete and reliable guide and book of reference on the examination of waters and water supplies.

[5] *The Examination of Water and Water Supplies.* By J. C. Thresh, D.Sc.Lond., M.D.Vic., D.P.H.Camb. Second edition. London: J. and A. Churchill. 1913. (Med. 8vo. pp. 664: 16 figures, 36 plates. 18s. net.)

THE TREND TOWARDS COLLECTIVISM.

THE rapid emergence of collectivism from the sphere of Utopian propaganda into that of practical politics has produced its inevitable effect. The glamour of distance having yielded to the cold light of immediate scrutiny, a strong reaction has promptly set in. Collectivism has reached the politician, and is being put into force by him just at the time when its doctrines are being once more called seriously into question by the philosophers. It has in fact become rather old fashioned, and the vehement confidence with which its exponents proclaim the approaching triumph of its doctrines is probably due to a secret fear that it is now or never, and the apprehension that if they are not quickly translated into legislation the experiment they desire will not be made. Among those who have been most active in the country in popularizing the arguments of the newer or biological school of social reformers are Mr. Belloc and Mr. G. K. Chesterton. Consequently, when we take up a book entitled *The Real Democracy*,[6] and notice that it is inscribed by its joint authors, Messrs. MANN, SIEVERS, and COX, to the former gentleman, we have a fair notion as to its probable tendency and aims. We expect that it will be anticollectivist; that it will insist upon the purely formal nature and practical futility of democracy as at present constituted; and that, as against those who advocate the supersession of private capitalism by State control of the instruments of production, it will contend for the wider distribution of property in general and in particular of landed property among individual members of the community. We may say at once that all these expectations are fully realized. The writers argue that during the past thirty years despite of, or, rather, in consequence of the rapid progress of collectivism, the proportion of citizens working under proletariate conditions, the control of capitalists over the lives of such citizens, over the money market and over the party organizations, and the difficulties of the trade unions in resisting the encroachments of organized capitalists, have all steadily increased. They contend that under existing conditions the mere right to vote, unless reinforced by a power behind the vote—the power of economic resource or, in plain terms, of property—is and must remain of no effect. Reform legislation of the collectivist type, which confers upon the worker gratuitous "benefits" of various kinds, must in their opinion lower his wages by, approximately, the cost of the gifts. Moreover, by depriving him of the right to spend his earnings as seems best to himself, they must diminish his personal independence and his power of resistance—by strikes in particular—to the system which exploits him for its own ends.

Thus, from the point of view of *The Real Democracy*, the net result of the Insurance Act will be "that the resource which constitutes the worker's sole fighting power will be reduced by, in most cases, sevenpence a week." Hence, they say, the present satisfaction of German employers with the similar system initiated by Bismarck, to which

[6] *The Real Democracy.* (First Essays of the Rota Club.) By J. E. F. Mann, N. J. Sievers, and R. W. T. Cox. London: Longmans, Green and Co. 1913. (Cr. 8vo, pp. 235. 4s. 6d. net.)

they were at first strongly hostile. It is in the opinion of the authors a mistake to suppose that it is only the industrial classes and their unions whose independence is being undermined. With reference to the effect of the Insurance Act upon our own profession, they ask: "Who would have said ten years ago that the most honourable and one of the most powerful professions in the country could be thus brought to its knees, and its members reduced to obedient wage-earners, in order to further the plans of a far-seeing capitalist campaign? And if 20,000 skilled professional men, conscious of the honour of their profession and the dignity of their calling, cannot with all their massed resources avert this blow, what in the days to come will be the position of the isolated and timid man of small property? The imminent collapse of the doctors' guild, with its corporate activity and its corporate discipline, is perhaps the most significant warning of recent times, because it is a warning to all men who think or thought that the capitalist system was their defence."

While we appreciate the understanding of and sympathy with our corporate aims revealed by Mr. Mann, we do not think that he has grasped the true significance of recent events in our history. Insurance against ill health or other mischances is not in itself a collectivist device, though in the method of its application and administration it may receive that colour, and the compulsory character of the Insurance Act and certain other of its features have this effect. The profession was therefore placed in a position of peculiar difficulty, and the rough and ready ways of politicians did not allow time or opportunity for a satisfactory solution. We hope and believe that with regard to our own prospects, at any rate, his forecast is unduly black. It is too soon yet to conclude that the ultimate effect of the Insurance Act will be to break up our unity and so rob us of our power to resist future encroachments. Were the occasion appropriate, we could adduce reasons for a contrary expectation. Moreover, to allege that the true objective of the Act is merely to render the industrial classes more effective as dividend-earning machines is a rather sweeping assertion. If, as its defenders hope, it results in a higher average standard of health, it will receive a biological vindication that must take precedence of all political misgivings. "Only from free men," writes Mr. Cox in the next chapter, "can the State get the best work; only when free can a man do his best work for the State." Consequently, since industrial and professional efficiency are avowed aims of collectivism, the State must respect individual freedom on pain of defeating its own object. The last chapter gives some valuable suggestions of means for favouring the wider distribution of wealth, by freeing the source of family livelihood from the possibility of distraint, taxing company profits in proportion to the narrowness of distribution of shares, compelling new companies to offer a large proportion of shares at a small price, and graduating the taxation on transfer or allotment in favour of small transactions. Many other topics are suggestively treated, but we must content ourselves with a strong recommendation of the book to all who are interested in political and economic problems.

SURFACE ANATOMY.

THE fifth edition of Mr. BATHE RAWLING'S *Landmarks and Surface Markings*[7] calls for little comment except to note that the approval of the book indicated by the rapid taking up of the fourth edition is well founded. There are no alterations in the text, the only changes being some improvement in the illustrations. In making these pictures the author appears to have had a good bright photograph of the limb, and on it to have drawn the various lines boldly to represent tendons, nerves, and vessels. These lines are themselves diagrammatic, but quite accurate enough for practical purposes; each is numbered, the numbers being referred to in the text. Reference, therefore, is rapid and easy, yet the picture as it is constitutes a good exercise for the student. The time seems to have come for departure from the traditional diagrammatic shape, position, and relative size of stomach and colon, in view of knowledge gained by the *x* ray, the bismuth meal, and other means of investigation. The book may well find a place near to the hand of the practitioner as well as on the student's table. It has, we are informed, been adopted as the textbook at the McGill University, Montreal; Queen's University, Kingston; Toronto University, Toronto; and the Western University, London, Ont.

[7] *Landmarks and Surface Markings of the Human Body.* By L. Bathe Rawling, M.B., B.C.Cantab., F.R.C.S.Eng., Surgeon with charge of Out-patients, Demonstrator of Practical and Operative Surgery, St. Bartholomew's Hospital. Fifth Edition. London: H. K. Lewis. 1912. (Demy 8vo, pp. 104: 31 illustrations. 5s. net.)

NOTES ON BOOKS.

THE second edition of HASKINS'S *Organic Chemistry*[8] does not show any very great differences from the first. Written primarily for medical students, both the selection and the arrangement of the matter differ somewhat from those common to most textbooks of the subject; thus molecular weight determinations, colloidal solutions, osmotic pressure, and other matters usually left to works on general chemistry are included, and the purification and analysis of organic substances are dealt with in a general way before the substances are described in detail. The intention that the book shall be useful to medical students has been borne in mind throughout, in the selection of examples and in other ways. The style is both clear and concise.

The *Tropical Diseases Bulletin*, May 15th, 1913, contains annotations upon pellagra, helminthiasis, cholera, dysentery, sprue, verruga peruviana, and also some annual reports from British Guiana, Cyprus, Fiji, Gibraltar, Malay States, Montserrat, and Somaliland. The collection of the literature on tropical medicine into a bulletin is proving of very great value to men practising abroad. Whereas formerly they were more or less completely cut off from what was going on in their own subject, they can now see all the literature in a condensed form, with foreign papers suitably translated, and so keep thoroughly up to date. The scheme is a very valuable one, and the Bureau must be congratulated on carrying it out so successfully.

Mr. R. M. WINGENT has issued in book form some very interesting papers which have appeared in the *Guy's Hospital Gazette*. They are arranged in two parts, the first dealing with the non-medical associations of the Borough,[9] the second with the hospitals. A detailed account is given of the use of the two hospitals—Guy's and St. Thomas's—of their rivalry, their union, and their disunion. The philanthropy and the parsimony of Thomas Guy are fully set forth, and many interesting reminiscences are given of the physicians and surgeons of both institutions. We fail, however, to find any reference to that important event in the annals of medical London, the Great Plague of 1665, or to the Foot Guards, afflicted with that distemper, who were admitted to St. Thomas's Hospital, or to Dr. Thomas Wharton, physician to the hospital, and Mr. Edward Rice, the house-surgeon, who remained at their posts when others fled. Without any addition, however, Mr. Wingent's compilation will be dipped into with pleasure by Guy's and St. Thomas's men in their leisure moments.

The introductory chapter of *Disinfection and Disinfectants*,[10] by Dr. M. CHRISTIAN, of Berlin, opens with the remark that "Disinfection is . . . a complicated tool, its application necessitating not only practice but also intelligence—that is to say, a knowledge of the causes and methods of dissemination of infectious diseases; and also familiarity with the methods and sphere of action of the several kinds of disinfection," and in the space of about a hundred pages the author sets himself to impart the necessary knowledge for such intelligent practice. Physical disinfection, by heat—including the action of steam under various conditions—by electric currents, and by mechanical means, is first discussed. The next section is devoted to chemical disinfection, and a further chapter deals with combined systems. Of course no attempt is made, in the space occupied, to enter into the subject exhaustively; but much useful information on the most important aspects of the matter is given in clear language and in a systematic manner, and any one concerned with

[8] *Organic Chemistry, including Certain Portions of Physical Chemistry.* For Medical, Pharmaceutical, and Biological Students (with practical exercises). By Howard D. Haskins, A.B., M.D. Second edition. New York: John Wiley and Sons; London: Chapman and Hall, Ltd. 1913. (Crown 8vo, pp. 443; 25 figures. 8s. 6d. net.)

[9] *Historical Notes of the Borough and the Borough Hospitals.* By R. M. Wingent. London: Ash and Co., Ltd. (Demy 8vo, pp. 129. 3s. 6d. net.)

[10] *Disinfection and Disinfectants.* By M. Christian, Physician in Chief, Royal Institute for Infectious Diseases, Berlin. Translated from the German by Charles Salter. London: Scott, Greenwood, and Son. 1913. (Crown 8vo, pp. 107; illustrations 18. 5s. net.)

disinfection who does not already possess special knowledge of the subject will find this a very profitable little book to read. Certain methods of disinfection, especially of rooms by means of formaldehyde, are described in some detail, and the advantages of different procedures compared; various forms of apparatus are described and illustrated. The book should contribute materially to that intelligent use of disinfection which it is the author's aim to promote.

Those who have read his memoirs will remember how Prince Kropotkin, who began public life as page to the Emperor Alexander, in early manhood renounced not only all those advantages of birth and position which most men prize so highly, but also the scientific aspirations for whose fulfilment he seemed eminently endowed by nature, and devoted himself to what he believed to be the cause of the poor and oppressed. The Prince became a revolutionist, and a revolutionist he has ever since remained. In *The Conquest of Bread*,[11] of which a cheap edition has recently appeared, he sets forth his vision of the coming social revolution and his faith in the possibility of its resulting in the establishment of a communist régime of world-wide scope. But only on condition that it proceeds from the outset on the lines of complete expropriation of the means of production and the free sharing of all the necessaries of life. The right to live, interpreted in its fullest sense, is to be universal and unconditional: Kropotkin laughs to scorn the misgivings of those who believe that the majority of men require the dread of the policeman to restrain them from lawless violence or the danger of starvation to keep them at work. He argues that if all healthy adults were for some five-and-twenty years of their lives to give five hours daily to productive work, every member of every civilized community might be well housed, fed, and clothed. It is a high tribute to the power and eloquence of this revolutionary classic that, while reading it, one can hardly fail to be infected by its author's confidence in the immediate feasibility of his visionary aims.

Dr. Quin Donald has written a pamphlet, entitled *A New Method of Treatment for Inebriety and the Drug Habit*,[12] on the system adopted by Dr. Alexander Lambert, Physician to the Bellevue Hospital, New York, described in the *Journal of the American Medical Association* a few years ago. A fairly full account of the method as applied particularly to morphine addiction was given in the British Medical Journal of May 21st, 1910, p. 1249. According to Dr. Quin Donald's account, the treatment is divided into two stages: First, that of preparation, when, the patient being in bed on milk diet, alkalis are administered and free catharsis induced. The second stage is that of specific medication, when a combination of belladonna, prickly ash, and hyoscyamus is given until the full physiological effects of belladonna show themselves. After the first day the daily dose of morphine is reduced by one-half each day until definite abstinence symptoms come on. Free purgation is maintained throughout the treatment, until, after the administration of the U.S.A. pil. vegetabilis cathartica, to which capsicum, ginger, and croton oil have been added, green-coloured stools appear, when 2 oz. of castor oil are given to clear the bowels thoroughly. The morphine is tapered off on a well-defined plan, and at the end of the treatment the patient is said to be relaxed and comfortable, physically weakened, but without desire for drug or drink. Professor Lambert claims that of 375 cases only 46, or 12½ per cent., relapsed, adding that, although the after-history of all the patients could not be ascertained, "yet, if the percentage of known relapses were doubled, the results would still be most gratifying." Dr. Quin Donald regards the method as a valuable addition to the drug treatment of narcomania. The manner in which the morphine is systematically reduced is valuable, but it should be possible to maintain eliminative catharsis by purgatives other than those suggested, whilst the induction of belladonna toxaemia does not demand the special formula of Professor Lambert.

[11] *The Conquest of Bread*. By P. Kropotkin. London: Chapman and Hall. 1913. (Fcap. 8vo, pp. 314. 1s. net.)

[12] *A New Method for the Treatment of Inebriety and the Drug Habit*. By J. Quin Donald, L.R.C.P., L.R.C.S.Edin., Medical Superintendent, Ballyaughrin Sanatorium, Coleraine: *Northern Constitution* Office. 1913. (Pp. 8.)

Under the will of the late Viscount Tredegar, the Newport and Monmouthshire Hospital receives a bequest of £5,000 for general purposes; Cardiff Infirmary a bequest of £2,000; and Brecknock County and Borough Infirmary £1,000.

MEDICINAL AND DIETETIC PREPARATIONS.

Portable Reagents for Urine Testing.

Reagents for urine testing have been put up in various forms to facilitate their employment at the bedside; among these forms we have never encountered any more compact, simple, and satisfactory than those provided for certain tests by the "endolytic tubes." The tubes containing the reagents are of about $\frac{1}{5}$ in. diameter, and sealed at both ends; the reagents supplied in this way by Messrs. E. J. Reid and Co. (Basing House, London, E.C.) are salicyl-sulphonic acid for albumen, Fehling's solution for glucose, sodium nitroprusside and ammonium chloride for acetone, and ferric chloride for diacetic acid. To carry out a test a few drops of the urine are spotted out on paper; the ends of the tube are broken off—file marks existing on the tube for this purpose—and a small amount of the urine is then drawn up into the tube, along with the reagent, by capillary action. If heat is necessary, as in the test for sugar, the tube may be held for a few seconds over a match or heated by boiling water. The tubes which we tested had been kept by us for some months, but, thanks to the hermetic sealing, the contents had not in the least deteriorated, and the reactions were obtained most satisfactorily and with great ease. A small metal case which is supplied enables a sufficient supply of the tubes to be carried in the waistcoat pocket.

Pellidol and Azodolen.

A familiar drawback to the use of scarlet red for promoting the growth of epithelium is its strong staining property; in pellidol, Messrs. Kalle and Co. (Biebrich) have introduced a new derivative of amido-azotoluol to which this objection does not apply. Pellidol is diacetyl-amido-azotoluol, and the London agents, Messrs. A. and M. Zimmermann (3, Lloyd's Avenue, E.C.), have submitted a sample for our examination. It is a reddish-yellow powder, insoluble in water but readily soluble in alcohol, and also soluble without difficulty in oil or fat and in soft paraffin; an ointment prepared with pellidol will, therefore, contain it in actual solution, a condition more favourable to activity than if it were merely a powder mixed with the base. Pellidol does not stain, but can be easily removed from the skin or from linen by washing; if its therapeutic action is as good, it will therefore offer a great advantage over scarlet red. A mixture of equal parts of pellidol and iodolen (a compound of iodol and albumen) is also supplied under the name "azodolen": examination showed this to contain a considerable proportion of iodine, of which 30 per cent. is stated to be present.

Novatophan.

One of the most valuable characters of modern synthetic remedies is the way in which their properties can be modified in a desired direction by some greater or less alteration in the molecule by the introduction of new groups. We referred some time ago to atophan, a synthetic drug recommended for increasing elimination of uric acid; we have now received from Messrs. A. and M. Zimmermann (3, Lloyd's Avenue, London, E.C.) a sample of novatophan, a modification of atophan recently introduced by Messrs. Schering, Berlin. This is described as the ethyl ester of methylated atophan, and it has the advantage of being tasteless. It is claimed that its clinical effect is the same as that of the parent substance; it is insoluble in water, and is supplied in tablets containing 0.5 gram (7½ grains), which readily disintegrate when placed in water.

Barium Sulphate for X-Ray Work.

The large quantities of bismuth salts which have to be given for the purpose of *x*-ray examination of the stomach and intestines have, in some cases, led to undesirable results, and it has been proposed to use instead some quite insoluble substance, such as barium sulphate; it is, of course, necessary that soluble barium salts should be entirely absent from the specimen used. Mr. E. Merck (16, Jewry Street, London, E.C.) has submitted a sample of barium sulphate specially prepared for this purpose; it is a fine, perfectly smooth powder, free from soluble barium salt. We found, however, that prolonged contact at body temperature with acidulated water corresponding in strength to gastric juice caused a trace of the sulphate itself to pass into solution, the amount being greater when stronger acid was used. Evaporation of the solution caused the dissolved sulphate to be deposited again in an insoluble form, and it seems probable that any trace dissolved in this way in the stomach would not be absorbed.

THE INEBRIATES ACT.

THE report[1] of Dr. R. W. Branthwaite, Inspector under the Inebriates Acts, for the year 1911, which was issued recently, relates to the working of retreats, certified inebriate reformatories, and State inebriate reformatories, and includes a large amount of statistical information.

Retreats.

A considerable amount of space is devoted to the subject of retreats, it being pointed out that the existence of these institutions is known to comparatively few persons, with the result that their efforts are insufficiently appreciated. This, although probably to a great extent inevitable, is none the less regrettable in view of the fact that they are doing much good work in a dignified and unassuming way, and that its value would be materially enhanced if greater use were made of the facilities retreats present. Patients in retreats are of two classes—those whose continued residence thereat depends entirely on their own will, and those whose admission for a stated period has been the result of a request for reception signed by the patient before a justice of the peace, coupled with a statutory declaration signed by two persons who can testify that the applicant is an inebriate within the meaning of the Act of 1879 as amended by the Act of 1898. A retreat must be licensed by the county or borough of the area in which it is situated, and at present there are 19 of them at work. Altogether since 1879 over 10,000 persons have submitted themselves for detention at them, and this Dr. Branthwaite considers a satisfactory result, having regard to the pessimistic attitude adopted towards these institutions during the earlier years of their existence and the many difficulties encountered by persons who have endeavoured to manage them under inadequate powers.

In the aggregate the number of persons for whom the 19 retreats are licensed is 397, their total accommodation being 566. About one-third of them are under the direct control of medical men, while all of them have a medical officer attached. Between them they present a fair range of choice, treatment and accommodation being obtainable at rates varying from 10s. or 15s. a week up to 5 guineas, or even more. There is, however, no provision for persons who, although willing to become inmates of a retreat, are prevented from doing so by their inability to make even the smallest weekly payment. In this connexion Dr. Branthwaite asks:

> In the midst of so much philanthropic effort, is it impossible to hope for the formation of an endowment fund for an institution for destitute inebriates? In the old days, when habitual drunkenness was regarded as wilful degradation, wholly vicious and hopeless, there might have been justification for withholding assistance; but now, when the psycho-neurotic aspect of the condition is fully realized and when the value of timely help is indisputable, the justification is on the side of giving assistance rather than withholding it.

In regard to the medical aspects of retreat work, it is pointed out that in most of retreat cases there is the same mental defect which is so evident in the patients to be found in reformatories. This mental weakness is only less apparent in the retreat cases because so far they have not experienced the years of misery, neglect, and degradation so closely associated with the previous life of the average police-court habitué. Once this fact is realized, the practice of making all the routine of a retreat subservient to medical necessities becomes clear. Moral and religious teaching are excellent aids to treatment, since they stimulate and encourage the exercise of self-restraint, but it is useless to teach resistance to those who have not previously been lifted out of the physical and mental condition into which they have drifted. Medical treatment and moral teaching are both probably essential, but it is the former that should first be undertaken. Hence it is encouraging to note that the belief that long-continued detention without more energetic physical handling suffices, is ceasing to prevail. At the best retreats supplementary measures, such as judicious medication, hypnotic suggestion, electricity, baths, massage, gymnastic exercises, and regular occupation, are being employed. At all of them drug administration is being employed as an ordinary matter of routine during the acute distress which follows the withholding of alcohol, and at most a drug course of some kind is pursued until health returns. At some retreats, indeed, it is on therapeutic treatment that chief reliance is placed. To imply, therefore, as is sometimes done, that drug treatment and retreat work represent two entirely different fashions of dealing with inebriates is, to say the least of it, foolish.

> Medical treatment, including the administration of drugs when necessary, is essential to the proper conduct of a retreat, and for that reason no licensed institution is permitted to exist without the appointment of a medical officer; but those in charge have no need to rely, as outsiders have to do, upon systematic and continuous drugging to obtain a result that can be better obtained without resort to artificial and sometimes injurious means.

The number of persons admitted to retreats during the year was 459 (181 men and 278 women), but only 151 of these were admitted under the Act—that is to say, were patients obliged to remain for the full period for which they had sought admission, and who could be forcibly detained if necessary. This number does not represent any falling off from the record of previous years, but by no means implies that the establishment of retreats has been followed by all the results anticipated by their original promoters. In this connexion Dr. Branthwaite once more puts his finger on the main reason for the failure of the Inebriates Acts to fulfil the needs which they were expected to meet. The Acts provide for inebriates who realize their condition so fully as to be ready to consent to put themselves under restraint; they provide also for those who have become more or less hopelessly degraded or criminal, but for a much larger class than either of these two they make no provision at all. Any person who manages to drink to excess without committing a crime, or is otherwise able to avoid arrest, can continue his drunken habits with impunity, notwithstanding the fact that he may be causing poverty and untold misery to all around him, and sooner or later heavy expense to the sober members of the community. The only possibility of getting such a person under control depends upon the somewhat remote chance of being able to persuade him to make a request for admission to a retreat under the voluntary sections of the Act. Comparatively few persons can be induced to take this action, so the existing law is capable of application only to the extremes mentioned.

To a subsidiary cause of failure reference has already been made—namely, the absence of retreats for inebriates who have not the means of paying for their maintenance and treatment. Every year literally hundreds of persons, the report states, apply for admission to retreats who are unable in the event to avail themselves of this chance of recovery owing to the impossibility of their finding the necessary money. If, suggests the report, there were founded an industrial retreat for 500 or 1,000 inebriate persons destitute, but not yet criminals, an urgent demand would be met. It is comparatively easy to arouse public sympathy in regard to epileptics, consumptives, the insane, the sick, the orphaned, and those deprived of the organs of special sense; even in regard to criminals who require control in the interests of the public rather than their own, many efforts are made to temper punishment by assistance after imprisonment; but in regard to inebriates the position is different.

> The sentence "he drinks" signifies disgust, refusal to help, and carelessness as to the future: no adequate organization is available to lend a helping hand at a time when assistance would be of value, with the result that degeneration is progressive, and police courts and prisons saddled with still another recruit for the recidivist drunken class. When this stage is reached, and the case has become more or less hopelessly degraded, means are provided for an attempt at reformation; but, pending the gift of new powers, can nothing be done to develop those that already exist, and apply them to the work of preventing cases from reaching this stage? When an individual has reached such depths it is generally too late to expect reform, whereas the application of rational measures during the earlier stages of the habit would certainly lead to the saving of many for future usefulness.

Finally the report states that there is little fault to be found in regard to retreats generally, and every reason for satisfaction in respect of the interest shown by licensees in their work.

[1] The Report of the Inspector under the Inebriates Acts, 1879 to 1900, for the year 1911. London: Published by H.M. Stationery Office. Cd. 6322. (Price 4d.)

Certified and State Inebriate Reformatories.

The sections relating to certified inebriate reformatories and to State inebriate reformatories present less matter of direct medical interest, since the inmates of these establishments are for the most part very advanced cases, and all are persons who in one way or another have brought themselves within the net of the criminal law. Certified inebriate reformatories may be established and maintained by county councils, or by any person approved by the Secretary of State, and there are at present nine of them in existence. The persons admitted to them are always habitual drunkards who have either been convicted of offences punishable in ordinary cases by imprisonment or penal servitude, or who have been convicted not less than three times within the preceding twelve months of being "drunk and disorderly" or drunk in charge of a vehicle or of a child. The number committed in 1911 was in the case of males slightly lower than in the previous year, and in the case of females slightly higher, the aggregate number being practically equivalent to the average for the previous ten years.

In earlier reports Dr. Branthwaite has discussed at considerable length the reasons why the law courts make what must be regarded as exceedingly restricted use of the powers granted them by the Act of 1898. In the present report he mentions that it is the authorities of Lancashire, Middlesex, and London who are mainly responsible for any work done in this connexion, the majority of the counties making no use of the Act at all. Indeed, in the space of thirteen years only 532 persons have been committed altogether, and in the vast majority of cases the convictions have been in respect of neglect of children in a criminal sense. This is somewhat curious, seeing that one factor in the passage of the Act of 1898 was a complaint as to absence of power to deal with criminal inebriates otherwise than by consignment to an ordinary prison, and that after the Act came into force there was an outcry as to lack of means for taking advantage of its clauses. There is now plenty of accommodation, but it is not utilized. The explanation suggested in the report is to the effect that apart from failure to appreciate the value of this section on the part of the present occupants of the bench throughout the country, the procedure involved when it is desired to commit an offender to an inebriate reformatory introduces unnecessary difficulties. On this point recommendations were made by the Departmental Committee of 1908, and it is hoped that they will receive attention in the Inebriates Act Amendment and Consolidation Bill which is one of the many measures now awaiting consideration by Parliament.

Of State inebriate reformatories there are only two, one at Aylesbury for women, one at Warwick for men; at the former the average daily number of inmates during the year was 52, at the latter 25, these numbers both representing decreasing figures. These reformatories were originally intended for the reception of habitual drunkards convicted of offences punishable by imprisonment or by penal servitude, who, it was anticipated, would prove unmanageable in the less prison-like reformatories established and maintained by local authorities or by philanthropic bodies. It was found, however, that inebriates of this class proved more amenable to discipline than the ordinary police-court habitual drunkard, and of late years they have been used solely for the detention of persons who refuse to submit to control elsewhere. Of those who left the Aylesbury institution during 1911, 3 were transferred to asylums, and 1 was retransferred to a certified reformatory as a reward for good conduct. The report speaks very favourably of the way in which all the certified and State reformatories are managed, and indicates that the total weekly expenditure for each inmate at the former institutions varies between 12s. and £1 0s. 10d.

Dr. Victor C. Vaughan, Professor of Hygiene and Physiological Chemistry, and Dean of the Department of Medicine and Surgery in the University of Michigan, was elected president of the American Medical Association at the annual meeting recently held at Minneapolis.

The late Sir Charles John Stoddart, of Rotherham, in addition to making a bequest of £1,000 to Rotherham Hospital, directed that the establishment of a Samaritan Fund in connexion with the institution should be one of the objects considered in dealing with the residue of his estate, which appears likely to be of considerable value.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE (LONDON, 1913).

Section of Dermatology and Syphilography.

The Section of Dermatology and Syphilography is under the presidency of Sir Malcolm Morris, K.C.V.O., and the meetings will take place at St. Thomas's Hospital Medical School. The Section is greatly indebted to the Treasurer and Governors of the hospital for their generosity in granting the use of the school buildings, and to Dr. Stainer, the Dean, for his assistance in regard to the arrangements. The large meetings are to be held in the Hall of the hospital, while the smaller meetings will take place in the two theatres in the school. Ample accommodation is also afforded for the museum of models and illustrations, for the exhibition of microscopical specimens, and for the demonstration of rare cases of cutaneous disease. The Students' Union will be used as a club, and the terrace will be a pleasant meeting place for the members and give foreign guests an opportunity of appreciating one of the most attractive scenes in London.

Discussions.

The subjects which have been selected for discussion are the following:

1. Epithelioma of the skin, benign and malignant, which will be introduced by Dr. Darier of Paris, who reported on the same subject at the Dermatological Congress in Berlin in 1904, and who will record the advances made since then; the other reporters are Dr. J. A. Fordyce of New York and Dr. Jadassohn of Berne.
2. A discussion on alopecia areata and allied conditions will be opened by Professor Pellizzari of Florence and Dr. Sabouraud of Paris.
3. A discussion on syphilis, its dangers to the community and State control, conjointly with the Section of Forensic Medicine; this will be introduced by Professor Finger of Vienna, Professor Gaucher with Dr. Gougerot of Paris, Dr. Blaschko of Berlin, and Major French, R.A.M.C. As this subject is of the greatest importance to the general health of the community, it is expected that the meeting will attract a large number of members, and consequently it has been decided to hold it in the Albert Hall on Saturday, August 9th, at 9.30 a.m.
4. A conjoint discussion with the Section of Naval and Military Medicine on the treatment of syphilis by salvarsan and allied substances, which will be opened by Professor Ehrlich of Frankfort, Professor Neisser of Breslau, Professor Vennin of Paris, while this country will be represented by Major T. W. Gibbard and Major L. W. Harrison, R.A.M.C.
5. A discussion on the vaccine treatment of diseases of the skin, which will be introduced by Professor T. C. Gilchrist of Baltimore and Professor Arthur Whitfield of London.

Papers, some dealing with the subjects under discussion, and others on independent subjects, will be read and discussed at the afternoon sessions of the Congress.

Special attention will be paid to the clinical aspect of the subject, and demonstrations of interesting cases will be held before the morning and afternoon sessions. These cases will be grouped as far as possible to illustrate the subject under discussion on each day.

Entertainments.

Arrangements are now being made for the entertainment of the members. On account of the large number which are expected, it has been found necessary to abandon the idea of a sectional dinner, and it has been decided instead to hold a reception at Prince's Restaurant on Monday, August 11th, at 9 p.m. A garden party will take place at St. Thomas's Hospital on one of the afternoons. A Ladies' Committee has been organized under the direction of Lady Morris to provide entertainment for the wives and daughters of the members.

The Secretaries of the Section are Dr. R. Cranston Low (Editor of *Transactions*), Dr. J. M. H. MacLeod (Acting Secretary), Dr. H. Leslie Roberts (Provincial Secretary), and Dr. J. H. Sequeira (Secretary in charge of Museums and Clinical Demonstrations).

Section of Therapeutics.

The Section of Therapeutics comprises also the subjects of pharmacology, physio-therapy, and balneology. It is under the presidency of Sir Lauder Brunton, Bart., F.R.S. The secretaries are Professor W. E. Dixon, F.R.S., Dr. Fortescue Fox (for physio-therapy and balneology), and Dr. R. A. Young (Acting Secretary).

The meetings of the Section will be held in the astrophysics laboratory of the Imperial College of Science and Technology, South Kensington. A laboratory meeting is

also being arranged to take place in the Pharmacological Institute of University College by kind permission of Professor A. R. Cushny, F.R.S., one of the vice-presidents of the Section. Facilities will be offered for the experimental illustration of any of the special papers which lend themselves to it.

Discussions.

The following discussions have been arranged:

Thursday, August 7th.—On defensive measures of the organism against foreign substances in the blood. To be opened by Professor Paul Heger of Brussels and Professor E. Abderha'den of Halle. Professor Ehrlich and Professor J. B. Leathes have expressed their willingness to take part in the discussion.

Friday, August 8th.—On the action and use of remedies for pain and sleeplessness (excluding anaesthetics, local and general). To be opened by Professor Hans Meyer of Vienna and Professor A. R. Cushny of London. Dr. R. B. Wild, Dr. Robert Jones, and Dr. Risien Russell also intend to speak.

Monday, August 11th.—On the comparative value of cardiac remedies. To be opened by Professor R. Gottlieb of Heidelberg and Dr. Theodore C. Janeway of New York, U.S.A. Professor Ferrannini (Camerino) and Dr. J. D. Windle are also expected to join in this discussion.

Thursday, August 14th.—On thermal treatment, its indications, limitations, and risks. To be opened by Professor Landouzy of Paris and Professor Vinai of Turin. Dr. Zagner of Berlin will also take part.

The afternoon sessions will be devoted to the reading and discussion of independent papers. The morning of the day (Saturday) on which the laboratory meeting is to be held will also be available for papers on the subjects of balneology and physio-therapy. A considerable number of papers have been offered to the Section, but as yet few have been received from British observers.

It is proposed to hold the sectional dinner on Friday, August 8th, at the Mitre Hotel, Hampton Court. The arrangements in regard to this are being made by Dr. O. F. F. Grünbaum.

A ladies' committee is being formed to assist in the entertainment of the foreign ladies attending the Congress.

ANNUAL REPORT OF THE CHIEF INSPECTOR OF FACTORIES AND WORKSHOPS FOR THE YEAR 1912.[1]

IT is seldom that a year passes without the passage of some legislation affecting the Factory Department of the Home Office, but in 1912, beyond the passing of an Act requiring that *power gas* shall have a "distinctive and readily perceptible smell," there was no new legislation. Several departmental committees are at present sitting, and their reports are expected. To Professor Kent has been entrusted the task of carrying out at Bristol University research work into the subject of fatigue in industrial occupation. The inquiry is opportune, and his findings ought to be interesting. Dr. Heywood, certifying surgeon in Darwen, is, in a similar manner, undertaking an inquiry into the physique of young persons employed in the cotton trade.

During 1912 a larger number of accidents occurred, a circumstance attributed to the increased activity of trade. Ordinarily, accident risks are greater in busy times, since less skilled persons have to be employed on additional machinery. Better reporting may also explain the increase, but many accidents are due to causes over which there is no control. The notification of non-fatal accidents is not so complete as it ought to be, since the returns under the Notification of Accidents Act, instead of exceeding, are lower than those under the Compensation Act. The fatal accidents for 1912 were 1,260, as against 1,182 for 1911 and 1,080 for 1910. The non-fatal accidents reported to inspectors of factories only, and excluding those reported to factory surgeons, were for 1912, 105,036, and for 1911, 99,944. The total number of accidents was 117,275 for 1912 and 114,442 for the previous year.

The number of factories and workshops under inspection for 1912 was 298,077; the number of effective visits paid under the Act was 404,722, including 44,042 outside the ordinary hours for protected persons. It is always pleasant to hear of fresh industrial developments. Among the new industries which have sprung up in this country mention may be made of the manufacture of beetroot sugar near Norwich, and of buckram in Stockport. In consequence of the influx of colliers into the Doncaster district such industries have sprung up for women as worsted spinning and blouse making.

So far as female labour generally is concerned, most of the complaints which have been made by workers are connected with excessive hours of employment of young girls, and the carrying of heavy weights by women and girls. Notwithstanding all that legislation has effected for the provision of sanitary conveniences for women, it is lamentable to find that factories are still allowed to be built in which arrangements of the kind are neglected. The responsibility may rest with the local authorities, but why are the plans not also submitted to the Home Office? In all factories where female labour is employed on a large scale a woman, or women, ought to be told off to supervise such places and see that they are kept in a proper manner. A similar remark applies equally to places for men, men of course taking the place of female caretakers. There is a reduction in the number of accidents in laundries in 1912, the number being 400 as against 412 for 1911. Not only has the number of accidents fallen, but their severity as well. In the reports of the lady inspectors dealing with fire risks and fire escapes attention is directed to the fact that women engaged in processes in which outbreaks of fire are not uncommon are frequently found wearing celluloid combs. To the high proportion of married women employed in the Dundee mills is attributed the large number of maladies peculiar to their sex and the excessive infant mortality.

Explosions in oil-cake mills and seed-crushing works are dealt with at considerable length by the Inspector of Dangerous Trades. There was an increase of mechanical (non-electrical) accidents at electrical generating stations by 25 per cent., but the number of electrical accidents was the same as for the previous year, namely, 58, and the fatalities the same, namely, 4. Most of the accidents occur during the cleaning, repairing, and the handling of switchboards which are supposed to be "dead." The Electrical Inspector of Factories reminds factory owners and operatives of the means to be adopted for the restoration of persons apparently dead from electric shock. Mention is made of similar advice given by Dr. Reginald Morton as to the importance of immediate and long-continued efforts for resuscitation by artificial respiration. In some instances this may have to be carried on for two hours.

The medical inspector in his report draws attention to several inquiries which have been carried on by Dr. Edgar Collis in regard to phthisis in stonemasons and granite cutters, as a result of which the view is put forward that silica is the constituent in dust which causes phthisis.

Dr. Legge states that, while there is a diminution in the figures of lead poisoning for 1912, they compare unfavourably with 1910 and 1909. The figures for 1907, 1908, 1909, 1910, 1911, and 1912 respectively are 578 with 26 deaths, 646 with 32 deaths, 553 with 30, 505 with 38, 669 with 37, and 587 with 44 deaths. There were more deaths from plumbism in 1912 than in 1911. In the china and earthenware trade alone there were 8 deaths more in 1912 than in 1911, 14 as against 6. To the inhalation of dust in lead industries is attributed most of the plumbism. Get rid of the dust, and much of the illness will disappear. The influence of fume, however, must not be forgotten. Five cases of arsenic poisoning occurred, 3 of which were due to the handling of bird skins. From seven boxes containing bird skins imported from the East Indies, 16 lb. of arsenic was collected. The men who emptied the boxes suffered from sore throat, diarrhoea, hypochondriasis, and thirst.

Anthrax caused fewer deaths in 1912 than in the preceding year. The Anthrax Investigation Board is still carrying on its investigations; the experiments show that the steaming of blood clots for fifteen minutes will kill anthrax spores, provided the wool is kept sufficiently loose to be penetrated by steam. In speaking of the symptomatology of brasstounders' ague, the views of Professor Lehmann, of Würzburg, are stated. He believes that the symptoms are due to zinc and not to copper. Ague-like symptoms develop in men when they are burning chemically-pure zinc. An almost identical set of symptoms appears in animals after the injection of albumen.

The relation of pulmonary tuberculosis to inorganic dust, already alluded to, is shown in tabular form. From

[1] His Majesty's Stationery Office [Cd. 6852], 1913; 2s. 5d.

the tables it is seen that the high rate of mortality in certain occupations is proportional to the amount of silica present in the dust which is inhaled. The comparative absence of pulmonary tuberculosis in cement workers, for example, is explained by cement being free from silica.

In material of scientific interest and as a record of work done, the annual report for 1912 compares most favourably with its predecessors

PROPOSED MEDICO-PSYCHOLOGICAL CLINIC IN LONDON.

A MEETING was held at 32, Gordon Square, Bloomsbury, on July 10th, to discuss the founding of a Medico-Psychological Clinic in London. The chair, in the absence of Lord Sandwich, was taken by Mr. BLIGH.

Dr. HECTOR MUNRO said that it was proposed to start a clinic where certain diseases might be treated by means of psycho-therapy, and where a practical alliance might be brought about between psycho-therapy and general psychology. The object of the clinic was three-fold—to provide a place where treatment by psycho-therapy might be carried out, to bring this method of treatment within the reach of the poorer classes, and to provide inquirers with opportunities for study and investigation.

Dr. SPEARMAN, Professor of Psychology in University College, said that psycho-therapy, which had been practised for the last two thousand years, had undergone certain changes in modern times, and was becoming more and more widely known and needed. Psycho-analysis was, after all, nothing but an extension of the process followed in every psychological laboratory; and no one who knew anything of the subject could doubt that the foundation of the proposed clinic would be of very real and valuable service to science.

Dr. CONSTANCE LONG said the psychological moment for the foundation of the clinic had arrived, for the public were beginning to ask that psychic disorders should be treated in a psychic way. The readiness of the public for psychic medicine was shown by the rapid growth of Christian Science amongst educated people. The speaker hastened to explain that psycho-therapy had no connexion with the doctrines of Christian Science, the present movement, indeed, being anathema to the professors of that creed. Dr. Long added that the supporters of the scheme did not propose to break new ground, but merely wished to follow the pioneers who had been working on these lines in London for the last thirty years. They proposed to use all forms of psychic treatment, such as persuasion, re-education, psycho-analysis, and even hypnotism; and they hoped thus to form a centre where psycho-therapy might not only be obtained, but studied.

Dr. LLOYD TUCKEY said that he had made use of hypnotism for many years. One reason why the medical profession should give its support to the clinic was that if legitimate medicine did not give the public what it wanted, the public would go elsewhere.

Dr. MAURICE WRIGHT said that the clinic should be of great value to all doctors who employed psychic forms of treatment, as up to the present this sort of work had only been done by isolated units, and there was great need for co-ordination. Another point in favour of the clinic was that it would be of assistance to neurologists and alienists. Psycho-neurotics were to be found in every class, and such cases amongst the very poor were in urgent need of help. If the clinic only devoted itself to the treatment of alcoholism it would amply justify its existence.

Dr. WILKINSON said that the Medico-Psychological Clinic in Liverpool, which had only been in existence for nine months and started with twenty patients a week, now had on an average about sixty. Patients came to Liverpool from every part of the country, so that the Liverpool clinic really did work for the whole of England. He added that, though England was really the home of this treatment, it was practically the last country to adopt it.

Dr. WINGFIELD said that he was more interested in the experimental than in the clinical side of the movement, because it was many years since hypnotic experiments had been carried out in this country, and the proposed clinic would offer an almost unique opportunity for such experiments. As regards psycho-analysis, it was impossible in general practice, and he doubted if it would ever come into general use in this country. But it was his firm belief that enormous good might be done by means of psycho-therapy in cases of alcoholism and that chronic drunkards who had undergone a course of psycho-treatment might be so far cured as to regain sufficient self-control to keep from drinking for several months at a time.

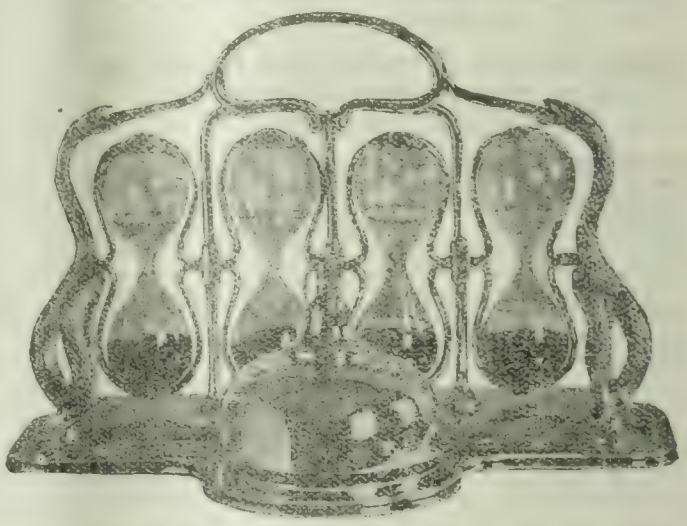
A discussion followed the speeches, in the course of which Dr. JESSIE MURRAY said that it was proposed to rent four rooms in some quiet place within easy reach of University College, where patients could come for treatment. The nominal charge for each visit was to be half a-crown, but, as it was hoped that a large proportion of the patients would belong to the very poor, the smallest offerings would be received. It was hoped that in time the clinic would be self-supporting.

The Medical Committee consists of Drs. Hector Munro, Jessie M. Murray, John Spencer, and Constance E. Long. The Honorary Secretary and Treasurer is Miss J. Turner, 14, Endsleigh Street, Tavistock Square, W.C.

GIFT TO THE REPRESENTATIVE BODY.

Duration of Speeches.

DURING the discussions in the Representative Body it has been found necessary to limit the time during which a speaker may address the meeting to five minutes, or even to three minutes. In order to facilitate the application of such a rule the Brighton Division has had prepared for presentation to the Representative Meeting a silver stand containing four hour-glasses. As will be seen from the illustration, the framework holding the time glasses is



modelled with serpents for supports. Of the four glasses, two are timed to three minutes and two to five minutes. To be stopped suddenly without warning may be very embarrassing to a speaker, and on the front of the stand the manufacturers, the Goldsmiths' and Silversmiths' Company, Ltd., have placed a silver gong, which can be rung a minute before the expiration of the three or five minutes to warn the speaker that he is getting near the end of his allotted time. The time glass stand bears the following inscription:

> PRESENTED BY THE BRIGHTON DIVISION TO THE REPRESENTATIVE MEETING OF THE BRITISH MEDICAL ASSOCIATION ON THE OCCASION OF THE 81ST ANNUAL MEETING OF THE ASSOCIATION HELD AT BRIGHTON, JULY, 1913.
>
> W. AINSLIE HOLLIS, M.D., F.R.C.P.(Lond.),
> *President.*
>
> L. A. PARRY, M.D., F.R.C.S.Eng.,
> *Hon. Local Secretary of Annual Meeting.*

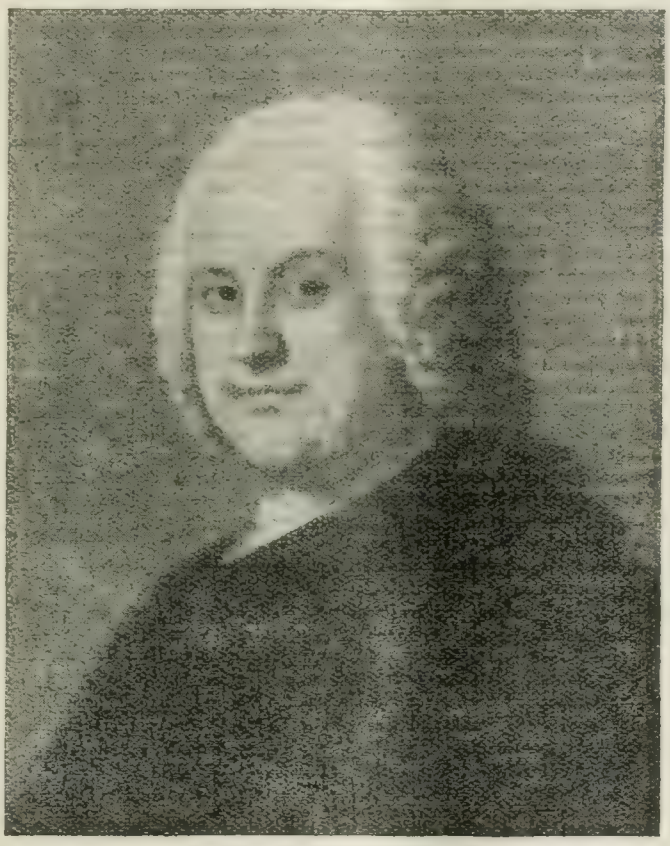
Nova et Vetera.

SOME FIGURES IN MEDICAL HISTORY.

THEODORE TRONCHIN.

THERE have been many doctors who, without enriching the art of healing by the discovery of new truth, deserve a niche in the Temple of Medicine as reformers of practice. The "fashionable physician" is not always a man of whom his brethren have reason to be proud. But there have been men whose personality has had a kind of magnetic influence on patients, and who have thus been able to inspire them with the faith and hope which play a larger part than drugs in efficacious treatment. These men have possessed that mysterious power, now known as suggestion, which enables them to make sufferers obey them and co-operate with them in setting in motion the forces that make for cure. This has often made them more successful in dealing with disease, real or imaginary, than men of greater scientific knowledge. They understand the intimate relationship between the body and the mind, and the reaction of these upon each other. Their insight into human nature often leads them to seek for the cause of disease in mental states that are overlooked by the practitioner who trusts wholly to material methods of treatment. They work on minds unhinged by passion, worry, or fear, and exorcise the demon of disease not by pills or potions, but by inducing the sufferer to minister to himself. They do not seek to drive out disease by violent medicines which reduce the patient's strength, but help Nature to work the "miracle cure" by enjoining a mode of life in conformity with her ways. Fashionable physicians of this kind are almost invariably denounced by their own profession as quacks; and, indeed, the methods they employ to inspire confidence in the patient and bend his will to theirs not seldom have in them an element of charlatanism. This, however, is by no means incompatible with honesty. It is the same quality as the power of moving the enthusiasm of crowds or stimulating the devotion of armies, and is seen in most leaders of men whether in politics or war. The power of inspiring faith in himself is an indispensable part of the equipment of a successful healer. Falstaff says that learning is mere hoard of gold kept by a devil till sack sets it in act and use. The same thing may be said of medical knowledge which is not directed by a dominating or persuasive personality. Examples of the peculiar combination of qualities which go to the making of a successful doctor may be cited from every age. We need only mention among the ancients Asclepiades, the physician and friend of Cicero, Mark Antony, and other leading men in ancient Rome. In our own day there have been physicians of the most solid scientific worth who have known the stops of the human mind and been able to play on it as on a musical instrument.

An excellent example of the fashionable physician of the best type is Tronchin, whose name was famous throughout Europe in the eighteenth century, and whose consulting room was thronged by people of the day most distinguished not merely in rank but in intellect and artistry, as if it had been a veritable shrine of healing.* He was born in 1709 at Geneva of a Provençal family, which sought refuge in Switzerland from religious persecution in the sixteenth century. From that time onwards the Tronchins played a great part in the public life of Geneva, so that the future physician began life with great advantages. He received his classical education at Geneva. His father intended him to be a clergyman, but he had little taste for theology. In fact, for some time he was more fond of dancing than of study. He would go at night several leagues on foot unknown to his parents to enjoy a ball. A serious illness which brought him to the verge of the grave turned his mind to serious things, and he resolved to give himself to work. To this change a financial disaster which overtook his father, who was ruined in the Law crash, doubtless also contributed. Young Tronchin was sent to England in the hope that Lord Bolingbroke, who was a distant family connexion, might help him to make his way. The time was badly chosen for this purpose, as Bolingbroke was out of favour at Court and was kept aloof from power by his enemies. He lived retired at Dawley, in Middlesex, seeking consolation for the disenchantments of politics in letters and agriculture. He received young Tronchin with the most cordial hospitality, and in his house the young Genevan was brought into touch with Pope and Swift. But while recognizing the intellectual advantage of such acquaintances, the canny Swiss soon saw that he could gain little from a statesman in disgrace. On the advice of Pope he went to Cambridge, where he was admitted to the intimacy of Bentley. After a year of study under that great scholar he chose medicine as a profession, and attended the London hospitals for some months. He then went to Leyden to work under Boerhaave. During his stay in London he had the good fortune to become acquainted with Mead, who took an interest in him. To a question how he had come to acquire so brilliant a reputation, the physician, of whom Johnson said that he lived more in the broad sunshine of life than almost any man, replied in words which remained engraved on Tronchin's memory, "I have done little good, but I have been careful not to do harm."



THEODORE TRONCHIN
1709-1781

In 1728 Tronchin left England for Holland, where he had relations in important positions, by whom he was certain of being well received. At that time Holland was the resort of many students from England, Scotland, Switzerland, France, and Germany. No country could boast so many renowned professors, and Leyden particularly was in its glory. Boerhaave occupied the Chairs of Medicine, Botany, and Chemistry. One of those giants of

* This account is based mainly on a work entitled *Théodore Tronchin (1709-1781) d'après des documents inédits*. By Henry Tronchin. Paris: Librairie Plon. Plon-Nourrit, et Cie., Imprimeurs-Editeurs, 8, rue Garancière—Se Genève, Librairie Kundig, Librairie de l'Institut, 11, Corraterie. 1906. The portrait is reproduced from that book. It is from a pastel by Liotard.

encyclopaedic learning whom the specialization of knowledge rendered necessary by the enormous enlargement of its boundaries has now made as extinct as the mastodon, he was almost a medical faculty in himself. So great was his celebrity that he is said to have received a letter from a Chinese Mandarin addressed simply to "M. Boerhaave, physician in Europe." Albinus was Professor of Anatomy at Leyden at the time, and S'gravesande held the Chair of Mathematics and Astronomy. Tronchin had been recommended to him by two Genevan scientists, and he took the young student into his house as a boarder. Other recommendations were not so fortunate. Bentley had given him a letter to Burmann, the professor of Greek. These *viri illustrissimi* were in almost ceaseless controversy, and the Dutchman's reception of the English scholar's letter was rather alarming. He threw it angrily on his desk and went to get a stick. Tronchin rushed out of the house and told S'gravesande that Burmann had gone mad. It turned out that the letter was not a recommendation, but a furious invective against Burmann because in his commentaries on *Phaedrus's Fables* he had ventured to criticize Bentley's remarks thereon. Such were the amenities of scholarship in those days. Of course, disputes over particles must seem very foolish to scientific men of the present day, whose controversial style is always courteous and dignified.

In 1728 Tronchin began to attend the lectures of Boerhaave. The young man with his handsome countenance, graceful figure, and intelligent face, crowned by an abundance of hair dressed in rather dandified fashion, soon attracted the notice of the master. Boerhaave was overheard to remark that so fine a head of hair must cause a great loss of time. On hearing this Tronchin forthwith submitted his flowing locks to the shearer. This quickness to take a hint gave the professor a good idea of his aptitude for learning, and Tronchin soon became his favourite pupil. The young Genevan took his doctor's degree on August 22nd, 1730, when he was barely 21. He became a citizen of Amsterdam in the following October, and in the same month was inscribed as a doctor in medicine in the college of that city. He says with evident complacency that only three years had elapsed between the moment when he first thought of medicine and his graduation. Students at the present day who read these things must be inclined to envy the short and easy way in which our predecessors were admitted *in nostro docto corpore*. On the advice of Boerhaave he settled at Amsterdam, which at that time was afflicted by an epidemic of colica Pictonum. Tronchin as a young man and a foreigner did not inspire much confidence, and he became so much discouraged that he thought of returning to England; but he knew that the protection of Boerhaave, invaluable in Holland, would be of little use in England. His master, who had great confidence in the judgement and medical capacity of his disciple, helped him through his troubles, and befriended him in every way. He told patients that Tronchin was "his other self," so that they need not come to Leyden to consult him. Boerhaave died in 1738. He seems to have tried to induce his pupil to settle at Leyden and to get him appointed his successor in some of his multifarious university offices. But Tronchin did not leave Amsterdam. He was named inspector, and afterwards president of the college of physicians of that town. His reputation extended beyond the limits of Holland. At 30 he was regarded as the worthy successor of Boerhaave, and even celebrated doctors sought his advice.

In 1740 Tronchin married Helena de Witt, not, as often said, a descendant of the famous John de Witt, but a member of an Amsterdam family of good standing. The union was very happy, although the lady seems to have been plain, and, if contemporary gossip is to be believed, of somewhat trying temper. In 1753, as Holland appeared to him to be decaying, both in political power and in morality, he sent his two sons to continue their education in Geneva. In the summer of 1754 he himself left the country in which he had passed twenty-five years of his life and returned to Switzerland. So suddenly was the decision taken that he arrived in his native country with only a dozen shirts and the clothes he had on. The reasons for this flight (as he himself calls it) are obscure. It cannot be that he had fallen out of favour, for he was invited to become the first physician to the young Stadtholder, William V, then 3 years of age. Tempting offers were also made to him by the Empress of Russia. But he determined to stay at Geneva, where he was welcomed by the magistrates, the Academy, the clergy, and even the doctors. It was proposed to re-establish for the "illustrious disciple of Boerhaave" a chair of medicine founded by Theodore Beza in 1567, but almost immediately suppressed for lack of funds. The Council agreed to confer on Tronchin the title, rank, and honours of honorary professor. On the other hand, the medical faculty expressed its resentment at this nomination, which was made behind its back, by adjourning Tronchin's admission indefinitely under various pretexts. At last a low room in a private house was offered by a friend of the Tronchin family. There Tronchin delivered lectures, sometimes in French, sometimes in Latin, and continued them till 1766, when he finally removed to Paris. He confined himself to the generalities of medicine and physical and moral hygiene. His ever-increasing practice and frequent sojournings abroad undoubtedly prevented his devoting himself entirely to the instruction of a handful of medical students. But his professional celebrity, the clearness of his expression, and the novelty of his theories, attracted an enthusiastic lay audience. Voltaire was sometimes among his hearers. Applauded by philosophers, says Condorcet, the lectures were criticized by doctors. This is hardly surprising when one knows Tronchin's views on the medicine and practitioners of his time. He urged that the foundation of medicine was the study of nature, but went on to say:

> Unfortunately the errors of doctors, their laziness, their vanity, make and will ever make this work too heavy for their feeble hands. There are less rugged paths along which one can walk without having a firm step and a sinewy calf. And thus it is that medicine, it is sad to say, is likely to remain as it always has been the scourge of the human race.

He insisted that the wise physician contented himself with removing obstacles to the operation of Nature.

> He checks her when she is too active, excites her when she goes to sleep. But it is she only who cures.

Such opinions were not likely to make a man popular with his brethren. His denunciations were so sweeping that he admitted only a few exceptions, and he made no secret of his contempt for other practitioners. He went so far as to write to Sauvage de la Croix, in 1766:

> It would be better, taking all things into account, that there should be no doctors. . . . It would be better that the lives of men should be entrusted to boon Nature, whose resources are infinite. The proof of this is all that she has done to preserve the life of men, notwithstanding the foolishness and errors of doctors.

He constantly deplores the unworthiness of his brethren, especially condemning the eagerness for gain shown by most of them; and it may be admitted that at that time medicine was too often practised by men whose chief aim was the making of money. Grimm in 1771 relates that the all-powerful Senac, physician to Louis XV, was the king of quacks; he allowed his wife to give to all who paid for the privilege permits to sell throughout the kingdom drugs often mischievous to the health of the people.

Tronchin was an ardent advocate of inoculation, which he introduced into Holland in 1748, and into Switzerland, where he had made a short stay, in 1749. He devoted himself to the diffusion of this means of mitigating the ravages of small-pox and to the overcoming of opposition on the part of the medical profession and the clergy. He improved the procedure, and was called by Grimm the most fortunate inoculator in Europe. He had powerful allies in Voltaire and La Condamine. But while steady progress was made in other countries, France refused to accept the method. When in 1756 the Duke of Orleans invited Tronchin to inoculate his children there was a general outcry. He made a mystery of his journey to Paris for the purpose, and when it became known that he had inoculated the Duke of Chartres the whole of Paris kept its eyes fixed on the Palais Royal for three weeks, awaiting the issue with feverish anxiety. When the success of the experiment was officially made public, opinion changed and inoculation and the inoculator became the fashion. Women wore "inoculation bonnets," the ribbons of which were ornamented with imitations of small-pox pustules, and a large trade was done in "Tronchin's vinegar," described as a wonderful preserva-

tive against pestilential diseases. The Genevan doctor's dwelling was besieged by crowds seeking counsel of the new oracle, to such an extent that the street in which he lived became impassable. On leaving Paris he received from the Duke of Orleans a fee of 50,000 livres, besides gold snuffboxes and jewels. He must also have carried away with him a rich booty of fees. A contemporary writer, the Duc de Luynes, quotes Tronchin as stating that during his stay in Paris he had inoculated 20,000 persons without a single death.

His prodigious vogue in Paris made his name famous throughout Europe. He was the recognized authority on inoculation, and crowned heads and great nobles sent doctors to Geneva to be instructed by him. A triumph that must have been specially gratifying to him, as inoculation had been opposed with particular bitterness in Italy, was his successful inoculation of Prince Ferdinand of Parma. In 1774 Louis XVI, soon after he came to the throne, was successfully inoculated, together with his brothers. Nevertheless the battle among the doctors still raged, and did not finally end till the introduction of vaccination made the question obsolete.

Tronchin made of Geneva a place to which pilgrims in search of health went from all parts of Europe. Voltaire compares him to Aesculapius and his house to the celebrated temple of Epidauros. Thither flocked great ladies, ministers, ambassadors, generals, magistrates, writers, and actresses. Nearly all the best-known people of France, among them royal personages, the greatest nobles, cardinals, archbishops, and philosophers, were his patients. People lived for months under his eye and filled the inns and lodging-houses of Geneva and the villas in its neighbourhood, to be near him. An English colony, comprising the leaders of fashion, dwelt in the dull little Swiss town under his wing. When he left Geneva the group of devotees who had gathered about the shrine dispersed. Voltaire was his near neighbour, and while scoffing at doctors called in Tronchin for the slightest indisposition. To the physician he also looked for protection in the many troubles which his meddling with the affairs of the Swiss Republic and his unscrupulous pamphleteering brought about his head. He flattered Tronchin in the most fulsome way, but the doctor was not in the least intoxicated by his incense nor deceived as to his character. Relations between them became strained in consequence, though Voltaire never hesitated to ask favours of the doctor. During his last visit to Paris he called in Tronchin, who wished him to go back to Ferney and remain quiet. This advice was not followed, and the terrors of Voltaire's deathbed made a deep impression on the physician's mind. Tronchin was also at one time on intimate terms with Jean Jacques Rousseau, and, like every other person who had the misfortune to be a friend of the "citizen of Geneva," came to be regarded by him as one of those who conspired against his peace. He called the physician "the juggler," and described him as his most mortal enemy. Him, too, Tronchin knew well, and he deliberately expressed the opinion that he was an infamous scoundrel and an enemy of his country and of mankind.

Wearied by the war of political and religious factions at Geneva, Tronchin settled in Paris in 1766. The Duke of Orleans welcomed him with open arms, and appointed him his physician. As before, he was the object of systematic hostility on the part of the doctors, who used every artifice to undermine his reputation. But Tronchin went his way secure in the esteem of the Court and the intelligent public. Though fashionable people still crowded to him for his advice, he stood aside from the social dissipations then carried almost to the pitch of frenzy, foreseeing like so many other observers the catastrophe of the Revolution, and looking on at the follies in which he took no part as at a wild dance on the edge of a volcano. He did not live to witness the upheaval, dying in the Palais Royal on November 30th, 1781, in the 72nd year of his age. The Duke of Orleans mourned for him as for a brother and he was followed to the grave by crowds of poor people. This was a testimony to his charity; he not only saw poor patients on certain days without a fee, but gave them money to buy the remedies which he ordered. This generosity prevented his acquiring a large fortune.

Tronchin was satirically but not altogether untruly described by one of his brethren as a skilful doctor for fashionable people, and a perfect man of the world in the eyes of doctors. While maintaining the closest relations with men who were tearing up the roots of old beliefs, he lived and died firm in his religious convictions. He was a man of high principle, with a deep sense of the dignity and responsibility of his profession. With this he combined a large fund of shrewd common sense; this, together with a gift of keen observation, made him the successful practitioner he undoubtedly was. Though his manner was sympathetic and conciliatory he was firm in handling the sceptical and self-indulgent people who asked his advice, and he told them the truth about their mode of life in the plainest language. His success was no doubt aided by his fine presence. He was six feet high, and Voltaire, who called him Apollo, thus describes his appearance:

> Sur son beau front siège le doux repos,
> Son nez romain dès l'abord en impose,
> Ses yeux sont noirs, ses lèvres sont de rose.

The charm of his conversation made him very acceptable as a companion, and Voltaire said no one spoke better or had more wit. He had subtlety of thought, grace of expression, and quickness of repartee. But this gently playful tone could become masterful, and his jesting smile hid a will that was accustomed to be obeyed. His professional correspondence was immense. Sovereigns and rulers wrote to him from nearly all parts for advice as to their own health and that of their children. Pope Clement XIV sent him a letter of thanks for his successful treatment of Cardinal Colonna. Tronchin wrote only one book, a Latin treatise on the colica Pictonum, and this was produced in response to pressure by friends. It was published at Geneva in 1757. The subject was opportunely chosen, as the most diverse views were held as to its cause. Tronchin deserves credit for recognizing that the colics of Poitou were often caused by lead which was added to wine by some manufacturers to sweeten it and give it colour. But the work after all was little more than a compilation, although the celebrity of his name made it known throughout Europe, and he received congratulations on it from such men as Van Swieten and Quesnay. There were, however, many critics, in particular Bouvart, a Paris physician with a bitter pen who had given especial attention to the disease. Tronchin refused to write more, pleading want of time. He could hardly deal with his correspondence, and he was satisfied with having wrought in Paris a revolution in medicine for which people were grateful. Although he had many bitter enemies among the doctors, he had also not a few friends. He was a member of the College of Physicians of Montpellier, of the Paris Academy of Surgery, a foreign Associate of the Academies of Science of Berlin, Paris, Edinburgh, Stockholm and St. Petersburg, and a Fellow of the Royal Society of London.

Tronchin did not seek for his theories in books; he was before all an observer. Grimm exactly characterized him in a few words when he said, "Never did physician more consult Nature or seize with more sagacity all its movements and indications." Tronchin himself deplored what he calls the fatal activity of his brethren. He held that it was often the height of wisdom to do nothing. He was an eclectic and denounced all sects and systems. In his time violent purges, bleeding, and emetics formed the basis of therapeutics. Even in slight diseases these drastic methods were employed, and they were generally demanded by the patient. Against bleeding Tronchin was particularly vehement. He was accustomed to say that the number of specifics diminished in proportion as wisdom increased. The remedies he prescribed were always simple. He seems to have had a special predilection for soap pills. Among his French patients he had many courtiers suffering from the excesses of the Regency. To tell such people to be prudent, to order the number of hours they should sleep, and to regulate their meals and manner of life would have been useless. In such cases the adroit physician reduced the prescription apparently to a simple injunction to take three pills (Tronchin's) every day, with the instruction:

> N.B.—It is essential that these should be taken as follows: The first at seven in the morning on getting up; the second at five in the afternoon, after a moderate repast; the third at nine o'clock on going to bed.

This method was successful, and the pills, which contained

nothing more potent than *mica panis*, worked wonders. The novel point about Tronchin's practice was hygiene, which was then almost completely neglected. Diet, pure air, exercise, life in the country, friction with dry flannel or a flesh brush, and above all movement by whatever manner it might be obtained, were his favourite prescriptions. Like Sydenham he believed in riding, and often ordered horse exercise. He would order an abbé suffering from headache to saw his own wood, and great ladies to sweep out their rooms and make their beds. Thirty years before the Revolution he persuaded women of quality to take morning walks. This became fashionable, and short dresses without panniers were invented, and got the name of Tronchines. The word *Tronchiner* became common among fine folk. It expressed the action of walking in flat-soled shoes with a stick in the hand for the sake of health. He was particular as to the hygiene of literary people. He held that intellectual work should begin with sunrise and be continued till noon. Work at the desk should be done standing; in a long letter to Diderot he lays stress on the organic troubles which result from sitting bent forward. Hence desks *à la Tronchin* became fashionable. It may be remembered that Victor Hugo always worked in the standing position. Tronchin allowed seven hours for sleep. He denounced the overfurnishing of rooms and living in a vitiated atmosphere. He insisted that the windows of Versailles, which by custom were hermetically sealed from the end of November till Easter, should be thrown open, and he called the attention of Louis XV to the dangers caused by the stagnant waters of the grand canal. He advised the substitution of a hair pillow for the heap of feather cushions at that time in use and to sleep with the bed curtains thrown open and the head covered as little as possible. He warred against cravats, too warm headdresses, and too tight skirt bands. Against nightcaps and wigs he was particularly vehement. Diet played a chief part in Tronchin's prescriptions; he was always warning his patients against overeating. Sometimes he prescribed a vegetarian diet and he recognized the benefit of a milk diet. He regarded plain water as the wholesomest of drinks. But he drew a distinction between use and abuse in regard to wine, which taken in small quantities and diluted he regarded as an excellent tonic and digestive. He tolerated beer but strictly forbade strong drinks. Spirits were in his eyes a "cutting instrument that one uses in the dark." But whatever the drink might be, it was always to be taken cold. He condemned hot infusions, then considered wholesome, as harmful to the digestion and consequently the general strength. Tea and coffee he looked upon with special disfavour, saying that since the use of these hot drinks had become general new diseases of nervous type had arisen. He thought they weakened the human race. For the same reason he condemned hot baths. He recommended gymnastics, riding, and fencing to young men; he exhorted parents to give their children a less effeminate education. He laid the strongest stress on suckling by mothers, and he went into the minutest details as to the hygiene of newborn babes, especially condemning the practice of drugging them, and forbade the practice of wrapping them in swaddling clothes. He is entitled to honour as an innovator in certain fields of practice. In 1756, having been called to the little Duke of Chartres, who had a spinal curvature, he employed with complete success the method of suspension which was not to come into use till 150 years later. He cured an ecclesiastical dignitary of what seems to have been facial neuralgia by division of one or more branches of the trigeminal nerve.

From Tronchin Rousseau learnt the details of the hygiene of childhood preached in his *Emile*. From him, too, Jean Jacques learnt his enthusiasm for free play in the open air, and his aversion for a sedentary life. Rousseau, being a man of systems, carried this one to excess. Tronchin, more enlightened, did not ask that children should be brought up in the Spartan manner, or that they should be allowed to run about in all weathers to harden them, or that they should sleep in damp places, and drink iced water when they were perspiring.

In the second half of the eighteenth century there was an immense trade in quack remedies and pretended specifics for the nervous troubles so common among women at that time. Tronchin, by a combination of hygiene and moral medicine, introduced a real reaction in the treatment of neuroses which became his speciality. His profound conviction of the intimate connexion between the soul and the body led him to use largely methods that would now be called psycho-therapeutic. He blames the doctors of his time for not seeing that it is often the spirit rather than the body that is diseased, and that the use of purging, emetics, and bleeding only makes matters worse. If they knew, he says, how to make use of psychology they would often cure diseases that seem incurable. Of course the body requires some treatment, but they should always begin with the spirit. Perhaps it may be said that he to some extent abused his spiritual medicine, although he recognized how difficult and delicate a thing it was to handle. In a pregnant sentence he says that it is not enough to know the evil and the remedy for it; one must be able to get the remedy used. He knew what could be done by persuasion, aided by the effect of his presence. His secret is revealed in the following statement:

> I know doctors to whom there is only lacking the art of inspiring this confidence to be successful.

He himself recognized that his vogue was more artificial than deserved, and was under no illusion as to the efficacy of his treatment in many conditions. He admitted that the doctors of Paris rightly reproached him with seeing too many patients, but pleads that he could not help this. "If any one," he said, "professes to regard too large a practice as criminal, I venture to say it is myself. One does not see diseases when one sees too many patients."

Tronchin was almost an international power in his day. He was a fashionable physician in the largest and best sense. Probably no doctor has ever held such a position in the eyes of the great world. His campaign of small-pox inoculation made him known, but we must seek elsewhere for the causes of his celebrity. At a time when medicine had not yet freed itself from the shackles of authority he contented himself with observing nature and letting it work. This is the fundamental principle of his method. There was little new in his treatment; it was the moral force of his personality made him great.

LITERARY NOTES.

DR. BALKRISHNA SHARMA of Delhi has recently translated Dr. S. Adolphus Knopf's international prize essay on tuberculosis. Tuberculosis is very prevalent in India, and the Hindi language is spoken by more than eighty million people; Dr. Balkrishna Sharma has therefore done well to translate for the benefit of his country a book primarily intended for the education of the public. A new issue of the seventh American edition of Dr. Knopf's work has just appeared. Since the publication of the original first edition in 1900, thirty-six different editions in various languages spoken in Europe, America, and Asia have appeared, including the Hindi version above referred to and the recently issued French-Canadian translation.

The *British Review* for July has a varied and interesting table of contents. None of the articles, however, has any particular relation to medicine. Among the most interesting is "The Conversion of the Celt," by Shane Leslie. Katharine Tynan contributes a pretty story entitled "An Irish Morning," and there is a charming poem, "The Girl and the Faun," by Mr. Eden Phillpotts. We congratulate the editor, Mr. Richard Johnson Walker, on the excellence of his choice of literary material and on the manner in which it is produced.

In a story entitled "Holloway's Corot," which appears in the July number of the *Strand Magazine*, Mr. Morley Roberts introduces a doctor who is called to a child on the verge of suffocation from diphtheria. When told by the nurse that the attack had come on half an hour before, he makes the extraordinary reflection:

> Yes, she was a bad nurse—there were tears in her eyes. By now a good nurse with her wits about her would have done a tracheotomy on the boy, even if she had had to do it with a penknife.

Mr. Morley Roberts knows more of surgery than the average writer of stories, which makes this judgement of a nurse's capabilities all the more extraordinary. The

modern nurse has already quite enough responsibility to bear; if she is expected to do tracheotomy with a penknife her position will become impossible. Popular writers owe a duty to the public in regard to medical matters, for readers may be seriously misled by inaccurate descriptions. We remember that a few years ago there was an account of a case of diphtheria in a monthly magazine of the highest class where the hero was said to have deliberately sacrificed his life by sucking the poisonous matter from the little patient's throat through a quill introduced by the mouth!

Robert Bridges, M.B.Oxford, F.R.C.P., formerly casualty physician at St. Bartholomew's and assistant physician at the Children's Hospital, Great Ormond Street, who has just been appointed Poet Laureate, has written an interesting and amusing booklet on the present state of English pronunciation. He shows from a table of phonetic transcriptions of the actual pronunciation even of educated people, by Daniel Jones, issued by the University Press at Oxford, how the vowel sounds have become altered. For instance, "of" into "erv," "and" into "ernd," "from" into "frerm," and "to" into "ter," and so forth. In illustration of this he tells the following story:

My friend, the late Dr. Gee, going his round of the hospital wards one day, came to the bedside of a newly admitted patient. After examining him carefully, and finding little the matter with him, he called for the bed-card, and in his deliberate manner prescribed thereon a diet with a *placebo* to be taken three times a day. The man, frightened by his gravity and his silence, feared the worst (he may perhaps have been reading Mr. Stephen Coleridge's letters in the newspapers), and was no sooner left alone than he snatched down the board, and, seeing cabalistic signs, and at the foot of them the awful words *ter die*, and reading them, this learned man, with much the same kind of pronunciation as the Public Orator will use at Oxford, he saw as he thought his death warrant: so he whipped out of bed, and fled for his life; to add, no doubt, a new tale to the *terrers* of the hospital.

Mr. Bridges says that any one who thinks his own speech above reproach should at once examine it; if he cannot trust his own ear, let him ask a friend to note what sounds he really utters when he talks. He thinks the person thus tested may congratulate himself if he does not pronounce more than 70 per cent. of his words in the way that has been indicated. The remedy, he says, is to spell as we pronounce, the standard being fixed as we judge words should be pronounced, "not as we foresee or guess they are coming to be pronounced in the normal process of unimpeded degradation." Another help suggested is that school boys should no longer be taught to pronounce Latin as English.

In the May number of the *Canadian Medical Association Journal*, Dr. R. D. Rudolf, of Toronto, quotes a case which he describes as the earliest one in which appendicitis was distinctly recognized. The first account of the condition is usually assigned to Mestivier, who in 1759 reported the case of a man who had a fluctuating tumour in the umbilical region on the right side; about a pint of pus was withdrawn by incision, the wound healed rapidly, but the patient died shortly afterwards. After death a large pin, very rusty and so corroded that the least touch would have broken it, was found in the appendix. It evidently had been there a long time, and Mestivier had no doubt that it had given rise to all the symptoms, and finally caused death. Dr. Rudolf, however, calls attention to a more typical case, not caused by a foreign body, which is reported in Lorenz Heister's *Cases in Surgery*. An account of Heister was given in the JOURNAL of July 12th, p. 80. The report is as follows:

In the month of November, 1711, as I was dissecting the body of a malefactor in the public theatre at Altdorff, I found the small guts very red and inflamed in several places in so much that the smallest vessels were as beautifully filled with blood as if they had been injected with red wax in the most skilful manner after Ruysch's method. But when I was about to demonstrate the situation of the great guts, I found the vermiform process of the caecum preternaturally black, adhering closer to the peritoneum than usual. As I now was about to separate it by gently pulling it asunder the membranes of this process broke notwithstanding the body was quite fresh and discharged two or three spoonfuls of matter. This instance may stand as a proof of the possibility of inflammations arising and abscesses forming in the appendicular as well as in other parts of the body, which I have not observed to have been much noticed by other writers, and when in practice we meet with a burning and pain where this part is situated we ought to give attention to it. It is probable that this person might have had some pain in this part, but of this I could get no information.

Heister thought such a condition should be treated by clysters prepared with emollient and discutient herbs, such as mallows, marsh mallows, and camomile flowers, and the like remedies against inflammations, boiled in milk, and used frequently, because, he says, they reach the part, and may resolve the inflammation or bring the abscess to a suppuration, partly by their warmth, partly by their resolving and discutient qualities, opening the abscess that the matter may be discharged by stool. When the parts in the abdomen have become "corroded" death must follow.

Edmund Burke married the daughter of a Dr. Nugent, a physician at Bath. Nugent eventually took up his residence with his son-in-law in London, and became a popular member of that famous group of men of letters and artists whom Boswell has made familiar to all later generations. A member of that society was an eminent attorney called Hickey, whose name is commemorated in Goldsmith's poem, Retaliation, in the lines beginning:

> Here Hickey reclines, a most blunt pleasant creature,
> And slander itself must allow him good nature;
> He cherished his friend and he relished a bumper—

and so forth. He had a graceless son named William, whose memoirs (1749–75), edited by Alfred Spencer, have recently been published by Messrs. Hurst and Blackett. He says that Nugent was an intimate friend of his family, every member of which looked upon him with gratitude as having saved his father's life. As the method of treatment was a somewhat curious one, it may not be out of place to quote it. A few years after his marriage the elder Hickey became seriously indisposed, lost his spirits and his appetite, becoming steadily weaker and weaker:

The medical gentlemen, long at a loss to give a name to his disorder, after drenching him in vain with physic pronounced him to be in a deep decline. He was therefore put upon a vegetable diet, forbid the use of wine and strong liquors, and according to the then and still prevailing system, when the London doctors know not what to do, was, as a forlorn hope, ordered to Bristol. To the hot wells he accordingly went, where he was gradually and fast sinking to the grave, when fortunately for him Dr. Nugent arrived. They had been at Dublin College together, and there formed a friendship of the warmest nature. This was their first meeting since leaving the university. The doctor expressed great concern at seeing his fellow collegian in so reduced a state. He inquired into the particulars of his case and the manner in which the medical man had treated him. After having satisfied himself on these points, he said, "Well, Joe, we must now try what can be done for you here, and I by no means consider your case a desperate one. I shall come and dine with you, when we will talk further upon the subject, so order a nice small sirloin of beef to be roasted, and, I scarcely need add, a bottle of good claret." The order being obeyed and dinner served, the friends sat down, my father having his miserable basin of gruel placed before him, of which, however, he scarcely swallowed a spoonful. Dr. Nugent helped himself liberally to the roast beef, which he pronounced excellent, and admirably dressed. After eating some time he asked my father whether the smell of the victuals oppressed or was disagreeable to him, to which he answered, "By no means; quite the reverse, the savour of the meat is pleasant to me." "Why, then," continued the Doctor, "perhaps you'd like to have a slice." My father, who concluded he was not serious, replied, "That is not fair, Doctor, to tantalize me when I am sure I could eat a pound of it." "Say you so, Joe," said the Doctor, "then by Jove you shall have a good slice, though not a pound," and he immediately cut him a tolerable sized bit. My father, in utter astonishment, could hardly believe his sight or hearing; he, however, devoured the beef with infinite glee. "And now," said the Doctor, "probably you would like to wash down the meat with a glass of claret," accompanying his speech by pouring out a couple of bumpers, one of which my father swallowed with equal surprise and pleasure. "And how do you feel after that?" inquired the Doctor. "Quite a new man," answered the patient, "and ready for a second edition." But to that the Doctor gravely said: "No, no, you have done very well for a beginning, and must now be content to see me eat and drink, but to-morrow morning I shall call early, and if I find you as well as I expect and hope for, you shall at four o'clock not only repeat the dose, but increase the quantity."

The patient, after a better night's rest than he had had for many months, rose wonderfully refreshed, took two slices of beef and two bumpers of claret the second day, threw physic to the dogs, and from that time to the day of his death, which occurred more than half a century later, never knew a day's illness

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SATURDAY, JULY 19th, 1913.

THE AMENDING INSURANCE BILL.

The debate on the Insurance Act Amendment Bill in the House of Commons on Tuesday, though short, was highly instructive, and will well repay careful study by medical practitioners whether they are or are not working, willingly or unwillingly, under the Insurance Act. It is reported in the Supplement, p. 92.

The very confident prophecies of a year ago, that by the anniversary of the Insurance Act coming into force the scheme would have become popular, have not been fulfilled. The Act is not really popular with any class, and it is extremely unpopular with some. Mr. Lloyd George comforts himself by saying that this was to be expected, and that the unpopularity will eventually pass away—in two or three years or so.

But if the Act and its administration are unpopular in the constituencies, this is an attitude of mind which cannot be neglected by the House of Commons. We say the House of Commons rather than the Government advisedly, because when dissatisfaction with domestic legislation which, as in this instance, affects all classes, is widespread, it becomes a matter of direct personal concern to every member of Parliament who must ask himself what is the state of opinion in his own constituency. He is not content in such a case merely to register his leaders' decisions; on the contrary, the results of his inquiries and cogitation quickly find their way to the party whips. Under the party system of government advantage is taken of any indication of a distinct current of opinion, not only by the leaders but by those who seek to influence them and play off one party against another. The activity recently displayed by the officials of some of the friendly societies in demanding "the restoration to them of the right to administer medical benefit" is evidently due to the belief that the unpopularity of the insurance scheme in many quarters may be utilized to win over one or other party to their views. There is evidence that the Unionist party organization has been considering the question whether it would not be a good tactical move to side with the dissatisfied officials of the friendly societies and promise if the party comes into power to put the control of medical benefit in the hands of the societies; there is concrete evidence of this in the amendment of which Mr. G. Locker-Lampson has given notice, to transfer under certain not onerous conditions the administration of medical benefit to approved societies (Supplement, p. 96). The demand is made on the ground that the drain on the funds of the societies has proved to be greater than was estimated, owing partly, as is alleged, to the great cost of administration and partly or chiefly to the claims for sickness benefit being greatly in excess of such experience as the societies previously had. The debate on Tuesday will have gone a long way to knock the bottom out of all this. It is true that Mr. Masterman, who, if not conciliatory, is usually almost painfully logical, did not on this occasion display that quality. He alleged that the increase in the amount of sickness disbursements during the second quarter was due to the fact, which he admitted had not been explained, that there had been an unusual amount of genuine illness; he asserted that the increase was not general, and that the sickness experience in some of the largest societies had not come up to the amount allowed for in the actuarial estimates; and, finally assuming that there was a general excess, he attributed it to the laxity of the medical profession in giving certificates or to their being given with the deliberate intention to wreck the Act. These insinuations were repelled from his own side of the House by Dr. Addison and from the other by Sir Henry Craik, who spoke with justifiable indignation; it was repelled also by members of the Labour Party, and will, it may be expected, find its quietus as the result of the inquiry by the committee of representatives of the approved societies and of the medical profession which is to be set up, and is to sit during the autumn and winter.

We have no doubt that it will be shown that the increased demand for sickness benefit, to whatever extent it may really have been experienced, is in the main due to the bringing into medical benefit by the friendly societies of millions of persons who had been previously rejected by the societies as unsound or who had not sought to make any voluntary provision. That these two circumstances, and the second in particular, must have had a great effect appears to be shown by the very high sickness-rates among women, especially in some areas—a point which Dr. Addison, a professed friend of the insurance scheme, brought out very clearly.

The constitution of this committee of inquiry is a matter to which the British Medical Association must give attention, and the subject will no doubt be raised during the Annual Representative Meeting. It is one upon which the Association ought to be in a particularly favourable position to speak. But if it is to put forward the case of the profession effectively, and to combat the approved societies in the campaign against the doctors in which some of them appear anxious to engage, it must be able to speak in the name of the whole profession. Mr. Masterman did not resist the temptation to twit us on our divided counsels, alleging that we were divided into two classes—panel and non-panel—and that we were in a hopeless dilemma about contracting out. The sting in these taunts is that there is a measure of truth in them. After achieving so many valuable points by our union through the British Medical Association, we are in danger of showing to the nation a picture similar to that presented by the Balkan States, to the disgust and derision of Europe.

DENTISTRY IN THE UNIVERSITY OF LONDON.

The report of the Royal Commission on University Education in London contains a section devoted to dental surgery, which is of especial interest because it records the considered opinion of Commissioners who came fresh to the subject and formed their conclusions upon the copious evidence submitted to

them. The only important step so far taken by the University of London is the establishment of the degree of Master in Dental Surgery. For this degree no one has yet presented himself, and, as a candidate must have taken the degrees of M.B., B.S., and then have undergone an extra year of study, finally passing an examination based on lines corresponding to those for the M.S., the conditions are so onerous that very few can ever be expected to attempt it.

The Commissioners look upon its establishment as a mistake; not only because for all practical purposes it fails to afford a university degree for dentists, and hence can have little or no influence upon dental education, but also because they doubt whether the full range of instruction in medicine and surgery which it involves is the scientific foundation most appropriate for the dental surgeon.

With regard to the institution of a first degree in dental surgery, they sound a rather uncertain note; their report, indeed, is open to the criticism that they first show reasons against it, and then go on to recommend it. Their real attitude appears to be that, whilst they consider that it would be unwise to set up for the majority of dentists a standard high enough to be proper for a university degree, such a degree should be open to the more ambitious student. In other words, they pronounce themselves in favour of two grades of purely dental qualification, one to be granted by the University, the other by the licensing bodies.

They suggest that the University ought to undertake the training for its degree, and they sketch out a course of education which does not materially differ from that now in vogue at the College of Surgeons. But they seem somewhat to have misapprehended the scope of the latter curriculum when they imply that in it the acquirement of manipulative skill has tended to oust scientific training, for precisely the opposite view has sometimes been expressed as a complaint against the College.

They suggest that the University should institute a qualifying degree of somewhat higher standard than existing licences, and that up to a certain point the curriculum should proceed upon the same lines as the medical curriculum. They advise that the University should undertake this training, but add that the provision need not at present be extensive, as they imagine that the course will be beyond the means of the majority of dental students. They add that the University should not enter into competition with the College of Surgeons by instituting a mere licence, a course which has been pursued by some of the provincial universities.

It is worth while to look into the grounds upon which these conclusions are based; they may be deduced partly from the evidence offered before the Commissioners and partly from their own statements. They would encourage the dental student, when possible, to take a degree in medicine and surgery, but they do not regard this as an essential precedent to a degree in dentistry, inasmuch as it cannot be maintained that the minimum accepted for a medical qualification does guarantee a scientific knowledge of the whole, and they remark that the medical curriculum "is directed at least as much to range of subjects as to thoroughness of scientific grounding." Here they touch upon an old and still unsettled controversy; some who have enjoyed good opportunities of judging think that the dental student who is able to go beyond the minimal dental qualification cannot do better than take a medical diploma, whilst others hold that there is room for a higher special dental diploma or degree, and it is evident that the Commissioners lean towards this latter view.

It is evident also that the Commissioners have been influenced by other than purely educational considerations, for they allude to the unsatisfactory state of the law, pointing out that so long as the law remains as weak as it is (and it has been further weakened by recent legal decisions) no higher standard can be required, whilst even if the law were strengthened by restrictive legislation it might become necessary to lower existing standards in order to secure a supply speedily. On this it might be remarked that the inadequacy of the law, by depreciating the prospects of the qualified dentist, greatly diminishes the supply of those seeking a qualification, and it is not an unknown thing for a student to go through his courses of instruction and then make no attempt to get a qualification.

The Commissioners remark that there are only about 3,150 qualified dentists as against, probably, from 25,000 to 35,000 unqualified practitioners. But these figures require some comment before conclusions can be drawn from them. There are about 5,100 names upon the *Dentists Register*, of whom more than 67 per cent. hold the diplomas of licensing bodies, whilst the remaining 33 per cent. were registered in virtue of having been in practice prior to 1878, and are, therefore, mostly of advanced age. The numbers upon the *Register* remain fairly constant, the losses by death being made up by the new entries of fully qualified persons. As the dentists registered as in practice before 1878 are in the eye of the law in the same position as those holding qualifications, and as the 3,150 is not only below the actual figure but represents a steadily increasing number, it is a little misleading. For the figure of 25,000 to 35,000 irregular practitioners there is little authority; so far as we know, it rests upon a mere guess, or perhaps upon the irresponsible statements of a body of unqualified practitioners, numbering, we believe, about 2,000.

Nevertheless, although the figures may be quite unreliable, there is no doubt that the number of irregular practitioners is very large, and it is believed to be rapidly increasing. Facts which have since come to light show that the 5,000 odd who registered about 1878 included not only all of the dentists of that date, but a good many who had very small claim to the title, and it may safely be assumed that at that date there were not materially more than 5,000 persons obtaining a living by the practice of dentistry. Since that time the population has increased, but the number of registered dentists has remained constant. And, although the number of students entering shows some increase of late years, so that the numbers may be more than kept up in the future, the rate of increase of qualified men is disappointing, and we have no doubt that the Commissioners are right in attributing this to the weakness of the law, which exposes them to unfair competition.

We welcome the report as acknowledging the claim of dental surgery to be recognized as a learned profession, and as advising the University to take it under its wing to an extent hitherto not contemplated; that the Commissioners have not felt themselves able to go further than they have is evidently due to their recognition of the difficulties which have already been mentioned and which have their root in the unsatisfactory state of the law.

THE SECOND INTERNATIONAL OPIUM CONFERENCE.

IN accordance with Article 23 of the International Opium Convention, which was drawn up and signed by twelve Powers in January, 1912, a further Conference was held at the Hague from July 1st to 9th. The object of this Conference, to which all the Powers who in the intervening eighteen months had signed the original Convention were invited by the Netherlands Government, was primarily to consider the possibility of proceeding to the ratification of the Convention, notwithstanding the fact that some dozen Powers had for various reasons or no reason either omitted or refused to sign.

It will be remembered that the object of the Convention was to institute stringent international control over the preparation, sale, import and export, of opium, morphine, cocaine, and certain other drugs liable to similar abuse. At the opening sitting of this Conference, which took place in the Hall of Knights in the old Binnenhof Palace at the Hague on the afternoon of July 1st, twenty-four nations were represented, namely, Germany, United States, Argentine, Belgium, Brazil, Chili, China, Columbia, Costa Rica, Denmark, Dominica, Ecuador, Spain, France, Great Britain, Haiti, Italy, Japan, Luxemburg, Mexico, Netherlands, Portugal, Russia, and Siam. The chair was taken by Jonkheer de Marees van Swinderen, the Dutch Minister for Foreign Affairs, who in the name of Queen Wilhelmina welcomed the assembled delegates. M. Cremer, the first Dutch delegate, was elected Chairman of the Conference, and a Secretariat was appointed. Some discussion was raised by Dr. Hamilton Wright, the first American delegate, as to procedure and the arrangement of the programme, but Sir William Collins, who with Mr. Max Müller was plenipotentiary for Great Britain, urged that the main work of the Conference was confined to proceeding under Article 23 of the Convention to consider the question of ratification, and remove obstacles in the way thereof.

On July 2nd, at the second session, a resolution was handed in on behalf of the German, British, French, American, Dutch, and Russian delegations, dealing with the main question of ratification of the Convention. It appeared that, of the 34 Powers not represented at the first Conference, 22 had already signed the Convention. Of the remaining 12, three only had declined to sign—namely, Turkey, Greece, and Switzerland. Three other Powers—Austria-Hungary, Norway, and Sweden—had refrained from signing, owing to some misapprehension as to the legislation which would be necessitated. Roumania was still considering the question. Bulgaria and Uruguay were ready to sign, while Peru, Montenegro, and Servia had not sent in any reply.

Each nation was then invited to state in turn whether, in view of the situation thus disclosed, it was prepared to proceed to ratify the Convention. All except four or five of those represented were said to be prepared to sign, subject, however, in most cases to the approval by their respective Legislatures. Statements were made on behalf of Germany, France, Great Britain, Portugal, and Russia as to their views in regard to the need of general international co-operation, in order to secure that the Convention should be effectively carried out.

At the third session the resolution submitted on behalf of the aforenamed group of Powers was carried unanimously; it formulated certain representations to be made on behalf of the Conference to the various abstaining Powers, explaining the need for their co-operation, and expressing regret that their signatures had not up to the present been affixed to the Convention. It was further decided that those Powers who were ready to deposit their ratifications should be at liberty to do so forthwith, and it is understood that several Powers have accordingly made such deposit.

Lastly, a resolution was passed, again unanimously, requesting the Netherlands Government, in the event of signature by all the abstaining Powers not having been obtained by the end of this year, to invite all the signatories to send representatives to the Hague to consider, not the question of ratification, but the question of putting in force the Convention of January, 1912. This would appear to register a definite advance; moreover, the representations to be made to the abstaining Powers on behalf of the Conference through the Dutch Minister for Foreign Affairs are, we understand, to be backed and supported by representations to be made by the Ministers of all the signatory Powers at the capitals of the countries in question. It is thus hoped to secure that worldwide co-operation which is so desirable, even if it be not essential, to rendering really effective the stipulations of the Opium Convention.

On July 9th a final sitting was held, at which the protocol prepared by the Comité de Rédaction, under Mr. Van Deventer's presidency, was signed on behalf of the twenty-four participatory Powers, and formal votes of thanks to Mr. Cremer, the President, and the Secretariat, completed the Conference.

LIMING THE DEE.

NEXT year, when the British Medical Association goes to Aberdeen, it will be in a much safer position physically than it would have been had it gone this year, instead of going to Brighton—that is, if the British Medical Association is a water drinker, which probably for the most part it is. This year the inhabitants of the Granite City, after much debating and delay, several town elections, and the rejection of a water bill by Parliament, have decided to "lime the Dee." The Dee is the source of the Aberdeen water. It is a beautiful river, and from its source among the hills, until it loses itself near the "Silver City by the Sea," it flows through a country of rare beauty. Sad to say, in its course it gets contaminated by the sewage of the hamlets, villages, and towns on its banks. The pollution, according to some of the speakers on the Town Council, must be rather bad, for it was stated that for years "the citizens of Aberdeen had been drinking not only polluted but rotten water, and that the Dee was the sewer for Upper Deeside." Unfortunately, there is only two days' storage for this contaminated water, and no filtration before it goes into the service reservoirs near the town. The inhabitants of Aberdeen had the choice of a new water supply from the Avon plentiful and pure, but they decided against it, and now, while they are making up their minds what scheme to bring forward, they, after much agitation and debate, have found a temporary way out in liming the Dee. Some time ago we drew attention to Dr. Houston's report on the excess lime method for the softening, purification, and sterilization of water supplies. The experiments, so far as the Metropolitan Water Board is concerned, have been laboratory experiments, but the board decided to carry the matter a stage further by authorizing the expenditure of £600 to try the method in quantity. Should the further experiment prove the method successful as a germicide and financially, the intention of the board is to deal with flood water only. The people of Aberdeen have by force of necessity gone beyond the Metropolitan Water Board

in two very important particulars: they have experimented outside the laboratory and have applied the method to the whole of their water supply, which amounts to 6¾ million gallons a day. The method and result of this trial of excess of lime in bulk has been published in a joint report to the Town Council of Aberdeen by Mr. Cecil H. Roberts, water engineer, and Dr. Matthew Hay, medical officer of health. The experiment, which began at the end of February last, was continued for three weeks. The Aberdeen water is very soft (about 2 degrees of hardness, Clark's scale), and therefore the amount of lime necessary was small compared with that required for London water. Three parts lime (CaO) to 100,000 parts of water were used. The lime was mixed with twice its bulk of water, so as to make milk of lime. The water was tested chemically and bacteriologically before and after the addition of the lime. As delivered at the city the water had a minute proportion of free lime and was slightly hazy, the hardness was increased from 2 to 5 on Clark's scale, the colour appeared to be increased, but the taste was not perceptibly affected. The result of the experiment bacteriologically is exceedingly satisfactory, and confirms very decidedly the laboratory tests. This is seen if the result of the examination for typical *Bacillus coli* in the water leaving the service reservoirs is considered. The water taken at this outlet was tested on twelve consecutive days before the addition of the lime; on four of these days no *B. coli* was found, on the other eight days it was found in 1, 5, 10, 50, and 100 c.cm. After the addition of lime, and after the experiment was fairly started, there was a run of eighteen days in which no *B. coli* was found in 100 c.cm.; and when the lime was stopped the *B. coli* was found again in 1, 5, and 10 c.cm. As the result of this interesting and satisfactory experiment the Aberdeen Town Council resolved, after a heated debate, to lime the Dee at an estimated capital cost of £28,700, and an annual expenditure of £1,270. It is hoped that the excess liming scheme will be in working order in about six months, so that long before the British Medical Association receives its Scottish welcome from their colleagues and the good people of Aberdeen, the water set before them will be plentiful and pure. We are delighted that this practical experiment is in such good hands as those of the medical officer of health and the water engineer for the city, because we feel sure the work will be carried out in a thoroughly scientific and satisfactory manner. Moreover, we know that the reports, compiled with scientific care and accuracy, will be of great value to all those who have a contaminated water supply, and Aberdeen will in a practical way repay London for Dr. Houston's idea of the value of excess lime. It is interesting to remember that the lime process for softening water was given to the world by Clark when Professor of Chemistry at Aberdeen University.

THE TREATMENT OF INEBRIETY.

ELSEWHERE in this issue will be found a summary of the annual report of the medical inspector under the Inebriates Acts, which, as usual, is conspicuous for the degree of sympathetic comprehension exhibited by Dr. Branthwaite in regard to those of whose well-being he is the ultimate guardian. A point on which he lays some stress is the relation between the treatment of inebriety by drugs and its treatment by more or less prolonged residence in a retreat either as a patient under the Act or as a voluntary inmate. For reasons not far to seek, the various more or less commercial bodies and individuals who devote themselves to the provision of "drug treatment" are prone to obscure the fact that just as the greater always includes the less, treatment by drugs as well as the application of many other measures of a strictly medical kind, is nowadays a constant feature of the work of inebriate retreats. Dr. Branthwaite also mentions that a bill for the consolidation and amendment of the Inebriates Acts is now awaiting the consideration of Parliament, but does not disclose its contents. In default of a strong expression of opinion on the part of the public it would seem useless to hope that it will include clauses eliminating the chief defect of existing legislation. It is now possible to deal after a fashion with persons whose unchecked inclination towards indulgence in alcohol and drugs has proceeded so far as to bring them into collision with the ordinary criminal law of the land. Those who so strongly recognize the danger of their indulgence in alcohol and drugs that they are ready to submit themselves to compulsory treatment in the hope of being delivered from their tendency, can also be dealt with more or less effectively. But there is no provision for an infinitely larger class—namely, the inebriates and narcomaniacs who, to their own ruin, and frequently to that of those connected with them—refuse to agree to compulsory treatment, and who, if they think about the matter at all, persist in a belief that they can cure themselves, with the assistance, perhaps, of occasional courses of drug treatment, or of a short stay in a retreat. Whatever restrictions on the sale of alcohol and drugs may be devised, it is not probable that they will ever suffice to place them out of the reach of the public entirely. Moreover, the majority of those who have paid attention to the subject believe that in the vast proportion of all cases of distinct alcoholism and narcomania there is a strong mental element. In view of these facts and of the injury to individuals and to the community that habitual inebriety causes, it would seem fully as legitimate to apply compulsory treatment to persons who can be definitely proved to be the subjects of this disease as to ordinary insane persons and those who are sufferers from zymotic disorders. Dr. Branthwaite also puts in a strong plea for the provision by philanthropic effort of retreats for those who are willing to submit to prolonged treatment but unable to obtain it owing to their lack of means, and gives reasons for holding that chronic inebriates are not less entitled to sympathetic consideration than many other classes of defectives to whom the public has shown itself ready to extend a helping hand.

THE SOLDIER'S FOOTGEAR.

NAPOLEON used to say that an army marched on its belly. That is an epigram; but it is not a mere truism to say that it marches on its feet. Readers of *My Lord the Elephant* will remember Mulvany's deliverance on the vital importance of sound feet to a soldier. "At the very beginnin' av the marchin'," he says, "I wint sick like a fool. I had a boot-gall, but I was all for keepin' up wid the rig'mint and such like foolishness. So I finished up wid a hole in my heel that you cud ha' druv a tent-peg into. Faith, how often have I preached that to recruities since, for a warnin' to thim to look afther their feet! Our docthor, who knew our business as well as his own, he sez to me, in the middle av the Tangi Pass it was: 'That's sheer damned carelessness,' sez he. 'How often have I tould you that a marchin' man is no stronger than his feet—his feet—his feet!' he sez. 'Now to hospital you go,' he sez, 'for three weeks, an expense to your Quane an' a nuisince to your counthry. Next time,' sez he, 'perhaps you'll put some av the whisky you pour down your throat, an' some av the tallow you put into your hair, into your socks,' sez he. Faith, he was a just man." He was also a man of sound practical sense. In the report of the Surgeon-General of the United States army for the fiscal year which ended on June 30th, 1912, it is stated that the American military authorities are now fully convinced of the necessity of having military shoes made on a correct last and properly fitted. The

marching shoe now in use has been reported on adversely by various surgeons. The majority of them report (*a*) that the toe of the shoe is too low; (*b*) that the toe of the shoe does not properly protect the toes of the foot; (*c*) that the width of the shoe is too great for the length, and hence, if a shoe is long enough for the foot, it is too wide; and (*d*) the instep is too low. This question has been under consideration for several months by a board at Fort Leavenworth, with Major E. L. Munson, Medical Corps, as president. A great many radiographs have been made of feet with shoes of various patterns and without shoes. These radiographs show that the feet of practically all adults are deformed from wearing shoes made on an improper last. The board suggested that a number of shoes should be made on a set of lasts recommended by them, and that a practical test be made of these shoes under the supervision of the board. This was done. A command of 379 men were properly fitted with these shoes, under the supervision of the board, and went out on a practice march of 117 miles, occupying nine days. Careful notes were kept and examinations made both by inspection and *x* ray. It is believed that a satisfactory field shoe has been devised as the result of the work of this board. The report adds that the recommendations of the board with regard to fitting are very practicable, specifying the method of fit, and providing that the fitting of shoes shall be personally supervised by an officer. The suggestion is also made that officers should be given a course of instruction in care of the feet, including the fitting of shoes. Captain Weed, of the Medical Corps, in a special report on feet and footwear, points out that the fitting of the socks is a matter of great importance. A pair of socks of improper size may cause almost as much injury as shoes of improper size. This seems very sensible. It is refreshing to learn that military authorities are now ready to give attention to advice on such humble necessary details. How many years did it take to convince our own War Office of the expediency of relieving the soldier of the stock which kept him in a state of semi-asphyxia, and the cross-belts which hampered the action of the heart and caused aneurysm?

ROENTGEN RAYS IN HIGH TENSION.

It has long been known that exposure to the action of the *x* rays diminishes the secretory activity of many of the glands in the body. Many authors, for example, have treated hyperidrosis of the hands and feet successfully by means of brief exposure to the Roentgen rays; excessive secretion by the salivary and lacrymal glands has been similarly cured in a number of instances, and since 1904 the treatment of uterine fibromas by exposure of the ovaries to *x* rays has been recommended and practised by a number of authors and experts. A recent writer (Rave) has collected 321 cases of exophthalmic goitre in which the enlarged thyroid gland was exposed to the action of the *x* rays, with considerable improvement in half the patients; the good influence of this treatment is said to be most marked in the nervous symptoms and tachycardia, the exophthalmos and the thyroid enlargement showing little change. It has occurred to Dr. Cottenot[1] to see whether patients with high arterial tension might not derive benefit from exposure of the suprarenal glands to the same sort of treatment. The glands lie deep in the body, at the level of the twelfth dorsal or the first or even the second lumbar vertebra; they can be reached if the *x* rays are thrown into the body from behind, though only a fraction of the rays applied to the skin will penetrate so deeply. Dr. Cottenot used a very hard tube (9 or 10 Benoist), placed with the anticathode 8 in. from the skin, and he employed an aluminium filter 1 mm. thick. An area 4 in. in diameter was irradiated, its centre on the twelfth rib, its periphery touching the middle line of the back. To protect the spinal cord a strip of lead an inch wide may be employed, but he thinks such protection unnecessary. The dose given at each sitting was 3 Holtzknecht units, half of which would be absorbed by the aluminium filter. The number of exposures made in the 29 cases treated varied from one to sixteen, and averaged about half a dozen; about four exposures would be given in a month. Of the 29 patients, 15 had high blood pressure without albuminuria; as a result of the treatment the blood pressure fell in all but one of the cases, and was lowered by from 10 to 20 mm. of mercury. Only 2 of the 15 were none the better for the treatment, and 9 improved greatly. A second group of cases contained 7 patients who had arterio-sclerosis and high blood pressure (210 to 280 mm. Hg) without albuminuria; in 3 the improvement was great, in 2 of them the results were strikingly good, in 1 fair; in 3 there was no functional amelioration. A third group of the cases contained 4 patients with albuminuria and high blood pressure; in all of them the pressure fell, by from 20 to 60 mm. Hg, but the functional improvement was little or none. In no case was the albuminuria increased. In a fourth group of 4 arterio-sclerotic patients with albuminuria the *x*-ray treatment failed either to lower the blood pressure or to improve the general condition. Dr. Cottenot concludes that the best results are obtained in the case of persons who have high blood pressure without either arterio-sclerosis or albuminuria—those, in fact, who are suffering from simple "hyperepinephry," or excessive secretory activity of the suprarenal glands. The way in which the *x* rays bring about these favourable results may be illustrated by the experiments he has made on dogs. In these animals prolonged and repeated exposures to the *x* rays brought about cell destruction and chromatolysis in the medulla and in the cortical zona fasciculata of the suprarenal glands, but without, as a rule, lowering the normal blood pressure.

[1] *Action des rayons x sur les glandes surrénales.* By Dr. P. Cottenot. Paris: Vigot Frères. 1913. (Roy. 8vo, pp. 180; 2 plates and 1 fig.)

THE BALSAM OF FIERABRAS.

SYDENHAM said to Blackmore when, having chosen medicine as a profession, he asked what books he should read: "Read *Don Quixote;* it is a good book. I read it still." Whether our English Hippocrates meant this as a hint that observation is a better teacher than books, or whether the advice implied that the study of medicine is much helped by the knowledge of human nature to be gained by reading the great masters of the human heart, is a question that need not be discussed here. We only wish to call attention to a marvellous balsam described by the Knight of the Sorrowful Countenance, the virtues of which surpass even those claimed for their wares by American vendors of secret remedies. In Chapter X of the first part, after the "stupendous battle" in which Don Quixote overthrows the gallant Biscayan, he asks his squire if he had ever seen or read of a more valorous knight than himself. Whereunto Sancho answers that he had never served a bolder master than Don Quixote, prudently adding a prayer that they pay not for this boldness. He suggests that the knight should cure himself, for he was losing much blood through one ear. The practical squire adds that he has lint and a little *unguentum album* in his wallet. The knight replies: "All this might be excused if I had remembered to make a vialful of the Balsam of Fierabras; for, with one drop of it, we might spare both time, and want well all those other medicines." This, he goes on to say, is "a balsam whereof I have the recipe in memory, which one possessing he needs not fear death, nor ought he to think that he may be killed by any wound; and therefore, after I have made it and given it unto thee, thou hast nothing else to do, but when thou shalt see that in any battle I be cloven in twain (as many times

happens), thou shalt take fair and softly that part of my body that is fallen to the ground and put it up again, with great subtlety, on the part that rests in the saddle, before the blood congeal, having evermore great care that thou place it just and equally; then presently after thou shalt give me two draughts of that balsam of which I have spoken, and thou shalt see me straight become sounder than an apple." Whereupon Sancho says, if that be true, he will ask nothing else in recompense of his services but the recipe of this precious liquor; "for I am certain that an ounce thereof will be worth two reals in any place, and when I have it I should need nothing else to gain my living easily and honestly. But let me know, is it costly in the making?" "With less than three reals," quoth Don Quixote, "a man may make three gallons of it. But I mean to teach thee greater secrets than this, and do thee greater favours also. And now, let me cure myself, for mine ear grieves me more than I would wish." Recourse was then had to Sancho's lint and ointment. Fierabras, according to the legendary *Historia di Carlo Magno*, by Piamonte, was a giant, and King of Alexandria. He was the son of the Admiral Balan, a pagan or Saracen conqueror of Rome and Jerusalem. He was a great enemy of the Paladin Oliver, on whom he inflicted mortal wounds, of which Oliver cured himself forthwith by drinking a balsam, which he carried in two small barrels won by him at the conquest of Jerusalem. This balsam was believed to be a part of that which was used by Joseph of Arimathea to embalm the body of Christ. Oliver contrived to gain possession of the barrels, which he sank in a deep river. He then conquered Fierabras, who was baptised, and died a Christian. We can only think that it is merely ignorance of Cervantes's immortal work that has prevented some enterprising quacksalver from asserting that he has recovered the lost barrels of this miraculous balsam.

A MEDICAL POET LAUREATE.

MANY doctors have been poets; a thing which is not unnatural considering that Apollo was a god of healing as well as leader of the Muses. The *Times* remarks that there have been few medical poets since Goldsmith. We must not, however, forget those we have had. We are especially proud of Keats; Thomas Gordon Hake has been considered by some critics as one of the greatest of Victorian poets, and we may claim a share in Francis Thompson, though he never finished his studies. But this is the first time, we believe, that the bays of the official poet of the Court and of the nation have been placed on the brows of a physician. Mr. Robert Bridges, whose appointment as Poet Laureate has just been approved by the King, was a practising doctor for several years. Born in 1844 and educated at Eton and Oxford, he studied medicine at St. Bartholomew's, and took the degree of Bachelor of Medicine at his university in 1874, and was elected a Fellow of the Royal College of Physicians of London in 1900. He was Assistant Physician to the Children's Hospital, Great Ormond Street, and Casualty Physician to St. Bartholomew's Hospital. He retired from practice in 1882, and has since devoted himself to poetry. His productions are cast in a severely classical form, the beauty of which can be adequately appreciated only by persons of the highest culture. Dr. Bridges would probably say with Wordsworth, one of his predecessors in the post of laureate, "Meet audience let me have though few." His poetry is warmly admired by the most competent judges. He has not courted popularity. This year, for the first time, we believe, a collected edition of his poems has been published, and this will serve to make his work known to many whom it has not yet reached. All lovers of true poetry must delight in his perfect artistry. The profession will fully join in the general expressions of approval with which the appointment has been received.

HOSPITAL DISTRIBUTION IN LONDON.

SOMEWHAT over ten years ago we devoted a series of articles to the question of hospital distribution in London, showing, among other things, that the inhabitants of London on the south side of the Thames had some reason to complain of their distance from great institutions. At the present time it may be said that in the early future the needs of South London in this direction seem likely to be at least adequately met, and that in the ten years that have elapsed circumstances have arisen which go a long way towards modifying the whole problem of hospital distribution in London. In regard to the first point, King's College Hospital has already closed its doors in Portugal Street, Lincoln's Inn Fields, and in October will recommence work in a building capable of accommodating at least 500 in-patients at Denmark Hill, while the accommodation of several small institutions which were already at work at the end of 1902 in the southern areas of greater London has been increased. Cases in point are the Belgrave Hospital, Kennington, which has now accommodation for 40 in-patients; Bolingbroke Hospital, Wandsworth Common, which has now 60 beds; the Plaistow Hospital for Women and Children, which now possesses 25; Norwood Cottage Hospital, 32; Wimbledon Cottage Hospital, 18; and the Nelson Hospital for Merton and South Wimbledon, 24. In addition a new hospital with 25 beds is already at work at Putney, and the foundation stone of a hospital for women at Clapham Common, with an out-patient department near the Elephant and Castle, has recently been laid. Furthermore, it seems certain from what was stated at a recent meeting at St. George's Hospital—an account of which will be found at page 147—that within the next few years the Westminster Hospital and St. George's Hospital will have left their present sites and have recommenced work as a joint institution either in Clapham or in Wandsworth. In regard to the northern half of greater London, an account of a corresponding kind could be given, though there is no development, either achieved or in view, of so striking a kind as the removal to within its area of more than one great hospital long established in central London. None of the developments mentioned are taking place, it should be noted, in accordance with any definite plan of hospital distribution, and there is some reason to fear that when all schemes at present in view are complete, it will be found that many of the disadvantages of the previous condition of affairs have been reproduced with the loss of some of the advantages the older conditions presented. Meantime, it is certain that some of the factors affecting the whole question have been materially modified by the events of the last ten years. Though Greater London has continued to grow, it has not grown so fast as the means of locomotion. The ease, speed, and cheapness with which central London can be reached from any and every part of its outskirts are immeasurably greater than ten years ago. Indeed, to residents in outlying areas places right in the middle of London are often more easily and rapidly accessible than those which topographically are in their immediate neighbourhood, and it is by no means certain that in their new situations the great hospitals mentioned will be as easily reached as now by an equal number of persons. There are some other new circumstances that have a considerable bearing on the general problem. For example, school clinics and tuberculosis dispensaries may be expected, as time goes on, to do more and more of the work formerly done in out-patient departments, and the view of the British Medical Association, that the latter should be used mainly as consulting rooms and as places for specialist treatment

has now been frankly accepted by King Edward's Hospital Fund for London and by other authorities. In addition, there is ground for believing that the university side of London life will undergo considerable development in the early future, and in consequence the question of the relation of the great hospitals to medical education is one which could not now properly be left out of count when considering the right localization of these institutions.

THE DISTINCTION BETWEEN MIND AND ITS OBJECTS.

IT is not easy to give in the compass of a single treatise anything but the barest summary of the trend of philosophic thought in our time, even in one direction. Dr. Bosanquet,[1] however, in the Adamson Lecture for 1913, on the distinction between mind and its objects, has been eminently successful in the necessarily summarized account he gives of what is called the new realism—a modern school of philosophy in sharp contradistinction equally with the older eclectic materialism and what is called idealism. Dr. Bosanquet's intention in this lecture appears to have been expository rather than critical, although he conveys the impression that he possesses more than a lukewarm sympathy with the novel views promulgated by the young and vigorous school of philosophic thought for which the University of Manchester is responsible. Looking at the tenets of the twentieth century realism broadly, they are apt at first sight to suggest that they follow the line of least resistance; or, in other words, that they fulfil that spirit of compromise which is so characteristic a feature of the age. The new realism would seem, indeed, to be the golden bridge spanning the apparently impassable gulf between materialism and subjective idealism—a bridge which perhaps dissatisfied disciples of both the older schools of thought may have assisted to build. But it is by no means improbable that the apostles of the new realism may disclaim any such intention. It may well be their purpose rather to throw down the gauntlet to both the older schools. Briefly, twentieth century realism aims at establishing the continuity of the real world with mind, and certainly appears to be a fuller and more satisfying doctrine than either of the others. Its tendency is towards a more complete acceptance of external things in all their concrete richness of existence. It may be doubted, however, whether the most advanced realist would venture to sweep into his net not only "objects" themselves but all those attributes with which the mind endows them. True, the new realism has taken a great step forward in embracing within its scope the "secondary" qualities of objects, but, as Dr. Bosanquet points out, it fails to include what are known as the "tertiary" qualities. The purely psychical factor, which takes cognizance of the aesthetic qualities of an object, intervenes at this point. This very fact, however, would seem to establish the contention of modern realism for the continuity of the real world with mind. In an appendix to the treatise the author traverses the metaphysic and logic of a recent polemic, by various writers, called *The New Realism*.

CREMATION IN THE UNITED STATES.

THE Memorial Day exercises were held recently in the chapel of the Detroit Crematorium, which was filled to overflowing by a sympathetic audience. Professor George G. Hermann delivered the dedicatory speech, acknowledging the presentation of an organ to the Michigan Cremation Association by the family of the late Mr. Conrad Pfeiffer, who had taken a prominent part in promoting the cremation movement. An address was delivered by the Rev. Dr. Eugene Rodman Shippen, minister of the First Unitarian Church of Detroit. He said that to-day the advocates of cremation were witnessing the growth of public sentiment in their favour; it no longer required conspicuous courage to espouse the cause they represented. But a generation ago many of those whom they honoured that day had to make no small sacrifice in standing up for their principles. Men and women with social and affectionate natures did not lightly enter upon a course which might bring upon them the stigma of eccentricity or fanaticism, even though it were attached to their memories. All honour, then, to the noble company of pioneers in the army of cremationists! The clinging to the body implied, in the last analysis, a lack of faith. On the other hand, the calm surrender of the body as a mere shell, "one out of which the pearl is gone," was direct evidence of their belief that "flesh and blood cannot inherit the kingdom of God." The practice of incineration testified to the materiality of the body, and that was only the inverse statement of the spirituality of the soul. He insisted that those who clung to the body were materialistic, not the cremationists. Their duty was clear—to wage an educational campaign for their rational progressive principles. Not only was science overwhelmingly in favour of those principles, but the logic of events supported the advocates of cremation. Population was rapidly becoming urban; cities were growing by leaps and bounds. Not only was the land needed for commerce, industry, homes, but, what was more important, the danger from city cemeteries increased with the congestion of population. Dr. Shippen looked upon the cremation movement as a great humanitarian cause—the safeguarding of the health of society. The inertia, if not positive opposition of conservatism, on this question in English-speaking countries was appalling. In the United States there were only forty-eight crematories, whereas there should be tens of thousands.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

THE Society of Tropical Medicine and Hygiene is one of the most flourishing of the medical societies; it has only been in existence six years, but has on its books at the present time 603 Fellows. At the recent election of officers and council, Sir R. Havelock Charles was elected president for the next two years, and Dr. F. M. Sandwith, vice-president. The suggestion of the Royal Society of Medicine that the Society of Tropical Medicine should become the Tropical Section of the Royal Society of Medicine has been carefully considered by the council of the former, which has come to the opinion that for many reasons it is desirable that the society should retain its independence. A memorandum explaining the facts of the case is now being sent to all Fellows of the Society of Tropical Medicine and Hygiene, who will be asked to record their votes for or against amalgamation; the result will not be declared until after November 1st, which is the latest date for votes to be received. It has been decided that no change shall be made unless there is a three-quarters majority of the Fellows who take part in the ballot. It should have been stated in our issue of July 5th that the papers by Dr. Box on fatal pellagra in two English boys, and by Dr. Mott on the histological changes in the nervous system of Dr. Box's case compared with changes found in an Egyptian case, had been communicated to the Society of Tropical Medicine and Hygiene. The society also placed at our disposal the microscopical photographs and the coloured drawings of histological appearances to illustrate Dr. Mott's paper. The drawing of the patient was made for this JOURNAL to replace one which had been offered by the society. The omission to acknowledge the courtesy of the society was due to inadvertence, which we regret. It will be noticed that the publication of the series of papers on pellagra in the JOURNAL of July 5th has brought

[1] *The Distinction between Mind and its Objects.* The Adamson Lecture for 1913, with an Appendix by Bernard Bosanquet, M.A., LL.D. Manchester: The University Press; London: Sherratt and Hughes. 1913. (Crown 8vo, pp. 75. 1s. net.)

to Dr. Sambon, the author of one of them, information as to two other cases of pellagra in England, one at Bridgnorth, Shropshire, and the other near London, and of a third in North Wales.

NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION.

THE National Association for the Prevention of Consumption and other Forms of Tuberculosis will hold its fifth annual conference in the Central Hall, Westminster, S.W., on August 4th and 5th. The opening address will be delivered by the Right Hon. H. H. Asquith, M.P. On August 4th the subject of tuberculin treatment will be introduced by Dr. H. W. G. Mackenzie in a general survey, and papers on the nature of tuberculin—its preparation, varieties, and underlying pathological principles—will be read by Professor G. Sims Woodhead of Cambridge, and Professor Lydia Rabinowitsch-Kempner of Berlin. Professor Béraneck of Neuchatel will read a paper on the *rationale* of the use of tuberculin: its possibilities and limitations; and the therapeutic value of tuberculin and the principles of dosage will be dealt with by Professor Sahli of Berne and Dr. Nathan Raw of Liverpool. Papers on the place of tuberculin in treatment in relation to other methods will be read by Profesors W. C. White of Pittsburg, and Petruschky of Danzig, and Dr. W. Halliday Sutherland of London. The range of application of tuberculin will be discussed by Professor Adami, of Montreal, Sir James Kingston Fowler, Sir StClair Thomson, Sir R. W. Philip, Dr. Noel D. Bardswell, Dr. Clive Riviere, and others. On August 5th there will be a public discussion on the need for the co-ordination of antituberculosis measures. The opening address will be delivered by Sir R. W. Philip and the following delegates have promised to take part: Professor Adami (Canada), Dr. Hermann Biggs and Professor W. C. White (United States), Professor Pannwitz (Germany), Dr. Rist (France), Professor Saugmann (Denmark), Professors Tamburini and Signorelli (Italy), and Dr. von Unterberger (Russia). A conversazione will be held on the evening of Monday, August 4th, at which Dr. Rollier (Leysin) will give a cinematograph demonstration on the cure of surgical tuberculosis by direct sunlight. A film (the Fight against Consumption) illustrating the working of a complete co-ordinated scheme for dealing with consumption will also be shown. Tickets of admission are being sent to all medical practitioners in London. The Honorary Secretary, Dr. J. J. Perkins (20, Hanover Square, W.) will be glad to send cards of admission and vouchers for a reduced railway fare, together with a programme, to any doctors outside the metropolis who apply to him.

THE announcement is made that Mr. W. J. Thomas has undertaken to defray the cost of the completion and equipment of the Medical School of the University College of South Wales and Monmouthshire at Cardiff. Mr. Thomas, who is a coal-owner, has previously made other generous contributions to the college.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Mental Deficiency Bills.

England.

THE necessary financial resolution having been passed by the House, the Committee on this bill reassembled on July 10th.

The postponed and money clauses were dealt with. Clause 64, which entailed the disqualification for an old age pension of a defective whilst detained in an institution, was deleted. Clause 24, which gives power to provide money for the salaries and other remunerations of the Commissioners and officers of the Board, was passed without amendment.

Clause 28, which deals with the powers and duties of local authorities, and which had been previously postponed, was the subject of prolonged discussion and of some amendment. The first subsection was amended on the motion of the Home Secretary to make it clear that local authorities are empowered to provide for "the maintenance of defectives" in institutions. On a further amendment, moved by Mr. Hicks Beach, "approved homes" were enumerated among those institutions towards which a local authority might contribute. The right of Poor Law authorities to continue to receive grants which they would have received if the Idiots Act had not been repealed, was secured by an amendment moved by Sir Norval Helme. In addition to these, some less important and some consequential amendments were made to the clause. The discretion and power of the Secretary of State were extended by some amendments made to Clause 30.

An important amendment was made to Clause 31, on the motion of Mr. Goldsmith, amended on the motion of Mr. Dickinson, by the substitution of one halfpenny for a farthing. The amendment provides that the expenses incurred by local authorities in respect of their optional powers under this Act shall not exceed the yield of a one halfpenny rate. It is in the following terms:

> Provided that the expenses incurred by a local authority in the exercise of their powers under this Act for purposes other than the fulfilment of their obligations under this Act shall not in any one year exceed an amount equal to that which would be produced by a vote of one halfpenny in the pound on the property liable to be assessed for the purpose as assessed for the time being for the purposes of that rate.

Clauses 43, 44, and 65 were afterwards added to the bill. In Clause 65 a definition of a certified house was inserted, on the motion of the Home Secretary, in the following terms:

> The expression "certified house" means a house in which defectives are received by the owner thereof for his private profit, and in respect of which a certificate has been granted under this Act.

A further amendment provided that the Scilly Islands should be deemed to be a county for the purposes of this Act.

At the adjournment, the Committee was engaged in considering the last clause of the bill. This clause, which relates to the title, and a short schedule only remain to be dealt with.

The Committee met again on July 15th, and concluded the consideration of the bill, which has now been reported as amended to the House. The amendments adopted include several new clauses. One of these moved by Mr. McKenna related to contribution orders on persons liable to contribute towards the maintenance of defectives under the age of 21; persons so liable may include a step-parent, and, in the case of illegitimacy, the putative father. Other clauses, also moved on behalf of the Government, related to the approval of premises provided by boards of guardians, to a scheme for the payment of superannuation allowances or gratuities to officers, and for the protection of defectives from sexual immorality, procuration, etc. One of the provisions of this new clause is to the effect that no consent shall be any defence in any proceedings if the accused knew or had reason to suspect that the person in respect of whom the offence was committed was a defective. Other new clauses have relation to the transfer of premises for use as institutions, as to the penalty for making false entries or untrue statements for the purpose of obtaining a certificate or approval, and as to power to authorize a committee for the care of mental defective persons to act as an asylums committee.

Scotland.

The proceedings of Standing Committee in the Scottish Mental Deficiency Bill strongly resembled those which took place last year on the English Bill. At the sitting held on Tuesday, July 8th, the whole of the sitting was devoted to a discussion as to whether the word "deeply" in line 11, Clause 1, should be replaced by the word "obviously." On Thursday, July 10th, Clause 1, which contains the definitions, was added to the bill without amendment. Numerous amendments were moved by Mr. Pringle and others, and the Committee adjourned after

having passed four and a half lines of Clause 2 without amendment.

The Committee sat again on July 15th, when Clause 2, with some amendments, was added to the bill. The net result is that two clauses have been got through in three days.

Dogs Bill.—The Committee stage of this Bill was continued in Standing Committee A on July 16th. The effect of this day's proceedings is that the bill is dead. Further amendments moved by Sir Henry Craik, Dr. Chapple, and Sir Philip Magnus were made in Clause 1. The effect of them collectively was to make the clause practically ineffective from the point of view of its promotors. Clause 1 as amended was then considered, and by a majority of 3 the Committee decided to delete it from the bill. As a result of this vote, the only enacting clause of the bill disappeared, and Lord Hugh Cecil raised the point whether under these circumstances the bill should not immediately be reported to the House. Ultimately it was agreed that Sir Frederick Banbury, who is in charge of the bill, should consult the Speaker as to the best course to take, and, if necessary, at the next sitting of the Committee, withdraw the bill. The opponents of the bill are chiefly indebted to Sir Henry Craik, Dr. Chapple, and Sir Philip Magnus for their persistent and successful efforts.

Vivisection.—Mr. Chancellor asked the Secretary of State for the Home Department whether, for the better protection of animals and in view of their greater experience and knowledge of animals which qualify them better than medical men to detect the symptoms of pain, he would appoint qualified veterinary surgeons to be the two additional inspectors of vivisectional experiments; and whether, as the object of inspection was to prevent cruelty, he would see that no person was appointed to those posts who was known to sympathize with the practice of vivisection.—Mr. McKenna said: With regard to the first part of the question I cannot add anything to the replies which I gave on February 12th and March 18th last. With regard to the second part I shall hope to obtain inspectors who are in sympathy with the objects of the Act they are called on to enforce.

Local Government Board Laboratory (London).—Mr. Astor asked whether the Local Government Board laboratory in London is utilized mainly for original research or for routine investigation, such as the examination of milk and sputum for tubercle bacilli or blood for evidence of typhoid fever.—The Parliamentary Secretary to the Local Government Board said that the work carried on in the Board's pathological laboratory fell under both the categories mentioned in the question, and gave a reference to page 123 of the Appendix to the Final Report of the Departmental Committee on Tuberculosis as illustrating the general character of the work.

Vaccination at School Age.—Mr. Black asked the President of the Local Government Board whether he was aware that in the United States vaccination is invariably only enforced at school age; and whether, in view of the absence of any special small-pox incidence amongst the child population there, he would consider the advisability of extending the age for compulsory primary vaccination in this country from six months to five years.—Mr. Burns said, in reply, that there appeared to be no general law as to vaccination for the whole of the United States of America, each State having its own legislation. Statistics as to age incidence of small-pox deaths could only be given for the special "registration area" in the United States of America, in which, in the years 1908–10, the proportion of deaths from small-pox at ages under five to deaths from this disease at all ages varied between 25.4 and 31.5 per cent. As regards the last point, the imperfect data available did not in themselves indicate the desirability of any change in the age of compulsory vaccination.

Employment of Children.—Mr. McKenna informed Mr. Alden that the number of children and young persons under 18 employed in factories in 1907, the last year for which figures were available, was about 830,000, and it was estimated that the number of those under 16 would be about 420,000. Returns of employment had been collected for 1912, but the figures were not yet available. Mr. McKenna, in reply to a further question by Mr. Alden, said that the numbers of half-timers in factories and workshops in 1907, which were the last available figures, were 17,916 boys and 19,211 girls, or 37,127 in all.

Colour Blindness Tests.—Mr. Cathcart Wason asked the President of the Board of Trade whether his advisers on colour blindness only consist of those who had advocated the wool test; and, if so, now that this test had been shown to be so defective, whether he would consider the advisability of adding to his advisers some one with knowledge and experience of the lantern test. Mr. Robertson said there was no reason whatever to think that his advisers had not the knowledge and experience necessary to enable them to advise on the lantern test which had been adopted on the recommendation of the recent Sight Tests Committee, of which two of them were members. Mr. Robertson, in reply to a question by Dr. Chapple, said that during the three months, April 1st to June 30th, fifteen men who failed to pass the local colour vision examinations were reported by the special examiners as having passed, and twenty-nine as having failed on appeal. The tests ordinarily used in the special examinations included a lantern test, various spectroscopic tests, a test with Nagel's anomaloscope, and any other tests which the special examiners saw fit to adopt.

Highlands and Islands.—Mr. Masterman informed Mr. Cathcart Wason that he hoped that the bill to provide a grant for improving the medical service in the Highlands and Islands would be introduced this week. The question of the travelling expenses of members of Insurance Committees was under consideration, but it would not, he was afraid, come within the scope of the bill. The Committee stage of the bill was clearly more suitable for discussion in the Scottish Grand Committee than in the whole House. The bill would be very short and, he believed, non-controversial in character. Mr. Masterman, in answer to an inquiry by Mr. Munro, said that every effort would be made to pass the bill this session.

Forcible Feeding.—A return has been made by the Home Office to the House of Commons containing the correspondence of the Home Office with the Royal College of Surgeons and Sir Victor Horsley with regard to the case of Lilian Lenton. The return comprises the correspondence of the Home Office with the Royal College of Surgeons, including a memorandum by the Prison Commissioners, and the correspondence of the Home Office with Sir Victor Horsley (Case of Lilian Lenton. H.M. Stationery Office, 190. Price 2½d.)

Swine Fever (Serum Treatment).—In reply to Mr. Stanier and Mr. C. Bathurst, who inquired whether the Board of Agriculture was taking any steps to obtain a report upon the methods now being adopted in Holland by the injection of a prophylactic serum, and whether the Board proposes to adopt a similar treatment and to make any modifications in their existing practice, Mr. Runciman said that his attention had been called recently to some remarkable reports concerning the successful treatment of swine fever in Holland. In the absence of precise official information, he immediately directed special inquiry to be made, which must take some little time, but there would be no avoidable delay.

AT the last meeting of the French Cremation Society, the President, Dr. Barrier, of the Academy of Medicine, announced that Professor Pinard, Professor of Obstetrics in the Paris Faculty, had become a member of the committee. Professor Pinard stated that he not only wished his remains to be cremated, but that besides he had directed in his will that an autopsy should first be made of his body at the Faculty of Medicine. M. Barrier stated that he had given similar directions about his own remains, and induced the members of the society to do likewise.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

ST. GEORGE'S AND WESTMINSTER HOSPITALS.

SOME seven years ago a proposal to the effect that St. George's Hospital should remove from its present quarters at Hyde Park Corner to a new site in Chelsea was definitely formulated, but in the event was rejected at a special court of governors on the ground that no adequate offer for the existing site had been received; it was also urged that after it had paid for a new site and erected a new building the institution would practically have exhausted its resources. The idea of removing was not, however, abandoned, and negotiations that have been in progress at intervals ever since resulted in the holding of a further special court on July 10th. At this the Chairman of the Hospital, Mr. William West, gave a summary of the steps which had been taken by the House Committee in the matter, and of the views which had been reached by a subcommittee appointed to confer with the Westminster Hospital on the question of the possibility and desirability of an amalgamation of the two institutions. An offer for the site, subject to the rights of the Duke of Westminster over a portion of it, had been received from a firm which proposed to expend £600,000 on the provision of an hotel, and to pay to the hospital £285,000 in cash and £175,000 in the form of a second mortgage on the hotel and site, or £460,000 in all. This the House Committee considered was a fair offer, and, subject to approval also of the plan of amalgamation with Westminster Hospital, it thought it should be accepted. The Westminster Hospital also desired to quit its present site, and the committee representative of the two institutions reached the conclusion that their amalgamation was both possible and desirable. The suggestion was that they should club their funds and their entire interests, and together build a hospital of not less than 500 beds, with a medical school attached, on one or other several sites available—one of these being on Clapham Common and another in Wandsworth, the latter being deemed the more suitable. It was estimated that if this plan were carried out, the new institution, after paying for the new site and erecting thereon accommodation for not less than 500 patients, would have a capital fund for maintenance purposes of between £850,000 and £900,000. Under the proposed sale contract it would not be necessary for St. George's to leave its present site for two years, and during this period the new institution could be got ready. At Wandsworth the institution would be near the districts from which now came most of St. George's patients. Apart from the fact that it was more economical to run one hospital of 500 beds than two of 200 and 300 respectively, the joint institution would have the advantage of possessing a larger number of students, and therefore a greater choice of resident medical officers. In addition, the Board of Education seemed to desire to concentrate its help on the larger medical schools, and the Royal Commission on the University of London favoured hospitals of from 500 to 600 beds. Finally the speaker moved a series of resolutions intended to give effect to the views of the House Committee. These motions having been duly seconded there followed a general discussion, in the course of which one speaker objected to the proposals on the ground that the removal of the institution would inflict hardship on the inhabitants of Fulham and Walham Green. Mr. Warrington Haward, consulting surgeon, said that though he would naturally feel a pang at seeing St. George's quit its present site sentiment must have no part in the decision. At the time when he was a student the hospital drew its patients from localities in its immediate neighbourhood, which were now fashionable squares, while a little further afield around Victoria Station there had been displacements of population of a corresponding kind. As for amalgamation with the Westminster Hospital, there could be no sentiment against that part of the project, since originally the two institutions were one. The resolutions were then put to the vote, and on a show of hands were declared to be carried unanimously. They approved of the amalgamation scheme subject to the proviso that the governors of the two separate institutions should become governors of the joint institution and that therein the present consultant and honorary staffs of both hospitals should retain their positions, and authorized the House Committee to enter into a contract for the sale of the Hyde Park site on the terms mentioned; to enter into a contract for the purchase of a new site and the erection of a hospital to provide not less than 500 beds; and to apply for an Act of Parliament or take any other steps that might be necessary for carrying out the whole scheme.

METROPOLITAN ASYLUMS BOARD.

The Metropolitan Asylums Board on July 12th decided to appoint a consulting physician for skin diseases in succession to Dr. T. Colcott Fox, whose duties were confined to ringworm treatment. The duties of the new position will be to advise upon all cases of skin disease submitted by the medical superintendents, and the salary remains at £350 a year. On the recommendation of the Children's Committee the Board appointed Dr. James Galloway, physician to Charing Cross Hospital and physician to the skin department of that hospital, to the position.

The Board approved plans for the extension at a cost of £88,500 of Tooting Bec Asylum.

BIRMINGHAM.

TUBERCULOSIS CENTRE.

ON July 4th the Lord Mayor, in the presence of members of the Public Health and Housing Committee and friends, officially opened the new tuberculosis centre for the city. The building, which was formerly in the occupation of the Water Department, is situated in Broad Street, near the centre of the city. The tuberculosis department is on the ground floor, and is divided into two wings arranged on either side of a spacious waiting hall. The male and female wings each consist of consulting, inoculation, and throat rooms, with a number of dressing cubicles. There are also a dispensary and facilities for the examination of sputum, etc. Parts of the building have been in use for some months, and at present the average weekly attendance of patients for examination, advice, and treatment is about 900. Four evenings and two afternoons a week are devoted to treatment and advice. Examinations are conducted on six mornings and four afternoons a week. The work is steadily increasing, and it is anticipated that the attendance will shortly be considerably augmented now that the whole of the department is available.

The Lord Mayor, in declaring the institution open, said that the centre marked a new step in their attack upon tuberculosis. It was intended to use it, in the first place, for examinations and diagnosis; in the second, for observation; and in the third, for curative treatment. It would also be a centre for the examination of contacts, and for the after-care of patients who had been treated in the municipal sanatoriums. It would be a general information bureau and educational centre.

Dr. Robertson (M.O.H. for the City) said that one aspect of the work was in danger of being overlooked—that the main object of the institution was not its curative work, but the efforts which would be made in the direction of prevention of the disease.

Dr. Brookes Dixon (Tuberculosis Officer) said it was desirable that the institution should not only be a centre for the treatment of tuberculosis but that it should also be a centre at which advice and information could be given to sufferers. In addition to that, it would be a sorting house from which selected patients would be drafted to the various sanatoriums and other institutions. In the winter months it was intended to give a course of lectures to patients and their friends on the economic and food value of different articles of diet.

The work at the new centre will be carried on by the medical and nursing staff connected with the City Sanatorium, with help from members of the public health staff and others.

Ireland.

[*From our special correspondents.*]

Treatment of Tuberculosis in Meath.

The Insurance Committee of county Meath recently asked the Women's National Health Association whether it would be prepared to place at the disposal of the Committee for the year commencing July 15th, 1913, the services of a part-time officer, who would act as medical adviser to the Committee, at a salary of £300 to include travelling expenses. The Committee also desired to make arrangements for a part-time nurse to attend the central dispensary two days a week. The Women's National Health Association acceded to the request, and informed the Committee that Dr. Warren would attend at the dispensary at Navan one day a week, and would open temporary dispensaries at Drogheda and at other places to be selected by the Insurance Committee, and would visit these dispensaries also once a week. The Navan branch of the Women's Health Association agreed to supply a part-time nurse at a salary of £30 a year, to attend at the dispensary and to visit the patients in the Navan district. This offer was unanimously accepted.

The Registrar-General's Annual Report.

In his annual report for 1912 the Registrar-General for Ireland expresses his conviction that the following four facts will afford much gratification to the country:

(*a*) An increase of 1,102 in the population of Ireland in the middle of 1912, as compared with that in the middle of the preceding year; in other words, there were 1,102 more births than deaths and emigrants during the year ended June 30th, 1912;

(*b*) The lowest annual death-rate from all causes recorded for Ireland since 1871—namely, 16.46 per 1,000 of the population;

(*c*) The lowest annual death-rate from tuberculous disease on record—namely, 2.15 per 1,000, the next lowest rate from this disease being 2.20 per 1,000 in the previous year (1911). The number of deaths caused by tuberculous disease in 1912 is 186 less than 1911, and 3,257 less than the number recorded in 1904; and

(*d*) A decrease in infant mortality from 94 per 1,000 births registered in 1911 to 86 per 1,000 births registered in 1912. This is the lowest infant mortality-rate recorded for Ireland. The highest infantile mortality-rate was in the year 1880—namely, 112.

In the aggregate the deaths last year in Ireland from tuberculosis numbered 9,437, or less by 186 than the number registered in the year 1911. The total is equivalent to 2.15 per 1,000 of the population of Ireland estimated to the middle of the year 1912, as against 2.20 per 1,000 in 1911. Since 1904, when the death-rate from tuberculosis was 2.9 per 1,000, the rate has fallen steadily. Of the 9,437 deaths from tuberculosis, 4,682 were of males and 4,755 were of females.

The marriage-rate was 5.31 per 1,000 of the estimated population, showing a decrease of 0.04, as compared with that for the year 1911, but an increase of 0.12 as compared with the average rate for the ten years, 1902–1911; the birth-rate was 23.0 per 1,000 of the estimated population, being 0.2 under that for the preceding year, and 0.3 under the average rates for the ten years, 1902–1911; and the death-rate (16.46 per 1,000) was 0.07 below the rate for the preceding year, and 0.83 below the average rate for the ten years, 1902–1911.

The number of deaths registered was 72,187, equivalent to 16.46 per 1,000 of the population estimated to the middle of the year. The deaths of males amounted to 35,986, and those of females to 36,201; the rate for males being 16.44 per 1,000, and for females 16.49 per 1,000. There were 8,727 deaths of infants under 1 year of age (4,991 males and 3,736 females.) This is equivalent to a rate of 86 per 1,000 births, and is 8 per cent. under the rate for 1911. The average infant mortality-rate for the ten years, 1902–1911, was 95 per 1,000 births. It would appear from the returns collected by the Royal Irish Constabulary and the Metropolitan Police, who acted as enumerators at the several Irish seaports, that the number of emigrants (natives of Ireland) who left the ports of Ireland during the year 1912 was 29,344 (15,325 males and 14,019 females). Of the total emigrants, 3,855 were natives of the province of Leinster, 7,167 of Munster, 11,852 of Ulster, and 6,470 of Connaught. Of the 29,344 emigrants, 7.6 per cent. were under 15 years of age, 85.9 per cent. were between 15 and 35 years old, and 6.5 per cent. were 35 years or upwards.

Scotland.

[*From our special correspondents.*]

Glasgow Royal Infirmary Post-Graduate Courses.

As in former years a comprehensive course for graduates will be held during September. This course will include the following classes: Clinical Medicine, Clinical Surgery, Operative Surgery, Surgical Diagnosis, Clinical Gynaecology, Electro-therapeutics, Urology, Clinical Examination of the Urine and Digestive Products, Anaesthetics; Diseases of the Ear, Skin, Throat and Nose, and Eye. The latter course is one specially designed with relation to school medical inspection and treatment. Complete syllabus, and any other necessary information may be obtained from the Superintendent of the Infirmary.

The Public Health of Leith.

Dr. William Robertson's annual report on the health of Leith for 1912 was issued on May 28th. The death-rate was low, so low that the striking fact emerged that whilst the population was larger than in the decade 1891–1900, the mortality figure was lower. Since notices had been erected along the foreshore warning people against eating shellfish the decline in the notifications of typhoid fever had been very marked; only 2 cases had been notified during the year, and these had been imported. There had been no typhus or small-pox. The number of scarlet fever cases was practically the same as in the previous year, but the period of residence of such cases in the East Pilton Hospital had been reduced to an average of 29.8 days, as against 42 or 45 days formerly. It was calculated that last year over £700 was saved to the rates in the treatment of scarlet fever, because each patient required fourteen days' less isolation in the wards than before. The reduced average residence for diphtheria had also produced a reduction of over £500 in the cost of treatment. There was no place where the administrative control of pulmonary tuberculosis was more efficiently conducted than in Leith; and they could boast that it was the only town in Scotland at present that had staff and institutions controlled by the local authority. There was accommodation for forty patients in the sanatorium, and the use of tuberculin had enabled Dr. Robertson to curtail the period of residence in the sanatorium. Further improvement would follow the introduction of perfected preparations of tuberculin. The problem of a pure milk supply would be solved if local authorities throughout the country could devise a uniform scheme for dealing with the ventilation of cowsheds, their cleanliness and construction, and would insist upon clean cows, clean hands to milk them, and effective methods for filtering and cooling the milk.

Edinburgh Dental Hospital and School.

The annual prize-giving of the Edinburgh Dental Hospital and School was held on July 9th. A large company of students, former students, members of the staff, and friends were received by the Dean and Mrs. Guy. The report by the Dean stated that the school was flourishing and progressive. There were 94 students engaged in dental hospital practice, and 36 workroom apprentices. During the year 41 students had taken the L.D.S. diploma. Sir Robert Philip presented the prizes and delivered an address. He impressed upon the students the importance of always endeavouring to do their very best; their work remained to bear witness to their skill or the lack of it. He believed that their school, inheriting and sharing the traditions of the Edinburgh Medical School, was second to none, and to them would fall the duty of maintaining its reputation. In public health and in prophylaxis the care of the teeth was a most important factor, and therefore urged the necessity of a full medical training for dentists. The address was loudly applauded. During the evening a musical programme and a dramatic sketch were performed.

The late Dr. John Thorowgood, formerly Warden of the Society of Apothecaries, left estate valued at £16,244.

Correspondence.

EVIDENCE FOR AND AGAINST THE USE OF TUBERCULIN.

SIR,—I have been an interested reader of the various letters relating to the evidence for and against the use of tuberculin, and I now think the time opportune to mention the results obtained at the City of Bradford Tuberculosis Dispensary.

For two years I used tuberculin in a sanatorium, and was not at all impressed with its utility. In fact, I was inclined to think it did more harm than good.

On appointment as tuberculosis officer for Bradford fourteen months ago, and commencing with no sanatorium, I felt compelled after a visit to the leading tuberculosis dispensaries to make use of tuberculin to the fullest extent, knowing the failure of other methods of treatment except institutional methods. The initial doses causing reactions in sensitive patients were not encouraging, but I persevered, and much to my surprise the results in a certain class of case have far exceeded my expectations.

I have divided the tuberculin cases into two main classes:

A. Those with the prospect of arrest of the disease or of sufficient improvement to enable them to follow their occupation.
B. Those with little hope of recovery.

Of Class A a certain percentage were treated at the dispensary; (*a*) working, (*b*) not working. A second group required short institutional treatment, four to six weeks, followed by dispensary treatment. A third group required three months' institutional treatment, followed by attendance at the dispensary.

In Class B, those with little hope of recovery, I have found tuberculin to be of little use, though in a small percentage of cases good has undoubtedly accrued.

Out of 200 cases treated at this dispensary during the first six months, with or without short or long sanatorium treatment, I took 50 cases haphazard and followed them very carefully. In 49 out of the 50 the immediate results were encouraging. The one which retrogressed the whole of the time was a very advanced case, with extensive bilateral disease. One of the 49 was a woman with glands in the right axilla, preventing her lifting the right arm above the shoulder. This patient was very sensitive to P.T.O., and in a short time entirely recovered the use of her arm, and the glands were half the size.

It is now fourteen months since the 50 cases first commenced treatment, and at the present time I believe 50 are alive:

40 are well and working.
3 are well but not working.
4 are not well and are not working, 2 being very advanced cases and 2 having periodic attacks of bronchitis.
1 not seen lately, but is known to be well.
1 whereabouts not known.
1 fairly well, but much better than for the last two years.

Of these 50 cases:

29 were treated at the dispensary alone.
10 by residence of short duration in an institution, followed by dispensary treatment.
11 by residence of long duration in an institution, followed by attendance at the dispensary.

I think that these results fully justify the continued use of tuberculin in the dispensary and sanatorium practice. There is a small group of cases, particularly in school children, in which tuberculin seems to be of little use, and these cases improve on virol, Kepler's extract of malt or malt and oil and other remedies. On the other hand, a considerable number of children derive great benefit from tuberculin injections.

I can quite understand certain medical men decrying tuberculin because they choose unsuitable cases for treatment. I have had patients sent to me with bronchitis and tubercle superadded for tuberculin, and also cases of haemoptysis, but my experience is that these cases are not usually suitable for tuberculin treatment.

I should like to emphasize the fact that everything depends upon the selection of cases, the technique, careful administration, and choice of tuberculin used.

These results have been verified by Dr. J. Scott Byrne, the assistant tuberculosis officer.—I am, etc.,

HAROLD VALLOW, M.D.,
July 5th. Tuberculosis Officer, City of Bradford.

THE TREATMENT OF PNEUMONIA.

SIR,—I write to support the view of Dr. W. J. J. Arnold, as expressed in his letter published in the JOURNAL of July 12th, with regard to the value of quinine in the treatment of pneumonia, and would reiterate his advice that it should be given as early as possible, modified, perhaps, by a recommendation that a large dose should be given at once and repeated quickly if necessary.

My practice for many years has been to get the patient, so to speak, saturated or semisaturated with this drug in as short a time as is practicable after the disease is manifested. I generally give to an adult 5, or even 10, grains at once, combined with some bromide or hydrobromic acid, and repeat it if the temperature does not fall or if this soon rises again.

The supplementary treatment which Dr. Arnold advocates I think will be difficult to improve upon, but as a change or substitute for strychnine in the later stage of depression I nearly always give tincture of nux vomica with compound spirit of ammonia, and I look upon the ammonia as a valuable adjunct in most cases. Alcohol is not always required, and may be injurious if given in large doses when coma is threatening, but yet be urgently necessary when heart failure threatens. However, the giving of quinine freely at the commencement of the illness I think is essential, and I echo Dr. Arnold's wish that it should be more widely tried, and I would even say that it should be rarely if ever omitted.

The successful results in Dr. Arnold's series of cases must have been very satisfactory to him, but I am not surprised at them, as I have had almost, if not quite, as good results in my own cases, thanks, I believe, to the early and liberal giving of quinine.—I am, etc.,

North Shields, July 12th. ROBERT SEPTS. PEART.

THE TREATMENT OF NEURASTHENIA.

SIR,—I have read with great interest the letter of my friend (Dr. Haddon) on the treatment of neurasthenia (JOURNAL, July 5th, p. 47), but I think that for the sake of the apparently numerous "victims of that sad condition" a word of warning is necessary.

It is no doubt true, as Dr. Haddon tells us, that "to eat only once in the twenty-four hours, and little enough then," will relieve the gloom of depression; but it is a remedy which cannot be continued indefinitely without bringing "premature, though it may be welcome, death."

I also wish to point out to your readers, as I have already done to Dr. Haddon himself, that there is another and a better way out of this trouble. Considerations of space and time oblige me to state the matter very shortly, but in *Uric Acid in the Clinic* (London, 1910), pp. 81, 96, 112, and elsewhere, I have shown that neurasthenia is really cardiasthenia, and that in the cases I describe there is defective intracranial circulation due to absolute or relative cardiac debility. A strong heart may be overcome by very abnormal conditions, or a weak heart by conditions which are only slightly abnormal. In either case we get defective circulation in the brain and great nerve centres, also in the skin where it is visible to the eye.

How does one meal a day, and that a small one, improve the intracranial circulation? Thousands of people today have not enough circulation power to work their brains and their digestive organs at one and the same time. This is the explanation of the general call for a light lunch in all the great centres of business activity. Dr. Haddon's remedy relieves the heart of a large part of its digestive work, and gives it also many more hours of relative rest than it usually gets on three or more meals a day. Hence the available heart power now suffices to keep up a better circulation in the brain, and the gloom departs.

But this treatment entails underfeeding and leads eventually to defective nutrition of all the muscles, including that of the heart. I know that to take only one

meal a day relieves depression, hence the saying, "Always be hungry and you will always be happy"; but it is not possible to be always hungry without eventually vanishing away, and I sincerely hope that Dr. Haddon is not himself carrying this process too far. The real remedy, as I point out in my book and in a paper on underfeeding which I hope to contribute to the Medical Section of the International Medical Congress next month, is to take work off the heart by methods which can be continued indefinitely without danger. One of these is to diminish fluids, which has the effect of lowering blood pressure and giving the heart a better grip of its work. Another is to clear the blood of uric acid, as there is no greater cause of chronic heart fatigue than a capillary circulation constantly blocked by waste products. While this treatment is being carried out there is no necessity to underfeed at all. On the contrary, the heart needs to be supplied with plenty of protein in order that it may develop that muscle power which alone will produce a satisfactory intracranial circulation.

Neurasthenia is due to defective circulation, of which cardiac debility and defective capillary circulation are the chief factors. One meal a day merely remedies for a time one of the results, permanent cure is only possible by removing the causes.—I am, etc.,

London, W., July 5th. ALEXANDER HAIG.

THE FORM AND POSITION OF THE STOMACH.

SIR,—The discussion that has been going on among your correspondents as to the shape, etc., of the stomach, since the anatomists, at the last annual meeting of the Association at Liverpool, opened our eyes to falsity of previous teaching, has been most interesting, and ought to be instructive.

During my professional practice there were two signs which puzzled me—first, clear percussion below the left ribs, and, second, clear percussion as high as the fourth rib in front on the same side. Since I have noted my own symptoms and tried to understand them, I have regarded the lower area of clear percussion as due to gas in the colon, and the upper clear area as due to gas in the stomach. I had noticed also that when oppressed by gas in the stomach in bed, when lying on my right side, if I turned on to my left side the gas escaped by the mouth, and I could not explain that fact, believing in the then teaching as to the shape and position of the stomach —namely, that it was like a bag lying across the body, the œsophagus entering the upper cardiac end and the outlet at the pyloric end. When, however, at Liverpool I learnt that the stomach was a tube, and that the œsophagus entered, not at its highest part, but some distance from it, the reason why gas did not escape from the stomach when lying on the right side, but did when I turned on to the left side, was explained. That is a lesson physicians ought to learn from recent anatomical research; and if they will recognize the fact that the presence of gas in the stomach or intestine is the cause of almost every ache, and prescribe such food as causes no gas to be generated, and permit no drink of any kind, they will once more become the valued advisers of patients, who in these latter days have forsaken their shrines for those of the surgeons.—I am, etc.,

Hawick. JOHN HADDON, M.D.

SLEEPING SICKNESS AND BIG GAME.

IN reference to the article by Dr. Yorke, in your issue of June 21st, on this subject, and your article thereon, I think a pause should be made before accepting the assumption as a fact that the trypanosome found in the big game is the same as that known in man as *rhodesiense*. It would appear that this conclusion has been come to by comparison of the morphology and of the pathogenicity of the two trypanosomes. It is well known that morphology leads to many pitfalls in the comparison of trypanosomes, and it would hardly be satisfactory to rest the identity of the two on the percentage of deaths caused by them in animals artificially infected being much alike in a series of experiments. I suggest that before the slaughter proposed a greater degree of certainty should be approached on this subject.

My son, Mr. J. A. Neave, before leaving for British Central Africa, suggested that quite a large area could be enclosed in the district referred to by means of wire, and that if all big game were eradicated from it and the fence looked after, the fly after a period could be examined for this trypanosome, supposing always that *G. morsitans* would remain there in the circumstances (another interesting possibility).

I suggest that this experiment also would be advisable before proceeding to the said slaughter.—I am, etc.,

London, W., July 10th. SHEFFIELD NEAVE.

SIR,—I have your article of June 21st on the above subject before me. It was in 1909 that several Europeans who had crossed the Luangwa were attacked by a virulent form of trypanosomiasis. One was a Boer general who had become a missionary and was on his way to Nyasaland. Another was a well known medical man from South Africa. An elephant hunter and a farmer's son, a boy of 16, were amongst the others. In each case the symptoms were severe and rapid, and each complained of the painfulness of one bite in particular which some insect had given. In some cases it showed on the back of the neck as a very inflamed and dark circular bruise. In the case of the elephant hunter the place was on the shin and became a sore. He attributed it himself to a leech bite. I specify these bites particularly, as the bite of *G. morsitans*, though painful, does not produce such conditions in other parts of the country that I have ever seen. When I have been bitten the bites, which are little hard lumps, soon disappear.

As you say, sleeping sickness cases previous to the year 1909 had not been known in the Luangwa Valley. An instant search was made for *G. palpalis*, but none were found. Then Yorke and Kinghorn found that the trypanosome was carried by a number of antelopes, and from them transmitted to man by *G. morsitans*. This has opened up a very large question. If antelopes carry this disease, then they must be shot out, and when they are all shot, will it be possible for future generations of tsetse flies to be born clean and remain non-infective? Let me give a few of my observations on the subject of the tsetse flies, made when employed in North-East Rhodesia. My work lay in that district close to the Western Congo border on the shores of the beautiful lake Mweru. This lake is fringed in most places with bush which is infested with *G. palpalis*. The lake is full of fish, and was in the past closely settled with villages. The inhabitants not only drew their water from the lake, but were constantly fishing it, especially from the shores, with drag nets. Yet in 40,000 examinations made between August, 1907, and August, 1909, only 17 cases of sleeping sickness were found. The hills behind the lake were waterless, so that the game lived between the hills and the lake, to which they came to drink. Herds of puku remained all day in the bushes beside the flies. Therefore, here *G. palpalis* had a double supply of blood from men and animals. There was no *G. morsitans* except towards the lower part of the lake near the Kalunguisi river. This river was so infested by *G. palpalis* as well that the Government station had to be removed, as the flies came into the house from the river 100 yards below. There was a village with about 2,000 people on this part of the river, yet to my knowledge there never was a case of sleeping sickness found in it, and these people were bitten by both *G. morsitans* and *G. palpalis*. At the upper end of the lake, the boundary between the Belgian Congo and North-East Rhodesia, is the small Luchina stream running into the lake. *G. palpalis* is on this stream, and a village 600 yards off has *G. morsitans*. Here are numerous waterbuck, puku and bushbuck.

Further back from the lake, in a dip of the hills twenty miles away in an easterly direction, is a village called Lambine. Close to it is a stream in which sitatunga live and come out in the morning to feed almost in the village. A lion killed one when I was there last within forty yards of the huts. Now I have never seen any village so infested with *G. morsitans* as this was. Not only did they force their way into the tent, but attacked the natives and myself while I was examining the inhabitants, and they refused to be driven away. Yet I never got a case of infection from this village or even a vestige of enlarged glands. If the sitatunga carry the trypanosome, it is curious that there never was a case of sleeping sickness in this village. People were always coming and going from

the infected villages on the lake. They had a chance of being bitten by the *morsitans* when staying in this village. We know that these flies live on buck; in this case, why were the sitatunga not infected?

Though it was only in 1909 that public attention was called to the existence of sleeping sickness caught in the Luangwa Valley, yet previous to this there had been some deaths following each other in rapid succession in the family of a cotton grower on the banks by the river. The road that all travelled when coming from the railway at Broken Hill passed through his estate. His house, or rather collection of living huts, was situated within forty yards of the river. This gentleman lost his mother, sister, brother, and a friend within a short space. I do not know what caused their deaths. Previous to this a Government official at Nawalia was very ill for some time, and died on the road before he could see a doctor. This was, I think, in 1906 or 1907. Now, this cotton grower used to employ native labour to work on his flourishing estate. Some of these came from Tanganyika, where *G. palpalis* is most plentiful and infected.

I should like to suggest, with much deference, that the importation of and residence of men infected with *T. gambiense* from Tanganyika for some months in the Luangwa Valley at the very place where so many travellers subsequently got fatally bitten may have been the cause of the game becoming infected. Also I want to know if the strain of *T. gambiense* when grown in the blood of animal hosts would become more virulent and the trypanosome become the *T. rhodesiense*. Before it is decided that all game be exterminated in Nyasaland and North-Eastern Rhodesia, or any other localities where sleeping sickness exists, a careful investigation should be made in other districts and the blood of all antelopes examined. It is possible that the bulk of these ungulates will be found free from either *T. gambiense* or *T. rhodesiense*.—I am, etc.,

Heliopolis, July 7th. J. DUNBAR-BRUNTON, M.D.

CELLULOID IN TUBERCULOUS DISEASE OF THE SPINE.

SIR,—While reading Mr. Gauvain's interesting paper, some points for criticism at once occurred to me, and the more I have thought over them, the more I have hoped you will allow me to express them in a perfectly friendly manner in your columns.

1. Mr. Gauvain states (JOURNAL, June 7th, p. 1201, col. 2) that "celluloid has this extreme value—the jacket itself can be made by the surgeon who is treating the case or made under his immediate supervision, and this is an undoubted advantage." Later on, p. 1202, col. 2, we are informed that "the number of layers of muslin with incorporated celluloid will vary usually from 10 to 20," and "that between each layer of muslin which is applied, and which is coated with celluloid, an interval of from 5 to 10 hours should elapse to allow the acetone to evaporate and the splint to dry."

From this it is evident that a jacket in an average case will take fifteen days to make, if not longer. Now it may be easy for Mr. Gauvain with a specially trained staff in a special institution, to "immediately supervise" the daily steps in the making of these jackets, and I have no doubt he does so, but it is impossible for a surgeon in private practice to give up the time. It seems to me, however, entirely unnecessary, for the actual manufacture of the jacket, except for the "carving" of the cast, is entirely mechanical; and any intelligent instrument-maker's man used to plaster could, with the help of Mr. Gauvain's admirable directions, carry out the whole process. I cannot agree with Mr. Gauvain that the surgeon should turn himself into a surgeon-mechanic; surely he has been trained for something more idealistic. The surgeon should know how to measure a patient for an instrument and how to fit it when it arrives, but his time is too valuable to be spent in making it with his own hands.

2. Mr. Gauvain omits saying anything about the price of the finished jacket. As it takes a portion of fifteen or twenty days to make, the charge for labour alone must be high.

3. Mr. Gauvain states (p. 1201, col. 2) that, "after extensive use of every mechanical support which he has been able to try, none presents, to his mind, so many advantages as celluloid." May I ask, has he been able to try Thomas's posterior spinal splint? This splint, supplied at a cost for a hospital patient of between two and three guineas, slightly more for a private patient because more elegantly finished off, has all the advantages claimed for celluloid, without its laborious manufacture. In the last three years I have repeatedly used this splint with entire satisfaction in the same cases in which Mr. Gauvain would use his celluloid splints, and have found it so excellent that perhaps you will allow me briefly to describe its application.

A tracing of the patient's spine is taken, as described elsewhere,[1] and this, together with the circumferences of the abdomen and pelvis, and the distance of the top of the patient's shoulder, when sitting, from the seat of the chair, is sent to the instrument maker, who in five days delivers the splint ready to be applied. It consists of a padded leather backboard, containing two parallel thin wrought iron rods, connected above and below, the whole moulded to correspond with the tracing made by the surgeon. It is fixed to the patient by a pelvic band and an abdominal band; these are joined together in front by a vertical band; there are also groin straps and axillary straps, the latter having an attachment to the vertical band. When applied, "its weight is negligible, it affords no obstruction to respiration or digestion, the support and protection it affords is ample, and the comfort and security it confers upon the patient renders it of unequalled value in mechanical treatment at this stage of tuberculous disease of the spine."—I am, etc.,

London, W., June 7th. PAUL B. ROTH.

MEMORIAL TO THE LATE DR. GEORGE ALEXANDER GIBSON.

SIR,—Friends of the late Dr. George Alexander Gibson will be pleased to learn that the recent appeal for a fund to establish a "Gibson Memorial Lectureship" has already met with a most gratifying response.

A meeting of those subscribers who have intimated that they wish to join the general committee of the memorial fund will be convened some time in October. After this the subscription list will be closed, and a copy, together with the resolutions of the general committee, will be sent to each subscriber.

In case there may be any of the late Dr. Gibson's friends who did not receive an intimation and who might desire to subscribe, I may add that the honorary treasurer of the memorial fund is Mr. A. Gray Muir, W.S., 19, York Place, Edinburgh.—I am, etc.,

GEORGE A. BERRY,
Convener of the Executive Committee.

31, Drumsheugh Gardens,
Edinburgh, July 9th.

Medico-Legal.

VERONAL.

AT an inquest in Marylebone on July 12th the death of a barrister, aged 39, was ascribed to an overdose of veronal. The evidence was to the effect that the deceased was not known to indulge in narcotics, but was of high strung, nervous disposition, and had recently been worried and overworked. The facts suggested that during the two days preceding his final illness he had consumed the contents of two bottles containing veronal tablets. During the first of these days he was sleeping heavily on a sofa, and during the second was excited and restless. At length he retired to bed, and shortly afterwards was found in a state of coma, which despite medical attendance endured until his death three days later.

ALLEGED PERSONATION.

AT Porth, on July 11th, Richard Harrison, otherwise known as "Dr. Arthur Piercefield Walters," an elderly man, was committed for trial on charges of falsely issuing and forging certificates of death.

Mr. D. Rees, solicitor, who represented the Public Prosecutor, said he would prove that the prisoner was not a registered medical practitioner. It was not known whether he had any medical qualifications. In the name of Richard Harrison he acted in 1897 as a qualified assistant to a doctor in Swindon. For the last three or four years he had been in the Pontypridd neighbourhood. He had carried on a practice in Treforest, and was latterly practising at Tonteg. It was alleged that he had personated another gentleman who was on the *Register*.

[1] *Practitioner*, July, 1912, The Measurement of Deformity.

Dr. Arthur Piercefield Walters, practising in the Isle of Mull, Scotland, gave evidence that he was admitted as physician and surgeon in 1889. He then went to Swindon as assistant to Dr. Swinhoe, remaining there until 1894, and returning for a short period after an absence of one year. He had never seen prisoner before. The signatures on the certificates produced were not his, nor had he authorized any one to sign them. Witness said that the name Arthur Piercefield Walters which appeared in the *Medical Register* referred to him.

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

MEDICAL GRADUATION.

ALTHOUGH some distinguished medical men received the honorary degree of LL.D. at the ceremony on July 4th, the medical graduation proper did not take place till July 11th. Formerly when there was only one Final Examination in the year the medical "capping" always came in the end of July, generally on the last Saturday of the month; but with changes in the dates of examinations and alterations in the closing of the summer and winter sessions, the great day for the medical graduands falls now earlier in the month. On the present occasion sixty-one men and one woman received the degree of Doctor of Medicine, and three men that of Master of Surgery. Five gold medals were awarded for theses, four going to the M.D.'s and one to the Masters in Surgery. One of the M.D. medals was given for a thesis on an anatomical subject, another for one on chemistry, and the other two were awarded for clinical work; it is interesting to note that one of the recipients of the greatly coveted gold medal was a medical missionary in active service in China under the English Presbyterian Church. Ninety-eight degrees of Bachelor of Medicine and Bachelor of Surgery were also given, of which five were to women. Diplomas were given in Tropical Medicine and in Psychiatry, and two graduates received the degree of Bachelor of Science in the department of Public Health. Professor Robinson, the occupant of the Chair of Anatomy, was "promotor" on this occasion, and in his address to the graduates spoke somewhat hopelessly about the position of the medical profession at the present time. It had been made a pawn in the business of party politics, and in that business party advantage was the main consideration. He struck a pessimistic note, but appealed to the graduates to combine together in the interests of public health, which were also the interests of the profession; united action was needed to gain their ends.

The following is a list of those on whom degrees and other awards were conferred:

M.D.—†F. G. Bell, *O. H. Blacklay, J. F. Brown, J. Brown-Lester, L. H. Bryson, *W. E. Bullock, ‡H. M. Cargin, W. D. Chambers, N. A. Coward, J. Cram, ‡J. Crocket, G. H. Dart, S. B. Davis, ‡I. D. Dickson, J. Drummond, W. G. Evans, J. Findlay, †A. H. Firth, ‡R. G. Gordon, A. G. M'Pherson Grant, Satis Chandra Sen Gupta, †D. K. Henderson, ‡H. F. Holmden, T. H. Horrax, ‡A. J. G. Hunter, W. D. Kirkwood, †R. A. Krause, †W. R. Logan, D. H. C. Macarthur (Captain, R.A.M.C.), S. A. M'Clintock, F. B. Macdonald, ‡R. Macdonald, ‡G. M'Mullan, J. M. Macphail, N. F. Mann, B. B. Morgan, R. F. Mudie, ‡H. G. G. Nelson, †J. J. H. Nelson (Captain, I.M.S.), ‡H. Paterson, J. H. H. Pearson, ‡A. A. W. Petrie, †Kanta Prasad (Lieutenant-Colonel, I.M.S.), ‡Dorothy E. Pratt, R. Proudfoot, ‡G. Raffan, G. Richardson, ‡G. Y. Richardson, G. H. W. Robertson, *G. M. Robertson, ‡W. A. Shafto, †J. J. M'I. Shaw, J. I. Shepherd, E. W. Smerdon, H. F. Smith, †W. R. Smith, A. Stuart, B. C. Tennent, R. C. Walker, W. G. Waugh, *G. D. Whyte, †F. M. Willcox.

M.S.—‡K. Mackenzie, *A. P. Mitchell, ‡L. E. B. Ward.

M.B., CH.B.—§E. W. Adcock, W. R. Addis, Hira Singh Anand, R. P. Anderson, W. H. Armistead, F. C. K. Austin, J. I. Bačza, Tejnarain Bahadur, I. J. S. Balkin, W. Barclay, D. C. Barron, E. O. Beckley, A. Bremner, H. A. Brookes, F. R. Brown, R. M. Brown, D. Campbell, C. P. Carlsson, S. M'A. F. Cesari, T. W. J. Childs, G. W. Christie, T. W. Clarke, ‖A. Cowe, E. S. Craig, J. H. Cumming, Laura K. Davies, C. Dundee, A. J. Dunlop, ‖J. W. Edington, J. S. Elliot, Isabella Elphinston, K. D. Falconer, G. D. Ferguson, F. G. Foster, A. S. Fry, J. Gifford, A. C. Giles, A. Grant, §J. N. J. Hartley, H. B. L. Henderson, R. A. Hepple, S. Honeyman, J. H. Hood, §T. D. Inch, T. W. Jackson, Oo Kek Khaw, F. J. Kirkness, D. A. Laird, J. I. Lawson, R. B. Llewellyn, R. L. Lloyd, J. B. Low, G. H. Lunan, R. M'Adoo, Margaret N. MacCallum, A. E. P. M'Connell, D. M'Kelvey, W. Mackenzie, Celia M. C. MacNeil, J. G. Marie, C. de C. Martin, D. Martin, G. E. Martin, R. Montgomery, W. K. Morrison, H. O'H. O'Neill, W. Parker, ‖E. Percival, A. N. Pollock, D. Pottinger, §T. Pullar, G. Rankine, Khammamett Gopala Rao, J. W. van Reenen, D. S. Robertson, W. J. Robertson, C. D. Rogers, H. A. von Ronn, M. S. Ross, C. Scales, L. R. Sharples, P. M'L. Shiels, A. F. Sinclair, R. W. Smith, E. T. A. Stedeford, J. W. Steel, Isabella Stephouse, A. M. Stewart, F. G. Thatcher, W. St. C. Thwaites, Hira Lal Tikku, M. C. Turiansky, J. Walker, H. O. Washbourn, D. G. Watson, G. Williams, G. Wilson, H. W. Wilson.

D.T.M. AND HY.—A. D. Stewart, Capt. I.M.S.

D. PSYCH.—P. W. P. Bedford, W. Russell, L. H. Skene.

* Gold Medal for Thesis. † Highly commended for Thesis.
‡ Commended for Thesis. § First Class Honours.
‖ Second Class Honours.

On the same occasion the following scholarships and prizes were distributed:—Goodsir Memorial Fellowship: F. G. Bell. Ellis Prize in Physiology: W. E. Bullock. Gunning Prize in Physiology: Marjory Macnaughton. Fothergill Gold Medal in Therapeutics: J. G. Sharp. Chiene Medal in Surgery: L. E. Barrington-Ward. Ettles Scholarship: J. N. J. Hartley. Allan Fellowship: E. W. Adcock. Freeland Barbour Fellowship: T. D. Inch. M'Cosh Bursary: D. C. Barron. Murchison Memorial Scholarship: A. W. S. Sichel. Beaney Prize: J. W. Edington. Mouat Scholarship: D. Martin. Conan Doyle Prize: J. W. van Reenen. Annandale Gold Medal: J. N. J. Hartley. Buchanan Scholarship: J. N. J. Hartley. James Scott Scholarship: T. Pullar. Dorothy Gilfillan Memorial Prize: Isabella Stenhouse. Wellcome Medals in the History of Medicine: Gold Medal, T. Pullar; Silver Medal, K. F. Sonntag. Pattison Prize in Clinical Surgery: J. M. Watt. Cunningham Memorial Medal in Anatomy: J. L. Owen. Whiteside Bruce Bursary: R. Mailer.

The following candidates have been approved at the examinations indicated:

SECOND M.B. (*Physiology*).—G. G. Allan, C. B. C. Anderson, C. H. Barry, D. L. Baxter, J. Bennet, J. C. L. Brown, R. B. Buchanan, A. J. Caird, R. D. Cameron, E. Chapelle, F. W. Clark, T. F. Corkill, W. F. Craig, D. C. Duff, H. B. Dykes, J. J. B. Edmond, E. C. Fahmy, A. M. Ferrie, M. Foster, J. J. Gasperine, N. Gibbin, A. K. Gibson, G. W. Grant, T. F. Grant, J. A. C. Guy, N. K. Henderson, F. Holmes, W. L. Hunter, R. L. Impey, E. Jamiesone, T. Janakiramiah, J. M. Johnston, J. B. Kirk, J. M'Garrity, I. Mackenzie, J. A. Mackenzie, A. R. C. M'Kerrow, N. Macleod, D. A. Macrae, J. O. Marais, A. Marly, W. R. Mathewson, J. de V. Mering, F. H. van der Merwe, G. H. Middleton, C. Milne, H. S. Moore, J. S. Munro, J. L. Owen, M. S. N. Panikkar, G. A. Paris, A. M. Paterson, D. H. Paterson, A. Prentice, J. C. Preston, E. G. Pyott, A. Robertson, B. J. Ryrie, J. G. R. Scarff, S. N. Seal, B. H. Simon, G. H. Sinclair, J. M. Smellie, T. J. Sumner, D. R. Thapar, R. Vassie, G. A. Velluot, Gladys Ward, Gladys R. M. V. Williamson.

THIRD M.B. (*Materia Medica*).—R. C. Aitchison, M. H. Alikhan, F. A. Anderson, J. M. Anderson, F. W. W. Baillie, T. H. S. Bell, E. J. Blair, J. Brown, W. M. Christie, I. A. Clarke, W. A. Coates, W. A. Cochrane, J. R. Crolius, J. Dick, C. L. Dold, F. J. N. Fook, H. J. Foote, A. W. Forrest, E. Fullerton, E. L. Galgut, D. C. Graham, H. A. Hewat, Helen G. Hewat, R. M. Hume, J. E. Hurworth, E. B. Israel, D. H. Jones, S. A. Kuny, L. Lappin, J. E. Larché, N. B. Laughton, R. Lawson, J. Loftus, J. G. Louden, E. W. Louw, J. E. McCartney, I. M'Dowall, J. R. S. Mackay, M. M'Kerrow, D. Malloch, D. J. Max, J. W. Potter, R. Power, J. W. G. H. Riddel, A. C. Shaw, C. G. Skinner, J. M. Smith, S. H. Stewart, R. J. Tait, B. P. Varma, J. Walker, Chik H. Wan, J. W. Watthews, J. A. C. Williams, C. J. Young. (*Pathology*).—R. C. Aitchison, J. M. Anderson, J. S. Armstrong, F. W. W. Baillie, T. Y. Barkley, R. B. Boston, J. Brown, H. J. Bruwer, W. K. Chalmers, J. E. Chow, A. G. Clark, T. L. Clarke, I. A. Clarke, W. A. Cochrane, C. H. H. Coetzee, J. Dale, J. Dick, D. Dunlop, H. F. Ferguson, G. W. M. Findlay, F. J. N. Fook, E. Fullerton, B. B. Gadgil, W. Goldie, F. M. Halley, J. A. Henderson, J. Hepburn, R. M. Hume, J. E. Hurworth, E. B. Israel, O. D. Jarvis, G. G. S. Johnston, F. J. C. Johnstone, C. W. S. D. Jones, S. J. Kuny, J. E. Larché, N. B. Laughton, E. Law, J. Lawson, R. Lawson, D. Lennox, H. Lewis, A. J. E. G. Lim, H. H. Lim, J. G. Louden, J. E. M'Carthey, G. A. Macdonald, I. M'Dowall, G. C. M'Ewan, J. W. Malcolm, D. Malloch, R. F. T. Newbery, R. N. Phease, J. W. Potter, O. D. Price, W. J. Purdie, N. L. Reis, J. W. G. H. Riddel, J. W. Riddoch, J. Rodger, A. J. D. Rowan, R. B. Stewart, S. H. Stewart, T. M. J. Stewart, A. J. Taylor, F. O. Taylor, W. E. Thompson, A. R. Thomson, G. M. Torrance, J. Walker, J. W. Watthews, L. H. Werden, J. M. Wishart, Margaret K. J. Wright, C. J. Young.

UNIVERSITY OF ST. ANDREWS.

AT a meeting of the University Court on July 12th, Dr. W. B. Dow was re-elected an assessor of the University General Council on the Court for a period of four years from June 28th.

QUEEN'S UNIVERSITY, BELFAST.

THE following candidates have been approved at the examinations indicated:

FIRST M.B. (*Chemistry*).—Jane Copes, G. J. Crawford, W. Gilmore, W. Graham, S. M. Kirk, D. J. Loughran, J. E. Rea, S. J. Smyth, Maud C. Welsh, F. P. Woods. (*Physics*).—J. C. Carson, G. J. Crawford, R. Hall, Olga R. I. Love, D. J. Loughran, S. M'Kee, R. G. Meyer, Annie M. Orr, S. J. Smyth, F. P. Woods. (*Zoology*).—J. F. Ainley, D. D. Anderson, Olive M. Anderson, Annie E. E. Beattie, T. M. Boyd, Janie Clarke, J. W. C. Colquhoun, Jane Copes, G. J. Crawford, Margaret Crawford, W. Cupples, Dorothy I. Dobbin, J. Fegan, J. W. Gaston, W. Gilmore, C. Graham, W. Graham, F. Hopkins, T. F. Ingram, D. L. Ireland, J. Lascelles, S. Lees, Olga R. I. Love, D. J. Loughran, J. C. Loughridge, J. M'Cormack, S. M'Kee, A. M'D. M'Mullan, P. Macarthur, R. G. Meyer, J. P. O'Kane, H. J. O'Prey, J. E. Rea, S. J. Smyth, M. H. Turnbull, Maud C. Welsh, H. W. Wild, C. J. A. Woodside. (*Botany*).—J. F. Ainley, D. D. Anderson, Olive M. Anderson, Annie E. E. Beattie, Janie Clarke, J. W. C. Colquhoun, Jane Copes, G. J. Crawford, Margaret Crawford, W. Cupples, Dorothy I. Dobbin, J. Fegan, J. W. Gaston, W. Gilmore, C. Graham, W. Graham, R. Hall, F. Hopkins, D. L. Ireland, J. Lascelles, S. Lees, Olga R. I. Love, D. J. Loughran, J. C. Loughridge, H. H. M'Clelland, J. M'Cormack, A. M'D. M'Mullan, P. J. Murnane, J. P. O'Kane, H. J. O'Prey, Annie M. Orr, S. J. Smyth, M. H. Turnbull, H. W. Wild, C. J. A. Woodside.

SECOND M.B. (*Anatomy*).—W. L. Agnew, W. Bryars, A. G. Campbell, G. Chesney, *A. C. Dickey, S. J. W. Donald, Grace M. English, H. E. Hall, B. J. H. Hogg, L. Jefferson, Arabella C. Kirker, N. M'Cullough, *J. P. M'Ginley, B. W. M'Kinney, M. M'Menamin, F. M'Sorley, P. J. M'Sorley, *H. E. Magee, J. J. Marner, D. Mitchell, Elizabeth M. Moore, H. T. O'Neill, Margaret S. Purce, R. J. Rae, W. Saunderson, R. L. Sinclair, J. P. Smyth, *Mary G. Thompson, T. R. S. Thompson, J. H. Vance, D. R. Wheeler, *C. A. Whitfield, F. H. Whyte. (*Physiology*).—W. L. Agnew, W. Bryars, A. G. Campbell, G. Chesney, A. C. Dickey, S. J. W. Donald, Grace M. English, B. J. H. Hogg, Arabella C. Kirker, N. M'Cullough, J. P. M'Ginley, B. W. M'Kinney, M. M'Menamin, F. M'Sorley, P. J. M'Sorley, H. E. Magee, J. J. Marner, D. Mitchell,

Elizabeth M. Moore, Margaret S. Purce, R. J. Rea, W. Saunderson, R. L. Sinclair, J. P. Smyth, Mary G. Thompson, T. R. S. Thompson, J. H. Vance, D. R. Wheeler, C. A. Whitfield, F. H. Whyte.

THIRD M.B. (*Materia Medica and Pathology*).—J. B. Alexander, E. G. B. Calvert, W. K. Campbell, R. Condy, W. W. Dickson, T. W. E. Elliott, Mary A. Gallagher, T. M'Clurkin, W. T. M'Curry, R. G. M'Elney, T. Milling, A. Porter, R. L. Rea, F. A. E. Silcock, W. A. Thompson, Elizabeth S. Walker, R. F. Walker, R. H. Wilson. (*Hygiene and Medical Jurisprudence*).—J. B. Alexander, A. W. Bourke, E. G. B. Calvert, P. Clarke, D. M. Clements, J. Cullenan, C. F. Davey, T. W. E. Elliott, Mary A. Gallagher, P. Kane, T. M'Clurkin, W. C. M'Cullough, W. T. M'Curry, R. G. M'Elney, J. M'Kay, H. M'Nally, J. R. M. Mackenzie, Sylvia Marsh, J. F. Meenan, T. Milling, F. P. Montgomery, W. N. Montgomery, A. Porter, R. L. Rea, W. Russell, F. A. E. Silcock, H. S. Smith, J. M. Smith, W. A. Thompson, Elizabeth S. Walker, D. K. Watterson, R. H. Wilson.

FINAL M.B., B.CH., B.A.O.—*†N. Beattie, *†W. A. L. Dunlop, *†T. W. G. Hogg, *†T. Walker, J. S. Bellas, D. Calwell, J. F. Craig, H. Emerson, H. P. Hall, H. M. Jackson, G. D. Latimer, J. B. Lyle, W. J. M'Cracken, W. M. H. M'Cullagh, J. J. H. Mitchell, J. Porter, H. A. Skillen, W. Speedy, W. Tyrrell, T. H. Wilson, S. J. Yeates.

M.D.—G. Cooper, J. G. Johnson, G. E. A. Mitchell.

M.CH.—A. Fullerton.

D.P.H.—W. K. Calwell, F. W. Craig, T. F. S. Fulton, D. G. Gray, R. M'Candless, W. B. Purdon, J. J. Robb, W. B. Stevenson, R. S. Taggart, E. Thorpe.

*Recommended for a scholarship. †Second class honours.

UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examination indicated:

SECOND M.B., CH.B.—H. Archer, O. C. M. Davis.

VICTORIA UNIVERSITY OF MANCHESTER.

Appointment.

DR. J. C. S. DOUGLAS, who is at present Lecturer on Pathology and Bacteriology at the University of Birmingham, has been appointed Lecturer in Pathology to the Victoria University of Manchester; and Drs. R. T. Williamson, E. N. Cunliffe, and A. Ramsbottom, all of whom are on the staff of the Royal Infirmary, have been appointed Lecturers on Clinical Medicine.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY council was held on July 10th, Sir Rickman J. Godlee, Bart., President, in the chair.

Election into the Council.

The President reported the results of the election of four Fellows into the Council of the College.

President and Vice-Presidents.

Sir Rickman J. Godlee was re-elected President, and Mr. G. H. Makins, C.B., and Sir Frederic Eve were elected Vice-Presidents.

The late Sir Jonathan Hutchinson.

The Council passed the following vote of condolence:

That the Council hereby express their deep regret at the death of Sir Jonathan Hutchinson, and their sincere sympathy with the members of his family in their bereavement. The Council remember with gratitude the many services rendered by Sir Jonathan Hutchinson to the College, as its President, and as a member of the Council and of the Court of Examiners, and do also record their appreciation of his untiring industry, the extent and accuracy of his observations, his eminence in many of the special departments of surgery, and the important discoveries which will always be associated with his name. The Council feel that the College has lost one of its most illustrious Fellows and one for whom the highest regard was entertained not only by Fellows and Members of the College, but by the medical profession in this country and in every part of the civilized world.

The late Mr. Alfred Willett.

The following vote of condolence was passed by the Council:

That the Council hereby express their deep regret at the death of Mr. Alfred Willett, and tender their sincere sympathy to Mrs. Willett and the other members of the family in their bereavement. That the Council do also record their appreciation of the many services rendered by Mr. Willett to the College in the conscientious discharge of the duties which devolved upon him as a vice-president and member of the Council. The Council have not forgotten the respect and affection which his sterling character and genial presence inspired.

College Solicitor.

Mr. E. Hugh N. Wilde was appointed Solicitor to the College.

Examiners.

Mr. W. G. Spencer was elected to the Board of Examiners in Dental Surgery, in the vacancy occasioned by the retirement of Mr. W. F. Haslam. The Council accepted with regret the resignation of Professor Gotch as Examiner in Physiology for the Fellowship.

Imperial Cancer Research Fund.

Sir Frederic Eve, Sir Alfred Pearce Gould, and Mr. R. Clement Lucas were appointed members of the Executive Committee of the Imperial Cancer Research Fund.

Queen Victoria Jubilee Institute for Nurses.

Mr. R. Clement Lucas was appointed a representative of the College on the Council of the Queen Victoria's Jubilee Institute for Nurses.

Appointment of Professors and Lecturers.

The following appointments were made for the ensuing year:

Hunterian Professors.—Arthur Keith, Hastings Gilford, Charles Mansell Moullin, Ernest William Hey Groves, Arthur Rendle Short, Harold Beckwith Whitehouse.

Arris and Gale Lecturers.—Frederic Wood Jones (two lectures), David Waterston (one lecture).

Erasmus Wilson Lecturer.—Samuel George Shattock.

Arnott Demonstrator.—Arthur Keith.

Odontological Demonstrator.—James Frank Colyer.

Obituary.

FRANCIS GOTCH, D.Sc., F.R.S.,

WAYNFLETE PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY OF OXFORD.

THE announcement of the death of Professor Francis Gotch, Waynflete Professor of Physiology in the University of Oxford, will be received with profound regret by every one who knew him, and especially by the numerous students who came under his influence in Liverpool and in Oxford. The death occurred at the residence of his brother-in-law, Sir Arthur Whitelegge, in Kensington, after an illness extending over several months.

Francis Gotch was born in 1853, the only son of the Rev. Dr. Gotch, of Liverpool, who was one of the revisers of the Old Testament. He was educated at Amersham Hall School and University College, London, where he entered first in the Faculty of Arts and took the degree of B.A. in 1873; two years later after working in the Faculty of Science he became B.Sc.Lond., and thereafter entered the Medical Faculty, where he distinguished himself as a student of original mind and great ability. During his career at the University College he suffered from ill health and spent some time abroad, but he obtained the M.R.C.S. in 1881, and, devoting himself to physiology, was appointed Sharpey physiological scholar in University College, under Professor Burdon-Sanderson. He assisted Sanderson in many of his experiments, especially in those with regard to muscles and nerve reactions. When in 1883 Burdon-Sanderson was appointed to the newly-constituted Waynflete Chair of Physiology at Oxford, Gotch became his demonstrator, and greatly assisted in organizing the new department. He continued to work in co-operation with his elder, and also began to conduct independent researches, the best known being those relating to electro-motive properties of electrical organ of *Torpedo marmorata*, and to other researches in connexion with the functions of the nervous system, especially of the nerves. In 1891 he was appointed Holt Professor of Physiology in the University of Liverpool, and again proved himself a successful organizer, as well as a brilliant and inspiring teacher. In 1895, when Burdon-Sanderson was appointed Regius Professor of Medicine in Oxford, Gotch succeeded him in the chair of physiology, and in addition to teaching and inspiring his pupils to make original researches, continued his own investigations into the phenomena of excitable tissues, especially of muscle, nerve, and the retina. His papers were published in the *Journal of Physiology*, in the *Philosophic Transactions*, and in the *Proceedings of the Royal Society*, before which in 1891 he delivered the Croonian lecture on the mammalian nervous system. He was elected a Fellow of the Royal Society in 1892, and served on the Council in 1904–1906. In Oxford he threw himself into the life of the university, and was an active member of the Hebdomanal Council and of many boards and committees. He took over from his predecessor a well-equipped laboratory, and himself very largely increased its facilities, developing a series of departments, including that of physiological chemistry under Drs. Ramsden and Vernon, of histology under Dr. Scott, of respiratory physiology under Drs. Haldane and Douglas, and of experimental psychology under Dr. McDougall. He was a Fellow of Magdalen College, and took an active part in the administration of its affairs. He became M.A. of Oxford in 1896 and D.Sc. in 1901. He also received the honorary degrees of D.Sc. from the University of Liverpool in 1907, and that of LL.D. St. Andrews in 1911.

He was not only a man of extraordinary scientific ability, but had a keen artistic taste, with a wide knowledge and appreciation of art. He married in 1887 the daughter of Mr. J. C. Horsley, R.A., and sister of Sir Victor Horsley; he is survived by her and by one son and three daughters.

He lived a full life, and keenly enjoyed the opportunities he found for doing good work for the cause of medical education, and for the advancement of science. Those who knew him in early days at University College will recall the delight with which he recognized that circumstances were so shaping themselves that he could give his life to physiology. He was ever ready to make new friends, and the charm of his frank nature drew many about him, but he never forgot an old one. To them he was always the same, and to many the world will seem much poorer, because they may not hope to hear again his cheery greeting, or come once more under the influence of his contagious energy and enthusiasm.

ALGERNON THOMAS BRISTOW, M.D.,

SURGEON TO KING'S COUNTY HOSPITAL AND TO ST. JOHN'S AND THE LONG ISLAND COLLEGE HOSPITAL, BROOKLYN; EDITOR OF THE NEW YORK "STATE JOURNAL OF MEDICINE."

In the recent death of Dr. Bristow from septicaemia, contracted from the prick of a needle while operating on a septic patient, America has lost a brilliant surgeon and the medical profession one of her most talented sons.

Dr. Bristow was born in England on November 29th, 1850, and migrated with his parents to America when 2 years of age. Though his early recollections of this country must necessarily have been of the slightest, he inherited a love of his motherland which he never hesitated to display in his more mature years. He had great sympathy with the medical profession in this country, and showed a lively interest in the fight of the British Medical Association against the Insurance Bill and Act. On this subject he had many communications with the President of the Association, and he thought that there were many points in the constitution and work of the Association which the American Medical Association might well emulate. In a personal letter to the President of the British Medical Association, dated December 30th, 1912, he stated—

> In a few days you will receive from Dr. Simmons, of the American Medical Association, an invitation to the British Medical Association to hold a joint meeting with us in 1915. I am the Chairman of the Committee which was appointed at the last meeting of the American Medical Association, to confer with the British Medical Association on the feasibility of such a project, and I trust that your Council will look favourably on such a proposition. In these days of *Studien Reisen* it seems that it might be possible and profitable for the medical associations of the two great English-speaking races to come together. We can learn much from you, and perhaps you can take a leaf or two out of our book. At any rate, as the originator of this project, I thought it worth considering, and hope that it may be carried out to our mutual benefit and better understanding.

The invitation has been received, the matter is under consideration, and it is now well to have this opinion of the originator on record, though he has passed beyond the realm of hope that his desire may be realized.

Dr. Bristow was a many-sided man; he was not only a brilliant surgeon, but an intellectual of rare capacity, and his pen was often as sharp as the edge of his knife. He is spoken of in the highest terms of appreciation and affection by his colleagues, who recognized his sterling merit and his unselfish devotion to the cause of truth and progress. He hated sham, and his penetrating intuition enabled him readily to separate the wheat from the chaff. He was always ready to lend a helping hand to those in distress, and the highest and noblest aims of the medical profession ever engaged his earnest solicitude. Dr. W. F. Campbell says of him:

> It may seem a prodigal waste that such a life at the full realization of its usefulness should be given a ransom that others less needed might survive. And yet he died as all true men would die—in the firing line with his face to the front. Where duty called he counted no cost and dreaded nought but cowardice. He realized that there was no great achievement without a great adventure, and no great adventure without a challenge to fate. He was a great teacher because he had a great passion for truth; he was a great surgeon because he had a passion for perfection. He was a scholar because he never left school. He was always the student, ever graduating not out but up, from one class to a higher class; recognizing in the larger relationships that life is the school, work the curriculum, character the diploma. His editorials showed depth of thought and beauty of diction. They scintillated with satire, and an aptness of quotation which showed an intimate acquaintance with the masters of literature. There was sometimes heat but always light. There was always breadth but never shallowness. Through his leadership we have gained a clearer vision and a larger outlook, for he trod the higher slopes. He had no patience with the cheap, the mediocre, the superficial, the bizarre.

We have, perhaps, quoted enough from the appreciation by Dr. Campbell, who knew Dr. Bristow intimately, to show the outstanding character of the man—a man whom the medical profession can ill afford to lose, but such is one of the problems of life. In the midst of death we are in life, and no doubt there are many other men of the same genuine stamp who will carry on the great work which Dr. Bristow initiated. He has left a wife and two daughters to mourn his sad and untimely end, and to them our sympathy goes out for the loss of a great and good man. To again quote Dr. Campbell: "At his own fireside, at the family altar, whereon burned with steady glow his heart's purest affection: there amid the peace that passeth understanding his simple and great soul found its native clime; there in the family circle we often sat charmed by the beauty of his mind, which never lost its power of leading, as by an unspoken invocation, 'to a green field, ever kept fresh by a living fountain.'"

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. C. G. Hallsten, some time professor of anatomy and physiology in the University of Helsingfors; Dr. Max Kassovitz, director of the first public sick children's institute in Vienna, and extraordinary professor of children's diseases; Dr. Motais, professor of clinical ophthalmology in the medical school of Angers; Dr. George H. Powers, for many years professor of diseases of the eye, ear, nose, and throat in Toland Medical College, and afterwards in the medical department of the University of California, said to have been the first doctor who specialized in eye and ear diseases in San Francisco, aged 73; and Surgeon-General D. A. V. Vogl, formerly chief of the medical department of the medical staff of the Bavarian army.

Public Health AND POOR LAW MEDICAL SERVICES.

TUBERCULOUS CATTLE.

In reply to Mr. Field, the President of the Board of Agriculture has given the following particulars with regard to the number of animals dealt with during the period ending June 24th by the local authorities in England under the Tuberculosis Order, 1913:

Number of animals notified to local authorities in England under the Tuberculosis Order, 1913, from May 1st to June 24th, 1913:

(*a*) By owners	1,210
(*b*) By veterinary surgeons	349
(*c*) From other sources	188
Total	1,747

Approximately 95 per cent. were females.

Number of animals slaughtered by local authorities, for which compensation has been paid or is due, 965.

Total of valuations:

On the basis of (*a*) the animals being affected	£4,815	4	6
(*b*) the animals not being affected ...	8,725	7	2
Total of compensation paid or due to owners	2,215	4	8
Net cost of compensation after deduction of salvage	1,306	16	4

Statistics of the number of animals slaughtered under the provisions of the Order are printed monthly in the *Gazette*.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

St. Austell Rural District.—The estimated population at the middle of 1912 was 33,115. The net birth-rate was 21.4 and the net death-rate 12.2 per 1,000. The infant mortality-rate was equal to 77 per 1,000 births. The medical officer of health, Dr. A. T. Nankivell, has only been in office since June, 1912, but he appears already to have organized the work of the

d strict on a sound basis and to have carried out some excellent work. Of special value is the section of his report dealing with pauperism and poverty, a subject which might well be discussed more frequently in public health reports. The district is in a similar plight to other rural districts as regards the unsatisfactory condition of the houses occupied by the working classes; many have been patched and repaired in order to make them less unfit to live in, but they have not been closed and pulled down as required by the Housing, Town Planning, etc., Act, 1909, because already there is a house famine. After the presentation of a detailed report on the needs of various parts of the district by Dr. Nankivell, the district council gave some consideration to the question which we trust will bear fruit at an early date. It is unsatisfactory to find in a district the size of St. Austell that there is no isolation accommodation available for infectious diseases. During 1912 there were notified 45 cases of scarlet fever and 10 of diphtheria, and during the past ten years there has been a yearly average of these two diseases of 94 and 18 respectively. A question of considerable importance which at the present time is causing a great deal of concern among medical officers of health in large rural districts is referred to in the report. The Medical Officer of Health of St. Austell Rural District has to do the whole of his clerical work and to pay all his travelling expenses about the district. During the six months that Dr. Nankivell has held office he has travelled 2,700 miles, and has now found it necessary to purchase a motor car, so that probably during 1913 he will spend more than one-fourth of his salary in travelling expenses without allowing for the original cost of the car.

Medical News.

THE Radium Institute, Riding House Street, founded by Lord Iveagh and Sir Ernest Cassel, will be closed for the treatment of cases from Monday, August 4th, to Saturday, August 30th, inclusive.

THE personal estate of the late Dr. Robert Browne, Superintendent Medical Officer of Health for the Rathmines District of Dublin, has been declared at a value of £26,874.

WE are asked to state that the National Medical Guild, described as a trade union for medical practitioners with branches in all parts of the United Kingdom, will have temporary offices at 13, Old Steine, Brighton, from July 18th to 26th.

THE Carnegie Foundation has awarded its gold medal to Professor Bergonié of Bordeaux, in recognition of his numerous and valuable scientific researches. It is well known that his studies on the *x* rays have cost him dear, but every one will be glad to learn that his vigorous constitution has enabled him to get the better of his injuries.

ON July 15th the new buildings of the Central London Ophthalmic Hospital in Judd Street were opened by the Duchess of Albany. The buildings consist of five floors and a basement, and provide for forty beds, in addition to an out-patient department, two operating theatres, bacteriological and pathological departments, an *x*-ray room, and a museum. There is also a common room for students, a library, quarters for the resident staff and clinical assistants, and on the top floor quarters for the nursing staff. So far as building expenditure is concerned, the institution is free of debt, but funds are still required for equipment, and at present it is not intended to utilize more than twenty-five beds.

KING'S COLLEGE HOSPITAL, which has been reducing the amount of its work for some time past, discharged the last of its patients on Monday, the doors being then formally closed. They were reopened, however, in the evening for the holding of a supper party, which was followed by a concert and attended by many old residents and other King's College men. Those present included Professor Urban Pritchard, who was in the chair, Sir Watson Cheyne, Professor N. I. C. Tirard, Sir David Ferrier, Sir StClair Thomson, Mr. Boyce Barrow, and Dr. John Walters of Reigate, who was house-surgeon at the hospital as far back as 1857. The proceedings concluded with the singing of the hospital chorus and "Auld Lang Syne," and "Mary," who has now played the part of mother to the residents for over twenty years, was not forgotten. It is anticipated that the new building will be ready for work by October 1st, and meantime the premises are to be inspected by the King and Queen next week.

AT the annual meeting of the American Association for Cancer Research held on May 5th, 1913, the following resolutions (the report of the Committee on Statistics and Public Education) were unanimously adopted: "(1) The present instruction of medical students in the symptoms and early diagnosis of cancer is seriously deficient; (2) the medical curriculum should include special lectures in the clinical departments dealing specifically with this subject; (3) the universities should provide competent lecturers in this subject to address the local medical societies; (4) the associate members of the association should be urged to take up the question of the proper methods of approaching the public on the subject of cancer; (5) the activities of this association should at present be chiefly confined to the education of the medical profession; (6) this resolution shall be sent to the deans of the medical schools and the secretaries of the State medical societies in the United States and published in the medical press."

WALKER (*Philippine Journal of Science*, vol. viii, Sec. B, No. 1, February, 1913) describes under the heading "The qualitative determination of the balantidicidal activity of certain drugs and chemicals as a basis for treatment of infections with *Balantidium coli*," some experimental work he recently conducted in the Philippine Islands. Drugs such as the compounds of arsenic and antimony, the aniline dyes, ipecacuanha and its alkaloid emetine, and quinine were found to possess little or no balantidicidal value, but, on the other hand, the salts of the heavy metals, especially mercury and silver, proved useful. Quantitative tests demonstrated that the organic compounds of silver which are not precipitated by albumen, or, if precipitated, form soluble compounds, possess a balantidicidal activity as great, in proportion to the amount of silver contained, as silver nitrate. How far these results will be applicable in practice can only be determined by actual clinical experience.

THE After-Care Association, whose objects are to assist cases discharged recovered from asylums for the insane, held a meeting on July 4th at All Saints' Vicarage, Highgate, by the kind invitation of the Vicar and Mrs. Hawkins. The chair was taken by the Hon. John Mansfield (Lord Chancellor's Visitor in Lunacy). The meeting was addressed by Mr. Stanley Keith, Mrs. Sikes, and Mr. Thornhill Roxby. There was a large attendance, and several new members were enrolled. Another meeting was held on July 8th at Cane Hill, by the kind invitation of Sir James and Lady Moody. The chair was taken by Sir James Moody, and the meeting was addressed by Sir George Savage, M.D., Dr. Percy Smith, and Mr. Thornhill Roxby. There was again a very good attendance, much interest being shown in the work of the association, and a useful addition to the funds obtained. A vote of thanks to the host and hostess was proposed by Dr. Campbell and seconded by Dr. Pasmore, to which the Chairman suitably replied. This charity is the only one of the kind in Great Britain, and assists cases from all parts of the country.

A QUARTERLY court of the directors of the Society for Relief of Widows and Orphans of Medical Men (11, Chandos Street, Cavendish Square, W.) was held on July 9th. Sir Thos. Boor Crosby, President, was in the chair, and fourteen directors were present. The deaths of Mr. A. Willett, vice-president, and Mr. L. Archer, director, was reported. Two gentlemen were elected members of the society. The sum of £1,333 was voted for the payment of the half-yearly grants to the widows and orphans on the books of the society. Since the last court three widows had died; one, whose husband had paid in subscriptions £26 5s., had been on the funds since 1885, and had received from the society £1,540. The Acting Treasurer reported that the total amount received from the estate of the late Sir James Brickwell was £37,250, bringing in an income of £1,325 10s. per annum. A scheme for utilizing this was submitted to the court, and was adjourned to the October court for further discussion. A legacy of £250 had also been received from the executors of the late Mr. Windsor of Manchester. Membership is open to any registered medical practitioner who at the time of his election is resident within a twenty-two mile radius of Charing Cross. The annual subscription is 2 guineas. Special terms for life membership vary with the age of the applicant. Full particulars may be obtained from the secretary at the offices of the society, 11, Chandos Street, Cavendish Square, W. Relief is only granted to the widows or orphans of deceased members, and the secretary is constantly receiving letters from widows of medical men who have been left practically penniless, asking for relief, but this has to be refused as their husbands had not been members of the society.

Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2831, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DR. PERCY E. ADAMS (The Infirmary, Isleworth, W.) desires a home, sanatorium, or hospital for paying patients, preferably in the south or east of England, and near the sea, for an infant of 11 months who underwent tracheotomy some months ago. It has not been possible to dispense with the tube, and the general health is unsatisfactory. Constant medical supervision is necessary, and the services of some one with special experience of laryngeal work should be available if required.

THE CUPRASE TREATMENT OF CANCER.

H. F. W. would be glad to hear the experience of those who have tried the cuprase (copper colloid) treatment of cancer recommended by Dr. Gaube du Gers. What are the results, and are the injections painful? He also asks for information as to the percentages of recurrences after operation for cancer of the breast, and as to the average lapse of time between the performance of this operation and the occurrence (*a*) of a relapse, (*b*) of death.

SANATORIUMS.

A. H. (Liverpool) inquires as to the superficial area required per patient in a tuberculosis sanatorium of about 250 beds. Also as to the cubical area per patient in the same, and as to the number of beds admissible in any one ward.

*** The number and variety of tuberculosis sanatoriums at home and abroad is now so large, and the arrangements for open-air treatment so complete in most of them, that any hard-and-fast dimensions have no longer the significance that they had in former days when tuberculosis was treated behind closed windows. Only an average, therefore, can be taken, and about 150 sq. ft. may be regarded as representing the usual allowance for each patient, the cubical content being not less than 1,700 cub. ft. In all modern sanatoriums the system of single bedrooms is adopted, except where economic conditions have to be observed, but all such rooms are made to open directly on to a common balcony, so that the bed may be moved nearer to, or further from, or into the open air as the weather may permit. Where such provision exists for the free entry and exit of air, the exact dimensions of the sleeping place are of minor importance. Double-bedded rooms and small wards of 6 to 10 beds may be necessary on economic grounds, but should certainly be avoided if possible. It cannot be denied that patients treated in wards of 15 or 20 beds may often obtain as great benefit as others treated in single wards, but the single room with free access to a common balcony has become the recognized arrangement in all modern sanatoriums. Our correspondent will find much information on the subject in *Sanatoria for Consumptives*, by Dr. F. R. Walters, published by Swan Sonnenschein and Co.

DUTIES OF SHIP SURGEONS.

MARINE desires to know of any small handy work published suitable for reference for ship surgeons. Also what is the general daily routine duty of a surgeon on a liner, and has he any special duty *re* embarking and disembarking passengers.

*** Our correspondent might consult *The Ship Surgeon's Handbook*, by A. V. Elder, M.R.C.S., L.R.C.P., second edition (London: Baillière, Tindall, and Cox, 1911, price 5s.), and *Hints to Ship Surgeons*, by J. F. Elliott, L.R.C.S., L.R.C.P. Ire. (London: J. Bale, Sons, and Danielsson, 1908, price 2s.). A ship surgeon may be called upon to do a major operation at very short notice and under difficult conditions. The daily routine at sea includes consultations morning and evening, and at 11 a.m. the daily inspection of the ship with the chief officers. A rough diary or log is kept from which a report is made at the end of the voyage of those of the crew certified to be unfit for duty; especial care must be taken with regard to the particulars of injuries due to accident, which may involve actions at law. Some captains require a daily report and other little attentions. On joining the ship the surgeon should immediately report himself to the captain. As to embarking and disembarking passengers, usually the surgeon has little to do except with steerage passengers, and that varies with ports, each port having its own regulations. For instance, in the ports of the Caribbean Sea at present trachoma is especially tabooed by the U.S.A. authorities. At some of the ports there are a couple of hundred "deckers," chiefly negroes, to examine before they come on board, all doubtful cases being rejected. But saloon passengers from infected areas (plague, etc.) have to be kept under observation. Probably our correspondent is aware that every ship has to get pratique before it enters port, and it is the duty of the surgeon to present the ship's papers and his bill of health to the medical officer of the port, who usually comes on board, and also to inform the commander when the ship is clear, so that disembarkation can proceed. There are numerous rules and regulations on the duties of the surgeon in the *Guard Book*, which can be consulted should any difference arise. It is always well to have a clear understanding as to duties and privileges before "signing on."

ANSWERS.

H. A. C. writes in reply to "C.," who asked a question recently about a case of rheumatism in the shoulder. The substance of his reply is that he himself submitted to treatment by ionization for fibrositis of the neck, but suffered from two severe burns, which took eight weeks to heal.

LETTERS, NOTES, ETC.

PAPYRACEOUS FETUS PRESENTING AT A NEARLY FULL TERM LABOUR.

DR. A. FERGUS HEWAT, from whom a memorandum under this title was published last week (p. 71), desires to express his indebtedness to Dr. Hastings Tweedy, past-Master of the Rotunda Hospital, Dublin, for his permission to publish the case. The acknowledgement was omitted last week owing to delay in receipt of a proof.

ARMS OF DR. JOHN CAIUS.

DR. CLIPPINGDALE (London, W.) writes: The very excellent and almost complete account, in last week's JOURNAL, of John Caius omits the doctor's coat-of-arms, which, as a good example of ancient medical heraldry, seems worth recording. The coat is thus described in Burke's *General Armoury*: ". . . or, semée of flowers, gentle, in the middle of the chief, a sea green resting upon the heads of two serpents, in pale, their tails knit together, all proper colours, resting upon a square marble stone, vert. *Crest*: A dove, argent, beaked and membered, gules, holding in his beak by the stalk, a flower, gentle, stalked vert." The emblems of the healing art in this coat are obvious.

MENTAL DEFICIENCY BILL.

MR. F. DOUGLAS TURNER (Secretary, Royal Eastern Counties Institution for Idiots, Imbeciles, and the Feeble-minded, Colchester) writes: In your report on the Committee Stage of this bill you state that Clause 3 was amended so that a certificate from a judicial authority would be necessary before patients could be sent to institutions under this clause. Your correspondent has, inadvertently no doubt, made a mistake on this point, as no certificate by a judicial authority is necessary. This clause only applies to those patients sent to institutions "at the instance of a parent or guardian"—that is, voluntarily. It is unfortunate that the Committee has, as you state, insisted on two medical certificates for this class of patient. This will inflict a quite unnecessary expense on the poorer classes who wish to put their defective relatives in institutions, while richer people, who have the strongest objection to advertising the fact that they have any one defective belonging to them, will simply refuse to have such defective seen by a doctor approved for the purpose by the local authority, and will therefore place the defective in an approved home instead of an institution. Our experience here before the passage of the Idiots Act, which was partly passed to do away with two certificates, is sufficient proof of this.

President's Address

DELIVERED AT THE

EIGHTY-FIRST ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

BY

W. AINSLIE HOLLIS, M.A., M.D., F.R.C.P.,

CONSULTING PHYSICIAN, SUSSEX COUNTY HOSPITAL, BRIGHTON.

A MEDICAL HISTORY OF BRIGHTON AND THE NEIGHBOURHOOD.

In selecting this subject for the Presidential Address of the British Medical Association in 1913, I thought for awhile that a new field had been opened up for investigation. The examination of local archives, newspapers, and maps (including guide books), and the publication of the results from time to time in a Presidential address would presumably in the course of years result in the formation of an extremely interesting record—a topographical history of English medicine. I soon found that I had been anticipated in this idea, for one of my predecessors in this chair—Dr. Henry Barnes—devoted his Presidential Address at Carlisle in 1896 to the medical history of that city, and last year in connexion with the annual meeting at Liverpool Dr. John Elliott performed a similar service for Chester. I am pleased that such is the case, and although I can no longer put in a claim for originating the idea, I may perhaps be allowed to help onwards its realization.

THE PREHISTORIC EPOCH.

The recent discovery of fragments of a human skull of extreme antiquity at Piltdown[3]—within the boundaries of this Divisional area—in the terraced gravel through which the river Ouse now runs, and 80 ft. above the level of the present bed of the stream, suggests to our minds that these southern acres were peopled hundreds of thousands of years ago, at the evolutionary dawn of the human race. To-night, however, I shall begin with the neolithic era. Along the ridge of Downland extending backwards between Brighton and the Dyke several prehistoric camping grounds—one in a field opposite the Booth Museum of Birds—have been discovered, and hand-worked flints or other neolithic remains unearthed.[1] At the back of the Downs the so-called pigmy-flints have been found at various spots on the Weald. Many of these little flakes with their sharp edges and needle-like points would make very respectable "lancets" for the modern general practitioner, and knowing what we do of the cleverness of the stone-age surgeon, of his skill in the treatment of fractures, and of his ability to trephine the skull of his patient in cases of need,[8] it is very probable that some of these flakes may have been used for trepanning, blooding, tattooing, or shaving. In a cave in the valley of the Wye a fragment of human frontal bone was recently discovered, probably of neolithic date; in it were distinct indications of an operation having been performed during life.[2]

In the local museum two relics of the early bronze age found at Lancing may have been used in surgery. One (catalogued in a metropolitan museum which has several specimens as "spoon to extract unguents from narrow-necked bottles") is very like a guider or director, and the other a scraper, figured in the old English and Dutch editions of Ambroise Paré's work on surgery. They may have been used for operative purposes.[4]

THE EARLY HISTORIC PERIOD.

Pliny asserts:* "The Roman people got on for six hundred years without doctors." Doubtless an exaggeration; yet I can obtain no records referring to the practice of medicine within this Divisional area during the Roman occupation of this island, nor for some centuries subsequently. Roman emperors and the early English kings had their court physicians. In the latter case usually *diverted* bishops or abbots, not reared to the cause. Nevertheless one swallow does not make a summer, and Pliny's statement holds good, I think, for this part of England at all events.

After the Norman Conquest, when much of the land had fallen into the hands of the religious communities, these over-lords were compelled to look after the health and general welfare of the villeins or serfs who lived on the land, and by their labour contributed so largely to the support of these wealthy monastic institutions. Accordingly we find at the beginning of the thirteenth century the monks of the rich Cluniac Priory of St. Pancras at Lewes (originally founded by Wm. De Warrenne) built a large infirmary: "the beds were arranged against the walls." The "fermorie," as it was then called, was "not only for the sick and infirm, but also for the temporary lodging of the *minuti*, or those who had been blooded."[5] Bloodletting was a very ancient practice.

The following description of the Priory "jakes" (*domus necessaria*) shows to some extent the state of hygiene in the fourteenth century. On the northern aspect of the southernmost wall a long series of recesses have been scooped out of the stone-facing of the wall. Each recess measures roughly a foot in height and 9 in. in width, and is about 1 ft. from the ground. At the west end of the wall (and well within the angle where the ruined west wall meets the other) is the circular opening of a culvert or drain about 5 ft. or 6 ft. in diameter. This drain was evidently connected with an open conduit of water [shown in Mr. St. John Hope's plan][5] and ran parallel to, and the length of, the southern wall. After personal visits to the spot, I think that there may have been a number of enclosed wooden boxes built side by side along the wall, and that they served as the monastic latrine. The dejecta fell directly into the sluggish stream and were carried by it to another culvert—still visible—opening at the eastern end of the building, and thence into the river Ouse. The channel was, I believe, within the "dorter," and not outside that building.

About the same period "a convent of mendicant friars more burthensome than ten endowed ones,"[6] was founded at Brighton on the land now occupied by the market and Town Hall. A chantry or free chapel was attached to the *convent*, which was probably only a small building. This offshoot of the Lewesian monastery, amongst other duties, saw to the due collection of the annual rent or *gablum* of the manor of Bristelmestune from the fisherfolk living there.[7]

So far as I can ascertain, surgery at this period of the world's history consisted mainly of "blooding" the patient, and it is possible that the friars dwelling in the Prior's Lodge at Brighton, by resorting to this simple operation, did so far help the poor overtaxed fisherfolk when sick. In so doing the holy friars would only be following the footsteps of the νοσοκόμοι (infirmarers), of the Studium monastery at Constantinople, and of Master Rahere and his brethren at St. Bartholomew's, London. At that time "blooding" was a fine art, and experts withdrew blood from different parts of the head, neck, body, and limbs, to combat the various symptoms for which relief was asked by the patient.

Nevertheless surgery was in a sorry plight during these centuries of monkish rule; whilst, during the age of flint implements, "ancient skulls with clear signs on them of extensive operations, and limb bones with well-healed fractures show that there were daring and successful surgeons among the Europeans of the neolithic age."[8] On the other hand, amongst the many hundreds of skeletons found within the precincts of the Priory grounds at Lewes, Dr. Mantell says, "Several examples of unskilful surgery 'of the good old times' were pointed out to me by my friend, Mr. Warren Lee. An arm bone, which had been broken asunder transversely, and had become firmly united, was 2 in. shorter than natural, from the fractured ends projecting over each other. A thigh bone that had been dislocated upwards had never been replaced, but was ankylosed to the pelvis and its socket obliterated; the holy brother to whom it belonged must, therefore, have suffered severely, and have halted very sadly in his walk for the remainder of his days. Of bony tumours and scrofulous caries of the bones there were several instances."[9] Such, then, was the condition of surgery in the area of this Division of the British Medical Association during the Middle Ages.

HENRY VIII TO WILLIAM III (1509–1702).

Although the suppression of the monasteries, begun in the reign of Henry V, was in most cases a legislative

* *Nat. Hist.*, xxix, c. 5. "Ceu vero non millia gentium sine Medicis degant, nec tamen sine Medicina: sicut populus Romanus ultra sexcentissimum annum."

necessity, yet like all sweeping changes in the social life of a people, it probably entailed much misery on the "sick and impotent poor." At the time of the suppression there were doubtless many sick who sought the aid of the monkish *infirmarer*. So soon as the abbey and its revenue were handed over to the noble lord and court favourite, the *fermorie* was dismantled and its value as an occasional refuge for the sick was at the same time destroyed.



Fig. 1.—Pigmy flint implements, found in the parish of Clayton, Sussex.

At this time there was seemingly a dearth of qualified medical men—men with an Oxford or a Cambridge degree, or who had been examined by the Bishop of the diocese in which they lived—consequently the sanitary welfare of the bulk of the people was in the hands of a group of ignorant and unscrupulous charlatans. With the hope of reducing this scandalous evil and increasing the supply of doctors, qualified men were given many statutory privileges; their social position was strengthened (3 Henry VIII, c. 11); they could sue the illegal practitioner, and could mulct him in a fine of £8 a month; they were also freed from attendance on juries, and from carrying arms. Yet those legislative "sops to Cerberus" did not conduce to the end the Government had in view, for the *companie and felowship of surgeons of London* evidently objected to be saddled with the responsibility of looking after the sick poor gratuitously. So in 1542 a revising Act was passed (34 Henry VIII, c. 8), which reduced these privileges. "Sithens . . . the companie and felowship of surgeons of London mynding onelie theyre own lucre, and nothing the profite or ease of the diseased or patient" it was necessary that unqualified persons be permitted to cure outward sores by herbs, etc., or stone or ague by drinks without being sued; "for in cace they (the surgeons) wolde mynister theyre coonning to sore people unrewarded, there shoulde not so manye rotte and perishe to deathe for lack of helpe of surgerie as dailie doo." By the revising Act medical quackery was legalized, but surgery was apparently not interfered with.

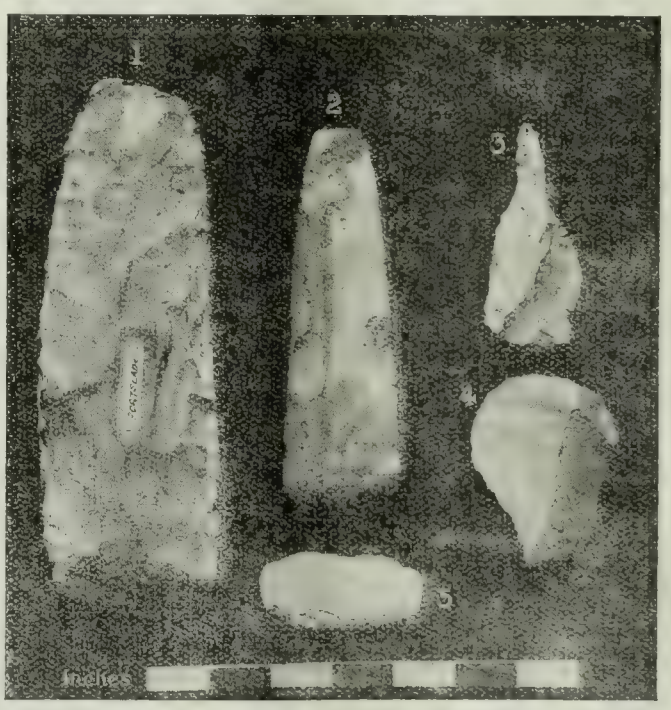


Fig. 2.—Flint implements found in the neighbourhood of Brighton. 1, Clipped axe. 2, Polished axe, found at Hove. 3, A borer, Brighton. 4, Scraper. 5, Knife, Cissbury.

In 1580 there was one medical man in Brighton, Dr. Mathews, who lived in Middle Street. His terms for confinements were: at Portslade and Rottingdean, 5s.; at Blatchington, 3s. 6d.; and anywhere in the town of Brighthelmston, 2s. 6d. (Erredge, op. cit., p. 240).

The wealthy Priory of St. Pancras, Lewes, fell, after its dissolution, to the lot of the Vicar-General, Thomas, Lord Cromwell, by whom it was partly demolished. Some of the monastic buildings were preserved and fitted up as a residence for his son, Gregory, who married Elizabeth, sister to Henry's third wife, Lady Jane Seymour. From an unpublished letter in the British Museum it appears that Bluff King Hal meditated a visit to his kinswoman at Lewes, but her husband "advises the King not to come as the plague was then raging in the town."[11] I can find no other reference to this outbreak.

Little is known of the medical history of Brighton during the seventeenth century, and I must ask your indulgence for the following somewhat discursive remarks.

After the disastrous defeat at Worcester and just before his departure for France, Charles II slept for one night at an inn in Brighton. According to Richard Wiseman, his Sergeant Surgeon, this monarch possessed in an eminent degree "the admirable faculty of curing the struma" by the touch. To quote Wiseman's own words, "I myself have been a frequent eyewitness of many hundreds of cures performed by his Majesty's Touch alone: without any assistance of chirurgery: and those many of them, such as had tired out the endeavours of able chirurgeons before they came thither."[12]

It is difficult to understand how such an eminent surgeon could uphold the current superstitions concerning the Royal Touch in the way he has here done. Wiseman, I need hardly remind you, introduced into England the tying of arteries, and he advocated the excision of diseased glands whenever possible, "taking care meanwhile not to divide the cystis, so that matter flow out."[13]

In accordance with the provisions of 43 Elizabeth, 1, an Act "For the Reliefe of the Poore," a tenement for the poor existed in East Street, Brighton, in 1690.[14] During the first half of the century the poor rates were so excessive from various causes—wars, pestilence, and famine, among others—and the average social condition of the inhabitants so low, it was found impossible to maintain even this semblance of a poor-house by the parish rates alone, and a supplementary rate was therefore levied on the neighbouring parishes by order of the justices at the Quarter Sessions at Lewes (18 Elizabeth, 3, 3). Moreover, magistrates were enjoined,[15] by Order of Council held at Whitehall (June 11th, 1630), to prevent the export of corn, to suppress the making of malt, to diminish the number of ale-houses, "to see the said poore inhabitants be dewly kept to worke . . . and that the idle be dewly punished and the impotent relieved." Also that "the poor children of every parish that are aged 10 yeeres or above and fitt to be apprentises to be provided with masters."[16] It is

curious how history largely repeats itself. We read even now that Dr. Fernald of the Associated School for the Feeble-minded at Waverley, Mass., "does not try to impart mere scholastic attainments to those incapable of such knowledge, but manual occupations are early entered upon, so as to train for industrial occupations in after-life."[17] Perchance the magistrates were not so far wrong as some suppose in requiring children to be taught a handicraft in early life. Where the old system failed was in the training of adolescents, and in the treatment of all young folk as intellectually equal.

The following medical men were returned as representing constituencies in Parliament within the area of the Brighton Division of the British Medical Association during the seventeenth century.

Nicholas Barbon, M.D. Utrecht, represented Bramber in the Parliaments 1690 and 1695. He was an Honorary Fellow of the Royal College of Physicians, London, 1664.[18] After the great fire in London he was one of the first to start a fire insurance company. He made a reputation as an expert on coinage. In a *Discourse Concerning Coining the New Money Lighter* he answered Mr. Locke's *Considerations about Raising the Value of Money*, with much skill.[19]

Shoreham, another constituency in the Division, claimed a medical man as its representative in Parliament. Dr. William Quartermain was member for that borough in 1666.[20]



Fig. 3.—Mouth of the monastic "cloaca" in the south-west angle of the "rere dorter" at the Priory, Lewes.

BRIGHTON DURING THE EIGHTEENTH CENTURY.

In 1733 the new workhouse at Brighton was completed. It was erected upon the site of the Chantry of St. Bartholomew, which was destroyed by fire at the landing of the French under Admiral Primauget in 1513. The new building was doubtless a great improvement on the tenement in East Street hitherto used as a poor-house. It is unlikely that any special arrangements were adopted for segregating "the sick and impotent poor" from the able-bodied paupers, yet they were all decently housed.[21]

During the latter part of 1749 the *Adventures of Roderick Random*, by Dr. Tobias George Smollett, were published as a serial in the *Lewes Journal*. Smollett was a naval surgeon, and he criticized with authority the inadequate arrangements that were made on board the ships of his Majesty's navy for the health and comfort of the crews.

About this time (1750) Dr. Richard Russel,* Physician to St. Thomas's Hospital, published in Latin his *Dissertatio de Tabe Glandulari et de usu Aquae Marinae in Morbis Glandularum*. A year or so afterwards—the exact date is doubtful—he "discovered Brighton." He resided there annually during the season until his death in 1759. His essay on sea water is somewhat discursive. The cases selected for publication as among those benefited by the external or the internal administration of sea water included patients suffering from struma, constipation, renal calculus, "scirrhus," and other diseases. His contemporary Dr. Speed, in a *Commentary on Sea Water*, wrote: "I think we ought to attribute the Alleviation to the prudent Use of other select Medicines which this Author [Dr. Russel] employed rather than to the drinking of Sea Water."[23] Be this as it may, Dr. Russel, who was very popular, especially among the ladies, undoubtedly attracted many fashionable folk to the town by his advocacy of sea bathing and sea water. His widowed daughter, Hannah, married William Pepys, a collateral descendant of Samuel the diarist.[23]

On the death of Russel several physicians announced—with discreetly worded phrases in the local journal—their intention to carry on that lamented doctor's practice. "We are assured," says one of these notices, "that Dr. S., son of Dr. S. of London, is settled at Brighton to succeed the late Dr. Russel there." Again, Dr. P. is mentioned a week or so afterwards as "attending at Brighton during the season." "He has already given great satisfaction to many of the late doctor's patients."

In this connexion the only name that is worth an appreciative notice is that of Anthony Relhan, late President of the Royal College of Physicians in Ireland. He was the author of the first guide-book to Brighton, *A Short History of Brighthelmston*, and was also, I believe, one of the first to analyse scientifically "the bills of mortality." He showed conclusively by his figures that Brighton was at that time one of the healthiest towns in England. He also gave an analysis of the various waters found there—the well, the sea, and the "mineral spring." Relhan was elected President of the King's and Queen's College of Physicians, Dublin, but, having prescribed James's powder about the year 1758, the College of Physicians "resented this encouragement given to a quack medicine and refused to join him in consultation. Dr. Relhan then opened a correspondence with Dr. James, through whose persuasion he was induced to settle in London."[24] In 1764 Relhan married Lady Hart, widow of Sir William Hart, banker. The lady had a house in East Street, where they used to spend the season yearly.

About ten years after the death of Russel, Dr. Awsiter tried to revive the flagging interest of the public in the relief of disorders by the use of sea water as a remedy. In a pamphlet (published in 1768) he strongly advocates sea-bathing. "We should use exercise after bathing, and those who cannot should have their limbs well rubbed, and their bodies warmly but not hotly cloathed to renew a proper degree of perspiration." The baths lately erected (1759), after the plans of Mr. Golden, architect, near the Steyne, were also highly commended by Awsiter. "On one side of a spacious vestibule are six cold baths, on the other side are hot baths, sweating baths, and showering baths; the baths are supplied from the sea by means of an engine."[29] Awsiter recommended the use of sea-salt as a remedy for hydrophobia, and mentioned with approval Russel's suggestion that in such case the salt should be dissolved in urine, "whereby the power of the salt in destroying the acrimony and poisonous quality of sores and wounds is invigorated."[27]

*In all the early editions of Russel's and his contemporaries' works that I have seen, in which Russel's name appears, it is spelt with one "l."

On the other hand Dr. John Speed, in his *Commentary on Sea Water* (before quoted), says in reference to this subject that the value of a dip in cold salt water depends upon whether "it be done before the Patient is affected with the Dread of Water" when "it generally succeeds. After this it will do no good."[30] Speed was a scion of a large and brilliant Hampshire family, many of whose members are mentioned in the pages of the *Dictionary of National Biography*. He lived at Southampton, and made an extensive manuscript collection relating to that seaport, and now preserved in the municipal archives.[31] The *Commentary* with the details of his experiments on the composition of sea water, was, so far as I can ascertain, his only contribution to medical literature. Originally written in Latin, the translation was published by W. Owen, at his Original Mineral Water Warehouse near Temple-bar Fleet-street, and was by an eminent Physician. It was issued with a copy of Russel's work, and an abridgement of Rutty's work on the English Spas. Speed died in 1781.

Rabies was seemingly endemic in this part of England during the latter half of the eighteenth century. The disease was, according to the papers, by no means confined to dogs. Other domestic animals were occasionally affected. Both kine and swine often went mad, when bitten by a mad dog.

As regards human beings, although from time to time both children and adults were stated to have been bitten, there are few recorded cases of hydrophobia in the columns of the local journal.

A mad cow, previously bitten by a dog, was placed by itself in a paddock surrounded by a wooden fence. A farm hand looking over the fence was seen by the animal, which at once rushed at the man. Although the fellow was not hurt some of the slaver from the cow's nostrils fell on his face. "A few days afterwards he became violently mad, and died shortly" (1794).



Fig. 4.—View of the ruins of the south wall (north aspect) of the "rere dorter," Lewes Priory, looking eastwards.

Certain doctors obtained credit for skill "in the cure of canine and other madness." Patients were sent many miles to see them. How the cure was effected is not mentioned.

Interesting monsters sometimes appeared. On July 5th, 1773, a woman was delivered of a child whose head resembled a sheep's. During her pregnancy she longed for sheep's head, "but had not the wherewithal to purchase it." Again, on June 9th, 1788, "a white woman, the wife of a publican . . . was a few days ago delivered of a *black* child, whose colour the mother, for the satisfaction of her astonished husband, attributes wholly to the Force of Imagination whilst pregnant, having at that time had a most violent longing for *charcoal*."

Surgery had advanced during the last two hundred years. Many local practitioners were quite capable operators. Trephining for fracture of the skull was apparently the conventional method of treatment of such accidents.

A farmer who had received a kick "on the frontal bone that fractured his skull in a dreadful manner . . . was trepanned, and ten pieces of splintered bone were extracted from the fractured part." In another case a piece of bone "the size of a silver twopence" was successfully removed by a Lewes surgeon.

Abdominal operations were undertaken by the local doctors. A patient who had suffered from inflammation of the liver "had an incision made into that organ . . . when about a pint of fetid pus was discharged. . . . There are great hopes of the patient's recovery." A Lewes surgeon successfully cut a man for stone. Another man was operated on for "*bubonocele* or *incarcerated rupture*." Amputations and the reduction of dislocations were often undertaken.

Bleeding was resorted to as a remedy in all sorts of abnormal conditions. For instance, a man-servant fell down an area at Brighton, "whereby he was cut and bruised in so terrible a manner that he was taken up speechless and without signs of life. Mr. K., apothecary, blooded him and he was brought to himself." On the other hand, the following story shows that even then professional opinion was by no means unanimous as regards the value of that operation.

A distinguished nobleman lay ill, and the disciples of Galen who had assembled at the bedside could not agree as to the necessity of bleeding the patient. At last one of the doctors said he had a butcher ill with similar symptoms. "Suppose I go and order him to be let blood immediately. Then by to-morrow we shall know the result." Next day the medical council met early to hear the report of their colleague, who hastened into the room vehemently exclaiming, "No bleeding, no bleeding, the butcher is dead!"

Mortification of the bowels was occasionally given as the cause of death, a cause which, thanks to the untiring efforts of a few illustrious pioneers in modern abdominal surgery, some of whom grace this meeting with their presence, is happily becoming rarer daily.

Deaths from acute alcoholic poisoning were comparatively numerous. The spirit consumed was usually geneva.

Suicides were not rare, especially of youths. One mode was by hanging to a tree branch; another method of self-immolation was by jumping down the domestic well.

During the last quarter of the eighteenth century several escapes from death by drowning were recorded in the *Lewes Journal*. In many instances after the victim's seeming death from prolonged immersion the recovery was attributed by the local doctor and attendants to "following and persevering in the directions given by the Humane Society" for the treatment of such cases.

The method of treatment, briefly, consisted in the removal of the wet garments and in the application of friction and warm wraps to the victim's body, and of stimulants to the mucous membranes. Finally, the operator, after pinching the nostrils with one hand, tried to blow air into the patient's lungs by applying his mouth to the other's lips (48).

At "inquisitions" on newly-born babes the "criterion" of stillbirth—when the lungs sink if placed in water—was well known. A local doctor in the columns of the *Journal* doubted the trustworthiness of the "criterion," and supported his contention by detailed experiments.

Even in those early days Sussex was riven by a woman's question—whether or no it was legal for

females to be appointed to "parish offices"—a topic warmly discussed by the local press.

A passing allusion may perhaps be permitted to that remarkable man, Thomas Paine, the free-thinker. Paine lived at Lewes as an exciseman about the middle of the eighteenth century. When, in 1792, the Attorney-General commenced a prosecution against Paine as the author of *Rights of Man*, the latter fled to France, where he was chosen member of the National Convention for the Department of Calais. Meanwhile rural Sussex occasionally celebrated his departure from their midst by burning his effigy in a bonfire.

Despite, or because of, the introduction of inoculation into England by Lady Mary Wortley Montagu in 1721, several outbreaks of small-pox occurred in this part of Sussex during the latter half of the eighteenth century. Inoculation was strongly advocated as a protection against the disease by the local doctors, and the operation appears to have been generally accepted by the people as a necessary, if regrettable, evil. At a vestry meeting at Brighton in 1780, again in 1786, and in January 1794 at Rye, Eastbourne, and at Brighton (after some opposition) general inoculations were decided on. At Brighton, with a population of 5,669, 2,113 were inoculated, "out of whom only 50 died"![26] Nevertheless three local doctors, who apparently were closely concerned in this widespread dissemination of variolous matter throughout the district, "considering themselves much injured by various wicked and malicious reports lately circulated," made affidavit "that neither of us did inoculate any person or in any manner introduce small-pox into the town of Brighton until a resolution had been passed for that purpose at a general meeting of the inhabitants."[32]



Fig. 5.—View of same wall (as in Fig. 4), looking westwards. The photograph shows the position of the "recesses," and the opening of the "cloaca" in the extreme distance.

At that time it seemed customary for wealthy patients after an inoculation to reside with their doctors for a while in order to be "conducted through the distemper." Several local doctors admitted—for a consideration—these parlous guests into their homes. One of the former, a Ditchling surgeon, repeatedly advertised in the *Lewes Journal* that "he receives patients for the operation for 4 guineas. . . . If they find their own wine, tea, and sugar, fee 3½ guineas."[33]

Besides recurrent outbreaks of small-pox and other infections, ague was at this time endemic in certain districts of Sussex. The mud-flats and lagoons at the mouths of the small tidal rivers and bournes along the coast were at certain seasons ideal breeding places for gnats and mosquitos. Although Jesuits' bark had been introduced into England by Sir Hans Sloane as the remedy for this disorder at the beginning of the century, the drug was far too rare and costly for the pockets of the Sussex yokel. So we read of a farm servant who was advised to take gin and pepper for an ague fit, "which advice he thankfully embraced." He imprudently drank nine quarterns of this hot liquor and died soon afterwards.[34]

The insanitary and poverty-stricken social conditions under which the bulk of the people lived,[35] were mainly responsible for the high death-rates that then prevailed. Although for many reasons any estimate of the death-rate per thousand of the living must during this century be somewhat rough, yet the figures to hand of the number of christenings and burials in London and elsewhere in this country are extremely suggestive. In London, for instance, the burials exceeded the christenings in 1780 and 1800.[36] At Lewes the weekly returns published in June and October, 1749 (the only ones available), both showed a large excess of burials over christenings. In December of the same year the actual numbers were 285 christenings and 550 burials![37] Several causes besides insanitary homes may have been responsible for these amazing figures. The birth-tax (7 Wm. III, 1695, and 23 Geo. III, 1783) levied on the parents each time a child was born, may have been responsible for some cases of concealment, and religious sentiment may have prevented a christening in others, yet even so, the enormous disproportion between the two sets of figures may be reduced, but they cannot be explained away by any reasonable argument.

COMMENCEMENT OF NINETEENTH CENTURY.

About this period Brighton became the happy hunting ground of charlatans and (medical) knights errant. Fashionable beauty in distress was much exploited. In 1799 there lived in Artillery Place Mr. Nathan Smith, the inventor, patentee, and operator of an air pump for extracting the gout. The Artillery Baths, of which Smith was the proprietor, were frequented by many persons of rank and consequence, in order that they might undergo the special treatment he provided, and from which they derived much benefit.

The induction of a sudden change in atmospheric pressure over a painful joint or within a hollow viscus was a favourite mode of treatment. We have already seen that raising the air pressure in the victim's lungs (or stomach) was advocated in cases of suspended animation, and the lowering the air pressure in cases of gout was equally considered a rational form of cure. Mr. Teddy Palmer, a Brighton blacksmith, conceived yet another method of treatment, namely, by medicated air:

> It was on the eve of 1811, at a Christmas party, that the Regent, being tortured by toothache, consented to submit himself to an application of Mr. Teddy Palmer's magic fumigating process, which, it is said, gave the Royal sufferer relief in four minutes. Palmer . . . went to the Palace in his forge suit. By an ingenious arrangement of cylinders and tubes he directed a stream of smoke into the Prince's mouth, with the result described.[38]

To spas and sea water were also attributed powers which they do not possess. It was this faith in the unreal that gave birth to the idea of founding a German spa in Brighton in 1824 as a financial speculation. The building, situated on the east side of the town in the "new park," at one time supplied its frequenters with no fewer than thirteen different kinds of artificial spa water. It never became a successful undertaking.

Our only natural mineral spring issues from a rift in the side of the hill to the west of Brighton, and within the precincts of the borough of Hove. It is a chalybeate

water, and contains, according to Dr. Marcet's analysis, upwards of one grain of oxide of iron to the pint.[39] On the present occasion the Mayor of Hove has generously arranged to give a garden party to the Association in the grounds surrounding this chalybeate spring, and members will have an opportunity to examine the locality for themselves. When Brighton was emerging from the pupal condition of a fishing hamlet to its "butterfly" stage as a fashionable townlet these spas and springs were exploited for all they were worth by those interested in the growing popularity of the health resort. Now, however, our claims to popularity are, we trust, based on higher and broader grounds than the provision of matutinal doses of artificial *Carlsbad*, or natural *tonic* water to our patrons; and consequently these sources of income have almost entirely disappeared.

During the closing years of the eighteenth century the charitable public awoke to the parlous condition of a poor person when stricken by disease or injury; and many schemes were from time to time taken in hand by the wealthy to lighten this weighty shroud of misery. Meetings were held in Brighton and elsewhere to consider the question. At Lewes a meeting was held on January 24th, 1791, in favour of the establishment of houses of industry to supersede the poorhouses, owing to the latter *at vast expence* "neglecting the poor in regard to employment and insufficient support of them, and the shameful and pernicious inattention to the children of poor." No action seems to have been taken as a result of this meeting. However, Sir Godfrey Webster and a few energetic friends in 1796 started a subscription to establish a county dispensary for the three eastern rapes of Sussex. (The western division of the county was already provided for by a dispensary at Chichester.) Yet it was not till 1824 that the idea of a Sussex Infirmary and Dispensary was apparently on the eve of realization by the proposal to hire at first only a private dwelling-house.

The action of certain members of our profession may possibly have been indirectly and doubtless unwittingly the cause of the delay in the matter. At Brighton we read that a Dr. Henderson in 1794 was presented at a vestry meeting with a silver cup "for his care of the parish." And in 1803 Dr. Bankhead's offer to attend the poor gratuitously was accepted by the churchwardens of Brighton.* To my mind both these statements imply that even in those early days the officials of the Poor Law service looked to the medical profession to give their valuable services for nothing. Even then free medical advice and attendance were no longer regarded by the laity as a charitable subvention, but rather as a legal right and a popular necessity. Since those days the purview of wealthy benevolence has not materially changed. The same exoteric estimate of the value of a doctor's work still seemingly permeates recent legislative enactments.

During the first quarter of the nineteenth century dispensaries, sea-bathing infirmaries, and hospitals were founded and opened for the relief of the sick poor in Brighton and other Sussex towns. Special institutions were also established for the treatment of special disorders, until the Sussex yokel had no need to envy the tillers of old Egypt's fertile soil in that regard.[41] The most important of these charities have already been enumerated and described in the British Medical Journal and in the guide-book; it is unnecessary for me, therefore, to do so here.

Although their homes were insanitary and their food coarse, Sussex labourers were often long-lived. Nonagenarians were not uncommon, and centenarians were from time to time mentioned in the columns of the *Lewes Journal*. On the other hand, the death-rate of young children was high. Infectious fevers (for example, small-pox, measles, and whooping-cough) were very fatal. Mysterious deaths were occasionally noted. Several soldiers at Silver Hill died suddenly on September 24th, 1798. *Post mortems* showed that death was "in every case due to eating too freely of nuts"!

If we may judge from the number of cases recorded in the *Lewes Journal*, it was by no means an unusual incident for women of the poorer classes to be confined by the wayside whilst going to or from their work. However, the following is an exceptional case: A pregnant woman, while walking along the street, unknowingly dropped her fetus, which a surgeon, who received it from a passer-by, promptly placed in spirits! Another woman, whilst walking to Clayton, delivered herself of a child by the roadside; this infant she wrapped in her dress and walked a quarter-mile, when she had to deliver herself of the twin![40]

Coroners' quests were rarely, if ever, held on corpses—jetsam on the sea-shore. The body was usually buried in the shingle without inquiry. On the other hand, when an "inquisition" was held and the evidence of a medical expert taken, the resulting verdict was not always convincing. At an inquest on the death of Miss C., after a carriage accident, Sir L. P., a great surgeon, was called to give evidence. "After examining the skull," he stated that "there was no fracture, and only a small contusion on the left side of the head. There was no other mark on any part of the body, but the witness can safely say that it was the cause of death." Verdict, "Accidental death."[42]

In 1824 Conolly, at one time "operating surgeon to the Brighton Dispensary," was sentenced to transportation for life for the murder of a sheriff's officer. The murder was committed at Rabley House, near Shenley Hill, Hereford.[43]

Disease and Death-rates during the last 120 Years.

Perhaps the most far-reaching change in the history of modern medicine occurred when vaccination with its extremely mild sequelae was definitely substituted for inoculation with the actual virus of small-pox. As we have already learnt, the summoning of a vestry in a Sussex town to consider the propriety, whenever small-pox was prevalent, of ordering a general inoculation of the residents was an incident frequently noted in the local press. As a rule the operation was carried out by faithful surgeons with no very untoward results; the death-rate in some cases was less than 0.1 per cent. of the inoculated.[*] On the other hand, there was always a compact body of professional and lay opinion opposed to these extreme measures—the deliberate conviction of men who believed in other methods of combating a contagious disease than by the wholesale multiplication of fresh cases, men who thought that "airiness and cleanliness" or even cold bathing were rational methods of treatment.[44] The opinion of this growing body of opponents was, towards the end of the eighteenth century, unexpectedly strengthened by the high mortality that followed a general inoculation in one or more Sussex town. Fortunately for suffering humanity Edward Jenner introduced in 1799 vaccination as a substitute for inoculation.

At that time one of his most devoted followers and admirers was an enthusiastic young Irishman, named Matthew John Tierney. Tierney both advocated and practised vaccination as a preventive of small-pox. In 1802, after taking his M.D. degree at Glasgow, he came to Brighton, where he quickly established a reputation as a highly accomplished physician. In 1809 he was appointed Physician in Ordinary to the Prince of Wales. About this time he was knighted, and he subsequently became Physician in Ordinary to the Kings George IV and William IV. He died at Brighton in 1845.

Another pioneer in vaccination was Dr. Badcock, the honoured ancestor of a well-known Brighton practitioner. The former also lived in this town, and it was here that he succeeded in 1840 in producing cow-pox by inoculating the animal with small-pox virus, so confirming the experiments of Cecly in the same direction. Badcock vaccinated children with the matter from the cow in the first instance, and then by arm-to-arm transference handed down the "modified small-pox" for some years, I believe.

In 1851 (August 14th) the Provincial Medical and Surgical Association held its annual meeting at Brighton under the Presidency of Dr. William King, late Fellow of Peterhouse, Cambridge, and Senior Physician to the Sussex County Hospital. His address, which was somewhat discursive, treated, amongst other matters, of the therapeutic value of artificial mineral waters prepared by a new recipe which he disclosed.

The Provincial Medical and Surgical Association on October 17th, 1874, was transformed into the British Medical Association in a memorandum of association signed by fourteen original members.

Thomas Addison, the discoverer of the disease of the suprarenal capsules which bears his name, retired here in broken health after an active life in the metropolis, and died at Brighton in 1860.

* As regards the two medical men just mentioned, R. Henderson was a Scotsman. He took his M.D.Edin. in 1791. Subsequently he was appointed physician to the forces. He died at Brighton in 1808. Charles Bankhead was born at Antrim, 1767. He took his L.R.C.P. Lond. in 1807. He was for some time surgeon to the Londonderry militia. At the beginning of the nineteenth century he resided at Brighton, and was appointed Physician Extraordinary to the Prince of Wales and to King George IV. He died at Florence, 1859 (Munk's Roll of Royal College of Physicians of London).

William Addison also lived here. He was a Fellow of the Royal Society. In 1845 he stated that the white corpuscles could pass through the blood vessels.

William Withers Moore, D.C.L., M.D., F.R.C.P., who was President of this Association on the occasion of its last visit to Brighton in 1886, was born at Doncaster in 1823, and was the third son of John Moore, surgeon. Moore was educated at Doncaster and at University College, London. He took the M.D.Edin. He practised both in Doncaster and in Brighton. At the time of his death, which took place of angina in 1894, he was consulting physician to the Sussex County Hospital. Dr. Moore selected as the subject of his presidential address, "The higher education of women." His opinion may be gathered from the following extract:

"I think that it is *not* for the good of the human race . . . that women should be freed from the restraints which law and custom have imposed upon them, and should receive an education intended to prepare them for the exercise of brain power in competition with men." [45]

I should this evening be sorry to endorse these words as the considered policy of the President of this Association. As regards the great sex question, public opinion has changed during the last seven and twenty years; and women look upon the question from a different view-point to that they then held. The British Medical Association has always welcomed lady diplomats in medicine as honoured members of its body, and it has extended to all its members equal privileges regardless of sex. I trust that this truly democratic spirit will always pervade its policy.

NOTE.—My best thanks are due to Messrs. E. F. Salmon, Pepys, and Dr. Chaffey for loan of books; and to the official staff of the Brighton Public Reference Library for much valuable assistance.

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DR. ALFRED OCTAVIUS GROSVENOR, who was in practice in Hampstead for many years, and died last May, left estate valued at £21,214.

Address in Medicine

DELIVERED AT THE

EIGHTY-FIRST ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

BY

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SOME ASPECTS OF INTERNAL SECRETION IN DISEASE.

MR. PRESIDENT, LADIES AND GENTLEMEN,—The Address in Medicine has always been a notable feature of the Annual Meeting of this Association, and I fully realize how great is the responsibility of any physician who is fortunate enough to be called upon to occupy my present position. I wish, therefore, to thank you, Sir, the Council, and the whole Association, for the honour you have thus conferred upon me. On this occasion it has often been the custom to take a general survey of some branch of medicine and to endeavour to indicate the trend of the teaching of the day and its practical application in some particular direction. In this way an address may serve the useful purpose of reviewing recent progress and also, perhaps, of checking too exuberant hopes which at times are apt to outrun sound judgement. So much that is new is constantly being brought to our notice that it becomes increasingly difficult to estimate its bearing on our daily work. In our anxiety to advance we are in danger of over-estimating the value of what is new and untried at the expense of what is old and well known, whereas we should be:

First to face the truth and last to leave old truths behind.

During the last five and twenty years more and more interest has been taken in the functions and diseases of the ductless glands as their importance has gradually been recognized. Previous to this period, although the structure of these bodies had been described, very little was known as to their functions. Thanks to the efforts of a large number of workers our knowledge of these organs has been largely increased, and the results of their labours have now been brought within the reach of all in the valuable works recently published by Biedl, by Swale Vincent, and by Falta.

It would, I venture to think, be worth while to take a brief survey of a portion of this large field of inquiry, and to consider some aspects of internal secretion in disease. It is so easy to speculate as to what may be the function of a ductless gland and so difficult to find out what it really is, that we are apt to fail to distinguish between what has really been ascertained and what is still largely theoretical. This is most unfortunate, as rash speculation on the function of a gland may only lead to erroneous conclusions as to the pathology of its morbid states, and in the end impede rather than accelerate our progress towards the acquisition of reliable methods of treatment. The great importance of bio-chemistry in pathology is now being more fully recognized, and we are gradually learning that many diseases are due to the failure or perversion of normal chemical processes in which the ductless glands play an important part.

It is essential to have a clear conception of what secretion really is, and to define the difference between external and internal secretion as the latter term has been used with considerable latitude by some writers. It was pointed out by Johannes Müller in 1844 that secretion consisted of the active formation of a definite chemical substance by an organ for further service in the body, whereas excretion was simply the process of removal from the blood of substances already formed, but of no further use, and therefore to be got rid of as soon and as easily as possible. This hard and fast line cannot always be drawn, but it serves as a general means of distinguishing secretion from excretion. Claude Bernard in 1855 first showed that glandular secretions might be either external or internal, according to their mode of exit. An external secretion is one which, like the bile, leaves the gland by a duct, and passes out to a free surface. An internal secretion, on the other hand, passes from the gland, either directly or

indirectly into the blood, by which it is conveyed to its destination. Bernard, however, regarded all the products which pass into the blood stream from the organs as internal secretions. We now, however, reserve the name for the useful products of the activity of certain glandular cells which pass into the blood stream in order to play some definite part in metabolism. Thus we do not include the supply of the formed cells by the bone marrow, which, although they form an integral part of the blood, are not themselves a secretion. Nutrient substances which are conveyed by the blood stream, such as albumin from the alimentary canal or sugar formed from hepatic glycogen, are not internal secretions in the strict sense of the term. The mode of action of the internal secretions is still obscure, but our knowledge of their effects is gradually expanding. Generally speaking, ductless glands act on other tissues at a distance by means of substances, for which Starling has suggested the name hormones, which are conveyed by the blood stream to the cells for which they are destined. The cells of a gland have the property of forming one or possibly more hormones, each of which has the power of exciting a definite form of chemical activity in those cells for which it has a special affinity. It must, however, be remembered that there may be substances formed which, instead of activating, may control or inhibit chemical action. To such bodies the somewhat contradictory term "inhibitory hormones" has been applied by Biedl. The normal metabolism of the tissues in health is maintained at its proper level by an adequate supply of hormones from all glands which secrete internally. This conception of the mode of action of these glands serves to indicate how complex and variable in composition is that important fluid tissue, the blood, which thus serves as a carrier of so many important bodies. We do not know in what form the hormones are conveyed. They may be in solution or in suspension in the blood plasma or they may be attached in some way to the red or to the white corpuscles. Whatever the actual method of convection may be, we know that the normal blood carries this out efficiently. We do not know how far this function of the blood may be affected by such changes as occur, for example, in leukaemia and in other diseases which alter its composition.

The function of a ductless gland may be affected by disease in different ways. Progressive atrophy gradually diminishes and finally cuts off the supply of its particular secretion, while some special forms of hypertrophy are accompanied by an increase in the amount of secretion which may or may not be normal in composition. We have thus in the case of each gland to consider the results of changes in both the quantity and the quality of its secretion.

The most important ductless glands are the thyroid, parathyroid, pituitary, and suprarenal glands. Other glands such as the pancreas, the generative glands, and possibly others, supply both an external and an internal secretion. In these glands, however, we find that the two forms of secretion are supplied by different sets of cells, and that one set may fail while the other continues active in function. Thus in the generative glands spermatogenesis may cease while internal secretion persists.

The effects of disease upon internal secretion can be observed most easily in the case of the thyroid gland, in which the structure is simple and the secretion can be seen stored in the alveoli surrounded by the epithelial cells by which it has been formed. The secretion is stable, and is easily obtained from the healthy gland in an active form as either a liquid extract or a dry powder. When this gland atrophies, its secretion gradually fails and the characteristic symptoms of myxoedema slowly develop. The typical symptoms of the malady are so well known that no description is necessary, but it is remarkable that in spite of the striking appearance presented by any one suffering from this disease, well-marked cases are still to be seen in public places going about apparently unrecognized and untreated. The slight and early forms of the malady may easily be overlooked. In some of these cases the filling up of the lines of the face and the pink flush on the cheeks impart a fictitious appearance of good health which deceives all but the trained observer. In middle-aged women who complain of lassitude, chilliness and other subjective sensations associated with slight dryness of the skin, some loss of hair, and a little thickening of the subcutaneous tissues—to mention but a few of the signs of slight thyroidal insufficiency—it is well to remember that a partial atrophy of this gland may be the cause of the symptoms. A course of treatment by thyroid extract will soon be followed by a steady improvement if the diagnosis is correct. In some cases the atrophy appears to become arrested at an early stage and to progress no further for a long period. In one of my cases, in which enlargement and induration of the gland were associated with diminished functional activity, slight symptoms of myxoedema had been present for as long as ten years. In these cases a portion of the gland is still able to produce a small but insufficient supply of secretion. It is possible, though actual proof is still lacking, that in some of these cases the surviving portion of the gland may, after a time, by a process of compensatory hypertrophy, be able to supply a sufficient amount of secretion to remove the symptoms. In order to settle this question careful observations continued for a long period are required so as to ascertain if a slight case of myxoedema ever does recover spontaneously, or if after the symptoms have been removed by treatment it is possible for the patient to remain in health when the treatment is stopped. It is to those engaged in general practice that we must look for a solution of this and other similar interesting clinical problems. It is much to be desired that more records of disease as seen from day to day in private practice were available. As an illustration of their value I would refer to the many interesting observations made by Mr. Arthur Maude of Westerham in the cases of Graves's disease in his own practice.

It appears that a considerable amount of destruction of the secreting tissue may take place without producing symptoms, but that beyond a certain point very little further change may induce well-marked symptoms. In a case of ligneous thyroiditis, recently reported by Mr. Southam and myself, the removal of a portion of the diseased gland, in which only the remains of a few glandular alveoli were found on microscopical examination, was quickly followed by the onset of myxoedema. In secondary myxoedema induced by thyroidectomy the symptoms are the same as in the primary form, but naturally the onset is more acute and the symptoms more severe, owing to the sudden and possibly total loss of the secretion. In cretinism we see the dire results of lack of thyroid secretion in childhood, and are able to realize what an important function is carried out by the thyroidal hormones in stimulating normal bodily growth and mental development during the early years of life.

Careful study of the clinical symptoms of myxoedema and cretinism and of the results of total thyroidectomy in man and in animals of different species and at different ages have furnished us with a great deal of information as to what occurs when the supply of thyroidal hormones either partially or entirely fails. Metabolism is diminished and less albumin is required. The interchange of gases is diminished, so that less oxygen is absorbed and less carbon dioxide is given off than in health. The efficiency of the heart is impaired, and in time the myocardium undergoes degenerative changes. The normal growth and activity of the skin with its glands, and of the nails and hair, is notably lessened. In young subjects growth and mental development are retarded or arrested, and no development of the reproductive system takes place at puberty.

In the case of failure of the thyroid gland in man we are able to supply all the necessary hormones in an active state from one of the lower animals, and can regulate the supply to such a nicety that perfectly normal health may be enjoyed for many years by a person whose thyroid gland has entirely disappeared, and who would otherwise, if still living, be existing as a complete invalid in "the gloomy calm of idle vacancy" of advanced myxoedema.

It may be of historical interest to briefly review the steps by which our present knowledge of the function of the thyroid gland has been attained. Only forty years ago Sir William Gull gave us the first account of myxoedema under the name of "a cretinoid state supervening in adult life in women," by which he indicated its relationship to sporadic cretinism already described by Hilton Fagge. Four years later W. M. Ord published five cases, in one of which atrophy of the thyroid gland had been found by Professor

W. S. Greenfield, and gave the name of "myxoedema" to the disease. The symptoms which follow total thyroidectomy were described by J. L. Reverdin in 1882 and again in the following year by Professor Kocher of Berne as *cachexia strumipriva*. Soon after this, J. L. and A. Reverdin, recognizing the likeness of the condition to myxoedema, suggested the name *myxoedème post-opératoire*. In this country Sir Felix Semon, realizing the remarkable clinical similarity between myxoedema and cachexia strumipriva, suggested that both alike were due to loss of function of the thyroid gland. At this point the further investigation of this relationship, important alike to physicians and surgeons, was taken up by a special committee of the Clinical Society of London. The report of this committee will ever serve as a guide to the method in which such investigations should be made. The experimental work of Sir Victor Horsley, together with the clinical and pathological material collected by the committee, clearly demonstrated that cretinism, myxoedema, and cachexia strumipriva are due to loss of the thyroid gland by disease or removal. The foundation of our present method of treatment had even then been laid by Schiff, who had shown that successful transplantation of a thyroid gland in the dog sufficed to prevent the development of the symptoms which usually followed its removal. This observation was confirmed by von Eiselsberg. In 1890 Sir Victor Horsley drew attention to these important experiments, and suggested that thyroid grafting should be tried as a means of arresting the progress of myxoedema. The adoption of this suggestion was followed by remarkable diminution in the symptoms. Owing, however, to the failure of the graft the improvement was temporary. In Bettencourt and Serrano's case the improvement began the day after the operation, and, as they pointed out, was due to the immediate absorption of the contents of the grafted gland. These observations led me to the conclusion that good results would be obtained by the continued internal administration of the secretion in the form of an extract of the gland. In order to test this I dissected out the thyroid gland of a sheep as soon as it was killed, and prepared the glycerine extract, which is now official under the name *liquor thyroidei*. This was periodically injected beneath the skin of a patient, who fortunately was willing to allow the experiment to be tried. It is now just twenty-two years since the successful result of that treatment was communicated to the annual meeting of this Association held at Bournemouth in 1891. Although the hypodermic method of administration served its purpose in demonstrating the efficiency of the remedy and conclusively proved that the function of the thyroid gland was to supply an internal secretion, in actual practice it had many drawbacks, which fortunately were removed the following year, when Dr. Hector Mackenzie and Dr. E. L. Fox in this country and Howitz in Copenhagen showed that the extract was equally active when given by the mouth.

It may be mentioned that this first case of myxoedema treated by thyroid extract is still alive and well, a condition of health being maintained by a dose of 10 minims of liquid thyroid extract each week day, or 6½ oz. in the course of the year. Less than a gallon of thyroid extract in all has therefore maintained her in health for twenty-two years. No variation of the dose has been found necessary. In some cases the best results can only be obtained by adjusting the dose from time to time according to the physiological requirements in a manner which some patients learn and do accurately for themselves. So complete is the recovery that, provided the climacteric period has not been reached, the functional activity of even the reproductive system may be completely restored. For example, I recently saw a woman, aged 50, in whom myxoedema had developed eleven years before. Recovery took place under treatment, and four and a half years later she bore a healthy child after a normal pregnancy. The whole function of the thyroid gland can therefore be carried out in man by a constant and adequate supply of thyroidal hormones obtained from one of the lower animals in the form of thyroid extract for any required length of time after the natural supply has failed owing to destructive disease of the gland.

The treatment of cretinism is more difficult, as the dosage of the extract requires a nice adjustment to the varying physiological requirements of childhood in order to secure the best results. When treatment is started early in life and is carefully regulated, all the signs of cretinism may disappear and the child develop both mentally and physically in a normal manner. One such successful result is in the case of the daughter of a medical friend, where the dosage has been most carefully regulated, almost from day to day, by slight signs which have been found to indicate when larger or smaller doses are required. In many cases, however, mental development is slow while bodily growth is rapid. It appears to be specially desirable that in countries where cretinism is endemic adequate continuous treatment should be supplied by the State for all cases from the earliest age onwards.

Thyroid extract naturally finds its fullest opportunity in this supplemental treatment of the various forms of thyroidal insufficiency. Owing to its physiological property of stimulating metabolism and to the iodine it contains, the extract has also been found useful in conditions in which there is no definite evidence that the normal supply of hormones is deficient. The marked emaciation caused by excessive secretion in exophthalmic goitre indicates its employment in obesity, and in some cases good results are obtained, especially if a suitable diet is adopted at the same time. Good results have also been recorded in the treatment of rickets, rheumatoid arthritis, and nocturnal enuresis. The rapid improvement which takes place in the condition of the skin of cases of myxoedema during treatment induced Dr. Byrom Bramwell to employ the extract with conspicuous success in the treatment of psoriasis and other cutaneous diseases. Sir Malcolm Morris has recently dealt fully with the relationships of the internal secretions to dermatology, and has shown how important a part is played by the glandular extracts in the modern treatment of diseases of the skin.

Not only may disease be due to failure of glandular secretion, but it may be the result of the opposite condition of abnormal activity. The secretory activity does not necessarily depend on the size of the gland. Very great enlargement of the thyroid gland may take place in some forms of goitre without any excess of secretion passing into the blood, whereas in Graves's disease a slight increase in size may be accompanied by symptoms of active hypersecretion. Slight enlargement may take place in response to special physiological requirements; thus the pituitary gland enlarges during pregnancy, and the thyroid gland at puberty and during menstruation. This physiological enlargement of the thyroid during adolescence may, however, become pathological in the form of a simple parenchymatous goitre. In the early stages this will subside when the demand for more than the usual supply of hormones is made good in the form of suitable doses of thyroid extract by the mouth. Before undertaking this treatment in these cases it is of great importance to make sure that no symptoms of hyperthyroidism are present, or a mild incipient case of Graves's disease may unwittingly be aggravated. The results of hyperactivity of the thyroid gland are seen in the various grades of exophthalmic goitre. We are still anxiously seeking for an explanation of the development of this morbid activity, which comes on sometimes rapidly, sometimes slowly, persisting, it may be, for a few months only, or continuing unabated for years. If we knew what causes the characteristic change in the thyroid gland in consequence of which it pours such a flood of secretion into the circulation, we should be in a much better position to treat the disease in a rational manner.

As is well known, the symptoms of Graves's disease are the reverse of those of myxoedema; the organs and functions which in myxoedema are sluggish and inert, for want of the normal hormones, in Graves's disease are worked at high pressure owing to their excessive supply, and the symptoms of the disease are but the outward expression of this glandular hyperactivity. The respiratory interchange of gases is increased by 50 per cent. Magnus Levy has estimated that the amount of oxygen absorbed may even be increased by as much as 70 or 80 per cent. The increased caloric production is compensated for by heat regulation, so that the rise of temperature in Graves's disease is only slight. Sugar toleration is reduced and glycosuria may occur. The relationship of Graves's disease to diabetes will, however, be referred to again later

There are some interesting results of this increased metabolic activity which are appreciated by patients themselves and may serve as a guide to treatment in some cases. Those who have been previously liable to chilblains lose them entirely during an attack of Graves's disease; they also acquire for the time being an almost complete immunity to ordinary colds, so much so that a return of a liability to chilblains or to ordinary colds is often an indication that the hyperactivity of the thyroid is diminishing and that the patient is improving. Another interesting point is the relationship between Graves's disease and tuberculosis; speaking from personal experience only, I have found that pulmonary tuberculosis rarely occurs in uncomplicated cases of exophthalmic goitre, and when it does it is usually limited in extent and activity. I say uncomplicated because in two interesting examples of pluriglandular hypersecretion, to which further reference will be made, pulmonary tuberculosis was present. The following experience also lends support to the view that a condition of hyperthyroidism has some influence on tuberculous infections. In a severe case of Graves's disease, in which only physical signs of bronchitis could be discovered, tubercle bacilli were found in the sputum. It was, for reasons I need not now detail, decided that a portion of the thyroid gland should be removed; this was successfully carried out by Dr. Mamourian, with whom I saw the patient. For a fortnight all went well; at the end of that period the tuberculosis became active, and the patient died a month after the operation from acute tuberculosis of the lungs. This experience shows that in these uncommon cases thyroidectomy should not be undertaken. This apparent resistance to infection is probably due to the increased activity of the metabolism of the tissues rather than to any direct action of the thyroid secretion, for tubercle bacilli can actually grow in the thyroid gland itself, as is shown by the presence of miliary tubercles and of caseous tuberculous nodules in it in some cases of tuberculosis.

One remarkable feature of the clinical course of Graves's disease is the variability of the symptoms, which in its most marked form is evidenced by the occurrence of crises. We see in some cases general crises of acute thyroidism—that is to say, periods during which almost all the symptoms are aggravated for the time being. The pulse is greatly increased in frequency up to 200 or more per minute; there is great nervous agitation and restlessness, increased tremor, sweating, vomiting, and diarrhoea. These attacks are alarming and dangerous, and in some cases prove fatal within a few days. These general crises are evidently due to a sudden increase in the activity of the thyroid, resulting in the discharge of a larger amount of secretion into the blood stream. Still more interesting is the occurrence of local crises during which, perhaps, a single symptom becomes greatly increased, or one organ or system alone is suddenly thrown into a state of extraordinary activity. Thus some patients are liable to cardiac crises, during which, for no apparent reason and even when resting in bed, the pulse-rate suddenly increases from 120 to 200 or more per minute. This may last for some hours, or may subside more rapidly after the application of an ice-bag to the precordium. In other cases we see cutaneous, bronchial, gastric, or intestinal crises, characterized by profuse sweating, bronchorrhoea, vomiting, or diarrhoea, as the case may be. The occurrence of these localized forms of hyperactivity suggests that possibly thyroid secretion is polyvalent, and contains different hormones which are capable of activating different ogans. One may activate the sweat glands and hair follicles, another the heart, another the bronchial mucous membrane, and so on. In Graves's disease it would appear that there is possibly not only an increase in the amount of thyroidal secretion formed and absorbed, but that in some cases the proportion between the different ingredients of the secretion may vary in different cases and at different times in the same case. A sudden temporary increase in the substance which activates the skin, for example, would account for a cutaneous crisis, whereas a general crisis would be caused by an increase in the secretion as a whole. We are specially in want of further information as to the mode of action of the thyroidal hormones on the heart. The disastrous results of their excessive action is only too apparent in the dilated and degenerated hearts of some advanced cases of Graves's disease in which death occurs from some sudden cardiac failure. In some mild cases of hyperthyroidism the cardiac symptoms are the most striking and have given rise to the term "goitre-heart." Under this name, however, two separate conditions have been included. One variety is thyrotoxic in origin and is due to excessive thyroidal secretion, the effects of which are shown chiefly by enlargement of the left side of the heart. The other variety is mechanical in origin, and attention appears to have been drawn to it first by Rose of Zurich in 1877. This form of goitre-heart is due to the tracheal stenosis caused by a goitre. It is the result of the prolonged dyspnoea and results in enlargement chiefly on the right side of the heart. It has been shown experimentally by H. Strōpel that tracheal stenosis experimentally produced in cats causes an enlargement of the heart. It is this latter form of goitre-heart which is a source of danger in operations on cases of goitre with prolonged tracheal stenosis. In certain cases the two forms are probably combined, as it is quite possible to have a goitre which both compresses the trachea and also over-secretes. Fortunately, in the great majority of cases of Graves's disease there is no compression of the trachea.

We do not know in what manner the thyroidal hormones produce the rapid rhythm of the heart which is so constant a symptom in Graves's disease. We can produce the tachycardia in a healthy subject by giving large doses of thyroid extract, which, however, does not appear to influence the ventricular rhythm directly. I have recently had under my care in the Manchester Royal Infirmary a case of complete heart-block in which polygraph tracings showed that while the auricles were beating 68 times a minute, the ventricles had an independent rhythm of 28. The radial pulse only varied between 21 and 28 during the whole time he was in the hospital. In this case the continued administration of three 5-grain thyroid tabloids a day did not produce any acceleration of either the auricular or the ventricular rhythm. Dr. James Mackenzie has, however, found that other conditions which usually accelerate the pulse in health, such as excitement or alcohol, have scarcely any effect upon the ventricle in cases of heart-block. I have not come across any record of a case of heart-block in a patient suffering from Graves's disease. Such a combination, if it ever occurs, would be of great interest.

The considerable number of cases of Graves's disease in which partial or complete recovery takes place shows that the diseased gland is capable of returning to a normal state of activity, but we have still to ascertain precisely under what conditions this favourable result is obtained. General hygienic, medicinal and electrical treatment is followed by gradual improvement and recovery in many cases, but we much require some more rapid means of treatment. The application of suitable doses of *x* rays to the enlarged thyroid gland has in some of my cases proved to be of great value. The gland gradually diminishes in size, and the other symptoms subside. Atrophic changes in the secretory epithelium and both interstitial and extra-capsular fibrosis appear to be induced by the action of the rays. These adhesions between the capsule and the surrounding structures are, however, a disadvantage should a subsequent thyroidectomy be required. In two of my cases in which *x*-ray treatment was not successful, one lobe of the gland was excised. Microscopical examination showed no fresh change in one but a distinct increase in the interalveolar connective tissue of the other. These changes are slow in development, so that the full effect of the treatment is not obtained until some months have elapsed. In favourable cases some fifteen to twenty weekly doses of the rays have been sufficient to bring about great improvement or practical recovery, but in others only slight improvement has followed a similar course of treatment. It is worth while to persevere with *x*-ray treatment for as long as a year if slow but satisfactory progress is being made. We have, however, still much to learn as to the most appropriate dosage and mode of application of this valuable method of treatment.

The late Dr. Gibson, whose early death we so greatly deplore, in his eloquent address last year described the remarkable improvement he had observed after the employment of suprarenal extract, which he considered "to have no rival in the management of this affection." Useful as this remedy is in some cases, my experience of

its use has unfortunately not been so favourable as his. The use of a special cytotoxic serum which would induce an atrophy of the thyroid gland has not been satisfactory. Unfortunately a cytotoxic serum is not altogether selective in action, and induces changes in the cells in other organs as well as in the thyroid gland itself. Thyroidectin, though useful in some cases, is not constant in its effects. Rodagen is of doubtful utility, though the fresh milk of a thyroidless goat is useful in some cases, but it may be difficult to obtain one of these goats, and there is the trouble of maintaining the animal during the treatment. The results of surgical treatment in selected cases are satisfactory, but it is to be remembered that there are still considerable risks to be faced, and that recovery does not follow in all cases. I recently saw a lady who has had exophthalmic goitre for ten years; she has, on different occasions, had the whole of the right and a portion of the left lobe of the thyroid removed. The symptoms of the disease are still, however, moderately severe. The crises call for special treatment as they arise. The cutaneous and bronchial crises are generally controlled by belladonna in full doses, and the gastric and intestinal crises by opium. In some cases, however, the vomiting continues until death takes place from exhaustion. In one case in which the vomiting continued in spite of all we tried, and until the condition appeared to be almost hopeless, Dr. Pemberton, with whom I saw the patient, finally tried injections of pituitary gland extract. This at once checked the vomiting, which after several injections ceased altogether, and the patient returned to his former condition of Graves's disease of a mild type.

The true function of the parathyroid glands and their relationship to the thyroid itself has attracted much attention. On the one side it is held that they really consist of undeveloped thyroid tissue capable of becoming functionally active under certain circumstances. On the other they are regarded as separate organs with a special relationship to the nervous system, which is shown by the development of tetany when they are removed. We know little if anything of the results of disease of these organs in man, and the experimental investigation of these functions is complicated by the variable anatomical distribution found in different species of animals. On the whole their importance appears to have been somewhat over-estimated, but further investigation is required in order to ascertain their real function in man.

The pituitary, like the thyroid gland, has a remarkable influence upon metabolism, and the rapid growth and development which normally takes place at adolescence is largely due to its activity. Cushing's experiments show that after removal of the hypophysis in adult dogs there is deposition of fat, increased sugar tolerance, lowering of temperature, and abeyance of sexual functions. In puppies there is, in addition, arrest of sexual development and of skeletal growth. In man the effects of pituitary insufficiency are shown in the condition described by Fröhlich and named by Bartels *dystrophia adiposogenitalis*. This condition may develop either as the result of destructive disease of the hypophysis or in consequence of injury, as in Madelung's case of bullet wound of the pituitary gland. There is a remarkable increase in the amount of fat associated with high carbohydrate tolerance, dryness of the skin, impaired nutrition of the hair and nails, and arrested development of the genital organs. It appears, therefore, that hormones supplied by the anterior lobe of the hypophysis activate skeletal growth and sexual development at puberty, control the accumulation of fat and the nutrition of the skin and its appendages.

Sir E. A. Schäfer has shown that the posterior lobe including the pars intermedia supplies hormones which regulate the tone and contractility of plain muscular tissue generally and of the heart, and stimulate the activity of the mammary gland and of the kidney. It seems possible that the secretion is polyvalent, and that these various effects are produced by the action of different hormones, as Herring obtained a pituitary hormone from the skate which stimulated the mammary gland without influencing either the circulatory system or the kidney. In addition to these important results, Sir E. A. Schäfer's experiments have placed pituitrin, a very powerful remedy, in our hands, by means of which we can stimulate plain muscular tissue to contract. It is not unreasonable to expect that it may be found possible to separate the hormones which stimulate glandular secretion from those which act upon the unstriped muscle and so further increase their range of usefulness in the treatment of disease.

Not only may disease be due to lack of pituitary hormones, but a remarkable change in the body arises when the supply of these hormones is superabundant. When this occurs in the adult the hypersecretion leads to the characteristic changes of acromegaly. In young subjects the long bones are still able to increase in length, and so a condition of gigantism is the result, and lowered sugar tolerance with glycosuria in some cases.

Just as Graves's disease may be followed by myxoedema so in the later stages of acromegaly the pituitary secretion may fail and some of the symptoms of insufficiency appear, such as obesity, somnolence, and increased sugar tolerance. The skeletal changes are, however, permanent, and the bones do not return to their normal size and shape when the period of hypersecretion is over. It is interesting, in comparing the functions of the thyroid and pituitary glands, to find that loss of function in the young causes arrest of development in both cases, while hyperactivity causes overgrowth in the case of the pituitary gland alone, for Graves's disease in the child does not cause overgrowth, as might have been expected when we remember the rapid growth of a cretin under the influence of thyroid extract. In the active stage of acromegaly we can expect no benefit from the use of pituitary extract, though thyroid extract has proved to be of service in some cases. The means at our disposal at present for diminishing the overactivity of the hypophysis are the use of x rays and surgical measures for the relief of local pressure symptoms by decompression or the removal of some of the enlarged anterior lobe of the gland, so as to diminish the supply of its secretion. Owing to the deeply-seated position of the hypophysis the actual dose of x rays which can reach it must be small. The chief benefit obtained by surgical measures has been the relief of symptoms such as headache and improvement of vision resulting from the diminution of local pressure thus brought about, and is comparable to that obtained by the removal of a portion of a goitre which is compressing the trachea.

It is now fully recognized that the ductless glands have important relationships to each other, and that the secretion of one gland may either stimulate or inhibit the activity of other glands. Of these structures it may, indeed, be truly said, "whether one member suffereth all the members suffer with it." My attention was particularly drawn to this aspect of the subject by observing two cases, which I recorded some seventeen years ago, in which acromegaly, Graves's disease, diabetes, and pulmonary tuberculosis were present simultaneously. In one of these subsequently there was found to be a considerable hypertrophy of the hypophysis, enlargement of the thyroid gland, and persistence of the thymus with hypertrophy of the left lobe. At the time I was inclined to regard the hypertrophy of the thyroid and hypophysis as being due to a common cause. Rolleston has suggested that the condition is due to some disturbance of an equilibrium between the internal secretions of the two glands. In myxoedema and after removal of the thyroid gland the hypophysis increases in size and vesicles develop which are filled with secretion. This change appears to indicate that the hypophysis may to a limited extent be able to replace the thyroid gland, although it contains no iodine. The simultaneous enlargement of the two glands is difficult to explain. It is probably due, as Cushing suggests, to an "underlying bio-chemical factor" of which at present we know nothing. The existence of a relationship between the hypophysis and the sexual glands is shown by the enlargement of the former which takes place during pregnancy and after castration.

These cases illustrate also the relationship between the thyroid and the pancreas. Glycosuria occurs not only, however, in these cases of pluriglandular disease, but also in cases of Graves's disease, in which there may be an occasional and transitory glycosuria or a severe and fatal diabetes. The diabetes may develop while the symptoms of Graves's disease are still active, or it may only appear later on after they have disappeared. It has been shown by Eppinger, Falta, and Rudinger that the thyroid and pancreas tend to inhibit each other, so

that increase of activity in one is accompanied by a diminution in the other. This influence is probably exerted by the thyroid secretion on the activity of the islands of Langerhans, so that in exophthalmic goitre sugar tolerance is lowered, while in myxoedema it is raised. Lorand found an increase in the islands of Langerhans in dogs after thyroidectomy, whereas the glycosuria induced by removal of the pancreas almost or entirely disappeared after a subsequent thyroidectomy. In one of my cases in which recovery from Graves's disease was followed by severe and fatal diabetes, microscopical examination of the pancreas showed that the islands of Langerhans had practically disappeared. It seems, therefore, that in these cases the prolonged inhibitory action of excessive thyroid secretion may be followed by loss of the internal secretion of the pancreas. We unfortunately know very little of the pancreatic hormones. So far they have not been obtained in an active form, for no preparation of the pancreas has yet been produced which is able to supply the hormones by internal administration when they are absent in a case of pancreatic diabetes. The experiments of J. Forschbach indicate that where a state of "parabiosis" has been established between two animals as by means of a direct communication between the peritoneal cavities, the onset of diabetes after the removal of the pancreas from one animal may largely be prevented by the direct passage of active pancreatic hormones from the other.

The gap to be bridged to enable us to make use of our present knowledge of the function of the pancreas in the treatment of some forms of diabetes thus appears to be a narrow one. Could we but transfer the normal pancreatic hormones directly without change from a healthy animal into the blood stream of a case of pancreatic diabetes, striking therapeutic effects might reasonably be expected. Forschbach and Zuelzer have shown that although the glycosuria in man may be diminished by injection of pancreatic extract prepared by a special method, such unpleasant symptoms are produced that, as yet, the treatment cannot be carried out.

In the suprarenal glands the medulla and cortex have separate functions. The medulla is characterized by the presence of a chromaffin substance and is constantly supplying an active hormone, adrenalin. It was shown by Oliver and Schäfer that this substance has a remarkable power of raising blood pressure. So active is this hormone that one-thousandth of a milligram per kilogram of body weight suffices to produce a definite rise of pressure. It has further been shown by Langley and by Elliott that adrenalin stimulates the whole of the sympathetic system by its action on the myoneural junction. Failure of the suprarenal glands is the immediate cause of Addison's disease, in which there is increased pigmentation of the skin, vomiting and great prostration, with lowered blood pressure. Though the suprarenal insufficiency is most commonly due to tuberculosis of the glands, Rolleston has shown that other destructive lesions, such as simple atrophy, produce the same result. We know little of the functions of the suprarenal cortex, but it seems not improbable that while the low blood pressure and prostration in Addison's disease are due to loss of adrenalin from destruction of the medulla, the bronzing of the skin is due to loss of the cortex. In adrenalin we possess a remedy the value of which is fully recognized as a haemostatic and in the treatment of asthma and other conditions. Something more than this, however, is lacking in Addison's disease, as unfortunately neither adrenalin nor extracts of the whole suprarenal gland are able to replace the diseased gland in this malady. Either the disease is due to something more than the loss of an internal secretion or the secretion, in addition to adrenalin, contains other hormones which we are as yet unable to obtain in an active condition for therapeutic purposes. So far no decided results have been obtained in the treatment of Addison's disease by any form of suprarenal extract, nor is there any evidence that life can be prolonged by their use.

Excessive action of the suprarenal medulla may occur, but we have no certain information as to its clinical results. There is reason to think that an excess of the cortical hormones in early life may exert a marked influence upon the development of the reproductive system and of secondary sexual characters. In the remarkable cases of premature sexual development in boys from 3 to 9 years of age collected by Bulloch and by E. E. Glynn, adrenal hypernephromata have been found. In these cases the genital organs attain their full size, the hair grows on the face and other parts of the body, and the voice becomes deep. It seems not unlikely that this premature development, years before the proper time, is due to excessive secretion of hormones by the adrenal cortex.

It has long been known that the generative glands exercise a dual function, and that their removal not only induces sterility but other remarkable effects as well. Castration in early life prevents the development of secondary sexual characters; thus the antlers do not develop in stags which have been castrated when quite young. The earliest proof that such arrest of sexual development is due to loss of an internal secretion was given by A. A. Berthold of Göttingen in 1849, who showed that in cocks after transplantation of the testicle the male characters were retained, and attributed this result to the effect which the organ had upon the blood. Biedl further points out that these experiments were really the first to prove the existence of any internal secretion in the body. Spermatogenesis and internal secretion, the two functions of the testicle, can be separated experimentally, as the internal secretion is in all probability furnished separately by the interstitial cells of Leydig. While ligature of the spermatic cord produces the same result as castration, ligature of the vasa deferentia entails sterility alone. It has been shown by Shattock and Seligmann that the latter operation in sheep does not prevent the full development of secondary male characters, as the vascular supply remains intact and the normal amount of testicular hormone reaches the general circulation. Similar effects are produced by *x* rays, which induce sterility without arresting internal secretion, as they spare the cells of Leydig. There is a close relationship between the functions of the generative gland in both sexes and other ductless glands. The absence of sexual development at puberty in cretins and in cases of pituitary insufficiency clearly indicates that both the thyroid and pituitary glands normally exert a powerful influence on the development of both testicle and ovary. This relationship is still further illustrated by the remarkable development of these glands which takes place under the influence of thyroid extract in an adult cretin, who has long passed the normal age of puberty. I have recorded the case of a female cretin who at the age of 28 was only 34½ in. high, in whom scanty menstruation had only occurred a few times and the mammary glands were quite undeveloped. Under thyroid treatment she grew 4 in. in three and a half years, menstruation became regular and abundant, and the breasts and nipples became remarkably well developed. In these cases it is probable that the thyroid extract activates the latent ovary, and that the ovarian hormones thus produced stimulate the growth of the mamma, as they do normally at puberty. The association of premature sexual development with adrenal hypernephroma has already been mentioned, and similar cases have been recorded in association with enlargement of the hypophysis and of the pineal gland.

The results of loss of the secretion of the ovaries are seen after their removal by operation and at the normal climacterium. The symptoms which then occur are variable in character, but hot flushes, irregular perspiration, morbid fears of organic disease, and various subjective sensations are common. It is rather remarkable that so little attention is devoted to their consideration in our medical textbooks, and that their true nature is apt to be overlooked. A difficulty in recognizing the cause of these symptoms may arise in those not uncommon cases in which they develop at an interval, sometimes of several years, after the cessation of menstruation. My colleague Dr. W. E. Fothergill has suggested as an explanation of this separation that the involution of the uterus precedes the atrophy of the ovary by an interval during which the latter secretes normally, and that it is only when the ovarian secretion finally fails that the characteristic symptoms appear.

This brief survey of some of the results which follow any abnormal ebb and flow of the internal secretions in disease indicates how important are the functions of the ductless glands. As yet we are only able to recognize with certainty the maladies which are due to well

marked changes in the structure and function of these organs. It is probable that some less definite forms of ill health may also be due to variations in the activity of one or more glands, the significance of which we shall be better able to appreciate when our knowledge of their functions becomes more exact.

What, however, we most desire is to find satisfactory means by which we can supplement deficient secretion on the one hand and control harmful overactivity on the other. We have seen how far these objects have been attained in some cases. It is dangerous to attempt to forecast future possibilities, but it is not unreasonable to hope that in the light of further knowledge it may be possible to adequately supplement suprarenal insufficiency and so relieve the symptoms of Addison's disease. The treatment of Graves's disease and acromegaly will become more satisfactory as we acquire more adequate methods of checking the abnormal flow of secretion, when it is to be hoped that surgical measures will become unnecessary. Pancreatic diabetes may also prove to be more amenable to treatment by methods at present beyond our reach. Clinical medicine has already gained enormously from results obtained by experimental pathology, and we may look to the future with confidence for still further advances which will place more simple and efficient methods of treatment within our reach.

Address in Surgery

DELIVERED AT THE

EIGHTY-FIRST ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

BY

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THE GIFTS OF SURGERY TO MEDICINE.

THE choice of this title for the address which I have the high honour to deliver must not lightly be held to indicate that I admit any difference between the essentials of medicine and surgery. The two sciences or arts are not in the remotest particular antagonistic: rather is it true to say that they are indeed one and indivisible, and that the separation between the two aspects which are presented to us is due to the limitations of the human intellect alone. It has been too long the custom for surgery to be divorced from medicine, for the problems of mind and of hand to be considered as distinct from one another. Happily, owing to the work which has been done in recent years, opportunities have abundantly been afforded for demonstrating the power of surgical research to enlarge the scope and to enrich the knowledge of many of the problems of internal medicine. By a study of what I have ventured to call the "pathology of the living" a very profound change has by degrees crept over our knowledge of almost every form of chronic abdominal disorder.

Post-mortem Room Statistics.

In the earlier years of the nineteenth century an acquaintance with the morbid processes attacking internal organs was based upon two sources of information only—upon an inquiry into the details of the clinical history of any disease as it developed, waned, or progressed, and upon the examination of the parts involved after the death of the sufferer.

I have endeavoured to show, on more than one occasion, how impossible it is to measure the sufferings of patients during their lives, or to assess their chances of death from any disease, by a consideration of the statistics gathered from the *post-mortem* room experience. People do not die in hospital from the chronic diseases from which they suffer during life. It is, so far as the surgical side is concerned, the acute terminal infections, malignant disease in all its forms, especially those lending themselves to surgical consideration, and the accidents of civil life, that supply the bulk of the material upon which the pathologist makes his observations. The statistics of Brinton and Welch, for example, two of the very ablest men ever engaged in medical work, upon gastric ulcer—statistics that meet one at every turn of the page in the literature of this subject—are, in my view, almost without value. For the observations were not made entirely by themselves alone, but by a number of observers of differing capacity working in distant places under diverse conditions. There could be, therefore, no common denominator; there was nothing by which the values of recorded figures could be made equal. And it would be futile to suppose that the patients who suffer from duodenal or gastric ulcer during life are adequately represented, in point of number, by those who die from these conditions in the wards of a hospital, or by those in whose bodies the traces of old, and perhaps quite inconspicuous, scarring or ulceration are discovered. We shall not, I hope, hear much in the future of *post-mortem* statistics as the guides or dictators of our opinions as to the maladies of the living.

The Surgeon's Possibilities of Diagnosis in the Living.

When the great gift of America to humanity—the discovery of the anaesthetic power of ether—was brought to the aid of the operator, vast possibilities were at once apparent in the range of the surgeon's work. But the dread of infection—indeed, the certainty of infection—held his hand for more than a generation, till the work of the greatest man our profession has ever produced, Lister, made the dream of the surgeon come true, made it possible for him with safety to carry through many procedures which before had been impossible. More than this, the chance was given to undertake the treatment of diseases which had formerly run their hasty or lingering course unchecked. Little by little our scope then widened. Acute conditions were at first attacked, perforations of the hollow viscera, gangrene of the appendix, haemorrhages from the bursting of a tubal gestation, and so forth. By degrees the impression grew that such acute catastrophes were but final stages, terminal events in the history of diseases whose presence and course were betrayed by symptoms which were clear and often characteristic. When these conditions were approached surgically in their earlier and more quiescent periods the results of operations were at first not very satisfactory. Crude methods and imperfect technique left legacies of trouble behind them. The mortality was high, and remote results were rarely ideal. It is interesting now to recall the clumsy manifestations which attended such operations as cholecystostomy or gastro-enterostomy in the days of their infancy. Owing to the labours of Senn and of Murphy simpler methods began to find a place. The bone-plates and the button showed how little was really necessary to secure firm and permanent union between well-clad peritoneal surfaces. Though these instruments are now discarded entirely, to all of us the lessons learnt from them were most important and most necessary. But for them we should never have realized as we do to-day how speedily and how simply those manipulations can be carried through with precision which before had occupied two or three hours and had involved the separate introduction of 200 or 300 stitches. In surgery complexity of procedure indicates defect in method. The search in all our work is for the simple way. In surgery, as in other arts, simplicity is the supreme virtue. Our unceasing efforts in technique are to discover what may safely be left out.

The Association of Abdominal Diseases Pointing to a Common Cause.

As we began to recognize, almost unconsciously, the ease and sufficiency of the simple mode, the mortality from all operations fell rapidly. So it became a safe and customary procedure, not only to deal with the particular lesion which had demanded attention, but also to investigate the conditions of adjacent organs. And there surprising developments awaited the inquirer and rewarded his eager search. Conditions other than those which needed immediate attention were found to exist with no little frequency. In diseases of the stomach or duodenum, the gall bladder was found not seldom implicated also; in diseases of the latter, as of the former, the vermiform appendix seemed often to play the part of an infecting

agent. And so by slow degrees the conviction was borne in upon us that these diseases I have named did not stand in rigid isolation, one separate entirely from the other, but that their association was so frequent as to indicate the strong probability of some underlying primary cause. Infection, it was soon asserted, whether carried by the blood stream, by the lymphatics, or ascending, as Bond has shown with great clearness, along the mucous canals, was the prime evil. Differences of opinion were soon declared, and still continue, as to the source of the infection. To many of us the quiescent inflammatory lesions of the appendix seem the most potent and the most persistent of all. Arbuthnot Lane, as I shall presently state more fully, holds firmly to the belief that the infections for the diseases I have named, as of many others, have their origin in the intestine, large or small. And his views are sustained by him with quiet and characteristic courage, and with a record of results that compel attention even from the most sceptical.

A Debt of Surgery.

To the surgical assault that we made upon our patients for the purposes of this study of the "pathology of the living" there was one serious objection. After all abdominal operations some pain was felt. Not very much in the ordinary appendix cases, a little more perhaps in the gastric cases, and certainly more in the patients who had submitted to operations upon the biliary tract. The pain was rarely very severe, but it called often for the administration of a small dose of morphine, and it was certainly enough to constitute a blemish upon our artistry. Further than this, it was noticed that after an operation involving a handling of the parietal peritoneum, even so slight a manipulation as the separation and ligature of a hernial sac, the patient complained of flatulence, which, in the more severe cases of abdominal exploration and handling, was severe and most distressing. It had long appeared quite certain to me that the condition described by the patient as "flatulence," the "gas pains" of the American surgeon, had really little or nothing to do with gaseous distension of the intestines. There was a feeling of "fullness" to the patient; but often no recognizable inflation of the intestines when an examination was made, nor was any real relief obtained by the expulsion of gas. Flatulence, I felt convinced, was the name given to a condition which depended upon trauma, or the rough handling of the parts engaged in the operation. Happily we are now able to make certain that any operative procedure in the abdomen can be carried out thoroughly without the infliction upon the patient of any intolerable pain and without his being caused to suffer any flatulent distress afterwards. We owe this entirely to Crile. The debt of surgery to this most acute, most versatile, and patient investigator was already a heavy one, but I think that to the surgeon of tender heart—and all surgeons surely are tender hearted—his latest work must bring the most profound satisfaction.

Anoci-association.

Crile has enunciated the principle of "anoci-association." He has shown that in the condition recognized as "shock" definite and demonstrable changes occur in the cells of the brain, which have discharged all the energy they have stored. This exhausting discharge of nervous energy is due to that excitation which is caused by the infliction of numberless injuries, each of them small, or to the infliction of one overwhelming impression. When an operation is performed under ether anaesthesia, the operator may delude himself into the belief that, because his patient lies unconscious, and apparently unresponsive to any hurt, therefore no damage to his nerve centres is possible. But ether anaesthesia does not put all the brain to sleep; the larger part, and by far the more important part, is awake and staring, ready to be acted upon, and to be injured, just as easily as if the patient were awake. The fact that some operators produce little constitutional disturbance, little shock, by the performance of an operation which at the hands of another causes very serious collapse, is not due to differences in the patient, in the anaesthetist, in the method, or in anything else but the surgeon himself. There are surgeons who operate upon the "canine" principle of savage attack, and the biting and the tearing of tissues are terrible to witness. These are they who operate with one eye upon the clock, and who judge of the beauty of any procedure by the fewness of the minutes which it has taken to complete. There are other surgeons who believe in the "light hand," who use the utmost gentleness, and who deal lovingly with every tissue that they touch. The former type of operator is described by Crile as "carnivorous"; the latter type is nowhere better exhibited than in his own work. The scalpel is, indeed, an instrument of most precious use—in some hands a royal sceptre; in others but a rude mattock. The perfect surgeon must have the "heart of a lion and the hand of a lady"; never the claws of a lion and the heart of a sheep.

The brain, then, under ether anaesthesia is in great part wide awake, appreciative of stimuli and in part responsive to them. During any surgical operation, Crile assures us, there is, in reply to every incision, every pull of the retractors, indeed to every physical contact, a change in the pulse, the respiration, and the blood pressure. Every surgeon conversant with abdominal work knows how a rough handling will cause tension in the muscles and deepen the patient's breathing, making loud and stridulous the expiratory effort, as though the victim were groaning in his agony. No general anaesthetic, it is clear, can shelter the brain from the assault committed upon it by the injuries inflicted during an operation. Crile has therefore suggested that by means of local anaesthetics, novocain for the skin, quinine and urea for the parietal peritoneum, a barrier can be erected around the area to be operated upon, so that no nerve impulses can be conveyed from the territory so isolated. The field of operation, that is to say, may be temporarily disconnected from the brain, not only at the time of operation, but for periods of one to five days subsequently. The operation then is conducted in an area which, for the time being, does not belong to the patient, which he cannot reach by any impulse directed towards it, and which can be dealt with as the surgeon wishes without the patient having any power of receiving impressions from it.

But this is not all. Shock may be produced not only by physical violence, but also by psychical disturbances, by emotional excitement, by the receipt, for example, of good or bad news or by fear, the suspense and the trials of some great ordeal. By many patients their submission to an operation is viewed with dread and apprehension. In order that the best results should follow upon our work it is necessary that every consideration should be shown to a patient, and every proper regard to his wishes; every encouragement should be offered, and the impression forced upon him that all those engaged in the operation or his after-treatment are working strenuously to the one end, his assured and rapid recovery. The fears which hover round the last hour before an operation are greatly modified by the administration of a small dose of morphine with scopolamine. A happy frame of mind is thereby induced, and very little nitrous oxide gas is required to put the patient soundly to sleep. The memory of the conveyance of the patient to the operation theatre and of the administration of the anaesthetic are often abolished by these measures. This is, in brief, the method of Crile, which I have used for many months, and which has added a pleasure to my work which is really immeasurable. To the great discoveries of Morton and of Lister this of Crile seems to be the fitting completion.

Several interesting side issues have developed as this procedure has become more widely practised. The most striking of all improved results is seen in the treatment of exophthalmic goitre. In England we see little of this disease, and very few operations appear to be necessary. In America, where the days are more strenuous and the rush of life more eager, operations are more often and more urgently needed. After such operations it was no uncommon thing to find that the patient suffered profoundly from "shock," and the heart beat so rapidly that it often seemed to be galloping to death. After an operation conducted by Crile's method the emotional activities of the patient are undisturbed, and within a few days his whole appearance and condition undergo a striking change for the better. "Aseptic wound fever" is almost certainly due to psychical factors.

EARLY SYMPTOMS AND LATE SIGNS.

Equipped with these new powers, due to the three discoveries of ether,* of antisepsis, and of anoci-association, the surgeon has been empowered to conduct his investigations into the conditions of disease in an entirely novel manner. Half a century ago a patient who was suffering from any form of abdominal disorder could not do more than describe his symptoms in detail to his medical attendant. He could not lend his body to inquiry; and no investigation of the parts concerned in his disorder could be conducted until after death. Death might occur from the final stages of this same disease, or more often from some intercurrent and independent malady. It was difficult then for the pathologist conducting an examination of the body to make the symptoms and the signs tally, for at this stage they had probably ceased to correspond one to another. The final ruin of an abbey tells us nothing of the domestic habits of the monks who found shelter within its once unbroken walls. The ultimate devastation in a lesion of the stomach, such as is seen on the autopsy table, tells us nothing of any value of those early wanderings from the normal condition which the same parts had once displayed. Terminal events may seem to have no connexion, or at best a very remote one, with the early changes of which they are the outcome. All the knowledge our forefathers possessed of the power of organic changes to cause clinical symptoms depended upon an inquiry into those changes when they had reached the last stage in their career. This last stage might be disastrous, as in the case of a chronic ulcer of the stomach which had led to cancer; or it might be inconspicuous, as in the case of a duodenal ulcer which had healed, as such ulcers sometimes will, without leaving any scar or only such as the pathologist in his haste may overlook. So all was confusion. Two incompatible things were considered side by side—early symptoms and late signs. When we consider the crushing disadvantages under which our forebears worked it is amazing to find how much they did, and with what accuracy they had solved many problems. The most conspicuous example of this extraordinary insight into abdominal diseases is, I think, afforded by the work of Brinton, whose books on *Diseases of the Stomach* and on *Ulcer of the Stomach* for wide observation, profound and cogent reasoning, and beauty of language have never been challenged by those of any other writers. But with the new methods to which I have referred the study of the pathology of the living became possible. Symptoms recited at the moment, could be ascribed to the lesion disclosed by the operation in the precise stage of its existence in which it was capable of arousing those symptoms. The history of abdominal surgery in the last ten years is the tale of the lessons that were learnt.

The most considerable revolution has occurred in connexion with our inquiry into the condition of "dyspepsia." To any who have no acquaintance with their works I can hardly imagine a greater intellectual delight than to read what Brinton, Johnson, Sir Thomas Watson, and other early fathers have written upon the subject of dyspepsia. With perfect accuracy of observation in many instances, with supreme mastery of English in almost all, they tell the story of many of the forms of dyspepsia. But none of them realized, as we by degrees have come to learn, that dyspepsia is so often a manifestation, not of a nervous or functional disorder, but of a real organic change. The story of how this all came about may bear retelling.

In the early days of gastric surgery operations were undertaken either for the relief of patients afflicted with carcinoma, after the methods laid down by the great pioneer and master, Billroth; or for the treatment of cases of pyloric obstruction by the operation of gastro-enterostomy, suggested in a whisper by Billroth's assistant, Nicoladoni. Of cancer I have at this moment nothing to say. In cases of pyloric obstruction the operation gave results which were quite amazing in their character and rapidity. Patients, emaciated almost to the last degree, unable to take more than the most meagre of meals, afflicted with copious vomiting at intervals of only a few days, became in two or three weeks happy mortals, with keen relish for food, which gave no unease, and which was retained without difficulty. Many patients underwent a veritable resurrection; one of my patients weighed 51 lb when operated upon and a few years later weighed 131½ lb., and in several instances I have known the weight to be doubled.

"GASTRIC ULCER" IN THE RIGHT ILIAC FOSSA.

So marvellous were these results that the eager activity of surgeons led them to employ the same method in other cases of "gastric ulcer." Patients who for years had suffered the misery or the martyrdom of indigestion readily submitted to any operation offering a prospect of relief. But it soon became apparent that the results were not so brilliant in the later as in the earlier cases, and the dreadful mistake was widely made of accepting the diagnosis of "gastric ulcer" as positive in all patients who presented the symptoms which the textbooks of medicine had told us were pathognomonic of the disease. Patients who suffered from pain, vomiting, and haematemesis were held to be the victims of "gastric ulcer," and for gastric ulcer the approved surgical remedy was gastro-enterostomy. Little by little the truth dawned upon us that "gastric ulcer" was a perilous diagnosis to make. For, with whatever confidence the existence of this lesion was predicted, disappointment and dismay followed fast upon the investigation of the parts. The stomach in these cases often showed no trace of that hard white scar which we knew must indicate the site of an ulcer of old standing. For a long while we were at a loss to know what the cause of the symptoms might be, when all the stomach walls and the duodenum appeared healthy. The scope of inquiry in such patients was therefore widened and the discovery made which excited the deepest disbelief in the minds of many, and which still meets with incredulity—the discovery that in the majority of cases which come to an operation a "gastric ulcer" has its place in parts other than the stomach.

There is now no longer any doubt in my own mind that the commonest site of a "gastric ulcer" is in the right iliac fossa. That is to say that in the majority of cases in which the most erudite teaching of the most astute German physicians would justify or compel a diagnosis of ulcer, the patient is suffering from a lesion elsewhere, and more often than not from a lesion in the appendix. The appendix may present a variety of conditions, but they are all alike in one particular—they are all obstructive in character. Infection and obstruction together, or apart, as Sir Bertrand Dawson has well said, make all the ills from which a patient derives abdominal trouble. In the appendix both may be at work at the same moment; indeed, one follows inevitably upon the other. In my experience there is no appendicitis without obstruction. In these cases of mimicry of gastric ulcer, is the stomach, then, quite healthy? In my earlier and less complete observations I often thought it was. Now I feel sure that there is. I think I may say always, such a change in the appearance of the organ as will enable the most absolute prediction to be made that the appendix is diseased. These changes are: a vivid injection, a deep congestion of the pyloric portion of the stomach over a distance of two or three inches at least: a great, irregular, eager activity of contraction, the muscles of the part appearing to writhe in angry contortions; and thirdly, an enlargement of the subpyloric group of glands. The explanation of these changes is, I think, now clear; of their existence there is no longer any doubt. The present position of our opinion is accordingly this, that in many of the cases of "gastric ulcer," the symptoms of which are pain, flatulence, acidity, heartburn, vomiting, and haematemesis, the lesion primarily responsible for such symptoms does not lie in the stomach. The lesion is one in which infection and obstruction are in league to do harm, and its most frequent location is in the appendix.

The evidence seems to be increasing, and is, indeed, already abundant, in favour of the view that these distant infections, whether in the appendix or elsewhere, which often produce the gross lesions just described in the stomach, may be the precursors and the excitants of a chronic ulcer of the stomach. The experimental work of Turck, Bolton, and Wilkie has shown how ulceration of the gastric mucosa may be set up by infecting agents, and may be perpetuated by the inability of the stomach

* I say nothing of chloroform, for I dislike and fear it intensely and use it hardly at all.

completely to empty itself in the normal time. To infection, stasis is added and often also an increased acidity, or at least an acrimony of the gastric juice. Gastric ulcer, then, would appear to be almost always a secondary disorder; the primary fault lies not in the stomach, but elsewhere, its expression is manifest in the stomach because of the particular series of incidents which occur therein. This much is certain—that when cases of gastric ulcer come to the operation table the evidence of other and apparently older lesions is rarely wanting.

CHRONIC ULCER AND CARCINOMA.

Among the most notable of the gifts of surgery to medicine is the proof that in a large proportion of cases the onset of cancer of the stomach is not a new and unaccountable thing, but is, on the contrary, a tardy development upon an earlier condition which for years had clamoured for recognition. It appears to me that the work of the Mayo clinic has offered irrefragable proof of this assertion.

I am, of course, well aware that all cases of cancer of the stomach, unhappily, do not come to the surgeon. No one but the surgeon can do any good to patients so afflicted. Yet there is a strange timidity of approach to the surgeon which is unaccountable, and far too often the favourable period in the history of a case is allowed to slip away before any recognition of the real conditions is attempted. It is true, then, and must be admitted, that when the surgeon speaks of the work which passes under his hand he is not speaking of the whole. Nor is any one else. Neither the physician nor the *post-mortem* investigator knows the whole range of cases; indeed, each sees far less nowadays than the surgeon. The view of the latter, therefore, if not all-embracing, is doubtless wider than that of any one else. The experience of the surgeon shows—and here geographical considerations seem to matter little—that roughly two out of three of all patients who come for relief from a condition of carcinoma of the stomach give a history of inveterate and recurring dyspepsia over a stretch of many months or years. No one knows so well as the surgeon, for he made and repeats daily the discoveries, that such a history does not mean that there is a chronic ulcer of the stomach, healing and breaking down afresh, during all that time. But though we are grown chary of making a diagnosis of "gastric ulcer" with that ease and certitude which formerly attached to the physicians of all countries, we can and do make an accurate diagnosis in a large proportion of the cases, if only those patients are allowed to be suffering from "gastric ulcer" who can hardly be supposed to be the victims of any other organic lesion. The surgeon who walks by sight and not by faith knows that a gastric ulcer is a real thing, though so many impostors have claimed his attention. In the majority of the cases of gastric carcinoma the history given of earlier attacks makes it almost certain that these were due to a veritable ulcer of the stomach. There may be, I fully admit, errors in this estimate; but making all the allowances that our operative experience warns us to be necessary, there can be, I think, no doubt at all that a genuine chronic gastric ulcer has been the cause of that dyspepsia of which recurring attacks are noted. In one of these attacks, perhaps after an interval of months or years of freedom, something different is noticed. The attack is heralded in the old way; at first no difference between it and the others may be observed. But by degrees it is realized that something worse is occurring. The symptoms, which in earlier attacks were so easily amenable to careful treatment, to rest, to sparing diet, and so forth, have now become more severe and incoercible. Relief does not come from the measures which before have been so instantly successful. Moreover, weight is more rapidly lost, anaemia may develop, and anorexia is most persistent and distressing. This is the occasion, all other and more favourable occasions having lapsed, when instant—it can hardly be called precocious—surgical treatment should be urged. The patient has now arrived at middle life, or has passed it, and the diagnosis of cancer may tentatively be made and should be acted upon with alacrity. Surgical intervention for purposes of inquiry has hardly any mortality nowadays. If a cancer be found and a resection of the stomach is undertaken, the mortality will vary with the expertness of the hands which practise it. But whatever that mortality may be, it cannot attain the death-rate of inaction and of "expectant" or medical treatment, which is exactly 100 per cent. It was urged by Dr. W. L. Rodman many years ago that resection of the pyloric end of the stomach for the ulcers that singly or in clusters are found there was the most prudent mode of treatment. In his clinic at Rochester Dr. W. J. Mayo has for several years resected the stomach not only for chronic ulcers in the vicinity of the pylorus, but also for those tumours which might be due to ulcer or might be due to cancer, for declared cancer and for those cancers which, though evidently not curable because of the enlargement of distal, secondary glands, or other visceral deposits, were yet removable. In his so safe hands resection has hardly any greater mortality than gastro-enterostomy. This procedure is questionless the ideal one. It has afforded, of course, a unique series of specimens for investigation. Drs. Wilson and MacCarty conclude from their examination of all the material so furnished that in 71 per cent. of these cases of cancer of the stomach the malignant process is engrafted upon a simple one, that cancer is really due to a secondary change which starts in the edge of an ulcer of long standing. My own material, far less in quantity, bears out their contention. It has been shown that in the base of these ulcers tending to cancer the mucosa has gone, leaving only scar tissue: in the overhanging border of the ulcers the mucosa is proliferating and some epithelial cells, nipped off by scar tissue, are showing all the stages of aberrant proliferation with infiltration of the surrounding tissues and metastases in the lymphatic vessels of the stomach wall. The truth of these observations is hardly yet admitted by those whose inquiry has been based only upon specimens found in the *post-mortem* room or on the shelves of the museums—upon parts, that is, that have been long dead, and subjected, no doubt, to the many changes which death and swift decay bring in every cell. Upon the *post-mortem* table only the final dilapidated ruin of the disease is seen; in specimens removed during life the disease in its earlier stages can be scrutinized. The material upon which the pathologist has formerly worked has not been favourable to the discovery of the truth; the sources of eternal truth were poisoned.

It would be hard to decide among so many strong competitors as to the primacy of any piece or work given out by the Mayo clinic. It is, however, safe to say that the real and permanent value of the contributions to this subject of cancer of the stomach, both from the technical and the pathological sides, can hardly be overstated.

DUODENAL ULCER.

The infection, which has its origin in the appendix or in the intestine, wreaks other harm than that upon the stomach wall. Of duodenal ulcer and of cholelithiasis we have also learnt that they are usually secondary manifestations. Of duodenal ulcer I have so recently and so fully written that it is not necessary here to do more than record the fact that a full knowledge of its symptoms and course, and the power, unrivalled in any other abdominal disorders, of making an accurate diagnosis, are not the least important of the gifts of surgery to medicine. Of this disease almost nothing was learnt after inquiry from the dead alone, except of those late preventable disasters which come from its unchecked course. In the early days of our recognition of this condition we were assailed by a formidable array of *post-mortem* statistics which went to show the rarity of the disorder, and the absence or the inconstancy of any symptoms which could be attributed to it during the life of the patient. We now know that the great frequency of the disease—every month I operate upon more cases than were formerly recognized in the *post-mortem* room of the largest hospitals in ten years—and the claim may truthfully be made that of all abdominal diseases none can be more certainly discovered by a scrutiny of the anamnesis alone.

THE ETIOLOGY OF GALL STONES.

Another and equally important reversal of opinion has occurred in connexion with cholelithiasis. It was formerly the accepted belief, and as fallacies die hard may still be the view of some, that in a large percentage of cases gall stones were "innocent"; they declared their presence by

no apparent sign, and their existence threatened no peril to the health or life of the patient.

The work of Lartigau upon the etiology of gall stones is of the first importance. He showed that active organisms taken up by the portal stream from the intestine were passed through the liver, which acted as a "destructor." They emerged from it in the bile, lifeless. Some few, however, under special circumstances, made their escape, and remained active in the bile which flowed to the intestine. If the organisms which find their way into the gall bladder are violent in their activities an acute inflammatory condition, of a degree which varies with the intensity of the infection, is caused. There may be any gradation from an acute phlegmonous cholecystitis to a trivial and evanescent catarrhal condition of the mucosa. If the germs be in an attenuated condition the contractile power of the gall bladder is competent to expel them, and no harm results. So far as experiment serves to show, a stone can only develop in the gall bladder (and the gall bladder is the factory wherein all stones are made) if, with a mitigated culture of micro-organism there is some retardation of the outflow of bile. Sepsis and stasis must go together. The gall bladder then puts forth its own efforts to protect itself, and secretes cholesterin, which being deposited upon the surface of the germs, clumped as they probably are, safely immures them. A gall stone, then, consists of a deposit of cholesterin (alone, or with the addition of other salts) upon a nucleus of organisms which have intruded into the gall bladder. Every gall stone, as I have said before, is a tombstone erected to the evil memory of the germs that lie dead within it. The frequency with which gall stones lie inert within the gall bladder, causing no harm and arousing no symptoms, is so very small as to be quite negligible. It is certainly much less than 1 per cent. in all those cases which come for surgical treatment, and, though I admit that this estimate involves a possible fallacy, yet the truth cannot be known of all the cases in which gall stones exist, for neither operative work, nor the examinations of the dead, nor the records of the "spas," reveal the whole matter.

THE INAUGURAL SYMPTOMS OF GALL STONES.

The error that has found a place in the minds of all medical men, and has been faithfully carried down from one generation of textbooks to another—that in the majority of cases gall stones cause no symptoms—has been for ever dispelled by the work of the surgeon. In operating upon cases of advanced cholelithiasis a history of inveterate though perhaps trivial dyspepsia over a long period can almost always be obtained. In operating upon patients for the relief of other conditions—myoma of the uterus, ovarian or other pelvic conditions, appendicitis or ulcer in the stomach or duodenum—a routine examination of the gall bladder and kidneys should be made. Every now and again stones will be found in the gall bladder, and far more rarely in the kidneys. In the case of the former a clear history of dyspeptic troubles can, in my experience invariably, be obtained. It is true that these symptoms are not those which are commonly recognized as being due to a gall-bladder condition, but the gift of surgery to medicine consists here in the true portrayal of those clinical manifestations which only an examination of the living could disclose. We now know that the earliest symptoms, the "inaugural symptoms," of cholelithiasis are just as characteristic, just as certainly to be recognized, as those of the later sequels and avoidable complications. And more than this: the very little that was known of cholelithiasis in its clinical aspects has undergone a complete revision, with the result that we are often able to declare not only the presence of stones, but often the position of that which is causing the most serious trouble. The only circumstances under which symptoms are not at the moment aroused by stones which lie within the gall bladder exist when the cystic duct has become permanently closed and the walls of the gall bladder, thick and white and hard, embrace firmly the stones that lie harmless within it. This is the "natural cure" of Rutherford Morison, a condition which develops only after months or years of symptoms, often of great severity. It is Nature's cholecystectomy, and, though Nature may be an admirable physician, her skill as a surgeon is of the lowest order, and her work cumbersome, clumsy, and dangerous.

LESIONS OF THE PANCREAS.

It is as an outcrop of the work of the surgeon on gall stones that all our modern knowledge of the clinical aspects of chronic pancreatitis has sprung. The acute form of pancreatitis was first recognized and, with something nearly approaching to finality, described by one of the greatest of physicians—Dr. Fitz of Boston. But of chronic inflammation, of stone, of cysts, and of the mimicries of cysts nothing was heard or known till the surgeon came bearing these gifts in his hands.

We know well the great change that comes over all parts of the body after death; the face changes, wrinkles are smoothed away, the cheeks sink in, the eyes are lustreless, the orbits hollow. Other parts change equally, and among them the pancreas, perhaps, most of all. In a case of acute pancreatitis the gland, at the moment of operation, seems one massive phlegmon—tumid, doughy, and with no abrupt margin. After death it appears to be merely a bruised and blood-stained organ. So with the gland in a state of chronic inflammation. To the hand of the operator it may feel large and densely hard, and it may be responsible for the obstruction and a considerable dilatation of the common bile duct. After death it seems hardly altered from the normal, and certainly in earlier, less exact days would not have attracted close attention. The evidence of the operator and the pathologist was then incompatible, because neither seemed to recognize that their approach to the problem was from different points of view.

The question of chronic pancreatitis was first brought before the minds of surgeons by Riedel, who noticed that in many operations upon the biliary passages the pancreas was large, hard, and unduly firm. In three recorded cases he believed the patient to be suffering from carcinoma of the head of the gland, and he gave accordingly, a hopeless prognosis. Two patients recovered, and remained perfectly well; the third patient died, and the examination of the pancreas showed no trace of malignancy, but the plain evidences of a chronic interstitial inflammation. Little knowledge, however, sprung from this observation, until Mayo Robson, with his then unrivalled experience of cholelithiasis, showed the frequency and the clinical importance of pancreatitis, and convinced us all of its powers of mimicry both of carcinoma, and of the calculous form of common duct obstruction.

Its mimicry of carcinoma may be complete. Painlessly and progressively the patient may develop jaundice, which continues to deepen until the "black jaundice" of the older writers can be recognized. There is great loss of weight, and prostration, hebetude and misery, though often the appetite is unimpaired. The liver enlarges and the gall bladder distends to a degree which allows it to be easily seen and felt protruding below the rib margin. In accordance with the law of Courvoisier we assume that such a dilatation of the gall bladder is due to causes other than stone. An examination of the stools might show a complete absence of bile pigment, and this may seem the most conclusive evidence of carcinoma, for a chronic inflammation, however inveterate, rarely causes an absolutely impermeable block to the passage of bile.

CHOLECYSTENTEROSTOMY.

With the history of a condition such as this, one could hardly fail to make a diagnosis of growth and predict a speedy ending to the case. But no one living is infallible in the differential diagnosis of obstructive jaundice. The diagnosis is always so difficult, and the chance of a life saved so important, that, however positive the evidence of malignancy may be, I advise operation in all cases. So far as immediate amendment is concerned there is little to choose between the malignant and the benign cases. In both the patient begins to improve, the jaundice falls away slowly, sometimes very slowly, and weight is soon gained. The operation performed consists in joining the gall bladder to the intestine, to the duodenum if easily available (it may be quite inaccessible, lying high and remote, when the liver is enlarged and the gall bladder over-full), or to the stomach. It may be feared that when all the bile passes directly into the stomach nausea, vomiting of bile, or loss of appetite result. Such fears are groundless. I have joined the gall bladder to the stomach in more than twenty patients who have survived a year or more, and

there is no suspicion of any special discomfort attaching to the operation. I have patients living still upon whom I operated four, six, and seven years ago, in the confident belief that they suffered from carcinoma and would shortly be dead. It is impossible for the most astute clinician or the most subtle pathologist to discover by physical signs, from the anamnesis or from the chemical examination of urine and faeces, whether a simple or a cancerous disease is present. He may shrewdly guess, but a guess is a poor peg on which to hang a man's life. All cases of obstructive jaundice should be operated upon; the mortality of cholecystenterostomy now is trifling if we take into account the severity of the disease and the outlook. Apart altogether from the prolongation or saving of life, almost every patient will declare that the relief from the maddening torture of itching is worth every sacrifice.

Acute pancreatitis, so accurately described by Fitz, remained for long a desperate and often lethal disorder. The onset of the symptoms was so abrupt, their course so rapid, and the fatal event so precipitate that for many years surgeons were quite unable to realize the moment for swift intervention. When operation was undertaken it was generally upon the mistaken diagnosis of perforating ulcer of the stomach or duodenum. And it was not until Ramsay, in 1902, showed that the chief surgical indication here, as in the case of a phlegmon in the extremities, consisted in the relief of tension, that success began to attend the surgeon's efforts. Now it is a matter of very little difficulty to make an accurate and timely diagnosis of acute pancreatitis, and the recovery of the patient can generally be assured. A tribute here may fittingly be paid to the work of Simon Flexner and Opie, who showed how apt an intense inflammation of the gland is to follow upon the infection of its duct by bile, by chemical irritants, or by infective agents. Acute pancreatitis is not seldom associated with cholelithiasis, bile which is obnoxious to the gland passing from the common duct to the canal of Wirsung when the orifice of the ampulla is blocked by a tiny stone.

Other diseases of the pancreas, cysts and calculi, have lent themselves also to accurate diagnosis and successful treatment by the surgeon. One of the very ablest and most original papers contributed to the literature of surgery in my time appeared in the BRITISH MEDICAL JOURNAL in 1892 (vol. ii, p. 1051). It was written by the great surgeon and my very good friend, who preceded me in the delivery of this annual address, the late Jordan Lloyd. He pointed out that, contrary to the generally received opinion, the fluid tumours appearing in the epigastrium after the receipt of an injury were not veritable cysts of the pancreas, but accumulations of fluid in the lesser sac of the peritoneum which had closed at the foramen of Winslow. Calculi are rarely found in the pancreatic ducts. Their presence has been recognized, and in a few cases the stones have been successfully removed, since the inauguration of surgical treatment by Pearce Gould in 1896.

THE SOURCE OF INFECTION IN THE ABDOMEN.

Among the most interesting and possibly one of the rich gifts of surgery to medicine is the hypothesis that intestinal stasis, with the associated condition of absorption of toxins, is responsible for many of the diseases which attack, not only the abdominal viscera, but even also parts remote therefrom. Perhaps no subject in medicine to-day has received more discussion, has been more bitterly assailed, more often attacked by derision rather than by argument, and more cheerfully supported than this. Its author, Arbuthnot Lane, is a man whose mind moves easily along new paths. Such a pioneer has often reached his destiny before other tardy travellers have set out upon the way. The pioneer in all branches of knowledge rarely himself reaches the truth, he is more apt to overreach, or to be content to guess the road that lies ahead without beating it down with his own foot tread. In contemporary surgical history many observers, as I have pointed out, have had their minds attracted to a firm belief in one thing—namely, that many of the diseases for which surgery is called upon to deal are not primary disorders, but are secondary; that they depend for their existence and extended development upon some common cause; and that this common excitant is an infection which expresses itself now in one way, now in another. The conditions I have already mentioned—ulcer of the stomach or duodenum, and cholelithiasis—are, in the belief of all of us who do much work for their relief, really dependent upon an infection. For my own part I look upon the appendix as the most potent and the most frequent cause of offence. Arbuthnot Lane takes a wider view. He believes that the intestine itself is the factory in which the poisons are produced which cause, or make more easily possible, not only the various conditions I have named, but also such diverse and distant conditions as "rheumatoid arthritis," tuberculous diseases of bones and joints, diseases of the breast, cystic and malignant, of the thyroid gland, and many other conditions. At first it was supposed that the large intestine was the malefactor, and some slender support was possibly derived for the hypothesis from the work of Metchnikoff and others. More recently the delayed drainage of the small intestine has been held more blameworthy. Various bands and kinks have been described in different parts of the alimentary canal, and these have been held responsible for the obstruction, behind which dilatation and stagnation occur. Controversy has raged round the question as to whether these veils and kinks were developmental in origin, inflammatory, or evolutionary; and very often the opinions of a writer are formed exclusively upon, or prejudiced by, the one out of many possible methods of examination to which he has devoted exclusive attention. The terminal ileal adhesion, for example, which is held by many to be the most powerful of all for evil, clearly owns at least two entirely different origins. The most common form of it, in my view, is that which depends upon inflammation of the appendix. But it is interesting to recall that in my book on *Retroperitoneal Hernia*, published fourteen years ago, I point out that the "physiological fusion" of Toldt occurs to excess in two parts of the small intestine, with the result that there occurs "an adhesion of the upper few inches of the jejunum, or the lower few inches of the ileum to the posterior abdominal wall." I point out there, moreover, a possibility which is constantly overlooked, that this physiological agglutination is not a process which ends abruptly at birth, but that it continues afterwards; it is possible, indeed probable, that it gradually advances during adult life. So far as the large intestine is concerned, my own experience points to the splenic flexure as the part where an arrest in the flow of contents is most prone to occur. Whether this is due to an exaggeration of the normal ligamentous attachments of the flexure, to its extreme fixity, or to the dragging effects of an overweighted and powerless transverse colon I cannot say. But there can be no doubt that obstruction of the most acute, as of the most chronic, kind may be solely dependent upon "kinking" of the large bowel at its splenic flexure, surrounded and held firm by membranous adhesions.

But these points, after all, are only incidental. The main question is concerned, not with the exact means by which effects are produced, but rather with the existence of the alleged effects. The fervid apostles of the new creed are a little prone to bewilder us with reasons for their immature observations. This is only to darken knowledge, and to encumber their religion with dogma. We need not yet be greatly exercised over the terms of an explanation of how these effects come about, for in medicine explanation often lags far behind experience. The most exemplary instance of the effects of alimentary toxaemia occurs, perhaps, in the condition which may best be described as Lane's disease. The miserable chronic dyspeptic with sallow skin, dirty tongue, flaccid belly, offensive breath, dusky lips and nails, cold extremities, and constipation that is with some difficulty overcome, is restored to health with incredible rapidity when a short circuit is made between the ileum and the pelvic colon. The claims that Lane makes in respect of such patients must indubitably be admitted. I have never in these cases, nor, indeed, in any of "alimentary toxaemia," found it necessary to consider the question of a removal of the entire colon. As to the further claims which are made, I have not yet arrived at the point where I can admit them, but the hypothesis charms by its simplicity, and attracts by its magnitude, and I am travelling hopefully.

THE SUCCOUR OF THE INDIVIDUAL AND THE SERVICE OF THE CAUSE.

Medicine in its quest of knowledge may rightly levy a tribute from every other science with which it comes into contact. Its doctrines and its practice are tested, may receive support, or be refuted, by work accomplished in other fields. Surgery in recent years has proved a powerful helpmeet not only in the elucidation of those problems of internal medicine to which I have briefly referred, but also by reason of the light it has brought to bear upon the functions of many of the organs in the body. The experimental method, as a mode of inquiry, is not excelled in value by any other, and no experiments, I hold, can claim an equal rank with those which are a part of almost all surgical procedures. The chief glory of the surgeon comes from the dedication of his powers to the service of an individual; but there is a cause also to be served. In every operation something may be learnt, not only of those disorders which call urgently for relief, but of other associated, or it may be separate, conditions which chance at the same moment to be present. The researches so carried out upon a human patient are performed with a sterner sense of responsibility and with a graver ritual, and are impressed by more relevant influences than attach to any other form of inquiry. Their results are accordingly of far higher value. Clinical research, when sedulously conducted and illumined by the disclosures made upon the operation table, afford the most accurate of all methods of investigation into the diseases by which man is attacked. The succour of an individual should mean also the taking of a step forward in the solution, or the better understanding, of the manifold and perplexing problems of disease.

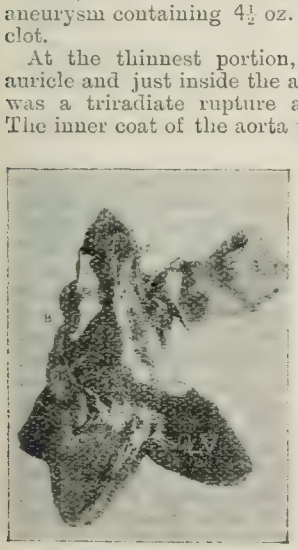
Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

INTRAPERICARDIAL RUPTURE OF AN ANEURYSM.

ON April 28th last there was brought to the Royal Infirmary the body of a woman, aged 40, who had died in two minutes while buying bread half an hour previously. On examination the body manifested enlarged dullness over the precordium, and on opening the thorax the pericardium bulged forwards and was very tense. It contained 14½ oz. of blood clot. The ascending aorta was dilated, and its walls attenuated so as to form a fusiform aneurysm containing 4½ oz. of non-laminated recent blood clot.

At the thinnest portion, posteriorly, above the right auricle and just inside the attachment of the pericardium, was a triradiate rupture admitting the middle finger. The inner coat of the aorta was atheromatous throughout,



Front. B, Clot in cavity of aneurysm.



Back. A, Back of first part of aorta, showing rupture.

and one of the pearly white scars so characteristic of syphilis was found just proximal to the origin of the innominate artery.

Professor Glynn examined the kidneys, and his report goes to prove that the cause of the aneurysm was syphilis, though alcoholic excesses cannot be entirely excluded.

The kidneys are very unusually scarred and irregular. Sections through the scars show most remarkable obliterative endarteritis, some of the smaller vessels being almost completely occluded. The glomeruli have become fibroid. The adjacent portion of the kidney is normal. The condition is almost certainly syphilitic. The scars, therefore, are due not to infarctions, but to either old gummata or localized syphilitic endarteritis. There were no infarcts in the spleen.

I am indebted to Mr. Fred Halliday, the museum assistant, for the photographs.

It is from Dr. T. R. Bradshaw, the senior physician of the Royal Infirmary, that the suggestion came that I should publish the case as one of extreme rarity.

E. G. FISHER,
Senior Resident Medical Officer,
Royal Infirmary, Liverpool.

Liverpool.

Reviews.

THE SUPRARENAL GLANDS AND CHROMAFFIN ORGANS.

DURING the last five-and-twenty years physiologists have given a great deal of attention to the functions of the ductless glands, and in the last ten or a dozen years clinicians and pathologists have vied with each other in the attempt to identify definite diseases (or, as they often prefer to call them, syndromes) with definite lesions of one or other of these glands. Disease of the suprarenal glands, connected in 1849 with a definite clinical picture by Addison, and the relation between their function and structure, have received the greatest amount of attention, and the whole subject is very skilfully set out at full length in a book published recently by Professor LUCIEN and Dr. PARISOT.[1] The chromaffin organs are so called because they exhibit a tendency to be stained a characteristic yellowish-brown colour by salts of the metal chromium. Henle in 1865 noted that the medullary cells of the suprarenals possessed this peculiarity, Stilling in 1890 described these cells as chromophil, Kohn in 1898 applied the word "chromaffin" to them. At the present time it seems that any chromaffin tissue is to be known as an accessory suprarenal gland; such tissue is met with in the rare true accessory suprarenals containing both cortical and medullary tissue occasionally found in the solar plexus, and also in the so-called paraganglionic bodies or parasympathetic bodies. These include the intercarotid body, the aortic paraganglion described by Zuckerkandl in the human fetus, and known as the organ of Zuckerkandl, the cardiac paraganglion found by Wiesel and Wiesner in the fatty tissue round the left coronary artery among the branches of the cardiac plexus that supply the left auricle, and possibly, too, Luschka's coccygeal gland. It must also be mentioned that accessory suprarenal glands containing only cortical suprarenal tissue, and known as interrenal bodies (the *Beizwischenniere* of Poll), have been found in the neighbourhood of the kidneys, in the retroperitoneal space, and in the genital tract; those that occur beneath the renal capsule and bedded in the kidney itself have long been connected with the complex renal tumours known as hypernephromas. The authors have brought together a great deal of information about the suprarenal glands in their volume, which is divided into four sections. The first of these deals with the anatomy and comparative morphology of the glands, the second with their physiology; it may be noted that adrenalin may be recognized in a dilution of one in a hundred million by a physiological test. The third section deals with the general pathological anatomy of the glands, and the fourth with the various suprarenal syndromes met with pathologically. The book is well written and illustrated, though not, perhaps, with the precision and elaborate documentation one would find had its authors been Germans. It may be warmly recommended to all physiologists and pathologists, and should be consulted by any medical man who has to deal with a case in which the suprarenal glands are involved.

[1] *Glandes surrénales et organes chromaffines.* By M. Lucien and J. Parisot. Paris: F. Gittler. 1913. (Demy 8vo, pp. 458; 100 figures.)

GYNAECOLOGY.

SIR JOHN BLAND-SUTTON has for long been an advocate of hysterectomy as the proper method of treatment in cases of fibroid disease. In *Fibroids of the Uterus*[2] his views and experience are conveniently summarized. He speaks more enthusiastically than ever about this operation: "Hysterectomy for fibroids is unrivalled among surgical procedures for its ability to amend invalid women by thousands; it enables them to lead useful lives, and, if married, to be companions to their husbands. In this sense it is one of the most beneficent operations in the whole range of surgery." Such are the author's words in his preface. In his chapter on treatment he writes: "All attempts to cure uterine fibroids by medical and electrical methods have been conspicuous failures, so that women encumbered with, or whose lives are imperilled by, these tumours, seek the aid of surgery"; and again, in a later chapter, he says: "My experience of the subtotal operation in patients after the menopause proves it to be even safer than during menstrual life." As he has done for many years, he strongly advocates the saving of ovarian tissue, but he now emphasizes the fact that for nearly twelve years he has left only one ovary even when both are healthy, and declares that the results have been quite satisfactory. He disbelieves in the theory that it is advisable to leave a small segment of the endometrium in the uterine stump. To myomectomy Sir J. Bland-Sutton still objects, and states that since 1906 he has rarely performed abdominal myomectomy or enucleation, maintaining, as before, that after the enucleation of a fibroid in the procreative period of life a woman is more likely to grow another fibroid in her womb than to conceive successfully—a stern lesson, as he calls it, taught by experience. He teaches that through and through sutures are best for ensuring union of the abdominal wound, but when they are tied the skin edges must be carefully approximated by a continuous suture of thin silk. He condemns buried catgut, nor does he speak otherwise than unfavourably of buried silk sutures; indeed, to them he ascribes thromboses of neighbouring large blood vessels. Here we must add that the author's chapter on the methods of suturing the abdominal incision in relation to thrombosis and scar hernia, and the succeeding chapter on embolism of the pulmonary artery after hysterectomy, are well worth special study. He prefers the old method of drainage through the abdominal wound. A rubber tube inserted into the lower angle of the incision, long enough to reach to the bottom of the pelvis, acts better, according to his experience, than a tube introduced through the vagina. As in his previous writings, he is fair to other authorities and gives references to works in which they express views, whether they agree with or differ from his own. The drawings are of a type well known to the readers of this author, and the book itself, like its predecessors, is well got up. It is a capital epitome of the views of a distinguished gynaecologist on a subject of high importance.

DR. SCHRÖDER has boldly undertaken a difficult task for which he has shown himself fully competent. His book on the menstrual cycle of the uterine mucosa[3] is an atlas of coloured microscopical drawings. The text is contained within fifteen pages. He gives technical details of the methods by which he prepared his sections of endometrium in the Rostock clinic, which is under the direction of Professor Sarwey. The tissues required for investigation were placed in a 90 per cent. solution of alcohol within two hours after they had been procured from the operating theatre. The operations were of the usual class in gynaecological surgery, ranging from ovariotomy to hysterectomy for fibromyoma and curetting for endometritis. Great care was taken about the menstrual history of every case, only subjects in whom the catamenia were regular being selected. Dr. Schröder forestalls a very reasonable kind of criticism. The parts having been removed from subjects with disease in that portion, or in adjacent structures still within the limits of the genital tract, the critic may rightly ask if the demonstrator can feel sure that the endometrium is healthy and the menstrual process uninfluenced by the disease which necessitated surgical treatment. The author assures us that normal endometrium can always be recognized, and infers that catamenial and purely pathological changes can be distinguished from each other. The drawings are very well executed. The changes in the glandular structures come out clearly, but the histologist and physiologist, to whom the right of the last word must be accorded, will be most interested in the beautiful delineations of the epithelial cells as they appear in different stages of the menstrual cycle. How far the cells undergo a purely destructive change, necessary so that they may be replaced by younger successors, and how far the breaking down may, on the other hand, represent physiological production, we can hardly determine. If the former condition be normal, what does the endometrial cell do before it breaks down? If the latter represents the cell function, what is this product of disintegration of the cell? As to the question whether the secretion is ordinary mucin, Dr. Schröder declares that he finds it answers all the tests which distinguish that product, an important statement which would imply that the uterus is not, like the ovary, a factory for a special product like lutein. The author concludes by referring to two opposite theories, the first teaching us that the normal cycle represents simple casting off and renewal of the endometrium, while the second rates menstruation as abortion without pregnancy. Dr. Schröder inclines to the latter view, as the breaking down of the epithelium appears, according to the sections represented in his plates, to signify something higher than pure destruction. The experience of surgeons who have frequently undertaken subtotal hysterectomy shows that the endometrium is something more than mere mucous membrane.

DR. GARDNER of Baltimore has prepared a *Textbook of Gynaecology*,[4] which, being well written, and not overloaded with matter, affords a useful introduction to the subject. The original photomicrographs are highly satisfactory. Dr. Gardner does not neglect diseases of the outer organs, and, on the other hand, avoids crowding his pages with drawings from instrument makers' catalogues and long series of sketches demonstrating the stages of operations. Such sketches as he gives are limited in number, and roughly executed but fairly clear. On the cardinal points of teaching Dr. Gardner is for the most part sound. "Any fibroid which is not large enough to interfere materially with other organs by pressure, which is not rapidly enlarging, and which is not causing pain or haemorrhage may safely, for a time at least, be allowed to remain, but must be kept under observation." No better advice could be given to the student and young practitioner. In discussing cancer, haemorrhage is rightly mentioned first among the symptoms; "Even before haemorrhage occurs," he adds, "there is frequently a thin watery discharge." That is the way to teach the clinical features of cancer of the uterus. The bleeding it is that usually betrays the disease to the patient, though the discharge comes earlier. Again, "unfortunately leucorrhoea is such a common condition that usually very little attention is paid to the discharge due to a malignant growth." He further most wisely teaches that haemorrhage, though the great indicator of cancer, is sometimes late in making its appearance. This is especially the case with squamous carcinoma of the cervix, whilst, as he says, adenocarcinoma of that part may not cause any haemorrhage. The passages on operative treatment are less satisfactory. His pupils, of necessity not in a position to judge, are taught that "as a matter of fact just as wide a dissection can be made of the broad ligaments by the vaginal as by the abdominal route." Many other teachers will object to this as a dogmatic statement to the student. The average surgeon can make a wide dissection much more safely from above, where plenty of light can be turned on to the internal organs. Lastly, as in some other modern textbooks, the teaching on the treatment of backward displacements is questionable. "The vast majority

[2] *Fibroids of the Uterus: Their Pathology, Diagnosis, and Treatment.* By Sir John Bland-Sutton, Surgeon to the Middlesex Hospital and its Cancer Charity. London: Science Reviews, Limited. 1913. (Demy 8vo, pp. 246; illustrations 39. 4s. 6d. net.)

[3] *Der normale menstruelle Zyklus der Uterusschleimhaut.* Von Dr. med. Robert Schröder. Gezeichnet von Fraulein Ella Burchard, Rostock. Berlin: August Hirschwald. 1913. (Double roy. 8vo, pp. 15; Tafeln 20. Mk. 16.)

[4] *A Textbook of Gynaecology.* By William Sisson Gardner, M.D., Professor of Gynaecology, College of Physicians and Surgeons, Baltimore. London: D. Appleton and Co. 1912. (Demy 8vo, pp. 490; figs. 138. 12s. 6d. net.)

of retro-displacements require operative treatment; such a large number of operations have been devised for the relief of this condition that no attempts will be made to enumerate them." The author might have added that a large number of operations imply that operative treatment has up to the present day proved unsatisfactory.

ANALYSIS OF FOODS.

It is almost inevitable that a new edition of a work on the analysis of foods should show a substantial increase in size over its predecessor, and LEACH'S *Food Inspection and Analysis*[5] is no exception to the rule. Although it was only in 1904 that the first edition appeared, the one now published is the third; the revision and extension of the text for this edition have been carried out by Mr. A. L. WINTON. The book is written with special reference to the laws and standards in force in the United States of America, but most of the matter does not refer to any one country, and is equally useful in any English-speaking community. The aim has evidently been to deal with the whole subject comprehensively; a chapter is devoted to the laboratory and its equipment, even giving details of all the reagents to be kept, and another chapter is given to general analytical methods. The wisdom of including elementary matter, such as the determination of specific gravities, in such a book as this may be doubted, but American authors appear to have a liking for at least touching on every part of their subject, from A to Z. The microscope and its uses in food examination are briefly dealt with, and a chapter is devoted to the refractometer; the Abbé instrument giving actual refractive indices, and the immersion, Wollny milk fat, and butyro refractometers are described, and tables are given by which the scale readings of the latter instruments are converted into the corresponding refractive indices. In the first edition the application of the instrument in analysis was briefly dealt with in the appendix, but it has gained ground steadily in recent years, and the present chapter will be very useful. From Chapter VII onwards different articles or classes of articles of diet are dealt with in a thorough manner from the analyst's point of view, and a useful feature is the list, at the end of each chapter, of references to recent publications, including books, periodicals, and pamphlets, bearing on the subject discussed in the chapter; the admirable publications of the United States Department of Agriculture naturally appear frequently. On the subject of preservatives in food the author is strictly non-committal; the arguments for and against their use being permitted are summarized, and it is pointed out that the results of experiments made to test their effects on human beings have not been concordant. The book contains numerous illustrations, including various drawings of microscopical preparations of vegetable tissues; there are also reproductions of over 150 photomicrographs. The latter are well done, but do not as a rule convey such clear information as the more diagrammatic drawing; the eye of the observer naturally selects the salient features of a preparation, and a drawing represents these chief points, and omits much of what is immaterial, whereas the camera reproduces — more or less perfectly — whatever is on the slide, and may easily fail to come as near as the drawing to a representation of what is actually seen. Exception must be made, however, of the photomicrographs of various fats, in some of which the differences could hardly be shown as well by drawings. The reputation of the work as a whole will be well maintained by the new edition.

TRADE WASTE WATERS.

THE book on *Trade Waste Waters: their Nature and Disposal*,[6] by Drs. MACLEAN WILSON and CALVERT, comes at an opportune time as a welcome addition to the scanty existing literature on the subject. Too frequently lack of information rather than unwillingness on the part of the manufacturers has been the obstacle to earlier purification of trade effluents, and to a solution of the broader question of river pollution. This compilation, it is hoped by the authors, will be a service to the manufacturer, advisers and officers of local authorities. It is written in a clear and lucid style, and is quite suitable for non-technical readers; its value is much enhanced by clearly drawn illustrations which focus a large amount of knowledge into a very reasonable space. The arrangement of material and the printing are good, and the index is adequate and well arranged. The commoner and more important waste waters are specifically dealt with, while others are grouped in a useful and quite comprehensible way.

Apart from the detailed information, the material affords convincing evidence of what can be accomplished in the purification of polluting effluents even of the worst description.

To manufacturers such a book should be of great value, as many hints are given for the recovery of by-products, overlooked in the past, which are now assuming a growing importance as sources of income. It is quite evident that trade wastes of many kinds are much more difficult, and therefore more costly, to purify than ordinary domestic sewage, and this justifies the fairness of imposing some extra charge on certain manufacturers, either by requiring a money contribution to the sanitary authority or by compelling him to provide some preliminary and efficient purifying works previous to admission of his effluent into the public sewer. The book gives up-to-date information on the economics of new processes, and such methods as the utilization of spoil banks for filtering are criticized.

The book is a commendable attempt to reduce to order the prolonged observations made from careful inspection and records by the authors, and embodies the results of much laborious inquiry in the country and in the laboratory. Chemical results as to the composition of various trade wastes and fluid effluents are displayed in tabular form, and, better than arguments, these interesting and edifying figures provide an array of facts readily grasped by the student and manufacturer. The pregnant observation is made that the disposal of dissolved organic matter in any trade waste must depend finally on biological methods, distinguishing them from wastes from processes which can be purified by chemical precipitation and straining.

It would serve no useful purpose to criticize the thirteen chapters, but several are worthy of special reference. The first is historical, and describes succinctly the evolution of river purification in regard to trade effluents. Chapter XII is an attempt to unravel the law as to the admission of trade effluents into public sewers; the authors rightly advocate the reception and treatment of trade waste waters by sanitary authorities under fixed regulations as the best course to adopt, particularly in the interests of purity of streams, though it is obvious that in many instances increased difficulty in purification at the outfall works will follow. The authors discourage the idea of the adoption of fixed standards with regard to trade waste waters, but they point out that the arguments against such standards are not so forcible in respect to effluents from sewage outfall works. Methods of analyses are carefully detailed in Chapter XIII, and reference is made to the anomalous position of river authorities, in so far that there is no power to act until the polluting process is in operation and actual pollution has occurred. Throughout the book practical utility has been the object of the authors, and they have our heartiest good wishes for the necessity of an early second edition.

NOTES ON BOOKS.

DR. IVAR WICKMAN'S admirable monograph on infantile paralysis appeared in Lewandowsky's textbook of neurology early in 1911, and was reviewed in the JOURNAL of July 29th, 1911, p. 218. It has recently been translated by Dr. Maloney in America,[7] and the translator has done his work efficiently—although he misprints his author's name on both the cover and the title-page of the translation. It seems a pity that no index of the contents of the translation should have been provided. The volume is printed on yellowish shiny paper, and is bound in a paper

[5] *Food Inspection and Analysis.* By Albert E. Leach, S.B. Revised and enlarged by Andrew L. Winton, Ph.D. Third edition. New York: John Wiley and Sons; London: Chapman and Hall, Ltd. 1913. (Roy. 8vo, pp. 1,020; 278 illustrations. 31s. 6d. net.)

[6] *Textbook on Trade Waste Waters: their Nature and Disposal.* By H. Maclean Wilson, M.D., B.Sc., and H. T. Calvert, B.Sc., Ph.D., F.I.C. London: C. Griffin and Co., Limited. 1913. (Med. 8vo pp. 352; illustrations 74. 18s. net.)

[7] *Acute Poliomyelitis (Heine-Medin's Disease).* By Dr. I. Wickman. Authorized English translation by Dr. J. W. J. A. M. Maloney, F.R.S.E. New York: *Journal of Nervous and Mental Disease* Publishing Company. 1913. (Roy. 8vo, pp. 135; illustrated. 3 dols.)

cover; its price—12s.—appears high, especially when contrasted with that of the equally well printed German original, which costs five marks.

With the rapid growth of the subject Professor HERMS believes that there is room for another *Laboratory Guide to the Study of Parasitology*.[8] He has therefore produced such a work, and has aimed at giving the student a wide practical view. The text is arranged in a series of exercises, all sufficiently detailed to enable the reader to continue his work on some specific group or species if he chooses. The exercises are based upon the two standard courses given at the University of California, namely, human parasitology (first half year) and veterinary parasitology (second half year), each with three lectures a week and two laboratory sessions of from two and a half to three hours. There is no special merit in the work, but it should prove useful for students in California, for whom it was written.

Malaria, Cause and Control,[9] is the title of a small work by the same author on this somewhat well-worn subject. The material presented is based upon nearly four years of practical study of malaria in California, during which time the author virtually investigated every part of the State. He believes that concerted action, backed by sufficient funds and carried on in a scientific and systematic manner, is all that is required to free California from malaria. The text of the book is well worth reading, but its most valuable feature is probably the splendid way in which it is illustrated with photographs. These show what is being done in educating the children, and illustrate also the different methods adopted for oiling and generally dealing with mosquitos. The book should prove useful.

Possibly Dr. HERBERT FOX'S work on *Elementary Bacteriology and Protozoology*[10] may prove of value to those who cannot take out regular courses on these subjects. It is primarily intended for nurses and beginners, and seeks to give them an idea as to the nature of micro-organisms and their relation to disease. To serve this purpose much technical material has been omitted, especially in the subject of biological differentiation. The book should prove useful to those for whom it is intended. It is clearly written, is well illustrated with photomicrographs, and has a good index.

MEDICINAL AND DIETETIC PREPARATIONS.

B.B.M. Flour.

WE have received from the Argyll Milling Company (Glasgow) a sample of a special flour which they have put on the market under the above name. This is described as being produced from a mixture of cereals, and containing an unusually high proportion of phosphate. Our analysis showed protein (calculated from total nitrogen), 11.64 per cent.; mineral matter, 1.02 per cent.; phosphorus (calculated as P_2O_5), 0.50 per cent. The whole of the phosphorus was present in organic combination, and the amount is considerably greater than in ordinary flour. The importance of an adequate supply of organic phosphorus in the food is well known to the profession, and if this is contained in the flour from which the bread ordinarily consumed is made, a sufficiency in the whole diet appears assured.

Marthaquelle Water.

The number of natural waters which are bottled and sold for use as beverages is considerable, but new ones continue to appear on the market. The latest to come under our notice is Marthaquelle water, from Salzbrunn, which has been submitted by Messrs. Ingram and Royle, Limited (London, S.E.), who are the agents for it. Our analysis shows it to leave on evaporation 165 parts of solids per 100,000, most of which consists of alkali carbonates formed from the bicarbonates existing in the water; chlorine and sulphuric acid are respectively about 5 and 16 parts. The water contains a slight excess of carbon dioxide, giving it a pleasant taste but causing scarcely any effervescence. The gas is evolved so slowly that some of the water which had stood for two or three weeks in a partly emptied bottle retained to the full its pleasant taste. Marthaquelle water appears well suited for use as a mildly alkaline table water.

Metaferrin and its Compounds.

The name "Metaferrin" has been given by the makers to certain organic compounds of iron, put forward as a contribution to solving the familiar problem of how iron may be best presented so as to secure its absorption in the body without disturbing effects on the alimentary system. Samples of these preparations have been submitted to us by the agents, Messrs. Reitmeyer and Co., London, E.C. The compounds examined were metaferrin (iron 10 per cent., phosphate 10 per cent.); arseno-metaferrin (the same, with arsenic 0.1 per cent.); and iodo-metaferrin (iodine 7.5, iron 7.5, phosphate 8 per cent.). All were in 4-grain tablets, which readily disintegrated in water. The distinctive feature of the compounds is that they are insoluble in dilute acids but very readily soluble in weak alkali, so that they should pass unchanged through the stomach and become dissolved in the intestine. The organic substance with which the iron, etc., is combined is described as digested milk albumen. Our tests showed that in dilute acid neither arsenic nor iodine was dissolved and only a trace of iron, while the compounds dissolved with great readiness in very weak alkali. Artificial gastric juice (pepsin and HCl) was also tried, but after two hours at body temperature only a very slight amount had been dissolved.

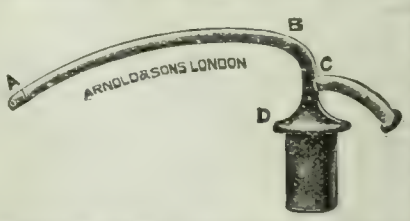
Romauxane: Tricalcol.

Romauxane is a nutritive substance containing peptone, iron, and phosphorus, made by Messrs. W. Wolff and Co., Elberfeld, and put forward for use in cases of debility, impaired nutrition, nervous disturbances, etc. We have received a sample of this from the London agents, Messrs. Reitmeyer and Co., London, E.C., and submitted it to examination. It was a dry powder containing iron and phosphorus in considerable quantity and having a slight taste of peptone; when mixed with water it was partly soluble, with the production of a very slight effervescence. Another preparation submitted by the same firm is tricalcol, a compound of calcium phosphate with milk albumen. Our examination of this showed calcium and phosphorus to be present in large quantity, but not in the form of inorganic calcium phosphate. The compound is almost entirely soluble in weak alkali. It is recommended as a source of lime and phosphorus during pregnancy and lactation, and appears to be suitable for the purpose.

MEDICAL AND SURGICAL APPLIANCES.

Throat Sprays.

DR. T. REUELL ATKINSON (Chadwell Heath, Essex) writes: In using the ordinary forms of throat sprays most of the medicament falls upon the back of the tongue. To obviate this Messrs. Arnold and Son have made for me a spray the nozzle of which passes through the upper curved half of a vulcanite folding tongue-depressor. The other half of the depressor lies flat against a specially devised bottle. When using the spray the surgeon has full command over the patient's tongue with his left hand, which also guides the nozzle of the spray into any required direction. The right hand is free to use the attached bellows. I have used this spray in several cases, and can testify to its advantages over the older forms.



THE French Minister of Agriculture recently stated in the Chamber of Deputies, in reply to a question, that he had made arrangements for an investigation of the modifications to which meat preserved by means of freezing or cold storage is liable. The investigation will be extended to the various methods of conservation by cold and to the proceedings that may be used to characterize the various kinds of refrigerated meat and to distinguish it from fresh meat. If it seems desirable, measures will be taken to regulate the traffic in meat preserved by cold storage.

[8] *A Laboratory Guide to the Study of Parasitology*. By W. B. Herms, University of California, Berkeley, California. New York: The Macmillan Company. 1913. (Demy 8vo, pp. 87. 3s. 6d. net.)

[9] *Malaria, Cause and Control*. By William B. Herms, M.A., Assistant Professor of Applied Parasitology, University of California. New York: The Macmillan Company. 1913. (Demy 8vo, pp. 174; figs. 39. 6s. 6d. net.)

[10] *Elementary Bacteriology and Protozoology: The Microbiological Causes of Infectious Diseases*. By Herbert Fox, M.D., University of Pennsylvania. London: J. and A. Churchill. 1913. (Post 8vo, pp. 237; figs. 67, plates 5. 6s. 6d. net.)

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

ANNUAL MEETING.

THE annual meeting of the association was held at the rooms of the Medical Society on Wednesday and Thursday, July 16th and 17th, under the presidency of Dr. J. G. SOUTAR. Later, the new president, Dr. JAMES CHAMBERS, occupied the chair.

The morning session was occupied with the business of the association. Satisfaction was expressed at the successful work of the Subcommittee deputed to watch the progress of the Mental Deficiency Bill, and its chairman, Dr. Hyslop, was specially thanked.

Presentation to Dr. Hayes Newington.

The first function of the afternoon was the formal presentation by Dr. SOUTAR, on behalf of the association, to Dr. H. Hayes Newington of his portrait in oils, the work of Mr. W. W. Ouless, R.A., and a testimonial on vellum, which ran as follows:

To Dr. Herbert Francis Hayes Newington, F.R.C.P.Edin. On the fortieth anniversary of your connexion with the Medico-Psychological Association of Great Britain and Ireland, we, the members of that Association, desire to place on record our appreciation of the valuable services which you have rendered to it and to the cause of the insane in these countries. You have administered the finances of the Association with conspicuous success for nearly twenty years. As President in 1889, as Chairman of the Parliamentary Committee from 1896 to 1904, as member of the Statistical Committee, of the Select Committee for promoting the Mental Deficiency Bill, and in numberless other capacities, you have been unsparing of time and labour in all that concerns the welfare of the insane and the prosperity of the Association. To you, too, it has been that many successive presidents and general secretaries have turned as their guide, philospher, and friend. On behalf of the subscribers, we now ask you to accept this portrait of yourself, painted by Mr. W. W. Ouless, R.A., as a permanent expression of our sense of obligation to you for your manifold services to the Association, and the esteem and regard in which we hold you, and our desire for your well-being and your happiness.

It was signed by the members of the Committee, including a number of past-presidents. Dr. NEWINGTON, in returning thanks, said that though he could not plead guilty to the possession of the many virtues with which the testimonial and the speeches credited him, he had tried to keep ever in mind the words of Dr. Hack Tuke when he (Dr. Newington) first undertook the office of treasurer—namely, that it was a post of great honour and responsibility. He, in turn, owed a great debt to the association, in that it had provided him with many friends and with tangible work to which he could turn when ordinary duties harassed.

Vote of Thanks to Retiring President.

Dr. MACDOWELL proposed, and Dr. PERCY SMITH seconded, a hearty vote of thanks to the retiring President, Dr. J. G. Soutar. Both speakers bore testimony to the enthusiasm of Dr. Soutar, his eloquence, and the able way in which he had presided at the meetings and taken part in the general work of the association. Included in the thanks were the officers of the association, who did their work with great energy and interest, special mention being made of the Registrar and the General Secretary. The motion was unanimously carried, and Dr. SOUTAR replied on behalf of the officers and himself, adding his tribute to those who had so efficiently worked with him, particularly Dr. M. Abdy Collins, General Secretary, to whose smooth co-operation he largely owed any success he had attained to.

Installation of New President.

Dr. CHAMBERS was then inducted to the Presidential chair, and his first function was to present the Gaskell Prize to Dr. Rees Thomas, of East Sussex Asylum; and the Bronze Medal to Dr. Mackinley Reid, of Horton Asylum.

President's Address.

The PRESIDENT then delivered his address, taking as his subject "The Prevention of the Insanities." He said that since the study of rational preventive methods must be largely concerned with causation, the starting-point was clearly indicated. In this investigation he believed that he was inevitably concerned not merely with cause but with purpose; and that the complete answer to the Why? that eternally confronted them was only obtained when the existence of ultra-mechanistic factors was admitted. The complex of causative agencies which must be recognized in the case of the insanities was one which, if the phrase were allowed, had extension in two dimensions. In the delirium of typhus fever the physical agencies at work were presented in formidable rank; but in certain insane conditions, which were hardly to be distinguished clinically from such delirium, one had to do battle with an enemy whose Indian file issued in dim perspective from the gloomy recesses of the unknown past. In the realm of bodily development reference was made to the work of Adami and others, who had found in hormonism a possible explanation of the manner in which the doctrines of the continuity of the germ plasm, and of the transmission of certain acquired characters could be reconciled. Continuing, Dr. Chambers announced his adherence to both these doctrines, and proceeded to consider the individual as progenitor, as parent, and as social unit.

In the capacity of progenitor the individual was described as a mere shell for segregated germ plasm, in which determinants and unit characters were already neatly sorted out for rearrangement; regarded as parent, Dr. Chambers pointed out that a belief in the transmission of certain acquired characters opened up a vista of possibilities, and required the admission of imperative responsibility. The various schemes for the betterment of the race were referred to in the light of recent theory and past experience, and it was insisted on that, in order that one should interfere to the best advantage, the most comprehensive survey of the many factors involved should be undertaken. The President emphasized the enforcement of segregation in certain well-defined circumstances, and reviewed the various functions of the already existing available machinery for the care of those mentally affected. He stated that the co-ordination and systematization of the special agencies in the form of centres for research, psychiatric clinics, and hospitals of different aim and purpose, together with that of the After-care Association, were no less worthy of recognition and furtherance by the State than was the marshalling of the laboratory, the dispensary, the sanatorium, and the convalescent home or colony, in the crusade against tuberculosis.

In conclusion, the keynote of reliance on the evocation of that purposeful effort which, as it had earlier been shown, was now recognized by philosophers and biologists, as well as by physicians, was again struck.

It was further asserted that, "If, in the desire to frame some attractive scheme of glittering merit, we are ever tempted to forget the present sufferer from mental disability, and his pathetic needs, we should be reminded that for him also the greatest hope of restoration lies in our inculcation, so far as we have the dynamic force, and he the capacity for response, of the necessity for personal effort. And, where there is little or no hope that we may evoke such helpful response, in devoted care of the straggler from our ranks there is a duty, not lightly to be evaded, which, if accomplished, will bring with it a rich burthen of racial reward, but, if neglected, will entail an inevitable Nemesis."

Traumatic Neurasthenia.

Dr. CAMPBELL THOMSON (Dean of Middlesex Hospital Medical School) read a paper entitled "Traumatic Neurasthenia." Neurasthenia, he said, had no definite boundary line, for its symptoms merged into psychasthenia, melancholia, obsessions, hypochondriasis, etc. Even hysteria was not always easy to separate from it; moreover, the symptoms varied with the individuality of the person, and hence the term was coming to be used as a group designation. He understood by "traumatic neurasthenia" a group of functional nervous and mental symptoms which might occur as the result of a shock to the mind as a result of accident; it was the trauma of the mind which was the essential factor in the neurosis, for sometimes the physical injury was almost negligible. Mental shock at the receipt of bad news produced a definite train of symptoms, comparable to the concussion ensuing from a physical blow. The circumstances in which the shock occurred were sometimes more important than the nature of the shock; it was well known that the relative

preparedness of the mind made a great difference in the effect. The occurrence of a latent period was very important from the medico-legal standpoint, but he did not think it covered more than a few days. It was not true to state indiscriminately that as soon as the hearing of a case for compensation was over the patient recovered. The principal bodily symptoms seemed to occur through the agency of the sympathetic system. The investigation of the neurasthenic should be proceeded with along two definite lines—the mental and the bodily, and he mentioned the intimate relation of the functions of the optic thalamus with the emotions, as shown by Head and Holmes. The first result of shock seemed to be to inhibit the action of the cortical cells, and thereby remove control over the thalamic centres. Dr. Thomson proceeded to elaborate his thesis by means of diagrams.

Sir George Savage agreed that the symptoms might result from either physical or mental shock. He referred to a contribution by the late Mr. Clinton Dent dealing with the disease in policemen, in whom there was no incentive to or likelihood of malingering. In many cases of neurasthenia rest should be not only complete, but prolonged.

Dr. Pasmore contended that the symptoms found in traumatic neurasthenia were those for the alienist alone to deal with.

Dr. Robert Jones discussed the question of neurasthenia in relation to general paralysis of the insane. He regarded emotion as secondary to physical shock. In the neurasthenic cases which entered the asylum, the difficulty was in the translation of stimuli from without into muscular effort, and he thought the dissociation might be a cortical one.

Dr. Menzies spoke of the vogue for operating on cases resembling those under discussion, and said the efficacy seemed to be due to relief of tension; and the cause of the symptoms seemed to be the disorganization of the serum circulation in the brain.

Dr. Carswell supported Dr. Campbell Thomson's contentions, especially as to the latent interval and the definite disability, and said that his experience had banished his former scepticism.

Dr. Thomson replied.

Dinner.

At the dinner in the evening, the chair was occupied by the President, and he was supported by the Lord Mayor of Cardiff, Sir Thomas Barlow, the Hon. John Mansfield, Sir James Crichton-Browne, Sir John Jardine, M.P., Sir George Newman, Sir John Collie, Sir George Savage, Sir David Semple, Dr. Nicolson, Dr. Needham, Dr. Marriott Cooke, Mr. Macleod, Mr. Trevor, Dr. Hubert Bond, Dr. Dawson, Dr. Longstaff, Mr. Ouless, R.A., Dr. Soutar, and a number of past-presidents.

In proposing the toast of "The Medico-Psychological Association," the Lord Mayor of Cardiff pleaded for more definite aid for research in mental disease, and for the giving of grants-in-aid towards that end, explaining that his interest arose from his occupying the post of chairman of the asylums committee in his city. He spoke most appreciatively of the good work being done by the association.

The President responded.

"Our Medical Brethren" was proposed in a felicitous speech by Sir James Crichton-Browne, who took the opportunity of stating that forcible feeding, though probably producing discomfort, was not in any sense painful; it was regularly done in asylums, and had probably saved many hundreds of lives.

Sir Thomas Barlow, in response, made feeling reference to the need for a more truly Christian feeling among all practitioners, particularly where the public, through lack of information or training, were apt to misinterpret the actions of medical men. He hoped to see the disappearance of the idea that the calling in of a surgeon in consultation meant necessarily the performance of a serious operation.

Dr. Soutar proposed "Our Guests," and Sir George Newman and Dr. Longstaff responded.

The concluding toast was that of "The President," which was suitably submitted by Sir George Savage, and briefly replied to.

The Interpretation of Dreams.

On Thursday, the first paper was by Dr. Mercier on the interpretation of dreams. It was discussed by Sir George Savage, Dr. Carswell, Dr. Robert Jones, and Dr. Stanley Gill. Dr. Mercier replied.

Asylum Dysentery.

Dr. H. Salter Gettings read a paper on dysentery, past and present, with especial reference to the origin of asylum dysentery. The paper showed considerable research among the archives of Wakefield Asylum, with which institution it mainly dealt, and showed that the country was practically never free from the disease from 1678, though in the eighteenth century there was a considerable reduction in the severity. The discussion on the paper was postponed for the attendance of several members who wished to take part.

Bacteriology of Urine in General Paralysis.

Dr. Barton White made a contribution on bacteriological examination of the urine in some cases of general paralysis. Dr. Soutar, Dr. Collins, Dr. Howard, and Dr. W. Dawson discussed the subject, and praised the contribution. The author replied.

Assistant Medical Officers in Asylums.

Dr. Bedford Pierce presented an interim report of the Subcommittee on the condition and status of assistant medical officers in asylums, and in doing so made out a strong case for improved conditions. He showed that the number of patients assigned to each medical man was quite inconsistent with efficient attention to each patient, and stated that while the number per officer in America was 145, going up to 197 in private asylums, in England it was one medical officer to 302. Dr. Rows, Dr. Soutar, Dr. McDowell, Dr. Bower, Dr. Thomson, Dr. Clarke, and Dr. Collins debated the matter, and the report was unanimously approved and the Committee reappointed.

HOW NOT TO WORK AN AMBULANCE SERVICE FOR LONDON.

In Clause 15 of the General Powers of the London County Council now before Parliament certain powers are sought to enable the London County Council to enter into and carry into effect agreements with the Metropolitan Asylums Board, the Port of London Authority, the twenty-eight borough councils, and the thirty boards of guardians for the utilization of any conveyances they possess for the purposes of the Metropolitan Ambulances Act, 1909. This Act authorized the London County Council to establish and maintain an ambulance service for accidents or illness (other than infectious diseases) within the County of London, exclusive of the City.

No other local authority is authorized to expend money on or levy a rate for such purpose. The Council has neglected to provide such service, which is notoriously required, but has recently begun tardily to exercise its statutory powers by maintaining, at a cost of £300 a year, a motor ambulance generously presented to the Hampstead and North-West London Hospital by the Grand Duke Michael of Russia.

Last November, however, a recommendation was made to the Council to seek for further legislation, which was intended to enable the Council to pray in aid the various conveyances possessed by the sixty local authorities above named and claim these as constituting an ambulance service for London, which Parliament had authorized the Council, and the Council only, to provide.

The clause in the General Powers Bill intended to give effect to this idea runs as follows:

The Council on the one hand and the Managers of the Metropolitan Asylum District, the Port of London Authority, the Metropolitan Borough Councils, and Boards of Guardians of Poor Law Unions within or adjoining the Administrative County of London, or any of such authorities on the other hand may enter into and carry into effect agreements for the working and use by the Council or any of such authorities for the purposes of the ambulance service authorized by the Metropolitan Ambulance Act, 1909, of ambulances, lands, premises, and

appliances used by the Council or any of such authorities in connexion with ambulance services provided by them for purposes other than those of the said Act and for utilizing for the purposes of the ambulance service authorized by the said Act the services of any persons employed by the Council or any such authorities.

The clause is obscure. It is not an amendment of the Act of 1909, which was a public Act, while this is a private bill; it does not, presumably, authorize any expenditure out of rates by the authorities named for the purposes of the Act of 1909. It would enable the County Council to use the small-pox and fever ambulances of the Asylums Board by agreement for street accidents, and permit the old horse cabs employed by guardians for the conveyance of paupers to grapple with the kind of work which the electric motor ambulances are doing so efficiently in the City area.

This whimsical arrangement is said to have been propounded to the Council by Mr. H. T. Lyon. This gentleman gave evidence before the Home Office Departmental Committee on Ambulances in 1907, and we have referred to his evidence in order to get some light on the obscure clause which is intended to put his suggestions into practice. He informed the Committee that "for the centre of London, both for speed and efficiency, the hand ambulance cannot be surpassed." In Westminster "the usual method of doing it, if we are in a hurry, was simply to call a cabman. We have no stable. We keep the ambulance in an archway, which does not even belong to us." He would recommend that "payment should be made in every case" for the use of the conveyance, "with power to the guardians to remit." This same authority was of opinion that no increase of ambulances in London was required; the present provision was "adequate." He suggested that "there should not be an ambulance authority." He had given an "object lesson" to London by "an interesting display in Gray's Inn" of the collected ambulance resources of the guardians and others. Under cross examination he admitted "some of them were rather antiquated," and in reply to a question as to whether a motor ambulance would not be "useful in securing greater promptitude in the removal of cases of severe injuries," he replied, "Undoubtedly."

Although the Departmental Committee, in their report, differed as to whether the County Council or the Asylums Board should be the ambulance authority for London, they were by no means satisfied with Mr. Lyon's arrangement. They unanimously reported that "the present system is gravely defective, and results in much preventable, detriment, and suffering," and that "a well-constructed and properly fitted rapid ambulance (horsed or motor) is a superior means of transport to the wheeled litter"; and, further, that new small stations for rapid ambulances (motor rather than horsed) should be established by the ambulance authority throughout the metropolis; and that "the main object is to get the summons for the rapid ambulance to the central office (by telephone) with the least possible delay."

It appears from a report made to the County Council in November last that of the thirty boards of guardians twenty reported that their conveyances were not available for public use; of the twenty-eight borough councils only three possessed any conveyances at all; and that the Port of London Authority had no more conveyances than were adequate for their own purposes. Yet these, with the Asylums Board ambulances (when not used for infectious cases or imbeciles) and the police litters would apparently, in the mind of Mr. Lyon and in the opinion of the London County Council, provide the County of London with a service not less efficient than the City's service, which has indeed proved an "object lesson for London." The County Council in their report admitted that they had not even "consulted beforehand the authorities concerned" before seeking new legislative powers, which they are careful to point out "are supplementary to the principal Act (1909), and would not, if exercised, involve expenditure not already within the purview of that Act."

We have said enough to show how totally inadequate the scheme, if such it can be called, would prove if ever put into practice; and we trust that the House of Lords, with whom the bill now is, will either radically amend or delete the clause to which we have directed attention.

SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE (LONDON, 1913).

SECTION OF ANATOMY AND EMBRYOLOGY.

THE President of this Section is Professor Arthur Thomson, of Oxford; the Vice-Presidents, Professors Macalister, Reid, Symington, J. T. Wilson, and Mr. C. B. Lockwood. The Secretaries are Professor Howden and Dr. Alex. Macphail.

Discussions.

The number of set discussions is five; for the first, to be held jointly with the General Pathology Section, on the Excitatory and Muscular Connecting System of the Heart, Professor Kulbs of Berlin has been nominated as reporter by the Council of the Section. The other four discussions are confined to the Section of Anatomy, and the subjects chosen are The Early Stages of the Human Ovum (reporter, Professor A. C. F. D'Eternod, Geneva); The Morphology of the Sympathetic System (reporter, Professor Carl Huber, Ann Arbor, U.S.A.); The Morphology of the Shoulder Girdle (reporter, Professor Raoul Anthony, Paris), and Cerebral Localization and the Precise Significance of Sulci (reporter, Professor C. U. Ariens Kappers, Amsterdam).

These discussions will be held at the morning meetings of the Section in the Organic Chemistry Theatre, Imperial College of Science and Technology, and will be followed by a number of independent papers, which have been offered by the President of the Section, Professor McClure (Princeton, N.J.), Professor Huntingdon (New York), Aubrey Mussen (Munchen), Professor F. G. Parsons (London), Dr. Koch (Berlin), Professor Ramstrom (Upsala), Dr. Shirokegoroff (Dorpat), Dr. F. Wood-Jones (London), Professor A. Campbell-Geddes (Dublin), Dr. Albert Wilson (London), and Professor A. Dustin (Brussels), and several other communications of this order are expected in addition. The Council proposes that the afternoon meetings be held in the Museum of the Congress, in the form of informal demonstrations and discussions on the exhibits of anatomical interest which will be on view there.

The dinner of the Section will be held in the Great Hall of St. Bartholomew's Hospital on the evening of Friday, August 8th: an informal "At Home" will be given to the members of the Section by the President on one of the earlier evenings of the Congress.

The Acting Secretary is Dr. Alex. Macphail, St. Bartholomew's Hospital, London, to whom titles of papers and demonstrations should be forwarded without delay.

SECTION OF DISEASES OF CHILDREN.

The President of the Section is Dr. Eustace Smith, and the Acting Secretary, Dr. A. M. Gossage, 54, Upper Berkeley Street, W.

The meetings of the Section are to be held at the Royal Society of Medicine, 1, Wimpole Street, W.

Discussions.

The following discussions have been arranged for the morning sessions:

Thursday, August 7th.—The Treatment of Tuberculosis in Childhood, from the Surgical Point of View, with especial reference to the bones, joints, and glands. Reporters: Dr. Menard, Berck-sur-Mer, France; Mr. H. J. Stiles, Edinburgh.

Friday, August 8th.—Mortality in the First Few Weeks of Life. This discussion is to be held in conjunction with Section VIII (Obstetrics and Gynaecology) and Section XVIII (Hygiene and Preventive Medicine). Reporters: Dr. Koplick, New York, U.S.A.; Dr. Chalmers, Glasgow; and Professor Wallich, Paris.

Saturday, August 9th.—Effects of the Ductless Glands on Development. Reporter: Professor Dr. Rudolph Fischl, Prague, Bohemia.

Monday, August 11th.—Infection of the Urinary Tract with Colon Bacilli. Reporters: Dr. John Thomson, Edinburgh; Professor Valagussa, Rome.

Tuesday, August 12th.—Polioencephalitis and Poliomyelitis. Reporter: Professor Romer, Marburg, Germany.

Papers for the afternoon sessions have been accepted from the following authors:—Professor Youkowsky (Dorpat, Russia): Infantile Mortality in the First Month of Life; contribution to the clinical, anatomical, and pathological study (personal observations). Dr. Coit (Newark, U.S.A.): The Viability of Children deprived of Women's Milk during the First Year. Professor J. Comby (Paris): Encephalite aiguë chez les enfants. Dr. D. B. Lees (London): Diagnosis of Pulmonary Tuberculosis in Childhood. Dr. Govain and Dr. Calvé: Tuberculosis in Childhood. Dr. Findlay (Glasgow): Portals of Entry of the Tubercle Bacilli. Professor Cecace (Naples): Fermented Milk in Paediatrics. Dr. Siegfried Weiss (Vienna): A New Symptom of Scurvy.

It is proposed on one afternoon to exhibit some interesting cases at one of the hospitals for children in London, and it is hoped to arrange for all the children's hospitals

in London to be open to the visits of members of the Section during the period of the Congress.

Arrangements have been made to visit the Lord Mayor Treloar Cripple Hospital at Alton in Hampshire on August 9th, and special excursions are also being arranged to the Idiots' Asylum at Earlswood, to the Carshalton Hospital, and other of the hospitals under the Metropolitan Asylums Board.

Section of Forensic Medicine.

This Section is under the presidency of Professor Harvey Littlejohn, and will meet in the Senate Room of the London University.

Discussions.

The following discussions have been arranged:

Thursday, August 7th.—The Medico-legal Aspects of Infant Mortality. Reporters: Professor Etienne Martin and Professor Mouriquand (Lyons); GMR. Professor Dr. F. Strassmann (Berlin).

Friday, August 8th.—The Teaching of Forensic Medicine, including the Construction and Equipment of a Medico-legal Institute. Reporters: Professor L. Thoinot (Paris); Professor Dr. H. Zangger (Zürich).

Saturday, August 9th.—Syphilis: Its Dangers to the Community, and the question of State Control (jointly with Section XIII in the Albert Hall). Reporters: Professor Dr. A. Blaschko (Berlin); OSR. Professor Dr. Ernst Finger (Vienna); Major H. C. French, R.A.M.C.; Professor Gaucher and Dr. Gougerot, Paris.

Monday, August 11th.—Alcohol and Degeneracy. Reporters: Dr. Max Bratt, Stockholm; Sr. Dr. Benno Laquer, Weisbaden; Dr. Legrain, Paris.

Tuesday, August 12th.—The Psychology of Crime (jointly with Section XII in the Jehangir Hall, University of London). Reporters: Professor Comm. E. Morselli, Genoa; Professor Dr. Weygandt, Hamburg.

The President is giving a dinner to a large number of members on August 7th. Dr. Baker has kindly arranged to take a party over Broadmoor Criminal Lunatic Asylum on August 12th. Visits have been arranged to the Museum and Finger-print Department of Scotland Yard. Members will be afforded facilities for visiting certain of His Majesty's prisons, and several of the London coroners have promised to admit members to any inquests they may hold during the Congress. A ladies' entertainment committee has been formed.

The Secretary of the Section is Dr. W. A. Brend.

Section of Hygiene and Preventive Medicine.

The President of the Section is Arthur Newsholme, C.B., M.D., F.R.C.P., and the secretaries A. S. Arkle, M.R.C.S., L.R.C.P., J. C. G. Ledingham, D.Sc., M.B., G. F. McCleary, M.D., W. G. Willoughby, M.D.

The meeting place of the Section will be the Lecture Theatre, Victoria and Albert Museum, South Kensington (Exhibition Road Entrance).

Thursday, August 7th.—Morning Session: Discussion—The Effects of Dust in Producing Diseases of the Lungs. Reporters: Dr. E. L. Collis (London), Professor F. Heim (Paris). The following gentlemen will probably take part in the subsequent discussion: Professor Luigi Carozzi (Milan), Professor Dr. Sommerfeld (Berlin), Professor Matthew Hay (Aberdeen), Sir T. Oliver (Newcastle), Dr. H. Scurfield (Sheffield), Dr. J. S. Haldane (Oxford). *Afternoon Session:* The following papers will be taken: Die Bleivergiftung im Buchdruckereigewerbe u. ihre Prophylaxe, Dr. Dezso Hahn (Budapest); The Invasion of America by Pellagra, Dr. K. Heberden Beall (Fort Worth, Texas, U.S.A.); Untersuchungen über die Desinfektionskraft einiger der Gebrauchlichsten Desinfektionsmitteln, Dr. Bernhard Vas (Budapest).

Friday, August 8th.—Morning Session: Joint Discussion with Sections VIII and X, Diseases of Children and Obstetrics, on Infant Mortality in the First Four Weeks of Life, to be held in the Jehangir Hall, University of London. Reporters: Dr. A. K. Chalmers (Glasgow), Dr. Henry Koplik (New York), Professor Wallich (Paris). *Afternoon Session:* The following papers will be taken: Registration of Stillbirths, Dr. Dudfield (London); La Diffusion du Croup à Naples, Professor Alfonso Montefusco (Naples); Sozialhygienische Ueberwachung der abnormen Kinder, Primarius E. Deutsch (Budapest); Preventive Control of Tuberculosis in the Tropics (Dr. Angus MacDonald (Kingston, Jamaica).

Saturday, August 9th.—Morning Session: Discussion—The Factors that Determine the Rise, Spread, and Degree of Severity of Epidemic Diseases. Reporters: Dr. Major Greenwood (London), Professor Dr. G. Sticker (Bonn). The following gentlemen will probably take part in the subsequent discussion: Professor Sudhoff (Leipzig), Dr. Brownlee (Glasgow), Dr. E. W. Goodall (London), Dr. Hamer (London). There will be no afternoon session.

Monday, August 11th.—Morning Session: Joint discussion with Section XVII, Stomatology, on The Supervision of the Health of Children between Infancy and School Age, to take place in Lecture Theatre, Victoria and Albert Museum. Reporters: Dr. R. Dinet (Paris), Mr. W. W. James (London), Dr. W. Leslie Mackenzie (Edinburgh). The following gentlemen will probably take part in the subsequent discussion: Dr. D. Forsyth (London), Primarius E. Deutsch (Budapest), Dr. Keith Shaw (Albany, N.Y.), Dr. H. I. Gerstenberger (Cleveland, Ohio), Dr. Lapage (Manchester). *Afternoon Session:* The following papers will be taken: The Causes of Epidemics and the Laws which Regulate their Course. Dr. Brownlee (Glasgow); Teaching in Open-air Schools, Dr. Gedeon Biró (Budapest); The Necessity for State Endowed Hospitals and a State Medical Service, Dr. J. MacWalter (Dublin); Preventive Medicine Attainable only by Compulsory General Medical Education, Dr. A. L. Soresi (New York).

Tuesday, August 12th.—Morning Session: Discussion — The Causes, Prevention, and Treatment of Visual Defects in School Children. Reporters: Dr. James Kerr (London), Professor Dr. R. Possek (Graz). The following gentlemen will probably take part in the subsequent discussion: Dr. L. A. Parry (Hove), Dr. Hans Lauber (Vienna), Dr. G. Lewinsohn (Berlin), Professor Dr. Greef (Berlin). There will be no afternoon session.

Sectional Dinner.

This will take place at the Trocadero Restaurant on Friday, August 8th, at 7.30 p.m; tickets, 7s. 6d. per head. Members desiring to be present should notify Dr. Ledingham, Lister Institute, Chelsea Gardens, S.W. Members may invite guests, including ladies.

Visits to Institutions.

Visits to institutions of interest to members of the Section of Hygiene and Preventive Medicine:

City of Westminster Health Society, Infant Medical Inspection Centre (Dr. D. Forsyth), 11, Golden Square, Friday, August 8th, at 3 p.m. to 5 p.m.

St. Marylebone General Dispensary, Infant Consultation Department (Dr. Pritchard): Thursdays, August 7th and 14th, at 3 p.m.; Tuesday, August 12th, at 11 a.m. The number of visitors must be limited to twenty-five on each day.

Metropolitan Asylums Board, visits to selected fever hospitals. On August 12th and August 13th, at 3.30 p.m., the following hospitals will be open to members of the Congress: (*a*) Brook Hospital, Shooter's Hill, Woolwich; (*b*) South-Western Hospital, Landor Road, Stockwell, S.W.; (*c*) Eastern Hospital, Homerton Grove, N.E.; (*d*) North-Eastern Hospital, St. Ann's Road, South Tottenham, N. Specific points of interest to be noted will be: (*a*) Isolation of various infectious diseases in cubicles at the South-Western; (*b*) isolation in glass cells at the Eastern; (*c*) individual isolation in a general ward (bed isolation) at the North-Eastern: (*d*) general principles of construction and administration at the Brook; (*e*) ambulance stations attached to the Brook and Eastern Hospitals.

Visitors to each institution will be conducted round the wards by the Medical Superintendent. Descriptive notes in English French, and German will be supplied at each hospital.

Metropolitan Water Board. Water examination department, 20, Nottingham Place, W. The Director, Dr. A. C. Houston, will be glad to receive visits from members of the Section.

Metropolitan Water Board. Arrangements have been made for visiting King George's Reservoir, near Enfield Lock, on Saturday, August 9th, and Wednesday, August 13th, at 3 p.m. on each day. (The works are about one mile from Enfield Lock Station on the Great Eastern Railway.)

The Royal Sanitary Institute, 90, Buckingham Palace Road, S.W. Members of the Section are invited to visit this Institute and the Parkes Museum on Tuesday, August 12th, at 4 p.m.

Hampstead Garden Suburb, Hendon, N.W. The Board of the Hampstead Garden Suburb Trust invites members of the Section to visit the Garden Suburb on Monday, August 11th, at 4 p.m., when various types of houses for different classes, and the planning and apportionment of open spaces, will be demonstrated.

Visits to institutions under control of London County Council (medical inspection of school children, industrial schools, open-air schools, model lodging-houses, etc.).

The following is a list of the places to be visited, with the name of the nearest railway station:

August 9th (afternoon).—Birley House L.C.C. Open-Air School, London Road, Forest Hill, S.E. Meet at school. Nearest railway station: Lordship Lane (S.E. and C.R.). Conductor: Dr. Forbes.

August 11th (afternoon).—Brixton Hill L.C.C. Industrial School, 54 and 56, Brixton Hill, S.W. Meet at school. Nearest railway station: Brixton (S.E. and C.R.). Conductors: Dr. Thomas and Dr. Shrubsall.

August 12th (forenoon).—London Hospital, Whitechapel Road, Medical Inspection of School Children. Meeting place: General hall at hospital. Nearest railway station: Whitechapel. Conductors: Dr. Chaikin and an Organizer.

August 13th (afternoon).—Commercial Street L.C.C. School, Whitechapel High Street, E.; Fairclough Street L.C.C. School, Backchurch Lane, Commercial Road East, E.; Berner Street L.C.C. School, Commercial Road East, E. Meet at Commercial

Street L.C.C. School. Nearest railway station: Aldgate East or Aldgate. Conductors: Dr. Thomas and Dr. Shrubsall.

August 13th (forenoon).—L.C.C. Main Drainage Crossness Outfall Works. Meeting place: Charing Cross Steamboat Pier. Nearest railway station: Charing Cross (Underground). Conductor: Dr. Thomas.

August 13th (forenoon).—Bruce House, Kemble Street, Drury Lane, W.C. Meeting place: Bruce House. Conductor: Mr. Berry.

* Early intimation should be given, as the parties will be limited to twenty each.

The Acting Secretary is Dr. Ledingham, Lister Institute, Chelsea Gardens, S.W., to whom communications regarding the work of the Section should be sent.

SECTION OF MEDICINE.

Dinner.

The dinner of the Section of Medicine will be held at the Connaught Rooms, Great Queen Street, Kingsway, W.C., on Friday, August 8th, at 7.15 precisely.

Tickets, price 25s. (including wine and cigars), may be obtained from Mr. George Bethell, 11, Chandos Street, Cavendish Square, W.; and after August 5th also at the Royal Society of Medicine, 1, Wimpole Street, W., where the meetings of the Section will be held. Dinner tickets will not be obtainable at the Albert Hall, as announced in a previous notice.

LISTER MEMORIAL FUND.

THE following further contributions have recently been made to the Lord Lister Memorial Fund:

	£	s.	d.
Lister Memorial Committee (Oxford Centre)	146	13	0
Lister Memorial Committee (Cambridge Centre)	120	3	6
University of Leeds Committee	50	0	0
Corporation of Luton	3	6	6
Lahore Medical College	15	18	1
British Medical Association (South Indian Branch)	10	0	0
British Medical Association (Transvaal Branch, Pretoria Division)	10	0	0
Philadelphia College of Physicians ...	21	1	3
Royal Hungarian University, Budapest ...	20	0	0
University of Athens	19	15	0
Accademia Medico-Fisica, Florence ...	4	0	0
University of Tulane	4	0	0
University of Upsala, Medical Faculty ...	4	7	9
University of Nancy	4	0	0
Société Vaudoise de Médecine, Lausanne	4	0	0
Asiatic Society of Japan	1	1	0
Bath Clinical Society	3	3	0
Brighton and Sussex Medico-Chirurgical Society	10	10	0
Backburn and District Medical Society ...	9	0	0
Burnley Medico-Ethical Association ...	2	2	0
Cardiff Medical Society (second donation)	2	9	6
Derby Medical Society	3	3	0
East Sussex Medico-Chirurgical Society ...	7	0	0
Ilford Medical Society	1	7	6
Manchester Clinical Society	10	10	0
Medical Society of London	10	10	0
Norwich Medico-Chirurgical Society ...	5	5	0
Oldham Medical Society	2	2	0
Sheffield Medico-Chirurgical Society ...	5	5	0
South-West London Medical Society ...	3	7	6
University College Hospital Medical Society	3	3	0

Donations may be sent to the Honorary Treasurers of the Fund at the offices of the Royal Society, Burlington House, W.

BY the will of the late Mr. William Marles Gammond, of Cheltenham, the General Hospital in that town is given a half share in his residuary estate, and from this source will probably receive not less than £2,000.

As already announced, the Royal Academy of Medicine at Turin offers the thirteenth Riberi Prize of 20,000 francs (£800). The competition is open till December 31st, 1916. Forms of intention to compete may be obtained on application to the General Secretary of the Academy, Dr. V. Oliva, at 18, Via Po, Turin.

THE extraordinary international meeting of the Belgian Society of Ophthalmology will take place on August 2nd and 3rd at Ghent. Addresses will be delivered by Dr. Ch. Abadie (Paris), Kurt Adam (Berlin), Professor von Hess (Munich), Professor J. Hirschberg (Berlin), Dr. E. Landolt (Paris), Professor Motais (Angers), Dr. Kurt Steindorf (Berlin), and Professor Rollet (Lyons).

SCIENCE NOTES.

THE high price of platinum is making it desirable to consider the claims of possible substitutes. From the point of view chiefly of the medical electrician and radiologist, Dr. T. Nogier, of Lyons, makes some interesting comparisons between platinum and tungsten, availing himself of exact figures just arrived at by the Société Française de Physique.[1] Platinum is supreme among metals for its inoxidizable qualities and because it is not attacked by acids; but tungsten also has the capacity of resisting atmospheric influences, and is not attacked by simple sulphuric, nitric, and hydrofluoric acid, though soluble when the two last are in combination. Platinum ranks third among the usual metals in respect of ductility, being preceded by gold and silver, and followed by aluminium, iron, and nickel, but tungsten is more ductile than the two last. The point of fusion of platinum (1750° C.) is lower than that of tungsten (2974° C. or higher), which is the highest of known metals. The atomic weight of platinum is 193.5, and that of tungsten 182.6, and as the intensity of *x*-ray emission in a focus tube is said to depend (other things being equal) on the atomic weight of the material constituting the target, platinum comes out rather better than tungsten for the purpose of anticathodes in radiogenous tubes. But with tungsten tubes an extremely fine focus is possible, and this is a great gain when tubes of precision are required for the radiological localization of fine details. The coefficient of expansion of platinum (8.901×10^{-6}) is very close to that of the glass used for incandescent lamps or radiogenous tubes, but that of tungsten is much smaller (3.36×10^{-6}), approximating to the coefficient of certain special glass, such as that of Jena. The specific electric resistance of platinum is rather higher than that of tungsten at ordinary temperatures, but in the case of the latter it is increased tenfold at high temperatures, which fact makes tungsten superior to platinum and to all other metals for the making of resistances. The cost of pure tungsten is only a small fraction of that of platinum; it is also less open to the reproach of "softness" on wear and tear, and Nogier thinks that for many ordinary electrical and chemical purposes the cheaper metal might be substituted.

The ferment action of the blood during pregnancy has of late attracted considerable attention. That the antitryptic power was raised, was pointed out in 1909 by Graefenberg and others, and Abderhalden has recently demonstrated the capacity of the blood serum during pregnancy with regard to the breaking down of placental albumins and peptones. In an article published last March (p. 678) some account was given of pregnancy based upon Abderhalden's observations. It has been stated lately, however, by Lindig,[2] that similar reactions may be obtained when the blood serum is derived from females suffering from genital growths; that in some cases of endometritis it may also give positive reactions, and that albumins from placenta, uterus, ovaries, genital neoplasms, and to a less degree muscles, are similarly broken down. The reaction seems to belong, therefore, to the general, rather than the specific, proteolytic processes. Neumann[3] has recently published some work on the pigmentations of pregnancy, and has worked out the oxidizing and reducing properties of the blood during the several months of pregnancy. He observed that when 0.2 c.cm. of serum was diluted with 0.8 c.cm. of a 0.85 per cent. saline solution and 0.2 c.cm. of adrenalin added, and allowed to stand under sterile conditions for four to six hours at 37° C., or for half to one hour at 50° C., the mixture was colourless when the serum was taken from the umbilical vein, but red when it came from the placenta or veins of a gravid female. Additional experiments allowed him to conclude that all human serums are capable of oxidizing adrenalin to a coloured product, that this property is much increased during pregnancy, that it is very slight at birth. The facts that it responds to alterations of temperature, addition of dilute metallic solutions, acids and alkalis, suggest that the nature of the reaction is that of a ferment, and that the increased oxidizing power of the

[1] *Archives d'électricité médicale*, May 10th, 1913.
[2] *Muench. med. Woch.*, 1913, p. 288.
[3] *Bioch. Zeitsch.*, Bd. 50, S. 347.

serum of the pregnant woman stands in close relation to the intensity of the pigment reaction. With regard to the reducing action of blood serum, there appears to be more reduction in the blood of the infant than in that of the mother. On the other hand, the serum of the child possesses very slight diastatic powers, while the diastatic action of the maternal blood does not appear to be raised above the normal. These observations are of considerable importance in relation to the pigmentations of pregnancy. At the same time, they indicate another possible pathway in the elucidation of some of the puzzling complications of pregnancy.

LITERARY NOTES.

It is announced that the Linacre Lecture, 1913, delivered at St. John's College, Cambridge, by Dr. Norman Moore, is to be published by the Cambridge Press as a book under the title of *The Physician in English History*.

Mr. John Murray will publish a book, entitled *Matter, Origin, and Personality*, by Dr. John Scott Haldane, F.R.S., Reader in Physiology, University of Oxford, who was a contributor to the volume of *Essays on Philosophical Criticism*, of which his brother, now Viscount Haldane of Cloan, was joint editor. Dr. Haldane's purpose is to examine what he calls the mechanistic theory of life and its bearing on the nature of personality.

In a paragraph entitled "A Medical Poet Laureate," which appeared in the JOURNAL of July 19th, we quoted the words "meet audience let me have though few." We owe an apology to a greater shade than that of Wordsworth, to whom the words were attributed, for this transference to another poet of a verse in *Paradise Lost* (Book VII, line 30 et seq.). The misdeed, due to a slip of memory in the haste of writing, was made worse by some mutilation of the passage. Milton's words are:

> Still govern thou my song,
> Urania, and fit audience find, though few.

The greatest of medical poets is, past all question, John Keats, who is one of the glories of Guy's. Of course he was not a shining light of science, and he said of himself that his name was "writ in water." Yet that name will live as long as the English language. He is described in Wilks and Bettany's *Biographical History of Guy's Hospital* as "a loose, slack, not well-dressed youth, with large and lustrous eyes and hair of golden brown." He was apprenticed to a surgeon at Edmonton, and afterwards entered as a student at the United Hospitals. He lived in St. Thomas's Street with George Cooper, a dresser to Sir Astley Cooper, who placed the future poet under his care. Lord Houghton says:

> It soon became apparent that the profession for which young Keats was destined was too unsuitable to be maintained. There remain careful annotations of the lectures he attended, but when he had once entered on the practical part of his business he found his mind so oppressed with an overwrought apprehension of doing harm that he determined on abandoning the course of life to which he had devoted a considerable portion of his small fortune.

Wilks and Bettany go on to say that although Keats served a long apprenticeship, and was diligent as a student, he apparently abandoned the profession before he took any medical qualification. The *Dictionary of National Biography*, however, states that on July 25th, 1816, he passed with credit the examination for the licence of the Apothecaries' Hall.

Thomas Gordon Hake, M.D. of the University of Glasgow, who has been described by W. M. Rossetti as "the earthly providence of the Rossetti family," was a poet's poet; that is to say his verse, though greatly admired by poets such as Dante, Gabriel Rossetti, and Mrs. Meynell, was not attuned to the general ear. Nearly all his poetic work was produced after he was 50 years of age. "He retired from medicine," says William Bell Scott, "determined to cultivate poetry, and he was really accomplishing his object by perseverance and determined study." He held a recognized position in the literary society of his day. He died in 1895, in his 86th year.

Dr. James Whitton (Oamaru, N.Z.) writes:

> When reading the article on false Latin occurring in the "Literary Notes" of the number appearing on April 12th last, I was reminded of another article, published in the *New Zealand Military Journal* for April last, describing how a small British force under a Major Brassey was besieged by the Maories at Pipiriki in 1865. The siege lasted over three months, and then, the enemy being reinforced by a fierce tribe called the Hauhaus, an attack was made on the fort; this lasted over three days, during which time the ammunition of the British was running short. Major Brassey determined to establish a "bottle post." The meaning of this is that it was intended to write a message in a bottle, put a feather in the cork to attract attention, then throw the bottle into the Wanganui river, the swift current of which it was hoped might bear it to the town of Wanganui, twenty-five miles away. After holding a council of war it was decided to write the message in Latin for greater security. Now came the difficulty; most of the officers had forgotten what Latin they had learnt. At last they decided to ask the surgeon, Dr. Suther, who was supposed to have some lingering familiarity with that language, owing to the necessity of writing his prescriptions in it. The surgeon wrote the message, and this is what he wrote: "Omnes sunt recti. Mitte res belle, statim." The bottle containing this message was picked up some time afterwards below Wanganui, and was forwarded at once to head quarters, whence a relieving force was at once dispatched in aid of the beleaguered garrison. It may be remarked that in this case, if the Latin was bad, the result was excellent.

The July issue of *Bedrock* is a particularly interesting number. "The Hermit of Prague" discusses the new mysticism as expounded by the Head Master of Eton, as to which we had something to say in the JOURNAL of March 1st, 1913, p. 459. Professor R. C. Punnett writes on Mendelism, Mutation, and Mimicry; Mr. J. Reid Moir, on Prepalaeolithic Man; Mr. Hugh S. Eliot writes on Scientific Materialism, in reply to Dr. McDougall. There is a note on telepathy by "A Business Man," the same who caused the following statement to be inserted in the *Times* for several days in August, 1911:

> The sum of £1,000 has, during the past six months, been offered privately to the leading authorities and writers of repute on this subject for satisfactory proofs of so-called thought transference, but not one single case could be found; and it has now been decided to advertise publicly for the particulars required. Persons applying to the undersigned are requested to name their own terms for evidence that will stand cross-examination, and to state whether or not their communications are to be treated as confidential. Matthew Jarvis, solicitor, 4, Finsbury Square, London, E.C.

Though the replies were too numerous to acknowledge separately, no *evidence* could be obtained. The advertisement was copied into many foreign and colonial newspapers, and thus people all over the world were put on their guard against believing something that might not be true. The "Business Man" says he has tried to obtain from Sir Oliver Lodge, Sir W. F. Barrett, and Sir William Crookes definite facts in proof of telepathy and has offered considerable sums for them. He merely wanted one single case of telepathy, but this he did not succeed in getting. Sir Bryan Donkin writes on the Mental Deficiency Bill and its critics, submitting in conclusion that although the bill is limited in scope and will probably require future expansion in some directions, it gives power to deal efficiently with many of the most pressing and salient evils that have been amply proved to exist. Among the other articles are one by Dr. Archdall Reid entitled "Modern Science and Modern Rhetoric," and another on the milk problem by Dr. Eric Pritchard.

In an article entitled, "Medicine at Oxford in the Mid-Victorian Period," which appeared in the JOURNAL of June 21st, we referred to the fact that Charles Darwin, when at Shrewsbury, was taken to task by the head master for wasting time, which should have been given to the classics, on such useless subjects as chemistry. The original passage, as it appears in Darwin's *Autobiography*, may be interesting, and we therefore quote it:

> Towards the close of my school life, my brother worked hard at chemistry, and made a fair laboratory with proper apparatus in the tool-house in the garden, and I was allowed to aid him as a servant in most of his experiments. He made all the gases and many compounds, and I read with care several books on chemistry, such as Henry and Parkes' *Chemical Catechism*. The subject interested me greatly, and we often used to go on working till rather late at night. This was the best part of my education at school, for it showed me practically the meaning of experimental science. The fact that we worked at chemistry somehow got known at school, and as it was an unprecedented fact, I was nicknamed "Gas." I was also once publicly rebuked by the head master, Dr. Butler, for thus wasting my time in such useless subjects; and he called me very unjustly a "poco curante," and as I did not understand what he meant, it seemed to me a fearful reproach.

British Medical Journal.

SATURDAY, JULY 26TH, 1913.

THE PRESIDENT'S ADDRESS.

THE President of the Association, in the admirable address published at p. 157, went out of the beaten track of such orations, and instead of surveying the medical world "from China to Peru," directed the attention of his hearers, and of that larger audience which is reached by the JOURNAL, to the medical history of the area of the Division in which the Annual Meeting was held. If Brighton as a town cannot lay claim to great antiquity, its neighbourhood is strewn with relics of a remote past, and within a short distance are many places which were the scene of events that are landmarks in English history.

The growth of Brighton, which for many centuries was scarcely appreciable, was stimulated into great activity in the early part of the last century by the light of fashion shed upon it by the patronage of George IV. Even since 1886, when the British Medical Association held its last annual meeting there, the population has largely increased. The growth in the number of resident doctors during the same period has been still more rapid. Whilst in 1886 the proportion was about 1 to every 800 of population, in 1912 it was 1 to about 700. This is the usual history of a health resort. As it rises in fame it attracts invalids in larger numbers, and this naturally entails a corresponding increase in the number of tutelary deities of the shrine. A conspicuous example is Salerno, which was a health resort before it developed into a great university. Wealthy sufferers from real or imaginary disease flocked thither from all parts of Europe, and the doctors followed them as the scope for the exercise of their art became greater. Gradually patients who had at first gone to Salerno to seek the benefit of its climate began to make the pilgrimage to seek counsel of the oracles of healing established there; in this way it was transformed into a great centre for the teaching and study of medicine. In these days, when universities are coming into existence on all sides, as the armed men sprang up around Cadmus, it is possible that Brighton may grow into another Salerno.

The President's gaze, however, is fixed on the past rather than on the future. He has evidently made the most exhaustive researches in the field of investigation which he has selected for the subject of his address. He goes back to the stone age, describing the pigmy flints which have been found at the back of the Downs. These implements have been used for blooding, tattooing, and even for trephining; of the performance of this operation evidence can be seen on neolithic skulls. There are no medical records relating to Brighton during the Roman period, though we know that the Roman armies had their *Medici cohortum* and *Medici legionum*, and it may be assumed that such officers were attached to the legions quartered in Britain. Physicians accompanied the Roman emperors who came to Britain, as many centuries later Ambroise Paré attended the King of France in several campaigns. It is scarcely surprising that there is no trace of doctors in the Brighton district during the Roman occupation and for many centuries after. The population was so scanty and so poor that doctors could not have found a sphere for practice there. As late as the beginning of the sixteenth century Hall refers to Brighton or Bright Helmstone as "a poore village in Sussex."

The fact is, as pointed out by Payne in his *English Medicine in Anglo-Saxon Times*, we have no evidence as to the state of medicine in England before the introduction of Latin Christianity by St. Augustine at the end of the sixth century. It is possible, he thinks, that the Christian missionaries from Rome brought with them, as is done by modern missionaries to heathen countries, some of the medical lore or practice with which they were familiar, that is to say, Roman medicine; but of this no trace remains. It is more likely that they treated disease, if at all, by prayers, unctions, and religious rites according to the custom of the early Church. We know that there were leeches in England from the seventh century onwards and many of these seem to have been laymen. There was also an Anglo-Saxon medical literature compiled, roughly speaking, between the time of St. Bede and the Norman conquest. Most of this has perished.

It is not till the latter part of the sixteenth century that definite mention is made of a doctor in Brighton. Little is known of the medical history of the town during the seventeenth century. Its medical history really begins about the middle of the eighteenth century, when Richard Russell preached the virtues of sea water and attracted large numbers of sufferers in search of health. New houses were needed for their accommodation, and the little fishing village grew into a town. After him came John Speed, Anthony Relhan, and John Awsiter, each of whom, in his own way, contributed to the development of Brighton into a health resort.

About the end of the eighteenth century the death-rate was very high, and there was a large excess of burials over christenings in Sussex as elsewhere. The unhealthy conditions in which the people then lived, and frequent outbreaks of small-pox and other infectious diseases, account for the heavy tribute levied on the population by death. It is interesting to learn from Dr. Ainslie Hollis that at that time ague was endemic in certain districts of Sussex. The mud flats and lagoons at the mouths of the small tidal rivers and sluggish streams along the coast were at certain seasons ideal breeding-places for gnats and mosquitos.

With the advent of the nineteenth century Brighton became the happy hunting-ground of quacks. The President gives some interesting particulars. One Nathan Smith extracted the gout by means of an air-pump, and his treatment was for a time fashionable. Another, Teddy Palmer, a blacksmith, used medicated air for the relief of toothache. A German spa was founded in 1824, in which thirteen different kinds of artificial water were supplied. The enterprise was a failure.

Quite early in the nineteenth century a small dispensary was founded; this was the germ of the Royal Sussex County Hospital, the foundation stone of which was laid in 1826. A number of sea-bathing infirmaries and hospitals for special diseases were established. An account of the hospitals, with illustrations, was given in the JOURNAL of January 4th (p. 32).

It is worthy of note that at the end of the eighteenth and the beginning of the nineteenth

centuries Poor Law officials evidently began to look to the medical profession for gratuitous assistance. Dr. Ainslie Hollis refers to Dr. Henderson, who in 1794 was presented at a vestry meeting with a silver cup for his care of the parish, and to an offer by Dr. Bankhead to attend the poor gratuitously, which was accepted by the churchwardens.

The medical makers of Brighton have been mentioned. Among the other notable members of the profession whose names are associated with the town are Sir Matthew John Tierney, who was physician in ordinary to George IV and William IV. He was a fervent disciple of Jenner, and did much to promote the adoption of vaccination. Another enthusiastic worker in the same field was John Badcock, who in 1840 succeeded in producing cow-pox by inoculating the animal with small-pox virus, thus confirming the experiments of Seeley on the same point. The great physician Thomas Addison retired to Brighton in his last years, and died there in 1860.

The President concludes with a reference to the presidential address of Dr. Withers Moore at the meeting of 1886. On that occasion Dr. Withers Moore expressed an opinion against the higher education of women. Dr. Ainslie Hollis points out that since then public opinion has greatly changed. There have lately, however, been signs of a reaction on this question in various quarters. In the July number of *Science Progress* Dr. Pembrey speaks in the same sense as Dr. Moore, and in far stronger language. Quite recently, too, Dr. Hochenegg, professor of surgery in the University of Vienna, declared that in his opinion —an opinion which he said was shared by many of his colleagues, and which was increasingly confirmed the more he became acquainted with women students of medicine—women are not adapted for the work of a medical practitioner. But the woman doctor is a fact that will remain when these echoes of old denunciatory voices have died away. The British Medical Association has, as the President says, always welcomed duly qualified women as members, and it is safe to predict that the general body of the profession will continue to regard their presence in its midst as an honour.

We congratulate both Dr. Ainslie Hollis and those who had the privilege of hearing him on an address which makes an interesting and valuable addition to the literature relating to the Queen of Watering Places.

THE ADDRESS IN MEDICINE.

PROFESSOR GEORGE MURRAY'S Address in Medicine, delivered at the Annual Meeting of the British Medical Association at Brighton, and printed on another page, gives an entirely admirable summary of the subject he has chosen to discuss—Some Aspects of Internal Secretion in Disease. The topic is among the most interesting of those to which experimental medicine and experimental pathology are now devoting so much attention. We doubt if anybody better qualified for the purpose than Professor Murray could have been found to introduce the subject to his listeners at Brighton or his readers in this JOURNAL, for he speaks and writes with the authority of knowledge gained at first hand over a long period of years, and it is to him that the practical application of treatment by glandular extracts, now so widespread, is largely due.

The history of the steps that led up to this application is detailed in the Address, so need not be repeated here; it is mainly as a result of the great success that attended thyroid medication from its earliest days that we now find ourselves living in an age when the actions of internal secretions or of their disorders are offered as explanations of every process of health or disease that goes on within our bodies. Experimentalists and clinical observers have been many, and by this time we have at our disposal a large mass of evidence dealing with the functions of the thyroid gland in health and disease. Professor Murray tabulates this knowledge for us, and with a soundly conservative and critical sense points out the extent and the limits of our knowledge and the many points where knowledge ends and speculation begins.

It is particularly necessary that this ungrateful task of discriminating between knowledge and guesswork should be performed in the case of a subject like internal secretion, because it is only fair to say that it cannot help being somewhat theoretical and speculative in its early days. Nothing can be more difficult than to prove the facts about the internal secretion of a gland in health and disease; no more complicated problem can be propounded for solution to the experimentalist and clinician, who must, after all, have some working hypothesis to guide their researches. But nothing can be easier than to invent countless theories, hypotheses, and explanations to account for the phenomena seen when the ductless gland is diseased and its secretion altered, and to explain the correlation between the patient's morbid symptoms and the changes found in the gland. Speculations, whether made on the Stock Exchange or from the safe depths of the philosopher's armchair, have always had, and always will have, a fatal attraction for mankind. Speculations as to the functions and correlations of the various internal secretions can be made with a fatal facility, yet they habitually serve only to darken knowledge, and often are even misleading; too many of them have flooded the literature of the subject already, and Professor Murray's address serves a most useful purpose in pointing out the moral: "Prove all things; hold fast that which is good." Generalizations are good servants, but bad masters, particularly when they have been made upon insufficient and even faulty bases, as has commonly been the case with the brilliant imaginings to which so many writers on the ductless glands have treated us in the last few years.

The greater part of Professor Murray's address is taken up with considerations about the thyroid gland, but he also found time to mention the other chief glands with an important internal secretion—the parathyroids, the pituitary gland, the pancreas, the adrenals, and the generative glands in both sexes. If it is difficult to unravel the connexions between the disorders of any one of these glands and the morbid picture produced by those disorders, the difficulties must be much greater when not one but two or more of those glands are simultaneously diseased. For example, it may happen that the thyroid gland alone is affected in one case of myxoedema or of Graves's disease, but that in another both the thyroid and the parathyroid glands are diseased; Professor Murray himself recorded a couple of cases, many years ago, in which acromegaly, Graves's disease, and diabetes were combined with pulmonary tuberculosis. The thyroid gland and the pancreas appear to be connected closely with one another, though it is not possible to define the connexion in any certain way at the present time. The absence of sexual development at puberty in cretins and in cases of pituitary insufficiency clearly indicates that both the thyroid and the pituitary gland normally exert a powerful influence on the development of the testis and the

ovary. During the last few years there has been a tendency to assume a general interdependence of the ductless glands one upon the other, and to attribute various forms of dwarfism, gigantism, mental deficiency, obesity, and so on, to a general defect of the activity or development of these glands. In this way a loose clinical concept known as the "polyglandular syndrome"—the term "pluriglandular" is perhaps less offensive than the hybrid "polyglandular," and may be substituted for it—has made its appearance in the literature. There is nothing to be said against the use of such names as this so long as their limitations are recognized. They do good service, no doubt, in so far as they draw attention to the fact that the ductless glands, or some of them, are at fault in some way or another. But they are purely harmful when taken as explaining the pathology of any given case, as has often happened in the past, and when they gloss over the need for further observation and research.

Anxiety to be fully up to date and to keep abreast of the progress made in medicine and the allied sciences is an emotion fatal to the critical faculties, as Professor Murray points out. There has been a boom in ductless glands and internal secretions during the last few years, and notable advances have been made in consequence—witness the excellent clinical and experimental contribution to our knowledge of the pituitary gland made by Cushing, of Baltimore, last year. It is by the sound and steady work of clinicians such as Professor Murray, and experimentalists such as Cushing, to mention only two out of a number of the men of science to whom our thanks are due, that this progress has been made, and not by the many theories of the many speculative philosophers who have pullulated in the track of such original workers as these.

THE ADDRESS IN SURGERY.

In the laudable emulation of surgery and medicine the surgeon has felt a not unnatural pride in the enormous progress of his art, and has been, perhaps, apt to think that as his horizon widened, the scope of the physician became correspondingly limited. But this is a somewhat narrow view. These two great divisions of the healing art must ever march hand in hand, mutually helpful, sympathetically forbearing, reciprocally stimulating. If the sphere of the one expands it necessarily means expansion of the sphere of the other. Surgery must be alert to seize the opportunities given to it to solve the problems and elucidate the difficulties of medicine, which must in its turn be glad to see the light more clearly and come with hands full of new questions to answer and new knots to unravel. "The Gifts of Surgery to Medicine" is the theme of Sir Berkeley Moynihan's address. And the development of the theme and the watching for the oft-recurring *Leit-motif* will prove of absorbing interest to every member of the profession.

Nec silet mors is a striking, even inspiring, motto for the pathological investigator. But the thought that there is a "pathology of the living" is more uplifting still. Half a century ago we were dependent for our knowledge of actual morbid processes in internal organs upon clinical history and evidences of the disease, and upon the appearances and conditions found after death. The former dealt with things unseen and difficult to understand or appreciate with the diagnostic means at our disposal; the latter gave little indication of the state of affairs present during life—late signs could not explain early symptoms. Sir Berkeley Moynihan has often shown the fallaciousness of *post-mortem* room statistics, and how impossible it is to measure the sufferings of patients during their lives or estimate their chances of death from any disease from experience gained in *post-mortem* examinations. People commonly do not die of the chronic diseases from which they suffered in various periods of their lives. So far as surgery is concerned the cases which reach the pathological department are the acute terminal affections, malignant disease in all its forms, and the accidents of everyday life.

Now it is the aim of surgery to attack diseases long before the approach of the last phase. At first only acute conditions—perforations of the hollow viscera, acute and gangrenous appendicitis, acute intestinal obstruction (really a symptom mostly)—were attacked. But in time it was seen that these were final stages, the terminal events in the history of diseases whose course and progress had already been indicated by various signs and symptoms, and the surgical attack began to be made earlier. And then, just as Virchow heralded the dawn of a new era in pathology by not resting content with the examination of the suspected organ alone, but only with a search into the condition of every organ and structure in the body, so surgeons in operating in quiescent periods under favourable conditions were not content to investigate and remove the immediate source of the mischief, but searched diligently, and often successfully, for other diseases, associated or not. The conviction exists that many abdominal diseases stand in close causal relationship to one another. Infection carried by lymphatics or by the blood stream or by ascending mucous currents is the essential prime evil, so that in general terms one common cause may be held accountable for many of the abdominal diseases which the surgeon has to treat.

How, then, is the pathology of the living to be worked out? How does the surgeon feel justified in the patient's interest primarily, in that of surgical science secondarily, in extending his observations on the operating table beyond what appear to be the actual needs of the case? This justification, the right we may call it, belongs to the surgeon through the possession of three great principles or powers—general anaesthesia (the orator's preference is for ether), asepsis, and anoci-association. The first two of these are the foundation of the whole modern surgical structure. The third is new. The term—a hybrid, rather clumsy and obscure—is the invention of Crile, as also are the principle involved and the details necessary in its working. It means the removal or exclusion of all possible sources of shock, and the establishment of an innocent, blissful state of well-being, in a patient undergoing a surgical operation. Crile believes, and has proved, that every form of physical violence, tearing and rough handling of tissues, even under a general anaesthetic, is an assault on the organism, and is appreciated in the brain; even every form of psychical disturbance, such as being rushed without warning into the operating theatre, or waiting in suspense for the summons to undergo the ordeal, fear for the result and anxiety for the future, are also insults to the brain cells. He advocates as a routine method the preliminary administration of scopolamine-morphine, and locally cocainization, or introduction of quinine or urea into the tissues, especially the parietal peritoneum, and finds that his results have greatly improved since

its adoption. Sir Berkeley Moynihan warmly supports him; he has operated for many months after this preparation, and finds an added pleasure in his work which is "really immeasurable." This discovery of Crile constitutes a fitting complement to the discoveries of Morton and Lister.

Armed with these three powerful weapons in his fight with disease, the surgeon finds now no place for inactivity, the waiting for developments, forced on past surgical generations. The application of the modern method is well seen in the story of some stomach disorders narrated by Sir Berkeley Moynihan so graphically, and, when one remembers his own achievements, so modestly and with such anxiety to give credit where credit is due.

Gastric ulcer a generation ago was a condition in which every physician, in the presence of certain well-defined characteristic symptoms, felt sure of his diagnosis. But when gastro-enterostomy became the approved surgical remedy and many suspected stomachs were examined, it was often found that no ulcer was present—that, indeed, stomach and duodenum were perfectly healthy. Therefore the scope of inquiry had to be widened, and in the majority of cases it was found that "gastric ulcer" was not a lesion of the stomach at all. More often than not it was a lesion of the appendix. Disease of the appendix means infection and obstruction, and in acute cases changes in the stomach wall are seen—vivid injection, deep congestion of the pyloric portion of the stomach, irregular, strenuous muscular contractions, enlargement of the subpyloric group of glands. These changes, induced by distant infection in the appendix or elsewhere, may be, and most probably are, "precursors and excitants" of a chronic ulcer of the stomach. This discovery is a gift of surgery to medicine.

Then, again, another most notable of the gifts of surgery to medicine is the proof, in Sir Berkeley Moynihan's words, "that in a large proportion of cases the onset of cancer of the stomach is not a new and unaccountable thing, but is, on the contrary, a tardy development upon an earlier condition which for years had clamoured for recognition." To this portion of the address we invite the most careful study of the whole profession, and perhaps, too, the attention of the public. Here will be found a clear, thoughtful exposition of all that we know of the mysterious change which converts a chronic ulcer of the stomach into a cancer. Here, too, will be found temperate advocacy of the courageous enterprising surgery and elaborate, painstaking sifting and sorting of living specimens practised by the members of the Mayo Clinic. They do not hesitate to resect the stomach or large portions of it, "not only for chronic ulcers in the vicinity of the pylorus, but also for those tumours which might be due to ulcer or might be due to cancer."

The truths that we now know about duodenal ulcer—that disease so seldom heard of in *post-mortem* rooms but so frequently operated for in hospital—of the relation of infective processes to gall stones—"the tombstones erected to the evil memory of germs that lie dead within them"—of diseases of the pancreas, hitherto debatable and unexplored land, are all great gifts of surgery to the sister science.

Sir Berkeley Moynihan's excursion in quest of these good gifts has been limited to the upper part of the abdomen—a region in which his pioneer work was as meritorious as that of any explorer in geographical arctics or tropics. But the purpose of his address will be inadequately fulfilled if there be any ground for fear that his hearers or readers will not at once for themselves search other regions and other branches of our art for examples of gift-bearing. We feel confident that every true-hearted doctor, no matter what his sphere of practice may be, will rejoice in the eloquent words of the last paragraph of this oration. He will recognize that the orator would have him remember that every operation he performs in his daily avocation is an experiment from which something may be, and ought to be, learnt, that every clinical observation is an addition to the sum total of knowledge, not only of the disorders of the human body but also of its orderly working. It is the individual sufferer upon whom he concentrates his attention for the moment, but every medical practitioner knows that in helping him he is himself advancing along the road that leads to more light and clearer, wider outlook.

ANNUAL MEETING NOTES.

PROLEGOMENA.

THE meeting this year is taking place in what, from an annual meeting point of view, are decidedly novel surroundings. Of late years these gatherings have always been held either in university towns or at great industrial centres, while this year the members are assembled in what is primarily a health and pleasure resort. Brighton and Hove, however, reign as the joint queens of watering places, and, thanks to this fact, they together constitute a considerable city which provides everything that the Association can require in the way of accommodation for Representative Meetings and the work of Sections, quite apart from endless opportunities for filling in odd moments by amusements of various kinds. The Representatives, who, as usual, assembled two or three days ago before the rest of the members, are under the special protection of the Mayor and Corporation of Hove, and have been doing their work in Hove's Town Hall and its connected buildings. The Sections, on the other hand, sixteen in number, are accommodated at the Training College and Technical School of Brighton, which are within convenient reach of the Reception Rooms and general head quarters. The latter are established at a residence, built for himself in his salad days by a certain *Georgius Rex* of not too happy memory, which has become famous under the title of the Pavilion. Whatever may be thought of its semi-Byzantine, semi-Oriental architecture, and whatever memories may be evoked of past scandals connected with its interior, it lends itself very happily to its present use. Its main door is approached through an attractive garden, and as it possesses so many rooms of noble proportion it has been easier than usual to provide not only ample accommodation for the reception of members, but a drawing room and writing room for ladies, together with corresponding amenities for members in general. The decorations of many of the rooms are much what they were in early days, and if much of the furniture is not really that which was used by the Regent and his more or less courtly associates it is of sufficiently antique appearance to pass for the same. To the romantically minded these circumstances give the meeting a special flavour of its own, and at all events they enable the JOURNAL, which in the course of its prolonged existence has had many homes, to boast that for a few days, at any rate, part of its work has been done in the bedchamber of a king. That chamber, moreover, is still decorated with the tapestries which presumably greeted the royal eyes when first they opened in the morning—at times in all probability somewhat heavily—while within arm's length is a cupboard which in the daytime possibly housed the regal early nineteenth century equivalent for a modern

suit of pyjamas. The only misfortune is that the odour of grace and wit still hanging round the whole building cynically refuses to allow itself to be metamorphosed into cold type.

"DR. BRIGHTON."

NEVER since Thackeray first acclaimed his therapeutic skill has Dr. Brighton enjoyed anything but an excellent reputation, but only on one previous occasion has he received so high a compliment as that implied in the fact that many hundreds of medical men have voluntarily placed themselves in his hands for a week's treatment. On the part of his clinical assistants nothing was lacking in the fashion of the reception of these claimants to his services, but Dr. Brighton himself can hardly be considered to have exhibited his best bedside manner. Indeed, for the first few days, leaving Sunday out of count, he was in his gruffest mood, frowns in the shape of rain storms being common, while throughout the rest of the week up to the time of going to press the weather has been eminently English, seeing that it has consisted mainly of samples. It must be admitted, however, that the samples have been of the best kind, the wet intervals being accompanied by a pleasant warm and yet bracing quality in the air, the streets drying quickly and the succeeding sunshine leaving no doubt as to the clarity of the superambient atmosphere. In addition, the doubtful character of the weather has had a distinct advantage for those whose attendance at the annual meeting has been partly induced by a desire to see how far the town lends itself to the needs of convalescent patients. They were able to observe that Brighton is by no means a fine weather place only. Apart from possessing the ordinary amenities of a large town for mental recreation in the way of picture galleries, museums, theatres, and musical entertainments, it affords opportunity for outdoor exercise even in the wettest of weather. In addition to a vast number of well protected seats for those who wish to rest a while, there is the Madeira covered promenade, and the ends of both piers (one being approximately three-quarters of a mile in length) can be reached without getting wet, thanks to the existence of a covered walk from end to end. We have used the term "large town," and it is well perhaps to lay emphasis on the fact that Brighton and Hove—which from the point of view of visitors, though not of ratepayers, are one and the same place — constitute a very large town indeed. Spread out as it is along several miles of sea front, it is not easy to realize that Brighton with a population of not far short of 180,000 is from a public health point of view statistically comparable with the dense aggregations of industrial life to be found in the Midlands and the North of England, which in all other respects differ from it so vastly. Yet in the eyes of a medical man who has to choose a place to which to send a convalescent patient the fact that Brighton, despite its unlikeness to its compeers in the matter of population, must be written down as one of the largest towns in the British Isles, is a point of considerable importance. It implies not only the employment of the most up-to-date arrangements for keeping the health of a population in good order, but also the availability of medical skill of the highest kind and of every facility for turning it to good advantage. Having said this it should be added that it is by no means only to the wealthy that the full benefits of Brighton as a spring, summer, and autumn health resort are available; means of locomotion are plentiful and inexpensive, and thanks to this fact it is easy to take advantage of the proximity of the neighbouring Downs. A tramway, for instance, brings the visitor within easy walking distance of the famous Devil's Dyke, with its invigorating moorland air and a vista of five counties, while for the outlay of a shilling one can mount in a motor coach to the very top.

TEMPTATIONS.

IF by the end of the week it turns out that a really creditable amount of work has been done by the Sections, it will be the outcome of great self-restraint on the part of members, coupled possibly with constant repetition of the scientific equivalent for *Retro, Satanas!* At Brighton, in short, the Entertainments Committee, private individuals, public authorities, and last, but not least, Nature itself, have combined together to endeavour to lead members astray from the path of sectional virtue. Most practitioners of medicine are habitually more or less overworked, and few can have failed to experience a temptation, both on arrival and on daily rising, to forget the meeting altogether—simply to sit on pier or parade in one or other of the abounding shelters and absorb ozone while listening, perhaps, to the music of Brighton's many municipal orchestras. Owing to the tonic quality of the atmosphere, this mood usually will soon have passed, the average man's thoughts then straying towards golf, tennis, bowls, the practice nets on the cricket ground, a cruise in a boat or on a motor coach, or a dive from the spring board at the Deep Sea Swimming Club on the West Pier. All these diversions have been open to him in the mornings, and in addition he has had to withstand the attraction of viewing the world from a comfortable armchair in the window of one or other of the local clubs. Hence the average man may rightly congratulate himself if at the end of the week he finds that he can honestly claim to have put in two and a half hours daily at Section meetings, in addition to examining the specimens that the Pathological Committee has got together, making a round of the exhibition of appliances, books and drugs; visiting one or other of the institutions of a medical order which have been thrown open to inspection, and duly attending the delivery of Professor Murray's address on Internal Secretions, and that of Sir Berkeley Moynihan on the Gifts of Surgery to Medicine—not to speak of official events such as the President's oration, which have taken place at hours when section work has ended for the day.

ORGANIZATION.

IT has sometimes been suggested that a medical curriculum, coupled with a year or two's experience of practice, constitutes an excellent training for careers totally different from those commonly pursued by medical men; and support for this view has often seemed to us to be afforded by the underside of the Annual Meetings of the Association. The work involved by these, not only in preparing for them, but also in carrying them through smoothly, is of such a kind that it might well test to the full the capacity of professional organizers. Yet year by year in different parts of the United Kingdom success is attained by men who have had no training directly intended to equip them for such work; who are not commonly possessed of the mental instincts which turn men naturally towards work of a business kind; and who, during the months that the meeting has been in course of preparation, have been fully occupied with the cares of private practice or other professional duties. It is true, of course, that the workers at each town obtain some guidance from the arrangements that have been made elsewhere in previous years, as also from the head quarters of the Association, but this fact hardly makes their recurring success the less remarkable, since there are vast differences in the distinctive circumstances of each town and in the special difficulties which these create. In Brighton the work has been divided among thirteen committees, and the Executive has been particularly successful in enlisting the co-operation of medical men practising in the area of Brighton and Hove, whether members of the Association or otherwise, as also the active assistance of many of the more prominent lay residents and others connected with these two

towns. We note, for instance, that the Committee of Management, which has as Chairman Dr. Ainslie Hollis, the new President of the Association, and as Secretary Dr. L. A. Parry of Hove, includes, in addition to the Mayors of Brighton and Hove and a number of clerics, the Duke of Richmond and Gordon, the Duke of Norfolk, Lord Leconfield, the Hon. J. E. Gordon, and Captain Tryon, the two representatives of the constituency in the House of Commons. The President and Dr. L. A. Parry are also Chairman and Secretary respectively of the Executive Committee, while Drs. H. H. Taylor and A. M. Daldy play the same parts in relation to the Finance Committee. The Ladies' General and Executive Committees are both headed by Mrs. R. F. Jowers and Miss Hollis as Chairman and Secretary respectively, while the Chairmen and Secretaries of the other committees are as follows: The Local Entertainment Committee, Drs. R. Whittington and Geoffrey Bate; the Reception Committee, Drs. J. F. Gordon Dill and L. A. Parry; the Excursions Committee, Drs. E. Rowland Fothergill and P. Stanhope Eves; the Soirée Committee, Drs. C. H. Benham and A. M. Collcutt; the Hotels and Lodgings Committee, Drs. Walter Broadbent and A. H. Copeman; the Printing and Publishing Committee, Drs. George Morgan and Ernest Burchell; and finally the Pathological Museum Committee and the Dinner and Luncheon Committee. Both of these have two secretaries, those of the first named being Drs. Walter Broadbent and H. M. Galt, and of the second, Drs. S. B. Figgis and H. J. Walker, while their respective chairmen are Dr. E. Hobhouse and Dr. Ryding Marsh.

Church Services.

This year the religious services, which constitute an official and regular feature of Annual Meetings, were again held not immediately after the induction of the new President on Tuesday afternoon but on the following day. The Anglican service, which was timed for 3.30 p.m., was attended not only by the President and members in academic robes but also by the Corporations of Brighton and Hove. The whole party first assembled at the Pavilion and then marched in procession to St. Peter's Church, where the lesson for the day was read by the Chairman of the Representative Meetings, Mr. Jenner Verrall, and the sermon preached by the Precentor of Lincoln Cathedral, the Reverend Canon Wakeford. Subsequently a collection was made on behalf of the Royal Medical Benevolent Fund, Epsom College, and the debt on the chancel of the church. Taking as his text St. John xix, 20, "It was written in Hebrew and Greek and Latin," Canon Wakeford pointed out that the title on the Cross of Calvary suggested the universality of the Gospel; it was not only for all men but for the whole man—spiritual, intellectual, and physical. The claim of Christ was on man in his entirety and totality, and the truth needed for its reception, not some particular faculty, but that capacity which Christianity had discovered to be common to all men—that right harmony of mind and soul, of intellect and affection and emotion, which constituted the true health of man. Health was wholeness, and a man should bring into his reckoning all the contents of his nature if he would have health in any part of his being. In every science specialization tended towards disproportion, and in medical practice a further danger arose out of a natural emphasis of the physical values. In the close relations of soul and body, however, action and reaction were so intricate that no disorder was simply physical, nor only mental. This being the case, cure must be as extensive in its scope as disease. If this truth were neglected the revenge came in some strange folly which mocked alike at Christianity and at science, while claiming the name of both. It was sometimes through misstatements that certain truths were first forced upon attention, and one such truth was that the whole man—physical, intellectual and spiritual—should be the object of a medical man's care; his purpose should be to promote sanity of body and soul in every man to whom he had to minister. The processes which he directed and guided were not an end in themselves, though they might at times so claim attention as to exclude from thought their ultimate purpose; they were merely means through which causes passed into effect. Physical science found its data in matter patent to the physical senses, and its conclusions were of necessity on the same plane as its premisses. Yet no man knowing himself would agree that his own consciousness was fully satisfied by a self or a universe in which nothing transcended matter. Paulsen in his destructive criticism of Haeckel's theories took up this position, confidently arguing that a true self-knowledge involved the recognition of God. As one pushed the exploration deeper it was to find not less but more necessity for God, and larger experience dismissed the trite assumption that life was rather more than a chemical product, since it brought man to confront presences or powers of which he was conscious without the aid of argument or external symptom. If it were impatiently asked why men are not fully informed of the spiritual existence and of divine purpose, surely it was just to answer that God would naturally use that reserve which appointed that a medical prescription should be written in Latin. It was necessary reserve that demanded some capacity for understanding, and so prevented ignorance from misusing the doctor's skill. The difficulties and troubles of life, as also pain itself, might together school man and bring him to his true development. Indeed, one might ask, as had the great mystic of the present day—

> Is my gloom, after all,
> Shade of His hand, outstretched caressingly?

The three languages in which the title of the Crucified was written were commonly used at the festivals of the Jews to warn trespassers not to invade the sacred places of the Temple. So, too, should the sanctities in man's nature always be reverenced. One lost much and gained nothing by a light disregard of due restraints. A medical man's skill was not hampered nor his service less if he recognized the sacredness of life and acknowledged the mysteries of birth and death as still inscrutable. The humility and modesty which marked the world's greatest thinkers were a fit acknowledgement that the fear of the Lord was the beginning of wisdom, and that they had a good understanding who kept His commandments.

The corresponding service for the benefit of Roman Catholic members took place on the same day, but at a much earlier hour—namely 9 a.m. It was held in the church of St. John the Baptist, and consisted of Mass, in the course of which the Right Rev. Canon Monsignor Johnston delivered an address to the following effect: Quoting the words "In Him we live and have our being," Monsignor Johnston said that in the chapter of the Acts in which this sentence occurred it was recorded that St. Paul, who had been specially appointed as preacher to the Gentiles, found himself in Athens, which was then the centre of the world's civilization, and a place inhabited by those who rightly considered themselves to be the most refined and scholarly men of that time. Standing on the Areopagus and addressing a gathering of these men on the subject of their learning and the system of logic and religion which had sprung from it, St. Paul said:

> Ye men of Athens, I perceive that in all things you are very religious, for passing by and seeing your idols, I found an altar also on which was written, "To the Unknown God." What therefore you worship without knowing it, that I preach to you. God who made the world and all things therein and hath made of one blood all mankind to dwell upon the whole face of the earth, that they should seek God, if happily they may feel after Him or find Him, for in Him we move and live and have our being.

Having suggested this picture of an event in the very

earliest years of the Christian Era, Monsignor Johnston continued: "And now, brethren, it is good to see a number of men to whom we look up as representing culture and the deeper things of science and thought gathering together in the midst of their deliberations during these days of the meeting of the British Medical Association for the purpose of expressing their sense of dependence on their Creator Almighty God. The precise details of this manifestation of feeling may differ, but all of us alike are endeavouring to-day to show our loyalty and feeling of respect towards God. We Catholics are gathered round the altar at this early hour of the day in order that in the Mass, which is the centre of our worship, we may give to our Creator what we know to be the highest offer of sacrifice, prayer, and praise. It is not unfitting that the priest should take some part in your work and interests and give you a welcome, as I do from my heart to-day. In other days the man of bodily healing and the man of spiritual helping were one; indeed the writer of the Acts, St. Luke, is spoken of by St. Paul as the beloved physician, and as we have it by tradition that he was an artist too, he was physician, artist, priest, and writer, all in one. I am about, brethren, to say my Mass for you, and I will venture to give you some subjects of prayer. In the first place, I will ask you to thank God for your high vocation. It is indeed a true vocation, for nothing else can account for the splendid work and devotion of the medical man. We priests have a high vocation also, but believe me, it is a source of strength to us—a strong edification to us priests in our years of work—to see by our side, in the hospitals and the homes of the sick, the devoted love and skill of the doctor. Then, pray that you may realize more and more the responsibility of your great calling; it is indeed a responsibility, since the confidence we have in you and the trust that we place in you is very true and intensely real." On the conclusion of the service Monsignor Johnston very kindly offered to show those present round the church, which among other objects of interest contains the tomb of Mrs. Fitzherbert, the morganatic wife of George IV.

The Annual Exhibition.

The annual exhibition was ready for inspection this year at 2 o'clock on Monday afternoon. This promptitude reflects much credit on the employees of the various firms which have taken stalls, since the unpacking of goods and their suitable display are not easily completed tasks. The building in which the exhibition is housed is rather happily selected; though known as the Corn Exchange, it is to all intents and purposes part of the Pavilion itself, and was in fact its private riding school at the date when the Court spent much of its time at Brighton. As has been the case during the past two or three years, the exhibition was accorded the honour of a formal opening. This took place at half-past eleven on Tuesday, when the Mayor of Brighton, Mr. C. G. Thomas-Stanford, accompanied by the Lady Mayoress, the President of the Association, and the principal executive officers of the meeting, visited the building, and after delivering a short address declared the exhibition open. In the course of his remarks he observed that even a cursory glance at the exhibits enabled him to say that they were eloquent of the great advances that had taken place not only in the theory of medicine and surgery, but also in the means of applying the knowledge that had been gained. The array of electrical instruments that faced him was a case in point, and before he left the building he hoped to have enlarged his information greatly. Mr. Thomas-Stanford's courtesy in attending to open the exhibition was acknowledged by the President, who indicated that the suggestion made by him was well-founded. It was true that the advances made by medicine and surgery of late years had been very great, and it was possible that medical men did not always realize to the full how much they owed to those who primarily laboured in the cause of the connected arts and sciences. In addition to remembering that of these great discoveries of the last few decades which had been turned to such excellent advantage by medical men and surgeons, many emanated from students of other sciences, clear recognition should be accorded to the work of the artisans and mechanics, through whose skill and labour ideas originating in the minds of great thinkers had been made possible of effective realization. The fact was that in the present age the various sciences were happily dovetailed one into the other. The President illustrated this point by mentioning some of the inventions and discoveries for which medicine and surgery had to thank pharmacists, opticians, instrument makers, and their kin, finally emphasizing the moral by a brief allusion to the days when every practitioner was practically dependent on his own efforts for his means of treatment, and citing an apt passage from Homer as evidence. Dr. Hollis by no means overstated his case, for the skill shown by manufacturers in seizing upon every fresh suggestion in the way of treatment, and making it promptly available to all those who care to test its merits is remarkable. This annual exhibition, indeed, is one of the most useful features of the meeting, since it covers so wide a field as to serve as a practical illustration of the advertisement pages of our own and all other medical journals, coupled with the advantage of being able to examine at leisure, and without fear of importunity, to purchase a carefully selected assortment of everything that is most attractive in the way of new instruments, books, pharmaceutical preparations, surgical appliances, and all other things intended to facilitate medical and surgical work in its various branches.

Social Doings.

Brighton is on all occasions given to hospitality, and it need scarcely be said that during the current week it is not belying its character in this respect. A large proportion of the more distinguished visitors are the guests of private persons, and a great deal of other hospitality of a miscellaneous order has been, and still is, in progress, apart from the many entertainments of a regular order which were officially prearranged. The first large gathering was that on Tuesday night at the Dome, an event to which added interest was lent by the fact that it was made the occasion of the presentation of the Association's Gold Medal of Merit to the highly popular Chairman of its Council (Dr. J. A. Macdonald). A full account of what took place on that evening will be found elsewhere in this week's Supplement. The second great gathering was also at the Dome, the event being a concert and ball given on Wednesday night by the Mayor and Mayoress of Brighton (Mr. and Mrs. Thomas-Stanford); for the moment nothing can be said of it beyond stating that it was a great success. The third great gathering is actually in progress at the moment of going to press, this being a garden party given at St. Anne's Well Garden by the principal representative of the Association's other host this year—namely, the Mayor of Hove; while late in the evening of the same day, after the annual dinner of the Association, a display of fireworks on Hove Lawn will doubtless bring together all and sundry. Meantime a garden party has already taken place at Wick School on Wednesday, the host being Mr. L. P. Thring; and two corresponding events—one to be given by Dr. and Mrs. Holmes Meyrick at Sylvan Hall, and the other by the Misses Laurence of Roedean School—are appointed for Friday. On the latter day, too, tea party visits will be paid to Lewes and to the open-air bungalows at Lancing and Shoreham, the day concluding with a reception at Hove Town Hall, given by the President and members of the Brighton Division.

Hospitality has also been forthcoming from other bodies to which the Association habitually accords facilities for meetings on occasions like the present, the Irish Medical Schools' and Graduates' Association having given a luncheon party on Wednesday, while the National Temperance League issued a general invitation to breakfast on Thursday. On Saturday as many as six expeditions are in view.

Sir Arthur Conan Doyle.

In addition to receiving, as usual, a very hearty welcome at their first meeting on Friday from their special hosts—who this year are the Mayor and Corporation of Brighton's twin sister, Hove—the Representatives of the Association were on Sunday the recipients also of a very graceful courtesy on the part of Sir Arthur Conan Doyle. Assembling to the number of over a hundred, in the early afternoon, they drove out in motor coaches as his guests to take tea at Windlesham, Sir Arthur Conan Doyle's residence near Crowborough. It was an admirable way of spending Sunday afternoon, for not only was the weather at its best, but the route going and returning traverses over fifty miles of the most beautiful part of Sussex. Just before reaching Crowborough, the ubiquitous boy scout jumped into view, and pointed out the way, and on arrival at Windlesham, about 4 p.m., they found awaiting them Sir Arthur and Lady Conan Doyle, a small house party, and several medical men practising in the neighbourhood. After exchange of greetings in the house a move was made into the grounds, where tea was served on the lawns, the guests being subsequently shown, in a combined billiard room and lounge, a collection of curios more or less closely associated with Sir Arthur Conan Doyle's literary labours. Before the party broke up, the hospitality received was appropriately acknowledged by Dr. C. H. Milburn of Hull and Dr. Stanhope Eves. The former made a happy allusion to the fact that most medical men have on innumerable occasions received refreshment and entertainment at Sir Arthur Conan Doyle's hands, though not quite in the same fashion, and the vote of thanks for which he called was acclaimed with cheers. In the course of his response Sir Arthur Conan Doyle observed that he had the warmest feelings towards his old profession, and that the opportunity of renewing acquaintance with his old colleagues and entertaining them at tea was a source of great pleasure to him. Alluding to his former work as a medical man, he recalled that once in America the chairman at a dinner at which he was present remarked that it was a sinister fact that although Sir Arthur Conan Doyle was supposed to be a doctor no living patient of his had ever been seen. Apart from affording the Representatives a pleasant afternoon, Sir Arthur Conan Doyle's hospitality has a special interest of its own. In the eyes of the world Sir Arthur Conan Doyle is solely one of the great novel writers of the day, and Crowborough is a long way from Brighton; yet on an occasion when Representatives of the medical profession are assembled together at the latter place for the purpose of consulting how best to promote the interests of medicine and to protect its adherents from legislative and other attacks, he has elected to express his sympathy with them in a very direct manner. There are a good many men who have left the profession of medicine to attain eminence in other walks of life, but not all of them acknowledge the claims that it still has upon them in a correspondingly altruistic fashion.

Lodgings and Literature.

Great size in a town does not necessarily imply corresponding capacity for housing and feeding an unlimited number of visitors; indeed, at some Annual Meetings in large towns the executive officials have experienced considerable difficulty in finding suitable places of accommodation for the thousand or more members and the ladies accompanying them, while there has been a further difficulty in regard to places at which luncheons, dinners, and teas can be taken in due comfort. At Brighton, however, there is an endless supply of hotels and restaurants, as well as innumerable boarding houses and apartment dwellings. Presumably, therefore, the chief difficulty of the Lodgings Committee has been to determine which hotels, lodgings, and boarding houses they should recommend to members, and they appear to have grappled with it successfully, since every one we have met seems to be contented with his temporary abode. The Publications Committee must likewise have become painfully conscious of the meaning of the term *embarras de richesses*, since probably no town in Great Britain has been more thoroughly written up than Brighton. It must, indeed, have been rather a worrying matter to settle how much should be reproduced in the form of a guide-book of all the literature regarding Brighton. The outcome of their deliberations is a booklet which is sufficiently small for a member to carry it about comfortably in his pocket, and yet containing all information that he is likely to require, together with hints as to where he can find details regarding the history of Brighton and other like points should he desire to study them. The booklet, which is conveniently provided with a limp cover, is the work of several writers, Drs. Gervis having contributed the chapters on the medical history of Brighton and its attractions as a health resort, and Mr. H. D. Roberts, Director of the Municipal Library, those on the amusements that Brighton offers, and on its qualities as a place of residence, with a special note as to the activities of its municipality. The chapters on Hove in the past and in the present are by Dr. Morgan, the Chairman of the Committee, who also wrote part of the section dealing with the history of the various places of worship in the neighbourhood. A useful section in regard to the country surrounding Brighton is supplied by Dr. Walter Broadbent, while the medical institutions of Brighton and Hove are described by Dr. Burchell, who, as the Secretary of the Committee, has doubtless borne his full share of the burden of producing this excellent guide-book.

The Sections and the Museum.

The scientific sections, sixteen in number, started their work punctually at ten o'clock on Wednesday morning, and did not appear to be suffering from any lack of speakers during the course of the morning, despite the fact that a large number of members were still detained at the Representative Meeting and that others had only just arrived in Brighton and not yet learnt its topography. A brief summary of the work done in each of them on the first day will be found elsewhere and detailed accounts of each day's work will appear in subsequent issues. The museum is appropriately housed in two rooms adjoining that occupied by the Section of Pathology, and, though all the specimens promised had not arrived at the moment of our visit, there was plenty to occupy at least a morning's study. One considerable collection that we noted was an array of specimens originating in the work of the Royal Sussex County Hospital. Of marked interest in themselves and excellently prepared, they were presented by the hospital last year to the Royal College of Surgeons and have been lent by the latter for display and examination on the present occasion. It was observed, too, that Dr. Hobhouse, the Chairman of the Museum Committee, together with his secretaries, Dr. W. Broadbent and Dr. H. M. Galt, had made a successful attempt to illustrate some of the special points which they knew would be brought up in the course of discussion in various sections. A further feature was a large collection of microscope specimens, and a display of some of the more novel instruments now available for obtaining precise data as to the physical condition of living subjects. Probably no one

who has not himself had a share in the task has any conception of the amount of labour involved in getting together, placing in due order, and describing some hundreds of specimens of sufficient merit and value to claim notice from members in the rush of an annual meeting, and at a later date it is hoped to give a more adequate account of what Dr. Hobhouse and his colleagues achieved on the present occasion.

THE REPRESENTATIVE MEETING.

THE Annual Representative Meeting at Brighton occupied more days than on any previous occasion. It began at 10 a.m. on Friday, July 18th, met again on Saturday, July 19th, at 9.30, and at the same hour on Monday, July 21st, and Tuesday, July 22nd. On each of these days the Chairman of the Representative Body used his influence, which is great, to induce the meeting to adhere to its Standing Order to adjourn at 6.30. Some reluctance was shown on Tuesday to accept this advice, but Mr. Verrall stuck to his opinion that, after sitting for so many hours, no meeting can be in a good condition to deal adequately and safely with important questions, often involving many intricate considerations and calling for the exercise of judgement and forbearance in reconciling interests which, at the first blush, seem divergent if not conflicting. When the meeting reassembled at 9 a.m. on Wednesday, July 23rd, it still had a good deal of business to transact, but much of it was of a routine character, and it was possible to take the final adjournment, after reading and confirming the minutes of that day, at 12.30.

On the first day a great deal of time was given to the suggestions of the Council of the Metropolitan Counties Branch for the reform of certain parts of the machinery of the constitution of the Association. It will be remembered that the scheme of reform proposed by the Branch was the subject of a report by the Council. This was brought before the meeting by Mr. Larkin, Chairman of the Organization Committee, and at first some little difficulty was encountered in dealing with the documents, for such in fact they were: this was soon overcome, and each proposal of the Branch was dealt with separately. It was decided not to alter the power of a Division, but to require it to notify its decision to the Branch, and to instruct each Branch to co-ordinate the work of its constituent Divisions. With regard to the proposal to reduce the size of the Representative Body, a kind of stalemate occurred, as may be seen by reference to the full report in the SUPPLEMENT. The result is that no steps in respect of the reduction or otherwise of the Representative Body can be taken until, at earliest, next year. The proposal of the Metropolitan Branch that the Representative Body should be an assembly with full deliberative powers did not emerge unscathed from the fire of criticism it drew, and the resolution adopted is of the nature of a compromise—to the effect that the Representative Body should be an assembly with deliberative powers, but that in speaking and voting a Representative shall be under an obligation to give effect to what he believes would be the opinion of his constituents on the question at issue. The proposal to alter the regulations so as to allow a Special Representative Meeting to be more speedily called proved impracticable, but the meeting approved the suggestion of the Metropolitan Counties Branch that the Representative Body should have power to delegate to the Council specific powers to take action upon its behalf until its next meeting.

Another matter nearly affecting the machinery of the constitution of the Association was raised by the recommendations of the Council with regard to taking a referendum by a postal vote. The opinion that a change in this direction was necessary appeared to be very general. The decision is that the Council shall have power, on any decision of the Representative Body, to take a referendum by a postal vote, and to extend it to the whole profession. It would also have power to limit the vote to one or more parts of the United Kingdom or to a Dominion. It is possible that the new provision in the next resolution adopted represents a new phase in the development of the constitution, and may well prove very valuable. It seems to come to this: that the Representative Body, after coming to a decision, may instruct the Council forthwith to take a postal vote of the Association or the profession, and not to act upon the decision until the result of this postal vote has been ascertained.

The whole of the session on Saturday and the greater part of that on Monday was given to Insurance business. One outcome of it was the acceptance of the Council's proposal that an Insurance Act Committee shall be a Standing Committee of the Association. It will consist, in addition to the *ex officio* members, of 4 members elected by the Council, 12 elected on a territorial basis by the Representative Body, and 4 others—two elected by associations of registered medical women, and one each by the Society of Medical Officers of Health and the Poor Law Medical Officers' Association. The proviso was added that at least one-fifth of the members shall have practical experience of the working of the Insurance Act. As the establishment of a new Standing Committee involves alterations in the by-laws and takes some time, it was resolved at once to elect on the plan indicated a Special Committee for 1913–14. The election resulted as follows, the names being arranged territorially: *England:* Dr. R. M. Beaton (London), Dr. D. E. Finlay (Gloucestershire), Dr. E. B. Fothergill (Brighton), Dr. J. W. Johnson (Bury, Lancashire), Dr. G. K. Smiley (Derby), Mr. D. F. Todd (Sunderland), Mr. E. B. Turner (London). *Wales:* Dr. Crawford Treasure (Cardiff). *Scotland:* Dr. John Adams (Glasgow), Dr. McKenzie Johnston (Edinburgh). *Ireland:* Dr. J. S. Darling (Lurgan), Professor A. H. White (Dublin). This Committee replaces the State Sickness Insurance Committee, which has been at work for the last two years, and it will be observed that several members of the old committee have been elected to the new. This will ensure continuity of action.

The resolution of the Representative Meeting protesting strongly against Mr. G. Locker-Lampson's amendment to the Insurance Act Amendment Bill, designed to hand over the administration of medical benefit to the approved friendly societies, has probably been read by most members in the daily press. It is given in the SUPPLEMENT. On the next day interviews were published in the *Morning Post*, the tenor of which may be gathered from the telegram sent to the press on Wednesday morning by direction of the Representative Meeting:

> Statement in *Morning Post* that there has been a remarkable change of opinion among the Representatives as regards Locker-Lampson amendment brought this morning before Representative Meeting, which reiterated its opinion of Saturday last *nemine contradicente*.

The discussion on trade unionism, which took place on Monday afternoon, excited much interest. It was prefaced by a statement by the Chairman of the Organization Committee to the effect that the Solicitor had advised that it was impossible for the Association to be turned into a trade union—impossible while retaining its identity and its funds and property. Dr. Wallace Henry then moved to instruct the Council to consider the advisability of forming a union of medical practitioners registered under the Trade Union Acts for such members of the Association and other practitioners as might desire to join. The arguments in favour of trade unionism for the medical profession were very fully and clearly stated by Dr. Wallace Henry, who described himself as the first chairman of the first medical trade union. He dwelt especially on the safeguards registration under the Trade Union Acts afforded for the protection of the funds of a union, and said that a medical trade union working in

conjunction with a public medical service, such as that established in Leicestershire, had a considerable material or financial hold on its members. Dr. Henry spoke with much evident conviction, and was answered with equal conviction by Dr. Macdonald, who said that the real power of a trade union depended on the individual's willingness to combine with his fellows and fulfil his promises. A policy upon which all could agree was the first essential, and the second was that each should honourably stand by it. If that spirit could be called into existence a trade union was not needed to enforce adherence to the policy agreed on. An amendment avoiding the reference of the matter to the Council, and asking the meeting at once to affirm that it was desirable to establish a medical trade union was moved and seconded by two London members—Dr. Evan Jones and Dr. Gordon Ward—and strongly opposed by another London member, Dr. Haslip. After a good deal more discussion, in which the arguments for and against the proposal were presented by about an equal number of speakers on both sides, the amendment proposing that the meeting should express its opinion definitely in favour of the formation of a medical union under the Trade Union Acts was put to the vote; a card vote was taken on the application of one of the champions of trade unionism—that is to say, each Representative who voted cast as many votes as there are members in the constituency he represents. The result was that the amendment was rejected by rather more than two to one—11,408 to 5,259. The number of Representatives present was 162. Two did not vote, 107 voted against the amendment and 53 in its favour. This result was declared just before the adjournment on Monday evening. Next morning Dr. Wallace Henry's original proposal to refer the matter to the Council was put to the vote, when 122 Representatives voted, and the motion was rejected by 67 to 55. The proposal is, therefore, so far as the Representative Body is concerned, at an end, at any rate for the present.

The reports proposing to form a Special Defence Fund by voluntary subscriptions of £5 a year, and to give to subscribers special terms for insurance against accident or sickness, for endowment policies, and for medical defence, were admirably explained by Dr. Beaton in a speech which was at once comprehensive and brief. It was objected not only that the scheme appeared calculated to put too heavy a burden on the willing horse, but also that the members of the Association had not had time to consider its advantages and defects. The meeting therefore accepted with a sigh of relief the suggestion of Dr. Macdonald that it should not at this juncture express any opinion; but it went on almost unanimously to approve a proposal to increase the ordinary subscription to the Association, and, after rejecting suggestions to fix it at thirty shillings and at a guinea and a half, finally determined that the subscription should be made two guineas. It voted in this sense with the knowledge that if the change is to take effect at the beginning of 1914 it will be necessary to hold a Special Representative Meeting during the autumn of this year.

The Representative Meeting before separating unanimously adopted a resolution expressing its sympathy with the recent appeal made in the press by Sir Thomas Barlow and his co-signatories in favour of a more candid recognition by the public of the dangers of venereal disease.

After the conclusion of the business of the Annual Representative Meeting, in a brief interval while the final minutes were being prepared, Dr. Courtenay Lord, the Representative of Rochester, Chatham, and Gillingham, made an informal appeal on behalf of the widow and children of Dr. Milward, of Cardiff, who had on several occasions acted as Representative of that Division, and had also served on one of the special committees on the Insurance Act. Dr. Milward took a very keen interest in the fight of the profession against the unreasonable proposals of the Act, and it was after attending a meeting of a committee in London that he was seized with his fatal illness. Much sympathy was expressed by the Representatives present, and Dr. Lord's appeal to them to obtain subscriptions in their own localities seemed to meet with general approval. As an earnest of future efforts in this direction the Representatives there and then themselves contributed various sums, amounting altogether to over £50. Further contributions may be sent to Mr. W. Sheen, M.S., F.R.C.S., 2, St. Andrew's Crescent, Cardiff, Honorary Treasurer; or to Dr. A. L. Thornley, 18, Windsor Place, Cardiff, Honorary Secretary. It may be added that an effort is being made to procure the election of Dr. Milward's son to Epsom College, and that the committee of the Milward Fund hope that members of the profession who subscribe to the college will bear the case in mind when allotting their votes.

It was originally intended that the Annual Meeting in Aberdeen in 1914 should begin on July 21st and the Annual Representative Meeting on the previous Friday, July 17th. It appears that it will be necessary to alter these dates, owing to the fact that the annual holiday in Aberdeen occurs in the week beginning July 19th. It will in consequence probably be necessary to hold the Annual Meeting in the week beginning July 12th and the Representative Meeting on July 10th. As the Representative Body has expressed the desire that the reports of the Council shall be issued at a date leaving more time for their consideration by the Divisions, this change will require the Insurance Act Committee, the Standing Committees, and the Council to take time by the forelock and get forward with their business early in the spring of 1914. The point is worthy also of the notice of secretaries of Divisions and Branches. We understand that it is the intention of the local Branches and Divisions to invite the Association to hold its Annual Meeting in Newcastle-on-Tyne in 1916 and in Portsmouth in the following year. The invitation to hold the Annual Meeting in Cambridge in 1915 has already been accepted, subject to the formal approval of the Association.

Up to the time of going to press over 900 members have registered, being accompanied by 400 ladies. A good many members are visiting the Sections daily from London without formally registering.

A ROYAL COMMISSION ON VENEREAL DISEASE.

The *Lancet* of June 28th contained a Plea for a Royal Commission on Venereal Disease by Sir Malcolm Morris, in which the urgent need for such an inquiry was insisted upon. In the *Morning Post* of July 22nd there appeared what may be called a manifesto to the same effect, to which was attached an imposing array of names of distinguished members of the profession. Among the signatories are Sir Thomas Barlow, Sir William Osler, Sir Clifford Allbutt, Sir William S. Church, Sir Henry Morris, Sir John Tweedy, Sir James Barr, Sir Robert H. Woods, Sir John Bland-Sutton, Sir W. Watson Cheyne, Sir Francis Champneys, Sir John Rose Bradford, Sir Alfred Pearce Gould, Sir Victor Horsley, Sir Malcolm Morris, Sir George Savage, Sir Anderson Critchett, Dr. Herringham, Dr. Mott, Mr. D'Arcy Power, Mrs. Scharlieb, and Mr. Charters J. Symonds. There could scarcely be a list of persons more eminent in their several ways or more representative of the medical profession. It is pointed out in the manifesto that while the State has taken effective action in a

number of directions for the control of disease, no organized effort has been made for the prevention of venereal disease. As to this disease, which undermines the vigour of the people, saps the strength of the army and navy, causes incalculable suffering and unhappiness, and often blights the lives of the children who are the hope of the future of our race, there has hitherto been a conspiracy of silence. The subject is not a pleasant one, but the evil is so serious that it is time it should be faced by the public. When the matter was discussed last year at the Royal Society of Medicine it was stated that in London alone 40,000, and in the whole United Kingdom 130,000, new cases of syphilis occur every year. Recent research has thrown new light on the etiology of the disease, and vastly improved means of treatment are now available. The time, therefore, is opportune for an organized effort on a comprehensive scale to reduce the incidence of these diseases. In order that public opinion may be aroused to the gravity of the matter, a full and authoritative investigation is necessary, and the eminent members of the profession who have appended their names to the letter to which reference has been made call for the appointment of a Royal Commission, with a substantial majority of medical men among its members, to inquire into the facts and recommend what steps, prophylactic and therapeutic, should be taken in regard to venereal disease. As will be seen elsewhere, the Representative Meeting before concluding its labours unanimously adopted a resolution expressing its sympathy with the appeal, and the demand thus solemnly made by the whole of the medical profession for a public inquiry into this most important matter can scarcely be resisted. Although the reports of Royal Commissions are too often treated like the utterances of the chorus of a Greek play, there seems to be no better way of securing a thorough investigation. But, to be of any use, the report must not be consigned to the dusty tomb of a pigeon-hole, but must be followed by immediate action. Already, as was pointed out in the JOURNAL of May 10th, 1913, p. 1023, Australia has entered on a campaign against venereal disease which gives promise of satisfactory results. America, too, is awakening to the importance of such a movement. The Chicago Vice Report, issued a few years ago, has been followed by an investigation on the same lines in New York. As the result of an inquiry, necessarily imperfect owing to the want of proper response on the part of the profession, Dr. Biggs thinks it probable that the number of new cases of venereal disease which occurred in New York last year amounted to 200,000. These figures, he adds, give a very inadequate notion of the terrible gravity of the problem. It would be foolish to seek to comfort ourselves with the thought that we are less afflicted than New York. Our case, as has been shown, is bad enough to call urgently for remedy. In these days of easy rapid communication between all parts of the civilized world, syphilis may truly be regarded as an international scourge. We hope it is not Utopian to dream of a time when the nations of the world will join in a war against venereal disease.

THE BRITISH ASSOCIATION.

THE *Times* in its issue of July 21st gives its usual forecast of the proceedings of the British Association for the Advancement of Science. The meeting, which is to be held at Birmingham under the presidency of Sir Oliver Lodge, will open on September 10th. It is expected that the attendance will number over 3,000. The work of the meeting will be distributed among twelve sections. Among these several are directly or indirectly of interest to members of the medical profession. The President of the Section of Physiology is Dr. F. Gowland Hopkins, F.R.S. During the meeting the section will receive the report of its committee on anaesthetics, in connexion with which Sir Frederic Hewitt will speak on the State regulation of anaesthetics. There will be a number of joint meetings with other sections. The physiology of reproduction, with special reference to the factors affecting fertility and sterility in live stock, will be discussed with the Agricultural Section. Professor Benjamin Moore will open a discussion in a joint meeting of the Section of Physiology with those of Zoology and Botany on the synthesis of organic matter by inorganic colloids in the presence of sunlight considered in relation to the origin of life. It is hoped to arrange a joint meeting of the Physiological and Chemical Sections for a discussion on fermentation. In the Section of Zoology, the president of which is Dr. H. F. Gadow, a lecture will be delivered by Professor E. A. Minchen on some aspects of the sleeping sickness problem. During the week a visit will be paid to the Burbage Experimental Station, by invitation of Major Hurst, to view the results of experiments on inheritance. The Subsection of Psychology will hold a joint meeting with the Section of Education. In individual papers Mr. W. McDougall will discuss the theory of laughter; Miss M. Smith and Mr. McDougall will communicate a paper on memory and habit; Dr. J. L. McIntyre will discuss the effects of practice on the memory of school children; Mr. Stanley Wyatt will report the results of some investigations into the reliability of children's testimony; and Mr. T. H. Pear will report on recent experiments regarding the psychology of testimony. In the Section of Anthropology Sir Richard Temple, in his presidential address, will deal with the nature and scope of the science, and the methods suitable for its successful study. He will refer to the steps taken or suggested by the Royal Anthropological Institute and the Universities of Cambridge and Oxford towards the supply of the knowledge of mankind necessary for sound imperial administration, which, in his opinion, is the practical result of the studies of anthropologists.

INTERNATIONAL ANTIALCOHOL CONGRESS.

THE International Congress against Alcohol will be held at Milan in September (22nd to 28th). On the first day an address will be delivered on the pathology of alcohol, and reports by a physician and by a school teacher on the moral decadence caused by alcohol will be presented. On the second day the discussions will be as follows: (1) The place and importance of the alcohol industry in national economy—(*a*) beer, (*b*) spirits, (*c*) wine (choice and ordinary). (2) The activity of those interested financially in alcohol against the antialcohol movement. (3) The evil effects of alcoholism from the economic point of view—(*a*) in the State, (*b*) in the commune, (*c*) in the family. On the third day the following will be the programme: The use of grapes and fruits for the production of beverages without alcohol—(*a*) report of a medical hygienist intended to elucidate the food value of unfermented juices; (*b*) report of a chemist intended to demonstrate the possibility of making and preserving non-fermented juices; (*c*) report of an economist intended to demonstrate the commercial possibilities and prospects of non-fermented juices. The following are the programmes for the other days:—Fourth day: (1) Masters and workmen in the struggle against alcohol. (2) How to substitute for the tavern houses and gardens for popular resort where only non-alcoholic refreshments will be supplied. (3) Antialcohol expositions. Fifth day: Cure of drinkers—(*a*) medical report; (*b*) homes, societies, and so forth. Sixth day: (1) Alcohol and the school (antialcohol education of the young), education of masters, etc. (2) Alcoholism in Italy. A final address without discussion, entitled "An Appeal to International Solidarity in the Struggle against Alcohol," will be delivered. The committee reserves to itself the right to organize a small exhibition intended to make known the best machines and the best systems for

the production of wines without alcohol, and to invite all owners of vineyards to take part in the discussion. During the week of the congress Dr. Popovic of Belgrade, who took part in the siege of Adrianople, will give an address on alcohol and war.

PROTECTIVE INOCULATION AGAINST CHOLERA.

HAFFKINE has prepared and published a memoir on protective inoculation against cholera[1] in connexion with certain official correspondence regarding vaccination against this disease and preparation and study in India of a devitalized form of anticholera vaccine. The memoir, which includes certain references to the support which the author's personal views have received so far from the results of other workers, is divided into three parts. Part I deals with the preparation of an anticholera vaccine; Part II with immunization of man against cholera; and Part III with the anticholera vaccine after its devitalization. Haffkine believes that just as it was important to obtain first a positive result on the question of cholera immunization in general, and to use in investigating that matter the most reliable vaccine preparation, so it is important to avoid at the beginning the possibility of failure in the study of the vaccine in a devitalized form. For this reason he considers it better at present to use the devitalized vaccine in its entirety rather than extracts or other derivations of it. The facilities for the manufacture in the case of the entire preparation are also of considerable importance. In devitalizing Vaccine II it is essential to employ only the most delicate physical and chemical processes. The two forms of the vaccine in devitalized condition which commend themselves to Haffkine are (1) that prepared by prolonged cultivation in a fluid medium and devitalized by heat and carbolic acid; (2) that prepared by cultivation on a solid medium and devitalized, as soon as developed, by a solution of the same antiseptic compound. The study of the protection derived from the employment, separately, of these two forms of vaccines in various doses should afford information as to the direction in which the plan will require to be modified for further study.

IT is announced that through the generosity of Sir Harry Waechter, Bart., in granting the sum of £300 for five years, University College Hospital will open a department of vaccino-therapy.

WE are requested to state that, in consequence of the International Congress of Medicine, the usual time for closing the house of the Royal Society of Medicine for cleaning and stocktaking will have to be altered, and that instead of closing from August 1st to 31st, *it will be closed from August 14th to September 13th, both days inclusive.*

[1] *Protective Inoculation against Cholera.* By W. M. Haffkine, Bacteriologist with the Government of India. Calcutta: Thacker, Spink, and Co. London: Thacker and Co. 1913. (Sup. roy. 8vo, pp. 98. R.3.)

THE late Dr. Alfred Lewis Galabin, Consulting Obstetrical Physician of Guy's Hospital, left estate valued at £59,363.

A SERIES of lectures on balneology and balneo-therapeutics, arranged under the auspices of the International Committee for Post-Graduate Medical Teaching, will be given at Carlsbad from September 28th to October 4th, 1913. The list of lecturers includes, among others: Professor Albu (Berlin), Professor von Jaksch (Prague), Professor Kionka (Jena), Professor R. Kutner (Berlin), Professor Luthje (Kiel), Professor Plehn (Berlin), Professor Riehl (Vienna), Professor Schautau (Vienna), and Professor Strauss (Berlin). Admission to the lectures is free to every member of the medical profession on payment of a registration fee of 10 kr. for the entire series. For the programme of lectures and the cards of admission application should be made to the Kuramt of Carlsbad, to which all communications are to be addressed.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

THE nature and scope of the work of the different Sections will appear from the following short summary of the proceedings. A full report of the discussions and of the various papers read in the Sections will be published in due course.

Wednesday, July 23rd, 1913.

SECTION OF BACTERIOLOGY AND PATHOLOGY.

AFTER a few brief introductory remarks by the President (Dr. Eyre), Mr. Rupert Farrant gave a short account of the published work on experimental hyperthyroidism. He expressed the opinion that the contradictory results recorded might be due to the methods of observation of the varying preparations used, and to the different methods of administering them. He had given thyroid containing 0.3289 per cent. of iodine to 11 cats, 19 rabbits, 15 guinea-pigs, and 12 dormice, and had made observations on the symptoms and pathological changes produced. Mr. Farrant concluded that thyroid feeding was toxic to these animals, but that their resistance varied both as to the species and to the individual of that species. A complete picture of exophthalmic goitre could not be produced in these animals, but a modification could be produced that resembled the disease in certain features. These were fur changes, bodily weakness, diarrhoea, tachycardia, and occasional glycosuria, combined with a disappearance of fat, muscular wasting, degeneration of the heart, liver, and kidney, enlargement of the islets of Langerhans, and haemorrhagic changes in the intestine. He deduced that the thyroid hyperplasia of exophthalmic goitre was associated with excess of secretion, and that this was the cause of these symptoms and morbid changes. He suggested in regard to those symptoms that could not be reproduced, no deduction could be made as to their being or not being caused by thyroid excess, owing to the anatomical and other differences between animals and man. The absence of the morbid changes in the ductless glands and lymphoid system precluded their production by thyroid excess. The paper was discussed by Dr. Crofton and Dr. Eyre. Dr. Crofton then read a paper, written in conjunction with Drs. McWeeney and Moore, on paratyphoid infection. This was illustrated by two cases of great severity, both of which were treated with vaccines prepared from the faeces and used with marked success. He laid stress on the observation that paratyphoid fever was by no means the trivial complaint it had hitherto been supposed to be. His detailed description of the cultural activities of his isolated bacilli brought forth the complaint from the President that fermentation reactions were carried out in too haphazard a manner to please the observer of a logical temper of mind; he would, indeed, have the media all classified according to chemical constitution. The uses of vaccines in cases of infantile diarrhoea were discussed Dr. Braxton Hicks and others. A short interval was unexpectedly filled up by a striking and most interesting demonstration on amoebae by Dr. v. Wasielewsky of Heidelburg. His stained specimens and his pictures of experimental dysentery on cats were indeed beautiful. These we hope to describe in detail later. Dr. Galt (Brighton) read a paper on the value of blood counts in diagnosis, and summarized the findings in various blood diseases; at the same time he accentuated the importance and, in fact, the necessity of making a histological examination of the blood on every occasion. This paper aroused much discussion, in which Drs. Bernstein, Hicks, Crofton, Leon, and Eyre took part, and the general impression was that, as a symptom of many diseased states, haematological changes were indeed of value, but often only as a preliminary to the more recent and serological investigations, the value of which is even greater. Numerous cases were cited by different speakers, and after Dr. Galt's reply the Section adjourned.

SECTION OF CLIMATOLOGY AND BALNEOLOGY.

THE proceedings were opened by the President, Dr. F. J. Paley (Brighton), who, after welcoming those present, mentioned that this was the first occasion on which there

had been a Section devoted to climatology and balneology at these annual meetings, and that the credit for this innovation was due to the local secretary, Dr. Copeman. He then called upon Dr. Tyson (Folkestone) to open the discussion on sea-bathing. Dr. Tyson, after a few introductory remarks, dealt with his subject under a series of headings. Sea water, he observed, did not evaporate so quickly as fresh water, and doubtless soft particles remained lodged in the skin even after the customary drying with a towel. These particles kept up a warm glow and lessened the liability to surface chills. The temperature of the sea was affected by its salts, which, by aiding the penetration of solar rays, permitted large bodies of water to be raised to high temperatures. The immediate action of salt water did not differ from that of fresh water. In an ordinary sea bath there was first contraction of the surface vessels with abstraction of heat, followed by a determination of blood to deeper organs, and finally a reaction in which a flushing of the vessels of the skin gave rise to an agreeable sense of warmth and well-being. Sea water might well be used for other purposes than bathing, as for instance for douches and sprays for the throat and nose. It was generally laid down that the season for sea-bathing lasted from June 1st to October 1st, but June was too early for the majority of people. The best hours for bathing were between breakfast and lunch, while the time of immersion should not as a rule exceed fifteen minutes. Open beach bathing was fit only for the robust, and tents did not afford very effective protection. Sufferers from asthma, advanced heart disease, rheumatism, bronchitis, Bright's disease, acute gout or other acute disease should be forbidden to indulge in open sea-bathing. Dr. Mahomed (Bournemouth) remarked that many all-round athletes showed little inclination for sea-bathing, while conversely some excellent swimmers did not care much for other forms of athletics. Dr. Johns (Bournemouth) narrated his experience of the striking benefit accruing to consumptives from bathing followed by a glass of hot milk. Dr. Odell (Torquay) spoke of the use of a fresh water douche after immersion in sea water, and deprecated this procedure. Dr. Kennedy (Bath) was strongly of opinion that the sea-bath should be of very short duration—from one to five minutes being as a rule sufficient. He held that while even very old people might bathe with advantage, the practice was seldom beneficial in infancy. Dr. Whittington (Brighton) called attention to the risks attending bathing shortly after an acute attack of influenza. Dr. Clippingdale (London) contributed a very interesting historical account of sea-bathing from ancient times to the present day. Dr. Tyson, replying, expressed his concurrence with most of the opinions expressed during the discussion, and closed his remarks by a reference to paddling which he said afforded the greatest pleasure to children, but he issued a caution against permitting them to wade in very cold water.

Section of Dermatology.

THE President, Dr. J. H. Sequeira, of the London Hospital, opened the meeting of the Section with a few introductory remarks, in the course of which he referred in sympathetic terms to the loss, to dermatology especially, incurred by the recent death of Sir Jonathan Hutchinson. At the last meeting of the British Medical Association at Brighton, in 1886, Professor Liebreich had been present, and had read a paper introducing lanoline to the profession in England, and Dr. Mackey communicated the uses of resorcin in cutaneous diseases. The President then reviewed the progress of dermatology from 1912–13, and referred to the trend of modern investigation in the association of dermatology with other specialities, as, for example, bacteriology, emphasizing the importance of the discoveries brought about by the more general use of the microscope—for example, in fungous affections of the skin, in general paralysis of the insane, and tabes (Noguchi's discovery of the *Spirochaeta pallida* in the nervous tissues of these patients). He concluded with a eulogistic reference to the movement instituted in the columns of the *Morning Post* of July 22nd for a public inquiry on the ravages of the venereal diseases in England and the best means of combating them. Dr. H. G. Adamson of St. Bartholomew's Hospital then opened a discussion on the fungous infections of the glabrous skin in a paper copiously illustrated by lantern slide photographs of cases, and an exhibition of the actual cultures of nearly all the fungi concerned. He drew particular attention to the fact that animal ringworms—as, for example, from cat, horse, and cattle infections—were prone to cause highly inflammatory lesions (usually only *one*), which, as a rule, conferred immunity on the patient from subsequent attacks. The subject of ringworm of the toes and fingers, and tinea of the groins was especially emphasized and the therapy outlined. The ointment recommended by Dr. Whitfield—15 grains each of benzoic and salicylic acids to the ounce of vaseline—was strongly recommended for these cases, and had been found very valuable by the speaker. He spoke for some time on sporotrichosis, and mentioned the possibility of joint affections and fever in these cases, thus emphasizing the occasional occurrence of a generalized infection—the main clinical difference between sporotrichosis and the other fungous affections of the skin. Sir Malcolm Morris congratulated Dr. Adamson on his paper, and thanked Dr. Sequeira for his kind references to the speaker's attempt to bring the question of venereal diseases from behind the obscurity of "the conspiracy of silence" into the light of publicity. The contemporaneous discovery by Sabouraud and Whitfield of the toe and groin ringworm combination was of extreme importance, for many cases of this condition had gone on uninfluenced by all treatments for years. In his experience prolonged antiseptic treatment with carbolic acid, soft soap, and acetic acid was the best, and patients ought to lie up for the time. Dr. Alfred Bolam (Newcastle) could not quite accept Dr. Adamson's distinction as to the comparative reaction of the human skin to human and animal ringworm infections. He thought that both sources could produce violent reactions. He raised the question of a plurality of fungi in tinea cruris, and agreed with Sir Malcolm Morris that chrysarobin was still the main stand-by in the therapy of most fungous affections. Dr. George Pernet (West London Hospital) said that "rings" could be caused by microsporon infection as well as by the large-spored varieties. He emphasized the possibility of reinfections from boots and socks in toe ringworms, and considered that sulphur and carbolic acid ointment was on the whole the best therapeutic measure for these cases. Professor Wild (Manchester) agreed that tinea cruris was decreasing, and wished to know if other observers had also found a difficulty in demonstrating the fungus in scales by the potash method. Other speakers in the discussion were Dr. Barendt (Liverpool), Dr. A. W. Williams (Brighton), Dr. Alfred Eddowes (London), Dr. Dore (Westminster Hospital), Dr. Gardner (Edinburgh) and the President, who mentioned a very interesting case recently published by him in which the ringworm fungus had produced not only rings and scales, but granulomatous tumours. Sabouraud had seen the case, and identified the fungus under the name of *Trichophyton plicitale endothrix crateriforme*. Dr. Pernet then read a short paper on veronal and its new variety—luminal rashes, in which he emphasized the toxicity of the phenyl group. After a few remarks by Professor Wild and Dr. Eddowes, the meeting was adjourned to the following day.

Section of Diseases of Children.

THE President of the Section, after a few introductory words, called on Dr. Poynton (London) to open the discussion on "The Prevention of Heart Disease in the Young." Such heart disease he connected mainly with infective processes, of which the chief was the rheumatic; pure cardiac overstrain he believed to be rare in the young. He quoted a case of auricular extrasystoles that had existed for eighteen months in a child of two years old; the child had fits, and Dr. Poynton was inclined to connect the fits with the cardiac lesion. The prevention of the cardiac lesions due to the microbe of rheumatism was made much more difficult by the fact that the rheumatic manifestations might be confined to a sore throat, so that the rheumatic nature of the whole process might escape notice until irremediable damage might have been inflicted on the heart. The treatment of cardiac disease in children with salicylates, and especially with large doses of them, he regarded as disappointing; much of the vaccine treatment of rheumatic heart disease he regarded with horror.

Removal of the tonsils was by no means a certain preventive of rheumatic reinfection. Dr. Poynton quoted a number of cases illustrating the difficulty of deciding whether the results of vaccine treatment were good or bad. In cardiac oedema he found good results from giving theocin sodium acetate; camphor appeared to be less effective as a cardiac stimulant than strychnine. Dr. Carey Coombs (Bristol) dwelt on the difficulties of diagnosing organic cardiac disease and distinguishing organic from accidental (or functional) murmurs. He believed that organic disease of the heart rarely made its action irregular; the rheumatic infection reached the heart through the arteries, and came from the tonsils and naso-pharynx. He had little hope that any specific means of treatment of cardiac rheumatism would be found. Dr. Chaffey (Hove) then gave an analysis of 37 cases of heart disease in children, with special reference to a family history of phthisis, as well as of rheumatism. He expressed the opinion that a tendency to lymphatic obstruction was marked in both rheumatic and phthisical persons. Dr. Mary Murdoch (Hull) laid stress on the importance of pericarditis in rheumatic children, to be combated by the application of leeches. She commented on the variety of rheumatic aortic disease in children. Dr. R. Miller (London) commented on the fact that rheumatism and tuberculosis were rarely active simultaneously in any patient. He endeavoured to form a basis for the explanation of the curative action of salicylate on the heart in acute rheumatic infection; severe heart disease undoubtedly predisposed to vomiting when large doses of salicylate were being given. He ascribed a specific bactericidal action to the drug in rheumatic cases. Dr. Branson (London) discussed the portals of entry of the rheumatic infection and the connexion between chorea, rheumatism, and enlarged tonsils with adenoidal enlargements; this connexion he believed to be close. He agreed with Dr. Poynton that enucleation of the tonsils was a far better operation than mere tonsillotomy. Dr. Naish (Sheffield) spoke of the choice of sites for convalescent homes to which rheumatic children should be sent. Dr. Chaffey (Hove) advocated salicylates in moderate doses, combined with strophanthus and alkalis, in treating rheumatic heart disease. The President spoke of the house contagion and contact contagion that should be considered carefully when the prophylaxis of rheumatism was being discussed. The poor, he considered, became rheumatic in greater numbers than the rich: the rich were no less liable to enlargements of the tonsils and adenoids than the poor. Tonsillotomy he thought a most disappointing operation, tonsillectomy a sound and far preferable procedure, though more serious. Irregular action of the heart was usually negligible when it occurred in children, he believed; rheumatic pericarditis was very rarely associated with pericardial effusion. Dr. Carey Coombs, in replying, drew attention to the close connexion that exists between poverty on the one hand and both rheumatism and tuberculosis on the other. He also remarked on the importance of the intracellular changes seen in cases of rheumatic carditis. Dr. F. J. Poynton (London), in replying, corroborated the President's remarks as to house infection, and commented on a number of the points raised by other speakers. Dr. J. H. Nicoll (Glasgow) then read his paper on the surgery of childhood, a plea for the more extensive use of the out-patient department for operations on children, based on over 20,000 cases of his own. Children of less than the portable age—5 or 6—should have almost all their operations performed in the out-patient department. A hostel for suckling and nursing mothers should be found in every children's hospital; other details of the methods advised were given. The proceedings of the Section were attended by about forty members of the Association.

Section of Electro-Therapeutics.

In opening the proceedings, Dr. W. Deane Butcher, the President of the Section, said that electro-therapeutists occupied the position of the advance guard of medicine at the spot where medicine touched upon physics. For some years past they had tried to emphasize that position by asking a distinguished physicist to deliver an introductory address, and on the present occasion they had found him in the person of Professor C. G. Barkla, of King's College, London. Professor Barkla then addressed the Section on the subject of secondary x-ray radiations in medicine. He described very lucidly each of the three distinct types of secondary radiation excited by the x rays—namely, the scattered x rays, the fluorescent x rays, and the corpuscular or electronic radiations, to which last most, if not all, of the therapeutic and other effects of secondary radiation were to be set down. He made a number of suggestions having a bearing on therapeutics, one of them relating to the newly discovered fact that x rays might be partially reflected from the cleavage planes of crystals. By using suitably curved crystalline plates it was possible to bring these reflected rays to a focus, and thus enormously to intensify the action over a limited region. A portion of an organ might in this way be subjected to a much more drastic treatment than would be safe for the neighbouring regions. A paper which gave rise to considerable discussion was then read by Dr. A. F. Hertz, who made certain suggestions for standardizing the x-ray examinations of the alimentary canal. He advocated a barium or bismuth meal as nearly uniform as possible, and laid down certain findings to be deduced from the various positions, degrees of stasis, etc., of stomach and colon. Several speakers who followed gave their own experiences with opaque salts, Mr. Hall Edwards urging that the use of bismuth carbonate was most scientific, while Dr. Hertz himself expressed a preference for barium sulphate. Ultimately, on the motion of Dr. C. F. Bailey, an expression of opinion was formulated, which proved to be the unanimous feeling of the Section, "that one definite type of standard meal for radiographic examination should be adopted by general consent," and that the Electro-Therapeutic Section of the Royal Society of Medicine should be asked "to appoint a Committee to obtain evidence with the view of suggesting this official standard meal." Dr. A. C. Jordan read a note on cardiospasm, and gave details of some cases. Dealing with the question as to whether cardiospasm was a disease *per se* or merely a symptom, he said that experience of spasm in other parts of the alimentary tract, notably the stomach, led one to suspect the latter. In the course of the discussion on this paper, Dr. W. Hill said that he had never seen a case of primary cardiospasm, nor had he come across any trustworthy evidence for such a condition. Dr. Reginald Morton dealt in a paper with the present position of the x-ray diagnosis of pulmonary tuberculosis. He said that there was a definite group of cases in which the clinical signs and symptoms were so slight as to make any positive diagnosis out of the question, and yet in a large proportion of these an x-ray examination gave a positive, and in others at least a tentative diagnosis of tuberculosis. He urged its inclusion in the routine examination of all suspected cases. In a final paper, Dr. Ironside Bruce described the technique of collargol injections in diseases of the urinary system, and explained Mr. Thomson Walker's method of catheterization.

Section of Gynaecology and Obstetrics.

The President (Dr. Robert Sanderson, Hove), after briefly welcoming the members and visitors, called on Mrs. Scharlieb (London) to introduce a discussion on the best methods of dealing with malpositions of the uterus, especially with reference to retrodisplacements and prolapse. Rapidly passing over cases requiring no treatment and those amenable to mechanical and medical means, the speaker discussed in a more particular way her operative experience of the past eighteen years. She was in the habit of performing either a suspension operation (round ligaments drawn through the fascia) or a hysteropexy (fixation of the anterior wall of the uterus in its lower part to the abdominal peritoneum and fascia), and combined with these local treatment of the cervix or endometrium, anterior colporrhaphy, and perineal repair where necessary. She insisted that anterior colporrhaphy should be thorough, that the denudation should be triangular in shape, with its base to the cervix, and that the bladder should be completely separated. In only 20 per cent. of the 93 cases where she had performed an abdominal operation for displacement was the abdomen opened primarily for that purpose. All the cases had made good recoveries, and dystocia had never followed. Dr. Hans Schlimpert (Freiburg) described the operations for displacement as performed in Krönig's clinic. He

emphasized the essentially hernial nature of prolapse, and recommended for severe cases that access to the levatores ani should be obtained by a preliminary division of the transversus perinei profundus muscles. The prognosis in any case and the choice of operation should be decided rather by the deficiency of the levatores as examined per rectum than by the degree of prolapse. Shortening of the round ligaments or vaginal fixation were done in addition where necessary. Professor Corby (Cork) laid stress on the relaxation and lengthening of the posterior vaginal wall in retrodeviation. To correct the uterus and maintain it in the corrected position he advised a shortening of the posterior wall by a transverse posterior colporrhaphy combined with perineorrhaphy. Dr. A. E. Giles (London) opened the discussion on the preceding papers by expressing himself in general agreement with Mrs. Scharlieb. He considered that hysteropexy was a proper procedure to suggest to a patient as an alternative to a pessary—even while admitting that occasionally a pessary of itself sufficed to bring about a cure. Mr. Christopher Martin (Birmingham) laid stress on the supporting functions of the pelvic fascia, and considered that Krönig's operation produced its good result by the approximation of the fascial sheaths. For non-operative treatment of prolapse he recommended a Simpson's shelf pessary. He was not in favour of any round ligament operation, and in performing hysteropexy did not include the abdominal peritoneum. Mr. Cuthbert Lockyer (London) described and illustrated his own operation for descent complicated with prolapse of the vaginal wall and bladder. In these cases he did not trouble with the position of the body of the uterus. For simple retrodisplacement he preferred, in unmarried women, to suspend the uterus rather than advise a pessary, and for complete procidentia after the menopause he favoured Le Fort's operation. Miss Ivens (Liverpool) advocated Mayo's modification of Gilliam's vaginal operation, and Dr. W. Ritchie preferred section of the round ligaments to other methods of shortening. Dr. R. Dickinson (New York) also spoke, and Mrs. Scharlieb, Dr. Schlimpert and Professor Corby replied.

SECTION OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

DR. A. J. HUTCHISON opened the work of this Section by thanking the members for the honour paid to him by his election as its President, and extended to them a cordial welcome. He then read a telegram from Professor Onodi of Budapest, expressing his regret at inability to attend, and after this called on Dr. Milligan to open the discussion on the technique and after-treatment of the radical mastoid operation. In his paper Dr. Milligan urged the great importance of deciding whether any infection of the labyrinth were present, either active or latent, and briefly indicated the distinguishing symptoms. When labyrinthitis was present, it was important to clear it out, and not to be satisfied with the simple radical operation, because of the dangers of meningitis if the infection be left in this neighbourhood. He mentioned also the treatment of septic conditions around the area of operation some days before the actual radical operation, such as the treatment of adenoids, septic teeth, and pus. He believed in removing no more bone than possible, but always desired to have a shelving floor leading up to the deeper part of the wound. He disliked too much interference with the inner tympanic wall in the neighbourhood of the round and oval windows, and closed up the pharyngeal end of the Eustachian tube by the use of the cautery through Yankauer's speculum. In showing a tabulated series of cases operated upon by him, he concluded that treatment by blood clot in small cases gave the best results as regards time of after-treatment, but the main difference lay in the comfort afforded to the patient. Dr. Dundas Grant considered that a constant supervision of the patient by the surgeon was essential to success. That was probably the reason why new remedies were often efficacious, for when a treatment became established it was often left to less competent hands. Adhesions occurring in the neighbourhood of the aditus were often the cause of lengthy after-treatment. There seemed to be considerable difference of opinion amongst subsequent speakers as to the means to be adopted in the treatment of the Eustachian tube. Sir R. Wood rather feared the use of hydrogen peroxide. Dr. Jobson Horne favoured simplicity of operation and treatment. The other speakers included Dr. Watson-Williams, who considered conservative treatment of the inner tympanic wall of great importance; Dr. Wyllie, who laid stress upon the personal after-treatment of the patient; Dr. Syme-Mackay, who discussed the importance of treatment of the tympanic end of the Eustachian tube; and Dr. Sydenham, who referred to a method of after-treatment of the cavity by inflation with a thin rubber bag. Dr. Davis spoke of two cases of post-operative meningitis in their relationship to probable previous labyrinthine disease. The President summed up the remarks of the previous speakers, and explained the method he adopted of swabbing out the cavity with iodine, the insertion of a drainage tube, and subsequent treatment by irrigation with hydrogen peroxide.

SECTION OF MEDICAL SOCIOLOGY.

A LARGE number of laity—both ladies and gentlemen—were present at the opening meeting of this Section on Wednesday, July 23rd, when the subject for discussion was eugenics. The President of the Section (Dr. R. J. Ryle of Brighton), in some introductory remarks, commented on the increased relation of medicine with social questions, and, in regard to eugenics, remarked that this subject under various names had occupied the attention of mankind from the time of the ancients. Mr. Edgar Schuster, the first Galton Research Scholar, read a short introductory paper in which means were discussed of organizing control over the racial qualities of future generations. Dr. Harry Campbell principally directed attention to the desirability of promoting the principles of eugenics by individual rather than general appeals. Dr. Stewart Mackintosh discussed the migratory factor in eugenics, pointing to the influence upon the development of the race of the change from rural to urban conditions on the part of a large proportion of the population. In the subsequent discussion Mr. E. J. Lidbetter gave experiences in the administration of the Poor Law in East London, and deplored the tendency of modern social legislation to assist the survival of the feeble-minded and unfit. Sir James Barr addressed himself with his accustomed vigour to the need of raising a more manly breed, not only as regards physique, but also as regards moral and intellectual capacity. Miss A. H. P. Kirby, Secretary of the National Association for the Feeble-minded, spoke of the absence of facilities for the study of feeble-mindedness by medical students, a point which seemed of great importance in view of legislation dealing with mental deficiency now before Parliament. Dr. Dunlop frankly advocated the principles of Malthus, and Dr. Charles V. Drysdale followed in the same strain. Prince Kropotkin urged the impossibility of eliminating the unfit in view of the large proportion that class bore to the rest of the population. Dr. C. W. Saleeby discussed principally the influence of nurture on future parenthood; Mgr. Canon Johnston put forward the clerical view; Dr. Wynne, medical officer of health for Wigan, sought to defend preventive medicine from condemnation (by inference) by the eugenists; and Dr. Ernest Wood, inspector of the insane in the State of Victoria, gave some interesting figures relative to the causes of insanity and feeble-mindedness.

SECTION OF MEDICINE.

THE President (Dr. E. Hobhouse), having declared the meeting open, Dr. A. E. Garrod, F.R.S., invited discussion on non-diabetic glycosuria. It was obviously impossible, he said, to draw any sharp line of demarcation between diabetic and non-diabetic glycosuria. Diabetes connected several distinct ideas: First, persistence of glycosuria throughout the remainder of the lifetime of the patient; secondly, fatality, for a diagnosis of diabetes was usually held to imply a fatal result sooner or later; thirdly, the name called to mind a group of associated symptoms, polyuria, thirst, wasting, and local lesions, such as boils, cataract, and gangrene; lastly, a profound disturbance of carbohydrate metabolism. Not one of these conceptions provided a satisfactory basis for a definition. They had no right to assume that recovery could not occur. A diabetic patient might exhibit over a long period none of the associated symptoms which had

been mentioned. Nor did the diabetes which had its origin in definite visceral lesions differ in any essential respect from that for which no explanation was forthcoming. Lastly, if they took as their criterion failure to dispose of glucose in the normal way, with the result that it accumulated in the blood and was excreted in the urine, they would find that very few varieties of glycosuria could be excluded from the diabetic group. The progress of research was tending to strengthen the belief that an internal secretion of the pancreas was the dominant, if not the sole, controller of carbohydrate metabolism, and that, with few exceptions, all varieties of glycosuria were, in a sense, of pancreatic origin. Although often no signs of disease could be found in the organ, it was probable that its internal secretion was subject to control by influences working from a distance or emanating from other glands of internal secretion. Dr. Robert Hutchison (London) said that they must be careful in describing cases of transient glycosuria to avoid including cases which if followed up would prove not to be temporary. He thought that different causes were at work in transient cases than in others. Many were probably of nervous origin, and analogous to puncture diabetes. One could never give an opinion off hand without carefully watching as to whether cases of glycosuria discovered during examination for life insurance would become clinically diabetics; 20 per cent. had been found to pass into permanent glycosuria. He agreed that one could not draw a hard and fast line between "gouty glycosuria" and more severe types. Diabetes was a clinical term, and not a pathological one, and it was important to get at the cause in each case. It included not one disease, but many. Dr. Aldred Turner said that insurance cases in which glycosuria occurred included several classes: (1) Transitory, following overwork, influenza, etc.; (2) with a family or personal history of gout; (3) dietetic indiscretion or occupations which involved taking plentifully of alcohol; (4) those with a family history of diabetes. It was very difficult to distinguish between the transitory and intermittent type, and the latter might pass on to permanent glycosuria. Dr. P. J. Cammidge said that all modern research work tended to show that all glycosuria was due to metabolic disturbance, and all forms were related to each other. Therefore systematic treatment in the early stages before secondary metabolic disturbance occurred offered the best chance of relief and cure. In treatment it must be remembered that many so-called diabetic foods contained large amounts of starch. The question of cooking was very essential in the proper treatment of glycosuria. An excess of protein food was often taken, and the necessary amount of fat was not taken because administered in non-appetizing forms. Dr. J. F. Gordon Dill was convinced that certain cases of glycosuria directly arose from gouty conditions, as instanced by cases where much gravel was passed, either before or alternating with attacks of glycosuria. Such cases usually arose in middle-aged or nearly middle-aged patients. Glycosuria, however slight, was a matter of serious danger to the patient. In gouty cases it was of great importance to treat the gout. Dr. W. Essex Wynter agreed that on scientific lines no hard and fast line could be drawn between diabetes and glycosuria, but the effects were very different on the patient. General symptoms were not marked in glycosuria, nor were the knee-jerks absent. No acetone or diacetic acid occurred in the women. He had seen improvement follow the use of trypsinogen. An important complication associated with mild glycosuria was the occurrence of gangrene, the two conditions being constantly associated. Dr. Blackburn said that he had watched for several years cases of glycosuria where no diabetes arose, and he regarded them as a class entirely apart. One case he had watched as long as twenty-five years. The President (Dr. Hobhouse) had seen two serious cases following influenza, and would like to know what Dr. Garrod's experience was as to the severity of cases following febrile disease. He had tried trypsinogen without good result. Dr. Garrod replied.

Section of Navy and Army, and Ambulance.

After a few words of welcome, Colonel J. Turton, late A.D.M.S. (T.F.), opened the work of the Section by giving a short sketch of the relation existing between the Voluntary Aid Detachments and the medical organization of the Territorial Force, showing how the gaps in the echelon of medical assistance from the fighting line to the general hospitals would be filled in by Voluntary Aid Detachments. Under present arrangements a number of experienced officers on completing their four years' appointment as A.D.M.S. were placed on the retired list; certain of these officers might be selected for the appointment of D.D.M.S. to organize voluntary aid in their respective districts, so that on mobilization the medical units for the lines of communication would be ready for immediate service. Major Birrell then read some notes on the work of the British Red Cross Society's units with the Bulgarians. Heavy and bulky articles could not be transported over the roads of Bulgaria, and this condition somewhat restricted the choice of equipment. A large quantity (3 lb.) of iodine was taken, and proved most useful in dressing surgical cases. At Sofia quantities of cotton cloth, needles, and thread were purchased, and enabled the units to manufacture sheets, pillow cases, etc., for the equipment of the hospital, which was located in two blocks of the new Turkish barracks at Kirk Kilisse. A graphic description was supplied of the trouble experienced in putting these buildings into a proper condition for the treatment of sick and wounded. Much filth and rubbish had to be destroyed; burning was satisfactory, although somewhat exciting owing to the quantity of live ammunition which was mixed with the rubbish. Shortage of good water was a permanent trouble; a storage tank out of the reach of dirty hands and cups was erected, but on the onset of frost the water froze, putting this plan out of action. The various improvizations which had to be carried out were ingenious and worth noting for future occasions. The *x*-ray apparatus proved a boon, not only to the British Red Cross units, but to all the other hospitals, as it was the only one in the place. In regard to the Turkish pointed bullet, Major Birrell agreed that it inflicted much the same kind of wound as the older ogival bullet. Still casualties in the firing line were not seen, and possibly it produced a higher percentage of immediately fatal cases. Major Birrell also mentioned the interesting physiological fact that the ration issued contained very little sugar, and that the personnel of the units, and more so the patients, suffered severely from "sugar hunger," which could not be alleviated, as no sugar was procurable locally till late in the campaign. In a paper on the relation of and utility of aeroplanes in connexion with the medical services in the field, Lieutenant-Colonel Donegan reviewed the different types of vessel which had been used for aërial navigation, and suggested that minature balloons might be anchored to show the position of hospitals in rear of the fighting. Of the remaining types he only proposed to use the hydro-biplane, invented by Colonel Cody, and which would carry four persons and Lieutenant-Colonel Donegan's operating table. His idea was that instead of carrying a severely wounded man who required surgical attention back to a hospital, the aeroplane should be dispatched carrying three medical officers (one of them a surgical specialist) and the operating table to the wounded man. The table was Lieutenant-Colonel Donegan's own invention, and was most ingeniously constructed.

Section of Neurology and Psychological Medicine.

At the first meeting of this Section, under the presidency of Dr. James Taylor, Sir George Savage opened a discussion on sleep and the treatment of sleeplessness. He dealt first with the theories of sleep, and considered the conditions of sleep rather than its causes. Sleep was essential to man. He did not believe in the existence of any special product, similar to hypnotism, which was capable of producing sleep. In his opinion the question of blood supply was the most important factor, and must be regulated, not only as regards the quantity of blood, but also its quality. He laid special stress on the necessity for prolonged hours of sleep during the early years of life, especially during education. After describing various forms of non-refreshing sleep, he referred to sleepiness. In giving some practical advice as to treatment, Sir George Savage warned practitioners against giving opiates, especially to neurotic subjects. He insisted on the necessity for varying hypnotics and sedatives.

Opium was best given in cases of acute bodily or mental pain, and, in small repeated doses, was often useful in cases of agitated melancholia. The sulphonal and veronal series he considered very useful in any cases, but some patients were very intolerant. Hydrotherapy, counter-irritation, and other measures often proved successful. In conclusion, Sir George Savage referred to hypnotism in the treatment of sleeplessness, and expressed the hope that members taking part in the discussion would give their experience of this form of treatment. Dr. W. H. Butler Stoddard advanced the view that sleep was induced by the presence of carbon dioxide in the blood. He thought that the synaptic resistance was raised. Dr. Hubert Bond expressed the opinion that much could be done by employing adjuvants to sleep—(1) open air, (2) continuous bath. He also advocated hypnosis. Dr. Constance E. Long urged strongly the advantages of hypnotism in the treatment of sleeplessness, and pleaded for a fair trial to be given to this line of treatment. She considered that suggestion played a large part in the action of drugs in inducing sleep. Dr. Robert Jones agreed cordially with Sir George Savage as regards the necessity for prolonged sleep for growing girls and boys, and concurred with Dr Bond as to the usefulness of open-air treatment, the continuous bath, and massage as adjuvants to drug treatment. Dr. T. Johnston agreed with Miss Long. Dr. Knowles Stansfield spoke of the state of the blood pressure in sleep and the effect of various hypnotic drugs on the pressure. Dr. Eder strongly advocated hypnotism, and thought that in some cases psycho-analysis might prove useful. Dr. T. Williams held that a wise doctor would find out the cause of the sleeplessness without subjecting the patient to extensive psycho-analysis, and that in many cases it would not even be necessary to resort to hypnotism.

Section of Ophthalmology.

THE President (Mr. T. H. Bickerton), after the meeting of the Section, discussed the position of the profession as regards ophthalmology during the nineteenth century, and the part played in regard to the subject by the British Medical Association, and Mr. Reeve (Toronto) voiced the opinion that such an interesting address demanded the thanks of the Section. Mr. John Hern (Darlington) opened the discussion on school clinics and the prevention of myopia. He considered that there was a tendency to myopia in everybody, and it was much increased by the hanging of the head down as in reading, and also by the compression of the eye between the recti muscles. Raising the desk, the use of good light, and the correction of the error were the most important prophylactic methods. Mr. A. F. MacCallum (Egypt) read a paper on the school clinics of Egypt, where about 96 per cent. of the children suffered from trachoma, and mentioned the good results of treatment. Dr. Maddox (Bournemouth) said that stooping was a very important factor in the development of myopia, and he suggested several ideas for the better education of myopic children. Mr. H. T. Harrison Butler (Coventry) was in disagreement with the previous speakers. He spoke of the conditions in Germany, and did not consider that the action of the muscles nor of stooping had the slightest effect. He thought malignant myopia was due to abnormal softness of the sclera, which was unable to withstand the normal tension. He considered that myopia was always due to bad hygiene, and not to mechanical causes. Dr. J. Wilson (Glasgow) was in complete agreement with Mr. Harrison Butler, and pointed out that myopia was by no means confined to those doing near work, and thought that school work *per se* was by no means an important cause. Mr. Bishop Harman (London) said that the numbers of cases of myopia in London schools was above 1 per cent. He totally disagreed with the figures given by Mr. Butler from Germany as being in any way applicable to English children. Dr. Weeks (New York) considered that close work conduced to myopia, but bad health, etc., much favoured it; one of the most important factors in its treatment was its accurate correction. Mr. Reeve (Toronto) thought that real myopia never disappeared, but often opticians gave minus glasses to emmetropes or hypermetropes. Mr. Parsons (London) said that hereditary myopes did not alter at all, and he doubted the influence mechanically of stooping, but he was certain that muscle pressure was of high importance, and another vital condition was that of efficient lighting of schools and factories. Colonel Elliot had never found a case of myopia which became emmetropia. Trachoma in India was spread by cosmetics. Mr. Inglis Pollock disagreed with much of what Mr. Butler said. He thought that much could be done to prevent myopia spreading. Dr. Marion Gilchrist (Glasgow) thought the most important thing was the careful correction of the refraction and the conditions under which work was done. Colonel Pridmore found myopia in boys in Burma, but they were far more studious than the girls. The President summed up the question. Mr. Maddox, in a paper on supracorneal sutures and an operation for conical cornea, described sutures which were designedly laid over the face of the cornea, either nakedly or with the intervention of oiled membranes. These were to produce direct traction on the cornea, and were of value in certain cases of ocular traumatism and after operation for conical cornea by excision of an ellipse. Mr. Devereux Marshall (London) asked whether a symblepharon was not produced by drawing the conjunctival flap across the cornea. Dr. Maddox said that the conjunctiva always slipped back when the stitches were removed. Mr. John Hern and Mr. Brailey highly approved of the conjunctival flap. Dr. J. A. Wilson read a paper on nystagmus, chiefly non-miners' nystagmus, which was discussed by Mr. Harrison Butler and Dr. Weeks. Mr. Bishop Harman showed a test type for children and imbeciles.

Section of Pharmacology, Therapeutics, and Dietetics.

THIS Section met in the Library of the Municipal Training College, Dr. W. Hale White, President, in the chair. The first paper was read by Dr. H. Gray Barbour (University of Yale), who dealt with the pharmacology of the body temperature, and gave an account of experiments on rabbits which had been carried on in the pharmacological laboratories of Yale and Vienna. Among other things, he found that cold and heat were specific stimulants of the heat regulating centre; thus, heat centrally applied lowered body temperature, while cold raised it. He referred to the results of direct application of various drugs to the caudate nucleus. Applied in this way antipyrin, chloral, quinine, alcohol, and adrenin lowered body temperature, while caffeine raised it. He also referred to the results of operative removal of parts of the brain, and suggested that the centre for the dissipation of heat was situated higher up than that for its production. In the discussion which followed the President, Dr. Gunn (Oxford), and Dr. Low (Cambridge) took part. Then followed a valuable discussion on urinary antiseptics, which was very ably and lucidly introduced by Mr. J. W. Thomson Walker. After clearing the ground by a general consideration of the whole problem, Mr. Walker took up specially the antiseptic value of the formaldehyde series of urinary antiseptics and their dosage, and later the effects of variation in the reaction of the urine upon bacterial growth and upon the action of antiseptics in the urine. Among the points he emphasized were the efficacy of urotropine in an acid urine, its selective action on micro-organisms, the relative power of acid sodium phosphate and ammonium benzoate to make the urine more acid, and of potassium acetate, citrate, and bicarbonate to make it alkaline. He gave illustrative examples from cases. Professor Bradbury (Cambridge) followed, and related his clinical experiences of the use of urinary antiseptics. In the discussion which followed the President and Drs. Hunt (Brighton) and Gunn (Oxford) took part. Members were unanimous in their approval of the subject of the discussion and of the way in which it had been introduced.

Section of State Medicine.

OWING to the unavoidable absence of Dr. Hope (Liverpool), President of the Section, the chair at the opening meeting of the Section of State Medicine was taken by Dr. W. A. Bond (M.O.H., Holborn). The subject for discussion was the prevention and treatment of tuberculosis, and this was carried on on two parallel lines—namely, first, the functions of the tuberculosis officer,

and, secondly, treatment by tuberculin. Dr. H. O. West (Tuberculosis Officer for the County of Kent) dealt with the functions of the tuberculosis officer from three points of view—namely, in his relationship (1) to the public health authorities; (2) to other medical men, especially general practitioners; and (3) to patients and the lay public generally. (1) The position of a tuberculosis officer in relation to the central public health authority should be that he was a clinical expert on the staff of the medical officer of health, responsible to him alone as his chief, and working alone under his direction. Such an arrangement was simple in a county borough, but might lead to difficulties in a county area with several local medical officers of health, but he thought there could be no possible controversy if the tuberculosis officer was regarded as a consulting physician, dealing only with the clinical treatment of patients, and leaving the whole sanitary question to the local medical officer of health. There need be no suspicion of a tuberculosis officer usurping the functions of a medical officer of health, and in his opinion it would be much better if these officers were Members of the College of Physicians rather than holders of a diploma in Public Health. (2) With regard to the relations between the tuberculosis officer and general practitioners, it was quite unnecessary that there should be any friction, but both should work together on the lines indicated. And (3) as regards patients, the tuberculosis officer should be recognized as a consultant. Dr. Sewell Cooke, in the absence of Dr. Camac Wilkinson, outlined the treatment by tuberculin as it was carried out at Dr. Wilkinson's dispensary, laying special stress on the method of increasing the doses as rapidly as possible, so long as the patient could tolerate it, and not only increasing the dose by a definite ratio, but increasing the increase. The cases were selected in so far as extreme cases and cases of mixed infection were excluded, and by this means they were enabled to treat 75 per cent. of the cases coming to them, and claimed successful results in 70 per cent. of the cases treated. In reply to an inquiry as to what was his criterion of success, he mentioned restored energy, increased vigour and capacity for work without being tired, diminished cough without entire disappearance. He believed that patients with cavities in the lungs might be considered as carriers of the disease, though they themselves were for all intents and purposes cured. Dr. Duncan Forbes (M.O.H., Brighton) was of opinion that the medical officer of health should be the chief administrative officer, and that the tuberculosis officer should act as a consultant and also as assistant to the medical officer of health in preventive work. In giving statistics as to tuberculin treatment cases which showed tubercle bacilli in the sputum should be separated from those which had not shown tubercle bacilli; and tuberculin must establish its reputation on its results in the treatment of cases showing bacilli in the sputum if the profession was to place faith in it. Dr. J. McKeith (London), speaking as a laryngologist, stated that he had noticed considerable improvement from tuberculin treatment in laryngeal cases, and gave it as his opinion that atrophic rhinitis was in most cases of a tuberculous nature and amenable to treatment by tuberculin. Dr. Murray Leslie (London) strongly emphasized the view that tuberculosis ought to be diagnosed and treatment commenced before tubercle bacilli appeared in the sputum or physical signs could be found in the lungs—in fact, in the closed stage, before the disease became open. Dr. Griffith (Hove) said that one advantage of the discussion was that a definition had at last been received of what Dr. Camac Wilkinson and his assistants considered the criterion of success in tuberculin treatment. While recognizing the value of Dr. Wilkinson's work, he could not agree with his statistics. The Chairman, Dr. Bond, dwelt on the causes of the decline in tuberculosis, and Dr. W. Ewart (London) laid special stress on direct treatment of the lungs. Dr. McWalter (Dublin) believed that sanatorium treatment had been an absolute failure. The session concluded with the passing of the following resolution, proposed by Dr. Heggs (Sittingbourne):

> That this Section of State Medicine recommends to the Council of the British Medical Association that representation should be made to the Government that in cases of tuberculosis receiving sanatorium benefit the sickness benefit provided should not lapse at the end of six months, but should continue so long as the patient is, in the opinion of the medical adviser to the Insurance Committee, unfit for work.

SECTION OF SURGERY.

THE Surgical Section, under the Presidency of Mr. Thelwall Thomas, of Liverpool, had under discussion the all-important subject of the diagnosis and treatment of primary carcinoma of the stomach. Mr. G. H. Makins led the debate. He pointed out that two causes contributed to the unpopularity of operations on the stomach in this country—the lateness of coming of these cases within the reach of the surgeon and the fact that the family doctor acted more promptly when symptoms of obstruction appeared in intestinal cancer than when symptoms of stomach mischief threatened to prove intractable. The frequent employment of gastro-enterostomy had exhibited also possibilities of removal of tumours hitherto unthought of. The difficulty of early diagnosis was still paramount, and indeed it was not too much to say that sure early diagnosis was not possible. One might employ test meals, skiagraphy, careful inquiry into clinical and past history, the refined methods of blood examinations, and yet fail to differentiate between an innocent inflammatory mass and a cancer, or even fail to assure oneself of the presence of disease at all. All that could be said was that one might be suspicious of malignancy in a patient who, having had formerly a long history of indigestion, had a period of relief of symptoms, then comparatively suddenly began to suffer from obstinate gastric symptoms, or in a patient past middle life who, never having had stomach trouble, suddenly complained of indigestion which would not yield to treatment. He regarded the exploratory operation as of the highest importance as a method of diagnosis. It was in early cases attended with practically no mortality risk. But he would like to point out that in advanced cases, where exploration might be done to determine whether radical operation were possible, it was attended with quite decided risk. Then again, even after exploration, it could be a matter of difficulty to decide whether the tumour felt was a malignant mass or simply an inflammatory one. Perhaps, after all, it did not matter, as the treatment was the same; it might be as unsafe to leave a hard, dense, cicatricial mass formed around an old-standing ulcer, with its prospects of becoming malignant, as an actual cancerous tumour. Methods of treatment were determined by extent and position of growth. Pyloric tumours comprised quite a half of all cases of stomach cancer, and it was these that he thought were amenable to radical operation. Growths at the cardiac end were unsuitable to any but palliative methods. Lymphatic glandular involvement varied, and its amount bore no relationship to the size of the original growth. Extensive enlargement of glands might be due, not altogether to metastasis, but to simple inflammatory infection, so that he was not deterred from attempting complete removal of the tumour, even though complete removal of glands was impracticable. Partial gastrectomy was a much more satisfactory procedure than palliative gastro-enterostomy, and it was not accompanied by a great degree of shock. Gastro-enterostomy should be restricted to cases in which partial gastrectomy was impossible; the relief it afforded did not extend on an average beyond a period of five months. Mr. Makins's review of the subject was completed by reference to the various operations performed. The most generally useful operation was on the lines of Billroth's second method: Removal of pylorus and portion of lesser curvature, closure of duodenal stump, and posterior or anterior union of jejunum to remainder of stomach. Mr. Hey Groves (Bristol) agreed with the difficulty in diagnosis. It was a fallacy to expect that definite diagnosis could be made by chemical and physical means when it was assumed that every case was either definitely malignant or definitely benign. Dr. T. K. Dalziel (Glasgow) thought that the early diagnosis was as difficult as early diagnosis of cancer in any situation. He strongly held that complete eradication of the disease by partial or complete gastrectomy was the only sound treatment. Mr. R. Jowers (Brighton), Mr. A. Buck (Brighton), Mr. McAdam Eccles (London), Mr. P. D. Wilkie (Edinburgh), Mr. Betham Robinson (London), and the President contributed to the discussion, and Mr. Makins briefly replied.

Mr. D. P. D. Wilkie read a paper containing experimental observations on the cause of death in intestinal obstruction; and Dr. A. A. Warden narrated his experience of the success of radium in the treatment of inoperable cancer, and held that a distinct place was to be found for it second in importance only to surgical operation.

SECTION OF TROPICAL DISEASES.

THE discussion on the causes of invaliding in the tropics was opened by Dr. Basil Price, who mentioned the following as fairly constant factors in affecting health and disease: Temperature, humidity, elevation, endemic disease, prevalence of mosquitos and insanitation. The location, habits, and idiosyncrasy of the individual entered into the problem of health and disease. In almost all countries in which missionaries laboured, neurasthenia and insanity played a most prominent part in causing invaliding, and in many countries were the most important causes. The impulsive, enthusiastic, but easily depressed person could not stand the strain of the conditions inseparable from a tropical life and work, unless he possessed also a strong leaven of common sense, humour, and good self-control. Against many diseases met with in the tropics safeguards could be secured directly, such as against small-pox, enteric, and indirectly by teaching the methods of warding off malaria, yellow fever, filaria, etc. In this connexion Dr. Price advocated that missionaries should have systematic instruction in health and hygiene before going abroad. Tuberculosis was a very frequent cause of invaliding, and all candidates for employment in the tropics should be prevented from going abroad if there were any history of tuberculosis in the family. Colonel R. I. S. Simpson, C.M.G., A.M.S.(ret.), drew his observations from Army Medical Reports extending from 1896 to 1910. The average of the ratios per 1,000 for all foreign stations for all diseases between 1906–10 was 24, of which 8 was due to tropical disease—usually malarial fever, especially at Mauritius, West Africa, and South China. In India between 1907–11, both inclusive, the number of cases permanently invalided from amongst 72,000 European troops were—enteric fever 21, beri-beri 4, dysentery 1, kala-azar 3, malaria 18. Surprisingly few cases were invalided for dysentery, hepatitis, enteritis, or diarrhoea. The predominance of nervous and mental diseases was distinct, and West Africa was above the general average in this respect; the commoner types were epilepsy, melancholia, and delusional insanity. Colonel Simpson arranged the important causes of invaliding as (1) nervous and mental disease, (2) tuberculous disease, (3) diseases of the special senses, (4) diseases of the heart, and remarked these were the same causes which were effective in Great Britain, and almost in the same order. Dr. W. F. Law, of British Guiana, held that more attention to early symptoms of malarial fever should be paid, that regular daily use of quinine should be followed, long rest secured after acute malarial attacks have passed off, and longer leave to temperate climates, taken together with great caution in regard to the use of alcohol. Mr. James Cantlie supplied observations on sprue, mentioning fever in sprue and neuralgia of the anus as fatal symptoms. He also described muscular spasm amounting to tetany in 7 cases of sprue seen by by him within the last five years. He advocated collosol argentum.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Mental Deficiency Bill (Scotland).

SITTINGS of this Committee were held on Thursday and Friday, July 17th and 18th, and at the conclusion it was arranged that the Committee should meet on Monday, July 21st, and continue sitting, notwithstanding the meeting of the House.

Considerable progress was made with the bill, and Clause 21 was under discussion at the adjournment of the Committee, the previous clauses having been added to the bill, except that Clause 20 was postponed.

In Clause 3 a parish council was added to those who may institute proceedings in connexion with a defective, and an amendment relating to their powers was introduced into paragraph (c), Clause 4, confining their powers in the case of a defective under the age of 16 to one for whom it is the duty of the parish council to make provision.

The certificates also of two duly qualified practitioners, one of whom shall be approved by the local authority for the purpose, was provided for in an amendment, as was the case in the English bill, and other amendments to accord with this were made in latter clauses.

By a subsequent amendment it was provided that, whenever practicable, one of the certificates should be under the hand of the usual medical attendant of the alleged defective.

The provision that a petition might be accompanied by a declaration that a medical examination was impracticable was deleted, and the consent of the parent, as provided for by an amendment to the English bill, was similarly required on petition, by an amendment moved to Clause 7 by Mr. Duncan Millar in the following terms:

> Where the petition is not presented by the parent or guardian, the order shall not be made without the consent of the parent or guardian, unless, in the opinion of the sheriff, such consent is unreasonably withheld, and the withholding of such consent is calculated to prejudice the best interests of the defective.

It was also provided that two persons appointed on behalf of the defective shall attend the proceedings before the sheriff.

At the conclusion of the sitting on Thursday, July 17th, Clause 18 was under discussion, the clauses between 8 and 18 having been passed either unamended or with unimportant amendments.

With respect to the disqualification of Commissioners and other officers of the Board of Control who are debarred in Clause 19 from being interested in any certified institution or house in which defectives are received, the following provision was inserted on the motion of Mr. Pringle:

> If any person holding any such office as aforesaid acts when he is disqualified under the provision of this section, he shall be guilty of an offence punishable by fine or by imprisonment for a term not exceeding two years.

The provisions with respect to district boards in lunacy in Clause 21 were altered on the motion of Mr. McKinnon Wood to provide that they should be designated as district boards of control, and the Board of Control was authorized to alter the number of members of district boards as might be necessary.

On Monday, July 21st, the sittings of the Committee were continued, and the amendments proposed by Mr. McKinnon Wood in respect of district boards of control were inserted in Clause 21, and an amendment provided that women should be appointed as members.

In Clause 24, dealing with the powers and duties of boards, an amendment was inserted, on the motion of Mr. Pringle, enabling them to "take such steps as may be necessary for ensuring suitable treatment of cases of mental deficiency."

An amendment was made in Clause 25 providing that the cost imposed on the district board should not be more than an equivalent amount granted by Parliament.

The Committee adjourned, and the subject under discussion was that the clause should stand part of the bill.

The money resolution to authorize the expenditures under this bill passed through Committee in the House of Commons on Friday, July 18th, and Report on Monday, July 21st. A certain amount of obstructive discussion was engaged in by the members who have opposed the bill in the House and in Committee, and the usual heckling of the Secretary for Scotland by some of the Liberal Scottish members was indulged in. The Committee stage was finally agreed to by 193 to 30.

On July 22nd Clauses 25 to 29 were added to the bill. No material amendments of professional interest were made to these clauses.

Vaccination.

Vaccination Lymph.—Mr. Albert Smith asked the President of the Local Government Board whether he was prepared to issue orders to the officers of the Government lymph establishment for the exclusive manufacture of

vaccine of all-English origin, and derived only from the cow-pox disease, as contemplated by law, seeing that he had no precise information as to the origin of the vaccines cultivated by his department, and that most, if not all, the vaccines obtained from the Continent were derived from small-pox matter, and consequently contravened Section 32 of the Vaccination Act, 1867.—Mr. Burns said he was advised that it was not necessary to make any change in the practice which was now followed.

Vaccination Marks.—Mr. Burns said, in reply to a question by Mr. George Roberts, that he was not aware that in the United States it was usual to perform vaccination with one mark only, nor did his information enable him to confirm the statement that the mortality from small-pox, as well as the case mortality rate, was much lower in the United States than in this country. Having regard to the findings of the Royal Commission on Vaccination in regard to this point, he did not propose to alter the present practice.

Cost of Public Vaccinators.—Mr. Burns said, in reply to Mr. Chancellor, that the total number of public vaccinators now in office in England and Wales was 3,684. The figure given included some public vaccinators who acted in more than one district, and were therefore counted more than once. The following awards have been certified during the year ended—

	£	s.	d.
March 31st, 1904	14,938	10	0
,, ,, 1905	17,372	1	0
,, ,, 1906	12,457	19	0
,, ,, 1907	23,114	2	0
,, ,, 1908	15,468	17	0
,, ,, 1909	10,745	19	0
,, ,, 1910	15,481	8	0
,, ,, 1911	13,099	5	0
,, ,, 1912	8,320	11	0

The amount of fees paid to these officers during each of the years could not be given.

Conscientious Objections.—Mr. Burns gave, in reply to a question by Mr. Ramsay Macdonald, the following figures as to the total number of exemption certificates or declarations of conscientious objection to vaccination received by vaccination officers during the calendar years 1907–12, inclusive; and the percentage of such objections to total births registered during those years:

Year.	Exemptions.	Percentage of Total Births Registered.
1907	57,675	6.3
1908	162,799	17.3
1909	190,689	20.9
1910	230,947	25.7
1911	248,483	28.2
1912	275,929	31.6

Midwives in Irish Workhouses.—In reply to Mr. T. M. Healy, Mr. Birrell said that extern midwives were employed in forty-five workhouses in Ireland. These women were required to act under the directions of the medical officer of the workhouse, and after much careful consideration the Local Government Board came to the conclusion that it was better that they should be under the general instruction of the medical officers than that an attempt should be made expressly to define their duties by general regulations.

Programme of Parliament.—The Prime Minister announced at the meeting of the House on Tuesday, July 22nd, that the Milk and Dairies Bill, the Bee Diseases, and Irish Creameries Bills would not be proceeded with. It was intended to pass, amongst others, the Mental Deficiency (England) Bill and the Insurance Act Amendment Bill, and he hoped also that the Elementary Education (Defective and Epileptic Children) Bill, the Scottish Mental Deficiency and the Public Health (Prevention and Treatment of Disease) Bills would be passed.

Public Health and the Prevention of Disease.—A short bill to amend the law relating to public health in respect of the treatment and prevention of disease has been introduced by Mr. Burns. The bill consists of four operative clauses. The first clause empowers the Local Government Board to authorize a local authority, notwithstanding Section 281 of the Public Health Act, 1875, to exercise in any part of a united district any powers which the joint board is authorized to exercise. The second clause empowers the Local Government Board to declare that a county council may be one of the authorities to execute and enforce regulations with respect to infectious diseases under Section 130 of the Public Health Act, 1875. The third clause empowers county councils to make arrangements with respect to the provision of laboratory facilities. This important clause may be quoted in full. It is as follows:

3.—(1) It shall be lawful for the council of any county or county borough to make any such arrangements as may be sanctioned by the Local Government Board for the treatment of disease and for the provision of laboratory facilities for use in connexion with the treatment or prevention of disease.

(2) Any expenses incurred in providing such treatment or facilities shall, in the case of a council of a county borough, be defrayed as part of the expenses incurred by them in the execution of the Public Health Acts, and in the case of a county council as expenses for general county purposes, or if the Local Government Board by order so direct, as expenses for special county purposes charged on such part of the county as may be provided by the order.

The fourth clause relates to the powers of the Metropolitan Asylums Board, and is obviously introduced in view of the reception of tuberculous persons in connexion with the Insurance Act. It is as follows:

4.—(1) It shall be lawful for the managers of the Metropolitan Asylums District with the sanction of the Local Government Board to enter into agreements for the reception into hospitals provided by the managers of patients suffering from any disease, and for this purpose the managers shall be deemed to be a sanitary authority.

(2) Any such agreements may provide that the cost of the treatment of the patients so received, or some part thereof, shall be borne otherwise than as provided by section eighty of the Public Health (London) Act, 1891.

Local Government Board Laboratory.—Mr. Astor asked the President of the Local Government Board under what votes the sum of £1,795 expended in connexion with the Local Government Board laboratory in London during the year ending March, 1913, was included; and how much of this total represented salaries.—Mr. Burns said that the sum of £1,795 was included under Subheads M, N, O, and P of the vote for the Local Government Board. Of this sum, £1,209 14s. 8d. represented salaries, wages, and allowances.

Ventilation of the House of Commons.—A committee has been appointed to report upon the ventilation and heating of the House of Commons and the Parliament House, and to suggest, if possible, practical measures for its improvement. The committee consists of Dr. Addison, Mr. Charles Bathurst, Mr. Dillon, Sir Philip Magnus, Captain Murray, Mr. Soames, and Captain Tryon. It was resolved that the committee have power to send for persons, papers, and records, and that three be the quorum.

London University.—Mr. King asked the Prime Minister whether any opportunity would arise before the end of the session when the House could discuss the report of the Royal Commission on the London University; and whether he could give an assurance that no site would be acquired for the University unless and until the approval of the House was signified on the proposal.—The Prime Minister said he knew of no such opportunity. He was not in a position to give the assurance asked for, since the Government had no present intention of making a grant towards the acquisition of a new site for the University.

Dogs Bill.—The Committee met again on July 23rd and decided not to proceed with the bill, in view of the deadlock reached at the meeting on July 16th and of the advice given by the Speaker, who had been consulted on the situation.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

Medical Inspection of School Children.

The annual report of the School Medical Officer for Manchester, Dr. Ritchie, for the year ending December, 1912, shows an ever-increasing amount of work. The number of parents who object to the routine examinations is almost negligible. Since 1909 the children have been selected for inspection according to the instructions of the Board of Education, and in addition children of the infants' departments under 5 years of age have been inspected, and cases of all ages requiring special attention. The medical officer considers that the 13-year-old group is unsatisfactory for routine examination, and that 12-year-old children would give better scope for more useful work. Altogether in 1912 the number of children examined was 26,896, of whom 6,392 were under 5 years old. This total is an advance of about 3,000 on last year's figures. The number in respect of whom directions were given to the parents for treatment of defects was 10,756, and the report gives a detailed table of the defects found, classified according to age and sex. The average time per head occupied by inspection is about seven and a half minutes, and it is not thought possible to accelerate the work beyond this point. In a review of the facts disclosed by the inspection, it is shown that as regards the height and weight of Manchester children there was in 1911 a small but definite increase, and in 1912 there was a further slight increase in both respects, with the exception of the 13-year-old boys, who showed a slight decrease in average weight. In the routine examinations, mental defectives were found to be 0.1 per cent. With regard to visual defects the total number of cases brought before the medical officer still increases, and there is still a fairly large number of parents who require considerable pressure before taking any steps to remedy the defect. During the year the Education Authority supplied at the request of parents 415 pairs of spectacles. There were 51 boys and 9 girls who received treatment for stammering in the special classes. A total of 557 cases were reported as suffering from otitis media, in addition to 259 cases of other ear diseases. The staff endeavours to ensure that treatment does not cease with the stopping of discharge, and the cases are not withdrawn as satisfactory until evidence has been obtained that the treatment has not been of a perfunctory nature. Dr. Ritchie insists on the fact that the staff at his service is insufficient to follow up the cases as should be done, and this is especially the case with the large number of children reported as having nits of the head or being verminous. The number of cases of skin disease recorded as found in the routine examination were—impetigo 353, ringworm 187, scabies 39, and other skin diseases 110. In connexion with ringworm the teachers are instructed to report all cases, and yet 187 were only detected in the routine examination. Altogether 2,003 notifications of ringworm were received at the office, and there were sometimes as many as 1,500 under supervision at one time. These children are brought periodically before the medical officer for inspection and testing of hairs, and no cases of ringworm of the scalp are allowed to attend school unless the hair over and around the patches is cut and a washable cap worn. Many of these cases are never taken either to a hospital or a doctor, and are practically dealt with at the office of the medical officer at what is termed an "observation clinic." Children affected with ringworm of the body are not allowed to attend school. Ninety-eight cases of phthisis were recorded, of whom 11 were among the 13-year-old children, 50 among the 5-year-old, and 37 among the special cases. During the year 1,303 cases of anaemia were reported. Parents were warned as to the danger in these cases, and were assisted as far as possible through several voluntary associations to provide their children with a period of residence in the country under good sanitary conditions, but the number that could be dealt with in this way was comparatively small. Many of them drag on, owing to the home conditions, from month to month, and not infrequently incipient phthisis is detected among them. Enlarged tonsils were reported in 1,259 cases, of whom 405 required attention; and of 978 cases of adenoids recorded, 614 were of such gravity as to have operative treatment indicated. There are still many parents who refuse to have anything done in these cases. Cases of measles and whooping-cough have for some years past been notified to the medical officer of health by the attendance officers, and it is said that the new local Act requiring parents to notify all cases of measles, German measles, and whooping-cough is being carried out fairly well. Formerly all contacts with these diseases were excluded from school, but, as the result of an inquiry made with a view to ascertain how far children over 7 years old who had had the diseases contracted a second attack, a regulation was made that children attending the higher classes, who are not themselves suffering, must stay at home until three weeks have elapsed from the date of occurrence of whooping-cough or the occurrence of the measles rash in the child last attacked, unless they have at some time had the disease, in which case they are at liberty to attend school. The report contains an interesting account of the work done in connexion with infectious diseases by Dr. D'Ewart, and special reports by Dr. Neave on squint in school children and by Dr. Woolham on colour work in schools. Dr. Ritchie recommends that the schools in the poorer districts be provided with baths; that one or more open-air schools be provided; and that provision be made for light treatment of ringworm cases. He further asks for more nurses and clerks and better accommodation for the medical staff.

Mr. Masterman on Malingering.

Mr. Masterman's remarks in the House of Commons with regard to malingering among insured persons, in which he charged Lancashire doctors with giving certificates carelessly or even deliberately when they ought not to be given, have been bitterly resented by medical men all over Lancashire, and especially in Manchester, which he particularly singled out for attack. It is difficult to understand how he could possibly have obtained proof of such a charge without the medical men concerned knowing about it; and, as a matter of fact, nothing is known of any such proved cases. It is felt that the reputation of the whole profession has been attacked, and at a meeting of the Manchester Local Medical Committee, held on July 17th, the following resolution was unanimously carried:

> The Manchester Medical Committee, being the only statutory medical insurance committee for Manchester, repudiates Mr. Masterman's reference to a Manchester committee composed of an equal number of medical men and representatives of approved societies as his authority for a charge against the medical profession of Manchester, which he has seen fit to make in the House of Commons. No such committee as that mentioned by Mr. Masterman exists. Further, the Manchester Medical Committee denies the charge of fraudulent certification, and calls upon Mr. Masterman either to substantiate it or to withdraw it.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Medical Appointments in Edinburgh.

At its meeting on July 14th Edinburgh University Court appointed Dr. James Ritchie, at present Superintendent of the Laboratory of the Royal College of Physicians, Edinburgh, to the Chair of Bacteriology in the university. To the interesting circumstances connected with the foundation of this chair reference has already been made in the JOURNAL (May 17th, p. 1076), and it remains to be added that its first occupant is M.A., M.B., and M.D. of Edinburgh University, as well as B.Sc. and M.A. of Oxford, for after his graduation in the former university Dr. Ritchie went to Oxford, where, at the request of Sir John Burdon-Sanderson, he initiated the teaching of pathology and bacteriology, and was in turn Lecturer, Reader, and Professor of Pathology. After sixteen years in the South, Professor Ritchie returned to Edinburgh as the Superintendent of the Laboratory of the Royal College of Physicians in 1907, and there during the past six years he has done much good work. He is well known as an investigator, as a writer on pathology and allied subjects, and he has

acted as examiner in pathology in various universities; and his occupancy of the new Chair begins with the best of omens. Another appointment in connexion with pathology is that of Dr. Theodore Shennan to the University Lecturership in Morbid Anatomy. Dr. Shennan, who is at present Pathologist to the Royal Infirmary, Lecturer on Pathology and Bacteriology in the Extramural School of Medicine, and Pathologist to His Majesty's Prison Commissioners for Scotland, is M.D. and F.R.C.S. of Edinburgh, and is well known for his work in pathology. He will be missed in the Extramural School, but his appointment as University Lecturer will help on the scheme for the closer co-operation in the teaching of pathology between the Infirmary and the University authorities. Yet another medical appointment—that of the assistant medical officer of health who is to act as tuberculosis officer for Edinburgh—has been advanced a stage further this week: for the Sanatorium Subcommittee of the Burgh Insurance Committee and a Subcommittee of the Public Health Committee of the Town Council have unanimously agreed to recommend for the post Dr. John Guy, who is a graduate (M.D.) of Glasgow University of 1900, holds the Diploma of Public Health of Cambridge, and is at present county tuberculosis officer, Gloucester, a post he has held for six months. Dr. Guy was for seven years superintendent of the sanatorium at the Bridge of Weir in connexion with Quarrier's Homes.

Tuberculosis Arrangements in Edinburgh.

The main provisions of the new arrangements for the treatment of tuberculosis in Edinburgh having now been carried through it remains to count the cost, and the *Scotsman* newspaper for July 14th gives the following estimate. On the footing that the Insurance Commissioners grant approval to the scheme, the expenditure and revenue of the Edinburgh Insurance Committee on Tuberculosis for the year from May 15th, 1913, to May 15th, 1914, will be:

Expenditure of Insurance Committee:			
Hospital treatment—200 beds at £65		...	£13,000
Domiciliary treatment—105,000 at 6d.		...	2,625
Additional treatment (for dependants)		...	800
Dispensary and officers—£1,000, less £100 charged to administrative expenses		...	900
			£17,325
Revenue of Insurance Committee:			
For hospital treatment—105,000 at 9d. (£3,937); but say	£4,000		
For domiciliary treatment	2,625		
			6,625
Deficit			£10,700

Post-Graduate Course for Medical Inspectors of School Children.

On July 14th the systematized post-graduate teaching in Edinburgh for the present year was begun, and the course on diseases and defects of children was opened. It extends over two weeks (July 14th to 26th), and in it the special needs of medical inspectors of school children are kept prominently in view, although this year the graduates attending it are more interested in pediatrics in general. Part of the teaching is carried out in the Royal Hospital for Sick Children, where the physicians (Drs. Melville Dunlop, John Thomson, J. S. Fowler, and Dingwall Fordyce), the surgeon (Mr. Stiles), the extra physicians (Drs. C. M'Neil, and J. W. Simpson), and the assistant surgeon (Mr. John Fraser), give medical, surgical, and out-patient clinics. At the Royal Infirmary Dr. F. Gardiner is giving clinics in the skin department, Dr. Logan Turner in the ear, nose, and throat department, Dr. W. G. Sym in the eye department, and Mr. J. H. Gibbs in dentistry. Dr. C. B. Ker, the superintendent of the City Hospital at Colinton Mains, teaches there on fevers; and Dr. R. D. Clarkson, the medical officer to the Scottish National Institute for the Education of Imbecile Children at Larbert (some twenty-eight miles from Edinburgh, but easily reached by rail), deals with the subject of mental defects of children in the institute in a series of three clinics. Dr. Halley Meikle, medical officer of health of the Edinburgh School Board, gives instruction on physical defects of children, methods of medical inspection, etc. In this way the several parts of pediatrics are overtaken in the course. Further, Sir Robert Philip is giving again, as he did last year, a series of clinical demonstrations on tuberculosis (diagnosis and treatment) at the Royal Victoria Hospital for Consumption and the Tuberculosis Dispensary, the class being limited to twenty.

Veterinary Arrangements in Edinburgh.

At the meeting of the Edinburgh Town Council on July 15th, Mr. Bruce Lindsay and Mr. Laing gave notice of the following motion:

> To remit to the Public Health Committee and the Markets Committee to consider and report as to the advisability of setting up a separate veterinary department for the city, under a duly qualified veterinary inspector, and to transfer to the city department the veterinary inspectors at present in the medical officer of health's department.

Edinburgh Nurses for the War in the Balkans.

On July 18th a party of ten nurses left Edinburgh for Athens in response to a request from Her Majesty the Queen of Greece for nurses for service among the sick and wounded in the war. Two of the ten are sisters from the Royal Infirmary, and seven others have been trained in that institution.

Lauriston Skin Diseases School, Edinburgh.

The Skin Diseases School in Lauriston Place, whose setting up was the occasion some time ago of a vigorous but ineffectual protest by the inhabitants of the district, had its distribution of prizes on July 16th. Mrs. Leslie Mackenzie, who presided, stated that the necessity for such a school lay in the fact that hundreds of children were prevented attending school owing to favus or ringworm, and the school was instituted for the purpose of educating these children and at the same time curing them. Since January of last year, when the school was opened, 109 cases had been treated. Dr. Norman Walker said that although the diseases treated there seemed trivial, yet they made serious inroads on the education of the children; there would be much less ringworm in Edinburgh during the next few years by reason of the existence of this school, and he regarded the fact that there was such a school as a great asset to the city.

India.

[*FROM OUR SPECIAL CORRESPONDENT.*]

A Woman's Branch of the Indian Medical Service.

A Calcutta newspaper has a long article on this subject, in which it says that just as child-marriage may be abolished, the *Purdah* system may also disappear; but if India is to wait for these two great revolutions the children will for many years still be weaklings. The only resources at the moment, then, are the co-operation of the medical woman and the light she can bring to bear on the dark places of Indian domestic life. It was hoped that the Royal Commission now inquiring into the Public Services would also be entrusted with the consideration of suitable legislation for the employment of a woman's branch of the Indian Medical Service. So far as has yet appeared, however, this important and necessary development has not been suggested or touched upon. It is questionable, the article continues, whether the present constitution of the Commission of Inquiry is capable of dealing with such a matter, and far more chance of the right sort of legislation being obtained would result if expert evidence and advice bearing upon the subject were obtained. This would mean the appointment of a committee of ladies, but there is no reason why this development of the Commission should not take place, or if necessary a new Commission be formed. As to the importance of the subject, it is undoubted that the introduction of remedies for the present evils under which children are brought into the world in India, would certainly do more for the progress of the people than heated discussions concerning the merits of European and Indian civil servants.

Correspondence.

THE CONSERVATIVE TREATMENT OF TUBERCULOSIS OF JOINTS.

SIR,—I have read with great interest Mr. Stephen Fenwick's paper on the conservative treatment of tuberculosis of joints. For the last fifteen years I have carried out exactly the same treatment as he recommends, more especially in the ankle, knee, hip, and shoulder joints. Previous to Bier's treatment, the thermo-cautery and Syme's actual cautery gave in some cases excellent results. No doubt the cautery produces an increased leucocytosis, in the same way as Bier's treatment does. Thomas's splint in the hip and knee joints is excellent, along with plenty of fresh air. In the elbow-joint the disease is frequently so extensive before the patient comes to hospital that excision is the only treatment that is satisfactory. When this is correctly carried out the result is a very useful joint. I have used tuberculin vaccine ever since it was introduced to the profession by Sir Almroth Wright. I have been pleased with it. Excision, erasion, or removal of foci are only carried out when *x* rays show the disease to be progressing in spite of the above treatment. I am sorry that I cannot at the moment give statistics, but they can be supplied later if necessary.—I am, etc.,

J. CRAWFORD RENTON, M.D.,
Surgeon, and Lecturer on Clinical Surgery,
July 21st. Western Infirmary, Glasgow.

THE DIETARY OF TO-DAY—SOME OF ITS DEFECTS.

SIR,—In consequence of many very undesirable innovations in the matter of some of the most important of our foodstuffs, derangements attributable wholly to our dietary are on the increase, and it is becoming more and more difficult for our profession not only to combat those derangements, but to treat diseases generally on sound scientific principles.

Time was when the wheat flour from which our bread was made contained all the essential elements of nutrition. To-day, however, many of these essential elements are either abstracted or so altered by the roller process of milling the wheat that bread made from wheat flour is no longer the complete ration that it used to be. Moreover, quite recently there has sprung up the pernicious practice of subjecting flour which would not otherwise be readily marketable to the action of some bleaching reagent, and thus we are confronted with a new element of danger to our bodies.

Rice, which has for centuries been the food of the majority of mankind, is now unfortunately so altered by polishing and coating that it is no longer the wholesome, easily digestible, and highly valuable food that it was wont to be. Polished and coated rice, when partaken of extensively as a food, is apt, in fact, to so derange the metabolism of the nervous system that the sale of this cereal thus altered should be prohibited.

Again, butter made from pasteurized milk is not equal in nutritive value to butter made from milk as drawn from the cow. Pasteurization, it must be remembered, is practised for the purpose not merely of destroying some of the micro-organisms which, through carelessness, may have found their way into the milk, but because it enables the manufacturer to produce a butter of uniform taste and appearance from many different milks. When milk is raised to a temperature between 140° F. and 185° F. fatty acids are driven off and other important chemical changes which materially lower the nutritive value of the butter are engendered. It is on this account that renovated butter is less wholesome and of less nutritive value than sound butter.—I am, etc.,

London, W., July 17th. JAMES OLIVER, M.D., F.R.S.Edin.

BIG GAME AND SLEEPING SICKNESS.

SIR,—Every one who is concerned with the development of Africa, and with the study of these diseases which have been the greatest of the obstacles preventing the colonization of tropical countries by Europeans, must be deeply interested in the papers published by Kinghorn and Yorke, and by the discussions which their papers have occasioned.

Some of the work on which Kinghorn and Yorke base their advice—that big game should be destroyed in areas near settlements—has led to results which are not quite in accordance with the experience of those who have worked on human trypanosomiasis in East and in West Africa. These differences are probably attributable to varying conditions in the localities at which the observations were made. The correctness of their work and of the facts which their work made evident is unquestioned. The situation is clear; big game—especially antelopes—are the reservoirs of, and *Glossina morsitans* is the cause of, trypanosomes which cause fatal diseases in men and animals; there is no efficient means of controlling the fly nor of curing the diseases caused by the parasite. The only means which offers any immediate promise of controlling the situation is the destruction of the reservoirs. The clear-cut directness of the reasoning is striking; no less striking is the sufficiency of the ascertained facts with which arguments proffered against it can be met.

Such is the situation. The nature of the action which it prompts should depend upon the ultimate object of our racial activity in Central Africa. If it is to open up more areas to permanent, thrifty European colonization, then the game must go—for the present, at all events. Perhaps, through inherited centuries of habit and tradition, the impulse to preserve game is an imperative, social instinct to most Europeans; consequently, a suggestion that game should be exterminated inevitably excites hostile prejudice in most of us. But the question is too serious a one to allow sway to any such emotion; reason alone must decide it. However agreeable a little shooting may be, no real settler will hesitate for long in choosing between the game and his domestic animals. Nor will those who are not settlers regret the loss of licence fees, and of a wonderful playground, nor will they regret even the destruction of an interesting fauna, in the building up of permanent European settlements in the tropics.

In view of the facts, it is reasonable to carry out the experiment which Dr. Yorke proposes; I give it the whole-hearted support of several years spent in the study of trypanosomiasis (nearly four of them in Africa); the support is given the more readily since it expressly limits the proposed destruction to a comparatively small area. The experiment, as Dr. Yorke outlines it, would soon show whether it were possible to prevent trypanosomiasis by the destruction of the big game in a limited area. And it would provide an opportunity to those engaged in carrying it out for supplying much-needed replies to many of the unanswered questions concerning trypanosomiasis and its transmission. Among the most important of them are those, which can only be answered through observations made on the spot by competent persons, concerned with the duration of trypanosome infection and with the existence and production of immunity to them.—I am, etc.,

Montreal, July 10th. J. L. TODD.

THE FORM AND POSITION OF THE STOMACH.

SIR,—Dr. John Haddon's interesting letter on the above subject, in which he advises that no drink of any kind should be permitted, in order to lessen the tendency for the accumulation of gas in the stomach and intestines, reminds me that he has not yet deigned to reply to my letter in which I ventured to remind him of the dangers of total abstinence from fluid. Apropos of this, I have long wanted to ask Dr. Haddon whether he was able to lift as much when he had reduced his weight by such abstinence from 11 st. 9 lb. to about 7 st., as he could when his weight was nearly double the latter figure. For my own part I cannot help but think that such an enormous reduction of weight, which he tells us gave him a skeleton-like look, could not have taken place except at the expense of some very valuable muscular tissue in addition to fatty tissue, etc.—a loss of muscular tissue which, in my opinion, would have rendered any labouring man totally unfit for his work. Dr. Haddon, however, may have reasons for thinking very differently, and I shall esteem it a favour if he will reply, as I am anxiously seeking information on the subject.—I am, etc.,

Liverpool, July 19th. WM. BRAMWELL, M.D.

THE ST. JOHN AMBULANCE ASSOCIATION AND AGRICULTURAL SOCIETIES.

SIR,—Two days ago I received a circular from the local secretary of the above association informing me that an ambulance station was being provided at the Royal Lancashire Agricultural Show to be held at Burnley at the end of this month, and it was proposed to arrange for the attendance on each day of one of the four divisional surgeons in Burnley, and the deputy commissioner instructed him to offer an honorarium of 10s. 6d. per diem. The deputy commissioner, I may say, is a doctor, Dr. Trimble, of Bamber Bridge, near Preston.

I wrote back in reply that I had no intention of giving my services; that if the Agricultural Society wanted a doctor to attend at their show they should employ a doctor of their own, and pay him what doctors have to pay for a locum—namely, a guinea a day for anything less than a week and railway fare; and that it was no part of the duty of the St. John Ambulance Association to provide cheap medical attendance at agricultural societies shows.

I should like to know if this is a new departure on the part of the ambulance association or if it has been going on for some years back in Lancashire and other parts of the country; will some of the readers of the BRITISH MEDICAL JOURNAL be kind enough to inform me?—I am, etc.,

JAMES GARDNER.

Burnley, July 7th.

INTERNATIONAL CONGRESS OF MEDICINE.

SUBSECTION OF ANAESTHESIA.

SIR,—In spite of the fact that the profession as a whole has been circularized, and that all persons known to be anaesthetists have received various circulars anent the work proposed to be done in this subsection, I find that anaesthetists even in London are unaware that any subsection on anaesthetics is in being. During the past week I have been repeatedly asked if it is proposed to consider any subjects germane to anaesthesia! May I therefore ask you to publish the statement that an extremely interesting programme has been arranged for discussions and papers dealing with general anaesthesia, local analgesia, and spinal anaesthesia. This will comprise such recent work as intratracheal and intravenous and colonic etherization, anoci-association, hedonal anaesthesia, post-anaesthesic toxaemias, and many other subjects which are at present prominently before anaesthetists. Many most distinguished *rapporteurs* have promised to open the discussions, and the executive of the subsection are most anxious that British and Irish anaesthetists shall add their quota to the subsection's work. Patriotism, as well as a desire to keep abreast of the science and art which they study and practise, will no doubt prove incentives to all anaesthetists to join the Congress and help those who have been at great pains to make the subsection a success.

A special museum for apparatus for producing anaesthesia is arranged, and it is hoped that all those who have apparatus whose merit or novelty is likely to prove interesting, will send it for exhibition.

The honorary secretaries in London (Dr. Scharlieb, 49, Wimpole Street, W.) and Scotland (Dr. J. W. Struthers, 2, Chester Street, Edinburgh) will gladly supply programmes and further information. I shall be only too glad to assist in like manner.—I am, etc.,

DUDLEY BUXTON, M.D.,
President of Subsection of Anaesthesia.

53, New Cavendish Street, London, W., July 23rd.

DISCUSSION ON THERMAL TREATMENT.

SIR,—The above discussion will take place on Tuesday morning, August 12th (and not on Thursday, 14th, as announced in the JOURNAL of July 19th).

May I take this opportunity of pointing out that, so far as I know, the uses, limitations and risks of thermal treatment have never hitherto been adequately set forth, and that, as they go to the root both of hydrotherapy and "spa treatment," their discussion by such authorities as Professors Landouzy, Vinai, and Laqueur cannot fail to be of much interest?—I am, etc.,

R. FORTESCUE FOX,
Joint Honorary Secretary, Section of Therapeutics.

London, W., July 21st.

Universities and Colleges.

UNIVERSITY OF ST. ANDREWS.

HONORARY DEGREE.

THE honorary degree of LL.D. was on July 10th conferred upon Lieutenant-Colonel Sir Charles Bedford, D.Sc., M.D.Edin., I.M.S.(ret.), in recognition of his researches and administrative work in India, especially with reference to Excise and Customs problems.

UNIVERSITY COURT.

At a meeting of the Court of St. Andrews University on July 13th, Dr. R. P. Mathers, Dundee, was appointed Lecturer on Diseases of the Throat, Nose, and Ear, and Miss Elizabeth Gilchrist, B.Sc., Assistant in Materia Medica. Principal Sir James Donaldson presided. The thanks of the Court were given to Professor Keibel, of the University of Freiburg, for the valuable series of models of different stages in embryology which he had kindly presented to the anatomical museum.

UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—P. E. Christofferson.
M.D.—R. S. S. Statham.
D.P.H. (*Both Parts*).—T. S. Bradburn, C. C. C. Court, P. Moxey.
(*Part I only*).—W. R. Cooper, J. R. Kay-Mouat.

*Honours.

UNIVERSITY OF MANCHESTER.

THE following candidates have obtained the Diploma in Public Health:

P. Donald, M.B., Ch.B., Annie C. Greenep, M.B., Ch.B., A. W. Laing, M.B., Ch.B., A. R. M. McIlraith, L.R.C.P., L.R.C.S., Marion Stocks, M.B., B.S., H. G. Traver, M.B., A. G. Wilkinson, M.B., Ch.B., G. G. Wray, M.B., Ch.B.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following candidates have been admitted to the Fellowship:

A. I. Brown, W. B. Brownlie, C. Corben, R. Crothers, R. K. Dadachanji, J. K. M. Dickie, M. R. Brennan, E. C. East, M. Greenberg, F. J. Henry, F. N. H. Maidment, R. Massie, A. S. Roe, R. Stout, A. G. Talbot, J. Watson.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—A. Briscoe, M. Briscoe, M. J. Broderick, J. J. Crowe, F. Daly, W. Evans, J. Holland, H. Hurst, T. P. MacDonnell, G. F. Maher, D. B. McEniry, H. L. Mooney, B. J. Mulligan, M. J. O'Connor, M. M. Price, G. C. E. Roe, J. F. Scale, J. G. Thornton, D. E. Young.

SECOND COLLEGE.—*W. G. Thompson, Elizabeth Budd, J. Coffey, B. J. Daunt, M. Dockrell, J. A. Fretton, J. J. Hayes, B. Hirson, J. McGuire, J. A. McKinnon, Marjorie McMullen, T. Moore, T. F. Moran, J. F. O'Mahony, J. P. Pegum, P. K. I. Ryan.

*Honours.

THE third International Congress of Occupational Diseases will take place at Vienna on September 14th, 1914. Those who intend to present communications are asked to send them typewritten. They should reach the general secretary in February, 1914, at latest. The following is the programme of discussions: (1) Fatigue—physiology and pathology, especially in relation to professional work; action of such work on the nervous system; nightwork. (2) Work in hot and moist air. (3) Workmen's anthrax. (4) Pneumoconioses. (5) Hurtful effects of electricity in industrial labour. (6) Professional intoxications, especially aniline, mercury, and lead. (7) Hurtful effects of occupational work on the hearing. (8) Reports. A large number of communications on these subjects has already been promised. For further particulars application should be made to the General Secretary, Docent Dr. Ludwig Teleky, Vienna IX, Turkenstrasse 23. The Presidents are Dr. Francis de Haberler, chief of the sanitary administration of Austria, and Dr. A. Schattenfroh, Professor of Hygiene and Director of the Institute of Hygiene in the University of Vienna. In connexion with the congress there will be an exposition, in which will be represented as fully as possible everything relating to the origin, preventive measures, and clinical symptoms of occupational diseases, as also the whole influence of professional work on the organism in general, except the danger of accidents and the means of preventing them.

Obituary.

THE LATE PROFESSOR FRANCIS GOTCH.

PROFESSOR ARTHUR THOMSON (Oxford) writes: After a friendship of seven-and-twenty years one may speak with confidence of those aspects of Gotch's character which endeared him to his colleagues, and won for him that commanding influence which he enjoyed so long within the university. What Oxford science and the medical school in particular owe to him is difficult for us at once to realize, for we have been so long accustomed to his help and advice that we can hardly estimate his worth until we more fully appreciate his loss.

His strength lay in the honesty of his purpose, the breadth and liberality of his views, and his dogged determination in the cause of justice.

Gotch had a wonderful power of concentration. Whatever he took up for the time being absorbed his intellect and energies. Assured of the rights of the case, he spared no pains in getting up the details, and thus armed he was indeed a convincing advocate. Sure of the soundness of his position, he was not easily diverted from his purpose, and many a time achieved success in what at first seemed a hopeless cause.

It was the pluck of the man that won the respect of all, regardless of differences of opinion. There never was any suspicion that he was "playing to the gallery," for everyone was impressed by the sincerity of his views. Acutely critical, Gotch was quick to perceive and pierce the weak spots in the armour of the opposition, and in consequence was a force to be reckoned with. Combined with these virtues he had a remarkable aptitude for organization, and possessed a rare power of reasoned argument, so that it was not surprising that he won the confidence of his scientific colleagues, whose cause he so ably championed.

What wonder, then, that when the university found itself in the throes of "reform from within," Gotch was the man, more than any other, on whom the university relied for guidance in matters affecting science and medicine. His record on the Hebdomadal Council is the best testimony to the way in which he upheld the interests of these subjects. To him we owe more particularly the new statute concerning the constitution of the Board and Faculty of Medicine; the amended statute dealing with the composition of the electoral boards to professorships; whilst the proposal to institute a pension fund for professors profited much by his experience and foresight. Nor should we forget the very prominent part he played in securing for chemistry the adequate laboratory accommodation rendered necessary to meet the present-day requirements of that subject. In other spheres of official life he gave of his best to the university: for a term of years he was an influential member of the delegacy of the Common University Fund, and was at time of his death a representative of the university on the governing body of Somerville College for Women.

It is of the man, however, so good and true, rather than of the official, that we shall ever cherish the memory. May I say, as one who has known him so long, how much I esteemed his confidence, and how much I profited by his friendship? On some occasions we disagreed as to questions of policy, but that never made the slightest difference in our amicable relations; it only served to strengthen our mutual respect. To me, possibly more than to any one else, were known the keen interest which Gotch took in the progress of the school, the uniform consideration which he showed for the well-being of his pupils, and the pride with which he followed their subsequent careers. On occasions, too, when he was sorely harassed by some misguided local antivivisector, one could not but admire the quiet dignity of the man. It was hard to realize how a lover of animals, such as he was, could be so misjudged. Of manner mostly serious, Gotch had a subtle sense of humour which oftentimes enlivened a social evening. Catholic in his tastes in art and literature, he had a musician's appreciation of music and a sportsman's fondness for games.

Cut off in his prime, he leaves a record of which any man might be justly proud. To fill his place in the councils of the university and as a guiding spirit in the destiny of the school will be no easy matter. The pity of it is that we should lose him thus so soon.

The funeral of Professor Gotch took place on July 19th. The body was taken from the residence of Sir Arthur Whitelegge at Kensington to Magdalen College, the first part of the service being conducted in the chapel. Among the chief mourners were Sir Arthur and Lady Whitelegge, Sir Victor and Lady Horsley, Sir Henry and Lady Hepburn, Dr. W. Ramsden, Sir Henry Bliss, Sir Walter and Lady Raleigh, and Professor Sir Edward Schäfer. Among others present were the Vice-Chancellor of the University (Dr. C. B. Heberden), the President of Magdalen, the Warden of New College, the Warden of Wadham, the Master of University, the Master of Balliol, the Rector of Exeter, Sir William and Lady Osler, Sir John Rose Bradford (representing the Royal Society), the Public Orator (Mr. A. D. Godley, Fellow of Magdalen), Mr. R. Lane Poole (Keeper of the Archives), Dr. H. M. Vernon, the Registrar of the University (Mr. C. Leudesdorf), the Assistant Registrar (Mr. E. S. Craig), Bodley's Librarian (Mr. Falconer Madan), Professor Oman, Professor Firth, Professor Sherrington, Professor Wright, Professor Gardner, Professor Geldart, Dr. G. C. Bourne, Dr. F. A. Dixey, Dr. Ainley Walker, Dr. H. P. Allen, Mr. A. G. V. Harcourt, Mr. D. R. Wilson (His Majesty's Inspector of Factories, representing the Home Office Committee on Factory Lighting), Professor J. N. Langley (Cambridge, representing the Physiological Society), Mr. J. A. R. Marriott (representing the Oxford University Extension Delegacy), Mr. Guy Thomson (representing Messrs. Barclay), Surgeon-General Sir A. F. Bradshaw, and Dr. J. S. Haldane. The interment took place at Wolvercote Cemetery.

WILLIAM HENRY LANGLEY, C.M.G., F.R.C.S.I.,

PRINCIPAL MEDICAL OFFICER, SOUTHERN NIGERIA.

WE regret to record the death, last month, of Dr. William Henry Langley, of the West African Medical Staff, who had won much credit both for himself and his profession, and for the country of his origin. Born in 1868, Dr. Langley received his professional education at Carmichael's College and in the schools of the Royal College of Surgeons in Ireland, becoming L.R.C.P.I. and L.R.C.S.I. in 1895, and F.R.C.S.I. in 1902. After completing his studies he worked for some years in the neighbourhood of Dublin, among other things acting as assistant surgeon at Richmond Hospital. He then accepted an appointment from the African Department of the Colonial Office. Soon after his arrival on the West Coast, he was called upon to take part in the Borgu expedition, for which he received the medal and two clasps, and within three years again saw active service on the occasion of the Kantagoro expedition, being mentioned in dispatches and receiving another medal and clasp. Finally—in the way of service in the field—came the Sokoto operations, for his services in which he was awarded the honour of the Companionship of the Order of St. Michael and St. George.

In the course of what on the West Coast of Africa is a long period of service, Dr. Langley acquired an unusually wide experience of life under tropical conditions, and this fact, coupled with his administrative abilities, rendered him an extremely valuable officer. He had been Principal Medical Officer of Southern Nigeria only since 1911, but before that had occupied the same post in the Gold Coast Colony, and had also been Deputy Principal Medical Officer in Southern Nigeria. In an official dispatch to the Colonial Office, Sir Frederick Lugard, the Governor of Southern Nigeria, stated that Dr. Langley's death was a very great loss to Nigeria. He had known Dr. Langley intimately for some years and felt his death keenly as a personal loss. There was no officer in the service who had the same personal knowledge of both areas of Nigeria, and it had been Sir F. Lugard's intention to put forward Dr. Langley's name in connexion with the post of Director of the Medical Department which it was proposed to establish under the scheme of amalgamation. Of this dispatch a copy was eventually sent to Dr. Langley's family by the Colonial Office, together with a communication to the effect that the Secretary of State desired to associate himself with the terms employed by Sir Frederick Lugard in speaking of Dr. Langley, "whose

unfailing tact, good temper, and keen practical intelligence, united to his great experience of West Africa, rendered him exceptionally well fitted" for the important post mentioned by Sir F. Lugard.

Dr. Langley, who usually enjoyed good health during his tours of service, was subjected to severe mental and physical strain in the early spring of this year, and fell ill about the middle of April, his death from fever and cardiac failure occurring at Ibaden on June 11th. His remains were interred the following day in the presence of a large gathering of officials, the ceremony being of a military character and ending with the sounding of "The Last Post."

Whenever their occurrence coincided with his periods of home leave, Dr. Langley was a regular attendant at the London dinners of the West African Medical Staff, and reference to the great loss which the service has experienced through his death was made by Dr. Prout when presiding at the summer dinner on June 16th.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Ivan Martin Aguilar, professor of gynaecology at Granada, aged 49; Dr. Domenico Lo Bello, lecturer on anatomy and a leading surgeon in Naples; Dr. Paul Coyne, for thirty-three years professor of morbid anatomy in the medical faculty of Bordeaux, and author of important writings on the structure of the mucous membrane of the larynx, the histology and development of the soft parts of the internal ear, a treatise on morbid anatomy, and another written in collaboration with his teacher, Leon Labbe, on benign tumours of the breast, in his 71st year; Dr. Rudolf Dick, a well-known gynaecologist of Bern, aged 61; Dr. Francesco Egidi, lecturer on laryngology in Rome; Dr. P. Gérente, formerly representative of Algiers in the French Senate; Dr. Frank Hartley, sometime professor of clinical surgery in the New York College of Physicians (Columbia University), aged 57; Dr. Manuel Pineiro y Hervá, professor of medical pathology and clinical medicine in the Medical Faculty of Santiago, Spain; Dr. Severin Lachapelle, professor of paediatrics in Laval University, Montreal; Dr. Stanislaw Parenski, professor of internal medicine in the University of Cracow; and Dr. Franz Samuely, extraordinary professor of medicine at Freiburg i. Baden, aged 33.

Public Health AND POOR LAW MEDICAL SERVICES.

ILFORD URBAN DISTRICT COUNCIL AND ITS MEDICAL OFFICER OF HEALTH.

As a result of some misunderstanding between the Ilford (Essex) Urban District Council and its medical officer of health, Dr. C. F. Stovin, the council passed a resolution asking the Local Government Board to assent to his dismissal. Upon the request of a number of ratepayers the Board agreed to hold a public inquiry into the causes of the friction, and this was opened on July 9th by Mr. F. O Stanford, A.M.Inst.C.E., and Dr. E. Petronell Manby at the Ilford Town Hall. Dr. Stovin had the support of the whole of the medical profession, who signed a petition to the Local Government Board appealing for an inquiry. The circumstances which led to the inquiry may be summarized as follows:

Dr. Stovin was appointed medical officer of health by the council in 1902, and he continued as part-time officer until 1908, when, in consequence of the medical inspection of school children being added to the obligations of the council, they appointed him a whole-time officer at £600 a year. Shortly after Dr. Stovin began to inspect the school children he found that the work would take up too much of his time, and under the terms of the agreement he maintained that he was only called upon to superintend the work. The council at first hesitated, but eventually decided to appoint another medical man to undertake the work at £250 a year. But it was evident that some of the councillors thought Dr. Stovin ought to have included it among his duties. The next point of disagreement was over the conversion of some private houses belonging to Dr. Stovin in Cranbrook Road, one of the principal residential thoroughfares, into shops. The council thrice refused the plans because they did not conform to the by-laws as to building line. Dr. Stovin, however, proceeded with the work, and the council compromised matters by agreeing to accept some of the forecourt for road-widening purposes. Upon this land stood a tree, which Dr. Stovin regarded as an obstruction, and as it would have been dangerous, according to his statement, to have cut it down when the shops were finished he had it removed, much to the annoyance of the council, which threatened prosecution and other things. Some trouble next arose between the medical officer and the council over redrainage work in the town, which eventually culminated in one of the assistant inspectors in the Public Health Department being suspended. The climax of the friction was reached when Dr. Stovin published his annual report. The council alleged that the medical officer withheld certain pages in which he dealt with his treatment by the council until the report was bound up, and they took such great exception to the statements contained therein that they straightway passed a resolution asking the Local Government Board to dismiss Dr. Stovin.

When the inquiry was opened, Mr. Mackenzie, who appeared on behalf of the District Council, criticized what he called the high-handed attitude of Dr. Stovin, who, he said, by his defiance of the council, had created an impossible situation.

Evidence in support of the council's case was given at great length by the Chairman of the Council, Mr. W. J. T. Cullis, and Councillor B. Bailey, Chairman of the Public Health Committee, who moved the dismissal of the medical officer.

Mr. Kelsey, who appeared for Dr. Stovin, suggested to Councillor Bailey that it was rather a cruel procedure to ask for the medical officer's resignation just because he had been unwise. To this the councillor replied that Dr. Stovin had defied them all along the line, and they could stand it no longer.

The inquiry dragged on day after day until July 14th, when a conference took place between the inspectors and counsel for Dr. Stovin and the council. It was then adjourned until July 16th, when it was announced that the medical officer would withdraw all the charges he had made against the council and the staff. The council thereupon decided to rescind the resolution calling upon him to resign, and it was announced that the suspended assistant inspector would be reinstated. With the whole of the personal element removed, the inquiry proceeded simply upon the question of certain redrainage in the town.

The Services.

INDIAN MEDICAL SERVICE.

SURGEON WILLIAM SCOT.

IN the article entitled "One Hundred Years Ago" in the BRITISH MEDICAL JOURNAL of July 5th, a description was given of the pioneer work done in the introduction of vaccination in the East by Surgeon William Scot, of the Honourable East India Company's service. Dr. Scot was a man of some mark in India in his day, and some further particulars of his career may be of interest.

Six officers of the name of William Scott served in the Indian Medical Service in the first half of the nineteenth century, two in Bengal, three in Madras, and one in Bombay. The name of one of these officers is always spelt Scot (with one "t"), and the dates and facts of his service show that this Scot was the officer in question.

The India Office records do not mention the date of his birth or his qualification. He was appointed an Assistant Surgeon at Madras from January 1st, 1802, on the nomination of Mr. Thelusson, a director of the Company, and landed there on September 1st, 1802. In 1805 he was serving with the artillery of the Nizam's Subsidiary Force, and later in the year with the 7th Native Cavalry; while in 1806 he was posted as Surgeon to the district of Nellore, about sixty miles north of Madras. There he remained some four years, till he accompanied the expedition to reduce the islands of Mauritius and Bourbon, towards the end of 1810, and there he did the pioneer work on vaccination described in the JOURNAL.

In 1812 he went home on sick leave. He was promoted to Surgeon on March 30th, 1814, and returned to India that year, landing on December 31st. In accordance with the rules then in force he had to revert to military duty on promotion, and was posted to the 1st Battalion of Artillery. The records show him serving with that corps up to 1820, except for a short period in 1816–17, when he was with the 21st Native Infantry and 2nd Native Cavalry. On February 17th, 1820, he was appointed Secretary to the Medical Board and Superintendent of Vaccination, and held that post for over seven years. As Secretary he compiled "A Report on the Epidemic Cholera, as it appeared in the Territories subject to the Presidencies of Fort St. George (Madras); Drawn up by order of Government under the superintendence of the Medical Board; 4to, Madras, 1824." It was in 1817 that the historic epidemic of cholera, which first attracted special attention to the disease, occurred in Bengal, ravaging the Madras Presidency in the following years. A second edition of this work was published by Blackwood of Edinburgh and Murray of London in 1849.

On October 5th, 1827, he was promoted to Superintending Surgeon, and served in that rank for five years, returning to England again on sick leave in 1832. On leaving India the thanks of the Madras Government for his good services were issued in a special General Order; he had already received the thanks of Government eight years before for his report on cholera. He retired on May 30th, 1834, and drew his pension for nearly thirty years, dying on October 21st, 1863. The expedition to the islands in 1810-11 seems to have been his only war service.

Medico-Legal.

CHARGE AGAINST A MEDICAL PRACTITIONER.

AT the petty sessions at Littledean, on July 18th, José Manuel de Freitas, late medical officer to the Cinderford and District Friendly Medical Aid Association, was (according to a report which appears in the *Dean Forest Mercury* of July 18th) charged by Thomas Wm. Wright, the secretary, for that he, "on or about the 5th June, 1913, then being solely entrusted with the sum of £4 10s. in money belonging to the Cinderford and District Friendly Medical Aid Association, that he might apply the same in the purchase of certain surgical instruments, did fraudulently convert the said money to his own use or benefit." Evidence was given by Mr. Wright, Mr. Samuel J. T. Rowlinson (Vice-President of the Cinderford Medical Aid Association), Mr. Enos Taylor, Detective-sergeant William Hayman, and Inspector Parker, and the prisoner was committed for trial at the assizes in October next. The magistrate consented to accept bail, prisoner in his own recognizances of £100, and two sureties of £200 each. The prisoner was removed in custody.

Medical News.

THE name of Mr. Albert Lindow, M.R.C.S., Wynyard House, Gallosson Road, Plumstead, S.E., has been added to the Commission of the Peace for the County of London.

DR. HENRY BUCHANAN MURRAY, of Belfast, was admitted by the Right Hon. the Lord Mayor of Dublin a freeman of that city at a court held in the Dublin City Hall on July 8th.

A SERIES of demonstrations in clinical medicine will be given at the London Hospital Medical College, throughout August and September, beginning on Monday, August 18th, at 2.15 p.m., in the clinical theatre of the hospital. On Mondays Dr. Cecil Wall will deal with pulmonary tuberculosis; on Tuesdays diseases of the blood will be demonstrated by Dr. Grünbaum; on Wednesdays there will be diagnosis of abdominal diseases by Dr. Hutchison, and diseases of the ductless glands by Dr. Thompson. Dr. Head will deal with mental symptoms occurring in the practice of general medicine on Thursdays, and on Fridays Dr. Lewis Smith with common cardiac conditions. Members of the medical profession will be admitted on presentation of their private cards.

FOUNDER'S Day at the Yarrow Convalescent Home, Broadstairs, was celebrated on July 19th. After luncheon Sir Guilford Molesworth, on behalf of the assembly, congratulated Mr. Yarrow on the good work the home was doing. Mr. Yarrow, in response, after referring to the high state of efficiency in the home, which was, he said, due to the excellent staff, proceeded to state that in August last about forty children were simultaneously attacked with severe vomiting and diarrhoea, and it occurred especially among those children who had been ordered an extra quantity of milk. Suspicions having fallen on the milk, samples were dispatched to the Clinical Research Association, who reported that bacteriological examination had revealed the presence in the milk of the bacillus which gives rise to diarrhoea. Since this had not been the first or second outbreak, it had been decided to keep their own cows, in order that the children should have the purest possible milk. He considered the supply of pure milk of so great importance that he hoped the modern installation they had laid down would serve as a guide to improvement in the present most unsatisfactory milk supply throughout the country. The cows had undergone the tuberculin test with negative results, and would be periodically tested. The company then inspected the cow-barn and dairy where the animals were milked and the milk cooled under the most favourable hygienic conditions. It is proposed to keep the animals out of doors the whole of the year; in the winter they will be protected from the bad weather in an open brick barn without doors.

THE annual meeting of the Society for the State Registration of Trained Nurses was held at the Medical Society's Rooms, 11, Chandos Street, on Friday, July 18th, Mrs. Bedford Fenwick in the chair. The annual report having been adopted, Sir Victor Horsley said that both the medical and the nursing professions were united in the demand for registration, and their hopes were concentrated on Mr. Munro-Ferguson's bill. It was curious that a proposal of so much public benefit was opposed. No doubt the Government had its hands full, and was not inclined to take up a question supposed to interest only a small section of the community. The matter, however, was really of importance to the whole nation. Referring to the deputation on the subject to the Prime Minister, he said that Mr. Asquith had produced an old list of medical men opposed to registration, but this did not represent the opinions of the medical profession at the present day. The official attitude showed insufficient information. He suggested that a deputation should go to Mr. John Burns to call his attention to the shortage of Poor Law nurses, and that another should go to Mr. McKenna, who saw difficulties in the way of registration, and remove them. He further suggested that all practising nurses should give their names as supporters of Mr. Munro-Ferguson's bill. The Chairman said that the women in the hospitals were in sympathy with the society, but some courage was needed for them to come forward and so offend their employers. She thought it probable, however, that the nurses would put their names on paper in support of the society's objects. After some remarks by Dr. Chapple, M.P., a resolution was passed, *nemine contradicente*, protesting against the sending out of nurses by the London Hospital to private cases for gain at the end of two years' training. In another resolution which was carried unanimously the meeting called the attention of King Edward's Hospital Fund to the provision in the constitution of the Central Hospital Council that "the constituent hospitals shall be invited to contribute equally to the annual expenses," and asked for action with a view to the prevention of charitably subscribed funds being used in support of opposition to the registration of nurses.

MITZMAIN, who has investigated the part played by *Stomoxys calcitrans* in the transmission of *Trypanosoma evansi*, states (*Philippine Journal of Science*, vol. vii, Sec. B, No. 6) that only negative results were obtained in the attempts at direct mechanical transmission of surra with flies induced to bite healthy animals at intervals ranging from five minutes to three days after being permitted to complete feeding upon infected animals. Thousands of these insects were employed in 29 experiments involving the use of 3 horses, 6 monkeys, and 22 guinea-pigs; 27 experiments were performed in attempts to transmit surra by the interrupted method of feeding. All attempts proved negative where a single application of a varying number of flies was used, as many as 38 on a horse, and a maximum of 40 on a small guinea-pig. The intervals between feeding on infected and healthy animals averaged twenty-five to forty seconds in the two instances cited. In three trials interrupted feeding was employed in successive daily applications. An attempt was made to determine the minimum number of bites necessary to infect an animal, but even 40 bites were followed by negative results. The only positive result obtained was produced from a succession of 206 interrupted bites in which the flies were transferred immediately from the infected to the clean animal. The flies were applied for thirty-two hours altogether during a period of six days. These experiments indicate that *Trypanosoma evansi* does not develop in the body of *Stomoxys calcitrans*. Ninety-four days was the longest period in which laboratory-bred flies were tested for a cyclical development, and sixty-seven days was the maximum for wild flies. Organisms of surra were not found in *Stomoxys calcitrans* beyond eighteen hours after feeding on an infected animal, and the limit for infection by inoculation was ascertained in these experiments to be six hours. Pathogenic trypanosomes were found in the proboscis of the fly thirty seconds after feeding on infected blood. Within one minute and thirty seconds the organisms were not present in the mouth parts in a form capable of infecting guinea-pigs by inoculation. The wounds made by the labium of *Stomoxys* were not found to be a suitable channel for infection. Consequently it is not likely that surra in domestic animals is produced through this avenue by external contamination—namely, faeces, mouth parts, and pulvilli of infected flies. The intimate relation in the feeding habits of *Stomoxys* and of house-flies has been pointed out. *Stomoxys* has been demonstrated to provide through its bites means for infection by *Musca domestica* and other dung flies. These flies have been demonstrated to act as carriers, harbouring the surra organisms for several hours. No evidence was obtained to indicate that *T. evansi* is hereditarily transmitted to the offspring of *S. calcitrans*. The larva of this fly fed on surra blood does not continue to harbour the trypanosome, and the fly is "clean" upon reaching maturity. It is demonstrated that the individual glass-tube method is the most suitable for applying flies in feeding on experimental animals, and for keeping flies for long periods under laboratory conditions.

Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subject to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

A. I. P. writes: Will any one tell me the exact reason why one does not prescribe aspirin to be swallowed with soda water? I have heard one or two patients say that on the advice of their doctors they always take the tabloids with soda water, and without harmful effect.

ANSWERS.

TREATMENT OF TAENIA SOLIUM.

DR. A. J. MANASSEH (Beyrout, Syria) writes: Will "A. W." who has employed male fern without success (BRITISH MEDICAL JOURNAL, June 14th, 1913) try chloroform in 30-minim dose mixed either with castor oil or croton oil and glycerine, given fasting and repeated in half an hour? This I found very efficacious in getting rid of the taenia.

SANATORIUMS.

DR. S. VERE PEARSON (Mundesley) writes: May I venture to counsel "A. H. (Liverpool)" to seek further advice about the construction of a sanatorium besides that which you give him in your issue of July 19th (p. 156)? If he will consult Mr. Vincent Hooper's article in the July number of the *British Journal of Tuberculosis*, and a booklet by myself on *The State Provision of Sanatoriums*, to be published next week by the Cambridge University Press, he will find very different advice about cubic capacity and single rooms from that which you give him. I am presuming the sanatorium he has in his mind is one for the working classes.

LETTERS, NOTES, ETC.

A SIMPLE METHOD OF ADMINISTERING PILLS.

DR. P. M. MUTTUKUMARU (Bandarawela, Ceylon) writes: I have found the following method very simple and effective: Place the pill under the tongue, take a mouthful of water, and swallow it. I do not claim any originality for the method, as it may have been recommended by others.

HOW TO STAMP OUT PULMONARY TUBERCULOSIS.

M.D. writes: The patient had applied for sanatorium benefit, and on being examined at his own fireside was found to be suffering from fairly advanced pulmonary tuberculosis. During the course of examination he had occasion to expectorate, and made a distinctly bad aim at the fire. On being asked how he ordinarily disposed of his sputum, he proudly said: "When I'm inside I spit into the fire (!), when I'm outside I spit on the road, put my foot on it and stamp on it." His mode of reply clearly implied that what he did not know regarding the control and eradication of pulmonary tuberculosis was not worth knowing, and he considered his own methods superior to any that were given him.

STATUES OF JENNER.

DR. H. C. MANLEY writes: With reference to a note on statues of Jenner by Dr. Clippingdale which appeared in the JOURNAL of June 14th, p. 1304, I think it right to mention that I saw a fine statue of Jenner in Genoa at the Palazzo Bianco, in the middle of the fourth room. Jenner is represented vaccinating a child said to be his son. The statue is by Giulio Monteverde.

BOYS' BOATS IN OPEN RACES.

DR. SHEPHERD BOYD (Leander Club), President, Harrogate Medical Society, writes: Justifiable exceptions have been taken by fathers to the fact that public school boys (Eton excepted) are allowed to compete with college eights. Such efforts must be injurious to the growing lad on physical grounds. When consulted by parents on this subject, I invariably advise them not to allow their boys to compete in such an unequal contest against men three or four years their senior.

THE METRIC SYSTEM.

DR. J. W. LINDSAY (London) writes: The other day I entered a chemist's shop in London, and asked for tabloids of sulphate of atropine. The chemist did not stock them, but said he would order them for me. I asked him what the dose would be in the tabloids. I said I thought it was something like $\frac{1}{100}$ grain. He said he would look up his list. He did so, and found that the dose was 0.0005 gram. "Just one moment," he said, "till I calculate how much it will be in grains." He figured it out carefully, and gave me the result. "It will be just *half a grain*."

BIRTH-RATES AND DEATH-RATES.

MR. BINNIE DUNLOP, M.B., Ch.B. (Glasgow) writes: A number of annual reports for 1912 have been issued recently by medical officers of health. They show that wherever there is a fall in the birth-rate there is practically always a fall in the death-rate. They also show that districts with high birth-rates generally have high death-rates, and that districts with low birth-rates generally have low death-rates. They seem, in fact, to uphold the Malthusian contention that the death-rates are still controlled by the birth-rates, and that so long as a death-rate is above the normal the only way to lower it is to lower the birth-rate—in other words, the only way to lower it is to encourage a stricter observance of the law of parental responsibility which is the basis of an individualist State. Medical officers of health never draw attention to the close correlation between fertility and mortality, but refer the excessive death-rates in their poor districts to bad sanitation, overcrowding, mysterious recrudescences of one or another of the infective diseases, etc. Is it possible that they are unaware of this close correlation?

TYPHOID SPINE: A NEUROSIS.

DR. JOHN HADDON (Denholm, Hawick) writes: In the BRITISH MEDICAL JOURNAL of July 12th Sir William Osler, under the heading of "Typhoid Spine," says: "I long ago departed from my original belief that the condition was always a neurosis," and, "The rapid and permanent recovery with psycho-therapy and its accessories supports my original contention that there are cases in which the dominant factor is a neurosis."

The late Professor Laycock held rather advanced views with regard to the part played by the nervous system in disease, and taught that the dropsy in Bright's disease was a neurosis. Idiopathic anasarca, discovered last year by a Russian physician, and so named in acknowledgement of the obscurity of its cause, is certainly a neurosis, as any one will admit who has watched its migrations. In it the fluid is confined to the skin, whereas in the dropsy of Bright's disease it has invaded the tissues. Recent physiological research seems to confirm Laycock's views, showing that, owing to failure of the eliminating organs, the nerve cells are, as it were, drowned. The nerve cell bursts, owing to excess of fluid, and the nucleus escapes. The function of nerve centres containing such burst cells must be interfered with, and modern investigations point more and more to the paramount importance of the nervous system in every disease, whether motor, sensory, or trophic.

FLEAS AND SULPHUR.

DR. JOHN BROOM (Kirriemuir) writes: In the note on typhus fever and its causation (June 14th, 1913, p. 1291) reference is made to the use of sulphur by travelling showmen and their kin to prevent the bites of body lice and other vermin. You say it is impossible to say that the suggestion is quite unfounded. Well, another fact. We got a Yorkshire terrier dog some time ago and our lives became intolerable to us all from the pest of fleas therefrom. He semed to have a special attraction to fleas. I notice that some humans also have much more attraction than others in that way. I had noticed a letter in the JOURNAL from a doctor in the East of London referring to the taking of a sulphur tablet daily before going out to visit, he being so susceptible to fleas, so I followed his example. At the same time we put in the dog's drinking water a big piece of stick sulphur—he always drinks from his own dish. From that day the plague ceased; not a flea has been felt or seen. I gave up taking the tablets, and the sulphur in the water is quite effective. The piece of stick sulphur is seemingly no less with lapse of time. The importance of the point is that people in insect-ridden places might keep stick sulphur in their drinking water and perhaps suffer less from midges and mosquitos, to say nothing of fleas, etc.

*** Sulphur is quite insoluble in water, according to ordinary standards, but recent work in other directions has shown that infinitesimal solubility cannot always be neglected, as in the sterilization of water by the presence of an insoluble metal such as copper. From the killing of bacteria in the immediate neighbourhood of the copper, however, to the driving away of fleas from the coat of an animal that has drunk the water containing sulphur is a considerable step. In view of the commonness of the practice of putting stick sulphur in a dog's drinking water, it should not be difficult to obtain confirmatory evidence if the disappearance of fleas noted by Dr. Broom was more than a coincidence.

An Address

ON

THE INFLUENCE OF THE BRITISH MEDICAL ASSOCIATION IN THE ESTABLISHMENT OF OPHTHALMOLOGY AS A SPECIAL SCIENCE.

Delivered before the Section of Ophthalmology of the Annual Meeting, Brighton, 1913.

BY

THOMAS H. BICKERTON,

OPHTHALMIC SURGEON, LIVERPOOL ROYAL INFIRMARY; PRESIDENT OF THE SECTION.

Gentlemen.—Duty and pleasure are not always synonymous terms, but on the present occasion, in offering a welcome to the members of the Ophthalmological Section, I find them to be so.

Before entering on the business of the Section, I must express my cordial thanks to those who have placed me in the position of President. I appreciate to the full the honour thus conferred, and wish I could more adequately express my acknowledgements. Our programme of papers and subjects for discussion promises great things for the interest and success of this meeting, and instead of asking you to listen to an address on any special subject in ophthalmology I propose to dwell on the practical services rendered to ophthalmic work by the British Medical Association.

This idea was suggested by noticing that the date of the founding of the Sussex and Brighton Eye Hospital coincided with that of the founding of the Association, namely, 1832. It is certain that the methods of treatment in use in that hospital to-day, differ as greatly from those existing then as do our ordinary conditions of life. Yet, in point of time, it is not so very long ago, and there will undoubtedly be in this health resort inhabitants who were living when the foundation stone was laid. While it is difficult to think oneself back in the general surroundings of that period, it is not more so than to realize the position of medicine and surgery at that time. But we cannot estimate our indebtedness to the Association otherwise.

The Position of the Medical Profession in 1832.

Chaos is the only word which will describe the position of the profession in those days. The public had no means of distinguishing between qualified and unqualified practitioners. The grossest anomalies prevailed with regard to the licensing bodies. Graduates of English universities could practise anywhere in England, except in London and seven miles around, in Wales, in Scotland, and in Ireland, except Dublin; while, on the other hand, graduates of Irish and Scottish universities wishing to practise in England or Wales were obliged to graduate again at an English university or take the licence of the English College of Physicians. Grievances and inequalities, the evils of a rampant quackery and illegal practice, which ever evaded the arm of the law, the entire absence of uniformity in the regulations for medical study, the variety in the value of diplomas, engendered in the ranks of the profession jealousies, antipathies, and hostilities, fortunately unknown to-day.*

The medical profession was literally a "house divided against itself." The respective professions of physician, surgeon, apothecary, druggist, and chemist were all severely separate and distinct from each other.

Ophthalmology in the First Quarter of the Nineteenth Century.

In order to realize the influence of our Association on ophthalmology it is necessary to review the records concerning the treatment of diseases of the eye prior to and at the beginning of the nineteenth century. For this we need only refer to medical authors and to the advertisement pages of the newspapers of that date. I have sought among the writings of men distinguished for their learning, whose position and reputation in the eyes of their professional brethren was unassailable.

Of these, perhaps, the best known is Sir William Lawrence, F.R.S., Surgeon-Extraordinary to the Queen. Lawrence was appointed surgeon to the London Hospital for Diseases of the Eye—now the Royal London Ophthalmic Hospital—in 1814, nine years after it was opened, and was senior surgeon to that hospital when he retired. He was, in addition, surgeon to St. Bartholomew's Hospital, and lecturer on surgery at that hospital; also surgeon to Bethlem and Bridewell Hospitals. In his introduction to his *Treatise on Diseases of the Eye*, published in 1833, he says:

> As the general body of surgeons did not understand diseases of the eye, the public naturally resorted to oculists, who, seeing such cases in greater numbers, became better acquainted with the symptoms, diagnosis, and treatment, and especially more skilful in the operative department. At the same time, the subject, being imperfectly understood, was neglected in the general surgical courses, in which many important affections of the eye were entirely unnoticed and the whole inadequately explained. Thus students who resorted to London for the completion of their medical studies had really no means of learning this important department of the profession, which was tacitly abandoned, even by the hospital surgeons, and turned over to the oculists. The latter, not being conversant with the principles derived from anatomy, physiology, and general pathology, attended merely to the organ, and relied almost exclusively on what is comparatively of little importance—local treatment. Hence ophthalmic surgery, being in a manner dismembered from the general science, was reduced to a very low ebb. Until within a few years it was, in this country at least, in a state of almost total darkness.

Our second source of information—advertisements—affords abundant confirmation of the distinguished surgeon's statement. Thus:

> Edinburgh, December 28. Professor Hillmer, Physician and Counsellor of the Court to the King of Prussia, has restored many blind people to their sight, in presence of the gentlemen of the faculty, who express their highest approbation of the great perfection to which this gentleman has brought this most noble and useful science. The charitable and honest behaviour of this worthy man and the great success his inimitable performances are attended with (far superior to anything ever before introduced into these Kingdoms) make him universally esteemed and beloved. It is very remarkable that this gentleman's operations are attended with no pain or inflammation, and none of them miscarried.—*Williamson's Liverpool Advertiser*, December, 1758.

> They write from Chester that a few days since arrived at the Talbot Inn in that city, from Bath, on his way to Dublin, the Chevalier Taylor, Ophthalmiate to his present Majesty, and their Imperial Majesties to the Kings of Holland, Denmark, Sweden, etc., to All the Electors of the Holy Empire, etc., who, after having been in every Kingdom, Province, State and City of the least consideration—in every Court—presented to every crowned Head and Sovereign Prince in all Europe without exception, is lately returned to England, with a view of establishing his residence in London.—In various parts there appears of his writings, in many languages, no less than 44 works on the Eye and its defects; the produce of greatest experience and practice so extensive, that for many years near 4,000 persons have been yearly under his care for defects of sight in different parts of the world.—At Exeter have been lately published the names and habitations of upwards of 140 persons who have been restored to sight by his aid, within these few weeks, in that city and neighbourhood.—A great number of persons affected in the eye are now attending him at Chester from various parts. And we can assure our readers, that to-morrow evening he will certainly come to the Talbot Inn in Liverpool, and will continue till Monday evening; on Tuesday evening next will return to Chester, and on Wednesday will proceed to the Head for Dublin: during his short stay, the poor as in all places shall have his best assistance without expense.—*Williamson's Liverpool Advertiser*, January 12th, 1759, p. 2, col. 3.

> Having had an extraordinary cure performed on one of my children, who was born blind, by Baron de Wenzel, Oculist to His Britannic Majesty in Pall Mall; I am induced to make the circumstances public, for the benefit of any person in the same case. The child continued blind with cataracts on both eyes till last year, when (as he was then four years old), I applied to the Baron to extract them. He performed the operation on the right eye, and had much greater success than I could have expected, as the sight is perfectly obtained; within these few days the same operation has been repeated on his left eye, which is already in so fair a way that I doubt not but a short time will make this as satisfactory a cure as the other. As many persons who may see this may be unacquainted with the nature of the operations performed by the Baron, and may wish for further information; I shall be happy to answer any

* Any one interested in recalling the situation will find it in Rivington's *Sketch of the History of the Medical Profession of the United Kingdom.*

more particular enquiries, and shall think myself fortunate if I am the means of putting any one in the way to procure relief in so valuable a part as the eye.

Signed, S. BOSANQUET
(Late one of the Directors of the Bank, Forest House, Near Layton, Essex).
—*Williamson's Liverpool Advertiser*, July 22nd, 1773.

Mons. Pellier, Occulist (before his departure for London, where he intends to fix his residence), proposes to spend a short time in this town, during which the afflicted with disorders in the eyes may have recourse to him.

Mons. Pellier was here last year, when he performed many successful operations in presence of gentlemen of the Faculty, in this town. He cures Mrs. Hargreaves, seventy years of age, No. 32 Matthew Street; Mrs. Pott, wife of Mr. Pott, sugar-boiler, No. 14, in Castle Street; Robt. Christie, Musician, 23 years of age, who was blind many years; a person at No. 44 George's Street, and several others.—*Williamson's Liverpool Advertiser*, October 20th, 1785.

The skill of this oculist was vouched for by the physicians and surgeons of the Liverpool Infirmary and of the Liverpool Dispensary. Park and Alanson were two of the most notable surgeons of that day.

We, the undersigned physicians and surgeons, having seen M. Pellier operate on the cataract, and having conversed with him on the subject of his profession as an oculist, approve much of his dexterity in operating, and judge favourably of his knowledge in diseases of the eye.

Edward Alanson, Surgeon to the Liverpool Infirmary.
Henry Park, Surgeon to the Liverpool Infirmary.
R. Blundell,
J. Tetlow,
James Gerard, Physician to the Liverpool Infirmary.
T. Houlston, Physician to the Liverpool Infirmary.
J. Binns, Physician to the Liverpool Dispensary.
J. Worthington, Physician to the Liverpool Dispensary.
John Lyon, Surgeon to the Liverpool Infirmary.
—*Williamson's Liverpool Advertiser*, October 21st, 1784.

Oculists were obviously necessary, and the public preferred a man who devoted himself exclusively to diseases of the eye, treatment at this time being practically limited to external affections and cataract.

Travers, writing in 1820, remarks that "no one except the thorough surgeon can make the complete oculist"—the qualification distinguishing him (the "complete oculist"), in the writer's mind, from the "bare oculist." But he omitted to state where the complete oculist was to obtain his knowledge. Certainly not in the schools of anatomy, as a brief reference to them will disclose, and it is seen that the net result of teaching or no teaching was the same—with this difference, that the general surgeon ceased to take interest in eye work, and it was consequently left to the unqualified man (the bare oculist), who became the skilful operator.

In the year 1815 there were in England only six schools of anatomy (except those of Oxford and Cambridge). In this year the Apothecaries Act was passed. In 1828 there were twenty schools in which anatomy was taught and dissections carried on—namely, 12 in London and 8 in the provinces—at Manchester 3, Liverpool 2, Birmingham 1, Bristol 1, Sheffield 1.

Increase in the number of anatomical schools did not materially benefit the student. Though premises were now licensed, subjects for dissection were not available unless illegally obtained through the medium of the body-snatcher. Even in Edinburgh, a recognized centre, we read: "The average number of medical students in Edinburgh is 700 each session. For some years past the difficulty of procuring subjects has been so great that out of that number not more than 150 or 200 have ever attempted to dissect." Students, therefore, betook themselves to the Continental schools, where the facilities were greater, and one writer suggested "that all medical students will go abroad if an alteration is not soon made." In this condition of things the teaching of the anatomy of special organs was practically *nil*, and the distinction between the "complete oculist" and the "bare oculist" was academic.

Previous to the year 1817 no lectures were delivered in Great Britain on the diseases of the eye; a knowledge of these complaints was not presumed to form part of the education of a surgeon. Subsequently lectures were given at the Royal Westminster Ophthalmic Hospital.

The information imparted is on record. The lecturer first states that public opinion, though for the most part founded on professional authority, is generally wrong. Public opinion, he continues, pronounces the eye to be an organ of a very delicate nature, exquisitely sensible, requiring the greatest delicacy of touch and the utmost nicety of management; but students must be taught otherwise. They must learn that the eye is not a delicate organ, that it will suffer more comparative violence with less injury than any other of importance in the body—one would like to know which he considered the other important organs—and that the ablest and most successful operators are neither the most gentle nor the most tender in their proceedings.

Difficulties, he goes on, supposed to attend the performance of operations on the eye, did not exist. "Few persons can duly estimate the liberties that may be taken with the eye until they have seen several operations performed." Peculiar tact, he said, was supposed to be necessary to perform operations on the eye with advantage, "But students must not suffer themselves to be deceived, a surgeon who could operate well on any other part of the body, possesses coolness enough to operate upon an eye, the loss of which is comparatively of little consequence."

These unique sentiments are those of a "complete oculist," otherwise "surgeon," and later Fellow of the Royal Society; they were published by him for the purpose of assisting in bringing the management of diseases of the eye within the principles which regulate the practice of surgery in general. Is it wonderful that the public preferred the "bare oculist"?

FOUNDATION OF SPECIAL HOSPITALS.

Lack of interest in eye work is explained by lack of facilities. Prior to 1832 there were only three officially recognized special establishments for treatment of affections of the eye—the London Dispensary for Curing Diseases of the Eye and Ear (Royal London Ophthalmic Hospital), suggested October 1st, 1804, by John Cunningham Saunders, opened March 25th, 1805, but not thrown open to students till 1810; the Royal Infirmary for Diseases of the Eye, Cork Street, opened 1804; and the Westminster Ophthalmic, in 1816. Not until 1824 did an eye department exist in connexion with any of the London hospitals. The first eye infirmary in the provinces—the third established in Great Britain for treating diseases of the eye exclusively—was at Exeter in 1808, and we read that the efforts of a professional combination to prevent the formation of the West of England Infirmary for Curing Diseases of the Eye was only defeated by the founder—Mr. (later Sir William) Adams—having previously obtained the sanction and patronage of His Royal Highness the Prince Regent.

This "First Gentleman of Europe" did much for Brighton, but though we find little to admire in his life and character, we cannot quite agree with Leigh Hunt's indictment of him as a man who "had just closed half a century without one single claim on the gratitude of his country or the respect of posterity," for we remember that he performed at least this one good action during his lifetime. The special hospitals were founded in the following order:

London Dispensary for Curing Diseases of the Eye and Ear	1804
Royal Eye Infirmary (Cork Street)	1804
Exeter Eye Infirmary	1808
Bristol Eye Hospital...	1810
Bath Eye Hospital	1811
Bristol Eye Dispensary	1812
Manchester Royal Eye Hospital	1814
Westminster Ophthalmic Hospital	1816
Liverpool Institution for Curing Diseases of the Eye (June 12th)	1820
Liverpool Ophthalmic Hospital (August 20th)	1820
Plymouth Royal Eye Hospital	1821
Norfolk and Norwich Eye Infirmary... ...	1822
Northumberland, Durham, and Newcastle-on-Tyne Infirmary for Diseases of the Eye ...	1822
Edinburgh Eye Infirmary	1822
Birmingham and Midland Eye Hospital ...	1823
Glasgow Eye Infirmary	1824
Sussex and Brighton Eye Hospital	1832

The last mentioned owes its establishment to Mr. J. B. Slade, M.D., who, seeing that "an institution intended exclusively for the cure of ophthalmic diseases was much needed in this town," enlisted the help and sympathies first of his medical friend, Mr. James Pickford, and after-

wards those of their private friends and Dr. Todd. The "Infirmary" was publicly instituted on August 27th, 1832, the example of Exeter Eye Hospital being instanced—possibly the action of the Prince Regent in that case had a reflex action here. It is interesting to note that among the appointments on the staff was that of a "cupper." The Patron was his Grace the Duke of Richmond, the President the Most Noble the Marquis of Bristol.

Of the thirty-seven English counties, excluding Middlesex and Monmouth, only eight possessed eye hospitals—namely, Devonshire (one), Gloucestershire (two), Lancashire (three), Norfolk (one), Northumberland (one), Somersetshire (one), Sussex (one), Warwickshire (one). There were two for the whole of Scotland—the Edinburgh Eye Dispensary (1822) and the Glasgow Eye Infirmary (1824)—while Ireland possessed none.

Principal Ophthalmic Works prior to 1832.

A list (published in 1846) of the principal works on ophthalmic medicine and surgery published in the English language before 1832, gives the names of seven authors:

1808. J. Wardrop: *The Morbid Anatomy of the Human Eye.* First edition. Edinburgh.
1811. J. C. Saunders: *A Treatise on some Practical Points relating to the Diseases of the Eye.* First edition. London.
1814. W. Adams: *Practical Observations on Diseases of the Eye.* First edition. London.
1820. J. Vetch: *A Practical Treatise on the Diseases of the Eye.* First edition. London.
1820. B. Travers: *A Synopsis of the Diseases of the Eye and their Treatment.* First edition. London.
1822. A. Watson: *A Description of the Diseases of the Eye.* First edition. Edinburgh.
1823. G. J. Guthrie: *Lectures on the Operative Surgery of the Eye.* First edition. London.

Why *A Practical Treatise on Diseases of the Eye*, by W. Mackenzie of Glasgow, published 1830, is omitted I know not. Of journals devoted to ophthalmic work there were none.

Medical Societies prior to 1832.

Though medical societies existed both in London and in the provinces, they were not formed with the intention of uniting the profession. They were entirely local.

	Instituted.
Edinburgh Royal Medical Society	1737
Physical Society (Guy's Hospital)	1772
The Medical Society of London	1773
Middlesex Hospital Medical Society... ...	1774
Colchester Medical Society	1774
Liverpool Medical Society, "a few years prior to"	1779
Edinburgh Harveian Society	1782
Aberdeen Medico-Chirurgical Society ...	1789
Plymouth Medical Society	1794
The Abernethian Society of St. Bartholomew's Hospital	1795
Leicester Medical Book Club	1800
Royal Medical and Chirurgical Society ...	1805
Westminster Medical Society	1809
Huddersfield Medical Society	1814
The Hunterian Society	1819
Edinburgh Medico-Chirurgical Society ...	1821
Lancaster Medical Book Club	1823
St. Helens Medical Society	1826
Nottingham Medico-Chirurgical Society ...	1828
The Harveian Society	1831
York Medical Society	1832
British Medical Association	1832

The rules governing the Plymouth Medical Society are possibly not representative of all:

1. Society to consist of fifteen members only.
2. Society to meet at 7 o'clock on the Friday nearest to full moon.
3. Society to meet at members' houses in rotation.
4. Society to promote friendly intercourse and good feeling.
5. Society to circulate books on medicine.
6. Society to meet and dine every three months.
7. Every member was expected to be present at the dinner.

Dinners were evidently characteristic of the times, and much appreciated, for in 1829 it was suggested that two stomach pumps should be purchased, indicating that the dinner did not fall short of a mayoral banquet. Proposition not carried, inasmuch as every medical practitioner was expected to have a stomach pump of his own. Society accepted no excuse for absence. In 1822 membership reduced to twelve.

The British Medical Association was founded on July 19th, 1832, having for its main object the congenial union of scientific research and professional honour, and the diffusion and increase of medical knowledge in every department of science and practice.

How consistently the desire of Sir Charles Hastings has been kept in view and furthered members who possess the *Transactions* and Journals can testify. A complete set of these constitutes a medical library. Its pages are a treasury of knowledge. In the medical as in the other sciences the press is one great means of advancement. Through this mighty engine only can discoveries become extensively diffused, which affords the best security for further developments.

From its formation the Association was alive to the needs of ophthalmology.

The first volume of *Transactions* (1833) contains a full report of the Birmingham Infirmary for Diseases of the Eye, by Richard Middlemore, with special observations on: (*a*) Small-pox pustule of the cornea; (*b*) conical cornea: (*c*) quinia in strumous affections of the eye—which treatment he was the first to propose and adopt; (*d*) hydrophthalmia; (*e*) strychnia in amaurosis.

The following, signed "W. Hetling," also appears in this volume:

> . . . take leave to congratulate the members of the Association on the production of its first volume; and, also, on the facilities which the establishment of this institution will afford for the more rapid and extensive communication of medical information among the profession generally. It is hoped that the reflection of how much information has been lost, and suffered to run to waste, for want of a general dépôt, which might have afforded a durable asylum and existence to valuable facts and observations, will animate the provincial profession to see their real interest and dignity in their true light.
>
> Association and publication are the simple elements of our new-formed society, which, I trust, will, both in its infancy and future growth, be emulous of being worthy to share, in the well-earned fame of its professional predecessors in the metropolis, and that it will ever study to cultivate and extend their well-designed improvements, for the honour of the profession and the benefit of mankind.

The second volume of the *Transactions* contains full reports of the same infirmary, with critical observations on: (*a*) Disease of, or changes in, the tarsal cartilages, as connected with chronic conjunctivitis; (*b*) staphyloma; (*c*) rheumatic sclerotitis; (*d*) dislocation of the lens; (*e*) hydrophthalmia; (*f*) on the occasional effects of tumours in the eyelids.

The third volume contains an exhaustive article on pterygium (27 pages), also report of Birmingham Eye Infirmary, with observations on: (*a*) Development of the cornea; (*b*) opacity of the cornea; (*c*) staphyloma; (*d*) cataract; (*e*) amaurosis—strychnia; (*f*) inflammation of semilunar membrane.

Time will not permit any detailed inquiry; it will suffice to say that it would be difficult to find a volume in which some phase of the anatomy, physiology, pathology, or treatment of the eye does not receive attention either in the form of special articles or reviewed in the retrospective annual addresses.

The idea of forming local Branches of the Association was first mooted in 1835. In that year an Eastern Provincial Medical and Surgical Association was formed at Bury St. Edmunds for the counties of Cambridge, Norfolk, Suffolk, and Essex. The founders contemplated the possibility of amalgamation with the Provincial Medical and Surgical Association instituted at Worcester, and this project was carried through in the following year—1836—when branches were also formed at Wells, Bath, and Southampton.

The Association assumed the name British Medical Association in 1856, and from an early date there were Branches in the Colonies. The exact date of the foundation of the first colonial Branch I do not know. The official dates given in the list of members refer to formal recognition after reconstitution.

It is clear that from a very early stage of the Association the idea of local medical organizations linked into a national, and finally into an imperial, organization was present in the minds of the founders.

Ophthalmic Journals.

We read that in 1836 "an ophthalmic journal has just been proposed by Mr. Middlemore"; but prior to 1865—apart from hospital reports—there was no English journal exclusively devoted to ophthalmology.

In the year 1865 an attempt was made to remedy this defect by the issue of the *Ophthalmic Review*, edited by J. Z. Lawrence, of London, and Thomas Windsor, of Manchester. This publication was modelled upon the well-known *Annales d'Oculistique* and the *Monatsblätter* of Zehnder. It died in infancy. Its pages indicate the cause. There were people who believed that ophthalmology, like charity, should begin at home and stop there.

The *Transactions* and Journal of the British Medical Association had been in existence thirty-five years before the general London hospitals began to open eye departments; Guy's was the one exception, establishing a department in 1824. Similar departments were opened in the following order:

King's College Hospital	1865
London Hospital (Whitechapel)	1866
St. George's Hospital	1867
St. Bartholomew's	1870
St. Thomas's ... ... about	1871
Westminster Hospital	1892
Charing Cross	1901

Unfortunately I have not the same information as to Middlesex and St. Mary's.

Up to and including the year 1866, all papers, whatever the subject, were taken in the general meeting of the Association. In this year discussions on special subjects were arranged. Vose Solomon, at the Worcester meeting (vide British Medical Journal, 1882, vol. ii, p. 271) of 1882, stated in his address that when the Association met at Cambridge (1864) a proposal was made, "unhappily without effect," that an address should be given on ophthalmology.

In 1867 Sections were established in four subjects—Medicine, Surgery, Midwifery, and physiology. Thereafter, papers on the eye were read in the Surgical Section. Ten years later (1877) the number of Sections was six—namely, Medicine, Surgery, Obstetric Medicine, Public Medicine, Physiology, and Psychology.

Wheelhouse, of Leeds, in his review of the progress of surgery, delivered at the Bath annual meeting, in 1878, while strongly condemning specialities in surgery, made a notable exception in the case of ophthalmic surgery. His words were:

> I am in no sense a specialist; indeed, desirous as I am to record my opinion that specialities in surgery are distinctly disadvantageous, I yet feel bound to exempt ophthalmic surgery altogether from such condemnation; the field is so large, the tissues involved are so numerous, the operative procedures required so delicate in their character, that it is well, in my judgement, that ophthalmic surgery has been erected into a special science; and with the acknowledgement to those in my audience who have elected to devote themselves to the study of this branch of surgery, that, in no portion of the whole field of our art, has greater activity been shown, or greater advance been made, I will dismiss the subject.

In these words we find endorsement of the wisdom of the ancients (in Persia and Egypt) in requiring that oculists should be a separate class and ophthalmology a special science.

The objection of British surgeons to recognize specialism, so openly and strongly expressed in the first quarter of the nineteenth century, was at last breaking down. But the subject was not dismissed. While the benefit to medical science, to the profession, and to the public, of this now established custom was admitted, simple recognition of the need was not sufficient. Education of the student in the groundwork of ophthalmology was essential. In large towns the services of skilled eye men could always be obtained, but in small towns and in the country this was not so, the practitioners, otherwise skilful, not having had any teaching in ophthalmic work.

Upon recognition of this fact, it followed that practical means should be taken to meet the necessity. It was considered by the Editor of the British Medical Journal that the best remedy would be to make a three months' course of lectures upon ophthalmic surgery, with three months' attendance at an ophthalmic clinic, compulsory by the licensing bodies (British Medical Journal, 1878, vol. ii, p. 963).

At a General Council meeting, March 26th, 1879, Mr. Teale presented a memorial, signed by twenty-two of the leading ophthalmic surgeons in London, in which they drew attention to the advisability of making it compulsory upon all medical students to attend a three months' course of practical ophthalmology, either at the special eye department of a general hospital or at a special ophthalmic hospital, as well as a course of twenty lectures on ophthalmology at the least; and to the importance of making ophthalmology form a distinct subject of examination at the Pass examination for surgical diploma or at the examination of a conjoint board* (British Medical Journal, 1879, vol. i, p. 522).

At this time the only diploma in the United Kingdom for which a certificate of attendance upon ophthalmic surgery was required was that of Bachelor in Surgery of Trinity College, Dublin.

It logically followed that a special science deserved a special section, and in the following year (1879) at the Annual Meeting held at Cork, a *subsection*—Ophthalmology and Otology—of the Surgical Section was for the first time accordingly formed. Mr. Jonathan Hutchinson was chairman, and H. R. Swanzy, Dublin, and E. Nettleship, London, were secretaries. Discussions on the following set subjects were arranged:

Treatment of glaucoma, by H. Power.
Examination for colour blindness, H. R. Swanzy and Professor Hermann Cohn, of Breslau.
Use of eserine, pilocarpin, etc., Macnaughton-Jones.
Treatment of detached retina, Shadford Walker.
Tobacco and alcoholic amblyopia, Hirschberg, Berlin.
Diphtheritic ophthalmia, Nettleship.

In addition, no fewer than eleven other papers on diseases of the eye were promised.

The success of this new departure was so pronounced that a resolution was passed by the ophthalmic surgeons urging the desirability of an annual Ophthalmic Section. In December, 1879, the formation of such a Section was determined upon by the Council of the British Medical Association.

In the early part of 1880 (February) the formation of an Ophthalmological Society was suggested. While it cannot be definitely stated that this society owed its origin to the impetus given to ophthalmic work, by the action of the British Medical Association in forming a special Section, by the unqualified success which attended the work of the Section, and by the unanimous request of the ophthalmic surgeons present for the establishment of an annual Ophthalmic Section, it is a coincidence that five of the most prominent members of the 1879 meeting (Cork) were members of the first council of the new society.

Personally, I am inclined to look a little further back, and find the motive power in the notable speech delivered by Mr. Wheelhouse, at Bath, on August 8th, 1878.

In 1880, the annual meeting took place at Cambridge, and for the first time a special Section in Ophthalmology was formed. The first President was Mr. W. Bowman; Vice-Presidents, Mr. Henry Power and Mr. H. R. Swanzy; Secretaries, Dr. W. A. Brailey and Dr. David Little (British Medical Journal, 1880, vol. ii, p. 228). The subjects for discussion were (1) the nature of glaucoma, (2) toxic amaurosis, especially in relation to colour perception. In addition, the number of papers promised was thirty-six. Prior to the formation of the subsection in 1879, the number was five or six.

An analysis of the personnel of the British Medical Association Ophthalmological Section is not without interest, for it shows that all were members of the first Council of the Ophthalmological Society. Of 22 members of the first Council of the Ophthalmological Society 14 took an active part in the work of the Section, 12 of them reading papers. Mr. William Bowman was the President of both.

This is the third meeting of the Association in Brighton. The first was in 1851, a year memorable for the discovery of the ophthalmoscope, and for the removal of an eye for injury.

*"The licensing bodies on being consulted replied almost unanimously" that it would not be desirable either to require attendance on a special course of lectures on ophthalmology, or to make ophthalmic surgery a distinct subject of examination" (British Medical Journal, 1880, vol. ii).

In 1886 the second meeting took place. The year is memorable for the discovery of cocaine. I remember the meeting well, it being the first I had visited; and it is sad to think that one half of the members who took an active part in the work of the Section, are dead, including my old friend of Moorfield's days—A. H. Benson, of Dublin.

In two respects at least, points of similarity may be noted between the last and the present meeting. That meeting clashed with the Heidelberg Ophthalmological Congress, while the forthcoming International Medical Congress in London deprives us of the pleasure of seeing many colleagues.

Of the topics for discussion on this occasion, two were dealt with in 1886—one under the heading, "What is the best method of dealing with a lost eye?" the other being, "The use of styles in the treatment of epiphora."

Such is a slight sketch of the records of our Association with regard to our particular branch of the profession up to about the time of the last annual meeting here. What has been done in and for ophthalmology during the last twenty years will be within the knowledge of all members present.

If I interpret these records correctly, it is obvious that the Association has, through the medium of its annual meetings and its weekly JOURNAL, ever at hand, done great service to ophthalmology, and it is right that honour should be given where honour is due.

I have always felt that the Association has never yet had the credit due to it for the stimulus it has afforded to the study of clinical and scientific medicine, and I am glad to have this opportunity of acknowledging my personal indebtedness.

Almost every privilege which our branch of the profession possesses to-day is due to the British Medical Association, and every member should be a loyal and active supporter of it.

THE Royal Victoria Infirmary, Newcastle, is the recipient under the will of the late Dr. John George Fenwick of a bequest of £50,000, in addition to a legacy of £1,000. The testator, who was formerly a partner in a private bank operating in Newcastle, directed that while the small sum could be used for general purposes, the larger, which was to be paid to the institution duty free, should be held in trust as an endowment fund. The hospital has 450 beds, its annual expenditure being about £37,000 a year.

A STATISTICAL return (*Feeble-minded Persons under the Poor Law*, H.M. Stationery Office, 307, price 2½d.) relating to all persons in England and Wales who on July 20th, 1912, were in receipt of one or other form of Poor Law relief, and who were deemed to be mentally defective but had not been certified as insane, has recently been presented to the House of Commons. The total number was 31,824 persons, of whom 2,340 were children. Over 33 per cent. of the adults were aged 60 and upwards, and over 57 per cent. were women; of the latter nearly 60 per cent. were single women without children, while the ratio of single women with children to the total number of women was 7.5 per cent. Taking the whole number of defectives, about 24 per cent. were in receipt of outdoor relief, but in the case of the children, all but about 10 per cent. were being maintained in institutions. The figures show that the Poor Law medical officers concerned classified the mental capacity of these defectives as follows: 2.3 per cent. as moral imbeciles, 5.5 per cent. as idiots, 15.4 per cent. as ordinary imbeciles, 44.5 per cent. as feeble-minded, and 32.3 per cent. as mentally infirm. When the figures relating to those under the age of 60 are compared with those obtained by the Local Government Board in 1905, and by the Royal Commission on the Care and Control of the Feeble-minded in 1906, there would appear to have been a large increase in the intervening years, but the compiler of the return is of opinion that this is not really the case, the apparent increase being largely due to the wider scope of the subheads under which information was sought on the present occasion. These subheads were those employed and defined in Clause 17 (2) of the Mental Deficiency Bill as introduced in 1912. In the Mental Deficiency Bill of the current year the definitions are somewhat modified, and the classification excludes mentally infirm persons, that is to say, "persons who through mental infirmity arising from age or the decay of their faculties are incapable of managing themselves or their affairs." These are the main points brought out by the return, the greater part of which is devoted to tables showing the precise distribution of defectives throughout the country.

THE SCIENCE COMMITTEE
OF THE
British Medical Association.

ON THE
GENERAL TOXIC EFFECT OF HEAVY METALS AFTER SUBCUTANEOUS INJECTION,
AND ON
THE QUESTION OF POISONING BY VOLATILE EMANATIONS FROM PAINTS.

BY

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ALTHOUGH it is well known that most of the heavy metals possess closely similar effects when so administered that they reach the general circulation, no systematic attempts to define more accurately comparative lethal doses, sites of action, and paths of elimination made by the same observers experimenting comparatively with several of these metals have, so far as we are aware, been carried out. This task we have undertaken upon different species of animals, and using varying doses of copper, zinc, silver, tin, arsenic, and lead.

Our attention was first attracted to the subject by the relative ease with which trypanosomes can be driven out of the general circulation by the organic arsenical compound, atoxyl; while in other animals of a larger type, such as the dog, the donkey, and large draught animals, as also in the human subject, it is much more difficult to produce this effect, and the permanent removal of certain species of trypanosomes is almost impossible in such types of animals, as is shown by the work of Moore, Todd and Nierenstein,[1] and many other observers.

The reason for this remarkable result, so unfortunate in regard to the practical treatment of trypanosomiasis in man and higher animals by arsenic and antimony, is to be found in the site of attack upon the tissues of the higher animals which are acting as hosts by the heavy metal during the process of excretion.

The immediate effect of the drug upon the parasites depends upon the concentration which can be safely reached in the blood of the host without causing death. On the other hand, the safe limit which can be reached with the host depends on the concentration which can be borne by that type of cells in the body where the drug is adsorbed and accumulated in the process of excretion. These two concentrations do not run parallel in different types of animals, and it is for this reason that the dosage of atoxyl, and, indeed, of any heavy metal, does not vary as the weight of the animal, and hence a concentration of drug sufficient to kill and completely destroy the parasite so that it never reappears can be attained in a rat when it is impossible in a dog or a man.

Experimental observation after a large dose of an inorganic salt of a heavy metal given hypodermically in dilute solution, as also similar investigation after administration of an organic arsenical compound such as atoxyl, demonstrates that the chief site of attack is the intestinal mucosa where there is enormous congestion, and often haemorrhagic patches, or actual haemorrhages into the intestine.

Since the drug by such a method of administration is not brought in high concentration in contact with the intestinal cells, as might be supposed to be the case when it is administered by the mouth, it becomes probable that the drug concentrates there in process of excretion by the

* The expenses of this research have been defrayed by a grant from the British Medical Association.

intestine, and this we have demonstrated to be the case by finding the heavy metal in the intestinal contents and faeces, and showing its presence microchemically in the intestinal mucosa.

The lethal dose of any heavy metal given so as to reach the circulation, and the limits of its safe administration as a drug, hence depend on a surface—namely, that of the intestinal mucosa—while the effect on a blood parasite depends upon a volume or weight—namely, that of the blood plasma and tissue fluids. This illustrates the fact that larger doses relatively to body weight can be given to smaller animals, and hence the more successful results of medication. This is demonstrated more fully in the case of one particular heavy metal—copper—in the experiments recorded below on animal species of widely differing sizes.

There has also to be taken into account in considering the action and dosage of heavy metals the relative development of the intestinal mucosa. In the carnivora, such as cats and dogs, heavy metals are far more toxic proportionately than in herbivora, because of the very short intestine of the carnivora, in which the heavy metal accumulates and so causes fatal results in the process of elimination. For this reason it is impossible to treat trypanosomiasis in the dog by atoxyl or any other form of arsenical treatment.

If comparisons be made between animals of different sizes but of approximately equal intestinal development, then it is found, as shown below, that the minimal lethal dose is not proportional to the body weight, but is much more nearly proportional to the two-thirds power of the relative weights—that is, the dosage is proportional to surface, the actual surface here concerned being the intestinal surface.

Of course, strict proportionality is not to be expected, for there do not exist classes of animals with absolutely relative intestinal development, but the agreement in the case of these drugs lies much nearer to relative surfaces than to relative volumes or body weights.

In the course of our investigations our attention was later especially directed to the supposed poisoning in the case of lead paints by volatile emanations produced by interaction of the lead pigment with the oils and turpentine, and these are described below after the general account of the comparative toxicity of the different heavy metals used.

A. The Toxic Action, Excretion, and Comparative Lethal Doses of Certain Heavy Metals.

The results recorded in this section ought to be carefully distinguished, on the one hand from the marked astringent and corrosive action obtained by local application externally to cut or abraded surface, or that occurring on contact with mucous surfaces as in the excessively acute corrosive poisoning obtained when large quantities of the salts are swallowed, and, on the other hand, from the very chronic effects obtained when minute amounts of certain heavy metals, such as lead, mercury, and arsenic, are given, or accidentally taken up daily, over a prolonged period.

They are effects obtained with small but still lethal doses so graduated as to produce death in a period varying between twenty-four and forty-eight hours, and in this case the poisoning is caused by specific or selective adsorption and local concentration from a very high dilution in the blood upon certain definite tissues, but the rate of uptake is much more rapid here than in chronic poisoning with minute doses. As a result the symptoms obtained vary, and there is more action upon the excretory organs and less comparatively upon the nervous system. In all cases with such doses as we have employed death has apparently arisen from action upon the intestinal tract leading to shock, and not to direct action upon nerve centres in brain or cord. In all the cases tested excretion of the metal took place in both small and large intestine.

The tremors, epileptiform convulsions, and central paralysis, described as a prominent feature of poisoning by heavy metals in so many textbooks, were not prominent in our experiments; occasionally tremors were observed after arsenic or silver, but not constantly, and in the cases of the other metals they were never seen.

Also we have missed the slow development of symptoms described as not occurring for several days. When the single dose given was sublethal and did not produce an effect within the first forty-eight hours, very little action of any kind was observed subsequently. While this excludes slow development from a single dose, it does not, of course, concern the cumulative effects of repeated small doses as seen typically in lead poisoning.

On account of the coagulant action of the salts of the heavy metals upon proteins, it is essential to make the subcutaneous injections in very dilute solution in sterilized normal saline, or in water in cases, such as silver, where saline acts as a precipitant. Neglect of this precaution leads to strong local action and coagulation which prevents the drug being absorbed, so that quite wrong results as to minimal lethal dose may be obtained, and a more concentrated solution much exceeding the true minimal lethal dose may be administered without producing any general effect. Under such conditions the drug becomes adsorbed locally in coagulation with protein, and later is encapsuled with connective tissue, and finally shed off as a foreign body. But at sufficient dilution the heavy metals, given subcutaneously, are absorbed, and with a sublethal dose, examination some days later, shows no local injury at the site of injection.

The experiments, taken as a whole, show clearly that the heavy metals as a class possess one common toxicological character which preponderates over all others—namely, marked irritation, congestion, and destruction of the intestinal mucosa, caused by local accumulation and excretion, via the intestine, of the heavy ions. This effect is almost identical in character with that caused by the large class of the saponins or sapoglucosides, and it is remarkable that this latter class also are not absorbed when taken by the mouth, so that many times the lethal dose, as shown by subcutaneous injection, may be swallowed without any observable effect whatever.

In both these sets of cases there is no attack on the mucosa caused by bringing concentrated drug in contact with its intestinal surface, but rather a specific affinity exists of drug and of tissue-cell of the intestine for each other, which brings the two together when the protection of the non-absorbent properties of the intestinal columnar cell are removed, and the selective concentration, for purposes of excretion, damages the excretory organ. The parallel between duodenal ulcers due probably to excretion of toxic organic bodies after extensive skin lesions, and the possibility that gastric ulcers due to gastro-toxins, as demonstrated by Bolton, may arise in a similar manner from local and specific concentration of toxic substances in process of excretion may here be mentioned.

It was clearly shown by the late Dr. O. T. Williams that there is a marked excretion of fatty acids and soaps, chiefly calcium soaps, by the intestine, and experiments now in progress by Dr. C. O. Jones in this laboratory show that after subcutaneous injection of calcium salts there is a remarkable output of calcium by the intestinal mucosa far exceeding the actual amount injected. All these experiments go towards showing that for a very wide range of substances the activity of the intestine as an excretory organ exceeds that of the kidneys in many cases.

In these manifold excretory processes carried out by the intestinal mucosa, it is noteworthy that it is just those bodies to which the intestinal cell refuses admission when administered by the mouth, such as ions of heavy metals, sapoglucosides, and calcium ions, that it excretes when they are presented in the other direction from the blood stream, illustrating a most important law of directive action of the living cell in diffusion. Not only is this so, when presented in the direction in which they do pass these substances are all selectively accumulated by the cell to its own destruction, in the process of passing them out into the intestine, although passage in the opposite direction is actively resisted.

All the heavy metals we have examined are excreted after subcutaneous injection by the intestine, and in cases of chronic poisoning, retention and strengthening of this intestinal function is most desirable in addition to that of the kidney.

General Effects.

The following effects are those caused by injection under the skin of the back of a guinea-pig of 5 c.cm. of sterilized normal saline, or water, containing in solution

such a dose of a salt of a heavy metal as will cause death in a period of about thirty-six hours (or between twenty-four and forty-eight hours). This convention was adopted in order to make the results with different metals more strictly comparable with one another.

The animal soon after the injection settles down, resumes feeding, and is apparently normal for a period varying from six to twenty-four hours. It then becomes somewhat restless and does not eat; next diarrhoea sets in, and in the case of tin, zinc, and copper there is usually blood in the discharge. In the case of arsenic only, blood was also found in the urine. The animal now becomes progressively weaker and the temperature drops, pulse and respiration both increase in frequency, and finally coma sets in leading to death.

The experiments were, as far as possible, so timed that an immediate *post-mortem* examination could be carried out, and it was often found that the heart was still contracting after all respiration had ceased. The chief findings of the examination were congestion of the lower half of the small intestine, and often haemorrhage and ulcers. Blood was present in the intestinal contents in some cases. Other organs were apparently normal, save in the case of arsenic, where renal haemorrhage and haematuria were generally found. In intestinal contents and intestine the metal administered was readily demonstrable by the usual tests. In the case of copper, silver, and lead the element was also found in the tissues of the kidney.

In the following protocols one typical instance is given for each heavy metal, followed by a statement of the number of experiments made in order to substantiate the results for each element.

Copper.

A guinea-pig, weight 320 grams, was given 0.02 gram of crystallized copper sulphate ($CuSO_4, 5H_2O$), representing 5 mg. of copper, or 1 part in 64,000 of body weight. The injection was given dissolved in 5 c.cm. of sterilized saline under the skin of the dorsal region.

For the first twenty-four hours the animal ate and behaved quite normally. At twenty-eight hours diarrhoea set in, and increased in amount gradually till thirty-three hours. Some motor paralysis then set in, especially in hind limbs, but reflexes were present. At thirty-four hours the animal was in a comatose state, and respirations ceased at thirty-five hours after the injection, and the conjunctival reflex had disappeared.

An immediate examination showed the heart still beating. The lower half of the intestine was very congested and the intestinal contents were blood-stained. Testing with potassium ferrocyanide demonstrated copper in the intestinal contents. Sections of the intestine were prepared and cut, and these showed in the ileum—capillary haemorrhages in the submucosa, ulceration of the epithelium, and a general inflammatory condition of the mucosa and submucosa. The sections of the other tissues—namely, stomach, kidney, lung, and liver—presented a normal appearance.

The experiments with copper salts were made on 22 guinea-pigs, 15 rats, and 11 mice. In all cases with a moderately low lethal dose the changes observed were similar, but where the dose was sufficient to cause death within two hours no tissue changes were discoverable.

Zinc.

The salt used here was zinc sulphate ($ZnSO_4 7H_2O$). A guinea-pig weighing 340 grams was given 0.2 gram of the zinc salt, or 46 mg. of zinc, corresponding to 1 part in 7,392 parts of body weight, dissolved in 5 c.cm. of normal saline.

Observed twenty-four hours after the injection, the animal was apparently normal. Three hours later diarrhoea had appeared, there was a slight amount of motor paralysis in hind limbs, but reflexes were present. Thirty hours from the commencement, the diarrhoea was increased and the motions were blood-stained. At thirty-five hours the diarrhoea had ceased, and the animal was walking about again. At thirty-seven hours lethargy was marked and respiration spasmodic. At thirty-nine hours there was coma, and the animal died about forty hours from the commencement.

An examination was made at once. The auricles were found still beating, ascites present, congestion of ileum and caecum, and obvious haemorrhages in the latter, some being over 1 cm. in diameter. The other organs were apparently normal.

Microscopical Examination.—The ileum shows mucous and submucous congestion, and small round-celled infiltration. In the caecum there are ulcers with raised edges and inflammatory surrounding zones. The stomach, duodenum, jejunum, colon, rectum, kidney, and liver yielded normal sections.

The evidence was substantiated in 9 guinea-pigs and 5 mice.

The diarrhoea was not a constant occurrence with this metal, being found in 9 only out of the 14 cases—namely, in 7 of the guinea-pigs and 2 of the mice.

Tin.

The chloride ($SnCl_2$) was the salt used. A dose of 0.17 gram, equivalent to 107 mg. of tin, was given in 5 c.cm. of normal saline to a guinea-pig weighing 420 grams, being approximately 1 in 4,000 of body weight.

Observed thirty-two hours after injection the animal was apparently normal. At forty hours low temperature and rapid respiration. At forty-five hours the animal was very lethargic. At forty-six hours it was comatose, and in a few minutes all respiration had ceased.

Examined at once, the heart was still contracting. The chief factors were congestion of ileum and large intestine and blood in the intestinal contents. The other organs were apparently normal.

Microscopical Examination.—Similar appearances as with other heavy metals in the mucous and submucous coats of ileum and colon; other organs normal.

The determinations for tin were made on three guinea-pigs and two rats; all five animals showed similar symptoms and *post-mortem* changes.

Lead.

The salt used was the acetate ($Pb\ (C_2H_3O_2)_2\ 3H_2O$); of this salt 0.9 gram dissolved in 5 c.cm. of sterile water, equivalent to 490 mg. of lead. The weight of the animal was 420 grams, so this dose corresponds approximately to 1 part in 1,000 of body weight.

Symptoms commenced twelve hours after injection, and at fourteen hours diarrhoea began. At eighteen hours there was slight diarrhoea, lethargy, and a subnormal temperature; this continued till the twenty-third hour, when the animal became comatose and died at twenty-four hours after the injection.

Immediate examination showed the auricles just contracting, the small intestine congested, no blood in intestinal contents, congestion of kidneys, other organs normal. A trace of lead was found in the urine obtained from the bladder.

Microscopical Examination.—The kidneys showed marked glomerular congestion, the small intestine some congestion of mucous membrane of villi. The large intestine showed mucous and submucous congestion.

Lead was given, for confirmation, in three rats and two mice, and no contradictory evidence to the above was obtained.

Silver.

The nitrate of silver was used for the injections; of this salt, 0.02 gram, dissolved as usual in 5 c.cm. of distilled water and equivalent to 13 mg. of silver, was injected subcutaneously in a guinea-pig weighing 320 grams. This constitutes a dosage of only 1 part in 24,000 parts of body weight; yet, introduced subcutaneously, this was found to give a lethal result within twenty-six hours.

Six hours after injection the animal still appeared normal; in the period from the seventh till the twelfth hour the animal was lethargic. At twenty-two hours there was lethargy and diarrhoea. At the expiration of the twenty-third hour the diarrhoea had ceased, but the lethargy was increased. At twenty-four hours the breathing was dyspnoeic, and some clonic convulsions were observed. At twenty-five hours the animal was comatose. Death occurred at the end of twenty-five and a half hours.

Immediate examination showed the heart at rest. There was the usual congestion of the large intestine and also of the kidneys. The other organs were normal, no increase of bronchial secretion.

Microscopical Examination.—In the large intestine there was small round-celled infiltration of the mucosa, and, in the kidney, glomerular congestion. The liver cells were pale in colour and stained badly, presenting an appearance of granular degeneration.

Confirmatory results to the above findings were obtained in three guinea-pigs and three rats.

Arsenic.

The salt employed was sodium arseniate ($Na_2HAsO_4, 7H_2O$); a dose of 0.02 gram of this salt, corresponding approximately to 5 mg. of arsenic, was given in 5 c.cm. of normal saline to a guinea-pig weighing 400 grams. This represents a dosage of 1 part in 80,000 of body weight.

After the lapse of twenty-six hours from the injection, the animal was still apparently normal. The first sign of action was spasmodic shivering at the twenty-seventh hour, which became more marked later. At thirty-five hours the movements became somewhat ataxic, and the animal was lethargic. At the forty-fifth hour there were occasional convulsive movements, apparently respiratory in origin, and the animal died at the forty-seventh hour.

Immediate autopsy revealed the heart still beating feebly. There was marked congestion of the kidneys, blood in the urine contained in the bladder; congestion of the small intestine; other organs apparently normal.

Microscopic Examination.—The kidney sections showed marked cortical haemorrhages, both from glomerular and other capillaries. The uriniferous tubules and pelvis contained blood, but there was no apparent lesion of the tubules. The small intestine showed, in sections of the ileum, marked congestion of the mucous membrane of the villi. The other organs gave normal appearances in the sections.

The results were confirmed in seven guinea-pigs, two rats, and six mice.

It will be observed that while arsenic gives the universal picture of the heavy metal group in the intestinal area, it shows a more violent effect upon the kidney vessels.

B. Determination of Relative Dosages in Animals of different Species and Size.

Since the heavy metals are selectively picked out by the intestinal mucosa as shown above, experiments were now conducted to follow this effect somewhat quantitatively in animals of a different size, so as to correlate dosage either to body weight or intestinal area, as the case might be. If the dosage follows body weight, it should be proportional in animals of widely different size to the weight, but if it is proportional to intestinal area, it should be proportional to the two-thirds power of the weight. For, if proportional development may be assumed, the body surface or that of any portion (such as the intestinal area) will be proportional to the square of a linear dimension such as length, and weight will be proportional to the cube of linear dimensions. It follows that surfaces and weight between themselves will stand to each other so that surface is proportional to the two-thirds power of weight.

It was impossible to carry out such a large series of experiments as would settle this for all heavy metals, and so it was determined to carry out the estimations more exhaustively for one metal only, and for this purpose copper was selected.

Two species of animal of similar degree of intestinal development were selected in the guinea-pig and mouse, which also at the same time gave a wide difference in body weight. The lethal dose was chosen as that which gave a fatal result in a time interval lying between twenty-four and forty-eight hours. The copper was always prepared by making various large dilutions with normal saline from a standard 20 per cent. solution, so that the determined dose was invariably given in a volume of 5 c.cm., and subcutaneous injection was always made under the skin of the back.

It is only by taking a fair number of animals that the minimal lethal dose can be determined with the greater accuracy necessary for a quantitative comparison in animals of different size.

A group of three guinea-pigs was taken. A was given 0.25 gram of copper as sulphate, B had 0.05 gram, and C 0.025 gram. The first died in five minutes, showing no lesions in kidney or intestines; B died in three hours, kidney and intestines showing no effect; C died in fourteen hours, marked intestinal lesions. The range of the lethal dose having been approximately determined in this manner, a dozen guinea-pigs were selected as nearly equal in weight as possible and given doses of the copper salt varying within narrower limits, and the times were noted as shown in the following table:

Guinea-pig.

	Weight in Grams.	Dose in Milligrams.	Lethal Period in Hours.
1	300	25	23
2	280	25	12
3	295	25	15
4	300	12.5	12
5	300	5	24
6	305	5	27
7	300	5	24
8	305	3	37
9	310	2.5	34
10	250	2.5	55
11	302	2.5	47
12	305	2.5	38

The minimal lethal dose in the given interval of time being so settled as closely as possible at 2.5 mg. for a guinea-pig of 300 grams, or at 1 part in 120,000 of body weight, a group of 7 guinea-pigs averaging 320 grams in weight was taken, and each member was given 2.5 mg. of copper. Five died in the intervals to be mentioned, and the others recovered and lived for sixteen days, when they were killed and showed normal intestines. Of the 5 which succumbed to this very small dose, 1 died in twenty-six hours, 1 in twenty-nine hours, 1 in thirty-eight hours, 1 in forty-six hours, and 1 in fifty-three hours. All those which died showed the typical lesions of the intestine described in the previous section. The minimal lethal dose for 300 grams of guinea-pig may accordingly be set down as 2.5 mg. of copper.

A group of white mice was next taken, the average weight of which was 12 grams, and these were dosed as indicated in the following table:

White Mouse.

	Weight in Grams.	Dose in Milligrams.	Lethal Period in Hours.
1	12	1.25	10
2	10	1.00	12
3	13	0.75	19
4	15	0.50	23
5	14	0.25	43
6	16	0.25	38
7	13	0.25	(One week)
8	11	0.25	29

The minimal lethal dose for 12 grams of white mouse can accordingly be placed at 0.25 mg.

These experiments provide two definite data upon which to base calculations—namely, for a 300-gram guinea-pig a minimal lethal dose of 2.5 mg., for a 12 gram white mouse 0.25 mg. The weights are as 25 : 1 and the doses as 10 : 1, or on the ratio of body weights the white mouse is 2.5 times more resistant than the guinea-pig. The value of such a finding is important in shedding light on the atoxyl treatment as mentioned in the opening of the paper. There would be such a ratio in the case of a rat and a human being affected with a trypanosomiasis and on treatment with atoxyl—also a heavy metal drug—there would be probably five times the factor of safety in the rat that there would be in the man to therapeutic treatment. Hence the ease of eradicating the parasite in the rat as compared with the member of the larger type of animal.

Coming now to the question of proportionality to surface, the relative weights are as 25 : 1, and the relative surfaces, other things being equal, will be the two-thirds power of this ratio; reference to a table of logarithms gives this ratio as 8.55.

The result is that the guinea-pig of 300 grams has approximately 8.5 times the intestinal area of the white mouse of 12 grams, and the dosage it can stand is found experimentally to be ten times as much.

The proportionality of dosage accordingly lies much nearer to surface than to body weight. It has, of course, been assumed that the relative development of intestine is the same in both species, so a close agreement is not to be expected.

C. Supposed Volatile Lead Compounds Formed in the Drying of Lead Paints.

Paints in the process of drying give out smells which are more or less obnoxious in varying degrees to different persons, and the question has recently been much discussed, both in this country and abroad, as to whether the volatile product indicated by the smell may contain traces of volatile lead compounds, or, failing this, whether some of the injurious effects produced in painters and others may, in certain cases, be due to poisonous volatile compounds other than lead. The symptoms in milder cases are so complex and variable that they might well arise from inhalation of other poisonous ingredients of paint than lead, and there seems little doubt that in some cases the mischief may arise in this way, although in typical cases lead is undoubtedly the active agent.

It would appear impossible to dispense with the use of lead pigments in paints on account of their excellent qualities, and the practical problem of sanitation and prevention accordingly becomes one of studying the

channels by which the mischief may arise, so as to frame appropriate regulations for minimizing the evil. The subject has in the past been more often made the ground of dispute between supporters of rival metallic oxide pigments than of scientific observation. It is to be remembered that once they reach the system, as shown in the above experiments, all these heavy metals are poisonous, and in this respect both zinc and lead, the rival pigments, are included. Also, the mode of action is the same.

In the report of a Commission of Public Hygiene made to the French Chamber of Deputies in 1907, it is claimed by Breton that traces of volatile lead compounds are carried away from surfaces painted with white lead paint in the process of drying, and in the same report Trillat and Marie describe experiments to show that moulds and bacteria exposed to emanations from a mixture of basic carbonate of lead (white lead) and linseed oil are killed and kept from growing. Breton also claimed to have killed a guinea-pig by exposure in a respiratory chamber to air aspirated through a vessel containing a mixture of white lead, linseed oil, and turpentine.

In this country Goadby[2] failed to obtain any action on organisms exposed to any possible emanations from white lead alone, but found that the emanations from painted surfaces, coated with mixtures containing turpentine as technically used, always infected guinea-pigs injuriously, whether the pigment in the paint was white lead, zinc white, or lithopone (a mixture of zinc sulphate and barium sulphate).

That emanations are given off from mixtures of white or red lead, or manganese dioxide mixed with linseed oil, especially when heated, has recently been clearly shown by Baly[3] by an ingenious application of a spectroscopic method. Baly was at first inclined to regard this as evidence of volatile lead compounds, but more exhaustive experiments proved that no lead compound was present, and in his more recent work this experimenter has shown that the emanations are aldehydic in character. The condensed emanation from prolonged aspiration over surfaces freshly painted with mixtures of white lead and oil did not produce lethal or even toxic results when subcutaneously injected into an animal, but had a nauseating odour, and, in the case of the experimenter himself, inhalation of this appeared to produce headache, nausea, and diarrhoea. It has carefully to be remembered here, however, as well as in the case of Goadby's experiments mentioned above, that this is a most exaggerated treatment with concentrated vapours, and it is almost impossible for such conditions, or anything approaching them, to arise in practice, except, perhaps, in the case of most susceptible subjects possessing a marked idiosyncrasy for these aldehydes and for turpentine emanations.

Moreover, turpentine in contact with all the pigments produces these symptoms, according to Goadby, and it is quite impossible in the operations of painting to avoid turpentine, or similar volatile dryers, which will produce the aldehydic vapours.

Armstrong[4] in a recent paper shows by a simple test, namely, the blackening of the leaf of *Aucuba japonica*, or spotted Japanese laurel, that such volatile bodies come off either from mixtures of lead pigment and oil only, or of these with turpentine more readily, or from turpentine vapour alone. The volatile bodies enter the stomata of the leaf and activate an enzyme which hydrolyzes a glucoside present in this plant, setting free thereby a black-coloured substance which acts as an indicator. Armstrong conclusively proves that the traces of lead previously claimed to have been found by other observers, as mentioned above, are really due to mechanical carrying away of minute traces of lead, and that no volatile lead compound is formed under the conditions of actual painting, or from any mixture of lead with the other ingredients of paint.

Now it is well known that in sufficient dosage the vapours of turpentine, or oxidation products formed from them, are poisonous; but the question still remains, Has this anything to do with real or supposed lead or paint poisoning, and is there any real danger to health in exposure to a considerable amount of odour of fresh paint, and are painters liable to be predisposed to lead poisoning by exposure at their work to such volatile products?

For the purposes of our experiments on this question cats were chosen, as this animal is known to be highly susceptible to lead poisoning, and in several experiments 6 animals were kept for a period of seven days in close proximity to freshly painted surfaces, repainted each day till there was a thick skin of paint on the boards.

The results were entirely negative in all cases; the animals fed well throughout, retained their weight, remained to all appearances normal and well, and were kept for some months afterwards without showing any signs of chronic lead poisoning or other symptoms.

As a result we conclude that under the conditions of our experiments volatile lead poisoning, or any other toxic effect from wet lead paint not produced by actual contact or inhalation as lead dust, must be ruled out.

The experiments were carried out by placing the animal in a wire cage with wide meshes of about 4 in. by 1 in., and then inverting over this a wooden box which cleared the cage in all dimensions by about 4 in. The internal dimensions of the box were 26 by 21 by 21 in., and the dimensions of the cage were 22 by 17 by 17 in. There was a floor of linoleum, and a layer of straw in the bottom for the animal to rest on. The box was raised 1 in. from the floor all round by means of four small supports at the corners. The whole of the interior of the box was painted thickly every morning, the boards having been left unplaned to give an increased rough surface and greater evaporation.

Experiment I.—A cat was placed as described above, and the interior of the box was freshly painted with a paint made from basic lead sulphate, boiled linseed oil, and terebine driers, called "liquid driers," every day for a period of ten days. Throughout this period the animal was carefully observed, and no ill effects of any kind were observed. It appeared lively and well, ate its food regularly, and respiration, circulation, and central nervous system remained normal and undisturbed. The animal was kept under close observation for a period of two months, and no chronic effects of any kind were observed.

Experiment II.—A second cat was similarly treated in a cage covered closely by a box painted freshly daily for a similar period of ten days with a paint made from basic lead carbonate, boiled linseed oil, and "lead driers." This animal also remained perfectly healthy and unaffected, and was likewise observed for an after-period of two months with completely negative results.

Experiment III.—A large cat, weighing 3.8 kilograms, was placed in a cage surrounded by the box as before; the interior of the box was freshly painted daily with a thin paste of "genuine carbonate of lead" (white lead made up with pure boiled linseed oil). About seven pounds of this mixture was used over a period of seven days, and the cat was kept in the box afterwards till the surface had dried. The animal remained perfectly well, ate well and maintained its weight, and the same held for a period of over a month afterwards during which it was observed.

Experiment IV.—Another large cat weighing 4.7 kilograms placed in a cage surrounded by a similar box, painted with a basic sulphate of lead similarly mixed up with boiled linseed oil, also showed no effect whatever, remaining well with an excellent appetite and no loss of weight. This animal was also observed for an after-period of one month with negative results.

Experiment V.—A cat weighing 2,940 grams was placed in the cage, and covered by the box which was freshly painted daily for six days with a paint made up as for ordinary use with basic carbonate of lead (genuine white lead—basic carbonate, stack process), linseed oil, and turpentine. There was no obvious effect of any kind, the animal remained well, appetite good, and weight constant.

Experiment VI.—A smaller sized cat, weighing 1,795 grams, was placed in the cage, and covered by the box, which was in this case painted with a paint made of basic sulphate of lead, linseed oil, and turpentine, as in the previous experiment, and the box was painted daily for a like period. The results as before were entirely negative.

It may be concluded in our opinion from these experiments that there is no poisonous emanation from either basic lead carbonate or basic lead sulphate, even with much more thorough exposure than would occur to painters, or occupants of a freshly painted room, under ordinary conditions. For the animals were exposed within a few inches of a freshly painted surface surrounding them on all four sides and roof as well. It may be taken that true lead poisoning when it does occur arises from swallowing, inhalation as dust followed by swallowing, or absorption from skin or an abraded surface, and not from volatile emanations.

References.

[1] *Biochemical Journal*, vol. ii, 1907, p. 360. [2] *Lead Poisoning and Lead Absorption*, Legge and Goadby (Arnold), 1912. [3] *Journ. Soc. Chem. Industry*, vol. xxxi, p. 515, 1912. [4] Ibid., vol. xxxii, p. 320, 1913.

THE INFLUENCE OF COPPER UPON THE GROWTH OF MOUSE CARCINOMA.

By A. J. GELARIE, M.D.

(From the Cancer Research Laboratory, University of Liverpool.)

DURING the last decade the surgical treatment of cancer has been supplemented by attempts to influence the growth of tumours by procedures directed towards causing immunity, as well as by physical methods—for example, æ-raying, exposure to radio-active substances, fulguration, the action of chemical substances, such as arsenic and selenium in various combinations—with the object of causing retrogression of the tumour.

The substances which tend to produce immunity to carcinoma are not at all well defined chemically. Attention has, however, also been paid to the action upon carcinoma of compounds of relatively simple chemical composition.

The idea of studying the effect of copper upon carcinoma occurred to me while carrying out an investigation directed to exhibit the influence of metallic salts upon various staining methods in common use. To this end the present experiments were undertaken. These fall into two series—in the first a solution of a cuprammonium sulphate was injected subcutaneously into tumour mice; in the second colloidal copper was employed.

Subcutaneous Injection of Cuprammonium Sulphate into Tumour Mice.

Cuprammonium sulphate ($CuSO_4.4NH_3.H_2O$) was obtained by adding to a saturated solution of $CuSO_4$ strong ammonia and then boiling; the blue crystals of the cuprammonium salt, which separated out upon cooling, were dissolved in 0.85 per cent. NaCl solution and used for injection, the concentration of the solution employed ranging from 0.62 per cent. to 0.70 per cent. of metallic copper.

The lethal dose of this salt was found to be represented by about 0.05 gram of copper per kilogram of body weight. The injections were made subcutaneously at a distance from the tumour. Only mice with small tumours were employed for experiment, and it may be observed, in reference to the experimental results, that spontaneous retrogression of mouse tumour has been in our experience an excessively rare event.*

The results of experiments made with cuprammonium sulphate are summarized in Table I, the number of injections varying from two to five. The injections, which frequently caused inflammatory swelling, sometimes leading to necrosis of the skin at the site of injection, were always made as far as possible from the tumour so as to avoid any direct effect upon the growth.

TABLE I.—*Subcutaneous Injection of Solution of Cuprammonium Sulphate into Tumour Mice.*

Condition of Tumour at End of Experiment.	Number of Animals.	Percentage Results.
Completely disappeared ...	3	25.0
Nearly disappeared	1	8.2
Diminished in size	1	8.2
Stationary	5	42.0
Increased in size	2	16.6
Total	12	

In three cases complete disappearance of the tumour occurred, and in two other cases great diminution in size took place. In five experiments the tumour remained stationary for periods varying from five to ten days, and in the remaining two experiments an increase in size of the tumour attended with softening took place.

In three experiments made with cuprammonium sulphate the number of injections into individual mice ranging from two to seven. In these experiments it was found possible to keep the animals alive a much longer time than was the case when cuprammonium sulphate was employed. Nevertheless, the number of cases in which complete disappearance of the tumour was obtained was relatively less than in the preceding experiments. In the greater number of experiments in which an effect upon the tumour was observed this was manifested by the tumour becoming stationary in size. On reference to Table II it will be noticed that the effect upon the implanted tumour of injection of colloidal copper was much less pronounced than when cuprammonium sulphate was used. Some of the stationary tumours were kept under observation for a very much longer period of time than in the preceding experiments; in one case the tumour remained stationary for as long as three months.

In four experiments, not recorded in Table II, repeated intravenous injections of colloidal copper were employed. The amount of fluid injected always exceeded 1 c.cm., and in one case reached as much as 2 c.cm.† After the latter injection the mouse became collapsed with rapid and deep respiration, subsequently recovering and surviving for forty-two days. With this exception no ill effect followed upon injection. After intravenous injection the implanted tumours increased slightly in size during the next few days, and then became soft, subsequently remaining

Subcutaneous Injection of Colloidal Copper into Tumour Mice.

With a view of avoiding the local inflammatory reaction which occurs when cuprammonium sulphate is used, it was determined to employ colloidal copper for subcutaneous injection. This was observed to be slowly absorbed without producing a marked irritating effect.

Colloidal copper was prepared after Bredig's method, a galvanic current of 10 ampères being allowed to pass between two thick copper electrodes immersed in a beaker containing distilled water, free from CO_2, placed in a larger vessel filled with ice. In this way a colloidal solution of copper was obtained containing 0.04 to 0.3 per cent. of copper. It was found that the colloidal solution could be boiled without precipitation occurring, and when air was excluded no change in the aspect of the liquid occurred in the course of several days. In all the experiments made, however, the colloidal solution of copper was freshly prepared. The addition of stains such as methylene blue, eosin, and basic fuchsin, in small quantity, was found not to precipitate copper from solution.

A solution of colloidal copper is incompatible with saline solutions. A very small quantity of sodium chloride solution, for example, causes precipitation almost immediately. It was, therefore, used in a non-isotonic solution, the injections being slowly made into the subcutaneous fascia in amounts of about 1 c.cm., in several areas removed as far as possible from the tumour in order to avoid a direct effect of the copper; in some cases intraperitoneal injections were employed (1 c.cm.), or both methods of injection were used. The minimal lethal dose of colloidal copper was not determined.

The results of subcutaneous injection are summarized in Table II. In all thirty-two experiments were made,

TABLE II.—*Subcutaneous Injection of Colloidal Copper into Tumour Mice.*

Condition of Tumour at End of Experiment.	Number of Animals.	Percentage Results.
Completely disappeared ...	2	6.3
Diminished in size	4	12.5
Stationary	16	50.0
Increased in size...	10	31.2
Total	32	

* The tumours used for experiment originate from Ehrlich's Stamm XI, which has been cultivated in this laboratory for the last seven years, and ordinarily gives 75 per cent. to 100 per cent. positive results of implantation.

† I have found the following method best for intravenous injection: The tail of the mouse was placed for a few minutes in water at 45 to 50° C. The veins soon swelled up, and no difficulty was experienced in passing a fine needle into the vein. The injection was made with great slowness. White mice were found to be most suitable for experiment, the vein being easily recognized in such animals. During injection the fluid could be seen passing along the vein.

stationary. On sectioning these tumours very marked degeneration was observed. The results obtained in this and the preceding section show that by means of injection of copper-containing fluids implanted tumours in a certain proportion of cases pass into a stationary condition or undergo regression, and suggest that a similar result might be obtained in cases of spontaneous carcinoma.[*]

In those cases in which the tumour was unaffected a possible explanation is that the amount of copper absorbed into the circulation was too small to produce an appreciable effect. In the case of ammoniated copper sulphate difficulty was experienced owing to the irritating character of the liquid employed; in the case of colloidal copper difficulty was experienced owing to the large amount of fluid which it was found necessary to inject.

Reference may here be made to a series of nine experiments in which colloidal copper, to which basic fuchsin had been added, was employed for injection. In these experiments an unexpected result, which is difficult to interpret, was obtained—namely, that the growth of the tumour was in all cases unaffected by the injection.

Before concluding this paper I have much pleasure in expressing my great indebtedness to the director of this laboratory, Dr. J. O. Wakelin Barratt, for his kind attention and constant assistance.

[*] Since commencing these experiments my attention has been called to the work of Loeb, McClurg, and Sweek, in which human cancer has been treated by intravenous injection of colloidal copper (*Interstate Med. Journ.*, 1912). The authors are of opinion that definite judgement on the outcome must still be suspended at present, but state that the treatment is capable of causing gradual retrogression of the growth.

EIGHTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICAL SOCIOLOGY.

Reginald John Ryle, M.D., M.A., President.

PRESIDENT'S INTRODUCTORY ADDRESS.

My first duty is to welcome those members of the Association who are kindly helping us with their presence, their papers, or their speeches; and my second duty is to welcome those who are not members of the Association, but who have done us the honour of accepting the invitation which we have the power to extend in the case of this particular Section to non-members. Most of the Sections now meeting in this building are dealing with particular branches of medicine and surgery from the points of view of physicians and surgeons who are discussing medical and surgical problems with their professional brethren. There are, however, a large number of topics of great importance which interest both the public at large as well as the doctor in the course of his work. These may be profitably dealt with, from either point of view, in language not always technical, and it is with the object of introducing such a consideration that this Section has been brought into being. The definition of Sociology appearing on our syllabus is:

> The scientific study of society and of all the phenomena it exhibits, including the various forces and processes at work within and upon it.

I do not wish to enlarge upon that definition, but merely to hold it out as a kind of thread on which we may hang the consideration of the problems as they arise. Medical sociology means a similar study, having reference to the work of the medical profession. Such work is very much wider than it was even half a century ago. No one who has read any one of the reports issued by Royal Commissions on housing, education, inebriety, feeble-mindedness, destitution, can fail to know that there is involved in every one of them a larger or smaller social problem with which the profession of medicine is concerned, so that I hope every year this Section will be more and more useful.

We have endeavoured to select subjects which will cover a large area of ground and be of interest both to medical and non-medical minds, and which may be said to have a mutual connexion between them. At the beginning we have taken the subject which goes by the name of eugenics. Let me remind you that eugenics is a very old conception. Far back in the days of the ancient Greeks the poets and philosophers fully realized that if you are to get the best men and women you must pay attention to the best stock and the best race. That consideration has never been absent from the minds of diligent students from that day. The matter, however, has been revived and very largely set on a new footing by the work begun by Darwin and Wallace, carried on by Mendel, and carried further by the late Francis Galton. Therefore I hope we may keep in view Galton's revival of the word with some of the signification he attached to it. Remember that eugenics have primarily to do with racial qualities, which are being studied by two methods—the biological and the statistical or mathematical.

DISCUSSION ON "EUGENICS."

OPENING PAPERS.

I.—Edgar Schuster, M.A., D.Sc.,

First Galton Research Fellow.

THE SCOPE OF THE SCIENCE OF EUGENICS.

That there is a sort of antagonism between the arts of medicine and eugenics has been recognized for some 2,400 years. Its nature is clearly indicated by Plato in the *Republic* in the passage in which Socrates is represented as making a comparison between the older school of medicine and the school which was active in his own day. The former, which he personifies under the name of Asclepius, he regards as working on eugenic lines, whereas the very successes of the latter were, in his opinion, dysgenic in their effects.

> If Asclepius did not instruct his descendants in valetudinarian arts, the omission arose not from ignorance or inexperience of such a branch of medicine, but because he knew that in all well-ordered States every individual has an occupation to which he must attend, and has therefore no leisure to spend in continually being ill. . . . And therefore our politic Asclepius may be supposed to have exhibited the power of his art only to persons who, being generally of healthy constitution and habits of life, had a definite ailment; such as these he cured by purges and operations, and bade them live as usual, herein consulting the interests of the State; but bodies which disease had penetrated through and through he would not have attempted to cure by gradual processes of evacuation and infusion; he did not want to lengthen out good-for-nothing lives, or to have weak fathers begetting weaker sons.

Now medicine to-day, as in Plato's day, endeavours to lengthen out lives of all sorts, and does not presume to judge what are good for nothing and what are not, and it enables weak fathers and mothers to have children; and in this respect it may be accused with some justice of being dysgenic. Eugenists are sometimes represented as being a savagely tyrannical clique who regard the lethal chamber as a more valuable institution than the hospital, and castration the greatest good to be got out of the surgeon. Perhaps what I have just said may appear to give some support to this view, so I take the opportunity of stating most emphatically that eugenists are not antagonistic to medical science, even if it does lead to the prolongation of good-for-nothing lives. But the fact that the work of doctors on behalf of humanity may by its very success lead to results which eugenists deplore, imposes a sort of obligation on the medical profession to make what contributions it can to the science of eugenics. Eugenics in some of its aspects may indeed be regarded as a branch of preventive medicine, and the proverb that prevention is better than cure is in this field more true than most proverbs, at any rate from the point of view of the lay public.

It is for these reasons that I shall endeavour in the present paper to give a brief analysis of some of the principal problems in eugenics as they appear to me, with the object of arousing discussion on the nature of the contributions to the science of eugenics which might fairly be expected from medical men.

A detailed survey of the ground is hardly practicable on this occasion, but a sort of preliminary triangulation may be attempted, and for this purpose the first fixed point is the study of heredity. The study of the inheritance of disease must be, in so far as the collection of data goes, almost entirely in the hands of the doctor, and with regard to some diseases much admirable work has already been done. The possibility of explaining the inheritance of diseases and defects on Mendelian lines has undoubtedly acted as a valuable stimulus in the collection of data, since in favourable cases the manner in which a disease is inherited may be shown by one carefully collected pedigree. It is thus possible within a reasonable time for one individual to make a definite contribution to the subject. Although this has had the enormous advantage that it makes it more worth while for a man to investigate a family history than if a vast number had to be collected before any generalization could be made, it has led to some results of a not altogether desirable kind. One of these is that the amount of attention that is paid to the hereditary aspect of a disease is in proportion to the chance of its transmission being explicable on Mendel's hypothesis or some extension of it, a chance quite independent of its social importance. For the scientific study of inheritance, haemophilia, or night blindness are subjects as good as tuberculosis. Yet I make no apology for insisting that at the present time it is of greater practical importance to study the hereditary elements in the causation of the latter than of either of the former. The Departmental Committee on Tuberculosis in its final report, which dealt principally with the prevention of the disease, entirely failed to consider this aspect of the question, although presumably it had access to the best medical advice. The question must be one of the greatest difficulty, since one's liability to a severe attack of the disease appears to depend on three variables: (1) The degree to which one is personally susceptible, determined probably largely by heredity; (2) the opportunities presented to the tubercle bacillus of invading one's body; (3) the virulence of the particular tubercle bacilli with which one is attacked. And in a thorough study of the question all these three elements would have to be dissociated. The attempts to do this must be made in the first instance by the careful observation of tuberculous families, and who can do this but the doctor who attends them? Yet the experience of one man would never provide sufficient material, and so one is driven to the conclusion that some form of co-operation is necessary.

All circumstances affecting human qualities are of interest to the eugenist, so next to heredity he must turn his attention to the action of the environment. If the term is used in its widest sense, a formidable array of problems are included under this head. As a first step towards arranging them in order, those which concern the action of the environment on the individual before his conception may be separated out. In delimiting this group we get perilously near that much-gnawed bone of contention "Are acquired characters inherited?" A part of it has recently got broken off and has given rise to noisier barking and more vicious biting than ever it did in the days when it was whole. I am, of course, referring to the question, "Does alcoholism in the parents affect the germ plasm in such a way as to influence the quality of their children?" We must turn to medical men for a solution of this problem too. The simplest and directest way of attacking it would appear to be the comparison of the quality of children born before and after one or both of the parents took to drink. The chance would have to be allowed for that any changes observed might be due to the moral and economic degradation of the home conditions which often result from alcoholism.

There are many other problems of a similar nature, but we will leave these and consider the alleged action of environment at the moment of conception. The alcohol problem comes up again here as some of the anti-alcohol propagandists assert, it must be said on very insufficient grounds, that particularly baneful effects result from drunkenness on these occasions. The season of conception is also supposed by some to affect the vitality of the offspring, and even the weather has had an influence attributed to it.

Aristotle recommended the winter as the best season for marriage, and, further, remarked that parents, "in view of the procreation of children, should pay attention to the rules of physicians and natural philosophers, the former of whom are competent authorities upon the occasions suitable to their physical condition, and the latter upon the various kinds of winds, northerly winds being, in their judgement, preferable to southerly."

In a recent statistical investigation, Professor Gini failed to discover that the season of conception had any influence on vitality, though it might well appear to have such an influence, since the season of birth affects one's chances of surviving early infancy. Other factors to which weight has been attributed, which may be regarded as determined at the moment of conception, are the ages of the parents and one's place in order of birth.

We next come to the period after conception, but before birth, when the child's environment is determined directly by its mother. Here again the problem of alcoholism turns up, while the effects of other poisons and of the mother's habits and employment are also problems of the gravest importance, which come normally within the sphere of medicine. The importance of caring for the mother's health during this period was very clearly pointed out by Aristotle, who said that "the children are affected by the state of the mother during pregnancy, just as plants by the conditions of the soil." Good food, freedom from anxiety, and reasonable exercise were the rules of health which he laid down, and, as the Greek ladies of his time do not appear to have taken exercise from a love of the thing, he recommended that a law should be passed compelling them to walk daily to render service to the gods whose function it is to preside over childbirth. As the temples of these deities were generally outside the city wall, this would entail a stroll of reasonable length.

The actual period of birth is also of interest to the eugenist, as it is asserted that injuries received during this anxious time are sometimes the cause of idiocy and feeble-mindedness. It is also maintained that the successes of the obstetric surgeon are essentially dysgenic, since they allow the perpetuation of stocks in which the women are defective in the capacity for normal and healthy labour.

After the child is safely born I do not think that, strictly speaking, the eugenist should take any more interest in him, or if he does it should be merely because he regards him as a potential parent. This is, however, such a very large exception that little is left of the rule. The environment may act on the potential parent so as to affect the inborn qualities of future generations in two ways. The first, and probably the most important, way is by selective action—by favouring in one way or another the parenthood of individuals with some particular qualities. When we consider first the incidence of mortality in early life, the much-debated problem presents itself, Do the fatal diseases to which young infants are particularly liable kill at random in so far as the inherent qualities of the infants are concerned, or are the weaker taken and the stronger left? All sorts of opinions are expressed on this point, none of them suggested by very good evidence.

Then the diseases of childhood—measles, scarlet fever, and so on—may be selective in their action. There is in this case some definite ground for supposing that those who are naturally less resistant to these diseases have more chance of being killed by them, and that thus gradually races are evolved for whom they are seldom fatal. This kind of selection becomes doubly interesting when some definite physical or mental quality is coupled with resisting power or with the lack of it. If, for example, red hair goes with a particular liability to suffer from scarlet fever, as has been maintained, one can see that scarlet fever may have quite a far-reaching effect in determining national characteristics. For red hair may be itself coupled with qualities of greater social importance, possibly because it is to some extent an indication of racial origin. Whether this is actually the case or no, the point that I wish to emphasize remains a good one—namely, that when one character or quality is directly selected, an indirect selection is exercised to some extent on all characters and qualities which are coupled or correlated with it. Even if one accepts completely

the Mendelian view of inheritance with its discreet and independent unit characters, it should not blind one to the close interdependence of all parts of the body or the intimate relation between bodily and mental functions.

But selection for parenthood is exercised in other ways than by the action of such of our fellow creatures as the bacteria or parasitic protozoa. Environmental selection may work in ways too numerous even to mention on the present occasion. Occupation, social position, race, religion, all have their say in determining what share each shall have in producing the populations of the future. To find out exactly what is this share is one of the tasks of the eugenist. He must also work backwards, and find out what qualities lead different individuals into different environments. We must be careful not to assume that the environment is thrust haphazard on us, for it is largely moulded by our own characters.

In conclusion I must apologize for the fact that the title of this paper does not very accurately define its contents. I have only attempted to discuss a very small part of the scope of the science of eugenics, and many conspicuous omissions will be apparent to you.

II.—HARRY CAMPBELL, M.D.,
Physician, West End Hospital for Nervous Diseases.

EUGENICS FROM THE PHYSICIAN'S STANDPOINT.

WHILE hygiene seeks to discover the conditions which make for the health of the individual *in esse* (from the first moment of embryonic life), eugenics is concerned with the individual *in posse*. Its object is to promote the welfare of the human race by encouraging biologically suitable and discouraging biologically unsuitable matings: it is, in short, the science of man-breeding.

The methods of the eugenist, to be genuinely effective, must be founded on the laws of organic evolution. The prime fact for him to keep in mind is that man, like every other species of living thing, has evolved by natural selection—that is, by the continued elimination through successive generations of unfit types, and the consequent survival of the fittest. The eugenist has further to bear in mind that the work of natural selection on any given species is not finished when it has secured the evolution of that species. Its continued operation is needful (*a*) in order to maintain the standard of efficiency, and (*b*) in order to adapt the species to those progressive modifications in environment which take place from generation to generation.

(*a*) As regards the maintenance of efficiency, the offspring by no means all conform to the standard of parental excellence; they tend to vary round the mean. Some may fall considerably short of it, and these require to be eliminated, if the standard is to be maintained. Take, as an instance, the case of eyesight. In order to maintain this at a high level of excellence, there must be a rigorous elimination of all those presenting visual defects. Among primitive peoples even a moderate degree of short sight places the individual at a disadvantage in the hunt and the fight, and renders him liable to premature death. And what is true of the visual organs is true of all the organs and functions of the body: they are all liable to fall below the normal, and only by the stringent operation of natural selection is it possible for a high standard of excellence to be maintained.

(*b*) In regard to the progressive changeableness in man's environment, consider how greatly his diet has altered within recent times, and how infinitely changeable is his environment as regards the onslaught of pathogenic micro-organisms.

Now, seeing that it is only by the stringent operation of natural selection that a high standard of racial fitness can be maintained, it follows that any interference with this beneficent process must tend to lower the standard. We know that civilized man does interfere with the operation of natural selection. He saves, by artificial means, numerous defective types, which would otherwise be eliminated, and prevented from handing on their defects to future generations. Thus the standard of racial fitness is lowered. The triumphs of surgery, of therapeutics, nay, even in a measure also of hygiene, while they make for the good of the individual already born, or on the road to being born, all tend to lower the racial standard. Man is seeking to obtain efficiency by bestowing infinite pains on the individual. Nature's method, which has been in operation since the first dawn of life, is not that of bolstering up the unfit, but of wiping them out. Her chief concern is to produce the best and to secure the survival of the best. Only in this way can racial efficiency be maintained.

But while this picture is somewhat sombre, we must be careful not to paint it in too sombre colours, for in truth the extent to which man can check the process of natural selection is, after all, limited, and it is important that the eugenist should realize the fact. Biologists, even leading ones, have fallen into the strange error of supposing that natural selection has ceased, or nearly ceased, to operate on civilized man. We are exultingly told that man has cast off the yoke (*sic*) of natural selection, as though it were some dread curse, instead of being, as it actually is, the magic ladder by which man has climbed to his present pinnacle of excellence, and by which alone it is possible for him to continue his ascent.

It is true that man's revolt against natural selection has been the means of saving many lives. This is indeed a triumph, but not an unqualified one. In so far as the lives saved are unfit, their preservation is not, eugenistically speaking, commendable. It is, however, equally true that this vaunted revolt is far less effective than appears at first sight, and that over man, as over all living things, natural selection continues to exert its inexorable and beneficent sway, and will continue to do so so long as man exists. We may seek to elude its operation, but our success can never be more than a partial one.

Let us very briefly consider the part which natural selection has played, and is still playing, in man's evolution. First, a word as to his mental evolution. In some papers recently published by me in the *Lancet* I have endeavoured to indicate the factors which have determined man's mental evolution from the ape, and to ascertain how far these or other factors are operative at the present time, and are likely to operate in the future. In this way I have attempted to forecast his psychic destiny.

Mind has a twofold aspect—that pertaining to the intellect (thought, the flow of ideas), and that pertaining to the feelings, which play a large part in dictating conduct. I have been led to the conclusion that man's intellectual evolution from the ape was determined by three main factors (factors, that is, which favoured the survival of the most brainy); that in the case of neo-civilized man these factors have ceased to operate; and that with him, therefore, intellectual evolution has practically come to a standstill. On the other hand, it has seemed to me that agencies influencing the evolution of man's moral nature are still in active operation, and that he is still evolving, and will continue to evolve, in the moral sphere. Ever since the first evolution of tribal life natural selection has been busily eliminating the morally defective—those unable to conform to the customs and laws of the tribal community. And this active elimination has continued right down to the present time. I doubt if we adequately realize to what extent the elimination of the morally unfit is proceeding among us. The lazy, the intemperate, the dishonest, the aggressively antisocial, those who love not home life, those who shun the cares and self-sacrifice demanded of fatherhood and motherhood—these are one and all being eliminated, while their opposites are surviving, and the attributes which secure their survival are becoming racially accentuated. In other words, man is still evolving on the moral side.

So much for the operation of natural selection on man psychically considered. Let us now consider its influence on physical man. It was by the survival of favourable morphological variations that the evolving man came to take on his human form. Having secured the evolution of the species *homo*, natural selection still continued in operation, both in order to maintain the standard of fitness and in order to bring about adaptation to those progressive environmental changes which are inevitable in the case of all species. Since the introduction of civilization these changes have been pronounced, especially in regard to his exposure to pathogenic microbes, and in the matter of his diet.

Directly men began to wear clothes and to congregate in towns, and to meet in large numbers under one roof, he came to be exposed to the attack of pathogenic microbes to an extent which was quite new to him; and ever since natural selection has been busily at work eliminating those least capable of resisting them. And be it noted that the ability to resist the onslaught of his microbic foes is as necessary to the survival of man as the possession of those obvious features by which he is identified by the zoologist. Excellence in other respects avails him nothing if he is seriously lacking in this one, let him have the beauty of Apollo, the wisdom of Socrates, or the goodness of a saint.

The zoologist, concentrating his attention on obtrusive features, is too apt to think that it is upon them alone that natural selection operates. We may rest assured that no matter how fiercely and persistently man may war against the world of pathogenic microbes, he will never obtain complete mastery over them. Natural selection will always be necessary in order to maintain a high racial standard of resistance to them.

As regards man's diet, I will limit my observations to some of the changes which have occurred within recent times. So far as the British Isles are concerned, we may call this the "age of pap," seeing that most of our vegetable food is taken in a pappy or semi-pappy form. As a result, the jaws and teeth are inadequately exercised, while the stomach is flooded with a superabundance of starch little, or not at all, predigested by admixture with saliva. Hence normally-formed jaws are rarely if ever met with in these isles, while the condition of the teeth is deplorable indeed. Hence also the distressing prevalence of rickets and adenoids among our children. I should weary you by enumerating the long array of digestive disturbances, from ulceration to appendicitis, to which this pernicious system of pap-feeding gives rise. How I wish I could get our people to realize that much the most urgent reform needed at the present time is a doing away with it! But this by the way. My object here is to draw attention to the fact that the large mortality brought about by our modern dietetic methods affords an instance of the operation of natural selection. Doubtless if these methods were adopted by all the peoples of the world for many thousands of years the human race would become adapted to them.

The operation of natural selection on neo-civilized man, however, is not limited to those who are incapable of coping with pathogenic microbes, and modern systems of dietary. It is far more extensive in its scope. In point of fact all deaths occurring before the end of reproductive life, and not due to trauma, are instances of its action, indicating as they do defective adaptation to the environment.

The higher the mortality, the more stringent is the operation of natural selection. Hence, as already hinted, stringent hygienic measures are by no means wholly advantageous to the race. By minimizing the dangers to life they increase the number of weaklings surviving. On the other hand, insanitary conditions, by eliminating the weaklings, favour the evolution of a hardy race. While harmful to the individual, they strengthen the race. This is true even of slum life. Similarly, it is more than probable that drunkenness, while individually baneful, by the elimination of degenerate types, is racially beneficial.

My object hitherto has been to show that even if no attempt be made to obviate by eugenic means the deterioration which is taking place in civilized man owing to interference with natural selection, such deterioration has its limits, which, if not already reached, very soon will be; for natural selection is still actively at work upon him, and may safely be relied upon to prevent the human race from falling appreciably below the present standard. Dr. Mott has shown that insanity, when inherited, tends to appear at a progressively earlier age in each succeeding generation, and thus to be racially eliminated.

Let us now inquire how far it is practicable to put the principles of eugenics into operation. A friend of mine who worships the beautiful, and detests physical ugliness in any form, once told me that, if he had his way, none but the beautiful should be permitted to multiply; and when it was objected that many people with beautiful characters might in this way be lost to the race, he somewhat brutally replied that, commendable as virtuous ugliness undoubtedly was, he, personally, could very well dispense with it; that, having secured a physically beautiful race, it would be time enough to set about eliminating the morally defective, and so breed a race of humans beautiful alike in mind and body. Such an achievement is indeed—theoretically, at least—possible. In a similar way we might greatly improve man's intellectual powers. One might, in short, breed a race of supermen, converting man as he is—a sorry caricature, alas! of the ideal—into a being perfect in form and supreme in intellectual and moral endowment.

Such an achievement is manifestly impracticable; but this does not imply that the aims of the eugenist are wholly chimerical. On the contrary, they have a solid basis in fact. I have said that the object of eugenics is to encourage eugenistically fit unions and to discourage such as are unfit. The former object—one, in my belief, of the utmost importance—scarcely comes within the range of practical eugenics—at the present time, at least, whatever may be the case in the future. The way in which the physician can effect most good eugenically is by the prevention of unfit marriages. In the case of the educated classes, at least, he is not infrequently called upon to decide whether a contemplated marriage is eugenistically desirable, and, in view of the great responsibility thus thrown upon him, it behoves him to be ready with a well-formed judgement on the matter.

To this end he requires to have a practical knowledge of the principles of heredity as formulated by the professed eugenist, and a detailed family history of the parties interested.

In certain cases there can be no doubt as to his course. The presence of such serious diseases as phthisis, organic heart disease, epilepsy, insanity, chronic Bright's disease are obvious bars to marriage. Not only the actual existence of any one of these diseases, but the having had it and recovered from it, would, in my opinion, constitute unfitness. The same restriction applies, I think, to rheumatic fever (certainly if there has been more than one attack), and to most cases of acute Bright's disease not due to scarlet fever, especially when the inflammation has been of more than two months' duration.

It is scarcely necessary to say that those possessing serious congenital defects, such as of sight and hearing, should not propagate their kind.

There are other diseases, equally serious in themselves, but the having suffered from which is not usually regarded as a bar to marriage. I allude to all those cases of non-accidental diseases in which life is saved by the surgeon's skill. Most individuals of this class should be regarded as procreatively unfit. Take the case of a person with strangulated hernia, fulminating appendicitis, or ovarian cyst. But for the surgeon such an one would be weeded out as unfit, and thus prevented from handing on his weakness. Let us use all the means at our command to rescue such sufferers from death, but it must be on the clear understanding that no children shall be born to them afterwards. Think of the millions of women suffering from ovarian cyst whom Nature, with cruel kindness, has in the past sacrificed in order to maintain a racial standard of ovarian fitness. In neo-civilized communities these are now practically all saved, with the result that the percentage of ovarian cysts must necessarily increase. It is only because the potency of heredity is not realized that the propagation of children by women whose lives have been saved in this way is sanctioned.

A class of disorders which, in my judgement, constitute a serious bar to marriage are the functional nervous disorders. The supersensitive are not suited for this hard world. Its strenuous conditions call for men of iron nerve and stout hearts. The lives of the supersensitive are often one long-drawn-out misery. To them I would say: "Remain single." The neurotic man is often advised to marry, on the ground that wife and children will draw him out of himself; and, so far, the advice is doubtless good, but I fail to see what right we have to sacrifice the prospective wife and children. I have seen too much home misery caused by neurotic parents to connive at such an arrangement.

But it is one thing to advise and quite another thing to get our advice followed. How are we to get people to act

in accordance with the principles of eugenics? I may say at once that I do not advocate any legal restraint on eugenically unfit marriages. Let us hope that this will never be found necessary. Our object should rather be to foster the development of a eugenistic conscience in the community. To this end the public should be educated in the elementary principles of evolution, and be taught to realize the more glaring facts of heredity.

They must be made to realize that the responsibility of making a life is scarcely less tremendous than that of taking one. As it is, one of the last things that occurs to a person contemplating matrimony is whether he is fit to be represented in posterity. I know of few things more remarkable than the extreme self-complacency of human beings in this respect. Neither religion nor ethics has yet assimilated the findings of science. We still pray to be delivered from plague, pestilence, and famine, as though they were visitations of divine wrath, when the means of deliverance from them has already in large degree been vouchsafed to us by the labours of science.

Much has yet to be done to get a sound public opinion, a sensitive public conscience, in these matters, such an opinion and such a conscience as I hold it should be one of our first duties to create. It will, of course, take time for society to get out of the old grooves of thought, sanctioned by almost the whole of our current fiction, as to marrying and giving in marriage; but surely when it is realized what are the tremendous issues at stake, we may appeal to the sense of duty; yet it were a very poor and inadequate sense of duty which could content itself with fulfilment of obligations to the living, heedless of those who shall come after. It is for us to insist upon the wrongness of bringing into the world, through deliberate disregard of parental unfitness, of degenerate offspring, and we shall be unworthy of the traditions of our profession if we do not, each of us in his own particular sphere, strive to bring nearer the day when not in a heritage of woe, but of blessing, the deeds of the fathers shall be visited upon the children.

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THE MIGRATORY FACTOR IN EUGENICS.

During the past three or four years I have been advancing the following propositions. The population of the British Isles may be regarded as being primarily composed of two elements—a native element and an intrusive element.

The native element is apparently a branch of the race known to anthropologists as the Atlanto-Mediterranean or Iberian race, characterized by a short, slender build, a long head, and a brunette complexion.

The intrusive element is derived from those races which have come from other lands and settled in the country. Of these the most important is the blonde race of Northern Europe, but there are others, such as the broad-headed Alpine race of Central Europe, the Jews, gipsies, etc., who have influenced the national composition in a lesser degree.

In parts of the country communities are still to be found in which apparently pure racial types occur, in some cases of the native, in others of the intrusive element. In other districts the type is more mixed, though one is obviously predominant; in others again it is difficult to say which is in the ascendant. Thus in the far north of Scotland the blonde element is strong; in Denbighshire, in Wales, the old Iberian type is found nearly pure; in urban districts the types tend to be inextricably hybrid, at any rate to the casual observer.

But in addition to regions where pure racial types occur or seem to be cross-bred, with the usual phenomena of segregation of ancestral types as generation succeeds generation, there is another phenomenon to consider. Following many centuries devoted to agriculture the nation, by the eighteenth century, consisted largely of an aggregation of small communities intermarrying little with each other, and undisturbed by any further intrusive racial elements. As a result the evolution of subtypes with certain apparently fixed characters ensued, these subtypes representing an intensive adaptation to local conditions and being clearly distinguishable on intimate observation as subtypes, though they may at the same time present recognizable traits of the original racial elements of the nation.

Now my sphere of practice is situated in the north-west of London, and extends to some of the outer suburbs. This is a residential district considerably favoured by Jewish people. I had noted, as others have done, their proclivity to catarrhs of all kinds, enlarged tonsils, adenoid growths, etc., conditions commonly associated with exposure to damp, and it occurred to me that the natural explanation of this proclivity lay in the fact that the remoter evolution of the Jews took place in South-West Asia—that is, in a region with a warmer, drier climate than North-West Europe. It seemed profitable on this hypothesis to inquire whether other intrusive racial types which help to compose the British people show signs of imperfect acclimatization to their present environment, and I was gratified to find that plenty of information on this point was to be had for the asking. That is to say, that valuable statistics on the relation of race to disease in Europe have been collected by Beddoe, Shrubsall, and others, showing that certain racial types exhibit certain definite and specific morbid proclivities. (No suggestion is made by these writers, however, as to *why* these racial types show these proclivities.) Among the most important facts was the demonstration that in this country blonde traits are associated with acute rheumatism, tonsillitis, heart disease, and osteo-arthritis, to which I can add, from my own observation, a marked tendency to catarrhs from the various mucous membranes of the body and a variety of ills secondary to acute or chronic conditions of catarrh.

This group of diseases is commonly and, I have no doubt, rightly attributed to exposure to damp in some form or other, which lowers the resistance of the body to the attack of micro-organisms of disease.

Now, the area of characterization of the blonde Nordic race is in the regions bordering on the Baltic sea—regions with a markedly lower rainfall than that of the British Isles, a somewhat colder and drier winter, and a subsoil mostly sandy and therefore permeable to moisture.

The inference to be drawn is, therefore, that representatives of this race among the inhabitants of the British Isles show, like the Jews, that they are not fully adapted to our climatic conditions—though I make the reservation that there are parts of this country where climatic and social conditions are, or have been, such as to enable the blonde race to reproduce itself satisfactorily after centuries of exile from the regions of its origin; and there can be no doubt that some degree of adaptive evolution has occurred where the blonde invaders have remained long undisturbed.

The trend of modern social conditions, however, finds the Jew at a distinct advantage compared with the derivatives of the blonde race. During the past century the drift of social movements has been towards urban immigration, and the Jews, both in their remote and in their more recent history, have had much racial experience of urban life.

The blonde, blue-eyed Nordic race, on the other hand, has always been, as history from the time of Tacitus onwards relates, a race requiring spacious surroundings, and not given to the construction of cities. It has therefore passed through no such competitive examination as the Jews, and its modern derivatives prove vulnerable to the effects of a damp climate and soil, and are unable, as careful statistics have fully proved, to withstand the stress of town life.

Returning once more to the subtypes I mentioned earlier in this paper as presenting an intensive adaptation to local conditions through long isolation and inbreeding, I may call attention to Professor Karl Pearson's affirmation that the result of inbreeding of one group of people of superior fertility in a given community will be the rapid domination of the community by that group. Superior fertility maintained generation by generation means superior adaptation to environment, and explains why we so frequently find long-established rural communities restricted to two or three surnames. Two years ago, in a paper read at the British Medical Association annual meeting, I quoted certain observations of Sir William Bennett which bear out the reality of this *intensive* adaptation of local types. Of course, there is disseminated through the nation a large class whose adaptive powers show a wider range.

Available food supply, in so far as it has maintained an unchanging character through the centuries, has exerted a selective influence in that those who throve best on it would find that fact would exert a survival value in their favour, but at the same time make them the more susceptible to any marked or rapid change in the national commissariat.

Now, the census of 1811 showed that 35 per cent. of the population of Great Britain was engaged in agriculture, and no doubt fifty years earlier the proportion was very much higher. It would be safe to say that in the middle of the eighteenth century the bulk of the nation consisted of an agglomeration of small communities of localized and specialized types.

How, then, does the nation, as at present composed, compare with it as it was then?

Well, we are confronted with the startling fact that in England and Wales only 8.8 per cent. of the population is engaged in agriculture, forestry, and fishing, as compared with 69 per cent. in Hungary, 42.7 in France, and 35.2 per cent. in Germany.

This means that a very large proportion of the nation has migrated from the home of its fathers. It is being called upon to exhibit powers of adaptation to conditions differing materially from those in which its ancestral stocks were evolved through century after century of steady, slow-changing rural life.

Consider what changes in our national life have occurred during the past 150 years as a result of the invention of machinery, the advent of the railway, the change from agriculture to industry as a national pursuit.

To achieve our industrial position in the world wholesale disintegration of these communities of ancient growth and the redistribution and mixing of their units has taken place mostly by urban immigration, but also through rural redistribution.

And to feed this multitude the products of the land on which they were formerly bred no longer suffice, therefore they are dependent on manufactured and imported foods for their sustenance.

Modern life has therefore inevitably become more complex, and it is certain that for many individuals it has become too much so. They cannot adapt themselves to the change, not because they come of an essentially degenerate stock, but because they are specialized and localized types—that is, specialized for certain pursuits, for certain social conditions, localized for particular climatic conditions, including soils.

This state of affairs has resulted from the force of economic currents sweeping irresistibly through the land, and, further, it has not been a slow and gradual change of social condition, permitting the evolution, step by step, of suitable types. It has been for practical purposes a sudden national mutation as great in degree as the southern incursions of northern barbaric hordes. The history of the nations tells of the inevitable degeneration that followed those barbaric raids, of the fate of the Langobards of Italy, in the Visigoths in Spain, of the Vandals in Africa, of the Aryans in India. The degeneration and extinction of these races ensued because the stress of changed environment was too great for their adaptive powers and too sudden to permit the evolution of adapting types.

The question is whether we are confronted with conditions making for our extinction, or, short of that, whether we are to expect a long period of national decline pending the regenerative evolution of types adjusted to the new order? Shall we meanwhile lose much or all we have gained through the long centuries of our history? If we are to triumph over circumstance we must face these questions unflinchingly, and we can hearten ourselves with the fact that we have access to knowledge which can be turned to practical account in a way impossible to nations earlier in history.

It is impossible and unnecessary in the brief space of time allotted to my paper to indicate all the factors arising from recent modifications in our national life which menace the national physique. Some are obvious enough, others are stealthier and subtler in their *modus operandi*.

Last year, in a paper read in the Public Health Section of this annual meeting, I recorded in some detail the effect I noted on country girls wishing to enter into domestic service who migrated from the Sussex Downs and the Sussex Weald respectively to the North-West of London, where a very large residential district is forming, the subsoil being composed of London clay. The gist of my observations was that the migrants from the Wealden clay apparently exhibited ready adaptation to the clay of North-West London, while those from the chalky Downs, where there is a strong infusion of the intrusive blonde race, fared far less well, being handicapped by a susceptibility to damp derived from their evolution on more permeable soils and an inadaptability to urban life which is a racial characteristic of the blonde type and its derivatives.

To make my contention clearer, I wish to direct attention to one out of several results of migration—the so-called catarrhal constitution. Every practising doctor is familiar with individuals and families (wholly or in certain members) who exhibit a special vulnerability of their mucous membranes, manifest in a readily produced disorder of the mucous surfaces and secretions caused by a lowered resistance to micro-organisms. The degree of ill health arising from this tendency may vary from a mere liability "to catch cold" to the most profound interferences with nutrition and physical development. It is responsible for some of the most troublesome chronic ailments, such as neurasthenia, sterility, deafness, chronic gastric or intestinal catarrhs. Enlarged tonsils and adenoid growths are usually manifestations of this diathesis, and it is unnecessary to enumerate the various ills that are directly due to them beyond mentioning the notorious fact that nasal obstruction is very frequently associated with pulmonary tuberculosis.

Now comes the crucial question, Why in a given community do certain individuals show this proclivity and others do not? Why does a family of children grow up weedy, dyspeptic, languid, readily fatigued in mind and body, liable to become the victims of the ills I have just enumerated, when at birth they appear just as well-developed and sturdy as other children who remain healthy as they grow? Is the finger of scorn to be pointed at them? Do they come of base stock? Are these the "unfit" we hear so much about?

I will give in answer the fruits of my experience in one of those immense communities forming in outer London, where the metropolis is thrusting its tentacles over the tracts of London clay. As it is largely a high-class residential district it attracts people who, in the main, come of healthy stocks, people who are winners in the battle of life, and theoretically exemplify the survival of the fittest.

But a quite considerable proportion of the children of those people who come to reside on the London clay exhibit this catarrhal tendency, and of these catarrhal subjects the majority exhibit traits of the intrusive elements, that is, are either blondes or blondish in colouring or are Jews. In other words, they come of racial stocks whose evolution has taken place on drier soils, so that when they come to reside on clay they are affected by its coldness and humidity. Restoration to suitable conditions has meant restoration of health.

These migratory movements have produced many other deplorable results to set off all we have gained as the workshop of the world. Last autumn, for instance, Dr. W. H. Hamer, Principal Medical Officer to the London County Council and President of the Epidemiological Section of the Royal Society of Medicine, read a presidential address before his Section, entitled, "The Influence of Migration on the Phthisis Death-rate," a paper dealing largely with returns from Sussex towns and villages. Among other important points he makes note of the tendency of girls who have left rural districts to enter into domestic and other service in the great towns to return to their native districts if stricken with phthisis or suffering from other forms of broken-down health. In this way the germs of disease bred and contracted in urban districts tend to be introduced to rural communities hitherto untainted, and may work havoc through the countryside.

It will be clear that these facts of Dr. Hamer have a direct bearing on the practical working of the ideal expressed in the cry of "Back to the land." This and other popular outcries for a return "to the simple life" or "to Nature," afford evidence of the awakening of national

consciousness to the fact that decadent forces are at work in our midst. It is the first of these cries that is loudest at present, and has seized the popular imagination so strongly that both political parties are making the "land question" a prominent "plank" in their respective "platforms."

I cannot deal in this paper with questions of more scientific methods of agriculture, rural housing, and other problems of the kind. I firmly believe, however, in the doctrine that the wealth of a nation lies ultimately in the quality of its men and women, and an *indiscriminate* urban exodus into a promised land of small holdings is not going to restore the national physique to the extent some of its advocates anticipate—the plagues of Egypt may not be wholly left behind. And is there no Sinai *en route?*

There is no doubt, however, that following the centripetal action of the city a centrifugal action is setting in. Our ancestors were careful in the sites they chose for their villages, but the mushroom growth of the suburb shows no such selective care, and the speculative builder still receives little check to the indulgence of his fancy. The recolonization of England is a movement requiring the most urgent attention from the point of view of national health, but there seems every prospect, for reasons I have already given, of a great thrusting of round pegs into square holes and square into round.

"Back to Nature" can mean nothing to man but back to the animal from which he sprang, for man acquired his status as *homo sapiens* by turning his back on Nature, determined to be a law unto himself. As Sir Ray Lankester has phrased it, man is Nature's insurgent son, and, though the maintenance of his health is still dependent on the strict observance of biological law, the measure of man is the degree to which he can force his environment to conform to his biological requirements.

Our trouble at present is that we are apparently at one of those transition periods which occur from time to time in history, when everything seems to be in a state of flux preparatory to the crystallizing out of new shapes and forms.

Instead of the *in*tensively adaptable type in demand in the age of agriculture, an *ex*tensively adaptable type meets the requirements of the industrial era. Nietzsche, in one of his savage but illuminating diatribes against modern social developments, has made this type of man, whom he perceived to be gaining the day, the victim of his keenest shafts of invective, urging that he simply invites the advent of the tyrant. He characterizes him as a useful, industrious, variously serviceable and clever, herd-animal-like man . . . . numerous, talkative, weak-willed, and very handy. (It sounds perilously like a description of the modern medical man who, in this country, has certainly already encountered his tyrant in one shape or another.) But Nietzsche puts the cart before the horse. It is the development of industry and its organizers that has called forth this type and ousted or crushed those of a more sturdy independence of character or less versatile adaptability. It was painful last year at Liverpool to see the type of emigrant crowding the transatlantic liners compared with the type pouring in at the port of London.

There is the more subtle danger that this extensive adaptability in some cases only covers a small portion of the industrial worker's life, and that for the rest of his existence he tends to become a burden on his family or on the State. The cry of "Too old at forty" is not without substantial cause. But lack of adaptability is mainly a characteristic of the child—the growing organism; the embryonic cell is far more impressionable than the mature, and readily reacts unfavourably to an unfavourable environment. Remember the European child in India.

The child, to grow to the standard of the stock from which it sprang, requires to be reared in an environment approximating or approximated to that in which its stock evolved. The immature organism is repeating the evolution of its species, and cannot attain to the capacities of the adult. For this reason the Anglo-Indian child is sent home. It may be true that the lowest forms of life exhibit some power of dealing with the unexpected. It is equally true that the adaptability of the highest forms is strictly limited.

If, then, it be admitted that the wholesale uprooting of our population from the land that bred it, the substitution of manufactured and imported foods for the products of the native soil, the merging of small communities with specialized energies into large communities with generalized energies, has increased the complexity of our social system to an extraordinary degree, has subjected this migrated population to a stress which falls heaviest on the children—how are we meeting the menaces to health and physical development engendered by these changes? What are we doing to ensure the maintenance of our position among the nations of the earth?

It is unnecessary to enumerate all the activities that social stress has called forth. But it is obvious from the outcries on all sides that we have not done enough—that the complexity of the situation has overpowered the resources of our preventive or remedial measures. The inauguration of the modern Eugenics movement marked a new era in the attitude of sociology towards the present state of affairs, but, so far, it is necessarily a case of faith without works, except where it has garnered statistics and information. It has been said that the last refuge of the complex is in simplicity, and certainly some of the measures advocated for dealing with the alleged unfit do not err on the side of complexity. But, even ignoring the vagaries of the "cranks" who always crowd into any new movement, it appears to me that the eugenists have not sufficiently discriminated between degeneration due to damaged germ plasm and degeneration which is simply caused by disharmony with environment.

I have before me, as I write, a copy of a pamphlet issued by the Eugenics Education Society, with a schedule of questions with regard to the health of the individual, his ancestry and collaterals, but no inquiry at all as to the origin and migrations of the ancestral stocks.

A celebrated French physician has remarked that "the further civilization develops the more it tends to favour the life of the individual rather than that of the species." It is in the discrimination of individual needs that social salvation lies, and this discrimination can only be attained by a keener appreciation of the biological basis of social phenomena and the peculiar relationship of man to his environment.

Now if the object of eugenics be to promote the physical and mental welfare of future generations, it must do more than construct elaborate pedigrees of reputed sound or unsound stocks—its consideration of factors must embrace a wider scope than that which, after much coruscation of the higher mathematics, ends in fixing the mean coefficient of environmental influence at + 0.03, as against + 0.51 for heredity.

I maintain that in the consideration of human inheritance the migratory factor is of prime importance, and once grasped, will afford the clue to much faulty development and otherwise unaccountable susceptibility.

I urge, then, that these molecular changes in the national composition have a strong bearing on the eugenics movement, and submit that no time is to be lost if a statistical inquiry into the effect of intramigratory movements is to be made, as the necessary data will soon fade into obscurity.

DISCUSSION.

Mr. E. J. Lidbetter, who mentioned that he was connected with the administration of the Poor Law in East London, thanked the Association for the invitation extended to him to take part in the discussion. He thought there was a danger, in the consideration of eugenics, of falling into the error of regarding natural selection as a process always of a beneficent kind. In certain circumstances and under certain conditions this force could be the very reverse of beneficent to the community. If, for instance, the community allowed slum areas to exist, the operation of natural selection through adaptation must produce a population that could persist in no other way. In this case the surviving fit were not necessarily the best. Four generations had gone by since the industrial revolution drove the rural population into the town; four generations of survival by adaptation, and the systematic endowment of incompetents (a policy unfortunately indulged in by the State), had produced a community of the dull and the mildly incompetent who could probably survive in no other condition. Slums were the inevitable consequence of a system which endowed incompetence. Our present

knowledge justified no direct controlling efforts beyond the measures for the detention of the feeble-minded now before Parliament. The nation must put its faith in eugenic education, a wider knowledge of the laws of heredity, and such economic adjustments as could be secured to transfer the balance of fertility and survival from the least to the most desirable.

Sir JAMES BARR, M.D., LL.D., made some observations on the duty of the medical profession towards the eugenic movement. He said that, although in the last few years the movement to encourage the improvement of the human breed had grown rapidly, he was sorry to say that, with comparatively few exceptions, the medical profession had not entered into it with any enthusiasm or given any whole-hearted support. The medical profession had been placed on a pinnacle, and its members were ever apt to proclaim that they were not actuated by those baser motives which they pharisaically supposed to guide the rest of mankind. The present movement, which was intended for the elevation of the human race, afforded an opportunity for maintaining the highest traditions of the profession. All real and permanent advancement of the race must be attained through hereditary laws. Unfortunately, the medical profession had been so permeated with Lamarckian ideas and so engrossed with environment that its efforts had been almost entirely devoted to the present generation without proper regard for the future. We were too apt to say, What has heredity done for us? The present generation was too often leaving a legacy of decrepitude and imbecility to the next, and that spirit was largely contributing to this process of degeneration. At one time medical men strongly held to the influence of heredity in the causation of disease; but with the discovery of the tubercle bacillus by Koch that fundamental faith was widely and deeply shaken, so that it largely disappeared as a tenet of belief, and even in the present day one met men who loudly proclaimed that heredity had nothing to do with phthisis. Those who prated about the conquest of consumption might find their campaign a paying game, but they were never likely to accomplish their ostensible object by their present mode of procedure. A race should be raised up which was more or less immune to disease and possessed a strong inherent power of recovery when affected. Measures to improve the physical condition of mankind were taken by many ancient nations. The Spartans and Zulus succeeded in raising magnificent races, but their methods were too barbarous for the present day. Might was right all the world over, and if this country was to retain a hold on its vast possessions it must raise a more manly breed, a better ruling stock than those which now directed the destinies of the empire. They should breed not only for physique, but also for moral and intellectual capacity. Sir James Barr quoted with approval an appeal to the medical profession by the Rev. D. T. Masson which appeared in the *Caledonian Medical Journal*, October, 1898. The address contrasted the care taken in the breeding of animals and the haphazard methods obtaining in regard to mankind, and concluded with these words, addressed to medical men:

> When it is a question of healthy or unhealthy children in the homes of your patients you are silent. You know the coming misery that is inevitable, but no word of warning is allowed to escape your lips. "Medical etiquette" is your Mrs. Grundy; she is chaste as the cold Diana. And when I remonstrate you only whisper, "Hush! how indelicate! how utterly unprofessional!"

Miss A. H. P. KIRBY, the Secretary of the National Association for the Feeble-minded, said that every one must be convinced of the large part feebleness of mind played as a retarding influence in eugenics. There were very few problems in which the active co-operation of the medical profession was more necessary. In the present uncertain state of knowledge of heredity, the feeble-minded presented practically the sole instances in which the country had ventured to legislate on directly eugenic lines. Feeble-mindedness completely permeated the population in all ranks, and was likely, therefore, to affect the future more deeply than any other form of degeneracy, especially as it was frequently associated with all sorts of other neuroses and psychoses which proved transmissible. In view of its singular importance as a factor in eugenics, she was anxious to draw attention to the fact that, so far as she could ascertain, there were no facilities at present for the study of feebleness of mind in any course now open to medical students. If the Mental Deficiency Bill were passed, numbers of posts would be thrown open, requiring expert knowledge in this subject, and training would be necessary. But, apart from this practical consideration, it was when viewed solely as a field for research that the subject became one of primary importance. Here were new worlds to conquer in the study of its biological aspects, causation, and in tracing out the influence (if any) of Mendelism, or, again, to take more specialized forms, in dealing with the differentiation of types and their treatment. Another point in which it would be necessary to obtain the co-operation of medical experts was in instituting a proper standardization of the grades of mental defect. The present want of a common understanding was likely to vitiate any organized compilation of observations and statistics. The Association for the Feeble-minded some years ago persuaded the different authorities recording the after-history of children leaving special schools to adopt a unified statistical form for the purposes of comparison of results, and this was a step in advance, yet, unless medical authorities had agreed on the standard of the mental types to be dealt with, no educational or any other results could be effectively compared. However much one agreed with a writer in the BRITISH MEDICAL JOURNAL who, at the time of the Royal Commission, described efforts in definition as "a courageous attempt to define the undefinable," it was not impracticable to obtain a consensus of opinion on this point which would bring in view a series of working definitions upon which could be based some concerted action, and which would make an organized effort to obtain statistical results a possibility.

Dr. DUNLOP described eugenics as almost entirely a question of the reduction of the present fertility of the economically and biologically unfit. When the Malthusian League was founded thirty-five years ago one of its leading points was that race improvement depended upon this reduction, and it appealed to the educated classes to spread the new knowledge of the control of reproduction among the poor. But it appealed in vain, mainly on account of clerical opposition. So the fitter classes continued more and more to limit their families, while the fertility of the poor and the unfit continued almost unchecked. Some people blamed the doctors for a good deal of this. But it was not easy for the medical profession to go ahead of public opinion. Fortunately, the Churches' opposition had been markedly lessening in the last few years. That medical men were only awaiting a public sanction to give advice freely on family limitation might be inferred from recent authoritative pronouncements. Dr. Dunlop quoted several of these and expressed the view that British public opinion was turning in the same direction. This, he urged, afforded justification for the claim that the medical profession should now take up the matter in the interests of the individual, the family, and the race.

Prince P. KROPOTKIN said that after having heard the eugenists he was not astonished to learn that up till now the British Medical Association had not been over-enthusiastic about eugenics. All that had been said in defence of eugenics was so unscientific. Natural selection was spoken of not as Darwin understood it, when, in his second great work, *The Descent of Man*, he considered it not as a struggle between all individuals of the same species, but as a struggle of the species against adverse surroundings (those species, he wrote, which contained the greatest number of mutually sympathetic individuals having the greatest chance of survival). Eugenists also said a good deal about "the elimination of the unfit," but no criterion of fitness was given. The two factors upon which the character of progeny depended were heredity and environment. To discuss the relative importance of these two factors would be useless. Medical men of experience would probably agree that the rate at which degeneracy was spreading in modern communities was so great that degeneracy could no longer be combated by any amount of "elimination" of the degenerates. The inhabitants of the slums were a reserve army, without

which British industry could not live and give the profits it was giving. What was needed was the elimination of the conditions which produced every year hundreds of thousands of those whom eugenists describe as "the unfit." Medical practitioners knew it well, and the British Medical Association was quite right in having hitherto given its chief attention to combating the causes of degeneracy by means of social hygiene.

Dr. Charles V. Drysdale thought the essential point to be recognized was that if natural selection was to continue to be a race-improving factor its selective elimination must not be prevented. The whole tendency, however, of humanitarianism, of Christianity, of medical and surgical science, and of hygiene, had been against this elimination; to preserve the diseased, the weakly, and the inefficient, and to permit their full rate of reproduction—thus preserving the evils of the struggle for existence, while eliminating its useful selection. The advocates of natural selection, therefore, must either candidly avow themselves anti-humanitarians, and allow the struggle to do its cruelly beneficent selection through death, or they must abandon the struggle altogether and imitate natural by rational selection. It became the duty of society and the physician to say, "We will alleviate your misfortunes or your disease, but, as you would not survive unless we do so, you ought not to have children to inherit your defects." This simply meant that the poor and those suffering from hereditary disease should regulate their families in accordance with their reasonable prospect of bringing up their children decently.

Dr. C. W. Saleeby wished to speak of the influence of malnutrition upon future parenthood. There were racial poisons which could only be dealt with by "Preventive Eugenics," to protect future parents from malnutrition and genital disease. Hence there was no opposition between eugenics and medicine. Eugenists must recognize nurture, and realize that the medical profession in fighting malnutrition and disease was also serving fundamental eugenics by preserving the possibilities of future worthy parenthood.

Monsignor Canon Johnston (Brighton) wished to take up one of Dr. Campbell's remarks—that the truths of science had not been incorporated into religious and ethical codes. In the Catholic Church there were various impediments in the matter of marriage, that is, the bar of consanguinity. This was extremely important, and concerned physical well-being. Two speakers had given the meeting a startling line of thought, and had done so very earnestly. They insisted that a real hope in eugenics was that instruction should be given to the people—the poor especially—upon economy in the number of a family. Public opposition to this was said to be moulded by the cleric. It appeared to be thought that the clergy simply took a professional standpoint, without research or thought. The opposite was the fact; the clergy could get a more intimate knowledge of working facts and a larger range of view than mere statisticians. Did the Creator design difference of sex to develop the beautiful quality known as love, or was it merely for the purposes of producing a strong offspring, leaving love to take its chance?

Dr. Wynne (M.O.H. for Wigan) urged that as long as environment was bad, natural selection was not the ideal for the development of the race. Newborn babies continued to come into the world strong and healthy as a rule, and to aim at cultivating a race capable of withstanding the transitional environment of modern industrialism by the elimination of those unfit to survive it, would be a counsel, not of perfection, but of cruelty and stupidity. He believed that the efforts of the health authorities in attempting to reduce infantile mortality were justified by reason and science as well as by mercy.

Dr. W. Ernest Jones (Inspector-General of the Insane, Victoria) expressed himself as bewildered by the apparent contradiction between the eugenic and the medical standpoint so far as the cure of insane people was concerned: it would seem that the endeavour to obtain a high rate of recovery was calculated to operate against the acquisition of a sound and mentally healthy race of individuals. Whilst admitting the potent influence of the neuropathic inheritance, he emphasized the ill effects of syphilis and alcoholism in the production of mental defectives and disorders, and quoted statistics culled from the Lunacy Department of Victoria to show how greatly syphilis was a cause of idiocy and imbecility, and the excessive indulgence in alcoholism in the parents a potent factor in the production of cases of dementia præcox in the children. On the question of consanguineous marriages, he expressed the opinion that such unions were peculiarly disastrous in those cases where there was a family history of insanity, alcoholism, suicide, etc. Whilst recognizing the broad truths of the eugenist's doctrines, and admitting the necessity for the education of the people in this matter, he trusted that other equally great, and possibly greater, causal factors in the production of degeneracy would not be lost sight of.

Mrs. Arthur C. Gotto, Honorary Secretary of the Eugenic Education Society, invited medical men to fill in a form for tabulating family histories.

Dr. Stewart Mackintosh, replying for the readers of papers, remarked that the general tone of discussion dealt rather with elimination of the lowest than preservation of the highest types. Eugenics proposed to safeguard the welfare of future generations. Thus it must beware of eliminating what might prove the requisite type for survival in a later generation. Sparta practised stringent eugenics, but nevertheless degenerated (as was now held by many anthropologists), because it was mainly an immigrant race from the north. If natural selection were limited men were brought back to the animal. By his very character man was getting away from Nature as fast as he could, carving his way step by step instead of following the stream of Nature. It was only when he tried to take too long a step that he fell.

DISCUSSION ON CRIME AND PUNISHMENT.

OPENING PAPERS.

I.—James Scott, M.B., C.M.,

Late Governor of H.M. Prison, Holloway, London.

THE HISTORY OF CRIME AND PUNISHMENT

Most of the problems of sociology are complex, but few, if any, are more complex than the great questions of crime and how to deal with criminals. Innumerable discussions have taken place about them, and they have given rise to a very extensive literature. There are still, however, great differences of opinion concerning them, and there is room for further discussion. An important step was taken when the First International Penitentiary Congress was held in London in 1872. Many representatives from England and abroad took part in the discussions. These congresses are now held every five years, in different countries. The next one (the ninth) will be held in London in 1915, under the presidency of the very able Chairman of the English Prison Commission, Sir Evelyn Ruggles-Brise. When the transactions of the two London Congresses, 1872 and 1915, come to be compared it will be found that great changes have taken place in the interval. The authorities have not been idle. Some people think the changes have not gone far enough, but responsible authorities must move cautiously. Some of the alterations advocated by certain people from time to time might, if carried out, lead to the expenditure of large sums of public money and afterwards prove hopelessly impracticable.

I shall not add to the number of definitions of crime that have been given, but shall adopt those of others. Shirley gives the following: "The word 'crime' is usually applied to such a violation of the law as is, in protection of the interests of the community at large, visited with punishment." Nuttall defines punishment as "pain or suffering inflicted by authority on a person for crime." I think it will be generally admitted that crime is an offence against social order.

The view has been sometimes enunciated that crime

is a disease, inherited or acquired, and that criminals should be pitied and not blamed, put under kind treatment and not punished. There is certainly an analogy between crime and disease. Both are departures from the normal; both may receive benefit from proper treatment, but the same treatment and the same dosage does not always produce the same results. Some criminals, like some sick people, may act as foci of infection to others, and require treatment apart for the safety of the general public; both may require after-care and help; with regard to both the old maxim holds good that "prevention is better than cure." Preventive medicine may be considered the highest and most generally useful branch of the medical art, but it has not yet abolished disease, and individual cases still require treatment for their own good and the good of others. With regard to crime, by all means let us employ all the preventive measures we can by improving social conditions. We are likely, however, to have criminals among us for a long time to come, and society will have to protect itself by dealing with them in some way. It is difficult for most of us to think that the cold-blooded assassin or poisoner, the professional burglar or housebreaker who does not always hesitate to take human life if he is interrupted, the person who commits clever and carefully calculated gigantic frauds, whose crimes originate in sheer selfishness and often cause terrible suffering to innocent people, should be pitied and not blamed, and be treated better than many of the honest and law-abiding people can afford to treat themselves. While we all greatly rejoice in the great amelioration in the administration of the criminal law, and wish to see as many criminals as possible reformed, so as not to need punishment, yet we should avoid mawkish sentimentality. Public opinion has great influence on the people of wicked dispositions and weak moral principles who are prone to commit crimes, and they are quick to appreciate it. A healthy public opinion, which loves order and deprecates crime, is a most important factor in social well-being.

Much has been said and written as to what is the real object in inflicting punishment for crime. In early times the avowed object was personal vengeance. Many think that in a well-governed country the personal element should have no place, but that the offender owes some retribution to society for having broken its laws. Expiation was also considered an important object formerly. Intimidation has also been considered as being important. Very many now hold the view that the great object aimed at in punishing is to protect society, and, as far as possible, to deter the offender and others from committing similar noxious acts against society. Though, strictly speaking, reformation is not part of the punishment, there is in most countries now a strong desire to do all that can be done to reclaim criminals by bringing good influences to bear on them while in prison, under probation, etc. If this can be done efficiently, it is the most satisfactory kind of deterrence.

When we come to consider the question as to who should or should not be held responsible at law for crime we find ourselves face to face with a large and difficult subject. The law regarding insanity and crime is not in a very satisfactory state. Lawyers and medical men not infrequently differ. In some cases insanity, and the degree to which it has developed, are largely matters of opinion; no mathematical proofs can be adduced. It is to be hoped, however, that improvement in the law may take place before very long. Suggestions have been made as to having medical assessors at trials, etc., but there are difficulties as to carrying this out.

Delirium tremens is looked at in the same way as insanity. Drunkenness short of this is held at law to be an aggravation, but, if it can be shown that at the time of committing the act the accused person was in such a state of intoxication as to be incapable of forming any intention, this may tell in his favour in reducing the crime.

The question of partial or attenuated responsibility has been much discussed. Although the written law does not recognize it, the usual practice is to make some allowance for weakness of mind. These weak-minded criminals are a source of danger to the community, and great trouble to all the authorities. They cannot be properly controlled by their friends or by probation officers. If sent to prison the sentence is usually a short one, and they are soon out again to do more mischief. In prison they have to be treated differently from other prisoners, and this interferes with the discipline. They also give much trouble by their conduct. It is hoped that it may soon be possible to make better arrangements for dealing with them.

Time will not permit me to go into the vexed question as to whether crime is diminishing or not. Fluctuations take place, and the character of prevalent crimes changes a good deal; but it is to be hoped that there is a real diminution, and that it will continue. Changes in criminal law and administration affect the statistics and make comparison difficult. It was thought by many that the spread of education would have a great effect in checking crime. It has probably had some effect in this direction, but one is almost more struck with the changes it has introduced into the nature of crimes, and the methods of criminals. If we have fewer cases of offences against the person with violence, we have a larger number of clever and ingenious frauds. The professional criminal gets great help from science in carrying on his avocation. Electricity, chemistry, etc., are called in aid, and he gets great assistance from the blowpipe, acids, etc.

In dealing with criminals it is generally admitted that speedy and certain detection are among the most important factors as regards deterrence. I think our English detective force compares very favourably with the forces of other countries. When a serious crime is committed, and no person is arrested for it, some persons are ready to judge the police unfairly. They do not know all the circumstances. Sometimes the police are practically certain as to the criminal, but cannot get the necessary evidence of guilt to justify an arrest. The police, like the criminals, try to get all the help they can from science. The telegraph, telephone, motor vehicles, etc., are all useful. Great help in identification has been got from photography. The very clever system of anthropometry of M. Bertillon, introduced into police work in Paris about 1880, has been of great value. A modification of this system was adopted in England and used for some years. It was superseded by the finger-print system in 1901. The finger prints are more easy to obtain, and give better results. This method is now used in many other countries. The system of classification generally used was the invention of the able Commissioner of Metropolitan Police, Sir E. Henry. The impressions are made by the ridges on the pulps of the fingers. As these are said to be practically unchangeable from the sixth month of fetal life till death, and the chance of the prints of any two persons corresponding sufficiently to lead to error is almost infinitesimal, the value of the system is great. Old criminals sometimes try to make the finger prints unrecognizable by scratching the pulps of all their fingers, but this ruse seldom succeeds in its object.

In the last number of a French scientific journal, *Les archives d'anthropologie criminelle*, there is an interesting account of another method which has been recently introduced, and is said to have been used with success in the Police Laboratory at Lyons in France. This method is called "poroscopy," and is founded on impressions of the pores or orifices of the sweat ducts of the finger pulps, instead of the ridges. These impressions are photographed and greatly magnified. Observation is made of the forms, size, position, and number of the pores, which are said to vary in different people, and to be practically unchangeable in the same person. This method is said to be of special value in cases where the ordinary finger impressions on drinking glasses, etc., are fragmentary, blurred, or defaced from scars, etc. It has been suggested that if finger-prints were put on bills and other business documents, it would greatly simplify the procedure in cases where the signature is denied.

In dealing with suspected people before conviction, English law is very careful to enforce the observance of individual rights. In the introduction to the fifteenth edition of the excellent *Police Code*, Sir Charles Mathews, the Director of Public Prosecutions, gives the following advice:

> When you take a man into your custody, take him into your care, and befriend him to the utmost your duty will allow. Whether he is innocent or guilty, he is entitled to your protection, and innocent he must be assumed to be until his guilt has been declared by a competent tribunal.

The history of punishment for crime in past times is not pleasant reading. Great severity was the rule. Efforts were made from time to time to mitigate the punishments, but there was no steady progress in this direction. In the eighteenth century we find signs of a new epoch commencing, due largely to the effect produced by the writings of Beccaria, Bentham, and others, and also to the noble work of John Howard. Progress was not very rapid, but during the last 100 years many great changes have been introduced.

It was in 1808 that Sir Samuel Romilly brought in his bill to do away with the death penalty in cases of small gravity. This has led up to a very great change in the criminal law, and now the death penalty is practically only used for bad cases of murder. The Act of 1868, which abolished public executions, was a great improvement.

Mrs. Elizabeth Fry began her great work at Newgate Prison in 1813, and this was productive of much good. For many years, however, the state of the prisons still left much to be desired.

Transportation, which was often attended with frightful abuses, was abolished in 1857, and confinement in the "Hulks" was given up at the same time. The system of penal servitude was begun in 1853. Flogging has been administered less and less, and is now only given in bad cases.

A very important change was brought about by the Prisons Act of 1877, which transferred all the prisons to the Government. This has led to uniformity in control, and has been productive of great benefit. Numerous changes have been made from time to time. The treadmill, cranks, and other forms of unprofitable and irritating work have been replaced by industrial labour. The system of separate confinement has been gradually modified and associated work introduced. Religion and education have received much attention, libraries have been greatly improved, occasional concerts have been allowed, the dietary has been improved, hygiene and health have had much attention, young prisoners have had regular drill. Attempts have been made to classify offenders as much as possible. Great assistance has been rendered by discharged prisoners' aid societies and other benevolent organizations, and the visiting ladies have done much for the female prisoners.

Among the most important of the changes must be mentioned the "Borstal system," started by Sir Evelyn Ruggles-Brise some years ago and gradually extended. If crime is to be diminished, the most useful work is likely to be the care devoted to young offenders. The Borstal system has done excellent work, and seems likely to do more in the future.

Another important change, which has not been in operation for long yet, is the preventive detention of habitual criminals in a special institution. Judges and others have long expressed a wish for such a system. It is hoped that it may prove very useful in diminishing professional crime.

One of the most important of the changes in the methods of procedure, which has been gradually extending in our criminal courts of late years, is the consideration of the criminal more than of the crime. I think the late Cesare Lombroso did a good deal to advance this improved and just manner of procedure.

II.—C. A. Mercier, M.D., F.R.C.P.

THE ORIGIN OF CRIME.

Crime is a consequence of the social state. A person living in solitude could not commit a crime, any more than a man in an arid desert could drown himself. Each action would be prevented by the absence of a necessary condition. It has long been felt, and often said, that a crime is an offence against society, and though this is true, it needs a good deal of amplification and interpretation to make it express the whole truth. As it stands the saying that a crime is an offence against society means little more than a crime is a crime. Kant advised us so to act that our conduct might be a law to all men, and from this we may easily extract the notion that it is wrong to do that which, if every one did it, would be destructive, or at least detrimental, to society. This is a test by which we may always decide whether an act is right or wrong; and, moreover, we may fairly divide wrongful acts into two classes of greater or lesser gravity—into crimes and offences—according as they would, if universally practised, be actually destructive to society, or merely detrimental, without danger of destruction. It is evident that if homicide or theft were to be practised by every one on all available occasions, social life would be impossible, and man must become solitary; and it is evident also that if we all allowed our chimneys to catch fire or drove in the dark without lights, society would not be broken up, but would suffer manifest detriment. A crime or a wrongful act must harm some one, or it is neither crime nor wrongful; and thus we return to the original thesis, that crime is a consequence of the social state.

There are three ways in which an act may be injurious to society and to the social state. It may attack society directly by striking at its basis, or embodiment, or representative, or fabric; it may attack society indirectly by striking not at society as a whole, but at some individual member or members, and so tending to break it up piecemeal, by a process of attrition; or it may attack the future welfare and strength of society by striking at the racial principle, and diminishing the necessary supply of future members to take the place of those that must, in the course of nature, perish.

In thus defining crime as that which is destructive or detrimental to the social state, I do not in the least conflict with the definition that I have given in another place, in which I have stated that crime is that which is punishable by law; for the fact is that the law is founded on the principle of social preservation, and although it is not in the least likely that law-makers have, or ever have had, this principle articulately or formally before their minds when laws were being made, yet it is certain not only that the preservation of the social principle is, in the last resort, the justification for every law, but also that the instinctive repugnance that we feel against certain acts, and that leads us to place such acts under the ban of the law, arises from an instinctive appreciation that such acts are antagonistic to the social principle, and, if permitted and allowed to prevail, would be destructive of society.

When we hear people advocating the maintenance of law and order, we know that what they mean is the maintenance of the social principle—of the fabric of society as it is—for without what is vaguely termed "law and order"—that is to say, the machinery for maintaining the fabric of society, and suppressing assaults and injuries to society as a whole and to its individual members—society, as at present constituted, would dissolve in anarchy.

In order that people may live together in a society, they must have some motive to come together and some motive to keep together, and this is supplied in the first place by the natural, inborn, instinctive desire that each one has for the society of his fellows—the natural, inborn, instinctive aversion to continued solitude. Once they are aggregated into a society, the enormous and overwhelming advantages of the social state will secure the survival of those societies that cherish institutions favourable to that state, and the extinction, sooner or later, of those that fail in this respect. Whether the members of the society recognize that their laws and customs, or that obedience to their laws and customs, are advantageous to the preservation of the society, does not matter in the least. That obedience, those laws and customs, will be equally advantageous, whether the advantage is recognized or no, and hence it is that obedience to the law is enforced long before it is recognized that such obedience is necessary for the preservation of society, and long before it is explicitly recognized that the preservation of society is desirable. To the welfare and to the existence of society it is much less important that the laws should be good than that they should be obeyed, and if necessary enforced. Hundreds of communities have survived and prevailed under bad laws that have been enforced; but no community could long exist under the very best of laws if the laws were not observed.

If, then, crime consists in acts that tend to the destruction of society; and if man is not adapted to any mode of life other than the social life, how is it that he has criminal propensities—that is to say, desires to do that which tends to destroy the only mode of life for which he is adapted? In other words, What is the

origin of crime? We find that all other animals, yes, and all vegetables, are adapted to a certain mode of life; and as long as this mode of life is open to them they live equably in harmony with it, and do not suicidally attack those very conditions that make life possible, or at least most advantageous to them. Man is not the only animal that lives a social life: he shares sociality with innumerable kinds of animals, ranging from the elephant to the ant; and to some of these animals the maintenance of the social state exacts far greater sacrifices than man is called upon to make. The wasp, the bee, the ant, the termite are compelled to surrender the most primitive, the most fundamental, the most dominant and imperious of all instinctive desires, for the maintenance of the society to which they belong. They forego the joys of reproduction and parenthood, and remain throughout life celibate and childless, the slaves of the community. The sacrifice demanded of man in remaining free from crime is trivial in comparison, and yet of this sacrifice he is often incapable. Why is this? How is it that his nature, his instincts, his desires, have not attained the same perfect adaptation to his social state that has been attained for theirs by the petty insects that he is apt to despise? The reason is not far to seek, and lies in this—that immeasurable as seems the time during which man has been socialized when that time is compared with a single human life, it is but as yesterday to the number of generations during which the social insects have been socialized. Their socialization is complete, and is complete by reason of the innumerable generations during which the process has lasted. Man's socialization is as yet imperfect, because by reason of the comparative recentness of the attainment of the social state, the instincts and desires that served him in the solitary life have not yet been completely subordinated to the social desires or brought into harmony with them. The solitary instincts—that is to say, the selfish instincts and desires—are still insufficiently subdued; and when they conflict, as they must sometimes conflict, with the social instincts, the victory is sometimes gained by selfishness, and then the result is crime. The root of all crime is the determination to obtain gratification for oneself regardless of the cost to others

Treason stands in a class by itself. By treason is meant a direct attack upon the fabric of society, by breaking up or damaging the governing body, or some integral part of it. Such crimes are rare in these days, and are usually of a petty description, and may now be neglected. Anarchism or nihilism is a refusal to obey the law as law. It is not a protest against this or that law as unjust or tyrannical, but a violation of law merely because it is law, as a protest against all laws together. Such action is the gravest of all crimes, for it is of all crimes the most subversive of the social fabric; and society is bound by the principle of self-preservation to suppress it at any cost. The anarchist freely avails himself of all the benefits that arise from his membership of a community. He enjoys all the advantages, all the amenities, all the luxuries which are rendered possible by the social state alone, and even avails himself of the protection of the representatives of the law to save him from the righteous though crude retaliation of his fellows; but he tries to destroy all these advantages by destroying the social system that alone makes them possible. He is in the position of a man who cuts the rope that saves him from falling into the abyss.

The vast majority of crimes are of a private character—that is to say, are directly hurtful to individuals only, and injure the State in detail, and only in as far as they diminish, it may be by an infinitesimal amount, the general welfare; but it is manifest that if this mode of action were to become universal, or even general, society would be impossible; and therefore they are, as far as possible, prevented and punished. To this class belong all crimes of self-seeking by violence and dishonesty.

Lastly, there is a small class of crimes that are looked upon with peculiar abhorrence, and punished with great severity, although they may injure no one, and although it may seem at first blush as though some of them concerned no one but the parties to them. These are the sexual and racial crimes, such as rape, infanticide, procuring abortion, and unnatural offences. It is clear that society, as it exists, is not injured by any of these except the first. An infant or a fetus the more adds nothing to the welfare of society at the moment, and may even be considered a burden and a disadvantage, since to some extent they both of them must hinder the mother from serving society in other ways. What makes these acts crimes, and crimes that are recognized to be extremely heinous, is that they offend against the racial principle. They go to limit the replenishment of the social body by new units to take the place of those that grow old, lose their social value, and die. It is very improbable that any such realization of what the consequences of such acts would be if they were to become universal or general is articulately present in the minds of those who look upon the acts with abhorrence. It is extremely unlikely that they would assign as a reason for their abhorrence the destructive effect of such acts on the future of society. Nevertheless, it is clear that but for this instinctive abhorrence they might easily bring society to an end in the course of a generation, and therefore the repugnance and abhorrence that are generally felt against them are sound and healthy instincts, which have a high value in social preservation, and therefore have been cherished and intensified by natural selection.

If this view is right—that crime consists of acts that are destructive or detrimental to society—then it is clear that society must suppress crime or itself undergo dissolution; and since men are now unfitted to live except in societies, it is the imperious interest of every man that crime should be suppressed. Again, if crime is due to the dominance and preponderance of selfish over social desires, and since we know of no certainly effectual means by which the one set of desires can be diminished or the other increased, our power over crime would seem to be limited; but we have a resource. By rendering the result of crime detrimental and unpleasant to the criminal, we can enlist his selfishness in the interests of morality, and induce him to do that for his own sake which he would not do for the sake of his fellows. It follows that crime should be punished; that the consequences of crime should be made unpleasant; that the criminal should be made to suffer. Reform him by all means if you can; but remember that he is *ex hypothesi* an extra selfish person, and that the surest, if not the only, way to reform him is to show him that crime does not pay. If you treat the criminal, as some soft-hearted sentimentalists desire us to treat him, by telling him that he is not a scoundrel, but an ill-used, misunderstood unfortunate; and if you make prison life on the whole, or in many respects, pleasanter than the life that he can lead honestly at large, you must not wonder that the statistics of crime increase: and according to the most trustworthy accounts they are at the present time increasing.

III.—Sir Bryan Donkin, M.D., F.R.C.P.

THE STATE PUNISHMENT OF CRIME.

In the preface to a recent book entitled *The Rationale of Punishment*, the author, Dr. Heinrich Oppenheimer, claims a place for his work by saying:

> The State punishment of crime is constantly cited before the tribunal of Science in order to show cause why it should not be eliminated, like other relics of barbarism, from the arsenal of modern civilization, in which there is no room for mere superstitions of the past.

Although I am unable to regard the writings to which, I suppose, Dr. Oppenheimer alludes in so serious a light as he appears to do, and consider them rather as mainly the outcome of half-knowledge and sentiment, I wholly agree with him if he means that much of the modern literature on this subject which is readily absorbed by the public from works on criminology, novels, plays, newspapers, and magazines, tends to favour certain academic doctrines that question or deny the right of the State to punish criminals. On the one hand it is taught that crime is the result of a vicious social "system," on the other that criminality is a disease of individuals, and on both that the criminal is as irresponsible and pitiable for his crimes as a patient with fever for deeds done in delirium.

In illustration of some such pronouncements on criminal matters as those to which I have referred, and of their probable effects on both the general and criminal public, I may give the following instances.

A popular novelist, Mr. Tighe Hopkins, writing with apparent gravity about crime and punishment, states categorically that "imprisonment as a punishment has failed"; but, when denying that the punishment of flogging had put down "garrotting," he argues that this crime was stayed "by the ordinary law with its ordinary punishments."

Again, a prisoner who was reported, after expert examination, to be sane, pleaded recently before the court, in excuse of punishment for a crime which he admitted, that "all men were irresponsible and unable to help what they did"; and only a short time ago a convict, who in his intervals of free life was a great reader of current literature on crime, assured me that all his misdeeds were due to his having inherited his constitution from a drunken father, and that he was therefore himself irresponsible.

Lastly, a more or less educated habitual criminal told me that it was well known that society made the criminal, and that therefore criminals were not responsible at all. It is, indeed, remarkable how readily many people, including criminals, espouse these opposite dogmas on the origin of crime, which, while crediting such origin exclusively either to natural destiny or to the fault of society, or—to use the popular and confusing phraseology of the day—either to "Nature" or to "Nurture," agree in the conclusion that it is illogical and unjust to punish the criminal.

Before submitting to you a few practical questions for discussion, I am forced, both by the complexity of the subject and by the time limit, to adduce some preliminary postulates, based largely on my own study and experience. These I recognize as contestable, but nevertheless consider pertinent and even necessary as postulates to the proper discussion of the questions with which my paper ends. For my temerity in thus relying on the temporary acceptance of my demands I must ask your indulgence.

In making the following assumptions I waive all detailed discussion as to what *are* and what *should* be the precise motives and aims of the State in dealing with crime. These aims and motives have, I believe, always been, still are, and must continue to be, of a mixed and shifting character, varying with time and circumstance.

1. I take it for granted that the State, or society in its corporate form, is justified in coercing law-breakers, that is, persons who commit certain acts deemed to be antisocial, and forbidden on the part of the State by enactments provided with legal sanctions; and that this justification is established, even if such coercion be expressly directed only to the protection of the community and to the deterrence of others who may become law-breakers.

2. I assume that the actual conviction and treatment by the State of persons guilty of law-breaking should be regulated with regard not only to the degree of harm or menace to society involved in the crime, but also, as far as practicable, to the character and conditions of the individual criminal. The last part of this assumption is based on the recognition of the fact that, generally, modern humanity disallows the infliction of more pain than is necessary or expedient.

3. I assume that the dialectical question of "free will" *v.* "determinism," which, in my opinion, fills much useless space in many of even the ablest treatises on criminology, and especially marks the literature of the European and American continents, does not, with certain exceptions, seriously concern the practical penologist. I must, however, explicitly omit from this criticism the sound and thoughtful writings of the great French jurist, M. Tarde. I hold that the Legislature is no more deeply concerned with this eternal dispute than the actual conduct of most sane men is influenced by their views on idealism and realism, on mechanism and animism, or on the concept of causation. In practical life sane men act on the assumption of "free will," of the "reality" of themselves and others and the external world generally, and of causation as meaning something more than a mere sequence of impressions, however strongly they may adhere, when at their writing desks, to opinions which conflict strikingly with their everyday actions.

4. I assume that all men are potential law-breakers, even as they are potentially subject, and often yield, to temptations of putting their individual interests before the general welfare of society in many matters where their actions would not be regarded by contemporary opinion as "criminal" in either the proper or popular sense of that word. *There is no "criminal type"*; and all formulated doctrines of "hereditary crime" are gravely misleading. A marked degree of mental defect, signalized otherwise than by commission of crime, doubtless characterizes a notable proportion of actual law-breakers; while on the other hand there are many persons who commit serious crime, but to whom the word "criminal," in its popular and untechnical sense, presently to be noticed, does not apply. I believe that most people could easily be trained in appropriate surroundings to be habitual criminals of one kind or another, whatever their innate capacities might be. Although I am not now proposing to discuss this question further, I recognize that my opinion on this matter may be challenged by many, including Dr. Mercier, who apparently distinguishes an unborn criminal "nature" or "character" from a "nature" that is "moral" and law-abiding, alleging that in the one self-indulgence overpowers the social *instincts*, in the other the social *instincts* overpower self-indulgence. He also holds, in logical harmony with his biological creed, that "the sense of duty" is innate.

I must now dwell shortly on the meanings I attach to the words "punishment" and "crime," for in most writings on this subject, ancient or modern, informed or ignorant, there is a prevalent lack of definitive use of these words, and a frequent attribution to them of different or equivocal meanings for the purposes of argument. I mean here, by the title of this paper—the State punishment of crime—the infliction of suffering by society on its members who transgress rules sanctioned by itself for its own protection.

The word "punishment" thus connotes the original meaning of the word—namely, the infliction of *pain* or *suffering*, no matter what the avowed object of such infliction may be. I intend to emphasize this as not only the right use of the word, but also as the actual use now current, in relation to the State's coercion of offenders against the laws. The element of retaliation—the notion of the justice of the offender's suffering—enters essentially into the judicial and social concept of punishment, however prominent or latent that element may be from time to time. This point has been insisted on with convincing force and clarity by Dr. Mercier in his work on *Criminal Responsibility*. Most writers, however, fail to admit that if even the most humane of modern societies did not both desire and justify some retaliation on the individual criminal, their very humanity would hesitate to sanction some punishments which are now deemed by them absolutely necessary for the deterrence of others and the welfare of the State. And further, most writers, including those who admit this contention, seem often to forget that, as a matter of fact, the infliction of pain or suffering of some kind is, and must inevitably be, an element in the carrying out of all measures involving the coercion of criminals, regardless of the expressed object of such coercion.

It follows, therefore, that those who hold that the sole admissible object of the State in dealing with crime is the reformation of the criminal should either explicitly admit the infliction of suffering as an instrument of reform or should explicitly disallow "punishment" altogether and discontinue the use of the word. Study of many writings on this subject will reveal that there is much confusion of thought and expression on this point. Again, if those who hold the doctrine that the only object of the State's dealing with criminals is to reform them admit the existence of some irreformable or incorrigible offenders, they must deny the State's right to punish such men at all, or even to detain them, for the loss of liberty, as we shall see, is an important infliction of pain, even although it may be ordered only for the sake of society. Any State treatment of law-breakers, in fact, with the possible exception of merely moral or religious suasion, necessarily involves coercion, and does, *ipso facto*, inflict suffering on the law-breaker quite irrespectively of the object or motive of the framers or administrators of the law, and the sufferer certainly regards such treatment as the very essence of his punishment.

At the present day—in this country at least—the mere loss of liberty forms, undoubtedly, by far the most penal element in the State treatment of criminals, excepting, of

course, capital punishment. Next to it comes the imposition of labour of any kind on that particular class of prisoners whose "chief good," in common with that of many free men, is to do nothing at all. Many of these, indeed, if allowed to be idle, would fully realize their own conception of liberty, in despite of "stone walls" and "iron bars." But for all this, the loss of personal liberty which is necessarily involved in nearly all practicable methods of dealing with law-breakers is unquestionably the basic element in all modern penal systems; nor will it be doubted, I think, that the threat of such punishment alone, coupled with the certainty of its infliction in case of discovery, prevents the commission of countless offences against society. Prisons, though standing empty, would still be powerful deterrents. The risk of immurement would surely prevent the actuality of potential crime, even in that futurist community adumbrated by certain philosophers' dreams, in which the evolution of a new "sense of the State" is prophesied as the result of natural selection in accordance with assumed biological law.

As regards the meaning of the words "crime" and "criminals," I use these terms in relation to State punishment, as applying to the transgression of existent laws, apart from the questions of the genesis of the criminal or of the philosophical justification of the laws he has broken. I do not discuss the historical aspect of crime and punishment, or the really futile and absurd question of whether the criminal is born or made, believing that all human beings, good or bad, besides being "born," are, more than all other animals, and in virtue of their high birth, very extensively "made."

My confessions of faith having been thus made, the first question I propose for discussion is the desirability of the establishment of a further criterion than exists at present of legal responsibility for criminal acts.

This question was answered affirmatively in the report of the Royal Commission on the Control of the Feeble-minded, which appeared five years ago, and is being similarly answered now by the Government in the Mental Deficiency Bill, which is largely based on that Commission's recommendations. Scientifically, here and now, this question, for us, turns wholly on the meaning to be attached to the words "criminal responsibility." I venture to think that among the many works written on this question, the book entitled *Criminal Responsibility*, by Dr. Charles Mercier, is at once the clearest, soundest, and most useful of all. At the outset, as most of us know, he quotes as follows that distinguished and able jurist, the late Sir James Fitzjames Stephen:

> In all crimes the definition consists of two parts—the outward act and the state of mind which accompanies it.

Thus all crime, says Mercier, is, in part, a problem in psychology. Stephen justly complained that while, to the judge, the word "responsible" meant liable to punishment by the law as it is, to the medical man it meant something different—that is, probably, "liable to punishment by the law as it ought to be." According to Mercier, the term "responsibility" means the quality of being *rightly* liable to punishment; and he explains that he intends by this, "liable to punishment on grounds that commend themselves to be equitable and right to the common sense of the common man of this time and country"; or, in other words, "that appear to be just and fair to the ordinary man when they are explained to him." There should be nothing startling in this dictum to the thoughtful jurist; for in modern times it purports to be the basis of laws in general. And "law," though it rightly changes more slowly than "opinion," should and must, in the long run, follow on opinion. Dr. Mercier thus sums up his detailed and closely argued treatment of this question:

> Responsibility attaches to acts that are wrong—a wrong act is a voluntary act in which the actor seeks gratification by inflicting unprovoked harm upon others. Responsibility is the more undoubted, the more deliberately, the more frequently the will is concerned in the act.

I believe that this definition is generally applicable in the case of all law-breakers, including, of course, such persons as are not popularly looked upon as criminals; as, for instance, some who are often and vaguely called "political" offenders, and others who commit serious offences against society in the professed or sincere belief that they are doing service to their religion or to some other ideal object. But here I have especially in mind an important class of offenders against the law, now habitually tried and sentenced as fully responsible, or rightly liable to the punishments awarded to sane persons, who are, nevertheless, the subjects of marked mental defect, although not certifiable under the present lunacy laws. Among these are many habitual and dangerous criminals. Now, although in some cases of this kind there might be some difficulty in arriving at a just conclusion, I believe that it would usually be easy for a thoughtful student of sane and insane men to grade the "responsibility" of people of this class, after a careful investigation and consideration of each individual case, and after taking into account their general conduct apart from the special crime with which they might be charged. I do not say that this would always be easy to every one conventionally called a psychologist; but I foresee but little more difficulty in this respect than at present exists under the actual laws of lunacy. A large proportion of the persons to whom I refer are clearly of defective mind, and probably have been thus defective from the earliest moment of possible observation of their mental expressions. Here, surely, the careful and experienced psychologist can be of service to the practical penologist, both in securing that these mental defectives, though incidentally and inevitably undergoing pain from their coercion, shall not suffer more than is necessary for the social object in view; and also by contributing to the social safety and welfare by certifying these criminals as unfit for liberty, and thus putting an end to the present illogical, fruitless, and expensive method of dealing with them by frequently recurrent sentences of penal servitude or imprisonment. I would repeat that the observant study of individuals of this class, with which I have been familiar for several years, would render practicable their certification as not normally responsible, or, to use the French term, as of "attenuated" responsibility: this decision being based on the ground of sufficient evidence forthcoming from their *general conduct*, apart from the crimes in question, that the offences with which they are charged were not, in the fullest sense, *wrong* acts, according to the definition already quoted from Dr. Mercier's work.

The second question regards the State's function in relation to the reform of the criminal, apart from its function, already assumed, of preventing and limiting crime by coercion of offenders and by deterrence of others. Reformation, I submit, cannot be the sole or even the first object of the State in dealing with the criminal, unless it be held, as some "eugenists" and other enthusiasts seem to be preaching now, that the State must be "parental" in the fullest sense of the word, and, by attempting strict control of the lives and upbringing of all, should aim at the prevention of all misdoing, as well as at the restraint of those who are already criminal. Thus proceeding, the State, in my judgement, would ignorantly and disastrously rush in where the thoughtfulest and wisest individuals would justly fear to tread. But none the less I hold most strongly that, *even* if only for the object of prevention of crime, the State is bound, in the light of present knowledge and feeling, to take all possible opportunity to reform, by training, such potentially reformable offenders as many of the younger convicted criminals are known to be. Whatever we may think about the "free will" question, or whether we argue from the animistic or the mechanistic standpoint; or, even whether it pleases some, in common with a distinguished Continental professor, to seek illumination from such a definition of responsibility as "a function of the normality of the psychical neurones," we may all agree to believe in the greater educability, in the young offenders, of those still developing cerebral mechanisms which are at least necessary to mental expression and to the proper ordering of human conduct.

There is already considerable evidence to show that much good and sound work has been done in this direction, with very appreciable success, by the régime that has now been carried on for several years under the Prisons Board at the State reformatories for young convicted criminals, now widely known as the "Borstal institutions."

DISCUSSION.

Mr. A. O. Jennings, Registrar of the High Court of Justice, said he desired to select points on which the comparison of medical and legal views might possibly lead to some practical result. As to criminal responsibility, he did not object to all crime being regarded as "disease" so long as it was recognized that for some forms of this disease punishment was the appropriate remedy. The difficulty was to distinguish the latter cases from those in which there was mental disease in the popular sense requiring medical treatment and not punishment. On the question of criminal responsibility there was a long-standing difference of opinion between doctors and lawyers, the more difficult to adjust as on neither side had the position been stated precisely, fully, and authoritatively. He thought, however, that most lawyers would accept Sir J. Fitzjames Stephen's statement in his *Digest of the Criminal Law* as a reasonable summary of what the law was or ought to be, for it was not clear how far there was judicial authority for the whole of it. He suggested that if the Association would appoint a committee to consider this, and formulate any modifications it suggested, some practical result might be reached. He would also like to know the opinion of the profession as to whether the ultimate decision on the question of responsibility should be left, as now, to a lay jury after hearing medical evidence and under the direction of the judge, or whether doctors preferred some other tribunal. With regard to punishment, Mr. Jennings emphasized the point that, apart from the reasons already given why this should be made unpleasant to the criminal, the injured party would not tolerate that the whole matter should be taken out of his hands and dealt with by the State, unless he were assured that the latter would deal with it in a way that satisfied the general sense of justice; that if, for instance, a father whose child had been subjected to some cruel outrage knew that all that would befall the criminal was a period of comfortable educational discipline, he could not be prevented from taking the law into his own hands. The present system of punishment was at least a partial failure, mainly on the ground that there was too little discrimination, and that it contained too little of the educational element. He asked whether the medical profession did not think that in the case of the more serious offences, at any rate, the final sentence might not come at least for revision before a punishment board, which should have much fuller information about the prisoner and his history than would be likely to come out in the course of the trial. Lastly, he advocated an extension of the Borstal system to selected prisoners over the age of 21 years.

The Rev. C. B. Simpson, Chaplain-Inspector of H.M. Prisons, said that his intrusion into the debate was excused by twenty-five years' acquaintance with criminals. He deprecated the view that punishment had little or no deterrent effect. A man who had once lost his liberty was exceedingly anxious, as a rule, not to lose it again. Sentences of seven days' duration might not deter men of low type from getting drunk, but severer sentences of not less than one month instilled into the minds of the morally normal a very real horror of gaol. Mr. Simpson quoted various instances from his experience to show that capital punishment also had a deterrent effect in regard to the crime of murder. A letter which a convict in Australia had smuggled out of prison came into the hands of the authorities. It contained this pregnant sentence: "Out here they have taken to hanging a cove for bashing a warder. That bit of rope, dear Jack, is a great check on a man's temper."

Prince Kropotkin, who introduced himself as "an old gaol bird, having had ample experience of prison life in Russia and in France," asked the question, Are prisons answering their purpose? From what he knew of them, partly from inside experience and partly from the study of the literature of the subject, he declared that they were not. Worse than that, prisons were the universities of crime; criminals came out of prison ten times worse than they entered them; boy prisoners learnt in them vice and all kinds of wickedness. Imprisonment rendered men less and less fit for work; it destroyed energy and initiative. Prince Kropotkin alluded to the bad influence upon criminals of the knowledge that offences against society existed which the law did not punish. They often said, "The thieves are the men who sent us here," referring to the sweater and the adulterator in commercial walks of life. He regarded the efforts now being made, especially in the United States, towards substituting prevention of crime for its punishment as full of promise for the future. It was not sentimentalism but practical common sense which inspired these measures.

Captain Arthur St. John, Honorary Secretary of the Penal Reform League, said the public needed to be protected not only from criminals but from those who administered the law, and who sent boys to prison when they should not be sent there on any account, and sentenced women to seven days' imprisonment for drunkenness when quite different treatment was required. The first need was to understand the criminal, not in prison but in his social setting. To this end staffs of experienced probation officers were required, independent of police and prosecution, whose mission would be to deal with criminals from quite a different standpoint from that adopted by the authorities of the penal institutions.

Professor Benjamin Moore (Liverpool University) took the view that the existence of crime was an essential factor making for good in society. Crime was to the community what the sense of pain was to the individual. Crime ought to form the indication of the need for treatment of social disease, and be the cause of modification of evil laws. If crime did not exist, many of the greatest social evils would never be discovered and remedied. If our forefathers had not during past centuries committed crimes and broken bad laws there would have been a lack of all progress. It might be argued that while this was true as regards political crime, no good sociological effect could be claimed on behalf of common crimes for which ordinary criminals were committed to prison. But here, again, the crimes were often the result of baneful social conditions, and almost impossible conditions of living which led to crime, and the repeated recurrence of offences was a continual call for social improvement. Crime was the detector of imperfection, and it was to be hoped that it would never cease, because it would mean satisfaction with an imperfect condition of affairs.

Dr. E. B. Pasmore, Medical Superintendent of Croydon Asylum, urged that there should be associated with the judge a medical assessor who had large experience of mental cases in asylums. When a prisoner was before the court for the first time the question should be considered whether or not he came into the mentally defective class or not. He had known many cases in which criminals, after they had been passing in and out of prison for years, were found to be defective.

Miss G. Allen said she had had experience of dealing with girls in prisons and had had personal experience as a prisoner herself at Holloway (as a suffragist). She did not wonder that prisoners were often returned to gaol; the lack of sunshine, and, in some prisons, lack of fresh air and sufficiently bracing exercise, had a seriously weakening effect on the bodies of the prisoners, especially the younger women, while the whole psychical atmosphere was towards weakening instead of strengthening the will. Miss Allen mentioned a curious effect which the lack of ventilation at Holloway, before it was improved as a result of suffragist complaints, had upon herself. Although she had always been a total abstainer, the atmosphere induced in her a tremendously powerful craving for alcoholic drink. If that were so in her own case, what must it be in the case of persons who already had a predilection for drink?

Mr. W. R. Bisschop, LL.D., Barrister-at-law, argued that crime was the necessary outcome of development of the social order. Crime could not be eradicated, but its excesses could be mitigated. Punishment of a criminal should be in harmony with the improvement of the

conditions of social life; criminal law was not so much the field for research by the lawyer as by the economist and the doctor, the psychologist and the psychiater. Administration of the criminal law ought not to be the exclusive privilege of lawyers, even if their training were of a special nature and included political economy and psychology as its main objects.

Mr. R. DIXON KINGHAM, Barrister-at-law, said that although he heartily approved the Borstal system and advocated its extension to adult offenders, there was one grave objection to it which should be removed. The qualification for admission to the benefits of the system was the commission of a crime. Honest lads did not obtain anything equivalent to the physical, mental, and technical advantages which the Borstal boy received as a result of the injury he had done to society. This objection would cease to exist if prisons were made self-supporting, since the prisoners would then pay for the superior advantages by their own labours.

Dr. OPPENHEIMER briefly traced the history of punishment of crime, and urged that its final object had always been, and still was, the protection of the community. The penal code exercised a moralizing influence upon the community at large, and thereby realized its final *raison d'être*—the immunity of society from the onslaughts of the criminal.

Dr. MERCIER, who was selected to reply for the three openers of the discussion, said that Mr. St. John had taken a hasty *obiter dictum* of a magistrate about the milk-cans as if it were a serious contribution to the discussion of crime and punishment. What the magistrate evidently meant was that the milk ought to have been put out of the reach of children; but what had that to do with the matter the Section was discussing? Mr. St. John's contention was that the case of every accused person should be gone into carefully by competent persons, the implication being that all the persons who now investigated such cases—police, magistrates, judges, juries, barristers—were all incompetent. Where was the competent person to be found? Mr. St. John let the cat out of the bag when he insisted that the persons should not only be competent but sympathetic; that is to say, Dr. Mercier supposed, that the cases of burglars should be inquired into by burglars, of pickpockets by pickpockets, and all by Mr. St. John. The prison system, Mr. St. John said, was defective, because it did not strengthen the will, but how would he have it strengthened? Would he subject the will to a course of Turkish baths and massage? Professor Moore extolled crime. It indicated, he said, a healthy community. Dr. Mercier did not know whether Professor Moore carried his principles into practice, but if so the police of Liverpool should certainly be informed. They might then be able to clear up the mysteries of certain undetected crimes. Miss Allen wanted to know why we do not find out about suicides and other criminals. The main thing was to find out who had committed crime, and if Miss Allen could give the police any hints to improve their methods of finding out, no doubt the police would be grateful. She complained about the lack of sunshine, as if criminals could be reformed by the treatment by sun baths, but surely her complaint should be directed against the regulator of the weather and not against the prison authorities. Finally, Mr. Dixon Kingham would make prisoners self-supporting, but he had altogether left Mr. St. John out of account. He forgot that prisoners would not like it, and if prisoners were asked to do what they did not like, Mr. St. John and his society would at once protest clamorously, and would be joined by all the other faddists in the kingdom. The suggestion was not practicable.

During the proceedings the meeting unanimously passed the following resolution:

> That it be recommended to the Council of the British Medical Association to appoint a committee of members of the Association, with power to co-opt others not members of the medical profession, to consider the present state of the law with regard to the legal responsibility for crime, and to issue a report with recommendations to the Council.

DISCUSSION ON HOSPITALS IN RELATION TO THE STATE, THE PUBLIC, AND THE MEDICAL PROFESSION.

OPENING PAPERS.

I.—BENJAMIN MOORE, M.A., D.Sc., F.R.S.,

Professor of Bio-chemistry, University of Liverpool.

THE subject of the future organization and work of our hospitals as part of a national system for the combat of disease should be considered in a threefold aspect—(1) in regard to the prevention of disease, (2) as to the treatment of disease, (3) as to the increase of knowledge of disease. These three problems are closely inter-related, and one of the greatest defects of the present mixed system of hospitals, partly under voluntary or charitable control, partly under municipal and partly under Poor Law control, is that all co-ordination of teaching and research and of prevention and treatment becomes lost in a process of drifting.

As a result all national character is taken from our hospitals, and the planning and execution of research into disease on some common scheme, the scientific diagnosis of disease in such an effective manner as sociology demands, the treatment of disease in the individual patient regarded as a potent factor in preventing the spread of disease in the community, combined with a rational control of the patient's movements and the education of a general intelligent attitude of the community towards disease as a primary sociological problem—all these are lost, and replaced by a patchwork of charity, of destitution relief, and of doctoring of symptoms as a palliative of the condition of the individual patient. The whole forms a system of evil administration, inadequate in some directions and wasteful and overlapping in others, which reflects but little credit upon a country which is supposed to lead the civilized world in matters of hygiene.

When any would-be reformer attempts to give advice as to how this muddle may be mended, the first cry he is met with from good, well meaning, and charitable people is that the glorious example and ethical training of charity and voluntary effort must not be weakened. This objector is a close ally of the municipal councillor who hitherto has attempted to bar the way towards the proper nutrition, hygienic supervision, and systematic treatment of the school child, by the cry of interference with parental responsibility and parental freedom to neglect the child.

The latter opposition is now being beaten down all over the country, and school authorities are rapidly establishing feeding and treatment centres. A little more education of the populace is all that is necessary to start a similar movement towards the replacement of our present heterogeneous hospital systems by a properly co-ordinated system with local public control at each district, unified nationally by a public health authority.

The beginnings of this movement are to be seen already in the applications being made to municipal authorities for assistance from rates in aid of powerful voluntary hospitals which have hitherto held their heads very high and disdained municipal or State assistance. A similar indication is to be found in the grants from the State for the education of medical students now made to London and provincial medical schools, which were originally founded on a purely voluntary basis, and supported by charitable contributions.

The Insurance Act in the near future, partially by the additional strain thrown on the voluntary hospital system, partially by the reduction in charitable donations that the Act involves, and partially by the fact that State and municipal funds are now available, and patients themselves are being taxed by non-voluntary contributions, will rapidly produce an increased rate of approach towards a national system of hospitals.

Now, it may be asked, will this approach have the effect feared by its critics of destroying the benevolence and high character induced by the voluntary system? Will charity and brotherly feeling and compassion for the suffering and friendless disappear from amongst us, because a national system of hospitals is established to form the centre and basis of operations in our modernized

system of treating disease sociologically as an abatable scourge of the community?

The point is not a new one; the argument has been advanced on all occasions when voluntary giving of money for some high object of our social life as a community has been first aided by financial assistance derived by taxing the community as a whole, and a brief examination of a somewhat parallel case may serve to indicate the rôle which voluntary gifts and charitable bequests might take in the future with regard to a national hospital scheme.

It is only within the past generation that our powerful modern municipal universities have arisen, some of them now possessing an annual budget of nearly one hundred thousand pounds, and these are all financially dependent upon just such a happy combination of voluntary aid municipal rates, State taxes, and payment of fees, as might be instituted in support of municipal or State hospitals.

When it was first proposed in Liverpool, Manchester, Leeds, Sheffield and Birmingham that the local university should go on the rates, there were the same wise shakings of the head that there are now over the question of the public control of the hospitals, and the same doleful forebodings as to the drying up of private charity. The wealthy merchant would no longer, it was said, endow Chairs, because he would say that can be done by the State or out of the rates, and so goodness of heart amongst the wealthy would be discouraged, and perhaps come in the end to be regarded as a vice rather than a virtue. The State, relying on the municipality, would withdraw Treasury grants or decrease them, and so only throw a bigger burden on the citizens; or the citizens crying out, "Let the State pay for education," would starve the baby university.

Happily all these gloomy prophecies have been falsified by the march of events, and our municipal and provincial universities have grown in numbers and in strength, and are now making themselves felt as a powerful national stimulus by the modern and democratic spirit they have introduced into higher education.

What the modern universities have done for education a modernized hospital system is capable of doing for the study, prevention, and treatment of disease, and its financial support will be as certain as that of the universities, and derived from the same types of resources. State, municipality, and private donor, will combine to aid one another in the evolution of the best, and their united best will be better than that of any one of these great forces acting alone, or all three acting separately, as they do at present.

There is distinct evidence at the present hour that the above is to be the line of sociological evolution of the future hospital systems in all the great municipalities, and country boroughs and rural districts will soon follow suit.

In a parliamentary bill which is being promoted at the time of writing by the city of Liverpool, powers are being taken to make grants to the funds of two voluntary hospitals, one of them the premier general hospital of that city. In the same city, at about the same time, an appeal to the charitable for voluntary subscriptions to raise £2,000. for materials required in the same institution for research and treatment, was made by a local newspaper and within three or four days the amount was over-subscribed and the list closed. Here, then, is the desired combination of voluntary subscription and municipal aid, and in the same institution receiving, or about to receive, both these types of financial aid, there are medical students being taught their profession, and on account of these students the university receives State aid through the Treasury grant, and this is utilized to support the clinical school from which the hospital in turn receives much aid in service.

It needs only an extension of this triple support to place our premier voluntary hospitals on a public basis, in part voluntary, in part municipal, and in part central or State, but in all three cases national in aspect and in proper co-ordination.

The second great bugbear in the minds of those opposed to municipal or State hospitals is the public control as opposed to the disinterested control of the finest and most lofty-minded citizens actuated by the noblest motives of religion and philanthropy. This also was feared in the case of the universities, and proved a groundless fear. The same lofty sentiments, the same high ideals of liberty, and service in devotion to the community, still sends the best citizens into the services of our municipal universities as called forth the men who first launched them as university colleges on a small and feeble scale, when as yet there was no municipal aid, and no Treasury grants, or any thoughts of such. The order of sociological development was the usual one in such enterprises—of a few enlightened minds starting a voluntary work to attempt the solution as well as might be, in a practical fashion, of some portion at least of a social problem requiring a solution but left neglected by the State—unseen, in fact, by the multitude of the ignorant.

Then, as this problem expanded and became too large for voluntary effort, its solution fortunately became obvious as a necessity to the community as a whole, and it passed into a State problem of the hour. Soon public funds became provided, as we have seen, for the continuance of the work on the greater scale.

Through just such a phase our hospital system is passing at present, and the veterans of the voluntary movement, are afraid of the new control that State support may involve, but they will be surprised at how little it will change the spirit of things, and at seeing hereafter the same men sitting on the boards and committees, only sent by other electorates and in other capacities. There need be no dislocation, no removal of the old and faithful workers of the voluntary movement, as the State says to them: "That which you did your best by dint of hard work to provide for one-fourth of the community has become recognized as such a valuable asset in our social system that it shall now be provided for all, and you who have been pioneers shall advise and direct us on behalf of the State as to how it may best be done, and pilot the State movement as you have learnt so well how to do by directing the voluntary movement."

It is perfectly sound sociology to say that where there is municipal or State financial aid, there must be a corresponding measure of control of policy by these public bodies; but in all communities, great and small, it is remarkable to what a considerable extent the personnel of the active public-minded citizens is the same on voluntary bodies and municipal communities, and often this desirable linkage is increased by the co-option of those fittest and most willing to serve on the committees. In fact, representatives of voluntary agencies are often elected officially as members of the council committees, and are amongst the most active members of those bodies.

The partial representation of the municipality on the governing bodies of schools, universities, and charitable institutions has yielded hitherto good results and more effective co-operation, and there is little reason to think such a combination would act otherwise in regard to hospital administration.

It will probably be admitted on all hands that, valuable as has been the work of the voluntary hospitals in the past, and useful as has been the example they have held up for the municipal and Poor Law hospitals which have taken up the large balance of work which the voluntary institutions could not touch for lack of funds, yet the voluntary system acting alone cannot solve the sociological problem of the treatment and prevention of disease amongst the whole mass of the industrial population. The pity is that all its ennobling influence should be shed upon one section of the hospital system while the other and numerically greater portions are left untouched, often to sink to a lower level, which invites an invidious comparison. What is needed is a unification and a spreading of the benign influence of this leaven through the whole mass.

This position, already quite clear to the thoughtful sociologist, will become intensified and apparent to all, at that early date when statesmen, realizing more clearly the nature of the problem that confronts them in disease as a whole, extend the operations of the national scheme against sickness to the women and children of the community. Also any reconsideration of the Insurance Act must take cognizance of the lack of provision at present for correlating the outside work of the physicians of the whole profession with the work of the hospital, and some mechanism will have to be provided for putting each practising physician in intimate touch with some

hospital, and providing him for his work's sake as well as his patients for their health's sake, and that of the community, with ready access to its wards.

The general expenses of equipment and running of the unified system of hospitals can only be provided by municipalities and State combined, at that not far distant date when all serious disease is treated in hospital, for it is much too great to be discharged by donations of the wealthy and voluntary collections from the poor. What, then, it may be asked, remains as the function of the voluntary contributor? It may be answered that here, as in the universities, scope may be given by providing from this source increased facilities for research and further advance in knowledge. Private donors can found Research Fellowships and Chairs; provide expensive *x*-ray and radium installations; subsidize investigations of particular diseases, such as is seen in our various cancer researches; build as fitting memorials elaborate suites of operating theatres; add comforts beyond those which the community alone can provide in the wards, for the well-being and comfort of the suffering and dying. It is simply a modern absurdity to argue that human nature will be changed, or deteriorated, because the State as a whole recognizes and performs its duty towards a national problem—the greatest, perhaps, in the whole realm of sociology.

But from the ordinary routine working of the hospital unit, as the local centre of the combatant system against disease, charity, as we at present understand hospital charity, must be rigorously excluded. The old conception of the charitable hospital as a place for the relief and palliation of disease (while these objects are still attended to) must be replaced by the scientific realization of the hospital as the pulsating life-centre of a little corps charged with the execution of an important task, namely, the maintenance of the highest degree of health in a given district, and correlated to similar corps or units all over the country.

The medical profession as a whole, instead of regarding the hospital as an institution where it gives the spare services of what ought to be its leisure hours for charity's sake, and to which it sends its derelict and unfortunate cases, ought to grow to regard the hospital as something with which in the entirety of its work it is knit up and organically connected.

The time is perhaps scarcely ripe for the detailed discussion of the size of the hospital unit and its exact correlations, but provisionally it may be suggested that, so far as present conditions allow of it, the unit of population served by a municipal or national hospital should average about 100,000. Such a hospital would require eighty to one hundred beds, and there should be a body of sixty to sixty-five medical men attached to it and giving it whole-time service in various capacities.

The work of the medical officers should be varied from time to time so that each acquired a full knowledge of the work. Some would be engaged in the hospitals as surgeons, physicians, pathologists, bacteriologists, and in charge of special departments. Others would be out part of their time as visiting doctors in the district, but all would be closely connected to the hospitals as a head quarters. The services of all would be available to all the citizens of the district, and as a corps they would be charged with health administration of both the individual and the environment.

Such a system can be demonstrated to be both more economical and more effective in its purpose than our present haphazard system of running medicine as a business concerned almost solely with the task of patching up the individual patient after disease has already made its inroads.

H.—I. G. Gibbon, D.Sc.,

Author of *Medical Benefit in Germany and Denmark.*

THE MUNICIPAL HOSPITAL IN GERMANY.

I shall treat mainly of the finance of German hospitals, but shall incidentally touch on some questions of organization. The task of dealing with finance is facilitated by an excellent report on a number of municipal hospitals which was issued by the Statistical Office of Düsseldorf in 1909. The various questions are there considered so carefully and exhaustively that, where possible, I have used the figures, even in preference to those of later date.

Before proceeding to consider details of finance it will be well to give a brief outline of the hospital system. Germany is well supplied with general hospitals. Public authorities provide and administer them as part of their ordinary work. In urban districts this is done by the municipality. In rural areas hospitals may be provided either by the *Gemeinde* (parish) or by the *Kreis* (rural district). The States assist in various ways. In Prussia the State builds and maintains the university hospitals, but does not assist local authorities in the provision of hospitals. In Würtemberg, on the other hand, the State renders assistance to local authorities.

There are many hospitals provided by religious and philanthropic bodies in addition to those of the public authorities. There are also numerous private clinics or nursing homes. Further, in estimating the total institutional provision, account should be taken of the numerous convalescent homes and sanatoriums.

The large increase in hospital provision has been due partly to general causes. A larger proportion of the people live in towns. The housing accommodation, even when good, often does not lend itself readily to the treatment of serious sickness at home. There has been a wave of feeling in favour of institutional treatment generally. The schemes of national insurance have added their stimulus.

The local council is, of course, the supreme authority in the case of the municipal hospital. Under it will be a committee, variously composed. The actual administration of the hospital may be in charge of a principal medical director. This is the system favoured by doctors. But it is not universally adopted. The medical director may be in charge of the medical work only, with a lay director in charge of the other branches.

The marked rise in the cost of providing hospitals has been due partly to extraneous causes. Prices and wages have gone up. The demands of medical science have also risen. Further, there seems in some cases to have been too little homage to economy. There are signs of a reaction; it is being felt that local rivalries in handsome buildings may be bought at too big a price, and that the ratepayer deserves to be remembered a little even when outside the hospital.

The expenditure on salaries and wages is a heavy item, and, with the cost of medical and surgical requirements, constitutes, without reckoning the value of board and lodging, from about one-third to two-fifths of the total, exclusive of capital charges and fabric maintenance.

There is wide difference in the number of employees and the expenditure on them. Thus in the group of hospitals to which reference has been made, the number ranged from 81 to 224 per 100,000 sickness days, the more usual being from about 100 to 200.

The differences in the number of officers employed extends to the medical staff. Thus in the same group of fifteen hospitals, the number of doctors employed per 100,000 sickness days (this is a better criterion than number of beds) ranged from 5 to 16, being from 8 to 12 in most cases. One German authority contends that an assistant medical officer is desirable when the sick number 30, and is essential when they number 50.

As to salaries, an inquiry made a few years ago showed that the remuneration paid to medical directors at twenty-four hospitals ranged from £125 to £600 per annum; in twelve of the cases pensions were provided, and in an equal number either a dwelling or a money equivalent was allowed. Assistants appear to receive from about £50 per annum to £100 per annum, with board and lodging; senior assistants receive more.

Salaries have risen—partly because of the difficulty of obtaining doctors, partly because of the activity of the doctors' organization, the Leipziger Verband. The Verband passed a resolution in 1908 that an assistant should receive not less than £60 a year, with increments of £10 a year, together with board and lodging.

The average expenditure on salaries (the value of allowances in kind is not included) in the group of fifteen hospitals to which reference has previously been made was between £150 and £200 at most places, but at some it was less.

Medical officers may receive remuneration additional to their salaries. Principal medical officers may engage in consultative practice. They may also be allowed to receive

payment for treatment from patients in the superior classes. Practitioners consider it unfair, under existing conditions, that they should be required to treat well-to-do patients in the hospitals without additional remuneration. Assistants may also receive some additional remuneration—for the treatment of patients in the superior classes or for certificates, for instance.

There are different classes of patients, according to rate of payment. Generally the classes number three, though at some places there are more. Better accommodation, food, and attendance are provided for patients of the superior classes; the food of a first class patient may cost three or even four times as much as that of a patient in the third class. It seems to be considered that patients of the first class should pay more than the cost of treatment and maintenance, that patients in the second class should pay about the cost, and patients in the third class less than the cost. The rates charged are at the discretion of the municipality, and differ widely in different districts. They range from about 6s. to 12s. a day for the first class, about 4s. to 7s. for the second, and 2s. to 3s. for the third. Children are received at reduced rates. Persons not domiciled in the town have generally to pay higher rates. Additional payments may have to be made for some special forms of treatment.

The main sources of income are the receipts for treatment and maintenance of patients and the long-suffering public exchequer. Some hospitals have endowments, but generally not large. The following are some of the principal facts which emerge from the scrutiny of a number of reports:

1. Much the largest number of patients are treated in the lowest class. This is to be expected. Insured persons and Poor Law cases are placed in this class. Insurance societies can give hospital benefit and do so freely. There are complaints: on the one hand, it is alleged that practitioners send cases too readily to hospitals; on the other, it is contended that in cases of dispute societies use the hospitals to break the outside practitioners, and a demand has arisen that at least assistant medical officers should make common cause with their fellow practitioners outside.

2. A very large proportion of the cases are treated at the charge of the Poor Law. Of twelve hospitals for which particulars were obtained, the proportion of the total number of days' maintenance of patients at the charge of the Poor Law was in five cases one-half or more, and was over one-third in four other cases.

3. The receipts in respect of patients, including those from the Poor Law, cover but a part, often but a small part, of the total expenditure. A large deficit has to be met from public funds. In a group of eleven hospitals, in two instances the receipts in respect of patients were less than one-half the expenditure (even excluding capital charges and fabric maintenance), and in another five instances were less than two-thirds. It has to be mentioned that the charges for patients in the lowest (and much the most numerous) class are considerably below current cost, roughly from about one-half to three fourths.

It is therefore obvious that the total amount to be met from public funds must be very high, including capital charges and payments made for Poor Law patients.

The brief particulars which have been given will indicate that the provision of public hospitals raises many difficulties, and the conditions in Germany cannot be said to be wholly satisfactory. It does not by any means follow that the system which has developed there and in other Continental countries should be adopted everywhere. National and local individualities and tendencies have to be taken into account.

III.—Professor Wilhelm Pfeiffer,

Medical Superintendent of the Municipal Hospital, Essen, Germany.

THE GERMAN HOSPITAL IN ITS RELATION TO THE MEDICAL PROFESSION.

I wish to express my appreciation of the honour conferred upon me by this Association in inviting me to address the meeting of the Section of Medical Sociology.

In 1909 the society known as the Leipziger Verband, which has for its object the safeguarding of the interests of the German medical profession, laid down a basis of what should be the position and salary of medical superintendents who devoted their entire time to hospitals. It was held that:

1. As regards official position—

(*a*) It is essential that the medical superintendent be not only in respect of medical questions, but also in general matters, the highest official in the hospital, and be entirely independent.

(*b*) As regards administration two methods are feasible, either for the medical superintendent himself to direct both the administration and the domestic management with the assistance of a lay official, whose rank would be inferior to his, or a board of management should be appointed.

(*c*) The medical superintendent should have an efficient staff, both lay and medical.

(*d*) Under no circumstances should the doctor be subordinate to a lay official, nor should it be possible for a lay committee or matron to act without the authority or independently of a medical superintendent.

II. Rank and emolument—

The medical superintendent should receive a fixed sum proportionate to the duties and be entitled to a pension increasing with the number of years of service. He should be allowed to recover fees for paying patients over and above the hospital dues.

In order to get a comprehensive idea of the subject we may divide German hospitals into three groups: (1) State hospitals, (2) municipal hospitals, and (3) private hospitals, many of which belong to religious orders. The State hospitals are usually attached to a university; they serve first and foremost for the education of medical students and for medical research. The principles of administration set forth above are not so well complied with in the case of the municipal hospitals as in the State hospitals. Still worse are the conditions in the private hospitals. In these the medical superintendent has the supreme control in only 12 per cent., in 86 per cent. he is subject to dismissal and has no pension rights; the salary ranges from £90 to £250 per annum. In the smaller hospitals where the duties only occupy part of the day the medical officer has a private practice, and is entitled to charge a fee to paying patients of the first and second classes. The relations of the general practitioner to the hospital are limited in the majority of cases to sending to the hospital patients whose treatment can be more conveniently undertaken in an institution than at home; but in small hospitals of the private class general practitioners often treat their own patients in the hospital. There are insuperable obstacles to this practice in large hospitals.

IV.—Dr. Grober,

Professor of Clinical Medicine in the University of Jena.

THE GERMAN HOSPITAL AND GERMAN INSURANCE LEGISLATION.

I want to thank the President and members of the British Medical Association, especially of the Section of Medical Sociology, for honouring me with an invitation to speak to you on the development of the German hospital in connexion with insurance legislation. The social insurance in Germany, especially the insurance for illness, has led to an exceptional and unexpected increase in the demand for treatment and nursing in hospitals. Formerly but few people who were dangerously ill could pay the fees for their stay in hospitals; but the introduction of social insurance has so increased the funds of the bodies which insure the various classes of the people that in many cases they can pay for the treatment of their members without difficulty, and prefer to send patients suffering from comparatively minor illnesses to the hospitals on account of lack of facilities for proper care at home. Since the seventies the number of hospitals in Prussia has increased from 888 to 2,314, and the number of beds from 37,039 to 160,437—increases of 300 and 400 per cent. respectively. The number of hospital patients has risen from 211,060 to 1,304,641 (700 per cent.). Hospitals to-day are made much more use of; the beds are constantly occupied, because people only slightly ill are received. About five years ago five beds were stated to be necessary for each thousand inhabitants in towns of more than 100,000 inhabitants. This number would not be sufficient to-day, especially for towns with a large industrial population. In the big towns of Germany complaints are heard every day of lack of beds; in many hospitals patients are accommodated in overcrowded wards.

The German law makes a difference between public and private hospitals. The public ones are usually kept by corporations specially acknowledged by legislation, the private ones by single private persons, private establishments, or boards. Districts or county boroughs in Prussia have erected many smaller hospitals of their own, and many towns are owners of moderate-sized and of even large

hospitals. The development of German industry and trade and the increase of wealth has enabled the towns to take up the care of the suffering in a more complete manner than ever before.

The private hospitals have a commercial interest, but this, of course, does not exclude the public one. They belong to single persons, for instance to a doctor, to joint-stock or limited companies, or to a company of several doctors or nurses. These cannot be opened without a concession by the Government, and as a preliminary the owner or manager is examined concerning his capability of managing a hospital. This concession by Government is not required by the public hospitals, but they as well as the others are subject to Government rules concerning building, equipment, and maintenance. There is great freedom to anybody wishing to erect a hospital; a monopoly does not exist, and the State reserves to itself only the right of inspection.

Owing to the growth of social insurance the duties of hospitals have largely increased. For instance, a number of persons are sent to hospitals only for the purpose of making sure whether they are really incapable of earning their living, and to what degree this incapacity is due to illness, invalidity, or accident. Sometimes as many as 50 per cent. of the patients are staying only for this purpose. The town hospitals also perform other important duties; for example, attendance upon casualties in the street, organizers of the public ambulance service and custodians of attempted suicides. The town hospital is generally regarded as at all times the best and readiest helper in every emergency of the sick or weak. There are other duties, generally not so valued, but of greater importance to the public health. The hospitals should educate the inhabitants in leading a healthy and sensible life, and instil the principles of preventive medicine. In order not to spoil the class of people for whom the hospitals are erected, undue luxury in the buildings is to be deprecated. The cost of building and equipping a hospital has risen to a great extent. This is due to increased cost of materials, wages, and the high cost of modern scientific equipment. Furthermore, the aesthetic side has considerably increased the cost. As in former times cathedrals were erected as monuments of culture and memorials to the future, to-day wealthy towns erect their beautiful and expensive hospitals which have become a characteristic sign of an increased financial, practical, and artistic power.

The financial oganization of the hospitals all over Germany has for its main principle that all the patients have to pay for their stay. If they are not able to pay personally but are insured, their board of insurance pays for them, but if they are not insured their home district has to pay for them. Every German who for two years has lived in the same place gains the right to make this place pay for him when necessary. Only very seldom can hospitals grant a charity bed. The Government, the court of justice, and the army can send patients to hospitals, but even these authorities have to pay for them during their stay. There are various classes in each hospital, and the prices vary accordingly. The daily charge in the third class varies between 2 and 4 marks; for the first and second class from 6 to 16 marks is charged. Exceptionally expensive treatment has to be paid for extra. The receipts from the patients are not sufficient to cover the expense, and extra funds are derived from the State or towns. Regular charitable gifts to hospitals do not exist in Germany except in a minor degree; there are, however, occasional bequests for special purposes. One method of reducing expense which has been tried is to send the less serious and chronic cases to simpler establishments in the country in order that their cost to the institution may be minimized.

There are complete rules enforced by the State in respect of the planning and equipment of hospitals; for instance, there must be isolation wards in which cases not recognized at first may be segregated, the size and height of the ward rooms is specified, it is provided that every ward must have a day room, and every hospital site sufficient room for a garden. There must be sufficient baths, and the administration block must be absolutely separate from the wards.

The greater number of sick beds has increased the demand for nurses, and the need has not been fully met. The emancipation of women appears to have diminished the inclination to become nurses.

In Germany to be received into a hospital is no more an act of charity, as in former days, but is a contract between the owner of the hospital and the patient. Hospitals can only wish for intelligent control by the public, and to this end they should not, as in former times, be closed to the public (departments for infectious diseases of course excepted). The interior of a hospital and the mode of living of the patients should be known to every person of fair education. I have myself proved the effect of this measure, and the more it is followed the sooner will all the ghastly stories written and told of hospitals die out for ever. The development of the German hospital has shown further that it will be useful to make the hospital the centre of all the sanitary and hygienic measures practised in the district and an important factor in the improvement of the public health. The evolution of the German hospital has not yet come to an end; it may be still too bureaucratic, but it is improving in that respect. There would be even further advances if the hospitals were placed more under the control and care of the medical staff. We find a few good examples of this in the United States and Austria, but not generally in Germany.

DISCUSSION.

Sir Henry Burdett remarked that the present condition of British hospitals called for the best brains of statesmen, the medical profession, and governing bodies. Co-operation and intercommunication between voluntary and municipal institutions for the relief of the sick were desirable. This had been emphasized by the inception of national insurance, which could not exist as a financial proposition apart from voluntary hospitals. If it were not for the services the hospitals were rendering at the present moment the Insurance Act would be a dead letter. Nevertheless the position of hospitals in regard to the Act was most unsatisfactory, although it was not impossible that the outcome might be a new departure which would place hospitals in a stronger position than ever. It was impossible to hold out to hospitals the bogey of Government control when the Government were the debtors. The inclusion of the dependants of the insured under the Act would mean an enormous pressure upon hospital funds. The only hope for hospitals was paying wards, and the objection of the medical question would be overcome if they were separate from the main hospital. The cost of building these could be raised by loan, in the way that municipalities dealt with capital expenditure, and as to maintenance, insured persons would have to be paid for *pro rata*. There were rumours of a State medical service, but he believed this would never come to pass on account of the high cost, which he estimated at between forty and fifty millions a year. Such a service would degrade medical practitioners by reducing them to the level of a salaried class with strictly limited incomes.

Professor J. A. Lindsay thought that three grades of diet and three classes in hospitals would never be regarded as satisfactory in this country. The scale of salaries in German hospitals left something to be desired. Nevertheless this country could learn from Germany the importance of organization; our own hospital system had grown up very much at haphazard. It was a great anomaly that although generous provision was made for the poor, and expensive institutions were available for the wealthy, no provision was made for the large middle class.

Dr. Charles V. Drysdale said he had visited the State hospitals and asylums of Hungary and remained sceptical as to the advantages of a highly organized system such as had been described by the readers of the papers on German hospitals. Since the establishment of these magnificent institutions the infantile mortality-rates had ceased to fall; it had fallen in the hospitals themselves, but it had gone up outside. The reason appeared to be that such elaborate care for the citizen checked the prudence of the community.

Dr. H. Gervis remarked that a great blot on the Insurance Act was that it placed no means of special diagnosis

within reach of the general practitioner; he could only get it by the good will of the consultants. Eventually every large town would have a hospital which would be the centre of the medical work of the area. He believed there would be no difficulty in obtaining money from the State, or from the State in combination with the charitably disposed. If the working classes could be made to realize the importance of this, the money would soon be found by the politicians. Unfortunately the working man's idea of the science of medicine was a bottle of physic or a pill, and a little advice which he did not follow.

The proceedings of the Section closed with a vote of thanks to the President, Dr. Ryle.

Reviews.

FOOD AND DIET.

Dr. Chalmers Watson is the author of an excellent essay on diet, which was reviewed in these pages when it was published three years ago. This book was well received by the medical profession, and his present work, *The Book of Diet*,[1] is perhaps intended to reach a wider public, and its small price should ensure it a large sale. Its scope is much the same as that of the former book, and although it is written in the simplest language and unnecessary technicalities are avoided, it conveys information which every housewife, and still more every medical practitioner, should possess, or should at least have at his elbow. Dr. Watson is not dogmatic, has no special system to advocate, but inserts details about all. In appendices are given a number of cookery recipes and the composition of some proprietary foods. Where so much has been provided at so low a price there is little ground for grumbling at omissions, yet we think all books on diet should contain tables of the composition of foods, including purins and cellulose, and their calorific value. Dr. Watson finds no valid argument against vegetarianism, except that it is "unappetizing," and he praises the menu of an "uncooked" food banquet; yet he believes that vegetarianism has often caused serious impairment of health, digestive disorder, and anaemia. He recognizes the advantages of the so-called uric-acid-free diet, but disputes the theory on which it is based. In Chapter XII he discusses the subject of the provision of nutritious meals at small cost. He speaks of ignorance of cookery, of food values, and of general dietetic economy as preventing their adoption by the poor, but forgets to mention one serious obstacle—the insuperable prejudice of this class to whatever is cheap.

We have also to acknowledge the second edition of the same author's manual of practical dietectics, which he entitles *Food and Feeding in Health and Disease*.[2] A feature of the book is that it is so arranged that special dietaries are given for special diseases, and these diets contain a large amount of information about sick-room cookery which is not to be found so well arranged in other books. In the preface to this edition Dr. Watson says that he desires to direct attention to the adulterations of food, especially to the methods of bleaching flour, which there is good reason to believe impairs its nutritive properties. His opinion seems to be that, although it cannot be shown that flour which has been chemically bleached has been deprived of any definite nutritive element, yet there is clinical evidence that flour so treated is of inferior value as a food, especially for children. We understand him to mean that it has probably undergone a deterioration analogous to that which makes machine-cleaned rice capable of inducing beri-beri in those who live upon it; this seems to be confirmed by the results of the experiments in feeding young animals recorded in our columns by Dr. Leonard Hill and his fellow workers. A report adverse to the bleaching of flour was published by Dr. J. M. Hamill, and the National Association of British and Irish Millers agreed to a resolution that wheaten flour should be the unbleached and untreated product of properly cleaned and conditioned wheat only, while at a later date a committee appointed by the Council of the National Association of Master Bakers arrived at the conclusion that the bleaching of flour was objectionable, and that no bleached flour should be sold to bakers without the fact being disclosed. In spite of these decisions, a prosecution at the instance of the County Council of Lanarkshire failed on the ground that no proof had been tendered of deleterious results, so that until the clinical evidence is strengthened we must look to the influence of medical opinion upon the trades concerned and upon the consumers to check a practice which is probably harmful and certainly unnecessary.

Mr. Kenneth Haig's book, *Health through Diet*,[3] is written to explain and advocate the uric-acid-free diet. The author is the son whose case was related by Dr. A. Haig in *Uric Acid in the Clinic*, reviewed on October 1st, 1910, p. 975. Mr. Haig was in that book described as an artillery officer, but has since entered the medical profession, and the reference to "eighteen years' personal experience" of the system apparently refers to the knowledge he has acquired of it in his own case. What he has found to benefit him he contends will benefit everybody, although he admits that he was not an "average healthy child" (p. 77). He attributes the prevalence of "bronchopneumonia, cancer, anaemia, diabetes, heart disease and rheumatism, apoplexy, Bright's disease, and suicide" to the use of articles of food which introduce uric acid into the body. According to his way of writing, food is only "nourishing" in proportion as it contains nitrogen. He condemns fruit, objects to drinking water, would limit all fluids to one pint and a half daily, forbids children to drink any but distilled water, deprecates the use of the cold bath as "bracing," condemns smoking as "stimulating," and thinks tea-drinking as objectionable as the use of opium. We have no doubt of the value of "uric-acid-free"—or, as we prefer to call it, "purin-free"—diet for certain cases, but we are unable to follow Mr. Haig in thinking that it is either desirable or suitable for general adoption, or that its neglect is accountable for all the diseases he enumerates.

The little handbook by Dr. William Tibbles, called by its short title, *Diet in Dyspepsia*,[4] really embraces a good deal more, and includes "other diseases of the stomach and bowels," as stated on the title page. It was originally written as lectures for the *Nursing Mirror*, and is now printed in the hope that the lectures "will be of general utility," but information that may be quite fittingly offered to nurses may not be so appropriate for popular reading. There is a good deal of physiology, pathology, and symptomatology, but a writer of a book of this kind is in a dilemma; he must either assume that his readers are in a position to diagnose the various conditions for which he recommends appropriate dietetic treatment, or they are not; in the former case they must either possess, or he must endeavour to supply them, with a certain amount of medical information; in the latter the book must be useless to them. It may be that such information is capable of being utilized by nurses, but not by the public, and the work is more suitable for the instruction of medical students and young practitioners, who will find it to contain a well-written and on the whole trustworthy account of modern dietetics as applied to the treatment of the diseases under consideration.

TEXTBOOKS OF NEUROLOGY.

Professor Oppenheim's textbook of nervous diseases has long been recognized as a standard authority in neurology. Its first edition came out in 1894, and the sixth,[5] enlarged and improved, lies before us in two massive tomes that

[1] *The Book of Diet*. By Chalmers Watson, M.D., F.R.C.P.E. London, Edinburgh, etc.: Thomas Nelson and Sons. 1913. (Cr. 8vo, pp. 447. 2s. net.)

[2] *Food and Feeding in Health and Disease*. A Manual of Practical Dietetics. By Chalmers Watson, M.D., F.R.C.P.E. Second edition, revised. Edinburgh and London: Oliver and Boyd. 1913. (Med. 8vo, pp. 654. 10s. 6d. net.)

[3] *Health through Diet*. By Kenneth G. Haig, L.R.C.P.Lond., M.R.C.S.Eng. London: Methuen and Co., Ltd. 1913. (Cr. 8vo, pp. 237. 3s. 6d. net.)

[4] *Diet in Dyspepsia and other Diseases of the Stomach and Bowels*. An Elementary Treatise on their Dietetic and Hygienic Management. By William Tibbles, M.D. London: The Scientific Press, Ltd. 1913. (Fcap. 8vo, pp. 158. 2s. 6d. net.)

[5] *Lehrbuch der Nervenkrankheiten für Aerzte und Studierende*. By Professor Dr. H. Oppenheim. Sixth edition, in two volumes. Berlin: S. Karger. 1913. (Sup. roy. 8vo, pp. xvi. 1-789, 790-1926; plates 14, figs. 523. Paper covers, Mk. 52: bound, Mk. 56.)

weigh 10 lb. unbound. The fifth German edition, from which the late Dr. Alexander Bruce's English translation[6] was made, was published in 1908. Since that time increasing progress has been made in neurology, as Professor Oppenheim points out, particularly in our knowledge of the etiology of infantile paralysis, the reactions indicative of syphilitic infection, the discovery of salvarsan, the connexions between the various ductless glands and the diseases associated with their disorders, and in many other directions that cannot now be detailed. So much is this the case that he doubts whether any single man can hope to cover the whole field of modern neurology any longer. The first volume begins with 112 pages on the methods of examining the general symptomatology of patients with nervous disorders. Then follow 400 pages on diseases of the spinal cord, and 250 on those of the peripheral nerves. The second volume is given up to the diseases of the brain (600 pages), the neuroses including hysteria and neurasthenia, and a number of rarer nervous disorders that find no place elsewhere. The book ends with an excellent index. Professor Oppenheim writes with the double authority of a very extensive personal observation of nervous diseases on the one hand, and on the other with a considerable acquaintance with the literature of neurology; it is, perhaps, natural that the German writers on the subject should be by far the most freely quoted in a German textbook. His style is clear, his sentences not over-long—he does not indulge, as many of his countrymen do, in "Long constructions, strange, and plusquam-Thucydidean," like those of the joyous Sir Hector in Clough's poem. The book is thoroughly up to date, and the illustrations, nearly a hundred of them new, form a most valuable series. Professor Oppenheim's work is already familiar to all neurologists, and stands in no need of further eulogiums at our hands; its sixth edition fully maintains the high standard set by its former issues, and is indispensable as a monumental and trustworthy book of reference for all who want to know all about nervous diseases.

Dr. ROBERT BING'S textbook of nervous diseases,[7] designed for the use of medical students and practitioners, takes the form of thirty lectures, in which these diseases are considered seriatim. Lectures, he believed in his student days, were the least tedious form in which the knowledge demanded by examiners could be acquired. He has adopted an eclectic attitude in writing his textbook, and devotes a good deal of space to the treatment of the nervous disorders he describes. The first five lectures are given to diseases of the peripheral nerves and the dyskinesias; then follow chapters on the progressive muscular atrophies, spastic paralyses, ataxias, and other spinal disorders. Four chapters are allowed to syphilis of the central nervous system; tabes is considered at length, but—perhaps by an oversight—without any mention of the name of Grasset of Montpellier when the deep anaesthesia of tabetics is under discussion. The remaining sixteen chapters deal with such subjects as arterio-sclerosis of the central nervous system, its acute infections, cerebral haemorrhage and softening, cerebral tumours, congenital cerebral defects, diseases of the cerebellum, epilepsy, neurasthenia, and other subjects. Dr. Bing includes two lectures on exophthalmic goitre, myxoedema, Addison's disease, acromegaly, and other "dysglandular syndromes," as he calls them, that one would not expect to find in a textbook of nervous diseases written in this country. It may be noted that Graves described the disease—now known as exophthalmic goitre, its French name translated into English—in 1835, Basedow in 1843, so that Dr. Bing is hardly correct in stating that these two physicians described it simultaneously about the year 1840. Dr. Bing writes clearly, and his book is readable and not overloaded with detail. It may be recommended to advanced students of medicine and to practitioners who are in want of a sound and simple German textbook of nervous diseases.

[6] Reviewed in BRITISH MEDICAL JOURNAL, February 24th, 1912, p 434.

[7] *Lehrbuch der Nervenkrankheiten für Studierende und praktische Aerzte.* In 30 Vorlesungen. By Dr. R. Bing. Berlin and Vienna: Urban and Schwarzenberg. 1913. (Sup. roy. 8vo, pp. 614; figs. 111. Paper covers, Mk. 18; bound, Mk. 20.)

OBSTETRICS.

THE latest addition to the literature from the Edinburgh School of Obstetrics has appeared in the form of a *Guide to Midwifery*,[8] by Dr. D. BERRY HART. A knowledge of obstetrics to be of any value must be essentially practical, and in his book the author has made an attempt to urge the importance of this on the receptive mind of the student by suggesting such practical work as it is possible for him to carry out in the circumstances. The book has been written in two parts, the former of which contains the necessary facts of obstetrics, and from it all cumbersome theories have been omitted. In the second part notes have been added to be as it were appendages to the chapters of the first part. This portion also includes a summary of the more recent theories advanced, with an account of the literature, and is intended to be studied only on the second reading of the book and by those who seek a more intimate knowledge of their subject. This arrangement has much to recommend it. The book is obviously intended for those who are commencing their studies in this subject, and Dr. Hart is one of the few authors who apparently appreciate that the average mind, when entering for the first time into the unknown realm of a new subject, is best directed along the main road and is merely confused by being continually diverted along doubtful by-paths. In a textbook presenting many excellent points we must confess to a little disappointment at the rather meagre account given at times under the heading of treatment, and we are sure that this feeling will be shared by the practitioner, who will expect more helpful advice in the handling of, for example, a case of occipito-posterior presentation from a man of the experience of Dr. Hart than is at present to be found in the dozen lines that deal with this subject. The author has wisely not hesitated to make use of a number of the excellent illustrations that are to be found in some of the Continental works, with the result that a volume has been produced that is to be regarded as a clear and useful exposition and one that is destined to take a high place among the present-day textbooks on midwifery.

In his *Manual of Midwifery*[9] Dr. G. BALFOUR MARSHALL, of Glasgow, produces in book form the notes and diagrams he has been in the habit of issuing to the students who attend his classes. To those who have been so fortunately placed the book will no doubt be welcome. The title can hardly be considered to be in keeping with the general style of the book, and does not appear to have been very happily chosen. Causes, symptoms, etc., are arranged in series. It is claimed that the more common everyday subjects are dealt with at some length, and receive fuller recognition than those less commonly met with in general practice. We cannot, however, help feeling that the selection has not always been wise. For example, it is difficult to agree that a subject of the importance of the pyelitis of pregnancy should be dismissed in a brief dozen lines. Under the heading of treatment the reader is so frequently confronted with a list of the various suggestions made by different authorities, that it is refreshing to come across a clear and concise account of the particular views held by such a competent authority as the author. This tendency towards the dogmatic might well be more closely imitated by those authors who are in a position to give an opinion based upon personal experience. The illustrations have been produced from blocks prepared from the author's diagrams. In a number of instances they seem to need more explanation. The volume is not intended to rank amongst the textbooks on the subject, but many of the author's old pupils will doubtless be glad to have in compact book form those notes and diagrams which they possessed in their student days.

CORRECTION.

IN the review of the English edition of Dr. Charles Richet's book on *Anaphylaxis*, published in the JOURNAL of July 12th, page 76, the number of pages should have been given as 256 and not 78 as stated.

[8] *Guide to Midwifery.* By D. B. Hart, M.D., F.R.C.P.E. London: Rebman, Limited. 1912. (Med. 8vo, pp. 789; plates 4, figs. 255. 25s. net.)

[9] *A Manual of Midwifery for Students and Practitioners.* By G. Balfour Marshall, M.D., C.M., F.R.F.P.S.G. Glasgow: J. Maclehose and Sons. 1912. (Med. 8vo, pp. 419; plates 9, figs. 125. 14s. net.)

EIGHTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

Held at Brighton, July 22nd to 25th, 1913.

THE SECTIONS.

BRIEF SUMMARY OF PROCEEDINGS.

Section of Bacteriology and Pathology.

Thursday, July 24th.

Under the presidency of Dr. Eyre a joint discussion was held with the Section of Pharmacology and Therapeutics on anaphylaxis. This was opened by Professor W. E. Dixon, who gave a careful summary of Bichat's early work and the subsequent experimental observations on which the different hypotheses have been based. He then detailed the symptoms of the condition under the headings of circulatory system, muscular system, and local symptoms. He summarized the three main theories as to the causation of anaphylactic shock, referring to (1) the side-chain view as a speculative hypothesis, (2) the ferment theory as one based on observed facts, but not perhaps explaining all the phenomena, and (3) the idea of its being due to a physical change in colloid material due to the interaction of antigen and antibody. Professor Sims Woodhead, who followed, instanced a number of clinical phenomena which undoubtedly depended for their production on anaphylactic shock—as, for example, puerperal eclampsia, possibly due to uterine contractions, the result of absorption of a reaction dose upon the previously sensitized uterine muscle; and hydatid infections, and the sometimes startling and fatal results which follow operative procedure; and to tuberculin treatment, where the sensitizing dose was derived from the actively infected process, whilst the exciting dose was obtained by the injection of tuberculin during the course of treatment; and to the possibility of some of the phases of the pneumonia syndrome being due to sensitization by the bacterial protein of the pneumococcus. Dr. Embleton (London) then detailed observations on the production of anaphylaxis in animals sensitized by means of amboceptors, and Dr. Thiele (London) described the production of acute septicaemia in experimental animals inoculated with saprophytic bacteria after previous sensitization by injection of bacterial protoplasm of the same species. Dr. Goodall (London) opened his contribution with a description of two closely similar cases, one of anaphylaxis in connexion with antidiphtheritic serum, the other anaphylaxis following repeated wasp stings. Dr. Myer Coplans related a case of a cancer patient repeatedly inoculated with antivenom serum, and who, as a result of an inoculation during the allergic state of an exciting dose, showed remarkable skin lesions during the few moments that elapsed between the inoculation and death. After further discussion by Dr. Braxton Hicks and Dr. Embleton, Professor Dixon briefly replied, affirming his adherence to the ferment theory, and Professor Woodhead suggested the use of bovine or coprine serums as means of prophylaxis. Dr. Myer Coplans next detailed his experiments relating to the action of asbestos and allied minerals upon bacterial and other toxins, from which it appears that contact between toxin and asbestos leads to a marked and rapid loss of toxicity, associated with the removal of proteose from the fluids. Further, the growth of organisms in culture media containing asbestos results in an alteration in morphological and cultural reactions associated with a very marked diminution in virulence, with particular reference to anthrax and plague. His colleague, Dr. Lloyd, communicated the result of work on the same lines when certain physiological substances were substituted for bacterial products. There could be no doubt that this paper formed a most valuable contribution to the proceedings, and the subsequent demonstration by Dr. Coplans on his ingenious apparatus and his collection of asbestos and allied minerals was most noteworthy, and more especially so when it was appreciated that this work of wide-reaching import had been carried out in the rare intervals that fall to the lot of an overworked scientist struggling with the routine work of a large centre and a teaching school.

Friday, July 25th.

The session opened with a paper by Dr. W. C. Lyons on the specific diagnostic and therapeutic value of proteose-free tuberculin. This forms the first practical application of Myer Coplans's work on the removal of proteoses from bacterial toxins by means of finely divided asbestos. Proteose-free tuberculin was found to give more reliable indications as to present and active tuberculosis than the old tuberculin as used by von Pirquet. The speaker had employed it for all the various cutaneous reactions, but recommended its use by the *intradermal method*. He had also used it in 100 cases of phthisis in a sanatorium under his charge with most promising results, in doses of 0.001 c.cm. for ordinary cases, and 0.0001 c.cm. for acute cases. Dr. A. M. Buchanan (Glasgow) followed with a paper on *Empusa muscae* as a trajector of bacterial infection. This was illustrated by a collection of photomicrographs and lantern slides, which aroused general admiration, inasmuch as they not only showed the painstaking and detailed labour involved in the inquiry into the life-history of this fungus, but formed for the first time a series of illustrations of the fungus itself. He summarized the work already done in connexion with flies as carriers of disease, and then detailed his own observations on the relation of the fungus to the fly. He had not obtained any confirmation of the view that infection occurred from within, and he had found practically always that the alimentary tract was free from the fungus. He demonstrated that the entire fly was infected from the proboscis to the last segment of the abdomen, and in some cases the fungus could be seen surrounding the eggs but never penetrating the shell. From this he suggested that probably infection occurred in the larval stage, and adduced in support the universal invasion of the entire fly. This, however, was merely a hypothesis to explain the persistence of the fungus from season to season. His attempts to cultivate the fungus had all failed, though on glucose agar he had obtained a little mycelial growth from the spores; this, however, could not be further cultivated. Dr. Monckton Copeman (London), speaking on the paper, touched on the work carried out under his supervision for the Local Government Board, and mentioned that in the forthcoming publication of that body corroboration of Dr. Buchanan's work would be found. He did not agree that infection took place in the larval stage. He mentioned an interesting fact concerning a simple method of rapidly slaying all the flies in a room by burning a little pyrethrum powder. Dr. Bernstein (London) mentioned the work that was being done by Mr. Hesse under his supervision on the cultivation of the *Empusa* and the artificial infection of flies, which as yet was wanting in corroboration; and discussed the larger question of analogous fungi which attacked locusts and the cinch bug, and which were, perhaps, even of greater moment. Dr. Eyre expressed his pleasure at hearing so original a contribution and hoped that the communication would be published in full. Dr. Ross, on behalf of the staff of the John Howard McFadden Research Fund, then read a brief account of the jelly method of staining cells alive, which formed an introduction to a demonstration in the microscope room. Here also was revealed, to the interest of everybody, a rabbit with a chancre of the penis as a type of a naturally occurring disease which is analogous to syphilis. It occurs, according to Dr. Ross, in 1 per cent. of all rabbits, and presents, after an incubation period, secondary manifestations. It was quite unknown to many bacteriologists present. Dr. Galt amplified a paper, which he had previously read, by a microscopic demonstration of blood films from various observed states. This brought the session to a close.

Section of Climatology and Balneology.

Thursday, July 24th.

The President, Dr. F. J. Paley, called on Dr. Neville Wood (London) to open the discussion on international aspects of British health resorts. Dr. Neville Wood prefaced his remarks by a definition of the term "health resort." It, he said, should be applied to a place to which,

usually, patients are sent for a comparatively short time, and for a definite course of treatment. It was, in fact, equivalent to the German word *Kurort*. He also pointed out that although in England the chief facts about the leading Continental health resorts were well known both to the profession and the public, the specific merits of British natural therapeutic resources were scarcely suspected on the Continent, and imperfectly appreciated even in America. He assigned as a reason for this state of things the fact that hitherto British municipalities had confined their efforts to begging the leaders of medical opinion to set their faces against the exodus of British invalids, while making no sufficient attempt to redress the existing adverse balance by attracting patients from foreign lands. Since England alone pursued this narrow policy of isolation, they must look abroad to find what might be gained by the substitution of one that was more progressive. By far the largest profits from the health resort industry were reaped by the country which made the smallest effort to keep its nationals at home, yet numerous as were the foreigners attracted, they were always outnumbered by the native-born. Unfortunately not a few Englishmen, especially among the leisured class, took it for granted that Continental spas occupied a higher plane than those of their own country. With such persons argument was vain. If it were possible to state that foreign experts preferred British spas for some groups of their patients, the prestige of British resorts would at once be established and a larger proportion of British invalids would be content to remain at home. Prestige was the very breath of life in health resort practice, bringing in its train confidence in ultimate recovery and willingness to submit to necessary discipline. Dr. W. Gordon (Exeter) laid stress on the special suitability of the south-western division of Devon for cases of heart disease associated with bronchitis, and for sufferers from chronic dry respiratory catarrh, a malady common in Central Europe. Drs. Tyson (Folkestone), Whittington (Brighton), Copeman (Brighton), Durward Brown (Harrogate), and the President concurred in the remarks made by the opener of the discussion. Lieutenant-Colonel W. Burke was not fully satisfied with the accommodation provided by British hotels, especially in relation to the prices demanded.

Friday, July 25th.

The last day's work, over which Dr. Whittington, as Vice-President of the Section, presided, was devoted to the reading of papers. Dr. H. de Carle Woodcock (Leeds), in the first of these, cast doubt on the value to the practical physician of the elaborate statistics of phthisis morbidity and mortality drawn up in various localities, and pointed out the fallacy of attributing specific value to any single place. The paper was discussed by Dr. W. Gordon (Exeter), who emphasized the need for further work on the climatology of phthisis, and by Dr. Evans (Davos). Dr. Durward Brown (Harrogate) then gave an account of panniculitis, a disease which had been described by a French physician as compatible with life but not with comfort. It disappeared, leaving no traces (in the majority of cases) if properly treated. It was characterized by the greatest of all subjective symptoms—pain—and though it had an organic basis, it made one think of neurasthenia. Dr. Blackburn (West Hartlepool) doubted whether the disease was a separate morbid entity. Dr. W. Gordon (Exeter), in a paper on the distribution of cancer cases in two registration districts of North-East Cornwall, drew the conclusions (1) that the disease is relatively common on low clayey levels along rivers which habitually flood their banks; (2) that it is relatively rare on higher and drier ground; (3) that it is said to be relatively rare on limestone; (4) that it is relatively common among trees; (5) that it is prone to recur in the same house. Dr. Odell (Torquay) also quoted cases of house infection, a condition which Dr. Ackerley (Llandrindod) thought might be due to bad sanitation or perhaps to the infection of rodents. A very suggestive paper was then read by Dr. Ackerley (Llandrindod Wells) on massage in fibrositis and other painful affections, in which he laid great stress on the curative influence of properly conducted massage, and conversely on the damage frequently following ill-applied manipulations. The climate of Brighton in relation to disease was the subject chosen by Dr. Hobhouse (Hove), who claimed that sensibility to climate was largely a matter of temperament; the more stable the mental equilibrium, the less the susceptibility to changes of weather or climate, so that no scientific reasons could be given for saying that Brighton was good for this or that disease. It was a curious fact that although Brighton would appear from meteorological data to be rather warmer than Worthing during the greater part of the year, the air of the first-named town was decidedly the more bracing. Early or arrested phthisis, provided there was little tendency to bronchial involvement, did very well at Brighton, and children with enlarged glands soon derived benefit from the climate. Haemoptysis was rarely met with at Brighton. Dr. Griffiths (Hove) and Dr. Whittington (Brighton) remarked on the considerable climatic differences between different parts of the areas commonly included under the name of Brighton, and Dr. Copeman (Brighton) described the singular phenomenon of cold sea fogs or mists rapidly arising and as speedily disappearing on very hot days. The session ended with a paper by Dr. Buckley (Buxton) giving an account of the rationale of the Plombières douche, which was discussed briefly by Drs. Durward Brown, Neville Wood, and Ackerley.

SECTION OF DERMATOLOGY.

Thursday, July 24th.

DR. SEQUEIRA having opened the second day's proceedings by offering a welcome in the name of the Section to Dr. Abbe, and Dr. Truman Abbe of New York, Dr. J. Macleod (London) read a paper on the nature, varieties, causes, and treatment of lupus erythematosus. He touched shortly on its clinical varieties, and illustrated his remarks with lantern illustrations of the disease in its most typical appearances. After spending a few moments on a valuable demonstration of its histological anatomy, he passed on to a consideration of its etiology, regarding which he confessed himself in agreement with those who do not believe in a tuberculous causation. After giving his reasons for this opinion he reviewed the treatment, urging the necessity of using the utmost caution in the application of CO_2 snow even in chronic cases. He had not found x rays of much use. In acute cases quinine and salicin internally had always given good results in his hands. Sir Malcolm Morris complimented the opener on the mature and reasoned excellence of his paper and agreed with him on the question of the etiology. He thought most cases might be classified under one of two heads: (1) Those resembling the generalized toxaemias of an erythema multiforme; and (2) the localized varieties brought out by exposure in faulty circulations. He had found that iodine tincture locally applied (the colourless variety was almost as good) was very effectual in many cases. Professor Wild followed with an analysis of 142 cases of the condition from his wards at the Royal Infirmary, Manchester. He was in favour of a tuberculous etiology for some of his younger cases. Dr. Bolam also laid stress on the interest pertaining to the etiology of the condition, and stated that he had found a tuberculous stigma or history in 30 per cent. of his cases. Dr. Eddowes confined himself to remarks on treatment, and mentioned some successes he had had with the puncture of painful nodules. Dr. Haldin Davis agreed in the main with Dr. Macleod's summary of its etiological factors, and related some results recently obtained at St. Bartholomew's Hospital with electric galvano-puncture. Dr. Pernet (West London Hospital) remarked on the importance of correcting pyorrhoea and chronic constipation where they existed. Dr. W. Williams, to whom the Section owed a debt of gratitude for the excellent cases of lupus erythematosus shown by him before the opening paper was read, explained some points in connexion with several of them. Dr. Abbe (New York) discussed the treatment of lupus erythematosus with radium, and declared it as his opinion that there was a great future for this therapeutic aid when filtration methods had become more perfect. Dr. Semon drew the Section's attention to a most important paper in the current issue of the *Archiv für Dermatologie und Syphilis*, in which Professor Bloch and Dr. Fuchs of Basel had proved experimentally the tuberculous origin of some cases at least of the condition under discussion. Dr. Dore also touched on the etiological side, and found

himself in agreement with Dr. Macleod and the majority of the speakers regarding its non-tuberculous causation. Dr. Barendt believed in the plurality of etiological factors concerned, and gave some useful hints on treatment. The President concluded the discussion. He thought there must be an underlying etiological factor common to all types of the disease, and he mentioned a case in which an obscure form of intestinal toxaemia had produced the condition. The morning's work concluded with a paper by Dr. Meachen entitled, A Preliminary Note upon the Treatment of Cutaneous Tuberculosis by means of Copper.

Friday, July 25th.

At the final session (1) Dr. Bunch read a brief but comprehensive paper on the uses of solid CO_2 snow in dermatological diseases. In his experience the following conditions were most amenable to the treatment: Angiomata and naevi, hairy naevi, in which the hairs should be just destroyed by electrolysis, and port-wine naevi; rodent ulcer gave excellent results after two or three applications in early cases. Other lesions treated by him were lupus erythematosus, lupus vulgaris, lichen planus, chronic eczema, corns and warts, all with success. Dr. Gardiner (Edinburgh Royal Infirmary) thought the treatment had its limitations, and gave instances of these. Professor Wild agreed with the last speaker, but was happy to confirm Dr. Bunch with regard to early cases of rodent ulcer and seborrhoeic warts. Dr. Bunch replied. (2) Dr. David Walsh, in a paper on circulatory disorders in relation to alopecia areata and other forms of baldness, came to the conclusion that cardiac and vascular disease played a vital and hitherto unsuspected part in the production of alopecia and alopecia areata. His opinions were not shared by Drs. Eddowes, Barendt, and Griffith, who spoke subsequently. The President (Dr. Sequeira) wished to know how many of the cases reported on had come from heart hospitals, or had been previously treated for cardiac disorders. Dr. Walsh replied. (3) Dr. Gardiner, Lecturer on Skin Diseases at the University of Edinburgh, read a paper on a most extensive case of acne necrotica, which he illustrated by admirable photographs. An animated discussion followed, in which the President, Dr. Bolam (Newcastle), Dr. Barendt, and Dr. Griffith took part. Dr. Haldin Davis read a carefully prepared summary on the preparation and composition of modern ointments. The paper was very well received, and the President complimented the author on his treatment of a difficult subject. Dr. Barendt, Dr. Semon, Dr. Eddowes, Dr. Bolam, Dr. Hobson, and Professor Wild took part in the discussion which followed. Dr. A. Winkelried Williams then read a very complete summary, which he curtailed owing to lack of time, of the treatment of chronic leg ulcers, laying particular stress on the usefulness of anaesthesin in painful cases. Dr. Mowbray (Castledare), Dr. Dore, Dr. Davis, Dr. Barendt, Dr. Semon, and Professor Wild also spoke. Dr. Dore read a valuable paper on the modern use of *x* rays in psoriasis and other skin diseases, such as acne, hyperhydrosis, mycosis fungoides, pruritus, and warts. The President, Dr. Griffith, Dr. Gardiner, and Dr. Semon also spoke. Dr. L. J. Hobson (Harrogate) earned the thanks of the Section for his admirable survey of the types of cases most suitable for treatment at the Harrogate Spa. His remarks were supported by Drs. Gibson (Harrogate), Gardiner, and Griffith. A very cordial vote of thanks, proposed by Professor Wild, for the splendid services of the President and his two secretaries throughout the three days of the meeting of the Dermatological Section was seconded by Dr. W. Williams and passed with acclamation.

Section of Diseases of Children.

Thursday, July 24th.

Mr. T. Openshaw, C.M.G. (London), opened the discussion of the day, the choice of methods of dealing with paralytic deformities in children, by giving a brief summary of the various methods—rest, tenotomy, nerve section, or grafting—at present employed, illustrating his remarks by recording cases that had come under his own observation. Oblique division of the tendons was advisable in many instances; the speaker supplied many details of the different operations performed by the orthopaedic surgeon in various cases of deformity, and sounded a note of warning as to the extravagant claims sometimes made for neuroplasty. Transplantation of the peronei into the tibiales was among the most successful of all transplantation operations. Walking instruments might have to be worn for several years before it became possible to say whether any return of power to a paralytic leg could be looked for or no. Thus, one patient wore an instrument for twelve years before any sign of return of power to the quadriceps extensor femoris appeared. The case was quoted of a girl with the power of voluntarily dislocating one hip-joint and then reducing the dislocation. The treatment of the pronated arm of the hemiplegic demanded open division of the pronator radii teres muscle; many other muscles, particularly the subscapularis, might require division in hemiplegic patients. Replacement of a paralysed deltoid was not easy or successful; a portion of the median, musculo-spiral, or other nerve, might be grafted into the circumflex in such cases as these. Next followed Professor Foerster (Breslau), who dealt with the relief of spastic paralyses by posterior root section. Athetosis gave disappointing results—in 15 cases—when treated by this method. Resection of a large number of roots was in general advisable; if a small number of roots were divided there was fear that the spastic paralysis would return after the operation. Electric stimulation of the motor nerve roots (lumbar and sacral) should be performed during the operation, as a matter of precaution before the division of the nerve roots. The after-treatment of these cases was most important, to overcome the flexor spasticity that tended to follow, and extension of the legs was here most important. Apparatus must be worn, excepting when muscular exercises were being taken. Standing and walking exercises followed; the cases in which this treatment was most applicable, having often never walked. Later on crutches were used, then two sticks, then one stick, and finally the patient stood alone. Full details of the training and exercises required by these patients were given, and were made very clear by a long series of admirable lantern slides and photographs. Mr. R. Jones (Liverpool) complimented Professor Foerster on the great skill and care with which he treated and followed up his cases, and outlined the treatment he employed himself with results so much less satisfactory because so much less complete. Professor Foerster's method was perhaps most applicable to the cases of extreme deformity and long standing that were often the despair of hospital orthopaedic departments. As regards Mr. Openshaw's advocacy of arthrodesis, he himself found he employed it less now than he did years ago; and arthrodesis of the knee-joint he had almost entirely given up. Tendon transplantation was admirable when well designed, and when too much was not asked of the transplanted tendon. Mr. Laming Evans (London) contributed four cases of the treatment of spastic paralysis (Little's disease) by section of the posterior nerve roots, with details of the operations and the treatment that followed. He emphasized the importance of careful and prolonged after-treatment, like that given by Professor Foerster, in this treatment. He doubted whether the peronei could ever take the place of a paralysed tendo Achillis, as Mr. Openshaw had stated. Mr. W. J. Midelton (Bournemouth) emphasized the slowly progressive character of infantile paralysis, an infective disease of slow progress, and spoke briefly of his method of treatment. Miss Hultman (Hove) described her methods of massage and movement in cases of infantile paralysis, with slow increase in the range of movements made with contracted muscles. Hyperextended muscles were to be attacked in a somewhat similar manner. Mr. R. C. Elmslie (London) gave an account of the uses of splinting, movement, tendon transplantation, arthrodesis, neuroplasty, and other methods of treatment in the paralyses of children. Professor Foerster, in reply, answered a number of questions put to him. Root resection was advisable mainly in the cases in which all other treatments had failed. Athetosis might disappear for a few months (by the diaschisis of von Monakow) after the operation, but would always return. He gave reasons for choosing the operation by the method he described rather than any other, preferably in two stages to avoid shock. Neuroplasty gave him no good results in poliomyelitis. Mr. Openshaw, in reply, commended the moderate exercises advocated by Miss Hultman, and thought that the

electrical stimulation of these paralysed muscles was often overdone. About forty members attended the session of this Section.

Friday, July 25th.

The day's discussion on the diagnosis and treatment of acute inflammatory affections of the abdomen in children was opened by Mr. C. B. Lockwood (London), who illustrated his various points by the quotation of cases bringing out special features, such as obstruction of the intestine, peritoneal inflammation, fever, and rigors. Rigors he held to point to acute and dangerous infection, generally streptococcal in nature. Periods of repose after the sudden onset of some acute abdominal condition were often most misleading; and absence of premonitory symptoms was often no less misleading, quite apart from the fact that children not rarely conceal their pains and ailments. The diagnoses of "ptomaine poisoning" and "bilious attacks" had often been found by Mr. Lockwood to conceal an acute inflammatory affection of the abdomen. Irregularity of the pulse was a sign to which he attached great importance when it was present in these cases. The fetal type of appendix he believed to be one of the chief predisposing causes of appendicitis in children. Pain during micturition and pus in the urine were both highly suggestive of acute pelvic inflammation in children with acute abdominal inflammation. Turning to some of the constitutional symptoms observable in these cases, Mr. Lockwood remarked on the value and importance of observations on the pulse-rate, which tended to accelerate with the progress of an infection. Intermittent pulse in a resting child was often seen in children with acute abdominal conditions, and was always serious. He attributed the same importance to an increasing leucocytosis as to an increasing pulse-rate. The diagnosis between pneumonia and appendicitis was difficult in but few cases if the respiration-rate were watched. Acute tuberculous abdominal conditions were not rarely encountered, often in the form of intestinal obstruction. In general continuous and careful observation of these patients would avert the occurrence of catastrophes in these cases. Mr. R. H. A. Whitelocke (Oxford) emphasized the tendency of acute abdominal inflammations in children to spread rapidly after an insidious onset, to lack the feature of tympanites, to be associated with diarrhoea, to suggest an acute cerebral condition—all of them circumstances that made the diagnosis difficult. A rectal examination was very important. In male children the right leg was often drawn up early; in female children the initial pain was often on the left side rather than the right in acute appendicitis. Dr. W. J. Tyson (Folkestone) said the great increase in the incidence of appendicitis seemed to him to demand a Royal Commission to determine the origin of the complaint. Mr. C. F. Cuthbert (Gloucester) also emphasized the importance of the rectal examination; children were remarkably tolerant thereof. Mr. George Morgan (Brighton) described the case of a patient in whom a pin perforating the ileum produced a train of symptoms simulating acute appendicitis. The importance of early operation in these instances was once more emphasized by Dr. L. A. Parry (Brighton), who also spoke of the fever sometimes seen in cases of acute intussusception, cases thus imitating ileo-colitis. Dr. G. L. Crimp (Walton-on-Thames) detailed an interesting and complex case of appendicitis, followed by empyema, in which he operated. Dr. H. Bramwell (Nunney) recounted cases illustrating the tendency of children to conceal their symptoms. Dr. Hutt (Brighton) quoted obscure cases for Mr. Lockwood's analysis and explanation. Dr. Chaffey (Hove) asked about the importance of meteorism in children with acute abdominal inflammations. Dr. A. E. Naish (Sheffield) dwelt on the importance of the intelligence of a mother who had a child with an acute abdominal inflammation. The President referred to the very difficult cases of appendicitis in infancy, so rapid in their course, so urgently calling for immediate operation. Acute pancreatitis after mumps might be very difficult to diagnose, and did not call for operation; the gonococcal peritonitis of children similarly tended to recover without operation. Rapidity of respiration in children would rarely serve to diagnose pneumonia from appendicitis. He also spoke of an epidemic of appendicitis occurring in an industrial school: the association of tonsillitis with appendicitis was worthy of further investigation. A paper on the necessity for selection and for skilled supervision in the treatment of spinal deformities by exercise having been read by Mr. Kellett Smith (Eastbourne), the proceedings of the Section closed with a eulogy of the secretaries from the President. About fifty members attended the day's proceedings.

SECTION OF ELECTRO-THERAPEUTICS.

Thursday, July 24th.

THE proceedings of the Section were reopened with three papers on the subject of electrical diagnosis and treatment. The author of the first, Dr. C. F. Bailey (Brighton), in dealing with electro-therapeutics in neurone lesions, confessed that he was becoming more and more of opinion that as a method of treatment, omitting cases where ionic medication was required, the constant current might be given up. For testing purposes it would probably still be of use, although even here the condenser methods seemed likely to supersede it. Dr. Lewis Jones (London), in the next paper, advocated the use of condensers for treatment as a substitute for induction coil currents, and demonstrated an instrument in the form of the pantostat, possessing a motor fitted with a condenser commutator and a rhythmic interrupter. Dr. E. P. Cumberbatch (London) also read a paper on condenser discharges for muscle testing. The method, he said, produced little or no pain as compared with the sting of the battery current. The author said that he had tested muscles which beyond all doubt gave a partial reaction of degeneration, and yet responded to very small condensers. He suggested that there was another type of reaction between the weak normal and the partial R.D. Dr. Lewis Jones also expressed the view that partial R.D. would presently be analysed into several components. Dr. Hernaman-Johnson and others discussed the apparatus and the three papers. Dr. Lewis Jones read a second communication on the treatment of corns and warts by ionization. His procedure was simply to use first a zinc positive needle for the centres or foci of the corn, and to follow this up with the ionization of the whole of the affected area with a zinc plate and a pad moistened in the usual way with a zinc salt. As to warts, when these were small and close together, ionization with a pad and zinc solution was quicker than the needling of individuals. For some warts magnesium answered very well. Dr. J. D. Harris (Exeter) recorded in a paper his experiences of secondary *x* rays employed in association with ionization in various ulcers and lupus. There appeared to be, he said, an occasional inhibitive action in the *x*-ray patient which restrained the benefit at another time exercised freely by the rays. The uncertain and fugitive benefit was capable of being restored and maintained in some instances by ionization. Other speakers bore witness to the value of the combined method, Dr. Bowker (Bath) describing a case of rodent ulcer in which the zinc ions were used twenty-four hours before irradiation, and led to a complete recovery. Mr. Hall-Edwards (Birmingham) preferred secondary radiations from silver, the wound being covered with silver freshly precipitated, to the ionization procedure. Dr. F. Howard Humphris (London) read a paper on the treatment, by modern electro-therapeutic measures, of pathological blood pressure. With d'arsonvalization properly administered much more could be accomplished than with most measures employed for treating hypertension. The current of d'Arsonval consisted fundamentally of a high potential current conducted through a spark gap, two condensers, and a copper solenoid. Dr. T. Lewis closed the morning's proceedings by explaining the method of taking simultaneous electro-cardiagrams and heart-sound records, illustrated by lantern slides showing traces of normal heart sounds and the common murmurs.

Friday, July 25th.

Dr. Agnes Savill opened the day's proceedings with a paper describing 3 cases of uterine fibroid which she had treated by means of *x* rays. Her conclusion was that *x*-ray treatment had its place when the patient was over 40 years of age and the tumour small. The danger to the skin forbade *x*-ray treatment in the case of young women and for large tumours. A general discussion then took

place on the subject of gamma radiations in surgery. Sir Alfred Pearce Gould, the opener, said that the primary and fundamental fact was that radium had the great power of checking cell multiplication, and it had recently been shown in the laboratory that the power of radium over cell division was seven times as great when brought to bear upon the cell during its actively dividing period as it was when brought to bear upon it at other times. This seemed to indicate the direct influence of radium upon those unknown forces which immediately concerned the division of a nucleus and the subsequent changes in the cell protoplasm. The next fact of supreme importance was that the power of radium to check and inhibit cell growth was greater in the case of a cancer cell than in that of a normal cell. The third fact was that the radio-activities could and did injuriously influence the normal cell growth. Sir Alfred described the work of Dr. Russ upon the influence of radium on the immunity reaction. It was important to remember that, when used in excess of the amount required to inhibit a cancer, the radium radiations could destroy the power of tumour tissue to produce immunity. Therefore he pleaded for circumspection in dosage. Dr. Robert Abbe (New York) related some remarkable cases of radium cure which had come within his own experience, and also illustrated by means of photographs the power exercised by radium upon seed growth, placing different lots of seeds - hemp and others —at various distances from the radium, and afterwards repeating the experiment by altering, not the distance factor but the time during which each parcel of seeds was exposed. The seeds nearest to the radium were killed, while others a little further away were stimulated in growth, their vigour greatly exceeding that of some control seeds which had not been irradiated at all. Beyond this distance, again, the radium appeared to have a devitalizing effect, and the results were similar in the case of the time experiment. Dr. Abbe considered the future of radium-therapy to be decidedly encouraging. Dr. W. Hill (London) illustrated his technique in the radium treatment of cancer of the œsophagus. The discussion was then adjourned, and several papers were taken. Dr. F. Hernaman-Johnson (Darlington) dealt fully with the indications for radiation before, during, and after operation for cancer. He suggested that even early cases of cancer should undergo a radio-therapeutic preparation. As to post-operative preventive raying, he advised it up to the stage of stimulation of normal tissues, and urged that it should include not only the original tumour area, but also all organs which experience had shown were likely to become the seat of metastatic deposits. Dr. Nagelschmidt (Berlin) made a communication on the electrical treatment of nutritional disorders, affirming that for obesity this offered, not a symptomatic alleviation but a real cure. Dr. G. B. Batten (London) described certain modifications of the Hampson technique in the treatment of ringworm by *x* rays, contending that his new method was as safe as Sabouraud's and more than one-third of the time quicker.

The Section then joined forces with the Section of Gynaecology, and at the combined meeting a paper was read by Dr. C. J. Gauss (Freiburg) in which he described his radiotherapeutic treatment of gynaecological cases. His method, briefly, was to apply a large dose of rays in a short time. This intensive concentration of large doses was brought about by irradiating the various fields in quick succession, reducing the distance of the Roentgen tubes from the body, and increasing the milliampèrage. He also dealt with the treatment by means of radium, and said that he had used mesothorium in the treatment of non-malignant diseases of the female genital organs, especially in fibroma and metritis, but in spite of certain successes with this method the Roentgen treatment retained the first place in non-malignant gynaecological affections. The Section of Electro-Therapeutics met again in the afternoon, when a paper was read by Dr. Frank Fowler (Bournemouth) describing fully his technique in the *x*-ray treatment of cancer, his endeavour being to increase the effective dose which reached the tumour. The previous communications by Sir A. Pearce Gould and Dr. R. Abbe were then discussed by several speakers, including Dr. F. H. Williams (Boston, U.S.A), who expressed the view that radium was safer than the *x* rays, because with the former the output was uniform; Dr. W. Deane Butcher, who emphasized the danger of opening up the lymph spaces to further contagion when taking a specimen in order to confirm the diagnosis; Mr. Hall-Edwards (Birmingham), who was in favour of the use of harder rays; and Dr. Warden (Paris), who urged the burial of radium tubes near the tumour. Dr. Abbe replied, and the proceedings of the Section concluded with a cinematograph demonstration by Mr. Hall-Edwards, the film illustrating the movements of the stomach.

Section of Gynaecology and Obstetrics.

Thursday, July 24th.

The second meeting was devoted to a discussion on affections of the urinary tract complicating pregnancy. This was opened by Sir Halliday Croom (Edinburgh), who commenced by insisting on the routine examination of the urine every three weeks till the seventh month, and then every two weeks till term. In cases showing any symptoms of toxaemia he considered that daily examinations were advisable. Discussing pyelitis gravidarum, he noted the right-sided frequency, and attributed this to the greater liability of the right ureter to pressure at the brim of the pelvis. The *B. coli* was the most common organism, and infection could travel both upwards and downwards. The prognosis for the mother was good on the whole, but he preferred in severe cases to induce labour rather than to operate on the kidney. The speaker proceeded to discuss the toxaemias of pregnancy, and briefly commented on the original work of Williams, Swayne, and Williamson on acidosis in pregnancy and the various nitrogen fractions. Diabetes in relation to pregnancy and the treatment of such cases in labour were brought forward; chloroform was dangerous, and labour should be completed with as little exertion to the patient as was possible; alkaline infusions were of service. Sir Halliday Croom concluded by recommending that the biochemistry of pregnancy should receive more attention, and that for this purpose the pre-maternity hospital or ward was an institution greatly to be desired. He foreshadowed such a ward in Edinburgh, and gave credit to Drs. Ballantyne and Routh for their efforts in this direction. Dr. Herbert Williamson (London) confined his remarks to pyelonephritis of pregnancy. He pointed out that right-sided infection was always commoner even apart from pregnancy, and did not believe that mechanical obstruction was a factor. He did not consider that the organisms were ascending a column of stagnant urine, and he implicated the blood stream and bowel as factors in certain cases. Indications for treatment were summed up as: Rest in bed, light mixed diet, copious fluids by the mouth, urinary antiseptics, and free purgation. He would induce labour if the condition remained serious after ten days of treatment; he had not convinced himself of the utility of vaccines, which should, if tried, be in all cases autogenous. Dr. H. O. Nicholson (Edinburgh) commented on the anomaly of raised blood pressure with scanty urine in pregnancy toxaemia, and discussed the vaso-constricting principle which alone could cause this. Dr. Edge (Wolverhampton) considered that the infection was an ascending one through stagnant urine. He was inclined to think that it might be justifiable to sterilize cases where a severe infection recurring in successive pregnancies jeopardized life. Dr. Leith Murray (Liverpool) discussed some of the problems of acidosis, and drew a distinction between that condition and acid intoxication. He insisted that the increased ammonia fraction in pregnancy was not a measure of acidosis, but included some increase resulting from the liver lesion. He advocated Hart's simple quantitative method for estimating these acid bodies. Personal experience had convinced him of the merit of autogenous vaccines. Drs. Bramwell, Dickinson, and Mowbray also spoke, and Sir Halliday Croom briefly replied.

Friday, July 25th.

The proceedings for the third day were opened by Dr. A. E. Giles (London) with a plea for early operation on uterine fibroids. Arguments in favour of early operation were discussed under five headings: (1) The author's statistics showed age-incidence to be of no importance as

an actual indication for operation, although it had a definite bearing on the nature of the operation to be preferred. (2) Myomectomy was more desirable than hysterectomy, and his figures demonstrated the increased opportunity of doing this under 30 years. (3) Dangerous complications amounted to 43 per cent. of all complications, and the incidence was much greater over 50 years. (4) High mortality was no longer an argument against operation. (5) Finally, there was an uncertainty of diagnosis which made it possible that grave conditions urgently requiring operation might be mistaken for simple fibroids. The President, Drs. Purslow, Dickinson, and McIlroy discussed the paper, and Dr. Giles, in reply, gave the indications for myomectomy, expressed himself as satisfied with the after-results in cases chosen on these lines, and indicated that small fibroids causing no symptoms should be left alone, and that the patient should not be told of them. Miss A. L. McIlroy, Dr. H. F. Watson, and Miss J. H. McIlroy, communicated a paper on the significance of the Wassermann reaction in gynaecological diagnosis – 100 non-selected cases, mainly from the Gynaecological Out-patient Department of Glasgow Royal Infirmary. Of these only 6 could have been judged to be suffering from syphilis so far as history or physical signs went, yet 49 gave a positive, 3 a doubtful, and 48 a negative reaction. In 7 of the negative cases, the children who were examined were positive. These results emphasized the importance of definitely excluding syphilis from causation in gynaecological ailments. Positive results had also been obtained in certain cases of menorrhagia and dysmenorrhoea in young women. The proportion of positive results was not appreciably increased in cases of miscarriage and stillbirth. Drs. Hans Schlimpert and A. Leitch inquired as to the technique, and the latter considered that even 5 per cent. of positive results in an average population was an overstatement. Miss Martindale also spoke, and in reply Miss McIlroy stated that the method adopted was that of Browning and Mackenzie, and that the results had been supervised by one or other of these. Dr. Hans Schlimpert (Freiburg) summarized the work done by Dr. Hendry and himself on Abderhalden's dialytic method of serum diagnosis of pregnancy. The theory underlying the test was reviewed and their results given. In 79 experiments on animals, including cross experiments, there had been only one failure. In human beings, so far, the results were much less accurate, but were clearly improving as better technique was developed. Dr. Hendry (Glasgow) enlarged on some points in technique, and Drs. A. Leitch and Leith Murray also spoke. Finally came a short note by Dr. T. H. Ionides (Brighton) on general peritonitis due to the appendix and complicating pregnancy, and a racy paper by Dr. R. L. Dickinson (New York) on the advantage of specialists of various orders combining for the purpose of clinical tours.

SECTION OF LARYNGOLOGY.

Thursday, July 24th.

THE President introduced for discussion the question of the care of patients after operations on the nose and nasopharynx. There was an excellent attendance, and from the nature of the subject most of the remarks of both the readers of the papers and of those who took part in the discussion had reference to prophylaxis. There was considerable difference of opinion upon matters of technique, Dr. Tilley advocating in some cases a warm spray to be used prior to operation with the object of cleansing the nasal passages. Other speakers followed Dr. Mayo Collier in objecting to the use of spray or douche. The douche, however, found few supporters other than in exceptional cases. The prophylaxis of osteo-myelitis after frontal sinus operations was discussed, and methods for its prevention referred to. Sir R. Woods advocating the removal of all necessary bone before opening into the affected mucous lining. The question of packing the nasal passages after operation gave rise to considerable differences of opinion, some speakers preferring rubber sponge, others gauze, while Dr. Mayo Collier and others objected strongly to packing of any description. The relative advantages and disadvantages of the cautery and snare and conchotome for the removal of portions of the turbinates were fully discussed. Dr. Kelson considered that the use of cotton-wool in the vestibule as a filter after operative interference was useful, and several speakers advocated the sterilization of this area prior to intranasal interference by various antiseptics, painting with iodine being generally favoured. Attention was also called to septic conditions of the mouth and fauces as a factor in causing subsequent sepsis, and a case was instanced by Mr. Sydenham of a death from meningitis after a simple intranasal interference due to the anaesthetist having a septic throat. The previous administration of sodium salicylate or aspirin was advocated. Dr. Watson-Williams suggested the use of strong solutions of cocaine as less dangerous than weaker ones, a smaller area being acted upon and really less of the drug absorbed. Drs. Crimp, Syme, Whitelocke, Birkett, Child, Maclay, and Jackson, amongst others, took part in the discussion. Professor Owen Richards (Cairo) then read a paper on rhino-scleroma, and illustrated it by lantern slides. Very little discussion followed, since the disease does not occur in this country. The day's work included also two demonstrations, one by Dr. W. Hill (intratracheal anaesthetization), the other by Dr. Watson-Williams (accessory nasal sinuses).

Friday, July 25th.

The last day's work opened with a paper by Mr. J. F. O'Malley on suggestive points of analogy between otosclerosis and arthritis deformans. The differences and similarities of the diseases were considered, numerous statistics being given. The questions of age incidence, sex, heredity were entered into in some detail. Racial characteristics, climatic conditions, and, in short, every factor common to the two conditions were investigated. The paper showed much original investigation, but some of the inferences deduced and comparisons instituted were rather laboured. The final conclusion drawn was that the main factor underlying the change was a chemical one. The paper was subsequently discussed by a few members who congratulated the reader of the paper. It was generally considered that the cases under discussion were to be differentiated from chronic adhesive processes, which were always the result of catarrh. Dr. Seccombe Hett then read a very interesting paper upon the physiology, anatomy, and embryology of the palatine tonsils. At the outset he limited his remarks to their anatomy and embryology, as his results in physiology were not yet ready for publication. He traced the history of the tonsil up from the fish through the amphibian to man, illustrating his remarks by diagrams showing its embryonic development. The tonsil was shown to be the development of the second dorsal thymus of the branchial cleft. The paper was discussed with reference to its practical application in the removal of tonsils and adenoids. The view of the tonsil's uselessness after the first few years of life was combated, and it was not generally agreed that tonsils were functionally useless and therefore to be regularly removed, which was the opinion of the author of the paper. Amongst the members who took part in the discussion were Drs. Jobson Horne, Scott, Davis, Spicer, and O'Malley. Dr. Hett replied to the various questions asked by those who took part in the discussion. A paper by Dr. Maurice of Paris on his apparatus for the re-education of the powers of hearing followed; and finally Dr. Jobson Horne read a paper on tumours of the ventricle of the larynx. He discussed the various tumours of this neighbourhood, including the cystomata which are rarely met with in man. Malignant growths were only just referred to, as not coming within the purview of the paper. The class formed by the granulomata was considered. Some lantern slides illustrating the remarks of the speakers were then shown. Subsequent speakers desired to know more about the treatment, but in his reply Dr. Horne stated that treatment opened too large a field for discussion.

SECTION OF MEDICINE.

Thursday, July 24th.

Dr. A. P. LUFF, in opening a discussion on fibrositis and muscular rheumatism, described the former as a painful local inflammatory hyperplasia occurring in various fibrous tissues of the body. It was very apt to recur, and was commonly called "rheumatic." Possibly it was due to bacterial infection, but in most cases was produced by

a toxaemia, assisted by various contributory causes. Confinement to bed might be necessary; in less severe cases the part should be rested. Salicylate was of little use; aspirin was very valuable for pain; potassium iodide was the most valuable drug; fibrolysin had a very limited use. Local treatment might be by external applications—hot fomentations, a mixture of equal parts of chloral, camphor, and menthol, etc.—counter-irritation, heat, and electrical treatment. He emphasized the value of local heat, especially dry, radiant heat combined with ionization. In lumbago the static current might be substituted for ionization. Massage was useful, but should be applied not to the affected part itself but around it. It should not be general massage. He referred to spa treatment, diet, and underclothing, preferring for the latter a porous linen fabric. Dr. F. H. Humphris attributed value to electrical treatment in fibrositis, especially light and wave treatment. Dr. Alexander Morison said that prognosis was largely influenced by the social position of the patient. Cases of fibrositis should be separated from infective conditions, such as those due to the gonococcus. He would regard fibrositis as essentially an afebrile state, and due to nutritional and metabolic disorder. Warm baths and heat in other ways were valuable. Visceral disease was generally absent. It was desirable to avoid the causation of pain in the treatment. Dr. G. Parker had been struck by the frequency of brachial neuritis. There were very definite tender nodules at various places over the arm and shoulder in cases of fibrositis in those regions, and similar nodules in other places with different types. He had found great benefit from rest and heat, and local application of salicylic acid, menthol, and lanolin ointment. Dr. Bailey emphasized the value of dry heat (which should be of sufficiently high temperature) and ionization, using iodine. Dr. Crofton, Dr. Preston King, Dr. Marion Gilchrist, Dr. Langdon Brown, Dr. Heinemann, Dr. Pridmore, Dr. Halls Dally, Dr. Joshua Powell, Dr. Blackburn, Dr. Warden, and the President (Dr. Hobhouse) also spoke, and Dr. Luff replied.

Friday, July 25th.

Work on the concluding day commenced with a demonstration by the President (Dr. E. Hobhouse) of a number of lantern slides lent to him by Dr. Gougerot, of Paris. They dealt with the diagnosis of sporotrichosis from syphilis and tubercle. Speaking of them, Dr. Hobhouse said there were three clinical varieties of sporotrichosis which presented difficulties, and culture was the easiest and most rapid way of arriving at a precise diagnosis. Dr. Preston King, in a paper on the differentiation of chronic arthritis, suggested that the cases occurring in early life should be called "rheumatoid arthritis," those in later life "osteo-arthritis." The two conditions were different, the former being more acute and accompanied by constitutional disturbance. Although distinct clinically, he did not regard them as distinct diseases. Dr. Walter Broadbent said he had found vaccines valuable and also polyvalent antistreptococcic serum by the mouth. The latter then read a paper on the heart as affected by the stomach. The stomach might affect the heart by reflex nervous effects, pressure, or by poisons in digestive disorder. The most common reflex effect was palpitation. In practice treatment of stomach and nerves was more favourable than treatment of the heart itself. Other effects were paroxysmal tachycardia, intermittency of the pulse, and pseudo-angina pectoris. True anginal attacks might also be brought on by gastric distension. In fatty heart gastric distension was also of great importance. Dr. Edgar Duke, Dr. Robert Hutchison (London) and Dr. R. R. Wade took part in the discussion. Dr. Macmurdo Mackinnon read a paper on the blood pressure in aneurysm. This was based on observations on 40 cases of aortic aneurysm investigated at the Seamen's Hospital, Greenwich. The blood pressure on admission was invariably considerably higher than subsequently. The general average was above normal. A difference of pressure of 5 or even 10 mm. Hg between the two arms was of little importance. A marked difference of from 15 to 20 mm. or so was strong evidence of the presence of aneurysm if it persisted. There was reason to suppose that potassium iodide reduced the blood pressure. The paper was discussed by Dr. Langdon Brown, and, after Dr. Mackinnon had replied, the President declared the meeting at an end.

Section of Navy and Army, and Ambulance.

Thursday, July 24th.

In a paper on the use of kinesitherapy in the after-treatment of injuries received in war, Dr. Durey said that owing to the changed conditions of military surgery and the general adoption of conservative methods a large number of wounded men were now discharged from the military hospitals with more or less useless limbs. By the application of massage and suitable passive movements much might be done to restore the utility of stiff joints and of muscles in which movement had become restricted by cicatricial tissue. The treatment to be successful should be begun as soon as possible, and must be under the supervision of a medical officer who had made a special study of this branch of surgery. A specially trained staff of masseurs was required; hence he strongly advocated the creation of special departments of kinesitherapy in all military hospitals. Colonel J. Turton thought the subject had perhaps not received sufficient attention in this country; but massage could not very well be begun till the wound had healed, and it would be impossible to carry out this treatment in field medical units. Lieutenant D. G. Kennard, R.A.M.C.(T.F.), describing a proposed light ambulance for yeomanry regiments, said he strongly advocated the adoption of some form of ambulance wagon which should belong to the regiment and accompany it wherever it went. The type he suggested was a four-wheeled wagon, weighing 5 cwt., and carrying two stretchers, two bearers, and one man sitting on the box beside the driver. The wheels, he said, were of equal size, made of hickory, the body well sprung, and the vehicle could travel across any country without upsetting. One horse could draw the wagon with ease, and the patients travelled in much greater comfort than in any other form of horse-drawn vehicle. Five of these wagons were sent to the Balkans, and were found most satisfactory during the recent campaign. Their cost was from £45 to £50. Major J. W. Houghton, R.A.M.C., speaking of spinal analgesia in military service, said he had used it in 600 cases, of which 296 were major abdominal operations. In no case did he fail to enter the dural sac; in every case the injection was followed by adequate analgesia; in 6 lengthy cases the analgesia did not last till the end of the operation, and chloroform had to be used for the final stages. As regards the after-effects, in 26 per cent. of the cases slight but only temporary faintness was experienced soon after the injection; 6 per cent. of the patients vomited on returning to the ward; slight headache was complained of in 28 per cent. of the cases. This method of inducing analgesia dispensed with the necessity of having an anaesthetist, which was a great advantage in military surgery in the field. To obtain the best results a certain amount of experience, together with strict surgical cleanliness, were essential. Deputy Surgeon-General P. B. Handyside, R.N., at the request of the President, offered a few remarks on the subject of hospital ships. He pointed out that at present there was only one hospital ship, the *Maine*, which was used in the South African war before she was handed over to the navy. Another ship was being fitted out for this purpose by the Admiralty, but he was unable to give any particulars in regard to her. It was difficult to decide on the most satisfactory kind of ship to employ for carrying sick and wounded. It might be a "carrier"—that is, one merely designed to transport invalids for a short distance—or it might be a fully equipped floating hospital. The choice depended on the probable locality of an action and the distance from the shore hospitals. One of the most difficult problems which had to be solved was the embarkation and disembarkation of helpless patients at sea. The Japanese hospital ships, although small, were thoroughly equipped, and proved most useful during the Russo-Japanese campaign.

Section of Neurology and Psychological Medicine.

Thursday, July 24th.

Dr. Risien Russell, opening a discussion on vertigo, said aural defect was its commonest cause. Long-standing cases of aural vertigo frequently became neurasthenic, but neurasthenia might itself simulate aural vertigo; but he distinguished therefrom by the fact that other

neurasthenic symptoms preceded the onset of the aural symptoms. The latter, too, were usually bilateral, and referred to the inside of the head, and the tinnitus was associated with hyperacuity of hearing. Vertigo due to arterio-sclerosis often simulated aural vertigo, both commencing at the same age, but in the former the symptoms were bilateral, and not accompanied by loss of hearing; a sense of rotation of the patient or surrounding objects indicated true vertigo. Certain cases of vertigo, in his opinion, were due to acute vascular lesions. Vertigo due to intracranial tumour could usually be distinguished by the presence of other symptoms. Ocular vertigo, except in cases of sudden paralysis of ocular muscles, was seldom so severe as aural vertigo. Vertigo of gastric or hepatic origin might be very severe, but could generally be distinguished by the previous history of gastric disturbance and the absence of any aural or cerebral signs. It was extremely difficult to distinguish between vertigo and minor epileptic attacks, provided there were no other symptoms of epilepsy. Deafness or fullness in the ears, and the persistence of tinnitus after the attack, contra-indicated epilepsy. Vertigo occurred as a symptom of tumour situated in the lateral recess or cerebellum, but could be recognized by the presence of the typical local signs. Vertigo was frequently a symptom in disseminated sclerosis. In aural, arterio-sclerotic, and epileptic vertigo bromide was the most serviceable drug and preferable to hydrobromic acid. In neurasthenic cases treatment by means of a rest cure had proved most effective. Dr. Harry Campbell, who concurred with most of Dr. Russell's remarks, asked whether Dr. Russell had had any experience of lumbar puncture or electro-therapeutic treatment in such cases. Mr. Sidney Scott said that the aurist, when confronted with a case of vertigo, first excluded peripheral causes and then the central. He had had a number of cases sent to him as cases of aural vertigo in which he could find absolutely no aural defect. He did not see why these cases were called aural vertigo, and attributed them to some condition at present unknown. He did not think bromide was specially serviceable in vertigo. Dr. Leonard Guthrie thought vertigo was much more common in children than was generally supposed, though they rarely complained of it even when suffering from cerebellar tumour. Dr. Aldren Turner expressed the opinion that many cases of vertigo were epileptoid in character. Professor Bradbury said that from the point of view of a general physician gastric disturbance was the commonest cause of vertigo, that in certain diathesis, specially gouty, it was very common, though he admitted that arterial changes might play a part. He had found antisyphilitic treatment beneficial in many cases. Professor Ashley Mackintosh said that vertigo occurred in 25 out of 110 cases of disseminated sclerosis which he had collected; he wondered if there were any connexion between vertigo and nystagmus. As regards treatment, he found the addition of belladonna beneficial in many cases, and had found large doses of hydrobromic acid efficient when bromide had failed. The President, Dr. Colin Russell, Dr. Shore, Dr. Fisher, Dr. Helen Boyle, and Professor Anderson and Dr. Grainger Stewart also took part in the discussion.

Friday, July 25th.

On the concluding day Dr. James Taylor, the President, was again in the chair, and some half-dozen papers were read and discussed. With two exceptions they related to questions of psycho-therapeusis. Dr. M. D. Eder giving an account of the present position of psycho-analysis, while Dr. William Brown recorded a case of extensive amnesia of remote date which had been cured by hypnosis preceded by psycho-analysis. The treatment of alcoholism by suggestion was considered by Dr. Hugh Wingfield, and Dr. T. A. Williams set forth some of the truths and fallacies connected with mind healing. In a joint paper Drs. William Boyd and G. L. Brunton set forth the results of their investigation of the blood and cerebro-spinal fluid in two cases of mania; and Professor R. J. Anderson, of University College, Galway, read some notes on reflex action. The various papers were discussed by Drs. Helen Boyle, Constance Long, H. Crichton Miller, John Mills, W. H. Butter Stoddart, Fisher, Shore, and Dr. Hubert Bond.

SECTION OF OPHTHALMOLOGY.

Thursday, July 24th.

DR. F. W. EDRIDGE-GREEN read a criticism of the Board of Trade eyesight test, in which he condemned the present condition of affairs, and proposed a resolution to the effect that the question should be reopened. This was seconded by Mr. Devereux Marshall and Mr. Bishop Harman, supported by Mr. Harrison Butler. The President (Mr. T. H. Bickerton) also strongly supported the motion, but expressed an opinion that the only way to make any impression was to ask questions in the House of Commons. Mr. Herbert Parsons did not approve of the resolution, and defended the Board of Trade, but the motion was carried with one dissentient. Mr. T. Harrison Butler, in opening a discussion on the treatment of chronic dacryocystitis, condemned the use of probes, and advocated the use of the syringe and the removal of the lacrymal sac. Colonel Elliot gave an account of 900 cases, in 78 per cent. of which the sac was removed entire, and only 0.55 per cent. required further treatment, while many of them were acute cases in which the difficulties of the operation were much greater. He preferred general anaesthesia, and the average time taken over the removal of the sac was seven to eight minutes, but often was much less. He described in detail the operation he advocated. Primary union failed in less than 2 per cent. of all cases, acute and chronic. Mr. C. Higgins strongly recommended Totti's operation. It consisted of removal of the sac and the transplantation of the canaliculi into the nose. No canaliculus should be slit, and styles and probes should be abolished. Dr. McReynolds (Texas) said that all methods produced good results in some cases. Mr. S. H. Browning thought vaccines should be more frequently employed. Streptococcal and staphylococcal injections reacted very well to this treatment, and the results were so good that he thought vaccines should be used in all cases. Streptothrix infection was more common than was usually thought. Dr. Ellett (Memphis) and Dr. Weeks (New York) having spoken, Mr. A. J. Whiting said that cases with diverticula were difficult to distinguish from cases of ethmoidal disease. Meningitis had been known to follow operation. Mr. Inglis Pollock thought that in private practice it was rarely necessary to excise the sac, for usually the patients came for earlier treatment. Mr. Bishop Harman considered that the canaliculi should be extirpated in all cases in which the sac was removed. Mr. Devereux Marshall thought that streptothrix was nothing like so uncommon in the canaliculus as it was thought to be. Mr. Charles Wray regarded local anaesthetics as very dangerous, and he knew of a fatal case. Sacs were too frequently removed, and he advocated the use of styles. Mr. S. E. Whitnall spoke of the anatomical conditions present. The President was strongly opposed to the removal of the lacrymal sac, and advocated the use of styles. If anything were to be removed, it should be the lacrymal gland. Mr. Inglis Pollock gave a demonstration on persistence of the nerve plexus of the iris after the excision of the ciliary ganglion of the superior cervical sympathetic ganglion.

Friday, July 25th.

Mr. Malcolm L. Hepburn (London) opened the discussion on the question of excision in cases of injury to the eye, putting the subject under four heads: (1) The excision of the eye immediately after the injury, (2) excision within a short time, (3) excision when the fear of sympathetic ophthalmia was present, (4) excision after the development of sympathetic. In a suppurating eye it was safer to eviscerate if the eye should have ruptured or should rupture during the operation be feared. Should there be a hypopyon ulcer he advocated the performance of an iridectomy should the cornea have perforated. If a foreign body were present the magnet was desirable to get it into the anterior chamber previous to removal. Should the lens be wounded it should be removed. Should an eye still be irritable in six or eight weeks, sympathetic inflammation was a great danger, and if it were blind and painful it should be excised. Mr. R. Affleck Greeves (London) discussed the matter from a pathological point of view. The appearance here was typical in sympathetic cases. In those cases in which sympathetic inflammation occurred years after the original injury it was very likely that some slight recent injury had taken place. Not a single case of

sympathetic ophthalmia had occurred at Moorfields during the last fifteen years in eyes which contained foreign bodies. He considered an eye which contained a foreign body was of no use for seeing purposes for any length of time. Mr. S. H. Browning (London) discussed the blood counts in cases of perforating injury. The important point was the increase in the large mononuclear cells. The increase always took place at the expense of the polymorphs. Salvarsan had been found of great benefit in all protozoal diseases. In sympathetic cases there was marked change in the blood count, and the disease was much modified and often cured. A normal count did not exclude the disease, but a positive count was most suggestive. He gave illustrative cases which showed immediate changes in the blood count to normal after the injured eye was removed. Differential blood counts should always be made in cases of eye injury, and salvarsan should be used in all cases of sympathetic ophthalmitis. Mr. N. Bishop Harman (London) discussed the question of sympathetic occurring in children, and gave a summary of 16 children who were blinded by the disease, and strongly advocated excision in dangerous cases. Mr. E. E. Maddox (Bournemouth) thought that the situation of the original injury in the eye was most important. He never knew a case of sympathetic occurring in an eye with plus tension. If an eye could be made hard artificially it might be useful. Pyridin was capable of doing this, but it was very painful to apply. Mercury had a great effect, and many eyes could be saved by means of the actual cautery and conjunctival flaps. Colonel Elliot (Madras) disapproved of the use of the cautery. Antiseptic treatment was most important, but no more active surgical treatment should be adopted than was possible. No unnecessary risk should be run in trying to save a hopelessly injured eye. On account of the intense aversion that the natives of India have to losing an eye, other operations had been suggested. He advocated evisceration and optico-ciliary neurectomy. Dr. McReynolds (Texas) had found many more cases occurring after some perfectly successful operation than after the retention of a foreign body. Mr. Harrison Butler enunciated the views held in Germany, and gave his experience in Jerusalem. Mr. Devereux Marshall congratulated Mr. Browning on his work, and thought that the sooner a suppurating eye was excised the better, and he had no fear of the operation producing meningitis. Mr. Reeve (Toronto) always excised suppurating eyes, and he had never seen anything but benefit result. He paid tribute to the work of Mr. Browning. He advocated the performance of iridectomy and the removal of injured lens matter. Mr. Taylor (Brighton) had seen two cases of fatal meningitis following excision of suppurating eyes. Mr. Charles Wray (Croydon) preferred evisceration to enucleation. Colonel Pridmore, Mr. Whiting, and Mr. Inglis Pollock made remarks, and the President summed up. Mr. A. F. MacCallan described an operation for ectropion of the lower lid. Mr. T. Harrison Butler (Leamington) read a paper on the punch operation for glaucoma. It was discussed by Mr. Brailey, Colonel Elliot, and Mr. Bishop Harman, who advocated Herbert's operation with his (the speaker's) twin scissors. Dr. McReynolds described a trephining operation done with an ordinary knife. Mr. Hepburn thought the keratome was a difficult instrument to use and very dangerous in a shallow anterior chamber. The President said that the whole world was under an obligation to Colonel Elliot for his work on glaucoma.

Section of Pharmacology, Therapeutics, and Dietetics.

Thursday, July 24th.

The proceedings of this Section began by a discussion on anaphylaxis, held jointly with the Section of Bacteriology and Pathology, an account of which is given in the report of the meeting of the latter Section. The Section of Pharmacology then heard a paper by Dr. F. W. Price (London) on the action of digitalis on the blood pressure in man. The reader had previously reported cases illustrating the effect of digitalis in cases of cardiovascular disease. Those experiments he now supplemented by an investigation of the action of this substance on the blood pressure of a series of cases with no recognizable cardiovascular disease. Digitalis was given under carefully controlled conditions for periods of seven days or longer. The result was to show that digitalis (in doses of 45 to 60 minims of the tincture per day) produced no definite effect on blood pressure in either group of cases. In the discussion which followed the Vice-President, Dr. Uhthoff (Hove), and Drs. Cow (Cambridge), Gunn (Oxford), and McWalter (Dublin), took part. Dr. Price replied to the points raised in discussion.

Friday, July 25th.

The last day's proceedings began with a paper by Dr. H. F. Winslow on error in dietetics. He confined himself chiefly to the consideration of the taking of liquids along with meals, a practice which he condemned as being contrary to custom among the lower animals and also, as he had found, to the well-being of man. The paper was criticized by the Vice-President (Dr. Uhthoff) and Drs. Maurice Craig and Bernard Smith. In opening the next discussion, which dealt with the use and abuse of hypnotics, Dr. W. H. Willcox set forth the general indications for the use of hypnotics, and gave his experience of their value in detail. He also suggested precautions which should be taken to prevent their abuse. His comprehensive introduction was successful in eliciting a large amount of discussion, and that the subject was popular was evidenced by the number of members present. He was followed by Dr. Maurice Craig, Professor Bradbury, and Dr. Uhthoff, who compared their experiences with those of Dr. Willcox in regard to various hypnotics. In a further discussion Drs. Morrison, Blackburn, Davy, Hunt, and Gunn took part. Dr. Willcox replied to the various points raised. On the whole there was considerable unanimity in the opinions expressed with regard to the various hypnotics, the older ones finding favour with most speakers, though there was some disagreement, especially in regard to the relative safety and value of sulphonal and veronal. Dr. Muthu then read a paper on the treatment of pulmonary tuberculosis, with special reference to the continuous inhalation method, which he strongly advocated in combination with other remedial measures. He showed a convenient mask which he had devised for carrying out inhalation treatment, and also the formulae of various antiseptics which he had found of value. Dr. Willcox contributed to the discussion. The last business of the Section was a paper by Dr. Alexander Haig on "the acid child" in relation to errors in diet, in which paper he expounded and amplified his well known views on uric acid metabolism as affected by diet and drugs.

Section of State Medicine.

Thursday, July 24th.

The second day's session was occupied in a discussion on port sanitary administration and the importation of disease, which was opened by Dr. Herbert Williams, M.O.H., Port of London. He first dealt with the facilities for the introduction of infectious diseases into this country, pointing out that in many parts of the world the standard of hygiene was lower than in this country, and that certain infectious diseases were endemic there. In some places abroad people could even be seen walking about the streets with the scabs of small-pox on their faces, and cases of plague and cholera were often concealed. On board ship the conditions were particularly favourable to the spread of infectious disease. In the case of small-pox this was due to the long incubation period and the equivocal nature of the symptoms. Then, on every ship measured by any standard of accommodation followed ashore there was overcrowding and insufficient ventilation, even in the passengers' cabins. The sanitary conveniences, too, were of the most primitive type, and for various reasons it was natural that pulmonary tuberculosis should be common amongst seamen. The drinking water on vessels might produce cholera or enteric fever by having been drawn from infected sources. And, of course, plague was carried by infected rats on board ships. There was little difficulty in getting information as to the existence of infectious disease on vessels when a surgeon was carried, but in the absence of a surgeon the master of a vessel could not be expected to diagnose every case of infectious disease, and if he wished to hide the existence of such disease could easily do so. Major Jackson (R.A.M.C.) referred to the conditions of life of seamen on shore, which he said were in many

instances as bad as those existing at sea. Dr. Foy, Port Health Officer, Rangoon, considered that a medical inspection of every vessel arriving in port appeared to be the only really effectual measure for preventing the entrance of infectious diseases into ports. This method had been objected to on account of its expense, and because of the apparently few cases discovered by this means. In his own experience as to plague during eight years, the ratio of cases discovered was only 1 in 90,000 inspected, yet the discovery of even such a small proportion of cases was well worth the trouble and expense involved. Dr. Gilbert E. Brooke (Singapore) having described the points that he considered the sanitary administration of a port should cover, the President (Dr. Hope, Liverpool) said that in his opinion the chief importance of the discussion was that it emphasized a fact which was very apt to be overlooked by many people—namely, the immense influence which was being daily exercised by port sanitary authorities all over the kingdom in preventing the introduction of dangerous infectious disorders into this country. He thoroughly agreed with Dr. Brooke's suggestions as to the provision of a better system of international procedure, and more efficient bureaus of information. The meeting concluded with a paper by Dr. F. Arthur Foy, Port Health Officer of Rangoon, on deratization in the port of Rangoon.

Friday, July 25th.

The subject for discussion on July 25th was the necessity for educating the general public in matters relating to the public health. This was opened by the President, Dr. Hope, M.O.H. Liverpool, who referred to the enormous shrinkage in the mortality from all diseases, especially from zymotic fevers, during the last thirty years, as shown by the Registrar-General's figures. He looked upon it as remarkable that the older universities—those seats of learning which must have been familiar with Greek culture and the Mosaic codes of sanitation—should have for so long maintained their attitude of apathy towards sanitary reform. It was left to the University of Edinburgh to be the pioneer in this matter, and to be the first university to establish preventive medicine on a scientific basis and to give degrees on the subject. The Universities of Manchester and Liverpool put these scientific subjects in the forefront of their curriculum, and they were soon taken up by Dublin and Cambridge, and now every university in the country had its Chair of Public Health or Hygiene. But it was necessary to stimulate a healthier public opinion, and he thought one of the best methods of doing this was by exhibitions of all the appliances and improvements connected with modern sanitary reform. He specially referred to the great exhibition recently held in Dresden, which had been a great success. He called attention to the recent letter in the *Morning Post* as to the advisability of the appointment of a Royal Commission to deal with the subject of venereal disease, and proposed the following resolution, which was carried unanimously:

> That a recommendation be forwarded to the Council of the British Medical Association endorsing the views expressed in the circular letter recently issued to the metropolitan public press by recognized leaders of the medical profession in regard to the question of venereal disease, strongly advocating the appointment of a Royal Commission to inquire into this subject, which so closely affects the public health.

Professor Kenwood (London) said that the aim of hygienic teaching was the formation of hygienic habits, but emphasized the importance of dealing with the prospective mother while at school. With regard to the question of clean milk, it was largely in the hands of the general public. There was no sentiment in commercial matters, and the public would not be supplied with a pure milk until they were educated up to the necessity of demanding it. With regard to housing reform, the most effectual cure for bad landlords was better tenants, and individuals without hygienic habits were little benefited by sanitarily constructed premises. Dr. T. A. Williams (Washington, U.S.A.) gave details of the methods which had been adopted in the District of Columbia by a Committee of Public Instruction. Briefly, these consisted of the institution of lectures, conferences, bulletins in hygiene, and letters written by recognized authorities to the public press. Some of their chief difficulties were found in overcoming the stupidity of the older school of medical men, the vested interests of that class of doctors, more common in America than in this country, who owned drug stores; and what he might call the "bottle cult" of the general public. Dr. Murray Leslie (London) agreed as to the great educational value of exhibitions, such as the tuberculosis exhibitions held in different parts of the country, and said that he had found the cinematograph a most important aid in inculcating practical lessons in elementary hygiene. He had found the premium method, so much used in France and Germany, also of considerable service. Dr. F. E. Wynne (M.O.H., Wigan) considered that the work of the medical officer of health was primarily education, as he had to educate his own committee, property owners, employers of labour, and others with whom he was brought in contact. He had found it less difficult to educate the general public than it was usually thought to be, as was shown by the comparative ease with which the idea of the open window was assimilated by the consumptive. Dr. McWalter (Dublin) thought that it was most important to develop what he might call a health conscience in the general public. The main ideal of medical officers of health appeared at present to be the prolongation of life and the decline of the death-rate, but he thought they should aim at broadening the lives of the healthy members of the community rather than increasing the span of years of the invalids and inefficients. Major Jackson also spoke, and the President closed the discussion with a few appropriate remarks.

SECTION OF SURGERY.

Thursday, July 24th.

ON the second day the Section discussed the interesting and important subject of internal derangements and injuries of the knee-joint. At the outset, Mr. Thelwall Thomas, President of the Section, ruled that it would be competent to discuss not only lesions of the semilunar cartilages and ligaments, but also such lesions as fractures of the tibial spine and injuries to bones within the joint. Mr. A. M. Martin (Newcastle-on-Tyne), who introduced the subject, devoted the greater part of his paper to the injuries of semilunar cartilages and their treatment. He had operated on over 500 such cases, and he had arrived at some definite conclusions. In all but 38 the lesion was of the internal semilunar cartilage. It was produced by rotation or twisting movement of the body, the leg being fixed and the knee flexed. The inner edge of the cartilage was nipped between the articular surfaces and the edge torn away. Sometimes the split was through the cartilage in a transverse direction. The treatment was operative only, reaching the joint through a transverse incision, and removing the whole of the affected cartilage. Invariably the patient went out of hospital able to walk in eight or ten days, and soon, by aid of active and passive movements, was able to resume work. He had removed both internal semilunar cartilages at one time, and had also taken away both semilunar cartilages from the same knee with perfectly good ultimate functional results, so that patients could fearlessly use the joints both in work and play. Mr. A. J. Walton, whose contribution was read in his absence, was entirely opposed to the theory that the lesion of the semilunar cartilages was produced in the attitude of flexion. Mr. R. H. A. Whitelocke called attention to the necessity for *x*-ray examinations in all cases of sprain of the knee-joint. He had frequently observed by this means avulsion of the tibial spine. A haemophilic patient whose knee was injured bled for nearly a week after operation: haemorrhage was brought to a stop only after injection of horse serum. Dr. T. K. Dalziel drew attention to a condition which he called pulverization of the articular cartilage in young patients, in which portions of the cartilage were forcibly pounded off the main mass. Mr. E. Finch's investigations as to the attitude of the limb showed that in 60 cases of miners and football players the majority gave a history of sudden extension. Mr. Cotterill disagreed with the opener of the discussion in employing an oblique rather than a transverse incision, in not removing the whole cartilage, and in not always recommending operation in recent cases. Mr. Hey Groves, Mr. MacAdam Eccles, Mr. C. Woodward, and the President also contributed to the discussion. Mr. Hey Groves then gave a lantern demonstration of some results obtained by

him experimentally in the operative treatment of compound and comminuted fractures by means of a fixing and extension apparatus of his design. Dr. T. K. Dalziel showed specimens and read notes of some cases of chronic interstitial enteritis which he had met with. The pathology was still obscure, the bacteriology negative.

Friday, July 25th.

"Prostatism: the pathological basis of operative treatment," was the title of an elaborate and interesting paper, illustrated by lantern demonstration, by Mr. Henry Wade, of Edinburgh. He had investigated 134 cases and found that 110 were sufferers from prostatic hypertrophy or chronic lobular prostatitis, 10 were fibrotic or chronic interstitial prostatitis, and 14 were carcinoma. In all of these he found great increase in the size of the gland affecting all lobes except the posterior. Advanced chronic lobular prostatitis presented ideal cases for suprapubic prostatectomy. Cases which were not ideal were those without hypertrophy, those without intravesical herniation, and those possessing incomplete false capsule formation. In prostatectomy the local changes resulting depended upon the nature of the disease present. The structures examined in fatal cases showed that the whole prostate tissue was practically never entirely removed by finger dissection. Fatal cases examined showed internal and external vesical sphincters undamaged, the thick false capsule containing prostatic tissue and the ejaculatory ducts and posterior lobe also undamaged. In most general hospitals the mortality of prostatectomy was still very high, 20 per cent. to 25 per cent. This was accounted for mainly by the advanced stage of the disease in which operation was undertaken. Suprapubic prostatectomy was suitable for advanced chronic lobular prostatitis of a certain type not easily recognisable clinically. For all other types the perineal operation of Young by open visual dissection was best, and probably some such procedure would in future be the operation of choice, as cases would come into the surgeon's hands much earlier than at present. Dr. T. K. Dalziel of Glasgow then read notes of a condition he had met with in 22 instances of neuralgia of the twelfth dorsal nerve simulating visceral lesions. These cases were characterized by obstinate persistent pain, neuralgic in character, existing mainly in the renal, the appendicular, the pubic regions, and sometimes over the crest of the ilium, the seat of distribution of the dorsal branch of the nerve. Some of the cases had had operations on the viscera performed with no success, and all of the cases but two made perfect recoveries after exposure, stretching, division, and sometimes avulson of the nerve. No special pathological changes were found except in a few which showed fibrosis and inflammatory changes. He attributed the lesion to the wandering course of the nerve, in which it was exposed to conditions of unrest and possibly trauma. Mr. Herbert J. Paterson brought before the Section very briefly the subject of the surgical treatment of intestinal stasis. He thought that 85 per cent. of the cases were relieved by removal of the appendix. Other cases were amenable to ileo-colostomy or partial colectomy. Mr. C. P. Childe showed an enormous retroperitoneal fibroma, weighing a little short of 35 lb., successfully removed. He believed the tumour originated from the capsule of kidney. In doing the operation the tumour was so large that it required two persons to hold it and manipulate it in its final removal from the abdominal cavity. Several members of the Section commended the operator's courage and optimism in attempting the removal of so huge a mass. On the proposal of Professor J. T. J. Morrison a vote of thanks to the President and officers of the Section was heartily passed.

Section of Tropical Medicine.

Thursday, July 24th.

The second day's work commenced with a discussion on dysentery, which was initiated by Captain S. R. Douglas. His paper included a general account of the life-history of the amoebae to which dysentery is due and of experimental work on the subject as recorded in recent literature, detailed allusion being made to the investigations of Schaudinn and the labours of Wenyon. A second paper came from Dr. Savage, who based his communication on a record of 287 cases of dysentery treated by him at Tor on the Red Sea. Etiologically they fell into three classes—bacillary, amoebic, and mixed. His experience led him to advocate strongly the serum treatment of bacillary dysentery. A third paper came from Dr. Wenyon, who dealt with the amoebae found habitually or occasionally in the intestinal canal; he pointed out the various difficulties that may arise in distinguishing various species thereof, and emphasized the desirability of endeavouring to limit the present state of confusion in this branch of parasitology by refraining for the present from naming alleged new varieties. Major Harrison, Major Houghton, Colonel Molesworth, Dr. Cameron Blair, Major Jackson, Dr. Leahey, and Dr. Malcolm Watson took part in the discussion. In the course of the morning the Section was very much beholden to Professor Wasielewski (Heidelberg) for an excellent demonstration on the cultural characteristics of *Amoeba limax*. The demonstration was illustrated by fine camera lucida drawings and some excellent microscope specimens.

Friday, July 25th.

Work on the concluding day was devoted to the subject of filariasis, and included an excellent demonstration by Dr. Bahr of various filarial conditions. The discussion itself was introduced by Dr. G. C. Low, who summarized and annotated work on the subject the results of which have been published during the past twelve months. In addition he gave a detailed description of the morphological characteristics of various forms of filaria which have been described. Professor Wasielewski, Dr. S. Watson, and Dr. Cameron Blair took part in the discussion. The last paper, which dealt with phlebotomus fever and dengue, was read by Colonel C. Birt, who described the distribution of sandfly fever and dealt with its clinical phenomena. He also provided a careful account of the various epidemiological and other features by which a differential diagnosis might be established between this fever, dengue, and yellow fever.

ROYAL MEDICAL BENEVOLENT FUND.

At the July meeting of the Committee 21 cases were considered, and grants amounting to £150 made to 16 of the applicants. Appended is an abstract of the cases relieved:

1. Widow, aged 55, of M.R.C.S., L.R.C.P. No income, and has recently undergone a severe internal operation. Voted £5.

2. Daughter, aged 57, of M.R.C.S., L.S.A. No income; slight help from relations; health too indifferent for regular occupation. Relieved seven times, £70. Voted £10.

3. Widow, aged 67, of M.R.C.S., L.R.C.P. Has a small pension from a city company and receives slight assistance from relations, but is obliged to ask for help because she has to support an invalid daughter who is quite unfit for any occupation. Voted £12.

4. M.R.C.S., L.R.C.P., aged 38. Incapacitated by phthisis, but is progressing under treatment and hopes to be soon able to work again; dependent, with his wife and two children, on relations who can ill afford to help. Voted £12.

5. Wife, aged 39, of M.R.C.S., L.R.C.P. Husband has been in bad health for some years past, and during the last three months has been unable to earn anything. No income; three children, aged 16 to 7; small savings practically exhausted. Relieved three times, £25. Voted £10.

6. Daughter, aged 68, of late M.R.C.S. Receives a home in return for her services but is given no salary; health indifferent. Relieved eleven times, £156. Voted £12.

7. Widow, aged 63, of M.B.Glasg. Lost her husband a few months ago after a long illness; only certain income £18 a year. Relieved once, £6. Voted £6.

8. Widow, aged 63, of M.D.St. Andrews. No income; precarious earnings by letting lodgings; children unable to help. Relieved nine times, £108. Voted £12.

9. Daughter, aged 59, of late M.D.Edin. Used to be a governess, but for some years past has been unable to obtain a post in that capacity, and now endeavours to support herself by needlework. Relieved eight times, £40. Voted £10.

10. Daughter, aged 63, of late M.R.C.S. No income; health too feeble to admit of self-support; slight help from friends. Relieved six times, £76. Voted £12.

11. Daughter, aged 32, of late M.D. Unable to earn a living on account of long-continued ill health, and dependent on her mother, whose only income is £40 a year. Relieved eight times, £60. Voted £10.

12. Daughter, aged 56, of late M.R.C.S. Gives her services in return for a home, but receives no salary, and, being in bad health, is obliged to incur unavoidable expenses. Relieved five times, £25. Voted £5.

13. Daughter, aged 63, of late F.R.C.S. Maintained herself as matron of an institution for many years, but is now in indifferent health; only income a small pension from another society. Relieved twice, £24. Voted £6.

14. Widow, aged 65, of L.R.C.P.Lond. Was left a widow many years ago with five young children, and has exhausted her means in bringing them up. Only income £30 a year from Epsom College. Relieved three times, £36. Voted £6.

15. Daughter, aged 57, of late L.R.C.P.Edin. Incapacitated for many years, and dependent on two sisters whose earnings are very small; has recently undergone a severe operation. Relieved nine times, £81. Voted £10.

16. Daughter, aged 43, of late M.D.Lond. No income, and help given by a friend for some time past unavoidably withdrawn. Relieved once, £5. Voted £12.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 11, Chandos Street, Cavendish Square, London, W.

IMPERIAL CANCER RESEARCH FUND.

The annual meeting of the Imperial Cancer Research Fund was held at the Examination Hall, Queen Square, Bloomsbury, on July 24th, the Duke of Bedford presiding. Among those present were Sir William Church, the Presidents of the two Royal Colleges, Lord Tavistock, Mrs. Bischoffsheim, Sir Douglas Powell, Sir John Tweedy, Sir Francis Lovell, Lady Meiklejohn, Dr. F. W. Andrewes, Professor Sims Woodhead, Sir Alfred Pearce Gould, and Dr. William Bulloch. Adeline Duchess of Bedford, Sir Thomas Glen-Coats, Lady Wernher, Lord Ashton of Hyde, Lord Inverclyde, Lord Shuttleworth, The Knight of Kerry, Mr. Waldorf Astor, Sir Henry Morris, Dr. T. T. Whipham, Lord Rothschild, Mr. A. J. Balfour, Lord Strathcona, Sir Charles Morrison-Bell, and others wrote expressing their regret at being unable to attend.

Report of the Honorary Treasurer.

The Honorary Treasurer, Sir W. Watson Cheyne, in his report for the year ending June 24th, 1913, said the year had proved to be satisfactory from a financial point of view, for not only had the general fund profited by a legacy from the late Mr. James Willcock, who in his lifetime gave a sum of £1,000, but the endowment fund had also been increased to the extent of £10,000 by the generosity of Mr. Edwin Tate. Two other legacies had been received, one of £500 from the executors of the late Mr. Stewart Dow, and one of £50 from the executors of the late Mr. Andrew MacMahon. Apart from the gift to the endowment fund, the total received during the year by legacies, donations, and subscriptions amounted to £6,610, which was the largest since 1908. The income from investments had amounted to £4,737 11s. 7d., so that but for legacies, donations, and subscriptions there would have been a deficit of £1,335 15s. on the ordinary working expenses. Thanks to the efforts of the President, the list of donations and subscriptions had materially increased this year.

Report of the General Superintendent and Director.

New Facts.

Dr. Bashford stated in his report that the new laboratories had been found sufficiently commodious and suitable in every way for the continuation of the investigations. The experimental matters dealt with were, for the most part, records of facts. Two new facts recorded in the report, which revolutionized prevailing conceptions, illustrated the need for patience. The first was that the power of some rare carcinomas to produce sarcoma was a transitory property which might be lost during prolonged propagation, and not a property acquired as the result of such propagation. The second was that the power of progressive growth and of dissemination, both of which might be acquired by propagated tumours previously liable to spontaneous cessation of growth and cure, was due to loss of power to induce resistance to their own growth. Both these observations appeared, at the present time, to have a fundamental bearing on the problems of malignant growth.

Statistics.

The statistical investigations had been continued in India, the Colonies, and Dependencies, with results which agreed with those already recorded.

Similar investigations had been conducted by the German Imperial Colonial Office. The report on the material thus forwarded from the German colonies to the German Cancer Committee, from Samoa, German East Africa and German South-West Africa, and the South Sea Islands, stated that carcinoma was by no means rare as is generally supposed. The relative frequency could not be determined, but

it is certain that no new growth occurs in Germany which is not also found in the natives of the tropics and no new growth occurs in the tropics which is not found in Germany. . . . The apparent rarity of malignant new growths is to be explained by the fact that the natives with such tumours do not go to the hospitals, but avoid them and die unknown, and this is particularly the case for internal tumours.

This agreement in the results obtained independently through the investigations of the German Imperial Colonial Office and the Foreign, India, and Colonial Offices of this country should go far to dissipate any lingering belief that European habits of life were primarily responsible for the occurrence of cancer. Another aspect of the statistical investigations to which great prominence had been given in the reports issued by the Imperial Cancer Research Fund, had attracted increased attention abroad during the past year—namely, the relation obtaining between peculiar customs and cancer of certain parts of the body. These native customs were really unintentional experiments which altered the site-incidence or anatomical distribution of cancer in the body as known in Europeans.

Cancer Houses and Districts.

During the past year there had been more than the usual number of requests for information as to the existence of "cancer houses," or of districts in which cancer was frequent beyond the average, and as to whether or not the increase in the number of deaths recorded from cancer in this or that area was to be regarded as disquieting or not. The question was almost entirely a statistical one, and the governing factor in all cases which had been investigated had proved to be the varying age constitutions and sex constitutions of the populations in each case.

Whereas at the 1901 census, out of 1,000,000 males of all ages, 311,354 were over 35 years of age, this number had risen to 339,348 at the census of 1911. Similarly in 1901, out of 1,000,000 females of all ages, 325,135 were over 35 years of age, while in 1911 the corresponding age groups accounted for 355,744 of every million females living. This incongruity of the age constitutions of the population at the 1901 and the 1911 censuses had led to an overestimation of the cancer death-rate in the later years of the intercensal period, in the following manner: The population on which the death-rates from cancer, as from other diseases, was calculated was obtained by assuming that the relative numbers at each age group had maintained the same proportion to each other and to the total population as at the last available census. Hence the cancer death-rates, in 1910 for example, were calculated as occurring in a population with fewer individuals in the age groups over 35 years than must actually have been the case in the light of the census of the ensuing year. The cancer rate was, in consequence, inflated by being reckoned on male and female populations with too few members in the age groups which contributed the majority of the deaths from the disease. Analogous considerations served to minimize the importance of differences in the death-rates from cancer in restricted areas (for instance, counties), in any year or series of years. The proportions of the two sexes and of the several age groups for each sex varied from one locality to another. The mortality from all causes varied greatly at different ages and in the case of cancer also for sex, the female sex being more liable. Thus, while the death-rate from cancer per million living in England and Wales in 1910 was 856 for males and 1,070 for females, these average rates were exceeded in some counties and not attained in others, as appeared from the adjoining table:

Deaths per Million Living, 1910.

	Males.	Females.
England and Wales ...	856 ...	1,070
Huntingdonshire	1,267 ...	1,644
Lancashire	801 ...	976

Proportion over 35 in 100,000 of all Ages.

	Males.	Females.
England and Wales ...	33,935 ...	35,574
Huntingdonshire	38,498 ...	41,046
Lancashire	33,053 ...	34,522

The columns of the second table showed a considerable deviation in these counties of the proportion of individuals over 35 years of age from that obtaining in the general population, and in both cases in the direction which would lead to the differences in death-rate actually recorded; that was to say, a smaller proportion in Lancashire and a larger proportion in Huntingdonshire. In the case of the latter

county, moreover, the fallacy which lurked in small numbers might also play a part, the high death-rates in the table being obtained by multiplying the 70 deaths which occurred in 1910 by the factors required to raise the population to 1,000,000 of each sex. That this was so was shown by the accompanying table of the small and irregularly varying number of deaths recorded from cancer in Huntingdonshire for the last ten years.

Cancer Deaths in Huntingdon.

	Males.	Females.	Total.
1901	22	31	53
1902	32	27	59
1903	22	43	65
1904	37	28	65
1905	31	35	66
1906	37	30	67
1907	28	21	49
1908	25	35	59
1909	24	26	50
1910	30	40	70

A similar explanation was found to hold for an alleged "cancer-street" which was stated to exist in a town in Scotland.

Notification of Cancer.

Referring to the discussion by various public bodies and medical officers of health of the advisability of making cancer a notifiable disease, Dr. Bashford said that attempts at notification had already been made in the "cancer censuses," which had been criticized adversely in previous reports. The insidious onset and long duration of cancer, which had rendered a "cancer census" nugatory, were equally destructive of the utility of cancer notification, as might appear from the following considerations. Notification was an essential feature of the "cancer census." A review of the poor result attained from notification in other countries might be a public duty at the present time.

It seemed very advantageous to have, say, 12,000 cases of cancer all notified on one day, especially if the notification coincided with a census of population, as was actually the case in Germany on October 15th, 1900; but reflection showed that even these primary data—numerous though they were—were valueless. The results set out below show that cancer, unlike acutely developing infective diseases, was incapable of approximately complete notification. Cancer was a disease of insidious onset, lasting two or three years and in some instances even much longer. Therefore, at least two or three times as many persons were suffering from it on any one day as appeared in the yearly death returns, and this fact should find expression in the figures were there any approach to complete notification. But there were twenty-five times as many deaths as there were cases notified in the Spanish census, and in Germany there were three times as many. A slight excess of the cases notified over the deaths was obtained only for Baden, where the notification, however, proceeded for a whole year. The actual figures were:

	Deaths in a Year.	Patients in Census.
Germany	40,000 (*circa*)	12,000
Holland	4,786	1,460
Spain	7,294	293
Portugal	1,320	1,184
Baden	2,125	2,675
Hungary	11,810	3,570
Sweden*	?	1,872
Denmark*	?	1,135

* Statistics only available for towns.

It must be obvious that such imperfect figures cannot be made the basis of statistics.

The imperfections of notification may be brought out in another way. In Spain only 3 per cent. of the doctors circularized replied, and half of these returned "negative" answers. By negative was meant that no case of cancer was under observation. The percentage of answers was 55 for Germany, 45 and 61 respectively in the two censuses made for Baden, 97 for Sweden, and 99 for Denmark and Hungary. In the case of Sweden half of the answers were negative, in Denmark more than half, and in Hungary, where the notification was compulsory under penalty, three-quarters of the doctors reported that they had no case under observation. The actual figures were as follows:

	Doctors Circularized.	Doctors Answering.	Percentage of Negative Replies.
Germany	25,376	14,060	50
Holland	1,455	875	—
Spain	20,000	592	49
Portugal	1,793	1,307	—
Baden	—	61%	20
Do.	—	45%	
Sweden	1,331	1,295	50
Denmark	1,524	1,513	59
Hungary	—	—	75

The large proportion of doctors reporting they had no case under observation might be due to a variety of factors. Negative reports could not of themselves be taken as evidence that cancer was in reality non-existent at the time, but only that it was not noted, either because of imperfect observation or a too early stage of the disease, or because the simplest way to avoid the penalty for making no return at all was to return the form with a negative answer. It was obvious that compulsory notification had not and could not secure complete records of all cases of cancer owing to the insidious onset of the disease and the difficulties of diagnosis even in fairly advanced cases. Regarding the propriety of compulsory medical certification of causes of death there could be no difference of opinion.

In another particular the original method of the cancer census had been modified so as to resemble mortality statistics. The idea as originally put into practice in the census taken in Germany on October 15th, 1900, was a true census on a single day; this had been followed in Holland, Spain, Hungary, and Denmark, but the time had been extended in Sweden to three months, and in Baden to a whole year. The needless overlapping of this kind of investigation with yearly mortality statistics appeared to have been fully established with the extension of the period of observation to a year. The futility of the undertaking was demonstrated by the fact that the number of cases of illness reported, instead of being treble or double, only slightly exceeded the deaths recorded for a year. Notification, be it made on a day, or throughout three months, or even a year, only gives a rough approximation, unlikely to give continuously accurate results. It became evident that to follow the recorded deaths from year to year over a prolonged period was not only a more accurate but a more practical statistical method. Moreover, in addition it must be borne in mind that grave statistical fallacies had crept into the tabulation of the figures of "cancer censuses," especially with regard to corrections for the age and the sex of the populations. Separation of the statistics of cancer from those of the general mortality had not beneficially affected the results obtained.

In Germany the cancer census had not been repeated either in connexion with the census of population in 1905 or in 1910. Professor Kirchner took a prominent share in advocating it and in describing the results of the data collected on October 15th, 1900. He was now the distinguished head of the Medical Department of the Ministry of the Interior in Berlin, and he had recently stated that the consideration of the repetition of a cancer census had been postponed again and again as being of little practical value. He strongly advised that a census on a single day should not be repeated. As an alternative he suggested that the medical profession should be called upon to fill up a form so soon as a case of cancer came under observation and carry it on up to the death of the patient. Since this proposal involved much trouble, it hardly promised to be as successful as the single-day census, and therefore the utility of notification of cancer for statistical purposes might be dismissed as a method not likely to be so valuable in this country as the present system of statistics based upon the certification of causes of death.

While the difficulty arising from the obscurity of the early diagnosis of cancer might be overcome in the future by the discovery of new methods, the consequences of the long duration of illness from cancer would entail the necessity of an elaborate administration to discover and correct multiple notification of single cases, a task which would probably exceed that involved in the correction of death-rates for deaths in institutions and hospitals remote from the home of the deceased, as now carried out at the instance of the Local Government Board and the General Registrar's Office. When it was remembered that there was no unanimity as to the action which should follow notification, it did not seem justifiable to embark on such an extensive administrative scheme in the present state of knowledge.

Claims to "Cure."

During the past year there had been twelve claims of the possession of a cure for cancer. Where any tangible basis for these claims was put forward they were inquired into as in previous years. No justification for any one of these claims was obtained.

Experimental Investigation.

Heredity.

The heredity studies, of which an account was published in the Fourth Scientific Report, had been continued and extended. More than 200 additional animals were available for enumeration on October 24th, 1912, the total being 800.

The general result agreed with that already published, the incidence of spontaneous cancer of the mamma in mice of recent cancerous ancestry being nearly double that in mice of remote cancerous ancestry. The greater liability of mice of recent cancerous ancestry was still more evident if cancer of other organs be considered as well. It was then found that 98 in 476—that is, more than 1 in 5—of all female mice of recent cancerous ancestry which attained the age of 6 months ultimately died of cancer. Of the female mice of remote cancerous ancestry which lived for 6 months, 324 in number, 39 ultimately died of cancer of the mamma or other organs—that was, rather more than 1 in 9.

It was still impossible to make a definite statement of the nature or exact mode of transmission of the predis-

position revealed by these investigations. The rest of the report dealt with the constancy and variability of tumour cells; constancy and variability in histological structure; constancy and variability of more subtle properties; sarcoma development; constancy and variability in "immunity" reactions producing hindrances to growth; acquisition of progressive growth and dissemination by transplanted tumours; and bio-chemical investigations. The main features of the investigations on these subjects were summarized by Sir William Church, President of the Executive Committee.

Address by Sir William Church.

Sir William Church, in presenting the annual report, said the observation and study of the constancy and variability of the cells and histological structure in propagated cancer tumours, together with researches into the acquisition and loss of immunity under certain circumstances, had been the principal work of the scientific staff during the year. In the old laboratories as many as 86 spontaneous mouse tumours were kept under propagation for the purpose of studying their constancy and variability, and the results were given in the Fourth and Fifth Scientific Reports. Consequently it was considered unnecessary to transport 59 of them to the present laboratories. Twenty-seven were retained on account of the fresh light they appeared to throw not only on the constancy and variability of the tumour cell and the histological structure of the tumour, but also on the variations they presented in their power of conferring immunity. The constancy with which histological structure was maintained was shown by tumour "27," which after seven years' propagation in two slightly different strains still retained the structure of the original tumour—namely, a papilliferous adenoma. The same constancy of type was shown by tumours "72" and "155," which had been respectively propagated for seven and five years. On the other hand, tumour "91," originally and in its early transplantations acinous and gland-like, now presented a solid or alveolar structure whether the growths were young or old. Tumour "37," propagated in as many as seventeen strains on account of the great variety of form they presented, had yielded seven strains which maintained with singular constancy their individual differences, the strains being (*a*) alveolar carcinoma, (*b*) three strains of adeno-carcinoma, (*c*) carcinoma with spindle cells, (*d*) polymorphous-celled sarcoma, (*e*) spindle-celled sarcoma. Eight tumours (486, 630, 349, 386, 466, 297, 239, and 292), which presented a tendency to keratinization as their distinguishing differentiation, had been continuously propagated; 486 and 630 still produced squamous epithelium after two and three years' propagation; 466 showed a combination of keratinization with the formation of sebaceous material which had continued to characterize it during three years and 27 transplantations; 349 and 386 had completely lost the power of differentiation into squamous epithelium, and were now quite free from keratin. Tumours 466 and 297 showed sebaceous differentiation, and 297 had maintained this character in full activity for four years during 29 transplantations. Another tumour, 239, whilst showing sebaceous differentiation for 30 transplantations, appeared now to be losing that character. From tumour 292, which showed sebaceous material and keratin, two distinct strains were obtained. In strain "A" the keratin continued for seven transplantations and then disappeared, to reappear again in diminished amount from the 19th to the 25th transplantations. In the 40th transplantation it was found that the contents of the vacuoles were not sebaceous material but glycogen. The other strain, "B," showed both sebaceous material and keratin in small amount for the first 20 transplantations; they then disappeared and have not as yet returned. The formation of glycogen by tumour cells varied in a similar manner. Tumour "113" had continued to show relatively enormous quantities of glycogen although it had been continuously propagated for five and a half years, whilst tumour "830," originally containing glycogen in considerable amount, had gradually lost the power of forming this substance. The formation of keratin, glycogen, and fat in the above-mentioned tumours showed that in the investigation of cancer other subjects than the morphology of new growth must be considered. On what did the powers of producing these substances depend? Again, what accounted for the different properties appearing to exist in certain tumours, hindering the development of new growths in some cases and in others producing sarcoma in the connective tissue of normal mice? It was obvious that these effects must depend, not on histological structure of the tumour, but on some hitherto unrecognized property which some appeared to possess continuously, while in others it was lost after a shorter or longer interval. The development of sarcoma subsequent on the transplantation of carcinoma had been described in previous reports in connexion with tumours "37" and "100"; and in the Fourth Scientific Report, the apparent loss of this power was recorded for tumour "37." Subsequent investigations continued for more than two years showed that this power had been lost in five substrains derived from tumour "37." Tumour "100" caused the development of sarcoma in every animal from the twelfth to the twenty-fifth transplantation, if the transplanted tumour were allowed to grow for about two months, but produced pure carcinoma only if transplanted after growing for a month or less. Four of these carcinomatous substrains had been kept growing, and presented variations from this behaviour. In the first substrain (*a*) the variation was in the earlier appearance of sarcoma. This early appearance of sarcoma and the rapidity of its growth rendered it impossible to retain the carcinoma in propagation after the twentieth subtransplantation. In the second substrain (*b*) sarcoma did not manifest itself unless the transplanted tumour had been growing for 100 or more days, and in (*b*) tumours 200 days old had, when transplanted, remained pure carcinoma, the power of producing sarcoma being lost. Strains (*c*) and (*d*) began to cause sarcoma when about sixty or seventy days old, and had continued to do so until the fifty-third transplantation, but now appeared to be losing this power. This power to induce sarcoma development was characteristic of a small minority of transplantable tumours: when it occurred it was almost certainly a characteristic of the primary spontaneous tumour, and this sarcoma development had been observed when a transplantation had been made from a spontaneous tumour into the same mouse in which the primary tumour was found. The nature of this power in some carcinomas was still obscure. Cell-free filtrations were prepared from carcinomatous tumours, and mixed carcinoma and sarcoma was dried *in vacuo* with every care; but inoculation with these produced no results. It had been found that tumours apparently sarcomatous in character, occurring in the rabbit and guinea-pig, could be successfully propagated only in their own species, and were incapable of immunizing other kinds of animals against the inoculation of tumours. Further evidence had been obtained that the resistance to growth induced by the inoculation of normal or of tumour tissue was identical in nature. In both the maximum resistance was reached in about ten days, and was gradually lost, normal susceptibility to inoculation being regained in eighty days. Attention was first called in 1906 to the part played by the simultaneous absorption of tumour tissue in hindering its own growth. After six or seven years of the observation and study of eighty-six strains of distinct primary origin, it became possible to divide these strains into groups each having specific types of growth, and to select from them strains exhibiting the characteristic features of the group in the highest degree. The differences in these groups appeared to depend on differences in the original tumours, and not on the soil in which they had been grown, use having been made in all cases of normal mice. Thus tumour strain "206" after five years of transplantation still took and grew rapidly in every case, but all the tumours cured themselves and eventually disappeared; while on the other hand, strain "47" after seven years' propagation grew slowly in a small proportion of the mice experimented on, and the tumours disappeared in the majority, but not in all. Strain "199" grew rapidly in more than one-half of the inoculations, but a high proportion of the tumours disappeared. Tumour strains "63" and "50" which formerly behaved in a somewhat similar manner, now grew in every animal inoculated, and did not disappear. Fresh experiments on the peculiar characters of individual tumours appeared to throw some light on this complex subject. If spontaneous tumours of distinct

histological features, taken from two separate animals A and B, were intimately mixed together and inoculated into A and B, that obtained from A took in A and that from B in B, whilst B disappeared in A and A in B, the probable explanation being that the absorption of A conferred powers of resistance to the growth of A in B, but did not confer any such immunity against the growth of the tumour which B originally had. Propagated tumours which only exhibited transitory growth when inoculated into normal animals presented exactly the same features as did normal tissue cells; both agreed in producing resistance to the growth of grafts of themselves inoculated subsequently, whilst normal or tumour tissue taken from another animal when inoculated produced resistance both to its own growth and to the development of grafted tumour tissue. Experiments had shown that some strains of propagated tumours grew progressively, whilst other strains had a tendency to disappear, and it was found that inoculation with tumour tissue from strains in which the growth was progressive conferred less powers of resistance to subsequent inoculation with other tumour tissue than did inoculation with tumour tissue taken from strains of propagated tumours which had a tendency to disappear. The power of inducing resistance to the development of tumour tissue therefore appeared to be due to some property inherent in the tumour itself and not dependent on other causes. The equipment of the new laboratories for chemical and bio-chemical research received very careful attention. A considerable amount of work bearing on carbohydrate metabolism and the glycogenic properties of cancer cells had already been done, but was not sufficiently advanced for publication. He proposed that the report should be adopted.

In seconding the adoption of the report, Sir Alfred Pearce Gould said the extremely careful, elaborate, and numerous investigations had been very important, and they had certainly been very successful in throwing a good deal of light upon the still dark problem of the nature of cancer. The strongest feeling he had in reading the report was the proof it gave of the value of continuous work such as had been carried on by the Fund for eleven years. Possibly when the scheme was founded, some people might have thought that a few years would find the problem solved, but as the work had progressed further, unknown fields had rendered themselves evident. They could not, therefore, look for any speedy conclusion of the work, nor for any limitation of the area over which investigations would extend. He thought it was evident that there were fields of research beyond those which had been explored hitherto which were likely to throw considerable light on this problem. Another fact brought out by the report was the value of the bulk of the work. Had Dr. Bashford and his fellow-workers been content with a limited number of tumours or experiments, they would not have been in anything like so good a position as they were now in the knowledge of cancer. No one could doubt for one moment that the work done had brought very materially nearer the day when that blessed word "cure for cancer" might be used.

The report was adopted.

Sir John Tweedy moved a vote of thanks to the Chairman and members of the Executive Committee, the Subcommittees, the Honorary Treasurer, and others who had assisted in the work of the Fund during the past year. The whole of the report testified to the ability, the skill, and the knowledge which the members of the Committee brought to bear upon their work.

Mrs. Bischoffsheim seconded, and the vote was unanimously passed.

Elections.

Sir Rickman Godlee proposed that Mr. Edwin Tate be appointed a vice-president of the Fund. He said Mr. Tate belonged to a family who had wisely exerted themselves in benefiting the cause of education, and now he had shown his wisdom in making the Fund a munificent donation and earmarking it so that it might be placed to the endowment fund, which had now reached the sum of £56,000.

Sir Watson Cheyne, in seconding, said the Fund this year had encroached on capital funds because of the expense of moving into that building and fitting up the laboratories, but he was glad to say that they had not had to sell out investments to pay current expenses. It was to gifts such as that of Mr. Tate that they owed that happy result.

The resolution was unanimously adopted.

On the proposition of Sir Douglas Powell, seconded by Dr. John Tatham, Mr. Edmund Owen was elected a member of the General Committee.

Vote of Thanks to the Duke of Bedford.

Sir Thomas Barlow, in moving a vote of thanks to the Duke of Bedford, said they owed much to His Grace for the unremitting and enlightened help which he gave to that great undertaking. The support which the Duke had so consistently rendered was a very great help to all right-minded people in maintaining the position of the Fund.

Sir Watson Cheyne, in seconding, said they had special reason to thank the Duke of Bedford this year, because by his personal efforts he had achieved a marked success in increasing the income of the Fund and the number of the subscribers.

The vote was unanimously accorded.

The Duke of Bedford, in reply, said that although the present moment was not a good one for getting money for such a purpose as that of scientific research, his appeal had had a certain measure of success, resulting in sixteen additional annual subscriptions amounting to £184 and donations amounting to £455 (cheers). The immense difficulty and the very wide range of the investigation must reconcile them to the fact that no curative results could yet be reported, but if they considered the enthusiasm and singleness of purpose with which the inquiry was being conducted, they had every reason to be hopeful of the future.

The research was no longer imperial; it had become an international research. In this international effort to solve the problem the investigators whose services the Fund had secured had taken a leading part. He trusted that they would retain that position, but if they were to do so, the general superintendent and his colleagues must continue to have at their disposal the most complete equipment and the most capable brains that could possibly be obtained. They must, in other words, aid the conquest of a terrible disease by finding the necessary money.

ONE HUNDRED YEARS AGO.

Accidents in August, 1813.

Accidents are constantly happening. There is surely something paradoxical about this statement; for is not an accident a casualty, a contingency, an altogether exceptional and unforeseen event or occurrence? That is quite true; there is a paradox in the assertion that accidents or exceptional things are constant in incidence. Yet our insurance companies are able to draw up their tables pretty accurately, and to forecast with wonderful exactitude how many accidents there will be in any year, almost in any month of any year, say in this month (August) of 1913. So the paradox is a verbal one only; for there are laws which govern the exceptional occurrences as well as the apparently normal ones; there is a sort of fatality about fortuitousness. The individual suffers from an accident—it is truly an accident to him; but his exceptional experience goes along with thousands of others to make constant the great law that man is born to trouble as the sparks fly upward;[1] and even if the second clause of Eliphaz's generalization be joined, as some modern commentators think it should be, to the next verse,[2] and read with it, the truth stands sure that suffering is a law of life, and that much of it comes by accident. But the purpose of this article is not to be philosophic, dialectic, or didactic, but to throw a sidelight on the accidents our forefathers experienced a hundred years ago, in August, 1813.

In a quite curious and unexpected way a list, obviously imperfect and incomplete, of the accidents of August, 1813, is provided. It is in a modest periodical called *The Cheap Magazine*, or *Poor Man's Fireside Companion*, which began to appear in Haddington in January, 1813, "printed and published" there by "George Miller and Son."

[1] Bible, Job v, 7.
[2] *Expository Times*, vol. xxiv, p. 476, July, 1913.

Probably, almost certainly, Jane Welsh,[3] then nearly 12 years old, "learning Latin like a boy," knew the little magazine well, and enjoyed or at least tolerated its rather goody-goody stories and sententious reflections; doubtless she referred to its simplicity and quite irreproachable morals when discussing literature, as she came to do, with Thomas Carlyle in years to come. At any rate the editor, who was probably George Miller himself, in order to enforce certain lessons which he desired to see implanted firmly in his readers' minds, thought good to construct a "Chronological Table of Remarkable Events, illustrative of the nature of this work, extracted from periodical sources of information in the course of the year" (1813). These events prove, on scrutiny, to be mainly of the nature of accidents; and so there is given to the present-day reader a record, reliable enough if meagre, of the casualties of August a hundred years ago.

The first circumstance which arrests attention is that August seems to have been by far the most fatal month in the year; at any rate, the editor has been more successful in collecting casualties for this month than for any other. It was, as it is now, the holiday season, and that may account for the greater number; for when people are set loose from their ordinary employments, rendered to some extent idle, tempted to go bathing and shooting and the like, accidents will happen. We have not been able to come across returns of the accidents which happen in the United Kingdom tabulated according to their monthly incidence, but for some kinds of casualties, at any rate, we are prepared to hear that they occur most often in August.

Before we consider in some detail the accidents which our ancestors suffered from in August, 1813, let us look at two which happened in the earlier part of that year; one of them must be a rare occurrence now, but the other is a hardy annual in the garden of mischances. The former is thus told: "On Tuesday evening last, as a young woman was travelling on the outside of the Arundel stage-coach, she dropped asleep on the roof, and fell from it, when one of the wheels passed over her, and unhappily killed her on the spot." Death is still met in travelling, and railway-carriage doors fly open, taxis run down children, and motor cycles carry their owners into stone walls, but maids do not often fall asleep on, and fall from, the top of stage coaches. The other accident was as follows: "Lord Loughborough, a youth, only son of the Earl of Rosslyn, amusing himself last week by sliding down the balustrades of the stairs at a house in Canterbury, pitched on his head, and was taken up apparently lifeless." One may well write *semper eadem* opposite this sad occurrence; it would seem that so long as there are balustrades boys will try equitation upon them, with disastrous results. But why does the *Cheap Magazine* say "apparently lifeless," and leave us in doubt as to the ultimate issue of the mishap?

The accidents in August a hundred years ago may be grouped as follows: 6 were due to falls from various places (tree, window, scaffolding, etc.), 2 were due to horses, 2 to vehicles, 2 were in collieries, 1 was by drowning, 1 by firearms, 1 was caused by intoxication, 1 by passion, and 1 was in connexion with digging operations. Of the 2 colliery accidents, 1 was from fire damp, whereby at Collingwood colliery, near North Shields, 8 men were killed and 2 severely burnt; the other was at Bradley, Staffordshire, and consisted in the undermined works falling in and completely burying 7 men and 3 boys. It is evident, therefore, that such accidents were not uncommon a century ago, and yet it was not till 1860 that an Act for the regulation and inspection of coal mines was passed, and not till two years later (1862) that duplicate shafts were made compulsory. So long is it before the machinery of the law gets to work to protect the lieges from avoidable injuries.

For children then, as now, a vehicle had a fatal fascination. The *Cheap Magazine* has preserved two illustrations for us. Here is one: "On Sunday se'enight as some children were at play about a chaise standing in Shakespeare Square, Dumfries, one of them unluckily removed a stone which was fixed behind one of the wheels, when the vehicle was hurried down the declivity, and passing over a boy, broke his arm and thigh in a shocking manner." This is the other: "On Thursday, in Ponton Street, Fountain-bridge (Edinburgh), the train of a cart upon which some children were swinging, fell upon the head of a fine young boy, and instantly crushed him to death."

The horse, too, was a danger as well as the cart. In the following incident "that intelligent animal" seems to have returned evil for good: "Last week, in the parish of Methluck, a man driving a cart heavily loaded with wood, when at the top of a rising ground, unyoked the horse for the purpose of allowing him some rest, when the animal seized the driver with his teeth, and nearly laid open one side of his head, by which the unfortunate man was thrown to the ground, and immediately trampled to death." The extreme condensation to which the facts in the foregoing occurrence have been subjected introduces some ambiguity into the narrative, but it does seem as if the horse was ungrateful for the rest given to him. Another incident which the editor has preserved for us is also connected with a chaise and a horse, although in this instance the victim had only himself to blame: "Lately, in a post chaise, Capt. O'Bryne, his death was occasioned by the bursting of a blood vessel in excess of rage with a postilion who offended him by slow driving." The captain was choleric, we fear, but post haste was not always speedy travelling, and doubtless the postboy was irritating to an angry and impatient man. Further, as Thackeray said, "what postilion can outride that pale horseman?" The captain knew not who was following him so hard.

In the examples which have been cited there seems to have been no medical aid at hand; at least, if there was, it does not seem to have been successful. In the following cases, however, the advent of the doctor is noted: "On Saturday (near the end of August), while two of the labourers were employed in levelling the ground of the new dépôt, Greenlaw, a large bank of earth which had been undermined gave way and nearly buried them alive. They were dug out and carried to Pennycuik for medical assistance, but one of them died before it could be procured." On the previous day this other accident happened: "On Friday last, while a servant girl was cleaning one of the windows in Dunlop House,[4] parish of Dunlop, Ayrshire, she unfortunately let go her hold and fell to the ground, by which she was so shockingly bruised that though medical aid was brought with the utmost promptitude she died that evening." In these cases medical aid, even when "brought with the utmost promptitude," was of no avail; but in the two now to be referred to it was more successful. "Tuesday morning, about 9 o'clock, a young man, a caulker, at work on the side of a ship at Rotherhithe, by some accident fell from the machine into the stream and immediately sunk. He was dragged for, and after lying in the water about fifteen minutes was taken up and conveyed to a house on shore in apparently a lifeless state. After the means for the recovery of suspended animation had been used a very short time symptoms of life were visible, and in less than an hour he was so far recovered as to be able to speak, and is in a fair way of doing well." The following incident is still more encouraging, and has the additional interest of introducing us to the medical student of a hundred years ago. "Lately, a boy, while bathing in the vicinity of Dingwall, had nearly lost his life by venturing beyond his depth. The body remained in the water for nearly ten minutes before it could be found, yet by the application of those means resorted to for exciting suspended animation, he was fortunately restored to life. Much praise is due to Mr. Fraser, student of medicine, and son of the Rev. Alexander Fraser of Inverness, who happened to be on the spot, through whose humanity and perseverance this was happily effected." This is capital; may we all, students and practitioners, ever show "humanity and perseverance."

In trying to reconstruct the scene and procedure of these recoveries from drowning of 1813, we must, of course, be careful to avoid anachronism. We think, perhaps, of the employment of Marshall Hall's postural plan of restoring the apparently drowned, and of Silvester's "true physiological method"; but these beneficent means were

[3] At any rate, some nine years later (in 1822), Jane Welsh was asked to assist in the starting of another Haddington periodical (*The East Lothian Magazine*), as she amusingly tells (*Early Letters*, pp. 44–54).

[4] This would be the old house; the fine modern Tudor mansion now known as Dunlop House was not built till 1838.

not forthcoming till 1856 and 1858. Marshall Hall, however, had begun his long and fruitful career of scientific investigation. He had graduated M.D. in Edinburgh University in June, 1812, and had then been appointed resident house-physician in the Royal Infirmary there. In this very year (1813) he gave a course of lectures on *Diagnosis*, the germ, no doubt, of his well-known work on that subject published some four years later. About this work on *Diagnosis* the following story is told: Dr. Baillie, the President of the Royal College of Physicians, was much struck with its power and lucidity, and, when one day the author called upon him, congratulated him upon the achievement of his *father!* He was unable to believe that so young a man (he was 27 at the time) could have written so deep and learned a book. But in 1813 all this, and Marshall Hall's method of treating the drowned, were still in the future; although we can well believe that the records of the drowning accidents which were constantly occurring at this time were making repeated appeals to the mind and sympathy of the young medical man and that the summation of stimuli thus received was effectual in spurring him to action in the years to come. It need hardly be added that Sir Edward Schäfer's admirable method of artificial respiration was far in the future.

How, then, it may be asked, were apparently drowned persons treated in 1813? What measures, for instance, did Mr. Fraser, the son of the Inverness minister, probably employ to save the life of the boy who ventured out of his depth at Dingwall in the month of August which we are writing about? An answer to this question can be got from the pages of Dr. William Buchan's *Domestic Medicine*; and from the nineteenth edition of that popular manual (published in London in 1805) the following information is taken. After a cheering introductory remark to the effect that we must not too soon despair of restoring one who has been even for fifteen minutes in the water, Dr. Buchan proceeds to details. The body is, of course, to be taken out of the water and conveyed to a place convenient for the performance of the necessary operations. Then, according to the views of the time, persistent efforts are to be made to restore warmth, for this is the guiding principle evidently which was relied upon. Dr. Buchan writes:

> In attempting to recover persons apparently drowned, the principal intention to be pursued is to *restore the natural warmth*, upon which all the vital functions depend, and to excite these functions by the application of stimulants, not only to the skin, but likewise to the lungs, intestines, etc. Though cold was by no means the cause of the person's death, yet it will prove an effectual obstacle to his recovery. For this reason, after stripping him of his wet clothes, his body must be strongly rubbed for a considerable time with coarse linen cloths, as warm as they can be made, and, as soon as a well-heated bed can be got ready, he may be laid in it, and the rubbing should be continued. Warm cloths ought likewise to be frequently applied to the stomach and bowels, and hot bricks or bottles of warm water to the soles of the feet and to the palms of the hands.

Volatile spirits are to be applied to the nose, brandy is to be rubbed on the pit of the stomach and over the spine, and tobacco and marjoram powders are to be projected up the nostrils. A strong person must blow air into the drowned man's mouth with force, or he may use Dr. Munro's wooden pipe and send the air into one of the nostrils, keeping the other one closed. "When air cannot be forced into the chest by mouth or nose, it may be necessary to make an opening into the windpipe," but this requires the services of a surgeon. The fume of tobacco is to be thrown into the intestines in the form of a clyster, and Dr. Buchan describes a rough and ready method for doing this by means of a common tobacco pipe; but if this be impossible, then clysters of warm water with some salt or spirits added should be given with a clyster-bag and pipe. The patient should be put as soon as possible in a hot bath, or, if that be not procurable, in warm sand, ashes, or grain. No liquors should be poured down his throat until he has shown some signs of life, and then wine or cordial may be administered. Some recommend a vomit after he is a little reanimated; but if he can be made "to puke without the sickening draught" it will be more safe. Finally, says Dr. Buchan, "we are by no means to discontinue our assistance as soon as the patient discover some token of life, since they sometimes expire after these first appearances of recovering."

With such limited means at their disposal one feels all the more sympathy with our medical forefathers in their efforts to restore the apparently drowned, and we may admire with full freedom the "humanity and perseverance" which they so often showed in face of heavy odds.

When we compare the accidents of a hundred years ago with those which are happening to-day we can hardly avoid some pessimistic feelings. Against a few mishaps which have, so to say, become obsolete, such as falling off stage coaches, we have to place all those new ways of suffering injury and running to meet death which our boasted advances in locomotion, in manufacture, and in amusement have brought to us. We go down to the floor of the Atlantic by hundreds in "unsinkable ships"; we are crushed under cars which it is "impossible to imagine turning turtle"; we fall to the earth with, from, or by aeroplanes; we give ourselves epitheliomas by the *x* rays; we have made a new disease by setting men to work in caissons; and we have possibly put a premium on malingering by our Insurance Acts and on accidents by our employers' liability measures.

One is tempted to ask, What profit is there? Whilst we have diminished our death-rate by keeping the old longer alive, have we actually multiplied the means by which the young can and do accidentally meet mortality? Is modern progress but the advance of a Juggernaut car? No, we do not admit it. We think, instead, of our hospitals, big and little; of the ambulance wagons which in many towns are speedy, steady, smooth-moving, and to be got at once by telephone; of first-aid lectures and practice; of our fire-extinguishing arrangements with the bravest of men to work them; of Pasteur's discovery, which takes the fear out of hydrophobia from bites; of legislative precautions in mines, in factories, in caissons, in ships, as regards motors and trains, and, ere long, if not yet, for aeroplanes and dirigibles; of many other things which make us feel once more that man is mastering matter by degrees, and is waging a great, a long, a hard, but not by any means a losing, battle against accidents and chance. *Pugnam sperate parati:* Being ready, hope ye for the battle; let us "grasp the skirts of happy chance, and breast the blows of circumstance, and grapple with our evil star."[5]

EPSOM COLLEGE.

Founder's Day was celebrated at Epsom College on July 25th, when a large number of visitors were present. The proceedings began with a service in the College Chapel at 2.45 p.m.

Before the distribution of the prizes in the big schoolroom the head master reviewed the work of the school during the year, and briefly referred to the honours which had been gained by present and past Epsomians since last Founder's Day. He announced that an aeronautical section had been established at the College, and expressed the opinion that no other school in the country had taken up that subject.

The prizes having been distributed, Sir Henry Morris delivered an address to the boys, in the course of which he said that it was fifty years ago and more since he sat there to see some of his fellow students come up to receive their prizes, but he could recall as but of yesterday the pleasures and disappointments of these occasions. The successes of the successful were, of course, well deserved; but he would like to remind them that their success that day was but getting one foot upon a rung of the ladder of success; and that the rung of a ladder was never meant to rest upon, but only to serve as a *point d'appui* whilst the other foot was being raised somewhat higher. He asked them not to dwell too long in the self-complacent contemplation of their successes, but to look forward to the next difficulty they would have to face. And to the unsuccessful competitors he would say that he felt a strong under-current of sympathy with them, for it was often his lot to be in the same position as they were that day. He accepted his defeat pretty readily, however—perhaps too readily: he felt the examination had been fair, and he knew the prizemen were worthy of their prizes. He trusted they would be equally philosophical; and like valiant knights accept their defeat without smarting

[5] Tennyson, *In Memoriam*, canto 61.

under a sense of moral or intellectual disheartenment. There was no harm in getting a few tumbles in early life; one learnt from them that there were many in the world as clever and cleverer than oneself; that patience, perseverance, and industry were in the long run as serviceable or more serviceable than cleverness; and that by these qualities, though one might not gain the goal quite so quickly or brilliantly, one would arrive there safely in the end just the same. In touching upon the question whether it was essential that a boy should go to school with a large number of other boys in order to get a knowledge of right action, or of scholarship, or skill in languages and science, he remarked that there had been many great and illustrious men who were simply home-taught or self-taught, and gave as an example the brilliant achievements of Demosthenes, who by dint of patience, perseverance, and industry overcame all his natural disadvantages and raised himself upon a pinnacle of immortal fame. He referred also to Pitt, the youngest Prime Minister England ever had; to Sir Benjamin Brodie, the great surgeon, a man learned in many sciences; to Sir Charles Bell, the great physiologist and surgeon; to Charles Darwin, the naturalist; to John Stuart Mill, the logician and metaphysician; to Henry Thomas Buckle, the author of the *History of Civilization in England;* to Thomas Henry Huxley, and to John Hunter, the last mentioned having been the founder of scientific surgery, a great pathologist, physiologist, and comparative anatomist. To one whose mind was obsessed as John Hunter's was by a close and constant study of Nature there was an immense field for the exercise of thought, imagination, and observation. In conclusion, Sir Henry Morris said that for some years he had given many hours, he might even say some few days annually to the interests of the College and the well-being of those who were in residence there; and he liked to indulge the fancy that, in what might seem to them the dim future, but what to him in comparison seemed not very far away, there might linger in their recollection a faint tradition that the old fogey of a Treasurer who had been addressing them that day had a great love for the College, and that their hopes were his hopes, that they would each make a great success of their life, and bring honour and renown to their Alma Mater.

At the close of the proceedings in the schoolroom the visitors adjourned to the grounds, where refreshments were provided. Subsequently the Officers' Training Corps paraded, and a gymnastic display was given by members of the school.

Great interest was taken by the visitors, especially by numerous old Epsomians, in the additions and improvements to the college buildings which have been made by the council in recent years at a cost of considerably over £20,000. These comprise the Markham Skerritt science block; an up-to-date gymnasium with a fencing gallery; a music hall for concerts and class teaching, with separate sound-proof music practice rooms; an armoury, with stands for 200 rifles; a new carpenter's shop; the rearrangement of the prefects' studies; a subsidiary dining-hall; improved common room; accommodation for the masters; and increased box-room, changing-room, and lavatory accommodation for the boys.

SLEEPING SICKNESS AND BIG GAME.

Colonial Office Committee.

The Secretary of State for the Colonies has nominated a Committee to report:

1. Upon the present knowledge available on the questions of the parts played by wild animals and tsetse flies in Africa in the maintenance and spread of trypanosome infections of man and stock.

2. Whether it is necessary and feasible to carry out an experiment of game destruction in a localized area in order to gain further knowledge on these questions, and if so to decide the locality, probable cost, and other details of such an experiment, and to provide a scheme for its conduct.

3. Whether it is advisable to attempt the extermination of wild animals, either generally or locally, with a view of checking the trypanosome diseases of man and stock.

4. Whether any other measures should be taken in order to obtain means of controlling these diseases.

The committee will be composed as follows:

The Right Hon. the Earl of Desart, K.C.B. (Chairman).
Mr. E. E. Austen, British Museum (Natural History).
Dr. A. G. Bagshawe, Director of the Tropical Diseases Bureau.
Dr. Andrew Balfour, C.M.G., late Director of the Wellcome Research Laboratories, Gordon College, Khartoum.
Sir John Rose Bradford, K.C.M.G., Secretary of the Royal Society.
Mr. E. North Buxton, Chairman of Quarter Sessions, Essex.
Dr. W. A. Chapple, M.P.
Sir Mackenzie D. Chalmers, K.C.B., C.S.I.
Lieutenant-Colonel Sir W. B. Leishman, F.R.S., Professor of Pathology, Royal Army Medical College.
Sir Edmund G. Loder, Bart., Vice-President of the Zoological Society.
Dr. C. J. Martin, F.R.S., Director of the Lister Institute of Preventive Medicine.
Mr. J. Duncan Millar, M.P.
Dr. P. Chalmers Mitchell, F.R.S., Secretary of the Zoological Society.
R. Newstead, F.R.S., Professor of Entomology in the Liverpool University School of Tropical Medicine.
Mr. H. J. Read, C.M.G., Colonial Office.
The Hon. L. Walter Rothschild, F.R.S.
Sir Stewart Stockman, Chief Veterinary Officer, Board of Agriculture and Fisheries.

Mr. A. C. C. Parkinson, of the Colonial Office, will act as Secretary.

SEVENTEENTH INTERNATIONAL MEDICAL CONGRESS, AUGUST 6TH–12TH.

Opening Meeting.

The Seventeenth International Congress of Medicine will be opened in London at a general meeting which will take place at the Albert Hall, Kensington, at 11 a.m. on Wednesday, August 6th.

The President of the Congress, Sir Thomas Barlow, Bart., M.D., President of the Royal College of Physicians of London, will give a short introductory address, and H.R.H. Prince Arthur of Connaught, speaking in the name of the King, will declare the Congress open. Sir Edward Grey, K.G., will then deliver an address of welcome. A report on the general arrangements will be presented in a few words by Dr. W. P. Herringham, General Secretary, and each foreign delegate, speaking in turn in alphabetical order, will briefly address the meeting. The proceedings will be brought to a close by short addresses by the President of the Permanent Committee of International Medical Congresses (Professor Waldeyer) and of the International Association of the Medical Press (Dr. Lucas-Championnière).

General Sessions: Addresses.

There will be five other general sessions. At the first, on the afternoon of Wednesday, August 6th, Dr. Chauffard, Professor of Clinical Medicine in the University of Paris, will give the address in medicine; at the second, on Thursday, August 7th, the address in surgery will be given by Dr. Harvey Cushing, Professor of Surgery in the University of Harvard; at the third, on Friday, August 8th, Professor Paul Ehrlich, Director of the Royal Institute of Experimental Therapy, at Frankfort-on-Main, will give the address in pathology; and at the fourth, on Monday, August 11th, Professor W. Bateson, F.R.S., Director of the John Innes Horticultural Institution at Merton, Surrey, will give an address on heredity. Professor Chauffard's address will be given at 5.30 p.m., the others at 2 p.m. On Tuesday, August 12th, at 3 p.m., the Right Hon. John Burns will give an address on public health, and at 4 p.m. on the same day the closing meeting of the Congress will be held.

Offices and General Arrangements.

The offices of the Congress are in the Albert Hall, Kensington Gore. The hall can be reached by omnibus from all parts of London, either direct or by changing at Hyde Park Corner. The underground railways have no stations very near the hall; the nearest on the District Railway are South Kensington or High Street, Kensington; from the latter an omnibus passing the door can be obtained. The nearest station on the Piccadilly Railway (electric tube) is South Kensington, but by alighting at Knightsbridge an omnibus direct to the hall can be obtained.

The entrance to the hall is by the north door facing the Albert Memorial. On entering, members of the Congress will find a staircase on the left leading to the east crush room, where a general post office, telegraph, telephone, and *post restante* will be established. The staircase on the right leads to the west crush room, where the Congress bureau will be established: there each member will find an envelope corresponding to the number of his ticket, in which will be enclosed notices awaiting him from the Executive of the Congress.

The whole of the ordinary arena of the hall will be covered by the great movable floor, which goes up to the loggia, on a level with the organ. The loggia on the one side will serve as bureaus, at which the member will exchange his *Carte d'Identité* for the card of membership.

It is recommended that a member should, if possible, apply on Tuesday and get his card of membership, register his London address, and put his name down for such excursions or entertainments as he wishes to attend. The distribution of these tickets will be settled by lot. He should then go both to the post office and the Congress Bureau for letters and any communications addressed to him by the executive of the Congress.

It should be added that members in London on Monday will find the offices and bureaus open on that day, and may then register their names and addresses.

Letters and telegrams should be addressed to the name of the member, International Congress of Medicine, Albert Hall, London, S.W.

The loggia or boxes at which the cards of membership can be obtained will be numbered according to the number of the *carte d'Identité*, and information and tickets for excursions will be issued at the boxes on the opposite side of the floor.

The offices in the arena must be closed from 10.30 a.m. to 1 p.m. on Wednesday owing to the opening meeting on that day.

The office of the Permanent Commission of the International Congress of Medicine will be in Room No. 6 of the University of London Imperial Institute, and the committee room for the Overseas Dominions of the British Empire will be in the same building.

General Entertainments and Arrangements.

Tuesday, August 5th.

On Tuesday evening the Government is giving an official dinner, which will be presided over by the Lord President of the Council. The dinner, to which several invitations have been issued by the Government, will take place at the Hotel Cecil. On the same evening a reception for the visitors of German nationality will be held at the German Athenaeum.

Wednesday, August 6th.

On Wednesday evening the Congress soirée will be held at the Natural History Museum, South Kensington.

Thursday, August 7th.

On Thursday a garden party will be given at Bethlem Royal Hospital, and by the Dean of the Faculty of Medicine of the University of London at the College, Regent's Park.

A certain number of invitations will also be issued to lunch at the Royal Free Hospital, and to visit the Middlesex Hospital in the course of the afternoon, and there will be an afternoon reception at King's College Hospital. In the evening there will be soirées at the Royal College of Surgeons of England at the Royal Society of Medicine, at the Royal Army Medical College, and at the Grocers' Company, and the Apothecaries' Society has issued invitations to dinner on that evening.

Friday, August 8th.

There will be garden parties at St. Bartholomew's Hospital and at St. Thomas's Hospital, and in the evening the Corporation of London will give an entertainment to the Congress at the Guildhall.

Saturday, August 9th.

On Saturday the King will give a garden party at Windsor Castle. There will be also a half-day excursion to Brighton.

Sunday, August 10th.

Mr. W. Astor, M.P., is issuing invitations to a garden party at Cliveden, near Taplow, on Sunday afternoon, and the Zoological Gardens will be open to the inspection of members. The Corporation of Harrogate is issuing invitations to visit that town and inspect the baths.

Monday, August 11th.

Sir William Lever will issue invitations to a garden party, and garden parties will be held also at Guy's Hospital and University College Hospital, and Middlesex Hospital will again be open to inspection.

A lodge meeting of medical freemasons will be held at 4.45 at the Freemasons' Hall, preceded by a reception at the Connaught Rooms at 3.45 p.m. The Grand Master, Lord Ampthill, G.C.S.I., will preside, and brethren who wish to attend should communicate with Dr. Probyn Williams, 13, Welbeck Street, W.

On this day there will be a half-day excursion to Stratford-on-Avon.

In the evening Lord Strathcona will give a soirée, and the President, Sir Thomas Barlow, is issuing invitations to dinner.

Tuesday, August 12th.

On this day there will be limited excursions to Cambridge and Oxford.

Wednesday, August 13th.

The Corporation of Bath are issuing invitations for excursions to that city to inspect the baths.

Pathological Museum and Exhibitions.

The Pathological Museum will be arranged in the Imperial College, South Kensington, and an exhibition of drugs, books, appliances, and apparatus will be open during the Congress in the exhibition building immediately behind the Imperial Institute; it has been arranged by the *British and Colonial Druggist*.

The Museum of the History of Medicine, collected by Mr. H. S. Wellcome, the inauguration of which on June 24th was recorded in the Journal of June 28th, p. 1379, will be open to inspection during the Congress.

Subsidiary Meetings.

The meeting of the International Association of the Medical Press which takes place on Tuesday, August 5th, is referred to elsewhere.

An international conference on post-graduate medical instruction will be held in the Jehangir Hall of the University of London on Thursday, August 7th, at 9.30 p.m. Professor Kutner is acting as secretary.

A meeting of surgeons interested in urology will be held in the Jehangir Hall on Monday, August 11th, at 3 p.m.

The meetings of the Universal Esperanto Medical Association will take place in the Geological Laboratory of the Royal School of Mines, South Kensington. At the first meeting, which will be held on Friday, August 8th, at 11 a.m., short lectures on Esperanto and the medical profession will be delivered in English, French, German, Russian, and other languages. Members of the Congress are cordially invited. Another meeting will be held on Monday at the same hour and place. An interesting programme of papers on various medical and surgical subjects has been arranged; these will be read and discussed in Esperanto.

The annual luncheon of the Continental Anglo-American Medical Society will be held at the Café Royal, Regent Street, on Thursday, August 7th, at 1 p.m.

On Tuesday, Wednesday, and Thursday next week the International Association of Medical Museums will hold its second triennial gathering. The proceedings, which include the reading of a large number of papers and many demonstrations regarding museum technique, will commence each day at 2.30 p.m., the work on the first day being done in the Museum of the Royal College of Surgeons of England, and on the second and third days in the Museum of the International Congress at the Imperial College of Science. The President of the Association is Professor A. S. Warthin of Michigan, who, on the completion of the formal business on the first day, will deliver an address dealing with the ideals and functions of the Association.

Section of Bacteriology and Immunity.

The President of the Section is Professor Sims Woodhead of Cambridge; the Vice-Presidents, Professors G.

Dreyer, C. J. Martin, and R. Muir; the Secretaries, Dr. Carl H. Browning, Professor E. J. McWeeney, and (Acting Secretary) Dr. J. A. Arkwright, Lister Institute, Chelsea, S.W. The meetings will be held in the Metallurgical Theatre, Royal College of Science, South Kensington (entrance in Exhibition Road).

The following arrangements have been made for the business of the Section:

Thursday, August 7th.—Morning: Discussion on theories of immunity and anaphylaxis. Reporters: Professor A. Besredka (Paris), Professor E. Friedberger (Berlin), and Professor Ch. Richet (Paris). *Afternoon:* Independent papers by Dr. H. de Waele on anaphylaxis; by Dr. R. Weil (Cornell University) on experiments on the cellular theory of anaphylaxis; by Dr. F. H. Thiele (London) on the toxicity and pathogenicity of bacteria; and by Dr. D. Jacobson (Paris) on anaphylaxis in the serum-therapy of tuberculosis.

Friday, August 8th.—Morning: Discussion on cancer (jointly with Section IIIA). Reporters: Dr. E. F. Bashford (London) and Dr. E. Freund (Vienna). *Afternoon:* Independent papers by Dr. Archibald L. Leitch (London) on the diminution of resistance to repeated inoculation of mouse cancer; by Dr. I. Levin (Columbia University) on the mechanism of immunity in experimental cancer; by Drs. W. L. Moss, C. G. Guthrie, and J. Celien on diphtheria carriers; and by Dr. Jacobson (Paris) on the local action of Marmorek's antituberculous serum.

Saturday, August 9th.—Morning: Discussion on the nature of virulence. Reporter: Professor Dr. Ritter von Gruber (Munich). No meeting will be held on this afternoon.

Monday, August 11th.—Morning: Discussion on filter-passers. Reporters: Professor Dr. Loeffler (Greifswald) and Professor Sir John McFadyean (London). *Afternoon:* Independent papers by Professor E. E. Irons (Chicago) on gonococcal immunity, with special reference to diagnosis and treatment; by Dr. W. J. Penfold (London) on the inhibition of bacterial growth; by Drs. St. Serkowski and J. Wisniewski (Warsaw) on the acid-fast quality of tubercle and paratubercle bacilli; and by Dr. Guido Arena (Naples) on the toxic and antitoxic properties of pulmonary extract.

Tuesday, August 12th.—Morning: Discussion on leprosy and allied bacilli. Reporters: Dr. C. W. Duval (New Orleans) and Major Rost (Indian Medical Service). *Afternoon:* Independent papers by Drs. St. Serkowski and Wisniewski (Warsaw) on the virus of a psoriasis and the experimental infection of the ape; by Professor N. F. Surveyor (Bombay) on a new method for the treatment of bacterial infections; and by Dr. Fenton B. Turck (New York), on serum changes and lesions produced in animals by feeding with the colon bacillus. The following papers will also be taken as opportunity offers itself: By Dr. Kurt Meyer (Stettin), on lipoid antibodies; by Dr. W. Fornet (Berlin), on a germ-free cow-pox lymph; by Drs. Bertrand and Cohendy (Paris); by Dr. W. Broughton Alcock (Paris), on vaccination by living pyogenic cocci; by Drs. H. Fraser and W. Fletcher (Federated Malay States), on the question whether the *B. leprae* has been cultivated; by Professor Dr. Detre (Budapest), on the theory of therapeutic injections; and by Dr. Sophie Fuchs-Wolfring, on spirochaetes in the blood.

A Ladies' Entertainment Committee has been formed.

LITERARY NOTES.

AMONG the books announced for publication by Mr. Fisher Unwin is one entitled *Lord Lister, His Life and Work*, by Dr. G. T. Wrench.

Messrs. Cassell are preparing for publication a new book by Sir Frederick Treves entitled *The Country of "The Ring and the Book."* It is a critical study of Browning's poem, and an illustrated description of the road from Alezzio to Rome is given. In addition to the photographs taken by the author, there will be reproductions of many maps contemporary with the crime, and a coloured frontispiece of the heroine, Pompilla.

Messrs. Longmans will shortly issue a new book by Dr. W. McC. Winklyn on *London Public Health Administration*, intended specially for the use of foreign visitors. It is designed to answer two classes of questions: First, by what authority is any given health service carried on? and secondly, what is the nature and position of that authority? A table of public health statutes completes the volume, which, we note with satisfaction, is provided with an index.

Nostradamus (1503–1566), the assumed name of Michel de Notredame, the French astrologer, who had a great name as a seer in the sixteenth century, was a doctor of medicine of Montpellier. He was physician in ordinary to Charles IX. The following stinging epigram on him was written by Stephen Jodelle:

"Nostra damus, cum falsa damus, nam fallere nostrum est:
Et cum falsa damus, nil nisi nostra damus."

The following paragraph is quoted in the *Journal of the American Medical Association* of June 14th as from B. Joseph in the *Vermont Medical Monthly*:

Advertismo occulta is not yet described in textbooks, though numerous sporadic examples have occurred within a year. Students of mental diseases would describe it as a form of "exhibitionism." It is an affection of the sense of justice. Recently a well-known surgeon came down with it. A review of the reported cases seems to show that this disease particularly affects surgeons. In brief, advertismo occulta is that form of advertising in the lay press or magazine of which the subject (hero) is not supposed to be aware that he is being described.

The humour of this paragraph would not be spoilt if the author had taken the trouble to make his terminology more probable. He might have spoken of "advertismus occultus," which would be Latin of a doggy kind; or of "advertismo occulto," which might be Italian of a sort. Perhaps "advertismo occulta" is intended as a subtle caricature of what sometimes passes for Latin in medical writings.

We have received from Mr. H. K. Lewis a *Selected List of Works in Medicine and Surgery*, together with a pamphlet describing the efforts of the firm to supply the literary requirements of the medical profession. These have been prepared especially for the information of visitors to the International Medical Congress. When Mr. Lewis extended his premises in Gower Street some seven or eight years ago we described him as the Mudie of Medicine, and we take this opportunity of repeating that if the name of Mudie has become a household word in general literature, that of Lewis has a corresponding significance in the world of medical books. A special invitation to visit the establishment (which has been in existence for seventy years), in six languages, including Japanese, is issued with the pamphlet.

The history of the growth of English dictionaries is interesting. The first of which there is record is that produced by Bullokar in 1616; although he called it a "compleat dictionary," it contained only 5,080 words. In 1623 there appeared a dictionary by Cockeran; a ninth edition of this was published in 1650. Thomas Blount's *Glossographia* followed in 1656, with a slightly increased vocabulary, but was soon superseded by Edward Phillips's *New World of English Words*—a small folio of 300 pages, containing 13,000 words. Phillips, who was a nephew of Milton, published his work in 1658. A sixth edition, which seems to have held its ground for nearly half a century, was edited and published with a vocabulary enlarged to 20,000 words by John Kersey, in 1706. In 1713 Kersey issued *A New English Dictionary*, which, though printed in smaller form, contained many more words than Phillips's book. In 1721 appeared Nathan Bailey's *English Dictionary*, in the compiling of which the first attempt was made to collect a complete vocabulary of the English words then in use. Bailey's work contained 45,000 words and it passed through twenty-six editions. Bailey's work was followed by one compiled by John Wesley, which appeared in 1753, of which the eminent author, with characteristic modesty, declared: "Many are the mistakes in all the other English dictionaries which I have yet seen, whereas I can truly say I know of none in this"! Two years later appeared the work which gained for Samuel Johnson the title of the Great Lexicographer. Johnson's dictionary was published on April 15th, 1755, and contained 50,000 words, and was republished many times. This total was not materially increased until the appearance of Webster's *American Dictionary* in 1828, followed by Joseph Worcester's *Comprehensive Pronouncing and Explanatory English Dictionary* in 1830, and their subsequent revisions. Even then the tide of English speech did not reach the flood. Worcester's dictionary contained but 105,000 terms, and Webster's 160,000. Then there appeared the revision of the *Imperial Dictionary* for which the editors claimed 200,000 words. This book was followed by Dr. Funk's *Standard Dictionary*, with 318,000 words, published in 1894, increased in Funk and Wagnall's *New Standard Dictionary* to the high-water mark—450,000 terms—in 1913. In mere number of words this new work, to be issued in September, exceeds all others, notwithstanding the fact that rigid rules of exclusion were strictly enforced and the ephemerae of the moment, as well as all obsolete words not recorded in living books, are to be omitted.

British Medical Journal.

SATURDAY, AUGUST 2nd, 1913.

THE INTERNATIONAL MEDICAL CONGRESS.

The International Congress of Medicine, which will be opened next week in the Albert Hall by Prince Arthur of Connaught, as representative of the King, will be the seventeenth of these periodical gatherings of medical practitioners of all nations. It is estimated that the attendance all told will number between 6,000 and 7,000. It will therefore be one of the largest meetings ever held, and the arrangements for the entertainment of members have been made on so generous a scale that there is every prospect of its being also one of the most brilliant. There will be five general addresses: in medicine by Professor Chauffard of Paris, in surgery by Professor Harvey Cushing of Harvard, in pathology by Professor Paul Ehrlich, on heredity by Professor W. Bateson, and on public health by the Right Hon. John Burns. The programmes of the different sections, which have been published from time to time in the British Medical Journal, show what an extensive field of work lies before the Congress. A comparison between the range and variety of subjects to be dealt with and those of the last International Medical Congress held in London in 1881 is a striking proof of the progress of medical science during the last thirty-two years. In 1881 there were fifteen sections; this year there are twenty-three, besides three subsections. At the forthcoming Congress embryology has its place by the side of anatomy; bacteriology, chemical pathology, neuro-pathology, urology, tropical medicine, radiology, and the history of medicine have each sections to themselves. Laryngology, which had a hard struggle for recognition in 1881, and finally had to be content with being relegated to a subsection, now divides with rhinology the honour of a full section. A mere glance at the programme shows that the whole face of medical science has changed. Besides the new territories—the surgical treatment of brain tumours, the vast development of abdominal surgery, tropical pathology, and hygiene, the applications of the *x* ray and of radium, the use of vaccines—that have been formally annexed to the empire of medicine, there is a vast number of new things, such as theories of immunity, the physiological function of internal secretions, the therapeutic uses of thyroid extract, adrenalin, and numerous other substances, the revolution in the diagnosis and treatment of syphilis wrought by the Wassermann reaction, and the introduction of salvarsan, to name but a few of the most recent advances. In every department of medical science new terminology indicates new lines of research, not a few of which have already led to results which make the medicine of 1881 seem almost antiquated.

A short history of the rise and development of the International Medical Congress will serve to show how it came into existence and how it has grown to be the great landmark of progress in the healing art. It did not spring from the happy conception of any "true begetter" as Minerva is fabled to have sprung full armed from the head of Jupiter. It was indeed, as Lord Thurlow said of the Duke of Grafton, the accident of an accident, and its beginnings were small and casual. In 1867, when the great Exhibition was held in Paris, advantage was taken of this fact to arrange that the customary annual meeting of French doctors should be held in that city. In view of the numbers who were expected to crowd from all parts of the world to what Victor Hugo delighted in calling the Ville Lumière, it was suggested that special invitations to take part in the proceedings of the meeting should be sent to foreign members of the profession who might be attracted to the Exhibition. Consequently some five hundred practitioners from various parts of the civilized world attended, and as a matter of courtesy several foreign vice-presidents were appointed. The meeting was so successful that one of the Italian delegates, Dr. Pantaleoni, proposed that an international medical congress should become a permanent institution. This suggestion was well received; it was agreed that the meeting in Paris should be regarded as the first Congress, and it was decided to hold the second in Italy in recognition of the fact that the idea had come from a native of that country. Rome would have been the natural place of meeting, but some doubt was felt whether the Pope, who was at that time the temporal ruler of the Eternal City, would give the Congress the welcome to which it thought itself entitled. Accordingly the meeting was held in Florence in 1869, under the presidency of Dr. Salvatore de Renzi of Naples, who, besides being an eminent physician, was a man of great learning and the historian of the famous University of Salerno. He welcomed the members of the Congress in choice Latin, an example imitated by Professor Baccelli at the Congress held in Rome in 1894. If, as we have often contended, the use of Latin as the international language of science should be revived, the linguistic difficulties which have in the past been a serious hindrance to the work of these congresses would disappear. There is nothing impossible in such a revival, but as long as Latin is taught in our schools as it is now there is little hope of this coming about.

There was a scanty attendance of foreigners at the Florence meeting, and the future of the Congress was gravely imperilled by the bitter feelings caused by the Franco-Prussian war, which broke out in the following year. Nevertheless, an International Exhibition held in Vienna in 1873 afforded an opportunity of holding another, which though small was very successful. At this Congress it was for the first time resolved to recognize three official languages—English, German, and French. The fourth Congress was held in Brussels in 1875. It was opened by the King of the Belgians, who took so much interest in the proceedings that he was present at many of the sittings; it did valuable work, especially in regard to epidemic cholera, antiseptic surgery, and the management of lying-in hospitals. It was at the Brussels meeting that the Congress was first divided into sections. The fifth Congress was held at Geneva in 1877, when there were six sections. In 1879 the sixth meeting was held at Amsterdam, and there were nine sections. The seventh meeting, held in London in 1881, marked the beginning of a new era in the history of the Congress; over 3,000 members, of whom one-third were foreigners, attended. On that occasion the number of sections rose to fifteen, and the meeting was made memorable by the addresses of Paget, who was the president; of Virchow, who took the value of pathological

experiments as his theme: and of Huxley on the connexion of the biological sciences with medicine. Pasteur was present, and when Koch demonstrated his method of cultivating bacilli on organic media exclaimed, in spite of his patriotic dislike of everything German, "C'est un grand progrès, Monsieur." The next meeting, which was held at Copenhagen in 1884, was attended by 1,700 members. The ninth Congress was held at Washington in 1887, and although, owing to certain domestic difficulties in the American profession, it was not so representative of international medicine as the previous meetings, European members had no reason to complain of their reception. The tenth Congress was held at Berlin in 1890, and notwithstanding an attempt by some leaders of the profession in France to boycott the Congress, it was attended by 6,000 members. The eleventh Congress was held in Rome in 1894, and the twelfth at Moscow in 1897. Three years later it was for the second time held in Paris, when over 6,000 members and delegates attended. In 1903 it met at Madrid, in 1906 at Lisbon, and in 1909 at Budapest. The Congress has thus made the round of the principal European capitals besides crossing the Atlantic. At Budapest it was decided that the Congress which had been held at first every two years, then every three years, should be held every four years. We think that in these days when congresses on special departments of medicine are so frequent, the interval between the meetings of the International Medical Congress might with advantage be extended to five years.

Doubts from time to time have often found expression as to the practical utility of the Congress, but to our mind there can be no question that science would lose greatly by the discontinuance of these periodical assemblies. They afford opportunities for taking stock of the state of knowledge at the time. They also bring men who have previously been only names to each other face to face. Work in which lie the hopes of the progress of the human race must needs gain in accuracy by the workers seeing each other in the flesh and thus learning the extent to which the statements made require to be corrected by means of the personal equation. Another advantage is the interaction of mind on mind, each quickened to the highest degree of activity by the glow of living debate. Moreover, international congresses help to counteract what Matthew Arnold called the "vulgar and retarding" effects of that narrowest form of provincialism which limits men's intellectual outlook to their own country. There are too many doctors who do not think it worth while to learn at first hand what is being done elsewhere. The doctor should have the spirit that animated Samuel Johnson, who, when at Oxford, was overheard saying to himself in a strong emphatic voice, "I have a mind to see what is being done in other places of learning. I'll go and visit the universities abroad. I'll go to France and Italy. I'll go to Padua. . . . For an Athenian blockhead is the worst of blockheads." The Athenians, as we know, spoke of other nations as "barbarians." Finally, if international congresses do not, as has been suggested, directly tend to maintain the peace of the world, they probably do much to promote friendly relations between the representatives of what has been called the profession of the future in civilized countries. Medicine has no nationality; but doctors are human, and there are many national prejudices and jealousies which fade away by the mellowing influence of personal intercourse.

THE ASSOCIATION AND SCIENTIFIC MEDICINE.

The President of the Section of Ophthalmology at the annual meeting this year broke with the custom which, with the encouragement of the Council of the Association, has been established against the delivery of a formal address at the opening of a Section. That there is no absolute rule on the subject is a good example of the elasticity always sought in framing the rules of the Association, and of its desire to leave all reasonable latitude to individual initiative, the idea doubtless being that when a President feels that he has something to say which can most appropriately be said on such an occasion, no hindrance should be placed in his way. Had there been any such absolute rule the Section, and therefore the pages of the Journal, and through it the whole Association, would have been deprived of a most interesting and stimulating allocution. The Association has, perhaps, never had the credit that is due to it for the broad-minded encouragement it has given to young men and young sciences and to causes which have not grown popular; nor has it had full credit for the many ways in which it has fostered new departures in scientific medicine. Reference is not now intended to the money it has voted annually for many years for research scholarships, and in grants for special researches. If we were to go back through the catalogue of its scholars and grantees we could make out a list of men, now distinguished in every branch of study and practice, whose early efforts were helped, and in many cases made possible, by the assistance voted from the funds of the Association. We are thinking rather of Mr. Bickerton's theme—the influence of the British Medical Association in the establishment of one special branch of medical science—a theme which might be given a more general application. There is no gainsaying the historical facts about the study of ophthalmology in this country which he gathered together and placed in order. They make it abundantly clear that it was the Association which first gave the disciples of the new science a rallying point, and first afforded them a platform from which to bring to the notice of their brethren the many ways in which their special study threw unexpected lights on the practice of general medicine and surgery, for it is now a commonplace that the study of the eye and of the disorders of vision has illumined many of the darkest regions of neurology, and has shown the way to reforms in personal hygiene and in education.

The recognition of ophthalmology as a distinct department of medical and surgical science and practice was slowly achieved. The staffs of the general hospitals long stood in the way of the legitimate development of specialism, and admitted its demands at last only grudgingly and of necessity. Ophthalmology, as it was one of the first specialities to claim recognition, was one of the earliest sufferers. The opposition led to the foundation of special hospitals, and financial considerations sometimes impelled the founders to associate the treatment of diseases of the ear with those of the eye, a combination which placed a serious impediment in the way of the growth of either. When eventually the necessity for the recognition of ophthalmology as a special study was admitted by the medical schools, the establishment of special departments at the general hospitals came too late to prevent the duplication of effort, which might have been avoided by the exercise of greater foresight.

In another direction also the growth of ophthalmology was slow. Owing, perhaps, to the fact that students heard little or nothing about it during the curriculum, the number of those who in after-life took any real interest in diseases of the eye was small. In 1836 Mr. Richard Middlemore, of Birmingham, an enthusiastic worker in this special sphere, and a recorder of facts, contemplated the publication of a journal devoted to ophthalmology; but he had to realize that the time was not ripe. Some thirty years later, in 1865, Zachariah Lawrence and Thomas Windsor sent forth the *Ophthalmic Review* with hopes of the brightest, but they also had to realize that their venture was in advance of the demand. Another thirteen years had to elapse before the mist disappeared. The late Mr. C. G. Wheelhouse of Leeds, who throughout a long life was an active worker for the British Medical Association, when, in 1878, he freed ophthalmic surgery from the control of the general surgeon, did a greater service to scientific medicine than he himself at the time fully knew.

The formation of a Subsection of Ophthalmology and Otology at the Annual Meeting of the British Medical Association in 1879 was followed by the recognition of a Section of Ophthalmology at the Annual Meeting in 1880, and the same year saw the foundation of the Ophthalmological Society of the United Kingdom. Two years later, in 1882, the courage and energy of Grossmann of Liverpool, Priestley Smith of Birmingham, and Storey of Dublin in establishing the *Ophthalmic Review* were rewarded by a degree of success sufficient to encourage them to persevere, and the *Review* has been published regularly ever since. In the same year, 1882, Yose Solomon of Birmingham, addressing the Ophthalmological Section at the Annual Meeting at Worcester, said that the signs "augur favourably for the creation of a British school of ophthalmology, and warrant us in looking hopefully to the time as near at hand when we shall be no longer living, as it were, in a borrowed light, but in one generated by the national genius and enterprise of the most practical people of the world." The initiative of Doyne in establishing an Oxford school, and the enterprise of Stephenson and Oliver in founding *The Ophthalmoscope*, and thus providing a complete bibliography, have given increased impetus to the movement. When the day comes for the history of ophthalmology in Great Britain and Ireland to be written, the historian, whatever else his source of information may be, will have to seek the pages of the British Medical Journal, in which the action of the British Medical Association in promoting the recognition of ophthalmology as a distinct branch of practice is recorded.

We would prefer to avoid using the term "the British school of ophthalmology," for there are no national schools of ophthalmology; from the first the study has been cosmopolitan. Bowman, the President of the first Section of Ophthalmology of the British Medical Association, and the first President of the Ophthalmological Society of the United Kingdom, used to advise his pupils to go to study under von Graefe, and von Graefe would ask them, Why do you make this long journey to me when you have Bowman in your own country? Bowman was, indeed, one of the fathers of ophthalmology. He was a man of high capacity, originality, and independence of mind, and possessed that quality designated by the much-abused word "charm." He would undoubtedly have achieved distinction in any calling he elected to follow. He was probably drawn to ophthalmology by his strong artistic insight—he was a friend and one of the earliest patrons of Watts—for of all departments of surgery or medicine the study and treatment of diseases of the eyes calls most insistently for that sureness of touch and deftness of manipulation which are parts of what we wonderingly admire in the great masters of the pencil or the brush.

We have ventured to suggest already that Mr. Bickerton's theme is susceptible of a wider application; we believe that a good case might be made out to support the contention that the British Medical Association has had a similarly beneficent action on other special departments of medicine and surgery, on laryngology, on otology, on dermatology, even on gynaecology, and most certainly, and perhaps most of all, on tropical medicine and hygiene. This is a record of which every member of the Association may legitimately be proud.

PROPOSED ALTERATIONS IN THE REGULATIONS OF THE ASSOCIATION.

A brief review of the changes in the constitution and regulations of the Association which the Annual Representative Meeting desired to be made may be convenient to members who have not the leisure or inclination to follow the details through the reports of the proceedings of the meeting published in the Supplement for this and last week. The changes are designed to remedy certain defects in the working of the machinery disclosed during the last ten years, some of which were foreseen by members whose views were not at that time found acceptable by the majority. The changes now proposed must be embodied in new regulations, which after they have been carefully drafted with legal assistance will be submitted to the Divisions and a special meeting of the Representative Body for approval.

It will be remembered that it was at first proposed to obtain the wider powers and increased freedom of action desired by forming a new company to take over the duties and assets of the existing Association. Counsel, whose assistance was sought in drafting the articles and by-laws of the proposed new company, advised that the objects sought might most effectively be obtained under a charter from the Crown. A draft charter was accordingly prepared, but some of its provisions and omissions excited strong opposition from a considerable body of members, and as the compromise proposed failed to find favour with the majority, the Privy Council notified that it would not be prepared to recommend the grant of a charter. The Association therefore reverted to the proposal to form a new company, but very careful consideration showed that the advantages of this course were too problematic to justify perseverance in it. At the same time it was felt that certain disabilities under which the Association now labours in respect to the borrowing of money could be removed by relatively simple changes which the Court might be expected to sanction without difficulty. The Council therefore this year reported to the Divisions that while it was compelled to accept the opinion of the Organization Committee that it was inadvisable to proceed further at present with the proposed formation of a new company to take over the work and property of the existing British Medical Association, it felt fully justified in advising that the Association should take the necessary steps to obtain an extension of the memorandum of the present company to include the

power of borrowing money by mortgage or otherwise. Both recommendations were adopted by the Representative Meeting.

Various alterations in the constitution were approved by the Representative Meeting, many of them arising out of the scheme submitted by the council of the Metropolitan Counties Branch. That Branch had suggested that the Representative Body should be an assembly with full deliberative powers. This proposal met with opposition, and the resolution eventually adopted expressed the opinion that the Representative Body should be an assembly with deliberative powers, but that in speaking or voting on any matter the Representative of a constituency shall be under an obligation to give effect to what he believes would be the opinion of his constituents on the question at issue. Such a regulation would apparently give a Representative a certain discretion to act on his own judgement in respect of matters which have come to his knowledge during the Representative Meeting, or at some date later than the last meeting of the Division at which he was instructed.

The Representative Meeting also decided that it would be advisable that it should have power to instruct the Council to act for it on any specified matter or matters in the intervals between the meetings of the Representative Body, but it refused to disturb the present mode of electing the Council. It did not come to any final decision with regard to the establishment of a special fund for the organization of the profession, on the ground that it was a matter which should be again submitted to the Divisions for their careful consideration, and that a special meeting of the Representative Body should be called to consider the results of this reference, and of the proposal to increase the annual subscription to the Association from 25s. to 2 guineas.

Perhaps the most important change in the constitution sanctioned by the Representative Meeting was that by which the Council will be given power to take a referendum on any decision of the Representative Body by a postal vote if it considers that this will be a more effectual way of obtaining the opinion of the Association on any matter than the method of taking a referendum by meetings of the Divisions. The Council will further be authorized to submit the question upon which a referendum is to be taken to one or more parts of the kingdom—that is to say, to England, to Scotland, to Ireland, to Wales, or to a Dominion separately, or in any combination it thinks proper. It will also be empowered to decide what majority of the votes received will justify it in making the result binding upon the members of the Association in the countries consulted. It will further have power to extend the referendum or postal vote to the whole of the profession. The meeting also determined that the Representative Body should have the right to instruct the Council not to carry out the procedure or policy in favour of which a vote had been taken in the Representative Meeting until a postal vote of the Association or the profession had been taken by the Council. This will be tantamount to the Representative Meeting itself having power to take a postal vote.

The Representative Meeting also decided that it was advisable that a Representative should be able to resign and that the Division or Divisions he represented should be able to elect a successor. It was decided also that a Division might by a two-thirds majority of those present and voting call upon a Representative to resign. Under the existing constitution a Representative is elected for the year and cannot resign, and the Division has no power to fill a death vacancy. Both of these defects in the existing regulations have caused inconvenience in recent times.

The desirability of modifying the areas of Divisions and Branches so as to make them coincide with insurance areas was considered, but it was not found feasible to make a general rule. On the other hand, it was agreed that the regulations of Divisions and Branches should be modified so as to ensure co-ordination between their action and that of medical members of Local Insurance Committees and Local Medical Committees.

It was agreed to appoint two new standing committees—an Insurance Act Committee and a Welsh Committee—and to appoint for this year special committees which will have the function, though not the legal status, of standing committees.

THE PRESIDENT OF THE LANCASHIRE AND CHESHIRE BRANCH.

THE annual meeting of the Lancashire and Cheshire Branch was held this year at Preston, and Dr. Robert Charles Brown was elected President for the third time. His interesting address, entitled "Surgical Milestones," appeared in the JOURNAL of July 12th. Dr. Brown gave a dinner in the Guild Hall to the delegates, local doctors and clergy, members and officials of the Corporation, and other prominent citizens of Preston. The guests included Sir James Barr, Sir Thomas L. Fliteroft, Mr. A. A. Tobin, M.P., and the Mayor of Preston (Councillor W. J. Haythurst). After the loyal toast Mr. Edmund Dickson proposed the toast of "The Lancashire and Cheshire Branch," which was responded to by Sir Thomas L. Fliteroft. Mr. Tobin proposed "The Town and Trade of Preston." After referring to the historical associations of the town, he went on to speak in praise of Dr. Brown both as a medical man and as a citizen. Dr. Brown, he said, had added a page to the ancient history of Preston, and on that page was recorded the story of the President's warm heart, his professional skill, his tenderness to the sick and suffering, his continuous kindness to the very poorest, and his munificence to the town. Sir James Barr, in proposing "The President," said that Dr. Brown held a very unique position. He was the only man who had been elected three times President of the Lancashire and Cheshire Branch. It was not his (Sir James's) fault that Dr. Brown had not been President of the British Medical Association, for once he spent a night in Preston trying to persuade the medical men to hold the annual meeting in Preston. Dr. Brown was one of the two surviving honorary freemen of Preston, an honour which was very richly deserved, and of which every citizen of the town, as well as the members of the medical profession, felt justly proud. Dr. Brown, in reply, recalled some historical facts within his own experience. In 1838 the old North Union Railway was constructed, and this was followed in 1840 by the formation of the Preston to Lancaster, Preston to Fleetwood, and Preston to Longridge lines. He remembered the time when there were only ten policemen in Preston, when there was only one post office, when there were no parks or covered market, and when the railway station was a very insignificant structure. The toast of "The Visitors" was spoken to by Dr. Pilkington and Mr. Larkin (Liverpool), and by Councillor E. C. C. Firth, who said he wished that more of the medical men of Preston would make an effort to join the Corporation. We may add that Dr. Brown's first medical qualifications date as far back as 1853. He is M.B. of London University and a Fellow of both Royal Colleges. As we have more than once had occasion to state, he has shown the most enlightened liberality in his help to the Research Hospital

which is doing such good work at Cambridge. In recognition of his munificence the University of Cambridge conferred on him the honorary degree of M.A. Mr. Cartmell, a member of the Preston Town Council, recently referring to Dr. Brown's generous gift of an organ to the Grammar School, said the governors and the Education Committee greatly appreciated this gift, which was the latest of a long series of benefactions to his native town, by which Dr. Brown had earned the gratitude and admiration of his fellow-townsmen. We venture to add our congratulations to Dr. Brown on the well merited honours which he has received, and to express the hope that he may live many years to enjoy the satisfaction—the highest happiness which can fall to the lot of man—of feeling that he has done so much for his fellow men.

PROPOSED ROYAL COMMISSION ON VENEREAL DISEASES.

In the British Medical Journal of July 26th reference was made to a plea for the appointment of a Royal Commission on Venereal Diseases, signed by most of the recognized leaders of the medical profession in this country, and supported by a resolution passed by the Representative Meeting and the Section of State Medicine. The appeal was addressed to the public with the object of awakening it to the urgent necessity of steps being taken to stay the ravages of a class of diseases which, owing to the unwillingness to recognize the existence of immorality of a certain kind and its consequences characteristic of the British people, has caused them to pass by many crying evils with averted face. Worthy folk have salved their conscience with the comforting reflection that these diseases are the wages of sin; but, as doctors have too good cause to know, the innocent, too, suffer—often, indeed, more than the sinner. The intention of Sir Thomas Barlow, Sir Rickman Godlee, Sir William Osler, Sir Clifford Allbutt, and their distinguished co-signatories was therefore to arouse the public to demand a complete investigation such as would be ensured by the appointment of a Royal Commission. Although, with the honourable exceptions of the *Morning Post* and two or three other newspapers which have commented on the letter which appeared in its columns, the press has taken no notice of the matter, Dr. Chapple asked the Prime Minister on July 28th whether he intended to take action in the direction indicated in the medical manifesto. Mr. Asquith replied that the suggestion is receiving careful consideration. With this non-committal utterance we have to be content for the present, but the Premier may rely on it that now the question has been mooted it will not be allowed by the medical profession to remain dormant. In the meantime we quote a passage from an address by Professor Adami, in which the gravity of the evil is powerfully set forth: "With a fuller realization of the frequency of these congenital (venereal) diseases, of the havoc these are playing upon individual lives, the misery, ill health, and ruin they inflict, with the surer recognition of the presence and after-effects of what euphemistically we speak of as the contagious diseases brought about by more exact methods of diagnosis, such as the Wassermann reaction and the actual recognition under the microscope of the gonococcus and the *Spirochaeta pallida*, we have, during the last decade more especially, come to a realization of the hideous frequency of these diseases, and their ill effects upon the innocent of the second generation. When it is accepted that at least half of gynaecological practice is due to gonorrhoea and its results; that a large proportion of the cases of infantile blindness is of gonorrhoeal origin; that, as demonstrated by the Wassermann test, practically all the cases of locomotor ataxia and nearly all cases of general paralysis of the insane are of syphilitic origin; when we know that most cases of multiple successive abortions are syphilitic, and recognize the puny miserable parodies of humanity, doomed in most instances to an early death, that too often are the result of syphilitic disease in the parent; when we realize the preventable ills that follow in the train of these venereal diseases, I wholly agree that the time has come when we should no longer refer to these matters by circumlocution, when for the good of the coming generations we should openly wage war against gonorrhoea and syphilis, and, above all, should, for the safety and welfare of our children, instruct them as to the dangers they must ward against, not merely on account of their own health and happiness, but for the sake of the generations yet unborn." In considering the subject Mr. Asquith might with advantage study this statement by one of the foremost of English-speaking pathologists. One of the essential duties of a Government is to safeguard the public health. We gratefully acknowledge that, owing mainly to the insistence of the medical profession and under its guidance, much has been done in recent times. But while pains have been taken to prevent the pollution of water, milk, and food supplies, nothing has been done to counteract the contamination of the community by one of the worst forms of disease.

A SURGEON OF THE GRANDE ARMEE.

At a meeting of the Académie de Médecine held on July 15th, M. Delorme presented a work by Eugène Tattet entitled, *Journal d'un chirurgien de la Grande Armée—L. V. Lagneau*, with an introduction by M. Frédéric Masson, the great authority on Napoleon.[1] Louis Vivant Lagneau, who in 1868 was the oldest member of the Academy, was born in 1781. He took his doctor's degree in 1803. His inaugural thesis dealt with the different methods of treating venereal diseases; this, successively revised and enlarged till it became a work in two volumes, passed through seven editions and was translated into German, Italian, and Spanish. Lagneau was about to start in practice when he was caught in the toils of the conscription and perforce became an army medical officer. In 1812 he was surgeon-major of a regiment of the Young Guard, and at Waterloo he was surgeon-major of the third regiment of the Grenadiers of the Old Guard. He saw much active service in Italy, Prussia, Poland, Spain and Russia. He was present at the battles of Eylau and Friedland, at many of the actions in the Peninsular War, and he was with the Grande Armée in Russia, where he was present at Smolensk, the Moskowa, Krasnöe, and Beresina. He was also at Lutzen, Dresden, Leipzig, and Hanau. He was wounded during the campaign in France at the Fère-Champenoise and at Waterloo, where his ambulance was at the farm of the Belle Alliance near that of Larrey. In the course of his twenty compaigns he jotted down his impressions every day in small notebooks. His narrative is simple, sincere and modest. He unconsciously reveals himself in the book. He could appreciate the works of art he saw, and being a vigorous man in the prime of life he was fond of good cheer and loved generous wine. He also liked pretty girls, and hints that he was successful in amorous adventures. He was contented though his pay was small, as we gather from a reference to the subject when he speaks of the campaign in Saxony in 1813. During the month of April that year he received 282 francs, 50 centimes, after deduction of 10 francs for the band, 6 for the Invalides, and 1.50 for the drum major. And yet he was luckier than many of his comrades, for after 1815 he went back to civil practice, and, settling in a flat for which he paid a rent of 1,100 francs, he earned 18,000 francs (£720) a year. The summary fashion in which the services of many surgeons were dispensed with at the end of each compaign gave rise to much dissatis-

[1] Paris: Emile-Paul frères. 1913.

faction. The medical officers of the Grande Armée had much to complain of, notwithstanding the constant efforts of Percy, the Surgeon-in-Chief, to obtain better conditions for them. A significant story is told of Bruyère, who, throwing up his commission as surgeon-major, took service again as a private, and quickly rose to be a General of Division and a Count of the Empire, whereas none of the great surgeons and physicians of the Napoleonic era gained any title higher than that of Baron. Lagneau's account of the disastrous retreat from Russia is particularly interesting. He had as comrades in the bivouac and on the march his general Robert, the commandant adjutant-major Guillemin, and Lieutenant Desprès. They suffered comparatively little from the deadly cold, because they had taken the precaution to get at Moscow suits of sheep-skin and a tent of very thick canvas. When they reached the bivouac their first care was to pitch their tent—almost the only one, he says, in the army—in a situation sheltered from the north wind, which was more injurious than the cold and snow. Most commonly they were able to have a little straw torn from the thatch of some hut to lie on; this protected them from the snow, which was the usual bed in these circumstances. Wrapped in his thick driving coat, and under a good fur rug which he brought from Moscow, Lagneau says he was "as comfortable as in his bed covered with eider down." He has something to say about the use of alcohol in cold countries. He learnt by experience that in cold countries men can take alcoholic liquors without ill effects. As a rule he drank none of these liquors, which he did not like, and which caused in him a spasm of the pharynx. But in Russia he sometimes drank brandy and rum without any repugnance, and far from feeling the spasm of the throat, he says he would have allowed himself to drink too much if he had not thought it prudent to stop, for it seemed to him that he was only drinking water. As soon as he reached a warmer climate, and had plenty to eat, he no longer took brandy, which he drank only when rations ran short. There is a good deal in the book as to the difficulties and dangers of surgery in the field, and Lagneau, who was a shrewd observer, makes interesting remarks on many military personages with whom he was brought in contact. His experience may be compared with that of Baron Percy, who also kept a daily journal on campaign, which formed the subject of an article published in the JOURNAL of January 7th, 1905, p. 37.

THE OXFORD OPHTHALMOLOGICAL CONGRESS.

THE annual Ophthalmological Congress held in Oxford on Thursday and Friday, July 17th and 18th, was attended by about seventy members. Amongst the distinguished foreign ophthalmic surgeons present were Professor Emil de Grósz of Budapest, Dr. Igersheimer of Halle, Dr. Franz Deutchsmann of Hamburg, and Dr. Marvas of Paris. There was also a large number of American surgeons present, including Dr. Weeks and Dr. Marple of New York, and Drs. John McReynolds, Howard Hansell, Hulen, Begle, Ray, and W. H. Adams. Canada was represented by Dr. Reeve of Toronto and Dr. Kerry of Montreal. On the Thursday morning addresses were given by Professor de Grósz, Dr. McReynolds, Dr. Igersheimer, and Colonel Elliot of Madras. The Scientific Museum contained numerous interesting exhibits, notably Deutchsmann's macroscopic and microscopic preparations illustrative of the transmission of sympathetic ophthalmia, Dr. Thomson Henderson's microscopical preparations, and Mr. Head's paintings of the eyes of animals. After luncheon cases were shown at the Eye Hospital by Messrs. Zorab, Harriss, Jones, Ridley, and Adams, and several surgeons described details of certain operations there practised. Tea was served at the Eye Hospital, and at night the official dinner was held in Keble College, with Professor Sir William Osler in the chair. On Friday addresses were given in the morning by Drs. Marvas, Deutchsmann, Ridley, Harrison Butler, and Edridge-Green. In the afternoon an interesting discussion on the present position of ophthalmology was opened by Mr. R. W. Doyne, Master of the Congress. Tea took place in the gardens of Worcester College, Lady Bradshaw acting as hostess. After dinner a smoking concert was held in the Junior Common Room at Keble College, bringing to a conclusion what was probably the most interesting and most successful Congress yet held.

INTERNATIONAL ASSOCIATION OF THE MEDICAL PRESS.

As has already been announced, the sixth congress of the International Association of the Medical Press will take place in London on Tuesday, August 5th, the day preceding the opening of the International Congress of Medicine. The Congress of the Press will be held in the Senate Room of the University of London (Imperial Institute, South Kensington), under the presidency of Professor Lucas-Championnière, member of the Institute of France, and President of the Association. The morning meeting will be held at 11 o'clock, when Dr. Squire Sprigge, president of the British Section, will welcome the international guests. Professor Lucas-Championnière having given his presidential address, the Secretary General of the International Association, Dr. R. Blondel, of Paris, will report on the proceedings of the Association since its last meeting. The first discussion will be upon the question of the international reform of medical terminology, and will be introduced by Dr. Blondel. Professor Posner, editor of the *Berliner klinische Wochenschrift*, will then introduce a debate upon the responsibilities of a medical journal with regard to advertisements. The editor of the *Lancet* has issued invitations to lunch at the Hyde Park Hotel, Knightsbridge, at 12.30 p.m. The discussion will be resumed in the afternoon.

INSURANCE ACT AMENDMENT BILL.

THE Standing Committee of the House of Commons to which the Insurance Act Amendment Bill was referred had not concluded its business before we went to press. We invite the attention of readers to the report of the proceedings of the Committee which will be found in the SUPPLEMENT, and particularly to the concluding portion. As will be seen, the Committee agreed on Wednesday to sit late on Thursday so that the bill as amended could be printed and circulated at the end of this week. The intention of the Government is to pass the bill before the House rises this session, and in view of the compromise arrived at between the political parties in the Standing Committee on Wednesday there seems no doubt that this object will be attained.

THE Home Secretary is about to appoint an additional medical inspector of factories to work under the direction of the senior medical inspector. The salary offered is £500 a year, rising by annual increments of £20 to a maximum of £700. Candidates, who must be between the ages of 25 and 40, should apply before August 15th to the Private Secretary, Home Office, Whitehall, S.W.

FOUR English doctors have recently died of typhus fever in China. The names of the victims are Drs. H. S. Jenkins, Cecil F. Robertson, Egerton H. Hart, and F. Hall. Dr. Jenkins, of the English Baptist Mission, was stationed at Sianfu, Shensi. He was M.D. of London University and a Fellow of the Royal College of Surgeons of England. Dr. Robertson, M.B., B.S.Lond., and F.R.C.S., was also stationed at Sianfu. Dr. Hart was widely known in China, and spent the last eighteen years of his life in charge of the Wuhu General Hospital. Dr. Hall for the past four months had acted as Dean of the Union Medical College of Pekin.

ANNUAL MEETING NOTES.

Of a good many features of the annual meeting at Brighton we gave an account last week. As, however, the Journal went to press while the meeting was still in progress the references were necessarily incomplete. Brief summaries of the work done in each of the sixteen Sections on the first day were given last week, and in the present issue will be found an account of what happened in these Sections on the last two days of the meeting. There was some reason to believe that owing to the holding of the International Congress the scientific work done at Brighton would fall short of the usual standard, but in the event this fear was entirely falsified. There were many prolonged and informing discussions, and the attendance at Sectional meetings was fully up to the average. A detailed account of all that was done in the Section of Medical Sociology, the work of which was very successfully organized by Dr. Rowland Fothergill, appears in this issue; while in the Supplement, together with other matter, will be found an account of the speeches delivered at the annual dinner and of the Conference of representatives of Local Medical Committees. The Pathological Museum and the Annual Exhibition, both of which were the subjects of notes last week, will be described in full in a later issue.

The Aftermath.

The general impression left by the Brighton meeting is one of indisputable and brilliant success. Bringing to bear not only goodwill but a remarkable amount of organizing ability, the members of the local executive annihilated all difficulties and developed all natural advantages to the full. In their work they had the assistance of a very large number of lay residents, with the Mayors of Brighton and Hove at their head, while there can be very few medical men in the area to whom the Association does not owe its thanks. Probably even Dr. Ainslie Hollis, the chairman of the General Committee of Management, does not really know to whom, of all those enlisted in its service, special thanks are due, and it would be futile for any one else to attempt to distribute credit. Dr. L. A. Parry, in the performance of the multiple duties of a general local secretary, not only achieved success but won many friends through his unfailing courtesy and tact. Dr. Stanhope Eves, who, as we mentioned last week, was the secretary of the Excursions Committee, played a very active part in conducting them to a successful issue. Dr. Geoffrey Bate, whose special field of operation was general entertainments, including cricket and fireworks, Dr. S. Bradley Figgis, who made the arrangements connected with the annual dinner, Drs. Charles H. Benham and Arthur M. Collcutt, who were responsible for the reception given by the Division on Friday, and Dr. Walter Broadbent and Dr. Mantell Daldy all contributed to the amenities of the meeting; and it was quite in keeping with the nominal duty of Dr. Ernest Burchell—that of secretary to the Printing and Publishing Committee—that he should play the part of a walking encyclopaedia, always to be found and ever ready to help in the solution of difficulties.

Arundel Castle.

There are many historic houses in Great Britain, as also a large number of more or less ruined castles, but of castles still in the occupation of the families which originally owned them, and still presenting much the same appearance as they did hundreds of years ago, there are very few. One of them is Arundel, which dominates the small town of that name about twenty miles from Brighton. A large party drove over there in motor coaches on Saturday afternoon, and, after being very courteously received by the mayor at the ancient corporation building, was accorded an opportunity of visiting the beautiful interior of Arundel Castle itself. Its occupation by the same family has scarcely been interrupted during several centuries: and, as much labour has been spent on its upkeep, it affords perhaps a better conception of the appearance and arrangement of a great castle in early days than almost any other building in the United Kingdom. Apart from the interest lent to the visit by this fact its owner, the fifteenth Duke of Norfolk, Earl Marshal of England, occupies a special place in the public esteem as the lay head of the Catholic community in the United Kingdom, and as a peer who, in addition to affording much other evidence of public spirit, went out to South Africa during the war at the head of a troop of yeomanry. It is very rarely that the doors of the inner castle are thrown open to other than private friends of the family, and on the present occasion his Grace, accompanied by the Duchess and her children, paid the Association the marked honour of receiving its representatives in person, and helping to dispense the material hospitality provided in the dining hall. In addition, when the visit (which lasted over two hours) was over, he came out into the grounds to say good-bye to each of the party separately. The FitzAlan Chapel, which lies between the inner and outer walls of the chapel, was also thrown open to inspection, and a band was playing under the trees near by.

Eastbourne.

Early in the week it was foreseen that the opportunity of comparing Eastbourne and Brighton afforded by one of the excursions projected for Saturday was going to prove an extremely popular event, and in the end resort to the ballot became necessary. About a hundred tickets were available, and those whose names emerged found ample reason before Saturday was over to congratulate themselves on their good fortune. From the moment of their arrival at Brighton Station until their return thereto late in the evening they were the guests of the Mayor (Alderman C. W. Bolton) and Corporation of Eastbourne and of the members of that Division of the Association. The special train which conveyed the guests to Eastbourne arrived there soon after 10.30 a.m., and two hours were then devoted to exploring under the guidance of various members of the Organizing Committee, including Drs. Muir-Smith and Merry, the town and promenades. Shortly before one o'clock the guests reassembled at the Town Hall, where they were received by the Mayor and enjoyed an excellent luncheon. A few speeches followed, one being the proposal of a toast to the British Medical Association by the Mayor himself, who paid a high tribute to the medical profession and said that he was proud to belong to a medical family. While extending a hearty welcome to all, Eastbourne felt specially honoured by the presence that day of the President of the British Medical Association, Dr. Ainslie Hollis; of the Chairman of its Council, Dr. J. A. Macdonald; and of its Medical Secretary, Dr. Alfred Cox. The toast was acknowledged by Dr. Ainslie Hollis, who ventured to predict that Eastbourne would one day be the head quarters of the Association at an annual meeting. Then followed a toast to the Mayor and Corporation, which was happily proposed by Dr. L. A. Parry, and acknowledged by Alderman Dr. C. O'Brien Harding, who, in the course of his remarks, made reference to the value placed by the corporation on the services of its medical officer of health, Dr. W. G. Willoughby, and of his assistant, Dr. Muriel Bywaters. The afternoon was taken up by an expedition in carriages to Hampden Park and Beachy Head, where tea was served, and on getting back to Eastbourne the guests found a further round of enjoyment awaiting them. After a sumptuous dinner had been served in the great hall at Devonshire Park—which was made available by the courtesy of Mr. Roland Burke and Mr. E. A. Brown—

the Chairman of the Eastbourne Division, Dr. Harper, proposed a toast to the Association, and, while doing so, humorously built up a theory to the effect that they were dining in what was necessarily the queen of all watering places, because Sussex was the pick of English counties and Eastbourne the pick of Sussex towns. In the middle of his speech the electric light suddenly failed, but Dr. Harper, in no way daunted, completed his remarks in the dark. It may be recalled that a similar incident occurred at the conversazione in the Bute Hall during the annual meeting at Glasgow in 1897, and again at the conversazione in the Hancock Museum at the Newcastle meeting a few years later. On those occasions the accident was more serious, since the light could not be restored, while at Eastbourne after a few minutes' darkness the room was once more ablaze. Dr. J. Macdonald (who rose to reply on behalf of the Association amid continued applause) made amusing use of this incident, and then spoke in glowing terms of the services for which the Association was indebted to the Representative of the Eastbourne Division, Dr. J. H. Ewart—an allusion which elicited an outburst of appreciative recognition. The toast list also included one to the ladies, which was proposed by Dr. Ewart in a brief speech, characterized by his customary and very happy sincerity of manner, and shortly after this the party adjourned to the grounds. These were beautifully illuminated, and the proceedings finally terminated with a brilliant display of fireworks. Shortly before 10.30 the signal for departure was given, and another special train conveyed away representatives of the Association, who, despite the absence of either a chairman or of standing orders, were all of one mind, this being the equivalent of a vote to the effect that they were extremely grateful towards all those who had assisted in the perfect organization of an expedition which had proved one of the most enjoyable ever provided at annual meetings.

Portsmouth.

SATURDAY'S expedition to Portsmouth was a great success, the medical practitioners in the chief naval port of the empire, in common with its municipal authorities and the heads of the senior service, proving untiring in their efforts to make the day interesting. Immediately on arrival the visitors made a bee-line for the old *Victory* in Portsmouth harbour, where they were shown the operating table formerly used in the cockpit, and received a vivid account of ship-board surgery at a time when tar was commonly used to stop bleeding. Then came a tour through the dockyard by permission of Sir Hedworth Meux, after which, as guests of the Portsmouth Division, the visitors assembled at luncheon in the town hall, whose banqueting chamber had kindly been placed at the Division's disposal by the Mayor. About 150 sat down under the chairmanship of Mr. C. P. Childe, who subsequently expressed a cordial welcome on behalf of the Division. This welcome was also endorsed by the Mayor and by Fleet-Surgeon Maitland, a suitable response being made by Dr. C. Peacocke of Dublin, and by Dr. G. Jackson of Plymouth. The welcome and hospitality was also acknowledged by Dr. E. Snell, cicerone of the party from Brighton, who said that it was by the co-operation of neighbouring Divisions that the week's work at Brighton had proved so successful. In the afternoon the party split up into three divisions, some members being conveyed by private motor-cars to Whale Island, and others going in steam launches either to Haslar or to H.M.S. *Vernon*. Those electing to go to Haslar had an interesting glimpse of the organization of a great naval hospital. Under the personal guidance of the surgeon-general, the wards, the x-ray and other departments, the laundry and power-house, the museum (in the possession of which, we believe, Haslar stands alone among naval hospitals), and the theatre (for dramatic performances, not operations), were all duly inspected, and afterwards the visitors strolled in the pleasant grounds, forty-eight acres in extent, which surround what is not only a hospital, but a colony. The return journey, as far as most members were concerned, was made by way of Southsea, where the guests were served with tea on the lawn of the Queen's Hotel. The local executive, however, had also very thoughtfully made arrangements by which those who wished could return to London direct, leaving almost at the same hour as the rest of the party.

Lewes.

ONE of the pleasantest memories of the week is furnished by an expedition to Lewes, which took place on Friday. A cleanly, healthy-feeling town, lying near one of the lower crests of the many earth waves presented by the South Downs, it enjoys the advantage of being ruled by men who show a respect for the past, such as, in this Vandal age, is distinctly attractive. Thanks to this fact, what now remains of historic Lewes is not only carefully preserved, but has been very thoroughly studied and was seen to the best advantage under the guidance of Dr. Hugh Stott, the Mayor of this county town, and of some of his officers, two of whom supplied a short description of the corporation regalia while the party was refreshing itself in the town hall on first arrival. The afternoon included a visit to the castle, under the shadow of which Mr. Frankfort Moore, the novelist, has built himself a home of exceptional beauty. A virtuoso of catholic taste and with a true collector's *flair* for what is really beautiful as distinct from merely antique, he has brought together enough china, glass, and armour to occupy many days' study, and has arranged a good deal of ancient carving in such fashion that only the cognoscenti would detect that the panelling of the rooms was composite. Equally clever is the arrangement of the grounds, which, suggesting several schools of gardening, yet manages to combine their leading features harmoniously. While tea was served in the billiard room, Dr. Walter Broadbent expressed the thanks of the visitors, and thus drew from Mr. Frankfort Moore a courteous little speech presenting the happy phrasing which would naturally be anticipated from this gifted writer.

Tunbridge Wells, Worthing, and Chichester.

TUNBRIDGE WELLS, Worthing, and Chichester were among the places which gracefully offered hospitality to members of the Association during the week of the meeting, all three expeditions taking place on the same day—namely, Saturday. Tunbridge Wells lies somewhat far afield so far as Brighton is concerned, so the party went there by train, being met on arrival by Dr. C. R. Watson, Dr. Francis Riley, and other members of the Division which kindly arranged the visit. Luncheon at the Wellington Hotel followed, the visitors being the guests of the Tunbridge Wells Division, and shortly afterwards a number of motor cars arrived and took the party for a long drive, during which they were able to see something of the beauties of Tunbridge Wells itself and also of Penshurst Place, whose owner, Lord De L'Isle and Dudley, had obligingly thrown it open for inspection. On getting back to Tunbridge Wells between four and five after a very pleasant outing the whole party attended a reception at the Town Hall, where they were entertained at tea by the Mayor, and the opportunity was taken by Mr. Verrall for acknowledging the obligations of the Association to the town, and especially of those members who had been able to enjoy the hospitality both of the Mayor and of the Division.

Worthing, whose claim to equability of climate is supported by its repute as a flower and fruit producing centre, is easily reached from Brighton, so the members who had opted for this expedition—which was arranged by Dr. Mortor

Palmer—did not have to start until nearly midday. The first event was a pleasant luncheon party, with the medical profession of Worthing as hosts. This was followed by a few toasts, the first being one to the visitors, which was neatly proposed by Dr. Ayton Gostling, who was in the chair, and as happily acknowledged on the part of the guests by Dr. Thomas Neill of Dublin and Dr. Vernon Dodd of Folkestone. A further toast was to the Mayor of Worthing, this being proposed by Dr. F. Hinds of Worthing, and suitably acknowledged. The toast list ended, the party went for a long drive, which enabled them to see two famous old churches, Broadwater and Sompting, and also Cissbury Hill. At the latter a further halt was made, during which some of the members climbed to the top and were rewarded by a splendid view. The day ended with a garden party given by the Mayor, the visitors getting back to Brighton just before dinner time.

The party for Chichester started from the Pavilion shortly before 10 o'clock, and arrived at Chichester after a very pretty drive which lasted some two hours. In the course of the day they managed to obtain a good idea of the many attractions Chichester offers to the archaeologically-minded. The first hour after arrival, however, was occupied by a visit to some preserved meat works, whose owners, Messrs. Shippam, after the party had had a glimpse at the ruins of a Franciscan monastery, very kindly entertained the party at luncheon. This took place in the lecture hall of Chichester's Museum, and was followed by an interchange of compliments between the visitors and residents, the speakers including Dr. Stanhope Eves, who represented the Brighton executive, Dr. R. F. Jones, of British New Guinea, and Professor Potts, of Omaha, U.S.A. Next came a walk round Chichester, which embraced an exploration of the Cathedral, where the visitors were met by Dean Hannah, and had the various features of special architectural interest which this building presents explained to them by Prebendary Bennett. The custos of St. Mary's Hospital also very kindly showed them over this interesting habitation, one of those ancient guest houses for the reception of all and sundry from which modern institutions for the reception of the sick obtain their name. It is still used practically for its original purpose, though its guests are now permanent residents. Before the members of the party commenced their homeward journey they were kindly entertained at tea by the Mayor and Mayoress, Councillor and Mrs. Garland.

Boulogne.

By way of leaving none of Brighton's facilities unused, the Executive on Saturday afforded an opportunity to as many bold spirits as pleased to cruise over to Boulogne. When the morning broke a fairly strong north-east breeze was blowing, and this reduced the number of prospective voyagers to about twenty. The courage of these was rewarded, however, by an absolutely smooth passage both going and returning, and, thanks to this circumstance, the day proved thoroughly enjoyable. On their arrival the visitors were welcomed on the quay by Dr. J. A. Philip, who for some years has been established in Boulogne, and by Mrs. Philip, and under their kindly guidance repaired to the town hall, where they received a further welcome from *M. le Maire-adjoint* (Monsieur Haffriengue) and from a number of French medical men. These included Dr. Henri Gros, Dr. Fourmantin, and Dr. Blanchetière, who fills a position in Boulogne resembling that of a medical officer of health in this country. The ceremony included the emptying of sundry glasses of champagne coupled with the expression of appropriate sentiments, these being voiced on the part of the visitors by Dr. Mondelet of Hove, who spoke much as follows: "Permettez-moi de vous exprimer le plaisir que j'éprouve, et l'honneur que je sens, d'avoir été choisi par mes confrères, membres de l'Association Médicale Britannique qui célèbrent le quatre-vingt-unième anniversaire de son existence, pour vous adresser, à l'occasion de nôtre visite à votre charmante et si bien connue ville de Boulogne. Inutile pour moi, cher monsieur, de vous dire qu'une occasion comme celle-ci devra, et doit de nécessité, augmenter et intensifier 'l'Entente Cordiale' qui existe déja entre deux grands pays comme la France et l'Angleterre, qui ne sont séparés que par la courte espace d'eau que nous avons traversé ce matin. Je suis certain que j'interpréte les sentiments de mes confrères quand je vous remercie sincèrement et infiniment pour votre politesse et votre aimable réception—réception qui nous a procuré l'occasion et l'avantage de visiter en détail, tous les endroits et objets d'intérêt de votre belle ville. En vous disant adieu, nous répétons nos remerciments pour la réception que vous nous avez accordé, et nous vous souhaitons à vous personellement, Monsieur le Maire et à tout Boulogne, tout succès, et toute prosperité." Subsequently the party visited the principal buildings of Boulogne, and re-embarking shortly before 6 p.m., got back to Brighton about 10 o'clock.

The Ladies' Committee.

At annual meetings arrangements are always made to fill in the morning hours for the welcome contingent of ladies who arrive in company with husbands, brothers, or fathers, but have neither title nor inclination to attend the sectional meetings. In Brighton this problem was solved with exceptional success. Apart from arrangements for tennis and for golf, visits to various places of interest in the town, such as the Municipal Training School for prospective housewives, were arranged, and there arrived each morning at the Pavilion a number of private and other motor cars ready to take the ladies for drives in the neighbouring country. Furthermore, tea was served in the ladies' drawing-room on several afternoons of the week, and throughout the day a number of lady stewards were in attendance. In short, the Chairman of the Ladies' Committee, Mrs. R. F. Jowers, and its very active Secretary, Miss Hollis, together with its other members, are to be congratulated, not only on having organized their work on sound lines, but on having taken care that everything it was proposed to do should actually be done.

Flying.

Lancing and Shoreham were both among the places explored during the week, a joint and very large party visiting them in motor cars on Friday. Arrived at Shoreham, one division went off to visit Bungalow Town. This is the name applied to a mile-long line of houses erected within a few yards of the sea, on a bank of shingle lying a considerable distance from the true shore. Originally the "town" consisted of a collection of dwellings improvised out of old railway carriages and the like, but is now an array of more or less picturesque cottages, which, though designed chiefly for lovers of open air, are quite comfortable dwellings. Several of them were obligingly thrown open to inspection by their owners, and Dr. C. Rawdon Wood, medical officer of health for Shoreham, who accompanied the party, testified to their healthiness. Subsequently the party took tea as the guests of the Shoreham and Lancing Land Company. The other division went off to Lancing College, a beautifully-situated public school for 300 boys. Here they were entertained by the head master, the Rev. H. T. Bowlby, and visited the various buildings, which include a remarkably fine chapel built in Gothic style. One of the members of this party was Dr. Rayner, who expressed the thanks of the guests for the hospitality received. Later on the two divisions reunited at Shoreham to witness an aëroplane display in the aviation grounds. The flyers were Monsieur Brégi, with a Brequet passenger biplane, and Mr. Eric Pashley, who, using a Henri Farman biplane,

startled every one by the rapidity and multiplicity of his movements. It was open to any visitor who pleased to take a flight as a passenger, and the notices relating to this matter which were posted at the Pavilion thoughtfully stated that the fee of one guinea charged was a return fare. Details were not, however, supplied as to the exact fashion in which passengers would return to earth, and possibly for this reason none of the party seemed disposed to dispute the saying that lookers-on see most of the game. Nevertheless, Monsieur Brégi did not go up passengerless, since a lady, Mrs. Buller—herself an experienced flyer—accompanied him.

Municipal Institutions.

THE staffs of several hospitals in Brighton, including the Lady Chichester Hospital, which is officered entirely by medical women, were "at home" on one or other day of the week; and under the guidance of the medical officer of health, Dr. Duncan Forbes, a considerable number of members took advantage of the arrangements made by the health and some other committees of the corporation for the inspection of the institutions under their control. The places visited included the abattoir, where a practical demonstration of the up-to-date methods employed was given, the school clinic where the Society of School Medical Officers was holding its summer meeting, the sanatorium which was established mainly as an educational institution some seven or eight years ago by Dr. Arthur Newsholme, now Medical Officer to the Local Government Board, who was among the visitors; the laboratory where the milk supply of Brighton is controlled, and a new elementary school which has recently been built on somewhat elaborate lines, and includes baths and glass-covered verandahs. In reference to this school, Dr. Duncan Forbes mentioned that the rules relating to the baths included the provision of a clean towel for each child every time that it took a bath. The Chairmen of the committees and subcommittees concerned accompanied the parties, and refreshments were provided.

Garden Parties.

SEVERAL garden parties took place during the week, the first of these being given by Mr. L. T. Thring at Wick School. The boys being fortunately still in residence, the visitors, among other pastimes, witnessed a cricket match between the Wickonians and a rival school, and received fresh evidence of the eternal fitness of things, through the home team rapidly putting together over 200 runs, and then declaring the innings closed. The second took place in some large well-wooded gardens surrounding a chalybeate spring which, under the name of St. Ann's well, formerly enjoyed considerable repute. They lie within the boundary of Hove, and Alderman and Mrs. Barnett Marks, the mayor and mayoress, had the pleasure of seeing their hospitality enjoyed by many hundred guests. The third and fourth entertainment of the same order were both given on Friday, one by Dr. and Mrs. Meyrick Holmes at Sylvan Hall, the other by the Misses Lawrence at Roedean. Sylvan Hall, which is used as a residence for patients, has charming grounds, and these were explored to the strains of an excellent band. It is situated on the Lewes Road, within easy reach of the centre of the town, but Roedean is some little distance from Brighton. The name represents a girls' boarding school, which, in respect of the size of its buildings, their equipment and the number of pupils, outvies many of our great public schools for boys. Having a host of youthful talent at their command, the Misses Lawrence had no difficulty in providing ample amusements for their guests, the entertainment including music, a short Latin comedy entitled *Medicus*, a cricket match, and an ambulance display.

A Masonic Greeting.

A WEEK or two before the Annual Meeting commenced we announced that the Master, Wardens, and Brethren of the Hova Ecclesia Lodge had in view the holding of a special lodge for the purpose of greeting those members of the Association who are Masons. This greeting was duly accorded on Wednesday, and, apart from constituting, to the best of our belief, a new departure in the history of annual meetings, included the delivery by the Worshipful Master, the Rev. W. R. Dawson, of a short speech which describes the attitude of Masons towards the medical profession and one another so happily that we reproduce the greater part of it. After a few initial remarks, the Worshipful Master said: Believe me, brethren, this greeting to you from our lodge is no mere formality. During the next few days you will learn—did you not know it already—that Brighton and its inhabitants love to pay homage to those of your profession. You will be fêted, honoured, welcomed, wherever you go. But no greeting will be more sincere, no welcome will sound a deeper, truer note than that welcome which you receive now. For the link that binds you to us is no ordinary one—it is not a bond to be lightly talked of—to be carelessly thrust aside as a thing of naught—it is a link in a chain forged back in the days of our great Founder: it is strong, it is sure, it is firm, it is true. In a very real sense you are our brethren. To us and to you masonry means something. It stands for much in our lives. It represents much of what time has proved good. Little wonder, then, that our greeting to you is a hearty one. For we of this Lodge realize—as all true Masons must realize—that no profession has higher aims or nobler ambitions than that profession to which you have the honour to belong. By self-sacrifice, by devotion to duty, and by sympathy has the great reputation of your profession been built up. And these are virtues not unknown, not unshared, among Masons. For the life which is foreshadowed for us as Masons is the life of charity—a charity interpreted in its broadest sense, a charity based on the virtues characteristic of your profession, not a narrowing charity which pauperizes and destroys self-respect—the charity we, all of us, right through our lives crave for—a charity which means good fellowship and sympathy—a charity which uplifts, elevates, and inspires. And here, as laymen, we stand on common ground with our brethren of the medical profession, for it is round this charity that all your work centres. In your work we respect you, for your ability we honour you, for your sympathy from our hearts we greet you, as brethren we have been proud to have you here. In the days to come it will be a memory which we shall like to dwell upon. For a few brief moments you have come into this Lodge to sympathize with us in our work here, to receive our welcome, and once more to have the seal of approval set on your life's work by the Great Architect of the Universe. May He reward you for your self-sacrifice, may He bless you in all your undertakings. Brethren, on behalf of the Hova Ecclesia Lodge we greet you.

Dancing and Plays.

HOVE TOWN HALL during the week of the meeting saw many sights, the last of all being a brilliant reception on Friday night. This was given by the President and Executive Committee of the Brighton and Hove Division, and was attended by so many members in academic robes as to constitute a cinematographic illustration of the long article which we published just before the Annual Meeting in 1910 in regard to academic dress. The guests were received by Dr. and Mrs. Hollis in the great hall, wherein excellent vocal and instrumental music was subsequently in progress throughout the evening. The council chamber and two or three others were arranged as supper rooms, and

twice during the evening the banqueting hall was thronged by those anxious to witness the performance of two plays, entitled *The Doctors* and *The Fatal Gift*. Both were produced by their author, Mr. Frankfort Moore, and both proved highly interesting. The second name is based on one of Mr. Moore's novels bearing the same title. Equally successful was the reception given by the Mayor and Mayoress of Brighton earlier in the week at the Pavilion, to which brief allusion was made in our last issue. There is probably no building in the kingdom which lends itself to entertainments of this order so well as the Dome and the Pavilion when united as they were on this occasion by a covered way, and things went with a swing from beginning to end. Apart from its attractiveness in other respects, this reception was interesting as the scene of a somewhat novel experiment. At several previous meetings there has been a little dancing, but the question of whether terpsichorean exercise appeals to attendants at annual meetings had not until this year been put to a full test. At the Pavilion three of the large rooms possess excellent floors, and each of them was provided with an equally excellent band. Furthermore the hosts of the evening, Mr. and Mrs. C. Thomas-Stanford, had established controls in the shape of two concerts in the Dome, together with ample provision for card playing, the net outcome of the lavishness of the arrangements being to convert the evening into a thoroughly scientific investigation of the problem in question. Despite their great size, the dancing-rooms were so crowded from about nine o'clock till half-past one as to make it clear that the human instinct towards dancing in moments of gaiety is not extinguished by learning, and not more than slightly diminished even by age.

Golf, Tennis, and Cricket.

One of the events on Saturday was a cricket match at Brighton College, got up by Dr. Geoffrey Bate, during which the boys thoughtfully took care that visitors should conclude their week by ample exercise. Winning the toss, they remained in until tea-time, when, having made a huge number of runs, they declared their innings closed, subsequently dismissing the visitors for about a hundred. Golf was in progress during the whole week, thanks to the owners of various golf clubs in the neighbourhood, and especially of the East Brighton Club, whose genial secretary, Mr. Montagu Toller, among other good-natured acts, undertook the supervision of this year's competition for the Ulster Cup. For this there were over sixty entries, play taking place on a sunshiny day when there was just sufficient breeze blowing to demand consideration. More than one previous winner was among the competitors, and Mr. Albert Lucas of Birmingham very nearly annexed the cup for good. In the event, however, the winner this year proved to be Dr. H. L. Hatch of Pinner, who was 1 up on bogey with a handicap of 15. For the second place there were five ties—R. A. Clapham (Brighton) and G. Steele-Perkins (London), each with a handicap of 2; T. Sansome (West Bromwich) with a handicap of 3, Albert Lucas (Birmingham) with a handicap of 7, and C. T. Hunter (Newcastle) with a handicap of 18. These five players were all square, three others being 1 down, three 2 down, and seven 3 down. The handicapping therefore worked out very efficiently. The winner, who played rather late, was partnered with Mr. Hey Groves of Bristol. The other competitors included Dr. Haslip (London), and Mr. D. F. Todd (Sunderland), who have proved victors on previous occasions. There was also an optional sweepstake of 2s. 6d., thirty-six members fancying their chance sufficiently to join therein. Among them was the winner of the cup, who took two-thirds of the pool, the rest being divided among the five who tied for second place. The arrangements so far as male players were concerned were in the hands of Dr. Stanhope Eves, while Mrs. Sansome provided for the needs of lady golfers. These likewise worked out successfully, and included a competition for a prize presented by Mrs. Barnett Marks of Hove. Nor were tennis players forgotten, the arrangements for their comfort, which covered the provision of luncheon, being made by Mrs. Hobhouse.

On the Sunday preceding the meeting the National Temperance Association made successful arrangements for the deliverance of addresses on the subject of temperance by various medical men at towns in the neighbourhood of Brighton, and on the following Thursday once more gave the breakfast which has long since become an established feature of annual meetings. The proceedings on this occasion included an address from Mrs. Scharlieb, of which some account may subsequently be furnished. The Irish Medical Schools' and Graduates' Association was likewise one of the bodies which seized the opportunity for holding a meeting; it included a luncheon party, at which a very large number of guests were present.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

Mental Deficiency Bill (Scotland).

At the sitting of the Committee on July 23rd, further progress was made, and at the end of the sitting Clause 49 had been added to the bill.

Clauses 30, 32, and 50 were postponed, and Clause 45 was disagreed to.

The only important amendment, from the professional point of view, made in the intervening clauses was one in Clause 34, enabling officers employed in institutions under an order to be admitted as pensionable for the purposes of the Asylums Officers' Superannuation Act, 1909.

On Thursday, July 24th, Clauses 51 to 57 were agreed to, except that Clause 54, which relates to pauper lunatics, was withdrawn. Later on also Clause 50, which relates to the protection of female defectives, was disagreed to, a new and more detailed clause being substituted on the motion of Mr. McKinnon Wood.

A further clause, also dealing with religious questions, was brought up by Mr. McKinnon Wood and added to the bill. The other clauses of the bill, with the exception of various amendments relating to assessment questions, were passed without material amendment, and the whole bill and the schedule finally passed through Committee to be reported to the House.

A new clause relating to the asylums officers' superannuation is of sufficient professional interest to be quoted in full:

1. For the purpose of reckoning the length of service of an established officer or servant in an asylum in Scotland to which the Asylums Officers' Superannuation Act, 1909, applies any time previously served by him in a parochial asylum or in the lunatic ward of a poorhouse shall be treated as if it had been served in a district asylum.

2. The contribution which, under Section 12 of the last-mentioned Act as applying to Scotland, is required to be made by the district board of an asylum from which an established officer or servant has removed shall, where that asylum was a parochial asylum or the lunatic ward of a poorhouse, be made out of the poor rate by the parish council by which that asylum was maintained.

Mental Deficiency Bill (Ireland).

Mr. Watt asked the Chief Secretary for Ireland whether he proposed to introduce a Mental Deficiency Bill for Ireland; and, if not, why this exception was made, in view of the fact, stated by the Royal Commission on the Care and Control of the Feeble-minded, that 66 per cent. of the 25,415 mentally defectives in Ireland, outside of asylums, were in need of immediate provision being made for them, whereas in England and Wales the percentage was 44, and

in Scotland 35. Mr. Birrell said that it would be impossible to introduce a Mental Deficiency Bill for Ireland during the present session.

Public Health (Prevention and Treatment of Disease) Bill.

This bill was read a second time on Wednesday, July 23rd. Dr. Addison raised a question as to the position of the Metropolitan Asylums Board which Clause 4 of the bill proposes to constitute a sanitary authority for the purpose of the institutional treatment of disease. He objected to any powers being given to the Board which would take away from the County Council any of its powers and responsibility in connexion with the provision of treatment for tuberculosis and other diseases. In reply Mr. Burns said that there was no intention under the bill of devolving upon the Metropolitan Asylums Board any of the public health duties and functions now exercised either by the borough councils or by the County Council. A further statement was made by Mr. Burns, the effect of which apparently is that he proposes to delete the powers to provide laboratories given to county councils under Clause 3 of the bill.

Considerable opposition has arisen in the House to the proposals in their present form in respect to the Metropolitan Asylums Board. It is possible, however, that should the bill meet with material difficulties in Committee and not obtain sufficient time, its purposes may be obtained by the amendments of which notice has been given to the National Insurance Act Amendment Bill in respect of increasing the powers of county councils in connexion with the treatment of disease. It is rumoured in the House that the deletion of the words relating to laboratory facilities was granted in order to meet the opposition of some of those members of the House who have been disappointed at the recent proceedings on the Dogs Bill. An amendment, however, has been placed on the paper by Mr. Astor and Dr. Addison to insert the words "diagnosis and" before "treatment," so as to enable county councils to make proper provision for the diagnosis as well as for treatment of disease. It is difficult indeed to understand how proper treatment could be carried out unless proper means were available for making a diagnosis, but in view of the deletion of the words respecting laboratories, it would appear that the members concerned wish to have the point definitely stated.

Education (Scotland) Bill.

This bill as reported from Standing Committee was considered in the House on Thursday, July 24th. Clause 3, which relates to the duties of school boards in respect of the medical treatment of school children, was under consideration. The bill did not come on till after eleven o'clock, and, in view of the lateness of the hour, after a short discussion, the debate was adjourned.

Highlands and Islands (Medical Service) Bill.

This bill was read a second time on Thursday, July 24th, and was sent to Standing Committee. No opposition was offered to the bill.

The bill provides that there shall be paid out of money provided by Parliament annually the sum of £42,000, to be called the Highlands and Islands (Medical Service) Grant, which shall be administered and applied by a board, called the Highlands and Islands (Medical Service) Board, appointed under the Act in accordance with schemes prepared and approved by the Secretary for Scotland with the consent of the Treasury for the purpose of improving medical service in the Highlands and Islands of Scotland and otherwise providing and improving means for the prevention, treatment, and alleviation of illness and suffering therein.

The second clause relates to the appointment of the board. It is to consist of not less than five and not more than nine members appointed by the Crown, one of whom shall be appointed as chairman. The board may act by any four, or, if the total number is six or less, by any three of their number. The Secretary for Scotland may appoint a secretary to the board, and, with the consent of the Treasury, appoint and employ such officers and servants as may be necessary, and may remove them if required. The salaries of the secretary and officers and other costs are to be defrayed out of moneys provided by Parliament.

Under Clause 3 provision is made as to the placing of moneys at the disposal of local authorities, insurance committees, and other bodies. Houses may be built for practitioners or nurses on land acquired for the purpose.

Security of tenure of medical officers appointed is provided in accordance with the terms of Section 15 of the Public Health (Scotland) Act, 1897. Provision is made also for the reception and disposal of gifts to the board.

The Highlands and Islands as set out in a schedule consist of the following counties:—Argyll, Caithness, Inverness (excluding the Burgh of Inverness), Ross and Cromarty, Sutherland, Orkney, and Shetland. In addition, the Highlands of Perthshire—that is to say, the Highland District of the county of Perth, and the parishes of Balquhidder, Callander, Comrie, Killin, and Kirkmichael.

In view of the debate which took place in the House, it is very likely that modifications may be introduced into the schedule in Committee.

Medical Prescriptions Bill.—Lord Lamington has introduced in the House of Lords a bill "to restrict the undue use of certain medical prescriptions." The memorandum prefixed to the bill states that its object is to prevent medical prescriptions which contain scheduled poisons from being used as a means of obtaining an undue quantity of the medicine prescribed. At present it is not an uncommon practice for a patient who has received a prescription from his or her doctor to use the prescription again and again without further medical authority. It is obvious that this practice, in some cases at least, leads to abuses. If a doctor sees a patient and prescribes a certain quantity of a certain medicine, it by no means follows that the doctor intends the patient to use that medicine repeatedly or indiscriminately. The bill proposes, therefore, that where a medicine prescribed by a doctor contains a scheduled poison the prescription is not to be dispensed more than once, unless the doctor gives directions either specifying the number of times it may be dispensed and supplied to the patient or stating that it may be supplied to him or her as often or in such quantities as is desired.

London University.—Mr. King asked the President of the Board of Education whether the grants to London University were conditional on any developments and changes in the policy of the university being approved by the Board; and, if so, whether he would give an undertaking that no new site for the buildings of the university should be acquired without parliamentary sanction.—The Parliamentary Secretary of the Board of Education said that the reply to the first part of the question was in the negative; the second part of the question did not, therefore, arise.—Mr. King inquired whether there was any means by which the Board of Education could take cognizance of the proposals for a new site for the London University, and whether it was watching the subject.—Mr. Trevelyan replied that the subject was being watched.

The Government Educational Proposals.—An important statement was made by Mr. Pease on Tuesday, July 22nd, in the course of a speech outlining the Government proposals in respect of education. He said that in future the Board proposed to regard medical inspection and treatment for the purposes of grant as one service, and not as two, and a sum of £50,000 in addition to the £80,000 in aid of medical treatment, which had already been voted this year, was to be placed on the Estimates, so as to enable extra assistance to be given to local authorities undertaking treatment as well as the inspection of school children. The grant was to be distributed under conditions provided under regulations by the Board of Education. These regulations he promised would be circulated almost at once. Much greater attention is to be given to the physical training of young children, instruction in habits of health, provision of baths, provision of special schools, and to other matters of a similar nature. It was also proposed next year to enable local

authorities to extend the provision of meals to the holidays. Mr. Pease incidentally mentioned that the school medical service now contained nearly 1,000 medical officers and over 700 nurses. The proposals of the Government with respect to additional attention and assistance being given to the health of children in our schools received hearty support from all sides of the House.

Prison Hospital Nursing Staff.—The Home Secretary has informed Mr. Douglas Hall that it was hoped to make readjustments in the terms of service of the nursing staffs in prisons which would be satisfactory to the officers concerned.

Metropolitan Asylums Board—Sanatoriums.—In reply to Mr. Astor, Mr. Burns said that the institutions belonging to the Metropolitan Asylums Board which were at present used for the purpose of sanatorium benefit were the Downs Sanatorium at Sutton, and a part of the Northern Hospital, Winchmore Hill; the former had 372 beds, of which 296 were in use on July 21st; the latter had 200, of which 171 were then occupied. The area of the site of the Downs Sanatorium, excluding that covered by buildings, was 17½ acres; at Winchmore Hill the airing courts and exercise fields at present available for the patients amounted to 8¾ acres, but there were nearly 36 acres attached to the whole hospital.

Vivisection Experiments (Return).—Mr. George Greenwood asked the Home Secretary if there was any special reason for the delay in the publication of the return of experiments on living animals for last year; and whether, in view of the fact that no proceedings could be taken against a licensee under the Cruelty to Animals Act, 1876, except within six months from the time when the matter of complaint arose, he would see that such return should in future be published at an earlier date.—Mr. McKenna said that there were one or two points connected with this return which had to be considered in connexion with the Report of the Royal Commission, but this had not delayed the publication very much. On July 8th, 1912, he had explained why the ordinary date for the issue of this return could not be accelerated owing to the labour involved; but it was now being printed, and would be in the hands of members shortly.

Isolation of Infectious Tuberculous Cases.—Mr. Astor asked the President of the Local Government Board whether any local authorities, and if so which, had taken steps to secure the compulsory isolation of tuberculous cases which were in a state of high infectivity; and, if so, whether he would state what action had been taken.—Mr. Burns said that in the session of 1911 the Corporation of St. Helens obtained, by means of a local Act, certain special powers in regard to the compulsory isolation of persons suffering from pulmonary tuberculosis. Similar powers were refused in the case of Sheffield in the session of 1912, and in the cases of Derby and Southport in the present session. Similar powers had been obtained in the present session by Liverpool, East Ham, and Bradford. The medical officer of health of St. Helens considered that the powers had proved useful, but he reported that during 1912 in only one case was it necessary to make an application to the court for an order authorizing compulsory removal.

Bovine Tuberculosis.—Mr. Runciman stated, in reply to Mr. Mount, that according to the information supplied to the Board of Agriculture by the local authorities, up to date 1,559 bovine animals had been slaughtered under the Tuberculosis Order, but he was unable to say what number of animals had been otherwise dealt with under the Order. Up to June 24th last 1,747 animals had been notified to the local authorities under the Order, of which 965 had been slaughtered. Claims for contribution to the cost of compensation had been received from only a few authorities, and it was impossible to estimate with any precision how much was due.

Venereal Disease. — Captain Jessel asked the Prime Minister whether his attention had been called to a request from some forty members of the medical profession asking for the appointment of a Royal Commission to investigate the facts concerning venereal diseases, and to recommend what steps, prophylactic and therapeutic, should be taken to cope with those diseases; and whether he proposed to take any action in the matter.—The Prime Minister said that the request was receiving careful consideration.

Glycerinated Calf Lymph.—Mr. Snowden asked the President of the Local Government Board whether in his report for the year 1911–12 Dr. F. R. Blaxall, Bacteriologist for glycerinated calf lymph at the Government lymph establishment, announced that experiments had been made with carbolic acid, chloroform, and oil of cloves in the preparation of lymph; whether Dr. Blaxall stated that there was still much work to be done on the subject and further experiments were in progress; whether this denoted that the glycerinated calf lymph now in use was imperfect; and whether he would consider the advisability of suspending the issuing of lymph from the Government establishment until a satisfactory virus had been obtained.—Mr. Burns said that the answers to the first two parts of the question were in the affirmative. The experiments were not undertaken because the lymph which was now issued from the Government lymph establishment was imperfect, but for the purpose of ascertaining whether some more rapid method of preparing the lymph than that which was now adopted might be available.

Tropical Diseases in Live Stock.—The Parliamentary Secretary of the Local Government Board stated, in reply to Mr. Charles Bathurst, that it was proposed to immunize British live stock against redwater and anaplasmosis by inoculation at the Government cattle-testing station at Pirbright prior to exportation abroad. Work would also be carried on at the laboratory with a view to making it possible to immunize against other diseases which militated against the exportation of British pedigree stock.

Preservatives in Foods.—Mr. Burns informed Major White, who asked a question as to the use of boracic acid in potting shrimps, that the question of preservatives in foods was under consideration by the Local Government Board, and he was not at present in a position to say what action would be suggested in the matter.

THE late Mr. R. B. Etherington-Smith, M.B., F.R.C.S., of St. Bartholomew's Hospital, left estate of the gross value of £3,746, of which £2,487 is net personalty.

IT is stated that the Italian Minister of Marine has authorized a medical committee to transform three old warships into sanatoriums for tuberculous children.

THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, W.C., on July 18th, Dr. J. Brindley James in the chair. The claims showed a decided decrease, and are now falling to their normal summer level. The past six months have been very heavy in this department and the sum of £10,000 has been paid away. The satisfactory feature noted at this meeting was that the new business for June was double that for the same month of the preceding year, and the expansion of this important department is being well maintained during the current month. It was reported that the society's candidate for a foundation scholarship at Epsom College was again successful. The subscription of 100 guineas which the society gives is instrumental in procuring a large number of votes, and these are always given to the son or relative of a deceased member of the society. Since the annual subscription has been given, all the society's candidates have, so far, been elected. This benefit is given, without extra charge, to members or their children and has proved of great value. The subscription of 100 guineas to the Royal Medical Benevolent Fund has also been of assistance to the widows of members in obtaining grants of money when in financial distress. Prospectuses and all further information can be obtained on application to Mr. Bertram Sutton, Secretary, Medical Sickness Society, 33, Chancery Lane, W.C.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

LONDON COUNTY COUNCIL.

Observations by the Board of Education on the Medical Treatment of School Children.

AN important letter from the Board of Education on the subject of the medical inspection and treatment of London school children was considered by the London County Council on July 29th.

The Board stated that it was glad to learn from the reports of three of its medical officers that, subject to certain qualifications, the actual work of medical inspection was being carried out satisfactorily by an efficient staff of medical officers who seemed to be keenly interested in their work. Further, the organization of the work of inspection as a whole, particularly the arrangement under which the area was divided into four sections, each under the charge of a divisional medical officer responsible for the supervision of the assistant medical officers in his section, appeared to be satisfactory. A suitable examination was now made of all children entering school. With regard to the routine inspection of the children, the Board understood that the weighing and measuring of the children and the testing of vision were as a rule undertaken by the nurses apart from the medical examination, and in some cases on a different occasion, and that this part of the work was not in fact adequately supervised by the medical officers. As regards the testing of vision, the Board considered it very desirable that the medical officer should himself examine all cases reported as the result of the preliminary examination by the nurse to be defective, so that he might be in a position to take full responsibility for all cases referred for further examination and treatment, and to estimate with accuracy any changes in visual power at subsequent examinations. It was doubtful whether sufficient attention was given in all cases to the detection and estimation of defective hearing. The Board approved the systematic arrangements made for the re-examination of cases of defect found in the course of medical inspection, and the system for ascertaining whether treatment was or was not obtained for defects discovered in the course of medical inspection.

In certain respects, however, the existing arrangements in regard to following up did not appear to be altogether satisfactory. Although the greater part of the work undertaken by the after-care organizing staff was concerned with the results of medical inspection and treatment, this work was not, in fact, placed under the direct control of the school medical officer. It was essential, if the work of the Council's school medical service was to be carried on with full efficiency, that the whole of the school medical work, including inspection, following up, and treatment, should be placed under the control of the school medical officer. The Council should make re-arrangements of its staff to effect this; the Board was only prepared to make grants under the medical treatment grant regulations in respect of ancillary undertakings "if carried out by the school medical officer or his staff or under his direction or supervision."

In some further observations, the Board stated that the medical officers should be cognizant of all cases of children absent from school on medical grounds for more than a specified period, with a view to ensuring that the children returned to school as soon as they were fit to do so, and that they did not return too soon to their own detriment or that of other scholars. It was desirable to establish inspection centres to which cases could be referred by the medical officers from routine medical inspection for more detailed examination. Although recent agreements had provided for the use of treatment centres for purposes of inspection, little use had been made of the treatment centres for this purpose. It would appear that the centres had been regarded merely as places where children could be examined at the request of the attendance officer, and not also as centres serving a comparatively small area from which the school medical work might radiate and a continual supervision over individual children, so far as necessary, might be exercised.

With regard to the arrangements for medical treatment, the Board made the following observations:

1. It appears that in certain cases the arrangements made do not secure that the medical officers of the treatment centres are furnished with sufficient information as to the nature of the defects for which the children are referred to the centres.
2. The Board understand that in certain districts the arrangements made in regard to dental treatment, while providing for the inspection by a dentist of children in the 6 to 8 age group, include a considerable proportion of older children selected by medical officers, thus interfering with the normal development of the scheme of dental treatment on preventive lines. This may be a temporary necessity, but should not be regarded as a permanent arrangement.
3. The arrangements with regard to the treatment of minor ailments do not appear to be altogether satisfactory. The Board understand that in practice a large proportion of the children requiring such treatment do not obtain it, partly owing to the insufficient supply of facilities for treatment, and partly owing to the absence of provision for securing the prompt attendance of the children at treatment centres. The Board gather that before a child can be treated for a minor ailment all the detailed procedure required in the more serious cases, including reference to the Care Committee, is usually gone through. . . . The first essential of any scheme for the treatment of minor ailments is that the children should be enabled to obtain treatment expeditiously.
4. The Council should consider further the existing practice in regard to the treatment of cases of discharging ears. Having regard to the fact that a certain proportion of these cases are of a serious nature, it seems desirable, with a view to ensuring adequate treatment, that facilities should be provided for an examination by an expert aural surgeon where this appears to be necessary.

Finally, the Board of Education asked the Council to consider the possibility of extending the functions of the assistant medical officers. There was a serious danger that unless more variety were introduced into the work of these officers the restriction in their duties, in practice, largely to routine medical inspection, re-examinations, and special examinations, would have an injurious influence on the work generally. At the present time the quality of the Council's staff of whole-time assistant medical officers appeared to be high. It seemed probable, however, that if the existing limitations were maintained, either the enthusiasm of the medical officers for their work would diminish, with a resultant loss of efficiency, or there would be a tendency for the medical officers to seek employment in areas where a wider scope for their activities presented itself. With a view to securing greater variety the Board suggested that in addition to carrying out the work of routine medical inspection in his district, together with re-examinations and special examinations, each assistant medical officer should be entrusted with other kinds of work, for example, the further examination of visual defects, public health work, including investigations of infectious diseases in schools, the medical inspection of children in secondary schools, scholarship candidates, etc., work in connexion with the special schools, research and laboratory work, and some share in the working of the administrative arrangements. The extension of the work of the inspection centres would tend in the same direction. The work of treating minor ailments arose naturally out of the work of the inspection centre, and could most effectively be carried on in intimate conjunction with the work of the inspection centre by the officers responsible for that work. If such an arrangement could be adopted in London it would not only widen the scope of the assistant medical officers' work but would tend to remove many of the difficulties which had arisen through the separation of medical inspection from medical treatment.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.

TREATMENT OF TUBERCULOSIS.

THE Chairman (Mr. James Gibson) of the Edinburgh Parish Council, at a recent meeting of that body, referring to the question of what authority should in future deal with phthisical cases, said there was an opinion held by many that the duty devolved on the public health authorities to provide accommodation for the treatment of cases of consumption. The question was rendered more acute from the fact that parishes were refusing settlements for cases now in Craiglockhart poorhouse on

the ground that the public health authorities and not the parish council should have dealt with the cases. The only way to test whether these refusals were well founded would be by an action, but, as the inspector stated in his report, the question would require to be taken up by the parish council at an early date.

At the meeting of the Midlothian County Council on July 23rd (Colonel Trotter, Convener, presiding) a letter was read from the National Insurance Committee stating that if the council waited till its sanatorium scheme was carried through there would be no provision for two or three years for cases requiring treatment under the Act. The Chairman said that it was hoped that the county sanatorium, which it was about to provide, in co-operation with other counties, would be ready earlier than the Insurance Committee suggested. Dr. Robb advised the erection of a number of shelters in the meantime, and the medical officer of health stated that six of these could be put up for about £100. It was agreed to empower Dr. Robb to expend such a sum on shelters for the benefit of insured persons and to instruct the Finance Committee to determine what the charge against the Insurance Committee should be.

The Tuberculosis Officer for Edinburgh.

At the meeting of the Edinburgh Town Council on July 29th the recommendation of the subcommittees (see JOURNAL for July 26th, p. 206) that Dr. John Guy, at present tuberculosis officer for the county of Gloucester, should be appointed assistant medical officer of health in Edinburgh, acting as tuberculosis officer, came up for discussion. The salary, it will be remembered, was to be £500 a year, but it was stated at the meeting of the Town Council that a letter had been received from Dr. Guy that morning stating that his committee had offered him a salary of £600 if he would retain his present appointment, and stating further that he was not attracted to Edinburgh by the salary merely. The Public Health Committee was unanimous in thinking that the appointment should be made at £600 and not £500. Mr. Archbold thought that this was unfair to the medical profession, for the post had been advertised at £500, and this no doubt had reduced the number of applicants. Finally, after discussion, it was agreed to recommit the matter to the committee with instructions to offer the appointment to Dr. Guy, at a salary of £600, and failing his acceptance of it to advertise for an officer at a salary of £600.

Glasgow Royal Infirmary Post-graduate Classes.

Full details of the course for graduates which, as was announced a fortnight ago, will be given at the Glasgow Royal Infirmary during September, will be found in an announcement published in our advertisement columns this week. As will be seen, the course is of the most comprehensive nature, the seventeen sets of lectures and demonstrations covering the whole field of practical medicine and surgery. It is asked that those desiring to attend will communicate at once with the Medical Superintendent, Dr. J. Maxtone Thom, who will supply any additional information desired.

Medical Treatment of School Children.

The Scottish Education Department, in a circular to school boards states that a further sum of £7,500 has been assigned for the medical treatment of school children in Scotland during the current financial year, and that it is now in a position to receive preliminary proposals from school boards able to submit a suitable scheme for dealing with the needs of their district in this particular. Applications for participation in the grant, which should be accompanied by an estimate in some detail of the cost of the scheme for the period ending February 28th, 1914, must reach the department not later than September 15th next.

Royal Edinburgh Hospital for Incurables.

The Royal Edinburgh Hospital for Incurables is a medical charity which has always received and retained a large degree of public support and sympathy. Its beneficent work is carried on mainly in the Longmore Hospital, Salisbury Place, Edinburgh, but also, of late years, in the Liberton Cottage Hospital. At the annual meeting, held on July 25th, Mr. David M. Westland, who presided, stated that 140 patients had been admitted during the year, and that the number in the hospital at the end of March was 199; the number of applications for admission was 251. The ordinary expenditure had exceeded the ordinary income by £2,000, and had to be met from extraordinary income (which for the year was £8,552). The average cost for each occupied bed was £34 10s. in the Longmore Hospital, and £51 10s. in the Liberton Cottage Hospital. Mr. Westland commented on the increase in the size of the hospital; when he joined the board, twenty-seven years ago, there were only 47 beds, and now there were 200, and yet the accommodation was insufficient, and the question of extension was becoming pressing. There would in future be fewer cases of phthisis owing to the establishment of sanatoriums in connexion with the Insurance Act, but the increase in the number of cancer cases was very alarming, and must be provided for. The Rev. Dr. John Kelman, in moving that the thanks of the meeting be given to the medical officers and managers for their services, spoke of the hospital as one of the greatest of Edinburgh institutions, and characterized the administration as humane and elastic; there was always a willingness to consider special cases not in the strictness of the letter but in the spirit of the need. Further, although it was an "incurable" hospital, he had known persons who had been sent forth able to work again.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Peamount Sanatorium.

The Committee of Management of Peamount Sanatorium met on July 26th, and amongst other business made certain medical appointments. There were seventeen candidates for the position of resident medical superintendent, nine of whom were Irishmen. All complied with the terms of the advertisements, and some had very exceptional qualifications. Dr. Allan Hanley, F.R.C.S.I., C.M.G., was unanimously elected to the position of resident medical superintendent, and Drs. Thomas R. Elliott and T. P. O'Reilly, assistant resident medical officers.

Vaccination Statistics.

The Registrar-General has issued a Supplement to the Quarterly Returns of the Marriages, Births, and Deaths registered in Ireland during the year 1911. It deals with the statistics regarding the vaccination of children whose births were registered in Ireland in that year; they numbered 101,758, and of them 73,856 were returned as having been successfully vaccinated: in the cases of 2,990 vaccination was postponed, and 151 were returned as vaccinated unsuccessfully on the ground of constitutional insusceptibility to the vaccine disease; 6,434 died before vaccination; 4,518 were returned as unaccounted for owing to removal from the district or other reason; and 13,808 were reported as defaulters. When expressed in percentages it appears that 72.6 per cent. of the total were reported as successfully vaccinated; that in 2.9 per cent. vaccination was postponed on account of the children being unfit for vaccination; that 0.2 per cent. were insusceptible of vaccination; that 6.3 per cent. died before they were vaccinated; that 4.4 per cent. were unaccounted for owing to removal from the district or otherwise; and that 13.6 per cent. were returned as defaulters. Particulars are given in a table regarding the vaccination of the children registered during each of the eight years 1904–11, with the percentage to the total births registered in each year. The successful cases of vaccination amounted to 61.0 per cent. of the total births registered in the province of Leinster, to 70.2 per cent. in Munster, to 82.6 per cent. in Ulster, and to 72.3 per cent. in Connaught.

Detailed information regarding vaccinations for the counties, superintendent registrars' districts, and registrars' districts is given, together with extracts from the notes presented by the registrars.

A table is given showing the number of deaths from small-pox in Ireland in each of the years 1864–1911. The last death from small-pox in Ireland occurred in the year 1907, when one death was registered.

Special Correspondence.

PARIS.

Bradycardia; Recurrent Volvulus; Radium Treatment of Myelogenous Leukaemia.—Foreign Medical Men in France.—Notification of Phthisis.—Appendicitis and Sciatica.

AT a recent meeting of the Society of Biology Drs. Bellois and Dubois reported the results of some investigations conducted by them into the action of certain drugs in cases of bradycardia. Among them was amyl nitrite, and as the results of their experiments therewith they came to the conclusion that this drug has a more marked and more constant action on the vagus than has atropine. Their subjects numbered thirty-one, and atropine increased the radial pulse by ten beats per minute against twenty in the case of amyl nitrite. The authors also experimented with digitalis, the work done including the neutralization of its action on the vagus by the use of amyl nitrite. Despite such neutralization, the rapidity of the heart beat diminished, the authors consequently inferring that the ordinary action of digitalis is due not alone to stimulation of the vagus, but also to the direct action of the drug on the heart muscle. At the Society of Surgery was read a communication from Dr. Vignier in regard to 21 cases of volvulus, in 13 of which recurrences took place. In his opinion the proper treatment of cases of volvulus lay not in merely untwisting the gut, but also in resecting it. In several cases in which simple detorsion had been employed the volvulus recurred, and was accompanied by gangrene, haemorrhage, and other dangerous phenomena. Hartmann at the same meeting related a case in which volvulus recurred three times within five and a half years. Such incidents, he believed, were most commonly observed in connexion with the sigmoid flexure. The treatment of myelogenous leukaemia by radium was the subject of a communication at a recent meeting of the Academy of Medicine by Dr. Renour. He reported five cases in which success had been obtained, two of these having previously been treated by *x* rays without improvement. The radium treatment employed by him consisted in keeping a radium applicator containing 35 cg. of radium sulphate over the enlarged spleen for twenty-four hours. After repeating this application three or four times he found that the spleen had returned to its normal size and that the blood count revealed the ordinary constitution of live blood.

The French Medical League has again had under consideration the question of the conditions under which permission to practise in France is accorded to foreign medical men. No great objection was taken to the regulations now applying to the granting of medical degrees to foreign subjects, but stress was laid on the fact that the French medical student suffers the disadvantage of having to serve for two years as a soldier, and the discussion ended in the adoption of a proposal to the effect that in future foreign medical men should be prohibited from practising in France at all.

After many discussions on the subject the Academy of Medicine had at length resolved to recommend that cases of tuberculosis in an active state shall in future be included among diseases which are compulsorily notifiable. The decision, however, was by no means unanimous, the votes in favour of the suggestion only outnumbering those against it by seventeen. The chief argument on which the opposition depended was the desirability of not infringing the code regarding professional secrecy and the known fact that among the French public the desire to conceal the existence of tuberculosis in their families is always keen. The first resolution stated "that it is to the public interest and welfare that all active cases of tuberculosis shall be notified," and the following motion, which was also carried, stated that "the notification should be made to a medical officer of health, who in dealing with it should conform to the ordinary rules of professional secrecy and arrange privately for the carrying out of the necessary prophylactic measures."

Drs. Enriquez and Gutmann, speaking at a meeting of the Medical Society of Hospitals, have drawn attention to several cases of appendicitis in which the predominant symptoms suggested sciatica. Some of them had actually been treated as cases of sciatica, but on radioscopic examination proved to be cases of appendicitis in which the caecum was unusually low down in the pelvis. The *x* rays were applied, with the patient in the Tredelenburg position. Three of the cases were submitted to operation and the appendix found to be bound down posteriorly to the fascia of the pelvic cavity, and after operation the sciatica phenomena disappeared entirely.

Correspondence.

THE PROPHYLAXIS OF VENEREAL DISEASE.

SIR,—For various reasons it is doubtful if the Government will appoint a Royal Commission to inquire into the prevalence of syphilis and the steps to be taken to limit its ravages. But if the Government would provide half the cost of the maintenance of laboratories for the examination of specimens of blood from doubtful cases submitted by medical men, in the course of a few years we should have exact knowledge on an extremely difficult subject, the medical profession and the public would be educated far beyond what they are at present, and we should have a scientific foundation for the suggested Royal Commission to work on.

The cost of carrying out such laboratory investigations should not exceed £1 per annum per 1,000 of population. The County Councils and County Borough Councils are already paying for such laboratory investigations in the case of diphtheria, enteric fever, and tuberculosis (in the latter case, thanks to the Insurance Act, the Government pays part of the cost), and if the Government would bear half the cost of laboratory tests for syphilis I am sure the local authorities would not be slow to find the other half.

At the present time the cost of such investigations is prohibitive when undertaken in private laboratories, and the result is that very few are made. If the work were carried out free of charge to medical men in the laboratories already working for the local authorities, large numbers of specimens would be submitted, and in a little time it would be a condition of accepting an appointment in any of the public services that the blood test should prove freedom from taint. The insurance companies would insist on such examinations, and the *élite* of the population would form themselves into a society among whom marriage would be impossible without the blood-test proof, and gradually public opinion would be formed for giving effect to such recommendations as a Royal Commission might make.—I am, etc.,

SIDNEY BARWISE,
July 25th. Medical Officer of Health, Derbyshier.

HERBALISTS AND THE INSURANCE ACT.

SIR,—The Worcester City Insurance Committee has according to a report in the JOURNAL for July 12th, made arrangements to permit certain insured persons to contract out for the purpose of being attended by a herbalist. As this procedure may possibly be adopted by other committees, it may be as well to point out that the Medical Act of 1858 still remains unrepealed, and that, under its penal provisions, any unregistered person who signs a certificate required by any Act then "in force or that hereafter be passed" is liable to a penalty under Section 40 for thereby pretending to be a registered medical practitioner. Proceedings have been instituted successfully in this respect, both under the Medical and Dental Acts. Should, therefore, any herbalist sign any such certificate required for the purposes of the National Health Insurance Act for an insured person, and the evidence of such be placed before the Medical Defence Union, it will be my duty, as well as a pleasure, to advise the Council to take action and summon the offender and claim the full penalty. The so-called Herbalist Act, as I have often pointed out before, does not permit these persons to practise for gain. In addition, should the herbalist not only prescribe for insured persons suffering from a medical, as opposed to surgical, ailment and in addition dispense medicines for the same, there would be an infringement of the Apothecaries Act.

I am sure that, were such cases of infringement brought before the Apothecaries' Society with legal evidence, that authority would institute proceedings in the county court without hesitation. It cannot too often be recalled that the Insurance Act neither diminishes nor extends the existing laws relating to medical practice, and that Local Insurance Committees cannot, however powerful, override the law.—I am, etc.,

A. George Bateman.

Medical Defence Union, 4, Trafalgar Square, W.C., July 28th.

THE FORM AND POSITION OF THE STOMACH.

Sir,—"And what is the shape of a milk pudding?" should I ask in return. The shape of the mould it is in, and I contend that it is the same with the stomach, only in this case it is on its contents that it moulds itself. Then we must remember that *x* rays generally teach us what is the shape of a stomach with a bismuth meal inside.

Dr. Haddon, in his letter under the same title, tells us how to advise our patients when inconvenienced by gas in the stomach. But, first of all, do not put any gas in. Nearly always this gas, as shown by analysis, is merely air—nitrogen 80 per cent.—swallowed unknowingly with the saliva when a dyspeptic patient gets into the habit of making unnecessary deglutition movements after meals.

As regards the body position, I would advise lying down flat on the stomach in order to let the gas escape freely, just as nurses do with infants under similar circumstances.

To prescribe food that does not generate gas is merely one way of making the diagnosis of aërophagia. In most cases the trouble persists. If so, we are sure that the gas is being swallowed, and experimental proof is to be given by the screen when it is noticeable that the stomach assumes the shape of a mushroom with a dark stem and a clear head, bulging more and more when air is continued to be swallowed.

Total prohibition of drink! That seems very hard on us poor spa practitioners, whose everyday experience proves the excellency of the reverse method. But still I feel we are all greatly indebted to Dr. Haddon, who has impressed upon us the urgent necessity of learning the threefold lesson—*when*, *how*, and *what* to drink.—I am, etc.,

Gustave Monod, M.R.C.P.Lond., M.D.Paris.

Vichy, July 22nd.

DENTISTRY IN THE UNIVERSITY OF LONDON.

Sir,—May I be permitted to reply to some points in the leader in your Journal of July 19th? By far the strongest argument adduced against the M.S. Branch 2 is that so far no one has presented himself for the degree, but the value of this argument is considerably discounted when it is remembered that there has not been time for any one to do so. It is not to be supposed that intending dentists would attempt the London University career until it had become known amongst dental students that such a degree existed, and sufficient time had elapsed for the degree to be obtained.

The D.Sc. degree existed for many years before any candidate appeared, and even now very few present themselves; yet there has been no recommendation that the D.Sc. should be abolished.

The approach to the M.S. by branch channels brings that degree into line with the M.D. of the same University. The only sensible course would be to establish more branches for other specialities of surgery, not to destroy the only existing one.

At present a specialist in the ear or the eye or the throat cannot show any certificate from his University of special training, or special knowledge. Beyond his general qualification the world has only his own word for his special qualifications. He has never been specially examined. Dentistry alone in surgery offers such a certificate.

The effect on dental education of the present M.S. degree will be the same as the effect of any other high honour in any other educational course—namely, to raise its tone all round.

The establishment of the degree was the outcome of years of consideration by those whose lives have been spent in guiding dental education. It was recommended by a full meeting of the Board of Studies in Dentistry with one dissentient. The chairman, and four at least of the members of the Board, had been examiners in dental surgery at the Royal College of Surgeons. The Chairman of the Board was the Chairman of the Examining Board. It passed the Faculty of Medicine with only two dissentients, and the Academic Council and Senate approved it by large majorities.

Is it not possible that these gentlemen were better able to form judgement than seven gentlemen and one lady who "came fresh to the subject," free from bias certainly, but also entirely free from knowledge? Surely it is better to be an expert than to learn from experts.

The suggestion that a degree in dentistry, not including the M.B., B.S. as a preliminary, would meet the requirements of the case should only be supported by those who believe the teeth not to be a part of the human body, or that their connexion with the vascular and nervous and alimentary systems does not involve any but trivial issues. The critics of the degree have forgotten that the issues that lie before the dental surgeon are often issues of life and death. If any serious attempt is made to reconsider the question it is to be hoped the University will first hear the views of those who have really studied the question, and whose aim it is to raise the status of this branch of surgery, and that the authorities will not allow themselves to be misled by the small band of medical and dental experts whose ambition it seems to be to degrade this branch of surgery into one of the trades.

Lastly, the University must remember that it lies under obligations to those young men who have already embarked upon this costly and difficult curriculum on the strength of the good faith of the University itself. It is too late now to say that all their expert advisers were wrong; to say nothing of its being a little undignified.—I am, etc.,

London, W., July 22nd. Arthur S. Underwood.

SYMPHYSIOTOMY IN PELVIC OPERATIONS.

Sir,—I have been for some time working on the subject of enlarging deformed pelves by permanently keeping the divided rami apart by bone grafts, and in operating lately on a patient with a sessile fibroid of the uterus, firmly fixed in the true pelvis, I had so little room that I could not reach the uterine arteries, and divided the symphysis.

I was astonished to find how easy extirpation then became. I have not seen symphysiotomy for such cases suggested in gynaecological literature that has come under my notice.

The after-healing was normal, and when the patient got up in the fourth week the symphysis appeared quite firm. The extra room is got where retractors and larger skin incisions are useless, and though such difficulty as I met with rarely presents, the slight extra risk of dividing the symphysis might be borne in mind in similar cases.—I am, etc.,

Dundee, July 22nd. Alexander Don.

LEGISLATION FOR INEBRIATES.

Sir,—Those of us who make the study and treatment of alcohol and drug inebriety our special work have to thank you for the two articles in last week's issue of the Journal on "The Inebriates Acts" and "The Treatment of Inebriety." That there is a crying need for further legislation enabling alcohol and drug inebriates to be adequately dealt with is only too obvious to us, when out of every hundred inquiries and applications that reach us as to the admission of patients for sanatorium treatment not more than say 20 or, at most, 30 per cent., of such applications actually result in admissions, and when we know that every one of the persons on whose behalf such applications are made is in urgent need of immediate and adequate treatment. It is obvious to all those who have any large experience of inebriates that to refrain from legislation compelling them to place themselves, or enabling their friends to place them, under treatment, on the ground that such legislation is undue interference with the liberty of the subject or is grandmotherly legislation, is an absurdity. The inebriate is (temporarily at least) not a fit and proper person to be allowed full liberty of action, nor is he capable of judging

what line of action is best for his own interests, so long as he remains under the influence of the drug to which he has fallen a victim, and often for a considerable time longer. Want of such compulsory legislation results in his postponing treatment till it is useless and in the ruination of himself and those dependent upon him. The bill now before Parliament—the tardy result of an exhaustive inquiry made *four years ago*—while safeguarding the inebriate in every conceivable way, will, if passed in its present form, go far to set matters right in this direction, and bring the alcohol and drug inebriate under adequate treatment at a time when he is curable, instead of leaving him, as now, to his own devices or to be victimized by the vendors of the "secret remedies" and "drink cures" so continuously and largely advertised, until a curable condition becomes an incurable one. It is to the medical profession the public must look for advice in the treatment of inebriety; it is at the urgent call of the medical profession that adequate legislation will be forthcoming, and there is still far too much apathy and want of knowledge shown by the profession with regard to inebriety, its prevention, and its cure.—I am, etc.,

J. W. ASTLEY COOPER,
Medical Superintendent Ghyllwoods Sanatorium,
July 22nd. near Cockermouth, Cumberland.

THE TREATMENT OF PNEUMONIA.

SIR,—Dr. Arnold's letter brings the following to mind: In the winter of 1864, when a second-year student at the Queen's College, Cork, I called to see a relation, and found him ill in bed. The family doctor, the late Dr. Sandham, who was a man well advanced in life, had been sent for and arrived while I was in the sick room. He made a very careful examination of his patient, and having diagnosed the case, drew my attention to the initiatory chill, the headache, the dry intense heat of skin (thermometers were not then in use), the rusty sputum, then to the hurried respiration, the dullness on percussion, and the crepitant breathing sounds. Having written his prescription, he handed it to me. I found the following: R Quininae sulph. gr. ij, pil. hydrarg. gr. j, pulv. opii gr. ¼, pulv. ipecac. gr. ½, ext. hyoscyami q.s. Ut fiat pil. j; mitte tales viij; cap. pil. j 4tis horis. A mixture composed of R Liq. ammon. acet. ʒ iij, sp. aether. nitrosi ʒ iij, aq. camphorae ad ʒ viij. Cap. ʒ j 4tis horis.

About a week after I called again and found the patient much better, but suffering from the effects of a fly blister which had been prescribed to "clear away the ashes of the fire that had been alight in the lung."

For many years I have regarded quinine as the sheet anchor in the treatment of acute toxic conditions, including pneumonia, and in the latter, if there be any delay in complete resolution, I never hesitate to apply the fly blister to clear away "the ashes of the fire that had been alight in the lung."

I have lately used the salicylate of quinine in 5-grain doses every three or four hours for adults and have been pleased with the results.

Dr. Arnold deserves our thanks for his very useful letter.—I am, etc.,

Manchester, July 21st. WILLIAM BENNETT, M.D.

THE TREATMENT OF NEURASTHENIA.

SIR,—If we reduce the discussion of the pathology and treatment of neurasthenia to its simplest expression it may be defined as chronic toxaemia. What is the usual history of a case? Work and worry have led a person to some state of slight nervous irritability and instability. Digestion, both stomachal and intestinal, is imperfect and intestinal putrefaction becomes the order of the day, as shown by the frequent existence of oxaluria, indicanuria, and scatoluria. The tissues in general, the nervous system in particular, are bathed and fed by blood full of imperfectly elaborated nutritive substances and toxins from decomposed foodstuffs in the intestines. As a result of this, the sufferer feels depressed and exhausted—he eats more and digests less, increasing the state of auto-intoxication. Then kind friends or unscientific doctors prescribe alcohol, caffeine, kola, beef juice, phosphates, lecithin, and innumerable preparations of medicated wines, patent foods, and other vile concoctions, which the patient gulps down, always hoping to "strengthen his nerves." The toxaemic condition is increased, the stomach and intestines finally strike, and the patient loses flesh, as his nervous and general system is starved of proper nourishment, but fed on toxic substances.

Whether we adopt the one meal a day, or whether we follow Dr. Haig, it simply means we suit the quantity and quality of the diet to the manipulation of the still remaining remnants of digestive functions. But, above all, we have eliminated the poisonous compounds of medicated wines and commercially successful messes called patent foods.

On account of the chronic toxaemia blood pressure first rises by arterial and capillary spasm and overworked kidneys, but later falls, as the heart muscle begins to fail.

This dieting and attention to the alimentary canal is sometimes sufficient to cure an attack of neurasthenia, but to be sure of success additional interference is necessary.

In my own practice the next thing to do is to lixiviate and wash out of the tissues the stored-up toxic substances that the cells, saturated with them in proportion to the blood saturation of the same substances, have to retain. For this purpose I find a cure at Vittel the most effective.

Finally I restimulate healthy nutrition by an arsenical compound, which I usually prefer in the form of intramuscular injections of cacodylate or sodium methylarsenate, so as to drug the stomach as little as possible. Of course in each individual case every offending function that is a collateral aid to the neurasthenia must be attended to and corrected.

If this common-sense line of treatment is carried out I will guarantee a cure in practically every case, with such success as I have had with many dozens of patients, who are now strong, healthy men and women with a stable nervous system.—I am, etc.,

Vittel, France, July 23rd. H. J. JOHNSTON-LAVIS.

SIR,—No one can give Dr. Haig greater credit than I do for the good he has done as a vegetarian physician, in spite of what I believe to be an erroneous theory. I am no theorist, and can believe in no theory which is not the outcome, as it were, of facts. I have, however, formed a theory of disease, which, after looking through the history of medicine, I believe to be new, and which I hope I may live to enunciate and support with facts observed by myself, so that I can be sure of their accuracy. Meantime as to one meal a day being safe, there are a few facts which may remove any fear of "vanishing away," as Dr. Haig fears I may on one meal. Thus, Cornaro lived on 12 oz. of food and 14 oz. of wine. He might have eaten that all at once without overburdening his stomach, but he divided it, and did not adhere to one meal. I have as an acquaintance a man who lives on 16 oz. of food in the day, and he is a vegetarian. I asked him why he did not make one meal of it, and he said it was to increase the number of his pleasures. Solis, an Austrian, whose case was reported upon by a medical committee in 1878, when he was 180 years of age, lived upon one meal, took all his food cold, ate butcher meat only twice a week, and fasted from all food two days each month. He lived five years after being examined by the medical committee. These, however, are comparatively modern instances. If we go back to Greek and Roman times, we find that they had no idea of eating so often as we now do. The Romans when they conquered the world ate only once a day, and Hippocrates writes of those who live on one meal a day, being ill if they ate twice, so that eating is a habit which may be a bad as well as a good one, if too much indulged in. In all my experience I have never seen a patient suffer from eating too little, and I have never spoken to a doctor on the subject who has not admitted that many eat too much, but the doctors will not admit that they themselves eat too much, although they all do, for the body requires much less than is generally supposed. I met a man who had lived for three years, eating only one slice of white loaf, with a cup of tea at 5 p.m., in the twenty-four hours. He was a light porter, and weighed only 8 st. in his clothes. Such a fact is staggering, but Cornaro was laid up with a fever, which lasted thirty-five days, by adding 2 oz. to his usual quantity, at the urgent solicitation of his friends.—I am, etc.,

Hawick, July 19th. JOHN HADDON, M.D.

THE "MEDICAL DIRECTORY."

SIR,—The annual circular for the *Medical Directory* will be posted to the members of the medical profession on the 31st inst. If by any chance the circular is not received within a few days of the date of posting, we shall be pleased to forward a copy on request.

We trust that all practitioners will make their returns to us promptly, in order that the entries may be as accurate and up to date as possible.

The *Directory* will, as usual, be published a few days before Christmas, and to this end we ask for the co-operation of the profession.—We are, etc.,

J. AND A. CHURCHILL.

7, Great Marlborough Street, W., July 25th.

INTERNATIONAL MEDICAL CONGRESS.

Subsection of Anaesthesia.

THE address of Dr. Dudley Buxton, President of the Subsection of Anaesthesia of the International Medical Congress, appended to the letter which appeared in the JOURNAL of July 26th, p. 208, should have been *58*, New Cavendish Street, W., not *53*, as printed.

Universities and Colleges.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examination indicated:

SECOND M.B. (*Part I*): J. S. Alexander, Mary N. Andrews, K. D. Atteridge, R. T. Bailey, G. E. Barker, G. C. Berg, J. A. Binning, C. V. Boland, Margaret S. G. Bott, *C. H. C. Byrne, L. A. Celestin, A. W. Cocking, R. C. Cooke, S. A. Cornelius, W. M. Crombie, A. R. Dingley, R. O. Eades, *E. H. Eastwood, C. Y. Eccles, W. J. Evans, V. Feldman, R. K. Ford, P. C. Gibson, M. H. Hassan, G. E. Heath, G. O. Hempson, N. H. Hill, H. M. Holt, W. A. Hotson, *G. P. B. Huddy, Edith C. Hudgell, H. L. G. Hughes, R. P. Langford-Jones, F. R. Law, R. H. Leigh, H. Lewis, K. T. Limbery, W. H. Lloyd, W. F. MacAlevey, P. G. McEvedy, M. Mackenzie, D. M. MacManus, G. A. S. Madgwick, F. Molina, J. K. Muir, Doris M. Pearce, G. J. Randell, D. Rees.

M.D.—*Branch I* (*Medicine*): A. D. E. Bayliss, T. K. Boney, A. Burrows, A. N. Cox, G. S. Earl, A. B. Fearnley, H. P. Hacker, C. H. Johnston, E. J. G. Jones, D. Kennedy, W. J. O'Donovan, Ellen M. Pickard, †C. McM. Wilson. *Branch III* (*Mental Diseases and Psychology*): J. A. Perdrau. *Branch IV* (*Midwifery and Diseases of Women*): A. C. S. Coutts, S. Forsdike, A. W. Jones, Mary E. Morris. *Branch V* (*State Medicine*): N. H. Walker. *Branch VI* (*Tropical Medicine*): C. N. Davis.

M.S.—*Branch I* (*Surgery*): G. Jefferson (University medal), T. D. M. Stout, J. O. D. Wade, ‡C. H. S. Webb.

*Passed with distinction in Anatomy. †Awarded a University medal. ‡Qualified for a University medal.

CONJOINT BOARD IN ENGLAND.

THE following candidates have been approved at the examination indicated:

FIRST COLLEGE (*Part I, Chemistry, and Part II, Physics*).—R. G. Addenbrooke, †W. B. S. Andrew, G. A. A. Bradnack, C. H. Carroll, N. Chena, *H. C. Clifford-Smith, J. R. Cox, A. R. Crane, †Jane Crawford, †B. O. Dewes, *H. S. Drabble, G. H. Duffield, *R. Erskine-Gray, F. K. Escritt, W. B. Farrington, †N. E. Fasken, †E. F. Gillett, †H. A. Hathout, *F. H. Hyland, *M. Ibrahim, Evelyn H. Johnson, Lilian Lowenstein, †C. H. Macklin, *R. K. Marwood, W. H. Maudling, †H. Morris-Jones, K. R. O'Brien, A. Pain, R. E. Rampling, †P. Randall, Florence M. Rhodes, A. H. Richardson, G. Rooker, *K. J. Rustomjee, *A. H. Samy, H. L. Slaughter, R. M. Somerset, S. W. Southwood, J. A. Stephens, T. N. Strange, A. H. Talsat, J. N. Terry, †D. R. Thomas, G. McK. Thomas, †I. M. Thomson, F. E. G. Watson, †G. A. O. White, D. F. Wilson. (*Part III, Elementary Biology*)—R. G. Addenbrooke, N. J. Ainsworth, H. C. Apperley, H. Barlow, O. Bastable, F. Blake, J. R. Cox, F. W. Crook, E. F. Gillett, P. Green, F. J. Harrington, M. W. M. Hassanally, A. G. Hewer, J. R. Houghton, T. G. James, M. Khalil, Lillian Lowenstein, A. Y. Massouda, G. Millar, J. W. W. Newsome, A. Pain, M. L. Quinlivan-Bulger, P. Randall, Florence M. Rhodes, K. J. Rustomjee, H. M. Savery, J. A. Stephens, Phyllis Stevens, T. N. Strange, F. H. Stutterford, T. F. Thomas, F. F. Wheeler, G. A. O. White.

*Passed in Part I only. †Passed in Part II only.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FIRST FELLOWSHIP.—R. G. Blair, H. C. Carden, J. A. Fretton, H. Graham, Mary E. Henry, G. T. Hingorani, J. B. Magennis, H. Ross, Captain, I.M.S., J. Suares, W. C. P. Smyly.

FINAL FELLOWSHIP.—J. L. Lunham, Captain, I.M.S., M. McGrath, W. G. Ridgway, W. R. Watson.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examination indicated:

D.P.H. (*Both Parts*).—*Miss Ma Saw Sa, F. Conceicao, E. P. Ghose, Miss Singcha Hoashoo, F. Keane, C. E. McNaught, R. L. Williams.

*Honours.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

THE ANTARCTIC EXPEDITION.

THE silver Polar medal, inscribed "Antarctic, 1910–1913," has been granted to Surgeon George Murray Levick, R.N., and Surgeon Edward L. Atkinson, R.N., of the British Antarctic Expedition, 1910. The silver clasp, which is awarded to those who already possess the silver Polar medal, was granted to the late Dr. Edward A. Wilson.

ROYAL ARMY MEDICAL CORPS.

RESULTS OF COMPETITIVE EXAMINATION.

THE following were the successful candidates for commissions in the Royal Army Medical Corps at the recent competition held in London for which twenty-one candidates entered:

E. W. Wade	University College, Bristol	562
B. Woodhouse	University College Hospital	562
W. K. Morrison	Edinburgh University	554
E. Percival	Edinburgh University	551
H. C. D. Rankin	Glasgow University	550

INDIAN MEDICAL SERVICE.

THE result of the July examination was announced on July 26th, 1913. There were 33 candidates, the first 12 being admitted as lieutenants on probation with effect from July 26th, 1913.

The names of the successful candidates with the marks obtained by each out of a possible total of 5,100 are given below, together with their degrees and medical schools:

Name.	Degrees, etc.	Medical School.	Marks.
S. S. Sokhey ...	M.B., Ch.B.Edin., M.A., B.Sc.	Punjab University, Edinburgh University London Hospital	3,517
A. K. Sinha ...	M.B.Calcutta, M.R.C.S., L.R.C.P., D.T.M. and H. Cantab.	Calcutta Medical College, London Hospital	3,292
S. Dorais Amy ...	M.R.C.S., L.R.C.P.	Madras Medical College, Middlesex Hospital	3,198
J. Findlay	M.B., Ch.B.Glasg. M.A.	Glasgow University	3,167
A. Seddon	M.B., Ch.B.Liverp.	Liverpool University, London Hospital	3,146
J. C. De	M.B.Calcutta, M.R.C.S., L.R.C.P.	Calcutta Medical College, London Hospital	3,072
W. C. Spackman	M.B., B.S.Lond., M.R.C.S., L.R.C.P.	Birmingham University, St Bartholomew's Hospital	3,061
N. M. Mehta ...	L.M. and S.Bombay, M.R.C.S., L.R.C.P.	Grant Medical College, Bombay, Middlesex Hospital, London Hospital	3,039
C. H. P. Allen ...	M.R.C.S., L.R.C.P.	Madras Medical College, University College Hospital	2,957
P. S. B. Langton ...	M.R.C.S., L.R.C.P.	Middlesex Hospital	2,943
R. M. Easton ...	M.B., Ch.B.Aber., M.A.Aber.	Aberdeen University, Aberdeen Royal Infirmary	2,893
R. V. Martin ...	L.M.S.S.A., M.R.C.S., L.R.C.P.	St. Mary's Hospital	2,878

Medical News.

THE twelfth international Congress of Ophthalmology will be held in St. Petersburg in August (10th to 15th), 1914.

THE General Federation of Belgian Midwives has held its first congress on July 26th, 27th, and 28th, at Ghent. Five hundred members were present.

PROFESSOR E. C. HANSEN, of Copenhagen, has founded a prize consisting of a gold medal and a sum of at least 2,000 kroner to be awarded every two or three years to the author of a work on microbiology published in Denmark or any other country.

THE fourteenth series of the Lane medical lectures will be given by Sir Edward Schäfer in Lane Hall of Stanford University Medical Department, San Francisco, on September 3rd, 4th, 5th, 8th, and 9th. The subject of the lectures will be the function of the ductless glands, especially in relation to other secreting organs.

ALTHOUGH next Monday is Bank Holiday, the Council of the Royal College of Surgeons intends to keep its museum open on that day, and also its library, for the convenience of visitors to the International Congress. The library will also be open on Tuesday and the museum during the whole of the week.

ON July 24th a company representative of the honorary medical staff, former residents, clinical assistants, nursing staff, household, and friends met at 129, Harley Street in order to honour Dr. J. W. Linnell, the late medical superintendent of the Hampstead branch of the Mount Vernon Hospital. Dr. F. W. Tunnicliffe, as chairman, then presented Dr. Linnell with a gold watch and chain. In a few telling words he expressed the sincere appreciation of all those who had been associated with Dr. Linnell during his tenure of office at Hampstead, and their deep regret at his departure. He commented upon his accurate observations as a clinician and touched upon his charm of personality and wealth of humour. The watch, to the cost of which the honorary medical staff had mainly contributed, was most beautifully inscribed to that effect. The chain was presented mainly by the past and present matrons, chaplains, residents, nurses, and household. After brief speeches by Drs. Latham and Price, both warmly eulogistic in tone, Dr. Linnell accepted the gift, and in a few words expressed his gratitude and regret at severing his connexion with Mount Vernon Hospital. The meeting broke up after passing a vote of thanks to Mrs. Tunnicliffe as hostess.

KING'S COLLEGE HOSPITAL, which first opened its doors some seventy years ago, closed them, as we duly noted in an article on "Hospital Distribution in London," so far as its old habitation in Portugal Street is concerned, on July 14th. Its new buildings at Denmark Hill are, however, now so far complete that, though they will not be utilized for the reception of patients until next October, they were visited by the King and Queen on July 26th and duly declared open. The grounds extend to some 12 acres, and the building, which occupies a parallelogram having a length of 1,000 ft. by a breadth of 500 ft., has the further advantage of overlooking Ruskin Park. The foundation stone was laid in July just four years ago by King Edward VII, and in connexion with the annual meeting in 1910 we gave a full account of the plans which were in view, and also a ground plan (1910, vol. ii, p. 91). Hence it is sufficient now to state that the 600 beds which eventually will be provided will be contained in eight parallel ward blocks, connected together by a corridor nearly 900 ft. in length. Five of these blocks are already in place. There is also a chapel, to which the stained glass windows of the old chapel in Portugal Street have been removed. The material employed is yellow brick, picked out with red brick and Portland stone. The site was presented by the Hon. W. F. D. Smith, the chairman of the hospital, and the total expenditure anticipated is about £520,000, of which £150,000 still remain to be collected. The ceremony on Saturday included the presentation to their Majesties of the senior physician, Dr. Tirard, and the senior surgeon, Sir Watson Cheyne.

AT the Holborn Restaurant on Thursday, July 17th, Dr. R. M. Beaton was entertained at dinner by the members of the Executive Committee of the St. Pancras and Islington Divisions of the British Medical Association and of the Provisional Medical Committees of both these metropolitan boroughs. The purpose of the gathering was to signify in some measure the appreciation of the practitioners in that area of the great services Dr. Beaton has rendered to the profession in many capacities, and specially to signalize his term of chairmanship in the Division during the past year. On the same occasion Dr. Beaton was presented with a silver tea service, tray, and silver cigarette box, subscribed for by a large number of practitioners in the Division. Dr. Rattaby, in proposing the toast of the evening, said he had known Dr. Beaton for thirty years, and had, in fact, been born in the same parish. Dr. Beaton was fortunate in having been able to retire from practice sooner than fell to the lot of most men, and the leisure he had thus obtained had been dedicated to the service of his fellow-citizens. He had served on the Borough Council of St. Pancras, on the London County Council, of the Public Health Committee, of which he had been chairman, and was now a member of the Metropolitan Water Board. In consequence he had come to the Division exceptionally well prepared to help it in its time of trial. As Chairman of the Division he had been regular, generous, and impartial, and had succeeded in keeping its many difficult meetings entirely in hand. He had worked very hard, and inspired others to do the same; the result was that the organization of the Division and its loyalty to the policy of the Association were second to none. He begged Dr. Beaton to accept as a mark of great esteem the gift which his fellow-practitioners have so willingly subscribed to. The toast was accorded musical honours, and after other speakers had supported the chairman in his remarks Dr. Beaton responded.

Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

FEES FOR EXAMINATION OF STAFF.

G. M. M. asks what fee he should charge for examining for a large firm the members of its permanent staff on engagement. The examination is to include the examination of the urine, and in the case of candidates who apply to our correspondent's surgery a description of the man's appearance to prevent personation.

*** Public bodies often require such examinations before taking on permanent employees, and the Shoreditch Borough Council pays half a guinea for this work.

ANSWERS.

THE CUPRASE TREATMENT OF CANCER.

DR. THOMAS WM. RICE (Portarlington) writes: In answer to "H. F. W.," I have a patient at present suffering from a recurrence of cancer in the subclavian region pressing on the subclavian vein and causing great swelling of the arm; the case is unfit for further operation (except to amputate the arm). I have given her eight injections (the contents of one box) of Dr. Gaube du Gers's cuprase. I gave one ampoule with an ordinary serum syringe deep into the muscles of the buttock once every week; every caution was observed as to sterilizing both skin and syringe. I did not use cocaine or other local anaesthetic. There was no bad after-effect from any of the injections, and practically no pain; the patient was able to go about immediately after. The treatment has done no good—so far, but the trouble did not increase during the treatment. On referring to *Green's Encyclopaedia of Medicine and Surgery*, vol. vi, p. 207, the latest statistics of cures, when treated *early* by modern surgical operation, is given at 41.2 per cent., a great difference from the experience of Sir James Paget, who stated that in his own practice he did not know of a single case of cure, or of Billroth's statistics, the best up to that date, who gave a percentage of 4.7 cures in 143 cases operated upon between 1867 and 1876.

LETTERS, NOTES, ETC.

THE METRIC SYSTEM.

MESSRS. BURROUGHS WELLCOME AND CO. (London) write: Our attention has been called by a medical man to the communication of Dr. J. W. Lindsay, entitled "Metric System," on page 212 of the JOURNAL of July 26th. He asked us whether it was a fact that we issued "tabloid" atropine sulphate, ½ grain, as he could not trace this strength in our printed matter, and he referred us to Dr. Lindsay's letter, where apparently the expression "dose" is used in the sense of "strength." Dr. Lindsay's intention was, we think, to draw attention to the error made by the chemist in stating that half a milligram was equal to half a grain. Unfortunately the paragraph can be read in two ways, the second interpretation being that we make "tabloid" atropine sulphate of the strength of ½ grain. The fact is that for administration by the mouth "tabloid" atropine sulphate is issued of a strength of 0.0005 gram (grain $\frac{1}{120}$), and it is our practice to state both metric and imperial strengths side by side in our price list and on our labels. For hypodermic use "tabloid" atropine sulphate is issued of five strengths, respectively grain $\frac{1}{120}$, $\frac{1}{100}$, $\frac{1}{60}$, and 0.0005 and 0.001 gram.

THE ARTIFICIAL RIPENING OF ORANGES.

DR. JAMES OLIVER (London, W.) writes that oranges are now gathered in an immature and green state, and are caused rapidly to assume a yellow colour and present the appearance of fruit which has matured and ripened more gradually and more naturally by placing them in closed rooms which are heated by stoves bearing open vessels of water; the fruit is subjected for four or five days to a temperature maintained at about 95°. Autolytic changes take place in oranges thus sweated, which render them less wholesome and less fit for human consumption. In itself the process of sweating may seem innocent enough, but it is, Dr. Oliver thinks, one more indication of the way in which our foodstuffs are being tampered with, and of the way in which scientific knowledge is being utilized to our detriment.

President's Address

DELIVERED AT THE OPENING OF THE

SEVENTEENTH INTERNATIONAL MEDICAL CONGRESS.

By SIR THOMAS BARLOW, Bart., K.C.V.O., M.D., F.R.S.,

PHYSICIAN EXTRAORDINARY TO HIS MAJESTY THE KING; CONSULTING PHYSICIAN, UNIVERSITY COLLEGE HOSPITAL; PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS, LONDON.

Gentlemen,—A whole generation has passed away since the International Medical Congress last met in London.

What a magnificent galaxy of talent in medicine, surgery, and pathology was gathered round the Prince of Wales, who was our Royal Patron at that time!

It is fitting that we should follow the admonition of Ecclesiasticus and praise famous men and the fathers that begat us. Our President, Sir James Paget, was a great clinical pathologist. His mind was stored with all that was then known of the morbid anatomy of surgical disease and injury, and of the family relationships of the different diatheses. He was a splendid teacher and possessed a lucid eloquence and a moral fervour not excelled by any of his contemporaries. Jenner and Gull, Wilks and Gairdner were our great teachers of clinical medicine. Each of them based his knowledge on the sure foundation of the *post-mortem* room and the hospital wards. We shall not see their like again, for their careers began before the days of specialization, and they were amongst the last of the great general physicians of our time. Hughlings Jackson was the philosophical exponent of the new neurology. Many of his forecasts were verified by the experiments of David Ferrier, of which I may say there was a remarkable demonstration at the 1881 Congress. Jonathan Hutchinson was the patient accurate recorder of the natural history of disease in multitudinous departments, and characteristically enough he was the organizer of our congress clinical and pathological museum. The pioneers of abdominal surgery — Spencer Wells, Thomas Keith, and Lawson Tait—were with us. Huxley, the most brilliant expositor of natural science of his time, discoursed to us on the relations of medicine and biology. William Bowman, whose work on the minute anatomy of the eye was the foundation of modern English ophthalmology, was one of our most useful members.

Last of all the Englishmen whom I will mention was our great Lister, then in the zenith of his grand career. He has but lately been taken from us in the fullness of years, and we commemorate him to-day in the medal of our Congress.

Our foreign brethren were not less illustrious in the bede-roll of medical and surgical achievement. Virchow, the Nestor of morbid anatomy, honoured and beloved by us as by his own countrymen, delivered a fine historical discourse on the value of pathological experiments. Volkmann gave a critical survey of the recent advances of surgery. Robert Koch gave what may truly be called a path-breaking demonstration of the microbial findings in several morbid conditions, and he illustrated their characteristic growth on different organic media. Von Langenbeck and Esmarch spoke for military surgery; Donders and Snellen for ophthalmology. Baccelli, Murri, and Pantaleoni represented Italian medicine. From the United States came Austin Flint, the accomplished physician and master of physical examination; Billings, prince of medical bibliographers; and Bigelow the famous surgeon.

The great French school was represented by Brown-Séquard and Charcot, Lancereaux and Bouchard and Verneuil and a host of others; but there was one great Frenchman with us who towered aloft amongst all his contemporaries, and who, though not a medical man, exercised by his discoveries a profound influence on the medicine of the world, and that was Louis Pasteur. In his address on vaccination in relation to chicken cholera and splenic fever, he gracefully linked his most recent researches with the time-honoured labours of Edward Jenner on cow-pox.

Time fails me to speak of other great and honoured names, but surely we may say there were giants in those days.

Now let us realize to ourselves that the Congress of 1881 marked not the parting of the ways, but emphasized the notable fact that the parting of the ways had already been passed. The times of superstition, of empiricism, and of transcendental speculation had vanished. But what of the period of accurate and detailed observation? That was neither superseded nor completed, but it was already supplemented and redirected into more fruitful channels by the new development of experimental methods.

If it had not been for the work of Pasteur, Lister, and Koch, which was expounded to us thirty years ago, how poverty-stricken would have been the output of medicine and surgery in this our Congress of 1913!

The great men—both observers and experimenters—of whom I have spoken were like mountain peaks towering above the plain of ordinary medical humanity, and we sometimes sadly ask where are the mountain peaks now? That is a shallow and unenlightened question. For indeed, thanks to the unremitting labours of workers in multitudinous paths, we have attained a glorious heritage—not of high mountain peaks and deep valleys—but a lofty and magnificent tableland of well ordered and correlated knowledge.

Consider the bare fact that the fifteen sections of the 1881 Congress have, by the inevitable specialization and concentration of work, become twenty-three sections and three subsections in 1913, but so imperative is the demand for mutual conference that we have no less than fourteen meetings arranged in which sections have found it desirable to discuss various problems in joint session.

In what ways have we pursued and expanded the work of our fathers? First, unquestionably, in the development and application of bacteriology. Koch's great discovery of the life-history of the tubercle bacillus was published in the year after the London Congress, and what an enormous body of knowledge has grown out of that discovery! We are learning to discriminate between the essential and causal factors of disease and the concomitants, such as combined and terminal infections. The by-products and the antibodies developed to neutralize bacterial life, of which we see the beneficent rôle in Nature's own cure of an acute specific disease, have been made to yield their share in two important methods of treatment—namely, sero-therapy and vaccine-therapy.

We have also faced the problem of strengthening the phagocytosis of the patient. I need not dwell on the history of the Klebs-Loeffler bacillus and the causation of diphtheria, nor on the indubitable efficacy of the most important of all the antitoxins, nor on the singular parallelism between the bacteriological findings in atypical throat exudations with the ambiguous symptomatology which clinical observation reveals. Nor need I dwell on the extension of bacteriological investigation of typhoid fever which has been fruitful in new measures of prophylaxis and defence of the community.

We have learnt something about the natural history of the ultra-minute organisms which as "filter passers" elude our microscopic investigation.

There are still great gaps in our knowledge of the bacteriology of the acute specific diseases, but it is a gain to have learnt from the study of recent epidemics that infantile paralysis must be grouped with the infective diseases, and, thanks to Flexner, we know many of the reactions of its elusive organism.

Great advances have been made in protozoology, in helminthology, and indeed in the whole subject of the relation of parasites to the diseases of man and animals. In tropical diseases these studies, as well as bacteriology, have brought about a rich harvest. Malta fever, plague, malaria, sleeping sickness, have all yielded more or less of their secrets. Sometimes the whole cycle of the disease has been discovered, rationalized in every respect, and its successful treatment has been evolved.

In other cases, as in malaria, sleeping sickness, and yellow fever, where only parts of the natural history of the disease have been elucidated, nevertheless enough real knowledge has been acquired to enable important, though sometimes costly, hygienic measures to be successfully employed. Here it is fitting that we should offer our homage to our American brethren for their splendid

hygienic work in Cuba, in Panama, in the Philippines, and in Costa Rica, and for the efforts which they are organizing for a world-wide crusade against ankylostoma disease.

Chemical pathology has widened our knowledge and our resources, and the mystery of immunity has been to some extent illuminated.

The detailed examination of the morphological elements and the chemical characters of the blood and of other body fluids has eventuated in the rewriting of some of our physiology, and the pathological extension of the knowledge thus gained has improved the diagnosis and the treatment of several diseases. Thirty years ago Ord demonstrated to the Congress of that time examples of the disease which he had defined as myxoedema, but which, with surer instinct, Gull had described as a cretinoid state in adults. The gradual evolution of the doctrine of thyroid insufficiency and of its therapeutics is a model of induction; and this important discovery has given a great impetus to the whole study of internal secretions, as well as to the employment of organic extracts, of which the last and most interesting is that of the pituitary body.

The empirical and then the experimental study of small variations in the ordinary diets of adults and children and infants in different social strata and in different countries has been fruitful in many unexpected ways. The great milk problem is still with us, but we have learnt the blunders of our early generalizations. Cleanliness in the milk supply from start to finish has a far more exhaustive meaning than in days gone by. The curious disease beri-beri, which some of us have long thought had parallelisms with scurvy, has been shown, at all events amongst rice-eating people, to depend on the loss of the nutritive material just internal to the pericarp, which the ordinary process of milling removes.

The patient study of chronic alcoholism has opened up a new chapter in nervous diseases. The routine traditional employment of alcohol in disease has happily been largely discredited. The open-air treatment of all forms of tuberculous lesions has had a wide indirect influence, not only on the treatment of other chronic ailments, but on the daily life of the people.

The recognition and radical treatment of oral sepsis due to damage to the gums in consequence of various disorders of the teeth has been followed by remarkable benefit. A strong case has been made out for intestinal stasis as a cause of various forms of malnutrition and for operative measures in dealing with slight mechanical obstructions; on this subject we hope for further evidence.

The additions to diagnosis yielded by *x*-ray exploration are like the creation of a sixth sense, and its curative applications and those of radium are the opening of a new chapter of therapeutics.

I ventured to hint that medicine had now and then led to the rewriting of some chapters of physiology, and I may add that recent researches on diseases of the heart have led to the re-editing of neglected knowledge of the minute structure of heart muscle, and of orderly and disorderly mechanism of its movements.

Of the magnificent triumphs of the surgery of this generation it is beyond my power adequately to speak, but I can refer to the wide fields opened up through the beneficent protection of Listerism. We are staggered by the reasoned and calculated audacity of our brethren when sinuses of the skull are drained, cerebral abscesses evacuated, cerebral tumours removed, the pituitary body even being investigated, when pleuro-pericardial adhesions are freed, to the great relief of the heart, when different parts of the alimentary canal are short-circuited and when one or other damaged viscus is removed either entirely or in part. The active co-operation of surgeons and physicians has gained for us some knowledge of what Moynihan and others have happily described as "living pathology," and we gratefully acknowledge the invaluable information of correlated symptoms, signs, and morbid conditions, and the statistics of comparative frequency which surgical experience has brought to the common store.

The supreme gain, after all, is that many more useful lives are saved than in the last generation, that the realm of grave and hitherto incurable disease is invaded on every side, and that the danger of operation *qua* operation is retreating to a vanishing point.

It is impossible even to enumerate the varied ways in which medicine has co-operated with economics, social legislation and philanthropy, which we sum up briefly as public health. The school house and the scholars, the home of the poor, the colliery, and the factory, the dangerous occupations, the sunless life of the mentally deficient, have benefited, and will benefit still more, by its friendly invasion. And I venture to foretell that, not many years hence, every department of life and work shall be strengthened and purified and brightened by its genial and penetrating influence.

Surely I have said more than enough to justify my contention that we have come into a goodly heritage, and that that heritage is like a lofty and magnificent tableland of knowledge and efficiency. The gaps are being filled; we are no longer isolated, but are working side by side on adjacent areas which are inseparably connected. Every day we gain fresh help from the auxiliary sciences, and we realize more and more the unity and the universality of medicine.

Brethren from foreign lands, we thank you for the treasures, new and old, of observation and experiment, and of a ripe experience, which you have brought to this Congress for the common weal.

I venture to affirm that the output of work of the Congress week in its twenty-three goodly volumes will astonish civilized countries by its amount and its solid worth.

I welcome you to our dear country, this ancient home of freedom, and I speak not only for the medical men of the British Isles but for our brethren of the Overseas Dominions, who join with us in our cordial greeting.

May this Congress add to the common store of fruitful and useful knowledge; may it increase our good fellowship, our mutual understanding and co-operation, and may it help to break down the barriers of race and country in the onward beneficent march of world medicine.

Address in Medicine,

ON

MEDICAL PROGNOSIS: ITS METHODS, ITS EVOLUTION, ITS LIMITATIONS.

Delivered at the Seventeenth International Congress of Medicine.

By A. CHAUFFARD, M.D.,

Professor of Clinical Medicine in the University of Paris; Member of the Academy of Medicine.

Mr. President, Ladies, and Gentlemen,—In asking me to address to-day this great medical assembly, the Committee of the Seventeenth International Congress of Medicine has conferred on me a signal honour for which I desire in the first place to express my very sincere thanks. I should feel most unworthy of this high distinction were I not conscious that it is offered much less to my person than to French medical science. The medical men of France have come in large numbers to this Congress with the desire of learning, of making known their work, and also of maintaining and tightening the bonds of amity and esteem which link them to their colleagues of every nation, and more especially of the great country which is receiving them so splendidly to-day. Since, for one brief instant, it is given to me to be their spokesman before you, allow me to enter immediately upon the theme which I shall have the honour to consider in this address.

Evolution.

The subject I purpose to discuss is that of medical prognosis considered in regard to its methods, its evolution, its limitations.

Medical prognosis! Is it not for us the daily problem, the anxious question which is constantly being put to us and which we put to ourselves? Ever since there have been sick patients and men who endeavour to relieve them and to restore them to health, the same query has come up in every case: Will a cure be effected, and by what therapeutical means? Prognosis and treatment—such were from the very first the two instinctive needs, the two immediate demands of the sick man. It was only at

a later period, at a more advanced stage of medical culture, that the need of first making a diagnosis arose, a notion of purely intellectual and logical order. But if diagnosis has been the latest of our acquisitions, it has now taken its proper rank—the first. What physician, failing an accurate diagnosis, could venture on a prognosis or prescribe a treatment? An entirely modern idea—but one which should imbue our minds nowadays—is that of defining in each particular case the mutual relationship between those three fundamental elements of medical judgement—to know, to foresee, to act. Instinctive in the remote ages and, later, hesitating and seeking its way for a long period of time, the act of the physician tends to become more and more rational and systematic. It is the passing from art to science, which our epoch is striving hard to achieve, often with success.

In this uninterrupted evolution medical prognosis has not remained at a standstill; almost before our own eyes, and by the mere progress of contemporary science, it has undergone a gradual change. Its methods are being modified, its limitations are being carried further back every day; it is in a state of perpetual transformation. The present time is perhaps a suitable one for a general survey of our present position and for an appraisement of our acquisitions and desiderata. Such is the task I intend to attempt before you this afternoon.

The Hippocratic Era.

In the history of medical prognosis a large place should be reserved for the Hippocratic era, and it is impossible to peruse these venerable writings without a feeling of deep admiration. In those days the physician, having no technical means of investigation at his command, could naturally have but a purely objective vision of his patient; but how penetrating was this vision, how skilful in grasping, co-ordinating, and interpreting the most minute details! What a searching study, what a constant scrutiny of the prognostic signs derived from the general condition of the patient and revealed by his facies, his position in bed, the movements of his hands, his breathing, his sweating, the state of his hypochondria, his dropsical swellings, his sleep, his urine, his stools, his vomit, his sputum. The book on "Prognosis" is only concerned with acute febrile diseases, but from its descriptions there is nothing to be omitted. "The best physician appears to be the one who knows how to know beforehand"; such is the opening sentence of those admirable pages, so full of clinical observation and medical philosophy. The body should always be considered as a whole and "all things should always be judged by the study of signs and the estimation of their relative value." The same idea is upheld by Plato in his *Charmides* when he says: "It is impossible to cure a part without the whole." The same principle pervades all the Hippocratic works, and the famous doctrine of the *Crises* is but a systematization of prognosis in acute diseases. Thus prognosis was considered as a comprehensive survey of disease and its probable course. From the very first Hippocratic medicine had placed itself at the centre-point and had attempted to synthetize clinical prognosis.

Such are the earliest sources to which we must ever revert. Those primordial notions have lost none of their value, and if we have added much we have parted with nothing. To this day those objective data are amongst those that no clinician has the right to neglect, and the general impression they suggest at the patient's bedside leads us to pretty much the same prognostic conclusions as of old.

For more than twenty centuries medical observation went no further and was restricted to the same elementary information, until the day when new methods were added to the ancient practices, rendering possible the analysis of morbid disturbances. Thenceforth it is by the analytical method, with the help of a more and more penetrating technique, that medical inquiries progress; at the same time, more direct paths are open to prognosis.

The Modern Era.

The modern era begins with Auenbrugger and Corvisart, who introduced percussion; with Laënnec, the immortal inventor of auscultation; with Richard Bright, the creator of renal pathology. By those memorable discoveries the whole of medicine was at once transformed. Direct exploration became possible and efforts were made, in Laënnec's own words, "to place internal organic lesions on the same line with surgical diseases in regard to diagnosis." To detect morbid changes in the living subject, to ascertain their degree and evolution, amounted to creating modern diagnosis and to giving prognosis a more certain basis. It amounted also to demonstrating all the importance of a new science, pathological anatomy, which by its precise descriptions was going to corroborate and check clinical investigation and to direct medicine for a time towards the exclusive quest for lesions and for organic changes. To detect the lesion in the living subject, to identify it in the cadaver and to deduce therefrom diagnosis and prognosis, such became the system of what was to be, for more than half a century, *Organicist Medicine*—a noble system which contained a large share of truth, but a narrow doctrine which tended to confuse the lesion with the disease which caused it. Doubtless, to a certain extent, the lesion *is* the disease in the course of evolution: but the anatomy of the dead body affords but the conclusion, the terminal condition. *Anatomical prognosis* therefore soon found its limitations. It is probably in the field of neuro-pathology that it has achieved its greatest triumphs, and the whole of Charcot's work rests on the anatomo-clinical method rationally applied. Need I add that if we are mere organicists no longer, we have nevertheless cast aside or forgotten no part of our predecessors' labour? Their work rests on the ancient fabric like a new geological stratum: on this stratum we have erected our modern constructions, more extensive and solid because they rest on larger and deeper foundations.

Unceasing Progress.

The succeeding stage is marked by the influence of Claude Bernard's memorable work. With him pathology became abnormal physiology, and disease became a disturbance of normal functions. We can recognize a morbid state and alter its probable course and consequences only if we are acquainted with the *functional disturbances* it causes. Without this essential notion how could we scientifically conceive the prognosis of a lesion of the heart, or liver, or kidney, or of the digestive or respiratory systems? Modern effort tends each day to greater advances along the paths opened up by Claude Bernard. With our improved instruments and laboratory technique, through our researches on the blood and body fluids and on cytological reactions, we aim at gauging accurately the functional value of the various structures, the organic reactions of defence, the substitutions and compensations as well as the morbid synergical actions that take place in the human system. We physicians now strive to reason and to act as physiologists, or, better still, as biologists. Our system of analysis makes use at the same time of the methods, now closely associated, of clinical medicine and of experimental pathology. It attempts to dissociate the infinitely complex problems of pathogenesis and the relationship between causation and secondary reaction. Nor can we arrive at a prognosis unless we take all those factors into account.

And so, after this long circuit, after all this analytical work, we find ourselves returning—as in the early ages of medicine—to Hippocratic prognosis, to the synthetic and comparative consideration of what the ancients used to call the *State of forces*. Whether from a historical or a practical standpoint, we thus find that prognostic investigation has progressed by successive stages from anatomical lesions to functional disturbances and chemical changes, until it has reached the stage where judgement is based on criteria of a dynamic and vital order. How can we estimate the prognosis of heart disease if we do not take into account the functional value of the myocardium, of hepatic disease if we ignore the ureogenetic function of the liver, of nephritis if we know not the degree of renal permeability and the amount of urea in the blood serum? What should we know about the future of a diabetic subject if we did not ascertain the state of his nutritional exchanges, if we did not detect the first signs of the acid intoxication which threatens him? Again, what should we know about a gouty subject if we knew nothing of his blood pressure or the working of his kidneys? If diagnosis consisted simply, as Pinel would have it, in "assigning to a given disease its proper place in Nosology" it would be a most fruitless and conventional

effort. Our conception is a very different one; for us diagnosis signifies the recognition, as perfect and precise as our means of investigation will allow, of a morbid condition considered in regard to its origin, its present state, its future course. Thorough diagnosis is almost one with scientific prognosis—at least they constitute two closely connected ways of considering the same fact. If we remember all that we owe to contemporary haematology, to biological chemistry, to electrology, to skiagraphy, we see how inseparable are the notions of diagnosis and prognosis thus obtained. Of equal importance, both for diagnosis and prognosis, are the temperature charts, the curves of urine and weight, the cardio-vascular tracings such as we have learnt to take and to interpret from Marey and from James Mackenzie; the research in the blood of bactericidal properties, of agglutinins, of opsonins; the analysis, both qualitative and quantitative, of the various constituents of the serum. We arrive at the same conclusion if we consider the history of the leucocytes of the blood, with their chemiotactic and phagocytic reactions.

Thus prognosis takes its immediate share in all the advances of diagnostic technique. This unceasing progress might make us imagine that there are no limits to its possibilities. It certainly is far from having reached its future boundaries, although we feel hemmed in by those of the present day. These we shall try to define later.

Remote Prognosis.

Medical prognosis, then, is a very complex matter necessitating the consideration of multiple criteria. Yet, if thus strictly considered, it would still be very incomplete, inasmuch as it would not be taking the future into sufficient account.

Now to us physicians the future is a preoccupation inseparable from the actual disease we are treating. This is a recent notion, it is true; for it was formerly imagined that a disease cured had no morrow. How great was this error and how far we now are from such a fallacy! Every day this question of remote prognosis arises, and it may be said to have made its appearance in science with the discovery by Bouillaud of rheumatic endocarditis. The French physician had doubtless more than one forerunner, and it is in England that the early work was accomplished. David Pitcairn, physician to St. Bartholomew's Hospital, was the first to observe that rheumatic fever is a common cause of heart disease; he taught this fact to Matthew Baillie, a great pathologist who, in the words of Sir Dyce Duckworth, deserves to be called "the English Morgagni of his time." With Wells, David Dundas, this notion acquired greater precision, and at the same time Odier and Matthey, in Geneva, reached a similar conclusion. Finally, in 1818, James Johnson recognized and described the cardiac metastasis of rheumatic fever.

When Bouillaud took up the subject he was better armed than his predecessors. Through systematic auscultation of his patients, and through *post-mortem* examinations, he discovered and described rheumatic endocarditis. From that time on the prognosis of rheumatic fever was a different matter. Next to—or rather before—immediate prognosis now arose the question of remote prognosis. When we are called to a case of rheumatic fever the first thing we want to know is whether the heart is affected or not. Over and beyond the present illness we see and fear possible valvular disease; we try to avert it or to arrest its progress. The prognosis for the morrow takes the lead of the prognosis of the day.

The various zymotic diseases afford many examples analogous to this classical instance of chronic heart disease originating with rheumatic fever and progressing afterwards for years and years as an autonomous disease, with its special association of anatomical lesions and functional disturbances. The Pasteurian discoveries have provided us with a general theory of infection; they have shown the preponderating part played by microbic toxins in the many visceral diseases, acute or chronic, seen every day in clinical medicine as well as in experimental pathology. How many patients appear to be cured of an acute infection, and yet their health may remain affected, perhaps for ever! Innumerable instances might be quoted; the kidney of patients having had scarlet fever or pneumonia, the arterial system of enteric patients, post-infectious lesions of the ductless glands, trophic disturbance and arrest of growth following infantile paralysis. How often, after apparent cure has been effected, do we find morbid conditions progressing which our best efforts do not always arrest!

If we pass from acute to chronic infections this question of remote prognosis becomes of still greater moment. Let us consider an individual who has recently contracted syphilis. Do we for a moment imagine that after we have cured the secondary manifestations all is over, and that our task is at an end? So little do we think so that in our apparently quite healthy subject we go on applying the treatment, we periodically ascertain the result of Wassermann's reaction, we keep in mind the possibility of late tertiary manifestations or of vascular syphilis in the shape of aneurysm, or again of one of those redoubtable cerebro-spinal localizations which constitute the darkest chapter in the history of syphilis. We have got to the point that we are wondering whether numerous lesions, apparently commonplace, are not due, wholly or in part, to remote syphilitic infection. For my part I am convinced that such is often the case with arterio-sclerosis and with certain chronic conditions of the liver, kidneys, and myocardium.

What we have just said of syphilis is equally true of tuberculosis, and those two great infections share between them a very wide field in pathology. Tuberculosis, like syphilis, has far-reaching and tardy consequences. Inoculated in infancy it may come to life in the adult age, and sometimes even in old age; it is often after many years that the real gravity of a long-forgotten glandular enlargement or of a pleural effusion long since cured is revealed. Moreover, apart from the typical forms of tuberculosis, caseous and follicular, we have learnt to distinguish numerous varieties of atypical or inflammatory tubercle, of which the true nature is demonstrated by experimental inoculation. This generalization has perhaps been carried too far; it would tend to make us believe that the greater number of pathological findings are referable to remote syphilitic or tuberculous infection. This, in my opinion, would be an exaggeration; but the fact remains that in regard to syphilis and tubercle we know where prognosis begins, but we cannot foresee its limits. No physician can assure his patient of absolute cure without any possibility of some tardy sequel, whether specific or atypical in character.

The same might be said about gout, lead poisoning, alcoholism, etc. The acute disturbance disappears, but remote sequelae are always possible. We might almost say that nothing is forgotten in the system, and that any adulteration of a tissue or body fluid leaves its trace. The discovery of anaphylaxis by Charles Richet affords the best demonstration of this fact, and we can repeat, in the words of that distinguished scientist, that "we have a *humoral* personality which makes us different from other individuals: this personality of our humours is due precisely to the various ingestions and intoxications which have affected our system and left their indelible traces."

If we bear these notions in mind the scope of prognosis in morbid conditions is found to be remarkably extended. The pathological life of an individual appears no longer merely as an interrupted series of isolated episodes; but we try to discern its unity, to follow its continuous course, and to take into account the sudden and sometimes final deviations and the new pathological directions that may be given to the organism by an intercurrent disease. On these points, as well as on many others, the findings of modern clinical medicine approximate to and complete the teachings of tradition. The "humoral personalities" of Charles Richet seem very closely connected with the ancient doctrine of the "diatheses," recently defended with such conviction and eloquence by Sir Dyce Duckworth.

Family, Collective, and Social Prognosis.

Let us now extend a little farther the scope of our medical foresight. Our prognosis will then include the future of *the patient's descendants*. I cannot dwell at length on this very important aspect of my subject, but it is evident that the possibility of inherited syphilis or tuberculosis, that the transmission of abnormal humoral conditions, such as haemophilia and congenital haemolytic icterus, or of family taints like those so often met with in neuro-pathology, do aggravate those several

diseases by placing them in the group of hereditary pathological conditions.

This is not all. Next to the prognosis concerning the individual and his descendants we must consider *collective prognosis*. This is a question of a practical order which originated quite recently with the contemporary investigations on *germ carriers*. Take, for instance, a school where a case of diphtheria has broken out. Will this be an isolated case or will it become the starting point of a small localized epidemic? The preventive measures to be taken will depend to a great extent on our decision, and we must be guided by the direct examination of the other children in the school. We must ascertain whether amongst them there are not some who are carrying Loeffler's bacillus in their naso-pharyngeal membrane or in their tonsils. The number of these bacilli carriers will afford us precise and valuable information.

It is also to direct examination that we must turn if in a military unit, company, or squadron there suddenly appears one of those cases, often so rapidly fatal, of cerebro-spinal meningitis. In the last few years we have had in France too many opportunities of witnessing the birth and growth of such local foci of meningococcal infection, and our military colleagues are fully aware of their duties in this respect. In cases of this kind the systematic quest for meningococcal carriers is immediately proceeded with, and it very speedily shows whether the cases observed are sporadic or whether they are the first signs of a more or less extensive epidemic. We are thus led to form the *epidemiological prognosis*, which to a certain extent remains distinct from *individual prognosis*.

Finally, above the individual, the family, and the small communities, there is the *race*, the human species considered as a whole. Now, considering as social diseases tuberculosis, syphilis, alcoholism, shall we not be reaching the highest point that can be attained by medical prognosis? How far do we thus find ourselves from the old belief of the physician who, having treated his patient, thought he had done all that could be expected of him! We now feel that this would be an inadequate conception of our duty, and that not infrequently the particular patient cannot, and must not, be separated from his multifarious connexions with the rest of the human race. All our legislative measures in regard to disinfection and preventive vaccination find their justification in the social prognosis of disease. I need not dilate on this subject in the country of Jenner, the land of efficient prophylaxis. Is it not also in this great London that as a result of the memorable work of Sir Francis Galton and his school a new science came into being, eugenics, which held its first congress here? By improving, according to Galton's ideas, the racial qualities, both physical and mental, of the generations to come, and also by surrounding with all possible care the life of the child before and after birth, in conformity with Pinard's teaching, it seems to me that we are transferring the notion of collective and social prognosis into the domain of prophylaxis, for the greater good of the race.

Starting, then, from the daily observation of the sick, the physician has therefore unceasingly looked higher and further. Every day he realizes better that he cannot neglect the individual, or the family, or the race; that in a social body where so many nefarious forces are working together to bring about the degeneration of man he must bring to all men the tribute of his beneficent knowledge and useful labour.

Therapeutical Advances.

Does our progressively extended prognosis, based on the use of new methods and on a wider comprehension of the far-reaching effects of disease, deal with facts that are always identical with themselves? Is the prognosis of a given disease immutable? If not, why and how does it vary?

To admit the immutability of medical prognosis would be to declare that our therapeutics have not progressed. Now, surely, it is not at the present time that such a dispiriting opinion could be upheld. In the last forty years, before our very eyes, the whole of scientific and practical medicine, undergoing an incredibly rapid evolution, has been wonderfully transformed. The problems of pathogenesis, our means of clinical investigation, our methods of treatment have all assumed a new aspect, and the prognosis of all morbid conditions has thus been deeply modified. I think it can be said that there is almost no group of diseases the gravity of which has not been notably attenuated in recent years. No doubt there are still too many cases where the physician feels powerless; but even then his lack of power is no longer so absolute. The cancer problem is always before us, but we cannot deny that, thanks to *x* rays and radium, thanks to improvement in surgical technique, thanks also to recent advances in chemical treatment, our means of action have become less scanty and more often efficient. We may be unable to modify the prognosis of a given lesion: cerebral haemorrhage, pulmonary embolism have lost none of their gravity. But the changes in the arterial or venous systems which give rise to those serious accidents are better known to us; we can prevent them or treat them with greater success. Thus even in the least favourable cases we have gained some ground.

On the other hand, we might quote many instances, especially in the domain of the infections, where to-day's prognosis is widely different from that of former times. Rheumatic fever nowadays is no longer what it was in Bouillaud's time: salicylic medication has made another disease of it. Since the introduction of Brandt's treatment our enteric patients are no longer the same, and the results already obtained by antityphoid bacteriotherapy enable us to look forward to a near and decisive advance. We cannot forget what diphtheria was before the discovery of diphtheritic antitoxin by Behring and Kitasato and the splendid therapeutical deduction brought forward by Roux at the Congress of Budapest. The morbidity and mortality tables have since demonstrated throughout the world what a change has been brought about in the prognosis of diphtheria. Even the most terrible and relentless of diseases—rabies—has met its master, and the antirabic vaccination of Pasteur is perhaps the most amazing therapeutical triumph of our time.

And so each day brings with it some progress, some attenuation or modification of our prognosis criteria, some new methods of fighting disease. Armed as we are with our modern methods, having at our command mercury and arsenic in extremely active forms, do we not treat syphilis with much greater chances of success than formerly? It is not my intention to dwell on this point, but I should like to recall two other quite recent and typical instances.

Consider one of the hitherto incurable forms of trypanosomiasis—*sleeping sickness*. Thornton, and later Nicol and Mesnil, demonstrated experimentally the value of atoxyl in animal trypanosomiasis. Ayres Kopke, of Lisbon, applied for the first time the treatment to the human being, and since then results have been constantly improving. At the Pasteur Hospital in Paris Dr. Louis Martin has treated and followed in the last few years 40 cases of sleeping sickness, and he has kindly supplied me with his statistics. Of the first 20 cases, 11 died; of the next 10, 4 died; of the last 10 cases none died, and yet two patients of the last series were treated more than three years after the onset of the malady. Those gratifying results are due to the improvement in the method of treatment; for large doses, separated by intervals of ten days, Louis Martin has gradually substituted smaller doses repeated more often, and success has been more complete and more lasting. We can now talk of cure in a disease the recognition of which a few years back was equivalent to a death sentence.

Let us now take another instance afforded by *dysentery*. We know that in this disease identical symptoms may be produced through different etiological agencies, and we recognize two essential forms of dysentery, one due to bacillary, the other to amoebic infection. Therapeutical advance has not been long in confirming this distinction, and to two specific infections we now oppose two specific treatments. Bacillary dysentery is almost immediately arrested and cured by specific serum-therapy as established by Shiga, Kruse, Todd, Rosenthal, Vaillard and Dopter—to mention only the early workers in the field. As for amoebic dysentery, it now possesses also its specific treatment, which, although quite recent, has already proved its high value. This new treatment we owe to a British physician, Leonard Rogers, of Calcutta. For the last twelve years Rogers has devoted himself to the study of ipecacuanha medication in amoebic dysentery, and to the demonstration of its preventive action in regard to

liver abscess. Later, following Vedder's experiments, for ipecacuanha itself he substituted one of its alkaloids, emetin (or rather emetin hydrochloride), and he achieved the greatest success in curing quickly and entirely the intestinal and hepatic forms of amœbic dysentery. Whereas in dysenteries of equal gravity the death-rate for the cases treated with powdered ipecacuanha was 34.6 per 1,000, with emetin it is reduced to 8 per 1,000. With ipecacuanha the average duration of the treatment was 16.4 days, with emetin it has dropped to 7.2 days. As for dysenteric abscess of the liver treated by emetin injections, both hypodermically and in the abscess cavity, results have been no less favourable, and a cure is effected with astonishing ease and swiftness. The numerous cases reported by Rogers, those observed since in the Philippines and in Paris, can leave no doubt about the fact that, thanks to Rogers, a new specific therapy is born. It is one of the most active known, and such an acquisition is an inestimable benefit, a splendid therapeutical triumph. Here, then, is another disease and a grave one, the prognosis of which has been entirely modified in a remarkably short time.

If from infections we pass to the other groups of disease progress seems less brilliant, and the future possibilities appear to be more limited. The study of the disturbances of nutritional metabolism brings us face to face with causes more obscure, that act more slowly, and that are less favourable to therapeutic intervention. And yet, here again, our modern conquests are innumerable. Of these, we may mention organotherapy, dietetic treatment, and physical therapeutics. Everywhere disease is falling back before the ceaseless efforts of therapeutics and hygiene; everywhere prognosis is undergoing an evolution and holding out fresh hopes.

The Limitations of Medical Prognosis.

The foregoing consideration of a few of the general aspects of that great subject—medical prognosis—would appear to lead us to a very hopeful conclusion. Yet to this, as to all branches of human knowledge, there are limitations that we must not lose sight of, and that are calculated to humble, if needs be, our medical pride and to bring it down to a suitable degree of modesty.

What, then, are the limitations of medical prognosis? An essential distinction must here be made between *theoretical* and *clinical* prognosis. Theoretically almost everything is known to us. In a given disease we can enumerate and describe, without serious risk of omission or error, most of the complications or contingencies that may modify its course. But all that is *book prognosis*, far removed—unfortunately—from the living and individual prognosis, which relates not to a disease but to a patient. How many are the unknown quantities in medical practice, and how many the surprises! How little does it avail to know all the possible complications of typhoid fever if at the bedside we cannot foresee the intestinal haemorrhage or perforation which, perhaps in a few hours, may endanger the enteric patient's life. Again, for the newly infected syphilitic, for the gouty subject, for the epileptic at his first attack, for countless other sick patients of all kinds, how many uncertainties for the future! When a morbid condition begins we know theoretically the various paths it *may* follow; but which one *will* it follow? That is the real prognostic problem, the solution of which too often eludes our grasp. Doubtless the knowledge of the inherited soil and of previous disturbances may sometimes help us; but we are ignorant of the conditions which determine the localization of septicaemic or toxaemic infections. No one can predict at the onset of pneumonia the pneumococcal endocarditis or meningitis that will cause death. Once the metastasis is established, we cannot always appreciate the degree or the evolution of the anatomical lesion. We cannot tell whether, in an enteric case, intestinal ulceration is growing deeper, thus threatening to cause perforation. Again, in a patient with mitral stenosis, we cannot foresee whether haemoptysis, infarction, or cerebral embolism is going to occur. And so, even in those diseases with which we are most thoroughly acquainted prognosis remains uncertain. It is strong in theory but faltering in practice.

To all those reasons for uncertainty and prudent reserve I must add one of major importance—I mean the reaction of the nervous system. I forget what statesman once said that in politics one must always reckon with the "imponderables"; surely in medical practice this remark is no less true. The nerve cell may always add its perturbing influence to all morbid processes, whether in the sense of inhibition or of stimulation; and we cannot calculate or master at will nervous reaction, either in the sphere of motor or sensitive manifestations, or of psychical phenomena, or of visceral pain. We try to redress or direct it, but it may be impossible for us to foresee its gravity or duration.

Finally, and dominating the whole question of prognosis, there remains for us to gauge the possibilities of the organism that has fallen a prey to sickness. Shall we find in it the resources necessary for overpowering disease? How much can it stand and how much can we expect of it? That is the great problem which commands and includes all the others. Are we always able to solve it? I fear not.

Conclusion.

I must now conclude, and I must ask you to excuse the shortcomings of what has been, I am afraid, a very lengthy discourse.

Medical prognosis is, as it were, the corollary and the practical application of diagnosis; it borrows its methods, it follows its progress. In the course of its modern evolution it has taken its share of all the advances of scientific medicine; it has not ceased to walk in the paths of clinical analysis and of experimental pathogenesis; its aim has been raised, its scope extended. It appears as the synthesis of medical criteria; it precedes, checks, and justifies treatment and prophylaxis. If we consider the constant advances of medical prognosis and the many opportunities it affords us of ascertaining the lessened gravity of disease we can better appreciate the progress already achieved, and our efforts will thus meet with their greatest reward and incentive.

Uncertainty and disappointment must necessarily be often our lot; but since the science of prognosis is one of the loftiest summits of medicine, we must, in our ceaseless advance, ever strive to behold its crowning height. Even if it remains distant and lost in the clouds, we must never despair of lessening the intervening distance. Such an ambition is a duty, and it will ever be the best stimulant to medical endeavour.

Address in Surgery,

ON

REALINEMENTS IN GREATER MEDICINE: THEIR EFFECT UPON SURGERY AND THE INFLUENCE OF SURGERY UPON THEM.

Delivered before the Seventeenth International Congress of Medicine.

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Mr. President, Ladies, and Gentlemen,—Thirty-two years have elapsed—a full generation—since this Congress, under the distinguished leadership of Sir James Paget, last gathered in London. Among the participants on that occasion were five of the immortals in the history of medical sciences: Huxley—naval surgeon, zoologist, palaeontologist, educator, philosopher, public servant; Virchow—pathologist, anthropologist, archaeologist, statesman and sanitarian; Pasteur, the chemist; Lister, the surgeon; and Koch, the bacteriologist—among the foremost contributors of all time to the welfare of their kind. On the foundations which these men laid—a new conception of biology and man's place in Nature; the doctrine of cellular pathology; fermentation and immunity; wound healing without suppuration; bacterial diseases—a transformed medical edifice has been erected. Methods of investigation, the direct outcome of those which they evolved, we still employ; weapons which they devised are still, and always will be, effective, not only in a hand-to-

hand conflict with individual examples of the many diseases to which man and the animals needful to his existence are exposed, but, better still, in their prevention.

A few years before that meeting the profession of medicine, and particularly those concerned with its basic science, physiology, had been called upon in this city to defend themselves against the public charge of cruelty in their pursuit of knowledge. There had been no striking practical demonstration of the value of the common weal of animal experimentation such as an enlightened public demanded—such, indeed, as an unenlightened profession expected. The defence was based chiefly on the need, even at the cost of animal life, of increased knowledge concerning the functions of the human; but despite the warnings and protests of Huxley and a few others, the restrictive legislation of which you know was passed. Since then in the British Isles, and consequently in other English-speaking countries, medicine has been placed in the absurd position of defending the character of the labours necessary for its advancement. But all this is changing, and, indeed, began to change soon after that memorable Congress of 1881. Virchow, though his great contributions had come through mortisection studies rather than through observations on the living, gave an elaborate historical statement of the value of experimentation to general pathology. Pasteur at one of the sessions presented the results of his work on vaccination against chicken cholera and anthrax; at another Koch gave demonstrations of his newer bacteriological technique. In the Surgical Section the question of chief moment concerned primary wound healing, and in the emphatic discussions which followed, Lister, who had perforce been required to conduct some of his investigations in France, described his experiments demonstrating the bactericidal properties of blood serum. Between the lines of the printed reports one can easily perceive the coming transformation of antiseptic into aseptic surgery.

The seed of knowledge often finds a better soil when blown or carried to a distance, and in this instance it was across the Channel, where no discouraging blight was put upon the sort of research that is as necessary for the furtherance of surgery as for that of any other subdivision of greater medicine. For it was on the Continent that the principles established by Lister took firm root, and, particularly in Germany, were so ardently cultivated through experimentation and practice that modern surgery bears a more vigorous Teutonic than Gallic or Anglican graft. And is it not due solely to this legislative restraint upon the freedom of investigation that in these thirty years this country, which has continued to produce the greatest of names in the experimental sciences free from statutory restriction, has given us few instead of many notable successors to Hunter and Cheselden, to Cooper and Pott and Brodie, to Bell and Paget and Lister, who contributed to the science no less than to the craft of surgery? It would seem, indeed, that the restrictions placed upon animal experimentation have deterred the physician and surgeon from productive laboratory investigation far less than the physiologist, whose inclinations towards research the statutes of 1876 were expressly designed to hold in check; for Great Britain's representatives of pure physiology and experimental neurology, despite the hampered conditions under which they work, stand out as the chief contributors of the generation to British medicine, though the public cannot appreciate, nor the profession for the moment fully understand, the significance of their labours.

The spirit of investigation—all too rare—should be generously subsidized rather than taxed, encouraged rather than hindered. The outcome of the experiments of one participant in that Congress of 1881 is said to have saved enough for France to enable her to pay the heavy indemnity which the outcome of a war had imposed upon her. Nature is loth to give up her secrets; discoveries do not come by chance; they are made by those only who are industriously prepared to observe them, and the inquisitorial methods of those who seek the light through experimentation, misjudged as cruel, are necessarily stern and persistent, whether the investigator deals with inanimate objects or with animate beings. Possibly Pasteur's greatest triumph lay in a discovery in crystallography, but the same method of work was pursued in his studies of fermentation which inaugurated a new era in the brewing and wine-making industries; in the saving of the silkworm from a destructive parasite, of poultry from cholera, of flocks from anthrax, and in the elaboration of an effective barrier against the most frightful of deaths—that from hydrophobia. From crystals under the microscope, to yeasts, to the silkworm, to chickens and sheep, to man—and when his studies reached man, who was henceforth to be saved from the poisonous bite of his friend and ally the dog, Pasteur was accused of cruelty to animals. And the name of this simple and loving man, acknowledged the greatest of Frenchmen, but whom France alone cannot claim, is met with hisses when mentioned on certain platforms before gatherings of presumably intelligent people!

This Congress meets again in London, under circumstances similar to those of a generation ago. Again a legislative inquiry has just been forced upon British medicine by those who would abolish experimentation upon animals. But how different the testimony! It bared to the public gaze a science of medicine which in thirty years had become transformed throughout the world as a result of the very activities the Commissioners were called to investigate. Medicine no longer, even as a practising profession, is looked upon as uncommunicative, consulting in the back room as though it had something to conceal from patient or family, for in the individual case the family, and in the general case the public, are not only awakened, but are sufficiently interested and informed to come into an open consultation and to share in the struggle against disease. Great funds are devoted to the purpose; great corporations are held responsible for the health of their people; formerly uninhabitable zones of the globe are being rid of their plagues; governments, civic, state, and national, not only employ the weapons of attack and defence forged in laboratories whose methods were in question a generation ago, but expect their medical officers to make progressive contributions by further researches. All these great movements, of which Huxley and Virchow and Pasteur must have had some foresight, are but expressions of the new alinements taking place in the profession of medicine—alinements which affect the surgeon no less than the physician.

It has been a seeming paradox that the medical profession has so consistently endeavoured to make of the world a place where there is a constantly lessening need for the medical man. He is, indeed, already feeling the effect of these efforts, and as he becomes more and more a servant of the public health, and less and less a prescriber for individual ills, he philosophically accepts and humanely welcomes this outcome of medical discoveries which the experimental method has already given and will increasingly continue to give. Disorders which gave bread-and-butter to his predecessors are disappearing, as smallpox disappeared after Jenner. One injection robs diphtheria of its terrors; another, meningitis. Typhoid fever, which once replenished the doctor's autumnal pocket-book, is now looked upon as a civic disgrace, and where it exists, or is likely to break out, protective vaccination is performed against it. Tuberculosis is everywhere fast coming under State care, and the widespread campaign against the disease, in which those outside the profession are taking no insignificant part, is gradually lessening its ravages. The health of children attending the public schools is supervised by appointed officers; district nurses and the social service worker visit the homes of the sick and assume duties which the hospital physician long neglected; a privately endowed commission takes steps to eradicate hook-worm infection from a whole zone of the globe: an organized Red Cross Society, with Government affiliation, steps in in great emergencies; governments see fit to pass Insurance Acts which make public officials of the profession at one sweep. Dr. Pound of Cure Lane is being superseded by his young disciple, Dr. Ounce of Prevention Street.

In matters of health the people as a whole have been largely permitted to shift for themselves, and when they have forgotten how large a percentage of the faces of the eighteenth century and before were pock-marked, many of them wish again to exercise their individual discretion regarding vaccination. "Where there is no vision the people perish." Governments, though interested in the welfare of the domesticated animals, are too often

indifferent to the public health, and only in the face of emergencies, the greatest of which continues to be warfare, are they stirred to action, since freedom from disease is as essential as food and ammunition in the prosecution of a successful campaign. Hence have arisen the most striking examples of the effectiveness of preventive vaccination, at first against small-pox and latterly against typhoid.

The effect of the present realinements of medicine of which I speak is particularly apparent in the case of the military surgeons, for the Parés, the Wisemans, and the Larreys, the Pirogoffs, the Dupuytrens, and the Langenbecks of to-day are occupied with preventive inoculation, with the screening of the sick, the protection of water sources; more concerned with the first aid package than with the extraction of bullets; more often called upon to use the microscope than the scalpel and ligature. Little wonder that from men of this type great contributions have come. It is a far cry from Guthrie's amputation through the hip-joint at Waterloo to Laveran and the discovery of the malarial plasmodium, or to Walter Reed and the mosquito and yellow fever.

In the search for biological truths the God-given privilege of becoming obvious benefactors to their species comes to but few men. No one of the countless inquisitors of Nature knows whether the mantle of recognition will fall upon him—or, for the matter of that, especially cares, provided he be given the personal satisfaction of having taken a step forward in knowledge, no matter how trifling at the moment that step may appear to be.

To whom is chiefly due the expectancy of recovery for the consumptive? Is it to Leuwenhoek and the microscope; to the father of Lister and to Abbe, who perfected its lenses; to Réné Laënnec and his stethoscope; to Sir William Perkin, whose experiments with the coal-tar by-products furnished the necessary colour reagents; to Villemin, who demonstrated the communicability of the disease; to Koch, whose genius made possible the recognition and cultivation of the organism; or to Ernst von Leyden's propaganda in Germany and the United States; to Trudeau, himself a victim of the disease, through whose precepts and example tuberculosis has been moved into the open, where it is being effectively attacked in a campaign of education shared by laymen, Legislature and physician alike? Unquestionably, through experimentation on animals the most important step in this progress was made—the discovery of the *Bacillus tuberculosis* and its identification as the causal agent not only in pulmonary consumption but in the many "strumous" and "scrofulous" disorders which puzzled our forebears.

Where will lie the chief credit for the approaching victory over the great social scourge which since its outbreak in Columbian times has undermined the vigour of the race? Will it be with those earlier men who gave us the tools of research—the microscope, the culture media, and the colouring dyes; with Schaudinn, who discovered the spirochaete; with Wassermann and the possibility of a chemical diagnosis; with Metchnikoff, who successfully transferred syphilis to the ape; or with Ehrlich, who, by his original methods, has had the triumph of synthetizing a drug possessing a special affinity for the infecting organism but leaving uninjured the tissues of the infected host? There has been nothing heretofore comparable to this relentless, persistent, certain elaboration of a chemical compound which at a single dose may destroy within the living tissues the organism of a dread disease. Before it all past discoveries of therapeutic agents must make obeisance—even Jenner and vaccinia, Pasteur and the attenuated virus, Kitasato, Behring and the elaboration of the antitoxins.

What would the opponents of animal experimentation of 1876 have thought could this have been foreseen—this which is only the beginning, with pneumonia and cancer still to be overcome? That the means do not justify the end? That it is unfair to the lower animals, some species of which with unquestioned cruelty man sacrifices for adornment, for sport, for covering, for food; some of which he deliberately mutilates in the process of domestication or in preparation for his table; some of which, like the infected rats and squirrels of plague-ridden districts, he must attempt to exterminate for his self-protection? But in the search for knowledge the investigator does not exempt himself as a subject of so-called vivisection when lower animals do not suffice for the purpose;* nor will he ever hesitate even to endanger his life, whatever may be the ethics of the question, if thereby information is likely to be gained concerning some disease fatal to his kind.

To whom is due the approaching transformation of the tropics into a possible habitat for civilized man? Again, a series of investigators on investigators' shoulders, until Theobald Smith, in the case of the tick-infected cattle decimated by bovine malaria (Texas fever), in 1893, showed for the first time that a parasite might be an essential intermediary host in the transfer of a disease from animal to animal. Promptly all blood-sucking parasites of man became objects of suspicion, and ere long convictions followed—first in the case of filaria by Manson, then Ross's demonstration that the mosquito is also an essential link in the cycle of "million murdering" malaria†—a discovery which was made possible through his studies of infected birds. But when it became necessary to establish unequivocal proof in the case of man, the younger Manson, and Warren, of the London School of Tropical Medicine, did not hesitate to submit themselves to the bite of infected mosquitos sent for the purpose to England from the Roman Campagna. It is hardly possible for one unfamiliar with the experimental method and its necessary tedious controls, to conceive of the patient, unflagging, time-consuming labours on the part of many investigators the world over, often conducted in most unhealthy districts and in the very shadow of death, which step by step were required to lead to this final demonstration—labours which in review seem almost beyond the possibility of accomplishment. The discovery of the malarial plasmodium of the blood, the determination of its several varieties, the study of the sexual cycle of its development, the observation of the changes in the stomach wall of the mosquito and the final lodgement of the sporozoites in the glands of the proboscis, the recognition of the particular species among the many genera of mosquitos concerned, the establishment of the fact that the female alone is the active agent, the finding of the length of time necessary for infectivity—such step, whether made by Frenchman, by Italian, by Canadian, by Englishman, or by German, was a triumph of the spirit of research, and no great objection is raised if, in the process, the mosquito, bird, and man are the subjects of experimentation.

Soon the participation of another species of mosquito in the transmission of a still more dreaded disease was demonstrated in Cuba by the United States Yellow Fever Commission, at which time Carroll, Lazear, and some brave volunteers from the ranks permitted themselves to be bitten by infected parasites—the lamented Lazear dying a victim of the disease he had invited. The imagination of the public is only beginning to respond to these acts of heroism constantly being performed by investigators the world over—performed for humanity's sake, and surely no less, but even more heroic than the quickly applauded dangers risked in warfare for the sake of country alone. Far better could our proof of the transfer of yellow fever through the bite of the *Stegomyia* have come through the sacrifice of lower animals had animals susceptible to the disease been available for the purpose, but to the members of that Commission there seemed no alternative to experimentation upon human volunteers. And what have been the results? Pestilential districts become habitable; commerce with tropical ports, once annually quarantined because of the recurrence of a dread scourge, continues the year round; across an isthmus formerly plague-ridden two oceans are being joined, where under a

* Henry Head's important studies on the sensory disturbances produced by a purposeful division of a nerve in his own arm may be given as an example.

† These significant lines, too little known, were written by Ronald Ross on the eve of the discovery:

This day relenting God
Hath placed within my hand
A wondrous thing; and God
Be praised. At His command,

Seeking His secret deeds,
With tears and toiling breath,
I find thy cunning seeds,
O million-murdering Death.

I know this little thing
A myriad men will save.
O Death, where is thy sting?
Thy victory, O Grave?

former régime shovels alone, without drainage and screens, proved utterly unavailing.

And after the cattle-tick and the mosquito, other biting parasites—the flea and the bed-bug, the fly and the louse—have risen in dignity from a disgrace to a menace.* Immediately the patient studies of the insect world by the entomologist, disturbed from his quiet seclusion as a systematist into active participation in medical problems, become of the greatest practical value, and under the wing of preventive medicine his speciality, like that of the helminthologist and protozoologist, becomes as essential to the medical curriculum as was that of the botanist of a century ago. These are astonishing changes to have been brought about by the experiments of one modern scientist who had the training, the imagination, and the patience to investigate the ticks of cattle afflicted with a destructive plague, and after four years of laborious study to identify them as essential agents of the disease.

Herein, it seems to me, lies the weakest point in the opposition to experimentation on the basis of cruelty—namely, that the animals whose preservation is desirable benefit from these investigations as greatly as man. There is no more notable example of this than in the case of man's companion—the dog. Through the deserved attachment which has grown out of this companionship a sentiment has arisen which would exempt the canine species from experimentation. But had such a law been put on the statutes, Copeman's discovery of the bacterial cause of distemper and of a successful method of inoculation against this most fatal and distressing canine disease would have been impossible; and the same is true of the fatal malignant jaundice—a parasitic blood disease conveyed by the bite of the dog tick, which is so prevalent in some parts of the world as to make the rearing of dogs impossible, and for which Nuttall has found an effective remedy and means of prevention. What a credit to the societies for animal welfare could such discoveries have come through their own efforts rather than through the efforts of those whose methods of research they are prone to question!

Large sums of money have been wisely devoted to the prevention of cruelty to animals, and much good has been done in the past, but by a strange process of evolution most of those now entrusted with these funds, instead of grasping the opportunity to advance knowledge of the diseases of animals, have devoted their energies to opposing such advance as may be undertaken for the sake of man at some expense to animal life. The future offers a great opportunity for these societies, whose capital is now largely expended, on the one hand, in the wholesale sacrifice of stray and diseased animals, and on the other, in destructive criticism of the methods of those they call vivisectionists; for by constructive investigation and by the employment of the same methods which have been elaborated by those whose primary object is the study of the diseases of man, they may become as great benefactors to animals, and incidentally to man, as the medical scientists have been to man and incidentally to animals. There could be no better outlet for the present wasteful methods of many of these organizations than the establishment of veterinary hospitals in which modern methods of treating disease could be employed, further investigations made, and students of veterinary taught—the three great functions of any hospital; and there is promise in some communities that this wise step may be taken.

Though less true of many European countries, where veterinary institutes which are doing admirable progressive work are under Government control in close association with universities, in the United States, and I think the same is true in a measure of Great Britain, most veterinarians have profited not at all by the advance in general medical knowledge of the past generation. This applies particularly to veterinary surgeons who still trust, in the operations which they venture to undertake, to the rough and casual methods of old, with scant if any pretence to the modern refinements of skilful anaesthetization and septic surgical technique. Little wonder that people who are aware of this difference prefer to have their pets, when in need of surgical care, operated upon in an experimental laboratory rather than in many of the established veterinary hospitals. Some years ago, in the surgical laboratory at Johns Hopkins, this work grew to such proportions that a course covering the technique of operative procedures was offered to a group of veterinarians, who there for the first time learnt methods which would enable them to save valuable animal lives by procedures which they had considered impossible, and which for the general run of veterinary surgeons had been impossible.†

When himself a victim of an operable malady man voluntarily submits to a surgical operation, which is nothing other than vivisection, aware that the momentary risk and temporary discomforts—happily far less than they were of old, despite the increasing magnitude of the procedures which are undertaken—are but a small payment for the possible and probable ultimate good. And most experimental procedures in the laboratory to-day are conducted on the same principles and with the same precautions that are observed in the hospital operating-room, and the rewards of experimentation, largely for these reasons, are greater than ever before. This is one of the great contributions which the surgery of Lister has made to the advancement of the medical sciences—a contribution as great as that represented by the immediate benefit to the stricken patient no longer liable to the dangers of wound infection. It does not seem to be realized by the opponents of such forms of research as entail experimentation upon animals how few individuals undertake it, for the work requires elaborate preparation, expensive and delicate apparatus, is time-consuming and fraught with baffling disappointments. Ehrlich experimented with 605 synthetically prepared chemical compounds before salvarsan was attained. Painful experiments were necessary before anaesthesia, just as painful surgery was necessary; and the extraordinary thing is that the physiologists of the days before surgical anaesthesia and reactionless wound healing ever learnt from animals what they did of the functions of the human body, for the solution of the problems of digestion, circulation, secretion, and nervous action cannot satisfactorily be undertaken if the subject be emotionally disturbed or suffer pain or be not gently and properly cared for. Whatever the conditions may have been in the past, the opponent of research need have no apprehension to-day on the score of the elicitation of pain. And in this connexion is it not extraordinary to recall now the protests once raised by poets, divines, and even physicians themselves, against the banishment of pain by ether and chloroform—for had not man been fashioned to suffer?

Experimental therapeutics will in time doubtless give us the ideal anaesthetic in the form of a drug possibly allied to chloretone or scopolamin, a single injection of which will induce a prolonged insensitive sleep, perchance of long enough duration for primary wound healing to occur. Then will the surgeon's sense of responsibility, whether in laboratory or clinic, be greatly lightened, for undoubtedly to-day inhalation anaesthesia itself gives him his chief anxiety, and his patients, whether animal or man, their chief discomforts. Still, in spite of its present defects, anaesthesia—and it is a pity that there is no one man to whom we can unqualifiedly attribute its discovery—shares with Lister the credit of having made of surgery the most important agent which we possess for the cure of disease. Its principles are so definite, its technique so easily acquired, its performances in the long run so safe, that as a therapeutic measure human vivisection—to use this cruel word in a sacred sense—has almost wholly lost its terrors. The triumphs of surgery stand beside those of hygiene and preventive medicine as the notable medical achievements of these thirty years.

* Parasitism comes to have a far broader significance in relation to medicine than is covered by bacteriology alone, and from its widespread existence in Nature, among plants as well as animals, and from the fact that "every parasite has near relatives that do not possess the parasitic habit," it may be assumed that these habits are acquired, and that consequently some diseases may be of recent occurrence and that still others may arise anew. Metchnikoff has even suggested that among parasites we may look for the latest products of evolution. It is a far cry in the history of parasitism from the first given example—the mistletoe by Pliny—to a haematozoan, one cycle of whose development must take place in the body of a blood-sucking intermediary host.

† It was during this laboratory course that a woman prominent in the local antivivisection circle, who owned a number of cherished and interesting dogs, brought one of them, a valuable bull-terrier, to be operated upon for an extreme vaginal prolapse—one of the complications of whelping incidental to these highly-bred pets. The owner was so gratified by the result that the animal and one of its mates were subsequently brought to the laboratory to have their ears pointed and tails docked, a request which was, of course, refused. Such are the inconsistencies of mankind!

Of the new alinements which have been the outcome of this modern surgery I particularly wish to speak. Is it not a striking fact that the health officers comprising the medical corps of our armies and navies—men who have a medical degree, and who may be called upon in an emergency to practise any branch of greater medicine—are called surgeons? I have indicated in some of the preceding paragraphs how far their activities may be removed from handicraft, supposed to be the chief business of surgeons. Though formerly this may have been their sole occupation, they are coming to use more the armament of the scientific physician and public health officer.* Thus, the army medical officer, unhampered by tradition, more nearly fulfils the office of the Greek physician, who, as Sir Clifford Allbutt has so well said, had no more scruple in using his hands in the service of his brains than had Phidias or Archimedes; whereas his brother in civil life still adheres to the traditions of the times when the manual and debasing craft of surgery was cast off from medicine.

Surgery by force of circumstances groped its way alone through the dark centuries—a craft largely devoted to the repair of wounds and injuries inflicted in warfare. But its principles were sound, its growth steady—until now, and particularly in the past generation, it has rapidly developed into the most generally useful therapeutic measure which the physician has at his command. Its principles, moreover, are as profitably employed by the investigator in his laboratory, as by the clinician in the case of an individual the victim of disease. It has served to break down medical sects and systems, such as Hahnemannism, for what principle of homoeopathy justifies the use of scalpel and forceps! Indeed, surgery has been one of the great factors in the present realignments of medicine, for from Lister and Pasteur as their fountain-head the great streams of progress have flowed, in the case of the individual, into the art of surgery, and in the case of the community, into prophylactic medicine. Even the physician, who for so long held himself aloof from anything savouring of handicraft, returns to it with that useful instrument, the hollow needle; and paracentesis, lumbar puncture, and the extraction of blood for diagnostic, or the administration of drugs and serums for therapeutic, purposes by a minor surgical act are an acknowledged part of his therapeutic resources. By a strange transformation, too, he has become the phlebotomist, and the venesections and cuppings, formerly the overworked province of the barber-surgeon, are largely practised by him to-day.

Billroth said some thirty years ago, "Die innere Medicin müsse mehr chirurgisch werden," and this seems to be what is taking place. Before Billroth's time it was largely internal medicine *versus* external surgery, for operative measures were necessarily confined to the exposed parts of the body; the visceral surgery of to-day—the larger part of the present surgeon's work, in the inauguration of which Billroth himself played no inconspicuous part—was then inconceivable. We still retain many of the traditions of those earlier days, days when a pure craftsman, steeled to act in the face of unanaesthetized suffering, amputated, removed surface tumours, ligated vessels, and cut for stone, the fistula, and a few other ills with an unerring hand and unbelievable speed. The high road to surgery was through the anatomical dissecting-room, and in these surroundings the operations of surgery were then, and are still, largely taught, with the result that the rule-of-thumb operations of one generation are handed on to the next, who will never use them, owing to the extraordinary progress ever making in these measures due to methods of asepsis and the increasing knowledge of surgical possibilities. To-day an individual of wholly different temper from the surgeon of old ventures to do operative work, and the essentials for his training are of an entirely different order. Descriptive anatomy, useful as it may be to him, is no longer a prime requisite in the terms of the past generation, but his knowledge of visceral physiology and pathology must be broad, his observations of asepsis unimpeachable, his skill in haemostasis and handling of the various tissues delicate and painstaking. As a training ground the anatomical dissecting-room fast gives way to the experimental laboratory.

An entire change in the character of surgical workmanship has been the striking transformation in the surgery of the past decade or two. The accurate and detailed methods, in the use of which Kocher and Halsted were for so long the notable examples, have spread into all clinics—at least into those clinics where you or I would wish to entrust ourselves for an operation. Observers no longer expect to be thrilled in an operating room; the spectacular public performance of the past, no longer condoned, are replaced by the quiet, rather tedious procedures which few beyond the operator, his assistants, and the immediate bystander can profitably see. The patient on the table, like the passenger in a car, runs greater risks if he have a loquacious driver, or one who takes close corners, exceeds the speed limit, or rides to applause.

And in all of this new visceral surgery it seems to me that the physician has merely come to do his own surgery, that internal medicine is merely becoming surgicalized, much as military surgery has become largely medicalized. In the breaking up of greater medicine into its clinical specialities, the primary cleavage gave us the physician and the surgeon, with medicinal *versus* manipulative forms of treatment as their essential distinction. Chiefly on anatomical lines each of these major subjects has broken up into a second or even a third order; but in the case of these further subdivisions it is to be noted that there is an inevitable tendency for operative therapy to become attached thereto, so that we have the ophthalmic or aural or laryngological surgeon, the gynaecological, orthopaedic, genito-urinary, or neurological surgeon, according to the direction whither opportunity or training or inclination may have led. Even the obstetrician—the half-brother of the physician and surgeon—reaches out for the operative side of the diseases of women, with the complete *Frauenklinik* in mind.

And what is happening in these specialities is an indication of the tendency in the two major branches; for internal medicine and surgery, as the treatment of disease grows less empirical, unquestionably tend to converge. Having the same preliminary training, possessing the same diplomas, the graduates of our schools gravitate toward surgery if handicraft appeals, otherwise toward medicine, but in habit of thought and general attitude toward disease there is little difference to-day between the higher order of physician and surgeon. Though possessing a strong distaste for the act of operating itself, many physicians have admirable surgical judgement and are perfectly capable of the surgeon's craft, just as a well-schooled surgeon should be capable of practising the physician's art. The basis of their training has been the same, and their divergence to-day comes about only through occupational likes or dislikes. Both have the same familiarity with the more common disorder—those of the abdominal cavity for example—and indeed the surgeon, provided he devotes the time he should to the preliminary study of his case, is apt to hold the advantage over his medical colleague in this regard, unless the latter industriously follows his patient to the operating table, where, as is known, he can often learn from living pathology much that was impossible from the pathology of the *post-mortem* room.

A clinic, let us say on aneurysm, is given in very much the same vein by both physician and surgeon, and their common road forks only at the post of treatment, where down one (and the longer) path beckon Valsalva, Tuffnell, and Balfour, to rest, a low diet, and potassium iodide, and down the other (and shorter) Hunter, Corradi, and Matas, to some method requiring exposure of the lesion through an incision. The internist has learnt that effective operative work cannot be done well for him by one who merely represents his hands, and he would not venture to refer his patient with obstructive jaundice or haematuria or pyloric stenosis to a mere operator who did not have the same knowledge of and the same attitude toward the pathological lesion of liver or kidney or stomach that he himself has. This, in other words, is equivalent to the physician doing his own surgery, for I think it is stupid to say, as has been said, that the surgeon has taken the appendix and gall bladder, and now the stomach, thyroid, and brain, and threatens to take the lungs and cardio-vascular system and so on, away from the physician. It means merely that as the physician

* One should, of course, not forget in this connexion Sir John Pringle, the originator of the Red Cross idea, who may be regarded as the founder of military medicine, and whose volume, *Observations on the Diseases of the Army*, London, 1712, is one of the medical classics.

becomes more and more a craftsman and user of instruments of precision, internal medicine and surgery tend to draw together and to overlap, as they have not done since the thirteenth century, when the physician-priests were debarred by ordinance from undertaking any operation involving the shedding of blood.*

In no subdivision of medicine has this been more apparent than in the difficult subject of neurology—a subject which has been conspicuously poor in therapeutic resources. Time was—and not long ago—when under the direction of the neurological diagnostician who mapped out the field of operation on the scalp, blundering attempts were made to do his cranial surgery for him. The combination was an utter failure, for the same reason that similar combinations had always proved failures before. Not until the operative possibilities of neurology were taken up by those possessing some preliminary knowledge of and interest in the nervous system and its diseases, as was notably the case with Sir Victor Horsley—in other words, not until certain neurologists began to do their own surgery—did the recent rapid strides in this direction come about. To-day a school of operating neurologists is being trained to continue this work, for as promising a future lies before intracranial as lay before abdominal surgery; but the error must not be made of permitting surgical specialists to enter this or any other restrictive field of operative endeavour without a broad preliminary training in medicine and general surgery. This mistaken course, critics say, has been pursued in some of the established surgical specialities. That they may lose sight of the patient in their expert knowledge of the disorders of a certain portion of his body in a natural tendency of those who particularize in their work at too early a period. This undesirable attitude can be forestalled only by a long apprenticeship in general medicine and surgery before specialization is undertaken, and by subsequent contact and free exchange of ideas with those who continue in more general work. Indeed, the existence of the operating specialist as contrasted with the general surgeon is justified only if the former take advantage of his opportunities to contribute to the knowledge of the disorders he specially treats. When progress ceases to be made, through the incentive studies which the smaller field of work permits, there is every reason why the vagrant speciality should be called back under the wing of its parent, general surgery, from whom in no circumstances should it ever be permitted to wander too far.

The surgical specialities, to change the figure, should represent merely grafts on the parent stem, for in their cultivation as separate plants they may cease to blossom and to bear fruit. Indeed, the establishment of subdepartments as offshoots of general surgery in a given hospital is justified solely by the promise of productivity of the individuals, around whom such subdepartments are permitted to grow, but with no anticipation that a successive line of equally competent individuals will be found to justify the continuance of this or that speciality in perpetuity. It has been said that "the specialist should be a trained physician, a skilled surgeon, and something more, but he is often something else—and something less." One thing which has kept the so-called general surgeon from getting a distorted image of his patient's malady—a vice of which the specialist is often accused—is his wider experience with disease affecting the body as a whole; and it would be rejuvenating to many of the surgical specialities if they could be periodically absorbed by general surgery, to be born again under the leadership of individuals who through fresh contributions could give a new impulse to a senescent subject. On this basis there are any number of fields which under cultivation could be made to yield abundant crops; for the blood vessels, joints, thoracic viscera, ductless glands, and much else are as deserving of intensive study from the operative standpoint as were the pelvic organs, the nose and throat, or the genito-urinary apparatus.

And for those who, on this basis, prove worthy of the opportunities of specialization, and for whom every possible facility, in laboratory and clinic, should be given for intensive work, the most satisfactory rewards are open. In commenting on his thyroid investigations the celebrated Pirogoff once said to Professor Kocher that "the most perfect satisfaction which one can have in medicine comes through the thorough study of one special chapter in every direction and from every point of view, clinical, histological, physiological, and pathological." No knowledge, or experience, which in fragmentary fashion may cover a multitude of ills can be comparable to this thorough familiarity with one subject from every possible aspect. Still the general surgeon is by no means exempt from the frailties of the hereditary specialist. He, no less than others, easily becomes the slave of local custom, a creature of habit, who accepts innovation with reluctance. The customs, good or bad, of a surgical department are easily handed on from chief to house officer, to clinical dresser, with little change from generation to generation. Customs which once were good may have staled, and those whose vision is limited to the walls of a single institution be unaware of it. At the beginning of the present century, twenty years after it was deemed unnecessary by its originator, the carbolic spray was actually to be seen in use at a famous hospital.

A certain loyalty to the methods of a locality, and even to those of an individual hospital, is apt to be cherished and suspicion cast upon the hearsay methods and results of other, and possibly rival, clinics. This, I am told, was formerly true of your great London hospitals no less than of others. New technical principles, unless they have been observed and their value appreciated, find their way slowly from institution to institution. Reading of methods will not suffice; the objective exchange of ideas, which can come through demonstration alone, is necessary. The rubber glove was in general use in Halsted's clinic for twenty years before it was adopted elsewhere. Those who had not visited his operating room scolded at the idea. What was to become of our prized *tactus eruditus*? But onlookers gradually became disciples, and this useful safeguard is so generally employed that the very source of the idea is forgotten.

"Surgical instinct" and the "educated touch" have been overworked shibboleths which have stood in the way of many innovations, particularly those which concerned the introduction into practice of instruments of precision. As told in rhyme by Oliver Wendell Holmes, fun was poked at Laënnec and his new-fangled toy, the stethoscope. Probably Floyer heard a protest against the "pulse watch" and Wunderlich against the thermometer; only yesterday it was raised against the instrumental measurement of blood pressure. Had not the hand been industriously trained to estimate the degree of fever by contact with the patient's brow, and the fingers the quality of the pulse at the wrist? Even the Roentgen ray brought misgivings to those skilled in the elicitation of crepitus from fractured bones.

The tendency to disparage the so-called accurate or "scientific" attitude in medicine, and to make much of the "practical" doctor or surgeon who is superior to the microscope and other laboratory accessories, is rapidly passing. It was one of Paré's canons that

> Science sans expérience
> N'apporte pas grand, assurance.

But the confidence which is bred of practice uncrossed with science is still less dependable. Abraham Flexner states that during his study of the North American medical schools he heard much talk of training the practical rather than the scientific doctor, and remarks that the chief difference between them, as far as he can see, is that the scientific doctor is less likely to lose his patient. Most progressive surgeons of late years have adopted the wise custom of frequent interinstitutional visitations, and this custom of attending the clinics and observing the methods and workmanship of others has done much to reconcile these opposed points of view.

To make this habit more effective than was possible when indulged in by an individual alone, just ten years ago a small group of surgeons in the United States formed a *Wanderbund*, which at stated intervals has since visited, in rotation, the institutions of the six or eight important medical centres represented in their organization. At those exercises no papers were read, but a concerted effort is made by the local members of the society and

* By no means should this idea be distorted into an encouragement for doctors with insufficient technical training to undertake their own operations; and I understand there is a widespread tendency in some districts for them to do this, brought about in all likelihood by the fact that with his diminishing practice many a lesser physician feels that he can no longer afford to "turn over" his operative work to another.

their colleagues to open their clinics, laboratories, and class-rooms for inspection while under full operation. Thus, as in our student exercises, the present educational tendency is less and less towards subjective and more and more towards objective methods of teaching, so the success of the organization I mention has demonstrated that the same principle is equally applicable to medical societies. Similar travelling groups have come to be established in other divisions of medicine and in more specialized branches of surgery, and I believe, too, that the idea has taken root in England and other countries. From its foundation, the object of our society, inasmuch as its members were mostly teachers and investigators as well as surgeons, was threefold—to observe the methods of instructions pursued by their colleagues in other cities, to follow at first hand the progress of their laboratory studies, and to attend their surgical procedures in the operation room. Our early peregrinations disclosed very obvious differences in surgical habits, thought, and workmanship among the various institutions represented in the society membership—differences, however, which in the course of a few years largely disappeared. Unquestionably there is now more nearly equal, and a much higher, level of workmanship throughout; and as the members of the organization in one or another are in the position to pass along the instruction which they have received, this will have not only a broadening effect on the surgery of the present, but a still more marked influence on the surgery of the next generation. Such a clinic as that of the Mayo brothers, where may be seen a composite of the best in international surgery, is a good example of the effect of sympathetic, intelligent, and systematic inspection of the work of others.

As I have said, the application of surgical principles, whether in laboratory or clinic, is constantly becoming more general. The slipper of surgery has been found to fit that Cinderella of Medicine, experimental pathology, whose coach now has devoted outriders representing all departments. Observations which, even in the hands of a Bernard or a Cohnheim, were impossible before the era of reactionless wound-healing now become possible: not only may the counterfeit of conditions of disease be produced and studied without the complicating element of sepsis, but with surgical methods the Pawlows and Carrells of the laboratory bring about altered conditions which shed new and important light on physiological processes.

All this has led to the establishment of special laboratories of surgical research, where modern operative methods are particularly applied, but as a matter of fact they are nothing more than laboratories of experimental pathology, or, better still, of *experimental medicine*, as the Institute in St. Petersburg and the Hunterian Laboratory in Baltimore are called. The establishment of similar institutions elsewhere indicates that an increasing number of surgeons to-day have instincts which lead them into the broader aspects of disease and away from the mere operative task that formerly kept them in the dissecting-room. Other than this there is no special significance in these laboratories, where investigations are undertaken which are as appropriate for anatomy, physiology, bio-chemistry, or pathology as for medicine or for surgery.

Indeed, the definite boundaries formerly separating these subdivisions of the curriculum have become so overgrown by surgical experimental pathology that it is sometimes difficult to tell when the investigations of one department are trespassing on the preserves of another, nor does it much matter if the common goal is the advancement of medical knowledge. This unquestionably is a development in the right direction, for it is a peculiarity of the medical sciences, as Huxley once remarked, that they are independent in proportion as they are imperfect. Even anatomy, long a purely descriptive science, is adopting the experimental method. At Johns Hopkins a professorship of *physiological* anatomy has recently been established, and the Carnegie Institution has founded an institute of experimental embryology and has put a great anatomist at its head. These are straws of promise for the future anatomist, and he will be brought into closer contact than before with the physiologist, the pharmacologist, and the pathologist, who themselves already touch elbows so intimately that many of the problems which engage one of them might suitably be undertaken in the laboratory of one or the other of his colleagues.

In consequence of this lessened departmental activity all react far more quickly than heretofore to a ray of light, disclosing some new aspect of disease, just as they do to some novel method of study which reopens a door long closed against profitable investigation. The glands of internal secretion and their inter-relations, brought to the fore primarily through the clinic: the principle of intravital staining, with all its promising ramifications, introduced by the experimental therapeutist; the studies of cellular physiology which refined methods of tissue staining promise to make so fruitful; and the growth of tissues *in vitro* by the experimental anatomist—these occur as immediate illustrations. Indeed, the possible prompt application by the clinician of many of the discoveries made by his colleagues in the medical sciences, as well as the fruitfulness in turn of the hospital clinic in problems suitable for the pure scientist, have served to realign them, so that in some institutions the physiologist and pharmacologist have wisely been given posts comparable to that long held by the pathologist alone. Thus, through experimental or physiological pathology—or by whatever term one may wish to designate the present rejuvenation of a method which is having such a strong influence in the unification of their labours—biologist, morbid anatomist, therapeutist, hygienist and sanitarian, physician and surgeon alike, are brought into closer co-partnership than has heretofore been thought necessary or advisable. And as the physician and surgeon develop under the influence of a closer contact with their brethren of the non-clinical medical sciences, the leaders of these two branches will of necessity come more and more to hold an academic attitude toward their posts. This inevitable tendency, so far as our hospitals and schools are concerned, will have a revolutionizing effect on clinical medicine and surgery. The change cannot be made in a moment, any more than it was possible in a moment to place anatomy and physiology and the other preclinical sciences on a full-time academic basis, but once established we would no more recede to the earlier conditions, where energies were divided between school and practice, often to the detriment of the school, than we would now in the case of the so-called scientific branches.

And this brings me to the final subject on which I wish to touch, one which of late has aroused much discussion and has been thoroughly ventilated here in London before the Commission on Medical Education—namely, the relation toward the hospital and medical school to be held by the new order of physician and surgeon and their junior associates. Herein lie problems a source of anxiety—to many—problems, however, which will not be solved by shunning them. Our great public hospitals have ceased to be grievous and infected places, and people are rapidly losing their dread of them. Meanwhile, as disease becomes better understood, the complexities of its accurate recognition and successful treatment become even greater and require the studies of an increasing number of co-workers—a situation which makes a most unsatisfactory matter of the office or home consultation. In consequence, people, in greater and greater number, desire when ill to enter into institutions for study, and this applies to the well-to-do as well as to the poor. Consider, for example, the present-day methods essential for the recognition and treatment of a single disease, which with its varied complications is possibly not only the most prevalent one the doctor encounters, but which has been regarded as the one most easily prescribed for. Indeed, so definite and so effective were his therapeutic measures supposed to be, that the shabby habit was acquired of making the administration of iodides and mercury serve as an aid to diagnosis—a habit which often led to added confusion. To-day the clinical acumen of the practitioner, experienced though he may be, has given way to a chemical test by a laboratory expert, and only when the disease is thus proved to exist is a diagnosis accepted. The discovery of the spirochaete and the study of its biological habits have taught us that in certain parts of the body, especially the central nervous system, the organism is not accessible to the former methods of treatment, or, indeed, if reached, that it may have acquired an immunity and resistance toward the very drugs supposed to destroy it.

Let us suppose that the malady has taken the form of a cerebral gumma. The patient has headaches, and there is

a suspicious clinical history. What is required? A lumbar puncture, a cytological study of the fluid, and the Wassermann test requiring one specialist; an ophthalmological and perimetric examination needing another; a neurologist certainly, for a careful study is necessary to determine, if possible, the situation of the lesion; probably, too, a roentgenologist; and in the end, perhaps, another to administer salvarsan; or, in the case of a non-absorbable fibro-syphiloma, as likely as not an operation will finally be needed. And this for what was yesterday a simple problem, easily faced by the practitioner single-handed! Thus scientifically accurate diagnostic measures, and a new form of therapy requiring blood-letting and manipulative skill make a craftsman even of the syphilographer. This is a far cry from a written prescription, a bottle and spoon.

No, the practitioner cannot be chemist, neurologist, bacteriologist, ophthalmologist, radiographer, surgeon, and what not rolled into one, and do effective work. The Jonathan Hutchinsons of the profession are, alas, rare. And as the co-operation of those expert in special lines becomes more and more necessary the tendency will grow for these conjoint studies of individual cases of disease to be carried out in properly equipped hospitals, where the data essential for a diagnosis can be more quickly and effectively accumulated and the paraphernalia for treatment kept in smooth running order from constant use. This is particularly true in so far as it concerns surgery: for in proportion as this form of therapy is the more dangerous, so much the more need is there for surrounding it by every possible safeguard against misuse or accident.

The more difficult and complicated problems of disease will gravitate to large institutions where no longer "visiting" appointees, but directors of hospital units in continuous service, unhampered by an ill-adapted hospital administration, can uninterruptedly devote themselves to their work without entering into competition for practice beyond the walls of the institution. For when advantage is taken of a hospital appointment to make it a high road to practice, the visiting physician or surgeon immediately becomes a less valuable institutional servant, if for no other reason than through the dissipation of his energies. When this abuse is widely corrected the family physician of old, so rapidly passing as a type of practitioner, and than whom no more useful member of the community ever existed, may again come into his own, with an even larger and better field than before, quick to take advantage in his more difficult and serious problems of institutions where the chiefs of service are in no sense his competitors, but rather his coadjutors. Owing to the present dismemberment of medical practice into its many specialities, the public has begun to feel that there is no balm and no physician in Gilead.

Meanwhile, it will be the *energetische imperativ*, to use Ostwald's symbol, of the paid hospital incumbents to take advantage of their opportunities to observe and investigate conditions of disease for other and higher reasons than the expectation of financial returns from competitive practice. They will also instruct and be instructed by their full-time junior associates, and these in turn by the student body, without whose actual aid and stimulus a properly modelled hospital organization can hardly survive, and who in return will receive, in addition to the advantages once attached to the old apprenticeship system, the added benefit of contact with the active work of co-operating departments.

The cry has been raised that this evolution of the physician and surgeon will make teachers incompetent to instruct those who are to enter practice, but the same cry was once raised against the appointment of the full-time physiologist, anatomist, and pathologist, whose loss of contact with practical medicine, it was presupposed, would disqualify them on the same grounds. After all, is not the essential thing to inculcate in the student's mind the habit of acquiring clinical knowledge for himself? And there is no possible way of doing this except by bringing him into immediate touch with the sick-bed. This, in the terms of Huxley, makes for centrifugal education, whereas our customary methods are centripetal in direction, with the effort to drive formulas into the student's head rather than to teach him how to produce ideas of his own. In an address on this subject Henry Fairfield Osborn aptly said that "the measure of a teacher's success lies in the degree with which ideas come, not from him, but from his pupils."

These, then, are some of the transformations and realinements which are taking place in medicine, and which, directly or indirectly, have come through the great contributions made a generation ago by those with whose names this address was introduced; the public is not only awake to the great developments in medicine which animal experimentation has made possible, but ready to participate in their application for the general welfare: the physician at large, the valued family adviser, in reaching out toward the important problems of hygiene and preventive medicine, while the individual patient, as the complexities of disease unravel, needing more and more specialized and more and more surgicalized treatment, is gravitating toward the modern hospital: the departments of the preclinical medical sciences, which formerly existed in splendid isolation, find their fences down, owing to the levelling influence of experimental pathology; hospital organizations are undergoing changes which will ultimately require the full time and continuous activity of those who serve them for the benefit alike of student, of science, and of patient. The kaleidoscope of medicine is turning: these are merely some of the present rearrangements of the images as I see them—new patterns from original fragments—for "Is there anything whereof it may be said: See, this is new? It hath been already of old time, which was before us."

PELLAGRA IN GREAT BRITAIN:

NOTES OF SOME FURTHER CASES.

BY

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SINCE the publication of my third article on the occurrence of pellagra in the British Islands (JOURNAL, July 19th, 1913) several more cases have been reported to me from various parts of England and Wales. Of course, as was to be expected, all were not pellagra. Some of the "possible cases" turned out to be psoriasis, lupus erythematosus, and eczema, but by going to examine all such as presented a likely history, I have had the opportunity of seeing genuine pellagra in its most typical and severe form, and such as I have observed it in Italy, Roumania, Spain, and other countries where it has been long recognized.

One very striking case was brought to my knowledge by Dr. J. S. Stephenson, of the Prestwich County Asylum. Dr. Stephenson in writing to me on July 22nd said:

There is a case under my care here which I think is almost certainly pellagra. It is a girl nearly 17 years old who has been ill for more than two years.

Dermatitis appeared at the beginning of June this year for the first time. Its distribution—back of hands, lower part of back of forearm, creeping round the flexor aspect of wrist, and on the face, fits in exactly with the description you have given.

Mental symptoms, nervous symptoms, diarrhoea, and also tenderness along the spines of dorsal vertebrae are all present. She was born in the Ancoats district of Manchester and lived there all her life, the eldest of a family of five. According to the parents none of the other children show symptoms. They have absolutely no knowledge of maize—they say it has never been used as food by them. There is a canal within 50 yards of the house in which they have lived for fourteen years. The only time the patient has been for a holiday in the country was when she was 12 years old; then she spent a fortnight in Cheshire at a place called Mobberley.

I have made some notes of the case and observed the behaviour of the "rash" when light is excluded, etc. Should you care to hear more of this case I shall be very pleased to send further particulars. I think it is worth publishing in support of your statement that pellagra must be much more prevalent than is supposed. This case, for instance, was under observation and puzzled me completely until I read the account of the disease in the BRITISH MEDICAL JOURNAL on July 5th.

On July 25th I went to Prestwich and saw this case; it was quite typical. The following notes are by Dr. Stephenson:

She is the eldest child of a family of five; the next three are boys, aged 14, 12, and 7; the youngest is a girl, aged 4. The boy of 14 is said to be delicate; he had an abscess in his side

when 7. The others appear to be healthy; they show no sign of skin lesion at present.

The patient went to school till the age of 14; reached the seventh standard. After leaving school she worked at a tin-plate works for four months and at a warehouse for a fortnight. Then her first illness commenced; she was in bed for seven weeks. Her complaint was pain in the stomach; the doctor called it typhoid fever, but the blood reaction was negative; she had constipation, no diarrhoea. When convalescing from this attack she was taken to Crumpsall Workhouse, where she was put in the "consumptive ward," but her parents removed her after a few days there.

She worked next at a cotton mill for twelve months in the "doubling room," and later as a "reeler," but on account of headaches she had to leave off work occasionally. During this time she was getting dull mentally; she had little energy, wanted to stay in the house whenever she could. She kept on working till she had a "faint" and fell to the floor, after which she had to be assisted home, and did not go back to work again. At a public dispensary her parents were recommended to get her into Crumpsall Workhouse, where she remained a fortnight, and was then brought here.

She had measles and whooping-cough when a baby; has not had chorea or rheumatism. Both parents are positive that her hands and face have never previously been as they are at present.

On admission, March 13th, 1913, she was very stupid, could not give any account of herself, was dirty in habits, and had general choreiform movements; knee-jerks and pupil reactions were said to be normal.

At the end of May the skin on the dorsal surfaces of hands and wrists got red, rough, and scaly. The face was also involved, but to a less degree—the bridge of the nose and both malar regions. The condition was at first thought to be severe sunburn, for some other patients were undoubtedly sunburnt at the same time, but, whilst all the others got better, this case did not. During June cracks formed over the knuckles, the skin got thick and inelastic, and there was constant desquamation. In some of the deeper fissures pus formed under a surface scab. The skin on the flexor aspect of the wrist became involved, the skin of palm of hand was not affected. The nails were normal, and have remained so. The hair is thin, but appears normal. During several dull days in the early part of July the redness of the hands lessened and the epidermis had a light brown colour. On July 13th the patient was exposed to bright sunlight; on July 14th the hands were markedly reddened again.

During July 16th and 17th she was kept in bed in a subdued light. On the 18th the fading of colour was very noticeable. After being out again on the 19th and 20th her face and one hand had got a vivid red, and she indicated that the skin felt sore; the other hand had been covered with a glove and it remained pale. On July 25th the rash on the forehead, nose, both cheeks, and the chin is brighter than it has yet been.

Alimentary System.—Some "looseness" of the bowels with tendency to diarrhoea seems to have been present ever since admission. In June she frequently had five or six small dark motions in the twenty-four hours. The average lately has been rather less. The motions were offensive and dark in colour; they did not contain blood or mucus.

Nervous System.—Choreic movements were present on admission, and they have continued without much change in intensity ever since. The face and upper limbs are affected; the lower limbs and trunk very slightly. Voluntary movements were carried out with difficulty from the beginning—for instance, when feeding herself with a spoon she often missed getting the spoon to her mouth, and on some days this has been much worse (on July 15th she was unable to feed herself). The gait was ataxic and spastic, with considerable difficulty in turning. The muscles of the legs were rigid—not wasted. The knee-jerks were increased; there was no ankle clonus. The plantar reflex was normal on left side; there was a doubtful extensor response on the right side (July 15th). Both arms seemed slightly wasted; the grip was poor. Pupils were equal; reacted normally to light and accommodation; there was no nystagmus. The tongue was protruded in a jerky manner; it appeared normal. Sight and hearing are probably normal. Sensation normal. No apraxia.

On June 28th, when out walking, she fell suddenly to the ground, complained of pain in both legs, and had to be carried back to the ward.

There was tenderness to pressure on both sides of the spines of the mid-dorsal vertebrae.

Mental Symptoms.—From the date of admission she has appeared much demented. In June she was only able to read simple words of three letters; could write her name but not her address, although she remembered it and could say it. Simple questions in arithmetic and geography she made no attempt to answer. She does not now (July 15th) reply to questions at all, but can say a few words under the stimulus of emotion—for example, when annoyed. She understands simple commands. Usually she is placid and indifferent, but cries readily. She does not appear to have any idea of her own condition.

Pulse was 106 per minute; there was suspicion of presystolic murmur; respirations 16, irregular and jerky. Examination of lungs negative. Urine contained neither albumin or sugar; on boiling it gave a white precipitate readily soluble in weak acetic acid.

Oedema of legs was noticed on July 13th, worse on the left side than the right; after rest in bed on July 16th and 17th it disappeared.

A blood count on July 16th showed:

Polymorphonuclears	62.5
Small lymphocytes	22.5
Large	11.6

Other forms normal.
Cerebro-spinal fluid not examined.

On August 1st when I returned to Prestwich together with Drs. G. S. Blandy and Wilson the patient had slightly improved in her mental symptoms. She recognized me and seemed quite pleased to see me, but she continued to keep silent and moved with the same uncertain gait. Although she had been kept indoors, the eruption was of a more vivid red and was extending. There were fresh symmetrical patches with small blebs on the external surfaces of her forearms, and we also noticed erythematous spots on the upper eyelids which are seldom involved and were certainly not involved at the time of my first visit, as testified by a colour photograph taken at that time.

After examining this case, Dr. Stephenson showed us another case he had recently noticed in the asylum. A middle-aged woman presenting a pellagrous eruption on the backs of hands, on the face, and on the lateral aspects of the neck.

On July 24th I received a letter from Dr. Raymond Crawfurd informing me of an almost certain case of pellagra which had been under his care at King's College Hospital from December 11th, 1912, to January 18th, 1913. The patient, a woman 45 years of age, had come from Walthamstow, where she died about a month ago. In Walthamstow she was under the care of Dr. F. Percy Elliott. Dr. Crawfurd tells me that neither he nor Dr. Elliott had suspected the true nature of the disease until they read the accounts of cases in the BRITISH MEDICAL JOURNAL. Now they both feel that the case was one of pellagra. Dr. Crawfurd's notes on the case whilst in hospital are as follows:

Seven months ago noticed noises in the head coming from the right ear continuously, which prevent her sleeping. A month later had to give up work. Has been sent to Bournemouth and Brighton without benefit. Deafness came on four months ago in both ears, and has continuously increased; no discharge from ears. Varying degrees of redness of face and neck throughout illness; eyelids swollen as well as red; seborrhoea of scalp. Patient says that during last summer her hands also were red, but they were not visibly affected during her stay in hospital. She was persistently silent, sometimes morose, sometimes almost melancholic; for a short time she was actually dirty in her habits. Dr. Whitfield was asked to make a diagnosis of the skin condition, but he said it was nothing he was familiar with, and certainly not lupus erythematosus nor chronic erysipelas. Patient's mental condition gradually deteriorated during her stay in hospital, and there was no improvement in her hearing or in the condition of her face and neck.

In writing to Dr. Crawfurd about the further progress of this patient, Dr. Elliott says:

Athough not typical, the case had several features strongly suggestive of pellagra, and I wish Sambon had seen it. The sore, denuded tongue, becoming later peeled and bald with fissures; the severe stomatitis, with implication of fauces and uvula, together with attacks of salivation; burning pain on swallowing, salt taste and parotitis, first one side then on other, make up an alimentary group of symptoms characteristic of pellagra. She was having no mercury. Next the exacerbations of the skin eruption, the symmetrical distribution, sharply defined margin, the "butterfly patch"; bullae under eyes and on cheeks; subsequent hyperkeratosis of affected patches (very well marked indeed); slight desquamation, coarse, lustreless hair were all present in the case. Among nervous symptoms, attacks of tonic spasm causing on two or three occasions some loss of consciousness, tremor and clonic spasms in limbs, spasm in muscles of deglutition so great as to prevent swallowing for days together; the insomnia (specially bad), severe and persistent headache, vertigo, were all noted.

On July 29th Dr. Blandy's case at Napsbury Asylum died, and when I went on the following day together with Dr. Wilson for the autopsy, Dr. Blandy showed me three more pellagrins which he had discovered amongst the inmates of the asylum. These cases, together with the two in Prestwich and the earlier ones in the Montrose and Aberdeen Royal Asylums, lead one almost inevitably to suppose that there must be similarly unrecognized cases in the other asylums of the United Kingdom.

Considering its great importance as a factor of insanity, now that the presence of indigenous pellagra in this country has been fully demonstrated, it seems to me that we should make every endeavour to ascertain as soon as possible its exact distribution and prevalence.

ABSCESS DUE TO STREPTOTHRIX EPPINGERIS (ACTINOMYCES ASTEROIDES) RESEMBLING A STAPHYLOCOCCAL INFECTION.

By W. BROUGHTON-ALCOCK, B.A., M.B.Cantab., M.R.C.S., L.R.C.P.Lond.

(Laboratory of Professor Metchnikoff, Pasteur Institute, Paris.)

I have been led to publish this case not only on account of its rarity, there being but six already published, but to demonstrate the error into which one may fall, as I did myself in making a hasty diagnosis. Foulerton[1] has drawn attention to the difficulty of making the diagnosis clinically, and the necessity for careful bacteriological examination.

The patient, a maniac aged 48, confined in an asylum, was placed in a cell on November 23rd, 1912, because of his agitated condition. It is an interesting observation that in his cell there was a loose bedding of straw, which he was constantly throwing about. On December 2nd, 1912, the house surgeon noticed oedema and lymphangitis around an abrasion on the right thigh below the great trochanter. Unrelieved by palliative measures, it was incised on December 9th, and half a pint of blood-stained dark yellow, non-smelling pus was evacuated. This showed on microscopical examination débris, degenerated leucocytes, and Gram-positivé cocci. The appearance of a few colonies of staphylococci on the agar tubes after eighteen hours led me to presume a staphylococcal infection; the clinical signs and progress supported this view. The patient had had a temperature of 39° C. to 39.5° C. during the previous four days, and was very ill. I gave a vaccine of 30 million living sensitized staphylococci. There was no local reaction and no reduction of the temperature. The patient continued to sink, and died on December 14th, 1912.

Five days after sowing I noticed on the gelatine isolation plates numbers of non-liquefying pale yellow colonies, which microscopically showed non-motile short filaments and cocci; both retained the Gram stain. There were but four colonies of *Staphylococcus aureus*. Repeating the sowing of some pus that had been stored in the ice-house I obtained similar results. Anaërobically, nothing grew on either occasion. The blood of the patient, sown on the day of operation, was also negative. An autopsy was not permitted. I did not think there was a cerebral abscess.

Suspecting a streptothrix from the microscopical examination I chose certain media for cultures.

On glycerine potato there was definite growth in forty-eight hours—nodular, undulated, and irregular, and changing from orange to brick-red day by day.

On carrot, no growth.

On glucose agar, as on potato.

On ordinary agar, similar but slower growth.

On gelatine, colonies slowly growing, yellow, viscous, round-bordered, with ill-defined halo; non-liquefying.

On broth, similar to that on potato, as a veil at the top; liquid clear. At the bottom a cloud-like greyish culture studded with small pale orange-coloured nodes.

Anaërobically there was no growth.

After one month on the solid potato and agars, also on the liquid at the bottom of the potato tube, there were white areas, some defined, some as borders, which by the hand lens appeared as projecting filaments. Microscopically these showed, as the original pus, Gram-positive cocci-like spores. The nodular red and tenacious mass showed Gram-positive rods; a few only lost the violet colour. On staining by the Ziehl-Nielsen method for acid-fast properties, the red colour persisted in the cocci and rods, though the latter retained the stain better at certain points along them.

The injection of a platinum loopful (1 c.cm.) in saline into the peritoneum of a medium-sized guinea-pig killed it in five days. Autopsy showed enlarged and congested kidneys and supra-renal glands. The mesenteric glands and those along the lower border of the stomach and in the omentum were markedly conspicuous and yellow in colour. The sowing of one gave a pure culture. The brain was normal and the blood sterile. Nothing macroscopically was seen in the lungs. An unfortunate accident prevented histological sections.

Injections intravenously and intraperitoneally into mice gave no results. It was only after the cultures were one month on media that I injected two rabbits, first subcutaneously and a week later intravenously. The subcutaneous injections were slow to absorb, but there was no abscess. The intravenous infection was innocuous. The doses were similar to that given to the guinea-pig.

These animal experiments are extremely limited, and the fact that the results on the rabbits do not correspond with those made during the complete and valuable researches of Eppinger,[2] Nakayama,[3] and McCallum,[4] probably bear upon the age of the culture and smallness of the dose employed.

In conclusion I wish to express my deep gratitude to M. Pinoy for his generous and invaluable counsels during these observations.

References.

[1] *Lancet*, February 8th, 1913. [2] *Ziegler's Beiträge zur path. Anat.*, Band ix, 1890. [3] *Arch. f. Hyg.*, lviii, 3 fasc. [4] *Centralbl. f. Bakt., Parasit., und Infect.*, May 14th, 1902.

THE TREATMENT OF CHRONIC PROGRESSIVE DISEASES OF THE SPINAL CORD BY X RAYS.

WITH AN ACCOUNT OF TWO CASES.

By FRANCIS HERNAMAN-JOHNSON, M.D., Darlington.

The "reading up" of spinal cord lesions is a melancholy business for the student of medicine. He finds in text-books an elaborate classification of symptom-groups into so-called diseases, the names of which he learns with much labour. But if he is called upon to acquire a knowledge of the distinction between progressive muscular atrophy, ataxic paraplegia, disseminated sclerosis, and the like, he is saved the effort of learning any etiology to speak of beyond the time-honoured "cold, wet, exposure, fright, and mental worries." Nor does it take long to peruse the paragraphs devoted to treatment, for they consist of little more than a list of those remedies which have been tried and found useless.

Later on, when he begins to see these cases in practice, he finds as often as not that they will not fit into any particular textbook pigeon-hole. The average physician is content if he can (*a*) distinguish between functional derangements and organic mischief: (*b*) exclude active syphilis or tubercle; and (*c*) differentiate "idiopathic" disease from that due to "parasyphilitic" toxins. If one can make out with certainty that the patient is suffering from chronic progressive disease of the spinal cord which is neither tuberculous, nor syphilitic, nor parasyphilitic, it is of little practical importance whether the malady does or does not fit in with any classical description. In any case, the etiology is unknown, the prognosis bad, and ordinary medical treatment non-existent.

I make the foregoing remarks because the cases which I have to report are somewhat difficult to name. Yet both are undoubted instances of spinal cord degeneration, in which the diagnosis has been confirmed by recognized authorities; and any conclusions which may be drawn from their reaction to treatment may justly be applied to cases presenting a more usual combination of symptoms.

Some years ago certain Continental observers began to use *x* rays and radium in the treatment of syringomyelia, disseminated sclerosis, etc.; they reported considerable improvement. I myself began to use radio-therapy at the beginning of the year 1911, and as this treatment has not, to my knowledge, been much used in this country, I think it may be worth while to set forth my results up to the present time.

Case I.

Miss R., aged 18, sent to me by Dr. A. C. Farquharson of Spennymoor. This girl complained of pain and weakness in the right arm and shoulder of some months' duration, and of general loss of energy and spirits. She appeared pale and anaemic. Inspection showed general wasting of the muscles of the forearm, arm, and shoulder girdle on the right side; also slight wasting of the muscles of the left thigh, about which, however, no complaint was made. No plantar reflex could be elicited on either side; the knee-jerks were normal. Tremor was absent, there was nothing peculiar about the speech, and eye signs were lacking. All the affected muscles reacted fairly well to the faradic current. A radiograph, taken to exclude tuberculous disease, showed lateral curvature of the spine in the upper dorsal and cervical regions, with some bevelling of the vertebrae.

I was puzzled by the case, but made a provisional diagnosis of late infantile paralysis. (There was a history of an attack of "influenza" some six months before, but the patient was not clear as to whether or not it had preceded the muscular weakness.) Acting on this assumption, I began a course of faradic stimulation of the affected muscles. Rapid improvement took place, and at the end of ten weeks the pain had subsided,

voluntary power was much improved, and but little apparent difference remained between the two shoulders.

Encouraged by these results, I ventured on a favourable prognosis, and stopped treatment; telling the parents to bring the girl back for another course in two months' time.

In rather less than this time, however, she returned, complaining again of pain in the arm. The clinical picture had in the meanwhile greatly changed, and was now unfortunately only too clearly one of progressive spinal cord disease. The shoulder had maintained its improvement, but there was marked tremor in both hands. The interossei of the right hand were markedly wasted, and both the little and ring fingers were partially flexed, owing to paresis of their extensors. The adductors of the thumb and the muscles of the hypothenar eminence were also much atrophied. The patient stated that both hands felt "clumsy," and that the right had no power.

I was now compelled to tell the parents that a progressive, and probably incurable, spinal cord lesion was present, and advised that *x* rays should be tried as the only treatment likely to be of any real benefit.

A fortnight after the commencement of irradiation the tremor began to subside, and by the end of two months had altogether ceased. Meanwhile the contracted fingers were massaged, and their wasted muscles faradized, with the result that they became almost straight. The pain in the arm proved somewhat obstinate, but finally disappeared, seemingly as the result of treatment to the arm and shoulder by means of an electrically driven vibrator.

At the end of six months, when the patient had received in all forty sittings, I decided to stop the irradiation. The girl had been obliged to give up cycling, piano-playing, and sewing, but she was now able to resume all these occupations and amusements, with the exception of difficult music and fine needlework. Her general health also had much improved; she looked robust; and it would have required more than a casual examination to detect any trouble.

After another two months she again presented herself. There had been a somewhat sudden return of extensor paralysis and pain in the arm. These symptoms disappeared in a few weeks under treatment directed to the cervical spine; but, while actually undergoing this course, she developed pain and stiffness in the small of the back. Relief followed the irradiation of this region. Since then I have never allowed more than a week to elapse without seeing her.

In the summer of 1912 the patient consulted Purves Stewart. He confirmed the diagnosis of progressive cord degeneration, and said that so far as he could name the trouble, it was disseminated sclerosis, localized chiefly in the cervical region. As to treatment, he advised that *x* rays should be continued, in conjunction with medicinal tonics.

More than two years have now elapsed since the disease first definitely manifested itself, and the patient is now about as she was after the first six months' treatment. That is to say, by means of, or at any rate coincidently with, constant *x*-ray treatment the improvement has been maintained for a period of over eighteen months.

Case II.

Mr. H., aged 33. Sent by Dr. Martin, of Darlington. Between six and seven years ago this patient noticed a weakness in the left ankle when playing tennis; the "springiness" of his toes seemed impaired. He thought little about the matter at first, but the weakness grew steadily, though very slowly, worse. Next came tingling sensations in the right arm and at the tip of the tongue; also some loss of control over the bladder and over the rectum so far as flatus was concerned. Finally, a commencing weakness in the hitherto sound leg greatly alarmed him, and he consulted Risien Russell. Russell told him that he had a chronic progressive disease of the spinal cord, for which little could be done, but advised him to undergo a course of electrical stimulation of the leg muscles, in the hope that at least some temporary benefit might ensue.

In view of this advice, his own medical attendant, Dr. Martin, sent the patient to me. I agreed to carry out the treatment recommended, but suggested that, in addition, *x* rays should be applied to the spine.

At this time there was extreme wasting of the calf muscles of the right leg, and some atrophy of those covering the back of the thigh and buttock. Power to extend the foot had been completely lost, and the calf muscles responded to the galvanic current only. On the opposite side the calf appeared small in proportion to the remainder of the limb. The right buttock responded to faradism, provided that an intense current was used, and then only after it had passed for some seconds. In the other limb faradic reactions were all brisk. Plantar reflexes were absent on both sides; both knee-jerks appeared somewhat exaggerated. Neither eye signs, nor tremor, nor abnormality of speech could be detected, and sensory perception appeared to be unaltered.

After three months' treatment reaction to interrupted currents began to return in the extensors of the left foot, and a limited amount of voluntary movement became possible. Also, the buttock muscles now responded to moderate stimulation, and had increased considerably in size. These results in themselves might perhaps be put down to the effect of faradic electricity, but the same could not be said of the improvement in the arm and tongue symptoms. The tingling sensations also disappeared, and have not so far returned (eight months). The patient himself summed up the matter subjectively by saying that he felt as if his disease had retraced its steps by more than a year. At Christmas the patient went to Switzerland for a holiday and received no treatment for about three weeks. He came back complaining that there had been some retrogression of voluntary power in the calf muscles, which he first noticed by reason of not being able to push himself up by his toes whilst having a bath. On the resumption of treatment, the power returned.

Up to the present there has been no improvement in the condition of the bladder and rectum.

That spinal-cord disease of the type under discussion is liable to natural remissions, and even passing improvement, is, of course, well known; and it is open to the sceptic to say that these patients would have improved equally in the absence of any therapeutic measures. In both cases, however, cessation of treatment was followed by relapse within a short period, and in Case II there was a history of slow but steady degeneration over a period of years without any sign of even temporary betterment.

Looking at the matter from the standpoint of pathological theory, it is of interest to recall the views of Hastings Gilford, as expressed in a recent work.[1] He believes that spinal cord lesion of the "idiopathic" type, together with cancerous tissue change and many other degenerations, are in reality instances of premature senile change. Carrying the matter further, he holds that cells which are senile, whether normally or prematurely, show a tendency to reproduce some of the characteristics of their embryonic stage. They become simple in structure, lose their specialized functions, and commence anew to proliferate. But whereas true embryonic cell division proceeds in an orderly manner to a definite end, pseudo-embryonic or senile proliferation is purposeless and anarchic.

Assuming that there is some truth in this view, we may suppose that, amongst other reacquired embryonic peculiarities, is an extreme susceptibility to the effects of *x* rays and radium. The effect of rays in small doses on normal adult cells is to stimulate their growth; but such doses need not be too small to produce an opposite effect upon embryonic cells. Hence may be explained such anomalies as that *x*-ray treatment may at one and the same time depress the cells of a rodent ulcer while stimulating the normal epithelium to spread across the raw surface which has occurred as the result of cancerous activity. In the case of sclerosis of the cord we have, on the theory under discussion, proliferating prematurely senile or pseudo-embryonic cells, together with more or less normal cells weakened by their proximity. From judicious irradiation we may therefore expect a two-fold effect—namely, depression of the unhealthy neuroglia cells, together with stimulation of such neurones as are not too deeply injured to respond.

Whether or not the above explanation of their *modus operandi* be correct, the use of *x* rays in certain types of spinal cord disease appears to be clinically justified. Radiotherapy combined with the persistent local application of electricity is at present the only treatment which holds out any hope of amelioration; and any patient, once a diagnosis of progressive idiopathic degeneration is established, should be told of its possibilities.

X-ray treatment, for whatever purpose applied, usually seems to have a general good effect upon the body functions, comparable with that of electricity or medicinal tonics. Apart from this, its action on cord diseases, as in cancer, is a purely local one. It will be recalled that, in Case I, symptoms referable to the lumbar cord came on actually during a course of treatment limited to the cervical spine. As to permanence of effect, while it is easy to inhibit the growth of embryonic cells, it is difficult to kill them outright. For example, the permanent sterilization of a healthy young woman by means of *x* rays is almost impossible. Where we have to deal with intravertebral disease, it is probably not feasible to do more than hold the degeneration in check. In other words, the patient must lead an "*x*-ray life" comparable with a "thyroid life" in cases of myxoedema. Although, even apart from question of expense, this may seem a poor prospect, it must be remembered that the victims are often men in early middle life, the fathers of young families wholly dependent upon their exertions. To such the prolongation by even a few years of business or professional activity may be a matter of the utmost importance.

Reference.

[1] Hastings Gilford, *The Disorders of Post-Natal Growth and Development.*

EIGHTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF NAVY, ARMY, AND AMBULANCE.

Colonel James Turton, V.D., F.R.C.S., President.

PRESIDENT'S INTRODUCTORY REMARKS.

After the expression of a welcome to members of the Section and some allusions to the work to be done, Colonel J. Turton turned to the subject of the further development of the Territorial Medical Service, in regard to which he spoke as follows:

As members of the Section are well aware, the existing Medical Department of the Territorial Force leaves a large and serious gap between the field medical units on the one hand and the general hospitals on the other, and in order to provide the personnel for filling up this gap during mobilization for home defence, the War Office has delegated to the British Red Cross Society and other similar associations the duty of organizing certain units composed of individuals of both sexes—Voluntary Aid Detachments. The raising of these bodies has met with considerable success throughout Great Britain, and notably in this, the county of Sussex, as will be recognized from the following statistics:

British Red Cross Society: Sussex Branch.
Voluntary Aid Detachments.

	Number.	Personnel.
Men's...	... 20	975
Women's	... 79	1,137
Totals	... 99	2,112

This portion of the work having been thus far accomplished, it would seem only natural to expect some effort to be made to give these organizations a more definite character and a more precise status in the scheme for home defence; but beyond arranging for an annual inspection of these detachments by an army medical officer, nothing has been done by the authorities to provide, in this respect, a stable and complete organization for the Territorial Medical Service, upon which service would doubtless devolve, in the event of a European war, the entire work of the Army Medical Service in this country.

Let us for one moment consider what the gap in the Territorial Medical Service represents. It means that in the confusion of a hasty mobilization (for modern wars are waged with little or no previous warning) the personnel and matériel of such essential medical units as clearing and stationary hospitals, medical store dépôts, convalescent dépôts, and ambulance trains, not to mention supplementary establishments, such as rest stations and auxiliary hospitals, would have to be organized and improvised, while provision would have to be made for sanitary sections and squads, and sick transport by road, river, and possibly sea.

Seeing, therefore, the immensity of the problem involved, it is evident that, in the interests of home defence, a serious attempt should be made in advance to educe out of the materials at hand a complete organization to meet the medical contingencies of a general mobilization for home defence.

It is contemplated that, on the mobilization of the Territorial Force, a Director of Clearing Hospitals should be appointed for each division of the Force. Under existing conditions the lot of such an officer during his first few weeks of office is not pleasing to contemplate, for it must be borne in mind that, putting aside the question of active military operations, from the first day of mobilization he would have to deal with a constant stream of sick and disabled men, the prompt disposal of whom would be demanded in the interests of humanity as well as of military efficiency, and he would be expected to perform this duty with an unorganized and therefore non-existent staff.

I consider that these officers should be appointed forthwith. They could then, in concert with the Red Cross authorities, arrange in advance schemes of organization for mobilization, having regard to the war stations of their respective divisions and the military topography of their divisional areas.

Similarly a Director of Ambulance Trains might be appointed for each divisional area.

Small nucleus units of clearing and stationary hospitals personnel should be formed as permanent units of the Territorial Force, in the proportion of one of each to each divisional area.

Steps should also be taken to, as far as possible, allot to the Voluntary Aid Detachments in advance their precise duties, respectively, on mobilization.

As no scheme has hitherto been published for the higher organization of the Territorial Force into Field army, line of communication troops, and garrisons, it is difficult to deal with the corresponding medical establishments, but I consider it would be a step in advance if a few of the Assistant Directors of Medical Services, Territorial Force, were promoted to Deputy Directors; they could act as organizing officers in time of peace, and serve on head quarters staffs and in other similar capacities in time of war.

It is a strange fact that, although the deficiency in numbers of Territorial officers is generally recognized and deplored (a deficiency which exists in the Medical Department as in all other branches), the authorities are continually placing on the retired list senior officers who have completed their term in command of their respective units.

These officers are mostly in the prime of life, keen and experienced, and they are retired when they are still capable of and often willing to render further service if suitable employment could be found for them, and in the Medical Department, at any rate, it is clear that useful employment could be found for such officers in the work of rendering more complete the medical organization of the home defence army.

THE WORK OF THE BRITISH RED CROSS SOCIETY'S UNITS WITH THE BULGARIANS.

By Major E. T. F. Birrell, R.A.M.C.,

Late Commandant, British Red Cross Society's Services for Bulgaria, Balkan War, 1912-13.

On November 3rd, 1912, the British Red Cross Society dispatched two units to Bulgaria, each consisting of three surgeons, four dressers (in place of a dresser in one unit an *x*-ray operator was included), and twelve men graded as nursing orderlies, general duty orderlies, and cooks.

The equipment was practically the field medical and hospital equipment of two tent subdivisions of a field ambulance, with certain additional surgical equipment in the case of No. 2 unit, an *x*-ray apparatus with a petrol motor and dynamo, and a supply of blankets, reserve surgical dressings, condensed milk, meat extract, chocolate, biscuit, and other articles likely to be of use for the wounded but not too bulky for transit during the long journey across Europe. As it was hoped to obtain on the spot beds, mattresses, and other articles of hospital furniture and ward equipment, bulky material was not sent out.

A large quantity of iodine (3 lb.) and the same quantity of potassium iodide, operating gowns and caps, indiarubber gloves, stovaine and the necessary apparatus, eucaine, emetine, typhoid vaccine, and insect powder were among the specially selected equipment.

Sofia was reached on November 7th, and the units came under the direction of Surgeon-General G. D. Bourke, C.B., the Director of the British Red Cross Society's Balkan Services. Orders being received to proceed to Stara Zagora with the prospect of going on to Kirk Kilisse and forming a hospital there, the two days' halt in Sofia was spent in buying what could be obtained in the way of cloth for mattresses and pillows, for sleeping suits, shirts, etc., needles, thread, soap, brushes, cleaning material, rope and string, and other articles which it might be difficult to obtain near the front.

The units entrained for Stara Zagora on November 9th, arriving there that night, one going on to Jamboli, then rail-head next day. On the way two ambulance trains were met, with wounded from Lule Burgas. One train consisted of passenger coaches with wounded lying on the seats, and covered baggage-wagons in which the men lay or sat on a little straw or matting. The other was composed of baggage-wagons only. The men were in good spirits, and seemed to make little of their discomforts and sufferings. No doubt the great majority, if not all of them, were slighter cases, but even so their fortitude was remarkable.

At Jamboli the baggage was transferred to bullock and buffalo wagons, and sent ahead with a baggage party to Kizil Agach, where the personnel followed next day in motor lorries and motor cars. Here General Bourke was recalled to meet the expedition sent out to Servia, and the units commenced their march to Kirk Kilisse, following more or less the regular convoy route. On the way several convoys of wounded were met travelling in the bullock-wagons which had taken supplies to the front. These wagons were not unsuitable for sick transport over such country, as, loosely constructed of wood, they swayed and yielded to irregularities of the ground, and, although apt to jolt, this fault was lessened by a thick layer of straw, or in special cases a litter with a mattress, on which wounded could lie in tolerable comfort. Three cases could travel sitting up, or one lying down in each vehicle.

Kirk Kilisse was reached on November 17th, and a block of what was known as the New Barracks, built by the Turks about eighteen months or two years before, was allotted to us on the 19th. It was in use as a hospital, and was full of wounded from Lule Burgas. These were evacuated, and we commenced preparing the building on the 20th, being urged to complete our arrangements as early as possible, as already wounded were pouring in from the severe fighting at Chatalja on November 16th to 18th.

The building handed over to us was one of four in the same enclosure, close to the road leading south-east out of Kirk Kilisse, and about two miles from the town. The other three blocks were occupied by the Russian Red Cross Hospital. Our block consisted of two stories with three barrack rooms in each, an attic on top which we used as a quartermaster's store, pack store, and ration store, under the able management of Captain W. Byam, R.A.M.C., who acted as quartermaster, and a wider portion at the end comprising several small rooms which we used for the operating theatre, dispensary, x-ray room, ward kitchen, and quarters for myself and another officer, besides affording a room for the lady interpreters who had come with us from Sofia. The attic, we found, had not been touched since the Turks left, and it afforded much that was useful in the way of barrack furniture, besides desks, entrenching tools, rifle cases, and ammunition boxes, which being tin-lined came in very handy when the wards were being equipped. The barrack rooms contained sufficient Turkish barrack bed-cots to complete our requirements in that matter, besides a certain amount of furniture—tables, stools, etc., which were of use. Everything, however, required thorough cleaning, and the first step was to carry all the bedsteads and other movables outside, and scrub them with soap and water. The mattress cases which we found were emptied and carefully overhauled. Any fit for use were boiled and hung up to dry, the others were burnt. It was found that in the recesses below the staircases much filth had been deposited; this had all to be cleared away, the walls cleaned and whitewashed, the woodwork and windows cleansed, and the floors thoroughly washed down. Even after all this, after the hospital had been in use some weeks, it was found that we had been happily ignorant of one unpleasantness. On taking down one of the barrack-room shelves in a ward then empty, for the sake of the brackets which were required elsewhere, it was discovered that the wall behind was covered with bugs, fortunately then hibernating.

The surroundings of the hospital required much "spade work." The Bulgarian is careless in matters of hygiene, and much labour had to be expended in cleaning up the ground and burying or burning the material which lay about. The presence of the foundation trenches of an unfinished building helped to facilitate matters, as in them a great quantity of old straw, mattress cases, the rubbish which was found littering up the attic floor, and much of the filth which soiled the surroundings of the hospital was buried. Burning was not always safe, as many live cartridges were found in the sweepings from the attic, which had apparently been an armourer's shop, but a rectangular incinerator, the construction of which was almost the first thing to be done, did useful work in that direction. A system of surface drainage had to be instituted, facilitated by the occurrence of heavy rain.

While these preparations were going on, sewing parties, under the direction of one of our lady interpreters, were busy in the town making up mattress cases, pillow cases, sleeping suits, etc., from the material we had brought from Sofia, and from cloth we had obtained locally. Meantime, also, the town was searched for anything we could obtain in the way of articles suitable for ward or hospital equipment, and plans were made for rationing the patients, cooking their food, and so on.

A party of reservists was allotted to us for fatigues and to help in the wards, and women were sent whenever they could be obtained to wash floors and do similar cleaning work.

One difficulty was that no part of the building could be spared for use as a kitchen. It was all too small for the number of patients we wished to accommodate. Consequently field kitchens had to be constructed outside, and in this we were fortunate in having the services of a man who had been a cook in the Royal Army Medical Corps and had also served in the Royal Engineers. He quickly constructed with bricks and a section of trolley line a fireplace to take the large cauldrons used for the patients' food, and placed at one end a length of stove pipe, which earned for the structure the name of "The Rocket." At a later date a nearly completed building close at hand was roofed over for us, and in this a large kitchen and quarters for the officers and men were arranged.

Another difficulty, and one which was always with us, was water. None had been laid on to the barracks, and the supply had to be carried in barrels on bullock carts from a spring about two miles distant. This meant that the barrels had to be filled by hand and the water run into tanks outside the hospital, and into these tanks any one could dip any promiscuous utensil. Thorough supervision was impracticable, and to have attempted to boil the water was considered a snare and a delusion. After much delay a raised tank with a pump was constructed, but as soon as it was installed hard frost set in and put the apparatus out of action. To counteract the risk of bad water—and even at its source it was not above suspicion—the personnel were provided with tea at each meal, and in the wards tablets of sodium bisulphate, two to each water jar containing about two quarts, were used, probably too weak a solution, but no ill effects were ever traced to the drinking water.

Conservancy required much supervision. Commodes, after much delay, were placed in the stairway landings, where also kerosene tins did duty as night urine tubs. Outside, near the trench latrines, disposal pits were dug, with a supply of water in an empty rifle box with which to wash the bed-pans, and a cauldron in which all pans and urinals were boiled daily. This was carried out under the supervision of a trustworthy non-commissioned officer who had charge of all sanitary duties. After a few weeks a latrine on the removal system was installed.

Kitchen sullage from the field kitchens first in use was emptied into a pit through a grease trap consisting of a straw-filled box with holes in the bottom. When the inside kitchen was ready, sullage was run out through a pipe in the wall to a kerosene oil tin filled with straw, standing on legs, and emptying over a drain leading to a series of three deep trenches used on consecutive days. This system worked well so long as it was seen that a trench was used for no more than one day, and that, after the sullage had soaked away, the soil at the bottom was loosened before the trench was used again. Dry kitchen refuse was burnt on the fire or in the destructor.

With the surgical equipment brought out it was possible to equip the operating theatre fairly completely. Linoleum was bought for the floor. A glass-fronted bookcase did duty as an instrument cupboard; zinc was forthcoming for covering a table or two; we had a folding operating table, and with a few pots of white enamel for the tables,

woodwork, etc., the semblance of a modern operating theatre, under the management of Major C. Hudson, D.S.O., I.M.S., was not far amiss.

There was, however, no sink and no water supply. Everything had to be carried out by hand, and cleaning up after an operation was a lengthy business, involving great labour on the part of Major Hudson and his assistants, whose efforts, however, were rewarded by the good surgical results their scrupulous care made possible.

A small shed was built for the motor used to charge the accumulators of the *x*-ray apparatus, and the equipment itself was placed in a small room of which the window was boarded up and further darkened by blankets. For the charge of this department we were fortunate in having the expert services of Mr. H. W. Cox, and his apparatus did work which was much appreciated not only by us but by our friends of the Russian hospital, the Women's Convoy Corps, and the Bulgarian hospitals in the garrison, who sent their patients for examination.

The first convoy was received on the morning of November 26th, all wounded from Chatalja, and many of them extremely serious cases. By arrangement with the local sanitary inspection we were sent a large proportion of severe surgical cases for operation, and on this account the numbers which passed through our hands were much smaller than even the limited accommodation at our disposal could have dealt with.

On the morning when the first convoy arrived no bullocks were forthcoming to bring water, and we could get none until 1 o'clock, except from a very doubtful and inadequate well in the enclosure. This of course delayed matters, and things were not improved by the shortage of rations, which were not received until the evening, at which time the extra supply asked for in anticipation of the convoy's arrival was delivered.

All the wounded which we admitted (161) had received their injuries a week to a fortnight previously, and all, except, I believe, one man whose wound had healed by first intention, were septic. While the majority were due to small-arm bullets, there were many shrapnel wounds and one from a hand grenade.

Of the effects of the Turkish sharp-pointed bullet it is perhaps hardly safe to dogmatize at present. Few foreign observers had opportunity of seeing its wounding powers as shown on the battle-field. Their experiences were mostly limited to cases able to travel down the line of communication. It may be that the tendency of sharp-pointed bullets, which have the centre of gravity near the base, to turn on encountering even a slight resistance and so inflict a severe wound, even on traversing soft tissues, may have resulted in many deaths on the field from haemorrhage or severe internal damage. At present the evidence is not conclusive. What practically all have affirmed—and our observations correspond—is that in the wounded sent down the lines of communication the results of the sharp-pointed bullet were practically the same as those of the better-known ogival-tipped missile. In many of our cases the bullets had lodged, and neither examination under *x* rays, nor the subsequent operation for removal, served to confirm the anticipations that the bullet is apt to turn over or be deflected. No such changes were found, and the only deformed bullet extracted had been a ricochet. The Bulgarians frequently remarked that the Turkish bullet was a humane one, and surprise was expressed at the few men killed in comparison to the number of wounded; but these were only the impressions of officers who had seen necessarily limited portions of the campaign.

One condition exhibited by the wounded and which was particularly striking was the craving for sweet things. In some men it almost amounted to an obsession; they continually asked one for more sugar, and offered even to buy it from us (as if that had been possible), and the Bulgarian word for sugar ("zachar") constantly recurred in their conversation. In a man shot through the face, whose wounds were suppurating very freely, and who was much reduced by illness and the difficulty of feeding himself, the condition was specially evident. We ourselves suffered from the same want.

In the war-scale daily ration for the Bulgarian army, 2 lb. 10 oz. of bread, 14 oz. of mutton or beef, 3½ oz. of beans, dried or fresh vegetables, 7 oz. of potatoes, and $\frac{7}{10}$ oz. sugar form the principal ingredients, besides an allowance of salt, lard (1¾ oz.), red pepper, tea or coffee, and 7 oz. of cheese or salt fish as substitutes for meat. This ration contains far more bread and less meat than ours, and is deficient in sugar. In the British army 2 oz. of the latter, 1¼ lb. of bread and 1¼ lb. of fresh meat are allowed in the normal ration on active service, and we found the bread in the Bulgarian ration far too much, the meat not enough. Fats also were deficient (the allowance of lard was not, I believe, available). It was only occasionally possible to purchase extra meat, and sugar in excess of the ration was only obtainable towards Christmas. For the troops at the front, supplies had no doubt been scanty, and for ourselves on the march down and even in Kirk Kilisse during November and early December rations were frequently short, and the physical work fairly severe. The "sugar-hunger" felt by the patients and, in lesser degree, by the personnel was merely the physiological expression of their needs, accentuated in the case of the wounded by the tissue-wastage of suppuration. Some of us showed "starvation-lines" upon the finger nails, corresponding apparently in time to the period of hard work and "short commons" during the march down to Kirk Kilisse.

Of medical cases only 64 were admitted. These were mostly the result of cold and exposure, such as bronchitis, bronchopneumonia, frost-bite (1 case), and a few cases of oedema of the legs and feet, the origin of which was obscure, but was attributed by the men themselves to exposure in the trenches. The condition cleared up after a few days' rest in bed. Dr. C. Clarke treated many cases of enteric fever in a neighbouring hospital with typhoid vaccine. His results—which I believe will be published—cannot fail to be instructive, and while I feel I must leave him to speak for himself, I think I may say that, clinically, the impression one gained was that under vaccine treatment the disease pursued its normal course, but that excess of toxin was counteracted, as shown by the disappearance of toxic symptoms and the freedom from complications.

There are one or two points in the reception and despatch of convoys which were found to be of practical importance. One was the desirability of being able to provide each man with hospital clothing on arrival, so that his underclothes, soiled as they often were with blood and even pus, might be boiled and washed and his uniform at least fumigated to rid it of vermin. This was necessary not only for cleanliness and comfort, but in view of the risk of typhus exanthemata, a few cases of which did occur in a neighbouring hospital.

In the earlier weeks our supplies of clothing were insufficient except for cases confined to bed. For others, washing and fumigation was done piecemeal, and with the help of insect powder and small-tooth combs—which the Bulgarians themselves carried—pediculi were at least kept within bounds. Fumigation was carried out in the pack store, the clothing being hung up on lines and sprinkled with water and then exposed to the fumes of sulphur burnt over water.

It was necessary to be careful not to destroy any clothing that could be worn again. So soiled and torn were many of the undergarments and articles of uniform that medical officers were often tempted to have them burnt as of no more use. We could to a certain extent provide men with underclothing from the Red Cross stores sent out to us, but fresh uniforms could not at first be obtained, and one or two men had to be sent towards the base without nether garments. Fortunately the Bulgarian soldiers' great-coats are long and their boots or leg-bandages are high, concealing outward deficiencies, and we were able to provide warm substitutes for the missing articles.

The hospital remained in our hands until January 15th, when, on recall to England, we handed it over, with the remaining patients, to the Bulgarian authorities, who caused it to be taken over by the personnel of one of the line of communication hospitals, assisted by three English lady doctors who had come out with the Women's Convoy Corps and remained behind on the departure of the rest of their party.

The British Red Cross Society's units returned to Sofia on January 19th, where they met with a very kind reception, and reached London on the 25th of the month, after exactly twelve weeks abroad.

THE RELATION OF AND UTILITY OF AEROPLANES IN CONNEXION WITH MEDICAL SERVICES IN THE FIELD.

By Lieutenant-Colonel J. D. F. DONEGAN, R.A.M.C.

I APPEAR before you to-day for the purpose of discussing the possibilities of the uses of aërial appliances to the medical services in the field. Dr. Reymond, the celebrated French aviator, has alluded to the hygiene and physiology of airmen before the Military and Naval Section at the Congress in Paris, and no doubt many of you have read his most interesting and instructive lecture.* I sadly lack the experience of Dr. Reymond on this most interesting subject, and I will therefore limit my remarks to the practical aspect.

As you are no doubt aware, our aërial fleet consists of the old balloon, man-lifting kites, airships, monoplanes, hydroplanes, biplanes, and hydro-biplanes.



Fig. 1.—Table on low level for the purpose of reduction of dislocation, or when required for use in shellproof trenches with limited head room. Showing the aerial cradle in use as a side table for holding instruments.

Balloons cannot be of much use to the medical service, except that possibly small balloons lit with dry-cell batteries might be used for designating the locality of hospitals at night time in towns and on lines of communication, as at present our distinctive mark is not sufficient to make their whereabouts clear to airships dropping explosives.

As regards airships, I have no doubt that within a very few years they will be used for the removal of wounded on account of the rapidity with which they can work; at present, owing to difficulty in landing and rising, they could not be so utilized, but I feel confident that before many years have passed those of us who are alive will see airships replacing our present ambulance trains for sitting-up cases, if not for the more serious ones.

Monoplanes, as you know, are not regarded favourably in our army at present, but when perfected they can be used similarly to biplanes for medical purposes. Hydro-planes are not likely to be of use to a land force.

Biplanes.—The evolution of the biplane type of aeroplane owes its origin to the ingenuity of an Englishman, named Francis Herbert Wenham, who as far back as the year 1866 made a machine which lifted well, but failed for want of structural strength.

The hydro-biplane, Colonel Cody's newest invention, is the machine in which my ambulance experiments have been made. This machine is the largest thing of its sort yet made; driven by a 100-h.p. engine it has a speed of over seventy miles an hour, which is quite fast enough for ambulance purposes. By adjustment it can start or land on either ground or water, and it can carry with the greatest of ease the operating table with all surgical contents, three medical officers, and if it were necessary to do so it could, I should say, carry two wounded men; but that experiment as yet has not been tried. Smaller aeroplanes and monoplanes could be utilized for the transport of the table and one expert.

One of the most difficult problems for an A.D.M.S. in the field is how best to utilize the services of his officers. According to regulations these officers are detailed for duty with medical and combatant units, but it must be remembered that squadrons of mounted troops get detached for scouting duties, and it is impossible for the one medical officer authorized for the regiment to be subdivided. In the event of a full regiment of cavalry having a serious casualty list when perhaps thirty or forty miles away from the main army, the surgical treatment of the wounded becomes too big a matter for a solitary medical officer; beyond rendering primary aid he can do no more. By utilizing the biplane additional medical assistance can always be provided. No guards or escorts are required, and in calculating distance and time a mile per minute can be taken as a standard. From this it can be realized that the services of surgical specialists can be obtained not only from the field medical units, but also from clearing and stationary hospitals miles away.

In staff rides and war games we notify the A.D.M.S. that we are leaving thirty patients whose injuries are so serious as to render their removal inadvisable. It is quite possible that there may be no medical man within miles, and it is more than probable that an ordinary provincial practitioner might not relish the idea of doing twenty major operations on patients scattered about the country in different farmhouses. Under the Geneva Convention we can rely on the civil inhabitants to look after the creature comforts of the wounded and on the nearest medical practitioner to attend to ordinary cases. With aërial transport we can do our own serious operations. I was asked by a gentleman if medical officers could be ordered to fly, as he did not think so; thirty years ago he could have said that an officer could not be ordered to ride a bicycle; fifteen years ago he could have said that he could not be ordered to go in a motor. Aërial transport has now progressed from infancy to the advanced puberty stage, and is but a small degree removed from adolescence or perfection. As regards risk, why war is all risk, and the medical officers are not asked to drive or start the biplane, but simply to share the danger of the pilot, and go as passengers. I feel perfectly sure that in real warfare no officer of the corps—or, for the matter of that, no member of our noble profession—would question the mode of transport should his goal be professional assistance to disabled comrades.

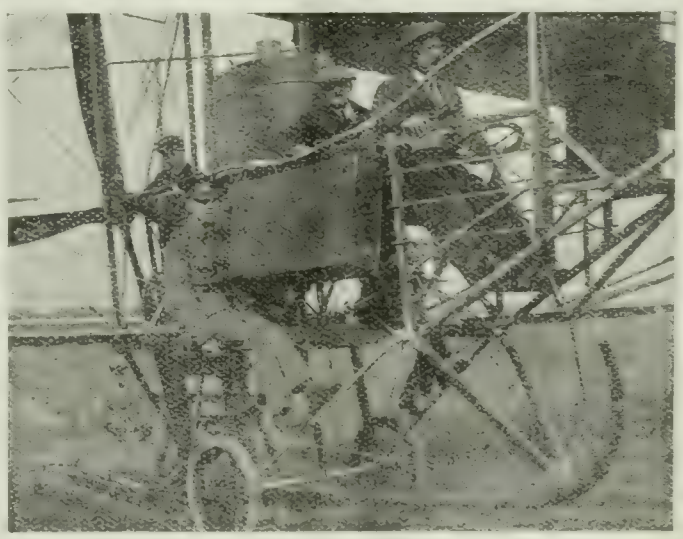


Fig. 2.—Table closed up, measuring 22 in. by 42 in., and fixed on plane. It can also be carried by motor car, motor bike, taxi, or in wagon, cart or on horseback. Weight, containing 46 lb. of surgical equipment taken from present field panniers, is roughly 95 lb., which can be reduced to 89 lb. if so desired.

* His lecture was very kindly sent to me by Surgeon-General W. W. Kenny, K.H.S., who takes great interest in this subject.

I do not propose to monopolize biplanes for medical purposes; I regard them in the same way as heliographs in the field are used to convey any message—that is, to be of any assistance they can. Those are, I can assure you, the views of flying men; and they would consider it no indignity to pilot a medical officer going to the assistance of a wounded and helpless man.

There are many who consider that the aërial service will be otherwise engaged, and not available for the purpose I have mentioned; but, in my humble opinion, in actual war the medical service can get any single thing it wants.

I now produce for your inspection the operating table devised for aërial transport. It is my own invention, and has been made by Messrs. Arnold and Sons, Giltspur Street, London, who hold the patent rights. As you will see, the table is without legs, but as legs may be desirable in the event of my idea of concentrating surgical requirements appealing to civilian operators or to medical officers of the Royal Navy, I produce the rough wooden model of a form of support which has occurred to me.

As you will notice, it consists of two combined triangles, and has therefore great supporting strength, also that it closes up into a small space. Nothing in the form of a portable leg of half-inch or even inch diameter will give the required support for an operating table on sandy soil, rocky ground, or on any steep gradient. Still, as far as I can judge, for military purposes in the field legs are not required, as a field ambulance can never be without its panniers and reserve dressing cases, and they form an excellent support. In any form of stationary hospital in a civilized country, the ordinary barrack trestle table should be available, and its strong heavy legs are quite suitable for the aero-operating table. Bedside tables will also do. When the table is separated from a medical unit, as, for instance, when it has been flown to the assistance of detached troops, ammunition boxes, tins of compressed beef, or hay, sacks of oats, and rifles can be improvised into supports. Even in a barn there would be in some neighbouring house boxes, water barrels, small tables, trunks or blocks of wood, and they would answer the purpose. Even, for example's sake, say that there is nothing whatever available in the shape of a support, a certain amount of elevation is provided in the table itself, so as to allow an operator to work kneeling on one knee. That I have done myself in what was popularly known as a "funk-hole" in Ladysmith, and I see no reason why the contingency should not arise again in war.

The next point to which I refer is the concentration of equipment. As you know, at present in a field ambulance the necessary requirements are packed away in different boxes. The very packing of these boxes in the Army Medical Stores requires the services of an expert. So you can imagine the difficulty of returning the articles to their respective compartments after use in the field. This table carries 46 lb. of equipment, and sets free space occupied in our panniers which in the first instance could be packed up with bandages and expendable dressing material, so that every time things were taken out it would be easier to put them back. The following are the articles carried in table:

Apparatus, saline infusion	No. 1
Bandages, loose woven	No. 12
Calico, thin	4 yds.
Containers, vulcanite (50 corrosive sublimate tabs)	No. 1
Drainage tubing	1 tube
Instruments, operation (or surgeon's roll)	1 set
Inhaler, Skinner's	No. 1
Pins, safety	2 boxes
Sterilizer, 1905 pattern	No. 1
,, ,, ,, spirit container for	No. 2
Silk skeins, plaited	1 tin
Tin of soda	No. 1
Tin of sodium chloride	No. 1
Tubes, iodine powder	No. 20
*Stovaine syringe	No. 1
*Solution for cases	No. 1
*Gloves, rubber	6 pairs
*Surgical gauntlets	2 pairs
Towels, aseptic	6
Case, hypo., '98 pattern	No. 1
Cartons of chloroform tubes (6 oz.)	No. 3
Drop bottle for chloroform (in leather covered case; 2 oz. chlor.)	No. 2
Forceps, tongue	No. 1
Tube, ethyl chloride	1 tube
Stopcock for ethyl chloride tube	No. 1
Bandages, triangular	No. 6
Gauze, D.C. compressed, 2½ yd. packets	27½ yds.
Wool, D.C. compressed, 2 oz. packets	1 lb.
Wool, C.A. compressed, 2 oz. packets	½ lb.
Sponges, abdominal	No. 6
Spirit lighter	No. 1
Tape, measuring (spring)	No. 1
Stethoscope, aluminium	No. 1
Nail brushes	No. 4
Soap cakes	No. 4
Field tourniquets	No. 4
Cloth, waterproof	2 yds.

* Not provided in present equipment.

There is no necessity for rigid adherence to this list; the operator can take whatever he so desires and leave out what he does not require.

As you are no doubt aware, at present to do an operation on the line of march, if such a contingency were necessary, would practically mean opening five cases—operating table, 1 and 2 surgical, and 1 and 2 medical panniers—whereas, on the other hand, the "aero-table" contains everything necessary. Again, the present pattern field sterilizer will not hold a large operating knife, whereas with the "aero-table" there are six dressing trays, two measuring 22 × 17½ in., and four measuring 16 × 9 in. For abdominal operations in cold climates this table can be heated by a very simple means. Head elevation and extremity elevation are also provided for. Further, the table can be foreshortened for rectal operations. There are no compartments for packing; things can be put in wherever they will fit.

Our present field operating table is opened by a railway-key. Without the key the case must be broken before the table can be got at, and after being broken open the case cannot be properly closed. In this table three alternatives are provided for: (1) Lock up in the usual fashion; (2) lock up and leave key in the little secret drawer provided for it; (3) give up locking up and keep both keys and lock in the drawer referred to until required. The aero-table can also be used as a stretcher on which the patient can be carried to his bed or other resting place after his operation is finished.

I hope you will not look on me as a captious critic. I have suggested that the system which I have described is an improvement on our present one, but I am fully alive to the fact that before to-morrow morning dawns one of you may have devised an infinitely superior one.

A brother officer asked me some while ago if I proposed to have aeroplanes full of medical experts flying over the heads of charging cavalry ready to swoop down and tie arteries and do abdominal resections on the spot. He also wanted to know from statistics the number of surgical operations done in the field. There was a lot in his argument, as I certainly do not approve of operating in the field. He eventually agreed with me that if surgical appliances were carried in the field they would not be injured by being concentrated in one package instead of being packed in several, and he also realized that it was possible that the man left unfit to be moved might require some surgical aid, if not the next day, at least the day after, and that with aërial transport it would be possible to afford this assistance.

SPINAL ANALGESIA IN MILITARY SERVICE;

WITH A NOTE ON 600 CASES.

By Major J. W. Haughton, R.A.M.C.

Spinal analgesia as now practised was introduced into this country some six years ago, when Mr. Barker published a monograph on the subject in the British Medical Journal of March 23rd, 1907. The suitability of this method in military surgery was immediately recognized by Major Spencer, R.A.M.C., and a report on our first 50 cases operated on in the Queen Alexandra Military Hospital, Millbank, was published in the *Journal of the Royal Army Medical Corps* of November, 1907.

The accumulated experience of the past six years has convinced me of the advantages of this method, and I propose to summarize here the results of my last 600 cases

operated upon in the Military Hospital, Aldershot, during the past three years, in which spinal analgesia was the routine anaesthetic for all operations on regions below the level of the sixth dorsal segment of the spinal cord.

Summary of Operations.

Herniotomy	156	
Appendicitis (acute)	63	
Appendicectomy (à froid)	60	
Gastro-enterostomy	2	
Enterectomy	1	
Intestinal anastomosis	2	
Other laparotomies	10	
Operations on kidney	1	
Resection of ribs	1	
Total abdominal		295
Piles and fistulas	82	
Pubis and genitalia	95	
Reduction of dislocated hip	1	
Amputations (leg, thigh, and foot)... ...	3	
Wiring fractured patellae	5	
Removal semilunar cartilage of knee ...	36	
Other operations on lower limbs, wiring or plating fractures...	82	
Total non-abdominal		304
Total abdominal and non-abdominal operations...		600

There are a few points in this table which call for remark. There was in this series no case of failure to enter the dural sac. There was no case where injection was not followed by adequate analgesia. There was no case which gave cause for any anxiety as to the safety of the method. There were six cases where analgesia did not last to the end of the operation. These were lengthy procedures, in which the operation was completed under chloroform inhalation.

As regards the after-effects of injection in this series, they were fairly uniform—26 per cent. of the patients experienced slight faintness or nausea within fifteen minutes after the injection. This condition passed away quickly, and the patients became drowsy and comfortable; on returning to the ward 6 per cent. vomited. Among these are included cases where vomiting was present before operation. Headache was reported in 28 per cent. of the cases; it was usually mild, and seldom interfered with the patient's sleep. In 40 per cent. of the cases injected there was no discomfort of any kind, either during or after the operation, and in the words of the theatre attendant "they did not turn a hair."

That spinal analgesia as a routine procedure is preferable to inhalation anaesthesia in military surgery is now realized by those who have studied both methods, while its great value to the surgeon on active service or abroad has been widely appreciated. I have used it in West Africa, and found the black man as amenable as the white.

In the recent Balkan war it was used in the British Red Cross Hospitals sent to Turkey and to Greece.

Time does not permit me to discuss the technique of spinal analgesia, but a full description of the method will be found in (1) *A System of Operative Surgery*, vol. i, edited by Mr. Burghard; (2) in Keen's *Surgery*, vol. vi; and (3) in the *Royal Army Medical Corps Journal* of December, 1912.

The advantages of this method to both patients and surgeon are numerous and obvious. Amongst them may be mentioned the patient's (1) increased safety and freedom from the toxaemia of a general anaesthetic; (2) the total abolition of operative shock; (3) the retention of consciousness. To the surgeon: (1) The relaxation of muscular tissue is complete. This degree of relaxation is unattainable by other methods of anaesthesia, and is a great help to rapid operation. (2) The services of an anaesthetist are not required. Operations can be carried out single-handed if necessary. (3) The technique and apparatus are simple, portable, and inexpensive.

As in the administration of any other anaesthetic, the best results can only be obtained by careful study and an intelligent technique. They are particularly applicable to the use of spinal analgesia, which demands, in addition, a high level of surgical cleanliness and attention to detail.

THE USE OF KINESITHERAPY IN THE AFTER-TREATMENT OF INJURIES RECEIVED IN WAR.

By MAJOR DUREY,
French Territorial Army.

THERE is very little literature on this subject, for until European armies began to use small-bore bullets the mechanical after-treatment of wounds was only rarely required, as formerly the destruction of the soft parts, the injuries to the bones, the almost certain infection of the wound generally necessitated amputation. Now that different armies use bullets of 6 to 8 mm. calibre and antiseptic methods are generally employed amputation is only rarely performed.

The surgeon does not only aim at preserving the limb; he tries to restore to the parts affected all their functions and to avoid the establishment of permanent disability; hence the necessity of kinesitherapy—that is, treatment by massage and passive motion.

But the methodical use of this treatment is itself of recent origin and in France at least it was not used before the year 1880.

Since then there have been no wars in Europe to provide us with material.

At the present time we have to deal with two distinct classes of wounds—namely, those caused by infantry bullets and those due to artillery projectiles.

If we take the recent Balkan war, according to the report of the French military surgeon Cousergues, shrapnel bullets cause large wounds often containing fragments of clothing and very liable to suppuration.

As regards wounds produced by explosive shells, their characteristics, according to the French surgeon Delorme, are that they are more or less extensive, with much bleeding, and complicated by lodgement of fragments of the missile.

These two kind of wounds form only one-tenth of the total number. The great majority of injuries amenable to kinesitherapy are produced by rifle bullets.

The military surgeon Cousergues reports, according to his personal experience in the Balkan war, "the rifle bullets make very small wounds comparable to those made by a trocar. Owing to their great penetrating power they generally produce an entrance and an exit wound not always easy to distinguish."

On the other hand, Professor Delorme, speaking of the German "S" bullet used by the Turks, says: "The perforations in the epiphyses are cleaner cut than the perforations of the diaphyses of the long bones, fractures are less comminuted, and in general the mass of loose splinters is less extensive and the fissures narrower."

The experimental test of this opinion is advanced by Professor Kalliontzis (from Athens) in his report to the French surgical society: "The penetrating wounds of the joints, mostly those of the knee, healed generally without complications, leaving a very useful joint. Complicated fractures of the long bones by rifle bullets were frequent: they healed as easily as subcutaneous fractures, while those caused by shrapnel were serious and difficult to cure. The conservative methods have been strictly applied in the treatment of complicated fractures and have given me the best results. I succeeded in curing my patients without performing any amputations in 62 cases of serious complicated fractures."

From these very recent experiences it appears that the number of cases of injuries of the bones of the limbs amenable to conservative treatment will increase in the years to come. In these cases after the cure of the wound the surgeon must consider the necessity of restoring to the limb its normal function.

It is in these cases that kinesitherapy is called for. In similar cases met with in time of peace the rule is to practise massage or passive motion as soon as possible, according to the nature of the injury and the skill of the surgeon. In time of war it will be impossible to apply the same rule. The patient must first be transported to a medical unit at the base. The wound must be given time to heal.

When mechanical treatment is begun the first application must be made by the surgeon, or at least by an experienced trained attendant. It is not advisable to trust an ordinary

assistant to apply early passive motion to a recently wounded joint not long healed or to a limb in which the fractured bones have not become solidly united.

According to the great majority of authors, the treatment of wounds in war, implicating the bones or the joints, will require the use of massage and passive motion. But this treatment is long, requires great care and experience. Is the medical staff of European armies prepared to carry it out?

In the case of a Continental war France will put at least 1,200,000 into the field. Taking as basis the figures given by Hermann Fischer for the Russo-Japanese war, these forces would have about 160,000 to 180,000 wounded, of which 100,000 would be wounded in the limbs. Three-quarters of these, at least, will require some form of manual or mechanical treatment.

It has often been said that war is "an epidemic of traumatism." I believe that, although the medical services of armies have done all in their power to contend with this epidemic, yet they have neglected its sequelae.

With us, Dr. Hirtz, attached to the Military Hospital of the Dey, in Algiers, has had occasion to test the usefulness of kinesitherapy on the wounded coming from Morocco. During the year 1912 he had to treat 62 wounded, of which half have been cured, one quarter much improved, and another quarter has derived no benefit. From these results Dr. Hirtz concludes: "Without the help of physiotherapy the number of permanent invalids would have been much greater and likewise the pensions to be paid by the State."

It must be taken into consideration that this small number of patients required almost four thousand individual sittings; one may judge from this the amount of work which will have to be undertaken by the medical service, especially if one bears in mind that a skilled masseur cannot treat more than 12 to 15 patients in twenty-four hours.

From the relation of this figure to the probable number of wounded which I have previously mentioned as likely to require the kinesitherapic treatment, it is easy to conclude that a specialized staff and equipment will be wanted.

I know that in all countries the effort made by the military medical service will be augmented by private societies for affording help to the wounded and that in most of these societies some ideas of massage are imparted to the nurses, but hazy ideas are insufficient for the successful application of treatment, often delicate and requiring not only correct manual technique, but also medical knowledge.

It is to be desired that in time of peace the military medical services should create special departments of kinesitherapy, where a certain number of army surgeons, as well as a good many assistants, would be trained to carry out this form of treatment; also that the hospitals should be equipped with a mechano-therapy apparatus.

The evolution in the nature of the missiles must bring an evolution in the surgery of war: it is the surgeon's part to adapt himself to it. More frequently than formerly he will be able to attempt to restore to the wounded a useful limb. Amputation will be seldom performed, and more use will be made of kinesitherapy. In wars to come a great number of surgeons will be required in the medical services at the base, and these should be skilled in the use of massage, passive motion, and mechano-therapy.

A PROPOSED LIGHT AMBULANCE FOR YEOMANRY REGIMENTS.

By D. G. Kennard,
Lieutenant R.A.M.C (T.F.).

A number of yeomanry regiments have an ambulance of one sort or another: this paper endeavours to show the advantages of a light ambulance wagon suitable to any country, whether over roads or in open country. This wagon is, of course, quite distinct from the cart provided by the regimental transport officer on mobilization for the transport of 5 cwt. of medical equipment and stores, and it is also quite distinct from a light ambulance wagon that might be provided by the ambulance column, and attached to a regiment on special service. The light ambulance wagon that I am going to describe is to be the property of the regiment and to be a part of the regiment.

The regimental band are the official stretcher-bearers in yeomanry regiments. Neither the band nor the stretchers appear on parade, field days, or during manœuvres or schemes at annual training. Should the regiment drill

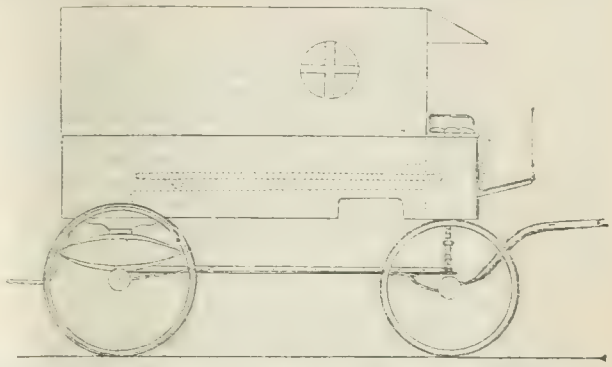


Fig. 1.—Model I. Full lock (side view). Raised body to allow wheels when turning to lock under carriage. Price complete £50.

perform exercises or schemes some way from camp, what is to become of the soldier who meets with an accident during these manœuvres? A cart of some sort has to be commandeered from somewhere for his conveyance back to camp.

More or less serious accidents on parade occur almost daily during camp, and some available means of transport is essential. The light ambulance would accompany the regiment on parade, and its position would be made known to all squadron leaders so that it could be found at once when required. The ambulance is so light that it can keep pace with the regiment, and can go anywhere the regiment can go. It is capable of going over any country, any bad track, and in fact anywhere that horse artillery can go.

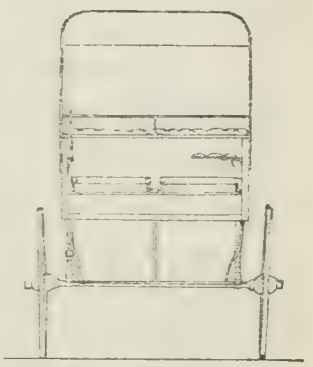


Fig. 2—View of Model I from back.

It is constructed after the pattern of the four-wheeled American buggy. The body is longer and wider, and capable of holding two stretchers side by side. There are two models. Model I has four wheels. The two front wheels are a little smaller than the hind wheels, giving it a full lock. The front wheels turn under body, which has been raised to allow of this, and the wagon can turn on its

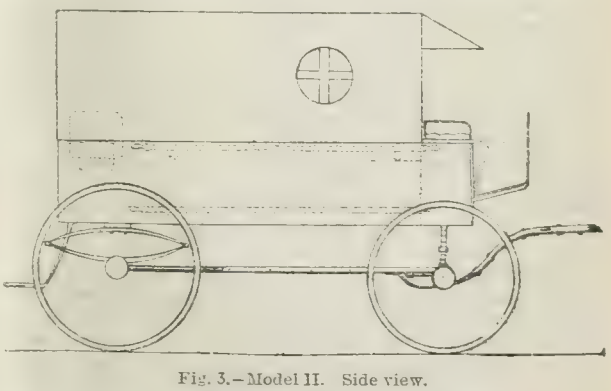


Fig. 3.—Model II. Side view.

own wheel base. Model II has wheels of the same size, a low body and a quarter lock. The wheels are made of hickory, and are very strong. It has three springs—two back and one front. It is well sprung, strong, and comfortable. It has two seats at the back, which fold up on to the side of the wagon, for two bearers, and a front seat for the driver and another bearer if necessary. It is fitted with

a hood and shafts for one horse. The total weight, with stretchers, is about 5 cwt. The stretchers run in on rails like the ordinary light ambulance wagon, and are secured in position with straps.

A cob of 14 hands can draw it anywhere, and it is almost impossible to turn it over. Any one can drive it and there is nothing to get out of order, and it takes a very short time to clean.

I used one of these wagons for several years, before the days of motors, in ordinary country practice in a district where the country was open with a lot of down land. It will stand any amount of hard work. I could go anywhere with it. I have driven horses from 16 hands to 13 hands in it, and never had any trouble or breakages with it. The ordinary light ambulance wagon in reality is very heavy, and it has to keep to roads or good tracks, has two horses, and must necessarily travel slowly.

The advantages I claim for this light ambulance wagon are:

1. That it is really light.
2. One horse can draw it.
3. It can keep pace with the regiment.
4. It is very strong, well sprung, and comfortable.
5. It can go anywhere.
6. That it adds strength to the regiment, in that in case of accident the wagon and bearers are on the spot. The injured soldier is at once attended to and the other members of his troop who are with him are relieved of the soldier and of holding the horses of those attending him.

All yeomanry regiments should have their own ambulance, and, after seeing many different patterns, I am convinced that the wagon I have described to you represents the best ambulance for this particular branch of the service, and I trust before long it will be adopted by yeomanry regiments.

SECTION OF DERMATOLOGY.

J. H. SEQUEIRA, M.D., F.R.C.P., President.

PRESIDENT'S INTRODUCTORY ADDRESS.

AFTER some initial observations, the PRESIDENT said: Before proceeding to the actual business of the day, I know that I am only voicing the feelings which animate us all when I say how very greatly we in this Section deplore the loss which the profession in this country has sustained by the death of Sir Jonathan Hutchinson. I joined the London Hospital too late to see any of his work in the wards, but I frequently had the privilege of hearing him lecture as Emeritus Professor of Surgery at that institution and elsewhere. I am sure that all who heard him will agree with me when I say that as a clinical teacher Hutchinson was unique. He had so many interests, such a vast storehouse of experience and a prodigious memory, that he was able to focus light from so many points upon the subject which he had in hand, and to leave an indelible impression on the minds of his hearers. A man of extraordinary industry, his contributions to surgery and to ophthalmology were in themselves remarkable enough, but when we consider the additions which he made to our knowledge of syphilis, especially in his recognition of the later stages of the hereditary disease, and his careful and accurate descriptions of so many of the rarer forms of skin disease, we feel amazed that one man could have achieved so much. Full of years, honoured and respected the world over, we may with pride hand on to our successors the memory of Jonathan Hutchinson and his work.

Dr. Daldy informs me that the British Medical Association last held its annual meeting at Brighton in 1886. In that year there was no Dermatological Section, but several important communications of dermatological interest were made. Professor Liebreich read a paper introducing lanoline to the profession in England, and Dr. Mackey communicated a paper on the use of resorcin in cutaneous diseases. A paper was also read by Dr. Handford on the pathology of the seborrhoeic affections of the hair follicles. The study of the diseases of the skin has grown so wide that an annual exposition of the recent advances made in the subject is expected, and it speaks well for the vitality of our specialism that we have so full a programme even with the International Congress occurring in a fortnight.

The intensity of specialism which is so prominent a feature of modern medicine does not permit the development of such all-round men as Jonathan Hutchinson, but it is important that we dermatologists should not forget that our branch of study is but a part of general medicine. We have learnt much from the consideration of the lines of research carried on in other branches, and especially from the work of the bacteriologist and the clinical pathologist. It would be perhaps presumptuous for a practising dermatologist to suggest that workers in our own field may have contributed something which is of practical value to the general physician and surgeon, but I think we can feel pride at the results of the application of the methods of bacteriology to the study of the fungi of ringworm. We are to-day to discuss the fungous affections of the glabrous skin, and I think that you will agree with me that this subject shows very well the trend of modern investigation.

We shall discuss affections which at one time were placed in the great class of the eczemas, and which we now know to be the inflammatory reaction of the skin to the presence of certain fungi. With the acquirement of this knowledge accurate diagnosis is possible, and with it rational and successful treatment. Then, again, our knowledge of the closely related streptothrix organisms has received important additions. At Liverpool last year Dr. de Beurmann gave us a valuable account of his work on the sporotrichia, and we now know that certain gummatous affections which were previously indistinguishable from syphilis and tuberculosis are caused by this type of organism, and, moreover, that in their localized stages they are amenable to treatment by the iodides.

An important advance in syphilology during the year is of the greatest interest to dermatologists. It is the demonstration by Noguchi and others of the *Spirochaeta pallida* in the brain in general paralytics, and in the cord in some cases of tabes dorsalis. The importance lies in the fact that in many instances the patient comes to the dermatologist for the treatment of his early cutaneous affections. Whether the early diagnosis of syphilis which is now possible in practically every case by the demonstration of the spirochaetes in the serum from a chancre, or by the Wassermann test, and our better understanding of the necessity for early and intensive treatment will prevent these grave nervous sequels, time alone can show.

But we have to record another important advance, one which may be of incalculable good to the community, and that is the movement, and fortunately it is a powerful movement, to deal boldly with the whole question of venereal disease. As medical men we must rejoice that important lay journals in this country have opened their columns to the appeal of the profession for the appointment of a Royal Commission; and I beg to offer my sincere congratulations to the pioneer of the movement, Sir Malcolm Morris, on his being able to overcome at last some at least of the prejudice which has always surrounded this thorny question. I trust that medical men and women everywhere will support this movement, and will do all in their power to get light thrown upon this dark subject, and make every endeavour to dispel the ignorance which exists on these grave issues.

There are many interesting problems awaiting solution in connexion with some of the commonest diseases of the skin, and some of our greatest difficulties lie now in the group of conditions which we have labelled "toxic." One of the most characteristic of these—lupus erythematosus—has been chosen for the second discussion. Here we are at present outside the field of experimental medicine, and we have to accumulate facts and draw deductions from them. In this connexion I cannot allow the opportunity to pass without calling attention to the important series of papers on pellagra which appeared in the BRITISH MEDICAL JOURNAL on July 5th, 1913. Pellagra, like syphilis, is of the greatest interest to the dermatologist and to the neurologist, and until recently it was believed that this country was singularly free from the disease. Dr. Box in the JOURNAL referred to the deaths of two lads who had always lived in the neighbourhood of London, and has illustrated the characteristic conditions by a coloured plate. Dr. Mott and Dr. Sambon also contributed to the same number of the JOURNAL, and

Dr. Hammond published an account of a case he had observed in the Isle of Wight. The publication of these cases has led to other instances being recognized, and we have to realize, as has been the case for some time in the United States, that we have a formidable affection to fight. For a long time, as you know, pellagra has been looked upon as a disease due to poor surroundings, and especially to the use of diseased maize as an article of food. It was classed as one of the "toxic" diseases, but there is reason to believe that it is of parasitic origin, and evidence is being accumulated in favour of this hypothesis. The whole subject is well worthy of the earnest attention of the profession.

DISCUSSION ON FUNGOUS INFECTIONS OF THE GLABROUS SKIN.

OPENING PAPER.

By H. G. Adamson, M.D.Lond., F.R.C.P.,

Physician for Diseases of the Skin to St. Bartholomew's Hospital.

There has been in recent years a considerable advance in our knowledge of fungous diseases and of the fungi which cause them. The number of these affections has been greatly enlarged, not so much by the discovery of new diseases as by the inclusion in this group of many previously known complaints which have only lately been recognized as of fungous origin.

In this discussion we are concerned only with fungous affections of the glabrous skin, and I shall deal with them under the following headings:

1. Ringworms of the glabrous skin, including ringworm of the groin and ringworms of the extremities.
2. Favus.
3. Actinomycosis, blastomycosis, and sporotrichosis.

Time will not permit me to include the interesting but comparatively unimportant affections pityriasis versicolor and erythrasma beyond mentioning that they are types of very superficial infections of the skin by a mould fungus. Nor shall I deal with tropical diseases.

Additions to Knowledge.

Important additions to our knowledge of fungous diseases of the skin are: (1) The inclusion in the group of body ringworms of certain eruptions due to infection by ringworm derived from animals, particularly from the dog, the cat, the horse, and from cattle. (2) The final proof that eczema marginatum of the groin is really a ringworm, and the discovery that many so-called eczemas of the hands and feet are also ringworms. (3) The demonstration of the animal origin of certain forms of favus; and above all (4) the discovery of the new disease sporotrichosis, formerly mistaken for syphilis or tubercle, but due to a deep invasion by a mould fungus.

Of tinea circinata, or body ringworm, there are many varieties. The fungi which give rise to them differ in virulence, and consequently we get different types of eruption corresponding with the varying degrees of inflammatory reaction.

For clinical purposes we may divide these "body ringworms" into three groups: (1) Red scaly patches or rings, generally associated with the ordinary ringworm of the scalp; (2) somewhat more inflammatory rings due to infection from the cat; (3) highly inflammatory ringworms derived from horses and cattle.

Body Ringworms.

As regards the first group, any of the ringworms of the scalp of small-spored and large-spored varieties may be accompanied by ringworm of the body, face, limbs, or trunk, in the same patient or in some one associated with the patient. The eruption consists of sharp circular patches or rings, red and slightly scaly, representing a mild form of inflammatory reaction. The lesions are generally multiple, sometimes they are exceedingly numerous. When the scaly rings are very numerous and widespread, associated or not with scalp ringworm, one may always suspect a microsporon of animal origin—either from the dog, cat, or horse—the affection appearing in these animals as a form of "mange."

The second group—namely, those due to a large-spored ringworm derived from the cat—are seen commonly in children. There is generally a single ring (or at most two or three) which is more inflammatory than those accompanying scalp ringworm and has its margin studded with tiny vesicles—the so-called "herpes vesiculeux" of old French writers. An inflammatory vesicular ringworm always suggests cat origin and the advisability of inspecting the domestic cat for bald patches, sometimes scaly or crusted, and from the surface or margins of which infected hairs can be obtained. The third group comprises the ringworms derived by infection from the larger animals, horses and cattle. They are seen on the hands or arms of farm labourers and of those who have to do with horses; and sometimes the beard region may be infected by these fungi. The eruption is usually single and it is always markedly inflammatory, in the form of a raised, sharply margined disc or nodule covered with small pustules—the "folliculitis conglomerativa" of the older writers. A noteworthy feature in regard to these inflammatory ringworms of animal origin is that they have a tendency to spontaneous cure, and that a patient once infected is protected against a subsequent attack.

Ringworms of the Groin and Extremities.

The group formed by ringworm of the groins and extremities is particularly interesting from the clinical side, since some of the eruptions it comprises have been until comparatively recently mistaken for eczema. The old name for ringworm of the groin was "eczema marginatum." Although the mycelial parasite was discovered in the scales so long ago as 1864, its relationship with ringworm has remained a disputed point until finally settled by the cultivation of the fungus by Sabouraud in 1897. Sabouraud has shown that the disease is a ringworm due to a fungus distinct from all others. It is one which attacks only the flexures of the groins, the axillae, the fold under the mammae in women and the clefts between the toes and fingers. Curiously enough it never invades the hair; and Sabouraud has named it for this reason "Epidermophyton," as opposed to "Trichophyton." During the past ten years this eruption, eczema marginatum or tinea cruris, has been prevalent in this country among men of all classes, often in epidemics in schools, colleges and other institutions, women being but seldom attacked.

The observations of Whitfield in London and of Sabouraud in Paris have taught us that, associated with this ringworm of the groin, there is often an eczematoid eruption of the toes, or less often of the fingers, and that many so-called chronic eczemas of the toes or fingers are really ringworms. The practical importance of this knowledge is obvious. Both ringworm of the groin and eczematoid ringworm of the toes are exceedingly chronic affections: if treated as eczema they will last for years; with treatment for ringworm they may be cured within a few days. Tinea cruris begins in the groin and extends down the inner side of the thigh on to the scrotum and backwards between the buttocks towards the coccyx. Its characteristic features are: (1) The wavy and festooned margin, studded with minute vesicles at its outer edge, scaly towards its inner edge, and enclosing a buff coloured area; (2) the chronicity of the eruption, its occurrence in epidemics, especially among men, and the frequent secondary invasion of the axillae and of the interdigital spaces. Between the toes the disease appears as red "peeled" areas, sometimes weeping, with scaly margins, extending a little way on to the sole or dorsal surface and a little way on to the toes and foot. Sometimes on the backs of the toes and foot the margin is vesicular. A point of practical importance is, therefore, in all cases of "eczema" between the toes, to inquire as to the previous or present existence of groin ringworm. Another practical point is that ringworm of the groin cannot arise by infection from ringworm of the scalp, because it is produced by a different fungus. Infection takes place from another groin ringworm—in rare instances from husband to wife, generally from one male to another, probably by means of closet seats.

But this eruption associated with ringworm of the groin is not the only form of ringworm of the extremities. Ringworm may occur on the hands and feet from infection by one or other of the human or animal ringworms. Among others the large-spored ringworm of the cat may occur on the fingers or hands, or even on the palms, and simulate eczema. The fungus, which gives a violet culture

and which gives rise to one of the common forms of scalp and beard ringworm, may also produce vesicular lesions on the fingers and hands, and this particular fungus may even give rise to bullous eruptions. All these ringworms of the extremities are revealed by the sharp margin of the eruptions and the finding of fungus in scrapings. There is also a very striking form of ringworm which occurs between the toes and extends a good way back on to the soles of the feet, in which the thick epidermis of the sole is, as it were, peeled off, leaving a red surface with overhanging margins. This is the plantar ringworm of Djelaleddin-Mouktar. It is generally of animal origin, the naked feet having become infected in walking over floors on which pet animals suffering from ringworm have dropped hairs. I have observed several examples of this type of ringworm, but have no photographs of my own cases, and so show a reproduction of the classical model of Baretta in the St. Louis Hospital museum.

Treatment of Glabrous Skin Ringworms.

The treatment of ringworm of the body and extremities is simple. All we have to do is to destroy the fungus in the horny layers by some local antiseptic. There is no indication for *x*-ray applications. One of the most generally employed applications is iodine; and for the groin ringworms, chrysarobin or Goa powder is a well-known remedy; but no application is so rapid in its curative effect and so cleanly as the ointment suggested by Dr. Whitfield and containing gr. 15 salicylic acid and gr. 15 benzoic acid to the ounce. Even the groin ringworms and the eczematoid ringworms of the fingers and toes, hitherto difficult to cure, are rapidly cleared off by this new application.

Favus.

We come now to *Favus*. Several varieties are known. Apart from the common favus of the scalp, due to the *Achorion schonleinii*, there have been recorded: Favus of the mouse, *Achorion quinckeanum*; favus of the horse, *Achorion gypseum*; favus of the fowl, *Achorion gallinae*; and quite recently, by Bruno Block of Bâle, another mouse favus, *Achorion violaceum*. Each of these varieties of animal favus has been communicated to human beings. But except by mouse favus, human infection from an animal is very rare. Favus of the scalp (due to *Achorion schonleinii*) was until recently not uncommon in East London among Polish or Italian children, but it has now been practically eradicated by isolation and *x*-ray treatment carried out under the direction of the London County Council.

We still occasionally see in London examples of mouth favus of the glabrous skin. The eruption appears in the form of red scaly rings indistinguishable from ringworm except by culture, or unless, as often happens, the lesion bears one or more of the typical sulphur yellow scutulae or "favus cups." The fungus in culture is a luxuriant white downy growth more resembling the cultures of ringworm than that of ordinary favus. In 1909 I showed, at the Dermatological Society, cultures of *Achorion quinckeanum* obtained from a favus eruption on the neck of a baby which slept on the floor, and from a mouse with favus on the head caught in the same room. Benno Chajes and Tomaszewski have recorded similar occurrences. I have since met with two other cases of mouse favus in human beings, and Dr. MacLeod and Dr. Bolam of Newcastle have also recorded cases. Mouse favus in human beings is therefore perhaps not very rare. It gives rise to eruptions on the glabrous skin which are readily cured, and does not cause scalp favus. This is a practical point, for it assures us that the efforts of the London County Council to stamp out favus of the scalp will not be nullified by the reintroduction of the disease by means of infected mice.

[Lantern slides were shown of ringworm derived from the dog, the cat, the horse, and from cattle, and of favus from the mouse.]

Contrast between Infections of Human Origin and those Derived from Animals.

If we now consider these infections as a whole we are able to draw a striking contrast between those peculiar to human beings and those derived from animals. As regards the "human" forms, it would seem that the body has become accustomed to these fungi and does not greatly resent their presence. Therefore there is but little effort at defence—that is to say, but little inflammatory reaction; and, too, there is little, if any, general immunity reaction, so that the disease continues to invade fresh areas and may last for years and years, as seen in the case of groin ringworms and interdigital ringworms, in tinea tonsurans, in tinea of the nails and in human favus, and, it may be added, in pityriasis versicolor and in erythrasma. On the other hand, the animal ringworms and animal favus give rise to more or less violent local inflammatory reactions in human beings. In other words, there is a more marked effort of defence which often ends in rapid spontaneous cure. There is also a considerable degree of general immunity reaction, as shown by the fact that fresh areas are seldom involved and that the patient is protected from subsequent attacks.

A noteworthy feature of all these infections is that the invasion of the fungus is confined to the horny cells. It grows only in the horny layers of the epidermis, in the hairs, or in the nails, and does not penetrate into the deeper tissues. The inflammatory reaction which occurs as a result of the invasion, and which represents an effort at defence against this invasion, is brought about, not by the advance of the fungus into the deeper tissues, but by the poisons which it excretes as it grows in the horny layers. Thus it is that we never get lymphatic gland infection nor generalization through the blood stream, however virulent the type of fungus.

Deep-seated Fungous Infections.

Finally I come to the important group of deep-seated fungus infections, which include *Actinomycosis*, *Blastomycosis*, and *Sporotrichosis*. Actinomycosis is a rare disease in this country, and the skin is not often primarily invaded, but it is involved from a more deeply-seated infection. Blastomycosis was first described in America, and has been chiefly met with there. No authentic case has been recorded in this country.

A complete account of sporotrichosis was given at the last annual meeting of the British Medical Association by Dr. de Beurmann, and I shall but briefly recall the main facts. The fungus which causes sporotrichosis is, in culture, very similar to that of many ringworms, and it consists of similar mycelium and fruit organs. But in the human body it behaves very differently from the more superficial infections. Instead of flourishing in the horny tissues, it invades the deeper structures, gaining entrance by a wound in the skin or mucous membrane. It does not there multiply like ringworm in the form of mycelium and mycelial spores, but appears to produce specially resistant spores which are able to live in the deeper tissues. It may gain entrance to the lymphatics and give rise to secondary lesions; and to the blood-stream, and become generalized; and it may even endanger life. It is now known that sporotrichosis may invade not only the skin and mucous membranes and lymphatics, but any organ of the body. Against this invasion the tissues react by fixed cell proliferation, serous exudation and phagocytosis, so that there are formed gummatous swellings recalling those of syphilis and tubercle. It is indeed with these diseases that sporotrichosis has been hitherto confused.

The discovery of sporotrichosis was made by Schenk in America in 1898, and two further cases were reported by Hektoen and Perkins in 1900. It was then forgotten until 1906, when Gougerot in Paris, while making a systematic study of atypical forms of cutaneous tuberculosis, again discovered the sporotrichosis fungus. From this time the disease has been studied by many observers, but most exhaustively by de Beurmann and Gougerot, to whom we owe the greater part of our knowledge of the subject. Over 200 cases have now been reported in France and other Continental countries and America, but in spite of the fact that dermatologists have been on the look-out for the disease in this country, not more than two or three indigenous cases have been recorded.

Three cases have come under my own observation: one was infected in South America, one probably in the United States, and one only in London, and they serve to illustrate the three main types of the disease.

[The author here exhibited lantern slides of these cases. One showed the American type, in which there was infection by a wound on the hand and a secondary chain of gummata along the lymphatics. The second was one of the patient who had at

no time been out of London, and illustrated the type of disseminated gummata. This patient also had sporotrichial synovitis. The third was borrowed from de Beurmann's book, and illustrated a type imitative of lupus verrucosus, of which Dr. Adamson had published an example in a patient who had recently visited the United States. Characteristic cultures of sporotrichosis obtained from these three cases were also shown.

In regard to the treatment of sporotrichosis, it may be said that the eruptions clear upon the administration of potassium iodide in large doses, a drug which we have long known to be useful in actinomycosis, but the treatment must in some cases be a prolonged one in order to effect a complete cure.

The immediate practical lesson of these new discoveries is that in cases of gummatous lesions in the skin and other organs which do not conform exactly to those of syphilis or of tubercle, we ought to consider the possibility of a fungous infection, and particularly not to be misled into the diagnosis of syphilis because these lesions tend to resolve when potassium iodide is given.

The systematic bacteriological study of cases suspected to be sporotrichosis has led to the further discovery of other nearly related diseases, and it seems probable that the recently acquired knowledge of sporotrichosis is only the beginning of a new chapter in the study of these deep-seated fungous infections.[1]

REFERENCE.

[1] The Present State of the Question of Mycoses, de Beurmann and Gougerot, *La biologie médicale*, 1912.

DISCUSSION.

Sir Malcolm Morris (London), F.R.C.P., urged the importance of the diagnosis of ringworm of the groins, axilla, and toes. The disease was not as common, he believed, as it was a few years ago. He urged patients to submit to strong treatment with chrysarobin, which required complete rest. The pain might be severe but the cure was rapid. Care must be taken to get rid of trace of disease from nails, or relapses were certain.

Dr. R. A. Bolam (Newcastle-on-Tyne) said that at a meeting of the British Medical Association, where those practising dermatology came closely in contact with their colleagues in general work, it was proper to emphasize the necessity of the investigation and identification of the type of fungus in any particular case under notice. There were direct and immediate benefits in the way of prognosis and treatment, and there was the direct and ultimate benefits in determining the original sources of contagion. Ringworm of the glabrous skin ought eventually to be practically extinguished as being a preventable disease. In regard to the type of reaction of the skin to the common human type of small-spored ringworm, he would record his opinion (based on the results of cultural investigation of a considerable number of cases) that not merely macular lesions of a relatively insignificant type result, but that large and numerous lesions, particularly double or triple ringed lesions, were constantly encountered. These more striking lesions were not so frequently the result of cat infection as was often suggested. Those ringworms of the second type of a more florid and more rapid reaction were especially worthy of careful investigation with a view to isolating the fungus and tracking down the original source of infection. It was frequently possible to determine the animal from which the contagion arose, and to take prompt steps to prevent further spread. The chronicity of infections of the groin type of ringworm could not be too strongly insisted on, and the relatively common involvement of the toes and fingers. An important point was that the toe and finger lesions might persist many years after the groin affection had cleared up. In previous years he had treated as pompholyx cases which on further investigation had proved to be examples of a persistent epidermophyton infection. The great difficulty in the treatment of groin ringworm was that of persuading the patient to submit to lie up for a period so that energetic measures might be taken. If the social difficulties which arose out of the very general impression that it was often a result of cohabitation could be dissipated, and it could be established definitely that contagion readily occurred through clothing and in other ways, much of the reluctance to undergo a thorough course of treatment would doubtless disappear.

Dr. George Pernet (London) referred to a paper on 130 consecutive cases of ringworm he had published in 1891, and since then he had made various contributions to the subject. He had found that *Microsporon audouini* might give rise to multiple rings apart from animal ringworm. *M. audouini* also gave rise to multiple macular lesions as well as rings, and he agreed with Dr. Bolam on this point. With reference to the epidemic ringworm of the groins which was so prevalent a short while ago, he noted that it was practically limited to the well-to-do and wealthy classes. Some years ago, when working with the late Dr. Radcliffe Crocker, he had examined so-called eczema of the toes for fungus, and found it on several occasions. Sulphur and carbolic acid ointment answered well in these cases, but the socks, slippers, etc., should always be well disinfected or got rid of. With regard to favus corporis, he had observed very crusted, turret-like lesions, and traced the infection to a kitten whose ears were affected. As to Professor Wild's cases, he (Dr. Pernet) had observed such affections in men unpacking Japanese goods, but he had been unable to find a fungus in the vegetable packing material.

Professor R. B. Wild (Manchester) agreed with Sir Malcolm Morris that ringworm of the groin had diminished in this country during the last few years, and attributed it to the discussion at the Royal Society of Medicine. Possibly in some of the cases where mycelial fungi were found they might be saprophytic and evidence of their causal relation with the dermatitis was wanting. With respect to treatment, a combination of sulphur, salicylic acid, and phenol was usually sufficient, but in obstinate cases a combination of salicylic acid and resorcin was effectual, but it was necessary to provide for thorough disinfection of the socks and underclothing, for the chronicity of the disease was often due to reinfection. Ringworm of the animal type might be caused on the arms of workers in straw, such as men engaged in packing, and some of them might be very severe. Favus had a peculiar tendency to recur upon the same site after even several years' interval.

Dr. Frank Barendt (Liverpool) emphasized the importance of examining the whole body in cases of local parasitic infections. He had found favus of the body, of which the patient was not cognizant, on glabrous regions, and he did not think it so rare as Dr. Adamson believed. With regard to the treatment of eczema marginatum, he extolled the value of chrysarobin ointment. Its drawbacks should be explained, and a dusting powder of zinc oxide, starch, and talc would mitigate the chrysarobin dermatitis, which it should be the object of the physician to produce. This done, a diluted white precipitate ointment with benzoated lard would bring the case to a successful issue. Whilst under treatment soap and water should be excluded, and the region, if necessary, cleansed with warm olive oil.

Dr. A. W. Williams (Brighton) had a toe ringworm case last year of interest on account of its long duration. The patient, a retired army officer, developed the disease during the Indian Mutiny, and had been troubled without remission ever since. The groin and hands were not affected.

Dr. Alfred Eddowes (London) mentioned a case of ringworm caught from a hedgehog. As a useful remedy in the doctor's hand, he recommended a mixture of carbolic acid and rectified spirits. This could be applied at each visit, in order to pick out the worst spots. Of course after this strong application an ointment should be smeared on and used constantly. For nails he strongly advised mercurial plasters, cleaning with ether, and filing down with a corn rubber.

Dr. S. E. Dore (London) asked Dr. Adamson if he could give any idea of the proportion of cases of ringworm of the fingers and toes in which the epidermophyton and trichophyton fungi respectively were present. It was not possible to distinguish the fungi microscopically, and cultures were often extremely difficult to obtain; but

his impression was that trichophyton infection of the toes and fingers was commoner than was generally supposed. Ringworm of the toes was very common and often unsuspected until attention was drawn to it by the occurrence of ringworm of the groin or other part of the body. Those who had had experience of children's out-patient departments in this country could not fail to recognize the frequent association of small-spored ringworm of the body in children with ordinary *Microsporon audouini* of the scalp. As regarded the source of infection by the epidermophyton, the speaker had had a case in a nurse who had contracted at the same time ringworm of the toes and molluscum contagiosum at a Turkish bath.

Dr. F. GARDINER (Edinburgh) pointed out the chronicity of tinea of limbs. He had seen one case lasting ten years. Favus and tinea corporis were sometimes indistinguishable clinically. Two cases he had found diagnosed as tinea, yet cultures showed cat favus. In some cases along with the tinea circinata of the body it was very necessary to treat the hyperidrosis associated. He also mentioned a case simulating sporotrichosis, in which cladosporium was found, and another of circinate dermatitis, in which *Aspergillus niger* was present.

Dr. SEQUEIRA (London) referred to a remarkable case of endothrix ringworm of the glabrous skin, with granulomatous swellings, which he had published. The eruption was of extraordinary chronicity, and the chronicity depended in the main on the difficulty of curing the affection in the nails. The patient, a young man, and his two sisters, had had this eruption for several years. The fungus was the *Trichophyton plicatile*, and this parasite was the common fungus found in Denmark. The patients lived near the river Thames. The girls were engaged in paper sorting, but they were not known to have come in contact with sailors or others trading with Denmark. He also mentioned a recurrent case of ringworm of the fingers, simulating cheiro pompholyx, but recurring in the winter, in which the source of infection appeared to be a pair of fur-lined gloves. On the patient discarding these gloves the attacks ceased. He referred also to a case of ringworm of the feet and toes, where the infection appeared to be contracted from a pair of slippers worn at a Turkish bath.

VERONAL RASHES: WITH A NOTE ON LUMINAL.

By GEORGE PERNET, M.D.Paris,

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SINCE Wöhler in 1828 first produced urea synthetically, and accidentally[1] apparently, from ammonium cyanate, synthetic chemistry had gone on apace. But it was not till 1904 that the method for manufacturing veronal from urea was published.[2]

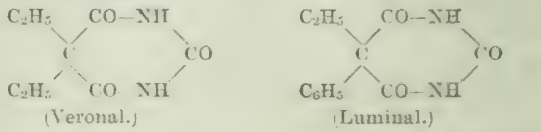
My first case of veronal rash occurred in 1906. The patient was a lady (Casebook E., 419) who had taken veronal for sleeplessness. On May 7th a blotchy rash appeared, but by May 10th it was fading. On the night of May 11th the patient took gr. vijss of veronal, and by 1 a.m. of May 12th the rash was worse. I first saw the patient on May 12th, when there was a diffuse blotchy erythematous eruption mixed up with circinate lesions, showing a tendency to vesiculation in their centres, distributed about the arms, neck, trunk, and legs. In a word, it was an erythema toxicum, which has been no doubt well known to most of us for some time, and so need not delay us further. One point about this case, however, was of some interest, namely, that the eruption was worse on the right arm than on the left, which had recently been affected by a neuritis.

Another case which came under my notice in 1910 (Casebook H., 529) is worth recording here. The patient was also a lady, who had two years previously whilst abroad suffered from an eruption of the face with blistering of the lips, after taking veronal. The roof of the mouth at the time felt hot and dry. She had had another attack of the same kind abroad, again after taking veronal. One month before I saw the patient she had taken malonal, which is only veronal under another name; but she did not know this. The fact is, many synthetic compounds are rechristened from time to time, which is very unfortunate. Industrialism being all-powerful, nothing can be done to prevent this. Other synonyms of veronal are hypnogen, malourea, deba. This by the way.

To return to the patient. She took one small tablet of malonal, and five minutes after her mouth began to tingle and the head to feel hot. The eruption then occurred. She described the lesions about the face, lips, and hands as watery blisters, and these were accompanied by general swelling of the head, orbits, and nose. For the first time the chest was also involved, and the remains were still present when I saw her—namely, three or four circular areas with dilated vessels.

Here we had to deal with a severe bullous rash. The question of anaphylaxis at once occurs to one. Warned that malonal was veronal, no doubt the patient has profited by the knowledge, for I have not seen her since. I am sure she would have let me know about any further trouble, for she was an old patient of mine.

Another case I am justified in mentioning in this connexion is one of luminal rash. Luminal is a derivative of veronal, the ethyl group of which has been replaced by a phenyl group, thus—



(Veronal.) (Luminal.)

The patient in this case was also a lady (Casebook J., 531). A fortnight before I saw her, after taking 3 grains of luminal a day, she developed an erythematous rash, which got practically well. On resuming the luminal the rash recurred, and when I first saw the case the eruption had been present for two days. It was extensively distributed about the neck, trunk, and limbs, slightly affecting the face. In appearance the erythematous rash was morbilliform, and in some areas, especially about the lower part of the back, it was *en nappe*, sheet-like, as a result of coalescence. The palms and soles were not affected. The second attack was much worse than the first. Anaphylaxis again.

At that time luminal was new to me, and I compared in my mind the rash with eruptions I had seen as a result of veronal. In a general way I had come to the conclusion, instinctively, that the phenyl group was one to be feared as a factor.

I may add that I have never prescribed veronal. Nor do I consider it should be used incidentally in skin cases, especially of the bullous type. I have referred to this in another place.[3]

It is not my business to touch on the general effects of veronal in this place, but those who are interested in the matter will find details of its poisonous properties in Kobert's book on toxicology.[4]

REFERENCES.

[1] Remy de Gourmont: *Promenades Philosophiques*, 2ème série, 1908, p. 131. [2] Fischer: *Annalen der Chemie*, 1904, cited by Martindale and Westcott's *Extra-Pharmacopœia*, fifteenth edition, 1912, p. 778. [3] Pernet: A Case of Pemphigus Vegetans Treated on General Lines and by Means of Vaccines (Boeck Festschrift, *Arch. für Derm. u. Syph.*, Band cx, 1911). [4] Kobert: *Lehrbuch der Intoxicationen*, 1906, vol. ii, pp. 963–4.

DISCUSSION.

Professor R. B. WILD (Manchester) thanked Dr. Pernet for bringing forward these cases, as it was important for them to be recognized in the case of commonly used drugs. The eruptions described as the result of narcotic drugs were all of a vasomotor origin and usually of erythematous type, and the tendency to the eruption appeared to coincide with the narcotic power of the drug. This was shown well in the urethane series, where urethane eruption was rare, veronal commoner and due to a smaller dose, while with luminal in which a phenyl group was introduced the dose which produced an eruption was smaller still.

Dr. ALFRED EDDOWES (London) mentioned a case in which he had seen a herpetic eruption, whose vesicles ultimately coalesced to form bullae, follow on the administration of trional.

DISCUSSION ON THE NATURE, VARIETIES, CAUSES, AND TREATMENT OF LUPUS ERYTHEMATOSUS.

OPENING PAPER.

By J. M. H. MacLeod, M.D., M.R.C.P.,

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In introducing a discussion on lupus erythematosus, its nature, varieties, causes and treatment, I am reminded that for more than half a century, ever since M. Cazenave recognized the disease in 1851 and gave it its unfortunate and confusing name, the subject has been one of the favourite themes for discussion at dermatological societies and congresses, but that in spite of this and the vast literature which has accumulated around the subject, the last word on lupus erythematosus has not yet been said, and there are certain problems connected with it which seem as far from elucidation now as they were when Cazenave published his historical paper.

The subject of lupus erythematosus is a wide one, and any of the above headings would have furnished ample matter for a profitable morning's discussion. Consequently it will only be possible for me in the time at my disposal to deal with it in a somewhat general fashion, to give you a brief review of the present state and limitations of our knowledge of the disease, and to suggest various lines of thought and argument which may serve as guides to the subsequent discussion.

I propose to deal with the subject in the following order—namely, the varieties, nature, causation, and the treatment.

I. Varieties.

A.—*Clinical Characteristics.*

The clinical appearances of lupus erythematosus are so familiar that it will be unnecessary for me to describe them in detail, but to refresh your memories I will ask you to look at this series of photographs and drawings, which illustrate the clinical characteristics and main varieties of the disease. Lupus erythematosus is a *multiform affection* with several distinctive types of lesions, between which transitional forms may be met with, which correlate them together. The two chief types are: (*a*) The discoid or circumscribed type, which is chronic in its evolution and course; and (*b*) the acute disseminated type.

(*a*) *Circumscribed Type.*—The circumscribed or discoid variety is the most common type of the disease, forming about 90 per cent. of the cases which have come under my observation at Charing Cross Hospital during the last ten years. It generally affects the butterfly area of the face, but may occur also on the ears, scalp, fingers, and occasionally on the buccal mucosa.

There are several varieties of discoid lesions—namely:

1. A well-defined lesion with a more or less raised border, a rough surface due to a central adherent scale, which, on being raised up, reveals the presence of horny plugs extending down into the follicles.
2. A non-scaly type in which the lesions are raised, pinkish-red in colour, and simulate those of an ordinary toxic erythema, or occasionally suggest lupus vulgaris.
3. An unusual variety characterized by the presence of numerous small telangiectases on the surface of the lesions, and forming about 4 per cent. of the circumscribed cases.

Under the heading of circumscribed lupus erythematosus may be included also the peculiar condition known as "lupus pernio," which forms a connecting link between lupus erythematosus and chilblains. It is met with at the distal extremities of the peripheral circulation—namely, the nose, fingers, and toes, occurs in winter, tends to improve or disappear spontaneously in summer, but may persist indefinitely.

(*b*) *Acute Disseminated Type.*—The acute disseminated type furnishes about 10 per cent. of the cases. In it the lesions develop more rapidly and the area involved is more extensive than in the circumscribed variety. It usually appears first as vivid erythematous patches about the face; these become scaly, spread quickly, and tend to involve considerable areas. It may appear in other situations, such as the neck, chest, back, or limbs, and in severe cases may affect the skin almost universally. The lesions on the face may be so vivid and acute as to suggest a toxic erythema, acute eczema, or even erysipelas. Sometimes they occur as raised erythematous patches, at other times they may be vesicular or even bullous, and in rare instances lesions of the herpes iris type may be met with. It is not uncommon in the acute cases for the mucous membrane of the mouth to be involved.

In some instances the acute dissemination of the disease may supervene on an old-standing circumscribed case, in others the affection may be acute from the onset. The more acute cases are of special interest from the etiological standpoint, as they point to a severe toxaemia, and are not infrequently associated with grave visceral derangements, such as disease of the kidneys or the liver, and more or less marked general symptoms, generally including pains in the joints and a remittent temperature. In some of these cases a fatal issue has taken place in the course of a few weeks from kidney disease, pneumonia, or in a state of profound collapse from some unknown cause.

These acute cases sometimes show a marked tendency to spontaneous remission of the lesions, which are usually followed by slight atrophy and scarring; in rare instances superficial ulceration has been observed in the acute patches.

The two essential clinical features in all the cases, whether they be chronic and discoid, or acute and disseminated, consist of persistent erythema succeeded by atrophic scarring. It is these characteristics which suggested the name "ulerythema" (from οὐλή, a scar) to Unna, and "erythema atrophicans" to Sir Malcolm Morris—names which are both preferable to lupus erythematosus, as they do not suggest a connexion with lupus vulgaris.

B.—*Histological Characteristics.*

The microscopical appearances of sections of lupus erythematosus vary considerably in detail, according to the stage of evolution and type of the lesion examined; but in all the specimens marked changes can be detected both in the corium and in the epidermis, those in the corium being primary and essential, while those in the epidermis are secondary. The earliest changes take place in and around the blood vessels of the subpapillary and papillary layers and in the capillaries around the pilo-sebaceous follicles and the sweat glands, and consist of dilatation of the vessels, followed by an extravasation of serum, oedema, and a perivascular cellular infiltration composed of small round connective tissue cells, mast cells, and occasional plasma cells. The infiltration is most marked in the upper layers of the corium, but may extend down to the hypoderm, along the sweat ducts and glands. Degeneration of the fibrous elements takes place in the infiltrated areas, the collagen becoming rarefied and the elastin destroyed. In consequence of the oedema and degenerative changes in the fibrous tissue a peculiar condition known as "canalization" is produced, in which the tissue spaces become widely dilated. The overlying epidermis also becomes oedematous, the basal layer blurred or absent, and the interepithelial lymphatics dilated. The stratum corneum is thickened, especially at the mouths of the follicles and the sweat pores, forming horny plugs; but where the underlying oedema is marked, imperfect corification and scaliness result. In older lesions the hyperaemia and oedema are less marked, the capillaries tend to become blocked with cells, the sebaceous glands to disappear, while the cellular infiltration assumes a more formative appearance with the presence of connective tissue cells and new collagen fibres, indicating the occurrence of a cicatrical process. The histological picture, with its comparatively dry horny or scaly surface and its underlying oedema, has been aptly compared by Unna to a bog covered by apparently sound mossy turf, but which if stepped upon proves unsafe.

II. Nature and Causation.

One of the earliest suggestions with regard to the nature of lupus erythematosus was that by Hebra, who christened the affection, six years before Cazenave published his paper, "seborrhoea congestiva," believing that

it had its origin in the sebaceous glands, as he noted as an early characteristic of the lesions the presence of greasy plugs like comedones in the pilo-sebaceous follicles. It was pointed out, however, subsequently that these plugs only occurred in certain types of lesions of the disease, and were not an essential feature, and that instead of consisting of inspissated sebum they were composed of horny material the result of a hyperkeratosis, involving not only the mouths of the follicles, but the intervening epidermis in the affected area. In 1881, at the International Congress of Medicine in London, the nature of the disease was discussed, and the general consensus of opinion was that it was a peculiar type of inflammatory process in which granulation tissue tended to be formed, giving rise eventually to atrophic scarring.

When the tubercle bacillus was discovered by Koch in 1882 it was suggested on various sides that the disease in some way was connected with tuberculosis, and this view has been strongly supported within recent years by French dermatologists.

A.—*The Tuberculous Origin of Lupus Erythematosus.*

The evidence in favour of this view does not seem to me to be convincing. Repeated attempts have been made to demonstrate tubercle bacilli in the lesions of lupus erythematosus, but never with success. Inoculation experiments in susceptible animals have given negative results, and the histological architecture is totally unlike that produced by the reaction of the tissue to the presence of the tubercle bacillus *in situ*. It is asserted, however, by the French school and their supporters that the affection is due to toxins produced by tubercle bacilli situated at a distance from the skin, that it is one of the so-called "toxi-tuberculides" and the result of more or less attenuated tuberculous toxin circulating in the blood.

The following arguments have been advanced in support of this proposition:

1. In a certain number of cases of lupus erythematosus there is a personal evidence of tuberculosis, such as the presence of tuberculous glands, tuberculosis of the lungs or other viscera, or there is a family history of the disease.

In 250 cases collected by Roth, 185 gave evidences of tuberculosis; out of 42 cases of Boeck, 28 were tuberculous; out of 38 reported by Kopp, 18 gave evidences of tuberculosis; and out of 71 recorded by Sequeira and Balean there were personal evidences of tuberculosis in 18, and a definite family history in 34. Against this, however, out of 119 cases collected by Veiel there was a personal evidence of tuberculosis only in 5 per cent. and a family history in 7 per cent.; out of 94 cases exhibited at the Dermatological Society of London there was a record of tuberculosis only in 10 of the patients and a family history only in 2, and in my own experience at Charing Cross Hospital out of 40 consecutive cases only in 6 was there personal evidence of tuberculosis, and in 5 of the 6 cases there was a family history of the disease.

In this connexion it is only fair to concede that in a certain number of cases evidences of tuberculosis may have been missed; on the other hand, in others the diagnosis may have been at fault, and cases of the superficial symmetrical type of lupus vulgaris may have been mistaken for lupus erythematosus.

To reduce the possibility of error in this connexion various tests for tuberculosis have been employed from which somewhat contradictory results have been obtained. In certain cases tuberculin injections have been resorted to. Walther Pick, for instance, injected tuberculin in 29 cases of lupus erythematosus and in only 15 of these a general reaction occurred, and these were all cases in which clinical evidence of tuberculosis had been noted, and only one of these cases reacted locally.

Bunch examined the tuberculo-opsonic index of 10 patients with lupus erythematosus, none of whom showed any personal evidence of tuberculosis, though in 3 of them there was a definite history of it in near relatives, and in 7 of these cases the opsonic index was normal to tubercle.

The von Pirquet and Calmette tests have also been employed, but the results from them were inconclusive.

Agglutination tests have been resorted to by Baris and Dobrovici, who found that the agglutination test for tubercle bacilli was positive in the discoid or fixed type of the disease, and negative in the migratory, suggesting that the former variety was tuberculous.

These findings do not seem to me to prove that either the tubercle bacillus or its toxins are the direct cause of lupus erythematosus, and considering the prevalence of tuberculosis in some form or other, and the comparative rarity of lupus erythematosus in association with it, the connexion between the two might reasonably be regarded as a casual coincidence. On the other hand, it seems equally reasonable to assume that it may be a predisposing factor.

2. The clinical appearances of the lesions of lupus erythematosus may so closely resemble those of lupus vulgaris as to render the differential diagnosis difficult or impossible. This argument has been advanced from time to time in support of the tuberculous theory of the origin of the disease, but it does not bear close scrutiny, for even although lesions may resemble each other clinically they may be due to totally different causes. The type of lupus vulgaris with which it is most liable to be confused is that superficial variety described by Leloir as "lupus érythémateux," but the history and the tendency to ulceration in the case of lupus vulgaris, and a microscopical examination if necessary, will usually serve to make the diagnosis certain. The same argument might be advanced in connexion with erythema multiforme and certain late superficial syphilides, for in both of these lesions sometimes occur which so closely resemble lupus erythematosus as to present difficulties in diagnosis to the most careful observer.

3. Another argument which has been put forward in this connexion is that lupus erythematosus may occur in association with lesions of the tuberculide type, such as the papulo-necrotic tuberculides, lichen scrofulosorum, and erythema induratum of Bazin. This association, however, is exceptional and simply corroborates the fact that lupus erythematosus may occasionally occur in tuberculous subjects. Recent observations on the "tuberculides" tend to disprove the view that they are due to toxins eliminated by tubercle bacilli in some diseased focus at a distance from the skin, and point to the presence of the bacilli in the skin, and the bacilli have actually been found *in situ* in the papulo-necrotic tuberculides and positive inoculation experiments on susceptible animals have been done in connexion with erythema induratum. In the case of lupus erythematosus, on the other hand, no one has yet succeeded in demonstrating tubercle bacilli in the skin.

In this connexion it may also be pointed out that, in spite of the innumerable injections of the different tuberculins and vaccines which have been given for diagnostic and curative purposes, there is no record of any having produced lupus erythematosus, though there are several instances recorded in which an eruption of lichen scrofulosorum has followed tuberculin injections.

B.—*Other Toxins as the Cause of Lupus Erythematosus and its Relation to the Toxic Erythemata.*

Apart from the tuberculous toxin, there are certain facts connected with lupus erythematosus which strongly suggest that in certain cases, especially of the acute disseminated type, it is the result of some toxin at present unknown circulating in the blood vessels of the affected area.

Of these the most important are the following:

(*a*) Symmetrical distribution of the lesions. The tendency to symmetry in the distribution of the lesions is a noticeable feature of the disease in cases not only of the circumscribed but also of the acute disseminated type. This seems to point to the action of some poison circulating in the blood.

(*b*) Sometimes the lesions of lupus erythematosus resemble those of the toxic erythemata. This resemblance has frequently been noted, and so close may it be both in regard to the type and distribution of the lesions that a distinction between them may be practically impossible. In some cases of erythema multiforme of the so-called erythema perstans type the lesions may persist for months, and be clinically indistinguishable from the non-scaly type of lupus erythematosus, while in the acute disseminated cases the similarity to erythema multiforme may be so close as to make the differential diagnosis a matter of opinion rather than of certainty.

But not only may these affections resemble one another clinically, but they may do so also in their histology. In erythema multiforme the microscopical appearances show

an acute inflammatory disturbance suggesting the action of a toxin reaching the skin by the blood vessels, while in lupus erythematosus there is an inflammatory disorder of a similar type which goes on to degeneration and obliteration of the blood capillaries. The histology of the two affections points to a difference in degree rather than in kind. In the case of erythema multiforme it suggests the action of a virulent toxin on a healthy tissue, and in lupus erythematosus of a less virulent toxin acting for a longer period in a situation where the circulation is feeble from anatomical or other reasons, causing a chronic inflammatory disturbance followed by imperfect repair and atrophy.

(*c*) Lupus erythematosus of the acute disseminated type has from time to time been found to occur in association with more or less severe general toxaemia connected with disease of the kidneys, cirrhosis of the liver, alcoholism, etc.

Numerous instances are on record where it was associated with nephritis. Four cases in which nephritis was present occur in the records of the Dermatological Society of London. Short described a fatal case with nephritis in which there was marked cloudy swelling and small haemorrhages in the kidneys. In an acute case reported by me in a young woman death took place in three months after the disease appeared with acute nephritis.

A case in which the acute disseminated type was associated with disease of the liver was recorded by Galloway and myself in a woman in which a scar leaving erythema was present symmetrically distributed on the face and extremitiss. The liver was considerably enlarged, and the patient was a chronic alcoholic.

C.—*Association with Circulatory Disturbances.*

The coexistence of lupus erythematosus with defects of the circulation has been observed so often that it would appear to be more than a mere coincidence, and suggests a causal connexion between them. In women it is not infrequently associated with cold hands and feet, a mottled, cyanosed condition of the skin of the extremities, moist palms and soles, a tendency to chilblains, and other evidences of a weak peripheral circulation. Other more serious circulatory anomalies have been observed in connexion with it, such as swelling of the ears and tip of the nose, cyanosis of the cheeks, a profusion of telangiectases, dead fingers, and even more definite Raynaud's phenomena. Lesions due to the combined action of cold and a defective circulation, such as chilblains, may sometimes become persistent, superficially ulcerated, lead to scarring, and be practically indistinguishable from lupus erythematosus. This view is further strengthened by the general occurrence of the disease in situations where from anatomical reasons the circulation is liable to be impeded from the skin being tightly stretched over bones and cartilage, as on the nose, malar prominences, auricles, and scalp.

Conclusions.

In brief, it seems to me that lupus erythematosus can no longer be regarded as a morbid entity due to one specific cause, and that there is not sufficient proof that it is a tuberculous affection, or that where it occurs in tuberculous subjects that it is directly caused by the tuberculous toxin. It would seem to be a persistent erythema, followed by atrophy and scarring, due to a variety of causes in a predisposed individual. The circumscribed cases have probably a different etiology from those of the acute disseminated type, and even different circumscribed cases clinically closely resembling each other may vary in their causation.

The causes, both predisposing and direct, may be thus summarized:

1. *Predisposing Causes.*

(*a*) *Age.*—It is essentially a disease of adult life, the usual age of incidence being between 20 and 40 years, though it has occasionally been known to begin in childhood and even in old age.

(*b*) *Sex.*—It is more common in females than in males, in about the proportion of 3 to 1.

(*c*) *Type of Skin.*—The discoid type seems to be more frequent in individuals with fair skins than in those whose complexions are dark, and a greasy skin with large active sebaceous glands seems to be a predisposing factor.

(*d*) A defective peripheral circulation, due to a weak state of health, anaemia, heart disease, etc.

(*e*) General morbid conditions, such as tuberculosis, rheumatism, etc.

(*f*) A feeble state of the blood vessels, either hereditary or acquired, and due partly to their anatomical situation.

2. *Direct Causes.*

(*a*) Toxins circulating in the blood and reaching the skin; these may be produced in the alimentary tract, or may be the result of a disordered state of some internal organ, such as the kidneys or the liver.

(*b*) Local causes, of which the most common are cold, sudden changes from heat to cold, frostbite, occasionally sunburn, burns from heat, traumatism, bites from mosquitos or other insects, and some local septic condition, such as a boil or an ulcer.

In conclusion, it is dependent on a delicacy or state of weakness of the part affected, in which the circulation is so depressed and feeble that local injury, or the presence of toxins in the cutaneous blood vessels, cause so profound and lasting a disturbance that recovery from it without loss of tissue is impossible.

Treatment.

The disease is one of the most capricious and intractable of skin disorders. Sometimes it shows a marked tendency to heal spontaneously, and at other times it may disappear in a few weeks or months, apparently as the result of some form of treatment, local or general. On the other hand, it may persist indefinitely, or after a period of improvement may show a marked tendency to relapse, either as the result of some general disturbance or from local irritation, or the injudicious use of irritating remedies. By suitable treatment improvement and even cure may be effected. The treatment varies according to the type of case, and not infrequently the failure to benefit the condition is the result of the injudicious choice of the remedy employed. In the circumscribed cases the treatment is chiefly local, while in the acute disseminated type local treatment is comparatively of small importance in comparison with the treatment of the patient behind the disease, and the more or less severe visceral disturbance or toxaemia with which it may be associated. Care must be taken that the prolonged treatment of a local type does not result in irritative changes and the production of epithelioma on the diseased patch—a misfortune which has in several instances been recorded. Cases of the generalized type have been known to clear up under general treatment where practically no local measures were employed. In most cases, however, the best results have been obtained by a judicious combination of both.

General Treatment.

The general treatment is based largely on general medical principles, and absolute reliance cannot be placed on any kind of specific form of medication. In many of the cases there is evidence of a lowered vitality associated with a weak peripheral circulation, or there may be signs of hereditary or acquired disease, disturbances of the alimentary tract, anaemia, or disorders of the heart, kidneys, or other important organs. Such defects must be carefully sought for and dealt with by appropriate means. In connexion with the dietary it is important that anything which tends to cause flushing of the face—such as hot drinks, condiments, alcohol, etc.—should be omitted. All sources of local irritation should also be guarded against, such as brilliant sunshine, extremes of temperature, cold winds, and direct heat.

In the acute disseminated cases it is generally essential to confine the patient to bed, and, since the local condition appears to be due to a general toxaemia, the obvious indication is to eliminate or neutralize the toxins responsible for it. As the exact nature of the toxins is generally unknown, various drugs have been employed which are reputed to have an antitoxic action, such as salicin, quinine, and ichthyol, and certain others in a more or less empirical manner, such as iodine and arsenic. Of these, salicin in doses of from 15 to 30 grains t.d.s., or large doses of quinine, have given the best results. Salicin acts not only on the toxin, but, being a cardiac depressant, it reduces the hyperaemia of the skin, and the action of quinine can be intensified by painting the lesion simultaneously with tincture of iodine.

Local Treatment.

The long list of local remedies which have been from time to time recommended for the treatment of this disease is in itself an indication that their employment has been based on empiricism rather than on a knowledge of the causation of the disease. In the choice of any form of local treatment it is important to remember that lupus erythematosus is much more easily aggravated than cured by local applications. Before selecting any form of treatment the exact type of lesion must be carefully studied, and an appropriate remedy chosen. In every case it is advisable to commence the local treatment in a tentative fashion, and to gradually increase the strength of the application according to the toleration of the individual.

There are three indications which serve as a guide to the local treatment—namely, (1) the removal of the scales; (2) the drying of the lesion, and (3) the reduction of the hyperæmia.

For the removal of the scales an effective method is to scrub the lesions with soap spirit lotion on a piece of wet flannel. Where the scales are thick and adherent the application of a 2 or 3 per cent. salicylic ointment or plaster may be necessary.

With the object of drying the lesions bland powders, such as zinc pastes, or lotions containing an insoluble deposit, may be employed. A useful powder consists of equal parts of zinc oxide and magnesium carbonate, the latter absorbing a larger quantity of moisture for its bulk than any other powder. Of the lotions, the well-known calamin-zinc lotion is generally useful, and of the pastes the ordinary zinc paste of Lassar. Where the lesions are active the scales should be removed daily by soap spirit followed by the application of calamin lotion; where they are more resistent and chronic, salicylic ointment should be applied at night, and the lotion or paste in the morning.

For the purpose of reducing the hyperæmia ichthyol has gained a reputation from its power of diminishing local congestion. It may be employed in aqueous solution, in ointment form, or incorporated in zinc starch paste or as a plaster. Adrenalin solution (1 in 1,000) has also been recommended for this purpose, but its action is transient. A simple and mechanical method of reducing the hyperæmia is to paint the lesions several times a day with contractile collodion, containing 1 per cent. of salycilic acid to destroy the scales.

At one time a favourite mode of treating the lesions was by applying caustic remedies, such as silver nitrate, acid nitrate of mercury, corrosive sublimate, etc., but although these were capable of removing the disease they were apt to produce an unsightly scar and could only be recommended in small scaly chronic patches. Of the milder caustics, pyrogallic acid 6 per cent. applied daily in a paste, or a 10 per cent. resorcin lotion dissolved in spirit and painted on the lesions once a week, sometimes gives good results.

In the case of minute lesions operative measures such as electrolysis, the actual cautery, and multiple scarification may be employed with benefit by skilled hands.

In addition to the above methods of treatment various physical methods have been used with more or less success, such as ionization, refrigeration, Finsen light, radium, etc.

Ionization with zinc sulphate is, in my experience, one of the most useful and reliable of these methods. A 2 per cent. solution of zinc sulphate is employed, and a current of 2 to 5 milliampères passed for about fifteen minutes a sitting; after the ionization a bland protective paste is applied to the part.

Refrigeration with solid carbon dioxide sometimes gives good results, but is uncertain and occasionally aggravates the disease. It should on no account be employed where the lesions are actually spreading, but should be reserved for chronic circumscribed lesions of the seborrhoeic type. The applications should be short in duration, from five to ten seconds with medium pressure, and anything in the way of a severe reaction avoided.

Finsen light occasionally gives beneficial results, especially in old-standing lesions covered with thick adherent scales, but is harmful where the patches are recent and active.

The *x* rays, in my experience, have given disappointing results; in small doses they stimulate the skin and seem to irritate the lesions, and in large doses are liable to cause a permanent dilatation of the vessels and to replace the patch of lupus erythematosus with a telangiectatic scar.

Radium has also been employed, but with doubtful success, and although theoretically it is known to have a selective action on the blood capillaries, causing them to disintegrate and to become replaced by new fibrous tissue, I have not succeeded in obtaining this result practically.

Various electrical methods have also been used, such as high frequency, static discharges, etc., but these are of comparatively little value and liable to irritate rather than improve the condition.

DISCUSSION.

Sir Malcolm Morris (London) said that the true cause of lupus erythematosus was still unknown, and this in spite of all the work done by a large number of workers. He divided the cases into two groups: (1) General toxæmic; (2) local. The former, like erythema multiformes, was due in many cases to some intestinal lesion or other internal disease. It occurred in delicate people with chilblain circulation. The local variety might be due to exposure to sun, cold wind, bites of insects, etc. The treatment in the first group consisted in careful attention to the general health, with gentle local treatment only. The local cases were benefited by the application of iodine, CO_2, and radium.

Professor R. B. Wild (Manchester) said: I have gone through my hospital case-books for the past twenty years, and found that in 30,000 cases there occurred 161 cases of lupus erythematosus, of which 19 could be traced as re-admissions, leaving 142 individual patients; this gives a percentage of 0.47, as compared with 0.63 per cent. given by Dr. Radcliffe Crocker for his hospital cases in London. It may be of interest to compare this figure with the number of cases of lupus vulgaris—namely, 1.5 per cent.—and to all forms of skin tuberculosis, which aggregated 2 per cent.; also to the syphilitic cases, 4 per cent. Of the 142 patients, 94 were females (66.2 per cent.) and 48 males (33.8 per cent.); the average age of the females was, when first seen, 34.7, and of the males 31.5. The youngest patient was a boy of 8 and the oldest a man of 66; the youngest female was 15 and the oldest 63. In private practice the proportion of lupus erythematosus cases is much larger. Dr. Crocker had a percentage of 1.8. I have found in the last ten years exactly 2 per cent. among my private cases, and of these 80 per cent. were females and 20 per cent. males: the average age was distinctly higher than among hospital patients—namely, 38 for females and 37 for males, the youngest a girl of 14 and the oldest a woman of 64. It would appear that the disease attacks the poorer class of patients at an earlier age than it does those in better circumstances, as the latter apply for treatment sooner than the former owing to the disfigurement produced, and the disease is usually much less advanced when first seen in a private case than it is in a hospital case.

The distribution of the lesions is of some interest, and I have investigated this in a number of cases, especially in view of the textbook insistence upon the "butterfly-patch" distribution of the disease. This is, I think, unduly emphasized, and often prevents a diagnosis being made at an early stage, when small lesions appear on other parts. It is worth noting that in all cases I have seen the disease never began on any covered part of the body; the face is, of course, the most common site, but the scalp and the ears are not infrequently the first to be affected. Apart from the head and face, the fingers are the only parts where it has started, and here only as the lupus pernio. As regards the distribution, when first seen 71, that is, 50 per cent., affected both cheeks, and mostly the nose as well; in only about half of these was the disease so symmetrical as to produce the characteristic "butterfly patch." In the others one side was distinctly more affected than the other. In 24 cases the nose and one cheek only were affected, and in 9 the nose alone. In 4 cases there was only a single patch on one cheek. In 5 it affected the nose and ears. Adding these figures, we have 113 cases out of 142—that is, 79.5 per cent., in which some part of the middle third of the face was involved.

The ears were affected in 45 cases—in 27 both ears, in 9 the right, and in 9 the left only; in 2 cases the disease was entirely confined to the ears, in 5 to the ears and nose, in 2 to the ears and scalp, in 1 to the ears, scalp, and forehead. In the asymmetrical cases there is no appreciable difference between the right and left sides.

The scalp was affected in 43 cases; in 9 of these the lesions were entirely confined to the scalp, though very extensive in 3 of these. Cases of lupus erythematosus confined to the scalp seem to be not infrequently missed in private practice when they are still small and the hair fairly thick. In 11 cases the eyelids were affected, in 5 both, in 3 the right and 3 the left, in 1 the left eyelid was the only affected part. The forehead was affected in 13 cases; in 2 of these the forehead alone was involved. The chin was affected in 4 cases, and the mouth and mucous membrane of the lips in 2. I have also had 2 cases in private practice in which the lips and mucous membranes were affected.

Lesions on the rest of the body are rare; the hands and fingers were affected in 9 cases, the chest in 2, the neck in 4, the arms in 2, while 4 cases developed an acute disseminated eruption with high temperature and symptoms of septic intoxication: one of these died and another recovered from two successive attacks at an interval of two years.

Apart from these hospital cases, I have seen 3 other cases of acute disseminated lupus erythematosus, 2 of which were fatal; 1 case of lupus erythematosus affecting the ears and fingers for several years, beginning as a lupus pernio, died from thrombosis of the iliac vessels, first the right and afterwards the left, with extension upwards.

Of the 3 deaths from acute disseminated lupus erythematosus I was able to obtain a *post-mortem* examination in 2; 1 showed tuberculous ulcerations of the intestines, the other ulcerations of the small intestine, extensive in area, but not tuberculous: in addition, there was noted a recent acute extension of an old tuberculous focus in the lung. The examinations were made by the pathologist of the Manchester Royal Infirmary.

I propose to summarize briefly the conclusion I have provisionally formed from the study of these cases, and in doing so I am fully convinced that at the present time we can only come to provisional conclusions; much more information is needed before we can hope to solve the mystery of what is, I think, one of the most interesting forms of disease.

To take briefly the headings under which this discussion is defined: (1) *The nature* of the disease: I agree entirely with Dr. MacLeod that it is not a definite entity, but a process resulting in destruction of the proper tissues and their replacement by scar tissue; practically what in other organs we should call a cirrhosis—that is, an interstitial inflammation more or less chronic, ending in cicatrization. (2) *Causes and varieties*: We must, I think, separate the acute disseminated form from the others, and in these cases alone can I accept the toxaemic hypothesis. Toxaemia must, to my mind, connote some general symptoms, and I cannot admit any general toxaemic condition as a factor in a disease which in over 97 per cent. of the cases remains a strictly local disease, and in a considerable proportion of these an asymmetrical local disease for periods extending up to twenty or more years. Moreover, are we any nearer to a solution of the problem by assuming an unknown toxic substance as the cause of the disease? I think it is better to admit that the cause is unknown in the majority of cases, but that it is a local cause, and one which acts upon exposed parts of the body, whether it be by microbic, chemical, or physical irritation. Some cases—and especially those in younger patients—I believe to be due to tuberculous infection, and look upon them as representing the maximum of protective reaction on the part of the tissues: we find in the lungs, for example, cases of fibroid phthisis which were long believed to be non-tuberculous, and I consider that in this group of cases of lupus erythematosus a local infection is completely cured by interstitial reaction even before the typical architecture of a tubercle is formed. In favour of this view is the fact that in my cases of lupus erythematosus under 25, a large proportion showed tuberculous lesions in glands or scars of former abscesses, and were frequently members of tuberculous families. In the patients where the disease began after 25 the proportion with tuberculous lesions or history was much smaller. Another point I should like to mention in this connexion is that in two of these youthful cases of lupus erythematosus which I have had the opportunity of watching at intervals for several years, the nodules of lupus vulgaris have appeared, and the whole clinical picture become one of lupus vulgaris. The second variety is that which is especially associated with chronic venous and capillary congestion, and this includes the venous congestion and lividity of chilblains, and also the slight forms of Raynaud's disease, on both of which conditions lupus erythematosus may develop. These patients are, I think, usually weakly in other ways, or overworked and often overstrained. The third variety is the one specially associated with the overaction and plugging of the sebaceous glands, the lesions are usually thick and well defined; seborrhoeic lesions are usually found in association with this form, and the patients are often very healthy and strong. Finally, we have the acute disseminated form, which is, I admit, a toxaemia, possibly due to absorption from any septic focus, possibly a tuberculous focus in some cases; and the lesion may be as widely spread and symmetrical as an exanthem or a drug rash, all of which I should class as true toxaemias.

As regards treatment, we should admit that the disease is only curable when seen, as it rarely is, in the very early stages. If once cicatrization has taken place we cannot restore the lost tissues, and a scar must remain. Unfortunately we often have to wait for atrophy to take place before making a definite diagnosis of lupus erythematosus. This being the case, I think our first point is not to cause a worse scar by overactive treatment than the disease itself will produce if not treated at all. In all early cases soothing and astringent lotions are the best, combined with mild antiseptics, such as modifications of Bulkeley's lotion. Ointments are, in my experience, more likely to do harm than good except in the sebaceous cases, and where the skin is often greasy. In more advanced cases I have extensively tried all the methods available, and find that judicious scarification, liquefied carbolic acid, light applications of carbonic acid snow, and, where the lesion is small enough, radium sittings give better results than stronger caustics, *x* rays, or Finsen light and its modifications. I have seen several cases where an acute extension has rapidly occurred after strong ointments, carbonic acid snow, and other irritant applications.

Internally I know of no specific, but treat the general health without regard to the local disease. I think an acid and quinine or cinchona mixture is often useful, but it is also frequently useless; the same applies to salicin, arsenic, ichthyol, and ergot. In the acute disseminated cases I think I have found distinct benefit from the red iodide of mercury, $\frac{1}{80}$ to $\frac{1}{40}$ of a grain dissolved in water with 3 to 5 grains potassium iodide, and given every four hours; certainly the cases in which I have given this have recovered, whereas the earlier cases died, but the numbers are too few to draw any conclusions except that it is worthy of a trial in a possibly fatal condition where we know no better treatment.

Dr. R. A. Bolam (Newcastle-on-Tyne) said the matter of causation still remained the most interesting question. On investigating the figures of his clinic he found there were cases aggregating roughly 30 per cent. which were clinically suspicious of tuberculosis. It was not often possible to prove the suspicion, but the statement was made for what it was worth. The multiplicity of causes would be conceded by most observers. Next in frequency to tuberculous, rheumatic or rheumatoid cases provided the greatest number of instances of the disease. Exposure as a factor had been emphasized by Sir Malcolm Morris, and in this relationship it was interesting to note that experience in the North of England showed roughly three times greater incidence that in the statistics of Crocker. They must all be impressed by the factor of health degradation in the causation. Those affected were often people who had suffered privation and mental stress. In regard to treatment he was in accord with the opener of the discussion, and would only remark that the diversity of results of treatment with CO_2 snow arose in part from lack of preparation of the surface of the only lesions suitable for this remedy—that is, the circumscribed seborrhoeic type. But treatment on general lines, fresh air, super-

alimentation, rest, and relief from mental anxiety still provided the most satisfactory means of combating the disease.

DR. WINKELRIED WILLIAMS (Brighton) spoke of the tendency of lupus erythematosus to graft itself on pre-existing disease, especially diseases to which the term "seborrhoeic" was applied. He referred to cases of seborrhoeic dermatitis in which it followed, as syphilides sometimes did, in the wake of the seborrhoeic affection; and to cases of rosacea which at first were unmistakably rosacea and later on equally unmistakable lupus erythematosus, and added that he thought such cases should be a warning against the early use of strong local remedies in cases of rosacea. He considered the toxin as most frequently alimentary, and that there was a possible danger in attempting to get rid of this by powerful hydrogogue purges—that is, of suddenly liberating a large quantity of toxins fixed in hard faecal masses—and described a case in which a severe case of lupus erythematosus was suddenly made into the grave "*d'emblée*" type by such treatment; in fact it was like the reaction of lupus vulgaris to a strong dose of tuberculin.

DR. HALDIN DAVIS said: We are all agreed that lupus erythematosus is one of the most mysterious of all the common lesions of the skin, and it cannot yet be said that we understand it at all completely. It is highly probable that this mystery will continue until a scientific diagnosis is found for the disease. At the moment we are driven to take refuge in the blessed word "toxaemia," a word which is really a confession of ignorance. I quite agree with Dr. MacLeod on the etiology of the disease. Driven as we are to diagnose it on purely clinical considerations, we class under one head almost all cases of persistent erythema which lack induration. I feel convinced that, as our knowledge of the causes of disease advances, we shall be able to separate off from one another some of the types which are now all classed together as chronic forms of the eruption. There are certainly two distinct varieties which are very distinct clinically, and which bear scarcely any resemblance to one another. One of these is the very superficial isolated patch in which the border is not very sharply outlined, and which is found upon the cheek or on the side of the nose in the female out-patient; the other is a much rarer form, of which I have only seen two well-marked cases, in which the lobules of both ears and the adjoining area of the cheeks were quite symmetrically affected. The lesion had a distinctly raised and almost infiltrated edge, while the central parts of the patches were rough, with very adherent scales. The infiltration of the edge naturally suggested a syphilide, but in both cases the Wassermann reaction was negative. Apart from the immediate neighbourhood of the ears, the face was quite free from any other manifestation. The only points in which this rare form agreed with the commoner superficial form were in the presence of scales and in the fact that scarring gradually appeared in the central portions of the lesion. One of my cases was in a middle-aged woman, and the other in a middle-aged man. The woman has been as yet the more fortunate, because she had an attack of erysipelas of the face, and this was followed by an almost complete disappearance of the lupus erythematosus—a good example of the *vis medicatrix naturae*. The man is still under treatment, of which the principal factor is a salicylic acid ointment, in order to remove the scales. Gradual scarring of the lesion is taking place. The prognosis in lupus erythematosus is always interesting and difficult. I am inclined to think that in the more acute cases, where large areas are almost simultaneously affected and where there is little scaling, the prognosis is better than in the more insidious varieties. Certainly in 2 cases I have seen the lesions disappear within a few months under the influence of quinine and salicin and rest in bed as far as possible. Of the more chronic cases I am inclined to think that one is often too pessimistic about the prognosis. Only a small minority of the patients exhibit the typical extensive and classical butterfly appearance, and a single well-defined patch will often remain stationary, even if it does not disappear, for many years. On the other hand, I have notes of at least 4 cases in which chronic patches have been quite cured within a few months, whether thanks to the treatment they have received, or for some other reason, I know not. The evidence that they were really lupus erythematosus and not something else is that they have left a certain amount of the pale atrophic scarring which is accepted as typical. One of these cases was in a little girl of 9 years of age which is the youngest case of this disease that I have met with. Even in the typical and well-marked cases of the butterfly type the prognosis is by no means hopeless. One case in particular I remember, a soldier who had been invalided out of the army and disallowed a pension on account of bad lupus erythematosus which had been considered syphilitic, no doubt on account of the fact that the scarring produced was much deeper than is usual. He gave a negative Wassermann reaction, and after a few treatments with zinc ionization all the erythema disappeared leaving the scarring alone. Some mysterious change must have taken place because not only did the patches treated improve but also all the other lesions. It is interesting to note that we succeeded in convincing a Medical Board appointed by the War Office that this man did suffer from lupus erythematosus and not syphilis, for they ultimately awarded him a pension of a shilling a day. In treating these very chronic cases we have lately been using at St. Bartholomew's the method recommended by Sabouraud in his clinical lectures, of multiple puncture with the galvanic cautery. Under the influence of this treatment a man who has had the disease for many years and who has, it seems, tried all the hospitals, both general and special, of the metropolis, now shows very marked signs of improvement. This method of multiple galvano-puncture, which is well known in France, certainly deserves more attention than it has received in this country.

DR. GEORGE PERNET (London) considered the acute case brought forward by Dr. W. Williams came into the category of the acute lupus erythematosus d'emblée which the speaker had described. The swelling of the face was certainly like the so-called erysipelas perstans of Kaposi. Dr. Pernet was of opinion that what they labelled lupus erythematosus was not tuberculous in a direct sense. He insisted that tuberculosis might be one of the etiological factors. In the majority of cases there was a family history of phthisis. Chilblains, again, so often present in these cases, was also in favour of this view. Brocq in France was rather inclined to take the English view of the non-tuberculous origin of lupus erythematosus. The teeth and the condition of the mouth were of great importance in the etiology. The name was a wide label including a number of varieties. The factors at work were various, in his opinion, and might lead to a variety of clinical cutaneous manifestations. A syphilide might be mistaken for lupus erythematosus, and vice versa. In his thesis on acute lupus erythematosus d'emblée Dr. Pernet had gone into the differential diagnosis of this condition and erythema multiforme. There was a rare form of the condition known as "psoriasiform lupus erythematosus" resembling in some ways a mixed psoriasis and lupus erythematosus, but the psoriasiform elements presented points of difference as compared with true psoriasis. As to treatment Dr. Pernet, following in Dr. Radcliffe Crocker's footsteps, had obtained very good results in some varieties with salicin and quinine, which latter was very useful, especially in the acute *d'emblée* cases. Locally, phenol, ionization, and CO_2 snow were valuable. Dr. Pernet was eclectic in their use.

DR. ALFRED EDDOWES (London) said the serious extent and depth of the pathological changes had not been realized by dermatologists owing to their custom of taking sections too superficially for microscopic examinations. By excision deeply for microscopic investigation he had not only learnt much, but unexpectedly cured large nodules. Moreover, he had seen a lesion which had been accidentally crushed cause great swelling and pain, as if a poison had been set free, and finally clear up rapidly without scarring. He believed the primary lesion was essentially deep, like a nodular gumma, and that the damaged area finally produced discoid lesions, just as serpiginous dermato-syphilide succeeded to oedema and the deep gumma. He therefore strongly advocated the puncture, disinfection, and drainage of all nodules

discovered; and he practised the plan of puncturing each nodule to its base by means of a lancet, at an angle of 45 degrees, in order to prevent or minimize scarring. He had had encouraging results from the application of radium, but had not arrived at any definite conclusions as to dosage. He did not believe in any one drug, but in the treatment of ill health on general principles.

Dr. Semon (London) was unable to agree that the case against a tuberculous etiology was in any way proven. He desired to call his hearers' attention to the very important paper just published in the current number (July) of *Archiv für Dermatologie und Syphilis*, by Bloch and Fuchs. These investigators had succeeded in producing tuberculosis in guinea-pigs by inoculating pieces of fresh lupus erythematosus eruptions (from 4 cases) into the peritoneal cavity. More recently they had proved that these lesions contained tuberculous toxins. Their method was to cut up and triturate in a sterile mortar pieces of freshly excised lupus erythematosus lesions with 8 to 10 c.cm. of water. After evaporating this to 0.5 c.cm. an opalescent yellowish fluid remained, one drop of which was sufficient to produce tuberculoid papular lesions when injected into tuberculo-susceptible patients. Further, these lesions reacted locally on subsequent tuberculin injections as minimal as $\frac{1}{10000}$ mg., thus supporting their tuberculous nature. Gougerot of Paris had also succeeded before these investigators in producing tuberculosis in guinea-pigs from typical scalp lesions (microscopically examined) of lupus erythematosus. Although there might be various etiological possibilities and probabilities in the production of these lesions, the tubercle bacillus had been adequately proved to play an important productive part in some at least of them.

Dr. G. Norman Meachen (London) put in a plea for the discontinuance of the term "lupus" erythematosus by dermatologists. It was much better to employ Unna's synonym of "ulerythema," which was an excellent pathological name with the great advantage of not frightening the patient. With regard to the application of carbolic acid mentioned by several speakers, he thought that better results were obtained by mixing anhydrous phenol with powdered camphor. This mixture, known as "pheno-camph.," did not whiten the skin, and it was less painful than ordinary carbolic acid.

Dr. Frank N. Barendt (Liverpool) regarded the term "lupus erythematosus" used by observers to include more than one type of disease. The history of the phrase showed this. Where the ulcerative process was the prominent feature, the tuberculous nature of the process impressed itself. Again, where vascular disturbance—angiospasm—in its various phases was present the erythematous idea became predominant. It was probable this condition rendered the tissues more susceptible to the insemination of the tubercle bacilli, and thus one got a composite clinical picture. With respect to treatment in all cases, a fortifying regimen was indicated. Where more active local treatment was required he used electrolysis with a negative needle, and zinc ions in the form of a zinc needle attached to the positive electrode. But in all cases the aphorism of "*Surtout ne pas nuire*" should be borne in mind.

The President remarked that in a rather prolonged study of this disease he had found the difficulty of determining its cause an increasing one. He could not help thinking that there was one underlying cause of lupus erythematosus, doubtless acting in conjunction with many other factors. The one point he would like to insist on was that one occasionally met with cases in which there had been a long-standing chronic patch or patches of the discoid type, and on which suddenly an acute outbreak of the erythematous type had occurred, and these formed a bridge between the definite discoid and the distinct erythematous types. He had been much interested in Dr. Winkelried Williams's acute case, apparently of intestinal origin, for he had had a case of this type which was ultimately fatal in a young previously healthy girl. She had extraordinary pyretic attacks (temperature 103–104°) following the administration of aperients. There were offensive motions, but the bacteriologists were unable to give him any assistance.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ANGINA PECTORIS AND CHLOROFORM.

In the course of the last few weeks two deaths from angina pectoris have received comment in the public press, and in both cases chloroform appears to have been employed in the alleviation of pain during the seizure. I do not know anything about these particular cases, and therefore my remarks upon the administration of this drug are not intended to apply to them, but I wish to call attention to the fact that there is a class of cases of angina pectoris in which the administration of chloroform is attended by considerable risk.

An opinion is prevalent in the profession that during the anginal seizure the arteries are in a state of vaso-constriction, that peripheral resistance is increased and blood pressure is raised, consequently that the employment of a drug which causes rapid vaso-dilatation in the splanchnic region is indicated. This opinion receives apparent confirmation from the action of nitro-glycerine in alleviating pain in the anginal seizure, but it must be remembered that nitro-glycerine relieves spasm in involuntary muscle in whatsoever organ or part it is situated, and no proof whatsoever exists that the relief which this drug affords in angina pectoris is obtained through reduction of arterial spasm.

The prevailing opinion—namely, that the visceral circulation is impeded by vaso-constriction during the anginal seizure, and therefore that the heart is under strain from increased peripheral resistance—finds no sanction from the results of modern methods of examination. In fact, evidence points in the opposite direction.

A series of blood-pressure readings taken by me during the seizure show, in many instances, neither an elevation nor decline. In a few cases I have found blood pressure raised, but in these the elevation was not high, nor were the attacks severe. On several occasions I have found blood pressure lowered, falling 20 to 30 mm. Hg below the standard regarded as normal in the individual case.

To the last class of cases I now wish to draw particular attention. A fall in blood pressure such as this must mean vaso-dilated splanchnic vessels. The clinical aspects of the cases support this view. Persons so affected appear to be in a state of shock; the pulse is stringy and soft, hard or compressible, frequent or slow. The venous system, so far as surface veins indicate its state, is drained of blood. Veins on the dorsum of the hands lie in furrows at a plane beneath the surface. The arterial system is in no better state. The skin is pallid, cold, and covered with sweat. From the shortage of blood in peripheral veins and arteries, it may be affirmed that the main volume of the stream is lying inert in splanchnic lacunae.

In cases belonging to this class pain appears in its severest type, and in these cases internal remedies fail on account of lack of absorptive power on the part of the gastric wall. Hence the inducement is strong to seek a remedy which may be administered through inhalation. But in the case of subjects belonging to this class, administration of chloroform is attended by considerable danger.

London, S.W. H. Walter Verdon.

An international meeting on thalassotherapy will be held at Cannes in April, 1914, under the honorary presidency of His Serene Highness the Prince of Monaco. The actual president will be Professor d'Arsonval and the vice-president Dr. Faisans, physician to the Beaujon Hospital, Paris. The proceedings will have reference exclusively to the study of marine heliotherapy. The following is the programme of reports and discussions: The nature of solar radiations at sea level and the means of measuring them; actinometry and climatology in their relations with marine heliotherapy; physiological action of marine heliotherapy on nutrition; dosage of marine heliotherapy; marine heliotherapy in surgical and cutaneous tuberculosis, in pleuro-pulmonary tuberculosis, and tuberculous disease of the mediastinal glands, in abdominal tuberculosis and in non-tuberculous affections. Full information as to the organization of the meeting will be published later by the committee responsible for the arrangements.

Reviews.

DERMATOLOGY.

IN his recent book on the bio-chemistry of the skin[1] Professor UNNA has compressed a vast quantity of work into quite a small volume. It is founded principally but not exclusively upon the work which has been done during the past few years by Professor Unna himself and his pupils. The bio-chemistry of the skin is a subject of the greatest complexity and interest, which is yet for the most part shrouded in the deepest obscurity; but there is one, not unimportant, section which we are able to study with some facility—that is, the processes of oxidation and reduction which are continually taking place, and it is entirely to this branch of the subject that Professor Unna has devoted himself. The reason for this limitation is that the oxidizing and reducing capacities of the cell are its only chemical properties which at the present time can be investigated minutely by microchemical methods. The procedures of ordinary chemistry are much too gross for these delicate investigations. The book is divided into three portions; the first is devoted to the consideration of those elements of the skin in which oxygen is to be found, either free or in sufficient quantity to saturate the tissue; the second to the reducing properties of the tissue elements of the skin; the third part, much shorter, deals with the chemistry of the surface of the skin; a short note on the bearing of these investigations on dermatological therapeutics is appended. The chief reagent whereby the presence of oxygen is detected in the tissues is "rongalite white." This is a solution of one part of methylene blue and two parts of rongalite (a condensation product of formalin with the sodium salt of sulphoxylic acid), which are warmed in the presence of some hydrochloric acid until the colour disappears. In the presence of oxygen the blue colour returns. It appears that the elements richest in oxygen are mast cells, nuclei and, especially under pathological conditions, leucocytes. Very interesting are the researches recounted here upon the pigments of the skin. It has been shown that the normal pigment of the skin is produced by the action of a ferment upon tyrosin, but that the ferment differs in different species of animals. Miss Florence Durham has shown that tyrosin digested for twenty-four hours with pieces of skin from animals of varying colours in each case gave rise to a product agreeing in colour with the animal from which the piece of skin was taken. The normal skin pigment has no relation to melanin. The elements of the skin in which the reducing powers are most marked, or, in other words, which are most hungry for oxygen, are first of all the horny layer and the root sheath of the hairs, and next to them come the muscles and nerves of the skin, and the spongioplasm of the connective tissue cells. One interesting point which results from the investigation of the horny layer is that, contrary to former beliefs, there is no more sulphur in the horny layer than in other non-horny proteins. There is, however, a considerable quantity of sulphur in the hair. In both cases the sulphur is found in a compound known as cystin (diaminodithiolactylic acid). The essential chemical process in the production of horny cells is an extrusion of certain amino acids from the interior of the cell, accompanied by a partial digestion of the cell leaving its insoluble constituents behind. This book is not easy to read, for it deals with a subject which needs a good knowledge both of histology and of advanced organic chemistry for its proper comprehension, but it is well worth the trouble necessary; and there is no doubt that in order to make progress in our understanding of the mechanism of cellular processes much work will have to be done upon the lines here indicated. The book should be read not only by dermatologists but by physiologists also.

Grundriss der Dermatologie[2] is a German translation of DARIER'S well-known textbook (published 1909). It partakes of the nature of a collaboration between two leaders of the French and German schools of dermatology, for JADASSOHN of Berne annoted and brought it up to date. In his preface the German professor disclaims all intention of criticizing his French colleague, and it must be admitted that his "italicized" and bracketed addenda, which were submitted for Darier's approval, are never contradictory or polemical. On the other hand, it is a new departure, and very interesting, to see the opinions of two great European authorities with an unsurpassed experience of diseases of the skin, chronicled side by side in the text, and their mere juxtaposition should aid the student and post-graduate, for whom Darier designed the book, to understand the pathology, etiology, therapy, and prognosis of the diseases discussed. Although a translation the book is most readable and interesting, and it may be confidently recommended to all advanced students and teachers with a moderate knowledge of German. Long discussions and wearying references, so common in German works, are entirely avoided, and only the most useful and salient pathological and histological features are considered. Much of the French genius for word-picture must necessarily disappear in any translation, but Dr. Zwick has succeeded in retaining the Gallic style to no inconsiderable extent. The plan of classification adopted exactly follows the French original; it is based on the morphological characters of the lesions, and this, while our knowledge of the etiology of skin diseases remains so lamentably incomplete, is still the best possible. Particularly deserving of commendation is the chapter on the modern treatment of syphilis, in which Jadassohn shortly reviews the latest opinions and results, both with salvarsan and neo-salvarsan.

The book on *Skin Diseases in General Practice*[3] which Dr. HALDIN DAVIS has written will be found useful as a work of reference. The illustrations are clear and typical, and the notes on treatment particularly good. The author is, we believe, the first English writer to adopt the topographical method for dermatology. This procedure entails much unavoidable recapitulation, and notably swells the size of the volume; but, so long as its limitations are kept in mind, mistakes in diagnosis resulting from too close an adherence to the topographical principle should be uncommon. The chapter on the face contains some useful hints on the much neglected and abused subject of cosmetics, whilst the modern applications of electricity, radium, x rays, and CO_2 snow fill an interesting section at the end of the book.

CHEMICAL REFERENCE BOOKS.

THE fourth volume of *Thorpe's Dictionary of Applied Chemistry*[4] contains the section from Oilstones to Soda nitre, and, like the earlier volumes, comprises monographs on a large number of subjects by distinguished authorities. The drugs dealt with in this volume include opium, rhubarb, saccharin, salicylic acid and its derivatives, and many of less importance, as well as the groups oleo-resins and resins; articles of food and drink include pepper, peas, potatoes, plums, rice, sago, rum, and many others. Among other subjects of interest to the medical profession may be noted radium and radio-activity, purins, proteins, phenol and its homologues, sewage, and smoke and smoke-prevention. Petroleum is the subject of an article of forty pages by Sir Boverton Redwood (including a section on American petroleum by Dr. S. P. Sadtler), in which a world-wide survey of the production, purification, and testing of the material is given, together with some information on its utilization for many purposes. The articles on photography and photo-mechanical processes, occupying thirty-five pages, include a short historical survey, and every part of the processes of making and reproducing photographs is discussed concisely and in a very informing manner; the various colour processes are described in sufficient detail to be readily understood. The amount of

[1] *Biochemie des Haut.* Von Professor P. G. Unna. Jena: Gustav Fischer. 1913. (Roy. 8vo, pp. 113. Mk.3.)

[2] *Grundriss der Dermatologie.* Von J. Darier. Translated into German from Darier's *Précis de Dermatologie* by K. G. Zwick, with Annotations and Addenda by Professor Dr. J. Jadassohn, Berne. Berlin: Julius Springer. 1913. (Roy. 8vo, pp. 543; 122 figs. 22s.)

[3] *Skin Diseases in General Practice.* By Haldin Davis, M.B., B.Ch., B.A.Oxon., F.R.C.S.Eng., M.R.C.P. Oxford Medical Publications. London: Henry Frowde, and Hodder and Stoughton. 1913. (Demy 8vo, pp. 352; figs. 67. 15s. net.)

[4] *A Dictionary of Applied Chemistry.* By Sir Edward Thorpe, C.B., LL.D., F.R.S., assisted by eminent contributors. Revised and enlarged edition, in five volumes. Vol. iv. London: Longmans, Green, and Co. 1913. (Med. 8vo, pp. 735. £2 5s. net.)

new matter in this edition is shown by the fact that the section included in the present volume of 727 pages occupied only 368 pages in the previous edition; this is partly due to the extension of existing monographs which has been necessary in revising them and bringing them up to date, and partly to the addition of many new monographs.

The fourth edition of *Allen's Commercial Organic Analysis*,[5] which has been appearing volume by volume in the last two or three years, is in many respects a new work. The production of the whole has been entrusted to three editors, two American and one English, and these gentlemen have secured for each volume the collaboration of various other chemists who have made a special study of the subjects dealt with therein. The result is an encyclopaedic work by some fifty chemists, in which a vast amount of special information is given, but which differs widely from the original work by the late Mr. A. H. Allen. Probably the increase in the amount of material available necessitated some such change, but, valuable as the present edition is, the difference is not entirely in its favour. The tendency is to give too much information, instead of only such as is naturally looked for under the title "commercial analysis," and one misses sometimes the practical character which marked the original work, and showed the hand of the practising analyst. Volume VII of the book is the latest to appear; this corresponds to Part III of Volume III of the previous edition, and deals with some vegetable alkaloids left over from Volume VI, with glucosides, non-glucosidal bitter principles such as aloin, animal bases, ptomaines, animal acids, lactic acid, and cyanogen and its derivatives; it is the work of four American and three English chemists. A large proportion of the substances treated of are therefore among those used in medicine—the alkaloids of colchicum, ergot, ipecacuanha, jaborandi, and physostigma are dealt with, while among non-alkaloidal bodies the glucosides of digitalis, the aloins, piperazine, urea, creatine, lactic acid, and the cyanides may be mentioned. It is somewhat surprising that in twenty-four pages devoted to lactic acid there is not a single reference to the Bulgarian sour milk which has proved during recent years such a useful adjunct to treatment in many cases. Four and a half pages are given to the estimation of urea, and the section commences with the remark that "the estimation of the urea contained in urine is often of great physiological and pathological interest"; but the only methods described are one by precipitation as oxalate, intended to be applied to blood or extracts of tissues; another by conversion into ammonia (Kjeldahl's method), with precautions to prevent other nitrogenous substances present in urine from being also converted; and a third by conversion to ammonia in an autoclave. But surely it would have been proper to have made some reference to the method of decomposing the urea and measuring the nitrogen, which is commonly employed in practical urine testing, and is sufficiently accurate to give valuable comparative results. It is hardly necessary to say, however, that these criticisms are not intended to detract from the great value and usefulness of this comprehensive work.

VETERINARY PHYSIOLOGY.

Major-General F. Smith, in *A Manual of Veterinary Physiology*,[6] has fulfilled an interesting task by accomplishing what he imposed upon himself, a work essentially a veterinary physiology; but his statement that it is not a comparative physiology arouses dissent. In the nature of things, physiology must be a comparative science, as its conclusions are based upon evidence drawn from various branches of animal life. The veterinary aspect is maintained in this work largely by valuable remarks on clinical and pathological matters bearing upon the domestic animals. But the observations are extended also to man upon occasion. The work is intended for students as well as practitioners, but much that swells the pages of most textbooks on physiology has been eliminated, while the essentials have been collected without excessive detail. The design has been to teach, rather than the cultivation of induction and deduction.

One of the first questions of a tiro might well be, "What is physiology?" and it would be of advantage to find his query anticipated in an introduction unfolding the scope of the science. Such an introduction might include a description of the cell, the cell being the foundation of biology. Cytology seems to offer a master key by means of which an entrance may be effected into the domain of the physiology of the structures composed of cell aggregates. In the work before us there is some account of the cell on page 698. This account is not prolix, but the phraseology is not always exact: "As the cells die or are worn out, their places are taken by others, and this process is occurring from the moment the egg is impregnated." Surely the cell does not die or become worn out from the moment of impregnation of the ovum. The following (p. 698) also requires reconstruction: "Within this minute speck of material *is* contained all the elements of life," etc., so as to read, "all the elements of life are contained within this minute speck." The remainder of this sentence should be converted into a new one. It is not possible to agree "that a knowledge of the cell is intimately connected with the nature of life" (p. 701), though such knowledge must be intimately connected with a knowledge of the nature of life. It is commonly the case that the word "excreta" is misused as of the singular number; but it is more rare to find "ingesta" similarly ill treated, as on p. 223; minor faults of this kind occur frequently—see p. 63, for "occur" instead of "occurs"; p. 60, "cause" for "clause." On p. 84 nerves "flow" out. On p. 694, line 8 from top, "is" should be "becomes." Again (p. 702, line 12 from bottom), "In the present light of knowledge" should read "In the light of present knowledge." These selections have been made to indicate a line of revision; for modes of expression should be carefully adjusted; their educational value in the training of students should not be overlooked. But, apart from these defects, the work under review may be recommended as supplying a need.

NOTES ON BOOKS.

In an interesting manual on *Nervous Breakdowns and How to Avoid Them*,[7] written, we presume, for the benefit of the otherwise intelligent lay person, Dr. Musgrove has, with a plentitude of apt similes and illustrations, given in plain language an account of the protean symptoms of the elusive but very real disease now termed "neurasthenia." Quite rightly he draws a rigid distinction between this and the other psycho-neuroses, hysteria and hypochondriasis. Neurasthenia is a lonely malady, and the sufferer neither expects nor receives much sympathy. He would, indeed, welcome the dawning of the day when the ubiquitous microbe can be held responsible for his woes, for then at least he could depend upon a modicum of interest at the hands of the pathologist! There is much to be said for the suggestion that the secrets of health should be taught in all elementary schools. Only now in a casual kind of way is some regard for the priceless heritage of a sound body being inculcated into the minds of the rising generation, after the three R's have for many years done their deadly work. The chapters on health and diet contain many sensible if not necessarily original suggestions, and the author's remarks on that modern bugbear—worry—should give the modern business man much to ponder over. Obviously one of the dangers of a book of this kind in the hands of the laity is that by reason of the very generalization the subject demands it may foster introspection in the victims of the malady it discusses. There is a note of hope in the book, however, and if the time of prevention has gone past the remedy lies at every man's hand if he will but listen to the voice of reason in the shaping of his course of life.

[5] *Allen's Commercial Organic Analysis.* Vol. vii. Edited by W. A. Davis, B.Sc., A.C.G.I., and Samuel S. Sadtler, S.B. Fourth edition. London: J. and A. Churchill. 1913. (Roy. 8vo, pp. 572; figs. 28. 21s. net.)

[6] *A Manual of Veterinary Physiology.* By Major-General F. Smith, C.B., C.M.G. Fourth edition. London: Baillière, Tindall, and Cox. 1912. (Demy 8vo, pp. 820; 1 plate; 260 figures.)

[7] *Nervous Breakdowns and How to Avoid them.* By Charles D. Musgrove, M.D. Bristol: J. W. Arrowsmith, Ltd. London: Simpkin, Marshall, Hamilton, Kent, and Co., Ltd. 1913. (Crown 8vo, pp. 196; 2s. 6d. net.)

The Commission appointed some time ago by the Russian Government to study the question of the reorganization of the sanitary services of the Empire has presented its report. It recommends the establishment of a ministry of public health.

ANNUAL CONFERENCE ON CONSUMPTION.

THE fifth annual conference of the National Association for the Prevention of Consumption was opened by the Prime Minister at the Central Hall, Westminster, on Monday, August 4th. Lord BALFOUR OF BURLEIGH presided.

The Premier's Speech.

The PRIME MINISTER, who was interrupted several times by suffragettes, after some introductory remarks said that the loss of life caused by tuberculosis was appalling. He was told by the Local Government Board that out of every ten deaths from all causes one was due to this disease, and the loss was greatest in the working years of life. Between the ages of 20 and 45, one out of every three deaths from all causes was due to pulmonary tuberculosis. As might be expected, the death-rate was highest in London and the other large towns, but it was sufficiently serious and sufficiently severe throughout the country. In the ten years, from 1871 to 1880, the average annual deaths in England and Wales from all forms of tuberculosis numbered about 70,000. In 1911, two years ago, they had fallen to 53,000. Allowing for the increase of population, the number of deaths in 1911 would, had the death-rate from 1871 to 1880 been continued, have been about 103,000. Fifty thousand lives were, therefore, saved in the course of a single year. What were the causes of the decline, and how far might they look forward to seeing it progressively increase in the future? They would all agree that among them were the improvement in social conditions, particularly housing; improved habits among the population at large as regards cleanliness; and, last but by no means least, the gradually increased use of institutions for the treatment of the sick. It was significant that in 1911 in London over half the male deaths, and in England and Wales over one-third, of the total deaths from tuberculosis occurred in institutions for the sick. Something considerable, therefore, had been done to check the ravages of this terrible scourge. But there were other reasons for expecting even greater progress in the near future. First and foremost they could count upon the steady and continuous improvement in sanitation, and on the provision of decent and sanitary dwellings. Next, they should not lose sight of the powerful aid of direct action by sanitary authorities which had been rendered possible by the compulsory notification of cases of tuberculosis. The Local Government Board pursued a policy of what some people might think slow but steady advance, with the result that since February of this year the notification of all forms of tuberculosis had become compulsory. Further, they must recognize gratefully the action of a considerable number among the more enlightened of the sanitary authorities in the campaign against tuberculosis both in regard to prevention and treatment. Lastly, there was the sanatorium benefit under the National Insurance Act and the provision of a capital sum of a million and a half for the erection of sanatoriums for the entire community. These were very hopeful features. If a really successful campaign was to be waged against this perhaps the most formidable physical enemy of the human race in Western Europe, it must be due to the co-operation and co-ordination of science, philanthropy, and the Government. He wished them not only on behalf of the Government, but on behalf of the whole community, an enlightened and free discussion of the great topics they were met to consider with the confident hope that the result of their deliberations must be to strike another and perhaps a more effective blow than had ever yet been struck against this scourge. He therefore had great pleasure in welcoming them here to London and in declaring the proceedings of the Conference open.

Lord BALFOUR OF BURLEIGH thanked the Prime Minister, and said he was sure it would be gratifying to all there to know that, encouraged and aided by the Prime Minister, they had secured that the next meeting of the International Congress on that subject should take place in London.

Tuberculin Treatment.

The morning and afternoon sessions on August 4th were devoted to a discussion on tuberculin treatment. It was opened by Dr. H. W. G. MACKENZIE, who said tuberculin had been of the greatest possible value in the diagnosis of tubercle in cattle, but was of much more limited usefulness as a diagnostic agent in man. The main objection to its use as a help to diagnosis was that tuberculous infection was so common that the test did not help to distinguish between active and arrested or healed disease. He strongly deprecated its indiscriminate use as an ordinary means of diagnosis. Discussing its use as a curative agent, he believed that a negative answer would have to be given to the questions whether any one had shown that tuberculous guinea-pigs could be cured by injection or that tuberculin could cure the tuberculous ulcer arising from the primary inoculation. Before considering the effects of tuberculin it should be remembered that a very large proportion of the human race became infected at some period of life with tuberculosis, and of those infected a large proportion recovered spontaneously without treatment. Natural resistance might, however, be broken down by prolonged fatigue, exhaustion, intemperance, poor living, anaemia, the debilitating effects of fever, and by various other means. The aim of the physician was to assist Nature by bringing about a cure, and he endeavoured to remove those causes which had lowered the natural resistance. The effects of good food, pure air, rest, and exercise judiciously graduated, and general healthy environment were now universally recognized. No one could reasonably maintain that there was in tuberculin a direct cure for tuberculosis. The most that could be claimed for it was that it called into being or stimulated to activity the antagonistic forces inherent in the body for combating tuberculous infections. Provided that a particular mode of treatment of tuberculosis was not absolutely harmful, one could by careful selection of cases show wonderfully good results. Even where no selection of cases was made it was common experience that the general tendency of cases coming under medical treatment of any kind was towards improvement. But every one who used tuberculin used it in selected cases. If a patient were febrile the case was put down as one of a mixed infection and unsuitable for tuberculin. Most of the cases that did get well appeared to be cases that would be selected as likely to do well under favourable conditions of hygiene and care. There was no absolutely convincing proof that tuberculin treatment by itself would arrest or cure or improve a larger number of cases than would have been arrested or cured without the treatment. Until such proof was available an open mind should be preserved. Tuberculin as a remedy, if it were one, was on a far lower plane than such remedies as quinine, antitoxin, or thyroid extract, for malaria, diphtheria, and myxoedema. Tuberculin treatment was still on its trial. So far its results were not brilliant or convincing. Vaccine treatment as a whole was on its trial, and if staphylococcus infections were excepted, no more could be said for vaccines than for tuberculin. They heard of cures made in private practice. He wanted to see these reproduced in hospital patients.

The Use and Abuse of Tuberculin.

Professor SIMS WOODHEAD summed up his conclusions as follows:

Under proper conditions the exhibition of tuberculin exerts a favourable influence on the course of tuberculous disease, and stimulates beneficial reaction of the tissues.

Up to the present tuberculin has never conferred complete immunity to tuberculosis, either in man or in animals.

Relative immunity may be produced by the injection of small doses, and the only safe method of administering tuberculin treatment is to avoid all but minimal reactions. Otherwise it may do more harm than good.

Ill success has followed all attempts to treat patients or to immunize with antitoxic serums drawn from animals "immunized" by injections of exotoxins and endotoxins of the tubercle bacillus, because these are unable to immunize against the living tubercle bacillus. Tuberculin contains, besides exotoxins and endotoxins, certain of the proteid elements of the tubercle bacillus. The fact that tuberculin produces effects closely similar to those produced by the living tubercle bacillus renders it at once a powerful ally when rightly used and a dangerous enemy when misused.

There are two great difficulties in the way of the general use of tuberculin treatment:

1. The difficulty of making sure that the diseased tissue is completely isolated.
2. The danger of over-stimulation of the tissues.

And three main considerations to be decided when we are doubtful as to whether we should use tuberculin:

1. Are the tissues well nourished and the functions well maintained?
2. Are bacilli already present and accessible in sufficient numbers to provoke therapeutic reaction of the organism?
3. Is it safe to induce any lytic action on these bacilli in the present condition of the patient?

Dr. Lydia Rabinowitsch-Kempner (Berlin), after reviewing the work that had been done by others and herself, said that it seemed desirable that as the result of various observations she suspected further that tubercle bacilli might be caused to enter the blood stream not only by the injection of tuberculin, but also by the use of chemiotherapeutic preparations; it appeared that the most diverse irritants acting on the tuberculous organism favoured the entrance of bacilli into the circulation. In this direction an extensive field for research was presented for scientific activity. Brilliant cures under the mask of science were announced to the public in the fashion of the advertiser. The new method was always infinitely superior to all other methods of tuberculosis treatment. The evil results were charitably veiled. The dead could no longer speak. She hoped the recently uttered words of Theobald Smith would receive full consideration:

The medical profession should see to it that vaccine therapy does not degenerate into inconsiderate and reckless experiments on human beings, that it does not create false hopes in hosts of patients, and that it does not originate and end in commercialism, and the desire to exploit the weak and unfortunate.

Professor Sahli (Berne) said diagnostic injections were dangerous. Tuberculin treatment was chiefly valuable in incipient cases. In advanced cases tuberculin treatment might sometimes produce a certain symptomatic effect, but this did not compare with the utility of tuberculin in incipient cases. All localized tuberculosis was suitable for tuberculin treatment, provided the patient was too seriously ill. As a rule, acute cases could not be treated by tuberculin.

Dr. Nathan Raw (Liverpool) said that after treating over 1,000 patients with injections of tuberculin he was convinced that it was a remedy of the greatest value, especially in early cases and where the deposit of tubercle was localized, as in one apex of a lung or in a lymph gland or single joint, but where the tuberculosis was disseminated and complicated by secondary infections the use of tuberculin could not be expected to be of much avail. It ought, however, to be tried in every case with the hope of some relief or possible benefit. Tuberculin was not going to revolutionize the treatment of tuberculosis. It was a valuable aid to other methods. The best treatment they could offer to-day to a person infected with tuberculosis was a prolonged open-air life, preferably in a well conducted sanatorium, excess of nutritious food, gentle exercise followed by plenty of rest, and a course of tuberculin by a careful physician.

Dr. William Charles White, Associate Professor of Medicine, University of Pittsburg, after discussing the subject in considerable detail, summed up his conclusions in the following *confessio fidei*:

I can only say that I believe fully in tuberculin as an aid to treatment in tuberculous cases. Nay, more, I believe it is the only specific treatment we possess, and the most valuable aid to hygienic measures in our hands to-day. The doubters will ask me for my proof. Statistical studies are of little value on this question; we are so prone to bias in the choice of our cases, so apt to put down to tuberculin improvement due to other measures used at the same time, that very few are willing to accept them. I can only say that I, myself a subject of tuberculosis, have for seven years taken tuberculin in some form or dose at least every two weeks, probably in all over five hundred doses. It has done me no harm that I am conscious of. On the other hand, I have been sure that it has done me great good when I have taken enough at one time to produce in my body a mild reaction. In small doses I have never been able to notice the slightest influence. I have now watched many cases who have taken tuberculin steadily for periods varying from two to five years—cases of tuberculosis of the eye, of bones, of glands, of skin and throat—and I am sure again that the improvement in many of them was due to tuberculin and to tuberculin mainly. I must say, however, that the last dregs of the disease are always very hard to remove, and there is probably some other factor which we have not yet learnt which must be added to tuberculin before we have a real specific for this disease.

Dr. Halliday Sutherland (London) advocated the injection of tuberculin into the children of tuberculous parents. So long as a patient could respond to the ten thousand-millionth of a cubic centimetre of polyvalent tuberculin there was a chance of usefully extending the treatment.

Dr. Noel D. Bardswell (Medical Superintendent, King Edward VII Sanatorium, Midhurst) said that during the nineteen months from October, 1911, to May, 1913, tuberculin was given in the sanatorium to 154 patients, this number representing 62 per cent. of all the patients treated in the sanatorium during this period. Of these 154 patients, 130, or 84.4 per cent., had tubercle bacilli in their sputum, the remaining 24 patients had not. They might then be classified as follows:

1. Cases in which pulmonary tuberculosis was believed to exist, though the presence of tubercle bacilli could not be demonstrated in the sputum ...			24
2. Definite cases of pulmonary tuberculosis, tubercle bacilli being present in the sputum.			
(*a*) Cases of early disease	(Group I)	22	
(*b*) Cases of moderately advanced disease	(Group II)	81	130
(*c*) Cases of advanced disease ...	(Group III)	27	
		154	

The twenty-four patients in whom tubercle bacilli were not found all did very well, but it was difficult to decide how best to classify them on their discharge. To record them as on admission presenting early disease, and on discharge arrested disease, would give the encouraging result of something like 100 per cent. of complete recoveries. Such a record, however, would be of no value. These so-called early cases did very well under ordinary sanatorium treatment, it being very unusual for such cases to fail to make an apparently complete recovery. The after-history records of King Edward VII Sanatorium showed also that it was unusual for such patients to relapse after receiving a course of sanatorium treatment and education. All that could be said was that such cases did equally well on sanatorium treatment with tuberculin and on sanatorium treatment alone. In 130 cases in the sputum of which tubercle bacilli were found the results were as follows:

Much improved.—64.6 per cent.
Improved.—17.7 per cent.
Stationary or worse.—17.7 per cent.
Lost bacilli.—32.3 per cent.

It should, however, be borne in mind that these figures referred to the treatment of selected cases; for the actual proportion of tuberculin-treated cases amounted to but 62 per cent. of all the cases treated in the sanatorium during the period under review. There was no doubt that if the 30 to 40 per cent. of less favourable cases were eliminated from their records of results of sanatorium treatment alone, the figures would be most materially improved. Comparing the results of tuberculin-treated patients and patients treated in the sanatorium without tuberculin, he said it was impossible to give anything like a final opinion as to the value of tuberculin, on the strength of their present experience. Tuberculin for diagnostic purposes, therefore, had a definite though somewhat restricted value. But he thought it was impossible not to look upon tuberculin sympathetically, for as a means of treatment it at least rested upon a scientific basis.

Sir James K. Fowler said the following were some of the conclusions at which he had arrived:

(i) The use of tuberculin in any form in the treatment of pulmonary tuberculosis is not free from danger. Even with exceedingly small initial doses which are gradually increased, the limit of tolerance may be suddenly reached and a reaction may occur.

(ii) Its use is absolutely inadmissible in any case in which there is fever.

(iii) Fever is, as I have always taught, the guide to the activity of the disease; therefore the rôle of any remedial agent which can only be employed in afebrile cases is necessarily very limited.

(iv) General reactions should be avoided. If one occurs the treatment should at once cease. To continue tuberculin injections with increasing doses in spite of reactions is unjustifiable and dangerous to the life of the patient.

(v) Focal reactions are also dangerous, as they cannot be controlled. They may occur in the neighbourhood of obsolete lesions, such as it is the object of all treatment to produce. I have reported a case in which, under treatment with old tuberculin, a patient expectorated four calcareous particles, one of which was surrounded by pigmented lung tissue, and also a small portion of lung tissue. Subsequently signs of excavation appeared at the apex of one lung. Calcareous particles are "sleeping dogs" which should not be disturbed.

(vi) The treatment likely to be attended by the best results should follow the lines of rest and exercise originated by Dr. Otto Walther at Nordrach, and further developed by Dr. Marcus Paterson at the Frimley Sanatorium of the Brompton Hospital.

Dr. CLIVE RIVIERE read a paper on the use of tuberculin in the tuberculosis of childhood. In strictly localized tuberculosis of children sensitiveness to tuberculin was low, but in cases such as hip disease, where some auto-inoculation occurred, it might be as high as in phthisis. They should, therefore, begin with a lower dose in these cases than in those where nutrition was good and the disease was strictly localized. For the latter an initial dose of 0.05 c.mm. ($\frac{1}{2000}$ mg.) of tuberculin T.R. might usually be given with safety to a child of 12 years, and doses in similar proportion by weight to younger children. As a rule such doses would have to be increased till the optimum was discovered, when the same quantity should be repeated every two or three weeks so long as it remained active. As healing proceeded it generally became necessary to increase the dose still further from time to time so that its effect should be maintained. For cases with more widespead disease and fever a lower initial dose was indicated, perhaps one-tenth, or even less, of that recommended above, and treatment must proceed with caution. The method covered nearly all cases occurring in early childhood, for disease other than localized was generally of too acute a course for tuberculin to benefit, and even such cases as joint tuberculosis, where fever was commonly present, did well or best on tuberculin given by the small-infrequent-dose method. In older children above the age of 7 or 8 cases of chronic phthisis appeared, and became more and more common as the age of puberty was neared; the large-frequent-dose method used for such cases in adults was also suitable in childhood. It should not, however, be used for cases with fever and rapid course, but reserved for cases of chronic disease where a timely stimulus might rouse the mechanism of defence. It was at the present time often used where it should not be, often given with total disregard to the needs of the case and the action of the remedy, and given, moreover, with far too little appreciation of its dangers and contraindications.

Professor EDM. BERANECK (Neuchatel) read a paper in which he said that, even rationally applied, the tuberculins had a limited curative power. Only those cases were susceptible of improvement whose defences, under the specific stimulating action of tuberculin, were still in a position to subdue the tubercle bacillus—to neutralize its toxins, and to cicatrize the lesions which the bacillus had produced. Unfortunately they had no means of saying whether a course of tuberculin would be therapeutically successful even in relative degree. Generally speaking, the less effectively an organism defended itself against bacillary infection the less also would be the success with which the use of tuberculin was followed. This treatment was not justifiable in those forms of tuberculosis of rapid evolution which, at the onset, caused a profound lowering of the general system and rapid invasion of the organs. It was the same with those cases of tubercle which, after a more or less prolonged resistance, had exhausted their defensive resources and were almost at the point of death.

Dr. E. RIST (Paris) discussed the range of application of tuberculin. The class of patients which seemed fit for tuberculin treatment included a majority of cases with torpid, mild lesions, as well as the so-called incipient cases. No doubt a great number of them did well under tuberculin. But the difficulty lay in deciding whether they did well because they had the benefit of specific treatment, or simply because their lesions had a spontaneous tendency to heal. He had never seen a patient doing well under tuberculin without remaining in doubt whether he would not have done as well without tuberculin. Nor had he met with cases where the influence of tuberculin was so strikingly favourable that he could feel justified in letting them abandon the classical treatment and rely on tuberculin alone. And yet he still gave tuberculin to some patients because a few of them decidedly derived a subjective benefit from it. They declared that, under tuberculin, they felt better, stronger, and, on the whole, improved. It might be due to some disintoxicating influence, or simply to suggestion. So far, immunization against tuberculin only had proved a failure.

Dr. O. AMREIN (Arosa, Switzerland) gave his personal experiences with tuberculin, combined with the climatic treatment at Arosa. In 1910 Bernstein gave statistics of lasting results he had obtained at Arosa, based on 1,050 patients, and they found at that time that 65 per cent. of patients in all three stages treated only by climatic and hygienic methods at Arosa still showed a lasting result after one to nine years (Stage 1, 86.48 per cent.). He only gave tuberculin in those cases where the climatic-hygienic treatment did not act sufficiently, and with such cases, combining the high-altitude treatment with tuberculin, they could still claim 62.06 per cent. *positive results*. Tuberculin would never do the work alone and could not be a panacea, but combined with other methods of treatment, and given in a careful and conscientious way, it had proved itself to be a most valuable preparation.

Conversazione.

In the evening a conversazione in connexion with the annual meeting of the National Association for the Prevention of Consumption was held, at which Dr. ROLLIER (Leysin) gave a very interesting cinematograph demonstration on the cure of surgical tuberculosis by direct sunlight.

Co-ordination of Antituberculosis Measures.

On Tuesday, August 5th, Sir R. W. PHILIP (Edinburgh) delivered an introductory address on the need for co-ordination of antituberculosis measures. He said that every case of tuberculosis—even if the manifestations seemed for the moment trivial—had the potential of risk in a variety of ways. The tuberculosis dispensary emerged from the disappointment and dissatisfaction produced by the existing machinery. It was while a junior member of the staff at the Royal Infirmary and the New Town Dispensary of Edinburgh in 1884–6 that the conception of the dispensary method occurred to him. It was necessary to erect a new institution with new outlook, new methods, and new machinery. The methods of the tuberculosis dispensary were entirely different from those of the ordinary out-patient department. The dispensary viewed tuberculosis as an infective and endemic disease ramifying throughout the social organization in quite unique fashion. The aim of the dispensary was that not a single case of tuberculosis should occur unobserved or remain uncared for in the community. Once it got in touch with an individual patient the tuberculosis dispensary never lost hold of him. Either it treated him directly or it sent him for treatment to the appropriate institution. In the latter case it undertook his after-care when institutional treatment was over. One of its most valuable functions was to trace the patient to his home, to get at the "tuberculous nests" to investigate faulty environment, and to search out tuberculous disease among the other members of the household, and in turn to undertake the care of these. The real working centre of operations against tuberculosis could not be the ordinary out-patient department of any hospital, or the charity organization office, or even the office of the medical officer of health. With all these the dispensary must be in closest touch, but the necessary operations were so extensive and varied as to warrant the erection of a special department of public health activity. The department would, of course, be in intimate relationship with the medical officer of health, and might be under his administrative control. In relation to notification the dispensary played a two-fold part. In the first place it constituted an important notification agency; after notification it decided in practical fashion what was to become of the notified individual. His belief was that the demands of tuberculosis were so large and the issues so complex as to justify the establishment of a special department of public health activity. What was wanted was an organized and co-ordinated scheme which would include and link together the different institutions and agencies which the circumstances required. In the great campaign against tuberculosis there must exist one common centre where everything was known regarding every movement or attack and defence, and in particular where everything was known regarding every case of tuberculosis which had been unearthed in the area. If the tuberculosis dispensary was

to be worthy of the name it must be the centre of such an indefatigable organization. The one guiding idea in the whole campaign should be the unity of tuberculosis. To propose to limit notification to well marked cases—as, for example, open cases with bacilli determinable in the discharge — was to cripple effort at the outset. Now that notification of every form of tuberculosis had been ordained, they might hope to accumulate statistics of real value regarding the amount and distribution of tuberculosis in a given area. But notification was not the final word. The most pressing need was for a common system for dealing with the varying degrees of infection, based on the unity of tuberculosis, which realized that the slightest case was potentially of no less value than the pronounced case, and that the slighter manifestations were worthy of no less attention than the grave. There must be the same general plan of campaign. To make this effective there must be a central administration clear in its conviction as to what was the proper way, and able to mould policy and direct procedure throughout the country. The great defect in connexion with the anti-tuberculosis activities which had been called into being by the Insurance Act was the absence of such a central directing force. On the wisdom of their decisions and on the effectiveness of their organization depended the fortune of the individual patient, the health of the nation, and, in a certain sense, the fate of the race. The experience of thirty years satisfied him that it was only by intimate correlation and careful co-ordination of the several factors that satisfactory and permanent progress would be made.

Mr. ARTHUR NEAL (Sheffield) pleaded for co-operation between the medical officer of health, the staff of the school medical officer, the veterinary staff, and the food inspection staff, the faculty of medicine in the nearest university or medical school which could be used for bacteriological work, and the staffs of the general hospitals, including the Poor Law hospitals. He hoped that the whole of the cases which had hitherto drifted to the guardians would be taken over by the local authorities. Parliament had done its work, the medical profession was doing its work, and the question was, were the local authorities going to do their work?

Dr. HERMANN BIGGS (United States) said that preventive and curative measures were largely futile while advanced cases of tuberculosis were permitted to remain in their homes, where overcrowding, destitution, and insanitary conditions existed. The New York Board of Health utilized in all its work all existing voluntary agencies or associations of every kind. The Department of Health never undertook to do what any existing organization was doing well. In 1881 the general death-rate of New York was 31; last year it was 14. In 1881 the tuberculous death-rate was 4.9; last year it was 1.9. In 1881 the pulmonary tuberculous death-rate was 4.2; last year it was 1.6. Public health was purchasable. Within natural limits any community could regulate its own death-rate.

Dr. WILLIAM CHARLES WHITE (Pittsburg) said that continued supervision was impossible by dissociated effort with different agencies, or by one type of institution. For each district some central clearing office was necessary, with suitable correlated agencies for handling all types and classes of cases and all branches of preventive and curative work.

Dr. E. RIST (Paris) said that systematized co-ordination did not exist in France. A permanent commission on tuberculosis had been appointed many years ago at the Home Office, and was still alive, but so far it had achieved nothing. Almost the same could be said of the Academy of Medicine, which acted as an advisory board to the Government in matters of public health. It had at last, however, some weeks ago, decided in favour of the compulsory report to the sanitary authorities of every case of so-called open tuberculosis. Whether the present Government would consider the advice of the academy and take measures accordingly was still very doubtful. The minority did not regard the vote as final.

Sir CLIFFORD ALLBUTT entirely agreed with Sir R. W. Philip about the out-patients at hospitals. There was no such thing as tuberculosis. That was an abstraction. What they had to deal with was a vast number of individuals. If the clinical work was to come second to that of the medical officer of health they would run a very great risk of retrogression.

Professor CHR. SAUGMAN (Denmark) said that for the complete success of all antituberculosis measures the co-operation of the State was necessary. In no other country had the State taken so active a part in the antituberculosis crusade as in Denmark. There was no State sanatorium, but the State paid subventions to those sanatoriums and hospitals for consumptives and scrofulous which fulfilled the conditions of the law as to construction. There were now in Denmark fifteen sanatoriums with together 1,195 beds, most of them under the chief direction of the National Association against Tuberculosis, and twenty-six hospitals or special wards for more advanced cases, with together 748 beds, built by the cities and counties. For a population of 2¾ millions this was one bed for about 1,400 inhabitants. The State further partly supported two seaside hospitals, open the whole year, for scrofulous children, with together 230 beds, and eight health resorts, partly opened only in the summer, for cases of slighter scrofulosis, with together 396 beds. The expenses of the State for antituberculosis purposes had been in the last years £70,000 to £90,000 of a total budget of the State of about £5,500,000. For the greater part of the patients in the popular sanatoriums the remaining quarter of the fee was paid by the associations for mutual aid.

Sir WILLIAM J. THOMPSON (General Registrar for Ireland) gave official statistics as showing the decrease of tuberculosis in Ireland. In 1907 the number of deaths from tuberculosis was 11,679, or a rate of 2.7; this had decreased in 1912 to 9,437, equal to a rate of 2.15. The total decrease for the period 1907–1912 was 2,242, from which the following deductions are made:

1. That the death-rate from tuberculosis—namely, 2.15 per 1,000—is the lowest recorded since 1864, the year in which registration of deaths was introduced.

2. That there has been a decrease of nearly one-fifth of the total number of deaths from tuberculosis in four years.

3. That there were forty-four fewer deaths each week from tuberculosis in 1912 than in 1907. Or,

4. That every day in 1912 there were six fewer deaths than in the year 1907.

5. As it is generally recognized that there are about seven or eight persons suffering from tuberculosis for each death, the decrease in mortality shows that there were about 17,000 fewer people suffering from tuberculosis in Ireland in 1912 than there were in 1907.

Sir WILLIAM H. THOMPSON (Dublin) also gave an account of the present state of the antituberculosis campaign in Ireland.

Mr. L. C. COURTAULD (London County Council) said that some time ago the Local Government Board had called on the London County Council to formulate a scheme for the prevention and treatment of tuberculosis. In framing that scheme the Council had endeavoured to utilize to the utmost every sort of provision already in existence. They looked upon the dispensaries as the main entrance of the tuberculous patient to the scheme. For that reason they thought the dispensary should work in the closest co-operation with the medical officer of health on the one side and the general practitioner on the other. The Council had also suggested that a dispensary was not and could not be of itself a complete unit in the treatment of tuberculosis, and that it should be in close touch with a general hospital. With regard to hospitals, they had suggested that where necessary and possible the hospitals should provide dispensaries of their own, and he personally thought the London hospitals should provide a certain number of beds for tuberculous patients.

Close of the Conference.

Lord GLENCONNER, in closing the Conference, said they rejoiced to think that their joint deliberations had proved of the highest value to the world, and that by the Conference they had been able to add some notable information and assistance to those actively working in the cause. The work of the last few years had shown good results, and the atmosphere of hope and cheerful expectancy was one of the most remarkable features of the Conference.

CONGRESS ON INFANT MORTALITY.

THE fourth English-speaking Conference on Infant Mortality was opened at Caxton Hall, Westminster, on Monday, August 4th, by the Right Hon. JOHN BURNS, M.P., President of the Conference, who delivered his inaugural address to the Administrative and Medical Sections in joint session. Almost every English-speaking territory was represented at the Conference, twenty-nine special delegates having been appointed by the Governments of twenty-three different countries and colonies, whilst one or more representatives were sent by over two hundred public health authorities in the British Isles.

Presidential Address.

Mr. BURNS said this was the fourth conference on infant mortality that had been held in this country during the past seven years. Originally confined to Great Britain, it now included all the English-speaking countries, and as President he welcomed that day representatives of the Oversea Dominions, the Colonies, and the United States of America. The problem they were facing was how to reconcile the health of the people and their personal strength and individual happiness with the growth of trade and city life. It was a matter in which it was important that the English-speaking peoples overseas should co-operate. The British people had led the way in commerce, in industry, and in representative institutions. They must continue to hold their place in the world, and this could not be done by any nation except through the vigour of its men, the virility of its women, and the strength of its children. For this parents must be cleanly wed, and children nobly bred, wisely fed, and firmly led. The life of a baby was affected, perhaps, more by its pre-natal condition than by its post-natal environment, and the doctors, who he was glad to say had been the backbone of this movement, were giving ever-increasing attention to this subject. Motherhood, the rearing of physically strong boys and girls, was the noblest of all callings, and he thought they ought to see to it that it was not made the meanest of trades. Doctors did much for the community; they also did much for themselves and their families. Among the children of members of the medical profession the mortality was only 40 per 1,000, as against 100 to 130 per 1,000 among the children of artisans, and 150 to 250 per 1,000 among the children of unskilled labourers. Even in the agricultural labourer class, notwithstanding the brutally low rate of wages, the infant mortality was only 97 per 1,000. The facts showed that high wages in themselves did not prevent infant mortality. High wages often meant increased drinking, and drink always meant inferior housing. But, speaking generally, during the last few years higher wages had been accompanied by wiser spending. Considering the size of London it was an extraordinarily sober city, a fact which was noted by visitors from abroad. In this country 40 per cent. of the pauperism, which cost eighteen millions a year, was due to widowhood and orphanhood. One out of every three wives came to the Poor Law for relief through the illness of the breadwinner. As President of the Local Government Board he was foster father to 270,000 Poor Law children. That was why he was interested in the subject. He wanted his family to diminish as rapidly as possible. If these Conferences continued for the next seven years he believed that family would be reduced by more than one-half. As a result of what had already been done they were saving 50,000 lives a year in this country, or nearly the total number lost through emigration to Australia. Referring again to the Poor Law children, he suggested that childless women, of whom there were many, would be much happier in looking after them than in wasting their affections on cats and lap-dogs, working slippers for hounds, or providing bracelets for puppies. In this connexion he would be only too pleased to turn himself into a children's agency. He suggested that next year's Conference should be held not in London, but in Lancashire, say at Manchester or Liverpool. One subject to which he thought they ought to turn their attention was that of certain diseases, with regard to which society showed a prurient delicacy, that was a danger to the community. From 30 to 50 per cent. of the cases of blindness was due to the inherited taint of such diseases. He did not belong to what he called the "better dead" school, the school who declared that the larger number per thousand of the children who died the better it was for the survivors.

Special Education in Infant Hygiene.

Mr. JOSEPH PEASE, M.P. (President of the Board of Education) presided over the morning session of the Medical Section on August 4th. In opening the proceedings, he said that during the last few years there had been a considerable reduction in the rate of infantile mortality. That advance had been due in some degree, perhaps, to a slight improvement in the physical condition of the mothers, but more, he believed, to better infant care and management. Ignorance was at the root of a great deal of the preventable infantile mortality, and that was where education came in. The Board of Education had endeavoured to disseminate information through the schools. It did what it could to create a healthy public opinion, and it had also done all it could to encourage schools for mothers. He was glad to say that there were now 230 such institutions, 100 of which were doing excellent educational work. The Board was also endeavouring, through the directors of education and the local education authorities, to interest the whole of the rising generation in this subject in the best possible form. Recently an official circular had been issued authorizing the increase in the present provision in our schools for instructing the girls in the care of infants. Such teaching ought certainly to be provided for girls by the local education authorities. Teaching in infant management should be available for all girls during their last year in the elementary schools. He hoped that next year crèches and schools for mothers would be further assisted by the national education system, which he hoped to be permitted to propose.

Dr. HODGETTS (Medical Adviser to the Commission of Conservation of Canada) said that some 35,000 infants under 5 died in Canada annually, and this was due mainly to ignorance and partially to penury.

Dr. L. E. LA FETRA (New York) said investigation had shown that of 10,000 infants nursed at the breast there died during the first year of life 580; of 10,000 artificially-fed babies there died 4,588, so that the naturally-fed baby had about nine times as many chances of life as the artificially-fed baby. Manifestly, the most important factor in baby saving was to have the baby nursed by its own mother.

Control of Milk Supply.

The Countess of ABERDEEN presided over a meeting of the Administrative Section, at which the administrative control of the milk supply was discussed. She called attention to the doings of the Viceregal Commission on the milk supply which sat in Ireland a few years ago. Although the report had not yet been formally presented, she was permitted to refer to some of its recommendations. It would dwell on the importance of milk dépôts, and would also show the good results attained through the institution of a few voluntary milk dépôts dispensing small quantities of reliable milk. The question in the towns was shown to be largely one of organization, by means of which the producer and the consumer might be brought together. In the rural districts the problem was much more difficult, and the different causes of scarcity would be reviewed and explained. Various recommendations likely to remove or minimize these difficulties were to be made in the report. The commission would also refer to the importance of winter dairying, the keeping of milk records, and the improvement of the milk-yielding properties of cows, and it would be shown that this could with certainty be attained. The second part of the report dealt with the prevention of the contamination of milk. The recently issued Tuberculosis Order for the slaughter of tuberculous cattle had gone very far to meet the recommendations made. The recommendations the Commission hoped to make aimed at establishing uniform and efficient administration by local authorities under the supervision of inspectors responsible to a central authority. The many causes leading to the infection of milk, and thereby to the spread of infectious disease, were laid stress on, and recommendations were made for strengthening the laws relating to the detection of the sale of infected milk and to the

precautions to be taken by all connected with the handling of milk. The Women's National Health Association were preparing to do their best to promote an educational campaign on the subject as soon as the report appeared in the autumn.

Professor J. M Beattie, City Bacteriologist of Liverpool, read a paper in which he recommended the systematic inspection of cattle by full-time veterinary inspectors; the establishment of isolation farms by local authorities, the farmer or dairyman to be recouped for any loss he might sustain in consequence, and the bacteriological and experimental testing of milk by experienced bacteriologists.

Dr. E. W. Hope, Medical Officer of Health for the City and Port of Liverpool, said that dépôts had been established in Liverpool for the supply of the nearest approach to human milk for infants whose mothers were not able to nurture them. Over 20,000 infants had been fed from these dépôts, the cost of which had been largely in excess of the amount paid for milk. Experiments had been made during the past two years with a view of lessening the cost of sterilization, and researches had been carried on by Professor Beattie and others on the electrical sterilization of milk. The upshot of these investigations was that it had been shown that milk could be effectually sterilized by electrical methods, all extraneous organisms being destroyed.

Dr. Lenane, Medical Officer of Health for Battersea, said that in London the milk supply was very unsatisfactory. As a result of the statutory powers obtained by the London County Council five years ago, a large quantity of milk had been examined, and of this 11 or 12 per cent. was found to be tuberculous.

Ante-natal Hygiene.

In the Medical Section, presided over by Dr. Charles A. Hodgetts, Medical Adviser to the Commission of Conservation of Canada, a discussion took place on Ante-natal Hygiene. Among the subjects dealt with was the working of the maternity benefit under the National Insurance Act. This was brought forward by Dr. A. K. Chalmers, Medical Officer of Health for Glasgow, who submitted a paper by Miss Barbara Sutherland, one of his assistants. Miss Sutherland said that maternity benefit was almost always paid in cash to the husband in cases where he was insured. In very few cases the Insurance Society retained part of the benefit to make direct payment either to the midwife or to the maternity hospital. At least one society only paid 15s. immediately after the confinement, retaining the balance of 15s. for fourteen days, lest any emergency should arise within that time, while another society was accustomed to send its agents to the homes to pay the money at an hour when both parents were usually present. In some cases, where the woman made a direct application, and explained that her husband would abuse the benefit, the money was paid to her on her application. One notable effect of the Act was the raising of midwives' fees, and this was a decided hardship in cases where benefit had not been received, or where received, was less than the fee, as was often the case with the deposit contributor. Abuse of the benefit money was, unhappily, very common. Cases were numerous in which the husband received the entire thirty shillings and spent it in liquor, while in many cases the receipt of benefit resulted in one or two weeks of unemployment for the husband. Sometimes, in anticipation of the benefit the man would stop work and refuse work when it was offered to him. Some men had devised an ingenious method of evading the accusation of not giving the benefit money to the mother; they handed over the thirty shillings to her, but deducted that amount from the usual money given for household expenses. Mothers sometimes said they were better cared for at previous confinements, when there was no maternity benefit, as the receipt by the husband of the thirty shillings was often sufficient to disturb the peace of an entire family. The way to stop such abuses, to a very large extent, was to pay the maternity money direct to the wife before her confinement.

Venereal Disease.

Dr. F. W. Mott, Physician to Charing Cross Hospital and Pathologist to the London County Asylums, said some outspoken words on this subject. He asserted that venereal disease was preventable and ought to be prevented. The public conscience should be educated to the necessity of dealing seriously with the question from a preventive as well as a curative point of view. A fruitful commencement could be made by examining by the Wassermann test the bloods of all suspect mothers and children. It was desirable, he said, in conclusion, that a Royal Commission, as suggested by Sir Malcolm Morris, should be appointed to inquire into the best means to be adopted for the prevention of the disease to which he referred and other diseases belonging to the same category.

Conclusions.

In the afternoon a joint meeting of the Administrative and Medical Sections was held to consider the conclusions arrived at. Alderman Benjamin Broadhurst (Huddersfield), who occupied the chair, said that the Executive Committee had watched the proceedings of the Conference and had drafted a number of resolutions. These were submitted seriatim and agreed to one by one with absolute unanimity. They were as follows:

1. That this Conference urges that the maternity benefit be made the property of the mother both in practice and in law.
2. That in view of the damage liable to be wrought to growing girls by injudicious stress of education, especially during puberty and adolescence, this Conference feels bound to deprecate any form of education for girls which pays insufficient attention to establishing good bodily health and development and complete fitness for maternity and the practical care of a home.
3. That this Conference urges upon the Government the necessity—in the interests of both mother and child—of legislating for the registration of stillbirths.
4. That this Conference urges upon the Government the necessity for the more complete medical certification of death, and that the medical death certificates should be forwarded to the registrars, as confidential documents, under sealed cover.
5. That the time has arrived for steps to be taken with a view to securing the better training of women who apply for the certificate of the Central Midwives Board.
6. That this Conference requests the Executive Committee to communicate with the General Medical Council and the degree and licence-conferring bodies with a view to infant hygiene being given a more important place in the medical curriculum.
7. In view of the large percentage of stillbirths and infant deaths directly attributable to venereal diseases, and considering that infant blindness and other congenital defects are in many cases due to the same cause, the English-speaking Conference on Infant Mortality urges the respective Governments of the countries therein represented each to appoint a commission to inquire into the prevalence, the causes, the provision of treatment, and the possibility of the prevention of these diseases.
8. That the attention of the Board of Education be drawn to the extreme desirability of making the grant earned by "recognized" infant welfare centres depend in future on their efficiency, on the number of registered attendances of the mothers at consultations, classes, and talks, and on the number of home visits paid under adequate supervision.
9. That this Conference calls on the Government to give explicit powers of making grants for infant consultations and schools for mothers.
10. That the Executive Committee be instructed to take whatever steps they may think desirable in order to ensure a microscopical examination of milk, to be supported by analytical methods.

The French Minister of Labour has signed a degree appointing a commission to inquire into the whole question of the conditions of the participation of the medical profession in the application of social laws.

The *Boston Medical and Surgical Journal* of July 10th states that it is reported that a bill relative to the prevention of marriage of the unfit has passed both Houses of the Pennsylvania Legislature. The bill provides that no marriage licence shall be issued when either of the parties is epileptic, an imbecile, or of unsound mind, nor to any man who is, or has been within five years, an inmate of any county asylum or home for indigent persons, unless the applicant can show that the cause of such condition has been removed, and he is able to support a family. Applicants for licence to marry must also file a statement declaring themselves free from transmissible disease.

THE NATIONAL TEMPERANCE LEAGUE.

ADDRESS BY MRS. MARY SCHARLIEB, M.D., M.S.

ON conclusion of the breakfast given by the National Temperance League at Brighton on July 24th, under the chairmanship of Dr. AINSLIE HOLLIS, an address on the subject of the responsibility of medical men in regard to temperance among child-bearing women was delivered by MRS. SCHARLIEB.

One of the heaviest responsibilities of doctors, she said, was that of fostering the moral well-being among those who put themselves under their care, and this responsibility was greatest of all when such patients were actual or prospective mothers. On the health of their bodies and the integrity of their moral and spiritual nature depended not only the welfare of their children and their homes, but the more important extension of the family, which was known as the nation. The huge outlay of the nation on alcohol was in any case regrettable, and it was among the women of the nation that the effect of alcohol consumption was most serious. It was said that among women the habit of drinking had greatly increased, and on no class of women did the penalty of alcohol fall with such disastrous results as on those of child-bearing age. Nor was it only the women that were evilly affected. It was said that every individual came into the world with his fate written on his forehead, and that virtually his fortune, whether good or bad, was settled before he attained independent existence. It was useless to inquire how far back extended the influences which made a man what he was and what he would be, but it was perfectly certain that those influences were intensified and became potent during his pre-natal existence. Frequently the embryo offspring of alcoholic parents died *in utero*, while the children who were born alive had to contend against two sets of deteriorating influences; they started life with badly nourished tissues and poor constitutions, and owing to the deficiency in suckling power exhibited by alcoholic mothers they had to be brought up by hand. Medical men knew that alcohol was just as much a poison as opium, strychnine, or arsenic, and this being the case ought they not to use their undoubtedly great influence over the child-bearing women of the country to induce them to take things that were profitable to them and to abstain from such things as alcohol, which could not but be deleterious? During three months of pregnancy even the strongest women had their constitutions strained to the utmost, and the medical profession should make it its special duty to protect them from the evil advice of foolish mothers and grandmothers and other Sarah Gamps of that sort who were prone to suggest a "little drop of brandy." The infant mortality had not fallen in the same ratio as the adult death-rate, and among the causes which accounted for this fact must be included the frequency with which mothers were of alcoholic habits.

According to the researches of W. C. Sullivan, 55 per cent. of the children of alcoholic women were either still-born or died before attaining their second year. Furthermore, of those who survived infancy, from 12 to 15 per cent. became epileptic, and many more showed that peculiar defect of brain and nerve power which accounted for the army of mental defectives. Comparatively little could be done towards effective teaching of habits of temperance, prudence, and thrift to women who were already grown up and had formed habits of intemperance, but the majority of young people under 20 years of age did not drink, and much might be done by careful instruction both in schools and in public lectures and addresses to point out the advantage of sobriety. Positive rather than negative teaching was desirable, stress being laid not on the terrors of the police-court and other miserable results of intemperance, but on the beauty of temperance and its happy results in healthy bodies. The passion of the young for cinematograph exhibitions could be turned to advantage by teaching them to admire endurance and heroism, and making it clear that people who have shattered their nerves by indulgence in alcohol were necessarily incapable of great feats of this kind. In the past false standards had been set up for admiration and imitation. Many of the songs of the nation were in praise of wine, and the figure of John Bull which was put forward as a representation of the national spirit surely did not represent the highest type to which the nation should aspire. In some respects medical men had wider opportunities of bringing influence to bear than any one else, but in order to exert it in the right direction they must be fully persuaded in their own minds as to the advantages and even the necessity of temperance, as well as set a good example themselves. They must also be prepared to take a certain amount of trouble to put themselves in a position to give a reason for their faith by studying the results of the researches of laboratory investigators in regard to the influence of alcohol on various forms of vegetable and animal life and on mental processes. They should also have some knowledge of the laws of economics, and of the part that alcohol had played in the deterioration of the race and of its power to swell the death-rate and to create criminals, lunatics, and imbeciles. They should also be students of history, studying the campaigns of Wellington and other commanders, and noting the influences that alcohol had had on some who would otherwise have been among the bravest and wisest of mankind. Above all, they must recognize that a right system of education, combined with a sure faith, fervent hope, and never-failing charity, would suffice to save the country from an age-long reproach and from an insidious poison which was sapping her vitals.

At the conclusion of the address a vote of thanks to Dr. Scharlieb and the Chairman was moved by Dr. NEWSHOLME, who said that it was indeed true that the responsibility of medical men towards the child was heavy, but it had been still heavier in the past. The medical views of one decade were the popular views of the next, and medical men should now show that alcohol was not necessary or even suitable for ordinary dietetic purposes, and that mankind was better without it.

LITERARY NOTES.

THE Cambridge University Press is about to publish a book on *The State Provision of Sanatoriums*, by Dr. S. V. Pearson, of the Sanatorium, Mundesley. The author deals from a practical point of view with the complicated questions involved in the State provision of these institutions, and also indicates what is being done in this direction in Germany, Norway, the United States, and Hungary, as well as in this country.

An interesting article might be written on the influence of the motor in modern life. It would be out of place here to discuss the part it has played and continues to play in fanning the flame of class hatred set aglow by incendiary declamation, or the increased facilities which, as Lombroso foretold, it affords for crime. But it may be said that the motor has already brought into existence a vocabulary of its own which is gradually filtering into ordinary speech. An amusing proof of this was given in the *Pall Mall Gazette* of August 5th, where in the list of general addresses to be delivered before the International Congress of Medicine Professor "Chauffeur" appeared as the orator on medicine!

At a meeting of the French Society of the History of Medicine, a brief report of which was published in the *Gazette Médicale de Strasbourg* for June, 1913, Dr. Georges Hervé communicated some pages of reminiscences, not intended for publication, by Dr. Kaempffen, who, born at Brigues in the Valais in 1784, served as a military surgeon during the wars of the First Empire, and was attached under the Restoration to the Seventh Regiment of Infantry of the Royal Guard, then practised medicine in Paris till his death, which occurred in 1856. The extracts relate to Kaempffen's medical studies, and show what the teaching of medicine at Vienna was in the first years of the nineteenth century. Professor Letulle read and commented on some manuscript notes of Laënnec relating to morbid anatomy. He said he thought it was, perhaps, not without regret that Laënnec, after his discovery of auscultation, gave up the study of morbid anatomy in 1816 to devote himself wholly to clinical medicine.

Seventeenth International Medical Congress.

London, August 6th to 12th.

GOVERNMENT BANQUET.

On Tuesday evening, on the invitation of Earl Beauchamp, First Commissioner of Works, on behalf of the Government, a banquet was given at the Hotel Cecil to about 500 members of the Congress, including most of the foreign delegates. The President of Council, Viscount Morley of Blackburn, presided, and among those present, in addition to the speakers, were:

Earl Beauchamp (First Commissioner of Works), the Right Hon. John Burns (President of the Local Government Board), the Attorney-General, Sir Donald MacAlister (President of the General Medical Council), Professor Chauffard (Paris), Professor Harvey Cushing (Brooklyn), Professor Dr. Baron Korányi (Budapest), Professor von Eiselsberg (Vienna), Dr. Wu Lien Teh (China), Professor D. O. de Ott (St. Petersburg), Dr. Ritter von Harberlen, Dr. W. S. Thayer (Baltimore), Médecin-General Bertrand (Paris), Professor Uchermann (Christiania), Professor Mokuhi Kubo, Dr. Raffaele Bastianelli (Rome), Professor Waldeyer (Berlin), Dr. N. van Rijnberk (Amsterdam), Professor Dr. G. E. Essenmöller (Sweden), Professor Paul Ehrlich (Frankfort), Professor Dr. T. Rovsing (Copenhagen), H. E. Dr. Camillo Calleja (Madrid), Professor Leonardo Bianchi (Naples), Dr. Rapchewsky (Russia), Dr. Broden (Belgium), Dr. Sahli (Berne), M. Vaillard (Paris), Dr. de Toth (Budapest), Dr. de Freitas Crissiuma (Brazil), Dr. Recassens (Madrid); the Director-Generals of the Medical Department of the Royal Navy, of the Army Medical Service, and of the Indian Medical Service; Sir William Church, Bart.; Sir Dyce Duckworth, Bart., and Mr. G. H. Makins, C.B. (treasurers of the Congress); Sir Almeric FitzRoy, Clerk to the Privy Council; Sir Rickman Godlee, Bart., President of the Royal College of Surgeons of England; Sir Henry Morris, Bart., Sir A. Pearce Gould, Sir R. Douglas Powell, Bart., Sir James Reid, Bart., Sir Edward Schäfer, Professor J. G. Adami (Montreal), Professor A. McPhedran (Toronto), Professor J. T. Wilson (Sydney).

At the foot of each cross table was a member of the Executive Committee, including Sir Malcolm Morris, Sir StClair Thomson, Sir Francis Champneys, Sir William Osler, Sir Lauder Brunton, Sir Watson Cheyne, Sir David Ferrier, and Dr. W. P. Herringham, General Secretary of the Congress.

After the Chairman had given the loyal toasts, Lord Morley, in the name of the Government, proposed the toast of the Seventeenth International Congress of Medicine.

Speech by Lord Morley.

Lord Morley said that he had the great honour of offering to the Congress, in the name of His Majesty's Government, a cordial, sincere, and respectful welcome. The occasion was no common one, and he begged his hearers to believe that the welcome was a great deal more than formal. Many renowned men, devoted to medical pursuits and aims, had passed away since the International Medical Congress had last met in London, a generation ago, leaving fame and the records of rich work behind them. A generation of earnest and continuous toil, ingenuity, search, thought, invention, had produced endless discoveries in medicine, endless improvements in surgery. Medicine covered double ground. As Huxley said—and he could not name without regretful memory that valiant lover and finder of truth who was the good friend of so many present—as Huxley said at the Congress of 1881, they were so used to thinking of medicine as something necessarily connected with curative treatment that they forgot that there was such a thing as a pure science of medicine, a pathology which had no necessary subservience to practical ends. The programme of the Congress about to open covered both—both knowledge and the application of it to the alleviation of pain, the maintenance of health, and the protraction of life. The services of medicine to surgery and of surgery to medicine had been reciprocal, and it was not for a layman to say in which of the two the advance had been most wonderful. The same span of time had witnessed many a marvel in mechanics, engineering, electricity, applied chemistry, and the rest. But new truths and new expedients in medicine, the advance in pathological theory and surgical practice, might perhaps be counted the most striking marvel of them all.

As a layman he had no right to do more than convey the Government's deep gratification at the presence of the Congress on the banks of the serene Thames next after the session on that mightier stream, though of more embarrassing political associations, the Danube. The number present had never before been equalled. The prolonged labours of organization which had fallen upon the staff of the Congress, the selection of subjects and speakers, the conduct of an immense circuit of correspondence, had never been better rewarded. The response had come from some thirty communities all over the world. No gathering could be more genuinely instructional. The brightest stars in the firmament of medical light were present. The list of topics was rich, apt, and comprehensive. Nothing could be more entirely promising of fruitful results. Much was heard of the Concert of Europe's benignant dreams of universal peace. The growth of mutual goodwill among nations was a slow process enough. But these congresses, so numerous just now, apart from their stream of contribution to positive knowledge, apart from their indirect effect upon the common mind in setting examples of intellectual energy and concentration, in teaching that respect for standards of competence which some suspect the democracy of being inclined to overlook—apart from all that, these congresses could not be anything but real and powerful unifying agents in a world where so much makes for disunion. Complaints were heard of excessive specialism; and, by the way, the very same complaints were heard at the History Congress a month or two ago. It was not for him to say a word on the vicious ways of pathological specialism, if such ways there were. He would only say what he would say on subjects with which he was better acquainted. There were narrow specialists and broad. He hoped that medical specialists would all prove of the broad sort—men who, while doing priceless and indispensable work in particular organs, parts, and regions, maladies and lesions, yet kept well in touch with organization and function as a whole. Foreign members of the Congress might learn that the relations of the Government with the medical profession were for the moment not altogether of the easiest. He would in turn assure them that the difficulties were ephemeral and would be surmounted by and by. (Cheers.) "We shall soon," he said, "be as good friends as the guardians of the body politic and the guardians of the body physical should be. The Congress is concerned with knowledge, and not with questions of medical organization, etiquette, or position."

The great achievements of Darwin, Virchow, and Pasteur had irresistibly brought new respect for science and the spirit of science to anybody capable of any intellectual interest at all. All this had not been without effect of an indirect sort upon the most scientific of what used to be called the three learned professions. Respect for professional truth and knowledge, in standards every day higher and more exacting, had grown in the practitioner himself; respect for the practitioner had grown in the public and the patient, and the old-fashioned apothecary of the novels had given place to a scientific man who held his head as high in the social hierarchy of the world as the lawyer or the divine. The extension of medical influence in the political and social field in the United Kingdom was one of the most striking signs of the times. Its power in the framing and administration of laws grew greater every day. It was the physician's

influence, for instance, that had insisted on the notification of diseases, on the enactment of a whole code of housing Acts, shops Acts, and health Acts. Historians asserted that for a thousand years Europe was unwashed; that was no longer a universal truth. The physician's influence was invoked against excess in the speeding up of education, and attention drawn to the dolorous number of suicides among youths in a powerful Continental country where passion for knowledge was a national glory—suicides due to a double overstrain, the pressure of the teacher and the pressure of the emulous parent. The Mental Deficiency Bill was the last example of this medical influence.

The quadrennial migrations of the Congress exposed its members to grave variations of ethical climate. Here, for example, there was a strong volume of energetic feeling and opinion against anything like unrestricted experiments on living animals. The age was doubtless more and more touched with the temper of Lord Bacon's saying, "The nobler a soul is, the more objects of compassion it hath." It was of the essence of true civilization that it should be so. Whatever line might be taken on this particular matter, every one had abundant evidence every day that in no body in the world was this blessed temper more alive, more constant, more self-sacrificing than in the good physician. Another painful subject caught the eye in the fifty pages of agenda of the Congress—the horrible dangers of a certain disease transmitted in the dark through generation after generation of a community, and the further question of Government control and responsibility in connexion with it. Here again ethical considerations held, and rightly held, a leading place in public opinion. What might be called the surgeon's reason of State, important as it must be, could not stand as the single decisive factor; at the same time it would be sheer moral cowardice to shrink from a large and serious inquiry into the extent, the causes, the palliatives of this hideous scourge just as the ravages of tubercle or cancer are investigated. Lord Morley concluded as follows:

In thinking of all the great things that science could do for government, if it only had the chance, I do not forget what the Russian Empress said to the French philosopher: "You only work on paper," she said, "I work on the human skin, which is irritable and ticklish to a very different degree." You gentlemen are to have discussions on affections of the skin, and political dermatology is a very different thing, though Virchow was almost as actively interested in politics as in science. But I beg you to be certain that those who are called to its study and application look with admiration and gratitude, with perhaps a spice of envy and assuredly with their warm good wishes, on you who devote your genius, talent, and the quiet study of your lives to the subjects that will engage your animated attention for the week to come.

The toast was acknowledged by Sir THOMAS BARLOW, President of the Congress; M. LANDOUZY, Dean of the Faculty of Medicine in the University of Paris, and by Surgeon-General Professor VON SCHJERNING, who spoke in the name of Germany.

RESPONSES.

The President.

Sir THOMAS BARLOW said: I wish, on behalf of my colleagues, to express our gratitude to His Majesty's Government for their gracious hospitality to our foreign brethren and ourselves on the eve of our great Congress. In this gracious act I believe that the Government has given its imprimatur to the view that there is no branch of knowledge which has a more vital and pervading influence on the welfare of the body politic than the science-art which we desire by our Congress to advance. I say advisedly the science-art, for we are concerned with medicine not only as a branch of learning which claims liberal tithes from the auxiliary sciences, but as an art which strives to ameliorate and even to cure many of the physical ills of mankind. And I believe that this Government recognition proves that outside all party politics there is an increasing willingness to utilize medical co-operation in all matters of education, of public health, and of social improvement. We ought to realize that the growth of medicine means the understanding of a great part of the mechanism of our lives, of the true operation of the physical hindrances to our growth and harmonious development, and of how to overcome those hindrances in the interest of the individual and of the community. In this sense medicine is one great portion of the growth of the practical science of living, and its advance concerns every single human being on this planet. The Government recognition is, I think, also a great encouragement to us in our claim that medicine oversteps all racial boundaries, that it is in the highest and best sense an affair of world politics, and that it contributes to peace and goodwill towards all men. I can assure you, my lord, that the Congress to be inaugurated to-morrow is not an assembly merely for pleasant intercourse and amusement, and for the exchange of international courtesies, but that it is a meeting for solid work. A large proportion of that work is contributed by our foreign brethren, and our efforts in London during the last three years have been unsparing in order to arrange for the work to be adequately set forth and subsequently recorded for the general good. It represents advance all along the line in the knowledge of the natural history of disease, of the newest methods of its recognition, and of the most effective means of treatment. We trust and believe that the elaborate summaries of results which have been supplied with no ungrudging hand by the best workers in the twenty-three sections of our Congress may be thoroughly sifted and discussed by our members, and may when published bring forth much fruit. I desire in conclusion to say how warmly we appreciate the circumstance that you, my lord, have been chosen as host and spokesman of His Majesty's Government on this occasion. You have always been glad to recall the links which bind you to our profession. You have always rejoiced in the broadening of its culture, in its widened outlook, and in its advances into new regions of knowledge and achievement. We do not forget, and our foreign brethren do not forget, the debt we owe to you for instruction in the aims, the partial successes and the failures of many of the leaders of liberal thought before and at the time of the French revolution. Still less do we forget the lessons of political philosophy which you have taught us in the lives of statesmen of our own time and of earlier periods of our history. I believe that you will approve the decision at which we arrived to include amongst the new sections introduced in this London Congress one on the history of medicine. No English statesman or man of letters can more appropriately wish our Congress God-speed. For we desire to ponder over the lessons of the many-sided past, with its broken lights, its chequered path through obscurantism and empiricism, its glorious episodes of discovery and emancipation. We believe that we are right in rejoicing over our present vantage ground of solid and sane achievement, and we look forward to an opening day of further enlightenment with courage and hope

France.

M. LANDOUZY, who spoke in French, dwelt upon the many common ideas which England and France and the geniuses of the two nations had contributed to the parallel march of progress throughout the centuries. If England had Bacon, Harvey, Shakespeare, Locke, Milton, Newton, Herschel, Sydenham, Jenner, Faraday, Stephenson, Bright, Darwin, Reynolds, Gainsborough, Lawrence, Lister, and Ramsay, France had Clouet, Montaigne, Descartes, Pascal, Corneille, Molière, Racine, Bossuet, Condillac, Watteau, Lavoisier, Lamarck, Victor Hugo, Lamartine, Claude Bernard, Pasteur, and Curie. British thinkers, artists, and savants—people of action as much as of ideas—displayed the depths of the British temperament and that practical sense which in all branches of human activity inspired the noblest men of genius. It was that which in all time made so characteristic the powerful British race, and it was that which caused the moralist of Champagne to say, "The English think deeply; their spirit in that follows their temperament, delving into subjects and strong in their experiments, they extend everywhere the empire of the sciences." La Fontaine had so rhymed, and the fact was that Bacon had laid down the rules of experimental science, that Harvey had first discovered the circulation of the blood, and Newton the laws of universal gravitation. The fact was that, though he was the contemporary of Sydenham,

La Fontaine, like every poet, was a prophet. He foresaw Jenner, Darwin, Herschel, and that fine line which, without a break in continuity, had illuminated the British nation. Medicine from being individual, as it was formerly, had come into the service of public hygiene and social economy, giving more value to life, rendering suffering less cruel, old age less trying, death more tardy and less alarming. It worked ceaselessly in order that the solidarity which was the dream of yesterday might become the reality of to-day in modern medicine.

Germany.

Surgeon-General von Schjerning, who spoke in German, also responded. He said that in the past it had been long before medical reforms had passed from the country of their origin to other lands. Nowadays it was very different. The best proof was that the medical men of all countries had come to the aid of the wounded in the recent war. In the words of Prince Hohenlohe, to work for the common weal was only a duty of humanity. Therefore, they were greatly indebted to the British Government, who had called together a Conference which would work for the progress of medicine, and he called upon his countrymen present to drink to the British Government and success to the Conference. At the conclusion of this speech the German members of the Congress rising in their places drank the toast with Hoch, hoch, hoch!

The proceedings then ended.

OPENING MEETING.

The Official Welcome to the Congress.

The scene at the Albert Hall at 11 a.m. on August 6th, when the opening meeting took place, was a brilliant one. Even the remotest galleries of the vast building were occupied, so great was the press, and many had the greatest difficulty in securing admission. Numbers of the delegates were in academic dress or in brilliant uniforms, and the assembly included many ladies. There was an enthusiastic demonstration when H.R.H. Prince Arthur of Connaught, Sir Edward Grey, and Sir Thomas Barlow, the President of the Congress, passed through the hall to the platform.

The President at once called upon Prince Arthur of Connaught to declare the Congress open.

H.R.H. Prince Arthur of Connaught.

H.R.H. Prince Arthur of Connaught said it was hardly necessary for him to assure the assembly of the very great pleasure it afforded him to be present to welcome, in the name of the King, the representatives of all branches of medical science from every quarter of the globe. His Majesty, the patron of the Congress, had been graciously pleased to command him to give expression to his earnest hope that such international meetings might conduce to the advancement of the great science of medicine and to the general well-being of mankind. His late Majesty King Edward VII, as Prince of Wales, opened the International Congress of Medicine in London in 1881, and Prince Arthur of Connaught said it was a source of peculiar satisfaction to him to have the privilege of following in his footsteps and to open the world-wide Congress on this occasion. In 1881 Sir James Paget was President, and M. Pasteur,-to whose wonderful discoveries the whole world was so much indebted, was present. Marvellous as those discoveries were considered at that time, science had still advanced, and the discovery of Roentgen rays and radium within the last few years had furnished the medical world with powerful weapons for the diagnosis and treatment of disease. He would be voicing the opinion of all present in saying that Sir Thomas Barlow and the representatives of foreign countries and the British dominions beyond the seas were worthy successors of the President and representatives of the 1881 Congress. Might he remind them that although this Congress was meeting in London, it was not England alone that was the host? Canada, Australia, New Zealand, South Africa, and India were represented with Englishmen on the various committees, so it was really the Empire, and not the United Kingdom, which was giving this Congress, thus forging another link in the Imperial ideal. He claimed to have some experience of international exhibitions, and he was fully sensible of the good they had done in promoting friendly relations with foreign nations. Therefore he was quite convinced that even greater and more far-reaching international benefits might result from such a Congress as this, which afforded opportunities for its members of acquiring and imparting knowledge to one another in a mutual exchange of ideas and discoveries. A Congress with a membership of 8,000 persons constituted a meeting of huge dimensions, and must surely appeal to the imagination. Although much of the work must necessarily be of a technical character, there would be a great deal of general interest, and the best men from all over the world had been chosen to introduce the subjects. He would not dwell on the various problems to be discussed—this would doubtless be explained by Sir Thomas Barlow—but he took the opportunity of congratulating the Reception Committee on the success of its labours, of which the meeting afforded evident proof; he had no doubt that at the close of the Congress the committee would feel fully repaid. He had the greatest pleasure in welcoming the Congress, and he was further desired to inform the delegates that His Majesty was very pleased that they were to be his guests at Windsor. He hoped they would find themselves as much at home in this country as they were in their own homes, in some cases so very far away. In the name of the King he declared the Congress open.

Sir Edward Grey.

Sir Edward Grey said it was his most agreeable duty to offer the Congress a welcome on behalf of His Majesty's Government; he need scarcely say that welcome was most whole-hearted and sincere. Lord Morley had already expressed the feelings of the Government in words more eloquent and more thoughtful than his could be, and he associated himself entirely with Lord Morley's tribute of respect and admiration for the work to which the Congress was devoted, and for the wonderful advances which the science of medicine had made within living memory. The Congress included so many men of great distinction that the Government felt it an honour to have it assembled in this country. Besides that, the Government knew this to be a Congress which, while accepting its welcome, could not possibly have occasion to invite its intervention. Science, in the true sense of the word, was international; it had its controversies, but they were not national controversies. Men of all nations who had risen to that plane of knowledge, thought and research which was worthy to be called science, were not separated in their work in that sphere by political or national rivalries, however deeply they might share the politics and feelings of their respective nationalities of all parties in other departments of life. In the case of the science of medicine and surgery, every man in the country had an individual interest in the work of its exponents to an extent that hardly existed in the case of any other science. To some sciences men looked for much to add to the variety or amenity of life: to medicine and surgery they had learnt to look for something that came home to them still more: the relief of suffering, the relief that took from life one of its greatest terrors. Nor did medical science appeal to the general thought of mankind in a less degree than any other. Medicine and surgery were, in their scientific work at least, as near to the study of what a lay mind would call the secret of life, or the secret of the universe, as any conceivable form of science could be. The imagination of men waited upon their work with the expectation that at any moment the medical profession might stimulate the thought and quicken the pulse of mankind by lifting still further a corner of the veil, and showing yet a little more of what had been hitherto mysterious, unexplained and unintelligible. As far as the public mind was concerned, science was in one respect fortunate to-day; the rock of lay ignorance was not so intractable as it was in earlier generations. So far as the public was concerned, opposition had given way to expectation: people were more ready to welcome a new discovery than to oppose it with an old error; at least he thought this was so with regard to those forms of science with which the Congress was especially concerned. If politics were entitled to be called a science he would speak with greater hesitation on this point, for no one was

very teachable in a subject which every one thought he understood. But as regards the science of medicine and surgery he did claim that the public was teachable and not only well disposed but grateful. Therefore the Government and the nation were glad to welcome the Congress with the greatest cordiality. They were all unfeignedly glad that London should be honoured as the meeting place of the Congress, and by the presence of so many men of world-wide distinction who came from abroad to attend the Congress and to add knowledge, lustre, and fame to its discussions.

Sir THOMAS BARLOW then delivered the address which is published elsewhere in this issue (p. 285).

The GENERAL SECRETARY (Dr. W. P. Herringham) said that, as representing the University of London, he had great pleasure in welcoming the delegates to London and to the buildings which the University had been able to place at the disposal of this vast congress of learned men. Dr. Herringham also alluded to the difficulties encountered in arranging the Congress. He wished to express his gratitude to the staff—mostly composed of women—which had dealt with the work in a way that was astonishing.

REPRESENTATIVES OF FOREIGN GOVERNMENTS.

The remainder of the meeting was devoted to addresses by representatives of foreign Governments, who were introduced to the Congress by the General Secretary, Dr. W. P. Herringham, and expressed their good wishes for the success of the deliberations. The following is a list of the representatives:—The United States of America, Dr. William Thayer; Austria, Professor Ritter von Haberlen; Argentina, Dr. Eliseo V. Segura; Belgium, Professor Heger; Brazil, Professor Marcos Cavalcanti; China, Dr. Wu; Cuba, Dr. Aristides Agramonte; Denmark, Dr. T. Madsen; France, Professor L. Landouzy; Germany, His Excellency Professor v. Schjerning; Guatemala, Dr. José Azurdia; Holland, Dr. N. van Rijnberk; Hungary, Professor Dr. Emile de Grosz; Italy, Professor L. Bianchi; Japan, Dr. Takamino; Mexico, Dr. Jose Larumbé; Monaco, Dr. E. Cailland; Nicaragua, Dr. Alejandro Cesar; Norway, Professor Dr. Uchermann; Portugal, Dr. Luiz de Freitas Viegas; Russia, General Dr. Rapschewsky; Servia, Dr. Subbotitch; Spain, Professor Recassens; Switzerland, Professor Sahli; Sweden, Professor Dr. G. E. Essenmöller.

The President of the Permanent Commission of the Congress, Professor WALDEYER, and the President of the International Medical Press Association, Dr. LUCAS-CHAMPIONNIÈRE, also spoke.

THE ADDRESS IN MEDICINE.

The President of the Congress, Sir THOMAS BARLOW, took the chair at the Albert Hall at 5.30 p.m. on August 6th, when Dr. Chauffard, Professor of Clinical Medicine in the University of Paris, gave the Address in Medicine. The audience filled a considerable section of the arena of the hall. The address is reported at p. 286 of this issue of the JOURNAL.

At its conclusion Sir Thomas Barlow expressed the thanks of the audience for an address which he described as truly philosophical, linking old and new maxims, and rich with illustrations from every branch of our body of knowledge.

CONGRESS OF THE INTERNATIONAL ASSOCIATION OF THE MEDICAL PRESS.

THIS is the fourth Congress, and it met in the Jehangir Hall of the Imperial Institute on Tuesday, August 5th, at 11 a.m.

It is now the rule for these congresses to assemble one or two days before the International Congresses of Medicine, and thus the last Congress was held at Budapest Congress four years ago. But on that occasion it sat for two days, and many more questions were discussed. In the present instance the agenda was very short, and one day sufficed to dispose of all the business.

Dr. LUCAS-CHAMPIONNIÈRE, President of the Association, was in the chair, and after a few words of welcome, Dr. SQUIRE SPRIGGE presented the report of the British Branch of the Association. He pointed to the important political work the medical press had accomplished in dealing with the Insurance Act. In the course of these remarks, he paid high tribute to the BRITISH MEDICAL JOURNAL for ably giving voice to the official opinion of the medical profession. The other journals, including the *Lancet*, were free to criticize both the Insurance Bill on one side and the medical profession on the other. Nevertheless all the medical journals, without exception, had worked together to modify and improve the insufficient conditions which, in the first instance, were offered to the profession. Never before had the medical press exercised so great a political power, and it showed that they had a large share in shaping the destinies of the country and securing the welfare of the people.

Dr. BLONDEL, as General Secretary, followed, and summarized the decisions adopted at the Budapest Congress and by the International Committee of the Association when it met at Rome last April, previous to the International Congress on Tuberculosis. In the interval the Italian Branch of the Association, which had been divided against itself, was harmoniously reconstituted. On the other hand, the Spanish Branch was now involved in disputes that were destroying the strength of its organization.

Medical Terminology.

Dr. BLONDEL introduced a discussion on medical terminology in a lengthy paper which was only completed at the termination of the morning session. The discussion was resumed in the afternoon. It was ultimately decided that Dr. Blondel should revise his report and introduce into it a concrete illustration of the method he suggested for the reform of medical terminology. His report will then be sent to all the associated nationalities. They would be given twelve months to examine the proposals and express their opinion. These criticisms were to be forwarded to the General Secretary and then a report could be prepared indicating what action should be taken in the matter.

Advertisements.

Professor POSNER (Berlin) presented a report on the question of the advertisements medical journals might publish. Efforts had been made, in Germany, to prevent the advertisement of drugs which pretended to do more than what had been proved by impartial tests they really might effect. Considerable progress was accomplished in this work of purification.

Next Meeting.

The Congress decided to meet again at the same time and in the same town as the next general International Congress of Medicine. As President of the Association till the next Congress, Dr. Dejace, of *Le Scalpel*, a Belgian journal, was unanimously elected. Dr. Dawson Williams was reappointed Treasurer and Dr. Blondel General Secretary. The Congress was attended by fifty members representing medical journals published in France, Germany, Belgium, Hungary, Spain, Italy, Russia, America, several other countries, and of course Great Britain. Altogether it was a very successful gathering, and though but few questions were taken in hand, they were very thoroughly discussed.

Luncheon Given by the Editor of the "Lancet."

Between the morning and afternoon sitting the Congress was entertained to luncheon by the Editor of the *Lancet* at the Hyde Park Hotel. There were toasts and congratulatory speeches, during the course of which Dr. LUCAS-CHAMPIONNIÈRE alluded to the extraordinary labours of the British medical press during the last two years. They had to fight a powerful party, and had set a gallant example. By defending the material—the financial—interests of medical men, they were upholding the honour and the honesty of the profession. Poverty bred dishonesty, and medical men must be protected from degrading exploitation. The BRITISH MEDICAL JOURNAL, the *Lancet*, and the other British medical organs had, by their united action and their faithfulness, merited the gratitude and the admiration of the entire world.

British Medical Journal.

SATURDAY, AUGUST 9TH, 1913.

THE FUTURE OF BRITISH HOSPITALS.

The discussion on hospitals in relation to the State, the public, and the medical profession, which was opened by Professor Moore in the Section of Medical Sociology at Brighton and was reported in the Journal of August 2nd, opens out a large question which has hardly yet received that systematic study from the profession in general which it deserves. The ideal aimed at by Professor Moore is "the replacement of our present heterogeneous hospital systems by a properly co-ordinated system with local public control at each district, unified nationally by a public health authority." The phrase "properly co-ordinated" is becoming as blessed as the word Mesopotamia, and immediately arouses a demand for definition. What it means to Professor Moore we may gather when we find him going on to say that he sees the beginning of a movement in this direction in the "applications being made to municipal authorities for assistance from rates in aid of powerful voluntary hospitals," and in the State grants now made to medical schools which were originally founded on a purely voluntary basis. He believes that the National Insurance Act will increase the rate at which the tendency will develop, and mentions as a parallel example of a similar movement, starting in charity and tending towards a co-ordinated national system, the feeding and medical treatment of school children.

By far the greater part of Professor Moore's paper was a vigorous attempt to remove what he regards as two great bugbears in the minds of those who are opposed to municipal or State hospitals—namely, the idea that a national system of hospitals would have the effect of stopping voluntary gifts and charitable bequests to hospitals, and the fear that State support would involve State control. But it is not easy to resist the feeling that there is more in these beliefs than Professor Moore is inclined to allow. He is no doubt correct in arguing against the idea that "charity, and brotherly feeling, and compassion for the suffering and friendless will disappear from amongst us because a national system of hospitals is established," but surely that is hardly the form in which the objection has been put. It is rather that such charitable instinct as must from its very nature find an object for its energies will be diverted from the hospitals into other channels.

Professor Moore himself acknowledged that the operations of the Insurance Act must involve a reduction in charitable donations to hospitals. That this has actually occurred in not a few cases is only too certain; the fact that this decrease is partly due to a misconception as to the scope of medical benefit makes no difference to the argument. When the Insurance Act was passed the idea arose that medical benefit would include hospital treatment, or that the funds of the hospitals would in some way benefit directly. The thought was at once suggested that if the insurance funds, assisted by the State, were available to help the hospitals, the need for charitable donations was no longer so urgent. The idea was due to a misconception as to the scope of medical benefit, which includes nothing in the nature of a hospital benefit; and as this fact has become more widely recognized, many donations which were for a time withheld have been continued.

But the fact remains that the mere suspicion that the hospital treatment of insured persons would be paid for out of insurance and State funds was sufficient to reduce charitable donations to the hospitals. There are practically no charitable donations to municipal fever hospitals or Poor Law infirmaries, because it is felt that the public rates supply, or ought to supply, everything that is necessary, even including the most expensive apparatus, which Professor Moore thinks might be provided by private donors, such as *x*-ray apparatus, radium installations, and elaborate operating theatres. In both these cases there have been three stages: first, an early stage, when the movement entirely depended on charity; next, an intermediate stage, when State or rate aid commenced, at first sparingly so as to encourage and assist charity, then more and more abundantly, till the third stage was reached, when the State or municipalities supplied practically all that was needed, and charity sought new fields for its energies. The tendency is, indeed, to go even further, as is shown in the case of the fever hospitals, to a stage when not only are these hospitals entirely rate-supported, and charity entirely diverted, but the treatment is claimed and very generally given without any payment by the patients; and we are well on the way towards this condition in respect of the medical treatment of school children and the sanatorium treatment of tuberculosis.

But concurrently with these changes the control of the institutions is modified. Professor Moore looks forward to a hospital system in which "State, municipality, and private donor will combine to aid one another in the evolution of the best, and their united best will be better than that of any one of these forces acting alone, or all three acting separately as they do at present." He gives as an instance of this happy combination what is now being done in connexion with the universities. But ought we not to look still further forward, or to instances where the evolution has followed the other line, to the Poor Law infirmaries or fever hospitals, or to what has happened with regard to elementary education? None of these any longer needs charity, and they are wholly maintained by public funds, and as a necessary consequence they are wholly controlled by public authorities.

The universities, in fact, do not afford a true analogy. The history of the older universities in Great Britain is one of growth and development to meet the varying needs of succeeding ages, a development rendered possible mainly by pious founders whose benefactions were safeguarded and regulated by the State. The newer universities owe their origin to voluntary effort sanctioned and blessed by the State, which now makes annual contributions towards their maintenance, and these are, in some instances, supplemented by the municipalities. But in all countries, even those in which its contributions constitute the major part of the income of the universities, the State has always respected their autonomy. There is thus

full scope for the happy combination of State, municipality, and private donor, where the predominant control remains with the governing body of the university called into existence and maintained by the co-operation of these several agencies.

There is little or no ground for believing that the development in respect of general hospitals will take place along these lines. The universities, no doubt, must retain or attain a large measure of control over the administration of teaching hospitals, and this aspect of the matter appears to have received little attention during the discussion in the Section. But, with this exception, it seems certain that, if and when State or rate aid is given systematically to hospitals, the demand for more and more assistance, on the ground that hospital treatment meets a public need, will grow. In proportion as the response to this demand increases the experience of this and other countries proves that charity will be diverted to other objects.

The Section was greatly indebted to the writers of several excellent and most interesting papers on the German hospitals. The outstanding conclusion to be drawn from these papers is that in Germany the aid given by the State and municipalities is the predominant element, with—as a direct result—control of the hospitals by the State, there being "complete rules enforced by the State in respect of the planning and equipment of the hospitals." The effect on charitable donations has been just what might be expected, for Dr. Grober stated that "regular charitable gifts to hospitals do not exist in Germany except in a minor degree." Thus Germany appears to furnish a practical example of what Professor Moore argues will not occur in this country. That stage has been reached in which State and municipal support has largely diverted charity from the hospitals into other channels. In France the position is very similar. In Germany we are told the majority of the private hospitals are openly and frankly to a large extent commercial enterprises, and no homogeneous and co-ordinated general hospital system has been evolved. Dr. Gibbon, in summing up the position, said that "the conditions in Germany cannot be said to be wholly satisfactory." The nearest approach to co-ordination in that country is in respect of the national movement for the treatment of tuberculosis, which is quite separate from the question of the general hospitals both in Germany and in this country.

In the remarks here made the great question whether complete nationalization or municipalization of the general hospitals is desirable or not has hardly been touched. It has been simply argued that State aid to the hospitals involves alienation of charity to other purposes and increase of State control in exact proportion to the aid granted. Whether this is desirable or not is a question which the British Medical Association has as yet scarcely considered, although there would seem to be among the general public a distinct tendency towards regarding it as both desirable and practicable. Something may shortly be learnt from the newly-organized crusade against tuberculosis which, with State supervision and co-ordination, is more or less under the immediate control of the county and county borough councils, with the tuberculosis dispensaries as the central co-ordinating units in each district. We say more or less, for the position of the County Insurance Committees in this respect is in many districts ill defined. If after sufficient trial this succeeds, it may possibly suggest a system which it will be sought to extend to the general hospitals.

Seventeenth International Medical Congress.

MEDICAL PROGNOSIS.

PROFESSOR CHAUFFARD'S masterly Address in Medicine to the International Medical Congress, printed on another page, gives in the happiest way a sketch of the rise and growth of the art of prognosis. We say "art" advisedly, for the best physician in the world cannot yet reduce this art to expression in the cut and dried terms of a science. As Professor Chauffard pointed out, the "imponderables" of medicine may be perhaps among the most important of the elements that go to the making of a successful prognosis. All the minutiae have to be considered, often suggestions rather than observed facts, apparently trifling details, indications that the coarse thumb and finger of even the best of us may well fail to plumb (if one may plagiarize a well-known poet), and so pass over in making up the main account.

Prognosis is, indeed, more important at the present day than it ever was before. Ever since there have been sick patients and medical men to relieve them, the two outstanding questions to be put and answered have been always the same: What is to be the treatment? Will a cure be effected? It is only in comparatively recent times—within the last hundred years, one may say—that any third question has been as commonly or as imperatively put, either by the patient to the physician or by the physician to himself, and that question is: What is the diagnosis? At the present time, as Professor Chauffard points out, this third question is put first, and rightly so. Logically speaking, diagnosis must come first. Logic has triumphed, as every good Frenchman must wish that it should; the modern idea is to define in the case of each particular patient the mutual relationship between the three fundamental elements of medical judgement—to know, to foresee, to act. The physician's course thus tends to become more and more rational and systematic; we see before us the passing from an art to a science.

The modern era begins with the pioneers who invented the methods of physical diagnosis in daily use at the present time, and who placed unseen internal organic lesions on the same line as manifest surgical diseases with regard to diagnosis. Their efforts gave rise to "organicist medicine," the art that detected the morbid lesion in the living subject, identified it in the cadaver, and deduced therefrom the diagnosis and prognosis of the disease from which the patient had suffered. This system marked a great step forward, but reached its limits of development in fifty years. It contained a large share of truth, but also a narrow doctrine that tended to confuse the anatomical lesion with the disease that produced it. The next stage in the growth of prognosis was attained thanks to the work of Claude Bernard, most wide-minded of physiologists, who taught that disease was but a disturbance of normal processes. As a result, physicians learnt to reason and to act as physiologists, or better still (and later) as biologists. Clinical medicine joins hands with experimental pathology, and we aim at gauging accurately the functional value of the various tissues, the organic reactions of defence, the compensatory reactions, that take place in the human system when it is attacked by disease. It is needless to add that much still remains to be learnt here; countless

researches have shown us how much remains unknown as well as how much sure knowledge we have acquired. But we may feel assured that we are on the right path, and that the broader views that now obtain in medicine cannot but assist its progress forwards. Advances in diagnostic technique are nothing less than advances in the art of prognosis.

Professor Chauffard very rightly lays stress on the wide views of prognosis that the modern physician has to take. Time was when a disease cured had no morrow. Nowadays we know better, and at the present time the remote prognosis is not a whit less important than the immediate prognosis, with the pronouncement of which the early Victorian practitioner was perforce content. In the rheumatic fever of children, for example, the immediate prognosis need cause little alarm, for the child rarely fails to recover from the fever. But the remote prognosis is of infinitely greater importance, for how many are the luckless children crippled for life by an attack of rheumatic endocarditis! Not less important is the remote prognosis in cases of syphilis and tuberculosis, and many another of the ills that vex mankind. Taking a still wider view, Professor Chauffard exhibits the development of prognosis as it affects the family of the patient, the society in which he moves, the community of which he is a unit, and even the race to which he belongs.

Yet when all is said and done, we still find ourselves brought back to the methods and wisdom of Hippocrates to a surprising extent when we come to give a prognosis. "The best physician appears to be the one who knows how to know beforehand," says the first sentence of that author's book on "Prognosis"; the body should always be considered as a whole, the art of prognosis lies in the study of the signs of disease, the power to estimate their relative values. Hippocratic medicine thus placed itself from the first at the very centre-point of knowledge, and has taught us much of the medical wisdom that we have while giving us nothing that we need to discard.

Unceasing progress has been made during the last hundred years; prognosis has advanced enormously, becoming the corollary and practical application of diagnosis. It may be described as the synthesis of medical criteria. Dominating the whole question of prognosis there remains our power to gauge the recuperative powers of the patient; has he in him the resources necessary for overpowering his disease? How much can his organism stand, and how much can we expect of it? That is the great problem that commands and includes all the others. Are we always able to solve it? Says Professor Chauffard—I fear not.

Yet although, as may be seen, he ends on this despondent note in cold print, his brilliant address cannot but have left the great audience in the Albert Hall with quite a different impression. For presenting an ordered, finished, and conclusive account of even so vast a topic as "medical proguosis," no other modern language is the equal of French. And no other modern language is the equal of French for a speaker who has Professor Chauffard's gifts as an orator. But few of those who were so fortunate as to hear him deliver his address can have gone away from it without the notion that they had little left to learn upon its subject, without the sense of satisfaction that comes with the feeling that a familiar and oft-recurring problem has now at last been solved.

NOTES.

Opening Ceremony.

The Congress was formally opened in the name of the King by H.R.H. Prince Arthur of Connaught, at a huge meeting in the Albert Hall on Wednesday, at 11 a.m. The hall was crowded, and there were spectators even in the upper gallery. Space had been reserved on the floor for officers of sections, but owing to the crowd many of them probably failed to reach the space allotted to them. Prince Arthur of Connaught read an address in the name of the King, which is reported elsewhere. He was followed by Sir Edward Grey, who spoke in the name of the Government and of the country at large. He was followed by the President of the Congress, Sir Thomas Barlow, who delivered an address, which is published at page 285. The address was commendably brief, yet comprehensive. After reference to the giants who had taken an important share in the International Congress of Medicine in London in 1881—to Paget, the President; to Huxley and Virchow, who delivered addresses; to Pasteur, then in the zenith of his fame; and to Koch, near the beginning of his great career—the President rapidly reviewed the directions in which medicine and surgery had made greatest progress in the interval, and concluded with an optimistic outlook on the present and the future. The address was characterized by the simplicity, directness, and impartiality which we have come to expect from Sir Thomas Barlow.

The Numbers.

The number of members of the Congress is not at present exactly known, but it cannot be far short of 7,000. In this number are included many women members of the profession, but in addition there are a large number of ladies, probably another 5,000 to 6,000, who are accompanying the male members of the Congress. The badge of the Congress is a bronze medal suspended by a dark blue ribbon. On the obverse of the medal is an allegorical figure of Science gazing on the rising sun; the encircled legend is "XVII INT. CONG. MED. LOND. MCMXIII." The reverse is a portrait of Lord Lister. The public interest in the Congress, as shown by the space devoted to its proceedings by the daily press, is very considerable, and the *Times* is no doubt right in asserting that this interest is quite extraordinary, if not unprecedented. London is so big that it can swallow up 12,000 visitors without any obvious disturbance of its usual routine; but during the last few days the Congress badge has been very much in evidence, not only within the precincts of the Congress, but in all parts of western London.

The Government Banquet.

The dinner given by the Government in the name of the country to some five hundred guests at the Hotel Cecil on Tuesday evening was in every way very successful, except that, unfortunately, Lord Morley, who presided and proposed the toast of "The Seventeenth International Congress of Medicine," was not well heard; this was the more unfortunate since his speech was full of matter, as may be judged by the report published elsewhere. The toast was acknowledged by Sir Thomas Barlow, speaking as President of the Congress, by Professor Landouzy, Dean of the Faculty of Medicine in the University of Paris, and by Surgeon-General von Schjerning, Director of the Medical Service of the German Army. This concluded the speeches, and the company separated at an early hour.

The Pathological Museum.

In the Imperial College of Science there has been brought together a striking collection of specimens which illustrate what is being done by workers in different parts of the world. The general idea of the small committee under the chairmanship of Professor Arthur Keith, aided by that

most experienced organizer, Dr. Armit, was to illustrate the advance made in each branch of medicine; to fulfil such a scheme was not wholly feasible, but the collection is very comprehensive. It would be impossible now to describe the various exhibits in detail, but a cursory view of the whole shows that specimens illustrating the work of the hygienists, of the surgeons, and of the clinical pathologists include examples of the various trade diseases in our own country, striking illustrations of the effective uses of radium on the Continent and of plant pathology in the United States, of the progress of the tuberculosis work and of the cancer research. Contributions have come from all parts, and praise is due to those Continental and overseas workers who have taken the trouble—and this in some cases must have been great—to transport so many beautiful and valuable specimens. The museum of dermatology and syphiligraphy and of otology were separated from the general museum. A novel feature was a special department of museum technique, which treated of the various methods of preparation and mounting, of housing and displaying, and of museum teaching. This instructive exhibit has been arranged largely by the International Association of Medical Museums, under the able administration of Dr. Maude E. Abbott. Many of the specimens will be demonstrated at the sectional meetings, but many must remain in the museum. We would advise all to spare some time from the manifold exactions of such a week to pay a visit to this department, and at least to possess themselves of the catalogue which Mr. H. W. Armit has carefully compiled in English, French, and German.

A Bibliographical Collection.

Among the exhibitions arranged in connexion with the Congress special mention should be made of one organized by the British Museum. It consists of MSS. and printed books, illustrating the history of medicine, which fills six of the large showcases in the King's Library. Among the Oriental MSS. are a facsimile of the Bower Sanerit MS. of the fourth century, and a selection of Arabic and Persian MSS., including the earliest Arabic MS. in nashki in the museum. There are also Arabic translations of Galen and Dioscorides, the latter with fine coloured drawings and MSS. of Ibn Butlan in Arabic and Persian, the last the oldest Persian MS. in the Museum. There are two Greek MSS., an anonymous work on a papyrus of the 1st and 2nd century and a 13th century Galen; these are followed by two fine Anglo-Saxon MSS. The remaining MSS. illustrate the medical history of the Middle Ages and English medicine of the 16th and 17th centuries.

The Sections.

Though the majority of the Sections did not commence work until Thursday, some of them began their labours on Wednesday afternoon. Among these were the Section of Physiology, which was opened by Professor Sir Edward Schäfer at 2 p.m.; the Section of General Pathology and Pathological Anatomy; the Section of Surgery; the Section of Ophthalmology, and the Section of Neuropathology, where Sir David Ferrier gave a short address. The Section of Radiology was opened by the president, Sir J. Mackenzie Davidson, with an address, which was followed by the reading of various papers. The other Sections which commenced their work on Wednesday with the reading of independent papers were those of Otology, Stomatology, Forensic Medicine, and Naval and Military Medicine, and the Subsection of Orthopaedics. The Section of Dermatology and Syphiligraphy was opened in the Governors' Hall of St. Thomas's Hospital by Sir Malcolm Morris by an introductory address. Sir William Osler, president of the Section of Medicine, gave a dinner, attended by some two hundred guests, to the introducers of the discussions, readers of independent papers, and officers of that Section on Wednesday evening, and the members of the Section of Urology were entertained at dinner by Mr. Harry Fenwick.

Physiology.

The Section of Physiology was opened on Wednesday afternoon by a short address of welcome given by the President of the Section, Sir Edward Schäfer. It was, he said, only right and proper that there should be a Section of Physiology in this International Congress of Medicine, for the advance of medicine was very intimately bound up with the advance of physiology. Not only was physiology of service to medicine, but medicals could help the advance of physiology by correcting the views and statements made by ignorant people on experiments made on animals. Unless these experiments, which in the past had yielded splendid results both for physiology and medicine, were allowed to go on, and unless every facility were given for the carrying out of scientific research, the practice of medicine must suffer in the end. A resolution on the importance of experiments on animals had been drawn up and would be submitted to each Section of the Congress. He put the resolution to the Section, and it was carried unanimously in the following form:

> That this Section records its conviction that experiments on living animals have proved of the utmost service to medicine in the past and are indispensable to its future progress. That accordingly, while strongly deprecating the infliction of unnecessary pain, it is of opinion, alike in the interests of man and of animals, that every facility should be given to competent persons for the performance of such experiments under adequate supervision.

Sir Edward Schäfer sketched the future arrangements of the Section, drawing particular attention to the series of laboratory meetings which had been arranged, meetings at which actual demonstrations of experiments of interest and of value to physiologists would be given. Following Professor Schäfer's address, two papers were read. Dr. Fraser Harris, of Dalhousie University, Halifax, read a paper on the existence of reducing enzymes in animal tissues. He gave a short history of the previous work in this direction, particularly as regards the methods which had been employed. The question to be decided was whether the decolorization of prussian blue which was noted after the injection of this material into living tissues was due to the presence of an enzyme in the tissues or to some chemical change in which a ferment played no part. He described his own experiments, as the result of which he had come to the conclusion that the active agent was a reducing enzyme present in the tissues. At the same time he admitted that the various alkaline salts of the tissues did also play a part, he believed, simply as adjuvants to the enzyme. Dr. Vernon of Oxford then read an interesting paper on changes in the reaction of growing organisms to narcotics. He gave a short account of some previous work by Traube on this subject, in which the view was advanced that the changes noted were due to simple physical conditions. Dr. Vernon could not agree with this conclusion. He believed that the changes noted bore some direct relation to the cell lipoids. His work was carried out on tadpoles of varying ages—from 2 to 83 days—immersed at a constant temperature into the different test solutions. In one long series of experiments carried out with alcohols he found some remarkable alterations. Thus, when young tadpoles were introduced into a solution of methyl alcohol they required relatively a high concentration before narcotization, the concentration necessary falling as the age of the tadpole increased. With ethyl alcohol the same result was found. Propyl alcohol required the same concentration throughout. With butyl and amyl alcohols, instead of a fall in concentration being sufficient to narcotize the older tadpoles, a distinct increase was necessary—in other words, there was a reverse action. This reverse action was most definitely shown in the case of

octyl alcohol, the last of the series he employed, where double the concentration of alcohol required to induce narcotization in all the young tadpoles was necessary to narcotize the old specimens. Similar results were obtained when, in place of alcohol, urethane was employed. He also tested other narcotics, such as chloroform, chloral hydrate, paraldehyde, etc., and again obtained results which, in his opinion, could not be reconciled with any physical explanation. He also carried out a series of experiments on the lethal concentrations of alcohols and found again great variations between the young and the old tadpoles, thus with octyl alcohol the ratio between the narcotomy and lethal action was 1 to 55 in the young tadpole, whereas with the older specimens it fell to 1 to 65. Dr. Vernon could not state to what these differences found between the old and young tadpoles were due, although he thought it possible that alterations in the composition of the nervous tissues during growth did play an important part, he was not sure if they played the sole part. He thought it probable that changes in the solubility of narcotics with advancing age occurred, although he admitted that there was no direct experimental proof available. His paper was criticized by Professor B. Moore (Liverpool), who thought that too much stress was laid at present on the lipoids and the part they played, and by Professor Macallum (Toronto) who did not feel sure that Dr. Vernon's results sustained altogether the lipoid hypothesis. He thought that too many assumptions were made in connexion with physical explanations.

Surgery.

The proceedings of this Section were opened on Wednesday, when the President, Sir W. Watson Cheyne, in welcoming the members of the Section, contrasted the conditions and scope of surgery in 1881 with the position to-day. The Congress of 1881 coincided with the disappearance of the old system and the beginning of the new era in surgery; its scope had been enormously enlarged and that of medicine correspondingly somewhat narrowed, but he thought it possible that in the future the rates of progress would be reversed. He paid a warm tribute to Lister, whose master mind, he said, full of love for humanity, had brought life and health and rejoicing to all nations. Eloquent tributes to the memory of Lord Lister were also paid by M. Lucas-Championnière (Paris), Professor von Eiselsberg (Vienna), and Professor Bloch (Copenhagen). A paper was then read by Dr. G. Le Filliatre (Paris) on spinal and local anaesthesia, which led to a spirited discussion. A paper contributed by Dr. Russell S. Fowler (Brooklyn) on the elevated head and trunk position in the surgical treatment of abdominal lesions was read for him by Dr. J. O. Polak. He advocated the Fowler position in acute septic peritonitis to ensure drainage from the upper and more dangerous area of the abdomen into the lower and less dangerous. Dr. Waters F. Burrows, of New York, discussed post-operative intestinal stasis, and advocated the introduction of sterilized liquid petroleum into the abdominal cavity to prevent adhesions. This plan, he said, had been recommended by Dr. Wilkie, of Edinburgh, and by others, but Dr. Burrows advised that much larger quantities, up to six or eight ounces, should be employed. Dr. Edward Archibald, of Montreal, in a paper on the causation of pancreatitis, described a small sphincter muscle at the mouth of the duct the resistance of which might be overcome, the reflux of bile then leading to inflammation of the pancreas. He indicated some of the suggestions for treatment arising out of these observations. The committee of the Section has made arrangements to enable members of that Section to see operations at the different general hospitals during the Congress week.

Orthopaedic Surgery.

The session of the Subsection, Orthopaedics, of the Section of Surgery was opened on Wednesday afternoon by the President, Mr. Robert Jones, of Liverpool, with a few words of cordial welcome. Some thirty members attended, among them being some of the best-known orthopaedic surgeons, including Drs. Kirmisson, Denucé, Max Boehm, Galot, Albee, Mencière. Dr. Mencière, speaking with great rapidity and with characteristic vivacity, described the four surgical procedures with which his name is associated — "pneumatic osteotomy" by means of his "revolver" osteotome, enucleation of the bony centres in the tarsus subcutaneously, injection of carbolic acid for tuberculosis of the bones and joints, and reduction of congenital dislocation of the hip by means of his lever. The pneumatic osteotome certainly should have a place in the surgical outfit of hospitals; for, owing to the complete control which the operator has over it, section of the bone can be performed with much more precision and neatness than by mallet and chisel. The results of enucleation of tarsal bones appear to be good, though not better than those attainable by other methods; but the proceeding has the merit of simplicity and safety. Dr. Mencière's results in the treatment of tuberculous joints by injection of a solution of carbolic acid into the bones and epiphyses, either subcutaneously or by open operation, seem to be excellent, for he claims a movable hip as a not infrequent result in coxalgia. The lever for the reduction of hip dislocation gives the surgeon more power, and consequently greater control, at the same time that it removes the strain from the shaft of the bone to the trochanter. This paper was well illustrated by over a hundred photographs shown on the screen. There was no discussion of it, perhaps because it was not closely followed by many of the audience. Dr. Denucé, of Bordeaux, in a short paper, described certain cases of sciatic scoliosis, and discussed their doubtful pathology and the probability of a tuberculous etiology, although *x* rays show little definite change. Dr. Hans Spitzy (who spoke excellent English) had had excellent results in such cases by rest. Dr. Max Boehm, of Berlin, also speaking English, referred to his researches among pathological specimens and to the frequency with which osteo-arthritic changes occurred in such cases. Dr. Torrance Rugh, of Philadelphia, agreed with him, and spoke of the value of carbolic acid injection around so-called rheumatic joints, followed by immediate massages and repeated after five days' interval. The next paper was a short one by Mr. Tubby, in which he described a method of treating old scars by multiple subcutaneous division and rubbing in of thiosinamin solution, the operation being repeated as often as necessary. For Dupuytren's contraction of the palmar fascia he advocated open operation and the instillation and injection of thiosinamin. These proceedings had given him good results, but open operation on the fingers themselves was inadvisable, and he preferred to insert a tenotome into the mass of fibrous tissue and having by turning it about well stirred up the tissue, then to inject thiosinamin. Dr. Rugh said that he had obtained good results in keloid by giving thiosinamin by the mouth. Then Mr. Elmslie showed a number of slides which excellently illustrated the various kinds of coxa vara in infants and adolescents, and referred to the best method of treatment. Dr. Albee, of New York, strongly advocated a position of inward rotation of the thigh combined with abduction in coxa vara and in fracture of the femoral neck, but in early cases he thought open operation was to be recommended. Dr. Peltesohn, of Berlin, also commented on Mr. Elmslie's paper, and with a short paper by Mr. Bankart on scoliosis of neurological origin the session ended for the day. The members of the Subsection dined at the Royal National Orthopaedic Hospital as the guests of the Earl of Denbigh

and members of the committee of the Section and the honorary medical staff of the hospital.

Ophthalmology.

At the opening of the Section of Ophthalmology on Wednesday Sir Anderson Critchett expressed his profound regret at the death of Sir Henry Swanzy, whose place in the office of President of the Section he had taken. He referred to some of the methods useful in ophthalmology introduced since the Congress in 1881, alluding especially to the bacteriology of the conjunctiva, the Wassermann reaction, the value of the *x* rays, especially for the localization of foreign bodies, and to the importance of the new observations on the functions and tumours of the pituitary body and to the important part played by sinuses in certain forms of ophthalmic disease. He mentioned that thirty years ago Mr. Henry Power had recorded certain cases of papillitis which had recovered rapidly on the removal of carious fangs, and observed that there was now a fuller understanding of the association of diseased conditions of the gums and alveolar processes with certain forms of eye disease. He also touched upon the great value of local anaesthetics in operations for senile cataract, on the use of the galvanocautery in diseases of the cornea, and on the action of adrenalin in controlling haemorrhage in ophthalmic operations. The debt due to Sir Almroth Wright and his fellow workers for the introduction of vaccines designed to increase resistance against inflammation, especially chronic inflammation, was, he said, great; and, after a brief review of some of the new remedies introduced, including carbon dioxide snow, he concluded by a reference to the great value of radium in the treatment of spring catarrh.

Dermatology.

The first meetings of the Section of Dermatology took place in the Governors' Hall, St. Thomas's Hospital, where, on Wednesday afternoon, the President, Sir Malcolm Morris, K.C.V.O., reviewed the progress of dermatology, referring in particular to the advances resulting from the researches of Koch, Schaudinn, and Hoffman. He mentioned the therapeutic use of the *x* rays, of radium, of carbon dioxide as a freezing agent, and the introduction of salvarsan by Professor Ehrlich. The understanding of the pathology of skin diseases, he said, had been greatly assisted by bacteriology, and in this connexion he made special reference to the work of Sabouraud (Paris) in isolating and classifying the numerous kinds of fungus responsible for ringworm and allied diseases of the scalp and skin. In conclusion he appealed to all members of the Section to urge upon their respective Governments the imperative necessity of taking systematic and vigorous action for attacking venereal diseases, a question which, in its relation to public health, would be the subject of a joint discussion with the Section of Forensic Medicine.

Stomatology.

The proceedings of the Section of Stomatology were opened on Wednesday at the Royal Dental Hospital, Mr. Morton Smale presiding, and Mr. J. F. Colyer acted as Secretary. Messrs. J. G. Turner and F. J. Bennett read a paper on caries observed in ancient Egyptian teeth obtained by Professor Flinders Petrie from cemeteries of the 26th to 30th Dynasties, about 3,000 years ago. Numerous cavities not *post mortem* or due to fractures, but the result of dental caries, were found. A comparison with modern teeth showed that the cavities were of the same nature and that the same parts of the teeth were affected—namely, the fissures of the crown and the interstitial surfaces. The jaws from which the teeth came were well formed and the dental arches practically free from irregularities. Of 435 teeth examined, 16.78 per cent. were found to have carious cavities. It was noted that the cavities occurring interstitially were not situated at the point of contact with the adjacent tooth, as is usually the case with modern teeth, but occurred at a point near the edge of the gum where the tooth was not in contact with its neighbour. The percentage of caries, although high, is much lower than the percentage of to-day, which on a fair average may be taken to be 52 per cent. This better condition was probably due to the feeding habits of the people. Bread was made from coarsely ground cereals, often badly cooked; after a meal coarse débris was left in the mouth, and could only be forced into spaces large enough to receive the particles. Interstitially the particles must have been forced between the neck of the teeth, pushing aside the interdental papilla, and this probably accounted for the occurrence of caries at this site. Nowadays flour is so finely ground that it forms a sticky mass, the particles of which can be forced into the slightest crevices; stagnation is greater, and fermentation therefore increased. Although honey was an important article of diet among the Egyptians, yet the consumption of sugar was probably far less than it is to-day. The conclusion arrived at was that the comparative absence of dental caries among the Egyptians was due to the coarse nature of the cereal food, and that the frequency of dental caries among ourselves is due to finely ground flour. Dr. Trewby King (New Zealand) remarked that among the Maoris who were untouched by civilized influence caries was extremely rare, the food chiefly used being coarse and needing prolonged chewing; but among the Maoris who had adopted civilized customs of living caries had rapidly increased. Dr. Zilz (Hungary) read a paper on the entrance of tubercle bacilli into the exposed pulp of teeth. He found the organisms present in carious dentine; an emulsion of such dentine was injected into the peritoneal cavity of guinea-pigs, and he was able to recover organisms which gave the typical staining reactions of tubercle bacilli. Mr. Goodby (London), while agreeing that Dr. Zilz had certainly demonstrated tubercle bacilli in dentine stated that had himself hitherto failed to cause tuberculosis in guinea-pigs by injecting an emulsion of carious dentine. Mr. J. H. Gibbs (Edinburgh) read a paper on polyphyodontism (multiple dentition) in a child of $2\frac{3}{4}$ years. There was a tumour present on the right side of the mandible extending from the angle to the corner of the mouth. From a circular opening on the gum projected the crowns of a geminated deciduous lateral incisor and canine. All the deciduous teeth were present. On incising the tumour it was found that below the two deciduous molars were two other rows of teeth. The top row was formed by the first or second deciduous molars; between the roots of the first molar is a cup-shaped piece of bone, which was obviously the crypt of a permanent premolar. The middle row consisted of the geminated lateral and canine, first and second deciduous molars fully formed, and the crown of the first permanent molar. The third row consisted again of first and second deciduous molar and the crown of the first permanent molar. Sections of soft tissue underlying the second molar of the third row showed an epithelium closely resembling the cells of the enamel organ. The case appears to be quite unique, and is the first case recorded of a placental mammal with definite calcification of more than two sets of teeth. Mr. J. G. Turner (London) suggested the possibility of the case being one of polygnathism rather than of polyphyodontism. Mr. K. W. Goadby read a paper on the bacteriology of pulpitis, founded on a research in which he had had the assistance of Mr. A. Barrett. Streptococci had been found in gangrenous pulp, but hitherto the bacteriology of an inflamed but living pulp had not been

investigated. They found that in the superficial layers of the carious dentine cocci of different types were chiefly present; in the deep layers streptobacilli were found, together with curious thread-like forms which grew for a limited time under anaërobic conditions. No organisms were found in the pulp itself when the latter was not exposed. Dr. Lorgnier (Calais) read a paper on the importance of radiography in stomatology.

Transport of Wounded in Mountainous Country.

The meeting of the Section of Naval and Military Hygiene, on Wednesday, was opened by the President, Sir Launcelot Gubbins, Director-General Army Medical Service, who, in welcoming the delegates from foreign countries, briefly referred to the Congress of Medicine held in London in 1881, when the subjects which chiefly occupied the minds of naval and army medical officers were the antiseptic treatment of wounds and the effects of the then recently introduced small-bore Martini-Henry rifle bullet. Aseptic surgery in the field was not mentioned or apparently thought of at the time. It was interesting to note that the wounding effects of the Martini-Henry bullet were then considered to be less severe than those of the old spherical smooth-bore bullet and of the larger Snider bullet; similarly at the present time opinion seemed to regard the sharp-pointed bullet used by the Turks in the recent campaign as more merciful than the ogival-pointed bullet used by the Balkan States. Colonel Skinner, M.V.O., read a paper on the transport of wounded in hill warfare, prepared by officers of the Indian Medical Service and presented by the Director of Medical Services, India. The paper contained a review of the different forms of transport for wounded employed in the Indian frontier campaigns during the last forty years. One conclusion drawn was that where it can be employed the dhoolie is undoubtedly the most comfortable way of carrying a helpless patient, as it is practically a bed in which he can lie, for days if necessary, till he reaches a stationary hospital. By drawing the curtains at night it forms a good *tente d'abri*. Unfortunately it is heavy—some 92 lb.; the pole is too long to permit of its use in mountain paths with sharp turns, and it requires specially trained bearers, who are not easily procured. It was pointed out that the ordinary stretchers could not be employed on a steep hillside, as the rear bearer could not see where he was placing his feet and frequently stumbled or fell. The patient, too, must be strapped on to the stretcher. The most satisfactory form of transport was one of the contrivances used by the inhabitants of the locality. Among these were the chair or sling, in which the patient is carried by a single bearer on his back—as, for instance, the Assam carrier chair. In the Tibetan expedition the Aldridge hammock, a blanket suspended from a pole, was found satisfactory. Lieutenant-Colonel E. Nienhaus (Switzerland) read an interesting paper on the same subject, based on his experience in manœuvres with the Swiss army. He began with a short sketch of the Swiss army medical organization and the medical echelon in mountain warfare. He pointed out that in this class of fighting it was especially necessary to apply the dressings carefully in the first instance, as a long delay might be unavoidable before the patient could be conveyed to any kind of stationary hospital. In the actual conveyance of a wounded man he was strongly impressed with the advantages of the Weber stretcher, as used by the Swiss bearer companies. This stretcher is made in two parts; each bearer carries one-half on his back in place of a knapsack. Any two men, he said, could thus form a stretcher and carry a wounded man, if the nature of the country permitted it. Six stretchers, together with a large supply of dressings, could also be loaded on a pack saddle. Another ingenious stretcher described was the Fröhlich wheeled stretcher. It was, the speaker said, a folding stretcher which could be carried on a man's back. The handles could be turned up, permitting the stretcher to be used like a wheelbarrow, or five to six stretchers could be coupled together to form a train which was drawn by a horse. Where the slope was very steep the handles could be turned downwards, when they acted as runners, and at the same time as a brake; in the latter case the bearer walked behind the stretcher, and by means of a rope fastened to it guided its course and regulated its speed. At the conclusion of his paper Lieutenant-Colonel Nienhaus showed a series of pictures on the screen, illustrating the various ways in which the stretchers had been used during manœuvres by the Swiss bearer companies. Professor von Wreden, Surgeon to H.I.M. the Czar, expressed his admiration for the ingenious appliances described by Lieutenant-Colonel Nienhaus, but stated that as a result of his experience in the Russo-Japanese war he thought that the collection of wounded during fighting should be abandoned. This practice only led to the useless slaughter of bearers and patients. When the fighting was over wounded could be quietly collected and dressed, and it was not therefore necessary to be equipped with an elaborate supply of appliances for the rapid collection of wounded. Colonel P. Hehir, I.M.S., said that in collecting wounded during fighting in hill warfare, the means of transport used by the inhabitants of the locality should be studied, for they knew from experience the best methods to use. By adapting these to suit the comfort of a helpless patient a satisfactory solution of this difficult problem could always be found.

Radiology.

The Section of Radiology is a newcomer in the programme of an International Congress of Medicine, but it proved a lusty infant, and as many as 200 members must have been assembled in the Geological Theatre of the new School of Mines on Wednesday afternoon, when the session was opened. The French workers in this branch of medicine were particularly in evidence, perhaps the best known among them being Professor J. Bergonié, of the University of Bordeaux. The other side of the Atlantic also was strongly represented. A hearty welcome to all and sundry was extended by the President of the Section, Sir James Mackenzie Davidson, who, in a very brief introductory address, pointed out how vast a field had been opened up to medicine by the discoveries of Roentgen, Becquerel, and the Curies. It might be said of radiologists that they employed the minutest vibrations in the ether of space for the diagnosis and treatment of disease. An instance of the increasing value of the *x* rays purely as a method of examination was afforded by the extraordinary precision which was now possible in the localization of foreign bodies, especially in the eyeball and orbit. The stereoscopic picture in this connexion had proved itself of immense service, and although stereoscopy did not enjoy the wide following it deserved, it would ultimately commend itself, he felt sure, in connexion with the fluoroscope, even for the examination of the intestine, with the aid of the bismuth meal. An exhaustive paper was read by Dr. James T. Case, who as roentgenologist at the Battle Creek Sanatorium in Michigan has had large opportunities of studying the *x*-ray intestinal picture. Indeed, one of his American colleagues said of him in the course of the discussion that he was accustomed to sit before the fluorescent screen for eight hours nearly every every day, examining bismuth cases. Dr. Case said that during the last thirteen months he had made a Roentgen examination after a bismuth meal in some 1,500 individuals. Dr. Case's paper, and perhaps even more his lantern demonstration, brought out many interesting points in connexion with colonic peristalsis and antiperistalsis. In the majority of cases in which he had observed antiperistalsis, the picture was that of

successive waves originating in the transverse colon near the hepatic flexure; they had never been seen to proceed clearly to the tip of the caecum, but only to a point corresponding approximately with the ileo-caecal junction. He had seen at one time as many as five antiperistaltic waves between the caecum and the middle of the right half of the transverse colon. Perhaps the most interesting section of the paper was that which concerned the author's observations of incompetence of the ileo-colic valve. He had found this to occur in a certain constant percentage. Out of a series of 200 gastro-intestinal cases, 33 showed this incompetency by the barium clysma. In the light of existing knowledge of the functions of the ileo-colic valve, he thought it reasonable to believe that those cases in which rectal alimentation had proved successful were the cases of ileo-colic valve incompetence. Under ordinary conditions the valve acted as a sufficient barrier, so that any attempts to introduce fluid beyond it, either for diagnosis or treatment, were unsafe and unjustifiable. These conclusions with regard to the ileo-colic valve were supported by Dr. Lewis G. Cole of New York, who said that during the last four years he had recognized about 60 cases of ileo-colic valve insufficiency. In his reply upon the discussion, Dr. Case added the interesting point that although diarrhoea had been considered the cardinal symptom of ileo-colic valve insufficiency, the *x*-ray studies, covering about 250 cases, had shown that, instead of diarrhoea, intestinal—and more especially ileal—stasis prevailed. Three papers were read on radio-therapeutic subjects, the first by Dr. Béclère, describing his technique in the treatment of leukaemia, and the other two, by Dr. J. Belot of Paris, and Mr. C. R. C. Lyster of London, detailing their personal experiences in the *x*-ray treatment of exophthalmic goitre. Dr. Belot considered that it was always to an alteration of the glandular function and of the gland itself that this condition must be attributed, and that the special action of the *x* rays on the glandular elements justified the radio-therapeutic procedure. He used an aluminium filter of 1½ mm. in thickness, and obtained his results without producing any lesion of the skin. Out of 30 cases treated only 5 showed no amelioration, but, on the other hand, only 8 showed a diminution of the goitre, and only 6 a diminution of the exophthalmos. Mr. Lyster, in the course of his paper, said that he was unable to state with certainty the sequence in which the symptoms decreased, but, so far as he had been able to observe, the rapidity of the heart's action was lessened, tremor disappeared, and the general excitability of the nervous system became less marked. He had treated a few patients who were suffering from the disease in the acute form, and in these the vomiting and diarrhoea ceased, the heart's action diminished at once, and the condition generally changed from the acute to the milder type. The two papers initiated an interesting discussion, in which there was a good deal of interchange of experience, favourable on the whole to radio-therapy, though it was suggested that the data were as yet inadequate for a definite conclusion, and that such data as were available were sometimes perplexingly inconsistent.

Conversazione at the Natural History Museum.

As a finale to the labours of the opening day Sir Thomas Barlow, President of the Congress, acquired in his own person a very practical knowledge of the surgical meaning of passive movement. His experience was shared to some extent by the treasurers of the Congress, Sir Dyce Duckworth and Mr. Makins, and the chairman of the Executive Committee, Sir Watson Cheyne, who flanked Sir Thomas Barlow on either side while he was shaking hands with the unceasing flow of foreign and other guests at a conversazione given at the Natural History Museum. They began to arrive soon after half-past eight, and continued to do so until half-past ten; and meantime this building, despite its size, became somewhat more than well filled by an assembly in which the foreign guests were largely represented. The Royal Artillery band was playing in the central hall, and the Coldstreams band in the west garden, while two concerts were in progress in different rooms of the building. Nor did two large marquees which had been erected in the grounds fail to prove attractive from an early hour in the evening; their walls were lined by refreshment tables, and German beer served in tall, narrow glasses, figured among the beverages provided.

The Exhibition.

To visit the central hall of the University of London this week is to turn back for a moment three pages of the book of life. Once again it is the site of an exhibition of books, drugs, instruments, and medical and surgical appliances of all orders, and its appearance recalls very vividly that which the hall presented in 1910 when a corresponding exhibition was in progress in connexion with the annual meeting of the British Medical Association for that year. Nor is the resemblance superficial, for the stalls are arranged on the same lines as in 1910, and most of the firms which then exhibited are again showing their products. Their total number is some thirty or forty higher than 1910, and this has necessitated bringing into use an additional room on the right of the hall. But, except for this fact and the presence of a few entirely foreign exhibitors, and of a certain amount of evidence that the authorities of the International Medical Congress are somewhat more ready to place stall space at the disposition of any one who desires it, the resemblance between the two exhibitions is very close indeed. In the intervening years, of course, many new preparations and improved appliances have been brought forward, but since most of the novelties were shown by their producers at Brighton many visitors to the present exhibition will possibly not see anything which is really new to them. Nevertheless, no one should fail to include a visit to it in their week's work, for an hour spent at an exhibition of this order is rarely lost. Each of them in its turn bears striking testimony to the ability and enterprise of the modern manufacturer, and each is of practical value to medical men by enabling them to examine for themselves the devices, drugs, and books to which from time to time attention is drawn in our columns. The present exhibition, which was organized by our contemporary, the *British and Colonial Druggist*, is representative of the activities of the day, and will remain open until next Tuesday evening.

International Association of the Medical Press.

It is the practice of the International Association of the Medical Press to hold a congress in the place of meeting of each International Congress of Medicine, at which various questions directly affecting medical journalism as a speciality—if it may so be called—are discussed. The International Association of the Medical Press during the earlier years of its existence was largely occupied in establishing its position in relation particularly to international congresses of medicine, general and special. Its members at one time found that the facilities afforded to them for prosecuting their very laborious and anxious work were utterly inadequate, although there was an inclination to lay upon their shoulders blame for defects they were unable to avoid or rectify. Matters have been very much improved; the Press Association is now represented on the Permanent Committee for International Congresses of Medicine by its President and Secretary, and the arrangements made on this occasion have been as adequate as circumstances permitted, for to take

time by the forelock by having an address or a paper ready by the prescribed date is not a virtue common among men who devote themselves to medicine and its ancillary sciences. Defects arising from this cause have been counterbalanced in London by the helpful courtesy of the officials of the Congress. Of the proceedings of the Association of the Medical Press itself at its meeting on Tuesday a short account is given elsewhere. The Secretary of the Association, Dr. Blondel, was rewarded for his pertinacity in urging the necessity of a reform in medical terminology that will prevent the multiplication of unneeded and ill-constructed new words, by being authorized to submit his report on the subject to the various national associations for their opinions and criticisms. After these have been digested, the general outcome of the whole will be considered by the Permanent International Committee, which meets annually, and will be in a position to make representations in the proper quarters. The thorny subject of the control of advertisements in medical periodicals was raised by Professor Posner, the editor of the *Berliner klinische Wochenschrift*, who, with Dr. Spatz, editor of the *Muenchener medizinische Wochenschrift*, were among the representatives of the German National Association of the Medical Press. The discussion was interesting, if inconclusive, but the mere fact that the subject has been raised in a well-defined form can only be productive of good. The interval between the morning and afternoon session of the Congress was very agreeably filled by a luncheon given by the *Lancet*, over which Dr. Squire Sprigge, the editor of that journal, presided. The welcome he extended to his foreign colleagues and guests was warmly acknowledged by the retiring President, M. Lucas-Championnière, who complimented the medical press in this country on the unanimity with which it had given utterance to the views of the profession with regard to the national insurance scheme and the solid front it had presented in face of a serious menace.

Royal College of Surgeons.

On Wednesday afternoon the Honorary Fellowship of the Royal College of Surgeons of England was conferred on a number of distinguished foreign and colonial surgeons. The election by the Council took place at its meeting on July 31st. The following is a list of the surgeons thus honoured:

Bastianelli, Raffaele, Professor of Clinical Surgery, Royal University of Rome.
Bier, August, Professor of Surgery, University of Berlin.
Bird, Frederic Dougan, M.B., B.S., Lecturer in Surgery, University of Melbourne.
Crile, George Washington, M.A., M.D., Professor of Surgery, Western Reserve University, Cleveland, U.S.A.
Cushing, Harvey, M.D., Professor of Surgery, Harvard University.
von Eiselsberg, Anton Freiherr, LL.D., M.D., Professor of Clinical Surgery, University of Vienna.
Fuchs, Ernst, M.D., Professor of Ophthalmology, University of Vienna.
Hartmann, Henri, M.D., Professor of Clinical Surgery, University of Paris.
Körte, Werner, Geheimer Sanitäts-Rath, Director of the Surgical Division of the Urban Municipal Hospital, Berlin.
Mayo, William James, M.D., Surgeon, St. Mary's Hospital, Rochester, Minn., U.S.A.
Monprofit, Ambroise, M.D., Professor of Clinical Surgery, School of Medicine of Angers, University of Paris.
Murphy, John Benjamin, A.M., M.D., LL.D., Professor of Clinical Surgery, North-Western University, Chicago, U.S.A.
Nicolaysen, Johan, M.D., Professor of Surgery, Royal Fredericks University, Kristiania.
Oppel, V. A., Imperial Military Academy of Medicine, St. Petersburg.
Shepherd, Francis John, M.D., C.M., LL.D., Professor of Anatomy and Operative Surgery, McGill University, Montreal.
Tuffier, Theodore, Professor agrége de chirurgie à l'Université de Paris.

After the ceremony the new honorary Fellows were entertained at dinner in the College by past and present members of the Council. The list of honorary Fellows of the Royal College of Surgeons previously contained the names of twenty-four distinguished surgeons in various parts of the world. In addition the Earl of Rosebery and Field Marshal Earl Roberts are honorary Fellows.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

Highlands and Islands (Medical Service) Bill.

This bill passed through Committee on Tuesday, July 29th. Express provision was made by an amendment to Clause 1 that it should include "nursing," and it provided in Clause 2 that one of the members of the Board shall be a woman qualified by special knowledge of the work and organization of district nursing. "District nursing associations" also were recognized under Clause 3.

As anticipated in our notes of last week, the Highlands of Perthshire were omitted from the schedule, with the parishes of Balquhidder, Callander, Comrie, Killin, and Kirkmichael. In respect to the districts to which the bill is to apply, the general feeling of the Committee appeared to be that the money provisions were something more than would be really required for the Highlands and Islands, as strictly defined, and that a small addition only would be required to make the provisions of the bill available for other districts in Scotland of such a character as might require them.

Questions in the House of Commons.

The Marquis of Tullibardine asked (1) what was the amount of mileage grant to which the Highlands of Perthshire would have been entitled had they been retained in the Highlands and Islands (Medical Service) Bill; and what increased amount would they now be given, seeing that they had been deprived of the benefits of that bill; and (2) whether the portion of the mileage grant due to Perthshire would be deducted from the Highlands and Islands grant where it originally figured, or whether it would be treated as an additional burden on the £16,000 already allocated to other districts in Scotland.—Mr. Benn said that the amount assigned to the part of Perthshire covered by the special grant-in-aid of £10,000 was £800. In addition, that area would participate in the balance of the grant which had not already been distributed. The scheme of distribution applied only to the present year, and in future years any mileage grant to the area in question would be made out of the mileage fund available for Great Britain generally apart from the Highlands and Islands of Scotland.

The Marquis of Tullibardine asked the Secretary to the Treasury what was the amount allocated to the counties of Inverness, Ross and Cromarty, Sutherland, Caithness, Orkney and Zetland, and Argyll respectively, as mileage grant, how was it proposed to spend the £800 surplus, now that Perthshire had been removed from the Highlands and Islands (Medical Service) Bill; and how was it proposed to reimburse the Lowlands of Scotland for the loss of £800 incurred on their mileage grant by the inclusion of the Highlands of Perthshire in their area.

Mr. Masterman said that the amounts referred to in the first part of the question were: Inverness, £2,310; Ross and Cromarty, £1,560; Sutherland, £490; Caithness, £250; Orkney, £170; Zetland, £700; and Argyll, £1,940. As previously stated, the sum of £800 had been allocated to the area in question for the current year, and the two latter parts of the question did not, therefore, at present arise.

Mental Deficiency Bill.

The Report stage of this bill was taken on Monday, July 28th, and after 11 o'clock on Tuesday, the 29th. The opposition of Mr. Wedgwood and a few other members was maintained, and a very late sitting was held in consequence on both occasions. Sir Frederick Banbury

made some entertaining observations on the medical profession in connexion with the motion that three medical certificates should be required instead of two. He said:

I myself am in favour of the amendment, because I think the power we are going to put into the hands of two men is too great a power for so few hands. If this proposal passes we might have a Ben Allen and a Bob Sawyer of the medical profession giving a certificate consigning a person to what comes to be confinement for a very great number of years. I am the last man to say anything against the medical profession; but it is a large profession, and all the members of it are not animated by the same feelings. Anyone with experience of life and business knows perfectly well that if a witness does not desire to come before the court he has no difficulty whatever in obtaining a medical certificate that the state of his health is such that it is not safe for him to come before the court. Under these circumstances, and in view of the fact that I have shown that the chief arguments of the Under Secretary are gone, I think we ought to have some much stronger argument before rejecting the amendment.

The amendment was rejected on a division by 274 to 24.

No material amendments were made in the bill of special professional interest, and it was read a third time on Wednesday morning at 3.15.

Public Health and Prevention of Diseases Bill.—This important bill passed through Committee as to its first three clauses after the conclusion of the debate on the Insurance Act Amendment Bill on Tuesday, August 5th. The fourth clause, as foreshadowed in our notes in a previous issue, which related to the Metropolitan Asylums Board, was withdrawn, in view of Clause 37, which had been inserted in the amending insurance bill in committee.

Royal Commission on Vivisection.—Mr. Chancellor asked the Secretary of State for the Home Department whether his attention had been called to the fact that Dr. Pembrey, in his evidence before the Royal Commission on Vivisection, stated that he had done painful experiments upon living animals, and that such experiments were absolutely necessary; and, further, that if he caused the animal sufficient pain to produce syncope, the pain itself would act as an anæsthetic; that the Commissioners unanimously reported that Dr. Pembrey's application of theory of pain as a protective mechanism in the scheme of Nature to the case of painful experiments on animals led him into a position in their opinion absolutely reprehensible, and that to grant a licence or certificates to a person holding such views as those entertained by Dr. Pembrey was calculated to create serious misgiving in the minds of the public; and whether, notwithstanding the unanimous opinion thus expressed by the Royal Commissioners, he had renewed Dr. Pembrey's licence and granted him further certificates.—Mr. McKenna said he did not think the question summarized the evidence given by Dr. Pembrey before the Royal Commission. He had considered carefully the shorthand notes of his evidence and the opinion expressed by the Commissioners thereon. He had received from Dr. Pembrey letters repudiating in unqualified terms the opinions which the Royal Commission was led by his evidence to attribute to him, and he had thought it right to renew his licence and to allow some of his certificates to continue in operation. No fresh certificates had been given. Mr. G. Greenwood asked if the Home Secretary disagreed with the findings of the Royal Commissioners that to grant a certificate to this gentleman was calculated to create serious misgivings in the minds of the public.—Mr. McKenna replied that he thought, in view of the misinterpretation that was put upon his evidence, that it was natural to think that the granting of a certificate to that doctor would have created serious misgivings in the public mind, but he was very glad to have that opportunity of stating that Dr. Pembrey absolutely repudiated the interpretation that was put upon his evidence by the Commissioners.

Defective and Epileptic Children.—Mr. C. Bathurst asked the President of the Board of Education if he was aware that local education authorities, especially in rural counties, had expressed considerable dissatisfaction with the Elementary Education (Defective and Epileptic Children) Bill, under which provision would have to be made for boarding and instructing all such children within their area at considerable additional cost to local ratepayers, that they had no existing machinery for this purpose, and that they resented the proposal to fine them for failure to comply with the Board's requirements under the bill; and whether, under these circumstances, the Government proposed to proceed with the bill?—Mr. Pease said he had been in communication with representatives of the County Councils Association, and on the Committee stage he was prepared to meet fully all the points to which it had called his attention. Under those circumstances, and as there was a substantial increase of the Government grant offered, he trusted the bill might now be regarded as uncontroversial and allowed to pass this Session.

Open-Air Schools.—Sir J. D. Rees asked whether the Government proposed to provide for the development of open-air schools, in order that the physical deficiencies of the poorer children in public elementary schools, to which the tables of heights, weights, and state of nutrition testified might receive attention without addition to the existing rates and taxes.—The President of the Board of Education said that the Board of Education already paid grants in aid of open-air schools for children suffering from tuberculosis and other ailments for which open-air treatment was specially suitable. The Government was fully alive to the importance of the subject of open-air schools, but was alive also to the difficulty of the problem of developing the national system of education in any direction without further expenditure of public money, which would have to be provided out of either rates or taxes, or both.

Tuberculosis (Contra Toxin).—Mr. Oliver Locker-Lampson asked a question as to the recent treatment for consumption by means of a contra toxin, which was the result of experiments made by Frederick Mehnarto, of Heidelberg; and whether he would have the value of this treatment tested in the interests of sanatorium patients at the earliest opportunity.—Mr. Burns replied that the publicity given to the suggested remedy would no doubt lead to its value being tested.

Vaccination Standards.—Mr. Clynes asked the President of the Local Government Board whether his attention had been directed to figures showing that the child population of the city of Liverpool under 5 years of age was inefficiently vaccinated, the marks being less than the minimum standard of half a square inch prescribed by the Board; and, if so, would he say what steps he proposed to take in the matter?—Mr. Burns said that the minimum standard referred to was applicable only to vaccinations performed by public vaccinators at the public cost; and the powers of the Local Government Board in regard to vaccination did not extend to private medical practitioners.

Vaccination Accounts.—Sir Edwin Cornwall asked the President of the Local Government Board whether he was aware that the Board sanctioned a scheme of the Bethnal Green Board of Guardians for checking the accounts of public vaccinators and vaccination officers whereby 25 per cent. of the cases could be personally visited by the accountant to the guardians; was he aware that after one year's experiment it had been found that the £30 expended on this special work was more than saved by the detection of removals; had he any official information showing that greater amounts could be saved by a closer supervision over the accounts of all vaccination officers and public vaccinators; and, if so, would he institute a system for some such check.—Mr. Burns, in reply, said that the Local Government Board sanctioned the scheme referred to experimentally for one year, and had now received a report to the effect stated. He proposed to make further inquiry before deciding whether it was desirable that such a system should be made general.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

London County Council.

Administration of the Inebriates Acts.

During an all-night sitting of the London County Council, on July 22nd, discussion took place on a report by the Public Control Committee on the administration of the Inebriates Acts. The Committee stated, in reference to the Farmfield Reformatory for Inebriate Women, that the percentage of inebriates who benefited by reformatory treatment was very low. In the opinion of the Committee the results did not justify the expenditure. The following particulars were available with regard to the first 600 cases detained at Farmfield: 19.1 per cent. doing well (from recent inquiries it was doubtful whether these figures could be relied on), 2.7 per cent. did well for a considerable period, 45.5 per cent. relapsed, 15.0 per cent. could not be traced, and the balance was accounted for by death and other causes. The Committee reminded the Council that its policy hitherto had been to limit the scope of its operations under the Inebriates Acts on the ground that the hope of reformation of incorrigible inebriates and the mentally deficient and hopelessly diseased was so slight that the treatment of these persons must be regarded either as almost penal or as a matter of police administration. The Departmental Committee of 1908 upheld the view that the State was the proper authority to deal with incorrigible inebriates. The Public Control Committee advised the Council to cease to administer the Inebriates Acts after December 31st, 1913. As inebriates were committed for three years, the work would actually continue till 1916.

Mr. G. A. Hardy moved, and Miss Wallas seconded, the following amendment:

> That, as any surrender by the Council after December, 1913, of further responsibility for the care and reformation of London inebriates would involve a reversion to the old practice of committing incorrigible inebriates to prison for terms of short duration, and as such practice is admittedly useless, expensive, and inhuman, as well as a source of danger to the community, the recommendation be referred back to the Committee.

On a division the amendment was lost and the recommendation of the Committee adopted by 46 votes to 33.

Treatment of Tuberculosis.

The Public Health Committee reported with reference to the instruction of the Council in February to prepare forthwith a scheme for dealing with tuberculosis (British Medical Journal, February 15th, p. 363). The Committee noted a change of view on this subject on the part of the Local Government Board; the Board apparently no longer desired the Council to prepare a scheme dealing with dispensary provision, but desired the metropolitan boroughs to make arrangements, the London County Council to act merely as critic. The Committee had asked for a clear statement from the Board on this point. It would be realized how difficult it was to prepare a comprehensive scheme if the local authorities were dealing with the problem simultaneously from a local standpoint and without regard to the needs of London as a whole. Several borough schemes already prepared provided for the establishment of municipal dispensaries to the exclusion of existing provision, whereas it was manifestly desirable that regard should be had to existing available institutions. The Council, at the request of the Committee, expressed approval of the following principles in regard to provision for tuberculosis treatment.

1. All possible use should be made of existing institutions.
2. Approval should not be given to any scheme which fails to provide for each dispensary being linked up with a hospital to which special cases shall be referred for consultation or treatment, residential or otherwise; and that the Local Government Board be so informed.

Power to License Lying-in Homes.

The Council decided to give notice of its intention to promote legislation in the session of 1914 to obtain power to license lying-in homes in the county of London. The Midwives Act Committee stated, in recommending this step, that in administering the Midwives Acts it had been impressed with the necessity, both from the sanitary and from the moral point of view, for some measure of public control over lying-in homes. Over one hundred houses and institutions at which pregnant women were received were known to exist in London, and the necessity for conferring on local authorities powers to regulate such places was recognized to some extent in the two bills for the amendment of the Midwives Act, 1902, which were introduced in the House of Lords in the session of 1910. Moreover, representations had recently been made by delegates from various charitable societies and others that, as the result of the passing of the National Insurance Act, 1911, unmarried women who formerly obtained admittance to Poor Law institutions for their confinements now in many cases received maternity benefit under the Act and entered lying-in homes, at which, in some instances, they were subjected to immoral influences. The Committee advocated licensing rather than registration as the better means of dealing with the matter.

Massage Establishments and Public Morals.

The Public Control Committee reported that the Commissioner of Police for the metropolis had called its attention to the large number of advertisements relating to establishments where massage, manicure, and electric treatment were undertaken. The Commissioner stated that the police had reason to believe that many of these places were in fact nothing more than disorderly houses. The police had no power of entry, and had great difficulty in obtaining evidence. The Commissioner urged the Council to obtain powers of systematic inspection and supervision. The Home Secretary was so impressed with the urgency of the question that he had intimated his willingness to secure, if possible, amendments to the present General Powers Bill of the Council and save a year's delay.

The Council passed a resolution approving of immediate steps being taken in Parliament empowering the Council either to license or to register establishments of the kind referred to, and to provide for their inspection.

Calculation of Payments in Respect of Medical Treatment.

The Education Committee of the Council, on July 30th, decided that sums payable under the terms of the Council's agreements with hospitals, associations of medical practitioners, and other agencies for the medical and dental treatment of school children, in respect of salaries and capitation grants, should be calculated on the assumption that the working year consisted of forty-four weeks.

Medical Treatment in Schools: Reply to the Board of Education.

Dealing with the criticisms of the school medical service in London contained in the letter of the Board of Education,[1] the Education Committee promised a report in due course as to the extension of the functions of the assistant medical officers, suggested by the Board. As to the criticism that certain inspection work was undertaken by nurses instead of by doctors, the Committee stated the nurses must necessarily do some routine work in preparation for the visit of the doctor, and in order that he might inspect the requisite number of children at each of his visits. The physical measurements carried out by the nurses in 1911 were in complete agreement with the standards arrived at in former years from measurements made by medical officers. Arrangements, however, were being made for the school doctors to take the physical measurements on all occasions of children suffering from malnutrition. The school doctors had been instructed to examine all cases of defective vision reported as a result of the preliminary examination by the nurse, and the standard of defect was to be made more stringent. The preliminary examination of children for hard-of-hearing classes was made by the school doctor, and some cases were further specially examined by the Council's otologist.

[1] British Medical Journal, August 2nd, p. 278.

Fees for Accidents in Schools.

We have received from the Deputy Clerk of the London County Council the following scale, which has been adopted by the Council in respect of payments to doctors for the first attendance to pupils, scholars, or students who meet with accidents at educational institutions maintained by the Council, or to children who meet with accidents at dining centres in the administrative county of London:

	s.	d.
(i) Where a child, pupil, scholar, or student is taken to a doctor's surgery	3	6
(ii) Where a doctor attends a child, pupil, scholar, or student	5	0

In exceptional circumstances claims in excess of the fees specified are specially considered. The regulation does not apply to residential schools maintained by the Council.

LIVERPOOL.

FEES FOR ATTENDANCE ON UNINSURED PERSONS.

THE question of the remuneration of the medical attendants of the Liverpool tramway employees and of the Liverpool police still engages the attention of the local Division of the Association. The principle at stake is an important one—namely, that when any body of employees claims exemption from contributions under the Insurance Act they should not be provided with medical attendance at a lower rate than that established by the Act. The rate for insured persons, being general throughout the country, forms a convenient standard for non-insured organizations, and with reasonable cohesion in the profession it should be possible to enforce it in the case of all new appointments. In localities where the conditions are favourable, an increase to this minimum is to be aimed at, even in the case of existing office holders.

REMOVAL OF INSURED PERSONS.

The Liverpool Local Medical Committee at a recent meeting drew attention to the unfairness of panel doctors not being informed of the removal of insured persons from their area at the actual time of the change. It is found that an insured person who migrates from the area of his Insurance Committee frequently gives no notice of such removal until he requires medical attendance in a fresh area. Nevertheless, deduction is made from the medical attendant as from the actual date of change.

The Local Medical Committee also drew attention to the fact that insured persons who have been permitted to make their own arrangements in any insurance area forfeit their right to medical benefit if they migrate from the area during the period for which permission has been granted. It is doubtful whether this stumbling-block in the way of insured persons making their own arrangements has been left by accident or design.

BIRMINGHAM AND DISTRICT.

TREATMENT OF TUBERCULOSIS IN WORCESTERSHIRE.

THE Worcestershire County Council, at a special meeting at Worcester on July 29th, considered and agreed to a scheme for the treatment of insured persons and their dependants suffering from tuberculosis, and recommendations from Public Health Committee that the present arrangements be continued until the complete scheme is in operation, and that an agreement be entered into with the governing body of the King Edward VII (Worcestershire) Memorial Sanatorium at Knightwick to reserve in the institution, from a date to be agreed upon, sixty beds, at a yearly cost not exceeding £75 a bed, for a period of fourteen years, such agreement to be determinable at seven years if either party so desire. Under the scheme the Insurance Committee would pay over to the Council, for a term of years to be agreed upon, all moneys paid or credited to the committee by the Treasury for sanatorium benefit, less a sum calculated at 1d. for each insured person in the county, and less such sum as might be agreed upon between the County Council and the District Insurance Committees as the cost of domiciliary treatment for insured persons, towards the provision of sanatorium benefit.

The Public Health Committee supplied an estimate of the cost of treatment for the ensuing year as follows: Sanatorium, Knightwick, 60 beds, maintenance £3,900, capital £1,100; isolation hospitals, including Welland, 32 beds, £2,100; dispensaries, upkeep £1,000, officers and administration, £1,650; total—maintenance £8,650, capital £1,100, less grant from Insurance Committees, £3,000, and Government grant £2,825 (maintenance) and £550 (capital), leaving £2,825 maintenance and £550 capital.

NEW WARD AT THE BIRMINGHAM WOMEN'S HOSPITAL.

A new ward for cases of puerperal fever has been erected in the grounds of the Birmingham and Midland Hospital for Women at Sparkhill. The new building, which is isolated from the other buildings of the hospital, contains accommodation for twenty-five patients, and is entirely self-contained. On the southern side there is a verandah which will hold six beds for open-air treatment. Two years ago, under an arrangement with the City Council, the managing committee of the hospital agreed to reserve two beds for the reception of patients suffering from puerperal fever, but this number proved inadequate. The City Council has not contributed to the cost of the new building, which is £6,000, but the Health Committee has agreed to pay three-fifths of the annual expenditure; this will be about £1,000. A deficit of £600 still exists on the new isolation ward.

BIRMINGHAM CHILDREN'S HOSPITAL.

The fancy fair and garden fête held at the Botanical Gardens, Edgbaston, in June, in aid of the building fund of the new Children's Hospital, resulted in a net profit of £1,729. The donations amounted to £227 1s. 0d., and the fifteen stalls realized £1,387 18s. 11d. A sum of £34 19s. 2d. was obtained from entertainments, £93 from games, £100 6s. 6d. from gate money, and with other smaller items the total income amounted to £1,856 14s. 8d. The total expenditure was £162 7s. 11d., and from this was deducted the proceeds, amounting to £34 13s. 10d., of the David Garrick recital which was given in the Town Hall. There are still one or two additions to be made to the receipts.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.

The foundation-stones of a pathological and bacteriological department were laid on July 29th by Dr. E. Deanesly and Dr. H. Malet. The cost of the new building will be £1,300. Laboratory work for the Wolverhampton Corporation Health Committee will also be carried out at the hospital, and similar work will be undertaken for other local public health authorities. The ceremony was attended by the members of the board of management and by the medical staff, Mr. Shaw Hellier presiding. Dr. Deanesly congratulated the board on the spirit of progress and the wisdom and foresight it had shown in the establishment of the department, and said he considered it the greatest advance the hospital had made.

WORCESTER INFIRMARY.

The infirmary has been founded nearly 200 years, and on July 29th a special meeting of the governors was held, at which it was decided that a reduction in the number of beds, staff, and salaries was necessary, on account of the insufficient support the institution was receiving. It was resolved to reduce the beds to a maximum of seventy, and to reduce certain salaries and also the number of the staff. The full effect of this change will not be felt until 1914, when a reduction in expenditure of £2,000 might be expected as compared with 1912.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

MEMORIAL TO THE LATE SIR HENRY SWANZY.

THE committee formed at the meeting at the Royal College of Surgeons last month has now issued an appeal for subscriptions to the memorial fund then founded. It is proposed to devote the sum received to the completion of the Royal Victoria Eye and Ear Hospital, in the foundation and construction of which Sir Henry Swanzy was

deeply interested throughout the best years of his professional life. It is estimated that about £12,000 will be required. The honorary secretary of the fund is Mr. J. B. Story, and subscriptions may be sent to the honorary treasurers, Swanzy Memorial, Royal Victoria Eye and Ear Hospital, Dublin. The committee comprises not only members of Sir Henry Swanzy's profession, but many eminent Irishmen, including the Lord Chancellor of Ireland, the Earl of Meath, the Presidents of the Chamber of Commerce and the Incorporated Law Society, and the Right Hon. W. D. Andrews.

The Belfast District Lunatic Asylum.

Dr. William Graham, Medical Superintendent, has lately issued the eighty-third annual report of this institution. The numbers showed a slight increase; 262 new cases were admitted; 127 were discharged, and 119 died; the total number on the books at the end of 1912 was 1,252, as compared with 1,237 at the end of 1911. First admissions had increased by 19, and readmissions by 10, but the number of admissions was below the average for the previous five years; and, although the number under treatment (1,499) was greater by 25 than the number last year, still the daily average number of those resident in the asylum was 1,241, as compared with 1,245 of the previous year.

Dr. Graham once more urged the necessity of early treatment; he pointed out the growth of thoroughly equipped psychopathic hospitals on the Continent, and the arrest that can be obtained in some forms of insanity when their danger-signals are heeded in time. Great regret was expressed that the Mental Deficiency Bill was not being applied to Ireland, where it was so much needed; and the hope was expressed that the educational benefit would arise from the eugenics movement, "which aims at the awakening of the public conscience to a sense of race responsibility, so that marriage will be no longer the channel along which may run the chartered curses of the world; to inform the public mind and drive home such a single truth as has been verified by many a sinister historical illustration, that the confluence of the tainted streams can have but one outcome—a stream more tainted still." Dr. Graham added that the three most potent causes or associated factors of insanity were heredity, mental stress, and toxic products. He enlarged upon those phenomena, and by apt quotation from recent literature and the stage endeavoured to bring home to the public that it is not a mere recondite and distant scientific problem he was dealing with, but an intensely personal question of everyday life. Freud's investigations were outlined. The introduction to the report, as a whole, forms a valuable lesson worthy to be studied by all interested in the future of the race.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Tuberculosis Officer for Edinburgh.

With the acceptance by Dr. John Guy of the appointment of assistant medical officer of health and tuberculosis officer for the city of Edinburgh at a salary of £600 per annum (vide Journal for August 2nd, p. 279) the new tuberculosis posts have been filled up. Dr. Guy graduated M.B., C.M.Glasg. in 1894, took the degree of M.D., also at Glasgow, in 1900, and obtained the D.P.H.Camb. in 1899. He was recently elected a Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow. Dr. Guy first engaged in private practice, and acted as assistant police surgeon and resident medical officer of the Union Infirmary at Bradford; then he became assistant superintendent of the Leeds Union Infirmary, and again took up private practice (in Leeds); then he proceeded to specialize in tuberculosis, and for seven years was superintendent of the Bridge of Weir Sanatorium in Renfrewshire; and, only six months ago, was selected as tuberculosis officer for the county of Gloucester and expert adviser to the County Insurance Committee.

Death of the Bedellus of the University of Edinburgh.

For fifteen years, since the resignation of Mr. John Chapman in 1898, the tall figure of Mr. James Tweeddale has been familiar at all functions in which the university has taken part. To successive bands of students he was well known as mace-bearer and janitor, and there will be many to whom his sudden death from heart failure last week will come as a shock. Mr. Tweeddale served for twenty-three years in the Royal Horse Artillery, and went through the Afghan war in 1878. In 1880 he began his long connexion with Edinburgh University, first as one of the janitors and later as mace-bearer. He was 72 years of age. His funeral on August 5th was attended by Principal Sir William Turner, Vice-Chancellor of the University.

India.

[FROM OUR SPECIAL CORRESPONDENT.]

Permanganate Treatment of Snake-bite.

The resolution of the Central Provinces Administration on deaths caused by wild animals and snakes last year expressed a doubt as to the practical value of the method advocated by Sir Lauder Brunton. Difficulty had been experienced in obtaining proof of the venomous character of the snakes by which the persons treated were bitten. The Inspector-General of Civil Hospitals, who investigated the history of the permanganate treatment in the Provinces, reported that of the total number of cases in the previous six years there were only five which could be looked upon as "more or less authentic cases of bites by poisonous snakes treated by the Lauder Brunton method alone"; but, even in these instances, the Inspector-General added, it was not absolutely certain that recovery was solely due to the treatment. In view of these facts, and of some discouraging experiments reported from the Bombay Bacteriological Laboratory, the Inspector-General last year did not recommend the adoption of measures for extending the use of the Lauder Brunton lancets. In the resolution for this year it is stated that the successful treatment of snake-bite by the Lauder Brunton method is reported from several districts, although in only one case had it been clearly established that the snakes were poisonous. In this case, which occurred at Drug, the victim, while in his hut at the village of Bhilai, was bitten in the toe by a snake. A basket was immediately placed over the reptile and information at once sent to the police station. A constable, who happened to possess a Lauder Brunton lancet, promptly proceeded to the hut and treated the puncture in the toe in accordance with the directions. Mr. Crawford, Deputy Commissioner at Drug, saw both the man and the snake at the district head quarters on the following day, and the snake was clearly identified as a krait (*Bungarus coeruleus*). "In view of this report," says the resolution, "and in the light of the successful experiments in the same field of inquiry with the Lauder Brunton lancets by Major Leonard Rogers, as published in the issue of the *Indian Medical Gazette* for December, 1912, the Chief Commissioner desires to modify the direction given in paragraph 4 of the last year's resolution, and will be glad to see a more extended use made of the Lauder Brunton method, provided it is carefully applied." It is pointed out that, in reporting cures by this treatment, it should invariably be noted in each case whether the snake was identified as poisonous; whether a ligature was applied immediately or soon after the biting, and if so, how long before the application of the Lauder Brunton method; whether the person bitten ever showed any symptoms of snake poisoning; and also whether any other method of treatment was applied before the cure was effected. The practical importance of the subject to the people of the Central Provinces may be judged from the fact that the resolution records no fewer than 1,063 deaths from snake-bite during the year 1912, the number in Jubbulpore division alone being 405.

Rabies.

The increasing number of the patients who have resorted to the Pasteur Institute at Kasauli during the

last few years indicated the great prevalence of rabies in India. The directors very rightly lay stress on the importance of eradicating the disease. In a few years India will have four or five institutes capable of treating between 8,000 and 10,000 persons. But these institutions will not affect the source of the disease. Rabies has been stamped out in England. It could be stamped out in India sooner or later, despite the vast areas to be dealt with, if public opinion would permit the enforcement of the same measures.

Bombay Municipal Nurses.

The work of the municipal nurses in Bombay, who number ten in all—one for each district—includes the duty of reporting to the doctor in charge all infectious diseases that come to their knowledge; every mother is visited shortly after her confinement by the nurse, who gives a few simple practical hints as to the management and care of both mother and child. Lastly and principally, she attends the confinements of poor women who, on account of home ties, such as a sick husband or very young children, are unable to go to hospital. The municipal nurse is a godsend to these poor mothers, as she steps in the place of the experienced *dhai*, the "Mother Gamp" of India, whose dreadful and criminal practices are one of the main factors of infantile mortality in the East. It is to be hoped that some day the administrators of law in India will be in a position to deal with the *dhais* as severely as they deserve; at present, unfortunately, nothing can be done to stop these women from practising.

The Naga Expedition.

Several interesting though gruesome trophies of the Naga expedition have been brought to Calcutta by Major Wilson, who was in command of the expedition. One is a skull basket which, until it was captured, was proudly possessed by a head-hunter. Round the basket is hung a festoon of five monkey skulls, representing the number of human heads accounted for by the owner of the basket. Next in gruesome importance to this is a battle-axe with a streamer of red and black dyed hair attached to the handle, and a wooden sheath for the blade. On the blade are carved five images of human beings who had been killed by the owner of the axe. There is also another battle-axe similar in design but without the sheath, and a bow made of bamboo with poisoned arrows.

South Travancore Medical Mission.

Dr. O. H. Bulloch's report for 1912 gives evidence of increasing success of this excellent organization. It consists of a central hospital at Neyoor and fourteen branch dispensaries scattered over the State. Associated with the hospital is a school in which men are trained for work in the branches. There is also at Neyoor a leper asylum and an orphanage. During the year 110,672 patients were treated and 339 major operations were performed, with a death-rate of under 2 per cent. Among them were 25 laparotomies, 16 obstetric operations for dystochia, no fewer than 78 for cancer of the cheek, lip, jaw, or tongue, induced by the practice of betel chewing. A pamphlet has been prepared and distributed pointing out the danger of this habit. Attention is drawn to Major Parsons's method of injecting quinine into the broad ligaments for prolapse of the uterus; 14 cases were so treated, with a fair amount of success. The mission is supported by grants from the London Missionary Society, and the Travancore Government gave subscriptions. It is doing good work and is well worthy of support.

Sanitation in India.

More than a year ago the Government decided to create eight additional appointments of Deputy Sanitary Commissioners in connexion with the then scheme for the improvement of the sanitary services in India, and now four more have been added to the list, thus raising the total to twenty-six. The allotment is to be as follows: Three to Bengal; two each to Madras, the United Provinces, and Bihar and Orissa; and one each to the Punjab, the North-West Frontier Province, and Burma. Nine of the twelve appointments are open to officers not belonging to the Indian Medical Service, and six Indians have been already appointed. In addition thirty-nine first class and one hundred and four second class health officers are to be appointed to the municipalities.

Australia.

[FROM OUR SPECIAL CORRESPONDENT.]

Compulsory Notification of Venereal Disease.

The Government of Queensland has issued a proclamation pursuant to the provisions of the Health Act, declaring that in Brisbane and its immediate neighbourhood venereal diseases shall be compulsorily notifiable under the Act. The regulations, which came into force on April 1st, provide that if the commissioner or any medical practitioner suspects that a person is affected with venereal disease, the commissioner may in writing require such person to submit herself or himself for examination by clinical and bacteriological methods. Any breach of the regulations is punishable by penalty not exceeding £20. A special dispensary for the gratuitous treatment of venereal diseases has been established in connexion with the General Hospital, Brisbane.

Health of Queensland in 1912.

The annual report of the Commissioner of Public Health for the year ending June 30th, 1912, states that the estimated mean population of Queensland at the end of 1911 was 614,352. Exclusive of full-blooded aboriginals, the census population was 605,813. The total number of aboriginals is estimated at between 15,000 and 20,000. The crude birth-rate was 27.66, which is higher than that for any year since 1902. The crude death-rate was 10.65, showing a slight rise for the previous seven years. The infant mortality-rate was 65.44 per 1,000 born; this is a slight increase on that of the previous year, but, with this exception, it is the lowest for any year in the decade.

The number of notifications of diphtheria was 1,496, and of typhoid fever 1,501. The death-rate from tuberculosis was, for both sexes, less than three-fourths of that for the Commonwealth for that year, as the Commonwealth rate is one of the lowest in the world.

From time to time it is alleged that Australian death-rates are heavily increased by deaths of persons sent out for their health from Europe. That this is not the case was apparent from the fact that in 1910, out of 3,617 deaths from tuberculous disease in Australia, 2,639 were persons born in the Commonwealth, and only 1,000 had been resident for less than four years. The conclusion is that the great bulk of the phthisis death-rate is the result of local infection.

During the year 6,200 rats and mice were destroyed, and 27,300 carcasses were submitted for examination at the departmental laboratory; no case of plague was reported in either human beings or rats. This is ascribed to unremitting persistence in the work of destroying and examining rats in the different coastal centres.

Of the cases of leprosy admitted, 1 was nodular leprosy, and the remaining 3 tuberculo-anaesthetic; the total number of cases known was 73.

During April and May a tour was made in the Torres Straits Islands for the purpose of investigating local conditions relating to tropical and exotic diseases, and endeavouring to secure vaccination of the natives. Twelve islands, with an estimated population of 1,802, were visited; 1,279 persons were vaccinated, comprising over 70 per cent. of the total estimated native population of these Torres Straits islands which lie within the jurisdiction of Queensland. The sanitary condition of the inhabited islands was investigated, the native councils were addressed, approved methods of remedying sanitary defects were pointed out, and the principal features of local sanitation were discussed with the Government teachers stationed on the principal islands. Some 13 cases of a disease believed to be "gangosa" were found. The disease has been reported by observers in many widely separated parts of the world, including Guan, the Philippine Islands, New Guinea, and Fiji. Some observers maintain that it is an aberrant form of syphilis, whilst others regard it as a separate disease of the same group as syphilis and yaws. It has been mistaken for leprosy, but it is clinically quite distinct. The disease was clearly referred to by Dr. Wilson, R.N., in an account of a visit paid by him to Murray Island in 1822.

Figures brought forward by Dr. Maclean show that 130 (10.8 per cent.) out of 1,200 persons admitted to the Brisbane General Hospital for all causes from July, 1908, to May, 1910, had a filarial organism in the blood, and that a large number of surgical operations were required for conditions of lymph stasis caused by the parent worm. It is considered to be feasible, by the expenditure of a moderate amount of money, to reduce very materially the present nuisance and risk in the large centres, and the provisions of the Health Act enable the matter to be taken up actively and furnish the requisite statutory authority which is essential for effective effort. A great deal of work was accomplished by the sanitary staff of the Public Health Department in examining the breeding places of mosquitos and drinking pools infested with the larvae.

Hospital Maintenance.

On May 3rd Hospital Saturday was observed in Sydney and suburbs, and something over £8,000 was collected. During the nineteen years the Hospital Saturday Fund has been in existence it has been the means of distributing no less a sum than £92,500 among the various participating hospitals and medical charities, all voluntary contributions from the public. The £8,000 collected last Saturday brings the total to over £100,000. To finance the large hospitals of the city is a matter of considerable difficulty. To maintain the three leading hospitals—namely, the Royal Prince Alfred, the Sydney, and the Coast—during last year required £107,400. Of that amount the Government gave £84,650. Prince Alfred Hospital had an income for maintenance of £40,700; of that amount the Government contributed £27,950. The expenditure of Sydney Hospital in maintenance was about £38,000; to that amount the Government gave £28,000. The Coast Hospital was entirely maintained by the Government at a cost of £28,700. In the case of Prince Alfred and Sydney Hospitals, the balance was made up from contributions from the patients, by public subscriptions (to the extent of 12 per cent. of the total income), and the balance from interest on invested funds and other ways. Year by year hospital work in Sydney is growing at a rapid rate. Royal Prince Alfred, the largest of the metropolitan hospitals, had over 1,000 additional patients last year, and the extra demand on the whole of the other hospitals was equal in proportion to their size. The medical and nursing staffs had to be largely increased at each centre. Every bed in each institution was fully occupied throughout the whole year. New wards have been opened, and additional beds provided, at many hospitals to meet the increase in population which has taken place during the last few years. The strain is likely to continue, and it means increased expenditure, which can only be met by a corresponding increase in income.

Vital Statistics of Sydney.

The State Government Statistician reports that for the month of April the birth-rate was 29.91 per 1,000 of the population. This is the highest for the month of April since 1895, and 17 per cent. above the average for the previous five years. The illegitimate birth-rate is much below the average of the previous five years. Of the births 271, or 16 per cent. of the total, occurred in hospitals and other public institutions. Of the total deaths 354 were of males and 283 were of females. The mortality-rate was not satisfactory, being considerably above the average of the previous five years for April. The deaths were above the average in all the age-groups. The infantile mortality was 77 per 1,000 births, 8 per cent. below the average of the previous five years. Among the very old persons who died one was aged 92 years. During the month dysentery and enteritis contributed 65 deaths; cancer caused 57; diseases of the heart and wasting diseases of infants, 55 each; pulmonary diseases, 43; phthisis, 39; Bright's disease, 35; accident, 32; epidemic diseases, 31; haemorrhage of the brain, etc., 27; and senility, 20. Included in the deaths from pulmonary diseases were 29 from pneumonia and 13 from bronchitis. Of the epidemic diseases, typhoid fever and whooping-cough caused 9 deaths each, diphtheria 8, measles 2, and influenza 1. The returns of the Board of Health show that 69 cases of typhoid fever, 163 of diphtheria, and 40 of scarlet fever were notified during the month.

The Protection of Children.

The annual report of the State Children Relief Board for the year ended April, 1912, which has just been published, gives a good account of the valuable work done in New South Wales for the protection of children. This Board administers three Acts of Parliament: (*a*) The State Children Relief Act; (*b*) The Infant Protection Act; (*c*) The Neglected Children and Juvenile Offenders Act.

The State Children Relief Act provides for the boarding out of dependent children with approved guardians or with their own mothers, when the latter are deserving widows or deserted wives with children under 12 or 13 years of age, and are not in a position to provide for them independently. The proportion of children boarded out to the population is 5.3 per 1,000; the proportion of children boarded out apart from their parents is 2.7 per 1,000; the proportion of children boarded out with their own mothers is 2.43 per 1,000. The inspection of these children is carried out by a staff of thirty-three departmental inspectors, to each of whom is assigned a defined area of inspection in the metropolitan and suburban districts. There are also three lady inspectors specially charged with the supervision of the conditions of infant life, and who visit and inspect infants placed out apart from their mothers in the city and suburban areas. The Board permits not more than three children to be placed with any one guardian, except in the case of families of children, brothers and sisters, under ordinary circumstances, being placed in the same home. An effort is made to obtain individual attention for each child, the adult assistance available in a home being one of the considerations which influence the Board's officers in determining where children shall be placed.

Some thirty years ago the cottage home system for the treatment of afflicted State children was introduced into New South Wales. Some sixteen to twenty invalid or crippled children are placed in each home under the care of a "mother-in-charge." Children who are physically able to do work are given suitable occupation. Girls are engaged in tailoring, laundry work, cooking, and general household duties. Boys are given farming, gardening, or other work. The age of the children varies from 12 to 18 years. The physical and mental infirmities with which they are afflicted render them regular inmates of the home perhaps for years. Cripples, cases of partial paralysis, chronic ophthalmia, uncontrollable temper as the result of their afflictions, are met with in these homes. As such are for the most part incurable, all that can be done by kindly and judicious discipline is done for them, and when the time comes for them to leave the homes there are only a few of them who cannot make some attempt to provide independently for themselves. There are in all thirteen cottage homes, eight of which are used for invalid or crippled children, while five form the farm home for boys. These are all in the country, and in addition to chronic cases of ill-health, children temporarily indisposed, and needing change of air are treated. This treatment has proved very beneficial, particularly in the case of children who have come under the control of the Board from the slum districts of the metropolis. The improvement in the physical condition of such children is remarkable in a very short time. In two of these homes provision is made for such of the Board's wards as are mentally deficient, yet not sufficiently so to warrant their commitment to a hospital for the insane. The cottage home for feeble-minded children at Parramatta was opened in 1908 with 10 children. The cottage is in the charge of an experienced matron, and a specially trained teacher, certificated in Kindergarten principles, has been appointed to instruct the children according to their capacities. The children show themselves remarkably susceptible to music and singing. The results so far have been satisfactory. Since the home was opened 50 children have been admitted for treatment and 35 discharged.

In addition to these cottage homes in the country, there are babies' homes in the city and country which treat specially sick and ailing children who, at the time of admission, are actually or apparently in a dying condition as the result of neglect, wilful exposure, improper feeding, or other causes. The home in the city was opened by the Board to meet the pressing needs of a class of children who, by reason of the nature of their illness—usually

some form of infectious disease—and in the absence of proper accommodation, could not be dealt with in the general hospitals. Taking into account the nature of the cases admitted to the home, the mortality-rate must necessarily be high; many of the cases are syphilitic, and many of them have suffered from gastro-enteritis prior to admission, none coming up to the standard of weight for age. The visiting medical officer in his report says:

During the last three years there has been a marked change throughout New South Wales as regards the infant life that passes through this home, in so far that there has been a notable decrease in cases of gastro-enteritis and its after-effects, and also in cases of syphilis and tuberculosis, but there have been more cases of meningitis during the past three years than in the first two years. During the past two years there have been only 3 cases admitted to the home of what I designate criminal neglect, and there were none during the year just expired. The following causes appear to have produced this result:

1. The compulsion of all mothers who have been confined in maternity homes or hospitals to take their babies for fortnightly medical examination.

2. That it has been more prevalent to send the mothers with their babies into these infant homes in order that they may give proper maternal attention for the first few months after birth and under proper supervision.

3. That there is also a greater tendency to place those mothers that are delicate in such home for two or three months prior to their accouchement, for medical treatment, proper nourishment, and proficient nursing.

4. The visiting of all known cases of maternity residing in the poorest districts by lady inspectors, who impart to such mothers the proper instructions as to feeding, clothing, etc. Most of the mothers with babies admitted during the year were healthy and had a superabundance of milk, and they willingly consented to suckle any delicate babies that were admitted without mothers, a point that has helped to materially reduce the mortality. During the past year there has been only one case of gastro-enteritis that appears to have originated in the home, and this is the first and only one that has so occurred during the past five years.

Every case admitted to this home is isolated on admission for three days, with the result that there has been no infection conveyed to resident babies, though there have been periods when there were thirty-five babies resident. The premises where this work is carried on are quite unsuitable, and the present urgent need is the establishment of proper and adequate hospital facilities for the treatment of young infants suffering from diseases of great infectivity. The hospitals which do exist are not able to provide the necessary accommodation for the further reduction in the mortality-rate. There has been a marked lowering in the mortality-rate since the year 1886, and there seems little doubt that this is to be attributed to the gradual departure from the practice of herding large numbers of young infants in foundling hospitals and similar institutions. The experience of the State Children Relief Board has always been that, given average good conditions, children of any age thrive better in private home environment under the individual management of foster mothers.

Other homes have been established for the accommodation and training of sexually depraved and mentally and physically unsound wards, who would otherwise be a menace to the welfare of ordinary children. These homes are for boys only, and the cases sent there represent the small proportion of children, largely degenerate, who are found in every community and not amenable to ordinary routine conditions. The ages of the lads vary from 11 to 17 years, and since its inception 177 boys have passed through it with satisfactory results.

Allowances are being paid to 1,674 widows and deserted wives in their own homes towards the support of 4,453 children under 12 years of age. In a few cases the payment is being made after the children have attained the age of 12 years, in accordance with a suggestion that the money should not be withdrawn in necessary instances until the children were 13 or 14 years old.

It has been always recognized by the Board that the extension of this form of relief is usually accompanied by a certain amount of attempted imposition in various forms on the part of a proportion of the applicants. That proportion is fortunately small, and the imposition is especially guarded against.

The Infant Protection Act, which became law in 1904, provides for the supervision of the maintenance, education, and care of children up to 7 years of age who have been placed in private homes or religious establishments apart from their parents. This measure also provides for the inspection, supervision, and control of places established and used for the reception and care of two or more children of the age indicated. The number of children who may be kept in any one home or institution is limited by the terms of each licence. Sanitary conditions for and appropriate treatment of the children are, of course, salient factors in determining the conditions under which the licence is to issue. The homes are classified under two headings: (1) Those for the accommodation of a maximum of five children, and (2) those above that number. The former are usually the dwellings of private householders, while the latter deal with institutions maintained by public subscription. Over the private dwellings there is, in addition, the control prescribed under the Children's Protection Act in regard to children under the age of 3 years. The institutions and licensed homes are visited regularly by officers of the department. The general health of the children has been good. The causes of death were marasmus, measles, bronchopneumonia, gastro-enteritis, congenital syphilis, and asthenia. The number of deaths was 31, as compared with 34 during the preceding twelve months. The main cause of death was gastro-enteritis.

The report concludes with the following summary of suggestions now awaiting consideration:

The establishment of a training home for State girls; the establishment of a cottage home for epileptic State children; transfer of the Ophthalmic Cottage Home from Mittagong to a site nearer Sydney to allow of expert medical attendance on the children; facilities for industrial training of State children prior to apprenticeship in all cases—in this connexion age of apprenticeship to be raised to 14 years and scale of apprentices' wages to be revised; extension of hospital facilities to allow of the proper accommodation and treatment of infants suffering from gastro-enteritis and diseases of similar infectivity; introduction of adequate legal supervision over defaulting parents and near relatives; amendment of the Acts administered by this department on the lines indicated in previous reports and documents; establishment of shelters in country centres.

Special Correspondence.

VIENNA.

Medical Inspection of Schools.—Radium for Hospitals.—Increase in the Number of Foreign Post-graduates at the University of Vienna.

THE medical inspection of school children has hitherto received little attention in Austria, but the question has recently been brought before the public by a number of eminent men, and several isolated attempts have been made to form a regular medical service for school inspection. A short time ago, moreover, the Vienna Medical Council (*Aerztekammer*) organized a conference at which a large number of schoolmasters, teachers, general practitioners, and specialists met to discuss the matter in all its bearings. There was a complete unanimity of opinion as regards the necessity for the medical inspection of schools: but the majority of those present considered that the proposed service should be organized and controlled by the school board, without, however, interfering in any way with the doctors, to whom, of course, the actual treatment of disease would be entrusted. It was also suggested that the children of poor parents should either be sent to a dispensary or an out-patient department, or that special school clinics should be founded for their benefit. It was agreed that the medical inspection of schools should be purely prophylactic, and that the work should not be left in the hands of matrons and nurses, since it could be dealt with in a satisfactory manner only by a duly qualified practitioner. Much stress was laid by the specialists present at the conference on the importance of examining school children for defects of the eyes, ear, nose, throat and speech, teeth and feet. Many of those present were of opinion that only district officers of health should be eligible for the post of medical inspector of schools, but this suggestion met with great opposition. As regards the monetary side of the question, it was decided that only a moderate salary should be offered during the first few years, in order that the success of the scheme might not be jeopardized by the necessity for large funds. A memorandum embodying the resolutions passed by those present at the meeting is shortly to be forwarded to the Ministry and the school

board, and will form the basis of the regulations drawn up by the governing bodies.

A deputation, consisting of the heads of the obstetrical and dermatological clinics of Vienna, recently waited upon the Ministers of Commerce, Teaching, and Finance, and presented each with a petition drawn up by the senate of the university. This document described the ravages wrought amongst mankind by carcinoma, and showed the benefit to be derived in cases of inoperable cancer from exposure to actinic substances, particularly radium and its salts, as well as mesothorium. The Government was asked to find the funds for supplying all clinics with a sufficient quantity of this most effective substance. The disease, especially in women, is often far advanced before its diagnosis is possible, and in these cases the use of radium can do much to mitigate the patient's sufferings. As the celebrated mines of Foachimsthal, where so much pitch blende and other radium-containing minerals are found, are the property of the Austrian Government, the supply of the necessary quantity of radium could easily be warranted. The deputation was favourably received by the Ministers, who promised an early fulfilment of their wishes. In the meantime the municipality of Vienna has decided to buy 50 mg. of radium and a large quantity of mesothorium for use in the new Municipal Jubilee Hospital of Vienna, which contains a thousand beds.

The summer term of the University of Vienna has once more witnessed an influx of foreign medical men to the wards and class-rooms of the Viennese hospitals. There are at present about eighty English and American physicians and surgeons following the post-graduate courses, as well as a large number of Italians and Roumanians; and more are expected for the autumn session. There can be no doubt that foreign doctors find that their fees are not wasted, and that they get good value for the money they spend, both as regards instruction and practical work.

Correspondence.

SPONTANEOUS REDUCTION OF A DISLOCATION OF THE CERVICAL VERTEBRAE.

Sir,—Many will have read with interest Dr. Bentall's very successful case published under this heading in the Journal of July 12th (p. 69). I hope I shall be pardoned if I suggest that the evidence produced does not, I think, quite prove that reduction had taken place. The evidence shows that the cord recovered from the primary injury, and had adapted itself almost completely to whatever condition had been established. I do not say reduction has not taken place, only that I am not quite convinced on the evidence. Another skiagram would much elucidate what has actually taken place.—I am, etc.,

Blackpool, July 24th. William Hardman.

ASSISTANT MEDICAL OFFICERS IN ASYLUMS.

Sir,—It is interesting to notice the rather large number of vacancies at present existing in this important branch of our public medical services. Looking over the numerous advertisements for junior medical officers, it is apparent that the rate of remuneration has risen somewhat, doubtless because few applications are received, but will that small initial increase of stipend induce the average man to enter the service as he would the army, navy, or public health services? I think not, and I would be sorry for him if it did. The uncertainty of prospects and the disabilities of the service generally far outweigh any such trivial inducement. This he would soon discover. Until some action is taken to improve existing conditions, the asylum medical officer will remain a professional pariah, whose life, like the policeman's, is "not a happy one." For those who take such positions for a year or so it may be pleasant enough, but for those who take it up as a serious life-work—and they alone count for efficiency and progress—the prospects are not alluring. It is invidious to have to state it, but the fact remains that our colleagues who have been fortunate enough to become superintendents trouble little to improve matters. Senior medical officers fear to incur the displeasure or disapproval of their superiors, and being in a condition of patient expectancy, dare not risk their possible promotion by any public ventilation of grievances.

It would be tedious to enumerate the disabilities of the service from our point of view; a little inquiry before accepting an appointment would easily discover them; nor is it necessary here to point to the advantages possessed by other members of the asylum service—namely, the chaplains, the clerks, and stewards—as compared with the assistant medical officers, who by reason of their work must live in the asylum and in close touch with the patients. Not one-third of the men who join the service can expect, even after years of good work, to obtain the coveted superintendency. Promotion is a mere gamble, and is left to the arbitrary will of a committee of laymen. What, then, are the asylum medical officer's prospects? A "two-room" life, which socially, to all intents and purposes, means annihilation, at least to most men with ordinary human ambitions. He remains a lifelong house-physician. He is allowed a little time off each week—which often is of little use, as most county asylums are situated in remote country parts—and a month's annual vacation. Asylum amusements are routine asylum duties. The work is oftentimes more clerical than scientific. Should the medical officer fail to secure a superintendency, his last hope is to hold on till he reaches the pensionable age of 55, a mere routinized celibate whose life has been one long-drawn house-physiciancy—a mere automaton, a failure.

May I submit the following points, as being worthy of the attention of those who are interested?

1. Promotion to superintendencies should not be a matter of haphazard choice of a changing committee of laymen.
2. All senior medical officers should be provided with residences on the asylum estate.
3. The discrepancy of remuneration as between medical superintendent and senior medical officer is too great.
4. Facilities should be afforded for post-graduate courses.

—I am, etc.,

July 8th. An A.M.O.

EUGENICS.

Sir,—In your issue of August 2nd there is an error in the account of the discussion following the papers on eugenics at the annual meeting. I am reported as saying that, "if natural selection were limited, men were brought back to the animal." My words were, "if natural selection were *imitated*," etc., this having been suggested by one speaker as the proper aim of eugenics.

Man is evolving on a different plane to the rest of the animal kingdom, his relationship to his environment and to his fellow man being peculiar to his species. But, if this peculiar relationship be granted, the term "natural" selection, as applied to the survival of individuals or *groups of individuals*, may be admitted, but only as a term indicating that there is no interference with the law of cause and effect. It is wrong to use it in a sense that man must submit to the same processes as the rest of the animals to compass his survival. To do so he must place himself on their level and cease to be man.—I am, etc.,

London, N.W., Aug. 4th. J. S. Mackintosh, M.D.

Hearsey, in his *Nyasaland Sleeping Sickness Diary*, Part XX, 1913, states that 20 cases of the disease have been reported during the past four months, namely, 7 in January, 6 in February, 5 in March, and 2 in April. Of this number 19 were found in the sleeping sickness area and 1 near Kota-kota, in the Marimba district. These 20 cases, added to those previously reported, make a total of 128. As regards prophylactic measures, clearing of bush and scrub and the lopping of branches of trees which might afford shelter for tsetse flies is being carried out around all the villages in the sleeping sickness area. Dr. Conran, the medical officer in charge of this area, reports that the work is attended with marked success in banishing the flies from the villages. A reinvestigation of the districts to the north and south of the proclaimed area will shortly be undertaken, as it is necessary to ascertain definitely whether these localities harbour cases of the disease or not.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

The following degrees have been conferred:

M.D.—J. W. Noble.
M.C.—L. Bromley.
M.B., B.C.—R. Fisher, W. M. Oakden, A. B. Paul, W. A. Pocock, E. L. K. Sargent, A. S. Seabrooke, G. W. Spencer, J. L. M. Symns, W. J. F. Symons, J. F. Taylor, J. B. A. Wigmore, E. Wardby.
B.C.—K. B. Aikman, M. Avent, H. F. Comyn, J. R. Griffith, M. N. Perrin, E. S. Taylor.

The Raymond Horton-Smith Prize for 1913 has been awarded to F. A. Roper, M.A., M.D., of Trinity College, and F. S. Scales, M.A., M.D., of Jesus College, whose theses for the M.D. were adjudged to be of equal merit.

Mr. J. H. Burn has been elected to the Michael Foster Research Studentship, and Drs. Emma M. Johnstone and R. C. Monnington have been approved at the second part of the examination for the diploma in Psychological Medicine.

UNIVERSITY OF LONDON.

Meeting of the Senate.

A meeting of the Senate was held on July 16th.

Recognition of Teachers.

The following teachers were recognized as teachers of the university in the subjects indicated at the following medical schools:

St. Bartholomew's Hospital.—Mr. Robert C. Ackland (Dental Surgery), Dr. Walter L. Brown and Dr. James H. Thursfield (Medicine), Dr. Philip Hamill (Pharmacology), Mr. Harold W. Wilson (Surgery).

St. Thomas's Hospital.—Dr. Hugh MacLean (Pathological Chemistry).

Westminster Hospital.—Dr. S. Ernest Dore (Dermatology).

London Hospital.—Dr. Richard D. Maxwell (Midwifery and Diseases of Women), Mr. Albert J. Walton (Surgery).

Middlesex Hospital.—Dr. Edward A. Cockayne (Medicine), Mr. Alfred E. Johnson (Surgery), Dr. Arnold Lawson (Ophthalmology).

University College Hospital.—Dr. Thomas Lewis (Medicine).

London School of Tropical Medicine.—Mr. Charles Morley Wenyon (Protozoology).

D.Sc. Degree in Physiology (Internal).

The degree of D.Sc. in Physiology was conferred on Dr. Gordon C. McKay Mathison, of University College, who presented a thesis on the action of asphyxia upon nerve centres.

M.S. Degree for Internal Students.

It was resolved that the regulations for internal students in the Faculty of Medicine be amended by the deletion of the words "the M.B. Degree previous to October, 1904, or" in the sixth paragraph, on p. 191, of the Red Book, 1912-13.

B.Sc. Honours Degree in Anthropology.

The following were approved as subsidiary subjects for the B.Sc. Honours Degree in Anthropology for internal students: Psychology, Geology, Zoology, Physiology.

The Rogers Prize.

It was resolved that the second paragraph of the regulations relating to the Rogers Prize should be amended to read as follows:

> The prize shall be open to all persons whose names appear on the *Medical Register* of the United Kingdom.

The subject of the essay or dissertation for the Rogers Prize for 1914 will be "The Nature of Pyrexia and its Relation to Micro-organisms," and the latest date for the receipt is April 30th, 1914. Copies of the regulations for the award of the prize can be obtained on application to the Academic Registrar.

Advanced Lectures in Physiology.

The following scheme of advanced lectures in physiology for the session 1913-14 has been approved:

University College.—(1) Second term, 1914: Eight lectures by Dr. C. L. Evans on Oxidation in the Tissues.

King's College.—(2) First term, 1914: Four lectures by Professor W. D. Halliburton, F.R.S., and Professor W. E. Dixon, F.R.S., on The Cerebro-Spinal Fluid. (3) Second term: Four lectures by Professor A. Harden, F.R.S., on Fermentation. (4) Third term: Four lectures by Professor T. G. Brodie, F.R.S., on The Gaseous Exchanges of the Body.

Guy's Hospital.—(5) First term: Eight lectures by Dr. Kennaway and Mr. Poulton on Physiological Significance of Acidosis. (6) Second term: Eight lectures by Dr. Pembrey and Mr. Ryffel on Physiological Effects of Anaesthetics and Narcotics. (7) Third term: Four lectures by Dr. J. S. Haldane, F.R.S., on Secretion of Urine. Courses numbered (1) (5) and (6) as well as the following lectures were recognized as advanced lectures which a candidate at the B.Sc. Honours Examination may name for part of his examination.

Scheme of Lectures in Physiology for B.Sc. (Honours) Examination.

The following lectures were recognized as advanced lectures which a candidate at the B.Sc. Honours Examination in Physiology may name for part of his examination:

Bedford College.—Advanced Histology by Dr. J. S. Edkins and Miss Tweedy. *King's College.*—Third term: Urinary Analysis by Professor Halliburton and Dr. Rosenheim. *Guy's Hospital.*—(*a*) Respiratory Exchange, by Dr. M. S. Pembrey; (*b*) Methods of Investigating Acidosis, by Dr. E. L. Kennaway and Mr. Poulton; (*c*) Investigations of Movements of Alimentary Canal by X Rays, by Dr. A. F. Hertz. *St. Bartholomew's Hospital.*—Electro-cardiography, by Dr. J. S. Edkins.

Donation by Sir William Ramsay.

The Senate adopted a vote of thanks to Sir William Ramsay for his generous gift of £500 for books and periodicals for the Chemical Library at University College.

Assistant Professor of Hygiene and Public Health at King's College.

It was resolved to confer the title of Assistant Professor of Hygiene and Public Health upon Dr. David Sommerville.

Regulations for the Second Examination for Medical Degrees (Part II).

It was resolved that the fee of £4 for re-examination in Pharmacology shall also apply to any candidate permitted before 1915, under former regulations, to enter for re-examination in either anatomy or physiology only.

Appointment of Representative.

Dr. T. Buzzard was reappointed governor of the Westminster Hospital Medical School.

Site for the University.

In view of the probable early conference between the Site and Accommodation Committee and the London County Council, the Committee did not think it advisable to make any report as to the desirability of any specific site until such conference had taken place.

Physiological Laboratory.

Professor A. D. Waller, F.R.S., was re-elected director, and Dr. T. L. Mears treasurer, of the Physiological Laboratory for 1913. The report of the Laboratory Committee, which was presented, gave an account of the work done in 1912.

Graham Scholar in Pathology.

Mr. H. S. Warren, demonstrator of bacteriology at the University College Hospital Medical School, has been appointed Graham Scholar in Pathology for the sessions 1913-14 and 1914-15.

Paul Philip Reitlinger Prize.

The Paul Philip Reitlinger Prize, of the value of £30, will be awarded annually on December 3rd, provided there be a candidate of sufficient merit. The prize for 1913 and biennially thereafter will be awarded for the best essay on a literary, historical, or philosophical subject of contemporary interest. The subject chosen by the University for 1913 is the influence of the conception of evolution on moral or social philosophy. In 1914 and bienially thereafter the prize will be awarded for the best essay embodying the result of some research work on a medical subject carried out by the candidate.

Chairmen of Committees.

Dr. S. Russell Wells has been elected Chairman of the Council for External Students, Sir Alfred Pearce Gould, K.C.V.O., M.S., Chairman of the Brown Animal Sanatory Institution Committee and of the Graham Legacy Committee, and Dr. W. P. Herringham, Chairman of the Site and Accommodation Committee.

One of the pass lists which we published last week was wrongly headed, Part II of the Second Examination for the M.B. being described as Part I. The names of a certain number of candidates who were successful at this examination were also accidentally omitted. They were as follows:

J. A. W. Robinson, Elisabeth H. Schwab, T. W. Short, B. B. Silcock, J. F. Smith, H. G. Stormer, R. Stowers, E. C. Tamplin, H. W. Taylor, J. W. T. Thomas, W. Thomas, W. H. Thomas, R. R. Thompson, J. W. Wayte, W. R. White-Cooper, A. Willatt, G. C. N. Younger.

UNIVERSITY OF SHEFFIELD.

The following candidates have been approved at the examinations indicated:

First M.B., Ch.B.—Annie Clark, *†Ethel M. Mathews, R. H. Rae, *†Winifred H. Wells.
Second M.B., Ch.B.—Lydia M. Henry, Elizabeth E. Jenkins.
Final (*Part I only*).—*†W. B. Allen, *G. F. Stones, J. R. Turner.
Final (*All Subjects*).—*†J. E. Stacey, J. Davidson, L. E. Sutcliffe.
D.P.H.—Marie Simpson, C. S. E. Wright.

* Passed with distinction in one or more subjects.
† Second-class honours.

UNIVERSITY OF LIVERPOOL.

Diploma in Ophthalmic Surgery.

The Diploma in Ophthalmic Surgery, which was established by the University a year or two ago, has been awarded to Mr. C. Alston Hughes.

The curriculum for this diploma includes attendance at a practical and demonstration course dealing with the anatomy, physiology, and histology of the eye, held during the autumn

term; at a similar course on the pathology and bacteriology of the eye, held during the Lent term; at a lecture course on the signs, symptoms, and treatment of diseases of the eye, held partly in the Lent term and partly in the summer term; and clinical instruction on diseases of the eye and errors of refraction during three terms. The examination which has to be passed includes three papers aggregating eight hours and three prolonged oral and practical tests.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

An ordinary comitia of the Royal College of Physicians was held on Thursday, July 31st, at 5 p.m., the President, Sir Thomas Barlow, Bart., K.C.V.O., being in the chair.

The President announced the bequest to the College of a gold snuff-box by the late Dr. W. H. Dickinson, and the gift of two letters—one by Dr. W. S. Greenfield, the other by Mrs. Bond.

Admission of Members.

The following gentlemen having passed the required examination were admitted to the Membership of the College:

Percy William Bassett-Smith, C.B., L.R.C.P.; Cecil Clarke, M.D. Lond., L.R.C.P.; Arthur Davies, M.D.Loud., L.R.C.P.; Alfred Hope Gosse, M.B.Camb., L.R.C.P.; Edward Burton Gunson, M.D.Edin.; Abd-el-Aziz Ismail, L.R.C.P.; William Wilson Jameson, M.D.Aberd.; Theodore Stewart Lukis, M.D.Lond.; Charles Henry Godfrey Ramsbottom, M.D.Viet.

Licences to Practise.

Licences to practise physic were granted to eighty-six candidates who had passed the necessary examinations.

Diplomas in Public Health.

Diplomas in Public Health were granted jointly with the Royal College of Surgeons to the following:

E. M. Balthasar, L.R.C.P., M.R.C.S.; A. F. Bell, M.B., B.S.Melb.; W. Bethune, M.B., C.M.Edin.; H. S. Blackmore, L.R.C.P., M.R.C.S.; W. H. Butler, L.R.C.P., M.R.C.S.; J. A. Delmege, L.R.C.P., M.R.C.S.; H. S. Dube, L.M.S.Punjab; W. R. Dunstan, M.B.Lond., L.R.C.P., M.R.C.S.; A. L. Dykes, M.D.Edin.; R. P. Garrow, M.D.Aberd.; A. Gaskell, F.R.C.S.Eng., L.R.C.P.; S. E. Gill, M.D.Loud., L.R.C.P., M.R.C.S.; Christina L. Goode, M.B., B.S.Melb.; C. S. van Renen Harwood, M.B., B.S.Lond., L.R.C.P., M.R.C.S.; Abd-el-Aziz Ismail, L.R.C.P., M.R.C.S.; R. G. Johnson, M.B.Loud., L.R.C.P., M.R.C.S.; P. M. Keane, L.R.C.P. and S.I.; G. A. Kempthorne (Captain R.A.M.C.), L.R.C.P., M.R.C.S.; N. M. Leys, M.B., Ch.B.Glasg.; C. H. Lilley, M.B., Ch.B. St. Andrews; J. A. S. Phillips (Captain I.M.S.), L.R.C.P. and S.Edin., L.F.P. and S.Glasg.; E. S. Phipson (Captain I.M.S.), M.B., B.S.Lond., L.R.C.P., M.R.C.S.; T. W. W. Powell, L.R.C.P., M.R.C.S.; Laura W. Pugh, M.B., Ch.B.Edin.; B. Rai, L.M.S., Punjab; S. Ram, M.B.Lahore; H. G. Sherren (Captain R.A.M.C.), L.R.C.P., M.R.C.S.; G. H. Stevenson, M.B., Ch.B.Edin.; J. Taylor (Captain I.M.S.), M.D.Glasg.

Appointment of College Officers and Examiners.

The following College Officers and Examiners were appointed:

Censors: Sir James Kingston Fowler, K.C.V.O., M.D., William Hale White, M.D., Howard Henry Tooth, C.M.G., M.D., Theodore Dyke Acland, M.D.

Treasurer: Sir Dyce Duckworth Bart, M.D. Emeritus Registrar: Edward Liveing, M.D. Registrar: Joseph Arderne Ormerod, M.D.

Harveian Librarian: Norman Moore, M.D.

Elected Members of the Library Committee: Humphry Davy Rolleston, M.D., Leonard George Guthrie, M.D., Herbert Morley Fletcher, M.D., Raymond H. P. Crawfurd, M.D.

Curators of the Museum: John Mitchell Bruce, M.D., Seymour John Sharkey, M.D., Frederick William Andrewes, M.D., William Hunter, M.D.

Finance Committee: Donald W. C. Hood, C.V.O., M.D., Hector William Gavin Mackenzie, M.D., Sir James Reid, Bart., G.C.V.O., K.C.B., M.D.

Examiners: Chemistry, John Millar Thomson, F.R.S., Hugh C. H. Candy, B.Sc.; Physics, Herbert Stanley Allen, D.Sc., Frederick Womack, B.Sc., M.B.; Practical Pharmacy, Henry Johnstone Campbell, M.D., Robert Briggs Wild, M.D., Reginald Henry Miller, M.D., Arthur Robertson Cushny, M.D., F.R.S., Walter Ernest Dixon, M.D., F.R.S.; Physiology, Leonard Erskine Hill, M.B., F.R.S., John Mellanby, M.D.; Anatomy, William Wright, F.R.C.S., L.R.C.P.; Medical Anatomy and Principles and Practice of Medicine, Lauriston Elgie Shaw, M.D., Hector W. G. Mackenzie, M.D., Frederick Walter Mott, M.D., Judson Sykes Bury, M.D., Arthur Francis Voelcker, M.D., Cyril Ogle, M.D., Raymond H. P. Crawfurd, M.D., Sir Bertrand E. Dawson, K.C.V.O., M.D., Wilfred John Harris, M.D., Harold Batty Shaw, M.D.; Midwifery and Diseases Peculiar to Women, Charles Montague Handfield-Jones, M.D., John Shields Fairbairn, M.B., Herbert Williamson, M.B.Camb., Cuthbert H. J. Lockyer, M.D., John Benjamin Hellier, M.D. Public Health: Part I, Henry Richard Kenwood, M.B.; Part II, Louis C. Parkes, M.D. Tropical Medicine: Bacteriology, Frederick William Andrewes, M.D.; Diseases and Hygiene of the Tropics, William John Ritchie Simpson, C.M.G., M.D.

Murchison Scholarship: Francis de Havilland Hall, M.D., Humphry Davy Rolleston, M.D.

Communications.

Communications were received from the secretary of the College of Surgeons, dated July 16th, reporting proceedings of the council of that College on July 10th; and from the Dean of the Faculty of Medicine, University of Edinburgh, dated July 3rd, stating that the Faculty recommended that the Murchison Memorial Scholarship should be awarded to Alan W. S. Sichel, B.A., M.B., Ch.B.

Award of Baly Medal.

On the recommendation of the council, the Baly Medal was awarded to John Scott Haldane, M.D., F.R.S.

Election of Representative.

Dr. F. W. Andrewes was re-elected a representative of the College on the executive council of the Imperial Cancer Research Fund.

Reports.

Reports were received from the representative of the College on the General Medical Council and from the Committee of Management, dated July 8th, recommending that Exeter School, Northampton and County School, Northampton, and Taunton School should be added to the list of institutions recognized by the Examining Board for instruction in chemistry and physics.

The quarterly report of the College Finance Committee, the annual reports of the Library Committee, the curators of the Museum, and the Imperial Cancer Research Fund were presented.

Books and other publications presented during the quarter were received, and it was directed that the thanks of the College should be conveyed to the donors. The President then dissolved the comitia.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary council was held on July 31st, Sir Rickman J. Godlee, President, in the chair.

Grant of Diplomas.

Diplomas were granted to 85 candidates found qualified for the Membership at the recent examinations; and to 29 found qualified for the diploma in Public Health, two of whom were women.

Recognition of Institutions.

The following institutions were added to the list recognized by the Conjoint Examining Board in England for instruction in chemistry and physics: Exeter School; Northampton and County School, Northampton; Taunton School.

Election of Examiners.

Mr. Arthur Rendle Short, F.R.C.S., Bristol, was elected a member of the Board of Examiners in Anatomy and Physiology for the Fellowship for the ensuing year in the vacancy among the Examiners in Physiology. Mr. Norman Godfrey Bennett was elected an Examiner in Dental Surgery for the period of five years.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

At a special meeting of the Council on July 21st, with the President (Mr. R. Dancer Purefoy) in the chair, Dr. Evelyn John Evatt was elected Professor of Anatomy in the Schools of Surgery. Professor Evatt received the earlier part of his medical education in these schools, and then went to Newcastle-on-Tyne and graduated M.B., B.S. in the University of Durham in 1900. He was then appointed Demonstrator of Anatomy and four years later Lecturer in Applied Anatomy at the University College, Cardiff. In 1909 he was appointed Professor of Anatomy at Manitoba Medical College, Winnipeg, Canada. He has done much original work in anatomy and embryology.

CONJOINT BOARD IN SCOTLAND.

The following candidates have been approved at the examinations indicated:

First College.—A. B. Black, D. M. Black, M. Campbell, L. W. Hughes, J. G. M. Macaulay, J. W. Morris, R. Pollok, R. Woodside, D. M. Stewart, J. W. Irvine, J. F. Campbell, W. F. G. Radford.

Second College.—C. S. Baxter, J. S. M. Connell, R. A. Cooper, A. Gaston, G. M. Harley, C. Harris, W. P. H. Lightbody, A. Mathewson, J. R. B. Robb, T. M. Saptarshi, J. F. Kerr, T. D. Renwick, W. G. Anderson, Lizzie O'Flynn, A. W. M'Gregor, J. E. Ainsley, E. A. Neilson, M. A. White, B. St. A. Ajaji Young.

Third College.—E. Dias, J. Gilchrist, R. B. Lilley, J. M'Cartney, J. M'Farlane, J. Martin, J. L. Pierce, W. Turner, S. N. Toulmin, W. D. Bathgate, L. O. Weinman, P. Chisholm, T. E. Lawson, J. Berry, D. C. M. Page, W. H. O'Grady, C. T. Darwent, H. A. L. Guthrie, E. Annequin, F. A. V. Denning.

Final.—R. J. Croxford, R. Kanshosh, C. J. Lacayo, E. V. W. Mellad, E. L. A. M'Cardel, W. W. M'Cowat, E. E. Owens, G. A. Platt, V. H. Wardle, J. Watt, G. W. Fleming, S. E. Jones, H. G. Hankins, J. M. Milne, C. H. N. Baker, C. C. Forsyth, C. V. Bailey, J. B. Donaldson, S. M. Fisher, W. Murphy, F. G. Gibbs, J. E. L. Keyes, F. R. Lucas, J. R. Menzies, W. A. Rees, I. C. Mackenzie, C. Cosgrove, R. D. Clayton.

LONDON SCHOOL OF TROPICAL MEDICINE.

The following candidates were approved at the end of the forty-second session:

*E. C. Perkins, H. H. G. Knapp (Captain I.M.S.), *C. N. Davis, *J. E. H. Gatt (Captain R.A.M.C.), *W. E. Glover, J. Hanington, Mrs. D. Parsons, W. L. Webb, G. Dunderdale, B. B. Paymaster (Captain I.M.S.), R. Trudinger, W. E. S. Digby, H. North, J. A. Valentine, R. P. Ratnakar, G. da Silva, H. H. Stewart, P. J. Zepeda, J. M. Cure, A. Robertson, E. V. Smith, C. E. F. Mouat-Biggs, H. E. Fretz, J. B. Dalzell Hunter (Captain I.M.S.), R. H. Miller, J. Dunlop, C. R. Patton, O. Arnott, C. S. G. Mylrea, C. J. H. Pearson, J. Y. Ferguson, B. W. F. Wood.

*With distinction.

Medical News.

THE Home Secretary has received a number of applications from medical men for the two new inspectorships under the Cruelty to Animals Act, 1876 (Vivisection), but it appears that the salary offered (£500, rising by annual increments of £20 to £600) has not secured a sufficient choice of candidates who possess the necessary scientific qualifications required for the work and are not disqualified by the holding of licences under the Act or otherwise. He has, therefore, decided to offer a salary of £800. The appointments will be for a term of five years in the first instance. Fuller particulars can be obtained from the Private Secretary, Home Office, London. Candidates who have already applied will be reconsidered without any further application. New applications should be sent in not later than August 25th.

DR. MICHAEL FRANCIS HESSION, Tuam, co. Galway, has resigned the appointment of Medical Adviser to the Irish National Insurance Commissioners.

WE are asked by the secretary of Section I (Anatomy and Embryology) of the International Congress of Medicine to state that the name of Professor G. D. Thane was inadvertently omitted from the list of vice-presidents given in the short account of the Section which appeared in our issue of July 26th.

THE Agent-General for New South Wales has received the following telegram, dated Sydney, August 2nd, from the Premier of the State: "The Director-General of Public Health reports that the small-pox epidemic now existing in Sydney is of very mild type, similar to that in Canada. There have been 400 cases, no deaths, and no patient has been dangerously ill."

THE late Mr. J. H. Targett, obstetric surgeon and lecturer at Guy's Hospital, left estate of the gross value of £35,722, of which the net personalty has been sworn at £35,474. He left his shares in the Clinical Research Association (Limited) to the treasurer of Guy's Hospital, for the benefit of the pathological department of the medical school of that hospital.

THE twenty-fourth Universal Cookery and Food Exhibition will be held in the Royal Horticultural Hall, Westminster, S.W., from October 28th to November 1st. The exhibition is under the patronage of Queen Alexandra and several other members of the Royal Family. The president is Lieutenant-Colonel Sir Charles Frederick, K.C.B., G.C.V.O. Among the honorary vice-presidents is Sir James Crichton-Browne.

AT its last meeting the Southern Branch of the British Medical Association adopted the following resolution: "This meeting of the Southern Branch of the British Medical Association records its deep sense of the very great loss which the profession has sustained by the death of Sir Jonathan Hutchinson, F.R.S., and of the inestimable benefits he has conferred on mankind in every branch of science. The members beg to offer their sincere sympathy to his family."

ON July 25th a new wing of the Hospital for Epilepsy, Maida Vale, was opened by the Princess Louise (Duchess of Argyll), who was accompanied by the Duke. They were received by the chairman and members of the committee of management and by the medical staff, the architect (Mr. Keith D. Young), and others. Among those present was Sir Rickman J. Godlee, President of the Royal College of Surgeons of England. The institution was founded in 1866, and, as it was being constantly called upon to extend its work, the present site was acquired ten years ago. The buildings have recently been completed at a total cost of about £35,000. Dr. George Ogilvie, Senior Physician, in proposing a vote of thanks to Her Royal Highness Princess Louise, said the hospital was certainly not a large one -it contained only seventy-five beds- but good work had been done, not only in the present hospital, but in the old one, and with the new wing they would be able further to increase their knowledge of diseases of the nervous system and their power of relieving and curing them. He referred to the case of a patient who was admitted many years ago suffering from constant and unbearable headaches, convulsive seizures, and progressive blindness, due to pressure from an intracranial tumour. It was deemed advisable by the medical staff to have a surgical operation performed. The operation, which was performed by Mr. Godlee (as he was then), brought about cessation of the headaches and relief of the other troubles. That, said Dr. Ogilvie, was the first operation of the kind ever performed in this country, if not in the world.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

ANSWERS.

EARTH CLOSETS.

E. L. B.—(1) An illustrated pamphlet on the arrangement and management of earth closets, suitable to be put into the hands of village people, will shortly be published by the *Medical Officer*, 36-38, Whitefriars Street, Fleet Street, E.C. (2) The painting of window-frames with paraffin is recommended to drive away flies.

LETTERS, NOTES, ETC.

THE ANNUAL MEETING.

DR. A. STAYT DUTTON (Oxford) writes: Judging by the accounts in the BRITISH MEDICAL JOURNAL and other journals, the annual meeting at Brighton has been one of an especially successful and pleasant nature, and no doubt a number of members who, like myself, were unable to be present, and who have experienced the health-giving properties of the climate and hospitality of the popular Sussex town, are gratified to find that such is the unanimous opinion. Brighton is not by any means alone in the capability of providing effective climatic and social allurements, as England is particularly fortunate in possessing in almost all directions attractive, well kept, and healthful seaside resorts. Nevertheless, while this is so, it is likely to be the case that the meeting of the Association recently terminated will have effect in adding another jewel to the crown of the Queen of Watering Places.

ADDRESSES ON ALCOHOL.

THE arrangements for the large number of addresses by medical men on the subject of alcohol, which were delivered in a number of towns within easy reach of Brighton, on July 20th, and to which we referred last week, were made, we learn, not by the National Temperance League, but by two special committees, one of which was formed of medical men, and the other of clerics and laymen. The chairman of the former was Mr. George Morgan, and its honorary secretary Dr. Rowland Fothergill.

THE MEDICAL DIRECTORY FOR 1914.

F.R.C.S. writes: In the issue of the JOURNAL of August 2nd you print a notice from Messrs. Churchill *re* the *Medical Directory* for 1914. May I, in your columns, make an appeal to the editors of the *Directory* for increased efficiency of the 1914 edition. Up to the year 1913 all the past appointments which had been held by a practitioner were inserted in the *Directory*, but last year only three appointments were allowed entry, however many any man might have held. By this action the *Medical Directory* ceases to be the nearest possible approach to an official record of a man's professional status and career, as it has been in the past. There must be many others beside myself, who having held a large number of important hospital appointments, object to all but three of these being ruthlessly deleted from a volume of the importance of the *Medical Directory*. A man's claim to specialize in medicine or surgery or any branch thereof is recognized to depend largely upon the education and experience he has acquired from holding hospital appointments. Evidence of such a claim has hitherto been obtainable by reference to the *Directory*, but under the new scheme there is a levelling up of those who have and have not spent many laborious years in learning their job. I enclose my card.

SOME ASPECTS OF INTERNAL SECRETION IN DISEASE.

DR. P. ARTHUR HENDLEY (Littleport), in a letter expressing his interest in Professor Murray's address in medicine at Brighton, thinks that much light might be thrown on exophthalmic goitre, for which he prefers the term hyperthyroidism, if the gland were watched with sufficient care at the change from childhood to adolescence. He believes that it would then be possible to prevent primary hypertrophy of the thyroid, which he considers must take place before hyperthyroidism becomes established.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

Address in Pathology,

ON

CHEMIOTHERAPY.

Delivered before the Seventeenth International Congress of Medicine.

BY

His Excellency Wirklicher Geheimer Rat

Professor Dr. PAUL EHRLICH,

Director of the Royal Institute for Experimental Therapy, Frankfort-on-Main.

It must be a great pleasure and a special honour for all of us to meet here in person on British soil for a scientific purpose, in order to take part in the great work which will be of benefit to the whole world. Are we not here in a country that has produced two men who must be considered among the greatest men of all times—Jenner and Lord Lister? Like a star in the darkness of his age, Jenner's great achievement, which broke the power of such an awful plague as small-pox, still shines with peerless splendour. And on the occasion of the last Congress that was held here we gathered with wondering admiration round Lord Lister, who through his introduction of antiseptics brought about a revolution in surgery which stands alone in the history of the art of healing. Here in England the first example of a modern institute for tropical diseases, a model for all other institutes of this kind, was created under the direction of Sir Patrick Manson. Through Ross's excellent work, Laveran's discovery of the cause of malaria was so far advanced that entirely new lines were opened up for the hygienic struggle against tropical and subtropical diseases. Castellani's proof that a trypanosome causes sleeping sickness, the classical work by Bruce on illnesses caused through trypanosomes, the specific cause of kala-azar (Dum-dum sickness) as proved by Leishman, are all well known to us. The therapeutic influence of atoxyl in trypanosomiasis was first established in the Liverpool Tropical School by Thomas and Breinl, and quite recently Plimmer has brought forward tartar emetic as an effective weapon against protozoan diseases.

The life-work of Almroth Wright is also known to all of us—his work on opsonins and on the prophylactic treatment of typhoid fever, carried out in so practical and excellent a manner. Even these few names, to which I might add many others, show what a high and leading position England has taken and still holds in the fight against infectious diseases. To prevent the spread of and to heal infectious disorders has always been the highest aim of medical ambitions. But a systematic pursuit of this purpose has only been possible in recent times, as through the labours of all civilized nations we have got an insight into the nature of infections, the cause of diseases, the means by which they are transmitted. Through these methods it has been possible to infect animals artificially, and so to obtain material on which to test the drugs in a systematic and rational manner. From the very first beginnings of therapeutics chemiotherapy has, indeed, been in existence, as all the remedies which we employ are chemicals; on the other hand, experimental chemiotherapy could only develop in modern times in a fruitful manner as a result of all this pioneer work. But here also it has been proved that the four most important factors are patience, skill, luck, and, last but not least, money.

Now, gentlemen, I may perhaps take the liberty of giving you an insight into the workshop of chemiotherapeutic research. The whole area is governed by a simple—I might even say natural—principle. If the law is true in chemistry that *Corpora non agunt nisi liquida*, then for chemiotherapy the principle is true that *Corpora non agunt nisi fixata*. When applied to the special case in point this means that parasites are only killed by those materials to which they have a certain relationship, by means of which they are fixed by them. I call such substances "parasitotropic." But I should like immediately to add that there are evident exceptions to this law. Thus, for instance, we are acquainted with a small series of cases in which the apparent therapeutic results are obtained, although the allied substances in question do not possess parasite-destroying qualities. That is the case in the infiltration of the subcutaneous tissues which is caused by a kind of yeast (sporotrichosis). Here Block proved that the clinically highly therapeutic potassium iodide first of all dissolves the cells of the infiltration, whilst the parasites, as such, are not in the first instance attacked.

But, in any case, it is safest and best for the development of chemiotherapy not to build on the basis of exceptional work, but to start with such substances as produce the destruction of the parasites by fixation.

Now it has been assumed in different quarters that some of the more modern remedies are incorrectly regarded as parasiticides, but in reality they are not such. Thus, for example, salvarsan or mercury salts are not intended to act directly on the parasites but indirectly, owing to the fact that they excite the organism to the formation of specific antisubstances. This view is based mainly upon the fact that if one mixes the substances in question, such as, for instance, neo-salvarsan, with certain pathogenic agents—for example, spirochaetes—in test tubes, one cannot perceive any reduction in their mobility after observing them for hours together. From this fact, which was first discovered by Professor Hata, the conclusion has been drawn that salvarsan or neo-salvarsan, as such, did not in any way influence the spirochaetes directly. Now it can very easily be shown that this conclusion is quite incorrect. If, for instance, following Castelli, one suspends the spirochaetes of relapsing fever in indifferent mixtures of serum which do not injure their vitality, and if one fills two small tubes therewith and adds to one of the tubes a very small quantity of salvarsan or neo-salvarsan, and if one then centrifugalizes and next draws off the liquid; if one washes the remaining spirochaetes again in a mixture of serum and again centrifugalizes it; then one obtains in each tube a deposit of spirochaetes which on microscopic examination show an equal degree of mobility. If, however, the spirochaetes obtained in this manner are injected into test mice, then one can very soon convince oneself that the spirilla treated with salvarsan do not infect the animal, whilst the mice vaccinated with the contents of the control tube promptly show signs of infection. This proves that salvarsan or neo-salvarsan, as the case may be, is absorbed by the spirochaetes, and must have damaged them, and that this trace of salvarsan which is so exceedingly minute that it can scarcely be weighed, was sufficient to prevent the multiplication of the parasites in the animal body. By this very simple and easily intelligible experiment, therefore, the direct effect of salvarsan and neo-salvarsan on the spirochaetes, and thereby the principle of fixation, is absolutely proved; so the objection that the effect is indirect and due to antisubstances falls to the ground.

It was necessary, however, to penetrate more deeply into the mechanism of this fixation of remedies. It is only after long-continued efforts that a clear conception has been successfully obtained. In order to make practical progress it appeared necessary not to be satisfied with the primitive idea, but to see in what manner the drugs actually are fixed by the parasites or by the cells, as the case may be. Only by taking a very roundabout way has it been possible to obtain clearness with respect to these complicated relations, and in this connexion it was especially the studies on trypanosomes, particularly the investigation of "drug-fast" strains of germs, which led to quite definite knowledge with regard to the process of fixation. By continued treatment of the experimental mice with certain definite remedies—for example, fuchsin—it was easy to obtain at last a race of trypanosomes which had become immune to these remedies, that is, "drug-fast," immune to fuchsin, in the case mentioned above. There were three particular classes of different remedies which were well suited to this purpose:

1. The class of the arsenic compounds (in the following historical order): Arsenious acid, arsenilic acid (atoxyl), arsenophenylglycin (salvarsan and neo-salvarsan).

2. The class of the so-called azo-dyes (the trypan red, manufactured by Weinberg, with which Shiga and I made experiments, and the trypan blue of Mesnil).

3. Certain basic triphenylmethane dyes (fuchsin, methyl violet, etc.).

When a race of trypanosomes has been rendered immune to fuchsin, then this race is immune to all the allies of fuchsin and methyl violet, but is not immune to the two other classes. In the same way a race immune to arsenic compounds is only immune to such, but not to the two other classes. We see, therefore, that the immunity is of a specific nature, inasmuch as it is limited to a definite class of chemical substances.

It was just this specific character which indicated that it must be a question of purely chemical processes. Earlier studies relating to another subject—that is, those relating to toxins and antitoxins—pointed to the nature of these processes. In connexion with them, it had been shown that the destructive toxins developed their injurious action on the cell by the fact that they are absorbed by certain specific component parts of the cell—side-chains—which I have characterized as "receptors," and that the antisubstances represent nothing else than the cell receptors, produced in excess under the influence of the toxin and thrown off.

For many reasons I had hesitated to transfer these views relating to receptors to chemical bodies at all, and in this connexion it was especially the brilliant investigations by Langley relating to the effects of alkaloids which caused my doubts to disappear and made the existence of chemioreceptors seem probable to me.

From this point of view the phenomena observed in connexion with the "drug-fast" strain of germs can be readily explained experimentally, owing to the fact that the chemioreceptors under the influence of drug-fastness suffer a reduction of their affinity for certain groupings connected with the remedy, which can only be regarded as purely chemical. This reduction in affinity explains in the simplest possible manner why continually increasing quantities of the arsenic compound become necessary for the destruction of a race of arsenic-fast trypanosomes, for example, for the smaller avidity can only be overcome by a corresponding surplus of the arsenic compound, if the quantity necessary for the destruction of the parasites is to be finally fixed.

We therefore come to the conclusion that in the parasites there are present *different specific chemioreceptors*, for instance, the *arseno-receptor*, which fixes the trivalent group of arsenic as such; and the *aceto-receptor*, which fastens to itself the acetic acid group, an *iodine-receptor*, an *orthoamidophenol-receptor*, which conditions the fixation of the salvarsan, and many others in addition. A complete exhaustive knowledge of all the different chemioreceptors of a certain definite parasite is what I should like to characterize as the *therapeutic physiology of the parasite cell*, and this is a *sine qua non* of any successful chemiotherapeutic treatment. I should like to emphasize the fact that many observations indicate that certain chemioreceptors are due to several different kinds of parasites, not to a single one. The knowledge of these is of special practical importance, because remedies which are adjusted to these have a healing influence on a very large series of the most various pathogenic agents. *The larger the number of different chemioreceptors, therefore, which can be demonstrated, the greater is the possibility of a successful chemiotherapy.*

Now if we seek for specific remedies, then the first condition is that they must possess a certain definite grouping, which is chemically allied to one of the chemioreceptors of the parasite. This is only a necessary prior condition of the toxic effect, but in general it is not a sufficient one in itself. Hundreds of substances may fix themselves on a parasite, yet only a few are capable of bringing about its destruction.

In the therapeutically suitable substance, therefore, in addition to the fixing group, which brings about the fixation, and is described as *haptophoric*, there must be another, which as such brings about the destruction, and is to be characterized as the "poisoning" or *toxophoric* group. This representation exactly corresponds to the views which we have long maintained with respect to toxins, in which we distinguish the presence of a haptophoric group which conditions the cell fixation and also the formation of the antitoxins, and a toxophoric group which brings about the injurious action on the cell. In the case of the highly complicated synthetic drugs the assumption will have to be made that the haptophoric group and the toxophoric group are not *directly* connected with one another, but are linked with a chemical molecule in the character of side-chains as separate groups. In this way we come naturally to this, that chemiotherapeutic agents, built up in a complicated manner, may be compared to a poisoned arrow; the fixing group of the drug which anchors itself to the chemioreceptor of the parasite corresponds to the point of the arrow, the binding member is the shaft, and the poisonous group is the poison smeared on the arrow's head. Corresponding to this scheme in the case of salvarsan (dioxydiamidoarsenobenzol) the benzol group would correspond to the shaft, the orthoamidophenol group to the point, and the trivalent arsenic group would correspond to the toxophoric group on the head of the arow.

If we continue this comparison, then the substances which are used for poisoning the arrows are alkaloids and similar substances, which act injuriously on definite vital organs of the body; and so we shall also have to assume that the toxophoric groups of the synthetic drugs poison the protoplasm of the bacterial cell, and this only appears to be possible when a chemical affinity exists between the toxophoric grouping and the constituents of the cell. The circumstance that all the derivatives of arsenic which contain arsenic in the pentavalent form, that is, in the fully saturated form, do not bring about any therapeutic action, but that this only commences when the arsenic atom exists in the unsaturated trivalent condition, certainly points in the same direction. This difference between the saturated and unsaturated arsenic compounds was discovered by the master mind of Bunsen, for in the year 1843, in his comparative studies relating to the non-poisonous cacodylic acid with the pentavalent arsenic, and its poisonous reduction product the cacodyl with the trivalent arsenic, he came to the conclusion that "the cacodylic acid had lost the power to form an attacking point, and at the same time it had lost its effect on the organism." In later times many analogous cases pointing to the increased effectiveness of the unsaturated compounds have become known. The best known example is doubtless the high toxicity of carbon monoxide as compared with the almost indifferent carbon dioxide.

Dyes act as bactericides only when present as dyes, but not when in the form of their colourless products which correspond to the saturated type. *The fact is that all these unsaturated compounds contain unsatisfied avidities which render them capable of making addition compounds with other bodies.*

If, therefore, we poison a spirochaete with salvarsan, then there occur at least two different chemical fixations. First of all, the fixation of the orthoamidophenol group, which primarily fixes the salvarsan to the parasite. It is only in consequence of this fixation that, secondarily, the trivalent arsenic group is given the opportunity of entering into chemical combination with the arseno-receptor of the cell, and so of exerting its toxic effect. The avidity of the arseno-receptor may be so small that it can only react if favouring factors, which from the chemical point of view must be regarded as stereochemical facilitation, come into action.

Examples of such stereochemical facilitations are frequently found in the chemistry of the ortho-condensations, for example. And so the haptophoric group of the arsenic molecule primarily brings the arsenic to the cell, and secondarily brings about its possibility of action.

Now, it is a frequent practice of many uncivilized peoples to smear their arrow-heads with not one kind of poison only, but with two or three totally different kinds, in order to be certain of killing their enemies. And so it also appeared advisable to imitate this otherwise not very praiseworthy procedure against the parasites, and to poison our synthetically poisoned arrows not singly but doubly. In association with Dr. Karrer I succeeded in attaching the compound containing trivalent arsenic (salvarsan, for example) to metals, and so in producing remedies which, used experimentally on animals, show an increased effect.

In the previous remarks I have described the conditions which are necessary if a certain substance is to exert a parasiticidal effect, and indeed must effect such, if it operates directly on certain definite parasites in an aqueous solution, as, for instance, is the case with the ordinary disinfectants. In the manner described above it is easily possible to produce a very large

number of substances which will destroy bacteria and allied substances in aqueous solutions. But, of course, the problem is much more difficult when it is a question of internal disinfection or of the destruction of living parasites within the infected organism. If the problem of sterilizing a room is set before us, then indeed it is easy to do so, owing to the present advancement of science. But the task becomes more difficult when the room is filled up with materials; and when these materials are of such a delicate sensitiveness as living cells, then the difficulty of the problem will be manifest without any further explanation. As a matter of fact, it has proved that substances which even when highly diluted bring about a colossal bactericidal effect in aqueous solutions are totally ineffective in therapeutics properly so called. For it has turned out that, generally speaking, these disinfectants are more or less powerful cell poisons, and seriously injure the organism; they are therefore not only parasitotropic but also organotropic.

Now, it depends exclusively on the relationship between the parasitotropism and organotropism whether a certain disinfectant can be used as a remedy. In Robert Koch's celebrated experiment, in which even the largest doses of sublimate did not produce a trace of therapeutic effect on anthrax infection, it is evident that the parasitotropic effect was reduced to *nil* by the organotropic effect. If the relationship of organotropism to parasitotropism is somewhat more favourable, then one may observe a peculiar phenomenon, consisting in the course of the infection being rendered worse to an extraordinary degree by the remedy, owing to the effect that the parasites increase to a much greater extent than is the case when no disinfecting agent is employed.

This phenomenon, discovered by Hata, is explained by the fact that the ratio of organotropic effect to parasitotropic effect is of such a nature that almost the whole of the poison is absorbed by the organism, but only an infinitesimal quantity by the parasites. According to a fundamental biogenetic principle it is quite a common thing for substances which act destructively in *large* quantities to bring about an *increase in the vital functions* when given in smaller doses. The only substances, therefore, that can be used as therapeutic agents are those in which the ratio between organotropic effect and parasitotropic effect is a favourable one, and that can be easily ascertained by experimental comparison of the *dosis toxica* with the *dosis tolerata*. *The only substances that can be considered therapeutic agents are those of which a fraction of the dosis tolerata is sufficient to bring about therapeutic effects.*

The organotropic effect of drugs is of course to be attributed, according to the views of Langley and myself, to this, that there are in the most various cells of the body and its organs quite different chemioreceptors, exactly in the same manner as we have postulated for the parasites. Apart from the pharmacological effect of the various remedies, this chemical difference of the organs appears clearly in the method of vital colouring.

I will mention here—in order only to indicate a few examples—the intra-vitam staining of the nerve trunks by methyl blue, the staining of the cell granules by neutral red, and the distribution of isamin blue in the so-called pyrrol cells so carefully and excellently investigated by Edwin Goldmann. The pathologico-anatomical findings point also to a chemical divergence on principle. When we see that after the introduction of paraphenylenediamine only the summit of the diaphragm assumes a black colouring; when we see that vinylamine in the case of all kinds of animals isolates and injures the renal papillae and causes them to die; when after the introduction of cyanosin, as Hata and Goldmann have found, certain definite regions in the hair of mice become coloured, and the colouring matter becomes stored to the greatest degree in the milk glands; when a colouring material of the pyronin series in the case of mice brings about a general dropsy amounting to 50–60 per cent. of the body weight without injuring the kidney, a phenomenon that doubtless is only to be referred to an alteration of the vessels of the subcutaneous connective tissue; then all these phenomena can only be explained by the fact that at these particular spots definite chemical unions of a specific nature must take place, and must be referred to the presence of certain definite chemioreceptors.

Now, according to the above views, all these fixations are dependent on the haptophoric grouping of the drugs. It was therefore a matter of great interest to observe how phenylarsenic acid, the mother-substance of the modern arsenic compounds, behaves when various different atomic groups are attached to it. In this connexion it has been found that when we introduce different fixation groups—for example, chlorine, the oxygen group, the hydrocyanic acid group, the sulphuric acid group, the ammonia radical—we can manufacture from a single substance a series of combinations with toxic effects varying fifteen-hundredfold. The combinations which are to the greatest extent free from poison—these are derivatives of sulphuric acid, especially the sulpho-phenylarsenious acid and its salts—are less toxic than sodium chloride. On the other hand there are substances the very smallest quantity of which brings about death. And in this connexion we can see that, according to the nature of the substances, very different organs of the animal's body are injured. Sometimes it is the intestinal tract, and the animals die of profuse diarrhoea; sometimes it is the liver, and the mice—a rare occurrence—become jaundiced, and die of serious alterations in the liver; sometimes the red blood corpuscles become dissolved, and the animals die of severe anaemia. Frequently also the central nervous system becomes injured, and in the case of mice the vestibular nerve of the internal ear. The interference with the equilibrium produced in this way causes the mice constantly to turn in circles, just like the Japanese dancing mice. In the case of human beings the optic nerve is the point of attack for numerous derivatives of phenylarsenious acid. The cases of blindness which have been observed after the use of very large doses of atoxyl, arsacetin, and other drugs, are due to analogous injuries.

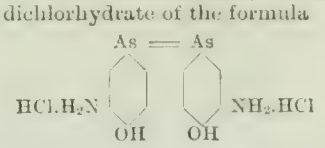
From this it is evident that according to the selection of the group combined with the phenylarsenious acid, quite different organs will be affected. According to the above views this is only explained by the fact that there are, as already previously stated, in the various organs specific chemioreceptors which energetically attract certain fixation groups somewhat as a magnet attracts iron. And this view also provides us with the principle according to which we have to construct our poisoned arrows. We must attach to the phenylarsenious acid group, or, as the case may be, to the phenylarsenobenzol group, such an atomic group as is but distantly related to the organs of the sick body, but on the other hand is chemically very closely allied to the receptors of the parasites.

I have explained above that the parasites possess a whole series of chemioreceptors which are specifically different from one another. Now if we can succeed in discovering among them a grouping which has no analogue in the organs of the body, then we should have the possibility of constructing an ideal remedy by selecting a haptophoric group specially adjusted to the functions of the parasites.

A remedy provided with such a haptophoric group would be entirely innocuous in itself, not being fixed by the organs. It would, however, strike the parasite with full intensity, and in this sense it would correspond to the immune productions, the antisubstances discovered by Behring, that fly in search of the enemy after the manner of the bewitched bullets. Let us hope that it will be possible chemiotherapeutically to hit the bull's eye in this manner also. I do not consider this at all out of the question, as it may be proved in certain diseases—spirillosis in hens, for example—that from the fiftieth to the hundredth part of the *dosis tolerata* of salvarsan entirely frees the animals from the parasites and leads to a cure. Such a dose truly represents a negligible quantity, as the hen cannot be damaged thereby in the slightest degree. But such favourable conditions have only very rarely been discovered up to the present; we shall have to be satisfied if we can succeed in obtaining good therapeutic results with the tenth or even the fifth or sixth portion of the *dosis tolerata*.

In the main the above are the principles which guided us in the construction of the new remedies. Many combinations have been tested in experiments on animals in the case of trypanosomes and spirillar infection. In their preparation I have been supported by the untiring co-operation of Dr. Benda, Dr. Bertheim, Dr. Kahn, and Dr. Karrer, and they have been biologically tested, especially

by my respected friend Professor Dr. Hata, and later by Dr. Castelli and Dr. Gonder and Frl. Leupold. Salvarsan has proved to be the most efficient, the dioxydiamidoarsenobenzol dichlorhydrate of the formula



Here the orthoamidophenol group acts as the conducting and the arsenic group as the toxophoric group.

But now, gentlemen, the step from the laboratory to practice—to the bedside—is an extraordinarily difficult and dangerous one, a step which can only be taken with the greatest care. Its difficulty and danger are in the main based upon two factors:

1. On the fact that in the case of men there exist so-called idiosyncrasies, forms of supersensitiveness which do not occur in the case of animals. So, for instance, it is known that with a large number of thoroughly healthy persons the consumption of harmless articles of food, such as strawberries, crabs, etc., brings about unpleasant skin eruptions, and almost half the known remedies can incite such phenomena of supersensibility. It will not be a cause of surprise, therefore, that such phenomena may occur in a particularly serious form with the employment of therapeutic agencies which contain such powerfully acting radicals as arsenic and mercury. I have already referred above to the disturbances of vision and cases of blindness which have been produced by certain arsenic compounds.

Fortunately, it is proved that such primary supersensibility in the case of salvarsan is one of the very rarest phenomena, and that it was perhaps due to a number of other circumstances, sources of error of a hidden nature, which in many cases have led to the mistaken idea that supersensibility existed. In this place we must first of all mention Wechselmann, McIntosh and Fildes, Hort and Penfold, who have brought forward the very important proof that the destroyed bodies of bacteria which may occur in sterilized water are capable of bringing about a series of serious and unpleasant phenomena such as fever, vomiting, diarrhoea, etc. And even in the case of a pure and unexceptionable water technical mistakes in the manufacture of the salvarsan solutions may bring about injury; too large an addition of alkali injures the veins used for the injection; too small a degree of alkali brings about blood coagulation, and leads to thrombosis; a lengthy shaking of the solutions and standing in the air oxidize the drug to a toxic product, the so-called arsenic oxide, which is much more highly toxic than salvarsan.

2. It has been shown that certain illnesses of a constitutional nature can cause a supersensibility. Thus, for instance, tuberculosis of the suprarenal glands, the so-called Addison's disease, is an illness which, according to the observations of Wechselmann and myself, brings about a severe supersensitiveness of the patients to arsenic compounds. The same applies to the status lymphaticus, which, as has already long been known, must be regarded as a type of the constitutional lack of resistance and supersensitiveness.

Furthermore, the seat and location of the disease may also bring about supersensibility, a supersensibility which is excited by the so-called "local reaction." We are indebted to the master mind of Robert Koch for the first knowledge of this peculiar phenomenon—the well known focal tuberculin reaction. Exactly similar reactions may, however, occur when the parasites are rapidly dissolved in a focus filled with parasites. Then under the influence of the liberated toxin an irritation of the tissues sets in which is connected with hyperaemia and swelling, and which is known in the case of the "luetic" illnesses as "Jarisch-Herxheimer's reaction." Such reactions are, of course, of no great importance when in connexion with the skin; but if the reacting centres have their seat in the neighbourhood of vital organs (brain), then the swelling may perhaps bring about injury of a nature serious to life, or even death itself. Indeed, it is well known that tuberculous meningitis may be influenced in an exceedingly dangerous manner by the careless use of the tuberculin reaction; in spite of this, however, no one will think of attributing the nervous disturbances to a neurotropism of tuberculin. And exactly the same phenomenon may occur with salvarsan if the spirochaetes of syphilis have localized themselves in the central nervous system.

As you will see, the treatment of patients is an exceedingly difficult and responsible task, and the clinical pioneers, such as Schreiber, Wechselmann, Iversen, and others, deserve our warmest thanks. They have thrown the first light upon the most important questions (posology, indications and contraindications). From a series of observations, now so vast that it can hardly be surveyed, there have, however, resulted what I might call the "therapeutic tactics," and which I should here like briefly to explain.

1. The *Therapia sterilisans magna*, which consists in this—that by means of one or at most two injections the body is freed from the parasites. In experiments on animals, and also in the case of a series of important maladies, this principle can be carried through in a clear and pure manner. Here, therefore, the old therapeutic motto is applicable: *Frapper fort et frapper vite.* It is a matter of course that the necessary dose must be greater in proportion to the severity of the disease, for it is absolutely clear that if a definite number of parasites is destroyed by a certain definite dose of the remedy, the quantity must be multiplied if the number of parasites—as happens during the course of the infection—has likewise multiplied. Apart from this, by a rapid destruction of the parasites endotoxins are set at liberty which, with increasing numbers of parasites, reach the circulation of the blood in ever-increasing concentration. And then, frequently at the height of the disease, serious or irreparable pathological disturbances occur, such as suppuration or necrosis, and these, of course, continue even when the pathogenic cause has been destroyed, and may lead to unpleasant complications. I refer here to the typhoid ulcers and to the abscesses and necroses in the case of horse sickness.

Therefore, it is in my opinion necessary to *allow the therapeutic treatment to come into action as early as possible*, as under these circumstances the full success is most easily and most surely attainable. And it is just at the present time when, owing to the progress of diagnosis, and especially the modern assistance rendered by the microscope and serological investigations which are connected with the names of Widal, Rubner, and Wassermann, we are in a position to recognize the specific infections early, that we must select as the first principle of medical treatment, *Frapper vite.*

We shall now have to ask ourselves the question, What are the causes which make it possible for such a favourable result to be obtained, a result which may be taken as *Therapia magna sterilisans*, radical cure of the body by means of a single injection? Typical antibodies can be shown to be produced fairly rapidly by the destruction of parasites, and especially of protozoa. Hence, it is quite evident that this adjuvant action of the organism ought to be eminently efficacious. For if the medicine has destroyed not the whole of the parasites, but only 95 per cent., the remaining 5 per cent. may succumb to the influence of the antibodies which are rapidly formed. If this is the case, the *Therapia sterilisans magna* is attained. Unfortunately, it has been shown that this salutary process may frequently be minimized by the biological properties of the parasites. For it may happen that a number of the parasites which survive the first injection escape destruction by the serum either wholly or in part, and subsequently change into new varieties which have become serum-proof, and are now known as a "relapsing crop." The possibility of forming a relapsing crop largely depends on the nature of the parasites. In the case of spirillosis of fowls, which, as is known, is a disease taking a typical course, relapsing crops do not seem to form, and the chemiotherapeutic cure is therefore an eminently easy one. In cases of recurrent or relapsing fever in human beings, the number of the relapsing crops is restricted to three or four. The number of relapses which we have observed clinically corresponds exactly to the existence of the various relapsing strains. On the other hand, other parasites can exist in an extraordinarily great variety of relapsing strains, and in this connexion I need only mention the trypanosomes and, in particular, the parasite of human syphilis.

In collaboration with Dr. Röhl and Frl. Gulbransen, and lately with Dr. Ritz, I have been able in the case of mice to produce, and to transmit for any length of time, eight entirely different forms of growths. It is clear that with parasites of this kind, which are able to form such a large number of relapsing crops, very great difficulties must occur in the treatment. The auxiliary forces of the body fail to act, so that it is necessary to do one's utmost to destroy the whole of the parasites all at once by means of drugs; owing to its great power of adaptation a single surviving germ may perhaps cause the infection to break out afresh.

Why is it that some of the germs escape disinfection in this way?

If an exactly definable quantity of an antiseptic is added to a liquid containing bacteria, a complete disinfection takes place: not a single germ escapes the destructive influence. But such ideal conditions do not obtain in living organisms. Even in disinfecting a room we sometimes find that in certain places, in the so-called "dead corners" formed by gas or water pipes, and so on, the disinfecting gas does not act sufficiently. In like manner the parasites which have settled in such "dead corners" of the organism are not reached by the drug.

Practical tests, however, have quickly taught us where such "dead corners" are to be found in the organism. The principal one is the hollow situated between the spinal cord and the dura, which is filled with a liquid as clear as water and almost entirely free from cells and albumin, the cerebro-spinal fluid. This condition of the cerebro-spinal fluid can only be accounted for by the fact that the cells by which it is secreted are in a high degree impervious to most of the constituents of the organism, albumin, for example, and that they only permit a limited quantity of substances with small molecules to pass through. The drugs with more complex molecules are thus kept back, as albumin is, and cannot get into the cerebro-spinal fluid. Should, therefore, parasites be lodged here, it is impossible for the drug to attack them. This localization of the parasites is of very special importance in connexion with the parasyphilitic diseases, tabes and paralysis.

Another possible explanation of the defective sterilization is this: that among the large number of parasites there may be some which are unaffected by certain drugs and resist sterilization. On the whole I am of opinion that this fact does not play a very great part in the course of fresh infection, but that it becomes prominent in connexion with those frequently recurring diseases which are characterized by innumerable relapsing outbreaks, such as sleeping sickness, lues, and so forth.

Here two possibilities are conceivable: First, if sleeping sickness, for example, is treated with atoxyl in the usual manner, it is possible—as can be demonstrated easily by experiment—for an atoxyl-proof stock of trypanosomes to develop itself by adaptation.

But, secondly, as I have already mentioned, the mere continual formation of relapsing crops, in the course of time and of several generations, can bring about a change in the chemioreceptors in the parasites. This, according to circumstances, may result in either an increased or a reduced power of resistance in the parasites. For instance, I have found that a trypanosome strain which was not affected by trypan red lost this peculiarity after having passed through a relapsing crop.

We should, of course, expect that certain relapsing crops, especially those showing a great tendency to relapse, should become much less sensitive than the original stock. And the serious influence of the usual specifics, mercury and arsenic, upon parasyphilitic diseases, in connexion with which Noguchi has lately proved the presence of living spirilla, tend to show that this is the case here.

These few facts and considerations suffice to indicate in which cases we may rely upon the result of the chemiotherapeutic treatment being entirely and rapidly successful, and in which cases such a result is to be obtained less easily and only by a circuitous road. The latter is especially the case with chronically recurring disease having localizations not easily reached. If we compare the fight against parasitic diseases with a state of warfare, we find that, on the one hand, great battles are fought which may lead to victory in the course of one or a few days. In combating bacteria such a victory would compare with *Therapia magna sterilisans*. If, on the other hand, a fortress has to be taken, months and even years may be required.

May I be permitted at this juncture briefly to point out the aids which are employed in connexion with a bacteriological siege?

1. When parasites are lodged in a "dead corner" and are in consequence difficult to reach, it has frequently been found advisable to employ, instead of one single injection a long series of injections extending over several weeks, the so-called serial treatment, in accordance with the rule: *Gutta cavat lapidem*. In this connexion I would specially point to the results which Leredde of Paris and Dreyfus of Frankfort have obtained by these means.

2. In this connexion it is desirable to employ a therapeutic agent of as small a molecular volume as possible, such as urotropin, which has been successfully employed by Simon Flexner in cases of infantile paralysis.

3. Moreover, various writers (Touton, Duhot, etc.) have suggested rendering the epithelium of the choroidal plexuses more pervious to the therapeutic agent by means of certain chemicals, thus causing more of the therapeutic agent to get into the cerebro-spinal fluid. Unfortunately this method so far has not led to any tangible results.

4. The possibility of making direct injections into the cerebro-spinal canal, in order to let more of the therapeutic agent get directly to the parasites contained in the fluid has also suggested itself. Thus Ayres Kopke, of Lisbon, has injected suitable disinfectants into the cerebro-spinal canal; Swift and Moore, of the Rockefeller Institute, have quite recently adopted a novel and interesting method in the treatment of tabes which promises to be very valuable. They treat the patient by first injecting salvarsan; shortly afterwards they draw blood from him and inject considerable quantities of the serum obtained from it into the spinal canal. This method is not only novel but suitable in so far as it obviates all possible ill effects on the sensitive central nervous system by employing serum obtained from the patient himself, while at the same time it is possible to apply the curative agent in sufficient quantities. The results obtained by this method were entirely satisfactory.

It is fairly obvious that all these measures aim on the whole at rendering the places which are not easily approached more accessible for the therapeutic agent than is the case in ordinary conditions. On the other hand, however, the greater power of resistance of certain parasites has to be taken into account, and this is a purely chemical question which can only be solved by chemical means. The road leading to its solution which promises the best results is that of combined therapy.

From what has been said it will be seen that combined therapy is best carried out with therapeutic agents which attack entirely different chemioreceptors in the parasites. For instance, it is useless to combine fuchsin with its nearest relative, methyl violet; and it is useless to combine therapeutically trypan blue and trypan red, for both attack the same spots in the parasites. But it is necessary to select from each group the most effective substance and then to combine the most suitable representatives of the various types. It is clear that in this manner a simultaneous and varied attack is directed on the parasites, in accordance with the military maxim, "March apart but fight combined."

Here the interesting fact has been brought out that, when such combinations are used, summation of the toxic properties of the various substances need not occur so far as the organism is concerned, whilst, so far as concerns the parasite, the therapeutic properties are summated. To quote a case in point, it was found that a sulphite of p-oxyphenylarsenic acid, which is ten times as poisonous as salvarsan, when added to salvarsan up to a certain percentage did not render the mixture more poisonous. But the healing properties of this mixture were three to four times greater than those of salvarsan in the treatment of a trypanosome infection in mice. Such phenomena are quite common in combined therapy. If one injects a mixture, for instance parafuchsin and salvarsan, the colouring matter is stored up by one set of receptors, and finds its way into one set of organs, the salvarsan into another, so that by this method an increase in the toxicity does not take place, provided the components have been

properly selected. In this case $\frac{1}{2} + \frac{1}{2}$ is not equal to 1, so far as concerns affection of the organs, but smaller than 1. On the other hand, both substances are concentrated in the parasites, and their effects can consequently be added, or, in favourable cases, can be multiplied. We thus obtain the therapeutical inequality $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = 1$.

I have maintained this point for quite a long time, and some very remarkable studies upon the same subject—in which stress is laid on the suitability of multiple, tertiary, and quaternary combinations—have recently appeared from Morgenroth's laboratory.

Moreover, according to more recent experiments, it seems advisable, in all cases where antisubstances are produced, systematically to incorporate these same in the combination, because the antisubstances require a receptor apparatus entirely different from that of the chemioreceptors. Thus the combination of pneumococcal serum with methylhydrocuprein, as tried by Morgenroth, has proved very efficient in connexion with tests on animals executed by Neufeld, while Dr. Bierbaum discovered simultaneously at my institute that exactly the same holds good in connexion with a combination of dysentery serum and salvarsan.

Thus the value of the combinations is clearly shown. They make it possible, always assuming that suitable substances are used, to effect a cure with the smallest possible doses and in the least harmful manner, and to eliminate any danger resulting from a maximum dose of one of the ingredients. A further advantage of combined therapy is this, that under the influence of two different medicaments the danger of rendering the parasites immune to arsenic, naturally a very great obstacle in connexion with further treatment, is apparently minimized. Thus it has been shown that, in the course of a prolonged quinine treatment, it may happen—the cases are fortunately not very frequent—that the malaria parasites become quinine-proof, so that therapeutical doses of quinine are no longer able to destroy the parasites. If, however, such a patient receives an injection of salvarsan, the malaria parasites are destroyed at once, for although they may be quinine-proof, they are not arsenic proof. Should the doses of salvarsan have been too small to prevent a relapse, and provided further doses of quinine are given to the patient when parasites again appear in the blood, a curative effect may be obtained by means of quinine. Consequently the combination of quinine and salvarsan has the effect of neutralizing or minimizing the quinine-proof qualities of the parasites.

For all these reasons I think that combined therapy will in the future conquer an ever-increasing field of action. Thus, for instance, Broden, in the Congo, while treating sleeping sickness in the human subject—it is true only in the early stage of this intractable infection—succeeded in obtaining good results by the combination of salvarsan and two basic colouring matters (trypallavin and tryparosan), the treatment lasting about a week.

It is precisely in the manifold possibilities of combination that I see a special advantage, and peculiar potentialities of development. When once we are acquainted with the majority of the chemioreceptors of a particular kind of parasite—a long piece of work occupying many hands and many heads—we shall have far-reaching possibilities of simultaneous attack by various agencies. And on this account combined therapeutics are characteristically pluralistic in contrast to the antitoxins, which may be said to act rather in one single direction.

And now, gentlemen, may I be permitted to refer to a few practical results? You are all aware that with a number of spirillar diseases the principle of *Therapia sterilisans magna* has proved most successful. You are aware that it is possible by one single injection of salvarsan to cure framboesia (yaws), which is caused by spirochaetes and is a scourge of the tropics, to cure it completely except in rare cases where unimportant relapses occur; this has been shown by the work of Strong, Koch, and Castellani. Thus in Surinam a hospital in which over 300 patients with framboesia were constantly under treatment was closed and turned to other uses after the introduction of the salvarsan treatment, as one single injection sufficed to cure the disease, and all the patients but two could be discharged. It is to be hoped that in this way it will be possible to extirpate framboesia altogether.

Exactly the same favourable results have been attained with relapsing fever in the human subject, the fever immediately subsiding after the injection of salvarsan, and the patients being cured by one injection. The very rare cases of recurrence that occasionally occur are also readily curable.

To continue dealing with salvarsan in syphilis, which is so closely related to framboesia, a fair percentage of cures has been obtained in the very first stage of the disease by a single injection of a large dose, but, of course, the abortive cure by intensive treatment is far more certain.

With Vincent's angina and the diseases of the mucous membrane of the mouth, caused by buccal spirochaetes, *Therapia sterilisans magna* is possible; in fact, in many cases a mere local application of salvarsan suffices. I may here further mention tertian malaria. In this form, but in this form alone, salvarsan has proved successful, as it has in blastomycosis (Petersen) and Aleppo boil. As regards the diseases of animals which can be cured by a single injection of salvarsan, I might specially mention breast disease of horses, which is of such enormous importance to the military authorities, and lymphangitis epizootica, the African glanders in horses.

Most important are the recent observations of Rogers, who found emetine to be a specific against the very serious amoebic dysentery. And if here it is indeed advisable and necessary to repeat the injections, yet the triumph of therapeutics remains unassailed; it is all one to the patient as to whether *Therapia sterilisans magna* or *Therapia sterilisans fractionata* is employed, provided only he is relieved of his sufferings in a harmless manner.

Piroplasmosis also, which causes serious disease in cattle and dogs, may, according to the observations of Nuttall, be favourably influenced by a pigment belonging to the class of trypan-colouring matters—namely, by trypan blue, first made by Mesnil. As I am informed, the fight against this disease has been taken up in a general manner at Pretoria under the auspices of Theiler. The injections are there performed not by veterinary surgeons, but by the farmers themselves, and they are glad to keep their valuable animals free from this serious disease.

It is indeed easy to understand that the schizomycetes, which in themselves are so much hardier than the tender protozoa and spirochaetes, will offer an increased resistance to the attack of drugs. Naturally here, too, there are fine differences, and it is perhaps no accident that the pneumococcus, the protoplasm of which is, of course, most sensitive, should in the course of treatment also have shown itself to be particularly sensitive. (I refer here to the fine researches of Morgenroth in the treatment of laboratory animals, infected with the pneumococcus, by means of derivatives of quinine, especially ethylhydrocuprein.) But in the case of hardier bacteria, too, such as the *Bacillus typhosus*, the possibility of sterilization is not beyond hope. The first successful experiments in this sphere were carried out by Conrad on rabbits and later confirmed and extended by Uhlenhuth and his fellow workers.

If I briefly allude to the very hopeful experiments of Gräfin Linden, who has endeavoured to influence tuberculous infections favourably by means of combinations of copper and lecithin, and if I add that salvarsan also has been shown to have a beneficial action upon the malignant anthrax bacillus, and upon that of glanders and, possibly, upon that of erysipelas, both in animal experiments and occasionally, too, in human cases, then all that we know about the chemiotherapeutics of the specific bacterial diseases has been told, so that it is just in this direction that there lies a wide field still to be worked. This field, important as it is, is still in the very first stages of experimentation.

And if after what has been said we cast a glance over the development of medicine, and especially of the fight against infectious diseases, we must recognize that in the last fifty years the most important advances have been made in every direction, advances connected above all with the names of Pasteur, Robert Koch, and von Behring.

On the one hand, we have the isolation of the pathogenic bacteria, which was made possible really by the Koch method of the solid culture medium, and in which Robert Koch's pupils and fellow workers—Löffler, Gaffky, Pfeiffer—first participated; the study of protozoa, which

started from Laveran's discovery of the germ of malaria; the discovery by Löffler and Frosch, Roux and Nocard, of the viruses which pass through filters; and the recognition of insects as intermediate hosts and transmitters of infectious diseases, connected with the name of Theobald Smith, which has led to the most important consequences.

On the other hand, we have the study of the immunity theory which was first inaugurated so brilliantly by Metchnikoff and received a new impetus from the wonderful discovery of antitoxins by von Behring. A wide new field—that of the science of immunity and the investigation of serums—was opened up, and here Pfeiffer, Bordet, Widal, Wassermann, and many others including myself, have worked with successful result. Some of the most valuable fruits of these labours, from a practical point of view, have been the diagnosis of diseases, first in the form of the Widal-Grüber reaction, and later the Wassermann syphilis reaction, the importance of which for diagnostic and therapeutic value cannot be over-estimated.

All these discoveries, especially in regard to the ways of spreading disease by infecting agents, have, in accordance with the principle that "prevention is better than cure," been made good use of in the fight against epidemics and for prophylactic measures, and have brought about an improvement surpassing expectation. In the second place the struggle with diseases which have already broken out has benefited by these discoveries, the most wonderful example being antidiphtheritic serum.

Epidemics and other diseases are much less dangerous nowadays than they used to be. The efforts of chemiotherapeutics must be directed as far as possible to fill up the gaps left in our defences, more especially to bring healing to diseases in which the natural powers of the organism are insufficient. And I believe that now definite and sure foundations have been laid for the scientific principles and the method of chemiotherapeutics, the way is visible before us—a way not always easy but yet practicable. In the diseases due to protozoa and spirilla extraordinarily favourable results have already been gained, as I have shown. There are many valuable indications that in a series of other diseases—small-pox, scarlatina, typhus exanthematicus, perhaps also yellow fever, and, above all, the infectious diseases caused by invisible germs—the prospects of success are brightening. But in contradistinction to the protozoan disorders the ordinary or common bacterial diseases (diseases due to the streptococcus and staphylococcus, *B. coli*, typhoid and dysentery, and above all tuberculosis) will not be vanquished without a hard struggle. Nevertheless, I look forward with full confidence to this development also, and, without being set down as an optimist, will put forward the view that in the next five years we shall have advances of the highest importance to record in this field of research. There are indeed problems which often prove too great for the powers of individuals, and can only be solved by a many-sided effort. Considering the enormous number of chemical combinations which must be taken into consideration in the struggle with disease, it will always be a caprice of chance or fortune or of intuition that decides which investigator gets into his hands the substances which turn out to be the best for fighting the disease, or who it is that happens on the basal substances for the discovery of such. But the chances in favour of finding a real cure, and so of winning the big prize, will naturally increase with the number of those who occupy themselves with the problem. It is just here that we should unite our forces, and special importance attaches to that motto, *Viribus unitis*, which gives guidance in so many other fields. For this is the noble legend on the flag of this great International Congress, to which thousands have been drawn from all lands to bear testimony to the fact that in the world of science all national barriers have fallen.

The Government of Ontario having instituted the post of inspector of the feeble-minded has appointed thereto Dr. Helen MacMurchy, a medical woman whose name has long been familiar in connexion with the study of questions relating to infant mortality, and who is personally known to many of her colleagues in this country owing to her attendance at the annual meeting of the Association in 1910. She will also bear the title of inspector of hospitals and public charities, and act in this capacity as assistant to the head of the hospitals department at the Ontario Home Office, Dr. Bruce Smith.

Address
on
HEREDITY.

Delivered at the Seventeenth International Congress of Medicine.

By W. BATESON, M.A., F.R.S.

Let me on behalf of my colleagues, the students of genetics, express our deep sense of the honour conferred upon us by the organization of your Congress in choosing our science as the subject of one of the general addresses. It is scarcely necessary that I should say, on my own behalf, that I feel it an extraordinary privilege to be permitted to represent that science on such an occasion.

This is a great privilege, but it entails also a very grave responsibility. Conscious as we are of the exceptional significance that the study of heredity must before long assume, it would be mere affectation were I to suggest any misgiving as to the propriety of allotting to this subject a conspicuous position in your deliberations. To the penetrative foresight of Francis Galton it was evident long ago that these aspects of physiology must one day become one of the chief preoccupations of reflecting minds. That inference he drew from a broad contemplation of the facts of descent. Traces of order among these phenomena he did indeed perceive, and by great labour and ingenuity he even gave numerical expression to his conclusions. But great as his services were in attracting attention to the problem, no one before the rediscovery of Mendel's work had ventured to imagine that the confusion, the paradoxes, the capricious disorder of the phenomena of descent were, in very great measure, capable of a simple and ready analysis. It is this knowledge which has given to genetic science a position paramount among the branches of physiology, showing that in accurate genetic analysis a means is given not merely of elucidating the inter-relations of parent and offspring—the immediate subject of our investigations—but of contributing also to a right interpretation of various special problems of pathology and of anthropology, perhaps, also, to a true understanding of the course of human history, and certainly to the direction and control of the destinies of mankind. Knowing, as I must, that the manner in which these issues are presented to you to-day cannot fail to influence in some measure the development of genetic study in the medical world, I should be insensitive did I not feel how responsible is the position I now occupy. Most of all I fear that I may seem in some degree to exaggerate not the importance of the principles already ascertained, but the precision with which they can be shown to apply in the special cases of human physiology. In all the arts, perhaps most in the art of exposition, the hardest thing is to simplify the presentation by the omission of detail, and at the same time to leave the picture true to natural fact. So let me, therefore, at the outset say that in regard to almost every instance of principle I shall bring before you, though rule may be perceived, we have evidence of exceptions also. This is true even of the rules traced by minute analysis in the plants and animals amenable to experiment, and necessarily far more true of the human phenomena which are brought within our reach for the most part by imperfect records. As in every department of physiological advance, we have first to trace the course of those great sweeping curves which lead to the recognition of ascertained law, and later those minor deviations, perhaps equally significant, which must hereafter be the subject of a further analysis.

Now the essence of Mendelian principle is very easily expressed. It is, first, that in great measure the properties of organisms are due to the presence of distinct, detachable elements, separately transmitted in heredity; and secondly, that the parent cannot pass on to offspring an element—and consequently the corresponding property—which it does not itself possess. The determination or recognition of these elements by analytical breeding is one of the main objects of present-day genetic research. Each germ cell, ovum or sperm, may contain or be devoid of any of these

elements, and since all ordinary animals and plants arise by the union of two germ cells in fertilization, each resulting individual may obviously receive in fertilization similar elements from both parents or from neither. In these cases the offspring is "pure" bred for the *presence* of the character in question, or for its *absence*. But it may be formed by the union of dissimilar germs, one containing the element, the other devoid of it, and in this case we call the individual cross-bred, or heterozygous in that respect.

A population thus consists of three classes of individuals—those pure for the presence, having received two doses, of an element; those pure for the absence of the element, having received none of it; and the cross-breds, which have received one dose only.

From the physiological standpoint it is of great importance to distinguish the positive from the negative characteristic. But since it often happens that the full effect is produced in the organism by one dose only of a character, we have felt justified in regarding this positive effect as the sign or proof that it is caused by something present. A plant, for example, though cross-bred for tallness, may be as tall as one pure-bred for tallness.

Each dwarf plant, whatever be its parentage, can only produce dwarf offspring. Not having tallness, it cannot transmit that property. A cross-bred *tall* plant can, by self-fertilization, produce both tall and dwarf offspring. Fowls with silky feathers cannot, if bred together, have offspring with normal feathers; but two birds, normal to all appearance, can, if they be cross-bred in that respect, produce silky offspring.

At a later stage we will consider to what extent we are justified in thus discriminating between the positive and the negative characters, but for the present we will note that, as a matter of symbolical expression, the distinction is immaterial. Now the organism produces germ cells representing in equal number the several characteristics of the germ cells from which it arose. There is, as we call it, *segregation* between the elements introduced from the parent. The double structure of the soma is, when the germ cells are sound, resolved into the single structures of the germ cells. If the organism is pure-bred in any respect, all its germ cells are alike in that respect. If it is cross-bred, its germ cells represent in equal numbers the positive or negative characters which were brought together in fertilization. In consequence, the numbers of individuals resulting from the various possible forms of union follow regular arithmetical rules, and the proportions in which the several classes appear give us the means of tracing and identifying the various systems of descent.

It was naturally with great interest that we began the examination of human pedigrees, and the result of that search soon showed that many of the more definite hereditary diseases and malformations follow one or other of the systems with which Mendelian analysis has familiarized us. The first condition thus recognized to have a simple Mendelian inheritance was the peculiar malformation known as brachydactyly, described in America by Farabee. Another example is congenital cataract, studied by Nettleship, to whose admirable researches we owe many of our most valuable and instructive pedigrees. Both these conditions descend as dominants. It is characteristic of them that unaffected members of the families do not transmit. Not having in them the critical element which causes the condition, they cannot pass it on to their posterity. In the human examples the individuals affected are almost always heterozygous, and hence among the children which are born to their marriages with normal persons, we expect the affected and unaffected to be in equal numbers.

Since then such pedigrees have been recognized in abundance. The collection of such evidence we owe especially to Nettleship, Gossage, Drinkwater, Lundborg Weil, Bulloch, and many more.

Some of these, which may be stated with fair confidence to descend commonly as dominants, are the following:

Brachydactyly; claw-shaped extremities; cartilaginous exostoses; membranous cranio-cleido-dysostosis; hypoplasia of the teeth; diabetes insipidus; chronic trophoedema (generally).

Skin Affections. — Tylosis, epidermolysis bullosa, telangiectasis, hypotrichosis, porokeratosis, xanthoma.

Ophthalmic Diseases.—Presenile cataract, ectopia lentis (sometimes), coloboma (sometimes), distichiasis, night-blindness (certain forms), retinitis pigmentosa (sometimes).

Nervous Diseases. — Angeio-neurotic oedema, tremor hereditarius, ptosis, Huntingdon's chorea, and probably several of the forms of spastic paralysis and of myatrophy.

Respecting nearly all these it may be remarked that exceptional cases, some undoubtedly authentic, are on record in which affected children have been born to parents actually or apparently normal. Many of these exceptions are undoubtedly genuine and serious, but others may be ascribed to irregularities in the age of incidence, and to mistakes as to slight cases.

Another difficulty arises from the fact that the numbers are frequently irregular. This is in part caused by imperfection in the records. In part, however, I think these aberrations point to real peculiarities in the process of segregation. We know well that in certain plants like wheat and peas the expected numbers appear with great constancy, but in others, as stocks and the primulas, long "runs" are so common that smooth results are only obtained by the summation of large series of observations. We are perhaps right in conceiving the germinal tissue of a heterozygote as an emulsion of the two types, sometimes coarse, sometimes fine, and the degree of smoothness of the results may be an indication of its state in this respect.

In regard to the large group of diseases of nervous origin, such as Friedreich's disease, Thomsen's disease, and others, these sources of difficulty are especially serious; and though from study of many genealogies I have come to the conclusion that most of them are essentially dominants, I offer this opinion with reserve.

Of recessive conditions in man we have less abundant evidence. Inasmuch as they usually appear from the unions of parents both apparently normal, though heterozygous for the condition, their occurrence is rare and sporadic. Lundborg has shown with great probability that paralysis agitans is one of these. The constant intermarriage of families in the valleys of Sweden, Norway, and the Alps gives the best opportunity for the study of this form of descent. Lately, also, the American students of genetics have produced evidence making it clear that feeble-mindedness has at least one of the marked features of a recessive condition. When both parents are feeble-minded they have no normal children. It is nevertheless difficult to regard this condition as a simple recessive, for unions of the feeble-minded with normal persons almost always produce some feeble-minded children. Among our experimental families of plants and animals there are mysterious examples somewhat comparable with those, but the exact nature of the complication is still obscure.

Other conditions which exhibit a behaviour characteristic of recessives are albinism, myoclonus epilepsy, and alkaptonuria. They may all appear in the children of normal persons, with special frequency as the result of marriages of related parents, and there can be no reasonable doubt that these conditions are due to the loss of some factor present in normal persons.

At this stage attention should be called to a remarkable group of cases in which the appearance of abnormality may almost without doubt be regarded as partially dependent on the conditions to which the soma is subjected. Of these, I may mention in particular some of the congenital abnormalities, such as hallux valgus, and some of the congenital deformities of the joints, as, for example, dislocation of the hip or of the radius. In these cases we meet the curious fact that whereas the condition most usually appears in the offspring of normal parents, it may, in certain families, be transmitted from parent to offspring as a dominant. I am inclined to compare these phenomena with those so often witnessed in incubating eggs. When the incubators are not running uniformly, many of the chickens are born with deformed feet. Such abnormality, however, is found with especial frequency in particular strains of birds, though eggs from other strains exposed to the same conditions may give perfectly normal results. The liability is the thing transmitted, but without the appropriate conditions the effect is not produced.

The next group of cases to which I would call your attention is one in which the descent of the abnormality is limited wholly or partially by sex. Of these, the best known examples are those of the descent of colour blindness, haemophilia, and one of the forms of nystagmus.

In regard to colour blindness, the fact has long been known that males are affected with exceptional frequency. Colour blindness among women is decidedly rare. Horner was, I think, the first to call attention to the fact that in

the pedigrees of this condition there is remarkable regularity. Normal women transmit the affection to their sons, whereas colour-blind males with rare exceptions have only normal offspring. It is possible to interpret these phenomena by the suggestion to which several of us inclined some years ago, that colour blindness is a dominant, inasmuch as the normal males cannot transmit it. We were led to regard the condition as due to the presence of something inhibiting normal colour sense rather than to the absence of the factor to which that sense is due. Further investigation has, however, thrown doubt on this simple explanation. As to the descent, however, there is no doubt that the sons of colour-blind males do not inherit the peculiarity, and therefore cannot transmit it. The daughters of colour-blind fathers inherit it, and though it does not appear in them, probably all of them have the power of transmitting it to their sons. Knowledge derived from direct experimental breeding of various animals has provided a very remarkable scheme by which this course of descent can be represented factorially. One of the simplest of such examples is that of the inheritance of colour in Sebright bantams. When a cross is made between a golden hen and a silver cock, all the chickens come silver, but when a reciprocal cross is made, a silver hen being mated with a golden cock, the pullets come golden but the cockerels come silver. In this case we must regard the silver as dependent on the presence of a dominant factor, and the golden as due to its absence. The silver male is purely for silver, SS, having received that factor from both parents, but no pure silver hen exists. The hen is heterozygous for silver, and may be represented as Ss. We must further regard the hen as also heterozygous for femaleness, Ff. In the formation of the eggs there is what we call repulsion between the factor F and the factor S; the two are not present together in any egg. Those eggs which are destined to become males carry factor S, and those eggs which are destined to become females carry factor F. Now in colour blindness, the repulsion that has been so clearly proved between these factors may be represented as acting in the germ cells of the male between the factor for maleness and the factor for colour blindness; such that the sperms destined to become males carry factor M, but do not carry the factor for colour blindness, which passes entirely into those sperms which are destined to produce femaleness. It is evident that females heterozygous for colour blindness are not colour blind, and that colour-blind females can only be produced by the meeting of two germ cells both bearing the affection.

It follows from the hypothesis that the sons of colour-blind women will all be colour blind, and all the records of such families with which I am acquainted, with a single doubtful exception, are in agreement, in that the sons of such women were all colour blind.

It is practically certain that the same system of descent sometimes holds for nystagmus, respecting which Nettleship has recently collected some important genealogies.

As to the other sex-limited conditions in man, I can only say a few words. Haemophilia is the most familiarly known of these. It is likely that the condition in men follows the same descent as that established in the cases of colour blindness, but inasmuch as males affected with the condition very rarely live to the age of puberty, little is known of their powers of transmission.

I have already spoken of night blindness as a condition which descends as a dominant, but it is very interesting that Nettleship has lately published certain pedigrees of night blindness in which the descent is of the sex-limited type. This particular night blindness is apparently associated always with a high degree of myopia, and I suppose there can be little doubt that the recognition of the genetic distinction will lead to the discrimination of pathological differences also. Pseudo-hypertrophic muscular paralysis is another condition which descends in a similar way, and at least one large pedigree has been compiled by Herringham showing the same descent for peroneal atrophy.

At an earlier stage of this lecture I mentioned a doubt as to the justice of the inference that the characteristics which behave as dominants are due to the *presence* of factors, and to that point I must now return. In our experimental studies of animals and plants we are aware that certain negative characteristics may be produced not by the absence of a quality, but by the presence of some factor which inhibits its expression.

In illustration I may show you an example in the Chinese primrose. These plants may have their flowers coloured or white and we are aware that the white may owe their whiteness in certain cases to the absence of colour; in which case, of a cross with the coloured form, the offspring are all coloured, whereas other whites contain something which destroys or inhibits the development of the pigment which is contained in them, and when such whites are crossed with coloured the offspring are white or nearly so.

In view of these examples the question fairly arises whether some of the dominants whose descent I have traced in human pedigrees may not in reality be due to the absence of some factor which in normal persons prevents such development. This suggestion was prominently brought forward by Doncaster in regard to colour blindness. He lately suggested a scheme according to which we should regard all normal males of the population as heterozygous Nn for a factor N normality, and all ordinary females as homozygous NN for the same factor. In either case the course of the descent would, both qualitatively and numerically, be the same as that represented by the earlier scheme. Between these two methods of representation we cannot as yet distinguish. The point is of great importance in another respect. The question will be prominent in most of your minds, whence do these dominant factors come? Whereas it is comparatively easy to conceive some process by which some elements of the composition may be lost, we are quite unable to suggest any source from which a factor may be derived or any mode by which it may be taken into the genetic system of the organism. We have been accustomed to speak of factors as being added to or subtracted from the sum total of an individual composition, but as to the actual origin of new dominants there is very little contemporary evidence.

In the case of those animals, such as the fowl, the wild original of which we think we know, many factors exist in our domesticated breeds which are not possessed by any of the wild species. No wild species, for example, has the complicated combs that we know in our domesticated breeds. None has the dominant white colour of the leghorn, and many other such instances might be given. How have these elements been added to the composition of the fowl? The problem is exactly parallel to that constituted by the occurrence of brachydactyly or night blindness in man. We can only trace back these peculiarities to a single individual of whose origin nothing is known, but whence did he derive the factor to which he owes his peculiarity?

We may compare these cases with those of the origin of an infectious disease, such as typhoid fever. When a medical officer of health recognizes typhoid in his district he knows that it must have come from some definite source of infection, and but for one feature in the descent of dominants we might be tempted to suggest that they also arose through the introduction of some element from without into the system. I see no *a priori* impossibility in such a belief, but in these dominants we know that the distribution among the germ cells is approximately symmetrical, and nothing that we know of animals and plants justifies the suggestion that a foreign element can be so treated in gametogenesis. Perverse as such a suggestion may appear, I do not think we should close our minds to the possibility that these dominants arise by a process of loss of some inhibiting factor. Until we have some far more direct method of recognizing the presence of factors this suggestion cannot be positively gainsaid.

Let me call your attention also to the inference which this suggestion would have on the conception of evolution. We might extend the same reasoning to all cases of genetic variation, and thus conceive of all alike as due to loss of elements present in the original complex. For all practical purposes of symbolic expression we can still continue to use in our analyses the modes of representation hitherto adopted, but we must not, merely on the ground of apparent perversity, refuse to admit that the lines of argument here indicated may prove sound.

Much as we now know of the inheritance of these abnormalities—some common, others rare—we know little of the descent of the normal characteristics of an ordinary human population. Indeed the only normal characteristics

as to the genetic nature of which we have clear evidence, are the colour of the iris and, to some extent, the colour of the hair. Our knowledge of these is derived from the work of Hurst; he it was who first succeeded in determining the inheritance of eye colour, which had long been a puzzle to anthropologists. The facts which he collected clearly showed that the presence of pigment on the front of the iris—the condition commonly known as brown or black eyes—is a dominant, whereas the absence of this pigment—the eyes we variously call grey or blue—is a recessive. And so far, though I anticipate the possibility of exceptions, no example has yet been produced of two parents critically known to have blue eyes producing offspring with brown or black eyes. As similarly shown, red hair behaves as a recessive, and I understand that at the forthcoming meeting of the British Association in Birmingham Hurst will arrange a demonstration of this as exemplified by the inhabitants of a Midland village.

From the records of portraits of the royal house of Hapsburg it is clear that the familiar facial characteristics of the family behave with fair regularity as a dominant, and there are indications that several of the artistic gifts follow with some accuracy the course characteristic of recessives. By careful observation and record the list might rapidly be increased.

Referring to the descent of various forms of insanity, nothing has been made out with certainty with the exceptions that I have mentioned—hereditary chorea, which behaves as a dominant, and the condition somewhat vaguely described as feeble-mindedness, which behaves as a recessive. The genetic analysis of insanity is at the present time practically impossible from the fact that the diagnosis of the various forms of insanity is by no means clear, and also from the fact that the conditions of life have obviously much to do with the development of such weaknesses.

Similar difficulties arise in regard to deaf-mutism. It is not in question that this condition is very often transmitted, but forms of deafness are so various, and there is such uncertainty as to the nature of the condition in any given case that we cannot expect to perceive the operation of any regular system here. It is not impossible, also, that in regard to the descent of liability to infectious disease, we may hereafter trace rules similar to those which have now been established in plants, especially by Biffen.

I propose now briefly to allude to some other significant aspects of these results. First as to the nature of segregation. This, I think, we must regard as a process comparable with the mechanical separation of substances which will not mix, or mix imperfectly; whereas some factors are continually transmitted in their entirety, others are liable to be broken up by what I regard as a process of quantitative fractionation occurring in the mechanical dissociation of the elements at certain critical cell divisions. As to which are the critical cell divisions, we have no clear indication. I cannot agree with those of my colleagues who think segregation must occur exclusively in the maturation processes. The case of the double stock, in which the whole male side of the plant differs genetically from the female side, as proved by Miss Saunders, shows almost conclusively that segregation may occur in somatic divisions. It is also difficult otherwise to interpret the fact that in certain cases the parental combination influences the distribution of factors among the gametes so that the distribution among the grandchildren is different according to the way in which the characters were combined in their grandparents. Into these details I cannot now enter.

The tendency of our work, as you will perceive, is more and more to exhibit the definiteness and fixity of the laws of descent. The medical man, justly proud of what he can do to make good bodily shortcomings, looks naturally to the conditions of life as the influences which chiefly determine destiny. The statesman, to whom physiological fact is a mystery that he rarely feels any desire to explore, inclines naturally to a similar conception of life There are signs that more true views are beginning to prevail. It is impossible to study such pedigrees as those of night blindness, in which a condition introduced by one individual into a community hundreds of years ago continues to be perpetuated according to definite arithmetical rules among a remote posterity, without being impressed with the fact that whatever influences may be brought to bear by hygiene or by education, the ultimate decision rests with the germ cells. Evolutionary change is effected not so much by gradual transformation of masses under ameliorating or detrimental conditions, but, in the main, by the occurrence of individual and sporadic variation.

It is beyond my province to discuss in detail the practical question denoted by the word "eugenics." Those who are engaged in the work of physiological analysis probably do well to keep clear of those distractions. The direction, however, in which genetic research points is not difficult to determine. Sir James Crichton-Browne has discussed at this Congress the striking percentage increase of lunacy in recent decades, and, as always when such topics are under consideration, there are persons disposed to lay the blame on the conditions of life, the severity of the modern struggle, a greater or less consumption of alcohol or other drugs, and so forth; those, however, who have some knowledge of genetic physiology are aware that the whole force of modern science and legislation has hitherto been exercised in the preservation of defective strains in our midst, and will not feel serious hesitation as to the true cause of the increase.

The Mental Deficiency Bill we recognize as, in principle, a wise beginning of reform, but, on the other hand, we cannot hear without disquietude, of the violent measures that are being adopted in certain parts of the United States with similar objects. It is one thing to check the reproduction of hopeless defectives, but another to organize a wholesale tampering with the structure of the population, such as will follow if any marriage not regarded by officials as eugenic is liable to prohibition. This measure, we are told, is actually proposed in certain States. Nothing yet ascertained by genetic science justifies such a course, and we may well wonder how genius and the arts will fare in a community constructed according to the ideals of State Legislatures.

Philologists tell us that, by an irony of development, the word "dull" comes from the same original which in Dutch has become "dol"—mad, and is better known to most of us in the German equivalent "toll." But I anticipate that, connected as the ideas may be, we might, by ridding our community of mania, leave it gravely infected with dullness. There are other no less obvious considerations which I might develop, but I trust I have said enough to show that in the experimental analysis of genetics we have an instrument of novel and extraordinary power, and I am not alone in forseeing that genetic science must profoundly influence the course of human thought, and, ultimately, the conduct of society.

Address

ON

THE RELATIONSHIP BETWEEN MEDICINE AND PUBLIC HEALTH.

DELIVERED AT THE SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

BY

THE RIGHT HONOURABLE **JOHN BURNS, M.P.,**
PRESIDENT OF THE LOCAL GOVERNMENT BOARD.

I MUCH appreciate this opportunity of addressing an audience which is representative of the medical culture of the entire civilized world; an audience of men who have assembled to interchange experience, to report progress, and to give and receive mutual enlightenment in their glorious work for the benefit of suffering humanity.

My intention in addressing you to-day is in the first place to bear my testimony to the immense debt of gratitude owing to you by the whole of humanity. Arising out of this, my remarks will in the main be concerned with the intimate relationship which exists between medicine and public health.

THE SAVING OF LIFE.

When speaking of the marvellous lowering that has taken place in the death-rate in this country, one is perhaps too apt to remember only social and sanitary progress as the explanation of this great change. My address to you to-day may, I trust, serve to show the appreciation by the public of the fact that to a very large extent humanity is indebted for the saving of life

and of suffering that has occurred to the vast improvements in the science of cure as well as of prevention of disease.

As a layman, I cannot attempt to set out the details of the marvellous progress of medicine, especially in its relation to public health, since you last met in London in 1881, and in the years preceding that meeting. Were I to attempt that task not a single nationality represented here would fail to claim names of honour in the record. My imperfect record can give only a few of the names that will be familiar to you: Norway has had its Hansen, Russia its Pawlow and Metchnikoff (lent to France), Austro-Hungary its Semmelweis, France its Pasteur, Budin, and Roux, Italy its Celli and Marchiafava, Belgium its Bordet, Holland its Eijkman, Japan its Takaki and Kitasato, Germany its Koch and Ehrlich, America its Oliver Wendell Holmes, Morton, Read, Carroll, and Flexner, and the United Kingdom its Farr, Simpson, Jenner, Lister, Manson, and Ross.

I do not forget that I am here as the representative of public health in this country, and my remarks will be made chiefly from that standpoint. Although no impending triumphs of preventive medicine are likely to cause your glorious work in assuaging suffering to cease, I look forward to the time, which has indeed already partially come, when the family doctor will be engaged in advising as to means for preventing disease, in dissuading from habits inimical to health, in preventing overwork or laziness—both serious enemies of mankind—in reporting external conditions, whether of work or leisure, needing to be amended, and still more often in discovering the early symptoms of illness which if neglected may produce serious disease, and in securing the removal of their cause.

We have already glimpses of important directions in which this ideal of future work is being realized. I refer to the modern campaigns against tuberculosis, in aid of child welfare, and in connexion with school medical inspection, which are rapidly becoming part of the national life in this and in other countries.

The national system of medical inspection of scholars, and the "following up" of disease or disorder discovered at these inspections, is a work of the highest national importance. It is not only important in itself, but also in discovering a large amount of neglected illness, which should have received attention before school life, and to which child welfare work is now being increasingly directed. In all these relationships we are realizing to an increasing extent the essential continuity and interchangeability between treatment and prevention in our efforts to reduce disabling disease.

The Past Saving of Life.

Some conception of the progress already secured by the application of science, especially medical and sanitary science, to the problem of healthy living—and I trust at the same time some impetus to further triumphs on the part of your profession—may be given by the comparison to which I invite your consideration of the average experience of England and Wales during the three years 1909–11 with its experience during three years based on the average experience of 1871–80.

In the three years 1909–11, 1,529,060 deaths occurred in England and Wales. This number is 772,811 fewer than would have occurred had the average death-rate of 1871–80 held good for these three years. As shown in the following figures, the largest share of this saving of life during three years has occurred in the working years of life, and the gain thus secured to the economic capacity of the nation has been on a gigantic scale.

Comparing the aggregate experience of the three years 1909–11 in England and Wales with the experience of three years based on the average death-rate for the decennium 1871–80, the saving in these three years was:

At ages	0–1	...	...	over	98,000 persons
,,	1–5	...	...	,,	126,000 ,,
,,	5–15	...	...	,,	44,000 ,,
,,	15–25	...	...	,,	58,000 ,,
,,	25–35	...	...	,,	78,000 ,,
,,	35–45	...	...	,,	77,000 ,,
,,	45–55	...	...	,,	50,000 ,,
,,	55 and over		...	,,	114,000 ,,

The saving under certain special diseases is set out below. Comparing the aggregate experience of the three years 1909–11 with the experience of three years of the decennium 1871–80, the saving of life in three years was—

In respect of	small-pox	... ...	25,463
,, ,,	measles	... ...	7,824
,, ,,	scarlet fever	... ...	69,974
,, ,,	whooping-cough	... ...	30,884
,, ,,	fevers (typhus, enteric, simple continued fever)	... ...	45,339
,, ,,	puerperal fever	... ...	3,941
,, ,,	diarrhoea, dysentery, and cholera	... ...	32,996
,, ,,	pulmonary tuberculosis	...	114,799
,, ,,	other tuberculous diseases	...	36,338
	Total saving on these diseases	...	367,008

Nearly half the total saving has occurred under the heading of the diseases here enumerated.

If we take the whole of the thirty-two years 1881 to 1912, and consider the saving of life during this period, the figures are truly colossal. During these thirty-two years in England and Wales 17,083,751 deaths occurred.

Had the relatively high death-rates of 1871–80 continued during each of these thirty-two years with the populations of each of these years, 3,942,000 more deaths would have occurred than were actually experienced.

Expenditure of Local Authorities.

It is interesting to contrast the saving of life actually experienced during the last thirty-two years with the expenditure incurred by local authorities (sanitary and Poor Law authorities, county councils, joint hospital boards, etc.) during the forty years 1870 to 1909–10. During this period the total expenditure of all local authorities in England and Wales exceeded 3,000 millions sterling, of which amount over 500 millions was obtained on loan since the year 1882–3. At the end of 1909–10 the total indebtedness of local authorities exceeded 536 millions sterling, or about seven-tenths of the amount of the National Debt.

In the following table an analysis is made of the main items of loans by local authorities which may be regarded as directly or indirectly concerns of public health, and a comparison is made with the corresponding items for 1883–4. The figures are stated in round numbers:

	1883–4.	1909–10.
	£	£
Total outstanding debt for all purposes	165,000,000	536,000,000
Outstanding debt incurred:		
In respect of schools	14,000,000	46,000,000
,, highways, etc. ...	17,000,000	57,000,000
,, waterworks ...	29,000,000	127,000,000*
,, sewage and sewage disposal ...	15,000,000	42,000,000
,, housing	3,500,000	10,800,000
,, hospitals	182,000	4,600,000†

* Including loans of Metropolitan Water Board.
† Does not include Poor Law institutions or Metropolitan Asylum Board institutions.

The above statement does not include municipal and Poor Law expenditure on the supply of gas, electricity, tramways, harbours, on asylums, police, markets, workhouses, etc.

Since 1882–3 local authorities have expended out of rates and by means of loans the following sums:

Education	£320,000,000
Highways, bridges, and ferries ...	289,000,000
Waterworks	131,000,000
Sewerage and sewage disposal ...	89,000,000
Hospitals (not including Metropolitan Asylums Board and workhouse infirmaries)	20,000,000
Housing of working classes	11,000,000
	£860,000,000

A large proportion of the total sums mentioned above has been expended by local authorities on objects which are unrelated to the public health, though they may have increased the public comfort. The expenditure on education has doubtless helped the public health as well as national efficiency, though only a share of this expenditure should be allotted to the former heading. If we assume that 500 millions sterling have been expended which can be rightly associated with the saving of nearly four

million lives which has occurred during the last thirty-two years, and if we take the average economic value of a life saved—that is, prolonged to an older age—to be £150, a very modest estimate, evidently even this large sum can be regarded as having been a profitable investment. It has to be remembered that the benefit of many of the large capital expenditures on water supplies, sewerage, housing, hospitals, etc., will be reaped even more in the future than in the record of the past.

PERIODS OF PROGRESS.

How has the saving of life already achieved been secured? No complete answer can be given in a few sentences, and perhaps my best plan is to proceed by examples, drawing inferences from the historical facts of medicine, which are open to the layman as well as to the doctor.

The progress that has been made in this country during the nineteenth century comes within two overlapping periods. The first of these is the period of what may be called crude generalizations; the second is the period in which progress as to each disease has been based on the actual results of scientific investigation.

MOTIVES OF PROGRESS.

In the progress of the earlier period—and happily the same motives continue to be potent now—motives of philanthropy, panic, and economic necessity combined to secure, though too slowly, the needed sanitary reform. I cannot stay to discuss the high value attaching to the devoted efforts of such men and women as John Howard and Elizabeth Fry, of Sadler, Oastler, and their collaborators, of Lord Shaftesbury, of Charles Dickens, of Charles Kingsley, and in official life of Edwin Chadwick, of the Poor Law Board, who succeeded in arousing England and securing improvement in the conditions of work and life, and even of imprisonment; nor of such men as David Livingstone, who did so much to "heal the open sore of the world" constituted by slavery, to open up tropical countries, and thus to prepare the way for the recent triumphs of tropical medicine. It is not without interest to note that the earliest successful attempts to enforce sanitation and to secure healthy conditions of work were in connexion with factory work. This involved the appointment of paid inspectors, introduced by the Act of 1833. Factory inspectors preceded medical officers of health and sanitary inspectors; and under the Home Office their beneficent work in industrial hygiene has, year by year, become more far-reaching and effective.

Next to philanthropy, panic has been, perhaps, the most efficient factor in early sanitary progress. So far as this country is concerned, cholera has been far from an unmixed evil. In 1831–2 it caused 41,544 deaths in the United Kingdom; and this led to spasmodic efforts on the part of many local boards of health to sweep the Augean stables of insalubrity. The lesson was not, however, sufficiently learnt until later epidemics of the same disease occurred, followed by the creation of local sanitary authorities, and the expenditure of large sums on schemes of water supply and sewerage.

The economic value of health and the wastefulness of premature sickness and death are not even now sufficiently realized; but the steadily increasing readiness of local authorities to expend money on sanitary measures indicates our increasing realization of the truth that national health is national wealth.

THE DOCTRINE THAT DIRT MAKES DISEASE.

It was the great merit of the work of Edwin Chadwick that he added to philanthropy the important economic motive, showing through numerous local investigations the regular association between unhealthy conditions and disease, and the production of pauperism by means of disease. Of the value of this generalization we are now fully advised. At least one half of the total cost of pauperism in recent years is stated to be swallowed up in direct dealing with sickness, and to this must be added the indirect contributions of sickness, through deaths of bread-winners, and the host of by-products of sickness with which disease helps to populate our workhouses.

Chadwick was largely influenced by the teaching of Dr. Southwood Smith and his collaborators, that epidemic diseases as a whole are the direct consequence of local insanitary conditions. This valuable generalization, as we now know, needs a modified and more accurate statement, specialized for each individual disease. In its original form, however, it embodied a realization of the immense power of the environment to make or mar the national life; it secured the beginning of our national improvements, and it laid the foundation of the house of health which as a nation we are building.

Typhus Fever.

The value of the teaching of this doctrine is shown in the almost complete annihilation of typhus fever and the rapid decline in amount of enteric fever. The history of typhus is a romance in sanitation, from which the principles and practice of preventive medicine could be adequately taught. It occurred under conditions of dirt and overcrowding; but, apparently, it arose only by direct infection from person to person. It was spread, like small-pox, by vagrants from parish to parish, repeatedly brought by them from Ireland to England, and it was not brought under control until the migrations of vagrants had been limited, the sick had been segregated in hospitals from the healthy, "contacts" had been kept under adequate supervision, and the houses harbouring the disease had been disinfected and the vermin therein destroyed. In many instances the courts and alleys, the favourite lurking places of the disease, were also swept away. Consider the following figures: In the ten years 1871–80, in Ireland, 7,495 deaths were returned as due to typhus fever; in the three years 1909–11 the number had fallen to 143. In England and Wales, in the ten years 1871–80, 13,975 deaths were caused by typhus fever; in the three years 1909–11, with a much larger population, the number thus caused was 30.

Enteric Fever.

The history of enteric fever is also very striking. In England and Wales in the ten years 1871–80, 78,421 deaths were ascribed to this disease; in the three years 1909–11, its greater population had 6,447 deaths from the same disease, a number far too large, and in some measure due to the fact that some local sanitary authorities still do not realize to the full extent the importance of the generalization that filth implies disease. The importance of this generalization is shown by the excess of this disease in towns in which privy and ashpit systems continue, and the water-carriage system of sewerage has not been installed.

When our medical officers of health—the advance guard in our army of sanitation, and our advisers as to the best line of action—came to investigate the facts, they ascertained that explosive epidemics of this disease are nearly always caused by specific excremental contamination of a public water supply or of a milk supply; and the knowledge of these facts conveyed to local sanitary authorities throughout the country has induced them to expend enormous sums on public water supplies and sewerage, and to the adoption of precautions in connexion with our milk supplies. With more accurate knowledge of the methods of spread of enteric fever it became clear that the nursing of enteric fever under the home conditions of the poor involved further spread of the disease; and to the use of isolation hospitals must be ascribed a large share in the realized reduction of enteric fever, as also of typhus fever. In recent years it has been shown that there is a residuum of enteric fever, not explicable by origin from the above-mentioned sources; and other smaller sources of infection have been traced, including chronic "carrier cases." Contaminated shellfish, especially mussels and oysters, have been shown to be responsible for a considerable amount of this disease, and I have at the present time under consideration the issue of regulations which will give sanitary authorities additional control over this source of infection. There is reason to expect that enteric fever will erelong be known, in fully civilized countries, like typhus fever, scurvy, and leprosy, as in the main an historical curiosity.

STAGES IN REGISTRATION OF DISEASE.

The history of registration of disease is inseparably associated with that of public health, and it is convenient at this point to refer to this important subject. Until

the ugly facts as to excessive mortality under conditions of filth and overcrowding could be persistently obtruded upon the public mind, reform was difficult, sometimes impossible. The need of registration of deaths was realized as an instrument of sanitary progress — the epidemic of cholera in 1831–2 giving a great impetus in this direction — and political considerations aided its enactment.

It is not the least of Chadwick's great services to the State that he discovered William Farr, the humble apothecary, and placed him in charge of our national vital statistics. The series of reports issued by Farr have had an immense influence in promoting the public health. They threw the light of publicity on the towns and parts of towns in which fever and consumption throve, they enabled the moral of great epidemics to be pointed, and painstaking investigations into their causation to be made by medical officers of health and others. The later reports by Drs. Ogle, Tatham, and Stevenson have worthily continued the series initiated by Farr. In particular the decennial supplements have thrown valuable light on the incidence of industrial mortality.

As time went on it became clear that registration of deaths gave a very imperfect view of the prevalence of disease, and that, so far as infectious diseases were concerned, valuable time was lost when preventive action could only be taken after the patient's death. Death registration told of the total wrecks which had occurred during the storm; it gave no information as to early mishaps, enabling others to trim their vessels and thus weather through. It gave a list of killed in battle, not of the wounded also.

Progress occurred step by step, in our characteristic British fashion. Pioneer attempts were made by medical men in a number of districts to secure the voluntary notification of different forms of illness. The gradual failure of these attempts led to agitation in favour of the compulsory notification of the chief acute infectious diseases. Local powers for this purpose were secured by a few enterprising towns, in 1889 an Adoptive Act for the whole country was passed, and in 1899, by a further Act, the notification of these diseases was made compulsory throughout England and Wales. From time to time extensions of the list have been made by local authorities and by the Local Government Board; among the most recent additions have been the Orders by which the notification of poliomyelitis and cerebro-spinal fever has been made generally obligatory. It may be hoped that the more precise information thus obtained will throw new light on the conditions governing the spread of these serious diseases.

In a large number of districts ophthalmia of the newly born is already notifiable, and I am about to issue an Order making this disease notifiable in every sanitary area, and enabling sanitary authorities to provide the prompt medical aid and nursing which are required to prevent this serious cause of blindness in childhood.

But you will, I think, agree with me that the most important extension of the principle of notification has been in regard to tuberculosis. The knowledge that this disease is communicable, and the importance, even apart from the fact of communicability, of having exact knowledge of its special haunts, and of its prevalence in different industries, and among the poor living in crowded streets and courts, have enabled me step by step, by means of Departmental Orders, to apply the principle of compulsory notification to all forms of this disease. In order that public opinion might confirm the proposals, and to ensure that notification would be effective as well as merely prescribed, action was deliberately taken in stages.

On December 18th, 1908, an order was issued, making obligatory from January 1st, 1909, the notification of cases of pulmonary tuberculosis in Poor Law practice. This was followed on March 22nd, 1911, by an Order making the notification of cases of pulmonary tuberculosis in hospital practice obligatory from May 1st, 1911.

On November 15th, 1911, an Order was issued making it obligatory from January 1st, 1912, on all medical practitioners throughout England and Wales to notify cases of pulmonary tuberculosis occurring in their practice, whether public or private; and on December 19th, 1912, this duty was extended from February 1st, 1913, to all forms of tuberculosis.

I have made careful inquiries, both from private practitioners and from hospital physicians, and have been much gratified to find that each step in the extension of notification has been welcomed by them, and that instances in which hardships to patients have occurred *as the result of notification* are very few indeed.

This is due in part to the fact that notification is confidential in character, but also, and I believe chiefly, because the notification has not only enabled investigation of sources of infection to be made and precautionary measures to be adopted, but has also put the patient in the way to receive more efficient treatment. Tuberculosis is the one disease in which the fact that measures of treatment and of prevention are to a large extent identical is becoming fully realized; and the important endowment of the treatment of this disease in connexion with the National Insurance Act will enable local authorities and their officers to take active measures, both of prevention and treatment, on a larger scale than had been previously practicable.

During the last few years a weekly list of cases of certain imported diseases in foreign ports has been distributed by the Local Government Board to port medical officers of health, thus giving them warning of the points from which the importation of disease is particularly to be feared.

By an Order of the Local Government Board, dated December 13th, 1910, every medical officer of health has been required to send to the Board at the end of each week a list of the cases of the different infectious diseases notified in his area during the week; and during the following week a complete statement of these cases in each and all the 1,800 sanitary areas in England and Wales is distributed by the Board of which I am the head to each of the medical officers of health of these areas for their information.

For 1911 the first statistical return was prepared in my Medical Department showing the rate of sickness for each notifiable disease in every sanitary area; and by this means there is now accumulating a more accurate record of the sickness of each district than was previously possible. The influence of such information in securing investigation into the sources of disease, and in enabling pressure to be brought to bear on reluctant or obstructive authorities will be very great.

No mention of notification would be complete which omitted reference to the Notification of Births Act. This Act has enabled medical officers of health to obtain the information as to births within thirty-six hours of their occurrence, whereas registration may be delayed for six weeks; and by this means early visits can be made in suitable cases by means of nurses or health visitors competent to give useful advice. I am hopeful that this Act will ere long be adopted in every sanitary area. Already it applies to more than half of the total population of England and Wales.

The Scientific Period of Disease Prevention.

Historically, this cannot be separated from the earlier period of cruder, though most valuable, generalizations, in which already valuable work was being done by local sanitary authorities, under the guidance of their medical officers of health. The old generalizations, embodied in our warfare against overcrowding, uncleanliness, the herding of families in unsatisfactory houses, against impure water supplies, against accumulated filth in and about the dwelling, against dusty occupations, retain their full value, and the warfare against these evils still needs to be pursued with unabated energy. Each year, however, our knowledge of the causation of individual diseases is becoming more exact, and our warfare against disease can be pursued not only with what may be described as the bludgeon, but also with arms of exactitude not previously available.

Louis Pasteur.

The pioneer of this period, who showed the way along which you are now so successfully travelling, was one who was on the platform of the meeting of this International Congress in August, 1881, when last it met in London. He was then your most honoured member, and the immense possibilities of future prevention of disease opened out by him were already being realized. Need

I say that I refer to Louis Pasteur—a name to be ever held in reverence as that of the father of scientific preventive medicine? Although himself originally a chemist, he has exercised a greater influence on medicine than any other man since Harvey. He succeeded in destroying the idea of spontaneous generation, and in establishing on a firm basis the germ theory of disease. As has been well said, he associated the faith of an apostle with the inquiring patience of a scientist. With indomitable courage he pursued his investigations, undeterred by obstacles and opposition. When his friend said to him, "Studies of that sort require much courage," his simple answer was, "What about duty?"

It would ill beseem me as a layman to attempt before an audience of medical men, including our distinguished French *confrères*, to describe the work of Pasteur. I like to think of it especially as leading up to and inspiring that supremely important work of Lister, which has revolutionized surgery and saved an untold number of lives.

Lister and Surgery.

May I be excused for dwelling for a moment or two on Lister's work and its results? Born in 1827, in 1860 he became surgeon at the Glasgow General Infirmary, where, as elsewhere, the surgical wards were ravaged by erysipelas, pyaemia, and hospital gangrene. The introduction of ether as an anaesthetic by Morton in America, and the later introduction of chloroform by Simpson in 1847, although they prevented an enormous amount of suffering, had temporarily increased the mortality of surgery, by rendering operations painless, and therefore more frequent, in wards in which septic infection prevailed. In those days suppuration was regarded as a normal process, now when it occurs as the result of an operation it is regarded as a grave reflection on the surgeon in whose practice it appears. Applying Pasteur's discovery that putrefactive fermentation is due to microbes introduced from without, Lister, by antiseptic methods, without altered sanitation of his wards, so improved their record that in 1867 he was able to report that during the preceding nine months not a single case of erysipelas, pyaemia, or gangrene had occurred among his patients.

It is impossible to express statistically the saving of life and suffering effected through Lister's work, but its magnitude is well known to all of you. Operations which in former times were needed to save life were commonly followed by sepsis and death. A major operation for a compound fracture or other serious injury often meant merely the postponement for a few days of the fatal result. In many hospitals, and sometimes for long periods, each surgical patient in succession was liable to be attacked by erysipelas, pyaemia, or gangrene. Little wonder, then, that hospitals were regarded as death-traps, and an operation in the poorest home often had a greater prospect of success than a similar operation by a distinguished surgeon in our largest and best hospitals. The hospital and its architect were commonly blamed for this, and the fact that death lurked in the skin of the patient himself, in the finger-nails of the surgeon, and in the sponges of the nurse, was unrealized. Listerism has changed all this. It has done more. It has made possible triumphs of cure not previously dreamt of. Abdominal diseases and diseases of the brain and its coverings, formerly inevitably fatal, have come within the range of treatment, and the possibilities of saving and prolonging life have been immensely increased. The following comparison of the experience of two of the largest metropolitan hospitals shows the greater extent to which operative assistance can now be given to patients. In 1878, 15.2 per cent. of the total surgical patients in these hospitals (4,531 in number), and in 1911, 79.1 per cent. of the total surgical patients in these hospitals (6,490 in number), received operative treatment.

As a by-product of Listerism there has been an almost incalculable saving of pain, directly in connexion with the progress of injuries and operations, and indirectly in consequence of the number of painful conditions which can now be attacked by operative measures. We may therefore add the name of Lister to those of pain destroyers, which include also Morton and Simpson, the introducers of ether and chloroform respectively as anaesthetics, and the modern chemists who have introduced the wonderful series of drugs producing local anaesthesia.

Semmelweis and Puerperal Fever.

From Listerism we may pass on to mention puerperal fever, a specially urgent case for the application of Listerism, an application which—if the teaching of Semmelweis had been appreciated—would have been adopted before Lister. As early as 1847, Semmelweis demonstrated that puerperal fever was caused in the lying-in wards in his clinic at Vienna by contact infection, brought by students who were also engaged in the *post-mortem* or dissecting room or in surgical wards in which there were open wounds. In 1849 Semmelweis's work was brought before a London medical society. Unhappily its importance was not realized, and so the triumph of antisepticism and asepticism in midwifery was postponed; for the child-bearing mother the full realization of freedom from risk of sepsis, which is a fair claim for every expectant mother to make, is still far from being realized. Our national figures show improvement in the death-rate from puerperal sepsis; a less improvement in regard to the accidents and diseases of pregnancy and childbirth. Even in regard to puerperal sepsis alone the record is not entirely satisfactory.

From puerperal fever and the accidents of childbirth

In the ten years	1877-86	one mother	died to	226	births.
,,	1887-96	,,	,,	197	,,
,,	1897-1906	,,	,,	228	,,
In the year	1907	,,	,,	261	,,
,,	1908	,,	,,	280	,,
,,	1909	,,	,,	270	,,
,,	1910	,,	,,	281	,,
,,	1911	,,	,,	262	,,

So far as London is concerned, I have recently authorized the admission of patients suffering from puerperal fever into the hospitals of the Metropolitan Asylums Board; and there is no reason why, with an improved service of midwives, better nursing, and the strictest asepticism in practice, puerperal fever should not become extremely rare.

Koch and Tuberculosis.

It is difficult to speak of tuberculosis without merely repeating the already familiar. In devoting a few minutes to this important disease, I wish to associate my remarks with the name of Robert Koch, who lifted our knowledge of this disease from the empirical to the scientific. Koch was one of many instances in medicine of genius triumphing over poverty. He was an obscure practitioner in a small country place, where he was able to demonstrate improvements of technique in bacteriology, which opened up a new epoch in this science. In 1882 he proved that tuberculosis is caused by the tubercle bacillus, and demonstrated the bacillus. He caused much searching of heart at the Congress in London in 1901 by his frank expression of opinion that bovine infection had very small importance in the production of human tuberculosis. More recent investigation has shown that bovine infection cannot be disregarded as a cause of tuberculosis in children; but his statement has doubtless led to greater concentration than there would otherwise have been, on measures to prevent infection from man to man. He steadfastly held to the view that tuberculosis in the main is a disease of the dwelling, more particularly of the bedroom.

I cannot express this better than in Koch's own words, uttered in his Nobel lecture in 1906:

> The danger of infection becomes especially great when healthy people have to sleep in the same rooms with sick people, and even, as unfortunately still frequently happens among the poor, in the same bed. This kind of infection has struck attentive observers as so important that tuberculosis has been frankly and justly called a dwelling disease.
>
> In Berlin during the last decade more than 40 per cent. of the cases of pulmonary phthisis died in hospitals. In Stockholm, too, the state of affairs must be very favourable in this respect. The number of patients that are thus placed in circumstances under which they can no longer infect is very considerable, and cannot fail to influence the course of the pestilence.

The improvement of the situation of the lower classes and the better knowledge of the danger of infection, the consequence of which is that people no longer unwittingly expose themselves to it, have certainly helped to reduce tuberculosis. But I am firmly convinced that the better provision for patients in the last stage of pulmonary phthisis—namely, the lodging of them in hospitals, which is done in England and in Prussia to a comparatively large extent—has contributed most to the improvement. From this, however, we are to derive the lesson that the greatest stress is to be laid on this measure—namely, *the placing of cases of pulmonary phthisis in suitable establishments*, and far more care should be taken than hitherto that such patients do not die in their dwellings, where, moreover, they are for the most part in a helpless situation and inadequately nursed. If cases of pulmonary phthisis are no longer, as hitherto, rejected by the hospitals as incurable; if, on the contrary, we offer them the best imaginable nursing gratis and can even in some cases hold forth the hope of cure; if, moreover, their families are cared for during their illness, not the slightest compulsion will be necessary to induce a still much greater number of these unfortunate patients to go to hospitals than at present.

Factors in Reduction of Tuberculosis.

The causes of the remarkable reduction of tuberculosis in this and some other countries during the last thirty or forty years cannot, however, be stated in a single proposition; and looked at from various standpoints, diverse statements are possible, each containing a considerable share of the entire truth.

In the three years 1909–11, tuberculosis of all parts of the body caused 151,137 fewer deaths in England and Wales than would have occurred had the experience of 1871–80 been continued.

Comparing the percentage reduction for phthisis and for all non-tuberculous diseases in the aggregate for five yearly periods, from 1876–80 onwards, we obtain the following results:

Percentage Reduction (−) or Increase (+) between	Phthisis in Males.	All Causes, Omitting Tuberculosis in Males.
1876–80 and 1881–5	−9.8	−6.2
1881–5 and 1886–90	−8.3	−0.5
1886–90 and 1891–5	−9.5	unaltered
1891–5 and 1896–1900	−8.3	−4.1
1896–1900 and 1901–5	−7.0	−9.0
1901–5 and 1906–10	−9.7	−8.8

It will be seen that there has been a fairly steady decline in the death-rate from phthisis, while the decline in the death-rate from all causes, excluding tuberculosis, has been irregular in amount, and only in recent years has approached that from phthisis.

Improvements in housing, progress in average social conditions, higher nutrition, all have doubtless borne their share in bringing about this great reduction in tuberculosis. More cleanly habits of the people must be given a large share in securing the result. The habit of indiscriminate spitting, although still prevalent, is much less so than in the past. The standard of domestic cleanliness has improved, and this must have cleaned out many of the former centres of infection. Even more importance must be attached to the diminished overcrowding of bedrooms.

Overcrowding in bedrooms under all circumstances is liable to become a source of disease, still more so when sick persons are participants in the overcrowding. This being the case, there can be no hesitation in accepting the statement that consumption is spread largely in the bedroom, and that, as Koch repeatedly pointed out, one of the most important means for stopping its spread is to prevent the sleeping of consumptives in the same bedroom, and still more important in the same bed as healthy persons.

A Partial Antidote to Urbanization.

In this connexion further stress may be laid on the fact emphasized by Koch that the reduction of phthisis in this country has been associated with a steady increase in the use of hospitals for the tuberculous sick. The use of these hospitals has not been directed to the segregation of the sick. Their use has formed part of the greater humanity of the nineteenth and twentieth centuries, and of the increasing demand for treatment of the sick under the most advantageous conditions. Incidentally, such increased expenditure on the hospital treatment of the sick has been made possible by our increased national prosperity; and a not very inaccurate index of national welfare in any country would be constituted by a comparative statement of its hospital provision. But let me state the facts for England and Wales. A comparison of 1881 with 1910 is given below.

In	Percentage of the Total Deaths from all Causes occurring in Public Institutions.			
	London.		England and Wales.	
	1881.	1910.	1881.	1910.
Workhouses and workhouse infirmaries	13.1	22.9	7.0	10.9
Hospitals	7.3	17.6	2.8	7.5
Lunatic asylums	0.4	0.8	1.0	2.1
Total	20.8	41.3	10.8	20.5

In the country as a whole, in 1881, 1 out of every 9 deaths, and in 1910, 1 out of every 5 deaths; in London in 1881, 1 out of every 5, and in 1910, 2 out of every 5 deaths occurred in public institutions. So far as phthisis is concerned, it is significant that in 1911, in the whole of England and Wales, 34 per cent. of the male and 22 per cent. of the female deaths, and in London 59 per cent. of the male and 48 per cent. of the female deaths from this disease occurred in public institutions. Inquiries at these institutions show that the patients had usually spent several months in them prior to death. By this means, therefore, not only had the families of the patients been relieved of a serious burden, but also had been released from the risk of infection, at a time when this was especially difficult to control.

The rapidly increasing urbanization of our population must be remembered in connexion with this reduction of phthisis and increase in its institutional treatment. No fact is better established than that tuberculosis claims more victims out of a given number living in towns than in rural districts. In London the phthisis death-rate in males in 1911 was 1.68 per 1,000 of population, being 1.50 in the aggregate county boroughs, 1.04 in other urban districts, and 1.32 in the aggregate rural districts. Now, the proportion of the total population living under the relatively unfavourable conditions of town life has during this period of declining tuberculosis steadily increased. The proportion of the total population in England and Wales living in rural districts has decreased from one-half to less than a quarter between 1851 and 1911. It is evident, therefore, that some important influences have been at work counteracting the effect of urban conditions as a whole on tuberculosis. Among these, important place must be given to the hygienic effect of the stay for months in an infirmary or a hospital of a high proportion of the total consumptive population at the most infectious and helpless periods of their illness.

At the present time the prospect of complete control over tuberculosis is more promising than ever before. Not only is public administration, with its magnificent past effect on tuberculosis, becoming increasingly efficient, but the National Insurance Act, happily, has given further important means of effective attack against this disease. The sanatorium benefit was necessarily confined to insured persons, with possible extension to their dependants. The capital grant of 1½ millions for the building of institutions for the treatment of tuberculosis was made for the entire community; and the further promise by the Chancellor of the Exchequer to contribute half the cost of schemes of treatment of tuberculosis—beyond the cost of treating the insured—for the entire community, has opened the way for complete schemes of prevention and treatment, which are now in process of gradual realization throughout the length and breadth of the land. These schemes ensure early diagnosis, prompt treatment, and the removal of sources of infection, by adequately linked-up measures of

domiciliary treatment, and of treatment at dispensaries, hospitals, and sanatoriums. When these schemes are matured, there will, it is believed, be no need for any patient to lack the means of treatment under the conditions best adapted to his welfare.

Possibilities of Further Progress.

In giving these illustrations of what medicine and the sanitary service of the country have accomplished, my survey has necessarily been incomplete. Not only is there a marvellous record for typhus and enteric fever, and for tuberculosis, but also for the diseases and accidents for which medical aid is required, and to a less extent for puerperal fever. A still more striking illustration could be found in small-pox, and even measles and whooping-cough in recent years appear to be losing some of their power under the influence of the child welfare work which is gradually becoming systematized in many sanitary areas. The marvellous advances in tropical medicine are well known to all of you. Future generations will hold in gratitude the memory of Laveran, Manson and Ross, of Reed and Carroll, and of many others who are rapidly transforming the tropical countries, formerly known as white men's graves, into places in which the European can live with safety, if not also with comfort.

The saving of life in this country has not been confined to the diseases ordinarily regarded as preventable and curable. Even cancer, if recognized and treated at an early stage, and when accessible to the surgeon, loses a portion of its terrors; and it cannot be that the concentration on investigation of this disease in nearly every civilized country will fail during the next few years to add it, like tuberculosis, to the diseases doomed to insignificance, if not actual annihilation. When the next International Congress of Medicine meets in London, who among you will be the hero to be honoured in regard to this disease, as Pasteur was honoured as the leader of a new era of preventive medicine when you met in this place in the year 1881?

With the discovery by Schaudinn of the spirochaete of syphilis, and with that wonderful application of chemistry to therapeutics which the genius of Ehrlich has placed at your service for the rapid treatment of this disease, we may hope for more systematic and universal treatment of syphilis, and the removal of one of the great cankers of humanity.

I have not time to speak of the improvement in infant and child mortality which has been realized in recent years, thanks in large measure to the active work undertaken by the officers of sanitary authorities, acting in co-operation with voluntary associations. Full details of this are given in a recent report issued by the Local Government Board, and the subject was fully discussed at last week's important conference, over which I presided.

Alcoholism and Disease.

Nor can I linger for more than a moment over the improvement in regard to alcoholism which our national statistics reveal. Although in our national life vast sums of money are still wasted on alcoholic drinks, the amount is declining, and I cannot refrain from associating this fact in some measure with the declining death-rate from all causes in the aggregate, and more particularly with the declining death-rate among infants and from tuberculosis. The association in regard to infant mortality obviously is through the diminution of neglect and the improved standard of domestic life.

In regard to alcohol, the responsibility of the medical man is very heavy. The medical opinions of one decade are the popular opinions of the next; and for the inordinate belief in the dietetic and therapeutic value of alcohol, is not the medical profession in some degree responsible? It is gratifying to find that this is now altered. The following figures from the excellent work on alcohol by Sir Victor Horsley and Dr. Sturge may be quoted. In 1862 the patients occupying 2,254 beds in seven metropolitan hospitals consumed alcoholic liquids to the value of £7,712. In 1902 the amount spent in connexion with 2,309 beds in the same hospitals was £2,925. In 1875, 1,405 patients were treated in the Wandsworth Union Infirmary, and the alcoholic expenditure was £371. In 1905, 5,451 patients were treated, and the alcoholic expenditure was only £2 7s. 5d. Again, during the year ended March 31st, 1912, the total expenditure on alcohol in the workhouses and infirmaries of the metropolis was £1,743. Taking the average daily number of inmates as 50,900, this amounts only to about 1d. per inmate per week.

My review of our indebtedness to medicine for public health progress would be incomplete did I not refer to the aids which biology and chemistry are now giving us in the diagnosis and treatment of disease, and to the important subjects of hospitals and of nursing.

The Application of Science in Medical Practice.

The teaching of recent years is bringing home even to the man in the street the importance of all branches of science in relation to medicine. All knowledge sooner or later is pressed into the service of humanity, and it is therefore the bounden duty of the people as represented by the Central Government and by local authorities to give all practicable assistance, not only in utilizing to the full extent our present knowledge, but also in extending its borders.

The value of the *x* rays in the diagnosis and treatment of disease, the possibilities opened out by radium, the almost magical contributions of chemistry as illustrated in the work of Ehrlich and others, can only be mentioned in passing.

Happily there are signs that medical research will be assisted by the State in future on a scale not previously contemplated; and in this connexion special mention must be made of the promise contained in the prospective expenditure in this country on sound and broad lines of the sum of some £58,000 per annum in connexion with the National Insurance Act.

Another branch of work in which research and scientific diagnosis are admirably commingled is exemplified by the splendid work which is now being done in the clinical laboratories by many of our large general hospitals. These laboratories provide facilities for the accurate and complete diagnosis of disease occurring among the poorest of the population which are as yet inaccessible to the vast majority of the total population, who are treated in their own homes. This limitation of valuable life-saving and disease-preventing work ought not to continue. I do not forget the fact that a large number of local authorities have provided facilities for the diagnosis of the three diseases, diphtheria, enteric fever, and pulmonary tuberculosis. It may be hoped that in the near future it will be practicable to extend the work done in laboratories, and to make it available for the wider needs of general practitioners, thus enabling them to bring up their work more nearly to the level of that carried on in well-equipped hospitals. If this is to be secured, it is essential that every medical practitioner should have the opportunity of utilizing for every patient the best means for accurate diagnosis which modern medical science provides.

The Ever-increasing Institutional Treatment of Disease.

I have already spoken of the increasing extent to which the sick are treated in institutions. Although at first sight the connexion may not be obvious, I regard this as an essential branch of the subject of housing. If overcrowding is dangerous among those who are well, its danger is multiplied if the sick are commingled with the healthy; and it is almost certain that the universal excess of disease in town over country would have been much greater had it not been for the assistance given by the hospital to supplement domestic housing and nursing. It is not too much to claim for our hospitals that they have gone far towards removing the harmful effects of aggregation of populations in towns. Think, for instance, not only of the relief to the patients themselves, but of the easing of the burden borne by the overworked family, which is involved in the simple statement that in the year 1911 in the whole of England and Wales 24 per cent., and in London 47 per cent., of the total deaths from cancer occurred in public institutions. But I am speaking to those who, with the philanthropists, have rendered this supremely beneficent work possible, and who have in very

large measure carried it out; and I need, therefore, only add a few figures which will make still clearer the enormous extent to which the home has been relieved by the hospital. I am indebted for these figures to *Burdett's Hospital Annual*. In the United Kingdom there were in 1911, 49,854 beds in voluntary hospitals, or about 11 beds to 10,000 inhabitants, 80 per cent. of these being in daily occupation. The average stay for each patient was twenty-five days. These hospitals, including dispensaries, had in 1896 an income of £2,528,000, which in 1911 had increased to £4,185,000. The beds here enumerated do not include the much larger number in our workhouses and infirmaries, lunatic asylums, isolation hospitals, etc.

The Work of the Nurse.

The noble work of the medical profession in the treatment and prevention of disease would have been in large measure ineffective but for the devoted work of the nurse. In every age of the world there have been "born" nurses, but the "trained" nurse is a product of recent times. It is scarcely for me to sum up the qualities of the ideal nurse, but I may safely say that no amount of training will compensate if there is not also the tenderness of touch, the kindness of heart, and the desire to serve, without which the highest and best nursing cannot be secured. Personal experiences of many, if not of all of us, make us confident that paid service is not incompatible with the devotion and self-denial which we associate specially with unpaid service, and without which skilled nursing fails in an important respect.

The history of nursing is bound up with that of Florence Nightingale. Until beyond the middle of the nineteenth century Sairey Gamp and Betsy Prig were scarcely exaggerated types of the hired nurse. But in 1851 Florence Nightingale entered the Deaconess's Institute at Kaiserswerth on the Rhine, and thus apparently the impetus for improved nursing in this country appears to have originated in a German charitable nursing institution. The great work of "the lady with the lamp" in the Crimea is well known. With courage and knowledge and with inflexible discipline at the military hospital at Scutari she changed a seething mass of loathsome contagion and confusion into a cleanly organization of sick patients.

With the gift of £50,000 raised for her by a grateful public she endowed at St. Thomas's Hospital the first great nursing school in this country, and she thus founded our modern system for the training of nurses.

The growth of the profession of nursing is among the most striking social facts of the last thirty years. As medicine progresses and becomes more exact the need of nurses to carry out the details of medical instructions becomes more clamant. In Poor Law institutions alone some idea of progress may be gained from the statement that in 1897 the total nurses employed numbered 4,100; in 1907 they had become 6,500; in 1911 nearly 7,500; and in 1912 over 7,600. For the voluntary hospitals, complete figures are difficult to give, but the following figures, taken from that valuable compilation, *Burdett's Hospital Annual*, will give some conception of the magnitude of their work in institutions.

	1911.	
	No. of Occupied Beds.	Total Nursing Staff.
A. *Hospitals with Medical Schools:*		
Eleven London hospitals ...	4,031	2,055
Nine provincial hospitals ...	2,295	833
Five Scottish hospitals ...	2,511	848
B. *Other General Hospitals:*		
In London	970	368
In provinces	3,385	1,151
In Scotland	281	92
C. *Special Hospitals:*		
In the United Kingdom	2,027	736
	15,500	6,083

For every five patients in these institutions two nurses are provided, including day and night service.

These numbers do not take into account the large number of nurses engaged in private nursing. Nor do they include the nurses whose work is even more closely associated than that of the institutional or private nurse with the prevention of disease. In London and the chief centres of population we have the Queen's Jubilee nurses, in many counties county nursing associations, and in nearly every parish a nurse who is engaged in helping the poor in sickness. This help does not consist solely in the valuable aid rendered at time of distress. Good district nursing also implies the teaching by example of methods of nursing and personal hygiene, which in the after-life of the assisted family are probably more valuable than the immediate aid.

Did time permit, one might advantageously discuss the valuable work of female sanitary inspectors, health visitors, tuberculosis nurses, and school nurses, which is having important influence in reducing infant mortality, in preventing the spread of infection, and in securing a higher standard of domestic and personal cleanliness. But I must conclude my brief review of the progress of medicine and the work ancillary to it in relation to public health.

National Interdependence in Relation to Health.

Your presence here to-day emphasizes the international aspect of health. Rapid travel by land and water implies greatly increased possibilities of spread of disease. Happily, owing to intercommunication of information and improved administrative measures, precautions can more than counterbalance the increased possibilities of disease. News of danger can be transmitted by telephone, telegraph, cable, or wireless; a whisper is heard from one hemisphere to another, and so the benefits of intelligence and supervision can be universally shared. In other directions the possibilities of healthy life have been indefinitely increased. Our food is collected from all countries, and we send in exchange our manufactures, each country according to its special facilities or aptitude. Commerce and finance have formed a meshwork which covers the earth.

Medical knowledge in particular is cosmopolitan. Each country has brought its contribution. I have already mentioned the names of Pasteur and Lister, of Semmelweis and Koch, of Laveran, Manson, and Ross, and others. They stand out; but every great discovery has its background of smaller contributions to the common stock of knowledge without which no great achievement is secured; and every nationality has added its quota. So is it also with reforms. A reform in one country initiates or gives added impetus to efforts towards reform in other countries; and the tendency to follow becomes almost irresistible. In some countries it has already become a duty of civilized life to prevent anxiety as to the means of subsistence in old age; and so old age pensions have been inaugurated. In every country increased attention is being paid to the need to aid, when necessary, the widow to bring up her children; and insurance against accidents and disease is already in operation in Germany and in the United Kingdom. Every effort forwards is valuable not only to the country immediately concerned, but also to every country; even mistakes by one nation add to our common stock of wisdom.

In no department of advance is cosmopolitanism so important as in regard to social reform, an important share of which consists in the development of the medical possibilities of improved health and well-being. The chief impediment to such reform is wastefulness, and one source of waste, expenditure on armaments, stands head and shoulders above all others. If this waste could be prevented, gigantic sums would be released for the reforms waiting to be financed. The chief among these is concerned with the problem of poverty, and this problem will need to be attacked on an enlarged scale by removing the known causes of poverty, not merely by applying palliatives to its effects.

It is not too much to hope that this Congress will help to hasten the period of international peace and good-will, earnestly desired by us all, in which our only rivalries will be in commerce, in progress, in science, and in the art of healthy and pure living.

THE NECESSITY FOR A MORE THOROUGH CONTROL OF THE MILK SUPPLY IN COMBATING SURGICAL TUBERCULOSIS IN CHILDHOOD.

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SURGEON TO THE ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.

THE British Royal Commission, along with Theodore Smith and others, have done valuable work in developing the methods by means of which we are now able to ascertain whether a given case of tuberculosis is of human or bovine origin.

Professor Delépine has for several years carried out important investigations in Manchester in regard to the tuberculous milk question, and he has shown that much still remains to be done to diminish the amount of tuberculous milk which is supplied to our large cities.

The control of the Edinburgh milk supply is very inadequate, and it is a remarkable fact that the Public Health Department has no power to enforce the slaughter of the cows with tuberculous udders which the veterinary inspector comes across from time to time in the city byres; the medical officer of health has merely power to order the diseased animal to be removed outside the city boundaries.

Fortunately comparatively large quantities of the bacilli are necessary to produce tuberculosis by ingestion; were it otherwise the disease would be even more prevalent amongst children than it is. *Post-mortem* records in this country show that in about 25 per cent. of the children possessing tuberculous lesions the infection has taken place through the alimentary tract.

As the result of my clinical experience in the Royal Edinburgh Hospital for Sick Children, I have for many years been convinced that Koch and his disciples committed a serious error in practically disregarding the milk as a source of tuberculous infection in children. I could adduce many instances from my own personal observation where the etiological relationship between the disease and the "milk history" of the child was so closely associated as to amount almost to proof that the bovine bacillus was the source of infection.

It occurred to me that the wealth of material derived from my operations on bone and joint and gland cases at the Royal Edinburgh Hospital for Sick Children might be utilized to supplement the work of the British Royal Commission, and to determine more precisely the relative frequency of human and bovine infections in the surgical forms of tuberculosis in childhood.

The bacteriological researches were carried out in the laboratory of the Royal College of Physicians of Edinburgh by my assistants, Drs. John Fraser and A. P. Mitchell. The former undertook the investigation of the bone and joint material: the latter that derived from the cases of cervical adenitis. Both Dr. Fraser and Dr. Mitchell embodied their results in a thesis for which the University of Edinburgh has awarded them a gold medal.

Of the 67 consecutive tuberculous bone and joint cases in children which Dr. Fraser investigated, the bovine bacillus was present in 41 (61 per cent.), the human bacillus in 23 (34 per cent.), while in 3 cases both types were present.

Forty-one of the children were under 4 years of age, and in these no less than 78 per cent. owed the disease to the bovine bacillus. On going into the history of the cases it was found that in those in which the bacillus was of the human type there was a history of consumption in at least one member of the family in 71 per cent. of the cases—a fact which brings out very forcibly the importance of segregating cases of active pulmonary tuberculosis. The bovine bacillus was the organism found in all the children less than 12 months old, and it is important to note that each of these had been entirely nourished on cow's milk. Of the 12 children between 1 and 2 years of age, 8 owed the disease to the bovine bacillus; and here, again, they had all been brought up from birth on cow's milk. In none of the children artificially fed had the milk been sterilized.

Dr. A. P. Mitchell, my present private assistant, has just completed the investigation of 72 cases of tuberculous cervical glands operated on at the Royal Edinburgh Hospital for Sick Children during the past two years. He found that in 65—that is to say, in no less than 90 per cent.—the disease was due to the bovine bacillus, while in only 7 (10 per cent.) was it caused by the human bacillus.

I desire to draw special attention to the fact that Dr. Mitchell's results give a far larger proportion of bovine infections than has been found by other observers. The great value of his results lies in the fact that they have been obtained from a consecutive series of cases derived from one institution. Moreover, by going carefully into the records of the cases he has been able to correlate his pathological findings with the clinical histories, and has found ample explanation for the very large proportion of bovine infections.

Of the 72 cases no less than 38 occurred in children under 5 years of age, and of these all but 3 were bovine infections. The maximum incidence occurred during the second year, and it is interesting to note that Dr. Mitchell found that 84 per cent. of the children under 2 years of age had been brought up since birth on raw cow's milk.

With regard to the history of tuberculosis in other members of the family, it was found that out of 65 children infected with the bovine bacillus there was not a single case in which a history of pulmonary tuberculosis could be obtained in the family. In 14 cases, however, one or more of the other children suffered from some form of surgical tuberculosis, and the evidence pointed to the strong probability that in each of these families the children had acquired the tuberculous disease from an infected milk supply. In the 72 cases there were only 3 instances in which a history of pulmonary tuberculosis could be obtained in the parents, and it is interesting to note that in each of these 3 cases it was the human bacillus which was isolated from the cervical glands. It is not surprising to learn that Dr. Mitchell found that practically half the cases he investigated came from rural districts, where, as is well known, there is little or no veterinary inspection of cows.

Dr. Mitchell found that in 51 of the cases the tonsillar lymphatic gland was the first to become involved, and in 44 of the cases the posterior as well as the anterior group of upper deep cervical glands was also involved.

Most observers are agreed that the faucial tonsils are the chief portals by means of which the bacilli reach the upper carotid glands. Some years ago Mr. Scott Carmichael, who was then assistant surgeon to the Royal Edinburgh Hospital for Sick Children, and myself, endeavoured to obtain definite information as to the frequency with which tuberculous disease of the tonsil could be demonstrated histologically in the tonsils which were removed in children who suffered also from tuberculous disease of the upper carotid glands. Of the 50 tonsils examined, 7 (14 per cent.) showed histological evidence of tubercle.

Dr. Mitchell investigated the faucial tonsils removed from 64 consecutive cases of children suffering from tuberculous disease of the upper deep cervical glands. He found histological evidence of tubercle in the tonsils in 39 per cent. of the cases. In 30 per cent. positive results were obtained by inoculating guinea-pigs, and in these the bovine bacillus was isolated in 12 cases, and the human in 3 cases. Dr. Mitchell also investigated the hypertrophied tonsils removed from 90 children in whom the cervical glands showed no clinical evidence of disease: 6.5 per cent. of these hypertrophied tonsils gave microscopical evidence of tuberculous disease, while 10 per cent. gave positive results when inoculated into guinea-pigs.

Dr. Mitchell has thus afforded us proof of the great importance of the tonsils as portals of entrance through which the bacilli reach the cervical glands. The tonsils must therefore be looked upon as the chief manufactory

* A paper read in the Section of Diseases of Children of the International Medical Congress. A detailed report on the treatment of tuberculosis in childhood from the surgical point of view, with special reference to the bones, joints, and glands, was presented in print to the Section by Mr. Stiles.

and storehouse from which the cervical glands derive a continuous and progressive supply of infective material. In this connexion I may mention that for some years back I had observed that in those cases in which the cervical disease was unusually rapid and extensive the tonsils were almost invariably tuberculous. The reason why greater attention has not been paid to primary tuberculous disease of the tonsils is no doubt because, in the majority of cases, the naked eye changes are not sufficient to enable the disease to be recognized clinically.

Dr. Mitchell's researches prove that, in this country at any rate, tuberculous disease of the upper carotid glands in children is due to the ingestion of tubercle bacilli contained in cow's milk much more frequently than to the inhalation of human tubercle bacilli in the form of dust contaminated with dried sputum or in the form of a moist spray derived from the coughing of a consumptive patient.

I do not agree, however, with the view held by von Behring and his followers—namely, that pulmonary tuberculosis is almost invariably due to tubercle bacilli which have been ingested during infancy and childhood, and which have passed from the lymphatics into the venous circulation, and thence to the lungs. As only bacilli of the human type have been isolated from cases of true pulmonary tuberculosis, von Behring's hypothesis necessarily implies a transformation of the bovine into the human type. Most observers are, I think, agreed that such a transformation does not take place, and Drs. Fraser and Mitchell assure me that throughout the whole of their investigations they have never come across transitional types, and they have never had any difficulty in determining whether the disease was of human or bovine origin.

As regards the more important portals and channels of infection, the researches of Drs. Fraser and Mitchell support the view that in this country infection takes place in the adult mainly through the respiratory channels, while in children it more frequently takes place through the alimentary tract. This view is strongly supported by the feeding and inhalation experiments of Cobbett.

Nathan Raw's hypothesis that practically all surgical tuberculosis is of bovine origin cannot be admitted, as Dr. Fraser found that 38 per cent. of the tuberculous bone and joint cases contained the human bacillus; and, as already mentioned, in no less than 71 per cent. of these one or other parent suffered from pulmonary consumption. It is not surprising, therefore, to find that surgical tuberculosis is also met with in countries where cow's milk is not consumed.

I must confess that, having regard to the present inadequacy of the control of the milk supply, it has always been a matter of surprise to me that the medical profession in this country should still encourage the use of raw milk in the bringing up of infants and young children. Professor Delépine has shown that at least 10 per cent. of the milk supply of our large cities is tuberculous. There can be no doubt, therefore, that under the present unsatisfactory legislative control of bovine tuberculosis and of the milk supply, sterilization of the milk is the only reliable prophylactic measure we possess if we wish to safeguard our children against acquiring bovine tuberculosis. There is good reason to believe that we have more surgical tuberculosis in our large cities than in most European countries, and the explanation is no doubt largely due to the fact that there still exists a strong prejudice against sterilizing the milk in this country, whereas in France and Germany, for example, it is almost the universal practice to do so.

From the point of view of prophylaxis it is satisfactory to know that the Government of this country is at last becoming alive to the fact that bovine tuberculosis is a real source of danger to the community. That the Board of Agriculture and Fisheries and the Local Government Boards for England and Scotland now propose to make a really serious attempt to grapple with the evil is shown by the Tuberculosis Order which has recently been issued. It is to be regretted, however, that the Milk and Dairies Bills have again been shelved to make room for more contentious but less important legislation.

With regard to the Tuberculosis Order, which came into force on May 1st of this year, it is to be hoped that the veterinary practitioners throughout the country will assist in loyally carrying out the Order by notifying the local authorities of any cow they may come across in the course of their private practice which is suffering from "tuberculosis of the udder, indurated udder, or from tuberculosis with emaciation."

In grappling with the milk question, it is to be noted that an important effect of the Milk and Dairies Bills will be to obtain the sanction of Parliament to give powers to the Local Government Boards to force the local authorities to carry out the provisions of the bill.

Once again let me point out that many of the cases of surgical tuberculosis which are admitted into the children's hospital come from remote rural districts where only single cows, or small herds, are kept. Moreover, they are often old cows, and hitherto they have almost entirely escaped inspection. It is earnestly to be hoped, therefore, that by means of the Tuberculosis Order of the Board of Agriculture and Fisheries and the Milk Bills the community will shortly be provided with a uniform and thorough system of inspection and control of dairy cows, and of the milk and milk products which are consumed throughout the country.

I have long been convinced that the reason why surgical tuberculosis is so prevalent amongst the children in this country is (1) because of the prevalence of tuberculosis amongst dairy cows, and (2) because it is the exception rather than the rule to sterilize the milk. Now that notification of all forms of tuberculosis is compulsory, and now that the Tuberculosis Order has made provision for a uniform veterinary inspection of cattle throughout the country, it will be interesting to compare the incidence of tuberculosis in the cows with the prevalence of surgical tuberculosis in the children of the corresponding districts. This is neither the time nor the place to discuss the details of the Milk Bills and the provisions of the Tuberculosis Order, but I should like to point out that, in this country at any rate, both are essential if we are to make any real headway in our warfare against surgical tuberculosis. In my opinion, the stamping out of bovine tuberculosis amongst dairy cows will, in the long run, prove to be a more economical method of dealing with surgical tuberculosis than the building of special hospitals for its treatment. The treatment of surgical tuberculosis by conservative means is, on account of its long duration, a very costly procedure, hence the maxim that "Prevention is better than cure" applies with particular force to tuberculosis.

Unfortunately the stamping out of bovine tuberculosis will take time, and until we have a more perfect system of segregation of human consumptives we shall still have to make provision for the treatment of surgical tuberculosis due to the human bacillus. It is to be hoped, therefore, that an adequate proportion of the money provided by the National Insurance Act for treating tuberculosis will be devoted to providing country hospitals for the treatment of surgical tuberculosis by conservative means. Moreover, there should be an endeavour made to co-ordinate the work done in such institutions with that which will still remain to be done in our large general and children's hospitals. When operative treatment is called for in surgical tuberculosis, it is hardly necessary to point out that this ought to be carried out by skilled surgeons with special experience in this branch of surgery. Cases requiring such treatment will either have to be transferred to a general hospital for operation and then return to the country hospital for convalescence, or a consulting surgeon will have to be appointed to do the operative work in the tuberculosis hospital. I mention this merely to show that it will be impossible to divorce altogether the work done in the tuberculosis hospitals from that which is at present being done in our large city institutions.

It is to be hoped, however, that by the erection of properly equipped country hospitals for the treatment of surgical tuberculosis by conservative means fewer radical operations will be called for. Moreover, there can be no doubt that by the increased facilities and more prolonged supervision which such institutions will afford, still better functional results will be obtained in the cases which still require to be operated on.

Seventeenth International Medical Congress.

THE SECTIONS.

SUMMARY OF PROCEEDINGS.

STATE CONTROL OF VENEREAL DISEASES.

THERE is no doubt that future syphiligraphers will regard the great meeting which took place at the Albert Hall on Saturday morning to discuss and vote upon the two resolutions afterwards solemnly put by the Chairman (Sir Malcolm Morris) as an historic occasion. The meeting was in form a joint session of the Sections of Dermatology and Syphiliography and of Forensic Medicine, and there were assembled there in large numbers the most eminent authorities on syphilis of the day, both British and foreign, and the opinions voiced and the experiences related must rank as of the highest value both for the regulation of public opinion and for the guidance of the Legislature.

Professor A. Blaschko (Berlin), who is regarded as one of the most experienced syphilologists on the Continent, was the first to sound the note which rang through the speeches of all the fifteen authorities who followed him. There must, he said, be no compulsion. The police were the guardians of the peace and the natural enemy of the criminal; they were not the arbiters of public morality, which it should be the duty of a bureau of public health to control and administer. He gave details of the National Society for the Prevention of Venereal Disease, which, in conjunction with Professor Neisser of Breslau, he had founded in Germany in 1902. This society had grown enormously in late years, and had branches in all the largest towns. It was consulted by legislative and other puplic bodies in all matters relating to venereal disease and the public had come to recognize and appreciate its great utility. Some such institution could not fail to be of the greatest assistance in the consideration of the British problem, and would come in time, as it was now in Germany, to be looked upon as a sort of permanent voluntary Royal Commission for the investigation and elucidation of all venereal problems. The regulation of prostitution had not, in his opinion, proved an effectual means of diminishing syphilis and gonorrhoea in any country, chiefly because the most dangerous kind of prostitute—the young woman of 18 to 25 years—was seldom crippled by her malady, and could usually conceal her infectivity. All regulations of this category should be applicable to both sexes, for it was often forgotten that the men represented a larger and therefore more dangerous source of infection than the women. No system should be employed which publicly and officially labelled the individual as a prostitute, nor should any coercive measures be employed except in the case of the very young or the weak-minded and depraved, who should be controlled in State institutions for treatment, and for reformatory education where possible.

Professor Finger (Vienna) followed this eloquent pronouncement on similar lines. He said that prudery must vanish before a sensible discussion of the whole subject could take place, and he laid particular stress on the importance of forcing the patient to realize the great danger he was to the community as long as he remained untreated. Reform was absolutely necessary not only in the education but in the dwelling-places of the very poor, whose young children were often eye-witnesses of most abandoned scenes of moral depravity. In no country were there sufficient hospital beds to meet the demand for the treatment of venereal disease, and everywhere the treatment was far too short, chiefly from the lack of funds. He did not believe in compulsion, and was most pessimistic as to the results which might be expected from the medical notification now on trial in Denmark. The only measure which would meet the case was, in his opinion, a limited confidential notification, not to the police but to the members of a sanitary bureau.

In the unfortunate absence, owing to ill health, of Major French (R.A.M.C.) his paper was read by Dr. Brend. A good deal in his paper coincided with the views previously expressed by Blaschko and Finger. His results in the treatment of syphilis in the British army, which are well known to everyone interested in the subject, have been published in the *Journal of the Royal Army Medical Corps* and elsewhere, and it may be stated here that Continental authorities have the very highest opinion of the excellence of his work in India, to which reference is continually being made in the foreign literature. In the contribution he had prepared to the discussion he emphasized the importance of bringing concrete and undivided proposals before the Legislature, for in this way only could material results accrue. His proposals included the medical notification of disease, the suppression of *souteneurs* and public prostitution, the protection of orphans and destitute children, the provision of more hospital beds, the establishment of professorships at large hospitals, and the better instruction of students and the general public.

The last of the four "reporters" was Professor Gaucher of Paris, who thought that any sort of State measure should apply equally to both sexes, and should not imply compulsion, which was bound to lead to concealment and escape of the most dangerous type of infected individual.

Professor Leredde (Paris), who began the general discussion, confined himself mainly to a recital of the various ways in which syphilis might affect the human organism, instancing disease of the organs of sense—eye, ears, etc.—the heart, and the vascular and nervous systems. He believed it to be the most potent cause of abortions, stillbirths, and infant mortality.

He was followed by Professor Pontoppidan (Copenhagen), who explained the measures which had superseded the compulsory system in vogue in Denmark prior to 1906. At the present time notification of venereal disease by both patients and doctors was encouraged but was not compulsory, and there had been an enormous increase of attendances both for notification and treatment. He did not, however, believe that statistics would show as yet any decrease in the actual number of fresh infections per annum. It would mean many more years of work before this could be effected.

Dr. Carle stated that the non-coercive measures recently introduced in Lyons had more than doubled the voluntary annual notifications for diagnosis and treatment, while Dr. Max Müller (Metz) emphasized the difficulty of regulation measures on the ground that only a very small percentage of the prostitute class could actually be controlled. A similar view was taken by Dr. Dundas White (London), who asked his hearers not to forget that gonorrhoea accounted for at least three times as many of the annual 500,000 fresh infections with venereal disease as syphilis—and that any sort of legislation ought, therefore, to include both diseases.

A valuable contribution was that of Mr. Ernest Lane, the senior surgeon at the London Lock Hospital, whose experience with venereal disease began with his appointment there in 1878. He urged the importance of the education of public school boys, for many cases of first infection among them occurred from ignorance of the terrible risks they ran. A better training for the student, the general institution of hospital night clinics, as now obtaining at the Lock Hospital, and better facilities for the administration of salvarsan were the chief measures advocated by him. Dr. Helen Wilson (London), Dr. Dubois Havenith (Secretary of the last International Congress on Venereal Diseases in Brussels), and Dr. Horace Vinrace (London), who with Dr. Helen Wilson did not admit the necessity for notification, forced or voluntary, also added some valuable remarks to the discussion.

One of the most notable speakers in the debate was Dr. Woods Hutchinson of New York, a nephew of our late lamented and revered Sir Jonathan Hutchinson. He insisted on some kind of notification, which in the form of an anonymous communication by the doctor was rendering excellent service in New York, where as many as 150 fresh cases of luetic infection now applied daily for relief. In view of the fact that salvarsan sterilized the patient within forty-eight hours, it was an absolute duty to utilize the most stringent means to get hold of the cases before they had spread their disease to the innocent and the guilty. Coercive measures were only indicated, he said, in the case of the incorrigible or the feeble-minded,

and should include segregation, education, and treatment where necessary. He was the only speaker to lay stress on the absolute necessity of prefacing all hygienic measures with a determined attempt to break up the ring of organized and "respectable" exploiters, who both in this country and abroad had made and were making their fortunes out of the feeble-minded and indigent among women and the temporary frailties of man. That was the true "spring" of prostitution—not the sexual impulse!

Sir Malcolm Morris concluded the debate by a most eloquent appeal. He said that "the question was international not merely in the loose sense that the problem of staying the spread of the disease was one which all civilized nations had to face, but also in the stricter sense of the term. These were days in which no nation lived to itself. The facilities of transit and communication were all to the good in promoting commerce and amicable intercourse between the nations, but they also made it easy for those trading in vice to transfer their operations from one country to another. Within the last few weeks a movement, in which he might claim to have taken a part, however insignificant, had been on foot to prevail upon the British Government to appoint a Royal Commission to make a thorough inquiry into the venereal diseases, and after the declaration made in his graceful speech on Tuesday evening by so influential a Minister as Lord Morley, it might be hoped that the appeal would not be fruitless. As far as this country was concerned a thorough official investigation of the subject was the prerequisite of any effectual action on the part of the State to deal with what Lord Morley characterized as this hideous scourge. The facts had to be elicited, the vast prevalence of the disease, the ease with which it could be communicated, the enormous number of those who were its innocent victims, its grave consequences unless promptly and effectually treated, the means now available for its diagnosis and treatment, and the utter inadequacy of existing facilities for making proper use of those means. Of these facts the general public were almost entirely ignorant, and they were most imperfectly appreciated even by our legislators. These facts must be placed upon authoritative record, and then they must be pressed upon the notice of all who claimed to be in any sense leaders and teachers of the people—statesmen and politicians, the judiciary and magistracy, the press, the clergy, the teaching profession, and the members of the local government authorities. An end must be put to the silence in which the subject had too long been shrouded. While the nation had slept the enemy had been sowing his tares. What a monstrous, staggering anomaly it was that we were confronted with! In this country the State enforced the notification of many infectious diseases, took charge of the insane, encouraged the authorities to build fever hospitals, carried out a rigid inspection of factories and workshops, and in a thousand other ways stretched out its long arm to safeguard the health of the community. Yet it did not lift a finger to protect the nation from a devastating disease, which, more ruthless than the destroying angel who slew the first-born, smote the unborn babe. In some countries the State was more mindful of its duty in that regard, but there were few if any in which its action could be said to be adequate and effectual. Sir Malcolm Morris then referred to the example set by Australia. The resolutions submitted, he concluded, embodied the irreducible minumum of what they had a right to call on all the civilized Governments of the world to do.

Resolutions.

Sir Malcolm Morris then put the following two resolutions to the meeting, and they were both carried, the second unanimously:

> That, sensible of the ravages wrought by syphilis in the health of the community, and deploring the inadequacy of existing facilities for checking its dissemination, the International Medical Congress calls upon the Governments of all the countries here represented:
>
> 1. To institute a system of confidential notification of the disease to a sanitary authority, wherever such notification does not already obtain.
>
> 2. To make systematic provision for the diagnosis and treatment of all cases of syphilis not otherwise provided for.

ETIOLOGY AND PATHOLOGY OF CANCER.

Three sections were occupied at various times in the discussion of the etiology and pathology of cancer. On Friday there was a discussion of the combined sections of Chemical Pathology and Bacteriology and Immunity, and on the opening day of the section of General Pathology and Pathological Anatomy several papers on cancer were read.

The combined session of the Sections of Chemical Pathology and Bacteriology and Immunity was held under the chairmanship of Dr. Gowland Hopkins on Friday morning. Although little that can be regarded as new was brought forward, various aspects of the cancer question were dealt with by those best qualified to speak with authority, and the record may be regarded as a landmark of our knowledge at the present. As Dr. Lazarus-Barlow put it, the kaleidoscope underwent many changes, and, while it was somewhat bewildering to the audience for the current of thought to be so frequently switched off to permit of another set of ideas to be developed, this very frequent introduction of new points of view was not without its advantages.

Dr. E. F. Bashford opened the discussion by an admirable exposition of the experimental study of cancer. His thesis resolved itself into the assertion that cancer occurs in practically every phase of life and every species as an indirect result of chronic irritation; but what the direct or actual cause of the disease might be he was not prepared to state. He was little inclined to accept the existence of a "cancer parasite," not only because the disease presented very many essential differences from those diseases which are recognized as infective, but also because it was, in his opinion, difficult to conceive that a parasite could produce proliferation at one time in the epithelial or glandular cells and in their stroma, and at another in the connective tissue. In many strains of tumour he had been able to develop sarcoma out of a carcinoma, and when a mixed tumour was further propagated it was possible to preserve one or other element at will, while the second retrogressed and disappeared. The only common property of malignant tumours was the cell itself, and he was inclined to believe that the cause which led to the proliferation and unbounded growth was some of those subtle chemical or biological agents, of which Professor Schäfer had spoken on the previous day. Turning to the subject proper of his address, he showed by means of numerous excellent lantern slides the possibilities of artificial immunity induced in mice and rats. The chief means utilized were the absorption of an implanted tumour which had failed to grow progressively, and which after its disappearance led to a more or less complete resistance to the same strain of tumour in the same species. Embryonic skin, blood and other tissues of the same species gave rise to a still more complete resistance or immunity. On the other hand, he was able to show that those agents which destroyed the vitality of the cells of the graft, sufficed to prevent the production of the immunizing power. Radium, grinding, cold, and similar processes were destructive to the immunizing processes. In order to gain a clear idea of the processes in question, he demonstrated the changes which evolved in a transplanted graft up to the time of the full development of the tumour, and supplemented this account by one of the fate of simultaneous implantation of tumours of different characters. He spoke of the resistance to heterologous inoculations, and showed that heterologous immune serums were devoid of all action in the living body. Passing on to the influence of sex, age, and heredity, he gave a summary of the data he had collected both statistically and experimentally, all of which, however, have been published in the reports of the Imperial Cancer Research Fund. He warned his audience that the immunizing experiments and the results obtained were not to be regarded as indications of "cures" or even protective measures to be applied to human beings. Much work remained to be done before any of these matters could be applied to clinical uses. His address was greeted with considerable applause.

Dr. Freund (Vienna), who spoke in German, dealt with the chemical aspect of the subject. He had set himself the task of determining the essential differences between the constituents of normal tissues and those of new growths from a chemical standpoint. In a previous communication he had shown that in carcinoma carbohydrates and in

sarcoma peptones were considerably increased as compared with normal tissues. Many indications existed which led him to believe that both in the test tube and also in the animal body, influences were at play in the serum which determined the conditions of growth of cells, and which regulated the limits within which cell proliferation could take place. Following out this line of thought experimentally, he had found that the normal blood contained a substance which possessed the power of destroying cancer cells. This substance he had been able to isolate. It was soluble in ether, and did not contain any nitrogen. This fatty acid was not present in the blood in carcinoma, but in its place a substance had been isolated which possessed the faculty of destroying the normally present fatty acid. He maintained that the destructive bodies were present in the blood of every cancer case, and also in the organs. He sought to demonstrate that the fatty acid normally present was deficient in organs showing those pathological conditions which are recognized as precursors of cancer, and he deduced therefrom that the deficiency and disappearance must occur in advance and not as a result of the growth of a cancerous tumour. The abnormal fatty acid of cancerous serum converted glycogen to sugar rapidly, in contrast to the normal fatty acid, but if the glycogen present was first treated with the ether extract, the reverse took place. He was of opinion that chronic irritation or toxic irritation, by destroying the normal fatty acids, produced a predisposition to carcinoma.

The next speaker was Professor von Wasielewski (Heidelberg), who referred to the extraordinary experimental production of malignant tumours by Fibiger, and recounted some observations of a somewhat similar nature, chiefly with *dispharagus* in pigeons and *cnemidoceptes* in fowl. It was, however, not clear how far the tumours observed in these instances were malignant; the speaker taking the position that the differentiation between benign and malignant in this study was not material.

Dr. Lazarus-Barlow held that the etiology of cancer was inseparably associated with the radio-active content of the tissues. Radio-active material was present in larger quantities in cancerous tumours than in normal cells. He exhibited tables which showed that normal tissue contained a quantity of radio-active matter represented by 1, non-cancerous tissues from individuals suffering from cancer contained 25, the primary tumour 51, and the metastases 55; again, gall stones themselves contained considerable amounts of radio-active material, but while non-cancerous gall bladders contained the unit of radio-active matter, the gall bladders of individuals suffering from cancer elsewhere contained five times this amount, while cancerous gall bladders contained eighty-four times the amount. He went still further by assuming that the radio-active element which acted as the determining factor was potassium.

After Dr. Blitz had discoursed on cosmic influences and rather bewildered his audience by digressions, Professor R. Kraus gave an interesting account of his modification of Ascoli's meiostagmin reaction, which he claimed was the only biological reaction possessing a reliable specificity.

Following him came Dr. Clowes, of Buffalo, a man of many parts, who charmed as well as interested his listeners. He was at one with Bashford on practically every point, but would not commit himself in regard to the possibility of a parasitic cause of cancer. He saw no need for the assumption of a parasite, but at the same time he did not feel justified in saying that its existence was disproved by any known facts. He took up the thread of thought started by Lazarus-Barlow, and developed it further. He had found that the virulence of tumours and their rate of growth were directly proportionate to the potassium content and inversely proportionate to the calcium content. This, he considered, indicated a peculiarity in the equilibrium of electrolytes and in the absorption of electrolytes by the cell. Disturbances of the normal equilibrium would modify the permeability of the cell membrane, and would vary the passage of foodstuffs through the membrane for the nutrition of the cell. The equilibrium of the cell was identical with the equilibrium of its membrane, which in its turn meant the equilibrium of the contained lipoids, and this could be expressed as the equilibrium of the electrolytes. In illustration he took the example of fat in water (cream) as compared with water in fat (butter), and then adduced the direct experimental data on which these views had been based. His speech appeared to clear the air of some of the misty statements which had preceded it, and gave a sense of something definite having been recorded in a special branch of thought in connexion with the cancer problem.

Frau Dr. Fuchs von Wolfring of Paris presented an observation which it would seem well worth while to follow up. It was concerned with a precipitation reaction, the standard or basal antigen being prepared from tubercle bacilli and the test serum being that of the patient. It appeared that an inversion of the reaction has been observed in cancerous serums, as compared with normal and with tuberculous serums.

The replies were brief and disappointing. Dr. Bashford did not appear to be inclined to follow the various speakers through the maze of aspects which had been presented, and he summarily convicted those who offered views which did not tally with his own. It was their place to prove; not his to disprove. Dr. Freund also said a few words in reply, and thus a highly complicated, but nevertheless interesting, discussion ended to the satisfaction of each speaker, who maintained that he or she had established the several points beyond dispute.

At the afternoon session of the Section of Bacteriology and Immunity Dr. Leitch read a paper on the potent immunizing effect of the previous inoculation of cancerous material in refractory subjects. Dr. Isaac Levin also dealt with a similar aspect of the same subject.

Cell Variability during the Propagation of Tumours.

The papers read in the Section of General Pathology and Pathological Anatomy were by Drs. Bashford and Murray of the Imperial Cancer Research Fund in London.

Dr. Bashford, in a paper on this subject, remarked on the relation between certain forms of cancer and chronic irritants. The facts were illustrated by the incidence of cancer in certain races which unintentionally performed experiments on themselves by irritating parts of their bodies. The nature of the irritants themselves was of no importance; all that was necessary was that they should be chronic in action. This kept the tissues in a constant state of abnormal proliferation, and by transplanting the cells this could be prolonged indefinitely. He cited numerous experiments showing the variability in cell properties and accentuated the important fact that the property of growth and dissemination were the result of tissues having the power of producing resistance to their own overgrowth.

Heredity of Cancer in Mice.

Dr. Murray (London) gave an account of the studies on the heredity of cancer in mice, which have been published in the report of the Imperial Cancer Research Fund. He detailed the method of breeding and of keeping genealogical histories of all experimental mice. He had found that the majority of cancer cases occurred in mice of which the mother, one or both grandmothers, or mother and both grandmothers, had died of cancer. The incidence of cancer deaths was twice as numerous in animals with a "recent" cancerous history as in those with a remote cancerous history. He concluded that a cancerous ancestry was associated with an increased cancer frequency in the offspring.

INTERNAL SECRETIONS.

ON Friday morning the Section of Medicine held a joint session with the Section of Physiology, to discuss the correlation of the organs of internal secretion and their disturbances. Professor Sir E. A. Schäfer first occupied the chair, later Sir William Osler.

The discussion was opened by Professor E. Gley of Paris, who gave a summary of the various methods by which the existence of internal secretions could be ascertained and demonstrated—histological, physiological, and chemical. He pointed out that in spite of the vast amount of work on the subject that had been published in the last five-and-twenty years, the quantity of our exact and

certain knowledge was still disappointingly small. Too many hypotheses and theories had been formulated. Not only so, but certain discoveries, such as some of those made by Schäfer, had turned out to be positively harmful, by what he adroitly termed *un bonheur malheureux*, for they had misled subsequent workers. He pointed out that a fact which was overlooked by too many of the experimenters who labour in this field of physiology was of great importance. It was this—that it could not be taken as proved that the substances found in the extracts made from organs were actually present in those organs during life. These extracts were often highly toxic, he said, yet it must not be rashly assumed that the toxicity was due to specific substances secreted by the organ. The toxicity here might depend upon many conditions, and most of all upon the method by which the extract had been prepared. Among other topics he discussed the newly-discovered property of tachyphylaxis, exhibited when, as sometimes happens, an animal's tissues acquire the property of resisting a second toxic injection within a few minutes or hours, while the first injection had found these tissues unprepared and open to attack. The reciprocal actions of the ductless glands were of course, he admitted, extremely complex and hard to disentangle; for solution of these problems he looked to laborious physiological and clinical work in the future.

Several succeeding speakers—Professor Biedl (Vienna), Professor von Korányi (Budapest), Professor F. Kraus Berlin)—read papers dealing with generalities and matters of detail that do not lend themselves well to compression.

Professor Cushing (Harvard), whose Address in Surgery will have been read with interest in our last issue, gave an admirably clear and well-illustrated account of much of his own experimental and clinical work on disorders of the pituitary body. He exhibited pictures of dogs from whom the hypophysis had been removed, and followed them up with pictures of human beings presenting very analogous—*mutatis mutandis*—features and syndromes. The adiposity and infantilism characteristic of Fröhlich's syndrome might, to some extent at any rate, be inherited. A lantern slide was exhibited showing a grandmother and a mother who both presented several of the outward features of the syndrome; while the daughter, just the sort of child one would have expected from such an ancestry, exhibited the syndrome in all its completeness. Professor Cushing brought a new type of dyspituitarism to the attention of his audience. The patients of this type are thin instead of being fat, but exhibit the same loss of the secondary sexual characters (though perhaps by retrogressive change) as the patients of the commoner adipose type. He made reference to several other types of dyspituitarism, and showed how in some the disease had been diagnosed as myxoedema, and had received the treatment appropriate for that condition without benefit. He had found that the administration of pituitary extract improved these patients, and he took such a therapeutic success to be evidence of the correctness of his diagnosis. Another patient, a girl of 6, looked as if she was 16 years old. She had menstruated from the age of 2, and her secondary sexual characteristics had made their appearance when she was 3. He pointed out in conclusion that further researches into the functions of the pituitary gland would very likely throw light upon the physiology of sleep. Research had already done something to illuminate the part played by the gland in hibernation.

Other points in the correlations of the ductless glands in both health and disease were brought out by other speakers, including Professor Herring of St. Andrews, Dr. Falta, Dr. Blair Bell of Liverpool, Professor Swale Vincent, Professor G. Murray of Manchester, Professor Morsaline of Buenos Aires, and others.

In replying to and commenting on a number of the points raised during the discussion, Professor Gley took occasion to emphasize the fact that hyperplasia of a gland—of the suprarenals in granular kidney for example—was not necessarily equivalent to its functional hyperactivity, an assumption too often made.

The hall in which this joint meeting took place was crowded to its utmost capacity, and the discussion maintained an unusually high level of excellence and was most interesting.

D

CARDIOLOGY AND CARDIOPATHOLOGY.

The Excitatory and Connecting Muscular Systems of the Heart.

It would be probably correct to say that in no branch of medicine has more sure and pronounced advance been made during the last decade than in cardiology. Fortunately there were at the Congress almost all those who have been most closely associated with this advance, an advance which, moreover, it is interesting to record, has been made by workers along a large number of converging lines. We missed, however, the presence of Gaskell and James Mackenzie, who might perhaps be rightly regarded as the two pioneers in this new knowledge.

On Thursday a conjoint meeting of the Sections of Anatomy and Physiology and General Pathology and Pathological Anatomy discussed the excitatory and connecting muscular systems of the heart. There was a large attendance, which included Professor His and Professor Stanley Kent, both of whom were specially concerned in the discussion, inasmuch as it centred round the muscular bundle which they had first described, long before it was recognized as having any important bearing on the function of the heart.

Professor Arthur Thomson occupied the chair. The discussion was opened by Dr. Ivy McKenzie (Glasgow), who addressed himself to the morphological side of the question, to the phylogenetic development of the auriculo-ventricular bundle in fish, reptiles, and mammals. He illustrated his remarks by numerous lantern slides. He pointed out that in such closely related forms as the cod and the halibut there was a marked difference in the ease with which the bundle could be distinguished. Its nerve supply was always rich. The sinu-auricular node and the auriculo-ventricular node and bundle had their homologues in the various vertebrate hearts. In the fish they were in the form of rings of specialized muscle surrounding the sinu-auricular and auriculo-ventricular orifices. They became transformed from rings to large spindles as a result of the morphological changes in virtue of which the heart became divided for the propulsion of arterial and venous blood. The sinu-auricular spindle was derived from the original sinu-auricular ring, and the auriculo-ventricular spindle was probably derived partly from sinu-auricular tissue and partly from auricular canal; the former derived its main nerve supply from the right side and the latter from the left. Their function was associated in some way, as yet unexplained, with the co-ordination of the cardiac movements.

Dr. Josué (Paris) continued the discussion with a summary of the work on cardiac localizations. He pointed out that the idea of cardiac localizations was new. Originated by physiology, they had been discovered afresh in human pathology. The idea dominates all the clinical history and pathological anatomy of myocarditis. It explains how the symptoms during life are not always comparable to the myocardial lesions found after death. In truth, the site of the lesions is of more importance than their extent. The small fibrous scar interrupting the bundle of His will have more serious consequences than a much larger lesion situated in the anterior wall of the ventricles. We have passed in review the manifestations which permit the localization of lesions in the cardiac muscle. We have studied the disorders which characterize the appearance of abnormal starting points of the cardiac systoles and those which indicate the interruption of the conducting bundle. We have examined successively the embryological relics of the primitive cardiac tube, portions which have been specialized with a view to the production and transmission of cardiac contraction and the remainder of the myocardium. Cardiac localization should be considered as localization of function. That we have been able to localize disorder in a particular region of the heart does not permit us to say that we shall certainly find the material lesion in that spot. The functional disorder is situated in a precise region of the cardiac muscle, but it is not always easy to say in what measure it depends on a local lesion or is due to some other cause, such as influence of the nervous system.

Dr. T. Lewis, in summarizing the present knowledge of the site of origin of the mammalian heart beat, said that the evidence was now conclusive that the normal heart beat arose in the sinu-auricular node, and that this small

structure, lying at the upper end of the sulcus terminalis, controlled the beating of the whole heart. Heart beats started artificially in this region alone resembled the normal heart beat. By studying the heart with the string galvanometer, it could be shown that the electrical relations of this node were peculiar. The current accompanying the excitation process began in this region, and spread from it throughout the auricular tissue; these facts alone were sufficient to localize the tissue responsible for the starting of the contraction wave. Complete confirmation had been obtained by the method of heating and cooling. The same region gave an exquisite response to warm or cold applications, and far more sensitive than any other structure in the heart, giving immediate alterations of the rate at which the contractions followed each other. The long search for this pacemaker might be regarded as successfully closed.

Professor Kulbs (Berlin) reported the results of his examination of the auriculo-ventricular bundles of the heart. He found that these muscular tracts could be histologically distinguished from the typical heart muscle much more easily in mammals than in birds, and more easily in birds than in fish, amphibia, or reptiles. He showed that the arrangement of these bundles became more complicated as the heart evolved from the simpler forms. He divided the bundle system into three distinct portions, namely, the Aschoff-Tawara node, the bundle of His proper, and the fine ramifications of the bundle to the apex of the ventricles.

Professor Stanley Kent (Bristol), whose researches were among the earliest some twenty years ago, referred to the histological features of the neuro-muscular bodies, which were associated and connected on the one hand with the auricular musculature, and on the other hand with the ventricular musculature. Dr. Bisbop (New York) attributed many cases of heart-block to autointoxication, and expressed the opinion that such intoxication was particularly prone to occur from deranged metabolism after accidents or severe illnesses. Dr. Hering described further neuro-muscular structures which he had met in the neighbourhood of the auriculo-ventricular junction; while Dr. Louis Rénon laid stress upon the richness of elastic fibrillae in the bundle of His. He also gave a number of practical suggestions as to the best way of demonstrating the bundle, the best methods of fixation, of opening the heart, and of staining the sections.

Dr. Morrison described the abnormal appearance and distribution of the bundle in a malformed heart, and Dr. Lea suggested that other functions than those of conductivity must be assigned to the bundle of His, and that changes elsewhere might affect the conductivity of the muscle, judging this from cases in which changes had been found in the ventricle.

Professor His stated that he had brought the original specimens and pictures bearing on his discovery.

Professor Keith, remarked that although the anatomy of the auriculo-ventricular bundle was known, knowledge of its function was far from complete. Function ought always to explain structure, and this had not been so in the case of the bundle of His. Hence he felt sure that it must have some more complicated function than that of merely transmitting the beat. Discussing the excitability of nodal tissue, he suggested its occurrence elsewhere, and, indeed, had found similar tissue in the ileo-caecal region and at the cardio-pyloric junction, which suggested some association with the originating of rhythmical contractions at these parts.

Dr. Muskins was of opinion that even in so restricted an area as that of the sinu-auricular junction it was possible to make, physiologically, differential subdivisions.

Dr. Hirschfelder recorded an observation he had made of the independent contraction in the frog's heart of the auriculo-ventricular bundle, a contraction which followed that of the auricle but preceded that of the ventricle. In hearts, however, poisoned by aconite for the purpose of obtaining extrasystoles, the latter could be observed to begin as co-ordinated contractions of the auriculo-ventricular ring, and to pass in both directions to auricle and ventricle, which chambers then contracted simultaneously as in the extrasystoles of the mammalian heart, which have been correctly assumed to have their origin in the auriculo-ventricular bundle.

Professor Aschoff (Freiburg), who paid a graceful tribute to the pioneer work of the English school, described three main centres for cardiac contractility—the sinus node, atrium node, and ventricular node.

Professor Wenckebach (Strassburg) acknowledged his debt to clinical observers. He attributed many cases of abnormal heart beat to defective ventricular excitability, and was of the opinion that the cardio-motor mechanism was much more than the remains of the auriculo-ventricular ring, and that we were still a long way from understanding the structural basis of clinical phenomena.

Professor Waller drew attention to the correlation of the size of an animal, its pulse-rate, and the length of the auriculo-ventricular interval, instancing the horse, man, and the dog. He showed that after violent exercise, when the pulse-rate was high, the auriculo-ventricular interval was shortened, and that the interval became prolonged as the heart recovered its normal frequency.

In replying, Dr. Ivy McKenzie agreed that conductivity was not the sole function of this bundle and that all abnormal contraction arose in nodal tissue. The discussion formed a striking example of how varied are the aspects from which disease can be studied, for in it participated embryologists, anatomists, comparative anatomists, physiologists, and clinicians.

At the close of the discussion, Dr. Koch (Berlin) contributed a paper on the pathology of the bundle system of the heart. Owing to the frequent introduction of the mechanical or nervous factor, in addition to the factor of the local lesion, it was, he said, far from easy to associate definitely anatomical and clinical conditions. It was, for instance, impossible at present to associate any definite anatomical condition with auricular fibrillation, which appeared to depend upon some more or less temporary defect in the cardio-motor mechanism.

The Pathology of Heart Failure.

A first-rate discussion on the pathology of heart failure was held during the morning session of the Section of Medicine on Saturday. It was opened by Professor H. Vaquez of Paris, who began with an account of the various methods of clinical investigation that tell when heart failure is to be expected or diagnosed. The chief of these, he said, were acceleration of the pulse-rate, fall in the arterial blood pressure, changes in the cardiac rhythm (and particularly the appearance of certain forms of irregularity), alterations in the form of the tracings furnished by the electrocardiograph. He was particularly anxious that the talented employers and interpreters of the electrocardiograph should not permit zeal to outstrip discretion, and should not attempt to draw from the electrocardiogram deductions more precise than present knowledge warranted. Professor Vaquez thought that examination with the *x* rays, especially when repeated from day to day, gave more valuable information about heart failure than any other method of examination. He went on to point out that failure of the heart might be either partial or total, and might affect different chambers of the heart in different cases. Thus failure of the auricles was not rare in mitral disease, and often really seemed to make little difference to the patient. Failure of one or other of the ventricles of the heart was commoner; failure of the left ventricle was the cause of those distressing palpitations and attacks of painful dyspnoea that frequently occurred towards the end in severe cases of heart disease, and often brought with them sudden death. Primary failure of the right ventricle, contrariwise, was characterized by quite other features—painless shortness of breath on exertion, with only a slight increase in the rate of the pulse. Total cardiac failure involving all four chambers together was rare: it might occur in healthy persons after prolonged and violent muscular exertion—in Marathon runners, for example. But it might also occur, oddly enough, in the pothouse patrons of such athletes, a form of slower onset seen in those who drank vast quantities of beer (the Munich or Tübingen beer-heart, so called).

Why was it, Professor Vaquez asked—and the next speaker, Professor Wenckebach, repeated the question—Why was it that prognosis in cardiac disease was so often unsatisfactory, or even totally wrong? Because of debility of the heart muscle, they believed, and our inability to form any correct clinical estimate of the

degree of this debility. Arrhythmia had been pointed to as an index of the impairment of cardiac muscle, but this was a mistake: arrhythmia indicated impaired cardiac mechanism, and told us nothing about the functional competence of the muscular substance of the heart. In fact, our only way of estimating the reserve power of the myocardium was the very unsatisfactory one of watching the progress of the malady. Professor Wenckebach expounded a method of measuring the reserve of cardiac power by estimations of the contractility of the heart muscle; the method, however, though of great theoretical interest, did not admit of any practical application at the bedside.

Dr. W. T. Ritchie of Edinburgh next drew attention to "auricular flutter," a condition akin to the auricular fibrillation that has been brought so prominently to the fore by the electrocardiograph. When fluttering, the cardiac auricles beat from 200 to 350, or even 380 times a minute: the ventricles often followed at only half those rates. He quoted cases to prove that neither auricular flutter nor auricular fibrillation deserved the gloomy connotation so commonly ascribed to them. They might last for years without harming the patient, and their establishment might even be associated with improvement in his general condition.

Dr. L. F. Bishop of New York struck out a new line of thought by attributing heart failure to protein poisoning, and proposing to treat it by dieting and exhibiting repeated full doses of castor oil. Dr. Haig of London attributed heart failure to uric acid and nothing else. Of the other speakers several drew attention to the care that should be exercised in giving a bad prognosis in cases of morbus cordis. To diagnose "weak heart," as was so often done, was almost always wrong, as Professor Thayer of Baltimore pointed out. Dr. Walsh of New York emphasized the importance of encouraging cardiac patients to think as well of their physical condition as possible. The influence of the mind upon the body was particularly well marked in these patients; to give them a bad prognosis was simply to dishearten them, and the physician was justified in giving the best prognosis he could, or even better still, to the victims of morbus cordis, a sentiment that was much applauded.

Subacute Bacterial Endocarditis.

When this discussion was over Dr. E. Libman of New York read an interesting and very complete account of a new form of subacute bacterial endocarditis, which his researches had enabled him to isolate from that refuse heap of unclassified cases known as "malignant endocarditis." His form of endocarditis occurred mostly in persons who had already got chronic valvular disease—a fact that might suggest a relapse rather than an infection with a new variety of microbe. The cases lasted for from four to eighteen months, and the great majority ended fatally; a few spontaneous recoveries and a few recoveries attributed to various forms of treatment had, however, been recorded. The microbe causing the endocarditis he had isolated in 73 out of 75 cases; it was almost always a streptococcus of a peculiar type, intermediate between the pneumococcus and the ordinary streptococci, and he proposed to name it the *Streptococcus mitis*. A special form of glomerular nephritis was characteristic of this new variety of endocarditis, and this was illustrated by lantern slides and explained by Dr. Baehr of New York, who was associated with Dr. Libman in his work. Special interest attaches to this form of heart disease, because, as Dr. Poynton of London pointed out, it seemed to be very closely connected (if not, indeed, identical) with a form of rheumatic endocarditis described by himself and Paine in 1900. So far as Dr. Libman's investigations went, however, it appeared that *S. mitis* was not the same as the strains of the rheumatic diplococcus he (Dr. Libman) had been able to lay his hands on for purposes of comparison.

Other Papers on the Heart.

The afternoon session of the Section of Medicine was devoted to the reading of a series of papers on cardiac subjects. Dr. J. Cowan of Glasgow gave an account of half a dozen cases of nodal rhythm and heart-block occurring during the course of acute infectious fevers, and Dr. A. E. Cohn of New York described some of the effects of digitalis on the heart. A new and simple —or fairly simple—method of obtaining simultaneously tracings of the arterial pulse, the venous pulse, and the heart sounds was explained by Dr. R. Ohm of Berlin. In this, as in the previous papers, free use was made of a projection apparatus and screen. Dr. Ohm's tracings showed clearly that his apparatus would be of considerable assistance in the diagnosis of certain forms of valvular heart disease, and also for didactic purposes.

Experimental Study of Rheumatic Endocarditis.

Drs. A. Paine and F. J. Poynton, of London, next presented a summary of their recent work upon rheumatic endocarditis. It was pointed out that the rheumatic diplococcus was capable of producing every form of endocarditis, from the most benign simple variety to the most malignant, in man. And in animals, similarly, every variety of endocarditis could be produced by the intravenous injection of cultures of the diplococci taken from cases of rheumatic fever in human beings. Many forms of non-suppurative arthritis could be produced in animals, and a number of pictures were thrown upon the screen showing the extensive circumarticular fibrosis and inflammation commonly produced; while others illustrated the fact that a typical rheumatoid arthritis, with lipping of the bones and erosion of the cartilages all complete, might result from such experimental infections of the joints in rabbits. A very striking set of pictures illustrated the acute appendicitis that might follow, again in the rabbit, upon the intravenous injection of rheumatic diplococci. Twenty rabbits, 6 weeks old, were inoculated with the organisms obtained from a case of rheumatic fever: 19 developed polyarthritis, 4 appendicitis, 1 endocarditis. Microscopical sections of the inflamed appendices made it obvious that the rheumatic appendicitis of the young rabbit is in every way a replica of acute non-suppurative appendicitis in man. Necrosis of the lymph nodules towards the periphery of the rabbit's appendix was conspicuous, followed by necrosis and disintegration of the greater part of the Lieberkühn's follicles and crypts opening into the lumen of the tube. Dr. Paine laid stress on the rapid phagocytosis of the organisms that takes place in both rheumatic rabbit and rheumatic man. He held that it accounts for much of the difficulty experienced by so many observers in isolating the rheumatic diplococcus from rheumatic patients.

Diagnosis.

Dr. A. D. Hirschfelder (Baltimore) next read his paper on various simple modes of diagnosing circulatory troubles commonly believed to require the use of expensive and complicated pieces of apparatus for their demonstration. Among the points he dealt with was the naked-eye observation of the venous pulse at the root of the neck. By laying the patient horizontal, the internal jugular vein can very generally be made to stand out in relief upon the surface of the neck. Its edge and its pulsations can be thrown into relief by holding the margin of a white visiting card parallel to its course and in close proximity to its border. This white card gives a fixed point that appears to amplify and at the same time define any pulsations that the vein may show. He illustrated the use that might be made of these pulsations in the diagnosis of various forms of irregular cardiac rhythm. For example, auricular extrasystoles can be seen to occur in pairs; ventricular extrasystoles singly, and he noted that these produce extremely large and forcible venous pulsations. In complete heart-block the number of extra-auricular systoles intercalated between the ventricular beats varied in successive diastoles, and was inconstant.

SANITARY ORGANIZATION IN THE TROPICS.

A discussion on sanitary organization in the tropics was held at a joint meeting of the Sections of Naval and Military Medicine and Tropical Medicine and Hygiene on Saturday morning.

It was introduced by Sir Ronald Ross, F.R.S., who said that he would take the word "sanitation" in its widest possible sense to include everything which tended to reduce the sickness and mortality of human beings. He then proceeded to give an outline of what he believed to be the essential features of a successful public health service in tropical colonies. In order to have

the most efficient and least expensive organization for preventing and treating disease in tropical countries, all the departments concerned in sanitation should, he said, be unified under one head. In our present organization the medical department dealt with the treatment, and the sanitary department with the prevention, of disease; the research, statistical, and engineering departments usually carried on an independent existence. To get the best results, all of these departments should be placed under the control of one official, who, moreover, should have a share in the supreme governing body of the colony, as the care of the public health was quite as important to the community as the regulation of its education, commerce, or land defences. The sanitary department was commonly subordinated to the medical department. The Americans in their Panama Canal sanitary organization had reversed this arrangement with excellent results. Research as at present conducted depended largely on the individual investigator's own particular fancy, whereas it should be directed by a central authority and employed to clear up obscure points in the incidence of epidemic diseases of the community. In the matter of statistics again, they were, as a rule, collected by officials who had not had any special training for the post. In order to analyse the results and check statements made by sanitary officers on the basis of their returns expert statisticians should be appointed. The sanitation of municipalities in the tropics presented many difficulties. The teeming native population could not afford to pay for expensive schemes of sanitation. The sanitary authority was usually vested in a board whose members knew little or nothing of the subject and who were much more concerned about local politics and their own financial interests. To deal with epidemics a special service, like the Marine and Public Health Service of the United States of America, should be created, as without centralization and thorough organization epidemics could not be efficiently controlled. One other point which was frequently overlooked was that a sufficiency of trained labour should be provided to carry out the directions issued by the central authority.

The second speaker was Staff Surgeon Dr. Hintze, of the Military Department of the Colonial Office, Berlin, who gave a sketch of the existing medical and sanitary organization in the German colonies. The following points should be of interest to medical officers of other tropical countries. In each colony there was a chief medical officer who had direct access to the governor of the colony and advised the governor on all matters affecting the public health. The executive sanitary officers consisted of Government civil surgeons and of military medical officers seconded from the colonial forces. These officers underwent a special training in tropical medicine and hygiene at the school of tropical medicine in Hamburg before being selected for employment in the colonies. Subordinate to these officers were a number of European assistants, mainly retired non-commissioned officers from the army, who performed the work of sanitary inspectors; before being appointed to the colonial service they received a course of instruction in tropical hygiene. A few natives were employed in subordinate positions. Each medical officer in charge of a district had to make frequent tours of inspection and keep himself informed as to the general health of the community. For the investigation, treatment, and prevention of sleeping sickness there was a special department, with eight medical officers in German East Africa, four in the Cameroons, and two in Togo. In Dar-es-Salam there was a research laboratory where bacteriological and other examinations were carried out for the Public Health Service. Vaccine lymph was now prepared in each colony; this had led to a considerable saving of expense, as well as yielding much more satisfactory results than were obtained with lymph imported from Germany. The local troops had their own medical organization somewhat on the lines of that of the home army.

The third speaker was Colonel P. Hehir, I.M.S., Assistant Director of Medical Services, Burma Division, who, in a paper on military sanitary organization in the tropics, dealt with the requirements of a sanitary service for large forces in a settled tropical country. He considered the sanitary organization of the army of the Indian Empire to be the most comprehensive, practical, and, as the result showed, the most efficient in existence, and presented it as a model of what military sanitary organization in the tropics should be. He specially emphasized the importance of making combatant officers of units responsible for the sanitary condition of their barracks and surroundings, and the hygienic welfare of troops, and he was of opinion that the institution of regimental sanitary detachments in units had been of inestimable value to the health of the army in India.

An interesting discussion on these papers was opened by Colonel W. G. King, I.M.S. (retired), who criticized Sir Ronald Ross's proposed unification of all branches of the sanitary service, and said that the great aim should be co-ordination not unification. He agreed that central control was necessary to prevent wasteful expenditure, and advocated the appointment of a sanitary officer in each district in India, who should be directly responsible to the Government of the district and not subordinate to the medical department.

Professor Wasielewski (Heidelberg) pointed out that in order to keep up a stock of virulent vaccine lymph in the tropics rabbits could be used equally as well as calves, and were much more convenient to manage in the laboratory.

Professor Agramonte (Cuba) stated that practically every measure which Ross advocated had already been introduced in Cuba, and that the state of the public health there was at present most satisfactory.

Dr. E. Black said that when, some thirty years ago, he was called on to organize a public health department for Western Australia, he began by studying the organization of the British, French, and German colonies, and selected from each what he considered to be the best features, with, as he believed, the happy result that Western Australia now possessed a thoroughly well-organized public health service. The medical and sanitary services were both under central control. The principle observed was that matters which affected the health of all the inhabitants of the country—for example, imported food supplies—should be regulated by the central authority, while those which only concerned the population of a particular locality—for instance, the water supply—should be controlled by the local authority.

Dr. Sandwith said that almost all of Ross's ideal conditions already existed in Egypt; in addition, a veterinary department under European officers had been established and furnished protective vaccine for certain cattle epidemics. The quarantine service was still under international control, and the sanitary department had not as yet a representative on the supreme governing body. Dr. Sandwith laid great stress on the importance of recognizing that the efficiency of Oriental sanitation depended on the co-operation of the village community. Great results were hoped for from the recent ordinance providing an elementary training in medicine and hygiene for the village barber. Dr. Sandwith approved of government by committee, provided the committee was ruled by the medical officer.

Dr. Harford pointed out that no matter how perfect the sanitary organization might be, it could only be a success if all classes of the community co-operated. He had twenty years' experience, in connexion with Livingstone College, in training missionaries for tropical colonies, and he believed that those men while acting as religious missionaries also performed a great service to the native communities by instructing them in the methods and value of sanitation. The importance of giving instruction in sanitation to children attending schools had not yet been grasped in this country. Sir William MacGregor, when governor of a West African colony, inserted sanitation in the curriculum of every school, with most satisfactory results for the health of the natives. One great danger menaced the future of the West African colonies, namely, the alcoholization of the natives, and this question called for immediate action.

Dr. Olpp (Tübingen) concurred in Dr. Harford's testimony to the good work done by missionaries in promoting a knowledge of sanitation among natives. He also referred to the difficulty of getting native women to enter Government hospitals as patients because the treatment was usually carried out by male medical officers.

Dr. Anderson referred to his experience when visiting the West Indian colonies, and deplored the fact that

schemes introduced for the improvement of the health of the community were often blocked because of differences of opinion between the chief medical officer and members of the Legislative Council. He said that all members of the civil service, but especially the Governor of the colony, should have some elementary knowledge of the diseases prevalent in their sphere of government; this would enable them to appreciate the importance or otherwise of proposed schemes of sanitation, and to estimate the benefit which might be expected to result from the proposed expenditure.

Dr. Andrew Balfour (formerly of Khartoum) said that in sanitary warfare, to obtain a victory it was necessary to have good troops, that is, sanitary inspectors; it was useless to train commanders if their subordinates had not the knowledge necessary to enable them to carry out the orders received. Sanitary officers should weigh well the cost of any proposed scheme of sanitation. Sanitary inspectors in the colonial service must have a training not merely in general sanitation, but also in tropical sanitation; this had been recognized by the Sudan Government, and extra pay was now given to men who had been trained in tropical sanitation.

Colonel King then proposed a resolution to the effect that in all fully administered tropical countries the chief sanitary adviser to the civil administration should be subordinate to no other authority than the Government he served. After an animated discussion Colonel King agreed to withdraw his resolution.

ANATOMY AND EMBRYOLOGY.

The proceedings of the Section of Anatomy and Embryology began in a joint meeting with the Section of Pathology, under the presidency of Professor Arthur Thomson, who welcomed the members in a few well-chosen words. He expressed the hope that the strangeness which many of them must inevitably feel would soon wear off, that they would make many friends, and take away with them the memories of pleasant experiences.

The Sections then turned to the consideration of the business for which they had met—namely, a discussion on the excitatory and connecting muscular system of the heart.

Embryology.

Friday, the second day of the sectional proceedings, was devoted particularly to the study of embryological problems.

It began with a report by Professor Éternod (Geneva) on the earliest stages of the development of the human ovum. The report consisted of a summary of the principal papers published on this subject during recent years. He pointed out the great lacunae in the knowledge of almost every stage of the early development of not merely the human ovum, but of the ovum of primates generally. Until a larger number of specimens had been examined it was necessary to walk with circumspection and humility. The general mechanism of gastrulation was discussed, and the opinion he expressed, after being daily occupied for almost thirty years on the problem, was that the formation of the gastrula by invagination was much the more common method, if, indeed, it was not the only one. Other important subjects brought forward included the phylogeny of the ovum, the trophoblast, the germinal area, the part played by the Vitelline sac, the allantois, placenta, and the vascular areas. Professor Bryce (Glasgow) expressed himself as being in general agreement, although he thought Professor Éternod had perhaps followed too closely the early stages of the development of the frog's ovum in considering those of the development of the human ovum. He himself divided this early period of development into two phases separated by a relatively long interval—the stage of lamination and the stage of notogenesis. He also differed from Professor Éternod in believing that the trophoblast only consisted of two layers; the third or outermost layer which had been mentioned was, in his opinion, of doubtful existence, and if present was most likely maternal. Dr. Jenkinson (Oxford) disagreed with Professor Éternod as to the origin of the entoderm and as to the phylogeny of the blastopore. He agreed with Professor Bryce as to the origin of the yolk sac from the inner mass, the rest of which formed the embryonic knob; he regarded the trophoblast as a precociously developed false amnion. The derivation of the amniotic blastopore from the anamniotic, he thought, was clearly seen in the Gymnophiona. He homologized the embryonic shield of Amniota with the blastoderm of Gymnophiona, the fusion of the archenteron and the subgerminal cavity in Amniota with the fusion of the archenteron and the segmentation cavity in Gymnophiona, and the extra-embryonic zone of blastoderm in Amniota with the superficial yolk cells of Gymnophiona added on to the blastoderm, while the rest of the yolk remains unsegmented.

The President (Professor Thomson) gave a lantern demonstration of twenty-three serial sections through an early human embryo of a computed age of twelve to fifteen days. He laid stress upon the fact that there appeared to be a communication between the amniotic cavity and the exocoelom, which latter could be seen extending on either side in front of and behind the embryo. Another interesting observation was that the Graafian follicle from which the ovum was derived had not become closed at the time of death. The contribution was further illustrated by a model.

Professor McClure (Princeton) read a paper illustrated by photomicrographs and photographs of wax-plate models on the development of the lymphatic system in the trout. He showed that a number of spaces make their appearance along certain lines and at more or less regular intervals in the mesenchyme. Later these spaces joined up with each other to form longitudinally coursing channels—the lymphatics. There might be observed, for example, median and lateral cephalic lymphatic trunks, a lymphatic of the lateral line formed in this way. They were developed at first quite independently of the veins, although later they became connected with them, so that blood passed from the veins into the lymphatics until the valves became formed.

Professor Huntingdon (New York) contributed the results of his work on the genetic relations of lymphatic and haemal vascular channels in the embryos of Amniotes. His views were in harmony with those of Professor McClure as regards the origin of lymphatics from the concrescence of intercellular mesenchymatous spaces, the flattening of the mesenchymatous cells foreshadowing the formation of epithelium. He drew a distinction between the formation of lymphatics in reptiles, in birds, and in mammals. In reptiles they developed in the way already mentioned. In birds the lymphatics in addition seemed to take a considerable part in the formation of erythrocytes, which were borne into the venous jugular confluence; only after the discharge of these contents did the lymphatics assume their adult appearance. In mammalia, on the other hand, the lymphatics appeared first as mesenchymatous spaces around the vessels, and only as these latter shrunk were the spaces converted into definite channels.

Professor Rabl (Innsbruck) read a paper on the development of haemo-lymph glands in the guinea-pig, which again showed the close relation which must exist between veins and lymphatics, especially when some of the latter are described as being blood-bearing. Professor Pires de Lima (Porto) recorded three cases of congenital juxta-urethral fistulae which had come under his direct observation. They had all occurred in medical students. He reviewed the literature of such cases, and explained them by reference to development as due to the persistence of Guerin's sinus.

Dr. Jenkinson contributed a paper on the effect of centrifuging the egg of the frog. He showed that a new polarity was set up and that four zones could be readily identified; at the animal pole were found most of the fats, in the next zone the proteins and glycogen, in the third the pigments, and in the fourth the yolk. As more derangement was produced at the two poles than at the equator, the head and tail regions showed much more deformation than did the more central parts. As, however, the actual tail was developed from the equatorial region, it itself might be perfect. The effects naturally depended on the rate of the centrifuging motion and the period of exposure. Professor Wilson (Sydney) showed a number of stereoscopic photomicrographs through a human embryo with nine pairs of somites. Although the embryo was from an abortion it seemed to be quite

normal, and its tissues had been beautifully fixed. He drew attention to the dorsal flexion and to the series of funnel-shaped apertures through which the pleuro-peritoneal cavity communicated with the exocoelom.

Dr. Marie Loyez (Paris) made a communication on atresia of the follicles and the formation of cysts in the human ovary. She expressed the view that a great number of ovarian cysts did not arise from such atresia, but resulted from an abnormal proliferation of the follicular epithelium of the ovaries, which gave to them a neoplastic character.

In the afternoon Dr. Teacher gave a demonstration of the Bryce-Teacher embryo, and Dr. Jenkinson showed a number of specimens of the embryos of frogs in which the eggs had been centrifuged.

PHYSIOLOGY.

THE first paper on Thursday morning was one by Dr. Dominici (Naples) on the correlation of organs, especially the kidneys and suprarenal capsule and internal secretions. Having observed that the experimental destruction of the liver brought about marked changes in the kidneys and the adrenal bodies, he sought an explanation of the relationship which apparently existed between these different organs. He found that the gradual destruction or removal of the kidney tissue was followed by a diminution or disappearance of the chromaffin matter of the adrenals. Further, he found that the injection of adrenalin into decapsulated animals prolonged life for two or three days. He was followed by Miss Macnaughton (Edinburgh), who read a paper on the fatigue of nerve. She had found that when protoveratrin solution was injected into an animal and a nerve-muscle preparation made, if the nerve were stimulated, fatigue rapidly set in—a fatigue from which there was no recovery. If, on the other hand, the nerve-motor ending were shielded from the action of the drug, although the onset of fatigue was rapid, slow recovery took place. She believed that all the results obtained could easily be explained on a purely physical basis, and that it was unnecessary to conclude that the nerve impulse was a chemical phenomenon.

Professor Macallum (Toronto) then communicated the results of an investigation which he had carried out with Dr. Collip on a hitherto unrecognized substance in nerve cells. Whilst engaged in studying the nerve cells of the leech they found that a reduction of silver nitrate took place in them, giving a characteristic steel-grey appearance. This reaction they found was also given by the cells of the posterior spinal ganglia, the Gasserian ganglion, the sympathetic system, and the cortex. The substance which produced this reduction was always grouped about the endo-cellular canals of the cells. It was never found in the nucleus, and it extended into the dendritic processes for a short distance only. Professor Macallum believed that this substance was closely related to adrenalin, although the two bodies did not quite agree in some of their reactions. It was found that when the medulla of the suprarenal body was tested with the silver reagent it gave a very marked and very diffuse reaction, and, further, that adrenalin itself brought about the rapid reduction of a solution of silver nitrate. In answer to Professor Schäfer, Professor Macallum said he did not think that the substance was the same as that in Nissl bodies.

Professor Lusk (New York) read a paper on the alleged influence of adrenals and thyroid on diabetic metabolism. The paper was founded on experiments carried out in a respiration calorimeter, and showed with regard to the influence of the injection of adrenalin, which, of course, produces a temporary glycosuria, that it had no inhibitory power on the oxidation of sugar in the body, and further that it did not increase protein metabolism. A second series of experiments on the influence of phloridzin before and after thyroidectomy indicated that the injection of the drug before thyroidectomy caused an increase in protein metabolism and a 25 per cent. increase in heat production, whereas after thyroidectomy there was little or no increase in the protein metabolism, and the heat production was unchanged. He believed that the heat production was unchanged owing to the fact that the protein metabolism was also unaffected. He further noted that glycogen retention in the liver and the tissues was much more readily induced after thyroidectomy. Dr. Falta (Vienna), in criticizing this work, maintained that, as regards the carbohydrate metabolism, dogs and men differed so greatly that it was impossible to draw conclusions from experiments on dogs which would be applicable to men. A paper by Drs. Cramer and Krause (Edinburgh) on the relation of the thyroid gland to carbohydrate metabolism supplemented Professor Lusk's. They fed animals on a food rich in carbohydrate and administered small doses of thyroid extract, either fresh or dry. Great stress was laid on the necessity of using fresh or freshly dried preparations of the gland. They found on killing the animals that glycogen was absent from the liver. In twelve thyroid-fed rats glycogen in the liver was practically absent, whereas control animals gave 1 to 3 per cent. The question was, What had happened to the carbohydrate? No glycosuria was ever observed, and there was practically no effect on the blood sugar. On examining the respiratory quotient they found after a meal a respiratory quotient of 0.99, followed by a slow fall, whereas in a control animal without thyroid there was a high initial respiratory quotient which rapidly fell. Apparently the thyroid extract acted in two ways—in so far as it prevented storage of carbohydrate it had an inhibitory action, but it had also a stimulating action, since the oxidation of the carbohydrate was manifestly increased. In connexion with this same subject, Professor Herring (St. Andrews) read a communication on the effects on metabolism in white rats of thyroid and pituitary administered (*a*) separately, (*b*) together. He found that after small doses of thyroid extract, in spite of unlimited food, there was a steady loss in weight which, if allowed to go on, led to the death of the animal. Administration of pituitary extract did not have this effect. Combined administration of thyroid and pituitary extract led to a loss of weight which was not so marked as when the thyroid was given alone. These papers led to a very interesting discussion, in which Professors Falta and Biedl (Vienna), Gley (Paris) and Swale Vincent (Winnipeg) took part.

Sir E. A. Schäfer dealt with the classification of hormones, and contended that the word "hormone," derived by Professor Starling from ὁρμάω, to stir up or excite, suggested merely an exciting agent, but that nowadays it was applied in too broad a fashion to all internal secretions, whether excitant or inhibitory in nature. He suggested that a special name was needed for those substances which were inhibitory in action, and offered the word "chalone" (from χαλάω, to loosen), leaving the term "hormone" for the excitants. This would necessitate the coining of a comprehensive word to include both hormones and chalones, and for this Professor W. B. Wardle had suggested "autacoid" (ἄκος, a remedy). Thus the expression "autocoid substance" would denote any drug-like principle which was produced in, or can be extracted from, the internally secreting organs. A very active discussion followed. Professor Biedl (Vienna) thought that the word "hormone" was sufficient for the the present. Professor Gley (Paris) suggested that "harmosone" (from ἁρμόζω, to rule), was a better comprehensive title. Professor Falta (Vienna) desired to classify the hormones into those which were anabolic and those which were catabolic. Professor Starling (London) expressed the opinion that our information was not yet full enough to begin to classify such substances as hormones, particularly as scarcely anything was known about their mode of action.

Dr. Fleischmann (Berlin) read a paper on the nervous regulation of the body temperature. He believed that for the maintenance of the normal temperature suprarenal activity was essential. His experiments did not show whether adrenalin itself acted in a peripheral or a central point, but he believed that such evidence as he had obtained pointed to some central action. In the afternoon, at a laboratory meeting, several demonstrations were given. Professor Waller and his colleagues demonstrated work on the electro-cardiagram and chloroform narcosis. Dr. Soresi read a paper on resuscitation and the prevention of death. The assumption was made that the ultimate cause of death is either asphyxia, anaemia, or anaesthesia of the heart, and the problem was (1) how so to stimulate the heart that it would continue beating, and (2) how to restart the action of the heart after it had come to a complete standstill. As a

matter of fact, the method was simply a slight modification of the old well known transfusion method, in which the lining membrane of the blood vessels of the recipient and donor were brought into contact. In place of approximating the artery of the donor and the vein of the recipient, he had approximated veins. He claimed that by utilizing the external jugular of the recipient the transfusion was more effectual than by using any other blood vessel. He maintained that by direct transfusion of blood in this way he could restore to life—restart the action of the heart—an animal which had been killed by bleeding and in which there had been no beat of the heart observed for seven minutes. This result could not be obtained if in place of blood other fluids were used. Under certain conditions he found that even after nine minutes of complete cessation of cardiac action due to haemorrhage the animal could be restored by the transfusion of blood. In other experiments in which he had injured the abdominal aorta and the heart itself by stabbing them, after repairing the injuries by a special method of his own, the animal could be restored to life nine minutes after the heart action had ceased. Professor W. H. Thompson (Dublin) made a communication on the effect of argenine administration in the output of creatinine and creatine.

GENERAL PATHOLOGY AND PATHOLOGICAL ANATOMY.

President's Address.

The President (Professor Shattock) opened the proceedings of the Section on Wednesday by delivering an address, in the course of which he said: One thing we must all have long since discovered from personal experience, and that is the large proportion of work which is unattended with any positive result. The tentative questions which, when put to the test of experiment, receive negative answers would, if added up, far outnumber the contrary. How much brilliant and promising work have we not all designed, the results of which have never been recorded because they have fallen into this barren category! In a certain sense we cannot, I suppose, be dissatisfied with such negations, since something that was deemed possible has been disproved and the way cleared, in the same degree, to the access of positive truth. Human biology is unique in this, that every form of energy in the universe is concerned and takes part in the first phenomenon of life. And the explanation of what one might call this "negative science" (from the "discoveries" in which not even the greatest are exempt) is, of course, the incalculable complexity of what is investigated, as contrasted with the limitations of the researching instrument—the investigator. One ever-present temptation arising from such a state of things, and one to which we all in some degree succumb, is to substitute, of course without intention, conjecture and verbal formulae for disappointed knowledge. Let us see to it that in the meetings of this Section we overcome as far as possible our common failing.

The Reconstruction of Bone Once Diseased.

The President then read a paper on morbid thickening of the calvaria, and the reconstruction of bone once diseased, which afforded a pathological basis for the study of the thickening observed in certain pleiocene skulls. The most recent discovery, the Piltdown skull, was that particularly referred to. This was uniformly thick, in places 11 mm. In the fractured edges the structure of the bone was remarkably well preserved; it presented a very thin outer and inner table, with intervening diploë. The osseous tissue was not diseased, yet it opened up the question whether the bone had been reconstructed after having been thickened by some previous morbid condition. Certain of these conditions could be definitely excluded, but the author was not at present prepared to go further than this. That thickenings in primitive skulls had their pathological side was shown by a remarkably fossilized human parietal in the Museum of the College of Surgeons, acquired by the phenomenal industry of John Hunter; this was obviously a bone strikingly thickened as a result of osteitis deformans. The question of syphilis might be excluded in European men of the pleiocene period. In pre-Columbian time this disease, as was now generally held, was confined to Central and South America, and was also present in certain parts of North America. Certain archaeologists had held to the existence of a Chinese and even Egyptian influence in ancient South America, resulting from a transpacific or transatlantic migration. Both were, as Joyce observed, incredible. The Mongolian element in American aboriginals was readily explained by the original migration from North-Eastern Asia across the Behring Strait or Sea to Arctic America, whence it spread to the South. Professor Shattock agreed with Professor Elliot Smith that there was no evidence of syphilitic disease in the bones from ancient Egypt. Had the disease existed in dynastic times in Egypt it would have become European long before the Columbian expeditions took place. The President then illustrated the reconstruction of bone in the case of inherited syphilis and rachitis, pointing out that the thick finely porous external formation of tissue enclosed by any layer of infarct substance acquired in time a proper outer table and was replaced by normal diploë, the thickening persisting. That this was so appeared from the study of such syphilitic or rachitic thickenings from infancy to childhood, and thence to adult age. The thickening that occurred in the insane, chiefly in connexion with chronic mania, was of interest in association with ancient skulls. The bone, which was normal in structure, underwent hypertrophy as a result, probably, of congestion of the tissue accompanying the congestion of the brain, since the veins (with one or two exceptions) from these sources opened into the same sinuses, although, of course, the arterial supply was different. The thickening in such cases was more pronounced in the portal region, probably because the recession of the brain ensuing in the course of the disease increased the congestion, by inducing a negative pressure (as Humphry had suggested). Acromegaly, leontiasis ossea, and hypertrophic pulmonary osteoarthropathy were touched upon. As an example of a disease in which no reconstruction ever takes place he cited osteitis deformans. This disease never ceased to progress, and the bone, although it might become sclerosed, never acquired a proper lobular and diploic structure. In the case of long bones, reconstruction was rarely seen in syphilitic enlargement and sclerosis, but at times a cancellous tissue, with longitudinal mesh, might replace the sclerotic. After incomplete fractures occurring in rachitis, the medullary canal became blocked with callus, and this became reconstructed so as to fill the canal with perfectly constituted cancellous tissue, in which a longitudinal trend of the chief trabeculae might be traced. In the bridge of callus by which the fragments were united after longitudinal and wide lateral displacement, the same thing was to be found. Of the Piltdown cranium it could be definitely asserted that it was not syphilitic; it was not thickened from osteitis deformans, and the absence of frontal thickening indicated that it was not from an individual who was insane.

Hyperblastosis.

Professor Adami (Montreal), in a paper on hyperblastosis, said that it was time to reconsider a particular form of overgrowth which, too often regarded as blastomatosis, or as belonging to the tumours proper, conformed in no sense to the definition of a true tumour of the textbooks. It was not circumscribed, and could not be said to be functionally distinct and independent from its surroundings, and was either diffuse or both diffuse and multiple in its manifestations. Dr. Adami first called attention to the remarkable influence which certain of the ductless glands possessed over the relative growth of certain tissues. This growth, while generalized, was not uniform. In acromegaly, for example, it was the bones of the face and hands that manifested the greatest hyperplasia. Other similar examples were cited. Intimately associated were various forms of fatty overgrowth; those seen in adiposis dolorosa and in the large retroperitoneal and mesenteric lipomas were not true independent tumours: they merged into the surrounding fatty tissue; they respected the normal boundaries; clearly they were of the same order, and in Dercum's disease were influenced favourably by thyroid medication. But there existed quite a number of conditions possessing similar characters and not so far recognized, surely, as associated with internal secretory disturbances. Like the lipomatosis above mentioned, they showed a distinct liability to pass on to true infiltrative

malignant growth. In his experience a very large proportion of so-called gliomas were examples of gliosis. Syringomyelia also represented a similar condition. Multiple fibromas were, as shown by Veroçay, not tumours of fibrous tissue; they represented a state of diffuse, not circumscribed overgrowths of the neuroblastic cells of the sheath of Schwann. The so-called adenomyoma of the uterus was a condition of diffuse leiomyosis. More especially into this group came the large group of diffuse overgrowths of the lymphoid and bone-marrow tissues. Multiple myelomas, chloroma, lymphatic and myelogenous leukaemia were all manifestations of this state. With Aschoff and Shridde, he urged that the time had arrived to cease calling diseases after their symptoms. For leukaemia and preleukaemia they should speak of either lymphadenosis or myelosis with or without leukaemia. Intermediate forms passed by imperceptible stages to states of primary diffuse malignant overgrowth of the lymphoid and other tissues. For all these states he suggested the term "hyperblastosis."

REPAIR OF FRACTURES.

Mr. Hey Groves (Bristol), in a paper on the repair of fractures and the influence upon it of various operative procedures, described his various experiments, which contradicted the view that a certain amount of movement was necessary for repair. His conclusions were:

1. Screws which merely bite into the side of the bone will rapidly loosen by a process of bone absorption if they are subjected to much tension. They are, therefore, unsuited for the operative treatment of fractures.
2. Absolute fixation of fractured ends is conducive to good repair.
3. The only way in which fractures can be firmly united by plates is by the use of pins, screws, and nuts which perforate the whole thickness of the shaft.
4. Great mobility of the ends of a fractured bone is likely to produce a false joint, especially in the case of a single bone like the femur.
5. Marked mobility of the ends of a fractured bone causes a great excess of callus.
6. Metallic magnesium is absorbed in a bone and causes great callus excess.
7. Indirect methods of fracture fixation give the most ideal results, and this is the only method possible when dealing with compound and comminuted cases.
8. The periosteum has no power of forming callus or new bone.
9. The periosteum is of great value in serving as the chief blood supply to the callus and in limiting its extent.
10. Active callus and bone formation always occur from the broken surface of the bone, and every small fragment acts as a centre of new bone growth.

THE THYMUS GLAND.

At the meeting on Thursday afternoon Professor Aschoff (Freiburg) discussed some aspects of the thymus gland. He had found that it bore some relation to the growth of bone, for its removal in young animals led to changes similar to rickets; the rare changes were exactly like those of human rickets. In rats he had produced typical rickets. He had noted after removal of the thymus a compensatory enlargement of the thyroid. He had obtained a true regeneration after a partial thymectomy. It occurred rapidly, so that in a few days there were numerous cells and nuclei. He considered that the thymus was a true epithelial organ, and the so-called "lymph cells" were embryonic cells which form into the true cells of the gland.

TETANY.

Professor MacCallum (Columbia University) described his experimental studies in tetany, which were of great interest. He considered that tetany resulted from some change in the circulatory blood which affects the extremities, for by transfusing experiments and anastomoses of the vessels of tetanic animals into those of healthy animals he could produce similar symptoms in healthy animals, or inhibit the symptoms in limbs which were affected at will by causing normal or "tetanic" blood to circulate. Also defibrinated blood of tetany animals led to tetany on injection into healthy animals. The blood change was at present unknown, but he thought there was evidence suggestive of a disturbance in the calcium content of the blood.

GASTRIC ULCERS.

Dr. Charles Bolton (London) then summarized with the aid of beautiful lantern slides his well-known work on the production of gastric ulcers, and included his more recent work on the healing of ulcers, the importance of the hydrochloric acid in the gastric juice, and the effect of hyperchlorhydria due to any acid. Finally, he demonstrated the effect of diet on the healing of the gastric ulcer. Professor Aschoff drew attention to the relation of the site of the ulcer and its shape to the motility of the stomach and the effect of physiological rest, but Dr. Bolton was not in agreement with him on the point. Dr. Charles Singer (London) contributed the results of his experimental work on the same subject. He had produced numerous gastric ulcers and also small gastric papillomata in a long series of rats by keeping them under such conditions that their food was defiled by the fresh excreta of other rats. Similar results followed the feeding of rats on the minced excreta of other rats. He considered the cause of chronic gastric ulcer to be an unknown organism which was a normal denizen of the alimentary canal, but which could only exist in the stomach under pathological conditions.

THE VITALITY OF PROTOPLASM.

Professor Shattock contributed an interesting piece of work by himself and Dr. Dudgeon on the vitality of chemically dried protoplasm. By depriving simple bacteria (*B. pyocyaneus*) of air and sunlight (by drying in a vacuum) he had kept them alive for two years, so that their cultural and experimental properties were retained, but exposure to air and sunlight rapidly destroyed them. *B. typhosus* and *B. coli*, however, were rapidly killed when "chemically" dried. He saw no reason why *B. pyocyaneus* should not live for ever under these circumstances.

PATHOLOGY OF FATS AND LIPOIDS.

On Friday a discussion on the pathology of fats and lipoids was opened by Professor Ivar Bang (Lund), who pointed out that the lipoid bodies, although they had with few exceptions not yet been separated in a pure state on account of their rapidly changeable labile character, and the facility with which they reacted to various stimuli, yet were known to take a constant and important part in the structure and function of the cell. They entered into the formation of the body of the cell, and, in a condensed state, form a fine membrane or covering to it—a membrane so fine that it had not yet been actually demonstrated but rather inferred from its osmotic and other properties. Further, as a necessary condition of their activity these lipoid bodies must have the power of entering into combination with albuminous bodies with extreme facility. The power of osmosis possessed by the lipoid membrane covering the cell, and the presence of these lipoid bodies within it, formed the basis of the "Meyer-Overton" theory of narcosis. This depended first on the law that a body which was soluble in two media would be taken up by these two media when brought together, in proportion to the solvent power these media had on the first body. The osmosis was a continuous solution of the body in the membrane, and a passing out of it in that state. Thus a body—say ether, for example—which could be dissolved in oil or lipoids more freely than other bodies, passed through the lipoid cell wall in much greater quantity than, for example, a salt solution. In the same way the lipoid contents of the cell would take up a proportionately greater amount of the "narcotic." According to this theory, a body which had thus a proportionately large solubility in oil became a "narcotic"; on the removal of the "narcotic" from the outside of the cell, and under the influence of the simple salt solution, the ether was gradually given up to it again. The effect of this narcosis was to stop the oxidation of the lipoids and to produce an asphyxiation. Experiment had shown that the combinations of the lipoid body with enzymes prevented excessive formation of sugar in the liver, but the effect of "narcosis" was to increase the amount of sugar. Thus it appeared that narcosis had the effect of temporarily dissolving the combination of lipoids with the other bodies. The interchange of gases in red blood corpuscles was materially diminished by narcosis. Professor Bang then dealt with the effects of the excitation of the lipoids instead of their suppression. Reference was made to polyneuritis gallinarium, brought about by feeding the fowls on dressed rice (apparently rice deprived of its lipoid bodies), and to the fact that to beri-beri, scurvy, and

Barlow's disease had been ascribed the same etiology. In his concluding remarks Professor Bang summarized the relations of lipoids to immunity, toxaemias, etc.

Dr. Frankel (Vienna) discussed the lipoid content in pregnancy. He had found, as his tables showed, that the neutral fat content was higher in pregnant than in normal women. Similarly, in milch cows the total fats and lipoids increased rapidly after calving. He detailed his investigations on the lipoid content of the placenta in normal, pregnant, eclamptic and syphilitic women.

Dr. Cramer (Edinburgh) discussed the chemistry of the lipoids, and the various methods of identifying the fatty bodies. He had found the Marchi method to be specific as a test for unsaturated glycerides. He had investigated further normal and degenerated nerve fibres, suprarenal gland and kidney of a cat, and concluded that the suprarenal body contained no lecithin but only fats, whilst in the kidney tubules the material staining osmic acid was fat. His slide of histological specimens demonstrated the distribution of fats stained with Marchi's method in different tissues, though he would not allow that in the estimation of fats in organs the histological method could replace the chemical analysis.

Professor MacCallum read a paper by the late Dr. Angus Stewart on the relation of the lipoids to the function of the adrenals. This work was not completed at the time of Dr. Stewart's death, but he had shown that there was excess of cholesterin esters in the circulating blood in pregnancy. Extirpation of the adrenals in animals resulted in the observation that pregnant and lactating animals survived longer than normal, and this might be due to accumulation of lipoids in the blood of the pregnant animals. The discussion then centred itself around the nature of fatty change, and waxed enthusiastic, so that in the end no agreement could be reached between Professors Aschoff and Rosenfeld. The latter held that there was a real increase of fat; the former that, though there was a transportation of fat, there was no real increase owing to exchange of bodies. Dr. Leathes had found that there was no actual increase of fat in diphtherial lesions by importation to the cell. Professor Adami pointed out that there was a progressive recognition of the existence of fat phanerosis—that is, the breaking down of fat-containing bodies which gave no macrochemical reaction to the liberation of simple fats; yet there no doubt existed an extensive transportation. He held that fat phanerosis was macroscopically distinguishable from the imported fat, and thought the distinction should be maintained between the earlier described processes of fat importation and fatty degeneration as indicating uncomplicated transportation and transformation. At times, of course, the two were associated. He felt much satisfaction, and joined hands with Professor Aschoff, in noting the general acceptance of their conjoint work of 1906, which demonstrated that the doubly refractive bodies of the adrenal cortex and elsewhere were of the nature of cholesterin esters.

At the afternoon session on Friday, Dr. Roussy (Paris) read a paper on the cytological reactions provoked in tissues as a result of the deposits of cholesterin. He demonstrated that around collections of cholesterin there was a cell reaction with the formation of giant cells and plasmodium cells. His beautiful coloured lantern slides showed what resembled a low form of inflammation. In a second paper Dr. Roussy dealt with different fatty substances formed around a cerebral cyst. He noted two types of fat granules which stained differently with various dyes. Professor Shattock, continuing the discussion on fat pathology, brought forward a new fatty tumour, which he called lipoma glandulare. It had come from the inner side of the elbow, and histologically showed cells with central nuclei, crowded with small fat globules. This resembled the "hibernating glands" of the hedgehog, and he had noted an analogue of these hibernating glands on the neck of the human embryo. He also pointed out that in cretins the masses in the root of the neck consisted of glandular fat. Professor Warthin had found similar appearances.

Pituitary Body.

Professor Pietro Guizzetti (Parma) described the development of masses of pavement epithelium in the anterior lobe of the pituitary body. These had been worked out in a baby 2 weeks old, and, as one speaker remarked, they had an important bearing on the formation of certain forms of malignant tumours.

Haemolymph Nodes in Protozoal Infection.

Professor Warthin (Ann Arbor, U.S.A.) discussed the reaction of haemolymph nodes to chronic protozoal infection. He had found, as he showed in his lantern demonstration, that in Texas fever amongst Texas steers (especially the "immunes") an extraordinary hyperplasia of haemolymph nodes which sometimes reached the size of a Tangerine orange. In chronic protozoal infection there occurred a great lymphoid activity, with production of lymphocytes.

The Tuberculous Etiology of Thyreosis.

Dr. Joseph Hollos (Hungary), in a paper on this subject, maintained that the great majority of cases of exophthalmic goitre were of tuberculous origin, the seat of the infection lying mostly in the apex of the lung or in the bronchial glands in a latent form, often not discernible by the ordinary methods of examination. He had examined 33 cases in all, including 21 with pronounced hereditary history, and slight tuberculosis of the lungs in 28. Treatment with Spengler's I K in 26 cases resulted in recovery in 10 cases and improvement in 15. He urged that all cases should be treated with tuberculin.

Grafting of Normal Tissues.

A discussion on grafting of normal tissues and its dependence on zoological or individual affinity was opened by Dr. Max Borst (Munich) on Saturday. He pointed out that the transplantation of normal tissues or organs on to another portion of a similar or dissimilar body which had of late aroused the interest of theoretical and practical medicine had an important bearing on the functional significance of certain organs, such as the thyroid gland and pancreas, and on the question of new growths. Further, the surgeon had produced remarkable results, by transplantation, in making good defects, and transplanting organs—such as the kidneys. He then discussed the conditions favourable and unfavourable to the success of the process: The more highly developed the animals the less the chances of survival of the grafts; the size of the grafts; their vitality, new *milieu*; the temperature, age, etc. But, while all these conditions might be the same, the results would differ according as the grafts were *auto-* or *iso-*, homoio- or hetero-plastic—that is, according as the grafts were taken from the same bodies or similar ones or from quite different bodies. While describing very fully the various experiments in heteroplastic operations, he agreed that the results on the whole had been—failure. The results of iso- or homoplastic transplantations, while on the whole more favourable and enduring than those of the heteroplastic, were yet such as would not stand closely critical inspection. When black negro skin was transplanted on white the black took on gradually the colour characteristics of the white and vice versa, and again the excellent results of transplanting cornea, where it gradually cleared up and became part of the host, might be taken as betokening processes of substitution of the invading tissue of the host for that of the graft. The results of autoplastic transplantation, however, were by far the most favourable. Numerous experiments with the various tissues showed that they were preserved intact for a long period and that they kept on growing. In bone the periosteum had been shown to be the important factor in reproduction of the tissue. In numerous experiments whole organs had been transplanted, the circulation being effected by the suture of the blood vessels after the method of Carrel, with more or less success in preserving growth and function in the transplanted organ. He next referred to the "explantation" of tissues—that is, preserving a living and growing tissue *in vitro* in a suitable plasma, so that life and growth continued. The attempt to produce by this means a body immune to cancer had not been successful. He ascribed the failure of the iso- and heteroplastic transplantation to the extreme specialization of the cell in the higher animals. In the plant the cell was provided with formative plasma, so that a small part might reproduce the whole organism. With the advance in development and specialization this

plasma was rather used up in the general body and concentrated in the generative organs; the cells became more and more interdependent. Each species, and indeed each individual, must be regarded as a specific bio-chemic system, so that with each advance in phylogenesis there emerged a specifically constructed and a specifically reacting system. On this basis he constructed a theory of "bio-chemic differenc" to account for the opposing forces to iso-transplantation and hetero-transplantation. He then dealt with the difficulties in maintaining the nutrition of the transplantation; not only was simple nourishment required, but excitation of function, for without function the cell atrophied. The various toxic reactions of graft on host, and vice versa, were indicated. The question of facilitating and improving the results of isoplastic and heteroplastic grafting was then discussed. He concluded that th practical result of these investigations and facts was that no expectation of an enduring result should be entertained in cases of isoplastic or heteroplastic grafts. In many cases the transplanted tissue served merely as a conductor or model for the regenerated tissue of the host. Where formative layers were contained in the transplanted tissue, as in periosteum, bone, etc., their growth assisted the regeneration and substitution process in the host. The maintenance of the graft itself depended, in this isoplastic method, on the existence of the least possible bio-chemical differences between recipient and giver—not only similarity of species and race, youth in both, but also near blood relationship. These considerations naturally led to the conclusion that the autoplastic transplantation must give results far better than the other methods. In addition to the postulate that success depended on the rapidity of the establishment of nutrition and function, he had established by his researches a third in the necessity for a "bio-chemical characteristic." "All the more recent investigations in the direction of the isoplastic have," he said, "strengthened the doubt whether any highly profitable results—to higher animals and especially to man—will ensue. Bio-chemic differences exist not only in members of the different species, but also in those of the same species, and even of the same race. These differences diminish with the nearness of the degree of relationship. Therefore, this isoplastic operation has the best prospect of success with those most nearly connected. The failure of the 'isoplastic,' as occurs with constant uniformity, in the transplanting of whole organs, with the assistance of the 'vessel-suture,' shows us that we have a right to speak of an 'individual' as an 'indivisible' one. The proclamation of individuality in a bio-chemical sense is the main result of these investigations." Professor Borst illustrated his paper by some marvellous lantern slides, showing grafting of butterflies one on the other, earthworms with interchanged heads, tadpoles grafted at different points, and others with excess of limbs, as well as skin grafts, bone, etc., in mammalia. The President (Professor Shattock) pointed out the importance of the summary presented to the meeting by Professor Borst; the chief impetus to the employment of grafting was given by John Hunter, who had collected numerous examples in his museum. Mr. Shattock exhibited the original cockspur with a human tooth grafted thereon. In the case of the testicle he said that the difficulty was to prevent growth after attempted removal, and often numerous growths appeared throughout the peritoneum. He exhibited a specimen illustrating this. The tooth in Hunter's case was evidently alive. But heteroplastic grafting was not satisfying, and the graft did not live as long as the rest. His experiments with bones of rabbit's fetus, which were put under the skin of the doe repeatedly, were very interesting, and though the bones persisted they took no part in the life of the doe. If heteroplastic grafting proved permanently successful it would be difficult to establish difference between species, and possibly the sterility between different species was due to the formation of antibodies after the entrance of the spermatogen into the ovum. He accentuated the importance of recognizing the existence of a definite co-ordination of growth between the tissues of an animal—a harmonious interdependence. Dr. Murphy (New York) had experimented with rat tumour by grafting into a chick embryo, and had obtained some results. Dr. Adami agreed that autoplastic transplantation was possible, but isoplastic tended to die out. Dr. Bashford was also in general agreement, and mentioned the difficulties of cancer transplantation in mice, for the tumour would not form in a normal mouse, and a tumour from one mouse would only form in that animal. He was sceptical as to the possibility of transplanting entire organs. Some experiments on tissue explantation were then detailed, but were not convincing. Dr. Lambert (New York) had kept rat tissue alive for thirty-five days in plasma mixed with Ringer's fluid.

BACTERIOLOGY AND IMMUNITY.

In a few words the President (Professor Sims Woodhead) spoke of the happy auspices under which the profession was meeting in London, and stated that the interchange of views could only lead to a better understanding among the nations of the world.

Anaphylaxis.

This subject was the theme of discussion at a meeting of the same Section at the Budapest Congress in 1909, and several of those who then took part were again present, and again expressed their diverging views. In the interval the subject has been subjected to much experimental investigation, and a vast literature has grown out of small beginnings. But in spite of all that has been said and written, it is very apparent that we are still standing at the threshold of the edifice which contains protective means against disease.

Professor Friedberger of Berlin, who introduced the subject on this occasion, expressed the view that anaphylactic poisoning was only to be differentiated from other forms of intoxication by the fact that the toxic substance was in its original condition more or less harmless, and that it only became toxic when the reactive processes of the organism led to a well-defined combination between disintegration products and the whole substance when introduced for a second time. He gave an excellent summary of the work done more or less recently on the specificity of various forms of protein anaphylaxis, and then proceeded to examine in some detail the nature of the anaphylactic shock. He emphasized the necessity of regarding the symptoms (especially the fever reaction, the dilatation of the lungs, and the death with typical convulsions, etc.) as the criterion of anaphylaxis. The disappearance of complement occupied his attention in the next place, and he brought forward evidence of the necessity of complement for the anaphylactic reaction, which must certainly be regarded as strongly in favour of his views. Having developed his arguments up to this point, it was but a step to piece the three components of his anaphylatoxin together—namely, the original antigen or protein poison, the split product or antibody, and complement. Having arrived at this stage, he sought to anticipate objections which might be raised, and dealt with each singly, offering explanations for many phenomena which appeared to stand in the way of the acceptance of his views. He was satisfied to argue that the test tube anaphylatoxin and the poisoning agent which led to the shock must be identical, not only because the symptom-complex which arose in each case was indistinguishable, but also because the reaction could be worked out quantitatively on this basis. Recent experiments had proved that the apparent discrepancy in regard to time was not real. He claimed further that endotoxins were not primarily formed substance, but arose as reaction products just like anaphylatoxin. This view he supported by means of simple arguments. In the first place, the lethal doses varied considerably, which would not be the case if they were preformed substances; then dissolved bacteria only acted toxically on isolated organs if serum were present; anaphylatoxin was formed before bacteriolysis had taken place; and lastly, anaphylatoxin was considerably more potent than bacteriolysin. He utilized an attack on the absorption theory to pass on to the mechanism of anti-anaphylaxis. In conclusion he said that he regarded anaphylaxis as an acute and extreme instance of infection, and infection in the sense of infective disease as a mild, protracted form of anaphylaxis. His speech was greeted with applause at its termination.

Both Professor Richet and Professor Besredka were absent, and their reports were read in abstract by Professor McWeeney. The former dealt with alimentary

anaphylaxis. It was, he said, difficult to explain why some toxalbumins and albumins under certain conditions and at certain times escaped the protective action of the gastric juices and were absorbed in minimal quantities to give rise to mild anaphylaxis (rashes, fever, etc.). At the same time, there was a definite tendency for the production of an immunity, so that those foodstuffs which were habitually ingested might escape in small quantities without any danger of anaphylactic symptoms developing. In the second part of his paper he dealt with the clinical manifestations of alimentary anaphylaxis, and gave some hints as to the means available for the prevention of marked symptoms.

Professor Besredka's paper contained details of active and passive anti-anaphylactic experiments, and descriptions of the methods which have been found of use in preventing shock in experimental animals, including the utilization of repeated small doses, the employment of anaesthesia and of alcohol. He discussed the modes of procedure for anti-anaphylactic "vaccination" in human beings who develop alarming symptoms of shock after a second dose of serum.

Professor Weil (Cornell University) was the next speaker. He took up the cudgels in favour of the old humoral theory, and attempted to overthrow the cellular theories, which have to a great extent been accepted both in this country and in Germany. He sought to strengthen his position by quoting a number of highly ingenious experiments which he claimed supported his views, but which might have been utilized in support of arguments from the other side. One example may be quoted. An organ (uterus) was isolated, washed out with Ringer's solution, and the muscular contractions graphically recorded. When normal serum was brought into contact with the muscle the contractions did not differ from what occurred when no serum was used, but when the antigen was employed a marked tetanic contraction resulted. From this he argued that serum did not play any part in the phenomenon, but he did not take into consideration that it is impossible to free the tissues from serum, and it is still possible that the retained serum may be necessary for the tetanic result.

Following him came Dr. H. H. Dale of London, who described in simple language some refinements in experiment which delighted the audience. He was able to show that a marked degree of specificity could be demonstrated by means of isolated organs, and that the delicacy of this reaction was greater than any other form of biological test. He has therefore applied it for forensic purposes. Professor Bordet, whose elegance of expression and also conciseness of scientific terminology always lends an additional charm to his speeches, started by accepting Friedberger's anaphylatoxin, and then developed his opinions in regard to the cleavage of the protein molecule in the preparation of this toxic substance. He exemplified what he had to say by citing amylase.

Much amusement was caused by the violent method of attack which Dr. Kraus of Vienna assumed in overthrowing everybody and everything. His contention was that he and Biedel had shown the only reliable method of getting at the truth of anaphylaxis. Biology and chemistry had failed, but physiology succeeded. He demanded that before any phenomenon was accepted as anaphylaxis it must be obtainable in guinea-pigs and dogs, and that the classical physiological signs must be present. Dr. Thiele also spoke. Dr. de Waele, who also read a paper in the afternoon session on the same subject, ascribed everything to an increase in the coagulability of the blood.

Darts of a harmless nature flew fast and furiously when Professor Friedberger rose to repiy. He disposed of Drs. Kraus and de Waele in a few words, by means of flat contradictions, but in other cases he argued in some detail. The discussion ended happily for all concerned, for, in spite of extraordinary differences of opinion, we can rest satisfied that material progress has been made in this knotty problem, and the workers in various countries remain good friends holding different opinions.

The Nature of Virulence.

Unfortunately Professor Dr. von Grüber, who was to have opened a discussion on the nature of virulence, on Saturday, was not present and the discussion fell through. Professor Sims Woodhead said that the session would be occupied by the reading of independent papers; and he asked Geheimrat Professor Dr. Loeffler to replace him in the chair.

Therapeutic use of Sensitized Bacteria.

Dr. W. Broughton Alcock, who is a worker in Metchnikoff's laboratories in the Pasteur Institute, filled the breach admirably, and the audience were soon deeply interested in the subject of vaccination with sensitized living bacteria. It must be pointed out that Dr. Alcock was the first to use living bacteria as vaccines in the treatment of human disease, and that the members of the Bacteriological Section of the Congress admitted his priority to a full extent. Dr. Alcock showed that Besredka had worked out the principle on which his work was based; micro-organisms, he said, lost in virulence, became more readily phagocytosed and less toxic after contact with the specific immune serum, containing all those numerous antibodies such as agglutinins, anti-aggressin and antitoxins, in the serum of persons or animals infected with the particular bacterium. This loss of toxicity and of virulence did not impair their vaccinating power. He adduced experimental evidence that cocci could be injected into the infected animal, first dead and then after sensitization in a living condition, even into the veins, without harm accruing, the antagonistic properties being called into play and thus neutralizing the lethal effect of the living microbes. He sketched the histological appearances of a local staphylococcic and streptococcic infection, showing what the organism did in its defence against invasion, and then developed his arguments in favour of his application of these facts to vaccine-therapy. Heated bacteria had been utilized on the Continent by Pfeiffer and Kolle and by Chantemesse, and in this country by Almroth Wright, in the treatment of disease. He insisted on the observation that in mixed coccal infections the phagocytes tended to take up and destroy the non-virulent strain while the virulent cocci were left untouched. Having entered into further details in regard to the basal work on which his treatment depended, the speaker recorded the first experiments with human beings in which killed sensitized cocci were injected in large doses with but slight reactions. The first case thus treated dated from August, 1912, and since that date over 2,000 injections had been given. No injurious effects had been met with. He then gave an account of his method of sensitizing cocci. A peptone-agar culture or serum-agar culture was washed in 0.8 per cent. saline solution, and the cocci were then brought into contact with the specific serum for from one hour to twelve hours, according to the strain. The suspensions were then centrifuged and washed and a new suspension made in which 2,000 million bacteria were contained in 1 c.cm. of saline. Children received from $\frac{1}{10}$ to $\frac{1}{2}$ c.cm. and adults from $\frac{1}{2}$ to 3 c.cm. At first he had given sensitized heated cocci, followed later by sensitized living cocci, but more recently he had given small doses (300,000) of living germs to begin with. The dose was repeated after an interval of from seven to ten days. He did not use the opsonic index as a guide, but trusted to the appearance of a slight or local general reaction. He discussed the selection of strains of cocci for the preparation of vaccines, the general principle being that when possible autogenous micro-organisms were employed. In regard to the results obtained, he stated that 7 out of 40 patients suffering from gonorrhoeal urethritis or vaginitis were free from discharge after two to three weeks, while the rest were but little improved. Of his 30 cases of orchitis-epididymitis, permanent cure resulted in those patients who received six doses. He had given the vaccine in 21 cases of arthritis and periarthritis with excellent immediate results in the acute cases. In one case, a bed-ridden patient of the chronic type, doses up to 9,000 million were given, with the result that free movement in all but the shoulder-joint was obtained in six weeks and a half. He did not give the number of his acne patients who had been cured by the vaccine treatment, but he stated that in some the cure was not definite; 7 cases of seborrhoeal eczema were either cured or markedly improved by the injections; complete cure of sycosis in 4 cases out of 7 was obtained; good results were obtained in carbuncle, impetigo, and several forms of streptococcal infections. He was also in a position to state that Major Harrison and Dr. Eyre had employed the method in a few

cases with highly satisfactory results. He claimed that no danger existed in the application of the living vaccines. Geheimrat Loeffler questioned the advisability of injecting subcutaneously living cultures, if it could be shown that intravenous injections were fraught with danger; but Dr. Alcock responded that it was feasible to exclude the possibility of the needle entering a vein, and the practical application of the injections had shown that no danger arose from it. Dr. Thiele made a few remarks on the danger of injecting sensitized red blood corpuscles into rabbits intravenously, but the objection which he raised to the injection of sensitized bacteria was satisfactorily disposed of.

Etiology of Ozaena.

Dr. Hofer read a very useful paper on the causation of atrophic rhinitis (ozaena). Having described the various bacteria which had been associated with this condition, he turned his attention to the *Coccobacillus mucosus* of Beeritz. His experiments with this bacillus showed that not only local applications to the nasal mucous membrane of the rabbit but also intravenous injections resulted in a typical rhinitis with the characteristic odour. The cultures also had the same smell. The serum of patients suffering from the condition agglutinated cultures of this bacillus, and he claimed that there was every reason to accept the same as the causal organism of atrophic rhinitis. Professor Kraus asked whether the effect of intravenous injections giving rise to local lesions might not be interpreted as a sign of excretion of bacteria rather than of local specificity. Geheimrat Loeffler called attention to Abel's work on this subject, but appeared to be satisfied with Dr. Hofer's reply, which was to the effect that Beeritz's bacillus possessed all the characteristics required of a causal organism, which Abel's did not.

Many members were called upon to read their communications, but did not answer to their names. Part of a paper by Dr. N. F. Surveyor on a new method of vaccine treatment was read; and the last communication was that of Dr. F. B. Turck, who spoke of the effect of feeding animals with cultures of *Bacillus coli* in increasing the virulence of the bacilli and in producing certain lesions in the kidney, liver, and other organs. No discussion followed.

Diphtheria Carriers.

On Friday morning the Section was occupied, along with the Subsection of Chemical Pathology, in the discussion of cancer (p. 373). At the afternoon session of the Section, Dr. W. L. Moss, of the Johns Hopkins University, Baltimore, read a highly interesting paper on the work done by himself, Dr. Guthrie, and Dr. Gilion on diphtheria carriers. Having studied the conditions of 3,300 persons who were not suffering from clinical diphtheria and having examined upwards of 5,000 cultures, they came to the conclusion that in Baltimore a very large number of persons, representing about 3.55 per cent. of those examined, were bacillus carriers. It was true that only a comparatively small proportion of the cultures (between 18.18 and 11.11 per cent.) proved to be virulent, but the persistence of the bacilli in throats was marked. A curious fact which was elicited was that the number of carriers remained greatly in excess of the cases of clinical diphtheria. None of the carriers developed clinical diphtheria during the period of observation, and the observers could not satisfy themselves that in many single instances did these carriers give rise to the disease among healthy associates. Dr. Embleton suggested that the bacilli observed might not have been the Hoffmann bacillus, which at times became converted into a true Klebs-Loeffler bacillus. This possibility was denied by Dr. Duval; and Dr. Browning asked whether the presence of the bacilli should not be regarded as a danger to the community, to which Dr. Moss replied that they had failed to trace a single infection from the carriers.

THERAPEUTICS.

Discussion on the Defences of the Blood.

On Thursday morning Sir Lauder Brunton declared the Section of Therapeutics, including Pharmacology, Physiotherapy and Balneology, duly open, and invited Professor Heger of Brussels to read his paper upon defensive measures of the organism against foreign substances in the blood. A few minutes later every seat was occupied. The President in his opening remarks, after explaining the necessity of strictly observing the time limit as regards communications and speeches, proposed in the same breath, amid applause, on this particular day to break the rule and withdraw all time limits, as a mark of their appreciation of the distinguished character of those taking part in the debate and of the extreme interest in the subject.

Professor Heger, speaking in French, devoted himself to a consideration of the various barriers and lines of the defence erected by the body against invasion by a foreign substance. The "humoral defence" consisted of chemical changes in the circulating plasma capable of destroying or modifying the circulating poisons. The defence of phagocytes and the parietal defence were further barriers. Even if these were evaded the specific action of the liver and other cells in the destruction of poisons and the powers of rapid elimination were sufficient to overcome and neutralize the offending substance in most cases. Professor Abderhalden, speaking in German, concerned himself not so much with the site of these reactions as with their nature. The presence in the blood of substances from which all specific character had not been withdrawn by the processes of digestion and absorption—substances, for example, given up to the circulating plasma by necrotic body cells, by cancer cells, or by the bodies of bacteria—resulted in the production of ferments capable of modifying or destroying the offending matter. The discussion was continued by Dr. Zunz (Brussels), who in turn was followed by Professor Meltzer (New York), who recounted experiments which seemed to show that in frogs morphine produced convulsions more rapidly and in smaller doses after removal of the heart than in frogs with the circulation intact. This he interpreted to mean that some substance was normally present in the blood which had the power of destroying or lessening the action of this drug. This brought to his feet his friend, Professor Abel (Johns Hopkins University), who admitted the truth of the observation, but would in nowise accept the explanation. The increased nervous excitability was due, in his view, to a direct connexion by means of the blood stream between the dorsal lymph sacs and the brain. As it appeared that no agreement was likely to be arrived at, the main discussion was continued by Dr. Citron (Berlin), Professor Gottlieb (Heidelberg), Dr. Breitmann (St. Petersburg), and Professor Dixon (London and Cambridge). Professor Heger replied, incidentally allowing Professors Abel and Meltzer to define again the points on which they disagreed, and Professor Abderhalden summed up.

Papers.

The later part of the session was occupied by a paper contributed by Professor Straub upon experimental lead poisoning, and communications were received also from Drs. Lippmann and Pincussohn (Berlin) on researches, chemical and therapeutical, upon metal compounds; Dr. Schreiber (Magdeburg) on the chemistry and therapy of mercury compounds; Dr. Roch (Geneva) on poisoning by phosphorus; Dr. Lavialle (Paris) on the properties of highly sweetened milk; Dr. Douglas Cow on the action of the quebracho alkaloids; His Excellency Dr. Camillo Calleja (Madrid) on a code of contraindications; Dr. Félix de Backer (Paris) on therapeutic ferments in acute and chronic diseases; Dr. J. C. McWalter (Dublin) on animal extracts and the hormone theory; and Drs. Bertrand and Cohendy (Paris) on the therapeutic employment of sensibilized viruses.

Remedies for Pain and Sleeplessness.

On Friday a discussion on the action and use of remedies for pain and sleeplessness was opened by a paper by Professor A. R. Cushny of London, who defined shortly the properties of an ideal hypnotic. It must be tasteless and odourless, it must be reliable and constant in its action, and it must act on the cerebral centres only, and have no action on other parts. In turn he reviewed the various hypnotics in the light of these requirements. He would dismiss sulphonal from use on the ground of its capricious and inconstant action. He desired to remove a stigma under which, quite undeservedly, chloral had rested for many years. He knew of no scientific evidence that

chloral was depressing to heart and circulation. Veronal was a good hypnotic, and recent newspaper reports should not obscure the fact that the medicinal dose was widely separated from the poisonous dose. In remedies for the relief of pain less progress had been made, and the substitution of morphine for opium represented almost the only advance of the last half-century. The salicylates, phenacetin, and other members of the same group were valuable in the relief of pain of a certain nature, such as rheumatism and the various forms of neuralgia. The remainder of the paper dealt with the mode of action of these various drugs. Dr. Robert Jones (Claybury), who followed, described his own practice in the use of hypnotics among the insane, and emphasized the importance of realizing that there are many varieties of pain, both mental and bodily. Dr. Fortescue-Brickdale (Bristol) dealt with the relationship between chemical structure and pharmacological action. Professor Wild (Manchester) urged that in lingering cases of inoperable cancer sufficient doses should be given to secure freedom from pain, even though these doses had to be very large. Professor Bradbury (Cambridge), Dr. Baruch (New York), Dr. Roch (Geneva), Professor Dixon (Cambridge), and Dr. Garson also joined in the discussion, while the President, in response to the evident wish of the meeting, shortly recalled his experiences with bromides on their first introduction. On the whole the level of the discussion fell far below that of the previous day. Some speakers extended the scope of the subject to include such measures as hydrotherapy, while others dealt with the treatment of such causes of pain and sleeplessness as adenoids, anaemia, constipation, or even an aching tooth. The only points which received repeated emphasis in the discussion were the utility of alcohol in the treatment of both pain and sleeplessness and the unsatisfactory results obtained by the use of sulphonal.

The remaining papers upon the programme, ten in number, included a paper by Professor Brodie of Toronto upon the mechanism of renal secretion, a paper by MM. Rénon, Degrais, and Dreyfus (Paris) upon the treatment of myeloid leukaemia by radium, and a paper upon the treatment of diabetes and glycosuria by Professor Nestor Tirard of London.

Sectional Dinner.

In the evening the sectional dinner for members and ladies was held at the Mitre Hotel, Hampton Court, while by special permission of His Majesty's Office of Works the palace and grounds of Hampton Court were open for inspection earlier in the afternoon.

Demonstrations.

On Saturday morning the Section of Therapeutics was divided into two parts. The Subsection of Pharmacology held a laboratory meeting in the Pharmacological Institute of University College, while the Subsection of Balneology and Physiotherapy met in the Astrophysics Laboratory of the Imperial College.

Pharmacology.

In this Section the demonstration which excited the liveliest interest was that by Professor John T. Abel of Baltimore, who showed a new method for the removal of diffusible substances from the circulating blood of living animals by means of an artificial glomerulus. In an anaesthetized animal blood was conducted by a cannula tied into the carotid over a series of celloidin tubes before being returned into the jugular vein. The celloidin tubes were immersed in a sealed vessel containing normal saline. Diffusible substances circulating in the blood passed across the celloidin with great ease and rapidity into the surrounding fluid, where they could be subjected to fractional analysis. Salicylic acid injected into a vein was excreted in some cases more rapidly by this artificial kidney than by the normal excretory channels. The demonstration was warmly applauded at the close. Other demonstrations were provided by Professors Dixon (Cambridge) and Halliburton (London), who showed the influence of drugs upon the cerebro-spinal fluid; by Professor Cushny (London) illustrating the action of drugs upon respiration; and by Dr. H. H. Dale (London), who showed the action of drugs upon the surviving uterus.

Balneotherapy.

In the Subsection of Balneology and Physiotherapy the chair was occupied by Professor Nestor Tirard (London). Professor Combe and Dr. Ceresole discussed the dietetic treatment of entero-colitis. Dr. Alexandre Cavvadias read a paper upon the treatment of stasis in the colon. Dr. Neville Wood urged the advantages of British health resorts for foreign invalids, deploring the fact that while the stream of patients seeking relief at spas and health resorts was active in the direction from these islands to the Continent, there was little indication of a current in the opposite direction. Dr. Woods detailed several points in which the health resorts of this country offered peculiar and striking advantages to be met with in the climate of no other country. Dr. Desfosses dealt with the treatment of enteroptosis by massage and gymnastics. Dr. Dreuw described a new system of massage by hydro-vibration. Professor Baruch (New York) urged the need of instruction in the remedial uses of water, and urged that systematic courses in the subject should be held at all medical schools.

MEDICINE.

Haemolysis.

The proceedings of the Section of Medicine were opened on Thursday by the President, Professor Sir William Osler, Bart., with a few introductory observations. Over two hundred members of the Section were present, and the first paper they heard was Professor Banti's (Florence), who gave an exhaustive account of the clinical aspects of haemolysis, more particularly as they affected the spleen. In many patients with splenomegaly, as he pointed out, anaemia was present, and a great deal of work had been done that tended to prove that the anaemia in such patients was due to excessive haemolysis that took place in the pathologically enlarged spleen. He made reference to the association of splenomegaly with cirrhosis, a combination which was familiar, by name if not *de visu*, to most medical men as Banti's disease. He summarized the work that had been done so extensively on the Continent of Europe with haemolytic serums, and noted that the spleens of animals treated with such serums showed changes very similar to those met with in the splenomegaly with anaemia of human beings. Among the other speakers who illuminated this somewhat academic, or at any rate highly technical, subject was Professor Chauffard of Paris, who ascribed to the spleen an important influence in all the human diseases that were characterized by the occurrence of haemolysis. He did good service by bringing out the fact that the enlargement of the spleen, habitual in these cases, might be either the cause of the haemolysis or its effect. If it were the cause of the haemolysis, clearly the condition would be improved and the anaemia cured by the operation of removing the spleen. If, on the other hand, it were an effect of the haemolysis, splenectomy would only accelerate the patient's passage to the grave. How can one distinguish between the two cases, he asked, and how can one know when splenectomy is advisable? These questions he could not answer with any confidence himself, and he called for further investigation and information on the results of removal of the spleen. Animal experiments had given contradictory results in the hands of different observers.

Duodenal and Pyloric Ulcers.

An interesting paper on this subject was read by Professor C. A. Ewald of Berlin. He pronounced himself horrified by the statistics of British and American surgeons, who claim to have proved that duodenal ulcer is a commoner, perhaps a far commoner, complaint than ulcer of the stomach. How could such statements be justified? he asked. Reference to *post-mortem* room statistics afforded no support to such surgical statements; in his own clinic he had treated 532 cases of gastric ulcer and 82 of duodenal ulcer during the three years 1910–12, and he quoted Continental (European) statistics to prove that, as a matter of fact, gastric ulcer was quite six times as common as ulcer of the duodenum. Yet he was at pains to acquit the surgeons of intentional error in their statistics, and explained that their mistake arose from the fact that they only met with the severe and the chronic cases of such ulceration on the one hand, and on the other from their habit of including among duodenal

ulcers those ulcers that extend from the pylorus. Professor Ewald doubted whether regional or occupational factors could afford an explanation of the surgical statistics and the inferences surgeons drew from them. He further felt himself bound to dissent very strongly from the dictum of Sir Berkeley Moynihan, who said that a careful history sufficed to make the diagnosis of duodenal ulcer, and that it was not necessary to examine the patient before coming to a positive conclusion. He went on to say that patients with cholecystitis, appendicitis, tabes with gastric crises, or even severe neurasthenia, might find themselves exposed to operations for the cure of non-existent duodenal ulcers, should such diagnostic criteria as Moynihan's be accepted as adequate. He himself laid particular stress on three or four points in diagnosing duodenal ulcer: (1) The long duration of the case, and the recurrence of pain two or more hours after food had been taken. (2) The presence of manifest or occult blood in the stools; repeated examinations might be called for before this blood could be demonstrated. (3) Hyperchlorhydria, which was almost constantly found, and might be seen even when the patient was fasting. (4) Skiagraphic examination of the stomach after a bismuth meal; the duodenum is then seen to fill up with unusual rapidity, the stomach is often not yet empty after six hours, the gastric peristalsis is abnormally forcible, the stomach itself was frequently displaced downwards and to the right.

Dr. Max Einhorn and Dr. N. E. Brill, of New York, both disavowed the surgical statistics to which Professor Ewald had taken such exception, so far as America was concerned; while Professor R. Saundby (Birmingham), though ready to advocate operative treatment in a large number of the cases of duodenal ulcer, expressed himself as not prepared to go so far in this direction as certain British surgeons of eminence.

TYPHUS FEVER OR A NEW DISEASE?

In the afternoon Professor N. E. Brill of New York read an interesting paper on an acute infectious disease similar to and perhaps a modified form of typhus fever. At the outset he was careful to explain to his audience that typhus fever was not the same as typhoid fever, better called enteric fever. His observations were made on 321 cases of this apparently new complaint, and after giving an admirable summary of its chief characteristics and drawing attention to the extraordinarily severe headache that is constantly present while the fever lasts, he gave a detailed account of the points in which it differed from the classical typhus fever so well described by Murchison and others fifty years ago or thereabouts. He laid stress on the complete absence of contagiousness characterizing the new complaint; typhus fever, on the other hand, had always been notoriously catching. The new complaint, again, was practically never fatal—out of some 400 cases he had seen or collected only one had died. Typhus fever, on the other hand, was fatal to from 18 to 25 per cent. of the patients as a rule; in even the mildest of the typhus epidemics hitherto described the mortality had been as high as from 5 to 8 per cent.

Owing to the lateness of the hour no general discussion of the paper could take place. But the upshot of the matter was that Professor Brill's disease may in all probability be set down as an unusually mild and benign form of typhus fever. The treatment of such fevers is better and more rational nowadays than it used to be in older times, particularly in such countries as have well-organized fever hospitals and sanitary authorities. The importance of fresh air in preventing contagion is fully understood at the present time; and, finally, there is no doubt that the specific infectious fevers (of which typhus is one) may readily change their type, and become attenuated in the course of time for reasons that we do not fully understand.

STATUS LYMPHATICUS.

The afternoon session on Friday was occupied by the reading of three good papers. The last of these, by Dr. Haven Emerson (New York), dealt with the occurrence of the status lymphaticus (or lymphatism) in adult males. It may be noted that the general public comes to hear of this rather uncommon condition mainly by means of the coroner's court; for the children or adolescents who suffer from lymphatism are those who are apt to die suddenly and unexpectedly while under the influence of an anaesthetic. Dr. Emerson brought forward a number of considerations to show that the milder degrees of status lymphaticus were surprisingly frequent in the men treated for chronic alcoholism and insanity. His facts and figures were drawn from 1,000 of the male patients admitted to the alcoholic wards of the Bellevue Hospital in New York. No fewer than 220 of these patients showed most if not all of the physical attributes characteristic of the status lymphaticus. The chief of these attributes were as follows: Scantiness or absence of the hair on the lip, chin, chest, and axilla: a feminine type of distribution of the pubic hair; a tendency to narrowness and length in the thorax; a notable roundness and arching of the thighs and roundness of the upper arms; smallness of the penis and testes. Often the skin was peculiarly soft and velvety, and peculiarly free from hairs. Dr. Emerson failed to find the enlargement of the spleen that is so commonly said to occur in lymphatism. Examining the hospital *post-mortem* records he found 288 cases of status lymphaticus in 3,600 obductions, and 242 of these patients had succumbed to infectious diseases, such as tuberculosis, pneumonia, meningitis, and enteric fever. He draws the conclusion that persons with this mild or incomplete type of lymphatism are bad subjects for surgical operations, are prone to die (when normal people would recover) if they contract an infectious disease, and show a tendency to alcoholism, the drug habit, and insanity. He did not go so far as to say that they were social undesirables, but was of the opinion that they should be protected both against infectious disorders and against themselves.

SURGERY.

CANCER OF THE LARGE INTESTINE.

AT the second meeting of the Section, on Thursday, a discussion on the operative treatment of malignant disease of the large intestine, exclusive of the rectum, was opened by Professor Rafaele Bastianelli of Rome and Professor Körte of Berlin. Professor Körte's paper was an elaborate study of the subject replete with historical references and statistics drawn from all sources. Collapse and peritonitis, which, he said, were the special dangers of resection of the large intestine for malignant tumours, were due chiefly to the anatomical relationships of the resected portion of bowel and to the difficulty of preventing soiling of the peritoneum. In acute intestinal obstruction a simple procedure for emptying the bowel—namely, colostomy—was alone possible, performed then with the intention of going on to a secondary radical operation in two or three stages. In chronic sloughing of the intestinal flow the two or three stage operation by suture (colostomy, resection of the tumour, closure of the colostomy) was the most certain operation, though a slow method. Where it was possible thoroughly to empty the bowel, ensure perfect haematosis and absence of tension of the sutured bowel ends, the one-stage resection and suture was best. The various anatomical relations of different portions of the great intestine demanded various operative procedures. The expectation of long-standing recovery was relatively favourable in carcinoma of the great intestine. As regards palliative operations, entero-anastomosis, in the absence of obstruction, was the best. Colostomy, which might mean caecostomy, was the method of choice where obstruction existed. Colectomy or entero-anastomosis was to be performed secondarily to emptying of the bowel. Professor Bastianelli (who spoke in English) said that surgeons should adhere to the principle of not interfering with the primary tumour if obstruction existed. Only in some cases of tumour of the caecum was it proper to risk the violation of that principle, and mainly because an artificial anus in the caecal region was highly objectionable. He had never seen exhaustion result from the existence of an artificial anus. The ideal operation was primary excision of the tumour in one stage; it was certainly the operation of choice in right-sided tumours, and was applicable to all tumours except those situated low on the left side, where primary suture was practically impossible. The removal must be thorough and must include not merely a large portion of adjacent bowel, but the lymphatic apparatus as well. The death-rate in tumours of the right side was 9 per cent., and of the left side 15 per cent. Modern

technique could not bring about any great improvement in the results of palliative operations; these results really had nothing to do with the operation itself, but depended on the patient's condition. The principle not to attempt the radical operation in the presence of complications must be strictly adhered to. The comparatively slow growth of the neoplasm, with its late lymphatic and visceral dissemination and the possibility of earlier diagnosis, were important factors to consider. He had collected figures showing that, out of 239 cases, 140 were operative cures and 68 were alive and well more than three years after the operation—that was to say, 28.8 per cent. of all cases operated on. But he doubted whether these figures represented the truth. It must be kept in mind that some of the cases which survived for three years might die later of recurrence. When it was remembered that almost half of all large bowel tumours were inoperable, and that 75 per cent. of the other half survived the operation, and of these only 43 per cent. were well after three years, it was easy to see that, with all the present diagnostic and operative means, only 15 per cent. of all the people suffering from this disease could be saved. This proportion would be increased by earlier diagnosis and more generally perfect technique. Dr. A. L. Soresi (New York) demonstrated a method of end-to-end suture of the bowel which simplified the operation and permitted it to be accomplished by means of only one row of sutures. But as it appeared to require the employment of a piece of rubber tubing which was left in the lumen it was not regarded by some members of the Section as an advance. More statistics were contributed by Sir Frederic Eve, who said that 375 cases of malignant disease of the large bowel were treated in the surgical wards of the London Hospital in the period 1901–1911. The general mortality was 48 per cent. (Professor Körte's was 33 per cent.). The obstruction cases formed 61 per cent., as contrasted with Körte's 31 per cent. From these and other figures supplied he was of opinion that unless the local and general conditions for primary resection were distinctly favourable the average operator—in the London Hospital sixteen surgeons in all were responsible for the work—would best consult the safety of the patient by doing the three stage operation. The mortality had not increased since the extensive modern radical operations came into vogue; the mortality of resection with small margin of healthy bowel was 52.5 per cent., whereas the extensive operations of the Jamieson and Robson type had a mortality of only 29 per cent. Mr. Charters Symonds suggested that resection should be performed even in the presence of metastasis in the liver provided it were not extensive, and instanced a case in point where a patient lived for nearly two years after resection, even though there was a small metastatic deposit visible in the liver. Similiarly, in the anaemia found in such cases he thought it might be sometimes advisable to remove the original tumour, and he had known the anaemia to disappear completely after so doing. Appendicostomy, in preference to caecostomy in irremovable cancers, was recommended by Mr. W. G. Spencer (London). He held that if a large catheter (14 English) were introduced through the appendix into the caecum in such a way that fluid could be run in and faecal fluid siphoned off, it was a sufficient and a more suitable mode of treatment than the artificial anus. He did not believe that the regular passage of faeces irritated a cancer of the colon. Short contributions to the debate were made also by Mr. H. J. Paterson (London), Professor A. E. Barker (London), Professor Krynski (Warsaw), Dr. Keppich (Budapest), Dr. J. B. Murphy (Chicago), and Professor Hartmann (Paris).

Professor Bastianelli, in reply, expressed the opinion that the one stage operation was the ideal one. There was a technical as well as a clinical idea to be sought. Very extensive operations were sometimes easier to do than limited ones, as the bowel could be brought outside the wound in the abdominal wall. Whether or no the pathologists were right in regarding distant permeation as the rule, he favoured operations of a wide scope. He associated himself with Professor Körte in hoping for earlier diagnosis, but meanwhile early diagnosis was difficult and problematic.

The afternoon session on Thursday was occupied by reading and discussion of independent papers.

Spinal Curvature Treated by Transplantation of Bone.

Dr. F. H. Albee (New York) gave an account of 175 cases of transplantation of bone, the grafts being taken from the tibia. Of these cases 145 were instances of spinal curvature. The grafts were fixed by splitting the spinous processes and laying the grafts firmly in these notches. In his experiments on dogs no attempt was made to fix the dog's spine, but in spite of that rapid growth resulted. In the cases of the human being his only treatment after the operation was to keep the patient for six weeks on his back on a fracture bed. Thereafter the patient was allowed out of bed without any support. The objects in view were to produce bony fixation, to prevent further progress of the deformity, and to correct that deformity by the mechanical support.

Arthroplasty and Osteoplasty.

Dr. J. B. Murphy (Chicago) gave a lantern demonstration of the clinical results attained in arthroplasty and osteoplasty. The object of his operations on those cases of bony ankylosis was to restore movement to the joints, so that the function of the joint should be as nearly normal as possible. In the case of the knee and hip joints he showed that excellent movement could be obtained sufficient to bear the weight of the patient, and to enable him to walk, run, and go upstairs. The general plan adopted was to restore the joint to its normal configuration. This was accomplished by chiselling and by rounding off the joint surfaces. The next important step was to introduce between those joint surfaces some structure which would prevent them uniting again, and the most satisfactory tissue was muscle and fascia. Numerous photographs were shown to demonstrate the results obtained. Cases of bone-grafting were also described, in some of which the pieces of bone transplanted were as long as 8 in. He held that regeneration of the bone took place, and that the periosteum was simply a limiting membrane, and was not directly concerned with the growth of bone. Results similar to these were also demonstrated by Dr. Mauclaire (Paris), who showed a number of photographs of the limbs and head where grafts had been employed. He employed the fascia lata to cover defects in the skull.

Rectification of Nasal Deformities.

Dr. H. Eckstein (Berlin) gave a lantern demonstration of the results he had been achieving in the rectification of nasal defects. The ordinary type of saddle nose could readily be treated by injection of hard paraffin, and he was also able in many cases to make good the loss of the tip of the nose by similar injection. Dr. Stein (Wiesbaden) criticized the employment of hard paraffin, and held that soft paraffin was less likely to give rise to embolism and thrombosis.

Skin Grafting.

The last paper for the day was read by the Secretary on behalf of Professor R. Minervini (Naples). He advocated the employment where possible of whole skin grafts taken from newly-born babies who had died within a few hours after birth. He was able in five cases to make excellent use of large grafts obtained in this way.

Cirrhosis of the Mesentery.

At the end of the meeting on Wednesday Professor Krynski (Warsaw) presented notes of a case which induced him to argue for the recognition of cirrhosis of the mesentery as a clinical entity. The patient had suffered for twenty-two years with abdominal pain, irregular attacks of constipation and diarrhoea, great increase in size of the abdomen, palpable tumour. Ileo-colostomy resulted in great improvement in symptoms. Pathologically the condition was a chronic inflammatory process, a fibrosis characterized by superabundant development of connective tissue and loss of fatty and elastic tissues.

ORTHOPAEDICS.

Treatment of Spastic Paraplegia.

The subject set for discussion on August 7th was the treatment of spastic paraplegia. This subject has been brought into prominence lately owing to the interest excited by the publications of Professors Foerster and

Küttner, of Breslau, concerning the operation which goes by the name of the former. The reporters were Professor Küttner, Mr. Muirhead Little, and Professor Vulpius, of Heidelberg. Professor Küttner was unable to be present, and his report was very briefly summarized in English by Professor Spitzy, of Vienna. Mr. Muirhead Little in his report gave a concise summary of the history of the treatment of infantile spastic paraplegia from the year 1843, when the condition now known as Little's disease was first described by W. J. Little, down to the present day, and a summary of what is known now of its pathology, and of the principles upon which surgical interference is based. Of late attention had been turned more and more to the seat of the mischief in the nervous system, and operations on nerves and nerve roots have been frequently performed. The *rationale* and the objectives of treatment were briefly dealt with, and selection of methods and classification of cases and the prognosis were considered. The operation of posterior rhizotomy, or diversion of the nerve roots, was first performed by Sir William Bennett for pain, in December, 1888, and in 1908 O. Foerster, of Breslau, applied it to a case of spasm. There was a consensus of opinion that this grave proceeding was only justifiable in the worst cases, and was not likely to be beneficial when the intellect was very weak. Consequently, it was only in the cases of the severest physical disability, combined with very slight mental disability, that the operation was indicated. As this combination was seldom met with, cases suitable for the operation were necessarily rare, but very striking results had been obtained in some cases. Whether these results would prove to be permanent time alone could show. In a case operated upon by Mr. Little after consultation with Dr. Purves Stewart, there was some improvement, but not complete relief.

The report of Professor Vulpius of Heidelberg dealt with the pathology of Little's disease and with the treatment of the contractions and the abolition of the spasm by operations on the tendons, nerves, and nerve roots, but even after the latter relapses were not uncommon. After-treatment was of great importance. The mortality of Foerster's operation was 8 to 10 per cent.

Next read was a paper by Dr. E. D. Macnamara and Mr. Lanning Evans, giving their experience of three cases of spastic paraplegia operated upon by Foerster's method. In two there was some definite improvement, but in the third no benefit could be traced to the rhizotomy. The authors recommended the higher operation—namely, removal of the laminae and spines of the eleventh and twelfth dorsal and first lumbar vertebrae and exposure and division of the roots near their exit from the conus medullaris, because less damage was done in this way to the bones and it was easier to distinguish between the anterior and posterior roots than was the case near their exit from the canal. To mistake an anterior for a posterior root was far more serious than to mistake, say, the third for the second sacral root. There was some difficulty in estimating the line of separation between the third and second sacral roots, but the third sacral was the last large root given off from the conus, and if this was identified the rest was easy. Adrenalin was not used. Neither haemorrhage nor shock was severe. The spinal column was not appreciably weakened as the result of the laminectomy.

Dr. Redard (Paris) said that people were apt to forget, in the enthusiasm for operations on the nervous system, the good results of other operations and procedures. It must be remembered that spontaneous diminution or disappearance of spasm occurred in congenital cases. He thought that operations on tendons and muscles should be performed early—say at the age of 3 years—and he agreed with other orthopaedic surgeons in denying Professor Foerster's statement that operations on tendons had no effect in the way of reducing reflex excitability. In suitable cases the transplantation of tendons and osteotomy of the femur, both subtrochanteric and supracondylar, were all measures of value. As to the nerve operations, root section had a rather high mortality-rate. The statistics of cases were inexact as to the gravity of its effects and its results. Moreover, late results were practically unknown. In severe cases Foerster's operation was of slight value, and in cases of medium and slight severity equally good results, even absolute cure, could be obtained by other methods.

Professor Foerster's speech was delivered in German, and was practically the same as that which he had delivered in English at the Brighton Meeting. He exhibited a number of lantern slides of cases, and diagrams illustrating the vicarious paths of nerve impulses in different pathological conditions.

Dr. Mark Jansen (Leyden) gave an admirably clear *exposé* of the different plans on which the fibres of strong and weak muscles were respectively arranged, thus explaining the preponderating action of the strong when all were equally in spasm.

Professor Froelich (Nancy) preferred operations on muscles, tendons, and bones to those upon the nervous system.

Professor Spitzy (Vienna) referred to his well-known operations on the nerves. In spastic palsy of the upper extremity with pronator spasm it was important to see that the branch going to the pronator teres was inserted above the point of departure of the nerve going to the extensor digitorum. This method, combined with Stoffel's procedure of isolating and dividing the individual branches going to the spastic muscles when the end of the proximal portion of the divided nerve was inserted into the nerve to the antagonist muscle, gave good results and was less likely to be followed by relapse than was Stoffel's original method. Allison and Schwab's method of alcohol injection into the nerves had given him good results in the lower extremity, as also had ligature of the tibial nerve. If possible, it was better to divide the sensory fibres only in the limb instead of in the spinal canal. In his opinion Foerster's operation was not a very severe one; he (Spitzy) had operated on children as young as three years.

Professor Denucé (Bordeaux) said that he had divided the posterior nerve roots in one case. Three-fourths of the contraction had disappeared, but orthopaedic measures were necessary, and were still being employed.

The general impression made by this discussion, which proved to be most interesting, was that too much had been claimed for rhizotomy, and that the permanence of the results was doubtful, but that in otherwise hopeless cases it was justifiable, despite the mortality-rate of 13 per cent. (Foerster) and 20 per cent. (Galleazzi).

POTT'S DISEASE.

The afternoon meeting of the Section was held at the Royal National Orthopaedic Hospital, where previously Dr. F. H. Albee (New York) had performed his osteoplastic operation for Pott's disease, on a patient of Mr. Muirhead Little, before a distinguished and appreciative gathering. The operation in practice seemed far simpler than on paper, and the use of the electric circular saw made the removal of the tibial bone graft easy and quick.

CONGENITAL DISLOCATION OF THE HIP.

Mr. Jackson Clarke read an interesting paper on the open operation for some rare and refractory cases of congenital dislocation of the hip.

Dr. Torrance Rugh (Philadelphia) referred to a most interesting case of this dislocation which was easily reduced at 2 years of age; the head of the femur remained in the acetabulum for four months, was again replaced and remained in position for three years, was a third time replaced and remained so for six years, was for the fourth time replaced and only three months later had to be again reduced. This time an open operation was performed and a fracture of the head of the femur found.

Dr. Müller (Berlin) read a very long communication on the functional cure of congenital dislocations of the hip. He delivered it at a high rate of speed and in German difficult to follow. The gist of it was that fixation in apparatus and hyperextension gave good results. This paper was illustrated with lantern slides.

Dr. Froelich (Nancy), touched on some points on this so-called congenital deformity, and after Mr. Openshaw had approved of Mr. Clarke's procedure, and Dr. René le Fort had read a paper on pes cavus in children, tea was served and then a number of interesting cases were exhibited by the surgical staff.

Scoliosis.

On August 8th the subject for discussion was the treatment of scoliosis. The reporters were Dr. R. W. Lovett of Boston and Professor A. Schanz of Dresden. Great interest was taken in this discussion, as owing to the publications of Dr. E. G. Abbott of Portland, Maine, and the reports from many quarters of the results obtained by the use of his method, this question has been given new interest.

The discussion was opened by Dr. R. W. Lovett of Boston, Mass., than whom no one has worked harder or devoted more pains and scientific knowledge to the investigation of the occurrence, causes, and means of cure of the deformity. Despite the fact that the principles on which Dr. Abbott's method is based are different to those upon which Dr. Lovett has been working, with true scientific candour he said that

after a trial of all methods it seems to the writer as if the method of Abbott offered, on the whole, distinct anatomical advantages and the greatest ease of correction, but the method must be regarded as being to a certain extent *sub judice*.

Much confusion had, he said, been caused by failure to distinguish between true and false scoliosis. False or postural scoliosis was an easily corrected deformity, while true or structural scoliosis was characterized by a change in the structures of the spine and thorax, and was very difficult to treat. Some change in the intimate bone structure, rendering it less resistant to strain and pressure, must be assumed in the severe cases, although there might be no evidence of rickets. Surgeons had sometimes claimed cures of true scoliosis, when a more exact diagnosis would have revealed the fact that the cases dealt with were those of false scoliosis. Gymnastic treatment could not cure cases of moderate or severe deformity, while it might cure false scoliosis and slight cases of true scoliosis.

A surgeon would be thought very much behind the times who to-day endeavoured to correct bony knock-knee or congenital club-foot by muscular exercise, yet many an up-to-date surgeon does not hesitate to advocate gymnastic exercise as the sole treatment of a bony deformity equally severe.

Were the results satisfactory, the practical result might justify the disregard of sound theory. But they were not satisfactory. Dismissing apparatus as of little use, Dr. Lovett reviewed the history of plaster jackets and forcible correction, which had given the best results so far, and concluded with the hope that a better agreement as to means of cure would be reached and still better results obtained in coming years.

Dr. Schanz (Dresden), after consideration of the etiology of scoliosis and the general principles to be adopted in its treatment, said that the correction to be obtained by plaster-of-Paris dressings and various forms of portable apparatus rather tended to lessen the carrying power of the spinal column. Hence every such correction cure carried with it a certain risk that, although the primary result was a diminution or removal of the deformity, there might be a late relapse, and the final result a much greater deformity than the first. At present it was not possible to bring every case of progressive scoliosis to a halt, and to retain permanently every correction result. The largest proportion of progressive scoliosis in young people was caused by the so-called late rickets. But this was not real rickets, but a disease the true nature of which still remained to be discovered, and on such discovery future progress in the treatment of scoliosis must depend.

The Abbott Method of Treatment.

A great deal of interest was taken in the paper by Dr. Edvillie G. Abbott, of Portland, Maine, and the Astrophysics Theatre of the Imperial College was crowded when he rose to read his address. Dr. Abbott did not go into much detail in discussing the pathology of scoliosis, but maintained that the bad position of the child at the desk was the cause or one of the chief causes of the deformity. He said that he had shown that a normal spine could be forced into the position of true scoliosis, and again corrected and forced into the opposite-sided deformity. Two things were to be striven for: first, overcorrection; secondly, maintenance of the spine in the overcorrected position until the parts had adapted themselves to the restored position so that relapse would not occur. This was just what was done in the treatment of such a deformity as club-foot. It was a flexion deformity, and by retracing the steps taken in the production of it, they could produce the opposite-sided deformity, compelling the parts concerned to travel back through the same arc through which they travelled in its production. Whatever may be thought as to the soundness of Dr. Abbott's views as to the etiology and pathology of scoliosis, there can be no doubt in the minds of orthopaedic surgeons who have experience of his method, that very great improvement if not absolute cure is to be obtained by its use.

Dr. Redard (Paris), whose work in forcible correction of scoliosis by his lever and gypsum jackets has been well known for years, said that they could not yet be sure of the permanence of Abbott's results, and relapses had been recorded. He preferred the prone position for the application of gypsum jackets to the supine position used by Abbott. In many cases two or three forcible corrections were enough, but in bad cases many more and treatment for years were necessary. He had had no serious accidents, and improvement had been produced in nearly all cases, but cure was not possible in all. He believed that the extensive structural modifications of bones and ligaments, etc., could not be corrected in a few months. After apparent correction the *x* rays showed very little real correction of the deformities in the spinal column, and the improved shape of the trunk was due to a change of the position of individual parts and not to change of their forms. He thought that the majority of Abbott's cases were of medium severity only, and that in the worst cases better results were obtainable with the speaker's method of forcible correction.

Dr. Max Böhm (Berlin), in a paper on congenital defects of development of the skeleton of the trunk, classified these as distortions, malformations, variations, bilateral asymmetry of congenital origin, and anomalous direction of growth on a congenital basis. The lantern slides of many defects of the vertebrae and other bones were of great interest. He said that the deformity of vertebrae in scoliosis was secondary to other changes of the whole trunk skeleton. After demonstrating the development of a vertebra and its division into elements, he referred to spina bifida and other clefts, but there might be fusion of parts or of whole vertebrae or ribs with one another. Cervical ribs were not the cause of scoliosis, which was due to accompanying vertebral defects.

Dr. Mauclaire (Paris) showed *x* rays of two unusual cases of primitive cervical scoliosis, in one of which there was deforming rheumatism of the vertebrae of the middle cervical region. The curves were very abrupt.

Professor Vulpius, who read a paper on some experiences with the Abbott method, said that there were great limitations to its usefulness. He was now of opinion that it should not be used in cases under 6 years of age and only in single curves.

Dr. Gourdon (Bordeaux) said that he had known cases apparently corrected by *redressement forcé* relapse after several years. The general health was of great importance, and often aggravation of deformity occurred after acute diseases, such as scarlet fever. Softening of the bones was the chief factor, and this cause should be treated by general hygienic measures. He believed that at present they were unable to rectify bony deformity, but they must direct their attention to counteracting rotation. There was no specific curative treatment.

Professor Spitzy (Vienna) said that the good results reported were due to changes of external form produced by changes in the thorax, but not in the spine.

Professor Froelich said that he believed that no scoliosis was ever really cured after torsion had developed. It was an abuse of language to speak of a cure of true structural scoliosis. Dr. Calot (Berck) showed some interesting photographs of patients treated by the Abbott method and very greatly improved. He had treated many cases, and he had entirely given up his former method in its favour. Dr. Lovett had referred to the difficulty of treating high curves. He did this by means of plaster coming right up round the head. When, as in some cases, the Abbott treatment was declined by the friends, he used a celluloid jacket with hinged doors on it for padding and correction, and such jackets were also useful to maintain correction.

Dr. Calvé said that they must distinguish between hypercorrection and compensatory changes. More exact records were wanted.

Dr. Louis Mencière (Rheims) thought that Abbott's method marked a considerable advance—active treatment by means of respiratory exercises in a jacket were important. This principle had guided him in the construction of his pneumatic auto-modeller, by which pressure could be exerted beneath a jacket. He was convinced that Abbott's principle of flexion added to that of the auto-modeller ought to change the prognosis in scoliosis.

Dr. Mark Jansen (Leyden) described a plaster bed for the side posture on the principle of Glisson's sling.

Dr. Lancy and Mr. P. B. Roth also spoke.

At the close of the morning session, Dr. R. W. Lovett proposed the formation of an International Orthopaedic Association to facilitate the interchange of ideas and literature. It was unanimously decided that the President, Mr. Robert Jones, and one representative of each nationality represented in the Section should form an organizing committee.

CLUB-FOOT.

In the afternoon Professor Lucas-Championnière read a paper on his operation for club-foot. This, as is well known, consists in the heroic proceeding of ablation of the whole tarsus except part of the os calcis. Although he claimed to have secured good results, the Section as a whole was opposed to the procedure, Dr. Royal Whitman having the meeting with him when he said that it would be as well to perform Chopart's amputation at once. Dr. Calvé referred to the plan of subcutaneous removal of the bony nuclei of the tarsal bones in infants as if it had been introduced by Drs. Lamy and Jalaguier. Dr. Calot protested that the operation was Mencière's, from whom Lamy and Jalaguier had learnt it. Dr. Mencière explained that Dr. Calvé was mistaken, and that Professor Jalaguier had always given him the credit of it. It was not at all like Ogston's operation, as it was subcutaneous and could safely be performed in very young infants, in whom it was difficult to maintain asepsis owing to excreta, etc. Dr. César Roux (Nice) also spoke.

Professor Kirmisson read notes and showed *x*-ray pictures of cases of Volkmann's deformity of the ankle due to defect of the lower end of the tibia. Professor Froelich described similar cases, and showed *x*-ray pictures of deformity in which the lower end of the fibula was displaced backwards. Dr. Peckham (Providence, R.I.) read a paper on the treatment of weak foot. He said that bare-footed people had strong flat feet, but they did not turn them out in walking, but when such people took to wearing shoes their feet broke down. The artificial life of cities and badly designed boots produced weak and painful feet. Cure must be sought in restoration of tone and strength by gymnastics and mechanical treatment. Dr. F. Schultze (Duisburg) read a paper on club-foot, and showed many photographs of cases and of the elaborate and awe-inspiring machinery which he used in treating them.

ANAESTHESIA, GENERAL AND LOCAL.

THE President, Dr. Dudley W. Buxton, opened the proceedings on Thursday morning with a brief address of welcome to the members. He pointed out that this was the first time that a Section had been devoted to anaesthesia at an International Congress of Medicine. He thought that the innovation was thoroughly justified by the enormous progress that had been made in this field in recent years; he compared the position of the speciality as it was thirty-two years ago, when the Congress last met in London, and as it is to-day. The number and complexity of the methods evolved during this period, the various combinations required in individual cases, all enhanced the importance of the anaesthetist's work, alike to the surgeon and the general public. He then called upon Professor Tuffier (Paris) to read his report.

SPINAL ANALGESIA.

Without a single note Professor Tuffier gave a splendid review of the present position of this subject, of which he was one of the original exponents. He did not allow himself to be carried away by undue enthusiasm, but was perfectly fair and unbiassed. Speaking partly in French and partly in English, always fluently and yet, as his countrymen say, *doucement* he was easy to follow. He described first of all the extradural method, which is a more novel procedure and something between spinal analgesia as usually understood and regional analgesia; the puncture is made between the sacrum and coccyx. The procedure, he said, was free from all danger, but the analgesic results a little uncertain. In dealing with the usual intradural method he described the technique and reviewed the various drugs in use, giving his preference to novocain. He did not approve the addition of either strychnine or adrenalin, nor of the combination of spinal with general anaesthesia. He thought all failures were due to the surgeon not delivering his injection within the theca. He compared the relative mortality of spinal with that of general anaesthesia, and confessed that it was impossible to draw any sure conclusions so far as the lumbar puncture method was concerned; he considered Jonnesco's high puncture dangerous and did not employ it. Contraindications were: all operations above the umbilicus; highly nervous subjects, especially children; and, lest the operator might be blamed for recrudescence of symptoms, syphilitics and those who had suffered from disease of the spinal cord. Mr. L. McGavin agreed that the extradural method was uncertain, but he did not admit that spinal analgesia was contraindicated in syphilitics and children. After trying Jonnesco's method in eighteen cases he had abandoned it owing to its danger. If pyaemic cases were excepted, he did not think there were any contraindications to spinal analgesia. There was, he thought, a prejudice against the method in England. He referred to some statistics which had been published showing a very high death-rate, and put forward statistics showing a low mortality. Mr. Leedham-Green limited his remarks to the extradural method, which he had found somewhat unsatisfactory. Mr. Victor Fielden expressed the view that, owing to the impossibility of ascertaining beforehand the dose required by each individual, there was always a danger of administering a dose which might be too small or too large. Mr. Tyrrell Gray adduced the results of his well-known experiments, and propounded what, for want of a briefer term, one may call his theory of "synapses." Very ingeniously he argued that in the presence of spinal analgesia trauma of the peritoneum could only be highly beneficial. He considered children particularly suitable subjects for this method. After a few remarks by Dr. le Filliatre, the President deprecated the idea that British anaesthetists were prejudiced against spinal analgesia, which occupied a very useful place in their armamentarium. He thought it was hardly fair of Mr. McGavin to compare the statistics of a few highly trained exponents of spinal analgesia with those of general anaesthesia, obtained, as they were, from the practice of all and sundry. Professor Tuffier briefly replied.

LOCAL AND REGIONAL ANALGESIA.

Professor Dr. A. Braun (Zwickau, Saxony) spoke in German, but any difficulty owing to this became obviated by the courtesy and forethought of the President in supplying in advance a translation of the report. Dr. Braun stated that in many German hospitals local or regional anaesthesia was used in quite 50 per cent. of operations. His report was a complete review of the various ways by which the part to be operated upon may be rendered insensitive; these methods were infiltration of the tissues themselves, perineural injection of the nerves supplying them, Bier's intravenous method, and the intra-arterial method; the range of operations for which he employed these methods extended, he said, from mere superficial operations on mucous membranes to those on deeply-seated organs in the pelvis and even to the brain. Much of the report was devoted to the intra-arterial method, which is as follows: An artery having been exposed, the circulation in the limb is stopped by means of a tourniquet and from 50 to 100 c.cm. of a ½ per cent. novocain solution injected into it; analgesia develops in from one to two minutes; after completion of the operation the tourniquet is removed and sensation rapidly returns. For infiltration Dr. Braun said he used a 0.5 per cent. novocain solution combined with adrenalin; for peri- and endo-neural injections a 1 to 4 per cent. solution. Some excellent photographs illustrating his methods were

passed round during Dr. Braun's speech. Mr. Leedham-Green stated that he was now doing 50 per cent. of his major operations under infiltration analgesia. He also preferred novocain; his experience with quinine and urea hydrochloride had been unfavourable. He had found the infiltration method particularly useful in operations on the skull. He also gave some details of his experience in perineural methods. Professor Dollinger said that in his practice local analgesia was now the rule and general anaesthesia the exception. Dr. H. H. Schmid (Prague) also spoke.

Lumbo-Sacral Cocainization.

Dr. G. le Filliatre then read a paper on his thirteen years' experience of general anaesthesia by lumbo-sacral spinal cocainization.

Recent Methods of General Anaesthesia.

In the discussion on recent methods of general anaesthesia those considered were (*a*) open ether; (*b*) rectal; (*c*) intravenous; (*d*) intratracheal; (*e*) nasal; (*f*) alkaloidal bodies alone or in conjunction with general anaesthetics; (*g*) nitrous oxide in major surgery; (*h*) dosimetric chloroform. Though described as recent methods it must be confessed that many of them have lost their first bloom so far as this country is concerned. Take "rectal ether" and "nitrous oxide in major surgery"; these were both investigated many years ago, the method of administration described, and apparatus provided by Dr. Dudley Buxton and Sir Frederic Hewitt respectively. They have, however, been rediscovered. Coming to more recent times, "dosimetric chloroform" has certainly been advocated and practised in Great Britain for the past ten years at least; and "open ether" was brought to our notice by Dr. Goodman Levy at the British Medical Association meeting held at Exeter in 1907. The other methods have all been frequently discussed and practised during the last year or two.

Open Ether.

The report on open ether was read by Dr. R. H. Ferguson (New Jersey, U.S.A.), who after enumerating the requirements of a good open ether anaesthesia, foremost among which he placed the constant and steady supply of vapour by the drop method, described his procedure and exhibited his apparatus. He uses a mask with a copper wire frame which can be bent to fit the face. In some cases it was desirable to use a Hewitt's oral airway, and he found that occasionally with beginners too rapid dropping would lead to liquid ether dropping right through the mask. To obviate this he showed a modification he had devised having the air openings at the side. It might be termed a "fool-proof" oral airway. Apparently it is the custom in America to anaesthetize patients with the face upturned, instead of, as usual in this country, with the face turned to one side. Dr. Ferguson's mask is surrounded by a sort of curtain open at the top, which to some extent limits the waste of ether vapour. This communication was commented upon by the President, Dr. McCardie, Dr. E. Arrias (The Hague), and Dr. Lloyd. In his reply, Dr. Ferguson stated that he only used about four ounces of ether an hour, and did not employ a previous alkaloidal injection.

Rectal Ether.

At this point the Section adjourned. When it resumed on Friday morning, Dr. J. H. Cunningham (Boston, U.S.A.) made his report on rectal ether. He considered that the principal indications for this method were operations on the head and neck, and the presence of affections of the lungs. It was contraindicated in abdominal operations owing to the distension of intestine caused, and doubly so where disease of intestine, past or present, was suspected on account of the liability to diarrhoea and bloody stools as a post-anaesthetic effect. Another drawback was the length of time required for induction. Dr. Cunningham described his technique and apparatus; in the latter he favoured simplicity; he had tried some more elaborate apparatus, but declared, with unconscious humour, that it had no "fundamental" advantage. Professor Arndt (Bern), who followed, said he was opposed to rectal etherization in children. Dr. A. F. Flemming (Bristol), who said that he had used Buxton's apparatus some years ago, had found the induction long, and diarrhoea very apt to follow. He had tried ether dissolved in saline, but found it was very uncertain in results. The President mentioned that he had introduced the method twenty-five years ago. He thought it particularly useful in young children, especially in operations for cleft palate. Diarrhoea, and so forth, was caused by liquid ether being condensed in the tube and getting into the bowel; this danger was obviated in his apparatus by an interceptor. He preferred to induce anaesthesia first by an inhalation method. Professor Meltzer and Dr. Gwathmey of New York and Dr. Nagle of Toronto also spoke.

The Intravenous Method.

The discussion of this method was introduced by Professor Burkhardt of Nurnberg, who spoke in German, but read some portion of his report in English. Dr. Burkhardt's views and work are already well known. He advocated the use of ether because the dose was easily controlled and the drug was rapidly eliminated. The percentage should not be higher than 5, lest haemolysis should occur; the rate of flow was not more than 70 to 80 c.cm. a minute. In 600 cases recoveries were good and serious complications rare. Other substances had been employed experimentally—urethan, hedonal, chloral, isopral, veronal, medinal, choralamyd and paraldehyde. Of these, hedonal and isopral (he might have added paraldehyde) had been used clinically. Owing to the fall of blood pressure, the difficulty of regulating the dose, the prolonged sleep, and danger of respiratory paralysis, he deprecated the use of the former. Isopral was not so dangerous, but caused the blood pressure to fall, was difficult of solution, and had to be infused slowly. The paper was discussed by Professor Kümmel of Hamburg, Dr. Z. Mennel (who described his technique and results with hedonal), Dr. Shipway (who considered the application of ether limited and hedonal dangerous), and the President (who dwelt on the necessity of mastering technique and selecting cases).

Intratracheal Ether.

Professor S. J. Meltzer (New York), the originator of this method, said that he had evolved it from laboratory experiments. To prove that it was impossible for vomited matter to find its way into the trachea whilst ether was being driven into the lungs under pressure he had injected cats with apomorphine during the anaesthesia, and demonstrated the absence of inhaled vomit. The method did away with a great part of the "dead space." Its use was not followed by laryngeal or pulmonary trouble. The method called for some practice to acquire thorough mastery of technique. Any accidents that occurred were not the fault of the method but due to bad handling of it. The paper was very thoroughly discussed, and most speakers showed their own apparatus. Dr. Elsberg (New York) spoke highly of its value. In addition, the apparatus, used without ether, was a valuable substitute for artificial respiration. Mr. Boyle and Dr. Shipway (London) both gave their experience of the method, and recommended the passage of the catheter by direct vision with the laryngoscope of Dr. Hill's pattern. Dr. R. E. Kelly (Liverpool) mentioned an extremely bad case with chronic bronchitis in which he had used the method with great success, and no post-anaesthetic troubles had developed. Dr. Nagle (Toronto) gave the results of his observations in 300 cases. He used the direct vision method of introducing the tube. Dr. Meltzer, in his reply, pointed out that although in the laboratory it was quite possible to keep animals alive for prolonged periods without any respiratory movements, it must not be taken that he recommended this practice clinically; even in intrathoracic operations it was wise to allow a few shallow breaths per minute.

The use of Alkaloids Alone or with a General Anaesthetic.

The discussion on this subject was dealt with by Dr. Karl Gauss of Freiburg, and discussed by Dr. McCardie and Dr. P. Giuseppi. The former objected to their use in such doses as to render anaesthetics unnecessary, but considered them a valuable adjunct to anaesthesia. He believed in a combination of drugs, the effect being greater than the sum of the action of the individual

drugs employed. Omnopon was less depressing to the respiration than morphine alone. Contraindications were the Trendelenburg position, the use of chloroform, bronchitis and emphysema, operations on the brain, obesity, ureteroscopy, kidney disease, and extreme youth. Dr. Giuseppi dealt with the use of alkaloids in childbirth. He emphasized a point which did not appear to be generally known—namely, that if tablets are used they should not be dissolved in tap water, as hard water precipitated alkaloids (the neglect of this precaution probably accounts for many anomalous results). They were best given in the second stage of labour. The fetal heart should be auscultated at intervals.

Nitrous Oxide-Oxygen.

In some ways Professor Teter's (Cleveland, U.S.A.) report on nitrous oxide-oxygen in major surgery was one of the most important of the day. This method has been for years employed occasionally by anaesthetists in this country, the main difficulty being to secure a smooth and satisfactory anaesthesia. Professor Teter claimed that by improved technique and apparatus and much assiduity in practice he had solved the problem. He showed his apparatus and explained the main principles of his technique, which were: (*a*) The use of pre-anaesthetic narcotics; (*b*) absolute purity of oxygen used; (*c*) a definite and even flow of gases; (*d*) warming the gases; (*e*) rebreathing the gases (at intervals); (*f*) maintenance of positive intrapulmonary pressure. Professor Teter was warmly supported by his countrymen, Drs. Gwathmey, Nagle, and Davison; but all emphasized the necessity of complete mastery of technique, which could only be attained by serving a long apprenticeship. Drs. Guy and Ross, of Edinburgh, gave an account of their experience with an apparatus of their devising, which they claimed combined the accuracy of Professor Teter with far greater simplicity and economy, not only in original cost, but in gas consumption.

The last paper was the President's report on dosimetric chloroform. The advantages of this method have been so fully set out in these columns, and, as the report of the Anaesthetics Committee of the British Medical Association showed, rest on so sound a physiological basis, that it is unnecessary to recapitulate them. Dr. Buxton gave a masterly exposition of the case for regulating inhalers. He was followed by Dr. Embley (Australia), who supported him on the physiological side, and Professor Waller, who gave a practical demonstration on cats.

Intramuscular Injections of Ether.

With the session on Saturday the proceedings of the Subsection reached high-water mark. The meeting was fully attended, many members of other Sections being present to listen to or take part in the discussions introduced by Professors Crile and Yandell Henderson. The debate was maintained at a high level and the views of the various speakers supported by an eloquence and earnestness that arrested attention. Altogether it was an intellectual treat.

The proceedings were opened by Dr. P. Descarpentries of Roubaix, who read his paper on general anaesthesia by intramuscular injections of ether. Dr. Descarpentries, speaking in French, said that under his technique the method was as free from risk and danger as any other, and had special advantages in operations on the head and neck, in those undertaken immediately after injuries and where skilled assistance was unavailable. He administered the ether in successive injections, varying in amount, according to the patient's age, from 2 c.cm. to 5 c.cm. each. The site chosen was the gluteal region, and the injections were made into each side alternately. The total amount used was inconstant, but roughly 1 c.cm. for each kilo of body weight. He compared the results obtained with those of anaesthesia by inhalation of ether, and showed an apparatus he had designed for the latter purpose with the special object of presenting a warm vapour. The President observed that the method was on its trial, and expressed a little doubt as to whether it offered any advantages over the more recent methods of inhalation anaesthesia. Dr. Descarpentries's inhaler appeared to be ingenious and on the right lines, but its value could only be proved by use.

Anoci-association.

Dr. Crile then submitted his report on anoci-association, by which he understood the exclusion of all nocuous influences, psychic or traumatic. Inhalation anaesthesia abolished consciousness, but did not put the brain cells to sleep; they continued to discharge energy in response to stimuli under the lipoid anaesthetics, and to a less degree under gas; latent energy was converted into kinetic energy by oxidation. He regarded increased respirations on the part of the patient, commonly seen in response to surgical stimuli, as an unconscious attempt to cry out. Fear had the same effect as traumatism on the brain cells. He illustrated the changes in the brain due to fright, want of sleep, fatigue, and traumatism by throwing on a screen lantern slides of microscopical sections of brains of animals killed under these conditions side by side with sections of normal brains of the same animals. He regarded these changes in the brain cells as the cause of shock. The brain cells were the bank on which the operation was frequently the overdraft. The object in anoci-association was to preserve them from psychic shock and from traumatic shock. The former was accomplished by submitting the patient daily for a few days to a short inhalation of gas and oxygen, ostensibly as part of the treatment. One day the patient was carried from his bed whilst anaesthetized to the operation theatre. In order to prevent afferent stimuli reaching the brain a complete infiltration analgesia was then done as thoroughly as if no anaesthetic were to be given. The operation was then performed, the utmost gentleness being used in case nerve blocking might not have been complete. A very light anaesthesia was maintained, and under this the passage of any traumatic stimuli to the brain was evidenced by increased respiration. Contrary to the usual custom of the surgeon warning the anaesthetist that the anaesthesia was too light, he expected his anaesthetist to warn him, as it was the surgeon who made the anaesthesia too light either by using too much force or through inefficient nerve blocking. The CO_2 content of the blood was kept up by occasional rebreathing. After operation the anaesthesia was maintained until the patient was back in bed in the same position and surroundings as before. In a minute or two he awoke, and his condition was in no way different to that in which he found himself on awakening on previous days. Under this system the mortality had fallen from 6.2 per cent. to 0.8 per cent. The address, delivered in a quiet, almost conversational manner, with an air of conviction and many apt illustrative comparisons, was followed with deep attention and ended in an outburst of applause. The President congratulated Professor Crile on his work, and questions were asked by Dr. Wilson (Manchester), Mr. Carter Braine, Dr. Barton, and Dr. Flemming (Bristol). Mr. Warren Lowe said that he had found the method all that Dr. Crile claimed in some cases in which he had tried it. Mr. Tyrrell Gray thought that, in abdominal operations, at any rate, local analgesia did not cause complete nerve blocking, and that spinal analgesia was the only reliable means. Chromatolysis of the brain cells was no doubt associated with shock, but was not, in his opinion, its cause. Major Battye, I.M.S., as a result of his experience in India, recommended the combination of light anaesthesia with spinal analgesia. Dr. McCardie (Birmingham) pointed out the difficulties of carrying out the method in its entirety in hospitals owing to the demands on the beds. Professor Teter, who had administered the anaesthetic in many of Dr. Crile's cases, was eulogistic, as also were his fellow countrymen, Drs. Ryan and Robertson. Dr. Arrias (The Hague) and Mr. Fletcher also spoke and Professor Crile replied.

Spinal and Local Anaesthesia Contrasted with Inhalation Anaesthesia.

Professor Yandell Henderson (New Haven, U.S.A.) submitted his report contrasting the immediate and after-effects of spinal and local analgesia with inhalational anaesthesia, particularly with regard to shock and psychic shock. He said shock might be the result of mental states—for example, fear or anxiety—in much the same manner as it was of physical pain, although in less degree. In using local and spinal analgesia it was important that the mind also should be protected, unless the patient was of phlegmatic character. In general anaesthesia not only the

consciousness of pain was to be avoided, but also over-stimulation of the nerve-centres controlling vegetative functions. Shock was not, however, fatigue of such centres, but consisted in a general depression of vitality resulting from excessive respiration (induced by abnormally intense afferent irritations and by ether excitement), from over-stimulation of adrenalin secretion, and from disturbance of other general functions. The acapnia theory of fatalities under anaesthesia (presented in some detail) taught that excessive respiration during the stage of excitement, especially under ether, produced alterations of function which, if the method of anaesthetization was sufficiently unskilful, might render even a perfectly healthy man or animal liable to fail under a dosage which would otherwise have been borne with impunity. The use of "re-breathing" methods in connexion with nitrous oxide-oxygen anaesthesia was touched on, also the use of oxygen containing a small amount of carbon dioxide. Some amusement was created by Dr. Henderson stating that a dog kept in a stage of ether excitement for twenty minutes developed acapnia; if then ether were suddenly pushed to narcosis, respiration stopped, and the "dog did not breathe again till it was dead," a hibernicism which was relished equally by the speaker and the audience. The President congratulated the reporter and called upon Mr. Tyrrell Gray, who, eloquent and persuasive as ever, submitted that during an operation every surgical stimulus acted on the vaso-constrictors, sending up the blood-pressure (pressor stage) until the centre became paralysed from exhaustion, when the contrary effect was produced (depressor stage). Comparing shock values of different tissues, the general rule was that the deeper-seated and more protected the part the higher the shock value. Contrary to some recently expressed opinions, strychnine, on his theory, could only do good in shock. Dr. Mortimer agreed that spinal analgesia prevented shock from afferent impulses, but it intensified psychic shock. He advocated the combination of analgesia and anaesthesia where shock was anticipated. Dr. Dickie (Middlesbrough) said that spinal analgesia itself was frequently associated with a set of symptoms clinically indistinguishable from shock. In 400 cases these symptoms were very pronounced in three, of which one was fatal. Dr. Henderson replied.

OBSTETRICS AND GYNAECOLOGY.

At the opening of the Section on Thursday, August 7th, the President (Sir Francis H. Champneys) briefly welcomed the members, and forthwith called on Professor Döderlein (Munich) and Professor Essen-Möller (Lund) to introduce the first subject for discussion.

Treatment of Haemorrhage from the Placental Site in the Later Months of Pregnancy.

The natural tendency for this subject to fall into two divisions (haemorrhage unavoidable and haemorrhage avoidable) was accentuated by the decision of the reporters to choose one division each. This arrangement made the discussion, it must be admitted, rather disjointed, but it became perfectly clear that the Section was unanimous in dividing cases of haemorrhage into two groups for purposes of treatment—those for whom the facilities of a hospital were available and those for whom they were impossible or were refused. Almost every speaker urged this distinction, and many insisted that all cases of haemorrhage were as clearly cases for treatment in hospitals or nursing homes as any acute surgical condition. Professor Döderlein, in discussing placenta praevia, conferred a boon by grouping the statistics of a very large number of cases. These included series by the following methods of treatment: (1) Artificial dilatation by bags, (2) tamponage of the vagina, (3) by the Braxton Hicks method, (4) intra-amnial metreuryse, (5) abdominal Caesarean section, and (6) vaginal section. He favoured operative measures, particularly vaginal section, in severe cases when facilities were possible, but was still prepared to keep an open mind on the whole question, and all the more so since the "obstetrical" methods gave a very low maternal mortality. Professor Essen-Möller, who limited himself to the pathology and treatment of accidental haemorrhage, referred to the recent discovery that the uterine muscle is frequently at least the site of the haemorrhage. He considered that a small group of cases was directly attributable to trauma, but that by far the larger group had an association with albuminuria, such as to suggest some general intoxication. He drew comparisons between eclampsia and accidental haemorrhage, particularly in regard to the albuminuria and haemorrhage. He advocated Caesarean section (abdominal or vaginal) for serious cases with closed cervix where the condition made rapid delivery necessary; hysterectomy should only be done when contraction remained obviously deficient after removal of the child and placenta. He doubted the efficacy of the Rotunda Hospital method, and in cases of moderate severity would try the effect of rupture of the membranes. So far as the discussion related to placenta praevia, there appeared more or less a consensus of opinion that the Braxton Hicks method for most cases and Caesarean section for severe cases with closed cervix gave the best prospects. Dr. Munro Kerr (Glasgow) urged that the latter should not be postponed till late. Dr. Murdoch Cameron was by no means enthusiastic as to Caesarean section, but Professor Recasens (Madrid) was sufficiently convinced of its merit to have done it where the child was dead. Professor Jardine (Glasgow) recommended pituitary extract for all cases of haemorrhage, but Professor De Lee (Chicago) pointed out that there was a danger of rupture of the uterus following this drug. Professor Davis (Philadelphia) regarded the condition as being essentially similar to ectopic gestation, and therefore treated it on surgical lines. He had had fourteen Caesarean sections, with recovery of all the mothers and of all the viable children. Professor Paul Bar (Paris), and several other speakers, called attention to the possibility of an aggravation of shock following section. In discussing accidental haemorrhage, Sir John Byers (Belfast) remarked that, when concealed, it gave rise to an appearance suggesting "something behind the bleeding." He thought that rupture of the membranes was bad if it delayed labour, and recommended the Rotunda Hospital method of packing, combined with the administration of pituitary extract and isotonic salines. Professor Jardine described two cases of concealed haemorrhage where the condition was too serious for section, and yet the patients recovered under the use of pituitary extract, salines, and morphine; such cases pointed a moral. Dr. Hastings Tweedy (Dublin) described thorough plugging of the vagina and its fornices as being invariably successful in arresting haemorrhage by pressing on the big vessels; the patients, however, might still be in danger. Professor De Lee expressed the opinion that these cases were comparable to acute haemophilia.

Symphysiotomy.

At the afternoon session several interesting papers were read before the Section. Professor Fritz Frank (Cologne) spoke enthusiastically in favour of subcutaneous symphysiotomy, based on an experience of 117 cases. He narrated the indications (largely flat pelves), the technique, and the after-results in his cases. Among the contra-indications he did not include infection. Professor Munro Kerr agreed with most that had been said, but thought that there was little difference between symphysiotomy and pubiotomy; that the operation did not interfere with locomotion, but that it ought not to take the place of high forceps, and should not be done in a first confinement.

Treatment of Pyelitis.

Professor E. P. Davis (Philadelphia) advocated surgical intervention (nephrotomy) in cases of pyelitis of pregnancy resisting ordinary medicinal treatment. He was against the induction of labour, which might still further light up the infection.

External Hysterography.

Professor Fabre (Lyons) described a very simple apparatus by means of which he had studied the uterine contractions during pregnancy, labour, and *post-partum*. Different types of contraction had been noted, and it had been found possible to foretell the type of contraction in labour. The action of drugs had also been studied with ease.

Other Papers.

Short papers by Professor Recasens on homologous organo-therapy in certain gynaecological complaints—that is, the injection of preparations of ovaries removed mainly in operations for fibroids—and by Professor Nubiola on

electrographic observations during pregnancy brought the session to a close.

On Friday the Section met in the morning with the Sections of Diseases of Children and Hygiene and Preventive Medicine for the discussion of mortality during the first four weeks of life (see page 401).

POSTURAL VERSION.

At the meeting of the Section of Obstetrics and Gynaecology in the afternoon, Dr. A. F. A. King read a paper on postural version by thigh pressure in transverse presentations. He suggested that a very powerful influence could be brought to bear on a fetus lying transversely by an assumption of the squatting position, with the body bent forward and the foot advanced on the side where the breech lay. By this means pressure was brought to bear in the very directions necessary for successful external manipulation. Professor Davis, in discussing the paper, made a plea for the more general adoption of postural aids in obstetrics.

OPERATION FOR STERILITY DUE TO CERVICAL STENOSIS.

Professor Pozzi (Paris) described his operation for cervical stenosis associated with sterility. By its means the canal was widely opened up and kept in the open position with excellent results. Dr. H. Spencer (London) said that he had practised the operation for several years, following Professor Pozzi's technique, and had had every reason to be very well satisfied with it. He considered it much superior to simple dilatation, and regretted that it had received so little recognition in English-speaking countries.

OPERATION FOR CHRONIC INFLAMMATION OF THE APPENDAGES.

An interesting and original operation for chronic inflammatory disease of the uterine appendages was described by Professor Beuttner (Geneva). Recognizing the advantage of preserving the menstrual function, he had found it possible in some cases to leave one ovary while removing the tubes and the other ovary in one piece with a large slice of the body of the uterus. This excision was performed through parallel incisions along the fundus; the part removed was transversely wedge-shaped.

THE SECRETION OF MILK.

Miss A. Louise McIlroy (Glasgow), in a paper on some factors which influence mammary secretion, expressed the opinion that in the ovary was to be found the controlling influence on mammary hypertrophy and on lactation. In favour of this view were the hypertrophy at puberty and the atrophy at the menopause and after castration. She had found menstruation to occur during lactation much more frequently than was supposed. She had noted, too, a peculiar toxic condition of infants during the mother's first menstruation, and hoped that this subject would be more fully investigated. The average duration of lactation in her cases lay between nine and twelve months. Pregnancy occurred in 9 per cent. of lactating cases where amenorrhoea was present, and in 20 per cent. where menstruation was not in abeyance. There was no evidence of uterine control or of nerve or corpus luteum influence, and the results of experiments in relation to the fetus were contradictory. She had failed clinically to confirm Schäfer's experiments on the galactogogue action of pituitary extract, and thought it most probable that the supposed increase was due merely to an emptying of the lactiferous reservoirs.

OPHTHALMOLOGY.

DISCUSSION ON CHRONIC UVEITIS.

THE discussion on Thursday was on the pathogenesis of chronic uveitis, excluding the syphilitic, tuberculous, and sympathetic varieties. It was opened by Professor Fuchs (Vienna), who treated the subject from the pathological aspect and showed slides illustrating the chief points to which he called attention. Professor de Schweinitz (Philadelphia) discussed the disease from the clinical and bio-chemical aspects. The material on which he drew was derived from the literature of the last ten years, a collective investigation of the views and experiences of his American colleagues, and a study of the so-called gastro-intestinal autointoxication in relation to these affections. In one set of cases the disease began in the choroid and spread forwards, and in the other it commenced in the iris and spread backwards. In all probability every case of uveitis was of septic or toxic origin, while the infection might be endogenous or exogenous. At present he was only concerned with the former, which arose from certain infectious diseases, or internal areas of suppuration, or disturbances of metabolism. Among these might be mentioned gout, rheumatism, diabetes, influenza, gonorrhoea, specific fevers; certain blood diseases, such as anaemia, renal disease, and autointoxication; diseases of the pelvic organs, nose, teeth, pharynx, accessory sinuses, and the skin. Acute articular rheumatism was excessively rare as a cause. Persons suffering from muscular rheumatism and chronic polyarthritis developed the disease, but such cases were probably auto-toxaemias, and had nothing whatever to do with rheumatism. Chronic arthritis was well known to arise from a number of different infections, some being bacterial and some metabolic in origin. The relationship between it and gout was very vague, but the etiology of the disease was so obscure that all etiological factors should be considered until they were definitely disproved. The effect of diabetes and gonorrhoea was well known, and now much attention was bestowed upon oral sepsis. In this connexion it was to be remembered that it was quite unnecessary that a general oral sepsis should be present or an extensive pyorrhoea. The infection could quite well arise from a single carious tooth or a tooth-root abscess. Some dental surgeons believed in the influence of constitutional disease in the etiology of pyorrhoea, but although it might be a predisposing cause the ultimate cause was practically always local. It was not possible to prove absolutely that bacterial toxins circulating in the blood did cause localized inflammation of the uvea, yet it was certainly not possible to deny that such might be the case. The examination of the urine and the whole metabolism ought to be made, and although the presence of indican in the urine was presumptive evidence of intestinal intoxication, yet its absence could not be taken as proof that such decomposition was not taking place. He concluded that articular rheumatism was never in itself responsible for the disease, and the term "rheumatic iritis" should disappear. Professor Axenfeld (Freiburg) thought that it was very difficult in these cases to exclude tuberculosis. Most *post-mortem* examinations showed tuberculous lesions in the past which had never given rise to symptoms during life. It was more than likely that most of the cases had a tuberculous origin, which although at one time it might be fairly obvious, yet later on might be altogether unrecognizable. He thought that tubercle was far more common than was usually thought, and although there might be other causes, he considered tubercle by far the most common and important. Dr. Angelucci (Paris) declared that myopic choroiditis was, in his opinion, usually of septic origin. Professor Fuchs, in reply, agreed that in most *post-mortem* examinations there was evidence of past tuberculous lesions, but he did not think that this was conclusive, or proved that all or most of the cases were of tuberculous origin. He considered that practically all people had some tuberculous lesion at some time or another, but very few suffered from uveitis. Professor de Schweinitz also briefly replied.

INDEPENDENT PAPERS.

Etiology of Conjunctivitis.

Professor Angelucci read a paper on the influence of seasons of the year in the development of conjunctivitis. A notable increase was found in Southern Italy with a rising temperature, and in Egypt there were two seasons of the year in which a rise was always noted—the commencement of the summer season and in the autumn. In the south of Italy irritable cases of trachoma became worse when the temperature rose in the summer.

Age and Accommodation.

Mr. Ernest Clarke (London) read a paper on the influence of age on the accommodation. He alluded to the work of Donders on presbyopia, and bore tribute to the wonderful accuracy of his statements, which had stood

the test of fifty years. He had himself now made observations on over 3,000 individuals, and in all under 45 years of age he had used a cycloplegic. The result was that he found the average accommodative power higher than that ascertained by Donders, who had not always employed a cycloplegic. Mr. Clarke showed many diagrams, and insisted on the importance of always ascertaining the patient's near point, for a low accommodative power was usually due to premature senility; the most common cause was intestinal stasis and eyestrain. It was the duty of the ophthalmic surgeon to warn all persons with low accommodative power that there was something wrong in their general condition and the advice of a physician should be sought. It was quite as important to correct all refractive errors in presbyopes as it was to do so in young people, in order to avoid waste of nerve energy, and there were great facilities now for doing this by the employment of the "invisible" bifocal glasses.

Ophthalmic Progress in Egypt.

Mr. A. F. MacCallan (Egypt) said that in 1903, owing to the liberality of Sir Ernest Cassel, ophthalmic work was seriously considered by the Government, and in 1906 the travelling hospitals which had been established were placed under a special branch of the Egyptian Government when the first permanent hospital was built at Tanta. Between 1904 and 1912 eight ophthalmic hospitals were opened by the Government. During 1913 six new hospitals were expected to be inaugurated. For these fourteen both the initial outlay and the cost of maintenance were assured. Both permanent and travelling hospitals had a place and a work to do in the country. Each camping ground for the travelling hospitals was occupied for from four to six months, and in this way most of the larger towns in Egypt had been visited. There were three types. The most completely equipped had two surgeons attached to them, and they could treat between 200 and 300 patients a day. The second type was smaller and had one surgeon, and could look after from 100 to 150 patients a day. Both of these types had accommodation for in-patients, while the third type had no in-patient accommodation, but could deal with from 100 to 150 patients daily. The administration of these hospitals was vested in the director, with the assistance of two British and one native inspecting surgeon. The subordinate staff consisted of twenty-three Egyptian surgeons at the present time. They had had special ophthalmic instruction, and most of them made good operators in simple cases, while some had attained very great technical skill as ophthalmic surgeons. More than 90 per cent. of the population suffered from trachoma, so that there were necessarily a large number of lid operations to perform. A very great improvement had already been noted in the schools as the result of the work of the hospitals, and the author laid stress on the great help and assistance which had been given in this direction by Lord Kitchener, who took the keenest interest in all that was being done in this direction. There was a vast amount of work still to be done, and it was a fact that 16 per cent. of those who attended the hospitals were hopelessly blind, so that it was obvious that no effort should be spared in order to extend the beneficial work which was being carried on in this country. Professor Likurnik spoke of the treatment he adopted for the cure of trachoma by massage with a glass knob on a handle, which was passed between the upper lid and the eyeball. Dr. Myerhof did not think that this method would be possible in Egypt, and he far preferred the excision of the trachoma tissue. He spoke very highly of the work of Mr. MacCallan. Mr. MacCallan replied to some questions as to treatment.

Chemistry of Senile Cataract.

At the afternoon session Mr. J. Burdon-Cooper (Bath) read a paper on the physio-chemical changes occurring in the lens in senile cataract. He gave an account of the facts he had observed which led him to the conclusion that cataract was a hydrolysis of the lens. He distinguished between hydrolysis and hydration. After the examination of some hundreds of specimens he had satisfied himself that tyrosin was present in both lens and aqueous in every case of senile cataract. He then gave his reasons for concluding that tyrosin came from the lens; in some of the glycosuric cases cholesterin was present as well. As cholesterin was a monatomic alcohol, and tyrosin an acid, the same change (hydrolysis) would account for both. The occurrence of pigmentation in the lens was due to oxidation of tyrosin and not to infiltration of haematin. He had found no evidence in three cases of blood pigment spectroscopically. He then reviewed the older theories, which he found to be untenable and not in accordance with the facts.

Regeneration of the Cornea.

Professor Selzer read a paper on the regeneration of the cornea after wounds, and showed that the epithelium first became regenerated; the keratoblasts then pushed their way in, and were the precursors of the interstitial substance of the cornea.

Operations.

Professor Wicherkewicz (Cracow) described a new operation for the relief of ptosis. It somewhat resembled Panas's operation, but he took the whole breadth of the lid and slipped it beneath the bridge, which was made in a manner somewhat similar to the other well-known method.

Dr. J. M. West (Baltimore) described an operation for intranasal partial resection of the lacrymal sac is cases of dacryostenosis. The operation, which he had done 125 times, consisted of removing the inner wall of the lacrymal sac through the nose, and thus making a direct communication between the remains of the sac and the nose; consequently it was a matter of indifference if there were a stricture of the nasal duct or not. He thought that anyone who was able to do intranasal operations would be quite capable of doing this. In reply to some questions, he said that there were no complications afterwards, and that the drainage was so perfect that even a septic and suppurating sac quickly became quite normal.

Dr. Magitot (Paris) read a paper on keratoplasty, with a report of 4 cases in which he had had most gratifying results from the transplanting of the cornea in cases in which this structure was damaged or destroyed. In none of the cases did he remove the whole thickness of the cornea, and he always left Descemet's membrane on which to place the transplanted tissue.

Professor Greeff (Berlin) showed a new method of setting up eye preparations for museum purposes by means of which the colour of the retina and various parts was perfectly preserved.

Professor Stock (Jena) gave an account of the blood count in cases of tuberculosis in the posterior part of the eye.

Discussion on the Treatment of Glaucoma.

On Friday the proceedings commenced with the discussion on the treatment of glaucoma.

Professor Priestley Smith, by whom it was opened, reviewed the results obtained with the several operative measures which were in vogue for the treatment of this disease. The most famous name in connexion with this disease was, he said, von Graefe, and it was he who first pointed out the benefit of iridectomy, and until the last few years this was the operation done in practically all cases. It was a fact that some of the best results were obtained when for some reason or other a cystoid cicatrix developed, and it was often noted that the cases which healed well and gave a perfect surgical result were not the cases in which the tension was permanently relieved, and such eyes were often lost by a continuation of the disease. Even von Graefe saw the benefit of a permanent filtering cicatrix, but it was not easy to accomplish, and until recently it only came about when there was something entangled in the wound, such as a piece of iris. This was not always an unmixed advantage. The alternative operations had for their object the establishment of drainage, either by getting a piece of iris entangled, or by complicating the form of the wound so as to prevent its closing easily, or by excising a piece of tissue. The speaker had made extensive inquiries as to the practice of British ophthalmic surgeons, and from the replies he had received he found that a few months ago 80 per cent. adhered to iridectomy in acute glaucoma, but that 75 per cent. had given up iridectomy in cases of chronic primary glaucoma, while most of the surgeons spoke in favour of the trephine. The operation which had the next largest number of adherents was the trap-door operation of Herbert; the others preferred the method of

Lagrange. Trephining was rather apt to be followed by a quiet iritis, but this could be largely guarded against by the use of atropine, which had no bad effect on a glaucomatous eye after scleral trephining, nor, indeed, after an iridectomy, and he used it in all cases. He expressed his liking for the wedge operation of Herbert, though the inventor himself had abandoned it. Professor Lagrange (Bordeaux) went very fully into the method of doing the operation associated with his name; he was one of the first to advocate the necessity and the possibility of doing an operation for the establishment of a permanent filtering cicatrix. Colonel Elliot, I.M.S. (Madras), expressed his firm belief that trephining was by far the most certain, effectual, and safe way of bringing about permanent drainage in an eye. It gave the maximum surface area for drainage, and was less likely to be encroached upon during the healing process than any other method. No sharp instrument was pushed into the eyeball, and no tissue was cut to waste. The cornea should be split for from 1 to 2 mm., and a trephine 1½ mm. in diameter was amply large enough for all cases. The iris and disc should be removed together with a single snip of the scissors. Post-operative iritis was of no consequence, and was due to the leaking anterior chamber, but it could always be combated with atropine, which he used in all cases. He performed the operation in all varieties of glaucoma and thought it just as satisfactory in acute and subacute glaucoma as in the chronic variety. Dr. Weeks (New York) had done all sorts of operations, and he now thoroughly endorsed the claims made by Colonel Elliot. He found that a cystoid scar developed in all but some acute cases, and it was not nearly so important in these as in the chronic variety. Colonel Herbert (late I.M.S.) rather feared cutting out a piece of sclera in case it produced a too permanent softness of the eye. He argued in favour of the operation he had himself devised and which had a good many adherents. Mr. Arnold Lawson thought that in the future the Elliot operation would be that universally adopted for all chronic cases at least. It was safe and easy to do, and certain in its results in lowering the tension. He preferred a 2 mm. trephine for the reason that if the disc of sclerotic got adrift in the anterior chamber it might be removed through a hole of this size, which he failed to think would be possible through a smaller one. Mr. R. R. Cruise said he trephined in all cases, but in order to still further promote a large filtration area he advocated the introduction of a piece of silk thread beneath the conjunctival flap. Dr. Marple (New York) preferred a trephine of only 1 mm. in diameter, and found this quite large enough. He mentioned the fact that he used a small hook in order to prevent the disc being pushed into the anterior chamber, and the trephine worked round the hook, the handle of which passed through the trephine. Dr. Reeve (Toronto) thought the Elliot operation an excellent one; it could be done when no other operation was possible. Professor Sattler (Leipzig) thought that the inclusion of the iris in the wound was a very serious and undesirable thing, but he had had good results with the operation of Colonel Elliot. Professor Stock (Jena) had for the last four years practised the trephining operation. His results had been quite satisfactory, and the vision had improved even in some cases in which the tension had not been fully relieved. Professor Axenfeld thought that late infection was possible after the operation of trephining. Several surgeons, both English and foreign, proposed small modifications in the details of the operation, but it was the almost unanimous opinion that there was no operation anything like so efficient as trephining for chronic glaucoma. Many also did the operation in subacute cases, while Colonel Elliot and a few of his close followers thought it the best operation for the acute cases as well. On the other hand, by far the majority of surgeons preferred to do iridectomy in at least the acute cases. Colonel Elliot, in reply, said that if the disc of sclerotic were lost in the anterior chamber it should on no account be looked for, nor should any attempt be made to remove it, for it did no harm whatever to leave it where it was, and much harm might ensue from attempts to remove it. He had never come across a case in which septic infection had followed the operation as a late result, and if surgeons would wash out the conjunctival sac with mercury perchloride he did not believe that primary infection would ever take place. The work done by Colonels Elliot and Herbert, as well as by Lagrange and Freeland Fergus, was gratefully acknowledged by the whole Section, and it was considered that greater advance had been made in the treatment of glaucoma during the last five years than had taken place since the time of von Graefe. The discussion was a very prolonged one, and took up nearly the whole day.

Independent Papers.

The following independent papers were read: Professor Falchi (Pavia): Operation for secondary cataract combined with peripheral cystotomy. Dr. J. A. Ballantyne (Glasgow): Some observations of results obtained with the Schiotz tonometer. Dr. Magitot (Paris): On the rôle played by the cells of the vitreous in the formation of liquid in the anterior chamber of the fetus.

OPERATION FOR CONTRACTED ORBIT.

On Saturday Dr. G. A. Berry, Vice-President, took the chair for the President, Sir Anderson Critchett. The proceedings were opened by a demonstration of an operation by Dr. J. E. Weeks (New York) for the restoration of the cul-de-sac in cases of contracted orbit. He spoke of the difficulties of transplanting skin so as to increase the area of the conjunctival sac, and pointed out various circumstances which had led to failure in the attempts made in this direction. He then described and demonstrated the operation he had devised for this purpose. The tissues were first dissected up and a raw surface produced. Then a skin flap was cut from the arm of the patient rather larger than the surface to be covered, and all the adherent subcutaneous tissue was carefully removed with scissors. The flap was then folded on itself, with the epithelial surfaces touching, and three double-threaded sutures were passed through the flap at the situation of the fold. The needles were then passed through the periosteal tissue at the orbital margin, and the graft was drawn into position. The sutures were then tied on the face or forehead over pieces of lint. The flap was made to fit exactly; if too large, its edges were trimmed with scissors. It was very important to have the flap large enough so that no stretching of it with the sutures was necessary. Finally, the edges of the flap were fastened to the surrounding tissue with interrupted sutures. The graft usually took well, and the stitches were removed about the tenth day. Previous to this a rubber plate was made and accurately moulded, so as to keep the fornix well marked, and this plate or an artificial eye had to be worn until all shrinking had disappeared. The results in his cases were most satisfactory. He had operated on 19 patients, and in these he had restored the cul-de-sac in the upper or lower lid, or in both 29 times, and all but one gave most gratifying results. Dr. Marple (New York) said that he had followed Dr. Weeks's directions, and could speak of the excellent results he had obtained. Colonel Elliot asked why the Thiersch graft had been abandoned, while Mr. Bishop Harman thought that the skin of the prepuce would be far more satisfactory, as it was devoid of hairs. Dr. Weeks said that it would be extremely difficult to get Thiersch grafts anything like large enough, and if several had to be used it would be very inconvenient; he had never had any difficulty with the hair which grew on the flap, and they were easily removed with scissors if they became troublesome. It would be impossible to get anything like enough mucous membrane from the lip to utilize as a graft as was suggested by one speaker. The operation took about an hour or a little more to perform.

ETIOLOGY OF PARINAUD'S CONJUNCTIVITIS.

Dr. de Schweinitz (Philadelphia) read a paper on behalf of Dr. Verhoeff of Boston, who was unable to be present. Dr. Verhoeff had been investigating cases of Parinaud's conjunctivitis, and had discovered a micro-organism in 11 out of 12 cases. It was small and filamentous, and owing to the position in which it was found, and to the fact that it was not found elsewhere, he had come to the conclusion that it was the cause of the disease, but he had not completed his investigations, for he had not cultivated it nor had he performed inoculation experiments. Until these were carried out it was impossible to be certain whether it was the true organism or not, but he thought the

evidence strongly in favour of its being the real cause o the disease. Professor Mollers (Berlin) discussed the bacteriology of the disease, and thought that the organisms might be found eventually to be tubercle which had assumed this form. Professor Axenfeld, who also had examined the specimens, said that the exact nature of the organism still remained to be proved, and without cultures and inoculation experiments it was impossible to make sure about it. Filamentary characters had been seen in both tubercle and diphtheria bacilli.

The Pectinate Ligament.

Dr. Leslie Buchanan (Glasgow) said that for a long time he had doubted the usual teaching that Descemet's membrane broke up at the periphery of the cornea and gave rise to the fibres of the pectinate ligament. After examining some carefully prepared specimens of a normal human eye he became satisfied that Descemet's membrane really ended comparatively abruptly at some little distance from the true angle of the anterior chamber, and also that it took no part in the formation of the pectinate ligament. On further investigation it became more and more clear that the radial portion of the ciliary muscle gave rise to a series of fibres which were functionally a tendon, and these fibres formed a large portion of the tissue which was called the pectinate ligament. Other sections showed that fibres did pass from the ciliary body to intermingle with others of corneal origin, and that the spaces of Fontana were the result of the interdigitation so formed. There was one other constituent part of the ligament which required notice, and that was the portion which was derived from the iris. This band was thin, it formed the anterior root, and served to convey the lining epithelium of the anterior chamber from the iris to the cornea. This bundle of tissue passed across behind the canal of Schlemm and lost itself in the cornea in front of Descemet's membrane. He then examined the condition in the monkey (*Macacus radiatus*), and found that a very similar state of things existed there. Similar conditions were found also in the dog, sheep, and ox. Mr. Greeves said he thought that Descemet's membrane was represented in the fibres of the pectinate ligament.

Demonstrations.

Goggles.

Professor Stock (Jena) showed a new form of protecting goggles. The chief characteristics of them were that the dark glass of which they were made was curved in the shape of a deep dome, while the bridge was hinged so as to adapt them to any shaped face, and thus to afford far greater protection than the usual patterns which certainly did not protect the eyes sufficiently from either light or dust.

Mr. R. A. Greeves (London) gave a demonstration of Russell's hyaline bodies in the ocular tissues. These bodies were at one time thought to be cancer bodies, but it was now generally known that they might be found in any tissue suffering from chronic inflammation. They were found but rarely in the retina though frequently in the iris, ciliary body, and choroid, and also in trachoma. They were insoluble in ether or alcohol and so could not be of a fatty nature, nor did they give the amyloid reaction. He showed some slides of tissues containing them.

Dr. Maitland Ramsay (Glasgow) showed in the epidiascope a beautiful series of coloured photographs of patients with typical external eye diseases. They were taken by means of the new process of colour photography, and they showed in the most perfect way the appearance of the patients. He remarked that little progress had been made until it was found that the flashlight was the correct source of illumination for this purpose. If even bright daylight were employed the exposure had to be so long that it greatly complicated matters.

Dr. Mackay (Edinburgh) showed also in the epidiascope a number of water-colour drawings painted by an artist in Edinburgh, depicting external diseases of the eye.

Dr. Marple (New York) gave a demonstration of his electric self-illuminating ophthalmoscope. He pointed out that there were a considerable number of instruments on the market which were supposed to be his own, but which were really such bad imitations that he was himself utterly unable to use them. He pointed out that an electric ophthalmoscope must be one that was really adapted to this purpose, and that those which had an electric attachment which could be put on or taken off were useless. He looked upon the U-shaped mirror as essential: in it was a slit in which the glass was removed entirely and not the silvering only. The mirror was strongly concave, and it was essential that the electric lamp should be made to move nearer or farther away from the mirror as required. Dr. Fenton (Philadelphia) described an electric ophthalmoscope he had devised, and which he thought an improvement on the other instruments. Colonel Elliot spoke of the Marple-Morton instrument in the highest terms. Mr. Leslie Paton (London) had found the instrument most useful, but he did not think it as good for measuring the height of swellings in the fundus as the ordinary one. Dr. Marple, in reply, said there was no difficulty about this, and mentioned that Messrs. Meyrowitz were the only makers of the instrument whom he trusted.

DISEASES OF CHILDREN.

The President, Dr. Eustace Smith, opened the work of the Section on Thursday by a short address. After extending a welcome to the visitors he referred to the special characters of diseases as they occurred in children, and traced the growth of paediatrics as a special subject. He concluded by expressing a hope that the new method which had been introduced would not lead to a neglect of those older methods which had already been proved useful.

Tuberculosis.

Surgical Treatment of Tuberculosis.

The special discussion of the day—on the treatment of tuberculosis in childhood from the surgical point of view, with special reference to bones, joints, and glands—was introduced by Dr. V. Ménard (Berck-sur-Mer). From the standpoint of local treatment, tuberculous osteitis, he said, should be separated from tuberculous disease affecting both bones and joints. The local treatment indicated in arthritis was the conservative method, which was almost always efficient if persisted and persevered in. The most successful operative treatment could not replace conservative treatment. Surgical interference was required in suppuration as the result of associated and accidental infections, and when the disease affected particular joints. Operation removed an obstacle to local recovery. Such an operation was drainage, or a form of resection, which was really drainage on a large scale. The fatality of operative procedure was very small except in the case of hip-joint disease, but here it formed no contraindication, for it was necessary to save life. The results of operation were good if the after-care was rational and persevering. In spite of the improvement of medical treatment in glandular disease, there still remained a part for surgery to play in this condition to free the patient quickly from large masses of glands. Whether operated upon or not, the patient could only recover if placed under favourable conditions for a long time. Mr. Harold J. Stiles (Edinburgh) presented a report on treatment of tuberculosis in childhood from the surgical point of view, with special reference to the bones, joints, and glands, and made the remarks on prophylaxis and the recent work in Edinburgh in this direction which are printed at p. 370. In concluding his remarks, Mr. Stiles said that tuberculosis of the lungs in adults was usually the result of infection through the respiratory tract, whilst in children tuberculous infection was usually through the alimentary tract. It was very important that the milk used for the artificial feeding of infants should be sterilized, unless it could be guaranteed free from tubercle bacilli, and that sterilization should be employed also in all households where the children drink milk. Amongst those who took part in the discussion which followed were Professor von Pirquet, Professor Tedeschi, Dr. Andrieux, Dr. Comby, Dr. d'Oelsnitz, Dr. Treplin, Dr. Binney, Dr. Koplik, and Dr. Nordheim.

Diagnosis of Early Pulmonary Tuberculosis.

In the afternoon Dr. David Lees (London) dealt with the diagnosis of early pulmonary tuberculosis in children. He emphasized the value of careful methods of percussion, pointing out that such examination was all the more

important in children, since, as a rule, no sputum was obtainable. He contended that the areas of early invasion of the lungs could be delimited by proper percussion, and by the same method a record of the improvement or otherwise of the disease could be kept. He indicated the areas where early tuberculosis was to be expected. Accurate and careful percussion was capable of leading to the detection of the disease before it could be detected by any other means. Dr. P. van Pée, of Verviers, spoke of the value of "orthopercussion," as described by Goldscheider and by Cursehmann and Schlayer. It was based on the following principles: (1) The percussion should be as gentle as possible, so that the sound could only just be heard; (2) as small an area as possible should be percussed by application to the chest, not of the terminal phalanx but of the end of the finger, placed vertically in the position of Plesch; (3) percussion should be made with the pleximeter finger parallel with the mid-line of the body. He examined symmetrically the following regions: (*a*) The area between the two sites of insertion of the sterno-mastoid muscle; (*b*) the supraclavicular triangle; (*c*) the area outside the subclavicular region; (*d*) the area of the manubrium sterni and the sterno-clavicular articulations. The diagnosis of pulmonary tuberculosis in the newly-born was always difficult, and as it had always been shown that the tuberculin tests gave a positive result more frequently as age advanced, the difficulty became worse. Seeing the frequency of a positive reaction to the bacterial test, it was important to give to ordinary clinical methods the credit which was their due. Dr. d'Oelsnitz (Nice) spoke of the diagnosis of the thorax by means of radiography. In the discussion which followed these papers Dr. Lapage (Manchester) supported Dr. Lees's contention as to the value of *x* rays in the early diagnosis of tuberculosis in children. He thought that the earliest signs were to be found at the roots and not at the apices.

Portal of Entry of Tubercle Bacilli.

Dr. Findlay (Glasgow) read a paper on the portal of entry of tubercle bacilli. He had, by means of special technique, been able to inject bacilli into the stomach without insufflating the lungs. The difficulty in avoiding this had rendered much former work valueless. The results of his experiments went to show that infection did not occur through the intestine in the absence of a local lesion.

Viability of Hand-fed Infants.

Dr. Coit (Newark, U.S.A.), in a paper dealing with the viability of children deprived of women's milk during the first year of life, spoke of the need of some means of estimating the value of different means of saving infant life at this period. Collaboration between scientific workers and social or philanthrophic workers was necessary. He exhibited "score cards" which he had found useful as indicators of the value of philanthropic and other measures.

THE CEREBRAL CORTEX IN CHILDREN.

Dr. Krasnogorski (St. Petersburg) concluded the day's proceedings with a paper on the fundamental mechanisms of the activity of the cerebral cortex in children. He thought that the activity of the cerebral hemispheres in children was founded on the following five fundamental mechanisms of the cortex: (1) The mechanism of contemporaneous interdependence—(*a*) the mechanism of conditional reflexes, (*b*) the mechanism of specific conditional reflex traces, (*c*) the mechanism of the speech reflex; (2) the mechanism of analysators; (3) the mechanism of inhibition; (4) the mechanism of contra-inhibition; and (5) the mechanism of positive and negative charge and discharge. With the help of motor conditional reflexes it was not only possible to follow the entire development and gradual increase in complexity of cortical activity in childhood from the first few weeks of life, but it was also possible to recognize even in the first few months of life the characteristics and defects in functions of the cerebral cortex, and to apply as soon as possible the proper therapeutic measures.

INFLUENCE OF THE DUCTLESS GLANDS ON DEVELOPMENT.

On Saturday morning the business began by a paper by Mr. Hastings Gilford (Reading) on the influence of the ductless glands upon development. He said that no one who attempted to assimilate the information upon the ductless glands which had been collected by Sajous, by Swale Vincent, by Biedl or by Cushing, or who went to the sources of their supply, could fail to be struck by the growing importance of the subject. At the same time it became evident that this information could not, as yet, be brought to a focus. Two kinds of research were being conducted upon the subject—one clinical and pathological, the other experimental. The former was scanty, but eminently suggestive; the latter copious, ingenious, and interesting. Experiment had led to the discovery of the hormones, had thrown light upon the nature of the changes wrought by the deficiency of secretions, and had furnished some valuable pharmacological agents. However, information as to the uses of the ductless glands must still be gathered mainly from clinical, surgical, and *post-mortem* study. The subject was one of correlation, but not so much correlation itself as of the excitement or depression of correlation. In all probability it was the mere mechanical penetration of the germ cell by the sperm cell which was the stimulus for the first correlation in all vertebrates, the fusion of sperm with germ afterwards supplying that blend of characters which constituted complete fertilization. Next there came a period of development in which, as yet, there were no ductless glands, when, as in plants, the necessary stimulus to correlation was both simple and direct. For a time there must exist in the primitive embryo some simple secretive mechanism which later on would be gradually segregated into organs and become ductless glands devoted to the production of hormones to excite and harmonize the action of widely separated organs. It might be suggested that this primitive faculty of cells was never lost, and that in after-life the ductless glands did not monopolize the power of chemical stimuli to correlation, but that all tissues possessed some degree of the same property. It might be in some such way as this that local correlations could be explained. Thus when a segment of a long bone was destroyed in infancy, the growth of muscle, fat, vessels, nerves and skin did not continue as on the sound limb. On the contrary, a considerable degree of adjustment took place. Such correlation was not solely the outcome of disease, for a similar process was at work in the limbs of the rickety and the achondroplasic. Local adjustments of this sort varied greatly in their completeness. It was true that achondroplasia was one of the disorders which had been attributed to deficiency of pituitary secretion, but, on the other hand, the locality and nature of the changes seemed to point to the skeleton as the prime seat of the disease. Another disorder which appeared to point to correlating influences, apart from ductless glands, was microcephaly. He said that the object which he had before him was to emphasize the doctrine first brought forward by Bernard, that although the ductless glands served an important purpose in the correlations of the body, they were only a part of the machinery of adjustment. For rapid adjustments the nervous system came into play, and for slower one had to consider not only the ductless glands but also that primitive capacity for adjustment which was inherent in the tissues of all parts of the body. Speaking of the *disorders* of the ductless glands, he said that out of the fog which at present obscured the subject a few clinical types of disease, the outcome of pathological changes in the ductless glands, were gradually emerging. They were as yet very ill defined, owing partly to overlapping of their symptoms, partly to the variability of the effects produced by similar lesions, and possibly partly to the influence of such other factors as he had just referred to. Yet there was some hope that they were on the right tack for the solution of the problem. It was right that they should co-ordinate their knowledge and formulate their theories, even though they were conscious that both knowledge and theories were fallacious. He then considered abnormalities of the function of the thyroid gland, pointing out that though myxoedema was regarded as hypothyroidism and Graves's disease as hyperthyroidism, the one was by no means an antithesis of the other. Speaking of the lymphatic system, he said that when lymphatic structures were overgrown the condition known as lymphatism was present. An infant in such a state in its most characteristic

form was fat, pale, and stolid, though the intake of food might be under the average. Lymphatic tissue apparently inhibited to some degree the action of the thyroid, the pars anterior of the pituitary gland, and the sex organs. Destruction of the large tracts of the lymph system, as in Hodgkin's disease, gave rise to a syndrome, in which emaciation and debility were conspicuous. Speaking of the sexual system, he stated that all attempts to influence growth and development by extracts from the sex glands had failed. They were not in a position to conclude that the series of changes which took place at puberty was solely the result of the pouring out of secretion from the sex glands, nor were they justified in assuming that the changes at the menopause were solely due to its withdrawal. He afterwards dealt with the pituitary system, stating that among the disorders attributed to defective action of the hypophysis were ateleiosis and progeria. He also considered the sexual group of diseases and those of the suprarenal system. He concluded by saying that for the answer to the question as to the causes of the defective or the excessive action of any ductless gland one must go to genetics. This branch of biology showed that as there was a normal size and a normal action, so also was it as inevitable as light to darkness that size and function must occasionally become abnormal and fall into extremes. By studying these extremes one arrived at some sort of conclusion, however hazy, as to the normal action of the ductless glands. In the harmony which was produced by the concerted action of the ductless glands there was reason to suppose that the leading part was played by the thyroid. This supplied a stimulus for the metabolism of the body as a whole. During infancy and childhood the influence of the thyroid was checked by the thymus gland, by the lymphatic system, and perhaps by the pineal gland. These also brought about that delay of sexual activity which was so essential to the proper maturation and stability of the somatic faculties. Probably the first to break through this cordon of conservative influences were the adrenal glands, which awakened the dormant sexual organs and hastened the growth of the muscular and skeletal systems. At about the same time the skeletal system was still further stimulated by secretions from the pituitary gland. This secretion hastened the development of every organ in the body, including the sex organs. These latter now ripened apace, and, assisted by the combined action of the ductless glands, sometimes animating at others restraining, carried the development of the body in waves and tides to its flood.

Suprarenal Inadequacy.

Dr. d'Oelsnitz (Nice) contributed a paper on chronic suprarenal inadequacy in infants, which was followed by a discussion, in the course of which Dr. Koplik (New York) said that he had been impressed by the associated disturbances of the viscera generally in abnormalities of ductless glands. In children the intestine was almost invariably disordered. Professor Swale Vincent thought that much more was being taught about internal secretion than was really known. The difficulties were enormous. Extirpation of the thyroid never produced myxoedema. The pathology of myxoedema, or cretinism, was something more than merely thyroid insufficiency. Dr. Leonard Guthrie said that a distinction must be drawn between the obesity of Fröhlich's syndrome and that of hypernephroma. In the former the appearance was that of infantilism, the latter that of fat adults.

Septic Cases of Scarlet Fever.

Dr. Fischer (New York), in a paper on the treatment of septic cases of scarlet fever by neo-salvarsan, said that he had treated 10 apparently hopeless cases in this way, of whom 3 recovered. He thought the method was worthy of trial in cases where nothing else could be done.

Visits to Institutions.

On Friday afternoon members of the Section met at the Hospital for Sick Children, Great Ormond Street, where they were shown a number of clinical cases of unusual interest by members of the staff.

On Saturday afternoon the members of the Section visited Lord Mayor Treloar Cripples' Home at Alton.

MORTALITY IN THE FIRST MONTH OF LIFE.

On Friday, August 8th, a joint session of the three Sections of Obstetrics and Gynaecology, of Paediatrics, and of Hygiene and Preventive Medicine, was held to discuss the important question of infant mortality in the first four weeks of life. Dr. Arthur Newsholme, President of the Section of Hygiene and Preventive Medicine, took the chair, and was supported by Sir Francis H. Champneys, President of the Section of Obstetrics and Gynaecology. Dr. Newsholme opened the proceedings by a few well chosen remarks, in which he referred to the considerable variation of the death-rate in infants in different localities—a variation that could not easily be explained. To elucidate this difficulty collaboration was necessary between those working at public health, those working at obstetric medicine, and those at diseases of children. The decline in mortality during the last ten years was very great, but was less during the first month of life. Even at this period there had been as much as a 10 per cent. decrease. He did not accept the opinion that the death-rate during the first month of life could not be further reduced. Dr. H. K. Chalmers (Glasgow), in presenting the first report, said that the factor which dominated the mortality curve for the whole of the first year of life was the number of deaths in the first month. At this period death might be due to an inborn physiological inability to live rather than to acquired diseases affecting previously healthy infants. Many could be described literally as children born to die. One of the important questions to be answered was whether this was due to the conditions under which the mother lived or to disease of which she might be the subject. Statistics appeared to show that the urban infants were nearly as healthy at birth as those born in rural districts, and the mortality in the first month was the same under both conditions. Statistics by which the causes of death at this period could be estimated were unsatisfactory, and the only figures available were those from comparatively small districts. A considerable diversity of terms was used to describe the same cause of death. He suggested "immaturity" as the best term to cover all the conditions of post-natal fatality not due to acquired diseases. Deaths certified as due to "premature birth" had increased disproportionately during the last ten years. Stillbirths appeared to be more common at the beginning and again at the end of the child-bearing period. He had a record showing that no fewer than 1,500 stillbirths occurred in about 500 mothers; they were slightly more frequent in "working" mothers, using the word "working" in the meaning of the Factory Act. Dr. Henry Koplik (New York), who followed, said that infant mortality in the first four weeks of life was so intimately connected with prenatal influences that this month of extra-uterine existence might be considered as closely allied in many of its aspects to the history of the fetus *in utero* and just before birth. There were many conditions of both the father and mother which resulted in the production of an infant unfitted to resist the physical influences of post-natal existence. Present methods of preservation of the life of the newborn did not reach this set of cases. Perhaps this was fortunate, as certain mothers suffering from organic disease, syphilis, tuberculosis, heart disease, diabetes, and nutritional disorders, brought into the world infants who were either premature or unfitted to live. The effect of some weaknesses of the mother could be understood, but the influences of the father in causing weaknesses of the newborn were often not clear. In considering the whole subject special attention should be directed to certain definite ills of infants. First, the infant born prematurely and congenitally weak, but free from constitutional disease such as syphilis. Secondly, the infant apparently free from disease, but too weak to live—those below a definite standard living weight. This class must also include all stillbirths, without accidental birth complications. Thirdly, stillbirths, as the result of accidents in delivery or instrumental interference. Fourthly, infants born of good weight, viable, and free from constitutional disease, who died subsequently the victims of some acquired infection, or condition or inanition. Fifthly, infants born prematurely, of good weight and viable, the subjects of constitutional disease. Speaking of the first class of infants, he said that of those born weighing less than 1,500 grams, only

1.9 per cent. survived, and there was a gross mortality of 98 per cent. for all premature infants born 1,000 to 2,000 grams in weight. On the other hand, fully 77 per cent. of the infants born in Budin's institution whose temperatures and strengths were conserved, and who weighed 2,000 grams or less, survived. This illustrated the potent influences of exposure on the premature. Leaving aside the influence of syphilis and constitutional disease, it might be said that the premature infant would survive or succumb, according to whether the body temperature was conserved, whether it escaped infection, and lastly, whether it was placed in a position to have artificial or breast feeding. Among prematurely born infants fed on the breast there was a mortality of 15 per cent., whilst among those who were bottle-fed it amounted to 41 per cent. Stillbirths in Germany in 1906 numbered 62,261 in 2,084,738 births, 3 per cent. of all births, and 6 per cent. of all deaths in round numbers. In New York the statistics for the years 1911–12 showed that there were 5 per cent. of stillbirths. Advances made in the care of the parturient woman had reduced the dangers of infection of the newborn considerably, but malformation and constitutional disease would still remain as prevalent as they had been for many decades past. The morbidity among the newborn was of great interest. First it was noticeable that among breast-fed infants the mortality was not as high as among the bottle-fed. Hence, though morbidity might be as common, the resistance to the inroads of disease was much more successful among the breast-fed. Again, 28 per cent. of the deaths occurred in the first month of life. Of all these only 7 per cent. were in breast-fed children. Moreover, in the height of summer the deaths of bottle-fed infants outnumbered the breast-fed by 41 per cent. This proved distinctly that the dangers which threatened the artificially fed infant—poverty, heat, ignorance, crowding, unskilful feeding, and decomposed food—did not apply to breast-fed infants in the same degree as to the bottle-fed. Social position was another important element in infant mortality, but it affected the breast-fed infants very little. The number of children in each family among the very poor also influenced the death-rate. The question of legitimacy and illegitimacy was a potent factor not only as to morbidity but also as to mortality. There were no statistics obtainable in the United States which gave an idea of the mortality in the first four weeks of life unless computed by special request. He had compiled these statistics from the Board of Health records of the City of New York, inspecting every death certificate for this purpose; 4.1 per cent. of all children born died in the first four weeks of life, or about 1 in every 25. Of all children who died in the first year, 33.2 per cent. died in the first month. The largest number of deaths occurred in premature and congenitally weak infants, and accounted for half of the total deaths. The next greatest cause of death was injury at birth or sepsis with umbilical haemorrhage. Analysing still further, it was found that the greatest number of weaklings died during the hot months. Syphilis accounted for only a few deaths—47 in a total of 2,732. The measures which would go a long way towards the prevention of prematurity would be those which furthered the strength as well as the health of the mother. It could be proved that if the mother was given rest, good food, and quiet surroundings the product of pregnancy would benefit. There was a movement in America to give more and more attention to the antenatal aspect of infant mortality by the establishment of retreats for pregnant women. Good food, good surroundings, and teaching as to the duties of motherhood to those who were to see their first-born, would do much to reduce the mortality. He believed that artificial feeding at the hands of a well-taught mother or nurse was preferable to a wet-nurse from a social standpoint. The third report was presented by Dr. Wallich of Paris. He dealt with the subject under four heads: (1) The degree of mortality in the first month; (2) the causes of mortality in the first month; (3) the remedies; and (4) his conclusions. Of 4,833 deaths in the first month, 571 died before the fourth day, 297 from the fifth to the ninth day, 401 from the tenth to the nineteenth day, and 239 from the twentieth to the twenty-ninth day. It appeared that the mortality in the first month was considerably greater than in the other months of the first year, varying from a quarter to even a alf of the total mortality. The number of deaths was greatest in the first and third weeks. Among the causes of death, prematurity was by far the most important, next injuries at birth, next gastro-intestinal disorder. Even where the causes of death were due to injury at birth or to disease, prematurity played a predominant part. He also emphasized the evil influence of the separation of the child from its mother. Speaking of treatment, he said that that which was applied to difficulties at birth and acquired disease was well known, and it was now of the greatest moment to combat the social causes of infant mortality.

A spirited discussion followed, in which a large number of speakers took part. Sir Francis Champneys said that in England the interest of the State had only just been excited. The first important thing to do was to try to make it fashionable for mothers to nurse their babies. A very common mistake was to feed the baby from birth upon cow's milk; another to feed it when it cried from thirst and not from hunger, when water should be given. He thought that money spent by the State in teaching mothers how to look after their children would be repaid fourfold. Dr. Amand Routh (London) urged the necessity of the routine examination of all pregnant women, and of establishing prematernity wards into which all expectant mothers in whom there was any suspicion of disease or abnormality could be admitted and delivered under the safest conditions. He advocated the notification of stillbirths. Sir John Byers (Belfast) said that the aim of the profession should be to ensure pure milk rather than to advocate its sterilization. Every precaution was taken to obtain a pure supply of water, but milk was very inadequately safeguarded. Dr. Eric Pritchard (London) said that much of the mortality was due to unnecessary weaning during the first few weeks of life. Children were often taken off the breast even at the end of the first week on the plea that the breast milk was insufficient, without any investigation having been made, and in spite of the fact that in many cases the breast milk was not secreted until the end of the second week. Infection occurred through denuded mucous membranes due to faulty nursing and feeding with cow's milk from the beginning of life.

NEURO-PATHOLOGY.

THE fact that the Section commenced its proceedings on Wednesday showed that its members were in for a strenuous week. If the attendance at the opening meeting is to be any criterion of what is to follow, the success of this Section is assured. And one has but to scan the list of names of those who are down to read papers to know that the latest and most original developments of this comparatively youthful branch of medicine will be discussed by the master minds of the subject. Among the distinguished visitors present at the opening meeting were Babinski, of the famous La Pitié Hospital of Paris, Nonne of Hamburg, Monakow of Berne, Rossolimo of St. Petersburg, Donath and Jendrassik of Budapest. The President (Sir David Ferrier) in his very felicitous opening address, while offering a cordial welcome to the visitors of every clinic and country represented, made fitting reference to the absence, through death or illness, of several whose names are household words in neuro-pathology—mentioning more especially the late Dr. Hughlings Jackson, and Sir William Gowers, who was not well enough to attend. The Section had now obtained a position in some degree commensurate with the importance of its work, and although some might take exception to the separation of neuro-pathology from psychiatry, as narrowing its outlook, there was much to be said for the division of labour. He quoted the late Sir James Paget as saying that in "science as in mining, a very narrow shaft, if it be carried deep enough, may reach the richest stores of gold," and recalled the fact that when the Conference last met in London the question of cerebral localization was still under discussion. The study had travelled far since those days, and the principle of cerebral localization had now been universally accepted. Due reference was made to the myelinization method of Flechsig, and the cyto-architectonic researches of Campbell, Brodmann, Bolton, and others, which had helped to show that the cortex cerebri, instead of being uniform in development and structure, was capable of differentiation into a multi-

tude of areas more or less sharply marked off from each other, and each possessing its own distinctive characters. That these differences in development and structure were correlated with different powers of functional activity seemed to be beyond all reasonable doubt. Reluctantly, however, the President had to confess that much of the cerebral cortex was still a functional *terra incognita*, and the function of many of the fifty areas differentiated by Brodmann could not even be surmised. The localization of simple mental processes involving cognition and volition was still as far away as ever. Neuro-pathologists did not believe in the localization of faculties in the sense of the phrenologists, nor did they think that intelligence as such had a local habitation in any particular part of the brain. The brain as a whole was the substratum of intelligence, but this was not one and indivisible any more than the cortex was everywhere the same. The brain, in fact, was a structural and functional mosaic. In his concluding remarks the President pointed out how much neuro-pathology owed to clinical and pathological research, and paid tribute to the work of Dr. Head in the different forms of sensibility and their appreciation. Neuro-pathology, like so many other branches of medical science, had recently been powerfully influenced by bacteriology and bio-chemistry, and developments in this direction were only commencing. Several short papers were afterwards read.

Cerebellar Disease.

Sir David Ferrier was again in the presidential chair on Thursday morning, when Dr. Babinski, senior physician to the Pitié Hospital in Paris, opened the discussion on the symptoms of diseases of the cerebellum and their significance. He spoke with great rapidity and in the space of fifteen minutes covered an amazing amount of ground. He was listened to with rapt attention by an audience which filled every nook and cranny of the large Botanical Theatre of the Royal School of Science. Following some introductory remarks in which he pointed out that one of the principal obstacles in the way of the study of cerebellar disease lay in the anatomical and functional relation which united the cerebellum and the labyrinth, Babinski divided his consideration of the subject into three main parts: (1) The cerebellar syndrome; (2) the study of symptoms rarely met with; (3) a discussion of the conditions which vary cerebellar symptoms or explain their attenuation, persistence, or aggravation. In the first part he gave an historical survey of experimental work on the subject from Flourens and Magendie onwards, and in the second part of his communication he dealt with cerebellar asynergia, and described several phenomena which in his opinion might be included under this title. Under this division also fell the symptoms he had described as adiadocokinesis, asthenia, cerebellar ataxia, and catalepsy, whilst in the third part he dealt with the localization of these symptoms.

Dr. Rothmann (Berlin), who followed, after sketching the new anatomical division of the cerebellar lobes and the microscopic structure of the cerebellar elements, discussed the different theories of the function of the cerebellum as a whole, and showed how impossible it was to bring the cerebellum into the formula of a single function. Starting from Bech's researches in comparative anatomy, he enunciated the doctrine of cerebellar localization as it has developed from the basis of experimental observations on dogs and apes. According to this, there exist centres in the cerebellar hemispheres for the regulation of movement of the unilateral fore and hind limb. In the middle of the cerebellum lie co-ordinated centres for the back and limbs, and in the anterior lobe centres for the innervation of the neck muscles, the jaw, and larynx. Within the limb regions a further localization was recognizable according to the direction of movement. Loss of equilibrium and tottering movements appeared only after destruction of the cerebellar nuclei. In man, where the compensating power of the cerebrum is greater, the pathological material available rendered the recognition of a finer localization difficult. After eliminating the general symptoms and the influence on neighbouring nervous areas, marked disorders of vision and gait, as well as Babinski's "*asynergie cérébelleuse*," were classed as middle-lobe symptoms. To these were to be added disorders of innervation of the head and voice. Adiadocokinesis (Babinski) was beyond doubt a cortical symptom. Above all, the symptoms described by Bárány—irregular movements of the limbs and joints in various directions during attempts at pointing—proved the existence of a regular localization in the cerebellar cortex of man. The connexion of the cerebellum with the vestibular apparatus was specially brought out by Bárány's researches on caloric nystagmus. Severe disturbances of equilibrium, spasmodic conditions, and certain ocular phenomena were connected with affections of the cerebellar nuclei. Rothmann's communication was illustrated by a wealth of original diagrams, and his remarks were punctuated by murmurs of appreciation from time to time, and finally by a regular salvo of applause. Dr. Gordon Holmes then gave an account of his clinical observations in a number of cases of cerebellar disease, and was followed by Bárány, who gave a practical demonstration of his method of vestibular stimulation. So interested did the professor and his audience become in these experiments that he had to be allowed an extension of time by the President—a concession of which he was not slow to avail himself. Then followed Anton, Bruns of Hanover, Nonne of Hamburg, Obersteimer, and Auerbach. After the clashing of swords of these experts it was a not unwelcome sound to hear the Anglo-Saxon tongue again when Dr. Allen Starr (America) entered the lists. He had noticed one curious symptom in cases of cerebellar disease. It was a sudden giving way of the limbs and falling of the patient in the most unexpected manner. He quoted several cases which showed this symptom. Dr. Risien Russell also took part in this most interesting and valuable discussion.

OTOLOGY.

The Section was opened on Wednesday afternoon by the President, Mr. Arthur Cheatle, who, in a brief address, after welcoming the visitors, reviewed the work that had been done in otology since the Congress met in London in 1881. Tuberculosis and syphilis of the ear had, he said, been investigated, the temporal bone had been searched and described with all its variations and possibilities, a great deal of preventive treatment had been undertaken, more particularly by the examination and treatment of school children. Many of the operations for the saving of life and the preservation of hearing had been evolved during the past thirty years.

Professor M. J. Mouret of Montpellier read a paper on the surgical mastoid. The author described in detail the region in which the surgeon had to work in the course of a mastoid operation. He entered into the development, the connexions, and the relations of the antrum and the air cells of the mastoid. The paper was supplemented by twenty-two illustrations. He concluded by drawing a comparison between the retro-meatal and the transpino-meatal operation, which he advocated.

Professor P. Jacques of Nancy contributed a paper on the pharyngeal drainage of an otogenous abscess.

Professor Holger Mygind (Copenhagen) read a paper entitled "Secondary suture after simple resection of the mastoid process." He dealt with the many drawbacks attached to the ordinary after-treatment of cases of simple resection of the mastoid process for acute osteitis by the filling up of the osseous cavity with granulations. The chief of these drawbacks was that the healing process was lengthy, taking generally from six to twelve weeks; moreover, the frequent changing of the dressings, especially when the patients were children, was often troublesome. Professor Mygind described in detail his method of performing the secondary suture, and stated that by this means he had been able to shorten the average period of seventy-four days required in his experience at the Copenhagen Commune Hospital to only twenty days, in which time the cases healed, practically speaking, *per primam*. The paper was discussed by Professor Moure (Bordeaux), Professor Kubo (Japan), Dr. Gorham Bacon (New York), Dr. J. F. Jack (Boston), Professor Gustav Alexander (Vienna), Professor Gherardo Ferreri (Rome), and Professor Denker (Halle). Professor Mygind, in his reply, expressed the opinion that children were perhaps better disciplined in Germany and Austria than in Copenhagen, where at times they had the greatest difficulty in repeatedly doing the dressings which the method he had described was the means of overcoming.

Dr. Louis Bar (Nice) read a paper entitled "Osteomyélite du Rocher." A letter was read from Professor Politzer expressing regret at his inability to attend the Congress, and wishing the Section a great scientific success.

STOMATOLOGY.

PYORRHOEA ALVEOLARIS.

AT the second meeting of this section, on Thursday morning, Dr. Znamensky (Moscow), in opening a discussion on the pathology and treatment of periodontal disease (pyorrhoea alveolaris), described the conditions found in a series of sections of a jaw affected by pyorrhoea. The bone was destroyed by a process of rarefying osteitis. It was first transformed into a connective tissue which became absorbed. The disease might be due to local conditions, to general diseases such as osteo-malacia, syphilis, and rickets. When the bone forming the sockets of the teeth was destroyed, pockets were formed which became infected with pyogenic organisms, and a flow of pus ensued. In slight cases of pyorrhoea, when the rarefaction was limited to a part of the bone not containing bone marrow, the removal of tartar, and the use of disinfectants and astringent washes would bring about a cure. When the pockets were deep and the part of the bone containing bone marrow was affected, the pocket must be thoroughly curetted. When more than two-thirds of the socket was destroyed and constitutional diseases such as tabes dorsalis or diabetes were present, curetting was contraindicated as unlikely to do any good. Mr. E. B. Dowsett (London) believed that pyorrhoea alveolaris began as a gingivitis. The interdental papillae were affected, these either shrinking down or leaving a space between the teeth or else becoming transversely creased. At this stage there was no discharge of pus. Pockets were then formed by the ulceration of the periodontal membrane and calculus was deposited on the necks of the teeth which became progressively looser owing to the loss of bone. The gingivitis was due to lack of, or inefficient methods of cleaning the teeth. Among the predisposing factors were mouth-breathing, the wearing of dentures, and inefficient mastication. If the lesions in the alveolar process were studied in skiagraphs it was seen that the bone was destroyed by a process of rarefying osteitis. The teeth themselves, even in early cases, showed absorption of the apices and translucent areas at the extremities of the roots. Conservative treatment was only justified in early cases where the pockets were quite shallow; local treatment must be persisted in by the patients themselves, or else relapse would follow. When general symptoms were present the affected teeth should be removed, but the incisors and the premolars might be retained if the pockets were not more than 5 to 6 mm. deep. In the majority of cases the use of vaccines was unnecessary, and without local treatment was totally useless; but if general symptoms were present an autogenous vaccine might do good. Dr. Talbot (Chicago) said that anatomically the alveolar process was a transitory structure and liable to be affected by constitutional disturbances. He did not agree with the last speaker that pyorrhoea started always as a gingivitis, but thought that it often began in the middle or apical region of the periodontal membrane. Dr. Rhein (New York) maintained that malnutrition played an important part in lowering the vitality of the alveolar process. Conservative treatment was quite justified if patients could afford the necessary time. Dr. Mendel (Paris) said that the epithelial rests in the periodontal membrane, first described by Malassez, might act as a focus of lowered resistance, and so cause pyorrhoea without gingivitis. Mr. E. Lloyd Williams (London) held that pyorrhoea was a specific contagious disease; it was never caused by constitutional disease or associated with gout. It could be cured in quite early cases only; in the later stages he had found vaccine treatment utterly useless. Mr. G. F. Colyer (London) said that comparative pathology showed that the disease always took the form of a progressive rarefying osteitis, more marked in the maxilla than in the mandible; the problem of treatment was one of drainage. Wherever general symptoms were present, extraction of the teeth was the proper treatment. Drs. Timme (Berlin), Ferrier (Paris), Zsigmondy (Vienna), Peter (Berlin), H. Jewell-Smith, and J. G. Turner also spoke, and Dr. Znamensky and Mr. Dowsett replied.

ENAMEL.

Professor Underwood and Dr. Lovatt Evans contributed a paper on the presence of organic matter in enamel. As a result of experiments, using Frankland's method of estimating organic matter in water or sewage, they found that human enamel contained from 1 to 2 per cent. Professor Underwood and Mr. A. W. Wellings, in a paper on the histology of enamel, described the structure of adult enamel and the appearances seen in the cells of the enamel organ. They also described the technique of staining and preparing sections with special reference to the *intra-vitam* method of Goldmann.

FRACTURE OF THE MANDIBLE.

Mr. Coleman (London) and Dr. Lorgnier (Calais) read papers on the treatment of fractures of the mandible. Mr. Coleman described a new form of clamp he had devised for obtaining better fixation of the fragments.

AGE OF DENTITION.

Mr. Dolamore (London), in a paper on the age of dentition in relation to crime, showed that by a study of the times of eruption of the permanent teeth it was possible to establish within close limits the age of a skull in a case of suspected murder. Dr. Talbot (Chicago) read a paper on periods of stress in their relation to child development or senility. At various periods of life extra demands were made on the organism: these periods of stress might give rise to pathological conditions if the organism were unequal to the demand made on it. The times of the temporary and permanent dentition were such periods, and deformities of the head, face, jaws and teeth were more prone to occur at these times.

DISCUSSION ON THE RELATION OF NASAL OBSTRUCTION TO DENTAL DISEASE.

At the meeting on Friday, August 8th, Mr. J. G. Turner, who opened the discussion, said that there was an intimate connexion between nasal obstruction and dental caries, for nasal obstruction was a prime factor in producing an irregular dental arch and teeth irregularly placed favoured the retention and stagnation of food and so predisposed to caries. As a result of nasal obstruction due to adenoid vegetations the children became mouth breathers. The tension of the soft parts acting on the maxilla compressed it laterally, producing the narrow or V-shaped arch. Although the maxilla was mainly affected, the mandible did not entirely escape; the constant fall of the depressors of the mandible tended to cause it to bend downwards in front of the masseter muscle. Concurrently with this there was a failure of growth of the jaws; the cause of this was difficult to explain, but it might be the result of undue and practically constant compression of mouth breathing or of chronic nasal catarrh. If the adenoids were removed early enough, growth was resumed, but lost time was never made up. Treatment by regulating the teeth failed if the nasal obstruction was not removed and the mouth breathing corrected. He did not think that it was possible by expanding the dental arch to widen the floor of the nose. As shown by Cryer, the *x*-ray appearance of a widened suture was fallacious, for such an appearance could be found in skulls of almost any age.

Dr. Ferrier (Paris) said that nasal obstruction produced a disturbance of function in the nasal passages with various results. The base of the skull was diminished in the transverse diameter owing to the tension of the muscles of mastication acting on their bony points of insertion; as a result of this the hard palate was drawn upwards. The alveolar borders of the maxilla were compressed laterally by the pressure of the tense muscles and cheek. In the mandible the antagonism of the masseter, pterygoid, and temporal muscles on the one hand, and the depressors on the other, opened the angle of the jaw; in addition, the action of the masseter tilted inwards the alveolar border with its contained teeth.

Dr. Smith (Buffalo, U.S.A.) thought that it was quite possible to widen the floor of the nose by expanding the dental arch, and Dr. Maggioni (Milan) referred to experiments in America in which the teeth of rabbits had been ground down on one side so that occlusion was impossible, and it was found that a lack of development followed. Mr. Lewin Payne pointed out that in the narrow arch the

height of the palate was more apparent than real. Measurements he had made showed that it was not really higher.

Mr. Colyer said that nasal obstruction was the commonest cause of dental deformities. If a child suffered from adenoids between the ages of 2 and 6, it would almost certainly have a narrowed arch and irregular teeth. Drs. Rhein (New York), Talbot (Chicago), and Chompert (Paris) also spoke, and Mr. Turner and Dr. Ferrier replied.

Independent Papers.

Stomatitis.

Dr. Cruet (Paris) read a paper on ulcerative stomatitis and mercurial stomatitis, in which he described several forms of stomatitis differing in their etiology.

Mr. K. W. Goadby said there were two varieties—one mercurial, which was polymicrobic, and one in which the *B. fusiformis*, *Spirochaeta dentium*, and occasionally *B. tuberculosis* were found. He doubted if a lead stomatitis existed. The blue line was caused by lead dust settling in the mouth and being converted into lead sulphide by bacterial action.

Pyorrhoea and Cancer.

Mr. F. Steadman read a paper on pyorrhoea alveolaris as a predisposing cause of cancer of the alimentary canal and associated parts. He said that, excluding cancer of the sexual organs, over 86 per cent. of cases occurred in the alimentary canal. He had examined 143 cases of cancer of the alimentary canal, and had found that pyorrhoea alveolaris was present in all cases. In most of them the condition was very marked. He thought that the constant swallowing of pus led to a chronic irritation of the mucous membranes, which in its turn was followed by cancer. Mr. Turner welcomed the paper, for he was sure that dental sepsis was a prolific source of disease. He had seen several cases in which cancer had arisen as a result of oral sepsis.

Arthritis Deformans of Mouth Origin.

Mr. Goadby said that he had obtained from the mouth in cases of pyorrhoea an organism showing special morphological and cultural characters, which he called the *Streptococcus malae*. Pure cultures of this organism injected into the knee-joints of rabbits resulted eventually in arthritic changes. Inoculation with cultures of other mouth organisms did not produce any changes. In patients suffering from pyorrhoea associated with arthritis, he had isolated the same organism from the mouth and urine, and in some cases the faeces. He regarded the arthritis as being caused by a process of subinfection from the mouth; it took a long time to develop. Local treatment of the mouth was of itself insufficient to cure the arthritis; vaccine treatment over a long period of time was needed as well.

Papers were also read by Dr. Lebedinsky (Paris) on Vincent's angina, and by Mr. Hopewell-Smith on the microscopical anatomy of gingivitis.

Discussion on Dental Disease in Relation to Public Health.

Dr. Sim Wallace, who opened this discussion at the meeting on Saturday, said that defective teeth impaired the power of efficient mastication and the proper preparation of food. Pathogenic bacteria entered the pulp of carious teeth and caused the formation of alveolar abscesses which might have serious results. Infected material round the necks of the teeth might be transferred to more remote parts and set up infection. Dental caries must be regarded as a sign of persistent dietetic error. The bolting of food due to inefficient mastication was a fruitful source of dyspepsia in childhood. Many diseases, though not arising from the teeth, were aggravated by oral sepsis, such, for instance, as tuberculosis, typhoid, and scarlet fever. The cause of dental caries was the undue lodgement of plaques or masses of acid-forming bacteria, together with fermentable carbohydrates, when the acid formed was protected from the action of the saliva by the impermeability of the mass. To prevent dental disease during the first two and a half years of life all starchy or sugary foods except milk should be given in a fibrous form so as to stimulate mastication and insalivation. Bread, rusks, or other farinaceous food should never be added to milk. Bread with crust, or toasted bread and butter, should form a considerable amount of the solid part of the meal. The solid food should be eaten first, and the milk and water afterwards. After the age of 2½ years, the child should have a considerable amount of farinaceous food in a form which stimulated a pleasurable amount of mastication. The albuminous part should be presented in the form of boiled fish and meat. Milk and milk substitutes should only be allowed in small quantities. If soft, starchy, or sugary foods were taken they should be followed by food of a detergent nature. Three meals daily were preferable to any greater number. Sweets, biscuits, and milk should never be taken between meals or before going to bed. Raw fruit was excellent, especially in the form of apples. The doctrine that sugar was to be regarded as a cheap food and a protein sparer was fallacious. The food of poor children was largely composed of bread or other cereal foodstuff: from this source they were compelled to derive practically all their protein, and it necessarily followed that they had a surfeit of carbohydrates. A considerable number of dental surgeons had been teaching their patients to avoid these errors of diet, with beneficial results to their patients. Much, however, remained to be done, especially in the way of teaching a proper system of dieteties. The physiology of oral hygiene must receive due recognition, and be taught to medical students in future as far as possible by a deduction from general principles rather than by reference to the details of odontology.

Dr. Trewby King (New Zealand) said that there was no subject of more importance to the medical man than this. He had been engaged in teaching the public along these lines for many years.

Mr. Colyer pointed out that in the South African war 2,541 soldiers were invalided home on account of defective teeth. The cost of equipment, etc., of each soldier was not less than £100, so that this represented a loss to the nation of over £250,000. Each year many men were invalided out of the navy and army for defective teeth. Then again the full benefit of sanatoriums could only be obtained if the patients had clean and efficient mouths. He thought that the reason why teeth decayed was the increased use of fermentable carbohydrates. Sugar, especially in the form of sweets, was largely responsible. There ought to be public instruction throughout the country, but it should be given by persons in authority. At all school clinics at the same time that the children were treated the parents should be taught the elements of oral hygiene.

Mr. J. G. Turner said that he had sought for a cause of dental caries with a view to its prevention. The lines he had investigated were the feeding habits correlated with the amount of dental caries. He had come to the conclusion that with soft sticky foods there was caries. If the food did not stick to the teeth there was no caries.

Mr. Maggs discussed the question of immunity from caries. He thought it was due to a free secretion of saliva, slightly alkaline and of low specific gravity. Dr. Baker (Dublin) thought that the increase in use of finely-ground flour was responsible for the increase of dental caries. Drs. Gibbs (Edinburgh), Amoedo (Paris), and Talbot (Chicago) also spoke, and Dr. Sim Wallace replied.

HYGIENE AND PREVENTIVE MEDICINE.

The Value of Experiments on Animals.

On opening the first session Dr. Newsholme (President) remarked that the whole programme of the Congress was imbued with the spirit of preventive medicine. He then proposed a resolution to the effect that the Section recorded its conviction that experiments on living animals had been of the utmost service in the past, and considered that every facility should be afforded to competent persons for the purpose of such experiments carried on under adequate supervision. The resolution was seconded by Sir Arthur Whitelegge, and carried unanimously.

Dust and Disease of the Lungs.

At the request of the President, Sir A. Whitelegge (His Majesty's Chief Inspector of Factories) then took the

chair. The rest of the morning session was occupied in a discussion on the effects of dust in producing diseases of the lungs. There was a remarkable unanimity among all the speakers as to the main point brought out by the introducer of the discussion—namely, that the excessive death-rate from phthisis caused by the inhalation of dust was due to the particular inhalation of particles of free crystalline silica.

The opener of the discussion was Dr. Edgar M. Collis (H.M. Medical Inspector of Factories), who gave an abstract of his printed paper, copies of which were circulated amongst the members present, who thus had an opportunity of studying at leisure this very able and exhaustive document. Dr. Collis first referred to the fact that dust inhalation had long been recognized as associated with lung diseases, Pliny having stated that Roman polishers with red lead used to wear respirators, and references to the association of dust and disease occurring in works written in the Middle Ages, such as *De re metallica*, by Georgius Agricola. Dr. Collis classified dusts according to their origin, dividing them into three groups—animal, vegetable, and mineral. There was no certain evidence that animal dust caused any form of pneumonoconiosis. As to vegetable dust, the workers chiefly affected by it were those employed in the flax, jute, and cotton industries, such as cotton strippers, who removed débris and dust from cotton carding machines. The train of symptoms in those affected was marked and distinct from other forms of pneumonoconiosis, the men suffering from a peculiar shortness of breath, and a condition closely resembling asthma, with spasmodic dyspnœa, band-shaped chest, fixation of the diaphragm, with scanty and tenacious sputum. These people were not specially prone to phthisis, like the inhalers of mineral dust, and well-planned methods of dust removal which had recently been adopted in the cotton-spinning mills of Lancashire were rapidly ridding the cotton industry of the disease. With regard to mineral dust, it was necessary to differentiate certain kinds of dust which were injurious from others which were comparatively innocuous. Thus there was no high mortality from phthisis among men employed in the manufacture of cement, plaster-of-Paris, and slag-wool, coal miners and brick makers, though all were exposed to excessive amounts of dust. Reference to one of his published tables showed that individuals exposed to dust lost their power of chest expansion early, and simultaneously developed a high blood pressure. Even if no tuberculosis developed their lungs were liable to be more and more thrown out of action. The heart became dilated, and œdema and ascites developed. The results of his investigations had led him to the conclusion that inhalation of mineral dusts containing free crystalline silica was associated with an excess of phthisis—an excess which bore a direct relation to the amount of that material present. His first clue to this deduction was obtained from a study of the mortality experienced by flint knappers, who pursued an interesting handicraft, handed down from neolithic times, and who inhaled a pure dust compound of free crystalline silica unmixed with other constituents. Confirmation of the theory was afforded by an investigation into the phthisis death-rate among stone masons, who everywhere prepared stone for building purposes in the same way, and yet showed very different mortality in different places—high when sandstones which contain silica were worked, and low when limestones not containing silica were dealt with. From statistics gathered from the mortality-rates among 70,300 males working in trades where they were exposed to silica dust, he found that there were 754 deaths annually due to phthisis, whereas the normal annual death-rate from phthisis in such a population would cause 141 such deaths, which gave an excess of over 600 deaths due to tuberculous silicosis. It was not clear how silica played the part it did in predisposing the lungs to phthisis, but it appeared to be due rather to the chemical composition of the dust particles than to their shape. Another remarkable point, which had been noted by many independent observers, was that the tubercle bacilli in cases of silicosis showed less infectivity than in ordinary pulmonary tuberculosis. He hoped that that day's discussion would induce others, especially chemists and bacteriologists, to investigate those problems.

The Characteristics of Dust.

Professor Heim (Paris) thought that occupations having to do with dust should be classified, not according to the nature of the work or the origin of the dust, but according to the prominent characteristics of particular kinds of dust. Proceeding on these lines, he distinguished two main groups: (1) active, and (2) passive or inert dusts. These main groups he subdivided as follows: The active group into (1) toxic dusts, such as pure lead, arsenic, or mercury; (2) caustic dusts, such as workers with chromic acid, phosphorus, lime, or cement would be exposed to; (3) infectious dusts. No doubt any dust might be the vehicle carrying micro-organisms to the lungs; but in this connexion he specially referred to broncho-pulmonary anthrax, which was well known to be caused by inhaling specific dust from wool, skins of animals, etc. In the inert group he distinguished (1) soft or flexible dusts, which penetrated with difficulty, being easily expelled by the cilia of the mucous membrane of the nose or rejected by coughing; such were the dusts from wool, cotton, feathers, etc.; (2) hard dusts, having the property of wounding and penetrating. These were much the most numerous and had been most closely studied. They included coal dust, silica and lime dust, iron, copper, zinc, and wood dust. The anthracosis caused by these various dusts he classified as acute and chronic, the acute being caused by the active and the chronic by the inert dusts. There was a large field open for research as to the nature of these various kinds of dust and the diseases they produced, and he laid special stress on the importance of radiology in their diagnosis, and the point as to whether the entrance of the dust was by the digestive or by the pulmonary tract seemed one to which particular attention might be directed.

Professor Carozzi (Milan) followed, but the only additional point of importance he brought out was that in Sicily medical men at the sulphur mines had noticed that the miners, however seriously affected with pneumonoconiosis and chronic lesions of the bronchi, never or hardly ever suffered from or died of pulmonary tuberculosis.

Dr. Murray Leslie (London) thought that this lessened infectivity of silicosis mentioned by Dr. Collis could be explained, like miner's phthisis in South Africa, by the dryness of the disease and the fact that it caused so little expectoration. He suggested that the evil effects of silica might be explained by the sharpness of the particles, pointed out that the roots of the lungs were usually first affected, and drew attention to the value of radiography in diagnosis.

Dr. Angus Macdonald (Kingston, Jamaica), in confirmation of Dr. Collis's views, mentioned that, though for a long time in practice in a colliery district, he had never seen a case of miner's phthisis; and to prove the innocuousness of limestone dust he instanced the rarity of pneumonoconiosis in Kingston, although, on account of the road metal being composed of limestone, clouds of dust were constantly being inhaled by the inhabitants of that city.

Dr. M. Price (Niagara Falls, U.S.A.) stated that in the city where he lived there was a higher death-rate from tuberculosis than in any other city in the State, and attributed this fact to the large proportion of the population who worked in factories for making graphite, calcium carbide, and carborundum, all of which produced much dust. Further confirmation of Dr. Collis's views came from Dr. Barwise (M.O.H., Derbyshire), who stated that in his district the death-rate from phthisis amongst workers in gritstone was 13.7 per 1,000, whereas it was only 1.52 amongst workers in limestone, and 0.68 in coal-miners. Dr. Leslie Mackenzie also spoke, and the Chairman, Sir A. Whitelegge, in summing up the discussion, paid a high tribute to the work of his colleague, Dr. Collis, and only regretted that the limits of the discussion had prevented him from detailing the methods adopted for ameliorating the conditions under which operatives in dusty trades worked, as a great deal had been and was still being done in that direction. At Sir A. Whiteleggo's suggestion, the members then adjourned to the Pathological Museum, when Dr. Collis treated them to a most lucid exposition of his exhibits, consisting of specimens of the different kinds of dust referred to, photographs of workers in the various trades dealt with, *x*-ray photographs of the effects of dust

on the lungs, and pathological specimens also demonstrating those effects.

Pellagra.

At the afternoon session the chair was taken by Dr. Chalmers, M.O.H. Glasgow, and Dr. E. H. Beall of Texas, U.S.A., read a paper on the invasion of America by pellagra. Six years ago this disease was of purely academic interest to the American physician, while now there were 30,000 pellagrins in the United States, and the mortality was over 25 per cent. The cause of the disease was unknown, but the fact that under ordinary conditions of life it was more common in women than in men, while the sex incidence was fairly equal in institutions when both sexes lived under similar conditions, pointed to the conclusion that the contagion had something to do with house and home conditions. Dr. Sambon's theory that the *materies morbi* was carried by the simulium fly was not borne out by his observations of the disease in Texas. Other papers read were: Researches as to the Efficacy of some of the Ordinary Disinfectants, by Dr. Bernhard Vas, Budapest; and Lead Poisoning in Printers and Type-setters, by Dr. Dezso Hahn, Budapest.

FORENSIC MEDICINE.

The first meeting of this Section took place on Wednesday, August 6th, at 3 p.m.

President's Address.

Professor Harvey Littlejohn, in taking the chair, said that he did not propose to make a long introductory speech, but must thank the Section for the honour it had conferred on him of making him President. He then alluded to the value of international congresses as putting the seal on the universality of science and the brotherhood which existed amongst scientific workers all over the world. At the last Congress (held in London in 1881) he said forensic medicine had been allotted only half a Section in the company of Hygiene, and under the title of State Medicine it had since grown wide enough to require a section to itself, thanks to the labours of those who had built on the foundations laid by Taylor in England, by Caspar, Hoffmann, and Brouardel on the Continent. Amongst the able investigators and leading medical jurists of to-day, he was specially pleased to welcome Professor Strassmann from Berlin, Thoinot from Paris, and MacTaggart from Canada. Schächter from Budapest, who, amongst many others, had promised to take part in the present proceedings. He regretted, as he felt sure the whole Section would do, that illness prevented the presence of Professor Zangger of Zurich. He trusted that the discussions of the Section might lead to a sound administration of justice and to the benefit of the public welfare. He then alluded briefly to the matters of interest which the Section had provided, in addition to papers: To listen to a coroner's inquest, a relic of past ages; to visit Scotland Yard; to visit Broadmoor Criminal Lunatic Asylum, remarking that the Medico-Legal Society of London had kindly undertaken to provide motor cars to take visitors to the latter place through some of the prettiest scenery of England; to visit an English prison; and even, should any one desire it, to visit a Court of First Instance.

Medico-Legal Methods in Hungary.

He then called upon Dr. M. Schächter (Budapest) to read his paper on the Royal Medico-Legal Senate in Hungary—a paper of considerable interest as showing what can and has been done (for twenty-three years) elsewhere in an endeavour to arrive at the truth in a court of law when medical evidence of a highly technical, not to mention controversial, nature is in question.

It appears from Dr. Schächter's paper that in Hungary there is a Medico-Legal Senate, consisting of a president, a vice-president, and twenty other members representing all branches of medical science. Questions are submitted to this Senate by the law courts for final settlement ("super-arbitration" is the term used); these questions are first reported on by various members of the Senate nominated specially for the purpose by the President at a sitting of the Senate. The report of these nominees is then considered by the Senate as a whole, and if then adopted by a majority it becomes, *ipso facto*, the report of the Senate on the matter. On questions of particular importance two members are delegated to report on the same subject, and to give their opinion independently of each other. If the details supplied by the law courts are not sufficient for the Senate to make up its mind, then, if possible, further particulars are furnished, permission is given to the member delegated by the Senate to examine directly the person concerned, or exhumation is ordered to take place, etc.

Dr. Schächter drew attention to the advantages of such a special institution, owing chiefly to the fact that it had no other *raison d'être* but that of ascertaining the strict scientific truth. He said that its decisions were rapidly gaining in weight and authority in all matters of civil law; in criminal cases it had not proved so useful, as it had occurred but seldom that juries had asked for its opinion, but he hoped that even here things might improve, for the esteem enjoyed by the decisions of the Senate in the public mind was steadily growing higher, and he was in hope that it would eventually make "conflict of medical evidence a thing of the past."

Professor Strassmann, in discussing the paper, pointed out that fresh evidence might arise subsequent to the Senate's decision, and asked how it could be revised in the view of the new evidence; he rather preferred the methods of Germany.

Professor Littlejohn remarked in regard to the Hungarian plan that a fundamental change would be required in English law before it could be adopted over here owing to this one crucial point—namely, that with only a few very stringently guarded exceptions, nothing but oral evidence was admitted in British law courts, evidence that could be and was submitted to the very severe test of cross-examination.

Dr. Schächter replied briefly.

Conditions Resembling Drunkenness.

Dr. Fred. J. Smith read a paper on this subject, which we hope to publish at a later date; here it suffices to say that Dr. Smith's main contention was that unconsciousness was not a necessary accompaniment of the onset of a meningeal haemorrhage, and that a man might be both drunk *and* dying without an early exhibition of unconsciousness.

Dr. Frank Wethered, in discussing the paper, mentioned the case of a man who was knocked down while on his way to be shaved, got up at once, went to the barber's, and walked back before becoming unconscious, although he was all the time suffering from meningeal haemorrhage the result of his fall. He said that this case strongly corroborated Dr. Smith's view.

The Medico-Legal Aspects of Infant Mortality.

The Section was occupied on the morning of August 7th with a discussion on this subject, which, in the absence of the French "reporters," was opened by a paper read by Professor Strassmann of Berlin.

After referring to the importance of maintaining and increasing the population of a country, he advocated a reduction in the death-rate as the best means of increasing census numbers, and particularly a reduction in the death-rate of children. He then dealt with two of the largest causes of mortality amongst children—namely, "overlaying" and wilful starvation. The former, he said, was a very common incident, but that it was far more frequently suspected than proved, because, in the first place, definite signs of suffocation in the body were frequently absent, and, in the second, there were very often found pathological conditions which might explain death; whereas, in order to prove the suspicion of negligent suffocation, one must have either (1) no other possible cause of death or (2) some signs of violence arising from the nature of the accident, such as a broken rib; and in five years he had not found one single case capable, by *post-mortem* examination, of irrefragable proof of the overlaying being the actual cause of death. He then discussed somewhat fully the part that an enlarged thymus might play in such cases. He said it was admitted that the condition known as status lymphaticus, of which an enlarged thymus formed a prominent feature, could lead to death; but, he asked, Could it lead to *sudden* death? He suggested that the thymus might do so by mechanical pressure—a sudden vascular engorgement—on either the trachea or on the heart; he suggested that convulsions in children

might lead to such a sudden engorgement and so to sudden death. He then drew attention to the frequency of bronchial and gastro-intestinal catarrh in children the subjects of status lymphaticus, and said these catarrhal conditions might be considered to play a possibly prominent part in such sudden deaths, and anyway their presence could not be neglected. With all these very indefinite factors possible he said that rigorous proof of overlaying was the rarest of events, and quoted his statistics of five years in proof of his statement. He then proceeded to his second point—namely, criminal or negligent starvation, especially of illegitimate children (*Engelmachere*i). He thought cases were less common than they used to be, and drew attention to the difficulty of distinguishing between insufficient and improper food. In Prussia, he said, "we have an excellent rule that all children that die in nursing institutions without proper medical attendance and certification shall have an autopsy performed upon them by a skilled pathologist." With this precaution, he said, it was still a difficulty to successfully prosecute baby-farmers on the specific charge of starving the infant to death, because of the wide divergence of opinion as to what constituted proper feeding for infants, and hence he had his doubts as to the political wisdom of instituting prosecutions in any but gross cases.

A discussion followed the reading of the paper, in which Professor Littlejohn said that he could not satisfy himself that the thymus ever pressed on the trachea, though it might do so on the heart and so cause death. As regards the general condition of status lymphaticus, he recognized it in general terms on the *post-mortem* table, and that, too, in cases in which the absolutely final cause of death was obscure—for example, chloroform inhalation and overlaying—but he was unable to state precisely the exact relationship between death and the status lymphaticus. He thought that the view of the bed and bedroom and other surrounding circumstances connected with deaths from overlaying were equally or more important than the necropsy in verifying the diagnosis. Catarrh of bronchi and bowel might be too easily found or too easily overlooked; their position was very equivocal.

The Feeble-minded Criminal.

Dr. Treadwell then read a paper on conduct in the feeble-minded criminal. He said: "A criminal is taken to mean a person who has committed some offence which has resulted in his coming to prison under a term of imprisonment or penal servitude. The term 'feeble-minded' or 'weak-minded' is used in prison parlance to denote all kinds of mental disorder which appear to indicate lessened responsibility. It is sufficiently comprehensive to include several classes, in all of which there is to be observed mental defect, ranging from slight degree of divergence from a standard, called by the observer the normal, to conditions of mental alienation just short of certifiable insanity." He then attempted to indicate a line between the feeble-minded and the intellectual but merely vicious criminal—a line only to be drawn by conduct; and that of the feeble-minded, he said, was usually characterized by personal defilement and destroying of his cell, destruction of utensils, obstinacy of unusual degree; in the vicious criminal of higher intellectual type such conduct was seldom seen. He then discussed the management of such feeble-minded criminals, and said: "That some notice must be taken of these disorders of conduct, and some form of punishment, such as loss of diet, confinement to cell or room, or deprivation of privilege, must be administered, will, I feel sure, be admitted by all who have had to deal with this class of criminal. To take no notice of his delinquencies would certainly be put down to weakness by the prisoner himself, and lead to continued acts of insubordination; but I think we are justified in our methods of modified prison discipline and modified punishments suitable to each individual case as it arises, judged upon its merits at the time and guided by the results achieved." Dr. Treadwell's opinion was that careful segregation was the fundamental basis of management, leading to less discontent and feeling of injustice, and probably therefore less disorder of conduct.

Dr. Baker, of Broadmoor, in discussing the paper, said that Dr. Treadwell had omitted the peculiar ease with which these feeble-minded criminals were led away by bad examples—easy impressionability. Few of them came to Broadmoor.

Dr. Nicolson, late of Broadmoor, said the peculiar mental bent of the animal was the chief cause of trouble, and often enough it was an accident whether this led to an asylum or to prison. He had great hope that the new Act (care of the feeble-minded) would improve matters by providing for the segregation suggested by Dr. Treadwell. He congratulated the Section on the publicity which the matter might now gain. Some years ago publicity was anathema maranatha to officials at the head of the service.

Professor Glaister hoped that in time to come they would be able to classify—and to treat—mental derangements as easily as bodily ones.

Dr. Scott, late Governor of Holloway, agreed with practically all Dr. Treadwell had said, and, like Dr. Nicolson, had great hopes of the new Act.

Dr. Nicolson then read a very interesting paper on mind and motives—a note on criminal lunacy. The paper hardly admits of condensation, but was written in his usual common-sense style, and was full of illustrations of the difficulty of estimating motives from any special mental attributes.

Short Papers.

A paper by Dr. Angelo de Dominicis on the diascope of minute blood traces was then presented to the Section. In it the author claimed that this method was quite the most difficult known to science.

Dr. Oscar Jennings then, in a short communication, drew attention to the smears of drops of drug solution which were so frequently left by morphine and cocaine takers on the books they were reading; the drops represented the overflow from the syringe and from the injection, such *habitués* frequently using this drug while reading.

The Teaching of Forensic Medicine and the Organization of a Medico-Legal Institute.

On Friday, August 8th, the morning was occupied in a discussion of this matter, which the Chairman said was of special importance to London at the present moment, because London was engaged in an attempt to set her teaching of medicine and the allied sciences in order, and it was possible that the discussion might enable her to set medical jurisprudence on a sound and enduring basis.

Professor Zangger (Zurich) then read a paper in which legal medicine and its teaching were treated as an abstract science. He first drew attention to the peculiar or special point of view from which a physician must observe an ordinary case of illness or accident to the end that the legal problems which might be raised in connexion with it might receive a correct and just solution. The horizon of this point of view had expanded, and the solutions of the problems had become more intricate and exact, just in proportion to the never-ending development of the natural sciences ancillary to medicine. He then considered the relationship of medical jurisprudence to sociology, and pointed out that it was that of general pathology and pathological anatomy to medicine and surgery in general; it was only the influence of medical jurisprudence that had rendered all modern health legislation possible or even thinkable; each new discovery of medicine suggested new legislative regulations, and these in turn begat fresh medico-legal problems demanding scientific solution. He touched on the teaching of the subject, and pointed out how each new problem laid a fresh burden on the teacher, and thus in turn the burden was transferred to the student—he must learn to observe more closely all the facts connected with his case; he must learn to know when further reports were necessary on points outside his own reach; he must have experience of the living conditions of workers, and thus must learn the elements of preventive medicine which was the mother of legislation intended to guard the safety and preserve the health of manual workers. He put in a plea for giving students a share in the responsibilities connected with their cases right up to the final consequences of the jury's or judge's verdict. Finally, he considered the duty of the State towards forensic medicine, and showed that, as the State was continuously by legislation (criminal and civil,

including Insurance Acts for workers, etc.) throwing fresh burdens of responsibility on to medico-legal backs, so it must in its turn assume a responsibility for founding and maintaining institutions wherein the science and art of bearing these burdens might be taught both in theory and practice; nor must the State interfere too much in such institutes, even though it provided the money to pay for them.

Professor L. Thoinot (Paris) followed with a paper on the practical aspects of the subject. He commenced by asking three questions: (1) To whom should forensic medicine be taught; (2) how should it be taught; (3) how should a medico-legal institution be organized? He answered the first question by stating that he thought all medical students should receive elementary instruction in the subject, because all medical men were supposed to be able to examine a wound or make an autopsy, or examine the victim of rape for medico-legal purposes; he thought also an examination should crown such studies. He would have higher teaching and examination for those wishing to be specialists. The second question he answered by pleading for practical as well as theoretical teaching, though he admitted the difficulties in the way, such as lack of material in small communities, and the admission of students and others to important autopsies, or to witness critical experiments. As for the organization of an institution for legal medicine, he thought that it should have complete autonomy, and a building apart from the rest of the hospital. In it there should be a morgue and a complete personnel, and complete laboratory fittings, apparatus, etc., for teaching and demonstration purposes; lecture-room, library, museum, etc. He stated that Bucharest, Budapest, Breslau, Zurich already possessed such excellent institutes, that Paris was building one—why had not London got one or two such?

In a plea for higher consideration for legal medicine, Dr. Angelo de Dominicis made use of language concerning it which is worthy of reproduction. He said: "Its importance arises from the importance of legal medicine's special and multiform practical applications—from the vastness of her doctrine, and from the need of special training; famed authors, learned and elegant writers have not hesitated to assert that legal medicine consists in the art of applying to forensic cases the knowledge of medicine, with the result that the public has mixed up with the science of the subject the idea that it consists in the formal and easy-to-be-acquired practice of drawing up expert reports." Against this latter view he protested with all his powers that legal medicine should be understood as a real biological science, particularly suited in the vastness and multiformity of its relations to obtain results of analysis and synthesis of overwhelming importance. It was a biological science when it arrived at results of such biological importance.

Sir William Collins congratulated the Section on having papers before it representing, so to speak, the production and distribution of forensic-medical knowledge. He echoed Professor Littlejohn's hope that London might now be able to do something for the subject worthy of the capital, but hoped that the State or municipality would not insist on interfering too much with the teaching simply because it provided the money.

Professor Glaister put in a plea for more practical teaching of forensic medicine, though he fully recognized the difficulties in the way of admitting students to autopsies and other practical aspects of the matter, which must—at first at any rate—be of a somewhat confidential nature. A medico-legal institute of a complete character and with sufficient material for teaching could only be established in large centres of population, and even then he felt that many practical obstacles to its working—removal of bodies, etc.—might arise and would require care in their removal.

Dr. F. J. Smith referred to the enormous increase of late years in the civil as opposed to the criminal cases in which medical evidence was required. He felt inclined to suggest that the subject should be placed in a compulsory post-graduate course of instruction.

Professor MacTaggart (McGill University) stated that he had started a medico-legal clinic, with the sanction of his colleagues, the cases being sent to him both from the out-patients and the wards.

Under the influence of remarks by Professors Schächter, Pappe, Morrison, and the Chairman, the following resolution was then brought forward and carried unanimously:

> That in the opinion of the Section it is advisable that the subject of forensic medicine should be taught both to students of law and students of medicine; that the course should be compulsory for both; and that it should be followed by an examination of an elementary nature for all students; and that those who desired to practise the subject more or less exclusively after qualification should be compelled to pass through a course of more thorough practical instruction on both living and dead material, should be compelled to pass a special examination, and should receive a special diploma on passing the examination.

Independent Papers.

Friday afternoon was occupied with the reading of the following papers:

Motor Car Accidents.

Professor Strassmann (Berlin), in discussing injuries from motor cars, said that he had been led by his experience to the view that while death was occasioned by severe internal injuries, it was more common in motor car accidents than in those due to other forms of wheeled vehicles to find the skin undamaged. He thought that the explanation might lie in the comparative speed of the two classes of vehicles. The utility of the observation, if corroborated, lay amongst the cases where a dead body was found in the street, in which both forms of traffic were continually passing, and in which the account of the accident, if there were any, had left it in doubt to which particular vehicle the accident had been due. He further drew attention to a possible means of distinguishing between suicide and accident in cases where death was due to mechanically drawn vehicles, including trains, trams, etc. It lay in this fact, that a suicide commonly laid himself across the line of a wheel so that the damage took place in a transverse plane of the body, whereas in accidents the damage was of a much more irregular nature, the person being more commonly struck on the side and so thrown away from the direct line of progress.

Dr. F. J. Smith felt himself unable to corroborate the comparative rarity of the escape of the skin, as he had in his mind the case of a body whose lung was completely severed at the root by the wheel of a cart, and in whom the skin revealed not the slightest trace of any injury or bruise.

The Shape of Blood Stains.

Professor Ziemke (Kiel) then read a paper, illustrated by a large number of photographs, which were passed round the Section, on studies of the shape of blood stains. He stated that, starting from the ordinary observations on the differences between the stains obtained by the spurting of an artery and the mere pouring out of blood from a vein, he had been led to make experiments to determine whether other and further deductions could be made from the shape, size, and other appearances of blood stains—deductions, that is, in regard to the actions or position of the shedder of the blood. His experiments took the form of starting a haemorrhage and then making the animal run, walk, jump, etc., while receiving surfaces were placed in various positions and at various angles with regard to the direction of progression: he also got pools of blood and struck down on them with various objects and photographed the resultant splashes.

The photographs showed, as indeed was to be expected from the laws of hydrostatics and hydrodynamics, that when a drop or splash of blood had small excrescences these always projected from the main body in the direction which the drop of blood was pursuing at the moment of impact—a conclusion which might under certain conditions be of importance in showing the method and direction of progress made by the victim while bleeding.

There could be no doubt about the very great variety of the conditions of a blood stain, as shown by the photographs, but it did not seem so clear that decisive conclusions of great value could be drawn.

Diachylon as an Abortifacient.

Dr. Arthur Hall (Sheffield) traced the origin of the use of diachylon as an abortifacient from the eighteenth century in sporadic form, and then remarked that it had assumed the nature of an epidemic about the end of the nineteenth century. The paper contained nothing of a strictly medico-legal interest, but was deeply interesting from a sociological point of view, as traces were visible in

it of a relation between bad trade and the prevalence of abortion. His cases, too, offered an interesting corroboration of the view that for a simple abortifacient drug to be efficient it must be taken in doses dangerous to the life of the taker.

Fracture of the Skull.

The Section then adjourned to a dark room, where Professor Ruppe of Königsberg showed lantern slides of fractured skulls illustrating a very ingenious observation of his which made it possible to determine which blow of, say, two or three definite acts of violence causing separate fractures of the skull had been inflicted first. The point was that from each point of fracturing impact, fractures ran from the angles of impact; tracing now one of these running fractures if it were cut across in its path by a direct or by a running fracture from a second separate blow, it became obvious at once that the second fracture was really second in point of time to the first one; if, on the other hand, the first running fracture ended abruptly at the edge of another direct fracture, it was at once obvious that the running fracture, and therefore the violence that caused it, was second in point of time to the other direct fracture. The slides made the point quite clear, though the description may read somewhat complicated.

Visit to Scotland Yard.

Immediately Professor Ruppe's demonstration was finished the Section, or, rather, a limited number of its members, were driven to Scotland Yard and there shown a large series of finger-prints as official records. They were also shown over the gruesome museum of crime housed at the Yard. Though interesting to the individual members, there was nothing of public interest for a report of the Section.

Control of Venereal Diseases.

On Saturday, August 9th, the Section combined with that of Syphiligraphy for purposes of a joint discussion on syphilis: its dangers to the community and the question of State control, which is reported at page 372. One and all—English, French, German, and every other nationality—deplored the waste of life and the invalidity of the nation caused by the ravages of venereal diseases. Each picked out some particular reason for the apathy of Governments and for the undoubted increase in the number and variety of diseases due directly to syphilis. Each chose some more detailed and special means for combating the plague—one laying stress on education of youth, another compulsory registration, another compulsory notification and treatment, etc.; but with no uncertain voice the combined Section agreed that something *must* be done, and, finally, unanimously passed the comprehensive resolution the terms of which cannot be too widely known.

Discussion on Alcoholism and Degeneracy.

On Monday morning, August 11th, a discussion on alcoholism and degeneracy was opened by Dr. B. Laquer of Wiesbaden, who began (speaking in English) with a review of the efforts he had been making for a good many years to combat the evil of drunkenness in Germany, stating that the quality of the population was of much greater importance to the nation than its mere quantity, and alcohol caused a deterioration in quality, whatever its effect upon quantity might be. He then went on to read the formal paper which he had written, in the course of which he said that O. Bumke had defined degeneration not as a disease but as an abnormal pathological condition which was particularly capable of leading to disease, while a psychopathic constitution or inherited burden of debility meant almost the same thing, and he understood degeneration essentially to consist in a condition of the nervous system of such a nature that it deteriorated from generation to generation. He then showed by quotations from various writers how this deterioration depended on the constitution of the ultimate nerve cell, also how far this constitution itself could be influenced by alcohol, and finally he summed up the results of his investigations into the matter in the following statements:

1. Clinical experience, statistics, and animal experiments all combine in proving beyond doubt the occurrence of an acute influence of alcohol of an injurious nature upon the germinal elements of cells. The ultimate intracellular circumstances of such injurious influence and its consequences need further inquiry by experiment.

2. Chronic alcoholism is one of the chief causes of the degeneration which passes from generation to generation; here, too, further work was, he said, imperatively necessary on the laws of degeneration. Considered statistically, in the light of family histories, clinical observations, and experiments, such work could best be carried out in special institutes for the study of alcoholism, such as had already been established in Russia, Sweden, and the United States of America, and one was in course of erection in Germany he was glad to say.

The discussion was continued by Professor Glaister, who said that his experience in Glasgow had led him to the conclusion that if the parents had been addicted to alcohol, and also their parents in turn, then the third generation of children were very likely to be degenerates. If, on the other hand, the parents came of a healthy stock, and were themselves healthy at marriage but subsequently became alcoholics, then the children born during the alcoholic period were more likely to be or to become degenerates than those begotten and born during the non-alcoholic period of the parents.

Dr. Saleeby then touched on the report of Professor Pearson, which he said had not dealt with Professor Glaister's point. He said that two-thirds of the official inebriates in licensed homes had given evidence of mental deficiency before they had given way to inebriety. He then referred to some experiments on guinea-pigs which were made to inhale the vapour of alcohol, and stated that the result of these was to show that the testicular and ovarian specific parenchymatous cells were always affected, and more so than the parenchymatous cells of other organs.

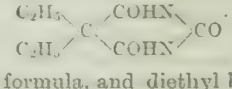
Dr. F. J. Smith said that he preferred to rely upon the experience of thousands of years and the customs and habits of probably billions of population rather than upon the experiments of a few pharmacologists and the statistics containing only a few thousands of individuals, and these considerations compelled him to the view that they were face to face with the eternally old question of moderate use *versus* immoderate abuse. He said that they were probably all unanimously against the latter, and that all quarrels arose over the former. He specially wished to emphasize his opinion that even Sir Victor Horsley and Professor Karl Pearson differed only in the matter of mathematics and logic, and not on the fundamental fact of the evil effects of the abuse of alcohol, Pearson objecting solely to the methods by which Horsley had attempted to *prove* these ill effects. Dr. Smith said that Horsley's method was attempting to solve one equation containing an enormous number of unknown factors. Finally, Dr. Smith expressed his belief that the cure for alcoholism was to be found in the general attitude of the public towards drunkenness and in the moral conscience of the people as a whole. Medical men could support the attitude and quicken the conscience until to be drunk was as rare a condition as to be a thief or a burglar.

Independent Papers.

The afternoon of Monday was devoted to the reading of the following papers:

Veronal.

By Dr. W. H. Willcox, on veronal poisoning. He gave an exhaustive account of this substance, of very great interest in the light of recent occurrences.



was its rational formula, and diethyl barbituric acid its chemical name; its melting point, which was its most characteristic property, was 191° C.; he gave its solubilities and its mode of preparation. He said it was a pure hypnotic, with a dose of 5 to 10 grains, and that 50 grains was, or might be, taken as an average minimal fatal dose, though 10 was the smallest recorded. Toxic symptoms arose—(1) from idiosyncrasy; (2) single large overdose; (3) repeated small and medium doses—veronal habit, though this latter could not be acquired and carried to the same extent in dosage as the morphine or cocaine habit. Dr. Willcox further said it was much more toxic to people with kidney disease than to those with healthy kidneys,

and he further accused it of a cumulative action. He then detailed the treatment—washing out of stomach, hot coffee, etc.; but said that six hours was the maximum interval after ingestion, at which evacuation was practicable. Strychnine, digitalene, oxygen, and normal saline injections were also useful. *Post mortem* the appearances were indefinite, though patchy consolidation of the lungs might be found; this, with the fact that during life there might be pyrexia, had caused cases of veronal poisoning to be mistaken for pneumonia. As regards the detection of the poison after death, he said that there were many tests that might be applied to the pure substance, but had to admit that he knew of no satisfactory means for detecting it in or abstracting it from the tissues after absorption, hence the only means of proving the diagnosis was by collateral evidence apart from analysis of the viscera. He gave statistics of cases with a brief account of them, and concluded his paper by expressing his satisfaction at the fact that veronal and some other hypnotics had been placed in Part II of the Schedule to the Poisons and Pharmacy Act, 1908.

Professor Strassmann of Berlin said that cases of poisoning by veronal were extremely rare in Germany, owing to the legislative precautions holding in that country for the sale of drugs.

Workmen's Compensation Act.

Professor Glaister alluded to the ways in which a workman could claim damages against his employer: (*a*) At common law; (*b*) under the Employers' Liability Act; (*c*) under the Workmen's Compensation Act. He then alluded to the definition of a workman as provided by the Act, and to the absence from the Act of a definition of accident, which, he said, by judicial decisions had been made to cover occurrences quite outside the ordinary meaning of the term, and quoted illustrative cases—Anderson *v.* Balfour, Challis *v.* London and South-Western Railway. He then alluded to the position of medical men as necessary witnesses and medical referees as necessary arbitrators and holders of "facts." He then passed on to the statistics of the Act for the years 1909–10–11, dealing with stupendous figures of workmen's fatalities and claims, the net result of which was that the influence of the Act was spreading wider and wider, and was probably no small factor in the general rise of the cost of living.

Malingering.

Sir John Collie then read a paper on malingering, in the course of which he said that downright malingering was rare, but quoted two typical examples from his own experience. He then touched on malingering in women, and said that the poor physique of women and the still poorer standard of living was probably at the bottom of a good deal of so-called malingering amongst women, and should rather be called "previously unsuspected disability." The next class of malingering he touched on consisted of individuals who, under the combined influence of morbid introspection and dishonest legal, and mistaken domestic, advice, remained on the sick list longer than was necessary; and a third class consisted of functional neurasthenics whose previously existing neurasthenia was made more manifest by traumatism. The best and indeed the only correct treatment for the last two classes must, said Sir John, be institutional, which essentially consisted in detachment from the sympathetic environment of injudicious friends, rest in bed, good food, massage, electricity, and, above all, bright and tactful nursing. The curative effect of these was marvellous, and commonly not of very long duration in medium cases.

At the conclusion of these two papers Professor Pappe gave a brief account of the Workmen's Insurance Acts in Germany and of their working. He mentioned one important point wherein German differed from English practice—namely, that the family of an injured German workman received assistance while the workman was laid up.

Professor Strassmann mentioned the case of a man in Berlin who, in order to maintain the fiction of a bruised stomach, swallowed iron nails. The fraud was successful, and only the autopsy gave the clue to his symptoms.

Injuries of the Back.

Mr. Arthur S. Morley then read a paper on injuries of the back from a medico-legal aspect. He first gave a summary of the anatomy of the back from bones and ligaments to cord nerves, muscles, and fasciae, and then detailed the movements of the spine, and how—that is, by what muscles—they are produced.

In making a diagnosis it was necessary first to determine whether the patient was malingering or not; and if it were decided that there was some genuine trouble the next point was to determine the locality and the structures involved—nerve, muscle, bone, etc.; and, lastly, whether the trouble were due to accident or disease. He mentioned several tricks to counter the alleged inability of the malingerers to perform certain movements. He mentioned a striking case of an almost symptomless fracture dislocation of the lumbar spine; he thought that traumatic neurasthenia was rare after spinal injuries, but more common in somewhat trifling head accidents. He emphasized the necessity of accurate diagnosis by reference to the need of it for proper treatment, which, he said, did not consist in prolonged rest, but in a certain amount of this, with due attention to position, followed by an early resort to movement, on the same principles that surgery now applied to sprained joints and fractured long bones.

Deaths under Anaesthetics.

Dr. Spilsbury read a paper on 104 cases of death under anaesthesia. He defined "under anaesthesia" as either during the period of administration or so immediately after as to leave no doubt that the anaesthetic had played some part in the death. With regard to so-called status lymphaticus, he said that he had found it (as described) in 32 cases, but had not found it in 72; out of the 32 cases every single one had revealed either naked-eye or microscopic pathological changes (fatty or brown atrophy) in the heart muscle, and he was therefore compelled to regard defective heart muscle as an essential part of status lymphaticus. From a review of all his cases he was enabled to make the following statements: (1) That the status lymphaticus was only present in a comparatively small proportion of cases. (2) That in a large majority of so-called "deaths under anaesthetics" there was a very grave bodily condition, accident or disease, which had probably played the major rôle in producing death. (3) That degeneration of the heart muscle was the most dangerous condition to be met with in administering anaesthetics. (4) Lastly, and most importantly, that considering that anaesthetics were being administered pretty nearly continuously day in and day out, year in and year out, the numbers of deaths directly due to the anaesthetizing agent constituted an almost negligible proportion of the total number of those who were put under an anaesthetic.

Death Certification.

Dr. J. C. McWalter (Dublin) criticized very adversely the present form of death certificate, showing (1) there need have been no death (case in point quoted); (2) there need have been no recent attendance; (3) that the diagnosis of the cause of death might be, and probably was, wrong in at least 10 per cent. of cases; and that, granting these three points, a fourth followed—namely, that the Registrar-General's reports must contain very fallacious or at least dubious information, so much so as severely to vitiate conclusions drawn from them. He thought that the title of his paper outlined an impossible policy of perfection, but he did suggest arming the profession with judicial authority to proceed to so much of an autopsy as was necessary for more precise decision of the gross and actual cause of death.

Visit to Broadmoor.

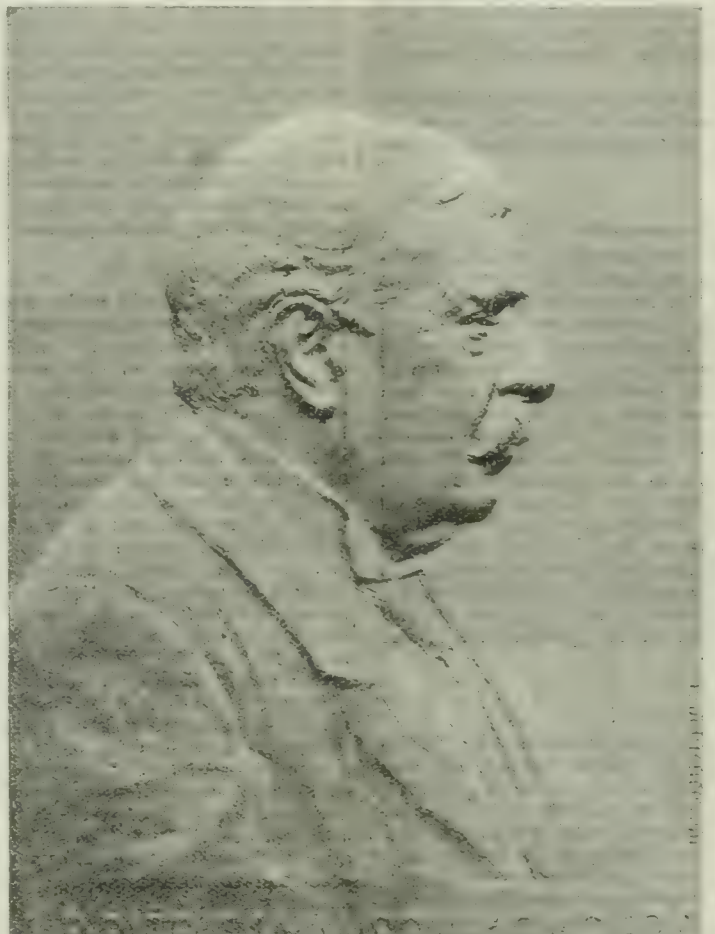
In the afternoon several members paid a visit to Broadmoor Criminal Lunatic Asylum. They were the guests on the journey of the Medico-Legal Society, and at the Asylum of Dr. Baker, the Medical Superintendent.

TROPICAL MEDICINE AND HYGIENE.

INTERNATIONAL PRESENTATION TO SIR PATRICK MANSON.

SOME two years ago Dr. Blanchard, Professor of Medical Natural History and Parasitology in the University of Paris, proposed that an opportunity should be afforded to those specially interested in tropical medicine and hygiene to give to Sir Patrick Manson in some suitable way a testimony of the high esteem for his original scientific work felt in every country where the study of these subjects is pursued. The proposal was warmly taken up, and M. Richer, of Paris, was engaged to prepare a portrait medallion. The occasion of the International Congress of Medicine in London was taken to make the presentation.

At the meeting of the Section of Tropical Medicine and Hygiene, on August 11th, when Sir William Leishman, F.R.S., was in the chair, Professor Blanchard, in the name of the International Committee, presented the medallion in gold to Sir Patrick Manson. The medallion, as will be seen from the photographs here reproduced, bears on the one side a portrait of Sir Patrick Manson and on the other an allegorical group representing Science triumphing over disease in a tropical landscape; the legend below the group runs:



MORBIS INGENIO SUPERATIS
NUNC PERVIAE
ORBIS EXUSTAE PARTES.

[The triumph of genius over disease has opened up the torrid parts of the earth.]

Professor Blanchard delivered an eloquent and stirring address concerning Sir Patrick's contributions to science, which were, he said, well known throughout the whole world; the medallion now presented to him was a tribute of respect by his fellow-workers and admirers, and an emblem of the homage paid to the work of a great man and the father of modern tropical medicine.

The Section was opened on Thursday morning by the President, Surgeon-General Sir David Bruce, C.B., F.R.S., who gave a cordial welcome to members. He said that at the last Medical Congress held in London in 1881 there was no special section for tropical medicine, and there was only one paper on a tropical subject—that on the prevention of cholera and yellow fever, by Surgeon-General Billings. At that time it was not thought that yellow fever could be conveyed from man to man. Pettenkofer believed that an infected person might become infective provided a certain unknown "something" necessary to the development of the poison existed in a given locality.

PLAGUE.

Professor Dr. S. Kitasato (Japan), in the course of a paper on the value of the search for rat-fleas in the detection of plague, pointed out that the methods of preventing plague varied according as the disease was of the pneumonic or bubonic type. The pneumonic type was best checked by the early discovery of persons suffering from the disease and by the immediate segregation of those who had come in contact with them. The bubonic type, on the other hand, could only be prevented by the discovery and elimination of the plague-infected rats. The theory that the rat and flea were the means by which bubonic plague was spread was established in 1906 by the Indian Plague Commission. This was an extremely practical point, for the discovery of the presence and distribution of the germ in fleas, together with the examination of rats, afforded all the details for laying down an effective plan of prevention. The best way of capturing rat-fleas and inspecting plague houses or localities was to allow guinea-pigs to run free in them, because these animals were susceptible to plague and readily harboured rat-fleas. After they had thus been exposed for twenty-four hours the fleas upon them could be collected and examined, and proof obtained of the presence and intensity of infection or the opposite. Disinfection, however thorough, could only destroy the plague germ itself; it had no effect upon the flea. The rats must be destroyed in any abode before it could be pronounced plague free, and it must be rendered rat-proof if it was to be maintained free from plague in any district where the disease was rife. Disinfection in plague must be insecticidal as well as germicidal. Kitasato summed up the results of experiments by stating that the presence of the plague germ might most satisfactorily be established by the guinea-pig test, and by the continued bacteriological examination of rats. Major W. Glen Liston, C.I.E., I.M.S., Senior Member Plague Research Commission, read a paper on the epidemiological features of bubonic and pneumonic plague contrasted. Ever since Childe in 1897 found plague bacilli in the sputum of patients suffering from plague bacilli there had been frequent outbreaks of this form of the disease. It had been well-nigh conclusively shown that bubonic plague could be conveyed to man only by infected fleas from plague-infected rats, and that pneumonic plague could be transmitted from man to man directly through the sputum of infected persons. Fortunately the bacillus did not long remain a potential source of infection outside the body of a living animal or insect. An epidemic of pneumonic plague could be more readily controlled by the isolation of infected persons than an epidemic of bubonic plague where rats and then fleas were the disseminators of the disease. Major Liston dealt also with the immunity of *Mus rattus* to plague infection. He showed that the decreasing severity of epidemics in a particular town which had suffered from repeated outbreaks of plague was due to the evolution, by a process of selection and survival of the fittest, of a race of rats comparatively immune to plague, and that such a place might remain, for a time at least, free from epidemics of bubonic plague. Recent experiments showed that these conclusions apply to *Mus rattus* and not to *Mus decumanus*. Dr.

Wu Lien Teh, M.D.Cantab., Director of the Chinese Medical Service (Harben), reported the result of investigations into the relationship of the tarbagan, or Mongolian marmot, to plague. Dr. Wu dissipated the belief once so firmly held that the tarbagan (*Arctomys bobac*, Shreb) was the alternative host of the plague bacillus, and that in fact in Manchuria the marmot took the place of the rat as the carrier of plague. So firmly was the belief held for a time that the tarbagan was the cause of the outbreak of plague in Manchuria that the hunting of the animal for its fur was forbidden both by the Russians and Chinese. An expedition, headed by Dr. Wu, sent to investigate the matter, showed that although the tarbagan occasionally suffered from plague, its direct relationship to human plague might be considered negligible.

Professor C. J. Martin, F.R.S., and Mr. A. Bacot (Lister Institute, London) gave an account, illustrated by lantern slides, of the mechanism of transmission of plague by fleas. What Professor Martin termed "choked fleas"—namely, fleas whose intestine became blocked by clotted blood so that there was no faecal excretion—were very active, biting again and again, and to them he ascribed the power of transmitting disease to animals. Plague, he stated, was not a disease of the tropics, but existed in regions where a spell of cold weather prevailed. Why the disease did not prevail in the tropics was probably due to the fact that the fleas were dried up quickly in hot, dry weather.



Mr. James Cantlie (London) said that it was interesting to note that the belief once held, that the tarbagan was a plague carrier, seemed to be refuted by Dr. Wu's experiences in Manchuria, but it must be noted that in America the ground squirrel—an animal closely allied to the tarbagan—was considered an active agent in transmitting plague. Professor Martin's view that the dry heat of the tropics destroyed fleas seemed scarcely in accord with the seasonal occurrences of plague. Hong Kong and Bombay had similar seasons, but the disease occurred in the former in the moist heat of April, May, and June, whereas in Bombay the recurrences of plague commenced in October and died down in April.

Dr. Duncan Whyte (China) also joined in the discussion.

Enteric Fever in India.

Captain Chambers, I.M.S., read a paper upon enteric fever in India, with special reference to its occurrence in the Indian army. It was, he said, now known that enteric fever was common amongst natives of India, and that the mortality was higher amongst them than amongst Europeans either in tropical or temperate climates. Malarial and typhoid infections might coexist. The most valuable method of diagnosis in enteric fever was the early use of the method of blood culture.

Cholera Vibrios.

Professor van Loghem (Amsterdam), in a paper on the differences between vibrio cholera and vibrio El Tor, showed by lantern slides the essential differences between these vibrios in cultures, the chief being that there is no haemo-digestion in cholera in agar cultures, and that the cholera organism liquefies gelatine; in vibrio El Tor the opposite obtains.

Demonstration.

Dr. da Rocha Lima (Hamburg) gave an interesting account of pathological and anatomical conditions in several tropical ailments, and showed lantern slides of goundou, kala-azar, yellow fever, blackwater fever, blastomycosis, etc.

Tropical Colonization.

Professor Tschudnowsky (Paris) discussed acclimatization in the tropics and the possibilities of white people continuing virile beyond a generation or two.

Visit to the London School of Tropical Medicine.

A large number of members of the Section visited the London School of Tropical Medicine on Friday, August 8th. The new buildings were thrown open for inspection, and special demonstrations were given by Dr. Rost on leprosy, by Professor Alcock, C.B., on entomology, by Dr. P. Bahr on filariasis, by Dr. Low on general tropical pathology, by Dr. Leiper on helminthology, by Colonel King on yaws and plague, and by Dr. Wasielewski on staining *Amoeba limax*. In addition, Mr. James Cantlie explained his method of operating upon the liver, and Professor Sandwith gave clinical demonstrations in the wards of the hospital. Amongst those present were Professor Nocht of Hamburg, Professor Blanchard and Professor Laveran of Paris, Sir Patrick Manson, and Professor Nuttall, together with the members of the staff of the Tropical School.

RADIOLOGY.

Radiography of the Stomach and Intestines.

Two exhaustive reports on the radiography of the stomach and intestines were available for discussion at the morning session, on Thursday, but unfortunately both authors, Dr. C. Lester Leonard of Philadelphia, and Dr. G. Holzknecht of Vienna, were prevented from being present by reason of illness. This was particularly lamentable in the case of Dr. Leonard—the sage of American roentgenology, as one of his compatriots called him—for the reason that his illness was due to the effects of over-exposure to

the rays. It was felt worthy of chronicling as another instance of heroic devotion to medical science that he should have deferred undergoing a necessary operation for six weeks in order that he might complete his report to the Section, which was read in his absence by Dr. H. K. Pancoast, also of Philadelphia.

The technique of the opaque meal in gastric and intestinal examinations figured largely in both reports. Dr. Leonard urged the special suitability, on scientific grounds, of the oxychloride of bismuth, although pure barium sulphate offered a more economical substitute for routine administration. Oatmeal porridge commended itself to him as the most suitable medium for the opaque meal, but he suggested, as did also Dr. A. F. Hertz in the subsequent discussion, that a standard opaque meal should be established, and that if possible the standard should be made international. Dr. Holzknecht made the point that if barium sulphate were the opaque salt employed, care should be taken to obtain the chemically pure preparation (*chemice purissimum, ad usum internum*), other barium salts being injurious.

Several radiologists expressed decided views on this question. Dr. Lewis G. Cole, of New York, pointed out that an artificial precipitate of barium sulphate was much more flocculent than many of the chemically pure products, and therefore was held more readily in suspension. In his judgement the more usual media, such as porridge and bread and milk, did not allow a sufficiently fine suspension of the salt to give the detail necessary for the differential diagnosis of gastric and duodenal lesions, and, on the other hand, were more rapidly digested than a regular meal, and failed to give an accurate index of the motor efficiency of the stomach. His preference was for thick buttermilk, as this allowed the bismuth or other salt to pass into the crevices and between the rugae, thereby affording the necessary detail in the picture; this should by followed by a regular meal, in order to determine the motor efficiency. Perhaps the point of chief practical interest was contributed by Dr. A. Howard Pirie, of Montreal, who described a simple procedure for removing the chemical taste of the barium sulphate as well as the grit usually present, and any soluble poison which might be accidentally involved in the barium preparation. Placing about 10 pounds of barium sulphate in an earthenware pot, he mixed it with a gallon of very hot water. After a period of twelve or twenty-four hours the mixture settled with the grit at the bottom of the pot, above the grit a fine mud, and above this again clear water. The clear water was poured off, and the topmost layer of fine mud was used for the day's work. At the end of the day the mixture was prepared again in the same manner for the following day's use. Dr. Pirie claimed that this procedure removed from the meal at once its possibilities of danger and also its unpalatableness, for the barium could then be mixed with milk in such a manner that the patient was unable to recognize it.

Many interesting points in connexion with the intestinal movements were brought out in the reports. Dr. Holzknecht drew special attention to the largeness of the movement with which the greater part of the food normally passed along the colon—a phenomenon seen at its best when a regular meal was given some hours after the bismuth or barium repast. Both reporters referred to the radio-cinematographic method of illustrating the process of digestion. Dr. Leonard was of opinion that while the movements within the alimentary canal could be most effectively studied by means of bio-roentgenograms, the apparatus was too expensive to allow it to become of general service at present. Expense notwithstanding, roentgenography already owed to this method knowledge which could be obtained in no other manner. The study of the peristaltic waves of the stomach by laying the cinematographic principle under tribute had elucidated the sequence of the movements and shown the variation in depth during the passage of the waves down the stomach.

Serial Radiography.

A demonstration of one method of radio-cinematography was given on Thursday afternoon by Dr. Lewis G. Cole. The film he projected was certainly remarkable, as it showed plainly the phenomena of stomach evacuation. The immediate purpose of Dr. Cole's communication was to illustrate some points in the diagnosis of duodenal or, as he preferred to call it, post-pyloric ulcer. The differential diagnosis of ulcer in the first or ascending portion of the duodenum, or the cap of the stomach, from malignant gastric conditions formed, in Dr. Cole's words, "one of the firing lines of surgical advance." The method of diagnosing post-pyloric ulcer which he had employed in 500 cases was based on the recognition by the cinematographic method of a constant deformity of the cap or sphincter, caused by the induration or cicatrical contraction surrounding the crater of the ulcer. This could be recognized, he said, by studying individually and collectively a large number of plates, and either matching them over each other, or preferably reproducing them on the cinematograph film. Although he had obtained the perfect illusion of movement, Dr. Cole hesitated to apply the term "cinematographic" to such reproductions, but he preferred to call them examples of serial radiography, and he considered that from the diagnostic point of view much more was to be learnt from a number of instantaneous radiographs of different phases in different cycles than from the same number of radiographs of different phases in one cycle, as in the direct, continuous cinematograph picture. He described serial radiography as the "most active scout" in the detection of ulcers of the stomach cap.

Another radio-cinematograph record of the stomach, the result of instantaneous exposures made at the rate of rather more than one per second, was shown by Dr. A. H. Pirie. The motions on the screen were more rapid than in nature, of course, but there was sufficient sequence to suggest the value of the method.

Dr. Pirie also read a paper on a correlated subject—namely, the variation in the appearance of the normal stomach as seen by *x* rays, in which he pointed out the importance of examining the whole of the intestinal tract, as symptoms which were referred to the stomach might arise from other causes. In one instance the stomach symptoms disappeared after the removal of the appendix, which had retained the barium for as long as forty-three days after the administration of the meal.

Examinations for Stone.

Another application of the *x* rays in diagnosis was illustrated by Mr. C. Thurstan Holland's statistical paper on *x*-ray examinations for stone. The total number of such cases which had come under his care during the past eight years was 1,707, and of these 104 were for bladder examination only. He gave some useful figures showing the proportion of occurrences of pelvic shadows, calcareous glands and arteries, deformities, and so forth. Calculi were found in males in 276 cases out of 985 examined, and in females in 126 out of 618. His youngest case was a boy of 5 years, in whose kidney six stones were found.

Post-operative Treatment of Mammary Cancer.

The remaining paper on the day's programme was on a radio-therapeutic subject—namely, the treatment of recurrences and metastases from carcinoma of the breast. The author, Dr. George E. Pfahler, Professor of Roentgenology in the Medico-Chirurgical College of Philadelphia, admitted that his success was only partial, but nevertheless *x*-ray treatment was more promising than any other method in these post-operative conditions. His procedure was to apply *x* rays as promptly and as vigorously and from as many directions as possible, and to carry the dose to the limit of skin toleration after filtering. The distinctive feature of the method, however, was the combination of *x*-ray applications with small doses of thyroid extract. Usually he began with the administration of one half-grain of thyroid extract three times a day after meals, increased every four days by one half-grain in the daily dose until the patient was taking 1½ grains three times a day. Dr. Pfahler believed that his results were improved to a considerable extent by the addition of this preparation to the purely *x*-ray treatment. Dr. N. S. Finzi, speaking on this paper, said that in cases of metastatic carcinoma *x*-ray treatment not only might be used, but ought to be used, as, except in a few cases, it was the only method available. When, however, there was a solitary small nodule of recurrence, and no evidence of any further disease, he preferred to use the filtered rays of radium.

Tuberculosis.

Radiography of the Chest.

The Section was particularly happy in its choice of openers in the important discussion on the radiography of the chest on Friday. Both Dr. Hugh Walsham, of London, and Professor K. F. Wenckebach, of Strassburg, combined the parts of radiologist and clinician, and, as a subsequent speaker said, both of them, the one in England and the other in Germany, helped to lay the foundations of scientific chest radiography. Dr. Walsham said that he had made his first chest radiograph as long ago as 1896, and he prophesied then—a prophecy which he had seen no reason to retract—that *x* rays would become a very effectual means for the diagnosis of chest disease. Indeed, he would go so far as to say that no chest had been completely examined unless *x* rays had been used. His paper took the form of a catechism. What was the value of Williams's sign—that is, the limitation of the excursion of the diaphragm on the affected side in the early cases of pulmonary tuberculosis? He had seen this diminished movement in some early cases, but not in all. What was the value of the deficient illumination of one or other apex as seen by the screen? He was not disposed to place much emphasis upon the value of that appearance. Could *x* rays detect pulmonary tubercle before the usual physical methods at the physician's disposal? Personally he thought that they could, and he quoted an aphorism by his late revered teacher, Dr. Gee, to the effect that in any case of phthisis the disease was more extensive than the physical signs would seem to indicate. Again and again he had found the *x*-ray picture reveal a disease much more extensive than he had supposed by stethoscopic examination. What was the value of the obliteration of the pleuro-pericardial angle as an early sign of pericarditis with effusion? Occasionally he had found this sign very valuable in the differential diagnosis of this condition and of a subphrenic abscess. With regard to aneurysms of the aorta, was it always possible to diagnose by *x* rays between an aneurysm and a mediastinal new growth? He thought that this was an impossibility. To what extent was pulsation of assistance? According to his own observations, not a great deal. Or the shape of the shadow? Again according to his own observations, scarcely at all. Aneurysms and mediastinal new growths might take any shape. On two occasions *x* rays had helped him in the diagnosis of cardiac aneurysms, and he found the shape of the heart's shadow useful sometimes in the diagnosis of valvular and congenital disease.

If Dr. Walsham's interesting communication was in the nature of a sketch, Professor Wenckebach's was a filled-in picture. His detailed survey, however, was confined almost entirely to the consideration of the lung shadows. With regard to technique, he laid emphasis upon the great importance of the stereoscopic method in lung examination, and also upon the value of what he called "die Moment-photographie," or the radiography of the chest within the fraction of a second while the breath was held. The instantaneous radiograph obtained by means of specially powerful *x*-ray apparatus had revolutionized the methods of chest examination, and had brought nearer than before the prompt diagnosis of early tuberculosis. He proceeded to review, first the Roentgen picture of the healthy lung, and then the general pathological changes in the lungs as seen radiologically, the special diagnostic indications for bronchitic affections, for pulmonary inflammations, for tuberculosis, and for pleuritic processes. Two interesting points were specially worthy of record. One was the professor's strong contention that the presence of emphysema did not render a person immune from tuberculosis; and the other his statement that the radiating lines from the roots of the lung, especially on the right side near the base, were not entirely due to bronchi, some of them being due to vessels. Williams's sign, he believed, was not always present in early tuberculosis, and when present its single evidence was not sufficient to justify a definite diagnosis, but when its presence was established beyond doubt it might generally be taken to indicate a tuberculous invasion.

The discussion for the most part centred around the question of radiographic technique. Dr. Alban Kohler of Wiesbaden and Dr. Fedor Haenisch of Hamburg were of opinion that the intensifying screen was unsuitable for chest radiography, because it blurred the fine detail in the lung structure, upon which everything turned. Dr. Béclère of Paris and Dr. G. Harrison Orton of London dwelt upon the extreme importance of remaining in darkness or semidarkness for some time before attempting to make screen examinations, and the latter also insisted upon the need for a tube of very low penetration and its adjustment so that the suspected side was barely illuminated. The President (Sir James Mackenzie Davidson) urged the use of the stereoscopic method in chest radiography, and Dr. N. S. Finzi was of opinion that underexposure was the most fruitful source of loss of detail. The latter always made his own exposures in the same period of the respiratory cycle—namely, deep inspiration—using the tube as soft as possible and with as small a diaphragm. By using these methods he had found that a modern apparatus enabled one to get a chest radiograph sufficiently exposed in about a quarter of a second. Several speakers mentioned the value of precautionary *x*-ray examination. Dr. Francis Williams of Boston, U.S.A., suggested that this examination should be made in the case of every member of the family of a tuberculous patient. So much impressed was he with the importance of a precautionary examination that about a year ago he suggested to the staff of his hospital that they should ask the trustees to establish a clinic for this purpose. This project had materialized, and the work which had gone forward during the last twelve months made it plain that the universal establishment of such clinics would prove of inestimable value. Another instance of precautionary measures—on this occasion in Paris—was mentioned by Dr. Ledoux-Lebard of that city. During the past eighteen months, he said, he had examined radiologically the chests of all patients who were about to be operated upon by Dr. Gosset, no matter what the degree of severity of the projected operation. In more than 20 cases, owing to the fact that the screen had shown a doubtful condition of heart or lungs, the operation was abandoned, and in other cases, in which the surgical procedure was absolutely imperative, an unfavourable radiological opinion had proved to be justified by the death of the patient subsequently to the operation.

Several papers on associated subjects were read at the afternoon sitting of the Section. Speaking from the standpoint of the physician, Dr. Sydney A. Owen, of London, passed in review the evidence afforded by a large number of cases as to the early detection of tuberculosis of the lungs by means of *x* rays. He expressed the more conservative conclusion that the systematic use of *x* rays should be an additional method of physical diagnosis in the early detection of tuberculosis of the lungs where, by the usual methods of examination, it was impossible for the competent physician to arrive at an early, immediate, and definite diagnosis. Another paper, this time on the radiological diagnosis of thoracic affections in children, was read by two medical men of Nice, Drs. d'Oelsnitz and Paschetta. Systematic radiological exploration of the thorax, they claimed, was most valuable in a series of bronchial and other conditions with which they dealt in turn; sometimes the *x*-ray picture sufficed for the diagnosis, frequently rectified it, and always made it precise and complete. Speaking on this paper, Dr. J. S. Hirsch, of New York, expressed the view that the radiological examination of chests of infants with meningeal symptoms would frequently disclose evidence differentiating the tuberculous from other forms of meningitis.

Kidney.

The technique of Roentgen diagnosis in tuberculosis of the kidney was the subject of a brief note by Dr. Alban Kohler, and the remaining papers dealt with the *x* rays from the very different standpoint of a therapeutic agent in tuberculous affections.

Radiotherapy.

Drs. Auguste Broca and W. Mahar described the application of radiotherapy to more than 200 cases of localized tuberculosis in the Paris Hospital for Children. The results were favourable, particularly in tuberculosis of the skin, including lupus. In most of the affections—the tuberculous adenopathies representing the chief exception—the *x*-ray doses employed were feeble, apparently about one-third of the epilation dose, and the authors considered

that strong doses paralysed the processes of repair. The high percentage of good results was explained on the double ground of a destructive action on the tuberculous cells, and an exciting action on the cells of the neighbouring healthy tissue. Dr. Albert-Weil, of Paris, confirmed this particular *x*-ray application by instancing some of his own cases, and went on to say that even pulmonary tuberculosis would respond to the employment of *x* rays heavily filtered. This last suggestion was more fully dealt with in a paper by Dr. L. Küpferle, of Freiburg, who described some experimental studies in the treatment of pulmonary tuberculosis. The first experiments related to rabbits, and the author said that in these animals tuberculosis could be influenced by means of *x* rays, not only at the beginning of its evolution, but at the period of its full development. The effect on applying a hard radiation consisted in the destruction of the tuberculous proliferation tissue. A direct influence upon tubercle bacilli could not as yet be certainly made out by vaccination experiments, but investigations in this direction were proceeding. The irradiation of consumptive people, fifteen in number, had also been undertaken, and it was stated that favourable results were obtained in the first and second phases of the disease (with moderate fever and expectoration) by the application of not too small doses of hard rays. The clinical effects consisted of a slow decrease of temperature, a reduction of cough and expectoration, and an improvement of the general condition.

Dr. Leon Tixier of Mentone described his method of combining heliotherapy and radiotherapy in the treatment of chronic tuberculous adenitis. He had found the sun-baths given on the Riviera a valuable adjunct to *x* rays, particularly in the softening form of tuberculous adenitis with a tendency to suppuration. Three months was the time said to be sufficient for the cure.

Demonstration.

The proceedings of the day concluded with a lantern demonstration by Drs. Potocki, Delherm, and Laquerrière illustrating the radiographic images obtained of the fetus. It was stated that, with the aid of intensifying screens, quite visible silhouettes were forthcoming at the sixth and seventh month, and in some cases at the fifth.

HISTORY OF MEDICINE.

A GLANCE at the transactions of the last International Medical Congress which met in London (1881) shows that, although there was no section dealing with the History of Medicine, yet the reader of nearly every paper dealt with the history of the subject to which his paper referred. The first attempt to form a History Section was at the Congress held in Rome in 1894, and concerning it we observed at that time that "an additional section which is likely to prove of exceptional interest will comprise an exhibition of antique objects of medical and surgical interest from prehistoric times to the eighteenth century." No literary section, however, dealing with medical archaeology has been formed until this Congress in London. Any doubts which the organizers of the present Congress are said to have held as to the utility of such a section will be removed by the number—some sixty—and the value of the papers presented, and by the attendance—averaging seventy—of members attending each session.

The meetings, held in the library of the Royal College of Physicians, were presided over by Dr. Norman Moore.

At the first meeting (August 7th) Dr. Moore delivered an admirable inaugural address, dealing principally with the life of Dr. John Freind, the first English writer upon medical history. Dr. Freind, the President observed, wrote his famous History under adverse conditions. He was imprisoned in the Tower of London on a baseless political charge; he was unable to get proper access to the necessary literature, and a warder was always present in his cell. The President then proceeded to deal with other medical historians, among them Baldwin Hamey, Aiken, and Munk.

The honour of reading the first paper was awarded to the only lady member of the section, Miss F. M. Stawell (London), whose paper on Saint Luke and Vergil was designed to show that St. Luke was a Roman, not a Greek, and that his writings were much influenced by Vergil's *Aeneid*. Miss Stawell's discourse was listened to with marked interest, not only on account of its intrinsic merit but also on account of its perfect English diction and its euphonious quotations in Roman Latin and Hellenic Greek.

Miss Stawell was followed by Professor Caton (Liverpool), who read a highly valuable paper upon the temples, hospital, and medical school of Cos, showing that the hospital is not a purely Christian institution, as sometimes stated.

Among other papers during the first day was one by Professor Sudhoff (Leipzig) upon the origin of syphilis; its object was to prove that syphilis did not arise in the Middle Ages, as commonly supposed, but was practically coeval with civilization itself.

Dr. Sudhoff was followed by Professor Sticker (Bonn), who read a paper on leprosy in the Middle Ages; by Dr. Rivers (Cambridge), who contributed a paper on massage in Melanesia; and by Dr. Walsh (New York), who gave a humorous address on some historical questions in the light of our modern knowledge, intended to show that time and research had produced little change in diseases or in their treatment.

Other papers of great interest were: The influence of Pythagoras in Greek medicine, by Dr. Moon (London); painting in relation to the history of medicine, by Professor Corsini (Florence), read in his absence by Dr. Capparoni; girdles, their use in obstetric practice, by Dr. Dilling (Aberdeen); engraving in colours illustrating medical history to the end of the seventeenth century, by Dr. Lebard; some unpublished drawings by Sir Charles Bell, by Dr. Corson (United States); and Saint Antony's fire, by Dr. Chavant (Grenoble).

The first day's work was brought to a close by Mr. D'Arcy Power, who dealt with the less known works of John Arderne, the character and number of which must have come as a surprise to those whose acquaintance with Arderne's writings was limited to a knowledge of his well-known work on fistula.

On the second day of the session (August 8th) Professor Sudhoff returned to the rostrum with a paper on the antique representation of the human body, and expressed the view that pictorial representation of the human body, which arose, he stated, in Alexandria, spread westward only because of the Oriental prohibition against making graven images. Dr. Sudhoff was followed by Dr. Holländer with a paper on the relations between art and the history of medicine.

Then followed two interesting papers on the death of Napoleon—the first by Dr. Chaplin (London), based upon the *post-mortem* examination, in which he summarized his reasons, more fully set out in his recent book on the subject, for believing that the Emperor suffered from hepatitis and from carcinoma of the stomach; the second by Dr. Guthrie (London), who advanced the view that Napoleon was the subject of hypopituitarism.

The papers which followed were: The history of Alpenstick, by Professor Sticker (Bonn); Italian medicine in the Middle Ages and to-day, by Professor Barduzzi; a paper by Mr. Wellcome dealing with his excavations in the Soudan, and giving evidence that midwifery forceps were in use 150 years B.C., a discovery which would have astonished Peter Chamberlen; a paper by Dr. Ray containing evidence that the Ancient Egyptians had suffered from syphilis, a suggestion which met with the approval of Dr. Sudhoff; an account by Dr. Capparoni (Rome) of inscriptions in the catacombs of Rome to physicians from the second to the ninth century; and a paper by Dr. Barbour (Edinburgh) upon Soranus, who flourished in Rome during the reigns of Hadrian and Trajan, and was, Dr. Barbour considered, the pioneer of scientific midwifery.

The second day's sitting was brought to a close by an admirable paper by Dr. Parker on the barber-surgeons, their history and power, a sort of pocket Sydney Young, but amplified to include the guilds in foreign countries.

British Medical Journal.

SATURDAY, AUGUST 16TH, 1913.

International Medical Congress.

THE ADDRESS IN SURGERY.

Professor Harvey Cushing's Address in Surgery, which was published in the British Medical Journal of August 9th, covered so vast a field that it is impossible here to discuss the many questions which it raised. We must therefore confine our attention to some of the salient points. Instead of reviewing the progress of surgery during the thirty-two years that have elapsed since the Congress last met in London, or tracing the evolution of brain surgery in which he has played a prominent part, the orator made a bolder flight around the whole domain of medicine. Taking his hearers with him as on an intellectual aeroplane, he showed them the changes in the relations of medicine and surgery, and the subdivisions of these great departments of science which have been brought about since 1881. Huxley, Virchow, Pasteur, Lister, and Koch, all of whom took an active part in the work of the Congress held in that year, laid the foundations of a new temple of science, and the additions to the edifice during the past generation that have transformed it into the magnificent structure we now see, have been made by following the methods of investigation which medical science owes to these men. Of these methods, the principal, Professor Cushing said, was experiment on living animals.

To the restrictions placed on such research by the Act of 1876 he attributed the fact that, while this country has remained in the forefront in those of the experimental sciences which are not hampered by legislative restriction, comparatively few men have followed in the footsteps of John Hunter and Cheselden, Charles Bell and Lister, who enlarged the boundaries of the science while improving the craft of surgery. It is surely a strange irony of legislation that a measure intended chiefly to check physiological research has hindered investigation in the fields of practical medicine and surgery, while the pure physiologist, who has had to work with police gyves upon his wrists, has done most for the advancement of medicine, especially in the province of neurology, in this country during the last three decades. There could be no more striking proof of the mischievous nature of an agitation which, while failing to restrain purely scientific research, tends to hamper investigations that are of direct benefit to mankind. It would be a truism to say that the seeker after new truth should be encouraged rather than opposed and decried were it not that politicians see no votes in experimental research, while the people cannot appreciate its value. The indifference arising out of this ignorance may be a far more formidable obstacle to scientific progress than the ravings of fanatics. William Pitt, when asked to bestow a pension on some deserving writer, said, "Literature can take care of itself." This is the attitude of most statesmen towards science Hence a Government the breath of whose life is the *popularis aura* may at any time in its struggle for existence be driven, by the clamour of a few noisy agitators, to impose restrictions on research which the great body of the people is too indifferent to resist. It is well, therefore, that the practical value of research should be brought home to the public mind.

Professor Cushing referred in passing to the fact that the money results of Pasteur's work in various important industries enabled France to pay off the heavy indemnity imposed upon her after the great war of 1870-71. But Pasteur did far more than this. Writing to the Lord Mayor of London in 1889 Huxley says: "The path of M. Pasteur's investigations is strewed with gifts of vast monetary value to the silk trades, the brewer, and the wine merchant. . . . But there is much more to be said. M. Pasteur's direct and indirect contributions to our knowledge of the causes of diseased states, and of the means of preventing their recurrence, are not measurable by money values, but by those of healthy life and diminished suffering to men. Medicine, surgery, and hygiene have all been powerfully affected by M. Pasteur's work, which has culminated in his method of treating hydrophobia. I cannot conceive that any competently instructed person can consider M. Pasteur's labours in this direction without arriving at the conclusion that if any man has earned the praise and honour of his fellows he has." Speaking of the opposition organized by the antivivisectionists against the proposal to contribute to the support of the Pasteur Institute, Huxley went on to say that for the most part it had nothing to do either with M. Pasteur's merits or with the efficacy of his method of treating hydrophobia. "It proceeds partly from the fanatics of *laissez faire* who think it better to rot and die than to be kept whole and lively by State interference; partly from the blind opponents of properly conducted physiological experimentation, who prefer that men should suffer than rabbits or dogs; and partly from those who for other but not less powerful motives hate everything which contributes to prove the value of strictly scientific methods of inquiry in all those questions which affect the welfare of society." *

Professor Cushing, referring to the fact that the Congress of 1913 has met, as in 1881, not long after a public inquiry as to experiments on animals, called attention to the new evidence that had been obtained as to the value of vivisection. The Royal Commission revealed the transformation which in thirty years had taken place in medical science as a direct result of the very methods of research the Commissioners were called upon to investigate. It is needless to follow Professor Cushing through all the points of his vindication of experimental medicine; they are all familiar to readers of the British Medical Journal. Spoken from so conspicuous a platform and so widely published in the press, they will doubtless carry conviction to many who would not otherwise be reached. Lord Morley, indeed, spoke in a tone of sentimentalism on the subject, and quoted Bacon in his support; he seemed to have forgotten that the author of the treatise *De Augmentis Scientiarum* expressed approval of "the dissection of beasts alive" for purposes of scientific inquiry. But, as Sir Thomas Barlow said, already there is gratifying proof that public opinion has been awakened to the necessity of experiment if medicine is to advance,

* *Life and Letters of Thomas Henry Huxley.* By his son Leonard Huxley. London, 1900, vol. ii, p. 259.

and a resolution, proposed by Sir Edward Schäfer, President of the Section of Physiology, and unanimously adopted by the Congress at its last general session, may be taken as a declaration of faith in the necessity of vivisection by the representatives of medical science throughout the world.

One of the most marked changes, or "realinements," to use Professor Cushing's expression, which have occurred is that medicine, which used to be something of a mystery veiled from the eyes of the profane, is no longer confined to the privacy of the consulting room or to the seclusion of the hospital. It has come forth into the light of day, and works for the public weal under the eyes of the people. The increased efficiency which is the fruit of experimental research has aroused a keen interest in its progress in the public mind. This is well illustrated by the large amount of space given to the proceedings of the Congress by the leading daily papers. The profession is no longer alone in fighting disease; the active co-operation of the public is being more and more enlisted. Lay organizations of various kinds, corporations, and Governments, all now take an active part in the struggle. There are still, it must be admitted, many who, like Lord Harberton and Mr. Bernard Shaw, see in the doctor nothing more than a hunter for fees. How do such cheap cynics explain the paradox that the medical profession has persistently striven to make of the world a place where there is constantly lessening need for the medical man? As Dr. Cushing puts it, "Dr. Pound, of Cure Lane, is being superseded by his young disciple, Dr. Ounce, of Prevention Street." It is well that it should be so; but it should be understood that progress in hygiene means an ever-increasing financial loss to the doctor. Vaccination alone must have saved the people and the State many millions of pounds.

Another "realinement" is seen in the transformation of the military surgeon of to-day into a physician more busy with preventive inoculation and the protection of water supplies than with the extraction of bullets or the use of the scalpel and ligature. Naturally, in time of peace the medical officer has little to do with surgery, but in time of war it is otherwise. We have not forgotten how the outbreak of the South African war was followed by an outcry of fond mothers and anxious wives that surgeons of the highest eminence should be sent to the front to do work which properly belongs to the army surgeon, and is performed by him with perfect competence. Moreover, the military surgeons of a past day were not so indifferent to hygiene as might be gathered from Professor Cushing's statement. If the name of Larrey suggests the amputating knife, that of Desgenettes is associated with his great success in the treatment of plague in Egypt. Both belonged to a *corps sanitaire*.

The greatest change in medicine is due to the influence upon it that has been caused by the vast expansion of surgery. From Lister and Pasteur, said the orator, the great streams of progress have flowed, in the case of the individual into the art of surgery, and in the case of the community into prophylaxis. The principal professional equipment of the surgeon of a generation ago was a knowledge of descriptive anatomy and deftness of hand in operating. Now it is the experimental laboratory rather than the dissecting-room that is his training ground. There is no longer any occasion for the theatrical displays of our younger days, and this alone suffices to remove a temptation which the older surgeons did not always successfully resist—the performance of feats of surgical artistry for the sake of the art rather than of the patient. Nowadays surgeons know more of medicine than they did, while on the other hand, as Professor Cushing says, medicine has become to a large extent "surgicalized." The patient toil of the physician has paved the way for the entrance of the surgeon into parts of the temple of life into which a generation ago he did not dare to penetrate. The physician, according to Professor Cushing, now does his own surgery though not with his own hands. As he becomes more and more a craftsman by the use of instruments of precision, internal medicine and surgery are brought nearer together and tend to overlap as they have not done since the thirteenth century. We join with Sir Thomas Barlow in expressing the hope that one outcome of the Congress may be that the old jealousy between surgery and medicine will be buried for ever. To this desirable consummation Professor Cushing's large-minded address will powerfully contribute. It is only fair, however, to recall that the case for the annulment of the arbitrary divorce between medicine and surgery has already been brilliantly argued by Sir Clifford Allbutt.*

Dealing with specialism, Professor Cushing insists that there should be a long apprenticeship before specialization is undertaken; in this view the profession is entirely with him. He takes occasion to hint that the general surgeon himself is not altogether exempt from the frailties of the specialist; being often a creature of habit he does not care to look outside his own hospital, and regards any innovation with suspicion. There is no doubt that to surgery and medicine, as to everything else, we may apply the words of Keble:

> Each in his hidden sphere of joy or woe
> Our hermit spirits dwell.

To be thus self-contained is inevitably to be narrow. The remedy is to see what workers in the same field are doing and how they do it. Professor Cushing tells us that some years ago a group of surgeons in the United States formed themselves into a society which at stated intervals visits in turn the hospitals, laboratories, and classrooms of the six or eight important medical centres represented in their organization. This system, which cannot fail to broaden the professional outlook and to raise the level of work, has also been adopted in this country. Quite recently the surgical staffs of some of the hospitals both in the provinces and in London have established a system of what may be called exchange visits.

Another "realinement" is the result of the establishment of special laboratories of surgical research, or as Professor Cushing prefers to call it, "experimental medicine." The possibility of prompt application by the clinician of many scientific discoveries, and on the other hand, the scientific problems that arise in clinical work, tend to co-ordinate the labours of the biologist, the morbid anatomist, the therapeutist, the hygienist, the physician, and the surgeon. As a consequence of this closer contact, Professor Cushing thinks that the leaders in medicine and surgery will come more and more to hold an academic attitude. This means, we take it, that professors of the two great practical divisions of medical science will have to give their time wholly to teaching. Whether such a change would really be to the advantage of medical education is open to question. The practice of an art is surely best

* *The Historical Relations of Medicine and Surgery to the end of the Sixteenth Century.* London, 1905.

learnt from its acknowledged masters. An "academic" professor of surgery or medicine might teach the theory admirably, but would scarcely be accepted by students as the best guide to the solution of practical problems. Medicine and surgery must be rooted in observation, and can only flourish in a soil of clinical experience. Moreover, the knowledge gained from that experience must be constantly enlarged by wider opportunities of studying disease.

Perhaps the most notable part of Professor Cushing's brilliant address is the change in the scheme of the scientific work of hospitals and in the relation between the general practitioner and these institutions which he adumbrated. He said that as disease becomes better understood the complexities of its accurate recognition and successful treatment required the studies of an increasing number of co-workers. As an example he took syphilis. The discovery of the spirochaete and the study of its biology have, he said, taught us that in certain parts of the body, especially the central nervous system, the organism is not accessible to the former methods of treatment. In the case of cerebral gumma, for instance, the patient has headaches and a suspicious clinical history. "What is required? A lumbar puncture, a cytological study of the fluid, and the Wassermann test requiring one specialist; an ophthalmological and perimetric examination needing another; a neurologist to determine the situation of the lesion; probably, too, a roentgenologist; and in the end, perhaps, another, to administer salvarsan, or, if it is a non-absorbable fibro-syphiloma, an operation may be needed." It is obvious that all this cannot be done efficiently by one man, however encyclopaedic his knowledge. The co-operation of an army of experts, such as Professor Cushing thinks necessary, can be secured only in numerously staffed hospitals. For that reason he holds that the more difficult and complicated problems of disease will gravitate to large institutions, officered by directors of hospital units in continuous service who devote themselves to their work without entering into competition for practice outside the walls of the hospital. When this system has been established, the general practitioner, who is now slowly but surely becoming a vestigial remnant of a past state of things, will have a larger field of usefulness than he had before; this, as far as we understand Professor Cushing, will be by supplying material for the manifold forms of specialized skill to be found among hospital officers who are "in no sense his competitors but rather his coadjutors." We gather that the multifarious hospital officers are to be paid, and that they are to take advantage of their opportunities to investigate and observe the conditions of disease for other and higher reasons than the expectation of financial returns from competitive practice. We are not told where the money is to come from, but it is obvious that if men of the kind Professor Cushing has in his mind are to be had in sufficient numbers a very large amount will be required. The patients must pay, and if the public rush to hospitals when they are ill, it seems to us that there is a risk that the poor will be thrust aside.

In restoring the general practitioner to his rightful place, Professor Cushing would apparently eliminate the private consultant. His medical commonweal, as we understand it, would consist of hospital specialists arranged in a hierarchy whose work would be carefully organized so as to ensure that no part of the patient's physical economy should escape scrutiny. While fully appreciating the advantages offered by the concentration of effort from all sides—pathological, diagnostic, therapeutic, and so forth—we confess that the proposed new arrangement of the work of the profession seems to us a dream. It reminds us of a true story of a man overtaken in a foreign city by some obscure malady. At the consultation, to which several experts were called, one after the other said he had examined the man's blood bacteriologically, microscopically, and chemically; another his urine, another his faeces, and so forth, without finding anything particular. Whereupon a hard-headed Scottish doctor who was present as *amicus curiae* exclaimed, "Have you examined the *man?*" This was just what had not been done. It seems to us that in Professor Harvey Cushing's elaborate scheme of scientific co-operation there is no provision for examining the man. The mental factor which plays so large a part in disease and its treatment seems in this new dispensation to be ignored. By all means let us have co-operation between the scientific investigator and the practitioner. But in this country at least we think neither the profession nor the public is prepared to accept a scheme in which the ablest men would be salaried officers confined exclusively to public practice, while the general practitioner is reduced to play the part of jackal to the scientific lions caged in hospitals.

CHEMIOTHERAPY.

In another part of this issue will be found the very complete account of the problems and the triumphs of chemiotherapy with which Professor Paul Ehrlich enlightened the general session of the International Congress of Medicine a week ago. Chemiotherapy is the newest branch of the science of synthetic chemistry. It aims at the cure of disease by rationalized chemical principles, applied inductively, founded on the results of exact chemical and biological research. Its success is to be judged by the therapeutic results to which it leads. In the past new remedies for disease have been found—or have been stumbled on, one may rather say—by empirical methods alone. New medicinal herbs have been brought to light by the traveller or botanist, new chemical compounds have been introduced by the synthetical chemist; both herbs and drugs have been given to the patients afflicted with various diseases, and if the results have been happy they have been claimed as evidence of progress, a new triumph of the therapeutic art. This is the older method that has given us the vast majority of the drugs with which we are at present acquainted. We owe it a great debt of gratitude, and probably nobody would be so rash as to say that its day is past, its work done. But the time has come when the newer method of drugging diseases must be seriously taken into account, the method advocated by the chemiotherapists, with Professor Ehrlich as their protagonist. It is impossible to deny that a method of investigation that has given us so powerful a drug as salvarsan, to name but one of many, is worthy of the most respectful consideration. Its application at the present time lies solely in the treatment of the different infectious disorders.

What is the exact nature of the problem the chemiotherapist sets out to solve when called in to prescribe for a man or an animal infected with some living parasite—protozoan, trypanosome, spirochaete, visible or ultramicroscopic bacterium? The problem is, how to find a drug that will kill the parasites without hurting their host. To kill the parasites in

test-tube experiments is easy, and can be done by any one of the many disinfectants and antiseptics in daily use. In the animal body, however, these disinfecting agents show a uniform tendency to attach themselves to and destroy the tissues of the host, leaving the infecting agent comparatively unharmed. To use Ehrlich's terminology, such drugs are organotropic and not parasitotropic. As an example may be quoted Koch's experimental attempt to cure anthrax by injecting sublimate solution; the anthrax bacilli flourished untouched, the host it was that died—of sublimate poisoning. The chemiotherapist has, therefore, to make and try a succession of synthetic compounds of such a chemical constitution as his experience shows him are likely to be parasitotropic in a high degree, organotropic as little as possible. Patience, skill, luck, and—last, but not least—money, are the four chief factors upon which his chances of success depend. Chemical compounds can only act upon the cells (whether the cell-bodies of parasites or the cells of the tissues that build up the human body) to which they are fixed; the only agent that can fix them is chemical affinity. Clearly, then, drugs will only be fixed by the cells that have a definite chemical affinity for them, or, in other words, have a definite chemical relationship to them. Mercury and arsenic are both metals highly poisonous to living protoplasm. But their salts will cease to be poisonous, however much mercury or arsenic they may contain, unless they have unsatisfied chemical affinities that enable them to combine with the living protoplasm, and so to get to work upon it. The atomic groups of the protoplasm that effect these chemical combinations with drugs are called "chemioreceptors" by Professor Ehrlich; in the case of the drugs, the atomic groups that combine with the protoplasm are called "haptophores": the atomic groups that exert the toxic action on the protoplasm are called "toxophores." To take the case of salvarsan, whose structural formula is set out by Professor Ehrlich, the trivalent arsenic molecules are the toxophores, the ortho-amido-phenol groups are the haptophores; the rest of the molecule is therapeutically indifferent.

There are many obstacles in the chemiotherapist's path, and Professor Ehrlich pointed out a few of them in the course of his address. To begin with, the difficulty of finding a synthetic drug that will kill the parasites without harming the host is enormous. Next, unless the parasites are all slain by a single injection at one fell swoop, the survivors may acquire a degree of immunity to the drug that will enable them and their progeny to live through subsequent injections. Again, the animal organism may contain dead corners, spots to which injected drugs have no means of access, such as the space which is filled by the cerebro-spinal fluid; and parasites may be harboured safely there when they are killed throughout the rest of the body by the injection of some parasitotropic drug. A fourth difficulty may lie in this—that the patient unhappily chances to be supersensitive to the drug, by an idiosyncrasy that makes it far more toxic to him than it is to the ordinary individual. Professor Ehrlich indicated the ways in which these and other difficulties are to be vanquished, and concluded his address in an optimistic strain.

Chemiotherapy aims at the cure of infectious diseases by sterilizing the patient and killing the infecting agent in his tissues; what has been somewhat magniloquently termed a *Therapia sterilisans magna*—cure by sterilization on the large scale—is the objective. Should some of the parasites survive the first attempt at their destruction, the chemiotherapist falls back on a *Therapia sterilisans fractionata*, takes two or more bites at the cherry, and kills off the surviving parasites with a second or possibly more injections of his synthetic drug. Framboesia, or yaws, a tropical cutaneous complaint caused by a spirochaete, is almost always cured by a single injection of salvarsan. Syphilis is now recognized to be less amenable to the treatment than this; and, though a satisfactory cure by one injection is claimed for a fair percentage of the cases, the syphilitic will generally have to take his sterilization by salvarsan in fractional or fractionated doses.

In the human and animal diseases caused by protozoa and spirilla, speaking generally, the results obtained have been extraordinarily successful: Professor Ehrlich believes that the whole host of bacterial infections will be driven into the corner by the chemiotherapist before many years have passed. He looks to see great advances made now that the principles and methods of chemiotherapy have been firmly established on a working basis. Union is force; he takes the opportunity afforded by the meeting of the Seventeenth International Medical Congress to call upon the scientific men of all countries to combine and work together for the advancement of chemiotherapeutic research.

MEDICINE AND PUBLIC HEALTH.

IN the proceedings of the Seventeenth International Congress of Medicine three Cabinet Ministers took some official part. Lord Morley presided at the Government banquet given on the evening before the formal opening of the Congress, Sir Edward Grey took part in that ceremony next day, and on Tuesday last that sturdy optimist, Mr. John Burns, President of the Local Government Board, delivered before the members of the Congress an oration, printed in full upon another page, in which he set out to prove how far and fast social sanitary science and preventive medicine have advanced during the last thirty years. He did it with conviction, as readers of his address will see; and his conviction will no doubt be shared by his readers, for the address is grounded on a mass of statistical evidence, arrayed by the skilful hand of an expert, as convincing as it is intelligible. Every year about half a million people die in England and Wales; but if the conditions of our daily life were not more healthy now than those prevailing thirty or forty years ago, fully another quarter of a million would die every year in England and Wales. The cost in hard cash at which this saving of life has been bought must be reckoned in hundreds of millions of pounds, as the figures quoted by Mr. Burns show; yet nobody can say that the price paid has been excessive, and it must be remembered that much of this expenditure is sunk in lasting improvements that will continue to yield valuable returns for many years to come.

The motives that caused the English to become pioneers in sanitation and the legislation of public hygiene are analysed by Mr. Burns. Philanthropy was one. Englishmen had always been found to champion lost causes and take sides with the weak, the suffering, and the oppressed. Panic was another. In 1831-2 there were over 40,000 deaths from cholera in the United Kingdom, and later epidemics of the same disorder drove home the lesson that dirt makes disease—that local insanitary conditions are closely connected with the visitations of epidemic fevers. A third factor that drove us on along the upward

path was economic necessity—due recognition of the fact that loss of health means loss of time and money. At the present time the realization of this conception is, perhaps, the most powerful of the stimuli to which our local authorities react. Once they have grasped that health means wealth, they are willing to expend the ratepayers' money on local sanitary improvements.

The President of the Local Government Board devoted much attention to proving to his audience the advantages of notifying diseases. The history of the registration of diseases is inseparably bound up with the history of public health. Such registration provides the solid facts that form the basis of successful hygienic and preventive legislation; the exact nature and distribution of the conditions and abuses that are to be improved off the face of the earth must be known before they can be scientifically attacked. He argued that very few cases of hardship had actually occurred as a result of the compulsory notification of tuberculous patients established by law in England and Wales at the beginning of the year 1912. He had reason to expect most valuable results from the Notification of Births Act. This Act enables medical officers of health to obtain information as to births within thirty-six hours of their occurrence, whereas registration of the birth may be delayed for six weeks. Armed with this speedy knowledge, the medical officer of health will be able to have early visits made by the nurse or health visitor in cases where it seems advisable. The scientific period of preventive hygiene may be dated from the times of Lister and Pasteur; the remarkable pioneering done before their day was the work of practical men whose virtue lay in the recognition of good results when they had been obtained, but until the science of bacteriology had become firmly established the *rationale* of hygienic measures was incapable of scientific analysis.

Many other points of interest will be found discussed in the address, but reference is made to but one of them—the sterling work done by the nursing profession. Our nurses are probably the best in the world, and, thanks to the pioneer work of Florence Nightingale, they were among the first; but the fact that she derived much of her technical knowledge from Germany is an instance of the interdependence of nations in all matters affecting medicine and the public. Mr. John Burns enumerated a number of general and special hospitals in the United Kingdom with an aggregate of 15,500 beds between them. No fewer than 6,083 nurses were engaged in the day and night service of these beds in the year 1911: that is to say, for every five patients there were two nurses. In addition to these, thousands of nurses are engaged in private nursing, thousands more are busy as Queen's Jubilee nurses, parish nurses, district nurses, tuberculosis nurses, school nurses. Yet the whole nursing profession as we now know it has grown up since the middle of last century.

Medical science is cosmopolitan, and so is the science of social reform that strives to improve the health of nations. In matters of health no people stands alone; each profits by the successes of the other nations, just as it stands to lose by their failures or mistakes in sanitation. Mr. Burns took a yet wider view, and looked forward to the days when armaments will be no more, when gigantic sums of money will be set free for the reforms waiting to be financed, and poverty will have been improved away by the radical treatment of its cause. We hope this dream may come true.

NOTES.

Some General Impressions.

The Seventeenth International Congress of Medicine is among the successes of the past. That it was a success, and a very great success, there can be no doubt. Quite apart from the unstinted praise expressed in the resolution proposed by Professor Burger on behalf of the Permanent Commission of International Medical Congresses, and unanimously adopted at the closing meeting, there was abundant evidence of the satisfaction felt by foreign members. It found expression not only at the many sectional dinners and entertainments, but in the course of private conversation. The success was both scientific and social. In spite of the large number of sections (there were twenty-six altogether counting the subsections, as they should be counted since each had its own organization and met independently) all were well attended, and very many valuable discussions took place. This success, to which our Canadian brethren bear witness in the graceful resolution printed on the next page, could not have been attained had not a great deal of energy been thrown into the task of preparation by the Executive Committee of the Congress, over which Sir Alfred Pearce Gould presided, and by the officers of the sections, who took care that the subjects selected were living questions of the day, and that the reports upon them were prepared by the highest authorities available, irrespective of nationality. Last week we gave short accounts of the opening meetings of some of the sections. This week we continue these condensed reports covering a larger number of sections, and it is intended to complete the review of the work of the sections of the Congress in our next issue.

On the social side the intention was to show the foreign members those institutions of London in which they were likely to take most interest, to extend to them official hospitality, in which the executive of the Congress was readily seconded by the Government in the name of the nation, and by the medical corporations and chief scientific institutions in London, and, lastly, to offer, as the occasion presented itself, the more intimate welcome for which the numerous dinners, receptions, and parties given by the several sections afforded opportunity. These occasions were supplemented by private hospitality. We have not been able to mention all the public or semi-public receptions and entertainments, but those of which some account is given in the following pages will afford a sample of the rest. The organization of arrangements of this magnitude involved a great amount of work both before and during the Congress, and it is very largely due to the work of Dr. Clive Riviere that everything in this respect was so well managed; while the profession is only less indebted to the President's daughter, Miss Barlow, who did admirable service for the Ladies' Committee, which had undertaken the duty of providing opportunities of interest and amusements for the ladies who accompanied the male members of the Congress while they were engaged in the sections.

It was anticipated that the number of members attending the Congress would be very large, and this anticipation was more than fulfilled. The task of providing machinery for registering all the members of the Congress, and giving them the information, printed and verbal, of which they stood in need, was extremely difficult. It was entrusted to Mr. Hamilton, for the loan of whose invaluable services the Congress was indebted to Mr. H. S. Wellcome. Mr. C. M. Page, Resident Assistant Surgeon at St. Thomas's Hospital, had the general supervision of the arrangements for the meetings at the Albert Hall, and for the sectional meetings. He was ably seconded in this work by Dr. J. M. Wyatt, Obstetric Tutor at St. Thomas's Hospital, while to Mr. Pearce Gould, of the Middlesex Hospital, son

of the Chairman of the Executive Committee, fell the task of editing the daily journal of the Congress and supervising each issue. Dr. Philip Hamill, of St. Bartholomew's Hospital, undertook the duty of superintending the Inquiry Bureau, which, during the earlier days of the Congress at least, was besieged by anxious inquirers of every nationality, and in this connexion the very cordial thanks of the executive are due to Dr. A. R. Allen, of Philadelphia, Secretary of the American International Committee, who gave himself up for several days to assist Dr. Hamill in his onerous task. Again the executive have to thank Sir Lauder Brunton for the trouble he took in arranging with the Post Office authorities for the efficient working of the temporary branch post-office.

Finally, two names remain to be mentioned with special gratitude and appreciation. One is that of Mr. G. H. Makins, C.B., one of the treasurers of the Congress. His experience of the Congress in London in 1881, when he was deputy secretary, was invaluable on all questions of general organization, and the energy and time he gave to the work cannot be too warmly recognized. The other name is that of Dr. W. P. Herringham, the general secretary of the Congress, upon whose shoulders rested the final responsibility for everything that was done. His name has, so far as we have observed, only once been mentioned throughout the whole of the proceedings, when, at the opening ceremony, he spoke partly in his other capacity of Vice-Chancellor of the University of London. Nevertheless, in the nervous system of the Congress he has been the cortical sensori-motor centre, collecting the centripetal impressions, combining them with unerring judgement, and reflecting them into action at the periphery. We desire to offer him warmest congratulations on the admirable result of his action both in initiative and control.

Lastly, let us repeat what every one is saying—namely, that if our guests carry away with them a pleasant recollection of London, of the welcome they received there, and of the spirit of British medicine, it will be in very large measure due to the personality of the President. Without appearing to make any special effort, he has always said and done the right thing. There has been a note of sincerity in his welcome, which truly expressed the feelings of the profession in this country, and, as we have been assured by very many of them, was thoroughly understood and appreciated by our foreign guests. Moreover, in all his utterances he has emphasized the human side of medicine—in two senses. The first is the sense of the fellowship which exists among men and women of every nation engaged in the same beneficent calling and sharing everywhere alike in its triumphs and in its disappointments. To this feeling of comradeship expression has been given during the hospitalities of the last week in every tongue spoken from China to Peru, and by no speaker more effectively than by the President. The other sense in which he has emphasized the human side of our calling—and in this he has truly reflected the best traditions of medicine in this country—is that he has insisted in all his more public speeches on the truth that in the body politic medicine holds a place essential to the commonweal with the special mission to prevent disease, to alleviate suffering, to safeguard the development of youth, and to prolong useful life to old age—a mission which it can fulfil as it would desire only when left free to go on with its own work in its own way. There are no keener critics of each other than men of the same calling; of this the discussions of the Congress have given ample proof. If the Congress has separated without giving an answer to some of our most pressing problems; if we are very much where we were with regard to cancer, to immunity and anaphylaxis, and, to take only one other instance, to the true interpretation of the causes and the nature of cardiac disorders, there has been at least frank discussion of the facts and frank criticism of theories. This process of sifting is essential to scientific work of permanent value, and it is not every man who can apply it to his own work. One of the most important functions of such gatherings as that which has just come to an end in London is to give this process full play and to prevent the hasty putting into force, in practice or legislation, of measures founded on theories which have not passed through the ordeal of discussion and criticism, and the test of experiment in other hands than those of the originator. It is a common gibe that doctors differ; they differ until they are convinced that the truth has been found. Then they speak with a single voice, as they have spoken at this Congress about vivisection and venereal diseases for instance. The truths they then enunciate are not always very palatable to the public, which excuses itself by finding other topics among those discussed at a Congress to which the gibe applies. It has been the great achievement of the President of the London Congress to give expression in no uncertain tone to some of the convictions which world-wide medicine has reached, and by so doing he has laid his profession and the public under a deep debt to his knowledge, sincerity, and courage.

CANADA AT THE CONGRESS.

THE Canadian members of the medical profession who have been attending the International Congress met on Tuesday morning, August 12th, under the chairmanship of Dr. W. H. B. Aikins, Dr. H. B. Anderson acting as secretary, when the following resolution was unanimously passed, on the motion of Dr. J. T. Fotheringham (Toronto), seconded by Dr. J. M. Elder (Montreal):

> That we wish to offer to the President, Sir Thomas Barlow, to the Secretary, Dr. W. P. Herringham, and to the whole Committee, our hearty congratulations upon the great success which this meeting of the Congress has attained under their kindly and able administration. But particularly as members of the great British family do we desire to express the sense of familiar, homely intimacy which is felt by all of us, enhanced as it is by the presence of so brilliant a gathering of the savants of other climes and races. For as Canadians revisiting the motherland—*coelum non animum mutamus*—we deeply appreciate the real significance of the idea expressed by His Royal Highness Prince Arthur of Connaught in his gracious address of welcome, that all of us of the Empire stood together as hosts to all the rest of those attending. We noted with pleasure the repetition of this idea by the President in his address.
>
> On behalf of the Canadian ladies, we wish to thank the Committee of Ladies here for the profuse and well-ordered hospitality shown by them, and the many arrangements made for the comfort and entertainment of our wives and daughters.
>
> And as we part, each one to his own work across the seas, we beg to offer to all our kind hosts and friends in London our cordial felicitations, thanks, and good wishes.

The last general entertainment in connexion with the Congress was given on Monday night at the Royal Botanic Gardens by the High Commissioner for Canada, Lord Strathcona and Mount Royal. The guests were received by Lord and Lady Strathcona in person, and this act of courtesy was by no means a light undertaking, for the guests numbered several thousands. Beginning about half-past nine the flow of arrivals continued uninterruptedly until nearly eleven o'clock. The night, fortunately, was exceptionally fine and warm, and the gardens were attractively lighted by arches of Chinese lanterns. The large dining-hall of the club house of the Royal Botanic Society was one of the centres at which refreshments were served, and just in front of this building had been placed, by way of marking the special character of the evening, a full-sized model of the colossal statue of Harvey by Bruce Joy, which was unveiled on the promenade of Folkestone just thirty-two years ago in the presence of Owen, Huxley, Paget, and other great men of that day

The model was that which was on view at the Royal Academy in the same year. The palm houses, where the Princes' Red Band was playing popular airs, was another centre of attraction, while in the gardens themselves the band of the Royal Artillery played some fourteen or fifteen pieces which appeared to have been carefully selected from the repertoires of all the principal nations. A successful effort in the same direction was made also by a quartet party, which chose its folk songs from the ballads of many nations, including Spain, China, Roumania, and Sweden. Another happy idea was the presence of some pipers from the Scots Guards, who from time to time supplied some Scottish music and gave an exhibition of sword dancing. The assembly did not separate until midnight.

A French Tribute to Lister.

During the Congress there has been no name more often on the lips of those who took part in public and semi-public occasions than that of Lord Lister, and on every hand the revolution which he brought about in surgery was fully and enthusiastically recognized. On Monday a number of distinguished French members of the Congress paid a tribute to his memory. A large party visited the Royal College of Surgeons and Dr. J. Lucas-Championnière placed a laurel wreath entwined with roses on a bust of Lord Lister placed temporarily in the hall of the College. Among those who accompanied M. Lucas Championnère were Professor Chauffard, Professor Pozzi, Professor Legry, Professor Wallich, Professor Lapersonne, Professor Lagrange, and MM. G. Etienne, Le Noir, Savariaud, and Dr. Raoul Blondel (Secretary of the French Committee). The wreath bore the inscription: "à Lord Lister: les Médecins Français: XVIIe Congrès." Dr. Lucas-Championnière spoke of the life and work of the illustrious British surgeon, the value of whose system, it may be noted, he was one of the first of Continental surgeons to appreciate. The visitors were received by the President of the College, Sir Rickman J. Godlee, who afterwards showed them some of Lord Lister's instruments and a collection of drawings made by his own hand. The bust is not yet quite complete, but the sculptor, Sir Thomas Brock, R.A., allowed it to leave his studio for this special occasion. The model was in the exhibition of the Royal Academy.

The Transactions of the Congress.

Each member of the Congress will receive a copy of the transactions of the Section to which he belonged, but it has been arranged to supply the complete set of the Congress transactions for a subscription price of £4. Applications should be addressed to the publishers, Messrs. Frowde, Hodder, and Stoughton, Oxford Press Warehouse, Falcon Square, London, E.C.

The Pathological Museum.

We mentioned briefly last week the remarkable collection of physiological and pathological specimens brought together by the committee of which Professor Arthur Keith was chairman, and Mr. H. W. Armit the energetic secretary. The catalogue of this museum, printed in English, French, and German, is a portly volume of over 500 pages, and the number of separate entries in each language exceeds 4,000—a fact which may give some idea of the amount of work involved in the arrangement, classification, and indexing of so large a collection. To give any full account of such a collection here would be out of the question, and only those—and they were many—who took the trouble to spend an hour or two in the museum can have gained an adequate conception of the many interesting specimens which were to be seen. We may, however, take occasion here to refer to the extraordinarily beautiful set of specimens shown by Professor Werner Spalteholz of Leipzig to illustrate the method he has devised of rendering organs and tissues transparent. In the series was a set of specimens rendered transparent by immersion in oil of wintergreen and benzyl-benzoate. Among these were complete bodies of a sole, frog, and rat, in which the bones were stained with alizarin, all the other parts being perfectly transparent, so that it was only by looking at the specimen in profile that it was possible to realize that one was not looking at a dissection. Two other specimens of very particular interest showed the base of the skull of the human fetus at various ages; the fact that the bones were stained with alizarin gave an idea of the extent of ossification at the several ages which no elaboration of description could convey. Another very instructive specimen showed the base of the skull decalcified and rendered transparent, the labyrinth being filled with opaque metal. Dr. Spalteholz also demonstrated the method in which the remarkable preparations were obtained. Another very interesting set of preparations were shown by Professor B. Wahby of Cairo, who gave a special demonstration of his method to the Section of Anatomy. The specimens were obtained by injecting vessels and ducts with a fusible alloy consisting of bismuth, lead, cadmium, and tin. The demonstration was illustrated by a large number of very beautiful specimens showing the distribution of the finer vessels and ducts in various organs. Professor Wahby also showed a number of specimens of celluloid injections. Finally, we have received from our reporter in the Section of Forensic Medicine the following note upon that department of the museum which particularly interested him: "The actual exhibits (tangible realities) consisted," he writes, "of three cut-throats and the weapons with which the injuries were inflicted; the stomach of a small child poisoned intentionally (infanticide) by carbolic acid; another stomach showing the effect of chloride of zinc; a uterus showing on the cervix the lacerations produced by a clumsy abortionist; a fetus dug up from the garden together with a catheter and stilette (there was no evidence but that of propinquity in position to show whether these two exhibits were from the same case); an aneurysm of the aorta, ruptured during effort (the interest of the case seemed to lie in the statement that the employers had admitted liability for an 'accident'). In addition to the above there were a large number of photographs of very gruesome objects illustrating: (1) Fatal burns and scalds (5 photographs); (2) injuries to the skull (6 cases, 1 in a newly-born child from precipitate labour); (3) drowning (4 cases); (4) exhumation (3 cases); (5) tattooing (2 cases); (6) murder by violence (stabbed 4 cases, kicked to death 1 case, murdered by fire-tongs, 1 case, cut-throat and general violence 10 cases); (7) cases killed in the North Sea disaster (!) by the Russian fleet (2 had the top of the skull blown off); (8) illustrations of forms of suicide: (*a*) burning by soaking clothes in paraffin and purposely igniting them, (*b*) cut-throat, (*c*) gunshot, (*d*) hanging, (*e*) drowning. The collection was certainly a striking one, and would serve a purpose in instruction when actual cases could not be obtained."

President's Dinner.

On the eve of the dissolution of the Congress on Monday the President, Sir Thomas Barlow, entertained a large party, including some of the most distinguished members of the Congress, to dinner at the Savoy Hotel. Among his guests were Professor Chauffard, Professor Harvey Cushing, Professor Ehrlich, Professor Bateson, and Mr. John Burns, who were responsible for the five general addresses to the Congress. Among the distinguished foreign guests present were the American Ambassador, Professor F. S. von Müller, subsequently elected President of the Eighteenth International Medical Congress, which is to be held in Munich in 1917; Professor Waldeyer,

M. Lucas-Championnière, Professor L. F. Barker (Johns Hopkins), Professor von Eiselsberg, Professor Fuchs, Professor de Gama Pinto, Professor Gradenigo, Professor Hirschberg, Professor Rovsing, Professor Blanchard, Professor Max Verworn, Dr. Soubbotitch, Dr. Babinski, Dr. Bianchi, Dr. Ascoli, Dr. Calleja, Professor Frankl-Hochwart, Professor Kirmisson, Professor Burger, Dr. Koplik, Professor d'Eternod, Professor Recasens, Professor Pozzi, Professor Strassmann, Professor P. Janet, Dr. P. Heger, Dr. Van Rynberk, Professor Kubo (Japan), and Dr. Wu Lien Teh, China. Among many of our own distinguished fellow-countrymen were the Archbishop of Canterbury, the Lord Chancellor, His Eminence Cardinal Bourne, Lord Strathcona, the Right Hon. Sir George Reid, Sir Archibald Geikie (President of the Royal Society), the Lord Mayor of London and two ex-Lord Mayors (Sir Thomas Crosby, M.D., and Sir Vesey Strong), the Right Hon. Sydney Buxton, the Director-General of the Medical Department, R.N., Sir William Macewen, Major Darwin, F.R.S., Professor Francis Dixon and Dr. James Little of Dublin, and many of the officers of the Sections. After dinner Sir Thomas Barlow bade his guests welcome and farewell in one breath, and dwelt on the point, to which Sir Edward Grey had given prominence at the opening meeting of the Congress, that the welcome to foreign members was extended not only by the citizens of the United Kingdom but by those of the great Overseas Dominions of the British Empire. In this connexion Sir Thomas Barlow referred especially to the way in which Lord Strathcona, High Commissioner for Canada, and Sir George Reid, High Commissioner for Australia, had associated themselves with the work of preparation. The toast was acknowledged by M. Lucas-Championnière speaking in the name of France, and by Professor Ehrlich speaking in that of Germany. The guests afterwards adjourned to another room and during the evening had the pleasure of listening to English madrigals and part songs admirably rendered by the Westminster Singers.

Orthopaedics.

On Friday evening, August 8th, the President of the Orthopaedic Subsection entertained at dinner at the Royal Automobile Club the members of the Subsection, the ladies by whom they were accompanied, and other friends—a very large party. After dinner the host called upon a representative of each country contributing to the Subsection to respond to the good wishes of the company for the advance of orthopaedic surgery in the several countries. Thus those present had the pleasure of hearing the voices, and to some extent realizing the personality of Dr. Murk Jansen (Holland), Professor Kirmisson (France), Professor Vulpius (Germany), Professor Julius Dollinger (Hungary), Professor Depage (Belgium), Professor R. W. Lovett (United States of America), Professor Hans Spitzy (Austria), Professor V. Putti (Italy), and Dr. Albert Kocher (Switzerland). All the speakers bore testimony to the host's originality and brilliancy as a surgeon, and to his geniality and charm as a man, Professor Spitzy going so far as to make some sort of shadowy claim upon him for his own country, on the ground that his name was a household word with Austrian orthopaedists. Many of the speakers were glad to take the occasion to express to Mrs. Robert Jones their warm thanks for the hospitality with which every orthopaedic surgeon who sought inspiration in Liverpool was invariably received. Finally, in a few words Mr. Muirhead Little (London), and Dr. Clarence Starr (Toronto) spoke of the esteem and affection with which Mr. Robert Jones is regarded by British surgeons. On the evening of the opening day of the Congress a dinner had been given by the committee and staff of the Royal National Orthopaedic Hospital, at the hospital, to welcome the chief foreign members of the Orthopaedic Subsection. Lord Denbigh, the chairman of the committee, took the chair, and in an admirable speech dealt with the progress of the Orthopaedic Hospital and with the history of its formation by the King's Fund from three separate institutions. The toast of "The Foreign Delegates" was responded to by Professors Lucas-Championnière, Vulpius, Putti, Murk Jansen, Clarence Starr, Dollinger, Royal Whitman, Lovett, and Turner (of St. Petersburg) for the foreigners, while Mr. Robert Jones of Liverpool answered for the English guests. Advantage was taken of the thoroughly international character of the Orthopaedic Subsection to initiate an International Association of Orthopaedic Surgery. A committee representative of the several countries was formed and authorized to found an International Association to further the progress of orthopaedic surgery, to correlate the literature of the various countries, and to arrange for the holding of international meetings. The committee consists of the following representatives, all of whom were present in London: *Great Britain*, Mr. Robert Jones (Liverpool); *Holland*, Professor Murk Jansen (Leiden); *Italy*, Professor Putti (Bologna); *France*, Professor Kirmisson (Paris); *United States of America*, Professor Lovett (Boston); *Germany*, Professor Vulpius (Heidelberg); *Hungary*, Professor Dollinger (Budapest); *Canada*, Professor Clarence Starr (Toronto); *Russia*, Professor Turner (St. Petersburg); *Austria*, Professor Spitzy (Vienna), who will act as secretary of the committee.

The Sections of Rhino-Laryngology and Otology.

An ovation in its technical Roman sense is defined as a "lesser triumph," and a triumph involved the idea of exultation over enemies; it would be wholly inappropriate here. But the secondary meaning of the word as given in the *Concise Oxford Dictionary* is "enthusiastic reception, spontaneous applause," and is correctly applied to the reception which Sir StClair Thomson met when, at the dinner given to the members of the Sections of Laryngology and Otology on August 12th, he rose to propose the toast of "The Guests." He began his speech in English, lapsed into German, drifted into Italian, and perorated in French. Dr. Urban Pritchard, in the name of British otologists, joined with the laryngologists in expressing good wishes to the foreign guests, who found spokesmen in Dr. F. H. Bosworth, who, speaking for the United States, gave reminiscences of the Congress of 1881, in Professor Dr. Gustav Alexander (Austria), Dr. G. Boval (Belgium), Professor Dr. H. Mygind (Denmark) Dr. Castex (France), Professor Dr. P. Gerber (Germany), Dr. L. Polyák (Hungary), Professor G. Ferreri (Italy), Professor I. Kubo (Japan), Professor Holmgren (Sweden), Professor F. von Stein (Russia), Professor Cisneros (Spain), and Dr. Nager (Switzerland). Earlier in the proceedings the toast of "The King" had been given by Mr. Arthur Cheatle, the President of the Section of Otology, and Sir Thomas Barlow had been very cordially greeted when he rose to propose a toast to "Laryngology and Otology." He referred especially to the help which the specialists in these subjects were able to give to general medicine by the perfection to which the bronchoscope and the oesophagoscope and the methods for examining the sinuses had been brought, and by the great practical benefits due to the mastoid operation, concluding by an expression of the opinion, loudly applauded by his hearers, that no man should become a specialist in either subject until he had served as house-surgeon and house-physician in a general hospital. Sir Rickman Godlee, President of the College of Surgeons, supported his brother President of the College of Physicians in proposing the toast, which was acknowledged by Professor Gradenigo of Turin and Dr. Luc of Paris. The toast of "The Ladies," given by Sir Felix Semon in a graceful and apposite speech, brought the evening to a close.

The Section of Radiology.

The members of the Section of Radiology and the ladies accompanying them dined together on Saturday evening, August 9th, at the Whitehall Rooms, under the chairmanship of Sir James Mackenzie Davidson, President of the Section, who, in addition to many distinguished British radiologists, was supported by Dr. Albers-Schönberg, Dr. Fauveau de Courmelles, Professor Bergonié, and many Continental and American workers in this branch of medical science. Dr. C. Thurstan Holland (Liverpool), who proposed the one toast of the evening, that of "The President," said that Sir James Mackenzie Davidson's name would live in every book which had been adequately written or which was yet to be written on the subject of radiology; Dr. Béclère of Paris gave expression to the appreciation of those who had come from abroad of the hospitality tendered them by their British brethren.

Dinner to Foreign Military Medical Officers.

On Monday, August 11th, the Director-General of the Army Medical Service and officers of the Royal Army Medical Corps serving in and about London entertained the foreign army medical officers belonging to the Section of Naval and Military Hygiene at the Royal Army Medical College mess. The guests were received by Sir Launcelot Gubbins, D.G., A.M.S., President of the Section, in the anteroom of the mess. Hosts and guests wore full-dress uniform, and, as most of the European countries were represented, the assembly formed a brilliant spectacle. After the customary toast to "The King" had been duly honoured, Sir Launcelot proposed the health of the guests, and in doing so gracefully alluded to the many distinguished names connected with the army medical service of other countries. The toast was enthusiastically drunk with musical honours. Rear Admiral Van Reypen, late Surgeon-General, United States Navy, responded on behalf of the United States of America; Regimentsartz Dr. Manin, on behalf of Austro-Hungary; Médecin Inspecteur-Général Vaillard, on behalf of France; Excellenz von Schjerning, on behalf of Germany; Tenente Generale Medico L. di Cavallerleone, on behalf of Italy; Médicin Inspecteur-Général Humme, on behalf of the Netherlands; and Médecin Inspecteur-Général de Raptchewski, on behalf of Russia. About midnight the guests dispersed after a most agreeable evening, during which many fresh friendships were formed in spite of the difficulty of communication that has unfortunately existed since the time of the Tower of Babel.

Dinner at the Apothecaries' Hall.

The Society of Apothecaries gave a dinner on August 7th to meet members of the International Congress of Medicine. Mr. W. Bramley Taylor, the Master, presided, and among those present were the Wardens, Sir Thomas Barlow, President of the Congress, Dr. Josué, Professor P. Janet, Professor A. Beidl, Professor Paul Ehrlich, Professor Abderhalden, and other guests to the number of seventy-seven. The Master, in giving the loyal toasts, made special reference to the very cordial welcome extended to the Congress on behalf of the King by Prince Arthur of Connaught. Mr. Martindale Ward gave the toast of "The Foreign Guests," and mentioned how the Society of Apothecaries had always been ready to extend the hand of welcome to comrades throughout the world who were engaged in the common struggle against ignorance, disease, and death. Dr. Josué, Professor Burkhardt, and Dr. Hugh Young of Baltimore responded; the last speaker in very happy terms referred to the special delight it was to him as an American to be present in the ancient Hall of the Society of Apothecaries.

School of Medicine for Women.

The council and staff of the London (Royal Free Hospital) School of Medicine for Women entertained a large party of foreign and colonial members of the Congress at luncheon at the Medical School on August 7th. The Chairman of the Council, Mr. F. D. Acland, M.P., was supported by Miss Aldrich-Blake, M.D., M.S., Sir Clifford Allbutt, F.R.S., Sir Rickman Godlee, Sir John Rose Bradford, F.R.S., Dr. May Thorne, Dr. Jane Walker, Dr. Ethel Vaughan-Sawyer and other medical women. Among the guests were Professor Théodore Tuffier, who acknowledged the welcome addressed to the guests by the chairman and Dr. Mary Scharlieb. Dr. Rudolph Matas, Dr. F. von Müller, Professor Anthony, Dr. Maude Abbott, Dr. Sarah Palmer, Professor Bang, Dr. Hésiné, and Sir Charles Lukis. The Medical School laboratories were open to visitors, who were also shown over the Royal Free Hospital and the New Hospital for Women.

Receptions.

One of the pleasantest and most successful social events of the week was the reception on Thursday evening given by the President and Council of the Royal College of Surgeons. The guests were welcomed at the foot of the great staircase by the President, accompanied by Lady Godlee, and Sir Frederic Eve (Vice-President). The museum, the conservator's room, the library, the theatre, and the council chamber were all open, and in the latter were set out for examination various relics of John Hunter. In the theatre chamber music was in progress from beginning to end of the evening, and in the conservator's room there was a display of objects illustrative of museum methods at various dates since the preservation of pathological specimens first became a recognized art. Nor did the museum itself fail to prove attractive. Apart from the prolonged examination bestowed upon it by many of the more industriously minded of the scientific visitors, it received a considerable meed of attention from a large number of ladies who were among the guests. They wandered through most of its rooms and had the gaps in the explanations afforded by their companions of the contents of innumerable glass cases conveniently filled in by the strains of a military band, which was playing at the bottom of the first room. On the same evening the President (Sir Francis Champneys), Council, and Fellows of the Royal Society of Medicine gave an "at home" at the society's new house in Wimpole Street. In the library were shown "Queen Mary's posy of simples culled from the Physic Garden, Chelsea," being the posy presented to Her Majesty at the opening of the society's house. In the same room Dr. Deane Butcher showed a number of the artificial "organisms" prepared after the manner described by Professor Leduc, of Nantes, in his two works on the subject and demonstrated by him at the meeting of the British Association at Dundee last year. The "organisms" are intended to show that the energy of growth and tissue repair is derived from the osmotic pressure of mineral substances in solution. They are highly interesting and suggestive, but not easy to prepare, and great credit is due to Miss Deane Butcher for the success with which she accomplished her difficult task. In addition, the Honorary Librarian, Dr. Norman Moore, had set out a number of books selected for their rarity or curious medical interest, and there was shown also the stethoscope given to Dr. Peter Patrick Martin by Laënnec, who had himself used it. In the Robert Barnes Hall, Dr. Comandon, of Paris, showed a large number of cinematographic films prepared by Messrs. Pathé Frères, of Paris. The films illustated the circulation of the blood, various modes of investigating the digestive processes, the properties and reactions of living cells, and the developmental stages of various organisms, including examples of filaria, spirochaetes, and trypanosomes. In the Marcus Beck Laboratory those engaged in the John Howard McFadden Researches gave a demonstration of the jelly method of

staining cells alive and of the division of living human cells under the microscope.

Over six hundred guests, including the heads of many foreign army medical services, attended a conversazione at the Royal Army Medical College on August 7th. The Director-General, Surgeon-General Sir Launcelot Gubbins, was the host, and the arrangements were made by the Commandant (Colonel Skinner, M.V.O.) and the staff of the College. Selections were given by the R.A.M.C. band, and a very agreeable social evening was spent. The principal rooms of the R.A.M.C. mess were thrown into one, and the whole of the medical school was occupied by a collection of military medical appliances, tropical and pathological specimens, hygienic outfits, and examples of military equipment from the principal armies of the world. Demonstrations were given of methods of determining the energy value of food, of *x*-ray apparatus, sterilization of water, food analysis, and of field medical and surgical equipment. Cinematograph films were projected illustrating the effect upon spirochaetes of injections of salvarsan, and a number of microscopic specimens were shown.

On the same evening the Grocers' Company gave a reception to 500 guests.

The principal attraction of Friday evening, August 8th, was a welcome accorded to the Congress by the Lord Mayor and Corporation of the City of London. It took place at the Guildhall, where the guests were welcomed and subsequently entertained in a fashion thoroughly in keeping with the great reputation of the City for hospitality. Not the least interesting feature of the evening for most of the guests was the fact that each in his turn had to play a part in a courtly old-world ceremony. The Lord Mayor (the Right Hon. Sir David Burnett), the Lady Mayoress, and the great officers of the corporation robed in the fashion of a long bygone day, were standing on a dais in front of which a passage was kept open by silk cording. One each side was an array of guests, and down this long, broad passage each new arrival, his name having been loudly announced, went to make his bow to his hosts. Thereafter he found at his disposition a plentiful choice of occupation for the rest of evening. The council chamber had been converted for the nonce into a variety theatre, the library into a ball room, the art gallery into a music room, the museum into a promenade, and the ancient crypt into a vast refreshment bar. There was also a display of plate belonging to the corporation and of ancient charters, and each guest received an elaborate programme containing numerous illustrations of the Guildhall and its annexes.

Garden Parties.

Very many garden parties were given during the Congress, and for the most part they were very little interfered with by the eccentricity of English weather. Unfortunately, on the first afternoon on which such parties were given (Thursday) the weather was rather inclement, but in spite of this a large number of guests attended a garden party given by the Dean of the Faculty of Medicine of the University of London and Lady Pearce Gould on August 7th. The grounds of the Theological college in Regent's Park were lent for the occasion by the Principal, Dr. John Gould, and their attractions were much appreciated. The band of the University of London Officers' Training Corps rendered selections in the grounds, and a concert took place in the library. On the same afternoon there were garden parties also at Bethlem Royal Hospital, and at the new King's College Hospital.

A very successful garden party was given by the Governors and staff of St. Thomas's Hospital on Friday afternoon, August 8th. The hospital wards were open for the inspection of the visitors, and music and other entertainments were provided in the grounds. On the same day garden parties were given at St. Bartholomew's Hospital and by the Ladies' Committee of the Section of Surgery with the Subsections of Orthopaedics and Anaesthesia at the Royal Botanic Gardens, where the bands of the Coldstream and Scots Guards and the pipers of the latter played.

A large number of members of the Congress and ladies attended the garden party given by the King at Windsor Castle on August 9th. His Majesty was not in residence, but the guests were received by the Lord Chamberlain (Lord Sandhurst) and the Comptroller of the Lord Chamberlain's Department (Colonel Sir Douglas Dawson). On arriving at the Grand Entrance the guests were conducted in parties through the State apartments, and, passing out to the East Lawn, were entertained to tea in several large marquees decorated with carnations and roses. Many of the visitors took away the flowers as mementoes. The bands of the Royal Horse Guards and the Coldstream Guards rendered selections during the afternoon, and before leaving the visitors were conducted through the Albert Memorial Chapel and St. George's Chapel.

On Sunday afternoon Mr. Waldorf Astor, M.P., received a large party in the beautiful garden of Cliveden. The view from the Terrace down the Thames with the woods of Cliveden and Taplow on the left hand is one of the most charming and restful which "the banks of the serene Thames" afford. The river also afforded solace to others, for the Laryngological and Otological Sections went to Oxford, the Physiological Section picnicked on its banks, and Sir Watson and Lady Cheyne gave a river party to a large number of the members of the Surgical Section.

A garden party was given by University College Hospital and Medical School, in the grounds of University College, on August 11th. The Duke of Bedford, as President of the School, received the guests in the library, and with him were Captain E. S. Dawson (chairman of the general committee) and Lady Dawson and Dr. George Blacker (dean of the medical school). Tea was served on the lawns of the college, where the visitors were received by Dr. T. Gregory Foster, Provost of University College, and Professor G. D. Thane, Dean of the Faculty of Medical Science. The wards of the hospital and the departments of the medical school were opened to the inspection of the guests, who were provided with a handsomely printed descriptive booklet and guide. On the same afternoon the medical and surgical staff of the London Hospital gave a garden party in the grounds of the hospital, where the guests were received by Sir Frederic Eve, the senior surgeon, and Sir Bertrand Dawson, senior of the physicians of the hospital now in London. Visitors were conducted over the hospital, the nursing home, the Finsen light department, the medical college, and the new dental school, members of the staff, students, and nurses acting as guides and interpreters. On this day a garden party was also given at Guy's Hospital.

Welcome to Medical Masons.

The nine medical lodges of London gave a united welcome to Masonic members of the Congress at a special meeting held on Monday afternoon at the headquarters of the brotherhood, Freemasons' Hall, under the banner of the Aesculapius Lodge, No. 2,410. The other lodges associated with the gathering were the Rahere Lodge, No. 2,546; the Cavendish, 2,620; the Sancta Maria, 2,682; the Middlesex Hospital, 2,843; the London Hospital, 2,845; the Chère Reine, 2,853; the King's College Hospital, 2,973; and the Lanesborough, 3,029. About 150 members of the medical lodges and officials of the Grand Lodge of England were present, and there were 100 visitors from all parts of the world. The lodge having been opened by the officers of the Aesculapius Lodge, of which Bro. A. P. Beddard is Master, the Pro Grand Master of England (Lord Ampthill) entered, accompanied by several Grand officers, and took the chair, appointing Bro. Edmund Owen and Bro. Ernest Clarke, both Past Grand Deacons, to assist him as

Wardens. Lord Ampthill said he had the honour to address the assembly on behalf of the Grand Master (the Duke of Connaught) in the name of the Freemasons of England, and for the different lodges who were acting as hosts on that occasion. He read a letter which he had received from the Duke of Connaught, who regretted that he was unable to be in London that day, and desired him to welcome very warmly, in his name, the medical Freemasons present. Lord Ampthill paid a high tribute to the members of the medical profession, who, he claimed, carried out the Masonic principles of Brotherly Love, Relief, and Truth even better than any other class of men. Bro. Owen followed with an address in French, and Bro. Clarke with one in German. Replies were made by Bro. H. Haberlin, P.G.M. of the Grand Lodge Alpina of Switzerland; Bro. W. E. Redman, Prov.G.M. of the Nelson and Marlborough District of the Grand Lodge of New Zealand; Bro. Pellegrino Ascarelli, Grand Treasurer of the Grand Orient of Italy; Bro. C. M. Green, P.D.G.M. of the Grand Lodge of Massachusetts, U.S.A.; and Bro. Polak, of the Symbolic Grand Lodge of Hungary. On the proposition of Bro. D'Arcy Power, P.G.D., votes of thanks were accorded to the Grand Master, to the Pro Grand Master, and to Bro. R. J. Probyn-Williams, P.G.D., who had acted as honorary secretary.

Esperanto.

A meeting of the Universal Esperanto Medical Association was held on Friday, August 8th, in the Geological Laboratory of the Royal School of Mines, South Kensington, when the President, Mr. George Jameson-Johnston, Professor of Surgery at the Royal College of Surgeons in Ireland, was in the chair. Speeches were delivered not only in Esperanto, but also in French, Russian, German, Spanish, and Polish, for the conversion of those present who had not already acquired the art of speaking Esperanto. Several speakers contended that owing to the variety of language, members of the Congress tended to resolve themselves into small national conferences. The proceedings were continued on Monday morning, and were conducted entirely in Esperanto. A paper was read by Dr. F. W. Alexander, M.O.H., Poplar, entitled "Sanigado per la Mara akvo kaj la Elektro" (sanitation by means of sea water and electricity), and others by Dro Nemser (el Peterburgo), Dro Robin (el Varsovio), Dro Rothschuh (el Aachen), Dro Sidlovskij (el Moskvo). The President expressed his conviction that, as the experience of the meeting had shown, Esperanto was suitable for the discussion of technical subjects. A reception was held at the Esperanto Club, St. Bride's Institute, St. Bride's Lane, Ludgate Circus, which was attended not only by a number of the members of the Congress speaking Esperanto, but by others who were disposed to study the utility of the tongue.

Visits to Harrogate and Bath.

Nearly two hundred members of the Therapeutic and Dermatological Sections of the Congress visited Harrogate as the guests of the Corporation on Sunday. The party was met at the station by Mr. H. J. Buckland (general superintendent of the wells and baths department), by whom they were conducted to the Royal Baths, where they were received by the Chairman of the Wells and Baths Committee (Mr. J. Sheffield), who welcomed the visitors on behalf of the Mayor (Mr. J. S. Rowntree) and the Corporation. Dr. Shepherd Boyd, President of the Harrogate Medical Society, said that Harrogate had made considerable progress during the past few years. Its great ambition was to be in friendly rivalry with the mother spas of the Continent. He hoped that in the near future Harrogate would not only be the greatest of British spas, but a leader of the great centres of international spa treatment in the interests of suffering humanity. Professor Smithells, of the Leeds University, who is directing a scientific survey of the Harrogate waters, gave a short account of the geological origin of the waters, and of their general chemical character. He said that the quantity of the dissolved matter and the consistency of composition of the springs indicated that they flowed through a very long course, and over a large area, and gave promise that the supply would be maintained indefinitely. The old sulphur well had hardly varied in composition from the date of its careful analysis by A. W. Hofmann in 1853 to the present time. The radio-activity of the waters and the actual amount of radium were undergoing measurement in the university, under the supervision of Professor Bragg. Dr. David Brown (Honorary Secretary and Treasurer of the Harrogate Medical Association) gave an interesting account of the pharmacology and therapeutic indications of the sulphur, chalybeate, and saline springs, over eighty in number, and detailed the classification of the various baths. The visitors were then conducted over the Royal Baths, when the various treatments were explained by members of the Harrogate Medical Society. The party afterwards inspected the Victoria Baths, the old sulphur and other pump rooms, and places where treatments were given, also the Bogs Field, containing the mineral springs.

On Wednesday a party of 200 journeyed by special train to Bath. Within half an hour of arrival the visitors had sampled the waters in the Pump Room and were being instructed in all the mysteries of the bathing establishment. A number of boys acted as dummies for demonstration purposes, and were seen luxuriously taking the various baths and exercises, and douches, and massages, and sprays, and radiant-heat applications which figure in the now formidable list of hydropathic treatments. Afterwards luncheon was served in the banqueting chamber of the Guildhall under the presidency of the Mayor, Mr. G. T. Cooke, who said that in rubbing shoulders with each other the members of the Congress were rubbing out the lines of national demarcation, although in regard to medicine and science these lines had never been very sharp or deeply cut. Lord Alexander Thynne, M.P., in endorsing the welcome, said that Bath, in spite of its venerable age, was in the infancy of its development. There was a determination in the city to develop it as a national asset, so that it might take the place among the spas of the world to which it was entitled by the quality of its waters. There was a many-tongued response to the toast of the International Congress. First came Surgeon-General Sir Pardey Lukis, I.M.S. Then Dr. Tourtelot moved the French visitors to enthusiasm as, with native expressiveness, he said that the welcome to Bath was the climax to the kindness they had received in England. Professor Dr. Fritz Strassmann, in the name of the German members present, put on record their gratitude for the hospitality, and added that it was the feeling of his countrymen that the London Congress had been an immense success. Professor H. Burger of Amsterdam said that the Congress was the best organized ever held; Professor Giuseppe Gradenigo of Turin added a few congratulatory sentences; and Britain beyond the seas found a voice in the speech of a Canadian visitor, Dr. J. T. Lewis. The prosperity of the hot mineral springs of Bath was toasted, on the proposition of Dr. Robert Abbe of New York, who described the recent discovery of radium emanation in the Bath waters as the rechristening of the spring. So far as he knew, no other waters coupled such high thermic value with the presence of radium. The unknown radium was undoubtedly the factor which had worked the miracles of the past. In view of the inevitable future of the Bath spa, its resources seemed to him inadequate. In America, when they found health-giving waters, they built there largely and spaciously and confidently. Science having rechristened it, Bath must be built again, and built bigger. The toast was drunk with enthusiasm. The visitors were afterwards taken on a motor trip

through part of the Limpley Stoke valley to the village of Claverton, returning to the Roman thermae for a reception by the local members of the medical profession. To the thoughtfulness of these gentlemen, fifteen or more in number, throughout the day and previously, the party was greatly indebted. Their kindness was such that one of the American visitors expressed the hope that they would not suffer from hypertrophy of the heart.

GENERAL MEETINGS.

THE ADDRESS IN SURGERY.

ON Thursday, August 7th, the Address in Surgery, fully reported in the last issue of the JOURNAL (p. 286) was delivered by DR. HARVEY CUSHING, Professor of Surgery in the University of Harvard.

At its conclusion, the President of the Congress, Sir THOMAS BARLOW, thanked Professor Cushing for his most remarkable address, which he did not hesitate to say was one of the most splendid apologias for the position of modern medicine and surgery which had ever been delivered. He hoped it would be one of the outcomes of this Congress that the remains of the old jealousy between surgery and medicine would be buried for ever. (Applause.) This happy result would be obtained if it were remembered that the true means of bringing it about was the broadening and deepening of medical education. Each one should learn more of the point of view of his brethren. The argument of the address, if rightly acted upon, would give the death-blow to all narrow specialism. Professor Cushing had drawn attention to the enormous change in the lay attitude towards vivisection. There was now gratifying proof that enlightened laymen and women realized the importance of many methods of inoculation and vivisection to the human race. He appealed to each member of his audience to take every opportunity of bringing home to intelligent laymen the truth that the steps between scientific investigations and their direct utilitarian application to the benefit of mankind were not single steps, but a series, and in the early stages their direct utility was not always obvious. Some of them might have been staggered by the views Professor Cushing expressed as to the relation of the hospital to modern education, but he was sure those views would receive the most patient attention, and that the problems Professor Cushing had forecast would be very thoughtfully considered.

THE ADDRESS IN PATHOLOGY.

On August 8th Professor PAUL EHRLICH, Director of the Royal Institute of Experimental Therapy at Frankfort-on-Main, delivered the Address in Pathology reported at p. 353. of this issue of the JOURNAL.

In thanking Professor Ehrlich at the close, Sir THOMAS BARLOW observed that the address had been a remarkable exposition of researches which were protracted, incessant, and not altogether free from risk. All would unite in desiring, for the sake of humanity, that Professor Ehrlich's health and life might be long preserved to add to these most important researches. His name might be inscribed on the same roll of fame as those of Pasteur, Lister, Koch, and von Behring. (Applause.)

THE ADDRESS ON HEREDITY.

At the general session, held in the Jehangir Hall of the University Buildings, on August 11th, Professor W. BATESON, F.R.S., Director of the John Innes Horticultural Institution at Merton, Surrey, gave an address on heredity, which is printed at p. 359. There was a large audience, and the lecture was illustrated by means of lantern slides and an array of horticultural specimens.

In thanking Professor Bateson at the close, the PRESIDENT OF THE CONGRESS said that his extremely lucid discourse must make every listener feel that inquirers were only on the threshold of a subject which might prove of momentous importance to the work of tracing the primary history of disease, and certainly also momentous as affecting the opinions medical practitioners felt it right to express to those to whom they stood in the relation of advisers on matters concerning future conduct. He firmly hoped that the note of sanity, extreme care, and conscientious balancing of the whole of the phenomena and their interpretation which marked Professor Bateson's address would be borne in mind by all who discussed this subject. If once extreme and extravagant attempts were made to put into definite concrete practice—into regulations and so forth—the principles adumbrated by students of heredity, the nation might land itself in disaster. Let there be the most careful study of heredity and of the natural history of disease in all its relationships, and very thorough consideration, before attempts were made to embody the conclusions in legislative form. The Mental Deficiency Bill, of course, needed no commendation. One of the great advantages of that measure, and the legislation in connexion with it, would be that the spirit of conscientious and industrious inquiry would be fostered, and would bring forth much fruit for future generations.

ADDRESS ON PUBLIC HEALTH.

On August 12th Mr. JOHN BURNS, President of the Local Government Board, gave an address on public health, which is reported at p. 362 of this issue of the JOURNAL. Having read his address, Mr. Burns concluded by saying that the invitation to address the Congress had given him great pleasure. As an artisan, made minister of public health by the confidence of his fellow countrymen, he took the opportunity of expressing, on behalf of the great army of industrial workers, appreciation of the devotion of the medical profession to the sick, halt, maimed, and suffering. When the members of the Congress returned home, might they continue to be inspired by the great ideals of the profession of which they were votaries, and combine with the exalted skill of a Lister the noble spirit of a Shaftesbury.

Sir THOMAS BARLOW, the President of the Congress, asked the audience to join him in an expression of gratitude to Mr. Burns for the masterly historical review of public health that he had given. It must have struck every one present that the country was happy in having a Minister at the Local Government Board who had such warm sympathy with the advance of medicine, not only in relief of sickness and suffering, but in diagnosis and scientific work, which was the foundation of it all. (Applause.)

CLOSING MEETING.

The closing meeting of the Congress took place in the Albert Hall at 4 p.m. on August 12th, the President, Sir THOMAS BARLOW, in the chair.

The Next Congress.

The report of the General Secretary of the Permanent Commission of International Congresses of Medicine (Professor H. BURGER) was read in French. The report stated that at its meeting on August 8th the Commission unanimously decided to accept the invitation of the Bavarian Government and of the Municipality and University of Munich to hold the next International Congress in that town in 1917.

Award of Congress Prizes.

The Commission accepted the recommendations of the committees appointed to award the Congress prizes as follows:

A.—The Moscow Prize, awarded to Professor Charles Richet of Paris for his work on anaphylaxis.

B. The Paris Prize, awarded to Professor A. von Wassermann, of Berlin, for his work on experimental therapy and on immunity.

C. The Hungary Prize, awarded to Professor Sir A. E. Wright, of London, for his work on anaphylaxis.

RESOLUTIONS.

It was reported that at its meeting on Monday, August 11th, the Permanent Commission of the International Congress of Medicine had elected the Committee as follows:

President: Professor Dr. Friedrich von Müller, of Munich (President-elect for the Eighteenth Congress).

Vice-Presidents: M. Calman Müller, of Budapest (President of the Sixteenth Congress); Sir Thomas Barlow, of London (President of the Seventeenth Congress).

Secretary-General: Professor Dr. H. Burger, of Amsterdam.

Assistant Secretary: D.Ph. van der Haer, of The Hague.

Member: M. L. Dejace, of Liége (President of the International Association of the Medical Press).

The Permanent Commission invited the meeting to approve of the following resolutions sent up by Sections of Congress.

A. *Venereal Diseases.*

By the combined Sections of Dermatology and Syphiligraphy and Forensic Medicine:

That, sensible of the ravages wrought by syphilis in the health of the community, and deploring the inadequacy of existing facilities for checking its dissemination, the International Medical Congress calls upon the Governments of all the countries here represented—

1. To institute a system of confidential notification of the disease to a sanitary authority, wherever such notification does not already obtain.

2. To make systematic provision for the diagnosis and treatment of all cases of syphilis not otherwise provided for.

B. *Beri-beri: Undulant Fever.*

By the Section of Tropical Medicine and Hygiene:

1. The Section is of opinion that beri-beri among natives who live principally on rice is brought about by the continuous and too exclusive use of rice submitted to a too complete milling, which removes the cortical and subcortical layers of the grain.
2. The Section urges all authorities charged with the health of native communities to restrain by every means in their power the use of this rice in the dietary of coolies.
3. In view of the proved non-infectiousness of beriberi, the Section suggests that all port and sanitary authorities should abolish foreign quarantine and other restrictive measures against this disease.
4. The Section resolves that the malady known hitherto under the name of Malta fever shall in future be named "undulant fever."

C. *Experiments on Animals.*

The following resolution sent up by a number of Secti :

That this Congress records its conviction that experiments on living animals have proved of the utmost service to medicine in the past, and are indispensable to its future progress. That accordingly, while strongly deprecating the infliction of unnecessary pain, it is of opinion, alike in the interests of man and of animals, that it is not desirable to restrict competent persons in the performance of such experiments.

The resolutions were unanimously approved, and the report was adopted.

VOTE OF THANKS TO BRITISH MEMBERS.

The meeting also approved, by acclamation, the following resolution:

The Permanent Commission, considering that the hospitality of its English colleagues has surpassed all expectations, and considering that this gigantic Congress has been admirably prepared and organized, expresses its sincere and profound gratitude to the Committee of Congress and in their persons to the whole medical profession of England.

VOTE OF THANKS TO THE GOVERNMENT OF HOLLAND.

The PRESIDENT proposed a vote of thanks from the Congress to the Government of H.M. the Queen of Holland for generously defraying the expenses of the Permanent Commission. Sir Thomas Barlow remarked that it might not be generally known that the Government of Holland defrayed the expenses of the Commission during the periods between Congresses. The work done in the interval was of the greatest possible value, and it would have been quite impossible for the Congress to be so successful had it not been for the help rendered by the Government of Holland.

The resolution was carried by acclamation.

THE REPRESENTATIVES OF FOREIGN GOVERNMENTS.

The representatives of foreign Governments then bade farewell to the President, the proceedings following the lines of those at the opening meeting. The speeches, delivered in many languages, were full of expressions of appreciation of the organization and value of the Congress and of the "magnificent and unique hospitality" offered to the delegates.

PRESIDENT'S FAREWELL ADDRESS.

The PRESIDENT then bade farewell to the Congress, and closed the meeting. He said: It is now my duty to bid this Congress good-bye. It must have been abundantly evident to every thoughtful person attending these meetings that the influence of medicine and of medical practitioners is growing enormously. (Applause.) At no previous International Medical Congress has the Government of the country taken so warm and personal an interest in the work of the Congress; so far as I know, at no previous congress has one of the addresses been delivered by a member of the Government. In every possible way the Government has shown its interest in the work of the Congress, and this is the more noticeable because it is not usual for our Government to concern itself specially in the work of congresses of this kind. No thoughtful person can doubt that in the next generation we shall see an enormous advance in the importance of medicine; it is not a question of rank but of influence. You are well aware that the great commercial class has had a great influence in Europe in endeavouring—successfully at times—to prevent the extension of war. Surely, with the growing influence we possess, we ought to be able to influence our respective countries in this particular regard. (Applause.) I ask you to say is it conceivable, is it permissible, when we have assembled and discussed, without any question of race or country, the various problems of the scientific advance of medicine and its application to the relief of the sickness of humanity, that we should go back to our countries and make no effort to prevent the nations to which we belong from engaging in bloody strife? I do in these parting words beseech my brethren to make their undoubted influence felt in the direction of blessed peace. (Applause.) Now it is my duty to wish you "farewell." That English phrase, "Goodbye," has been translated "All good be with you." I will venture to retranslate it in the words of our Saxon fathers, and say, "God be with you." (Applause.)

THE INTERNATIONAL ASSOCIATION OF MEDICAL MUSEUMS.

A MEETING of this Association took place at the Royal College of Surgeons and the Imperial College of Science on August 5th, 6th, and 7th, during the International Congress of Medicine. There was a large and representative international attendance.

The meeting was opened by Professor ARTHUR KEITH, Honorary President, who, as Chairman of the Museum Committee of the Congress and Curator of the Museum of the Royal College of Surgeons, welcomed the members to London.

PRESIDENT'S ADDRESS.

The President (Professor A. S. WARTHIN, of Ann Arbor, Mich.) gave an address upon the ideals and functions of the International Association of Medical Museums. He said the association had entered upon its seventh year of existence, and this was its second triennial international meeting. During that time it had grown from small beginnings to a membership of over two hundred, including the leading pathologists and anatomists throughout the world. It was an association of medical museums, its scope extending beyond pathology into all the fields of medicine, particularly in the direction of preventive medicine and hygiene. At the present time there was a strong demand for a museum of preventive medicine on a popular basis, such as was illustrated by the travelling museums of the campaign against tuberculosis. The organization of such popular museums and the discussion of methods of demonstrative teaching of all kinds should be among the special functions of this association. The need for a society in which medical teaching in general, both demonstrative and otherwise, could be considered was pointed out, and the plea made that this society might

widen its scope to include this field. The most important side of the association was its international character, and at this meeting the organization of the international body and of its local or sectional societies was to be thoroughly worked out.

Discussion.

Sir WILLIAM OSLER opened a discussion on the improved organization of this association on the international basis. He prefaced his remarks by a tribute to the memory of the late Sir Jonathan Hutchinson, whose recent death had removed one who had been for many years a pioneer worker in the field of medical museums, a collector in the most scientific sense whose remarkable breadth of interest and clearness of intellect made him a demonstrative teacher of the highest type. Especially in connexion with the formation of the popular museum, which Dr. Warthin had rightly described as one of the special functions of this association, the life-work of this great man was of interest, and all those who could visit his wonderful popular museum at Haslemere would learn there the results which careful classification of well-chosen material along any line could bring. Returning to the subject of the discussion, Sir William expressed his belief in the usefulness of the Museums Association as an international association of exchange of material and of discussion of methods both of technique and of demonstrative teaching. There were difficulties, of course, such as the geographical one, in its international development, but the plan suggested, of a central bureau which would control the different branches in various countries and hold triennial meetings in the country where the International Medical Congress was held was, he thought, practicable. Each country should possess a certain amount of autonomy in managing its own society, and under these conditions a highly useful work could be carried on.

Professor LUDWIG ASCHOFF (Freiburg) saw no difficulty in the international organization except as regards the international fee, which should be reduced somewhat as soon as the membership increased sufficiently to justify this. He recommended that a propaganda for the extension of membership should be instituted by the local societies in the various countries, and to this end that copies of the President's address be translated and circulated.

Recommendations.

Professors SPALTEHOLZ (Leipzig), W. G. MACCALLUM (New York), J. G. ADAMI, F. J. SHEPHERD (Montreal), and others joined in this discussion, and the following recommendations for the international organization were adopted:

1. There shall be a central international body with international officers and local or sectional societies with local officers, one society for each country represented.
2. The meetings of the international body shall be held at the same place and time as the meetings of the International Congress of Medicine. The meetings of the sectional societies shall be held annually or more frequently, according to the decision of the individual society.
3. The officers of the local societies may be elected annually or triennially, and shall consist of a President and Secretary and as many other officers as the local society shall decide. The officers of the International Association shall be as provided under the present constitution. They shall be elected triennially at the international meeting for the ensuing triennium and for the next international meeting, except the Secretary, whose position shall be permanent. The President shall, whenever possible, be elected from that country where the next international meeting will be held.
4. A local fee may be arranged at the discretion and option of the local society, but the international fee shall remain 2 dollars. It shall continue to be paid to the International Secretary and shall be devoted to the cost of the Bulletin, the payment of international postage, and other international outlay.
5. The meetings of both the International Association and also of the sectional societies shall be reported in the Bulletin, and all communications presented at all such meetings shall be available for publication in the Bulletin. This will not preclude their publication elsewhere as well, nor is the Editorial Committee pledged to publish all papers presented at either the international or sectional meetings.

International Congress and the Association of Medical Museums.

Mr. H. W. ARMIT, Secretary of the Museum Committee of the Congress, dwelt upon the relation which such an association as this might have to the meetings of the International Congress of Medicine. After a prolonged experience in the organization of Congress Museums, the conclusion had been forced upon him that efficiency was sacrificed, much time was lost, and valuable experience wasted by placing the arrangements at each Congress in the hands of a new set of comparatively untrained persons. The International Association of Medical Museums was a society of museum experts, and seemed peculiarly fitted to undertake the organization of the Congress Museum as a whole. It was therefore resolved: on the motion of Mr. ARMIT, seconded by Professor KEITH,

> That in future the organization of the Museum of the International Congress of Medicine be entrusted to the International Association of Medical Museums.

The Secretary was instructed to write to the Secretary of the Standing Committee of the Congress communicating the resolution to him, and requesting that the Executive of the association be put in communication with the National Committee or Government of the country where the next meeting of the Congress would be held.

Election of Officers.

The following officers of the international body were elected:

President: Professor Ludwig Aschoff, Freiburg.
Vice-Presidents: Professor Arthur Keith, London; Professor Pierre Marie, Paris; Professor R. M. Pearce, Philadelphia.
Treasurer: Dr. Maude E. Abbott, Montreal, Canada.
Councillors: Sir William Osler, Bt., England; Professor J. G. Adami, Canada; Professor A. S. Warthin, United States; Professor Bernard Fischer, Germany; Professor Paul Courmont, France; Professor J. Fibiger, Denmark; Professor Harbitz, Norway; Professor Askanazy, Switzerland; Dr. de Josselin de Jong, Holland; Dr. René Sand, Belgium.

The Dutch members present declared the following local officers elected for the local Holland section:
President: Dr. Georgine Luden van Heumen.
Secretary: Dr. Arieus Kappers.
Vice-President: Dr. de Josselin de Jong.

A hearty vote of thanks was tendered to Dr. Arthur Keith and Mr. H. W. Armit for their courteous and efficient co-operation in the arrangements for the London meeting.

Papers and Demonstrations.

A very interesting programme, consisting of papers and demonstrations along the lines of museum and microscopic technique, was successfully carried out.

Professor SPALTEHOLZ (Leipzig) demonstrated an extremely beautiful series of preparations of various organs and tissues rendered transparent by a method original with him, whereby the finest details of internal structure are revealed. Dr. R. A. LAMBERT (New York) gave a lantern-slide demonstration illustrating the staining of living tissues cultivated *in vitro*. Dr. C. F. SILVESTER (Princeton, New Jersey,) demonstrated methods of mounting very delicate material by attaching the specimen by means of glass pins to sheets of wax. A new method of maceration and teasing was given by Professor G. C. HUBER (Michigan, U.S.A.) by means of which he has been able to isolate the entire renal and seminiferous tubules; new forms of cement for sealing museum jars were announced by Mr. W. MUIR and E. L. JUDAH, Montreal, Canada, and Dr. COBURN, of Pittsburg, U.S.A. A most interesting discussion on the staining of nerve fibres and cells occupied the greater part of Thursday's session, new and valuable methods being announced by Dr. GEORGINE LUDEN VAN HEUMEN (Munich), Dr. C. A. U. KAPPERS (Amsterdam), and Dr. RENÉ SAND (Brussels). Professor ADOLPH MEYER of Johns Hopkins University showed three beautiful glass reconstruction models of the human brain. Professor WARBY (Cairo, Egypt) demonstrated very fully his methods of corrosion, by which the finest ramifications of the body cavities and the vascular system can be demonstrated. Other papers presented were relative to exhibits in the Section of Museum Technique of the Congress Museum, by Dr. E. C. ROSENOW (Chicago), representing the pathology and etiology of endocarditis; Professor DELÉPINE (Manchester), illustrating various types of infectious diseases, and Dr. A. A. BRUERE (Montreal), showing mounted colonies of fungi in gelatine plate cultures sealed with paraffin.

Medical Notes in Parliament.

Public Health (Prevention and Treatment of Disease) Bill.

This short but highly important bill passed through Committee on Tuesday, August 5th, and was read a third time on August 6th. The fourth clause of the bill was dropped, and the first three clauses (which confer considerable powers on county councils) were passed in the following form, the amendments being indicated in the italicized:

1. Notwithstanding the provisions of section two hundred and eighty-one of the Public Health Act, 1875, the Local Government Board may by order authorize a local authority having jurisdiction in any part of a united district to exercise in relation to that part any powers which the joint board are also authorized to exercise, subject, however, to such conditions and restrictions as may be imposed by the order.

2. The Local Government Board shall have power to declare that one of the authorities to execute and enforce regulations made by the Board under Section 130 of the Public Health Act, 1875, with a view to the treatment of persons affected with cholera or any other epidemic, endemic, or infectious disease, and preventing the spread of cholera and such other diseases, shall be the council of a county, and that Section shall have effect accordingly as if a county council were an authority within the meaning of that Section. *Provided that, except in case of emergency, the Local Government Board shall not require the council of a county to execute and enforce any such regulations without the consent of such council.*

3. (1) It shall be lawful for the council of any county or *any sanitary authority* to make any such arrangements as may be sanctioned by the Local Government Board for the treatment of *tuberculosis, provided that the powers conferred by this Section shall be in addition to and not in lieu of any other powers.*

(2) Any expenses incurred *under this Act* shall, in the case of a *sanitary authority*, be defrayed as part of the expenses incurred by them in the execution of the Public Health Acts, and in the case of a county council as expenses for general county purposes, or if the Local Government Board by order so direct, as expenses for special county purposes charged on such part of the county as may be provided by the order.

The bill has also been passed by the House of Lords.

Mental Deficiency and Lunacy (Scotland) Bill.

This bill passed through the Report and third reading stages in the House of Commons on Thursday, August 7th. A large number of drafting amendments and amendments promised in Committee, and some new clauses, were moved by the Secretary for Scotland or the Lord Advocate, and approved.

The bill was taken after 1 a.m., and the third reading was taken without a division, after a protest by Mr. Wedgwood in respect of the proceedings of the House on that occasion, which he described as a legislative farce. A new clause, dealing with the protection of lunatic women and girls, is in the following terms:

The Section of this Act relating to the protection of defectives from acts of sexual immorality shall have effect for the protection of women or girls who are lunatics duly certified as such under the Lunacy Acts, and while they remain so certified, with the substitution of such women or girls for defective women or girls, of an asylum or other place of lawful detention for lunatics for an institution or certified house, of pass or probation for licence, and of the Lunacy Acts for this Act.

The clause relating to the power to subscribe to pathological investigations is in the following terms:

District boards shall have power, with approval of the Board, and for the purpose of obtaining instruction and assistance in pathological investigation for the medical officers of asylums under their charge, to contribute annually towards any pathological laboratory, having for its object or one of its objects investigation into the pathology of mental diseases, and such contributions shall be paid out of the assessment authorized under the Lunacy Acts and this Act.

The bill was in the House of Lords on August 13th, when a new clause bringing institutions already licensed under the Lunacy (Scotland) Act within the scope of the bill was added on a motion of the Lord Chancellor, as was also a new clause providing for the visits of parents or guardians to defectives in institutions, moved by the Marquis of Salisbury. The bill was read a third time and passed.

Highlands and Islands (Medical Service) Bill.

This bill passed through Report and third reading shortly after 2 a.m. on Thursday, August 7th. A large number of amendments had been placed on the order paper by members, evidently as a protest against the extension of the provisions of the bill beyond the Highlands and Islands, and a number of obscure villages and hamlets were mentioned. Ultimately, however, the only addition to the Schedule which was made was the Highland District of the County of Perth as at present constituted under the terms of the Local Government Act (Scotland), 1889. Mr. McKinnon Wood said that the Highlands of Perthshire had been mentioned in the Committee's Report, but that he was not able to go beyond that at present. He added, however, the following important statement:

I may say that I have had a communication with the Chancellor of the Exchequer, and that the Government recognize there are other necessitous parts of Scotland, although they are partly dealt with by the mileage grant already given, and it is proposed that those other parts of Scotland which would come under the description, but which could not possibly be put in this bill, shall be considered, and that the necessary money for dealing with them shall be provided next year. I have the authority of the Chancellor of the Exchequer for making that announcement, and I understand it will meet the view of my colleagues in the representation of Scotland.

The bill passed through Committee of the House of Lords on August 13th.

Elementary Education (Defective and Epileptic Children) Bill.—This bill was read a second time on Thursday, August 7th. It was stated by Mr. Pease that he hoped to arrive at an agreement with those who offered opposition to some of its provisions, and that he would table his amendments without delay. They would, he trusted, be satisfactory to all.

Mental Deficiency Bill.—On Monday afternoon, on the motion to go into Committee on the Mental Deficiency Bill, the Archbishop of Canterbury protested against the large number of amendments which had been put down by the Government, and at so late a date that there had been no time to consider them. The Lord Chancellor admitted the justice of this criticism, but appealed to the House to save the bill. After a further protest by the Marquis of Salisbury and a reply by the Marquis of Crewe, the House went into Committee on the bill. A number of amendments, many of them of a drafting character, were made in the earlier clauses. On Clause 11, fixing the duration of detention under orders, the Marquis of Salisbury moved an amendment providing that on the question of the renewal of an order the Board of Control should consider not only the special report and certificate referred to in the bill, but also the report of any duly qualified medical practitioner who, at the request of the defective, or his parent or guardian, or any relative or friend, had made a medical examination. He desired that there should be an opportunity for an independent medical practitioner to visit the defective person. The Lord Chancellor said that under the bill power was reserved to the Board to order such a visit. The Lord Chancellor would retain the same power which he now not infrequently exercised under the present law. In further reply to Lord Selborne, he said that in every case in which a parent applied to the Board of Control or the Lord Chancellor, and in which the application was not unreasonable, authority would be given to an independent medical practitioner to visit the person detained; that was provided in the bill. The Marquis of Lansdowne urged that the amendment should be accepted on the ground that poor people might easily be discouraged from taking steps necessary to secure the visit of an independent doctor if any obstacle were placed in their way. The Bishop of Oxford expressed the hope that it would be found possible to accept the amendment without risking the bill; and the Lord Chancellor, while thinking that what was desired was secured by the bill, accepted the amendment, which was agreed to. A considerable number of Government amendments, as well as a number of others, were not moved or were withdrawn, and eventually

the Committee stage was concluded and the bill reported as amended to the House. On August 12th a number of amendments were agreed to, among others one moved by the Marquis of Salisbury making provision for the visits of relatives or guardians to a defective person detained in an institution. A number of drafting amendments were adopted, and the bill was read a third time and passed. The House of Commons on August 13th agreed to the amendments.

London Ambulances.—Lord Leigh rendered a great public service by calling attention, in the House of Lords on August 6th, to the present unsatisfactory position of the ambulance arrangements for street accidents in London. The occasion was the third reading of the London County Council General Powers Bill, which embodied an obscure clause enabling some sixty Poor Law and municipal bodies in London to agree with the London County Council to utilize any conveyances they might possess for the purpose of picking up persons injured in the London streets. Lord Leigh reminded their lordships that in 1909 Parliament, by a public statute, authorized the London County Council to supply the county area with an efficient motor ambulance service, summonable by telephone calls, similar to that which has worked so smoothly and beneficently in the City of London. After much unnecessary delay the Council had at length begun to put that Act in operation, and was now maintaining in the north-west of London a motor ambulance, the gift of the Grand Duke Michael of Russia. Complaints had already appeared in the public press to the effect that if such ambulance maintenance was good for well-favoured Hampstead it would not be bad for other and more crowded parts of the metropolis where street casualties were more frequent, and where, in default of more appropriate means of conveyance, sufferers were still put into cabs or vans, or leisurely wheeled along in litters attended by a too solicitous crowd. Lord Leigh inquired what these new powers sought by the County Council on behalf of other bodies in its private bill really implied. Was it an attempt to rid themselves of their responsibilities and duties under the Metropolitan Ambulances Act, 1909? Were cabs used for conveying paupers or ambulances for carrying fever and small-pox cases to be pressed into the Council's service for handling street accidents? Lord Welby supported Lord Leigh, and emphasized the impracticability of any such scheme. Central organization was of primary importance in securing efficiency and in properly organizing and controlling any such municipal service as this. Lord Mayo was perturbed at the possibility of adding the risks of contagion to the misfortunes of any sufferer knocked down by taxi-cabs in London streets. Stress was laid upon the alarming increase of accidents since the advent of motor vehicles and the utterly inadequate means at present available for the removal of the sufferers to hospital or to their homes. Lord Dunmore, who spoke on behalf of promoters of the bill, assured their lordships' House that "there was nothing in the clause which relieved the County Council of the obligations imposed on it by the Act of 1909." He pleaded the expense which would be entailed by at once extending the city's scheme to the whole of the county, and added that the borough councils favoured the proposals in the County Council's bill. His lordship appeared to be unaware that the two city stations with this elaborate telephone call system are now maintained for £1,700 a year, which includes a heavy rental to the Postmaster-General for the call-posts; and that the borough councils appealed to the London County Council in the first instance to undertake this service nearly ten years ago. It has been estimated that some ten self-contained motor ambulance stations, suitably distributed over the county area, would supply London, or the greater part of it, with a really efficient service, and that even without the special call-posts, as in the city, a fairly efficient telephone summons scheme might be arranged at very little expense. We are aware that the London County Council, although a large proportion of its members are pledged to put the Act of 1909 in operation, is an ardent devotee of economy, and this, it would appear, is at the bottom of this ambiguous proposal. Like a certain American statesman, they are "in favour of the Act but against its enforcement." Any way, the debate in the Lords has been valuable and opportune. We now know that the County Council has no intention of going back on the Act of 1909, does not seek any amendment to it, nor intend to shuffle out of its responsibilities thereunder. Lord Leigh's intervention at the eleventh hour—for the bill had passed the Commons—was a timely public service, and will doubtless tend to stimulate the County Council into activity.

Experiments on Animals.—Mr. Wedgwood asked the Secretary of State for the Home Department whether he could see his way to afford the special protection which was now given to horses, asses, and mules to dogs and cats, as recommended by the majority of the recent Royal Commission; whether the recommendation of the Commission as to pithing had been carried out; and whether special records of experiments were now required, as recommended by the Commission.—Mr. McKenna said he had given his best consideration to the remarks of the Commission on the first subject—they were so qualified that they could hardly be described as a "recommendation." He was advised that legislation would be necessary to require a special certificate for experiments on dogs and cats where the experiments were carried out wholly under anaesthetics; where the experiments were not wholly under anaesthetics a certificate was now required. He had accepted the recommendations of the Commission as to pithing and special records of experiments, and they were being carried out. In reply to Mr. Wedgwood, Mr. McKenna said that the Advisory Committee appointed in accordance with the recommendation of the Royal Commission to assist him in the administration of the Act had the names of all applicants for appointments as inspectors referred to them to report, and advised him in the selection of the best candidates.

Inoculation Experiments.—In reply to questions by Mr. Lynch, Mr. Burns said that his attention had been called to recent researches abroad, but that the establishment of any system of inoculation against anterior poliomyelitis was not practicable at the present time, as no reliable protective serum had yet been prepared. Mr. Burns also said that, as at present advised, he was not prepared to set on foot a national system of inoculation in respect of tuberculosis, typhoid fever, diphtheria, and certain other diseases, of which the specific germ was known. The order issued by the Local Government Board in 1910 gave power to local authorities under certain conditions to supply diphtheria antitoxin and medical assistance in connexion therewith.

Sight Tests.—In reply to Major White, who asked a question as to the resolution with regard to sight tests adopted by the Ophthalmological Section of the British Medical Association at Brighton, the Parliamentary Secretary to the Board of Trade said that, though he had seen a statement in the press to the effect that such a resolution was carried, the Board had not yet received a communication from the Association. [With regard to this reply, we may point out that resolutions adopted in a Section of the annual meeting are of the nature of recommendations to the Council, and that the Council will, no doubt, communicate with the Board of Trade after considering the matter at its next meeting.]

Medical Staff of the Factory Department.—In reply to Mr. O'Grady, the Home Secretary stated that one medical inspector was being added to the staff, making three medical inspectors in all. Medical men were also appointed under the Act and regulations throughout the country for the purpose of examining children and young persons, inquiring into accidents and poisoning cases, and examining workmen in certain dangerous industries; the number of those medical men was 2,118. A worker injured by accident was not required by the Compensation Act to obtain any medical certificate for the purpose of making a claim for compensation. A worker suffering from an industrial disease had to obtain a certificate from the certifying surgeon, but the fee was only 1s. in cases where the certifying surgeon gave the certificate on the result of the examination made by him in pursuance of

his duties under the Factory Act, and 5s. in other cases; if the worker were refused a certificate and appealed to the medical referee, the referee's fee was paid by the State. He had no evidence to show the need for any change in the system.

Employment of Women and Girls in Factories.—In reply to Mr. Morrell, asking the Home Secretary a question as to the employment of women and girls in factories and workshops, Mr. McKenna said that the latest figures available were those for 1907, as the tabulation of the returns for 1912 was not yet completed. In 1907 the total number of women and girls employed in factories and workshops was a little over 1,850,000. The authorized number of women inspectors was now twenty, two having been added during the present year. No additions were made in the years 1909 to 1911, but five were added in 1908 and three in 1906, so that in the last seven years the staff had been exactly doubled. During the same period the ordinary male inspecting staff (as distinct from inspectors for special purposes) had been increased from 135 to 182, an addition of forty-seven.

Factory Accidents.—In reply to a question by Mr. Morrell, who stated that the fatal accidents in factories and workshops had increased from 422 per annum to 945 in the course of the last twenty years, and that the number in 1912 was higher than ever before, Mr. McKenna said that the increase in the number of accidents in factories was thoroughly investigated by the Accidents Committee, and was discussed at length in its report, issued in 1911. It was impossible to deal with the subject in reply to a question. The matter was dealt with in the Annual Report of the Chief Inspector. The Department was busily engaged in carrying out the various measures recommended by the Committee, so far as it was possible to do so without legislation.

Accidents in Coal Mines.—Mr. McKenna, in replying to Mr. Outhwaite, gave the following statistics of the number of men and boys killed and injured in coal mines during the year 1912:

	Killed.		Injured.*	
	Men.	Boys.†	Men.	Boys.†
United Kingdom ...	1,204	71	140,185	10,285
Staffordshire	77	5	6,924	362

* Accidents disabling for more than seven days. † Under 16.

Poor Law Medical Service.—Mr. Ginnell asked the Secretary to the Treasury if he would say to what amount annually the cost of the Poor Law Medical Service in England and Wales was paid by Exchequer grants; this being in the circumstances an equivalent to the amount spent on the Poor Law Medical Service in Ireland, whether Ireland's share of the 2s. 6d. per head increased expenditure for the better working of the National Insurance Act on the 800,000 persons whom the Irish Commissioners expected to have insured presently was £100,000, instead of the £50,000 offered; having regard to the distances which country doctors in Ireland had to travel, and that they were not to benefit from the proposed extension of medical benefit to county boroughs in Ireland, whether they would be paid the 2s. 6d. per head to which the existing law entitled them as in England and Wales; and, if not, would he, for their information, state the reasons.—Mr. Benn said that the points raised in the first part of the question were matters for argument which he was afraid he could not carry further than he had done in his previous replies upon the subject. In the second part the fact appeared to be ignored that the payments in Great Britain to which he referred were payments not by way of endowment of the medical profession, but for services rendered in connexion with medical benefit under the National Insurance Act (a benefit at present confined to Great Britain). The question of an increase in the grant of £50,000 in respect of expenses arising on account of the absence of medical benefit in Ireland was under consideration.

Proposed Inquiry as to Venereal Diseases.—In reply to Dr. Esmonde and Dr. Chapple, the Prime Minister said that the Government had agreed to institute an inquiry on the public health aspect of venereal diseases. Its precise terms and scope and the character and composition of the body to be set up were still under consideration.

Reports on Universities and University Colleges.—Mr. J. A. Pease informed Mr. Mount that the reports from universities and university colleges for the session 1911–12 would be published in about three weeks' time.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Medical Benefit in Ireland.

The report[1] has been issued of the Committee appointed in February last to consider the advisability of applying to Ireland the provisions of the National Insurance Act, 1911, with respect to medical benefit, and as to alterations, legislative or otherwise, which, in the event of such provisions being applied, would be desirable in the systems for affording medical relief at the present existing. The constitution of the committee was as follows: Lord Ashby St. Ledgers (Chairman), Sir John Bradbury, K.C.B., of the Treasury, Mr. T. J. Stafford, C.B., F.R.C.S.I. (Medical Member of the Local Government Board for Ireland), Mr. Hugh T. Barrie, M.P., Mr. Joseph Devlin, M.P., Mr. J. A. Glynn (Chairman of the National Health Insurance Commission (Ireland), Mr. J. C. R. Lardner, M.P., Dr. W. J. Maguire (Medical Member of the National Health Insurance Commission, Ireland), Mr. W. L. Micks (Congested Districts Board for Ireland), Mr. John Houlihan (Secretary).

The recommendations appended to the report of the Committee, signed by Lord Ashby St. Ledgers (Chairman), Sir John Bradbury, Mr. Joseph Devlin, Mr. J. A. Glynn, Mr. James C. R. Lardner, and Dr. W. J. Maguire, are as follows:

Recommendations.

We recommend, therefore, that, unless terms can be arranged with the medical profession before a bill is introduced, the measure should simply provide for raising the rates of contribution in the six county borough areas to the English level, and that the proceeds of the additional rate, together with the special Exchequer grant of 2s. 6d. per insured person, should be paid over to the societies, who should be empowered to enter into arrangements for providing medical benefit either for members and dependants or for members only, if they see fit; or, failing such arrangements, to give other benefits to the value of the additional contributions.

The defining of the precise areas to which medical benefit is to be applied will require careful consideration. It is not, in our opinion, desirable to adopt the Local Government boundary, but to mark out in each case a special area which will include the whole industrial population for which the borough is the centre. Purely agricultural areas should as far as possible be excluded, but we doubt whether it would be practicable to exclude persons engaged in agriculture within the defined areas. Outlying industrial districts might, however, be annexed to the county borough areas, even though not actually contiguous. As these areas will not correspond with those of the Insurance Committees, this is a further reason for administering the benefits through societies rather than through Insurance Committees.

We also recommend that the provisions requiring the separation of arrangements for supply of drugs from those for medical attendance and treatment should not be applied, and that societies should be left free, if they see fit, to enter into inclusive contracts with medical practitioners in accordance with the common practice before the National Insurance Act came into operation. We are of opinion that this arrangement will meet the demand for the extension of medical benefits in the districts in which it is most persistent. It is not, however, suited to the requirements of the rural districts or

[1] [Cd. 6963.] Price 2d.

even to those of the smaller urban centres, nor do we think it will be found suitable as a permanent system even in the six county boroughs and surrounding areas, and we do not recommend it except as a provisional and interim arrangement pending the adoption of a general scheme of medical benefit for Ireland as a whole.

Such a general scheme will, we think, necessarily involve the creation of a State Medical Service. The establishment of such a service by the State, however, side by side with the existing dispensary service, would, even in the larger urban centres, necessarily result in overlapping and consequent waste of money, while in the rural districts it would be wholly impracticable. We think, therefore, that no steps can be taken in the direction of establishing a State Medical Service, except in conjunction with a comprehensive reform of the Poor Law, for which indeed, for other and wholly different reasons, the time is already overripe.

We are of opinion that the funds now available for the purposes of the Medical Charities Act, together with the further moneys which would be forthcoming if the contributions and Exchequer grants under the National Insurance Act were raised to the English level, would be sufficient not only to provide for Poor Law medical services proper, and give to the insured population and their dependants domiciliary medical treatment at least equal in quality to that provided for insured persons in Great Britain, but also to leave a balance available for other medical services (including nursing) not at present included in medical benefit under the Insurance Act. This we regard as the real solution of the present problem.

We have not considered in detail the arrangements necessary to give effect to this recommendation, nor, as already explained, have we taken evidence from the rural and smaller urban areas to justify us in putting forward specific proposals. It will be for His Majesty's Government to consider in the first instance what action, if any, shall be taken upon our interim proposals in regard to that part of the problem which is unquestionably the most urgent, and whether we should be invited to continue our inquiries with a view to the formulation of a general scheme.

Sir John Bradbury, though signing the report, appends a note stating that he was impressed by the urgency of the problem, and did not see any more satisfactory line of immediate action than that recommended, and adding that, except for the consideration of urgency to which he referred, he should have preferred to take no action at present, but to proceed at once with the formulation of a scheme for a general public medical service.

Mr. W. L. Micks, in the course of a note appended to the report, states that the question as to applying or not to Ireland the medical benefits section of the Insurance Act seemed to afford an ideal opportunity for preparing a scheme for a general medical service.

Mr. T. J. Stafford, C.B., states that, while he is in complete agreement with the main recommendation of the majority of the Committee that a national medical service for the whole country should be created, he is not in agreement with the temporary expedients proposed for providing medical benefits in the six county boroughs which make it a condition that the benefit should be available not only to the insured person but also to the dependants, and furthermore suggesting that the Act should be obligatory on the insured in those areas. He then gives his reasons for disagreeing.

Mr. Hugh T. Barrie, M.P., is unable to concur in the majority report, and he holds that in view of the failure to adjust terms with the medical profession which the societies from their present resources could afford to pay, it is undesirable that the medical benefits under the Insurance Act should meantime be extended to Ireland or to any part thereof.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.

Co-operation between Edinburgh University and the Royal Infirmary.

Three weeks ago reference was made in these columns (p. 206) to certain changes which had been carried out in connexion with the Pathological Department in the Edinburgh Royal Infirmary and the teaching of pathology in the university. It was then announced that Dr. Shennan, the present pathologist to the Royal Infirmary, had been appointed University Lecturer on Morbid Anatomy, and we understand that now the Professor of Pathology in the university is to be made Consultant Pathologist to the infirmary, and will have certain privileges in connexion with the material in the Pathological Department for teaching and research purposes. It has been further arranged that when the post of pathologist to the infirmary becomes vacant the managers of the institution shall, on certain conditions, appoint the Professor of Pathology thereto. On the other side, the university is to bear the cost of the enlargement and equipment of the Pathological Department.

Another change, also connected with the Professorship of Pathology, is in progress. The wards in the Royal Infirmary, which till recently were under the care of the Professor of Pathology, are now to be allocated to the Professor of Clinical Medicine, when his appointment by the University Court has been made.[1] Further, the wards which are now under the charge of the Professor of Materia Medica may, in the future, be dealt with in a similar manner, so that possibly a second Professor of Clinical Medicine may be appointed. Another and a more immediate change is the appointment of the four senior ordinary physicians in charge of wards in the infirmary to be "Senior Lecturers in Clinical Medicine in the University"; they are to have academical status, and to act as examiners in clinical medicine for the university degrees. Along with the addition thus made to the teaching staff of the university comes the recognition of the assistant physicians of the infirmary as "university lecturers," and the attachment to each medical charge in the infirmary of a "university clinical tutor," who shall assist in the teaching of the "side-room" work. The *Edinburgh Medical Journal* for August, which gives fuller details of these changes, accomplished or impending, suggests that, whilst so much is being done to improve the clinical teaching, something should be attempted to encourage research. The "Clinical Medical Board," which is to co-ordinate all the work on the medical side, might very well join with the corresponding "Clinical Surgical Board," which is to do the same for the surgical part of the infirmary, and form a "subcommittee of research," to give facilities for scientific investigation.

There is in existence a third department—that for gynaecology—which is to continue to stand by itself, for the Royal Infirmary, unlike many other hospitals, has no obstetric wards. Perhaps those who have been so successful in carrying through the above alterations might now turn their attention to a similar co-ordination of the work in the Royal Maternity Hospital (where the professor of midwifery in the university is one of the senior physicians) with the teaching of obstetrics in the university and with the clinical gynaecological work in the infirmary. Something also should be done to bring the ample clinical resources of the Royal Hospital for Sick Children into more complete and immediate use for the teaching of what is really a part, and an important part, of clinical medicine. All these changes will require time, but they are believed to be in the right direction and likely to secure increased efficiency.

Post-Graduate Teaching in Internal Medicine.

The August course on internal medicine in the Edinburgh post-graduate curriculum is now in full progress. It includes clinics on general diseases and on diseases of the lungs, heart, blood, and ductless glands: teaching on the examination of the heart; classes on the methods of blood examination, on *x*-ray diagnosis and electrical treatment, on the examination of the nervous system and of the digestive products and urine; demonstrations of medical applied anatomy; and instruction in bacteriological methods in relation to clinical diagnosis. Among those attending the course are graduates from the United States, Canada, New Zealand, South Africa, Ceylon, Naples, the Channel Islands, Tasmania, London, Liverpool, and elsewhere.

Clinical Demonstrations of Diseases of Pregnancy.

In connexion with the course of post-graduate teaching on internal medicine referred to above, Dr. J. W. Ballantyne is giving a series of four Saturday morning

[1] British Medical Journal, May 17th, 1913, p. 1089.

demonstrations of the diseases of pregnancy as seen and treated in the pre-maternity ward of the Edinburgh Royal Maternity Hospital. The first of the series was given on August 9th, and among the patients then shown was a woman, 43 years of age, who had been brought into the hospital as a case of spurious pregnancy. She had had twenty-three pregnancies since her marriage at the age of 18; nineteen of these had gone to the full term, although a large number of the children had died in the first days or weeks of life; there had been three abortions and a premature labour. Dr. Ballantyne termed her a "multi-multipara," and pointed out how the attempt to carry a child *in utero* and another at the breast at the same time had maleficent effects upon either the "internal" or the "external" child or upon both. It was a dislocation of the harmonious symbiosis of pregnancy, and the wonder was that the mother had not suffered too. Lately she had been getting very stout, and had had some of the signs and symptoms of gestation. The abdomen was as large as a seven months' pregnancy, but the bimanual examination discovered a uterus not bigger than a two months' pregnancy. There had been irregular bleedings, but the patient stated that in one of her previous pregnancies she had menstruated all the time. The case was a doubtful one till that morning, when Dr. Ballantyne found that the os was slightly open. He operated before the clinic, and removed from the uterus the remnants of the patient's twenty-fourth gestation sac. It had been an incomplete abortion. Another woman, also in the pre-maternity ward, was a patient who was sent in because she was thought to be suffering from hyperemesis gravidarum; she was certainly pregnant (at the sixth month); but her history and present signs and symptoms were carefully analysed, and the conclusion formed that it was a case of gastric ulcer complicating pregnancy. Medical treatment would be carried on for a few days, but it might be necessary to operate. Three other patients who had all been inmates of the pre-maternity ward were seen; one of them had had all the signs of impending eclampsia, but preventive treatment had been successful, and a living child had been born; another was brought in nearly moribund from acute anaemia at the seventh month, suffering from intense dyspnoea, hydrothorax, and dropsy; but tapping the pleural sacs, with appropriate medical treatment, had been instrumental in getting her safely over her labour, although the infant had died a few days later; the third patient had been the subject of acute hydramnios with a twin pregnancy at the sixth month, and it had been necessary to tap the membranes to give relief, but both the twins had perished, a result which Dr. Ballantyne said must be called a failure, although the infants were premature.

Correspondence.

THE BIONOMICS OF THE RAT-FLEA.

SIR,—With regard to the question of the longevity of the rat-flea when fasting—a point which I raised in your issue of May 31st last—may I make the following further remarks, in reply to Mr. Bacot's criticisms?[1]

Let us grant to Mr. Bacot that either larvae—resting larvae or pupae—existed in the flea-breeding rubbish in which I failed to find them; but if this *is* granted, how does he explain the fact that when I separated off small portions of this flea rubbish from the remainder and closely observed it for three to four months, there was no accession of adult fleas? There should have been, according to his hypothesis. I also examined carefully the flea rubbish, looking for pupae, and found none. Mr. Bacot has misunderstood my previous statement on this point. Of course, I found empty cocoon cases, but I was referring to full ones.

The evidence seemed conclusive that no accession of adult fleas was continually taking place, and therefore that all the adult fleas were there to start with, and that they lived for eighteen months without food. Mr. Bacot himself adduces evidence in favour of my hypothesis by showing how the insects, if allowed to bury themselves in moist sand, do live for very much longer than they would if put in a paper tube and buried under the same conditions. It is not difficult to imagine that in a hygroscopic stuff like "flea rubbish" the fleas could bury themselves deeply and survive for eighteen months.

Furthermore, Mr. Bacot does not assert that his larvae lived in the resting state more than four hundred days, which could not account for the production of fleas at the end of eighteen months, nor will it account for the well-known experience of finding fleas in houses which have been deserted for years. Also one would expect under Mr. Bacot's hypothesis that there would be a greater accession of adult fleas in the warmer months of the year, which is exactly the contrary of what I found, namely, a great decrease during the summer.

The resting larval state seems to be limited in duration when compared with the longevity of the adult when it has emerged. This is very great, I am convinced, and a continual accession of new adults did not play much part in my experiments.

Another point which proves absolutely that my original fleas lived as long as eighteen months is that I found *Trypanosoma lewisi* in several of them, derived from the rats on which I had fed the fleas eighteen months, or more, before.

It is rather an important question to decide from the point of view of disinfection and prevention[2] of plague, but I do not think Mr. Bacot's theory will fit all the facts. I will be pleased to fall in with him if it can be made to do so.—I am, etc.,

Kuala Lumpur, July 17th. C. STRICKLAND, Travelling Medical Entomologist, F.M.S.

[1] BRITISH MEDICAL JOURNAL, June 14th, 1913, p. 1299.

NATHANIEL ALCOCK MEMORIAL FUND.

SIR,—It is considered by those who have known and appreciated the scientific work of the late Professor Nathaniel Alcock that some fitting tribute to his memory should be made.

Owing to his early death and the moderate remuneration that generally falls to the lot of the scientific worker, his family has been left wholly unprovided for. His widow has to face the upbringing and education of four young children, the eldest 7, the youngest 2 years of age, and it is thought that the most appropriate form such a memorial could take would be that of a fund to enable his three daughters and one son to receive an adequate education.

An appeal is accordingly made to the friends of the late Professor Alcock to contribute to a fund for the benefit of his widow and children.

Contributions will be gratefully received and acknowledged by Professor E. H. Starling, Physiological Institute, University College, London, W.C.; or Professor A. D. Waller, Physiological Laboratory, London University, South Kensington, London, S.W. Cheques should be drawn to the order of Professor E. H. Starling or Professor A. D. Waller, and crossed "Alcock Memorial Fund." —We are, etc.,

W. H. WILLCOX.
W. M. BAYLISS.
JOHN ROSE BRADFORD.
A. D. WALLER.
W. PETERSON.
E. H. STARLING.
F. O'B. ELLISON.

The Services.

MEDICAL AID IN THE FIELD.

COLONEL BULL'S SCHEME.

FOLLOWING upon an imaginary very severe cavalry conflict in the vicinity of Wolverton on July 19th, the largest demonstration of the manner in which the wounded would be succoured by the Territorial Forces and the Voluntary Aid Detachments ever given in the South Midlands was carried out. The whole scheme was, we learn from the *Northampton Daily Chronicle*, planned by, and effected under the supervision of, Colonel W. H. Bull, K.H.S., V.D., Assistant Director of Medical Services in the South Midland Division. The Royal Army Medical Corps and the Voluntary Aiders of the district took part in the

[2] I see that Dr. Swellengrebel has just proved that fleas do not remain infective for longer than twenty-eight days.

work, and the skilful manner in which they dealt with the complete scheme and overcame the difficulties it involved bore high testimony to their general efficiency. The country in which the imaginary battle took place was utilized to the best possible extent by Colonel Bull in his scheme. Colonel Bull's able staff included: Lieutenant-Colonel L. Haywood, Deputy Assistant Director (Colonel Bull's Staff Officer), Captain Bramhall, R.A.M.C. Adjutant; Colonel Burrows, C.M.G., County Director, Bucks; Lieutenant-Colonel Deyns, Commander of the 2nd South Midland Mounted Brigade Field Ambulance; Lieutenant-Colonel Howkins, Commander of the 1st S.Mid.F.A.; Captain Baker, M.B., Bucks Batt. Bucks and Oxon. Light Infantry; and Captain Moore, R.A.M.C.T. The following officers were on duty with the R.A.M.C.: Lieutenant-Colonel C. J. Deyns (Commanding), Captain A. M. Moore, Captain G. Buxton, Lieutenant Ed. Bull, together with Captain Bramhall, Adjutant from the Birmingham School of Instruction, with his sergeant-majors.

The Voluntary Aid Detachments present were Stony Stratford, Wolverton, and Wing (male and female), and Buckingham, Steeple Claydon, and Aylesbury (female) and Rugby. There were upwards of 180 members on duty, comprising 110 female nurses and 70 male members.

BIRMINGHAM UNITS, R.A.M.C.(T.F.).

A COMBINED church parade of all the Birmingham units was held at Great Brook Street Barracks on Sunday, July 27th, under the command of Lieutenant-Colonel F. Marsh. Before the service the troops marched from their head quarters through the city, and passed a saluting base at the General Hospital, where Colonel W. H. Bull, K.H.S., V.D., took the salute. The following units were on parade: First South Midland Mounted Brigade Field Ambulance, First South Midland Field Ambulance, Second South Midland Field Ambulance, First Southern General Hospital, North Midland Mounted Brigade Field Ambulance, two Voluntary Aid Detachments of the Birmingham Brigade St. John Ambulance Association, Coleshill Voluntary Aid Detachment, Smethwick Voluntary Aid Detachment, and West Bromwich Voluntary Aid Detachment.

Medical News.

A PASTEUR INSTITUTE has been established at St. Louis. It is a branch of the New York Institution. The director is Dr. L. Whitley.

IT is stated that the United States Public Health Service is about to establish a receiving station for sufferers from pellagra in Spartansburg, New Carolina.

ON August 7th a tablet, recording the place of birth of Sir William Turner, Principal of the University of Edinburgh, was unveiled in his native town of Lancaster.

HER MAJESTY QUEEN ALEXANDRA has become a Life Governor of the Royal Dental Hospital, Leicester Square, W.C., having allotted £200 from the Alexandra Day collection to that institution.

PROFESSOR A. VON WASSERMANN has been appointed head of the new Kaiser-Wilhelm Institute for Experimental Therapeutics, one of the laboratories established by the Kaiser-Wilhelm Society of Scientific Research.

A SPECIAL three-weeks' vacation course will commence at the West London Post-Graduate College on August 18th, the chief subjects dealt with during the first week being gynaecology, pediatrics, dermatology, and diseases of the eye, throat, nose, and ear.

AN International Congress on Help for the Wounded in War will be held at Ghent from August 15th to 30th, under the patronage of the King and Queen of Belgium. Particulars can be obtained on application to Dr. Jean Conrad, surgeon-in-chief to the civil hospitals of Antwerp. The treasurer is M. Albert de Meyer, 14, rue du Jardin, Antwerp.

A COMMITTEE for the investigation and prevention of cancer, with its head quarters in the University of Giessen, has been founded with the sanction of the Health Department of the Grand Duchy of Hesse-Darmstadt. At its inaugural meeting Professor Opitz delivered an address on the treatment of malignant disease with radium and mesothorium.

SIR JAMES GRANT, of Ottawa, Consulting Physician to the Governor-General of Canada, was made an honorary life member of the Canadian Medical Association at its meeting in June. Sir James Grant, who was born in 1831, has taken a prominent part in Canadian politics, and was President of the International Congress of Hygiene for Canada held in 1909. He was created K.C.M.G. in 1887. He was president of the Tuberculosis Association of Canada in 1901-2, and is ex-President of the Medical Council of Ontario.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

W. B. H. would like to know of any institution where a young man, a West Highland crofter, aged 21, could have treatment for stammering. At times he is quite unable to articulate, and has to write down what he wants to say. When alone he speaks quite freely.

ANSWERS.

A. H.—The cases referred to under Regulation 3 made under the Workmen's Compensation Act are the cases of industrial disease in the third schedule of the Act, including those diseases added by Order. Such diseases would come to the knowledge of the certifying factory surgeon when carrying out his duties under the Factory and Workshops Act. The duty is laid upon him to carry out periodical examinations and other duties, such as suspension, entry in health register, etc., imposed upon him by regulations and special rules which are in force for the industries and processes certified to be dangerous under Section 79. In this case the prescribed fees are smaller, because the surgeon is making his examination in the performance of his duty. The certificates must be in the prescribed form.

LETTERS, NOTES, ETC.

THE "MEDICAL DIRECTORY" FOR 1914.

M.B., B.C.CANTAB. writes to endorse the remarks of "F.R.C.S." in the JOURNAL of August 9th anent the curtailing of the record of past appointments in the *Medical Directory*. Granted that the insertion of these does increase its size, he thinks their omission will greatly diminish its utility.

M.B., Ch.B., etc., writes in the same sense.

FLEAS AND SULPHUR.

DR. FREDERIC C. EDGE (Birmingham) writes: Some years ago I wrote, and you kindly inserted, a note on the effect of sulphur in rendering my skin unpalatable to fleas. No doubt in the case of the skin the acrid hyposulphide fumes can be smelled, and I take it that these fumes cause irritation in the tracheae of the insect, and that it is not the insect's food which is rendered unpalatable, because the fleas will still bite my neck and exposed skin, but will not enter beneath my clothing, where the sulphurous fumes choke them.

SODIUM CARBONATE IN RINGWORM.

DR. HARRISON THOMAS (Taunton) writes: Since reading Dr. Nock's communication in the JOURNAL of March 8th, 1913, p. 498, recommending the use of fused washing soda in ringworm of the scalp, I have treated two cases in that manner with entire success. Both cases were in girls and were of some months' standing; one of them I treated with two dressings of the soda and the other with only one. This was about six weeks ago, and the hair is now apparently healthy, although rather thin in the places that were affected. The simplicity of the method and the ease of its application makes it very useful in the treatment of children in institutions.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

EIGHTY-FIRST ANNUAL MEETING
OF THE
British Medical Association.
Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF STATE MEDICINE.
E. W. Hope, M.D., D.Sc., President.

PRESIDENT'S INTRODUCTORY REMARKS.

In the unavoidable absence of Dr. Hope, the proceedings of the Section were briefly opened by one of the Vice-Presidents, Dr. W. A. Bond, M.O.H. for Holborn.

DISCUSSION ON PORT SANITARY ADMINISTRATION:
ESPECIALLY WITH A VIEW TO THE PREVENTION OF THE INTRODUCTION OF INFECTIOUS DISEASE.

OPENING PAPER.

By Herbert Williams, M.D.Lond., D.P.H.Camb.,
Medical Officer of Health, Port of London.

The United Kingdom being dependent on countries situated overseas for a large proportion of its food supply and also for its commercial prosperity, constant communication with all parts of the world by means of its mercantile marine is a natural consequence.

In many parts of the world the standard of hygiene is lower than it is in this country, and certain infectious diseases are endemic there. The sailors of our mercantile marine, when landing in foreign ports after a long voyage, are not always quite discreet in the manner of taking their recreation or in their choice of places where such are to be found, whilst the inhabitants of some countries are quite indifferent, or even opposed, to the taking of any precautionary measures in connexion with infectious diseases.

In some places abroad people have been seen walking about the streets with the scabs of small-pox still upon their faces. They do not feel ill, and therefore see no necessity for being isolated, whilst cases of plague and cholera are often concealed, and sanitary officers receive active opposition in the pursuance of their duties.

The conditions on board ship are particularly favourable to the spread of certain infectious diseases. For example, should a sailor have been infected with small-pox, his first symptoms are usually a headache and shivering accompanied by pain in his back. These symptoms are such as will ensure him little sympathy or consideration, and he may be living amongst his fellow seamen for three or four days before the appearance of a rash excites suspicion and leads to his isolation, and then he has probably infected all the susceptible persons with whom he has been in contact. The same remarks may also apply to passengers unless the ship's surgeon has had some knowledge of this disease, and causes the passenger to be isolated on suspicion. Quite recently three generations of small-pox occurred on a vessel without the ship's surgeon diagnosing the nature of the disease.

On every ship, measured by any standard of accommodation allowed ashore, there is overcrowding. The ventilation is insufficient even in the passengers' cabins, where the port holes may not be opened, and they communicate, either directly by spaces above the partitions or indirectly through the medium of the alley-way.

The following is a description of the accommodation provided for seamen in many of the cargo boats. The fore part of the main deck of the vessel is usually allotted to their use. This is divided into two spaces by a longitudinal partition, that on one side being devoted to the seamen and that on the other to the firemen. Each of these spaces should be provided with a ventilator. If, as in many cases, it is situated over a bunk, it is in consequence closed by the occupant of the bunk. The space is usually lighted by three 8-in. ports, equivalent to three small windows about 7 in. square. Seventy-two cubic feet of space is allowed to each person as a minimum. In some vessels 120 is provided, but in either case two bunks fill up at least 72 cubic feet. The bunks, being usually situated at the side of the vessel, obstruct the light so that the floor and the greater part of the space is in darkness. The men keep their clothes, oilskins, sea-boots, etc., in this space. They also take their meals there, and in some boats their supply of food is stored in lockers in their quarters.

The light, being insufficient, is commonly supplemented by a cheap form of oil lamp, smoky and evil-smelling. It is warmed by a cheap form of stove, which is often defective, allowing fumes and smoke to escape into the quarters. Such are the conditions under which many of the seamen of our mercantile marine spend their lives whilst afloat.

The sanitary conveniences are of a most primitive type; iron troughs without any provision for flushing are general. These, of course, become caked with excrement, and at the end of a voyage may be termed unapproachable. What they are like in the tropics may best be left to the imagination. It is small wonder that pulmonary tuberculosis is so common amongst seamen, the conditions under which they live being particularly favourable to the development and spread of this disease.

The drinking water on vessels may have been taken in from a source infected with cholera or enteric fever, or water from a similarly polluted source may have been drunk by persons before embarking, and such persons may develop these diseases in the course of the voyage. Certain ports are known to be particularly dangerous in regard to these two diseases, and arrivals therefrom are always treated with special attention.

Rats on board ship may be infected with plague; they may die and the infection be spread from the rat to human beings through the agency of fleas. Certain kinds of mosquitos may have bitten persons suffering from yellow fever, and in view of the fact that these mosquitos retain the organisms of this disease within their bodies for a period of many days, infection of persons might take place over a considerable period of time. Ballast tanks filled in a port where the water is infected with cholera organisms, and emptied in a port from which the water is drawn for drinking purposes, are another source of danger. The outbreak of cholera in Hamburg in 1892–3 was attributed to this cause.

The legal powers for dealing with ships at ports of arrival are conferred by the Public Health Act, 1875, the Public Health (London) Act of 1891, and the Public Health Act, 1896. These Acts require that any person on board suffering from infectious disease should be notified. This, in practice, is done by the surgeon of the ship, where one is carried, but the legal responsibility rests upon the person in charge of the ship—in other words, the master.

There is little difficulty in getting information as to the existence of infectious disease on vessels where a surgeon is carried; but the master of a vessel cannot be expected to diagnose every case of infectious disease, and if he were desirous of hiding the existence of infectious disease, he could, and probably would, always shelter himself under the excuse that he was not a medical man and did not know that it was a disease of an infectious nature.

The principal port sanitary authorities also possess by-laws requiring the master of any vessel having a case of a dangerous infectious disorder on board to "bring to" on arrival in a port, and to send notice of the fact to the medical officer of health of the port sanitary authority, who thereupon boards the vessel. The master is required to land the case at a specified hospital, and the medical officer will take such measures as he deems necessary for the disinfection of the quarters occupied by the patient, and any other articles which in his opinion are infected; but here again the master is supposed to be capable of diagnosing a dangerous infectious disorder.

Regulations have been issued by the Local Government Board for dealing with the dangerous infectious epidemic diseases known as plague, yellow fever, and cholera. These regulations were issued on September 9th, 1907, and it is probable that they will be revised shortly in

accordance with the provisions of the International Sanitary Convention held at Paris, 1911-12. This provides that the following measures should be taken at ports and on maritime frontiers.

Plague.

Ships are divided into three classes: Infected, suspected, healthy.

An "infected ship" is one in which a case of plague, yellow fever, or cholera has occurred within seven days of the arrival of the vessel at a port.

A "suspected ship" is one in which a case has occurred either in the port of departure or during the voyage, but not within a period of seven days preceding arrival.

A "healthy ship" is one which has come from an infected port, but where no case has occurred during the voyage.

The following are the precautions laid down with regard to plague:

1. Medical inspection of all persons on board.

2. Any person suffering from this disease shall be disembarked and isolated.

3. All contacts and all persons with any suspicious symptoms shall also be disembarked. These shall be kept under observation or surveillance. "Observation" means isolation of travellers, either on board the vessel or in a sanitary station, before they obtain free *pratique*. This is equivalent to the former detention of "quarantine."

"Surveillance" means that the travellers are not isolated. If healthy they receive free *pratique* immediately, but the authorities of the places whither they are proceeding are informed of their coming, and they are subjected to medical examination with a view to ascertaining the state of their health. In the case of an infected ship observation or surveillance may be imposed upon persons arriving on a vessel, but in the case of suspected or healthy ships surveillance only is permitted, and in the case of a healthy ship such surveillance is not to exceed a period of five days from the date of departure of the vessel from an infected port.

4. Linen and wearing apparel belonging to the crew or passengers which are, in the opinion of the sanitary authority, infected shall be efficiently disinfected.

5. Quarters occupied by the patient or by any who may be considered to be infected shall be disinfected.

6. The rats must be destroyed on infected or suspected vessels, and this may be done on healthy vessels if they come from infected ports. When rats on a healthy ship have been shown by bacteriological examination to have plague they must be destroyed, even though there may be no evidence of plague amongst the human beings on board. Precautions should be taken against rats going ashore, and it is recommended that ships be fumigated every six months for the destruction of rats. Vessels which are so fumigated may be granted preferential treatment in the port of arrival. Fumigation of ships is by pumping in a lethal gas, either CO, CO_2, SO_2, or a mixture of these gases. The gas should destroy not only the rats but also the fleas and other insects.

Cholera.

The precautions to be taken are practically the same as those in the case of plague, omitting the reference to rats. If the drinking water on board is suspected it shall be disinfected, pumped out, and replaced by a wholesome supply. The water ballast may be disinfected, but the better plan is to put some concentrated disinfectant in the ballast tanks before filling them in infected ports. This will ensure that they contain a non-infected water, which may be discharged without fear in the port of arrival. Provision is also made for the bacteriological examination of the excreta of contacts and suspicious cases, but this must be done within five days of the time of arrival; such bacteriological examination may also be made in the case of vessels that are in an insanitary condition and overcrowded. It is needless to say that this would mean a very troublesome and lengthy process, especially in the case of vessels carrying large numbers of passengers.

Yellow Fever.

1. Vessels ariving which are infected are also subjected to medical inspection.

2. The sick shall be disembarked, and shall be protected from the bites of mosquitos and isolated on shore.

3. Other persons may be disembarked and kept under surveillance. Persons who are engaged in unloading the vessel must be kept under surveillance for a period of six days.

4. Ships must be moored at least 200 metres from the shore.

5. The ship should be fumigated with a view to the destruction of mosquitos on board before unloading the vessel. The disease being carried by the *Stegomyia* mosquito, such precautions would practically only be employed in countries where this mosquito exists.

CONCLUSIONS.

1. The sanitary conditions on board ship can be and should be improved. At the present time ships are built and inspected and the living accommodation on board passed by officers of the Board of Trade who have had no training in sanitary work. It is no uncommon thing for new ships, on arriving in the Port of London, to be subjected to considerable alterations, with a view to making the conditions of life on board more bearable. In many instances not even the instructions issued by the Board of Trade to their surveyors have been carried out.

2. Under the present Local Government Board regulations a vessel may arrive from a port infected with plague, yellow fever, or cholera, and any persons may leave the vessel before arriving at the port—before the visit of the officer of customs or the medical officer—without any offence being committed. It is therefore possible under the present regulations that persons in the incubation stage of one of these diseases may come ashore, develop, and spread the disease at the place of arrival.

3. Small-pox has been prevalent during the present winter at many ports in Spain. Vessels usually arrive in this country from Spain within fourteen days of departure. Should the persons on board be well at the time of arrival, they are allowed to land, and no powers are possessed to take their names and addresses with a view to keeping them under surveillance. It is obvious that such persons, landing in apparently good health, may develop small-pox in the next two or three days, and form centres for the outbreak of this disease, and many instances may be noted where this has actually occurred.

Bearing in mind the increasing number of persons in this country who are unprotected by vaccination, it is, in my opinion, desirable that powers should be possessed for dealing with persons arriving on vessels from ports at which small-pox is known to exist. They should be required to give their names, and addresses to which they are proceeding, and in default they should be detained on board, whilst a heavy penalty should be imposed on those who give wrong names and addresses.

I have dealt in this paper with the side of port sanitary administration concerned only with the introduction of infectious disease, but port sanitary administration covers many other subjects, as, for instance, sanitary supervision of vessels, and especially the examination of foodstuffs. Many port sanitary authorities feel very strongly that their work is of an imperial rather than a local nature, and is effective for the protection of the whole country, and that, therefore, the expenses they have to incur in connexion with the inspection of vessels and foodstuffs, should be met by an imperial contribution, and should not be a charge borne entirely by the port. In the case of the Port of London, it is laid down in the Public Health (London) Act that any expense in connexion with the work of the Port of London Sanitary Authority shall be paid out of the corporate funds of the Corporation of the City of London, and this is done at an annual cost of between £10,000 and £11,000, which is paid for out of the City's cash, and not one penny of this amount falls upon the ratepayers of the City of London.

DISCUSSION.

Major JACKSON, R.A.M.C., referred to the introduction of yellow fever into Jamaica, and said that the question of the diagnosis of this disease was most important. There were some ports where the conditions under which sailors

had to exist on land were just as bad as those which Dr. Williams had described at sea, owing to inefficient sanitation and neglect of flushing of waterclosets. He thought that the sanitation on board ships was decided by financial considerations; but in his opinion it was the duty of the Government to see that the necessary reforms in this direction were carried out.

Mr. F. A. Foy (Port Health Officer, Rangoon) said he could endorse all the points brought forward by Dr. Williams so far as they came within his experience. With reference to the cases of small-pox that recurred one after the other, he recalled a similar instance of three successive cases of chicken-pox which occurred on the same steamer on her homeward and outward voyage, each of which appeared to have had a distinct connexion with the previous case. He agreed that it was a wrong principle to leave the reporting of cases of infectious disease to the masters of vessels which carried no medical officer, and believed that a medical inspection of every vessel arriving in port was the only really effectual means of carrying out preventive measures in ports. This was objected to on account of the difficulties that would be put in the way of shipping companies if it was insisted on, also on account of the cost to the port sanitary authority and because of the apparently few cases discovered by this means. He had recently worked out this point in the case of plague, and in eight years' experience the ratio of cases discovered was 1 in 90,000 inspected. Yet if this criterion was applied to preventive work of all kinds similar remarks might be made as to other diseases, and, in his opinion, the measure was well worth the trouble and expense involved. With regard to the bacteriological examination of excreta, he would like to ask what provision the regulations made to prevent delay in granting *pratique* to a vessel, for any delay was usually very irksome to a shipload of passengers and to the shipping companies? He agreed also that provision should be made for inspecting vessels under construction, with a view to the proper fulfilment of sanitary requirements.

Dr. Gilbert E. Brooke (Singapore) said the sanitary administration of ports depended on many factors, such as situation of port, tropical or temperate; distance from infected ports, etc. But certain essentials might be insisted on—for example: (1) Measures to be taken at port of departure rather than port of arrival if possible; (2) uniformity of procedure (international) in order to facilitate commerce, especially standards of imposition and removal of quarantine; (3) uniform bills of health (international) to replace present nondescript documents; (4) Establishment of two British bureaus of information—one in London and one in Singapore—which might collect and disseminate prompt and reliable information of infectious disease in Western and Eastern hemispheres.

Dr. Heggs (Sittingbourne) considered that officials of the Board of Trade, whose duties included inspection of ships, should have some sanitary experience. He thought that as many local authorities were losing their keenness about vaccination, there should be more surveillance of persons arriving from ports infected with small-pox. He did not think it wise for sanitary authorities to use their small-pox hospitals for tuberculosis cases, though an exception might be made in the case of port sanitary authorities.

The President said that port sanitation might be considered as the first line of defence against the importation of disease, and in his opinion the sanitation of British ports was altogether excellent and efficient. Small-pox had declined to a very large extent in recent years. British vessels traded to foreign parts and brought back cases of small-pox; but the disease did not spread, and why? Because of the preventive measures adopted at the ports. One debt which they owed to port sanitary authorities was the immunity enjoyed by the country from small-pox. The same thing applied to cholera and plague. These facts were not, perhaps, realized as they ought to be. Expenses should not be grudged, and in this connexion prosperity, health, and finance should go hand in hand. He quite agreed with Dr. Brooke that a better international bureau of information was required in foreign ports. He thought that the opening of the Panama Canal in the near future would bring foreign ports nearer to one another, and one result might be an interchange of yellow fever on the one hand and of plague on the other. The whole subject was one of supreme importance and interest.

Dr. Williams, in his reply, agreed with Major Jackson as to the difficulty of diagnosing yellow fever in some cases. It was a fact that the disease was not always "yellow," and on the West Coast of Africa it had only recently been diagnosed. As to inspection of vessels, they had no legal power to inspect every vessel, but in London and Liverpool, at any rate, all vessels arriving from foreign ports were visited, and the captain was required to notify cases of illness. As to bacteriological examination of excreta when there was suspicion of cholera, it would be sufficient to detain the passengers for twenty-four hours, during which time a bacteriologist could weed out the healthy from the suspects, and the latter could be kept on board until the investigation was completed. He quite agreed with remarks that had been made as to the ignorance of the ordinary ship surgeon of infectious diseases, especially of small-pox, and there was no doubt that many of the port inspectors were quite inefficient in the matter of examining ships. The usual "bills of health" were quite useless, and he would be glad to see something adopted on the lines suggested by Dr. Brooke, whose suggestions as to bureaus of information were also most important. At present they relied to a great extent on the United States Marine Service, which was of extreme value. With regard to tuberculosis, though the notification order did not apply to ports, he was in the habit of acting as though it did, and in any case of actual or suspected tuberculosis arriving in port the name and address of the person affected was taken and sent to the medical officer of health of the district in which he lived.

DESTRUCTION OF RATS IN THE PORT OF RANGOON.

By F. Arthur Foy, M.B., C.M., D.P.H.,
Port Health Officer of Rangoon.

The destruction of rats is one of the most important preventive measures adopted against plague; their destruction on board has been brought into use only partially. It is used for the following three purposes:

1. *When a vessel is found plague infected.* A vessel may become plague infected:

(*a*) By the occurrence of a human plague case on board. This is very rarely reported by the commander to have occurred on the voyage. It may also comparatively rarely be detected at inspection of passengers and crew on board on arrival, even where this inspection is held as a routine practice. A case with fever may be reported or separated at inspection on arrival, but is then usually not sufficiently advanced to permit of immediate classification as a distinct case of plague, and the vessel has to be given *pratique*. Other cases may be discovered in a town and be reported to have originally come by a certain vessel named, but by the time the diagnosis of any of these cases is arrived at, the vessel has not only unloaded her cargo but has probably started loading again for the next port. The occurrence of the case of human plague on board does not necessarily prove that the rats were originally infected and spread the disease amongst the passengers, or that the case of human plague that occurred has left infected rat fleas on board which have since infected the rats. It is thus easily seen how the interruption to work that is caused by the insistence on destruction of rats because of the occurrence of a case of human plague is a matter of great vexation to shipowners though quite justifiable from a sanitary point of view.

(*b*) By the occurrence of cases of plague among the rats as indicated by rat mortality. This it would devolve on the commander to report. No such cases have been reported, and it is easy to see that unless very extensive, the report is unlikely to be made, as the finding of a single dead rat would probably never be reported to the commander, or, if reported, be treated by him in a very trivial manner. If every case that occurred were reported, or if extensive rat mortality occurred and were reported, destruction of rats would prove in such cases a most useful measure. The

routine trapping and bacteriological examination of rats on board of vessels would prove useful to ascertain if there were plague infection present among the rats, and, if present, to take necessary preventive measures.

2. *As a routine procedure.* Destruction of rats has also been employed as a routine procedure when vessels undergo annual repairs. This has been done to a very limited extent, only some small Government vessels availing themselves of it. The reason for this is that most of the vessels that ply to Rangoon are docked at their head quarters port, as at Calcutta, where in the case of some of them the rats are exterminated. This appears to be a most useful procedure, and one that cannot give the shipowners annoyance, since it can be carried out when the vessel is not urgently needed. Its insistence or adoption will certainly reduce the number of the rats on board among whom plague may spread, especially if care be taken not to let more rats on board from cargo boats and wharves.

3. It has also been employed as a routine matter when the vessel has finished discharging cargo, but prior to her commencing to load cargo again for certain special ports and countries which insist on the extermination of rats prior to the vessel loading cargo at an infected port for these countries and ports.

This is also a very beneficial procedure, but only done at the request of the shipping agents; and as it is not sprung on them suddenly, it is not seriously objected to by them. They know that it has to be done in order that the vessel may gain entry into the port that she is bound for, and prepare for it, and most of the vessels that have undergone it at Rangoon have gone through the procedure for this reason. Some of these vessels have previously undergone it only a short time (four to six months) before, but the process has to be repeated each time they proceed from an infected port to those ports that insist on it.

The process has been carried out in three ways: (1) By compressed sulphurous acid gas in cylinders; (2) by sulphur burnt in holds; (3) by the Clayton apparatus.

1. *By Compressed Sulphurous Acid Gas in Cylinders.*—This has been carried out by way of experiment. As the chief officers of some vessels whom I interviewed said, they could not be certain that they had rats in certain circumscribed areas, such as store-rooms on various vessels, I got permission for the purpose of these experiments to let loose a few rats into certain areas. Three experiments were carried out. The results are shown in Table I:

TABLE I.

No. of Experiment.	Cubic Capacity of Area.	No. of Rats let Loose.	No. of Cylinders used.	Time Closed.	No. of Rats Killed.
1	3,320 cub. ft.	7	2	6½ hrs.	3
2	4,085 cub. ft.	8	2	8 hrs.	0
3	4,085 cub. ft.	Same rats as above	3	8 hrs.	4

REMARKS.—*Experiment 1:* This experiment was interrupted. The hold was opened in between by the carpenter, who worked halfway down this hold. The hold was then reclosed, and when reopened and ventilated 2 rats were found alive at the level the carpenter worked, but 3 rats were found dead at the bottom of the hold; 2 had evidently escaped. *Experiment 2:* Not enough cylinders used. *Experiment 3:* The rest of the rats had probably escaped while the hatch was opened for ventilation after Experiment No. 2.

From this it is seen that if a few extra cylinders over and above the number recommended be used the results are likely to be successful. It is therefore a suitable method for use in small launches, and may prove useful in very small ports where the Clayton apparatus is not available.

2. *By Burning Sulphur.*—This was done in the holds of six small steamers because they were reported to have had cases of human plague on board, and in one store-room, merely to kill any rats there might be in it. In the latter instance 5 mice and half a bucketful of cockroaches were killed. In the former instances the holds were evidently free of rats, as none were killed, but in one of these instances some cockroaches were killed.

3. *By the Clayton Apparatus.*—This has been effected in forty vessels. Three of the vessels that underwent it were infected by human plague cases. Three vessels underwent it while their annual repairs were proceeding (these were three lightships), while the remaining thirty-four vessels underwent it in order to comply with the regulations in force in some foreign countries insisting on destruction of rats prior to loading cargo at infected ports.

Of these 34 vessels, 6 vessels underwent fumigation here for the second time while 4 were said to have been fumigated in other ports from four to six months previously; the remaining 24 vessels were understood to have been fumigated here for the first time.

Percentage of Gas in the Holds and other Areas Fumigated.

This is recorded in Table II, from which it is seen that out of 163 areas fumigated the percentage recorded is not available to me in 32 instances. Of the remaining 131 the percentage most often obtained was, roughly, 3 per cent., and this was in 37 instances. The lowest percentage recorded is 1½. The average percentage employed is nearly 3, and the highest 6, all these being rat-destroying percentages.

TABLE II.

1½	per cent.	in	2	holds, etc.	3½	per cent.	in	15	holds, etc.
1¾	,,	,,	2	,,	3¾	,,	,,	5	,,
2	,,	,,	10	,,	4	,,	,,	18	,,
2¼	,,	,,	4	,,	4½	,,	,,	7	,,
2½	,,	,,	11	,,	5	,,	,,	3	,,
2¾	,,	,,	9	,,	5½	,,	,,	1	,,
3	,,	,,	7	,,	6	,,	,,	1	,,
3¼	,,	,,	6	,,					

About 3 per cent. average in 131 holds, etc.

Not recorded in	32	,,
Total	163	

Percentage of Gas which Prevailed in the Areas in which Rats were Destroyed.

As the areas had no cargo in them the percentages obtained were quite sufficient for the destruction of rats. The lowest percentage resulting in rat destruction is recorded as 1¾, and only in 2 instances did this percentage prevail, and in both these instances rats were destroyed. Only in 2 other instances is a lower percentage, namely, of 1½, recorded. In 12 instances the percentage recorded is not available. In the remaining 41 instances in which rats were destroyed the percentages ranged from 2 to 5½. One hold was fumigated with 6 per cent., but no rats were found after the operation. The largest number of rats found dead in one hold were killed with a percentage of 2½. The percentage which resulted in rat destruction in the largest number of instances was 3 per cent. in 14 instances. The average percentage used in the 43 instances recorded was 3. (See Table III.)

TABLE III.

With 1¾	per cent.	of	gas	rats	were	destroyed	in	2	holds, etc.
With 2	,,	,,	,,	,,	,,	,,	,,	2	,,
With 2¼	,,	,,	,,	,,	,,	,,	,,	2	,,
With 2½	,,	,,	,,	,,	,,	,,	,,	3	,,
With 2¾	,,	,,	,,	,,	,,	,,	,,	6	,,
With 3	,,	,,	,,	,,	,,	,,	,,	14	,,
With 3¼	,,	,,	,,	,,	,,	,,	,,	3	,,
With 3½	,,	,,	,,	,,	,,	,,	,,	2	,,
With 3¾	,,	,,	,,	,,	,,	,,	,,	1	,,
With 4	,,	,,	,,	,,	,,	,,	,,	6	,,
With 6	,,	,,	,,	,,	,,	,,	,,	1	,,
With 5½	,,	,,	,,	,,	,,	,,	,,	1	,,
An average percentage of 3 for ...								43	,,
Rats destroyed but percentages not recorded in								12	,,
Total								55	,,

Presence of Plague Bacilli in Rats Destroyed by the Clayton Apparatus.

The rats destroyed in the above operations were examined in 22 instances from 19 steamers for the presence of plague bacilli, and only in one instance were plague bacilli found. As putrefactive processes may have destroyed the plague bacilli if present before the rats could be examined in the other instances, no general inference can be drawn from the above.

Cockroaches were killed in the operations sometimes in large numbers. That some were found alive on inspection next day was probably due to their flying in to the open holds during the night from the deck.

Data as Regards the Presence of Rats in Vessels.

From the number of rats recorded as destroyed, some inferences may be drawn on this subject. In 39 vessels operated on, rats or mice were found destroyed in some of the holds and other areas on 26 vessels, but no rats were found dead on the remaining 13 vessels. Of these 13 vessels, 3 underwent fumigation here six and four months previously, and in one of these three no rats were found on the first occasion but were on the second occasion. Of the remaining 10 vessels, 3 were said to have been fumigated elsewhere about three months before, leaving 7 fumigated for the first time here without any rats being found. Of the remaining 26 vessels on which rats were found, one was said to have been fumigated about three months before elsewhere.

On 6 vessels the rats found were under 5 in number; on 4 vessels from 5 to 10 in number, and one of these was the one fumigated for the second time here. On the remaining 16 the dead rats were fairly numerous in number, 61 being the largest number found on a sea-going vessel. But the largest number found on one vessel is recorded as 250, and this was a lightship, which came into port from outside for annual repairs. The details are recorded in Table IV:

TABLE IV.

Under 5	rats and mice in	...	...	6	vessels
From 6 to 10	,,	,,	...	... 4	,,
From 11 to 15	,,	,,	...	... 3	,,
From 16 to 20	,,	,,	...	... 1	,,
From 21 to 25	,,	,,	...	... 2	,,
From 26 to 30	,,	,,	...	... 1	,,
From 31 to 40	,,	,,	...	... 1	,,
From 41 to 50	,,	,,	...	... 2	,,
From 57 to 60	,,	,,	...	... 1	,,
From 61 to 70	,,	,,	...	... 2	,,
Over 70	,,	,,	...	... 3	,,
		Total		... 26	vessels.

Number of Holds in each Vessel in which Rats were Found.

This is recorded separately for twelve vessels, and the details are given in Table V. From this it is noticeable that on an average 56 per cent. of each of the vessels on which rats were found were infested with the rats in some number (which also corresponds with the average given above).

TABLE V.

In 1	out of 7	holds	in 1	vessel	=	14%	of the	vessel
In 1	,, 5	,,	in 1	,,	=	20%	,,	,,
In 1	,, 4	,,	in 1	,,	=	25%	,,	,,
In 2	,, 5	,,	in 2	,,	=	40%	of each	vessel
In 3	,, 5	,,	in 2	,,	=	60%	,,	,,
In 4	,, 6	,,	in 1	,,	=	66%	of the	vessel
In 5	,, 7	,,	in 1	,,	=	71%	,,	,,
In 3	,, 4	,,	in 1	,,	=	75%	,,	,,
In 4	,, 4	,,	in 1	,,	=	100%	,,	,,
In 5	,, 5	,,	in 1	,,	=	100%	,,	,,

Average portion of each of above 12 vessels found infested with rats, 56%.

The total number of holds in which rats were found were 71 out of 169 fumigated; no rats were found in 95, and for 3 holds fumigated there is no record as to rats. In the 62 holds of the 12 vessels which were each fumigated singly rats were found in 34 holds. This comes to an average of 55 per cent. of each vessel.

Incidentally one occurrence is worthy of record. A man fell into a hold accidentally as the hold was being opened up after 2½ per cent. of gas had been used. The chief officer, who was a powerful man, went down a ladder after him and brought the man up. Fortunately both survived.

DISCUSSION.

Dr. Herbert Williams quite agreed with Dr. Foy's remarks as to the use of compressed sulphur dioxide. He had made experiments some years ago and found SO_2 inefficient unless the whole of the gas could be diffused throughout the ship's hold to the amount of 3 per cent. CO_2 and CO were used in Hamburg. Dr. Harker, in Australia, had utilized the gases from the ship's funnels, which contained much CO. He claimed that these gases were useful not only for killing rats but for extinguishing fires. On account of its poisonous nature and absence of odour CO should be used with great caution. No gas was really effectual unless it killed fleas as well as rats.

Dr. Hope said that in Liverpool an attempt had been made to ascertain the relative merits of each method of killing rats, and as far as the investigations went the upshot appeared to be that there was no very great difference provided the methods were efficiently applied. As an illustration of the great importance of this subject he mentioned that there had recently been instituted a French society for "deratization."

DISCUSSION ON THE PREVENTION OF TUBERCULOSIS.

OPENING PAPERS.

I.—E. W. Hope, M.D., D.Sc.,

Medical Officer of Health for the City and Port of Liverpool; Professor of Public Health, University of Liverpool; President of the Society of Medical Officers of Health.

Within the great subject of the prevention of tuberculosis, which so largely occupies public attention to-day, almost all measures of practical sanitation are comprised. What I wish specifically to refer to now are those exceedingly important and interesting aspects where prevention and treatment may be said to join hands. The cure of a case of open tuberculosis is a preventive measure in the same sense that the term may be applied to small-pox or to typhoid fever. It implies that there is one less focus of infection. Similarly, during the period of treatment of the infective case of tuberculosis in a properly constituted sanatorium all risk of infection is removed; while there is danger in the retention of the patient in his home there is little or no danger when the patient is under appropriate conditions. I think I may say that the real position of the sanatorium at the present time, and the incalculable advantages associated with it, alike to the patient and the public, are becoming understood. A few years ago there was a real risk of a set-back to the provision of sanatorium beds by sanitary authorities owing to the extravagant predictions which have been put forward by enthusiasts to the effect that the sanatorium treatment necessarily meant cure, predictions which raised public expectation to a high pitch, resulting in a disappointment commensurately great. As a preventive instrument the sanatorium must occupy a position of as great usefulness in regard to tuberculosis as the hospitals for ordinary infectious sickness have in the past proved themselves to have done. There has also, I fear, been a tendency to obscure the preventive measures by other rival and extravagant claims of cure, all of which appear to have excited great temporary enthusiasm, to be followed by the disappointment—not to say despair—of the sick and their friends.

Another exceedingly useful administrative accessory, designated under various titles, such as tuberculosis dispensary, or out-patient department, or tuberculosis institute, having for its object the facilitating of early diagnosis, the ensuring completeness of records preliminary to preventive operations, and ensuring or undertaking special treatment, has also been in some danger of losing a great deal of its useful public influence by the enthusiastic advocates who proclaimed that forms of treatment of a specific kind, carried on in connexion with it, must certainly result in recovery. False expectations once again; illusory hopes of cure diverting attention from real protective measures.

There are striking parallels in the circumstances which have accompanied the decline of phthisis and in those associated with the decline and disappearance from various parts of the world of other afflictions of the human race. No one would seriously question that preventive measures, rather than treatment, however excellent and skilful it may have been, have freed whole regions from plague, from typhus fever, from malaria, small-pox, cholera, and enteric fever; and so, one cannot help thinking, is and will be the case in regard to tuberculosis. I know that some have gone so far as to suggest

that these declines are due not to sanitation, but to immunity resulting from universal inoculations with the disease, but this is a view to which well-known facts lend no support.

With reference to the rival methods of treatment, it may be, perhaps, a fact that the well-known credulity of the public and the natural hopefulness of the sick have given to the publicly expressed views of the physician a meaning altogether foreign to that which he intended to convey. For example, the history of tuberculin treatment would point to this from its earlier inception to one of its later manifestations—I mean the Friedmann "cure"—which awakened great public interest; and now, alas! according to the BRITISH MEDICAL JOURNAL of a month ago, the Board of Health of New York have adopted a resolution the immediate effect of which was the closing of the Friedmann Institute in that city. It must not be thought that the advocates of prevention are not alive to the necessity of doing everything which human ingenuity and skill can do for the treatment and relief of those who are already suffering, and there is not the slightest likelihood that that branch of the subject will at any time suffer, however strenuously sanitary authorities may devote themselves to prevention.

Undoubtedly the sanatorium benefit clauses of the National Insurance Act and the provisions of the Finance Act of the same year are giving an immense stimulus to measures preventive and curative, as well as to research, all of which must hasten in greater or lesser degree the extinction of tuberculosis.

II.—H. O. WEST, M.D.,
Tuberculosis Officer, County of Kent.

THE FUNCTIONS OF THE TUBERCULOSIS OFFICER.

IT is as yet, perhaps, a little early to attempt to describe fully the functions of a tuberculosis officer. The office of tuberculosis officer is of so recent creation, and the experience gained is so generally limited, that any consideration of his functions must at present be largely theoretical. My particular duty on the present occasion is to assist in opening a discussion on this part of the general question of the prevention of tuberculosis, and the following statement represents not a complete survey, but my own personal conceptions as to the position and functions of a tuberculosis officer.

The general idea of the work of a tuberculosis officer has been outlined, but perhaps a little vaguely, in the reports of the creators of his office—the Tuberculosis Departmental Committee. In a sentence, he is to be a clinical expert, in intimate relationship with all the public health and allied authorities. Although it is not possible, I think, for the reason already given, to delimit his duties exactly, it seems to me that the most profitable way of approaching this subject will be to consider it from these three points of view, namely:

(1) The tuberculosis officer in his relationship to the public health authorities—*central* (the county and county borough councils) and *local* (the local sanitary authorities). (2) The tuberculosis officer in his relationship to other medical men, particularly to those in general practice. (3) The tuberculosis officer in his relationship to patients and to the lay public generally.

1. *The Tuberculosis Officer in his Relationship to the Public Health Authorities.*

It will be remembered that, acting upon the report of the Tuberculosis Committee, the Government have constituted the county and county borough councils the administrative units as regards the prevention and treatment of tuberculosis. The tuberculosis officer is therefore primarily an officer of that central public health authority. The responsible official of such a body for the public health and allied preventive measures is its medical officer, so that, in my opinion, it is clear that the tuberculosis officer must be on the staff of the medical officer of health. The view, apart from other considerations, that he should come into the province of the county or county borough medical officer and be independent of him has always seemed to me not only impracticable, but unwise. It has, I think, to all intents and purposes disappeared, as might have been expected, and has been succeeded by the view I have formulated.

It seems to me that the position of a tuberculosis officer in relation to the central public health authority may be summed up as follows: That he is a clinical expert on the staff of the medical officer of health, responsible to him, and to him alone, as his chief, and working entirely under his direction.

In a county borough, so far as I can see, no more need be said under this heading; but in a county area there are the various local sanitary authorities (of which it is composed), with their respective medical officers of health, to be considered.

What is to be the relationship in such areas of the county tuberculosis officer to the local medical officers of health? This is a question around which there has been some controversy. In my opinion, the problem will be best solved by the complete separation of the clinical work from the complementary questions of housing and general sanitation. Inspection of houses and investigation of sanitary conditions ought not, it seems to me, to be considered to be part of the tuberculosis officer's duties; neither, in my opinion, ought medical officers of health, as a rule, to be expected to be anything like clinical experts in medicine.

I would prefer to regard the position of a tuberculosis officer largely as that of a consulting physician, and I do not think there would be any possible controversy if the position were maintained that he is a clinician pure and simple, dealing only with the clinical treatment of patients, and leaving always, as a matter of course, the whole sanitary question to the local medical officer of health. There is a difficulty which may arise under such an arrangement. It tends to lead to a multiplication of visits from various public officials, and this may raise objections on the part of the patient or his friends—a result which it is of course important to avoid.

An alternative plan is that the tuberculosis officer should undertake the duties of the medical officer of health, and for this particular purpose act as an officer of the local sanitary authority under the direction of the medical officer of health.

Such a plan has been suggested as a possibility in a recent Local Government Board order. It seems to me that such an arrangement is impracticable, for the reason that an officer of the central authority can hardly at the same time be an officer of several local authorities.

Co-ordination there must be, of course; but the one co-ordinating public health officer is the county medical officer, and the tuberculosis officer can only come into the sphere of, and into relationship to, the local medical officers of health as one of the county officer's staff. On any other basis than this I think difficulties will occur. One difficulty, I think, in particular suggests itself. I can imagine a district medical officer of health saying "Tuberculosis is a public health question. It is a notifiable disease, and therefore one for which I am responsible. Why should the tuberculosis officer come into my area at all and carry out work which I can do?" In other words, "Why should I not be the local tuberculosis officer?"

At first sight, at any rate, such a position is a plausible one to take up. There are those who consider that the local sanitary authorities should be the administrative unit, that the medical officer of health *should* be the tuberculosis officer of the particular dispensary or dispensaries in his area, and many local authorities have already undertaken work of this character on the advice of their medical officers. It is unnecessary for me to attempt to discuss this particular question, for were I to do so I should be involved in a consideration of the relationships between local and central authorities, and with such a question I am not competent to deal. I would but remind you in passing that no such suggestion was made by the Tuberculosis Committee. But in any case I maintain that there need be no suspicion of a tuberculosis officer usurping the functions of the medical officer of health. Rather than this should appear so, I suggest that the possession of a diploma in public health should not be regarded (as now so commonly the case) as any special qualification for the appointment. It is, of course, true that such a diploma confers (among many other things) a certificate of proficiency in bacteriology,

but, with the general establishment of such laboratories, I hardly think that particular asset of much importance, and would prefer to see greater emphasis laid on clinical experience. For instance, I think that the fact that a candidate was a member of the Royal College of Physicians should carry much more weight. I can speak without prejudice, as I do not hold a diploma in public health, nor am I a member of the Royal College of Physicians.

I think I have now indicated sufficiently my personal views, namely, that the separation of the clinical duties is the solution of the problem, but whatever is ultimately decided I venture to protest against the idea that it is necessary to conceive either the tuberculosis officer or district medical officer of health as being in a superior or inferior position, but rather as collateral. I should prefer to regard their functions as (to borrow a theological phrase) remotely the same, but proximately entirely different.

2. *The Tuberculosis Officer in his Relationship to other Medical Men.*

The modern scheme, which, wisely or unwisely, centres round the tuberculosis dispensary, brings the tuberculosis officer into relationship with the general practitioner, and again it is necessary to delimit the respective functions. I suppose when the idea of a tuberculosis officer was first mooted he had no greater opponent than the general practitioner. That feeling is disappearing, in some places very rapidly. The view that a band of irresponsible young men who from the nature of things could not have had as much experience of chronic tuberculosis as the average general practitioner, would come into the doctor's private practice and remove all his cases of tuberculosis—clinically and financially—has been shown to be entirely baseless. In fact the functions of the tuberculosis officer as relating to the general practitioner have now, I think, been sufficiently clearly defined as to disarm criticism.

I am not conversant with the arrangements made in many areas, but I think I am right in saying that such conditions obtain in Kent, at any rate, where the plan is as follows:

1. With regard to insured persons, the tuberculosis officer meets the doctor in charge of the case. Unless institutional treatment is agreed upon, the fullest possible use is made of domiciliary treatment, which is then left entirely in the hands of the general medical practitioner.
2. With regard to uninsured persons who are for the time being treated only in dispensaries. In Kent the understanding is that no patient is accepted for treatment unless authorization is received from a medical man, usually the practitioner in charge of the case.

Later on it is hoped that the tuberculosis officer will have general practitioners as assistants in the dispensaries. These two provisions will be a sufficient guarantee against the dispensaries being used by persons for whom they are not intended. For the rest, the tuberculosis officer does not inflict his attention on the unwilling doctor, but is ready to be of any use he can, either in or out of the dispensaries, to such as wish his assistance.

There is another group of medical men to be mentioned—the medical staff of the voluntary hospitals. There are cases of tuberculosis which are very suitable for treatment in general hospitals. I for one hope that the day is not far off when some working arrangements may be made for such cases to be admitted to the voluntary hospitals. If this were done, why should not the tuberculosis officer—granted that he had suitable credentials—be elected on the staff of the hospital for those particular beds?

3. *The Tuberculosis Officer in his Relationship to Patients and the Lay Public Generally.*

I think that as regards patients the tuberculosis officer should be recognized as a consultant. His visits and treatment should be regarded as matters of some favour, and it ought not, I think, to be looked upon as a hardship if the patient has to wait some little while for the tuberculosis officer's visit. I have already expressed the opinion that the tuberculosis officer is a clinician; while that is true, tuberculosis more than other diseases is one which needs other than mere clinical help. The tuberculosis officer may have to be ready to give his advice as regards domestic and financial matters—in fact, to some extent, to be an almoner.

Finally, the tuberculosis officer has, like all public officials, a duty to himself. It is his function to maintain a high standard of efficiency by whatever means possible. We know little enough about tuberculosis at present. More we hope for in the future. The tuberculosis officer's education, therefore, should not be regarded as finally completed. He should, I think, have the opportunity of keeping in touch with modern research and modern methods. In this connexion the suggestion of the Tuberculosis Committee that every two or three years the tuberculosis officer should have a period off duty for going back to hospital is one full of value, and, if it can be rendered practicable, should be welcomed in every possible way.

DISCUSSION.

Dr. A. D. Serrell Cooke (London) said: Nature's method of cure in tuberculosis is by means of tuberculin inoculated from the seat of disease, and 20 per cent. of cases of pulmonary tuberculosis spontaneously cure themselves. Repeated hyperaemia and the production of antibodies locally produces cicatrization and healing. Hence the method of autoinoculation by graduated exercises, which has in certain cases produced some successful results. The disadvantage of this lies in the difficulty of gauging the amount of tuberculin injected at each dose and the inability to state when immunity has been reached. The advantage of using tuberculin by injection, if properly applied, is that we can estimate accurately the amount of tuberculin administered, and by gradually increasing dosage can attain a dose of 1 c.cm. Old Tuberculin in from six to nine months. The reason for the comparative failure of others using tuberculin is that minute doses, with minute increases, are administered over a long period of time, a dose of 0.1 c.cm. or 0.2 c.cm. bacillary emulsion being administered at the end of two years, or Béraneck's tuberculin used over a period of two years. Antibodies probably are not produced in sufficient amount owing to the insufficient stimulus given by these small doses. It has been said that tuberculin only confers an immunity to tuberculin, but not to tuberculosis. A well known authority has stated that he used tuberculin successfully in minute doses with minute increases in a case of psoas abscess, but that the patient ultimately died of some other tuberculous disease; although it was found at the autopsy that the psoas abscess was cured. The reason for this is that tuberculous processes are going on during the time small doses are given, but that tuberculin only begins to act when it is increased as rapidly as possible and large doses have been reached. As an example, a case of pulmonary tuberculosis with laryngeal tuberculosis was treated. On the smaller doses the pulmonary condition appeared to get better and the laryngeal condition much worse. When large doses of tuberculin were reached the laryngeal condition began to improve. Dr. Camac Wilkinson's method is to increase the doses as rapidly as possible, by as much as the patient can tolerate it, not only increasing the dose by a definite ratio, but increasing the increase. A mild reaction is aimed at, excessive reactions being avoided, and it is to be noted that no two individuals can be treated alike, or by set rule. At the tuberculin dispensary we are able to treat 75 per cent. of all cases of tuberculosis, with about 70 per cent. successful results, while the patients for the most part remain at work. The tuberculins used at the dispensary are prepared from both bovine and human types of bacilli, and in cases caused by the human type of bacillus those usually employed are P.T.O., P.T., and Old T. Other preparations sometimes used are T.E., which is a glycerine extract of the pulverized human tubercle bacilli without filtration, which contains 5 mg. of dead bacilli in each c.cm., also T.A.F. and T.R. The diagnostic test for tuberculosis is employed in those cases where tubercle bacilli have not been demonstrated. The series of doses used are 0.001 c.cm., 0.005 c.cm., and 0.01 c.cm., of Old Tuberculin, which are taken as the standard. In cases of tuberculosis, we obtain a reaction which is usually local and general, and sometimes focal. Local reaction occurs at the site of inoculation usually in from twenty-four to forty-eight hours, and general reaction occurs

by a sharp rise of temperature up to or over 100° F., which after a short period falls again to normal. The focal reaction, when it does occur, occurs at the site of disease—thus in the lung where no crepitations were previously heard they are heard for the first time after the injection. Types of cases treated at the tuberculin dispensary are: Pulmonary, pleurisy, glands, sinuses, bones and joints, skin, and other surgical cases. From the point view of prevention, Dr. Latham has stated that tuberculin acts as a specific on cases of tuberculous pleurisy and peritonitis, and that 20 per cent. of all cases of pulmonary tuberculosis are the direct outcome of the pleurisy; further, that if all cases of pleurisy were treated with tuberculin 20 per cent. of pulmonary tuberculosis would be prevented. After treatment at the tuberculin dispensary is concluded, patients report themselves periodically, every three or six months. If they do not maintain their health, which is gauged by absence of cough and sputum and tubercle bacilli, and do not maintain their weight and energy, they are retested and, if necessary, retreated. Retesting doses are 0.005 c.cm., 0.01 c.cm., 0.05 c.cm., 0.1 c.cm. of Old Tuberculin. Treatment in these cases is usually by means of Old Tuberculin and bacillary emulsion, until, as a rule, a dose of 2 c.cm. or 4 c.cm. bacillary emulsion is reached, when we find that the patient's health is much improved. It is not claimed that the successes attained are cures, as sufficient time has not yet elapsed since treatment ceased, but from experience of others elsewhere the greater proportion of them will probably prove to be so.

Dr. DUNCAN FORBES (Brighton) considered that, so far as county boroughs were concerned, the medical officer of health should be the chief administrative officer, that the tuberculosis officer should act as a consultant, and also that he should act as assistant to the medical officer of health in all preventive work. The work of prevention and treatment were not separated, either in the sanatorium, where education was recognized as equal in importance to treatment, or in domiciliary treatment, in which the doctor was expected to teach the patient how to prevent his reinfection. He felt certain that in every instance if it was possible the clinician should also act as an administrator. In giving statistics as to tuberculin treatment, the cases which showed tubercle bacilli in their sputum should be separated from those which had not shown tubercle bacilli. Tuberculin would have to establish its reputation on its results in the treatment of cases showing tubercle bacilli in the sputum if the profession was to place faith in it. The patient's history should also be followed for a number of years.

Dr. JOHN MACKEITH (London) stated that he had listened to the papers read with much interest. He was of the opinion that it was very essential to keep the duties of the tuberculosis officer and the medical officer of health distinct, the former being chiefly limited to those of the clinical expert, and those of the latter to preventive measures. The relationship of the tuberculosis officer and the medical officer of health was at present in a transition stage, but would no doubt come to be clearly defined in the near future. In answer to Dr. Duncan Forbes's statement that the success of treatment by tuberculin in cases where tubercle bacilli were found in the sputum should be confirmed by their disappearance from the sputum, he gave particulars of several cases in his experience in which this had taken place. He had under his care several patients who were suffering from atrophic rhinitis, but who also had coughs, and on having their sputum examined, tubercle bacilli were found. He advanced the opinion that very probably atrophic rhinitis was a tuberculous affection, and he looked for good results in the treatment of this disease by tuberculin.

Dr. R. MURRAY LESLIE (London) agreed with Dr. West in his main contention that the work of the tuberculosis officer should be principally that of a clinical expert, and that the administrative and preventive work should be entrusted to the medical officer of health. There was no question of superiority or inferiority. The tuberculosis officer was not a junior medical officer but an expert clinician, who by his special training and experience was qualified to diagnose pulmonary tuberculosis in its earliest stages. With regard to the question raised by Dr. Forbes that from a statistic and therapeutic point of view it was advisable to separate the patients into two classes, according to whether tubercle bacilli were or were not present in the sputum, his experience as physician to a London consumption hospital led him to state his opinion emphatically that if treatment was not commenced until tubercle bacilli appeared in the sputum one had waited too long. Modern instantaneous radiography now enabled the physician to diagnose pulmonary tuberculosis (particularly the *hilus* or root variety) before tubercle bacilli appeared in the sputum, and long before physical signs manifested themselves. Diagnostic tuberculin reactions, observations of the opsonic index before and after exercise, and definite *x*-ray appearances were quite sufficient, apart from tubercle bacilli, to diagnose tuberculosis with sufficient accuracy to warrant careful treatment, and even, in his opinion, notification also. A careful distinction should be drawn between open or infectious cases on the one hand, and closed or non-infectious cases on the other. It was the latter class of case that could be treated with safety in the patient's own home by hygienic and specific therapeutics, with the strong probability of permanent cure.

Dr. T. B. HEGGS (Sittingbourne) said he was sure all present were most pleased to hear of such successful methods of the administration of tuberculin. Many of them were at work with this method of treatment, and their results were moderate when compared with the statistics given that morning by Dr. Cooke. He thought it most desirable that such statistics should only be published after careful inquiry, in view of the moderate results of other observers, as great harm would be done by the impression being conveyed to general practitioners that similar results might be obtained by them. He would like to have a definite statement from Dr. Cooke as to what he considered was the criterion of cure in his cases. As to the position of tuberculosis officers, the main question appeared to him to be what type of officer it was the intention of the Departmental Committee to establish. He believed the intention was to obtain for the general practitioner an expert clinician whom he could consult with in difficult cases. In actual practice the duties of tuberculosis officer consisted of recording work—clinical and statistical work. They were at present used as referees for insurance committees to guarantee that insured cases notified by practitioners as tuberculous were actually suffering from that disease. In most of those cases that was not expert work, and no difficulty in diagnosis was presented. He considered that the work of a tuberculosis officer should be confined to expert clinical consultations in difficult cases upon the request of a practitioner. His prestige should be maintained, his salary good, and his qualifications excellent. The mere administrative work of recording and statistics should be carried out by junior administrative officers of the public health service.

In answer to Dr. Heggs's question as to the criterion of cure, Dr. COOKE stated that they did not use the word "cure," but spoke of "successful results." By success they meant that the patient's energy had been restored, his vigour regained, and that he could work a whole day without being tired, and that his cough was either diminished or had entirely disappeared, and that he was either bringing up no sputum at all or very little, and when the sputum was examined it was found that the tubercle bacilli had diminished. In many cases where there had been much destruction of lung tissue the patient became a "carrier," and patients in whom large cavities existed would always expectorate tubercle bacilli. As he had stated, they gave large doses in retesting cases, and if a patient did not react to these enormous doses, they regarded that as a successful case.

Dr. A. GRIFFITH (Hove) said that the problem of prevention remained the duty of the medical officer of health, as it always had been. He must do his duty and not imagine that the present methods were going to do very much. Sending patients to a sanatorium was like sending them to paradise for a while and then letting them go back to purgatory. In his opinion, two of the most important causes of tuberculosis were inefficient feeding

and dampness of houses. These could be remedied by the medical officer of health. As to the position of the tuberculosis officer, he doubted if these experts were wanted at all. All over the country there were hospitals where patients or specimens could be sent for examination, and they had eminent experts in the London hospitals who gave free advice. Certainly they did not want the young expert. He believed that the proper function of a tuberculosis officer was to be a co-ordinating official, to carry out treatment on connected lines and differentiate the patients who required sanatorium and those requiring domiciliary treatment. He was much interested in the confession of Dr. Cooke as to his criterion of success, which was an excellent result of the discussion. He believed that Dr. Wilkinson did very good work, but he thought it a pity that he should claim more successes than he was entitled to. By adopting Dr. Cooke's criterion of success the number of cured cases would be multiplied. The idea of carriers of pulmonary tuberculosis was new to him.

Dr. W. A. Bond (London) said that there had been a very large increase of urbanization in the last sixty years, and notwithstanding that factor and the increased facilities for infection, there had been a large reduction in the death-rate from tuberculosis; 95 per cent. of all children between the ages of 12 and 13 were infected with tuberculosis, which they knew to be an omnipresent disease. He believed that one chief cause of the diminished death-rate was increased resistance. Almost all children had practically become infected with tuberculosis and were more or less protected for a number of years. This protection resembled that from small-pox conferred by vaccination or inoculation. He believed that good results could be obtained from the use of tuberculin in properly selected cases.

Dr. William Ewart (London), regarding pulmonary disease as responsible for the wide dissemination of tuberculosis, looked for more direct measures for its prevention and earliest treatment than hitherto proposed. Neither tuberculin nor the sanatorium offered at present any opportunity for the neglected study of the pulmonary factor—namely, of the special apex liability of some subjects and of the best way to counteract it. For prevention it might now be possible, through efficient school inspection, aided by compulsory notification, to sift the entire growing population into two groups—those free from all special liability, whether circumstantial or personal, and those structurally predisposed to apex disease—and to protect the latter by efficient methods of apex culture. For earliest treatment similar measures might fulfil the indication, on the lines of the "graduated labour" method, now approved for the healing stage, but probably not applicable without suitable modifications to the intermediate stages. The direct local treatment conveyed by artificial pneumothorax pointed to an unfulfilled requirement. For all early stages the clear indication was to combat the disease at its site, and with that view the possibilities of a form of apex treatment were now under consideration.

Dr. McWalter (Dublin) stated that in his opinion sanatorium treatment was an absolute failure as a specific method for the treatment of tuberculosis. He thought the profession was obsessed with the superstition that tuberculosis was due to the tubercle bacillus, and that every disease was caused by some definite organism. He would not deny that tubercle bacilli were found in almost every case of tuberculosis, but in his view tuberculosis was a mixed infection, and the presence of the tubercle bacillus alone was not enough to bring on the disease unless the surrounding conditions were favourable. Numbers of cases had been cured by simple remedies, such as garlic, lime, creosote, etc., before tuberculin was introduced.

Resolution.

The meeting concluded with the passing, by a large majority, of the following resolution (proposed by Dr. Heggs of Sittingbourne):

That this Section of State Medicine recommends to the Council of the British Medical Association that representation should be made to the Government that in cases of tuberculosis receiving sanatorium benefit the sickness benefit provided should not lapse at the end of six months, but should continue so long as the patient is, in the opinion of the medical adviser to the Insurance Committee, unfit for work.

DISCUSSION ON THE NECESSITY OF EDUCATING THE PUBLIC IN MATTERS RELATING TO PUBLIC HEALTH.

OPENING PAPERS.

I.—E. W. Hope, M.D., D.Sc.Edin.,
Medical Officer of Health for the City and Port of Liverpool.

Dr. Hope said that it was a matter of intimate knowledge to every expert that during the last generation enormous improvements had been effected in the public health. A reference to the Registrar-General's reports showed that thirty to thirty-five years ago the rate of mortality for the whole country stood at a certain figure. Year by year that figure had steadily declined, and a very simple calculation enabled them to arrive at the conclusion that there were upwards of a million and a half of people now alive in the British Isles who would have been in their graves to-day if the rate of mortality had not undergone the decline referred to. That represented an enormous saving of life which very few people outside expert circles were aware of, and it meant also a prolongation of years of useful life, a diminution of suffering, and a saving of enormous expense. A reflex of it was to be found in the reports of almost every insurance company. It was found that not more than 75 per cent. of expected deaths actually did occur, and that the insurance companies were paying less by 25 per cent. than they expected to pay on the policies of the insured. Coming to a closer view, they could see in what direction this saving of life had occurred. Tuberculosis, typhoid fever, and other zymotic diseases showed a remarkable shrinkage in their incidence, and infant mortality had greatly declined.

The next thing to ask was, What had led to this reduction? No one supposed that it had been a gift from the gods to reward them for their deserts. These results had not been brought about without enormous expenditure and enormous difficulties which had to be overcome. It might be asked why there should not have been more unanimity as to the necessity of housing reform, wider streets, baths, wash-houses, etc. The reason had been the want of a proper educative public opinion. Every sanitarian must feel that his duties would be lessened in proportion as he could enlist popular sympathy with him. If one looked at the records of any great sanitary achievements of almost any period in modern history one found evidence of the hostility of municipal bodies in such matters as improved water supply, etc. All this would disappear with the extension of popular knowledge as to the importance of the work proposed. Let them glance for a moment at higher education in hygiene, and take the attitude of the universities. They could hardly conceive that the older universities were unfamiliar with the results of Greek culture, or with the sanitation of the Mosaic periods, and yet their seats of learning had never opened their mouths on the subject. He deplored this apathy, and gave credit to the University of Edinburgh, where preventive medicine was first established as a science, and degrees were given in the subject. Dublin and Cambridge a few years later took up the matter, and the new universities of Manchester and Liverpool put it in the forefront of their curriculum. At the present day there was no university in this country, he believed—certainly none in Germany—which had not its chair of public health or its professor of hygiene.

It was necessary to endeavour to cultivate a healthier public opinion. A method with this object in view, very popular in Germany and greatly extending in this country, was the holding of exhibitions. The exhibition held in Dresden, illustrating such things as quarantine and the hygiene of every industry and trade, had attracted millions of people during the six months it was open. An exhibition of a similar character held in

Liverpool attracted 40,000 people in one week. The public must be interested; so long as sanitation was a closed book people would take no heed of it. The proofs of the advantages of sanitary work were so great and so simple that if once a means could be found of revealing its facts to the public it would arouse an immense amount of interest, and prove an enormous stimulus to future progress.

II.—H. R. KENWOOD, M.B., F.R.S.Edin., D.P.H.,
Chadwick Professor of Hygiene, University of London.

I TAKE it that this discussion is intended to deal more particularly with the means whereby popular education in matters affecting public health may be brought about, rather than with the need which exists for such education; for on the latter point we are all of one opinion. It seems to me that, briefly put, our case is this: While it is impossible to compute the death-rate due to ignorance and apathy, we know that it is a considerable one; that it alone may be responsible for marked variations in local rates among persons similarly housed and earning similar wages; and that, when high, it is accompanied by much non-fatal sickness with a plentiful result of physical incapacity. Now there is only one remedy for ignorance—that of education. Short of this we can reach a certain sanitary standard, mainly of external appearances, but the richer results of sanitary practice are often not realized. It is because we have grown to appreciate the fact that, while both are necessary, sanitary practice is a greater factor of public health than sanitary environment, that the work of sanitary authorities is destined to become more and more educational. By bringing before the citizen such facts as are necessary to make him sympathize with and assist in the efforts of Parliament, sanitary authorities, and other agencies, to reduce preventable disease and raise the standard of physical fitness, sanitary authorities are enabling health legislation to achieve its best possible results; for, after all, the passage of a Public Health Act is only a means to an end. The legal remedy has often proved to be only a quack one, and not *the* remedy.

To go to the root of the matter, there is but one remedy—education; and, while the larger activities of public bodies can assist, the betterment desired can generally only come through knowledge which the individual himself will apply to his own intimate circumstances. For sanitary and education authorities to do more to remove the ignorance which so discounts their success is the wisdom that is surely coming; for, like sanitary authorities, education authorities have not yet fully realized their interests and duties in this respect. They cannot obtain the best results from their efforts to fit the greatest possible number of children to fill all the demands of good citizenship until our system of education provides some hygienic training, and some information is given to all the elder girls upon the subject of domestic hygiene (including infant care), even though this be at the expense of such a subject as geography. The aim of hygienic teaching and training is the formation of hygienic habits (of action and of thought); but instead of dealing with the prospective mother while at school, when hygienic habits are comparatively easily acquired, we are at present reduced to the necessity of facing the far greater difficulty of educating the actual mother. But those responsible for the details of our elementary education are slowly progressing towards the goal when the essentials of personal and domestic hygiene will be suitably impressed (by suitably trained teachers) upon all children in all elementary schools, the scope of this teaching and training being determined by a due regard to the circumstances of the scholars.

Having previously made important sanitary provisions for the collective needs of the community—such as a pure water supply, good drainage and sewerage, pure food, provision for stamping out infectious disease, etc.—and having also reaped the benefit of the indirect education which these bestow, the most effective branch of public health work in which sanitary authorities are now engaged is that concerned with the reduction of infant mortality, and this is so for the reason that it is mainly educational work, of a direct and personal nature, among the ignorant and the careless. The appointment of health visitors, who keep in touch with many of the poorer people, is an important step in the direction of meeting the great public health need for health missionary work. To indicate the thousand and one matters which nowadays ought to be common knowledge among the people would be to particularize at great length; but allow me to illustrate this need by a brief reference to two great problems which sanitary authorities are attempting to solve—the problems of a pure milk supply and hygienic housing.

We are hearing a great deal at the present time of the subject of clean milk. Every one who has an intimate knowledge of all the facts shares the view that an essential factor in the solution of the milk problem is the education (*a*) of the general public and (*b*) of the trade, in order to secure the practice of the many details to be observed in the hygienic collection, distribution, and storage of milk. By greater supervision of the industry and by securing the infliction of penalties for any neglect to guard adequately the health interests of consumers, sanitary authorities can promote this education of the trade; but legislators cannot hope to succeed in their effort to secure a clean and safe milk supply if they fail to ensure a considerable amount of supervision by a class of inspectors who, having a practical knowledge of the hygiene of dairy farming, can also act as educators. The key of the situation is, however, in the hands of the general public, who by their failure to demand clean milk and by allowing milk to get so much contaminated in the home, are mainly responsible for the evil consequences of dirty milk. There is no sentiment in commercial matters; public demand and competition govern everything, and if once a demand for clean milk becomes fairly general, it will be met by the trade.

Again, will any one of experience contend for a moment that the evil effects of bad housing are not mainly under the control of the tenants themselves? The most effectual cure even for bad landlords is better tenants. Insanitary environment is mainly the product of the man, and individuals without hygienic habits are but little benefited by sanitarily constructed premises; there is an improvement in external appearances, but internally the dwelling may be a slum. "Housing reform" can scarcely be justified in many cases unless greater efforts are made to reform the occupants.

Sanitary authorities, therefore, must avail themselves to the utmost of the educational means at their disposal, and the council offices should be regarded as the local bureau of all information and guidance on matters affecting public health. Apart from printed information distributed from the council offices, the local press (which has done such great service in recent years in disseminating the seeds of hygienic precept) might be furnished with suitable paragraphs month by month, and larger sanitary authorities might widely distribute "health bulletins," which, in addition to the dry bones of the vital statistics for the month, should furnish useful information on matters of hygiene and public health. Perhaps the most singularly successful publication of this kind is the bulletin issued by the Chicago Department of Health. This is a small leaflet, published weekly, the regular perusal of which would afford a good education in hygiene.

I must not conclude without a reference to "National Health Week," which grew out of a suggestion made some years ago that the clergy should be invited to devote their sermons upon one Sunday in the year to an appeal for hygienic practice, on the ground that while it promotes physical well-being it is also of high ethical value. This National Health Week movement has started well; and, since it is educational in its object, it deserves our cordial and active support.

DISCUSSION.

Dr. T. A. WILLIAMS (Washington, U.S.A.), gave an account of methods adopted by the Committee on Public Instruction of the Medical Society of the District of Columbia, of which he was chairman. The main principle which animated them was the desire to show the laity the meaning of medical science, in order to protect them from quacks and from the evils of quackery. The methods they adopted were as follows: (1) Public lectures. These had not been a success in Washington, though very successful in New York and Boston. (2) Special con-

ferences, such as the International Congress on Tuberculosis at Washington. These had been of great value. (3) Special articles in public newspapers written by experts but not signed. Those he believed to be the most efficacious of all methods, far superior to "health bulletins" issued by medical societies, as they were so widely read by the public. (4) The premium method, as used in Germany and France. An instance was given of the enthusiasm aroused in the town of San Antonio, in Texas, during an epidemic of yellow fever, when premiums were given for the best papers on the means of dealing with yellow fever. They had encountered many difficulties in prosecuting their campaign, the chief of which had been: (1) Public indifference. This they hoped would diminish in time, and the remedy was to go on hammering away. (2) Medical apathy and conservatism, which disliked new procedure merely from inertia. This was chiefly found among the older school of medical men. (3) Medical vested interests. Many medical men believed that their clients would get to know too much, and that their financial interests would be hurt. In the country districts in America, as a rule, the doctor was druggist too, and had a direct interest in the sale of drugs and proprietary medicines. (4) A very important difficulty was misinterpretation by the laity of their articles, and sensationalism of journalists. The only remedy for such troubles was reference to the original articles, and letters to the newspapers correcting misstatements. (5) What he might call the "bottle cult"—the idea so firmly fixed in the public mind that every ill that flesh was heir to could be cured by a bottle of medicine. This bottle cult had led to a reaction in certain hygienic cults which repudiated all drugs, such as the "sunshine cure," the "mud cure," etc. Even health administration depended on popular knowledge in a democratic country. It was impossible to carry out legislation unless the public co-operated. For instance, in the case of syphilis, regulations against this disease would not be carried out until the public was educated on the subject. It was most important to insist on educating children in elementary hygiene, to make hygiene a habit like surgical cleanliness, which could only be done by inculcating it in early youth. They had founded a Society of Social Hygiene in Washington which was not under the control of the medical profession, but had been restrained from unwise or rash acts owing to the influence of conservative medical men. They had endeavoured to prevent the establishment of the institute started in New York by Dr. Friedmann of Berlin, since they looked upon his treatment as quackery. They had been unsuccessful at first, but he was glad to say the institute had now been closed by order of the municipal authorities.

Dr. R. Murray Leslie (London) considered that public exhibitions containing attractive exhibits dealing with health matters formed some of the most important means of educating public opinion. Great benefits had resulted from the tuberculosis exhibitions and conferences which had been held in London and many of the more important provincial centres. The use of the cinematograph in exhibiting health films had proved a most valuable method of inculcating practical lessons in elementary hygiene. This method was initiated by the Women's Imperial Health Association, and was now employed by other voluntary health societies. The systematic education in hygiene of the older girls in our principal schools and colleges was likely to prove of immense value. Health articles and bulletins in the local press undoubtedly assisted in moulding public opinion. The importance of judicious teaching in questions of sex, in the case of both boys and girls, could not be over-estimated. This question was closely connected with the problem of contagious disease, and it was a matter of congratulation that many of the leaders of the profession had recently advocated the appointment of a Royal Commission to institute an inquiry into this question.

Dr. Wynne (M.O.H. Wigan) considered the work of the medical officer of health to be primarily educative. He had to educate his own committee, and the property owners, employers of labour, shopkeepers, and others with whom his work brought him into direct contact. He had to educate the midwives under his control, and the municipal hospitals should afford a hygienic training to the patients who passed through them. The work of the school medical officer, the school nurse, and the health visitor was almost entirely educational. The public were not so difficult to educate as was sometimes supposed, as was shown by the comparative ease with which the idea of the open window was assimilated by the consumptive, and especially in the successful educational work done in improving housing conditions on the principles inaugurated by the late Miss Octavia Hill.

Dr. McWalter (Dublin) thought there was one point that might be emphasized a little more. Many would remember Emerson's saying that individual effort was always in inverse ratio to the help given from outside. He thought that people were being so spoon-fed that they would do nothing for themselves. They were piling up burdens on the ratepayers to make people live healthily whether they liked it or not. They ought to try and establish a health conscience in the people by which every man and woman would feel bound to conform to high ideals of hygiene, which he might define as consisting of self-knowledge, self-reverence, and self-control. The hygienic ideal of every medical officer of health appeared simply to consist in a low death-rate. In his opinion it was not a very great matter to prolong the lives of hopeless sufferers from cancer and consumption. Instead of more lengthened days, he thought they should aim at broadening their outlook on life.

Major Jackson, R.A.M.C., said he thought the President was in error as to university degrees in hygiene, as Dublin University was the first to grant a Diploma in State Medicine. In his experience there was considerable opposition by urban councillors to the medical officer of health, who was usually the best disliked man in the town, especially by jerry-builders and small property owners. He illustrated the ignorance of the generas public in scientific matters by describing a pair of boots which he had been recommended by an enterprising stallholder at the annual exhibition, containing a zinc plate in one heel and a copper plate in the other, between which, he was informed, when acted on by the moisture of the body, a current of electricity would flow, which would invigorate the whole body. When such inventions found their way even into an exhibition patronized by the Association it showed in a marked way the necessity for educating the public.

Venereal Disease.

The meeting concluded their business by unanimously passing the following resolution, on the proposition of Dr. Murray Leslie:

> That a recommendation be forwarded to the Council of the British Medical Association endorsing the views expressed in the circular letter recently issued to the metropolitan public press by recognized leaders of the medical profession in regard to the question of venereal disease, and strongly advocating the appointment of a Royal Commission to inquire into this subject which so closely affects the public health.

The International Association of Medical Psychology and Psychotherapy will hold its annual meeting at Vienna on September 19th and 20th. All communications relative to the conference should be addressed to the General Secretary, Dr. L. Frank, 45, Zürichbergstrasse, Zürich.

The Association of French-speaking Paediatrists will hold its annual meeting this year in Paris on October 3rd and 4th under the presidency of Professor Netter. The questions proposed for discussion are obesity in children (to be introduced by Drs. Le Gendre of Paris, Mouriquand of Lyons, and Nathan of Paris); cerebral tumours in childhood (to be introduced by Drs. A. Broca of Paris, d'Astros of Marseilles, and F. Ferrien of Paris).

The eleventh international conference on tuberculosis will be held in Berlin in October (22nd to 25th). Among the most important communications promised are the following: Professor Landouzy, Clinical Forms of Koch's Bacillosis at Different Periods of Life: Dr. Brauer, The Surgical Treatment of Pulmonary Tuberculosis: Dr. K. Frankel, Life Insurance; Professor Pannwitz, State Insurance and Schools for Children with a Tendency to Tuberculosis.

Seventeenth International Medical Congress.

THE SECTIONS.

SUMMARY OF PROCEEDINGS.

DIAGNOSIS AND TREATMENT OF TUMOURS OF THE BRAIN.

On Monday morning, August 11th, the Sections of Surgery and Neuro-Pathology met together to discuss the treatment of tumours of the brain and the indications for operation. The meeting was held in the Jehangir Hall of the University of London, but many of the audience could find standing room only.

Sir David Ferrier, President of the Neuro-Pathology Section, was in the chair, and was supported by Sir W. Watson Cheyne, President of the Surgical Section. The audience was perhaps the greatest gathering of distinguished surgeons ever seen in London. It is not possible to name all who were present, but among the most notable were von Bruns (Hanover), von Eiselsberg (Vienna), Harvey Cushing (Harvard), Bastianelli (Rome), Sir Victor Horsley (London), Sir William Macewen (Glasgow), Babinski (Paris), J. B. Murphy (Chicago), Kocher (Berne). The reporters were Professor von Bruns, Professor Freiherr von Eiselsberg, and Dr. H. H. Tooth.

Professor von Bruns showed that the operative procedures for cerebral tumours fell into two groups: (*a*) Radical operations with extirpation of the tumour; (*b*) palliative operations for the relief of pressure, which might either be primary and devised for that purpose alone, or performed as a secondary resort when the radical operation for some reason could not be performed. The indications for the radical operations and the prognosis of those operations depended upon three things: (*a*) The nature of the tumour. The most favourable were the circumscribed tumours, and especially those that project from the surface. Unfortunately the clinical diagnosis between the common infiltrating glioma and the circumscribed sarcoma was still extremely difficult. (*b*) The possibility of certain general and local diagnoses. The general diagnosis might be difficult as against abscess, hydrocephalus, and the so-called pseudo-tumours. The local diagnosis was often impossible in the case of tumours in the right temporal and frontal lobes, and in the case of those in the semi-oval centrum and in the corpus callosum. (*c*) The accessibility of the tumour. Inaccessible were tumours of the third ventricle, and many in the substances of the hemisphere. All others were accessible, but with very different degrees of danger. Primary palliative operations were indicated if, while the local diagnosis was uncertain and the general diagnosis was certain, the general symptoms were very severe, as, for instance, when vision was affected and blindness threatened.

Professor von Eiselsberg spoke of the great difficulties in operating on tumours of the hypophysis. He had tried to attack these tumours by the nasal route, but thought the risk of operating through a passage not absolutely aseptic was great. He showed several specimens and pictures of cases operated on. He strongly advocated early operation, and held that it was inhuman not to operate on brain tumours.

Dr. Howard H. Tooth's report was really supplementary to one already made on the consideration of tumours of the brain if left to run a natural course. This present report concerned itself with the question of the results of surgical treatment. A high mortality was inevitable at the best, but this should not cause dismay nor any relaxation of efforts to relieve patients. After removal, partial or complete, of frontal tumours, he found that in glioma the average post-operative survival period was ten months; in endotheliomata, which pressed upon but did not infiltrate the brain and which could be removed without great difficulty, the mortality was 46.6 per cent. The tumours of the central region comprised 65 cases—glioma, sarcoma, carcinoma. Recurrence after removal was only a matter of time, and then in a more malignant form. The average post-operative survival period was ten months. The percentage of recoveries in endotheliomas was high—namely, 66.6. There were few cerebellar cases in his list, but there were four recoveries. Two tuberculoma cases died within two months after of tuberculous meningitis, though the growth was completely removed. Decompression by craniectomy in one or two stages was followed by an appreciable lowering of pressure. From his tables he could draw no general conclusion as to the ultimate value of the method. The first consideration seemed to him to be relief of pressure in the urgent cases where there was rapid increase in the size of the tumour. Most cases of declared intracranial tumour needed operation, perhaps sooner than later, and the risk had to be taken.

Professor Harvey Cushing said that the relief obtained after decompression in a relatively silent area might be very great. Many tumours were slow in growth, and might reach a large size before disturbance took place. There were many individual standards of what constituted recovery. If the word were given a very strict interpretation, none would see more than 5 per cent. of recoveries. But if the patient obtained after the operation freedom from discomforts, preservation of vision, prolongation of life, then the percentage of recoveries rose to 50 or 60. There could be no doubt that 10 per cent. would succumb after operation, even after such a simple proceeding as decompression; in the last 100 consecutive cases he found that 7 deaths could be attributed to the operation. In 350 tumour cases need for operation was certified in 200—40 per cent. were gliomas, 30 per cent. arose from glandular structures. In true endotheliomas there were none of the cellular fibrillae seen in gliomas—they were potato-like tumours which had point of origin from the dura. In 2 cases of enormous tumours there were no pressure symptoms and no changes in the ocular fundi. He had had 24 operations for tumours in the lateral recess of the cerebellum. To reach that area he strongly advocated the large crossbow incision, with, if necessary, removal of the posterior half of the foramen magnum. This permitted exposure of the medulla, and if respiratory difficulties arose he had removed the posterior portion of the atlas, while artificial respiration was being carried on, with restoration of respiration. It was wise to operate slowly in these cases and ensure complete haemostasis. His operations sometimes lasted four hours and often had to be done in three or four stages. Extremely delicate manipulation was necessary, with the greatest possible respect for brain tissue. These operations ought not to be crowded into a heavy morning's work—one such case was enough work for one day.

Sir Victor Horsley, who followed, said that what was more especially required was accurate histological diagnosis of tumours. The question of haemorrhage did not disturb him; hot irrigation, and the employment of oxygen and chloroform as the anaesthetic, would enable that danger to be avoided. Sepsis ought to be preventable. For his part, he thought these operations should be done antiseptically. For improvement all round earlier diagnosis had to be looked to, and that meant earlier operation. He blamed the writers of textbooks for their too rigid insistence on recognition by the doctor of the three great classical signs, headache, vomiting, optic neuritis, for these really appeared very late in the course of a case; they were end-results, and the patient ought never to reach the stage when they appeared; often by that time the tumour was irremovable and decompression only was feasible. Optic neuritis was a most valuable sign: if properly analysed and watched it might be found that it appeared first on the affected side. He agreed with von Bruns in recognizing the difference between a radical and a palliative operation, and held that operation might be done for differential diagnosis. In palliative operations he deprecated opening the dura mater as a rule.

Professor Krause (Berlin) had operated by local anaesthesia. He showed pictures of angioma of the brain and endothelioma growing from the dura.

Professor Claude (Paris) was strongly in favour of decompression to relieve symptoms. The family physician should be strongly urged to send cases to the surgeon much earlier.

Sir William Macewen said that the principal factors in his experience were the necessity for early diagnosis and localization of the tumour. Wherever physiologists made

certain of special points which bore on localization, surgeons were able to go in at the part and remove the tumour. Early diagnosis and early operation went together. The classical symptoms were stated too positively, for sometimes a tumour was present even in the absence of classical symptoms. He had found a large tumour, and removed it successfully, where the only signs were slight paresis of the right arm and contraction of the left pupil. In the motor area localization was definite and complete, but in other regions it was not so. Word blindness, mind blindness, word deafness, were symptoms which ought to be localizing symptoms, and he had successfully operated where these symptoms were present. He had no great belief in statistics. In some compilations it was said that surface tumours were easy to remove and deep-seated tumours were difficult; but that statement must be corrected. For example, he had successfully removed a large tumour springing from the lateral ventricle and choroid plexus which did not reach the surface. Tuberculous tumours had been removed; they were often quite definite tumours placed deeply more often than on the surface. Unfortunately, tuberculous lesions frequently broke out in some other situation. Relief was obtained by removal of syphilomata.

Mr. Leslie Paton spoke of one or two points as to which the opinion of the ophthalmic surgeon might be sought with regard to the prospect of return of visual acuity, and said that a commencing atrophy might be completely obscured and could best be gauged by loss of visual acuity. Progressive increase in swelling of the disc afforded a valuable indication of urgency, and if nothing else followed operation in urgent cases the most certain result was subsidence of swelling and active neuritis, with more or less complete recovery of vision.

Professor L. M. Poussepp (St. Petersburg) said that he had operated on 31 cases of brain tumour—16 cerebellar and 15 cerebral—and his general opinion was that success was not so much a matter of surgical technique as of precision in diagnosis, which could only be obtained by continued study of surgical neuro-pathology.

Dr. Byrom Bramwell (Edinburgh) thought that there were very few cases of intracranial tumour which could be completely and successfully removed by the surgeon. The whole matter turned on what they meant by "recovery." If the tumour were removed and the patient left hemiplegic or blind he had not recovered. His pathological experience convinced him years ago that the surgeon could do little or nothing, and he had not seen reason to alter that opinion. He agreed that it was advisable to operate in the earliest possible stage, and that early diagnosis was essential. But if the classical symptoms were, as had been said that day, really late in the pathological progress of the case, what were the earlier signs and symptoms? He thought that in cases in which diagnosis and localization were obscure a prolonged course of large doses of mercury and potassium iodide should get a thorough trial before operation. He was greatly impressed by the value of the decompression operation.

The debate was continued by Professor Sargent (London), Dr. de Martel (Paris), Professor Bianchi (Rome), and replied to by the reporters.

EARLY RENAL AND VESICAL TUBERCULOSIS.

On Friday morning, August 8th, the Section of Surgery held a joint meeting with the Section of Urology to discuss the diagnosis and treatment of early renal and vesical tuberculosis. Sir W. Watson Cheyne presided and was accompanied on the platform by Mr. Hurry Fenwick, President of the Urological Section.

Professor Rochet of Lyons, in his report, deprecated any attempt to formulate definite and precise rules in a question so delicate and so diversely regarded by acknowledged authorities. In regard to unilateral kidney tuberculosis a "granular" lesion discrete and not deeply placed seemed inevitably to go on to an ulcerating and caseating stage with fatal termination, but there was no proof that this early condition did not as in other organs heal. The diagnosis of this early granuloma not yet ulcero-caseous was obscure and difficult. In a patient suspected to suffer from early tuberculous disease, and in whom the urine from one kidney contained bacilli with positive inoculation of guinea-pig, he would not advise immediate operation, but he would wait for three new conditions to develop: (1) a slight degree of pyuria, (2) a certain diminution of the functional value of the diseased kidney, and (3) such complications as serious repeated haemorrhages, pyrexia, anaemia, bladder symptoms. Whenever symptoms pointed to formation of ulcer or caseation, operation was called for. During the time the case was being watched after suspicion was aroused the patient could be treated with general medical means. As to specific treatment by tuberculins, antituberculous serums, and immunizing substances, he had to admit that his experience was limited, though from what he knew he did not think they could do all that was claimed for them. The treatment by the immune bodies of Spengler he did employ in the expectant period, and, he thought, with some success: these bodies were obtained by extract from red blood cells of rabbits immunized to tuberculosis. In bilateral kidney tuberculosis the lesions were probably not equal on both sides. In these conditions specific treatment was indicated. Early tuberculous infection of the bladder, in so far as it was almost inevitably due to secondary infection from the kidney (90 to 95 per cent.), was cured when the kidney was treated. In treatment of bladder disease, persisting after nephrectomy, or in the few cases of primary infection, or after infection from genital organs, he advocated washing the bladder with creosote solution and administration of pills composed of iodoform, sodium arseniate, and creosote. Specific treatment could be used only in cases where vesical infection was associated with advanced renal and genital disease.

Dr. Hans Wildbolz, who also presented a report, observed that early tuberculosis did not refer simply to the patient's first symptoms, as he had known cases to be tolerably advanced before the patient sought advice. He had found a kidney three parts cavernous in a patient who had complained of urinary symptoms for only ten days. In over 300 cases of tuberculous kidney examined by him only 25 were in the early stage; in all the others the disease was advanced. He indicated some symptoms which drove the patient in the early stages to his doctor: Disturbance of general health, lessened vigour and ability for work; local signs referred in more than two-thirds of the cases to the bladder (Rafin)—43 per cent. of his own cases had complained of cystitis: kidney pain of dull or occasionally neuralgic character; frequency of micturition, sometimes incontinence; pain in bladder even before that organ became infected; haematuria, a common early sign (out of 300 cases he found it only twice as the first symptom) was sometimes very severe. Then the urologist was able for himself to observe persistent slight albuminuria, polyuria, alterations in blood pressure (it was necessary to exclude chronic nephritis, in which polyuria and albuminuria were also found), acidity of the urine, pyuria (cystoscopic examination often negative, though he had observed redness and infiltration of mucous membrane not specifically tuberculous). In 70 to 80 per cent. of all cases tubercle bacilli were found in centrifugalized urine, but inoculation experiment was the surest test. It had to be kept in mind that tuberculous bacilluria had been found in cases of phthisis where neither kidney, bladder, nor genital organs were infected. The diagnosis of tuberculous disease of the kidney with present-day methods could be made with certainty only when pus cells and bacilli were found in the urine of that kidney whose function was unmistakably, though slightly, disturbed. For tuberculin treatment in the early stage more claims had been put forward than for any other. But it seemed to him that for only very few recorded cases could the claim of permanent cure be sustained. He gave his own experience of 13 carefully observed cases in which treatment had been conducted for from one to four years, and his conclusion was that not a single one of them could be said to be cured, and 8 later required nephrectomy. The results of early nephrectomy seemed on the whole good, but the cases were too few to found conclusions upon. He believed, however, that as soon as unilateral tuberculous disease of kidney was with certainty diagnosed, that kidney should be removed.

Dr. A. Fullerton (Belfast) pointed out that the disease might progress very rapidly so as in a few weeks to render the patient's life intolerable, or it might go on for ten years with little disturbance. Spontaneous cure was not to be relied upon. He had had only three cases of

primary disease of the bladder. The absence of pus and albumen were not absolute proof of the integrity of the kidney. Tubercle bacilli were found in 80 per cent.; frequent examinations for the bacillus were necessary. The cystoscope and ureteral catheter were the most important instruments of diagnosis. Removal of the affected kidney was the only absolute cure.

Professor Kümmel (Hamburg) had had 60 per cent. cures after nephrectomy. Tuberculin was, on the whole, a dangerous form of treatment, because it raised false hopes on account of the undoubted improvement following its use in the first weeks or months.

Dr. Van Houton (The Hague) treated bladder infection, which was always secondary to kidney disease, with silver nitrate solution, ½ to 2 per cent. injected once weekly.

Mr. Leedham-Green (Birmingham) was of opinion that the only cure was removal of the diseased organ. He was doubtful, however, whether early tuberculous infection did not sometimes heal spontaneously as it did in other parts. So long as the function of the kidney was unimpaired he would not remove it. Clinically it was difficult to estimate the stage of the disease. In children the attitude should be one of extreme caution, because in them he had found tuberculous bacilluria with few pus cells or none and good functionating kidneys.

Dr. David Newman (Glasgow) demonstrated by the projectoscope the cystoscopic appearances in early renal and vesical tuberculosis. He pointed out that the most characteristic feature of the symptoms (polyuria, slight pyuria and albuminuria, occasional haematuria) was their tendency to remission, and in that lay a serious danger in so far as both patient and doctor were deceived. The premonitory symptoms of tuberculosis could appear long before the development of a gross renal lesion. In this stage cystoscopy was most successfully employed. When a kidney was tuberculous the orifice of the corresponding ureter indicated the nature of the lesion by changes in the colour and contour of the lips of the orifice, by the size, frequency and regularity of the "shoots" of urine, and by the character of the urine which escaped. His conclusions in primary renal tuberculosis were:

1. When the ureteral orifice was normal no serious disease existed in the corresponding kidney.
2. When the kidney was normal the orifice of the ureter also was normal.
3. Evidence of tuberculosis at the orifice was associated with tuberculosis of the corresponding kidney.
4. In tuberculosis of the bladder the ureter did not become involved if the corresponding kidney were free from disease.

The first feature of early tuberculosis of the bladder was marked anaemia of the mucous membrane with obscuring of the cystoscopic field and of the vessels in the mucous membrane due to oedema. Next came hyperaemia; this led to the appearance of minute nodules like boiled sago grains beneath the epithelium of the mucous membrane. These were at first scattered, then they became opaque and confluent. The opacity indicated caseous degeneration; then the blood vessels around became engorged. On removal by washing of pale flecks of mucus or shreds of necrosed mucous membrane an irregularly eroded surface showed itself surrounded by a zone of hyperaemia. Two or three such ulcers were present, and also miliary tubercles were seen often in the trigone. The ulcer might involve the submucosa, exposing the muscular coat. Treatment by curettage was very successful. Lastly, he observed that the bladder offered considerable resistance to the tubercle bacillus, as shown by experiment. But if other organisms were present the resisting power of the mucous membrane was weakened and secondary infection was almost sure to occur.

Professor Rovsing (Copenhagen) was doubtful of the possibilities of early diagnosis, and thought that these very early cases rarely came to the surgeon. After removal of the tuberculous kidney, the tuberculous bladder quickly recovered; to assist this he injected 6 per cent. carbolic acid. The efficacy of tuberculin seemed to him so problematical that its use should be limited to inoperable cases.

Mr. Hurry Fenwick (London) held that early cases of kidney mischief were diagnosable by the cystoscope. Even only three weeks after onset of symptoms he had found thickened ureter and intravesical signs. He had used tuberculin constantly for fifteen years in small doses and found that the patient's general condition improved nearly always. He believed it acted as a tonic. Greater knowledge of this disease was to come from study of its progress in the female patient. Nephrectomy was a perfectly safe operation if performed with rigorous asepsis; the mortality need not be over 3 per cent.

TREATMENT OF SYPHILIS WITH SALVARSAN AND ALLIED SUBSTANCES.

On Monday, August 11th, the Sections of Dermatology and Syphiligraphy and Naval and Military Medicine met together to discuss the use of salvarsan and allied substances in syphilis. The meeting was held at the Governors' Hall of St. Thomas's Hospital, which was crowded to its utmost capacity with the best known syphilologists of every country, and must rank as an historic occasion, not only because Professor Ehrlich was himself present to open the discussion, but because the assembly was more representative of the world of medicine than any which has taken place since the successful synthesis of the preparation by Ehrlich and Hata in 1910. Sir Malcolm Morris K.C.V.O., and Sir Launcelot Gubbins, K.C.B., Director-General, Army Medical Service, presided.

Professor Ehrlich, on rising to open the debate, was received with great enthusiasm, and his graceful and modest acknowledgement of the acclamations will never be forgotten by those who had the privilege to be present. After referring shortly to the organic chemical structure of salvarsan, Professor Ehrlich said that he agreed with those who had found that its action on the spirochaete was indirect, and in the nature of a complement fixation reaction, for salvarsan by itself *in vitro* did not kill the organisms, although if the mixture of salvarsan and living spirochaetes were injected *in vivo*, their death and dissolution was immediately brought about. He believed, with many other observers, that salvarsan was not neurotropic, nor did his experiments with rabbits which he had injected with daily doses of from 0.02 to 0.05 gram for three months—a course of treatment they had happily survived—suggest at the subsequent *post-mortem* examinations that any of the organs or tissues had in any way suffered from the drug. It was only with doses of 0.1 to 0.12 gram of the alkaline solution that the animals were killed, the acid solution being still more poisonous. The febrile reactions about which so much had been written were due either (1) to technical errors in the administration, or (2) to the toxins generated on the dissolution of the spirochaetes, a phenomenon which might be prevented by a preliminary treatment with mercury. It must be remembered, he said, in this connexion that salvarsan killed a great number of other organisms the liberation of whose toxins were doubtless often in part responsible with those of the spirochaete. Recurrences he believed to be the result of insufficient dosage. In discussing the mortality, he observed that chloroform was annually responsible for a much higher percentage of deaths than salvarsan, and he was convinced that the small number might be even further reduced by instituting a careful search in all cases about to be injected for the contraindications—for example, renal inefficiency, Addison's disease, status lymphaticus, and advanced cancer.

The very occasional occurrence of deafness four to five hours after an injection was due to swelling and compression of the auditory nerve in its bony canal, whilst late deafness with commencing cerebral symptoms probably indicated the advance of a basal meningitis, and were manifestations of a true Yarisch-Herxheimer phenomenon. Further injections in such delayed cases (two to five days) would be to pour oil on the fire, accelerate the advance of the meningitis, and kill the patient.

In doubtful cases he advised the trial injection of 0.1 gram doses at intervals of four days, a procedure of which Professor Neisser had approved. He would listen with great interest to the views of the eminent colleagues who would speak after him, on the possibility of sterilizing the early cases, whether the treatment should be combined with mercury administration or not, and whether any good results had been obtained from its administration in the parasyphilitic affections.

The President proposed a vote of thanks to Professor Ehrlich for contributing so illuminating an address to the

discussion, and this was passed by both Sections with acclamation.

Professor Neisser (Breslau), who is seriously ill, had sent his regrets for his unavoidable absence, and a print of his most valuable paper was distributed among the members. It dealt chiefly with the clinical application, contraindications, and neuro-recurrences, which he also ascribed to insufficient treatment with salvarsan. He denied a neurotropic influence and claimed a specific action for the preparation on the *Spirochaeta pallida* in particular—an action which, in his opinion, was considerably enhanced by the combined exhibition of mercury in the form of injections of grey oil. He recommended two complete courses of salvarsan and mercury, even in early primary cases.

In the paper by Lieutenant-Colonel Gibbard and Major Harrison, R.A.M.C., the result of their work at the Military Venereal Hospital, Rochester Row, contained some striking statistics, which, in view of the complete disciplinary control of every case, are perhaps the most perfect testimony to the economic value of the drug. It was stated that when mercury alone was used for treatment there were 83 per cent. of clinical relapses, but that since the introduction of salvarsan only 5.1 per cent. had recurred. The summary conveyed the important conclusion that the best results were obtained with a course of two intravenous injections of 0.6 gram of salvarsan and nine intramuscular injections of mercury prolonged over ten weeks, and that such a combination had effected an annual saving to the State of 70,000 to 80,000 hospital days, an economy equivalent to the cost of keeping a battalion of infantry in hospital for three months.

Professor Wassermann confined his remarks to the influence of salvarsan on the serum test that bears his name, and the main point he brought out—and it was perhaps the most important point in the whole debate—was the absolute necessity of examining the cerebro-spinal fluid of every syphilitic at least once in the course of the first year after infection, for the Wassermann reaction. Syphilis, he maintained, once it had produced clinical symptoms of cerebro-spinal involvement, could not be eradicated from the system, and a positive Wassermann reaction in the cerebro-spinal fluid was in his opinion the indication of the possible onset of these, and must be the signal for energetic and prolonged administration both of "606" and Hg, till the reaction became negative both in the serum and the lumbar spinal fluid. He concluded by registering his opinion that salvarsan was the mightiest weapon in medicine.

After Professor Hallopeau had spoken shortly, Dr. MacCormac (London) read a paper by Sir Malcolm Morris and himself on their experience of 500 cases of salvarsan administration at the Seamen's Hospital without a single death. They were of opinion that the occasional severe reactions which had followed the second injection were manifestations of the anaphylactic state.

Dr. Leredde (Paris) believed that all failures were due to insufficient and too short treatment, and Mr. J. E. R. McDonagh, who followed, happily characterized these as "spasmodic" administrations of "606" which were worse than useless. The latter claimed that "606" had no effect on the spore stage of the life-cycle he had described for the spirochaete, but only affected the gametic elements.

Dr. Saalfeld (Berlin) said he had avoided local inflammatory reactions entirely since he had diminished the bulk of his excipient (sterile water) to 40 c.cm.

Dr. Basch (Budapest) strongly condemned ambulatory administration, in that dietary indiscretions, alcoholic excess, etc., could not be controlled in out-patients.

Dr. Berry (Paris) had some remarks to make on a new chemical product containing arsenic, mercury, and an iodide: and Dr. Lévy-Bing (Paris) had seven failures to chronicle in the form of clinical recurrences in primary cases collected from the third to the fifteenth days after the appearance of the chancre. He was followed by Ehrlich's collaborator, Professor Hata, who had most encouraging statistical proof to offer, in 166 cases of syphilis, primary, secondary, and tertiary. His experiences in a disease indigenous to Japan, known as "rat-bite fever," had been most remarkable, inasmuch as after one injection in each of 16 cases, in 15 the periodic febrile attacks disappeared completely, and in the sixteenth after a second injection.

Professor A. Blaschko, the eminent Berlin syphilologist, advised caution in speaking of complete cures; he thought they should reserve a definite pronouncement for another ten years. He discussed the contraindications, instancing especially chronic alcoholism and nicotine poisoning.

Dr. Fordyce (New York) had given 7,000 injections with only one death. He agreed with Professor Neisser in that at least two courses should be given, in combination with Hg, even in early primary cases—a procedure which usually cured the secondary cases also, but rarely the severe tertiary. He had been very successful with the syphilis of pregnancy, both as regards the mothers and their infants, and had met with cases of tabes in which the symptoms had been considerably ameliorated by intensive treatment with the drug.

Dr. Schreiber announced some excellent results in the treatment of the prostitute class at Magdeburg. In the past two years the Wassermann reaction had been carefully registered in every case and appropriate treatment adopted, and the women themselves had begun to realize the benefits of the system, so that they were voluntarily presenting themselves for treatment now in increasing numbers, and a very considerable advance towards the ultimate sterilization of the disease at the fountain head was being made.

Dr. McIntosh said he had proved experimentally that salvarsan was non-toxic for healthy individuals by the absence of any sort of febrile reaction after its injection in the normal human subject.

After Dr. Ullmann (Vienna) had stated that there was now no *anti-salvarsan* party, Professor Yadassohn (Berne), who ranks as one of the greatest of living dermatologists, admitted that he had had a very considerable percentage of neuro-recurrences, and he was there to admit his conviction that these were due to the use of small, insufficient doses, of which practice he himself had been the initiator on the ground of caution. By this means he had detected cases of idiosyncrasy, etc., which might otherwise have been sacrificed to the drug; in his opinion it was a case of the choice of two evils. (Professor Ehrlich was seen to applaud this speaker's remarks.)

After Major Harrison had replied for the reporters, Professor Ehrlich recorded his conviction that the morning's discussion had marked a great advance. He was glad to find that they were all agreed on the main point—the utility of salvarsan. As regards the dosage, there would seem to be dangers both from the administration of too much on the one hand and too little on the other, and it was therefore most important—as more than one speaker had emphasized—that only those of wide experience should be entrusted with the administration of the remedy.

ROENTGEN AND RADIUM THERAPY IN GYNAECOLOGY.

The spacious Chemical Theatre of the Imperial College was crowded to overflowing on Monday morning, August 11th, when the Section of Radiology joined forces with that of Gynaecology for a discussion on the question of radio-therapy in gynaecology. The opener was Dr. Albers-Schönberg, who expounded his "Hamburg method" in the application of *x* rays, and devoted himself principally to a consideration of their influence upon myomas. The care of his technique, he said, lay in the application of only as much radiation as was necessary to secure the result, irrespective of the long or short duration of treatment. In 33 cases which he instanced as having been brought to a successful issue, the average duration of treatment was between six and seven months. In a noteworthy percentage of cases, he said, there was a direct influence upon the tumour cells, resulting in their depression or disappearance. The proportion of favourable results in this condition was very high—he gave an imposing array of statistics—and the permanency of the cure might be taken for granted in suitable cases. Not all myomas were suitable for Roentgen treatment, some proving refractory. The exact limits of *x*-ray influence would doubtless in time be determined, but a percentage of cases were reserved for operation. With the advent of careful technique Dr. Albers-Schönberg thought that the danger to the

skin might now be practically disregarded, though whether any late reaction was to be apprehended must be left for the future to reveal. The distinguished Hamburg radiologist also touched upon the therapeutic applicability of the characteristic secondary rays of metals. He thought that the effect of these rays could be demonstrated on a biological scale, and also suggested that it was secondary radiation which played an important part in the therapy of mesothorium.

He was followed by Dr. Foveau de Courmelles (Paris), who commended this new gynaecological departure in high terms. Early fibromata, he said, even when of large size, yielded rapidly to *x* rays, applied externally through an aluminium filter. Pain and haemorrhage and the sense of weight first disappeared. The intensity must vary with the radio-sensitivity of the patients, just as the number of sittings must depend upon the duration of the growth. At about the menopause the action was more rapid and decisive, even on an old fibroma. When *x* rays failed to maintain their influence, he had found a subsequent radium application—from 1 to 5 cg. around or in the neck of the uterus, retained in position from six to twenty-four hours—retrieve the therapeutic action, at all events if the fibroma were in the earlier stages of its development. Perhaps the most interesting passage of his report was his description of the gynaecological applications of radium. In malign tumours his personal statistics had reference to 100 inoperable cases, 70 of which had shown ameliorations lasting from one to four years. Among other effects which he noted was the diminution and afterwards disappearance of the metrorrhagia, also the disappearance of the leucorrhoea and fetidness, and the diminution, frequently the suppression, of pain. His method was to introduce aseptic tubes within the tumour, the intensity and duration varying with the case, from a minimum of 5 cg. for twenty-four hours, and to repeat the applications monthly.

Professor Paul Kroemer (Greifswald) dealt more especially with the action of mesothorium and *x* rays in genital and intestinal cancers. In his total of 32 cases the results in uterine, vaginal, and rectal growth were favourable; he could not say the same of ovarian. Four cases were illustrated by photomicrographic records before and after treatment. The first of these, a metastasis in the vulva, was cured clinically by the injection of a solution of thorium X. Time would show whether or not the gain were permanent; it could only be said at present that the patients felt better after radio-therapy than after operation. Operation, after all, only cured 20 per cent. of the cases; for the remainder mesothorium and *x* rays offered apparently the only hope.

Some remarkable instances of the effect of mesothorium in carcinoma of the uterus also figured in the remarks of Professor Albert Döderlein (Munich). Striking modifications, evident in the microscopical sections, were measurable within a brief period of weeks.

Professor Jacobs (Brussels) said that the results he had obtained by the employment of radium in massive doses in uterine and vaginal cancers, many of the cases being relapses after operations, led him to the conclusion that this was a most desirable treatment. He used two tubes of radium (12 to 20 cg.), keeping them in the tumour for twenty-four or thirty-six, or even occasionally forty-eight, hours, and repeating these applications every ten or twelve days during four or five weeks. The results were recognized in the course of two or three months. He had submitted to this heroic treatment more than 24 cases of cancer of the uterine neck, and all had been favourably influenced. The cases were not of sufficient duration for him to speak definitely of cure, but in 3, in which he gave detailed accounts, the women being 44, 39, and 70 years of age, the lesions had shown no tendency to recur in from two to three and a half years. For some reason cancer of the external genital organs did not retreat so well under this treatment; perhaps the quantity of radium employed was insufficient.

The chastening note of scepticism was sounded by Professor Wilhelm Nagel (Berlin), who had failed to see results justifying any particular enthusiasm. The tumours had a habit of remaining just as they were. It was true that haemorrhage sometimes stopped, but it returned again after a while. The results described that morning were not better than those which had been obtained by other means. Indeed, Dr. Foveau de Courmelles did not say that he had cured a single case out of his hundreds; he only said that he had not found operation necessary. The prophecy had been made that this new method would supplant the old. He could only repeat a saying which he understood had gained some popularity in this country, "Wait and see."

Dr. Fedor Haenisch was the speaker of the morning to enter most minutely into his technique, giving the exact data for *x*-ray treatment of fibroids as used now at his institute in Hamburg. He also compared the Hamburg and Freiburg methods, and said that the difference between them, taking into account the recent modifications of the former, was not so great as it seemed if the respective sizes of the point of entrance were considered. His practice was to maintain a distance of 23 cm., a filter of 2 mm. aluminium, a current of 4 to 5 ma., a spark gap of 20 to 24 cm., and to give exposures of five or six minutes, the dose at each sitting being 4 to 5 Kienböck X units, on four consecutive days, followed by a two or three weeks' interval.

Dr. Walter Tate (London) said that radium treatment in this country was still in an experimental stage. No one could doubt the remarkable value of the new therapeutic agents, and he believed that radium had a considerable field as an adjunct to the surgeon. The introduction of a radium tube after operation for uterine carcinoma might improve the result; but it was a different matter to try radium in the treatment of carcinoma when the case was amenable to surgical operation.

Dr. G. E. Pfahler (Philadelphia) made the point that the tumours continued to regress for long after the *x*-ray treatment was concluded. He instanced a case in which a large tumour was reduced progressively until it had quite vanished at the end of the sixth year, although no radiation had been applied since the end of the first.

Professor Bernhard Krönig, Dr. Degrais, and Dr. Cheron having spoken, the final contribution to the discussion was made by Dr. Herbert Spencer (London), who warned all and sundry against the evident possibility of patients being submitted to radium treatment for myoma without having been examined by an expert gynaecologist. The danger of malpractice appeared to be considerable. Another important point to remember was that irradiation might involve sterility, temporarily at least, if not permanently.

ENDOGENOUS METABOLISM OF PROTEINS.

On Tuesday morning, August 12th, the Section of Physiology and the Subsection on Chemical Pathology held a joint discussion on endogenous metabolism of proteins. Professor Hopkins (Cambridge), President of the Subsection of Chemical Pathology, was in the chair.

The discussion was opened by Professor Abderhalden (Halle), who commenced his remarks by observing that protein metabolism could not be discussed apart from that of fats and carbohydrates. He went on to describe his method of watching with the polarimeter the breakdown of polypeptides. Each substance had its own specific rotation, and therefore the formation of new substances could be seen by the change of rotation of the fluid under consideration. It was thus possible not only to estimate the substances formed but also their rate of formation and the total time of breakdown of any particular substance. Thanks to methods of identifying and isolating amino-acids from the blood, it was now possible to gain a much greater insight into the form in which these bodies were brought to the various cells and the way in which they were built up in the cell itself. Cells could also split albumins to amino-acids, and he had found that the juice of an organ would split the albumins of that organ, and of that organ only. To this there was, however, one exception—namely, the kidney, the juice of which would not only split kidney albumin but would also split the albumin from all other cells. Another interesting question was whether these albumin amino-acid syntheses and breakdowns were reversible actions. Present evidence tended to show that this was the case. Albumins of the food were broken down to amino-acids in the alimentary canal, the breakdown being in steps; it was at present uncertain whether this breakdown was complete or no. Feeding with carbohydrate-free diet proved that sugars could be formed from amino-acids.

The report of Dr. Dakin (New York), who was unable to attend the meeting, was then read by the Chairman. It dealt with the intermediary metabolism of proteins and carbohydrates. Modern research tended to show that the simple amino-acid products of protein digestion in the alimentary canal were re-synthetized after absorption by the body's own cells; but it was also noteworthy that almost all tissues possessed intracellular enzymes which could convert its proteins and carbohydrates into the same simple products. These latter were much more stable than the more complicated molecules, and there was good reason for believing that the most active changes in the cell were to do with them. The problem under discussion, therefore, essentially concerned the interrelations of glucose and the alpha amino-acids. An intermediary link was necessary, and the evidence of present work showed that it was to be sought in the alpha-ketonic aldehydes or glyoxals. Lusk and others had shown by feeding amino-acids to the glycosuric animal, emptied as far as possible from tissue glycogen by repeated phloridzin injections, that certain of them, such as glycine and alanin, were converted almost quantitatively to glucose; certain others, such as tyrosine, yield no glucose, but only the acetone bodies. He had himself carried these investigations further and had shown that amino-acids could be divided into two great groups: those giving glucose under these conditions and those giving acetone bodies. In the first group were all those containing 2, 3, 4, or 5 carbon atoms. None of the aromatic acids yielded glucose. Glucose must, therefore, be regarded as a very probable intermediate product of protein digestion. Further researches made it probable that the intermediate substance required between lactic acid and alanin on the one hand and glucose on the other was methyl glyoxal, and that an intermediate product between the latter and glucose was glyceric aldehyde. He also brought forward evidence that all these reactions were reversible—for instance, the formation of lactic acid from methyl glyoxal was brought about by a ferment glyoxalase, which he had found to be present and extraordinarily active in a large number of tissue extracts. All the reactions required were chemically possible, and he gave evidence to show that they actually occurred.

Professor Embden (Frankfort), who followed, was also concerned with this question of the conversion of proteins to sugars, and vice versa. He also considered that methyl glyoxal was a most important intermediary step in the conversion of alanin to grape sugar. He considered that lactic acid and glyceric aldehyde were intermediary steps between methyl glyoxal and grape sugar. He also outlined another line of chemical change through methyl glyoxal to acetaldehyde and acetic and aceto-acetic acids. All these actions were reversible; many of them could be proved to occur by perfusion experiments through the liver.

Dr. Cathcart (Glasgow) thought that there was a tendency to lay too great stress on the conclusions drawn from the perfusion of isolated organs, from the use of extracted tissue juices, etc. It was forgotten that there was such a thing as correlation of organs and tissues; that in the use of isolated tissues it was possible that some inhibitory or excitatory mechanism might be omitted. He did not, however, desire to belittle in any way the useful and suggestive results obtained by these experimental methods. In conclusion, he briefly described some experiments carried out in conjunction with Mr. Lang on the effect of small amounts of glucose, superimposed on an oil diet, upon the endogenous protein metabolism.

Professor Folin (Boston, U.S.A.) thought that the chemical experimental results were more applicable to pathology than to physiology. He discussed the fate of protein absorbed from the intestine with particular reference to the results he had obtained by his new methods.

Professor Zunz (Brussels) spoke of the relation of the carbohydrates and fats to protein metabolism and of the nature of the breakdown of the protein molecule. The presence of bread in the stomach in dogs retarded greatly the digestion of the proteins of meat, but not that of its own proper proteins.

Dr. Cramer (Edinburgh) discussed the influence of carbohydrate on the protein metabolism, and brought forward evidence that nitrogenous organic substances could be built up from ammonia and non-nitrogenous substances. This occurred in the fetus, which used circulating carbohydrates for the formation of its protein. He thought that the results obtained by the perfusion of isolated organs could be directly applied to the discussion of the fate of protein in the tissues as a whole.

Dr. Clowes (Buffalo) thought that too much importance might be attached to perfusion experiments of isolated organs.

Professor Freund (Vienna) referred particularly to the course of digestion in the intestine and then to the course of normal protein catabolism in the body. He spoke of the great difficulty of finding breakdown products in the blood, and directed attention to the very considerable flow of protein into the intestine contained in the succus entericus.

Professors Abderhalden and Embden briefly replied.

THE VALUE OF RADIOGRAPHY OF BONES AND JOINTS.

THE Sections of Orthopaedics and Radiology met together on Tuesday, August 12th, to discuss the value of the radiography of bones and joints in orthopaedic surgery.

Dr. G. Nové-Josserand (Lyons) said that radiography rendered possible the study of deformities in the living and during growth. It permitted their recognition, the accurate determination of their morbid anatomy, the distinction of their varieties, the description of their evolution, and the definition of the architectural alteration of bones which resulted from them. It supplied, therefore, information which was valuable both for diagnosis and treatment. It had increased the clinical knowledge of deformities, and had shown the existence of varieties previously unknown and the relations existing between them. Its importance was specially great in the study of congenital scoliosis, of the disease of Dupuytren Madelung, of congenital dislocation of the hip, of deviations of the neck of the femur, and of flat-foot.

Dr. Paul Redard (Paris) said that radiology, in combination with clinical examination, increased the accuracy of diagnosis and prognosis, and gave to treatment an exactness and precision hitherto unknown. It was, he said, impossible to study a deformity in the living body properly without the aid of radiography. The discovery of Roentgen had been as fruitful for orthopaedics as that of the laryngoscope for laryngology or the ophthalmoscope for diseases of the eye. Much, however, remained to be done, and efforts should be directed to perfecting the technique, which as yet did not always afford results possessing the necessary precision. Stereoscopic radiography was incontestably superior to the ordinary, and it was to this method that special attention should be paid in the future.

Dr. Fedor Haenisch (Hamburg) insisted upon the importance of the study of the normal osteology, as shown by the Roentgen rays. All the abnormalities of bones likely to be found must be known so as to avoid mistaking them for the results of trauma or of disease. In speaking of epiphysial lesions, he said that some cases of supposed birth palsy were really cases of displaced upper epiphysis of the humerus, with rotation of the rest of the bone. These were curable by operation on the bone. He spoke of the importance of radiography in fractures and in scoliosis, referred to Max Böhm's researches on this subject, and to its value also in controlling treatment. The early diagnosis of spondylitis in Pott's disease was of the very greatest importance, and was best attained by the x rays; the presence of abscess was readily discovered by this means. Lesions of the pelvis or parts of it, hip disease, and congenital dislocation of the hip, could all be diagnosed and their treatment controlled by the help of x rays, as also coxa vara, and injuries of the head and neck of the femur. He referred to Preiser's work on abnormal situations of the acetabulum, and its influence on the production of arthritis deformans; to Schlatter's disease of the tubercle of the tibia; to abnormalities and injuries of the bones of the feet, such as spurs of the os calcis; to abnormal number of ossification centres in the cuneiform bones; to tuberculosis of the foot and fracture of the metatarsal bones: myositis ossificans and bone tumours were also to be mentioned.

Dr. Paul-Vital Badin (Paris) read a communication on the importance of radiography in the study of flat-foot in adolescents. He explained by diagrams that in the normal

foot the relative position of the tarsal bones was little different in the unloaded foot and in that bearing the weight of the body, while in flat-foot the position changed very much.

Dr. Finzi (London) showed photographs and radiographs illustrating Madelung's deformity of the wrist, which is characterized by a subluxation of the carpus forwards, causing undue prominence of the lower end of the radius. These radiographs showed that the deformity in these particular cases was not due to bowing of the shaft of the radius but to irregular ossification at the lower epiphysis with turning inwards of the articular surface of the radius.

Professor Froelich (Nancy), who followed, showed on the other hand radiographs of cases in which a general curvature of the shaft of the radius, convex dorsally, was the cause of the deformity. There is probably no one pathological entity responsible for the symptoms of Madelung's deformity, which may have various causes.

Mr. R. C. Elmslie showed radiographs of cases of supposed hip disease in which the symptoms were really due to irregular and imperfect ossification of the upper end of the femur. These cases were supposed to be cured by treatment for hip disease.

Dr. Mauclaire showed radiographs of coxa valga, etc.

TREATMENT OF THE NOSE, THROAT, AND EAR IN INFECTIOUS FEVERS.

ON Monday, August 11th, the Sections of Rhinology and Laryngology and of Otology held a joint discussion on the special treatment of the throat, nose, and ear during the active stages of certain infectious fevers—namely, scarlet fever, measles, German measles, mumps, influenza, typhoid, whooping-cough, small-pox, chicken-pox, erysipelas, anterior poliomyelitis, and cerebro-spinal meningitis. Diphtheria was excluded.

The discussion was opened by Dr. E. W. Goodall (London), who considered the subject under four heads: (1) The morbid condition of the fauces, nose, and ear in the diseases mentioned. (2) The results, temporary and permanent, local and general, of these morbid conditions. (3) The class and proportion of cases in which these conditions occurred; and (4) the treatment, both local and general. In most of the diseases in question, though by no means in all of them, the primary lesion, he said, was in the fauces and nasal passages, and the neighbouring cavities were secondarily affected by direct extension of inflammation. He discussed the various diseases in the order of the frequency of the faucial lesions; twelve diseases in all were mentioned, commencing with scarlet fever and ending with anterior poliomyelitis. Speaking of the results of these morbid conditions, he said if complete deafness supervened in a child who had not yet learnt to talk, deaf-mutism might result: but he had met with only one such case during an intimate association with fever hospitals extending over twenty-three years. In certain of the acute infectious diseases permanent deafness might result without previous otitis media. In mumps it was usually due to otitis interna, but in some cases it might be caused by a cerebral lesion. Passing to the class and proportion of cases in which the morbid conditions occurred, he said the more extensive, deep, and persistent the lesion, and the younger the patient, the higher the probability of the invasion of the ear and other cavities, structures, and organs adjacent to the fauces. Measles and influenza formed an exception. In neither of those diseases, and especially the former of the two, was the faucial lesion severe, and yet otitis and other sequelae were common. The infectious diseases which were most responsible for otitis were scarlet fever, measles, cerebro-spinal meningitis, influenza, small-pox, and typhoid fever. As regards scarlet fever, the statistics published by the Metropolitan Asylums Board showed that since the year 1899 the incidence of otitis had varied from 11.4 to 15.6 per cent. Probably at the present time scarlet fever and measles were about equal in their power to produce otitis. He considered the treatment under two headings: (1) To prevent or check the results mentioned, and (2) to render the patient free from infection. The object of the local treatment was to abate or limit the local inflammation. For the treatment of the nasal passages douching with boracic or alkaline solution was in most cases all that was required. In his opinion it was not necessary to employ local treatment in cases in which the fauces alone were not affected. In a large majority of cases the first sign that the ear had become affected was the occurrence of a discharge. The chief care, therefore, was three-fold—to provide for free drainage for the discharge, to cut short the inflammation, and to prevent secondary septic infection. To secure the first of these objects it might be necessary in a few cases to enlarge the opening in the membrane caused by the disease; the second and third objects were attained by gently syringing out the ear with antiseptic and astringent lotions. Dr. Goodall gave statistics to prove that these measures were efficacious in the majority of cases. Within recent years he knew that it had been advocated in certain quarters that if an otorrhoea persisted for more than six weeks the antrum, and, if necessary, the mastoid cells, should be opened up, or even the complete operation performed, though there might be no evidence that these structures were involved. Dr. Goodall was of the opinion that such a proceeding was not justifiable except in the most chronic cases, and that a prolonged course of treatment on the lines he had indicated should be carried out before resort was had to operation, and in this opinion he believed that he was supported by all his colleagues in the Asylums Board's service. To render the patient free from infection, the means which were most likely to secure the disappearance of the infecting agent in scarlet fever were, in addition to those which would bring about the cure of any morbid condition of the naso-pharynx, those which were adapted to promote an improvement in the general health and surroundings of the patient.

Dr. Victor Delsaux (Brussels) also contributed a report, and the subject was discussed by many members of the combined Sections. Whilst some entered into details about the relative merits of douching, syringing, or spraying the nasal cavities, with a view of preventing aural complications, the majority concerned themselves with the question of an early operation upon the mastoid antrum when suppurative diseases of the ear had supervened. It was maintained that if that were done more frequently the large number of patients that presented themselves in after-life for treatment at the special hospitals for the diseases of the ear, nose, and throat, and also in the special departments of the general hospitals, would be considerably diminished.

Dr. Goodall, in his reply, after touching upon the impossibility of removing ropy mucus from the nasal cavities by means of a spray, dealt with the question of early operative treatment for otitis media in scarlet fever. Formerly he did operate early, but often found nothing in the antrum; he had therefore given up this treatment. In support of the treatment he had described, he had given exact statistical information, but the otologists had not given the same in support of their contention that scarlet fever left lasting ear disease through a mastoid operation not being performed.

The following resolution was put to the meeting from the chair and carried:

> It is the opinion of the members of the Sections of Otology and of Rhinology and Laryngology of the Seventeenth International Congress of Medicine, London, 1913, that it would be greatly to the advantage of the community if experts in otology, rhinology, and laryngology were attached to special hospitals for the treatment of epidemic diseases.

SALVARSAN AND OTHER ARSENICAL COMPOUNDS IN DISEASES OF THE THROAT, NOSE, AND EAR.

THE Sections of Rhinology and Laryngology and of Otology met together on August 8th, under the chairmanship of the President of the first-named Section, Sir StClair Thomson, for the discussion of the methods and results of treatment of diseases of the throat, nose, and ear by salvarsan and other arsenical compounds.

The discussion was opened by Dr. André Castex (Paris), who said that salvarsan and neo-salvarsan were often useless, and occasionally harmful, to the ear, for they seemed to fix syphilitic poison in the nervous system. Where mercury had been employed in similar cases it had shown itself to be the more efficacious. On the other hand, salvarsan was useful in syphilitic affections of the nose, the pharynx, and the larynx. Atoxyl left the patient liable to neuritis and hectine was of little utility. His

general conclusion was to the effect that the employment of these arsenical products was of moderate importance in oto-rhino-laryngology.

Professor Gerber said that the arsenical compounds played a part of the first importance in the treatment of spirochaetal diseases of the nose, throat, and ear. In the case of atoxyl the "neurotropic" effect was too severe in comparison with the "spirochaetotropic." Only with salvarsan and neo-salvarsan was the relation of these two effects, thanks to the brilliant work of Ehrlich, so far reversed that the great therapeutic powers which lie hidden in arsenic could be made of service. These substances possessed a specific activity found in no other bodies, and produced no ill effects except in the organ of hearing; the auditory nerve, on account of its great susceptibility, should receive special attention under arsenical treatment.

Mr. H. Whale (London) summarized the results obtained in some cases he had treated. Professor Alexander (Vienna) said there was a greater tendency to labyrinthine trouble after the use of salvarsan than after quicksilver in the treatment of syphilis of the ear. Unfortunately the good results when obtained were not permanent, and it was very important to have a knowledge of the contra-indications of the use of salvarsan in the treatment of the ear. Dr. Maurice (Paris) and Dr. A. de Stella (Ghent) followed.

Dr. Lieven (Aix-la-Chapelle) said that repeated and combined treatment must be insisted upon. Spasmodic injections of salvarsan were of no avail. If the patient was opposed to repeated and persistent treatment, then it were better to adhere to the old treatment of mercury and potassium iodide. Dr. Marschik (Vienna) recited a case successfully treated. Professor Segura (Buenos Aires) quoted a case in which a man had contracted syphilis and had given it to his wife; the salvarsan behaved differently in the two cases, curing one and leaving the other in a condition which nothing would cure.

Professor Brühl (Berlin) said that salvarsan did good in recent cases of labyrinthitis, but not in chronic cases, and that salvarsan was to be considered efficacious in syphilitic affections of the ear generally, but in labyrinthitis it was not so satisfactory.

Sir Robert Woods (Dublin) said that with salvarsan results could now be obtained which were not obtainable before.

Professor Finder (Berlin) mentioned the case of a middle-aged man, the subject of malignant syphilis, in which salvarsan was given; relapses followed and a subglottic swelling occurred necessitating tracheotomy.

Dr. Dundas Grant (London) considered that tracheotomy should be postponed in cases of syphilitic disease of the larynx causing stenosis until after a dose of salvarsan had been tried. Recently there had come under his observation cases in which there was marked necrosis and ulceration after several injections of salvarsan had been given.

Dr. Dan Mackenzie had been gratified with the results obtained by salvarsan in cases of throat and nose disease. He had not used it at all for the ear, and was not likely to do so after what had been said, but he looked upon it as a reliable remedy in syphilis of the upper air passages.

Dr. Koenig (Paris) mentioned a case in which the patient had become completely deaf after salvarsan.

The openers replied, Professor Gerber adding that in labyrinthitis, when other things had failed, salvarsan might be of service, and there was no harm in trying it.

HEALTH OF CHILDREN BETWEEN INFANCY AND SCHOOL AGE.

On Monday the Section of Hygiene and Preventive Medicine held a joint session with the Section of Stomatology, and the subject for discussion—the supervision of the health of children from 1 to 5 years—produced an animated debate. While all the speakers were in complete accord as to the importance of this epoch of child life, hitherto comparatively neglected, there was a marked divergence of opinion on one or two points. The dental surgeons, regarding the matter in the light of their speciality, unhesitatingly condemned the use of sugar by children, while the physicians, as a rule, took the view that sugar was not only harmless but indispensable, and that when Nature implanted the love of this substance in children she knew what she was about. There was also an interchange of courtesies between the two professions as to the ignorance by doctors of dentistry, and vice versa, but a pretty general consensus of opinion that doctors should be educated in dental anatomy and therapeutics, and that dentists should know something about general medicine.

The discussion was opened by Dr. W. Leslie Mackenzie (Medical Member, Local Government Board, Scotland), who showed how comparatively unprovided for in this country by medical inspection was the period of child life under consideration, though in France about a quarter of the whole population between the ages of 2 and 6 was provided for in *Ecoles maternelles*, public and private. It was generally conceded that the ordinary school was not the place, nor the ordinary school curriculum a suitable curriculum, for children aged from 3 to 5. Therefore, if education was to begin at all, or to be effectively prepared for before the age of 5, as seemed desirable, it was necessary to devise other educational institutions. Foremost in this connexion he would place the so-called nursery school, where young children could be placed by their parents at this tender age without the risks of infection connected with attendance at the ordinary school and away from the dangers of the streets. One method of covering at least part of the field would be a correlation of the work of medical inspection of school children on the one hand with a search for the sequels of infectious diseases on the other. The speaker also made special reference to the excellent work done by Dr. Forsyth at the Westminster medical inspection centre for children under school age.

Dr. Robert Dinet (Paris) having given details of the methods adopted in France, Mr. W. W. James (London) dealt with the question from the point of view of the dentist, pointing out the importance of distortions and irregularities of the teeth, and tracing the various evil results which might follow from neglected dental caries, such as loss of function of the teeth, impaired mastication, consequent impaired digestion, infection of other parts of the body, such as otitis media, with its train of evil consequences, enlarged and inflamed lymphatic glands. Objection was often made to the removal of temporary teeth, but in his opinion this course was frequently imperative in order to obviate the train of symptoms referred to.

Dr. David Forsyth gave details of the work done at the Medical Inspection Centre in Golden Square, which had been most encouraging. The Notification of Births Act had been made use of to get in touch with the babies, and by the same means they also got hold of older children at the same time in their homes. The commonest defects found were decayed teeth, tonsils and adenoids, and rickets. The utility of the work was limited by the fact that it was entirely voluntary, and they had no means of compulsion. It was often hard to get hold of the mothers, especially the careless or ignorant ones, and the most important step required was education of the mothers.

Dr. Cruet (Paris) recommended a diffusion of stomatological ideas among doctors, nurses, mothers, and all instructors of children. It was most important that doctors should be educated in dentistry and dentists in medicine, and that the two professions should work together in harmony.

Dr. Kerr expressed himself as strongly in favour of nursery schools. He thought children were too much classed according to their ages, and that it would be far preferable for teachers to determine for each child a kind of physical and mental index. The most important diseases that might be prevented by medical inspection of children before school age were Pott's disease, otitis media, and deafness, with its consequence deaf-mutism, and eye diseases and errors of refraction.

Mr. Colyer (Surgeon, Royal Dental Hospital) laid down three propositions: (1) That the seeds of dental disease suffered from in after-life were sown between the ages of 3 and 5; (2) that the results which followed dental teaching were marvellous; and (3) that the earlier treatment of the teeth was begun the better. It was absolutely clear to him that the State must take over the care of those children between infancy and school age, and he strongly advocated the institution of a Ministry of Public Health.

Mrs. Leslie Mackenzie described the "toothbrush drill" which had been instituted in Edinburgh, by which means

the children were now educating their parents. Dr. H. L. Keith Shaw (Albany, U.S.A.) hoped that the old fetish of "teething" as a diagnosis of most disorders of childhood would soon be relegated to the limbo of forgotten things. He thought that dental prophylaxis in young children was not sufficiently appreciated by dentists, and laid special stress on the phenomenon of the "nervous child" as a product of modern civilization. Mr. Sim Wallace (London) advocated a school for doctors to teach them dentistry. The hygiene of the mouth was not taught in books on physiology, which were responsible for disseminating most erroneous ideas on that subject. He strongly deprecated the use of sugar by children, and stated that the physiological action of sugar was to cause a flow of saliva, by means of which the deleterious action of the sugar could be as quickly as possible removed. Professor Maggiori (Milan) recommended the use of the cinematograph, as practised in America, for teaching children about the hygiene of the mouth. Dr. W. S. Arkle (London) was strongly in favour of nursery schools, provided the element of teaching was eliminated from them, and that the children were allowed to play when they wanted to, and sleep or rest when they wanted. Mr. J. G. Turner (London) objected to all sticky substances as food for young children. He advocated the use of dry bread, made of coarse meal, but not standard bread. Mr. Sim Wallace had said that he could not clean the teeth with a toothbrush, but he (Mr. Turner) was able to clean the surface of each tooth most effectively by the simple means of tilting the toothbrush.

Dr. Woods Hutchinson (New York) did not believe in all the "faddism" about food. He thought the three chief requirements of food were that it should taste good, give a sense of resistance in mastication, and a comfortable feeling inside when it got down. He would let a child have what it wanted and when it wanted it, and would give him plenty of sugar and also butter, and he would give the teeth plenty to do. Dr. Smith (Lynn, Massachusetts, U.S.A.) condemned the "toothbrush drill," as he believed much damage was done to the teeth by excessive brushing. He also condemned the use of tooth powders and washes. He had found good results from the use of thyroid preparations in retarded dentition.

ANATOMY AND EMBRYOLOGY.

DISCUSSION ON THE MORPHOLOGY OF THE SYMPATHETIC SYSTEM.

Professor Carl Huber (Michigan), who presented the report on this subject, said that the sympathetic system was to be regarded as a unit which maintained throughout the whole vertebrate kingdom its essential morphological feature—the presence of the synaptic basket, a structure which he found was better displayed by means of the methylene blue stain than by the more recently introduced silver stain. Although, however, the system was to be regarded as a unit, different portions subserved different functions, for in mammalia no less than nine different types of sympathetic neurones could be identified, and this difference in structure naturally implied a difference in function. An interesting statement which he made concerned the nervus terminalis in the rabbit, a nerve which he believed to be a sympathetic nerve. He was able by the use of a differential stain to distinguish it from the olfactory nerve fibres, since the latter stained light brown while the former stained black. He felt quite sure that the peripheral portion of this nerve was truly sympathetic, although he admitted some doubt regarding its central portion. He regarded the nervus terminalis as the sympathetic appanage of the first primary cerebral vesicle.

Professor Paterson (Liverpool) regarded the sympathetic system as the original nervous system, and considered that the cerebro-spinal system had been superadded. He thought the sympathetic system was primarily for the innervation of the alimentary canal, and the glands developed from it.

Dr. J. F. Gaskell (Cambridge) was of opinion that no account of the sympathetic system could be considered satisfactory that ignored the adrenal chromaffin tissue, which should be regarded as part and parcel of the system. It was no mere coincidence that the action of adrenalin was the same as that of stimulation of the sympathetic nerves. The regulation of the cardio-vascular system was brought about by the adrenals and by the sympathetic nerves. The sympathetic system was to be regarded as intimately and primarily connected with the vascular system. In lower forms it lay in close relation to the vessels, and owing to its distribution along the segmental vessels was itself to some extent segmental. In the Cyclostomata, chromaffin cells disposed along the vessels replaced the sympathetic system of higher types. In Amphioxus there was no contractile vascular system and no chromaffin system, the inference being that one system does not exist without the other. The cells of the sympathetic ganglia and the medullary cells of the adrenals had originated in the same manner—namely, by emigration from the central nervous system.

Professor Wilson (Sydney) thought the separation of sympathetic and cerebro-spinal systems was not in keeping with morphology, and suggested that a better division of the nervous system would be into medullary and sensory ganglionic.

Professor Ariëns Kappers (Amsterdam) closely questioned Professor Huber as to the reasons why he considered the nervus terminalis sympathetic in the rabbit.

DISCUSSION ON THE MORPHOLOGY OF THE SHOULDER GIRDLE.

The proceedings on Monday, August 11th, were opened by a report from Professor Anthony (Paris) on the morphology of the shoulder girdle. He set himself on the one hand to give a synthetic summary of the question as it presents itself to-day from the anatomical point of view, and, on the other hand, to place in evidence the factors which may have determined in the course of phylogeny the principal modifications of general aspect which the elements of this girdle present in the batrachians, reptiles, birds, and mammals. He regarded the pectoral girdle as consisting of certain fundamental elements and other superadded elements of membranous origin. The fundamental elements first appeared in the form of a cartilaginous arc divided on each side by the limb into a dorsal and ventral portion, the latter being again divided into an anterior and posterior portion, the procoracoid and the coracoid. The ventral portions underwent great regression, reaching its maximum in mammalia; this regression was to be associated with the development of the clavicular arc. It was here, however, pointed out that in certain fossil reptiles the procoracoid remained well developed, whereas the coracoid suffered regression. The union of the procoracoid and coracoid in the mid-ventral line was identical in nature with that in which the costal arches take part where the costal sternum exists. The elements of membranous origin arose in order to fix more firmly the region in front of the thoracic girdle in consequence of the requirements of terrestrial locomotion. The clavicle formed for this purpose gradually replaced the procoracoid. An episternum of similar origin was superadded in those cases in which the sternum was lacking in solidity. The gulo-sternal system of the Stegocephalia was distinguished from the episterno-clavicular system of other vertebrates by its dermic origin, but Professor Anthony thought it possible that the episterno-clavicular system might have originated from a pre-existent system of ossified dermal plates.

Professor Bryce (Glasgow) dealt with the histogenesis and phylogenetic history of the clavicle. He homologized the extension of ossification from membrane along cartilage in the clavicle with the ossification around Meckel's cartilage in the case of the mandible. He regarded the cartilage which appeared in the clavicular region as a portion of the primordial cartilaginous skeleton like Meckel's and not as an adventitious portion like the cartilage deposits out of which the coronoid and condyloid processes were formed.

Professor Thane (London) did not agree with Professor Anthony in believing that the cartilaginous portions of the clavicle could be attributed to friction or in homologizing them with sesamoid bones. He considered cartilage was a provision to enable bone to grow in length where the pressure from surrounding parts was great. He thought that there was often confusion among writers with regard to the procoracoid owing to structures of totally different origin being referred to under the same name. The so-called procoracoid was sometimes a distinct entity and took part in the formation of the glenoid cavity, at other

times it was a division of the coracoid, while in the Chelonia it was distinctly a process of the scapula. He thought the word "sternum" should be restricted to that element of the thoracic skeleton to which it was first applied, and deprecated the use of such words as "sternalization" and "pelvic sternum."

Professor Parsons (London) was of opinion that there was a looking-glass homology between the fore and hind limbs, the parts in the former being in a reversed position to that which they held in the latter. He had been led to this view by a study of the musculature of the two limbs, and to some extent by the nerve supply. If his opinion were correct the coracoid might be the representative of the pubis, and the procoracoid the representative of the ischium.

Discussion on Late Prehistoric Man in Britain.

Professor Parsons (London) described in considerable detail the features of what he termed River-Drift Man. The chief characteristics were a long oval cranium and a relatively low stature. In sharp contrast with this type he described the features of Bronze Age Man, who had a short round cranium and possessed a considerably higher stature. Professor Parsons quoted instances to show that even to-day these two types were the types most frequently met with among living Englishmen.

Professor Wright (London), drew attention to the remains recovered from a large series of barrows on the Yorkshire wolds. The people whose remains were there found lived at the beginning of the Bronze Age, about 1000 B.C., and judged from the customs and culture formed a homogeneous community. An examination of their skulls, however, showed that they were of a very mixed type. Very long skulls and very short skulls were at times obtained from the same barrow. In other respects than that of mere contour the skulls showed a marked similarity. Professor Wright believed that this mixture of types had taken place on the Continent, and thought that most probably these people had entered Yorkshire from the region of the Baltic.

Professor Reid (Aberdeen), described a number of very short skulls which had been obtained from cists in Aberdeenshire. It was a matter of great interest that these skulls in that part of Scotland were closely associated with the ceramic known as the drinking-cup.

Professor Bryce (Glasgow) found, as a result of his researches in the cairns and barrows of the West of Scotland, that in the earlier cairns the skulls were of a long type, while in the later cists he found the round-headed type. It would thus appear that whereas in Yorkshire the two types were found mixed, in Scotland they were distinct. He differed from Professor Wright as to the origin of the round-headed people and thought that they were traceable to Central Europe. Of the two types the long-headed variety formed the majority in the population of Scotland to-day.

The Piltdown Skull.

In the afternoon the Section met in the Natural History Museum in order to see the famous Piltdown skull and hear a demonstration upon it from Dr. Smith Woodward. Whatever might be thought of the reconstruction of the skull, there could be no doubt, he considered, that the peculiar features of the lower jaw justified him in regarding the skull as that of a new genus. Later in the afternoon the Section met at the Royal College of Surgeons to examine Professor Keith's reconstruction of the same skull and to hear his criticism of Dr. Smith Woodward's specimen. The chief points upon which Professor Keith laid emphasis were the size of the cranium and the character of the dentition. He contended that the cranial capacity was almost half as large again as that estimated by Dr. Smith Woodward, and by reference to the muscles of mastication he showed that the dentition was more human than simian. Other speakers agreed entirely with Professor Keith, who must be congratulated on having so early and skillfully corrected the impression which had been conveyed by the first monograph on the subject. Professor Elliot Smith said that he was not surprised to find a large brain in conjunction with a jaw which in the region of the symphysis was distinctly simian. He had long maintained that the reduction and humanization of the face and jaws had been effected subsequently to the full growth of the human brain.

A Prehistoric Sudanese Race.

Dr. Derry (London) contributed a paper on some physical characters of a prehistoric Sudanese race. The remains of this race were found at Gebel Moya, in the province of Sennar. The majority of the burials showed that the body had been buried in the extended posture. The stature of these people was unusually high, recalling the tall Sudanese races of the present day. The skulls were very rugged and heavily built. The face was unusually long, although this was partially masked by the width, depth, and prominence of the malar bones, which formed a most characteristic feature. The faces had a general negroid appearance, and were distinctly prognathous. The mandibles had short, blunt coronoid processes, except in one instance, in which, curiously enough, this process rose to an enormous height. Mutilation of the teeth had been practised after a manner still in vogue among several Sudanese tribes.

Independent Papers.

Cyto-architecture of the Brain Stem.

Dr. Mussen (München) contributed some new observations on the pulvinar of the *Macacus rhesus*. The particular question considered was whether the *noyau lateral dorsal* belonged to the *noyau lateral* or to the pulvinar. Diapositives illustrating the structure of the thalamus in the frontal and sagittal planes of Dr. Clarke were shown, demonstrating the association of this region with the pulvinar, showing how it formed the anterior superior region of this nucleus, and also the effect of this new addition to the pulvinar on the boundaries between the pulvinar and the thalamus proper.

The Mitochondria in Nerve Cells.

Dr. Shirokogoroff (Dorpat) reported the results of his examination of the nerve cells of the central nervous system in a number of mammals with a view to demonstrating mitochondria. Very precise instructions were given as to the method of fixation of the cells, some of the fixation fluid being injected during life, and also as to the method of staining. An examination had been made of the cells in different parts of the brain and cord in the rabbit, dog, and cat. The mitochondria were best seen in the ganglion cells of the medulla of the cord and in the Purkinje cells of the cerebellum. In the cells of the cortex of the cerebral hemisphere the mitochondria were very few in number. The length of the mitochondria differed in different animals—they were larger in the rabbit than in the dog and cat. The axis cylinders of the nerve fibres also contained mitochondria, but only very sparsely.

Development of Brain and Eye.

Dr. Albert Wilson (London) gave a demonstration on the development of the brain and eye, showing sections through these parts in an embryo of thirty-eight days and another of eight weeks. He showed also sections through the cortex at the fourth, fifth, and sixth months. He also by sections contrasted the appearance of the prefrontal cortex in a normal adult, in a child of 5 years, in a degenerate, and in a girl suffering from congenital syphilis.

Development of the Central Nuclei of the Cerebellum.

Dr. Addison (Philadelphia) read a paper on the development of the central nuclei of the cerebellum from their earliest appearance. The material used was from the albino rat taken during the period extending from the seventeenth day of intrauterine life until the thirtieth day after birth. The changes in the shape, size, and arrangement of the cells and the time relations of the development of the Nissl substance and of the medullation of the fibre tracts connected with the nuclei were especially studied. A discussion was raised by Professor Ariëns Kappers as to the distinction histologically between the palaeo- and neo-cerebellum. No distinction had been found by Dr. Addison with regard to these parts in the rat, a fact which was possibly due to the rapidity with which in this animal development occurred; in consequence such embryological differences as could be noted in man in regard to the period of persistence of the outer

granular layer and the date at which the myelin sheath was provided were not readily distinguishable.

The Correlation of Isotherms with Variations in the Nasal Index.

The President (Professor Arthur Thomson), in a paper on this subject, stated that the nasal fossae must be regarded as part of the respiratory tract and subject to modifications with the rest of the tract. By drawing isothermal lines across the Continent of America, and comparing the nasal indices of living races and of skulls from the regions of the different isotherms, he found that whereas at the equator the nostrils were wide, on proceeding from the equator in either a northern or southern direction the nostrils were found to be narrow, to protect the delicate nasal mucous membrane from large draughts of cold air.

Cerebral Localization and the Significance of Sulci.

The last meeting of the Section took place on Tuesday, August 12th, and was perhaps the most important of all, for it was rendered noteworthy by two brilliant papers contributed by Professor Ariëns Kappers (Amsterdam). The first was on cerebral localization and the precise significance of sulci. The author gave a complete historical and literary review of this very large subject, discussing the various theories which have been advanced to explain the presence of sulci—the vascular theory, the cranial theory, and the more modern theory that their existence is to be associated with intrinsic qualities in the brain itself. He showed how it is in the thin regions of the cortex, regions associated with sensory functions, where sulci most largely abound. In the relatively thick layer of the cortex associated with motor functions sulci rarely occurred, and even when they did, were confined to the borders of these areas. He also showed that the presence of sulci bore a close relation to the size of the brain, the smaller the brain the less the number of sulci, the reason being that in large brains the cortex, owing to its thinness, had to enlarge still more in surface area than the growing and expanding underlying parts, if it were to keep pace with them, and this it could do only by throwing itself into folds. His conclusion was that nearly all the principal facts revealed by fissuration—several of which were found long before the intrinsic studies were completed, and were consequently absolutely uninfluenced thereby—have been confirmed by the latter; the involution of the insular region in carnivora, the presence of an uncovered insular part in anthropoids, the phylogenetic enlargement of the frontal lobe, the fact that this enlargement is specially due to the pre-Sylvian field of that lobe, the value of the anthropoid variation of the fissura centralis for the evolution of this fissure in human anatomy, the backward displacement of the occipital (visual) area under the influence of an augmentation in the post-parietal region, the possible transition of the anterior supra-Sylvian gyrus in Heschl's gyri, the relative constancy of the superior temporal convolution, the additions that take place in the lateral and mesial occipito-temporal region—all these facts deduced from fissural studies were confirmed in principle by the studies of the intrinsic characteristics of the cortex made during the last decades.

Professor Elliot Smith (Manchester) expressed himself as being in entire agreement with Professor Ariëns Kappers. He regretted that for purposes of discussion there were no representatives of the rival "Brodmann" school. He thought that from Professor Brodmann's own facts support could be obtained for Professor Kappers's thesis. He dealt in detail with the fissuration in the occipital region, with the splenial and calcarine fissures, and showed how these were associated with the fibres of the optic radiations.

Professor Anthony (Paris) discussed the fissuration in the region of the insula and on the orbital surface of the frontal lobe, leading up to the same conclusion.

Neurobiotaxis.

Professor Kappers also contributed a paper on the phenomena of neurobiotaxis in the central nervous system, in which he maintained the thesis that the course of fibre tracts in the nervous system afforded sufficient evidence that their arrangement was influenced if not determined by associative stimuli. In other words—that there was a neurobiotaxis in the direction of the stimuli, the cells following the path of the dendrites. He disbelieved the theory that the site of cells in the central nervous system was determined by mechanical influences. He brought forward in support of his view much evidence from lower vertebrata, paying particular attention to the fifth, seventh, and ninth cranial nerves.

Professor Elliot Smith was of the opinion that the cells moved not so much spontaneously but because of the pushing to which they were subjected by the development of new tissue between them.

SHORT PAPERS.

Professor Anderson (Galway) read a paper on the skeletal elements of the extremities in primates. He brought forward a number of measurements to show how the size of bones was affected by the pressure or weight to which they were subjected.

Dr. Villemin (Paris) drew attention to a fold of mucous membrane situated at the duodeno-jejunal junction. Into the fold penetrated certain muscular fibres from the circular muscular coat of the gut. The fold had in its submucous tissue Brunner's glands on its duodenal side, but these glands were not present on its jejunal side. It also bore a definite relation to a strong slip of the suspensory muscle of Treitz.

CONCLUDING CEREMONY.

The President then brought the proceedings of the Section to an end. He thought that both from the high interest of the subjects discussed as well as from the eminence of the authorities who had taken part in them, the meetings had been eminently useful and suggestive. He paid a warm tribute to the valued services of Dr. Macphail, the Secretary of the Section, and to Dr. Wood-Jones, the reporter of the Section. A vote of thanks to the President and officers was proposed by Professor Thane and supported by Professors Waldeyer and Huntingdon and carried with acclamation.

THE MUSEUM.

The museum of the Section well represented the varied activities of British and Continental anatomists. Reconstruction models of human and animal embryos seemed to have first claim on their interest and attention. A stereotaxic instrument invented by Dr. R. H. Clarke for the localization of the central nuclei of the brain seemed to fulfil successfully the purpose for which it was designed. In the adjacent department on museum technique special mention should be made of the beautiful specimens shown by Professor Spalteholz (Leipzig) and Professor Wahby (Cairo).

SOCIAL ENGAGEMENTS.

In addition to the general social functions of the Congress, the President held a reception at the Holborn Restaurant on Thursday evening, August 7th, and there was a sectional dinner in the Great Hall of St. Bartholomew's Hospital on Friday evening, August 8th. About fifty members of the Section attended the dinner. The toast of "The Section" was proposed by the President and replied to by Professor Waldeyer (Germany), Professor Romiti (Italy), Professor Anthony (France), Professor Huntingdon (America), Dr. Shirokogoroff (Russia), Professor Eternod (Switzerland), and Professor Ariëns Kappers (Holland).

PHYSIOLOGY.

RECIPROCAL INNERVATION.

On Monday, August 11th, the forenoon sitting of Section H was devoted to a discussion on reciprocal innervation.

The discussion was opened by Professor Sherrington (Liverpool), who pointed out in the first place that if heightened activity were reflexly evolved in one organ or set of organs it was accompanied by a corresponding depression of activity in another organ or in a set of organs, and that this twofold result was well exemplified in the musculature. Thus, if a pair of suitable muscles were tested experimentally it was found that a reflex stimulus which caused one to

contract caused the other to relax simultaneously with the contraction of the former. A pair of muscles or of muscle groups which thus reacted reciprocally to one and the same nerve stimulus were said to show a reciprocal innervation. He showed that there were two classes of this innervation—(*a*) peripheral and (*b*) central. As an example of the first type, the musculature of the intestine, with its lowly organized local nervous system, afforded, perhaps, the best example. Other examples of this peripheral type were found in the antagonism of the muscles of the arthropod claw and in the case of the cervical sympathetic and the iris muscle. The skeletal muscles provided the examples of the central type. They contrasted strikingly with the visceral and circulatory muscles in that they were dependent altogether on the activity of the central nervous system. The motor centre was the only source whence impulses could reach it. The inhibition of the skeletal muscle was always reflex. The motor centre was a convergence point for various reflex influences competing, so to say, for dominance over the muscle. He then discussed the importance of this reciprocal innervation in the execution of movement. He pointed out that in the anatomical arrangement of the musculature individual muscles are frequently so placed as to exert their pull in diametrically opposed directions. A most striking example of this fact was given by the hinge joints, such as the elbow and the knee, where the extensors and flexors exert their pull in exactly opposite directions. Experiment had shown that in reflex flexion of the joint the afferent nerve evoked at one and the same time a reflex contraction of the flexor muscle and a reflex relaxation of the extensor. A less simple kind of antagonism was found to occur where double joint muscles were involved—muscles which acted directly on two joints. He found that the reciprocal innervation also held good in rhythmic and alternating reflexes, with their more or less rapid reversals of phase and direction—as, for example, in the stepping reflex, the scratch reflex of the hind limb, and in consensual nystagmus of the eyeball. Reciprocal innervation was also found to extend beyond cases of pure mechanical antagonism. The reflex relation which existed between the two knee extensors right and left was reciprocal—that is, the same stimulus which excited reflex contraction of the one evoked reflex inhibition of the other. Here, of course, the two muscles could not be held to be antagonistic in the true sense of the word, as they neither operate on the same lever nor even on the same limb. A very similar state of affairs existed in the muscles of the eyeballs. Also in the maintenance of tonus and posture reciprocal innervation played an all-important part. He then discussed double reciprocal innervation. He pointed out that any particular motor centre, whether for flexion or extension, lay under at least a twofold influence, tending on the one hand toward excitation and on the other toward inhibition. He finally showed that double reciprocal innervation played a very important rôle in reference to the rhythmic reflexes. Rhythmic contraction of the muscle resulted when the intensities of the inhibitory and excitatory influences acting in one and the same centre were fairly closely equipoised, with the result that the discharge from the centre was of a rhythmic nature. This rhythmic reflex action resulting from the exercise of double reciprocal innervation occurred not only in symmetrical pairs of muscles but also in antagonistic pairs. He believed that the basis of explanation of the rhythmic result might lie in the fact that excitation as it proceeded tended to favour inhibition as its after-result, and conversely inhibition favoured response to subsequent excitation.

Professor Verworn (Bonn), who followed, dealt chiefly with the fundamental nature of the process of inhibition which played a part in reciprocal innervation. He gave a summary of his well-known views regarding this process. He believed that the simplest reflex arc in the cord consisted always of three neurones.

Professor Bayliss (London) discussed reciprocal innervation from the aspect of the vasomotor reflexes. In this case the nerve supply was more complicated as both dilator and constructor fibres were present. He then detailed experiments which he had carried out after the use of strychnine and of chloroform.

Dr. Graham Brown (Liverpool) dealt with the relation of the parts necessary for the reciprocal innervation of the antagonistic centres. He raised the question of the nature of the fundamental activity of the centres. He came to the conclusion that that fundamental activity was now represented by the rhythmic activity, and that the spinal reflex was a later interference with this activity, and was of the nature of a distorted beat.

Professor Fröhlich (Bonn) discussed particularly the nature of the rhythmic reflexes, and Professor Meltzer (New York) dealt for the most part with the historical aspects of the question.

Dr. Bárány (Vienna) spoke of the course of the neurofibrils in the ganglia in connexion particularly with conduction. Dr. Hofmann also spoke.

Professor Sir E. A. Schäfer thought that, in the primitive reflex arc there were only two neurons involved, although undoubtedly ultimate change might take place with the utilization of three neurons. The axon reflex was the most primitive of all. He believed that this simple reflex played a most important part in many physiological and pathological processes.

Laboratory Meetings.

On Friday, August 8th, the morning session of this Section was devoted to a joint meeting with the Section of Medicine for a discussion on the correlation of organs of internal secretion and their disturbances (see p. 374). In the afternoon the Section met for demonstrations in the Physiological Laboratory at University College (Professor Starling).

Enzymes.

A paper on the synthetic action of enzymes was read by Professor Bayliss (London), who, as the result of his experiments reached several general conclusions. As he found that, in a simple system, the action of an enzyme, emulsin, was found to follow the laws of catalysis by a single agent, the conclusion seemed to him justified that, whenever apparent deviations from such laws were met with, instead of inventing new enzymes or making assertions as to the non-application of the laws of physical chemistry to enzyme action, an endeavour should be made to find the reasons for the divergence. Further, he thought that until the impossibility of finding such reasons had been demonstrated, it was more in accordance with scientific method to hold provisionally the application to all enzymes of the laws which could be shown to apply to so many. He did not think that the term "enzyme" or ferment should be applied to any substance not manifesting the properties of a catalyst.

The Galactagogue Hormone.

Sir Edward Schäfer gave a demonstration on the effects of hormones on milk secretion. He stated that the galactagogue hormone in blood was far from constant. He found that the injection of the extract of the posterior lobe of the pituitary body caused a flow of milk, and this he demonstrated in a most striking manner.

Other Demonstrations.

Other excellent demonstrations were given by Professor Starling (London) on the factors determining the coronary circulation, and by Dr. C. Lovatt Evans (London) on the respiratory changes of the isolated lung. Professor Bainbridge (Newcastle) showed some experiments on the frog's kidney, and Dr. Patterson (London) discussed the antagonism of adrenalin and carbon dioxide. Dr. A. H. Rutherford (Sydney) gave a short communication on the ileo-caecal valve.

The afternoon session of the Section on Monday was held in Professor Halliburton's laboratory at King's College, and was mainly for demonstrations.

Dr. Korentschewsky (St. Petersburg) gave a communication on the correlation of the action of the thyroid and testicle and ovary on metabolism. He found that castration of animals after thyroidectomy did not influence the metabolism so markedly as when performed on normal animals. Professor Langlois (Paris) read a paper on the production of apnoea as the result of the injection of adrenalin.

Interesting demonstrations were given by Professor Brodie (Toronto), Dr. Locke (London), Professor Halliburton (London), and Professor MacWilliam (Aberdeen).

GENERAL PATHOLOGY AND PATHOLOGICAL ANATOMY.

Discussion on the Pathology of Shock.

This discussion was opened by Professor Yandell Henderson, and it was to be regretted that Dr. Crile did not join in the opening debate as was expected, for, as Henderson pointed out, their views were in many respects divergent. Crile considering that certain structural changes in the cortical cells are the fundamental element, whilst Henderson regards these as degeneratives resulting from the anaemia involved in shock. Professor Henderson said that shock was not a clear-cut disorder, but a group of conditions of superficially similar appearance. The older surgeons, and even John Hunter, regarded concussion as shock; they held that vibrations were transmitted throughout the body, which led to a depression of function. He instanced the various kinds of shock which have been described, such as electrical shock, anaphylactic shock, and emotional shock following grief or fright, in which death might occur from fibrillation of the heart. As to death under chloroform, Levy and Cushny had shown that animals sometimes died suddenly under slight anaesthesia; mention was made also of cases of sudden death after a few seconds' immersion in water. In recent years shock has been regarded as a state of profound general functional depression, rather than as a mode of death. There were varieties of this "state," for to the gynaecologist it was the result of haemorrhage, to the general surgeon in dealing with accident cases it meant depression of vital functions usually following intense suffering, like that following haemorrhage, though there have been none; to other surgeons it is the state of depression following prolonged and extensive operations often without either haemorrhage or suffering; to the physiologist, who had to perform prolonged operations on animals, a similar state presented itself; and to those who experimented on animals with a divided spinal cord there appears "spinal shock." These conditions were not identical, and he divided them into "haemorrhagic shock," which included also surgical shock and a toxaemia state closely allied in appearance, and "spinal shock." He held that syncope, instanced by Goetz's *Klopfversuch* experiment, resembled spinal shock, though shock was not syncope. He next discussed cases of death from respiratory failure after prolonged pain or other excitement, and explained the fatal apnoea on the acapnia theory, which supposed that breathing ceased for lack of enough CO_2 in the blood to excite the respiratory centre. The CO_2, which was the normal stimulant of respiration, was reduced by the excessive hyperpnoea accompanying great pain. Experimentally he had confirmed this by reducing the CO_2 in animals by excessive artificial respiration and producing death. He held, also, that Crile's experiments agreed with his own, in that most of the experimental animals died of respiratory failure. He touched on some interesting experiments on the tonic influence of CO_2 on the unstriped muscle of the intestines, and the fact that tympanites could be prevented or relieved—experimentally at any rate—by restoring the CO_2 content of the blood or tissues. He next dealt with failure of the circulation in shock, and held that acapnia again formed one causal condition of this. He distinguished between arterial pressure and venous pressure, and mentioned some unpublished experiments in which the latter had been determined (in the jugular or femoral vein); in spinal shock the arterial pressure fell enormously, but venous pressure was unaffected for a long time, whereas in experimental haemorrhage the venous pressure fell progressively. He held, therefore, that in haemorrhagic shock it was the veno-presser mechanism which failed, but this was not a matter of contractility of the veins, but concerned the volume of blood in the body and the conditions controlling it. Hence circulatory shock was comparable with exsanguination, and he concluded that the solution of the problem did not concern the sterile question of the vasomotor centre but rather the factors controlling the blood volume. Shock was not vasomotor failure; its fundamental conditions were not nervous but chemical.

Mr. Malcolm (London) contributed some important clinical studies bearing on the subject. He had seen many cases of all degrees of surgical shock when the peritoneal cavity was exposed, but he had never seen any sign of the congestion of the splanchnic area which, as a student, he was taught to regard as characteristic of shock. On the contrary, as shock developed the peritoneum became as pale as the skin in which there was certainly no congestion. For this and other reasons he adopted the view that the vessels became more and more contracted as the state of shock became more marked. When the theory that the vessels were dilated and the vasomotor centres paralysed was published it seemed altogether opposed to the facts. This view was founded upon the observation that the blood pressure fell very low in the state of shock. Mr. Malcolm maintained that this was not an indication of muscular relaxation when the conditions were otherwise the same and the influence of gravity was eliminated. A fluid flowing through a small tube had always a lower pressure than a fluid flowing through a larger tube, and although the conditions were very complicated this law must hold good in the blood vessels. If the arteries were contracted, the amount of blood in them would necessarily be diminished, and it was certain that in some way or other the whole amount of fluid in the vascular system was diminished in the state of shock, and thus was the chief cause of the fall of blood pressure. He welcomed the teaching of Yandell Henderson as offering an explanation of many clinical facts; amongst others, it accounted for the state, clinically indistinguishable from that of shock, which was sometimes caused by the administration of an anaesthetic before the surgeon touched the patient. Yandell Henderson's views also seemed to suggest that the condition of sustained high blood pressure, discussed more particularly by physicians, might be due rather to an interference with the normal distribution of fluids than to a contraction of the arteries. Discussing the view of Tyrrell Gray, who unfortunately was not present, he said that this ignored entirely the important question of the loss of fluid from the body.

Dr. Brodie (Toronto) agreed with Henderson in that the vessels were not dilated, but insisted that "experimental shock was not the same as surgical shock."

Professor Morton pointed out that primary respiratory failure did not occur after injury, but failure of circulation.

Dr. Ivy McKenzie recalled Sir William Macewen's teaching that respiratory failure was the danger signal for the anaesthetist. This supported Henderson's views.

Dr. Wesley Mills, speaking from a long experience of changing views, suggested that all the theories up to date had proved too narrow, and advised workers to be always weighing them in the balance with their facts. His own personal experience had taught him that no pain or feelings he had ever experienced were as bad as surgical shock.

Professor Henderson, in his reply, dwelt on the fatal folly of treating shock by venesection. He narrated his experiences whilst living on Pike's Peak (14,060 ft. high) for six weeks with Professor Haldane, and emphasized the view that chemical differences in the blood gases influence the blood volume, and anticipated that with increased knowledge of colloids and changes in the body it would be possible to solve the question. Meanwhile therapeutics must be directed to keeping up the supply of water. Finally, he said no single formula would include all the conditions, but facts must be accumulated with an open mind.

Discussion on the Effect of Radio-active Substances and Radiations upon Normal and Pathological Tissues.

This important discussion was to have been opened by Professor Oscar Hertwig, but owing to his absence, which was much regretted, his co-reporter Dr. Lazarus-Barlow read the first paper. But Hertwig's paper had already been circulated, and as it formed a valuable adjunct to the discussion we append an abstract.

Dr. W. S. Lazarus-Barlow (London) said that in spite of the relatively short time during which the substances and radiations under discussion had been known, the literature was enormous, though much of it was vitiated by insufficient information concerning the conditions under which the *x* rays, radium, etc., had been used. From this literature, and particularly from the medical side thereof, one fact was clear, namely, that injurious effects might

follow upon great exposure to irradiation. The effects upon skin, hair, and nails were examples of this statement as well as O. Hertwig's observations upon the effect of radium rays upon the ova of frogs, which was so profound that he spoke of the production of "radium disease." In order to study these conditions more closely simpler chemical combinations, whether organic or inorganic, had been investigated and it had been shown that the rays exerted profound effects. Thus H_2O and NH_3 had both been broken up into and synthesized from their elements, while leucocytes, red blood corpuscles, opsonin, complement, starch, nucleo-protein and several of the enzymes had been shown to be changed to a greater or less extent by the radiations. In all these instances the change had been in the direction of degradation (dextrin being produced from starch, for example,) and it was agreed that the alpha rays were the most powerful in producing any change that occurred. What effects, if any, were produced by beta and gamma rays, and whether gamma rays (when an effect was produced) acted directly or by virtue of soft secondary beta rays to which they gave rise, were matters of doubt. In the previous instances effects of irradiation were destructive or inhibitory, and large doses of rays were given; the author and his pupils had investigated small quantities of radium (around the order of 10^{-7} mg. Ra) since the author had found small quantities of the element in cancerous tissue, etc. His researches had shown that the mean quantity of radio-active substance in a variety of normal tissues was 1×10^{-9} mg. per 100 grams of tissue, a quantity on the verge of detectability by the special method for determining small amounts of radium (emanation electroscope). On the other hand, in the non-malignant tissues of cancerous individuals the mean quantity found was 23×10^{-9} mg., and in actual cancerous tissue the mean was not less than 51×10^{-9} mg. Special interest attached to estimations of gall stones taken from non-cancerous and cancerous cases, dividing the latter into (*a*) cancer generally, excluding cancer of the gall bladder; and (*b*) cancer of the gall bladder. Whereas the mean amount of the radium (as element) in gall stones from non-malignant cases was 1×10^{-9} mg., and in cancer cases, excluding cancer of the gall bladder, was 5.7×10^{-9} mg., the gall stones found in cancer of the gall bladder gave a mean of 84×10^{-9} mg. Ra. Moreover, it was not unusual to find gall stones from non-malignant cases or cancer, excluding gall bladder cancer, entirely free from radio-active matter, whereas in no single instance had the gall stones from cancer of the gall bladder failed to give evidence of a relatively considerable amount. The author had examined the effect of quantities of radium of the order of magnitude under consideration upon the development of the ova of *Ascaris megalocephala*, and had found clear proof that in these quantities radium stimulated the division of cells. Using larger quantities and the muscle-nerve preparation of the frog he had equally found stimulation, for under alpha radiation from 7 mg. radium bromide the muscle-nerve lived longer and contracted with a smaller stimulus than the control. He refrained from theorizing, but insisted that the evidence he had brought forward was so suggestive that further research on similar lines was necessary.

Professor Oscar Hertwig (Berlin), in his paper, said that the discovery of radio-active substances had not only produced a revolution in the chemico-physical theories, but had also led to extraordinary discoveries in the department of biology and to new methods of investigation. It had been ascertained that preparations of radium and mesothorium were of great importance in influencing vital processes in plants and animals. The theory at first held that lecithin was the body acted on had been given up, and the microscope had shown that it was the nucleus substance that reacted to the rays. In experiments on *Rana fusca* it was found that if the spermatozoa were acted on by small doses of rays, though they did not show any perceptible alteration in structure, yet when they impregnated the ova caused an alteration in the development of the ova so as to produce "radium-larvae." This effect was produced by the rays acting on the nuclear substance of the head of the sperm cell, since the chromatin in the nucleus had the power of growing and multiplying in the ovum in the course of the karyokinesis. To show this, as opposed to the lecithin theory, the experiment had been made of applying the rays to the mature ovum before impregnating it with normal spermatozoon. The alteration in the development has been no greater than in the other case. If the lecithin theory were correct, the equal effect of acting on the enormously greater mass of the ovum would be quite inexplicable. If it were accepted that the effect was produced on the nuclei alone there would be no great difference between the mixture of a tainted male nucleus with a normal female one, or vice versa. The apparently paradoxical effect of acting on the male element with a maximal dose was that the development after impregnation was much more nearly normal; all the parts and organs were produced, though reduced in size. This was explained as a form of parthenogenesis. The nucleus of the spermatozoon had become inactive, but the entrance into the ovum was the stimulus for commencement of development; and instead of the resulting parts being a mixture of a healthy and an unhealthy element they consisted of a single healthy normal element. This mode of growth kept on more successfully than the abnormal mixture, the male nucleus taking no part in it, and, indeed, being extruded. Further extremely interesting experiments were quoted bearing out this theory. Many experiments on different tissues showed that while full grown and differentiated cells and tissues were comparatively little affected, on the contrary, embryonic cells and others which in adults lingered in an undifferentiated state, especially generative cells, young nerve cells, leucocytes, and tumour cells in a state of growth, were especially sensitive. Blood and lymph of man and the haematopoietic organs connected with them were especially altered by radio-active bodies. Microscopically a great diminution of the number of white corpuscles was observed, caused, on the one hand, by wholesale disintegration, and, on the other, by diminution in replenishment. In the treatment of leukaemia by Roentgen and radium rays, while temporary improvement had taken place, no enduring cure had been reached. The introduction of solutions of radium and mesothorium, either subcutaneously or intravenously, had been followed by great reduction in the leucocytes, amounting almost to a leucopenia, and enlargement of the spleen and lymphatic glands had diminished.

Professor Warthin contributed some clinico-pathological studies on the effects of Roentgen rays on leukaemic tissues examined *post mortem*. He had found a marked destructive action on the tissues, especially on the lymphocytes and myelocytes; in fact the entire lymph node might be killed by the treatment. In some the lymph nodes and spleen decreased in size, and the abnormal cells disappeared, but in the bone marrow a leukaemic condition resulted. In one exception a leukaemic condition developed. He concluded that this line of treatment offered a prolongation of life of one to two years, but all the cases died suddenly.

Dr. Mottram, in experiments with radium emanations on growing plants and ova of ascaris, had found that: (1) Beta and gamma rays produced a disturbance of normal growth in both animal and vegetable tissues. (2) This was more marked if the rays were applied during the period of active division, which in the case of plants occurred at night. (3) The dividing ova of ascaris were eight times more vulnerable than the resting ova. (4) Exposure was followed by profound nuclear changes affecting the ova, the nuclei of which showed fragmentation of the chromatin. He concluded that satisfactory treatment of new growths could be expected if the cells were rapidly dividing and there was excess of karyokinetic figures.

Dr. Bashford expressed an entire ignorance of the subject of radium, and was a little sceptical as to the discovery of radio-active bodies in tissues and tumours, but he criticized favourably the "brilliant" work of Hertwig.

Dr. Hektoen then read a paper on Altmann's granules, and pointed out the effect of radium rays on their existence.

Dr. Russ (London) related some of the results of the conjoint work by himself as physicist, and Miss Helen Chambers as pathologist. They had found a wide difference in susceptibility of tumours to rays. They had exposed tissues to rays for varying periods, and then inoculated them into mice, and, according to the duration of exposure, they had obtained no growth or a slower growth in the infected animals. Furthermore, the characteristic of slow growth assumed by these irradiated

tumours had been transmitted to successive generations, confirming the work of the French school. All these facts were illustrated by charts and instructive diagrams.

Dr. Guezda mentioned some effects of phosphorus on tumours, and Professor Adami pointed out that Bardin of Wisconsin had experimented with *x* rays on spermatozoa seven years ago. He held that a death-blow had been given to Ribbert's theory that cancer depended entirely on the cell and not on the surrounding tissues.

Dr. Lazarus-Barlow, in replying, urged Dr. Bashford to cultivate a knowledge of radium, and pointed out that in answer to the destructive criticisms of his earlier work on skotography he had now replaced all these experiments by the present ones. He concluded by expressing the opinion that radium treatment was a "possible" treatment of cancer, but only when used in sufficient strength to kill the cancer cells and stimulate the connective tissue cells.

"Cancer" in Plants.

An interesting account of "cancer" in plants was given by Dr. Erwin Smith, Director of the Laboratory of Plant Pathology in the Bureau of Plant Industry of the Department of Agriculture, Washington. Dr. Smith also filled a large section of the museum with his collection of specimens, charts, and publications on this subject. He demonstrated these tumours as masses of tissue hyperplasia consisting of vessels, fibres, and parenchymatous cells in varying amount, so that two types occurred—namely, the hard fibrous and soft fleshy. Secondary infection and necrosis occurred early. The growths might be found on any part of the plant, and according to the position affected the structure of the root, stem, or leaf. There was no actual overgrowth of any one type of cell, but rather a hyperplasia of the entire part of the plant concerned, so that the growth was symbolic, though in most cases it got the upper hand and the plant succumbed. Secondary growths occurred, but these were not truly analogous to cancerous metastases inasmuch as they always spread by contiguity, but in this connexion the fact that there was no circulatory system in plants was recalled. Etiological investigation had revealed a bacterial parasite which inhabited the soil and occurred in the growths as an intracellular parasite. Dr. Smith had cultivated this organism, which was shown to be pleomorphic; by inoculating into any part of the plant he could produce a tumour-like hyperplasia which resembled the tissue of the part infected. Excision of the growth was only followed by reappearance if any part had been left behind. Other points were touched upon concerning the rate of growth, the age of the host, and the effects of nutrition.

This contribution excited much discussion, and it was generally held that, though the parasitic tumours were not strictly analogous to cancer, they were of great import in investigating the question of new growths. One striking difference was the fact that the growths did not exhibit any marked overgrowth of one type of cell, but showed a proliferation of an entire tissue, so that the striking feature of malignant tumour was missing—namely, the inharmonious growth of a special cell.

Primary Tissue Lesions in the Heart Produced by Spirochaeta Pallida.

Professor S. H. Warthin (Ann Arbor) observed that, according to textbooks, syphilitic lesions of the heart were very rare. Certainly gummata of the heart were rare; but other lesions, he held, were common, and this he supported by the result of his past four years' work, aided by the increased knowledge of the *S. pallida*. He exhibited many lantern slides to support his view that this organism was readily and frequently found in the heart, and that it might lead to pure parenchymatous lesions, in which they occurred in incredible numbers. These lesions, which were sometimes of a peculiar oedematous condition, might lead to dilatation. Similar findings were frequent in congenital syphilities even up to 21 years of age. Certainly his slides showed well-stained spirochaetes.

Mr. Shattock said that many years ago, and long prior to the discovery of *Spirochaeta pallida*, he had drawn attention to the oedematous lesions associated with syphilis.

Dissecting Aneurysm.

Dr. J. Sherman gave a lantern demonstration to illustrate his paper on the etiology of dissecting aneurysms. These he arranged in two groups: (1) Those associated with atheromatous patches, which ruptured and allowed blood to enter the vessel wall, and (2) those occurring in the absence of atheroma; the latter, he held, depended mainly upon the existence of pathological changes in the media. He then discussed the question of rupture of the aneurysm back into the lumen of the vessel, and concluded by demonstrating that miliary aneurysms of the brain were true dissecting aneurysms. This latter point met with agreement from Mr. Shattock, who commented on the absence of naked eye changes in these cerebral aneurysms, which, however, showed changes in the middle coat.

Calcified Arteries.

Professor Adami next read a paper by Dr. MacCordrick of Montreal on the rigidity of calcified arteries, which aroused much interest from the novelty of the observation and the important bearing it must have on the study of arterial disease if corroborated by other workers. Dr. MacCordrick contended that arteries as a general rule were not of a stony rigidity during life, and in fact the calcareous matter was not present in the form of rigid plates, but in a form which might be compared to unset mortar. He supported his arguments with illustrations from the operating theatre and the *post-mortem* room, and especially from one case which had been examined one hour after death. Also he had experimented with mixed mortar and mixtures of calcium oxide and calcium phosphate in various acid and alkali media and with CO_2—this on account of the fact that the tissues and body fluids during life were alkaline, but became acid shortly after death, at which time also CO_2 accumulated in the arteries. He concluded that in arteries provided with an adequate circulation the calcareous matter—in the intima or media—remained unset. Hence the explanation of the absence of injury after handling "pipe-stem" radials, and also the absence of thrombosis on the calcified plates found at autopsy. Ulcers and plaques were, indeed, *post-mortem* changes.

Mr. Shattock and Dr. Andrewes discussed these points, but so new an observation must be more carefully and widely investigated.

CHEMICAL PATHOLOGY.

The President, Dr. Gowland Hopkins, in his opening address on Thursday, August 7th, welcomed the members of the Section, and stated that the occasion was an important one, because it not only inaugurated the meetings of the Subsection of Chemical Pathology in this particular Congress, but was also the first occasion on which any such Section had ever met. The separation of the Sub-section from that of General Pathology was a recognition of the importance of the subjects to be discussed by it, and the ever-increasing necessity for the thorough understanding of the chemical aspects of pathological problems. In the last few years a great change had come over the knowledge considered necessary for attacking these problems, and it was now no longer considered sufficient that investigators should have a thorough knowledge of chemistry only—it was becoming more and more evident that experience in the clinical and pathological sides of the problems was absolutely necessary.

Discussion on Pathological Conditions Due to Defects of Diet.

Dr. Schaumann (Hamburg), in opening the discussion, pointed out that recent discoveries had revolutionized the former conception of nutrition in man and animals. A sufficient amount of the main nutritive substances—namely, albumins, carbohydrates, fats, salts, and water—were not alone sufficient, but certain other substances, normally present in the most minute quantities in food, were essential. The number of such substances was probably large, and at present only a few of them had been considered. Certain cyclic amino-acids fell within this group, and vitamine had been isolated recently in crystalline form. It was, however, in all probability only one of many such substances, which accumulated in relatively large amounts in certain animal and vegetable materials, such as yeasts, the pericarp of rice, barley, wheat, etc., bull testicles, the brain, the heart, and the eggs of mammals and birds. The substances probably did not

exist in a free state in foodstuffs, except in a small proportion of cases, but were constituents of more complicated molecules, such as nucleins and phosphatides. Their influence appeared to be specific for each, and their absence to give rise to a more or less typical disease, for example, beri-beri, scurvy, Möller-Barlow's disease, and pellagra. They were labile, being destroyed by long storage, by long treating and cooking, by alkalis and micro-organisms, and being removed by husking and polishing, extraction by salt, lye, etc. The methods for the preparation and isolation of this class of compounds were still very imperfect. On this account the attempts to isolate them in a pure state had not been very satisfactory. For the same reason it was difficult to make sure whether these compounds were contained originally in the foodstuffs in a free state, or combined with other substances. In consequence it was at present impossible to come to a definite conclusion, whether the efficiency of the compounds belonging to this class and containing phosphorus was, or was not, in part due to the phosphorized group of the whole molecule or not. A number of observations led either to this interpretation or to the conclusion that the metabolism of phosphorus was especially favoured by one or several of the compounds in question.

The President, continuing the discussion, said that Dr. Schaumann had so amply described the present state of knowledge of the subject that he would confine himself to that more physiological part of it with which he was the most familiar, and discuss the question as to whether the normal growth of a young animal called for factors in its dietary of which, until very recently, the science of nutrition had taken no account. This question had a direct bearing on disease, inasmuch as it was almost certain that if the absence of these constituents of the food caused arrest of normal growth, they would also cause actual diseases of nutrition. His own experiments had been performed almost entirely on rats; many hundreds of animals, always with controls, had been used, so that experience had been gained in the behaviour of these animals in all conditions of nutrition. On a diet of an artificial mixture of pure proteins, fats, carbohydrates and salts, young rats within a period of about fifteen days ceased to grow. A minute addition of certain tissue extracts and fractions of such extracts was sufficient to secure normal growth. Of the nature of these substances he could at present say little, neither the vitamine of Funk nor the oryzanin of Suzuki showing themselves capable of maintaining growth for any appreciable time. The greatest success he had at present obtained was with crude phosphotungstic acid precipitations, but the more these precipitates were washed the less active substance remained. The substances did not seem to be basic in character, or of the nature of lipoids; they were slightly soluble in alcohol, insoluble in ether; they were resistant to heat and to the effects of keeping, but tended to disappear during chemical manipulations. With respect to the minute additions, which had converted an inefficient into an efficient diet, he dealt with the criticisms of Abderhalden and Lampé, to the effect that the experimental work on beri-beri was to be explained on a quantitative deficiency of known dietetic factors, such as proteins or phosphatides. The additions, he said, had been free from amino-acids, purin and pyrimidin bases, and choline certainly could not produce the result. The question of the salt content was a different matter, for, an artificial salt mixture was certainly not as efficient as the ash of mixed foodstuffs, and faint traces of fluorine or manganese and the like might be present in food ash and necessary for the animal. In his researches the substitution of an artificial salt mixture had always caused a remarkable condition of conjunctivitis allied to keratomalacia. The question was, however, certainly not one of salts alone, as the substances added in these experiments were entirely salt-free. The presence of minute traces of certain organic substances at present unknown was without doubt essential for proper nutrition.

The next speaker, Dr. Funk (London), referred to the production of neuritis in pigeons,[1] and stated that the isolation of the crude vitamine fraction of foodstuffs was now a matter of no difficulty. The vitamine fraction was very complex, and probably consisted of three separate substances.

[1] British Medical Journal, April 10th, 1915, p. 814.

Professor Ivar Bang (Lund) stated that personally he did not believe in specific substances. These investigations were only in their infancy, and needed much more work.

Professor Benjamin Moore said that the rapid recovery seen when these necessary substances were given was almost the most specific experiment in medicine. The ill effects of the diet of skim milk and bread, adulterated by bleaching and other processes, on which the children of the poor were fed, might be explained on the lines of the present discussion.

Professor Barger deprecated the giving out of uncertain complicated chemical formulae for such substances as were being discussed.

After Dr. Sigmund Fränkel and Dr. Alexander Haig had also spoken, Dr. Schaumann replied. Commenting on the President's address, he said that rats were the most difficult animals of all to work with, as results came so slowly; large numbers of experiments were necessary for the investigation of these problems.

Discussion on the Application of Pathological Chemistry to Clinical Problems.

A general review of those applications at present valuable was given by Dr. Garrod, but the discussion was mainly concerned with the problems of metabolism, and especially with the result of blood examinations.

Professor Otto Folin (Boston) confined himself to his own metabolism work, and laid special emphasis on the great importance not only of the most accurate technique, but also familiarity with the degree of accuracy which could be attained by it. The very best methods in unskilled hands might yield wild results. Skill and experience were just as important in chemical work as in surgical operations. Clinicians could not have sufficient time to acquire this. The bulk of metabolism work reported in clinical journals was consequently grossly unreliable. He then referred to the chemical examination of the urine and the blood, and said that while examination of the urine had brought to light some facts as to the nature of disease, very much more was to be hoped for from the examination of the blood. For in disease while waste products might be eliminated in practically normal amount, there might nevertheless be serious accumulations within the body. The primitive notion of impure blood had a kernel of truth in it. In gout, for example, it was very difficult to show that the uric acid excretion in the urine was other than normal, and if it had not been for the fact that uric acid was so easily found in joints, the definite relation between uric acid and gout would have been very hard to establish. On the other hand, the discovery of the abnormal elimination of ammonia in acidosis was a brilliant contribution to clinical medicine. The formation of urea was probably merely a method of preventing the accumulation of ammonia in the blood, and had nothing immediately to do with protein metabolism. The millions of urea determinations which had been made by clinicians might therefore just as well have been omitted. Creatin and creatinin excretion was becoming of increased importance, though their significance was at present not satisfactorily worked out, but in all probability they had to do with tissue metabolism as opposed to food metabolism. Creatinin in the urine of adults was practically independent of food protein, and depended on the size of the person. Scarcely a trace of creatin was present in the case of normal adults, but considerable amounts might be excreted in disease; the urine of children, on the other hand, normally contained creatin. The blood of normal human adults contained from 22 to 30 mg. of non-protein nitrogen per 100 grams of blood. About one-half was represented by urea, the remainder by amino-acids and various soluble materials as well as traces of uric acid, creatin, creatinin, and a barely perceptible trace of ammonia. In nephritics, syphilitics, and the insane these nitrogenous waste products in the blood were greatly above the normal. Such determination could now be made with 5 c.cm. of blood only. It had also been possible to show that by a suitable diet—for instance, in nephritis—these products could be reduced to a level at which the kidney could adequately deal with them, so that they were kept within normal levels in the blood. Uric acid in the blood could also now be

accurately estimated; it varied in the normal between 1 and 2 mg. per 100 grams. It was an interesting fact that there was no correspondence between uric acid and non-protein nitrogen in the blood. In gout, lead poisoning, and leukaemia the uric acid content was high, yet non-protein nitrogen might be absolutely normal. Atophan given to a gouty patient greatly decreased uric acid in the blood, appearing to stimulate the kidney to greater activity, it also caused an increased elimination of non-protein nitrogenous products. Such blood analysis in conjunction with urine analysis must lead to results of the greatest clinical importance.

Dr. Garrod began by emphasizing the fact that all scientific treatment must be based on anatomical, physiological and chemical knowledge of the conditions of health and disease. Chemical pathology was from this standpoint a subject of ever-increasing importance, to which the clinician already owed a great deal, for not only was chemical research profoundly altering knowledge of the human organism and its vital processes, but also, by studying the metabolic derangement to which it gave rise, an insight could be gained into the nature of the disturbing agent. The latest researches into the nature of an adequate diet were of the greatest direct importance to the clinician, tending to show that a sufficient calorie-value and nitrogen content was not alone sufficient to maintain nutrition; infinitesimal quantities of certain other substances were also necessary. The metabolic effects of the products of internal secretion were obviously of the greatest importance in disease. The estimation of the protein substances in the urine was of the greatest importance, and the modern discoveries that certain proteins, such as haemoglobin and the Bence-Jones protein, were excreted through the intact kidney had shown that these substances indicated tissue disintegration and placed no discredit upon the kidneys. The estimation of sugar in the urine in diabetes was obviously of the greatest clinical importance, as was also the separation of laevulosuria and pentosuria from this condition. The modern application of the chemical discovery of the variability of sugar tolerance in many diseases, as well as diabetes, was of great value. The diagnosis of diseases of the pancreas was clinically very difficult, and the chemical establishment of the presence of steatorrhoea and other chemical evidence was of great importance here also. The new methods of blood analysis promised much in the direction, for instance, of the proper understanding and treatment of gout, and should render it possible to exclude a number of ailments of later life which were at present incorrectly attributed to the gouty category. The still newer tests of Abderhalden for pregnancy and malignant disease promised to open up a still wider field of direct clinical importance. The proper use of such knowledge could only be attained by the closest co-operation between the clinician in the ward and the chemist in the laboratory. The ideal hospital would have at its command a large staff of expert pathological chemists, who would devote all their time to metabolism work. Chemical pathology was the pathology of the living, and the motto of the old Pathological Society of London, "Nec silet mors," was out of date.

The discussion that followed was rather discursive and dealt with many different points. For instance, Professor Ivar Bang (Lund) emphasized the importance in some cases of recognizing psychical glycosuria.

Professor Embden (Frankfort) drew attention to the intimate relation of an increase of sugar in the blood to increased muscle breakdown and therefore to increased heat production.

Professor Walker Hall (Bristol) questioned the value of the examination of the blood from the basilic vein alone, as this might not represent a fair sample of blood as a whole.

Dr. Kristeller (Berlin) referred to increase of creatin excretion in cases of dystrophia musculorum.

Dr. Hartley (London) questioned the presence of aceto-acetic acid in the liver, and pointed out that the reactions usually relied on were also given by acetonedicarboxylic acid.

Drs. Mackenzie Wallis (London), Robert Bass (Prague), and Professor Franz Fischler (Heidelberg) also spoke.

Dr. Garrod, in reply, stated that he had tried atophan in acute gout, but had been driven back to the use of colchicum.

Discussion on the Chemical Pathology of the Alimentary Tract.

Professor Barger (London), in introducing the discussion, dealt very comprehensively with the present exact chemical knowledge of the putrefactive bases in the intestine, to which, under the classification of intestinal toxaemias, so many varied symptoms were attributed. He also dealt fully with their physiological effects, and endeavoured to estimate their probable pathological significance. The best and longest known of these substances, cadaverin and putrescin, were derivatives of leucin, and were physiologically inert; they therefore were of no importance with regard to the present discussion. Another group, however, of which the chemical knowledge was exact in many instances, as the substances had been synthesized, had a marked physiological activity. This group comprised cyclic amino-acids, which were derived from phenyl-alanin, tyrosin, tryptophane, and histidin respectively. One of these in particular, β-iminazolylethylamine, commonly referred to as β-I, was a derivative of histidin which had been synthesized, and had great physiological activity. With regard to experimental results with these substances, a great difference had been found between their administration by the mouth and intravenously; by the mouth they often had very little effect, in many cases only causing a temporary diarrhoea. Many poisonous bases were destroyed in the liver, and Ewins and Laidlaw had shown that this was brought about by a dissemination process; the lack of result when given by the mouth might have been in part due to this destruction. Harvey, on the other hand, had produced arterio-sclerosis in rabbits by feeding for a long time with small quantities of tyramine, a base derived from tyrosin.

Heyde had shown that in animals suffering from burns certain of these bases appeared in the urine, and Koch had got similar results by removing the parathyroids. The pathological significance of all this was at present not clear. It had been shown that organisms were present in the intestine which were capable of forming bases from histidin, and of converting amino-acids to amines. The conditions necessary for this transformation were such that it could only take place in alkaline solution; obvious putrefaction, such as the formation of indol and skatol, did not necessarily occur in conjunction with the formation of these bases. Their physiological activity was not by any means of the same nature, some having the properties of adrenalin in causing rise of blood pressure, while others were strongly depressor to the vasomotor system. He had been able to obtain from Gruyère cheese a base which gave a marked rise of blood pressure.

The other opener of the discussion, Professor Cohnheim (Heidelberg), having been prevented through illness from coming at the last minute, his paper was read by Professor Embden. In a comprehensive survey of the subject he emphasized the difficulty of chemical investigations of the alimentary canal, as the experimenter was always dealing, not only with the secretion into any particular part, but also with the altered foodstuffs which were in addition always present. The stomach secretion had been investigated most fully, and here Pawlow's methods had been of great importance, as they allowed unmixed secretion to be collected. The total amount of this secretion could be estimated in experimental animals by a duodenal fistula. The question had been raised with regard to the technique of test-meal examinations, which was the only method adaptable to the conditions in the human patient, as to whether test meals became properly mixed with the gastric juices; in his experience this was not a practical objection. The estimation of the total acidity by phenolphthalein titration, and the free hydrochloric acid with Günzburg's reagent were both reliable. Estimations of pepsin were of no value, as hydrochloric acid and pepsin, as far as they knew, were always parallel. In pathological conditions, clinical methods had previously shown that in gastric catarrh a reduction of acidity usually was present; that with a gastric ulcer an increase of hydrochloric acid and total acidity was present, while in carcinoma either condition might occur. He had been able experimentally to show that conditions in the small intestine had considerable influence on the nature of the secretion in the stomach, and the rate of emptying of that organ. The introduction of sodium chloride into

the small intestine diminished the motility of the stomach, and the amount of gastric secretion and acidity of gastric contents; magnesium sulphate also diminished the motility, but greatly increased secretion and acidity of content. The gastric conditions were, therefore, considerably influenced by the nature of the content of the small intestine. The removal of this influence of the small intestine on the stomach by novocain caused an abnormally rapid emptying of the organ, the small content remaining being extremely acid and rich in free hydrochloric acid. This condition was very similar to that found in neurotic patients, and was not to be confused with the hyperacidity of gastric ulcer. The investigation of the other secretions into the intestinal canal was at present not often possible; the reflux of intestinal contents into the stomach, however, occasionally occurred, and gave some insight into them, but they knew little of the pathological significance of the changes of these various secretions. The investigation of the large intestine was somewhat more feasible through the examination of the faeces; but the most important conclusions that could be drawn by such examinations had reference rather to the lack of action of certain ferments; for instance, raw connective tissue was only digested by pepsin, and not by trypsin; the gastric secretion was therefore at fault when this was present. It must, however, be borne in mind that such lack of digestion might be due to extremely rapid intestinal passage. The solution of such difficulties offered a wide field for the experimental pathologist.

Professor Schryver (London), who followed, disagreed with Professor Colnheim's statement that the estimation of pepsin in the gastric juice was unnecessary. He had himself observed cases in which the hydrochloric acid secretion was normal, but pepsin was absent. This was probably due to peptolytic ferment which occurred in alcoholic cases with severe dilatation of the stomach.

Professor Otto Folin (Boston) called attention to the fact that the symptoms of intoxication observed in dogs with Eck's fistula were not due to ammonia, but to toxic bases such as those described by Professor Barger. By exclusive carbohydrate diets, putrefaction in the intestine could be completely eliminated.

Dr. Ryffel (London) referred to the work of Lane on intestinal stasis, and stated that cultures from the small intestine taken at Lane's operations showed the presence of bacteria capable of converting histidin to beta-iminazolylethylamine, to which the symptoms of low blood pressure, general malnutrition, skin pigmentation might be due. Cultures of control cases did not show these bacteria.

Dr. Kenneth Goadby referred to certain cases with diarrhoea and low blood pressure, temporary enlargement of the liver, and oedema of the external genital organs, which suggested the absorption of this depressor base.

Independent Papers.

Intracellular Ferments and Metabolism.

Dr. Laqueur (Groningen) discussed the close parallelism between, and possible identity of, the processes of *post-mortem* autolysis and intravital protein metabolism. The three factors, oxygen, carbon dioxide, and hydrogen-ion concentration, regulated both intravital protein breakdown and *post-mortem* autolysis in a very similar manner. In both processes the gases, oxygen and carbon dioxide, were specific in producing respectively a decrease and increase in the rate of breakdown. In the discussion that followed it was generally agreed that amongst those who had worked on the subject the identity of the two processes was accepted.

Blood Ferments.

Dr. Pincussohn (Berlin) gave an epitome of some extremely interesting researches on ferments of the blood. The blood serum of an animal, he said, hydrolyzed peptones from its own protein, but not those from other animals, unless very nearly allied—such as the dog and fox. These ferments broke down the peptones of disintegrated cells which were always passing into the blood. Foreign proteins, on the other hand, gave rise to a ferment which destroyed the protein itself; hence transplanted organs only grow in the same species of animal.

Test Meals.

An interesting discussion took place on the analysis of test meals. Dr. Graham (London) maintained that the only reliable guide was by chloride estimations, the ratio of free acid to inorganic salts being almost always inverted in carcinoma.

Dr. Trevan (London) maintained that the estimation of rennin was more valuable than that of pepsin as an indication of the ferment activity of the gastric secretion.

Respiration and Metabolism in Cardio-renal Patients.

Dr. Lewis (London) described observations on respiration and metabolism in cardio-renal patients, with special reference to acid intoxication. Working with Drs. Bancroft, Ryffel, and others, he had come to the conclusion that a special class of patients might be separated with respiratory symptoms of a marked character who finally died from respiratory failure without marked signs of cardiac inadequacy. The dissociation curve of the blood showed that a condition of acid intoxication undoubtedly existed, but the condition was not one of true uraemia.

Dr. Ryffel (London), who followed, gave also the results of observations on acid intoxication in uraemia. He considered the two classes of case to be similar and to depend mainly on the degree of acid intoxication.

Dr. Otto Porgez (Vienna) considered that the condition described was due to renal insufficiency. Dr. Gaskell (London) claimed to be able to fill in a gap in Dr. Lewis's description of his cases, in that the kidney lesions were characteristic, consisting in an extreme intimal thickening of the smallest arteries of the organ, a type known as "genuine Schrumpfniere" in Germany.

A paper followed by Professor Marcel Labbé and Henri Bitte, claiming that an increased excretion in the urine of amino-acids took place in severe disturbance of function of the liver, diabetes with acidosis, rapid destruction of tissue in fevers, and the like.

Sulph-haemoglobinaemia.

An interesting paper was read by Dr. Mackenzie Wallis in which he claimed to have discovered the cause of sulph-haemoglobinaemia, and to be able to cure this condition. In this disease the blood was, he said, of a dark chocolate colour, and there was marked cyanosis, especially in mucous membranes, due to the replacement of oxyhaemoglobin by sulph-haemoglobin. The disease, he maintained, was due to the presence in the throat of a nitrite-forming bacillus, which he had been able to obtain in pure culture; the nitrite formed on absorption converted oxyhaemoglobin into reduced haemoglobin, which, with the traces of sulphuretted hydrogen in the body, formed sulph-haemoglobin. The administration of a vaccine of the organism isolated brought about a complete cure.

Athreptic Immunity in Cancer.

Dr. Gelarie (Liverpool) detailed the results of experiments in tumour transplantation in mice already infected with another tumour, or pregnant. They tended to show that immunity to carcinoma was a matter of alteration of metabolism.

Creatin.

Papers followed by Dr. E. Mellanby (London), claiming that creatin excretion was diagnostic of cancer in the liver, and by Dr. R. A. Krause (Edinburgh) on the excretion of creatin in children; he found that boys stopped excreting creatin at about the age of 6 years, whereas girls continued to do so till the age of 10.

Dr. Mellanby maintained that in diseases of the liver creatin excretion was diagnostic of cancer, and that the amount was a measure of the malignancy of the growth. The test must be made prior to any operation, and pregnancy must be excluded, as also conditions of acidosis, diabetes, inanition, and infectious conditions, especially of the abdominal cavity; though in these latter cases the acetone bodies were also present, and thus differentiated the conditions. Incidentally the test was an excellent one for pregnancy.

Professor Otto Folin (Boston) said that creatin was of frequent but variable occurrence in the urine of human adults; its significance in disease was therefore doubtful.

Dr. Mackenzie Wallis (London) confirmed Dr. Mellanby's results on the whole, and stated that the amount of creatin varied with the nature of the growth.

Dr. George Graham (London) drew attention to fallacies that might arise in creatin estimations owing to the presence of aceto-acetic acid.

Gastric Carcinoma.

A paper by Dr. Charles Singer (London) followed, showing that in carcinoma of the stomach the peptic index varied according to the position of the growth, being below 10 for the lesser growth and above 10 for the pylorus.

The Pathology of Gout.

Dr. Robert Bass (Prague) said that if uric acid were injected intravenously into normal men, after two hours 10 per cent. was still left in the blood; there was therefore normally a separation of uric acid in favour of tissues. The pathological increase of this process was probably a factor in gout. Uric acid excretion showed fluctuations in the power of the kidney; a pathological kidney failure was certainly concerned in gout.

The Influence of Light on Metabolism.

Dr. Ludwig Pincussohn (Berlin) said that metabolic changes were greatly increased after exposure of animals to fluorescent colours such as eosin. Each colour gave characteristic changes, the main difference being in the excretion of purin bodies, amino-acids, ammonia, and oxalic acid. These observations might explain the influence of sunlight and climate on many diseases.

DEMONSTRATIONS.

The meeting on Tuesday afternoon was held at the Lister Institute, and consisted in various demonstrations.

Professor Folin demonstrated his new methods of analysis in blood and urine, and Professor Abderhalden demonstrated with great fullness his pregnancy test.

Other demonstrations were as follows:

Dr. Ryffel: Barcroft's apparatus for determining the dissociation curve of blood.

Dr. Hartley: A new test for aceto-acetic acid.

Dr. H. Maclean: The influence of various substances on the estimation of sugar in urine.

Drs. C. Funk and A. B. Macallum: Colour reactions of certain constituents of food.

Dr. E. C. Grey: Apparatus for collecting gases in bacterial fermentation.

Dr. Mackenzie Wallis: The blood in sulph-haemoglobinaemia.

Dr. Trevan: The clotting of milk.

Dr. Clowes: Charts demonstrating the similarity of reaction of certain physical and biological systems to electrolytes and anaesthetics.

BACTERIOLOGY AND IMMUNITY.

FILTER PASSERS.

THE nature of those minute bacteria or protozoa which have so far escaped detection by means either of the microscope or of the culture tube was the subject of an interesting discussion in the Bacteriological Section on Monday morning. Dr. C. J. Martin presided, and was extremely happy in the manner in which he conducted the business of the meeting.

Professor Loeffler (Greifswald) gave a masterly review of the knowledge gained during the past fifteen years, since he and Frosch first discovered that the virus of foot and mouth disease was so minute as to be capable of passing through a porcelain filter without losing its infectivity. Since then he had studied many of the viruses known as filter passers, of which there were thirty-eight known varieties. These included the viruses of foot and mouth disease, yellow fever, hen cholera, rabies, swine pest, molluscum contagiosum, three-day fever, cow-pox and small-pox, poliomyelitis, measles, scarlatina, typhus, rinderpest, and trachoma. The largest of these was probably the virus of the pleuropneumonia of oxen, which Nocard believed in 1898 was not filtrable. Later, however, this was shown to be a mistake. Professor Loeffler dealt with each of the varieties separately, and touched on some of the more important facts connected with their study. He dealt further with the attempts which had been made to cultivate some of these viruses artificially. He was in a position to deny the claim made by Lichery that the virus of vaccinia had been cultured. In regard to the causal germ of poliomyelitis, it appeared to be highly probable that Flexner and Noguchi had succeeded in cultivating it by the same means as they had adopted in their successful attempts to cultivate the *Spirochaeta pallida*. Siegel succeeded in cultivating extremely small roundish bodies from the blood of animals suffering from foot and mouth disease, but it had since been proved that these coccal bodies were not the causal parasites of this disease. Professor Loeffler critically reviewed several other experimental pieces of work, coming to the conclusion that the definite culture of each one was highly doubtful and certainly could not be accepted to day. He regretted the very slow progress made in the study of these important bacteria, and pleaded for the institution of special funds to enable competent workers to follow up the investigation more energetically than had hitherto been done.

Sir John McFadyean agreed that research into the nature of filter passers should be freely subsidized. He objected somewhat to the term "filter passers." The passage of a bacterium through a filter depended on several conditions: the texture and thickness of the filter wall, the pressure under which the filtration was carried out, the duration of the filtration, the composition of the fluid in which the bacteria were suspended, and the form and dimensions of the bacteria, were all of importance in determining whether they should be included in this group. He uttered a note of warning against accepting evidence of filtrability. In the majority of cases it was quite easy to determine whether the filtrate which was free from all visible and culturable bacteria was still capable of inducing in suitable animals the symptoms of the disease of which they were causal agents, but in the case of swine fever neither the characteristic pulmonary lesions nor the marked degree of contagion followed infection with filtrate. Referring to the size of filter passers, he laid down the proposition that filtration experiments merely proved that a given virus was smaller than the test bacterium. Abbe held that filter passers were less than 1 μ in diameter, but the matter was not so simple. For example, the smallest visible microbe was probably that of pleuropneumonia, which measured about 1 μ, while the *Spirillum parvum*, which was said to be a filter passer, measured only from 0.1 to 0.3 μ in diameter and from 1 to 3 μ in length. Von Esmarch had been able to show multiplication of the last named virus in the filtrate. Having dealt with some of the attempts to cultivate these various filter passers artificially, he suggested that the reason why these attempts had in nearly every case failed might be that the organisms were protozoal in nature, and therefore in all circumstances difficult of culture.

At this stage in the discussion Dr. C. J. Martin stated that he could well understand the paternal interest and pride with which Professor Loeffler had spoken of the filter passers, but he could not agree with him in looking forward to a large increase in their number, since the difficulties in studying these micro-organisms were extremely great. He therefore invited those present to record negative as well as positive results.

Dr. Fornet (Berlin) spoke of his experiments with vaccinia, the virus of which he claimed to have cultivated. This was done by utilizing the fact that when diluted in ether instead of in glycerine the extraneous bacteria were removed but not the vaccinia virus. Starting from sterile pock lymph it was quite easy to prepare an ether lymph which proved to be extremely active in animals (rabbit, calf, and man), and which did not lose its virulence. The reason why he was convinced that the virus multiplied on being inoculated from tube to tube was that after passing it through five sets of tubes, until the original material had been diluted to 1,000 billion times, a mere trace of the fifth tube was still capable of producing marked local lesions. He could not conceive that this would occur if the material had been diluted without multiplication. It was necessary for a successful result to get rid of all extraneous bacteria.

Professor Kraus (Vienna), speaking of the virus of hen-pest, showed that variations of virulence in hens and in geese were met with, and in the instance of the rabic virus similar variations had been seen.

Dr. Lambert (Columbia University) claimed to have cultivated the vaccinia virus in the cornea of rabbits.

Professor Friedberger (Charlottenburg) gave his experi-

ence as to the resistance of the vaccinia virus towards a number of antiseptics, including ether, bile, formalin, etc.

Dr. Alan Green (Lister Institute) showed that the virus of vaccinia, if properly handled by dilution of the contents of vesicles in citrate solution, would not pass through a filter of considerable closeness. He suggested to Dr. Fornet that chloroform might prove to be a better means of ridding vaccinia from extraneous bacteria, but he expressed doubt as to the advisability of purifying vaccinia either for practical purposes or for experimental uses. He was inclined to regard Dr. Fornet's results as mere dilution results, and not as cultures.

Professor Sims Woodhead (Cambridge) also approved of the use of vaccine lymph which contained some extraneous bacteria. His experience showed that it was difficult to obtain a satisfactory vaccine after filtration.

Professor McWeeney (Dublin) raised the question whether ultra-visible viruses were not existent in nature apart from disease. It appeared to him probable that they might be found among the mirco-organisms connected with such processes as putrefaction.

Dr. Bousfield mentioned that on his suggestion the Metropolitan Asylums Board had recently appointed a bacteriologist to investigate the causal organisms of such diseases as measles and scarlatina, and this he described as a subsidizing of research into the filter passers.

Dr. C. J. Martin detailed the experiments of Todd, who had been able to prove conclusively that the virus of rinderpest was incapable of passing through a porcelain filter. He discovered that the virus could be collected by centrifugalization; blood containing the highly infective material after having been centrifuged became inactive save in the layer of white cells.

In reply Professor Loeffler admitted that the capability of passing through a filter of certain viruses had been disproved, and experiments of Proscher and others had given him food for thought. He was but little inclined to accept Dr. Fornet's evidence in regard to the cultivation of the vaccinia virus.

Dr. Fornet defended his position, and Sir John McFadyean wound up a highly spirited debate.

The Leprosy Bacillus.

On Tuesday morning the question, Which culture of leprosy bacillus is the true Hansen bacillus? was vigorously debated in the Bacteriological Section. The discussion led to no definite conclusion. We may still ask, Which is the true "Peter"? as Dr. Charles J. Martin put it. But out of the varied and occasionally somewhat extravagant conjectures of the different speakers some few facts of importance and interest emerged. Dr. Duval (New Orleans) pointed out that Hansen discovered an acid-fast bacillus as the causal organism of leprosy in 1879, and since that time upwards of twenty varieties of this or similar organisms had been cultured, or at all events were said to have been cultured. The authors responsible for these cultures had delivered a variety of bacilli, which differed from one another in regard to the pigmentation of the cultures, the classification of the bacterium, and tinctorial properties. He inquired whether the cultures provided by Kedrowsky, Rost, Clegg, Bayon, and others could be regarded as acid-fast bacilli of the type of the Hansen bacilli. He attempted to throw light on the subject by turning his attention to Hansen's bacillus. This he had shown was incapable of dealing with the intact protein molecule; it lived an intracellular life, where it fed on the end products of tryptic digestion. When brought artificially into contact with the split products of proteins outside the animal body active proliferation took place, but a real culture could not be obtained in this manner, since it was not possible to provide a constant source of the amino acids or other products of protein. Kedrowsky had utilized the juice of fresh placenta, but this tissue did not contain any split products. When leprous nodules were excised and the proteins partly autolysed, an initial multiplication of the rodlets took place. But not more than one or two generations could be traced in these nodules. Kedrowsky's cultures exhibited very marked pleomorphic characters, and were in all probability neither true streptothrix nor yet identical with Hansen's bacilli. The growth took place readily, whereas Hansen's bacilli did not grow in artificial culture at all. He complained that the characters which Kedrowsky's bacilli originally exhibited were not to be found in the strains after repeated cultivation, and the forms now shown were probably involution forms. Turning to Clegg's chromogenic cultures, he was satisfied that these were in no way related to Hansen's bacilli; the same remark applied to Bayon's cultures. In conclusion, he denied that any one had succeeded in cultivating the true leprosy bacillus, which he was inclined to classify among the *Schizomycetes*.

Major Rost was absent at first, and his paper was read for him. He claimed to have succeeded in cultivating the leprosy bacillus, to which he attributed the following characteristics: It grew on starch and potato-glycerine but not on pure albumin; its acid-fastness varied according to the medium employed; it showed marked pleomorphism; it stained with cold aniline dyes, and was Gram-positive; it was non-motile; it did not produce acid or gas on the majority of the sugars and did not produce indol. He had cultivated this organism on mudfish, and described the cultural characters in some detail. The second part of his paper dealt with the clinical aspect of his cases, which he treated with leproline vaccine made from five different strains. Up to July, 1911, 12 cases had been treated in this manner, with 4 cures, 1 apparent cure, 3 almost cured, 2 greatly improved, and 2 improved; 10 further cases had been treated up to July, 1912, of which 5 were greatly improved and 3 improved. In conclusion, he pointed out that in the prevention of leprosy the value of segregation and of sterilizing clothes could not be overrated. He was convinced that infection always took place by means of clothes.

A paper by Drs. H. Fraser and W. Fletcher was also read in the absence of the authors. They recorded their uniform failure to cultivate the bacillus of leprosy, and criticized the work of others who had obtained different results. They described their methods of obtaining material in their attempts to get cultures, the media which they employed, the methods of dealing with the contaminating bacteria, and the characteristics of the bacilli in the material dealt with when examined microscopically. The details of the paper were of value in the registering of the negative results.

Dr. Bayon (Robben Island, Cape Town) spoke of his experience in the leper colony, and at the Lister Institute. He demonstrated by means of a number of excellent lantern slides the results of his bacteriological and clinical observations. He showed the types of bacilli which various authors had cultivated, and stated that the bacillus which he had cultivated was highly pleomorphic, and was probably a streptothrix, belonging to the actinomyces. Turning to the clinical side of the matter, he demonstrated the improvement which followed the use of potassium iodide. In comparison with this, he was able to show a far greater improvement following the application of the vaccine made from his cultures after the fashion of Koch's tuberculin. In one case, for example, ten months had elapsed since the treatment had begun, and there was not a trace of the disease left. But he did not feel justified in claiming that this was equal to cure, since it was well known that leprosy at times remained quiescent, or even retrograded to start afresh after a number of years. He gave some clear pictures showing the differential diagnosis between leucoderma, syphilis, and leprosy, and, in conclusion, threw on the screen some pictures of the leper colony, which was apparently not so barren and sad a place as was usually supposed.

Professor Sims Woodhead asked Dr. Bayon whether when leprosy bacilli were induced to multiply in the rat, lesions usually occurred or not. He had noticed that tubercle bacilli often underwent enormous multiplication in the rat without any lesions being seen.

Dr. Bayon replied that in his experience lesions were not often met with in rats in these circumstances—perhaps in about 1 out of 20; but when tubercle bacilli were growing freely, he had observed lesions in nearly every case.

Professor Kraus related his experience of the intraperitoneal reaction with specific strains, in accordance with Pfeiffer's experiment, both with tubercle bacilli and with other acid-fast bacilli, including some of the so-called

lepra cultures. He had been able to demonstrate differences in the various cultures in this manner.

Dr. C. J. Martin was greatly struck by the confidence with which the various "leprosy *Förscher*" stated their case. This confidence was probably due to the difficulty of the problem they were attacking, and it was evident even in the entirely negative records of Drs. Fraser and Fletcher. He ventured to suggest to Dr. Duval that the majority of bacteria were incapable of dealing with the whole protein molecule, but required some of the split products for their nutrition. Dr. Bainbridge had investigated this matter, and had established the fact with pure forms of albumin. Even a minute trace of non-protein nitrogen might suffice. It was, therefore, not surprising that Kedrowsky had used placental juice, which he felt convinced was not so fresh as to be free from autolytic changes, and which also contained quite considerable quantities of non-protein nitrogen. Rost had used rotten fish for his culture medium, and he well remembered the intolerable smell which pervaded his floor at the Lister Institute when Dr. Bayon was growing his leprosy bacilli, which he interpreted as evidence of some protein decomposition. He deprecated Dr. Duval's affirmation that the cultures of other workers could not be true Hansen's bacilli because of their pleomorphism. He felt inclined to regard the case which Kedrowsky had made out as a very good one. Dr. Duval's first strain, however, did not appear to be the true Hansen, whereas what he described as his second strain seemed more likely. This view was based on the serological reaction which Duval had described. Bayon's cultures seemed to give quite specific reactions with the serum of leper patients, and sharply distinguished the bacilli from all the other forms of acid-fast bacilli. In regard to Rost's therapeutic measures, while he was not in a position to form an opinion, he had been informed by an Indian medical man of a somewhat sceptical turn that the results he had witnessed were far and away better than any spontaneous improvements he had ever observed. This need not, however, be regarded as evidence that Rost's cultures were identical with true leprosy bacilli, since, in the case of plague, better therapeutic results were obtained by an extraneous organism than by the homologous bacillus.

Major Rost amused his audience by finding fault with Bayon for exhibiting on the screen only his red colonies, as he had more recently grown white cultures of *Bacillus leprae*. He spoke of the peculiarities of these white colonies.

Dr. Bayon, in reply, agreed with the suggestion made by Kraus that the peritoneal test might be of use in differentiating the various bacilli, and concluded by an attack on Rost's work.

Professor Sims Woodhead did not regard the pigment question as material, and subsequently made the observation that at present it was not possible to decide which culture, if any, was the true *Bacillus leprae*.

Dr. Duval admitted that he knew less of the bacteriology of leprosy now than he did some four years ago. He had made several mistakes, had stated openly that he had cultivated the leprosy bacillus, and now admitted frankly that he was mistaken. The rest of his reply was a recapitulation of his objections to the conclusions of the other workers.

INDEPENDENT PAPERS.

Fluctuations in Gonococcal Immunity.

On Monday afternoon Professor Irons read a paper on the fluctuations in gonococcal immunity. He cited instances in which gonorrhoeal exacerbations recurred with extraordinary regularity. He attempted to measure these fluctuations by means of the complement deviation test and by the cutaneous reaction. As a rule, the periods of recurrence were associated with weak or negative deviation and cutaneous tests, but this was not constant. He pointed out that the variations of the results of the tests might conceivably lead to errors in diagnosis unless controlled by repetition. A short discussion followed.

The Period of "Lag" in the Growth of Bacteria.

Dr. Penfold stated that when bacteria which were growing slowly or not at all were put into a fresh sample of the same medium, they did not commence to grow at full pace at once. This "lag" had been subjected to close study. If the subcultures were made when the bacteria were growing at full pace, no latent period was observed. If, however, the growth were stopped during the period of full pace growth by the application of cold, the growth commenced at once without any "lag." Cold applied for a long period, for example, two days, was followed by a reappearance of "lag." The influence of the size of inoculation, of the age of the parent culture, and other factors was discussed, and a simple mathematical expression of the rate of growth was suggested. Dr. Penfold made the suggestion that the "lag" period was chiefly due to the synthesis of bacterial protein occurring in steps. An optimum concentration of intermediate products would be necessary as an antecedent to maximal growth. He believed that this optimum was being acquired during the "lag" period.

Heterogenetic Antibodies.

Professor Friedberger read a highly technical paper on the apparently paradoxical behaviour of heterogenetic antibodies. The basis of the communication was the observation that haemolysin formation at times took place in response to the injection of tissue and blood cells, which haemolysins were active not only to the specific antigen, but also to blood cells of widely different species. He demonstrated the peculiar behaviour of the immunizing index in some of these instances, and passed on to show that the power of absorption of haemolysin of individual organ extracts was directly proportional to their toxicity. A number of other important and astonishing facts were also brought to light.

Dr. Browning was able to confirm some of these paradoxes.

FERRO-SILICON.

On Monday Dr. Wilson Hake gave a demonstration in the Museum of the International Congress of Medicine on the toxicology of ferro-silicon, utilizing his exhibit of samples and tables illustrative of his experience on this subject. He pointed out that a serious loss of life had occurred on vessels carrying cargoes of this material, owing to the fact that certain grades of it were liable to evolve phosphoretted hydrogen gas when in contact with moist air. Ten thousand volumes of air containing as little as 2½ volumes of this gas had proved fatal when inhaled, and he was further able to show that some specimens evolved 16 cubic feet of phosphoretted hydrogen per ton. It therefore became obvious that a poisonous atmosphere might readily be attained in cabins contiguous to such cargo. The special regulations which had been adopted by the Board of Trade for the transport and storage of ferro-silicon should suffice to protect against accidents, but it was still necessary to awaken public interest, in order to compel shipowners and captains to conform to these regulations and to adopt other safeguards.

SECTION OF THERAPEUTICS.

COMPARATIVE VALUE OF CARDIAC REMEDIES.

ON Monday, August 11th, the Section was occupied in the morning in discussing the comparative value of cardiac remedies. The opening papers were provided by Professor Gottlieb (Heidelberg) and Professor Theodore Janeway (New York).

Professor Gottlieb dealt with the subject especially from the experimental side. To explain the action of digitalis and to construct a rational plan for treatment the results of different methods of investigation must be brought into play. Formerly clinical observation and animal experiments were carried on side by side, but the results were not always in agreement. The study of the action of cardiac drugs in normal animals was not always sufficient to enable us to understand their action in patients with heart disease. Recently, however, the phenomena of the action of digitalis on men had been observed by pharmacological methods; alterations of blood pressure and of rhythm had been recorded, while pharmacologists had considered more than formerly the action of small doses of the drug.

Professor Janeway dealt with the problem more from the clinical point of view. Inasmuch as it was impossible to separate the parts played in circulatory disorders by the heart and the blood vessels respectively, he extended

the subject to include certain drugs whose main effects were exercised upon the latter, such as caffeine and the nitrites. In chronic venous engorgement and stasis he had obtained good results from the Karell diet as an auxiliary to digitalis therapy. He had not himself often resorted to the intravenous use of pilocarpin, but he admitted the striking results which were often obtained in this way. In his opinion the choice of the best preparation of digitalis lay between a preparation from the standardized leaves (either in the form of a tincture, a powder, or an infusion) and digipuratum. He did not himself use or recommend the relatively large doses advocated by Cushny and Mackenzie in London. The indications for the use of digitalis had become increasingly precise through the exact study of the rhythm of the heart. Their task for the future was the elaboration of equally accurate methods applicable at the bedside for the study of other fundamental cardiac properties. He emphasized his belief, however, that no improvement in instrumental appliances could ever replace the skill and experience of a master clinician.

In the discussion which followed, Dr. Houghton, who urged the necessity for standardization of the drug, Dr. Windle, Dr. Roch, Professor Bishop, and others took part. Among the independent papers set for discussion were a paper by Professor Stewart (Cleveland) upon the vaso-constrictor action of shed blood (serum) and its possible therapeutic value; and a paper by Professor Leo (Bonn), upon the therapeutic uses of camphor. Dr. F. W. Price (London) discussed the action of digitalis on the blood pressure in man, and Dr. M. Breitmann (St. Petersburg) the benefits of massage.

Thermal Treatment.

The last meeting of the session on Tuesday, August 12th, was occupied chiefly by a discussion upon thermal treatment, its indications, limitations, and risks. The success of the meeting was somewhat imperilled by the circumstance that neither of the reporters was able to be present. Professor Landouzy (Paris), who should have opened the discussion, had been forced to read his paper on the previous day, while Professor Vinaj (Turin) was also unavoidably absent. Professor Landouzy enumerated, in his opening paper, the various Continental establishments which had acquired a reputation in the treatment of various disorders by thermotherapy. In the seventeenth century patients suffering from the various forms of arthropathy were already attracted to Bourbon-L'Archambault and to Vichy. Later syphilities were sent to the sulphur-containing waters of Aix-la-Chapelle and Luchon. The institution of treatment by inhalation at the close of the nineteenth century attracted invalids suffering from emphysema and bronchitis to Mont Dore and Allevard. At the same time, Vichy, Carlsbad, Contrexéville, and Evian came into fashion for biliary and renal colic.

The risks of thermal treatment were of two sorts. Certain cures imposed a considerable strain upon the heart, while others were not free from the danger of lighting up a quiescent focus of infection. In general thermal treatment aimed at diminishing the perilesional congestion and stimulating the organism without re-awakening the infection.

Professor G. S. Vinaj (Turin), in the other opening paper, pointed out that there existed an indifferent point in temperature at which no important physiological reactions were produced. In his experience this indifferent temperature for water oscillated between 35° and 37° C. and for air between 20° and 22° C. Water, at a temperature of from 6° to 12° C., gave rise to a painful sensation, diminution in pulse-rate, and augmentation of the respiration, the blood pressure, and the resistance of muscles to fatigue. At 20° C. the effects were the same, but less marked. At a temperature of 40° to 45° C., water produced a strong sensation of heat and marked reactive changes, such as a sustained elevation of temperature, augmentation of pulse-rate, rapid respiration, fall in arterial tension, and diminution of the respiratory quotient. The loss of heat was 2,400 calories per diem. Professor Vinaj especially referred to the effect of cold in anaemia, in which in suitable cases a stimulating effect upon the blood-forming organs was produced. This might be measured by estimating the degree of urobilinuria. The therapeutic application of heat and cold by means of baths should not exceed the limits of 10° and 39° C.

Dr. Waterhouse (Bath), who followed, spoke shortly of the part played by psychical suggestion in the treatment. While he did not deny that such forces were at work, he believed that they played a subsidiary part. The chief credit of the cure was due to the effect of heat in controlling bacterial activity and in increasing the elimination by all channels. The factor of rest both of body and mind was important, while the reflex relaxation of all muscles, involuntary as well as voluntary, played a part in conditions of high blood pressure and in renal and biliary lithiasis.

Dr. Fortescue Fox (London) emphasized the importance of the duration of the hot application. In baths of short duration the effect was that of a powerful stimulant; in baths of longer duration the reaction to heat was apt to be evoked, a reaction to be shunned and avoided just as much as the reaction to cold was to be welcomed and encouraged. The symptoms of such a reaction were a continued want of fitness, nervous depression, languor, drowsiness, and muscular weakness, acceleration of the heart upon exertion, dilatation of vessels, low arterial pressure, and accumulation of blood in the veins. Such ill results were not infrequent when unsuitable cases were subjected to excessive heat of long duration.

The remainder of the session was occupied by separate papers. The good and bad effects of residing in high altitudes were discussed by Professor Kronecker and Dr. Heger. Among other communications, Dr. Maurice Faure read a paper upon a new treatment of contractures, for which he claimed satisfactory results.

The Value of the Work Done.

In estimating the work of the Section as a whole, it is impossible to avoid a feeling of some disappointment. The discussion of the first day upon the defences of the human body against bacterial invasion reached a high level of excellence, although the subject was perhaps not altogether within the province of therapeutics. The demonstrations provided in the Pharmacological Institute of University College upon Saturday morning were also of supreme value and excited the widest interest. The discussion upon remedies for pain and sleeplessness was notable chiefly for Professor Cushny's able summary of the subject, while the final discussion upon thermal treatment was poorly attended and evoked a response from only two speakers. On the whole it would seem that it is difficult to prevent a section devoted to therapeutics from being somewhat overshadowed by sections devoted to medicine and surgery and to their special branches. For example, the discussion opened by Professor Ehrlich upon salvarsan took place elsewhere than in the Section of Therapeutics.

MEDICINE.

Discussion on Diabetes Mellitus.

The morning session on Monday, August 11th, was occupied by a very satisfactory discussion on diabetes mellitus.

The subject was introduced by Dr. G. Dock (St. Louis), who went fully into the different views that have been published in the hope of clearing up its etiology. The connexion of diabetes with the pancreas is well known; perhaps too much attention is paid to the pancreas in diabetes and too little to the other organs of the body. The control exercised by the central nervous system on the sugar-producing functions of the liver is better recognized nowadays than it used to be; the fact that many spots in the brain besides the diabetic centre of Claude Bernard gave rise to diabetes on puncture is not sufficiently recognized. Reference was made to Cushing's admirable work on the pituitary gland; its posterior lobe plays an important if indefinite part in the metabolism of the carbohydrates, and its glycolytic function appears to be under the control of the superior cervical ganglion of the sympathetic. Acidosis, the terminal event that brings on diabetic coma in so many cases of diabetes, was connected with decrease in the amount of carbohydrate in the diet, increased fat metabolism, and increase in the formation of sugar from the proteins of the bodily tissues. In the

treatment of the disease, now mainly a matter of dieting, it was important to secure the attention and intelligent help of the patient.

Professor C. von Noorden, who followed, gave a first-rate account of the most recent views of the way in which the carbohydrate metabolism of the body is regulated. It was, he said, needless to insist on the fact that this regulation was highly complicated, and it was hard to say at what point a description of it should begin. Starting, however, with the intestine, it might be said that it pours the sugar-glucose, absorbed from the food, into the portal vein. This glucose was seized by the liver, and stored in the form of glycogen. The liver retailed this glycogen, converted once more into glucose, in accordance with the demands made upon it by the tissues. Professor von Noorden presented to his audience a diagrammatic scheme in which the control of the glycogenic function of the liver was set out. The pancreas was, he said, the organ that tended to keep the consumption of sugar down, the chromaffin system (or, to mention its chief constituent, the suprarenal gland) tried to increase its consumption. But the pancreas was in turn controlled by the thyroid gland, the parathyroids, and the hypophysis, while the chromaffin system was under the control of the central nervous system. All these controls, except that of the central nervous system, were exercised by the medium of the secretions of the various glands concerned, conveyed about the body by the blood stream. The regulation of the glycogenic function of the liver by the pancreas and chromaffin system in the normal subject was such that the blood contained from 6 to 8 parts of glucose per 10.000. In diabetes this quantity was increased, either because the inhibiting power of the pancreas was weakened, speaking generally, or because the augmenting power of the chromaffin system was increased. In Claude Bernard's diabetic puncture of the brain, for example, the glycosuria was due to the central stimulation of the chromaffin system. Acidosis was fatal through the removal of the ammonia and alkaline bases from the body in excessive amounts. Diabetic coma was the expression of alkaline poverty of the tissues. Coming to the treatment of diabetes, Professor von Noorden was on familiar ground; the subject is one on which he is an authority *nulli secundus*. Drugs, he said, were but little given to diabetics as such nowadays; the treatment consisted almost entirely in setting each patient to live on exactly the diet that suited him best. A sugar-free diet was first given to reduce the glycosuria to the lowest possible value; in favourable cases the sugar disappeared from the urine. The next step was to ascertain by direct experiment what was the limit of the patient's tolerance for carbohydrate; sugary or starchy foods were added cautiously to the dietary, and their effect in producing glycosuria was carefully watched. These tolerance tests required the constant supervision and regulation of the physician. It was most important that the body's sugar manufactories should at no time be overburdened; the urine must be kept as free from sugar as possible, or the disease would progress. Too much must not be expected from such treatment; there would always be cases that progressed in spite of the greatest care, because the lesions on which the disease depended were sometimes inevitably progressive. In severe cases he advised the adoption of alternating periods of carbohydrate feeding and carbohydrate starvation. Most diabetic patients should have plenty of fat in their diet; in severe cases two or three ounces of whisky should be given every day. Ten years ago Professor von Noorden invented his well-known "oatmeal cure"; first the glycosuria must be reduced by strict dieting, then about half a pound of oatmeal a day should be added to the diet for several days in succession. The oatmeal treatment was found to do good, but for what reason it did so was not understood. Banana cures and flour cures, worked on similar lines, had also been employed successfully.

Professor G. Rosenfeld (Breslau) then read his paper on the effect of giving various forms of carbohydrate that were not chemically related to glucose to diabetic patients. Many such carbohydrates had been tried with varying and inconstant degrees of success; glycerine, arabinose, inulin, lactose, and others were specially to be mentioned. He brought forward a new carbohydrate that seems not to increase the sugar-production of diabetics, known by the commercial name of "hediosite"; the name by which it is known to the chemist is "alpha-glycoheptonic acid." It is, he said, well absorbed; most patients could take from 1 to 2 oz. of it a day, many could take 3 or 4 oz., but the larger doses might set up diarrhoea. It was a form of carbohydrate that could be utilized and burnt up by the tissues of even the worst cases of diabetes, and in some unexplained manner it seemed to lessen the glycosuria.

Various other points were discussed by the readers of half a dozen papers subsequently.

Dr. Cammidge (London) introduced to his hearers a new urinary test—the iodine coefficient of the urine—whereby it was possible sometimes to foresee the appearance of sugar in the water of patients with pancreatic disease some weeks beforehand.

Lieutenant-Colonel K. Prasad, I.M.S., gave an account of diabetes in India; it was not, he said, a rare disease among the Hindus, and their medical men treated it mainly by drugs that soothed the nervous system. Dieting did not occupy a large place in the treatment, and only a very mild degree of limitation was put on the consumption of carbohydrate. A uniformly bad prognosis was given.

Dr. Labbé (Paris) was on well-trodden ground when he read a paper proposing to divide diabetics into two classes clinically—the fat diabetics and the thin.

Professor Saundby (Birmingham) spoke on a number of practical points that should be kept in mind by practitioners who had to treat diabetes. He urged that too much meat should not be given; too much meat was almost as bad as too much carbohydrate. It was important to remember that many of the diabetic foods advertised as free from starch were not by any means free from it. He could not agree with Professor von Noorden's advice to give large quantities of alcohol to these patients.

Discussion on Chronic Arthritis.

On Tuesday, August 12th, Professor L. F. Barker (Baltimore) opened a discussion on the differentiation of the diseases included under the title "chronic arthritis."

Professor Barker gave his hearers an exhaustive survey of the history of the nomenclature that has burdened and confused these chronic joint troubles. In the earliest days any acute disease of the joints was called arthritis, any chronic disease was called gout. G. D. Baillou about three hundred years ago reversed this, describing chronic conditions as arthritis, acute inflammations of the joints as rheumatism. Rheumatoid arthritis was a name invented in 1859 by Garrod. The more recent classifications of joint troubles showed greater complexity; thus a few years ago Hoffa and Wollenberg divided all chronic joint affections into two main classes, the infectious cases and the non-infectious. Each of these classes was subdivided into five further divisions. Professor Barker noted with satisfaction that, nowadays at any rate, the term "gouty" was applied only to cases with a definite disturbance of the protein metabolism. Rheumatism, on the other hand, could not be as closely defined; speaking as if he were unacquainted with the researches of Poynton and Paine, he went on to add that the microbe of rheumatic infection was unknown to us, unless it were a streptococcus very recently isolated by Rosenau. He commended the modern tendency to restrict the terms "rheumatic" and "rheumatism" to true acute rheumatic fever and its chronic sequels—if, indeed, it were the case that such a fever had any chronic sequels in the affected joints. Many classifications of chronic arthritis had been attempted on pathological, or etiological, or morphological bases, or, worse still, on mixed criteria. In conclusion, he distinguished five main types:

1. The gouty.
2. The nervous.
3. Arthritis deformans.
4. Chronic infective arthritis.
5. Primary progressive chronic arthritis, apparently not due to any infection.

Professor Barker then dwelt on the fact that in proportion as our knowledge increased, so were we able to transfer cases from group 5, with its unknown etiology, to group 4, in which the bacteria causing the arthritis were known. Complete knowledge, he believed, would some

day enable us to empty group 5 into group 4 altogether; at present, however, this could not be done. It was a remarkable thing that cases falling into group 5 had been reported from all countries.

Professor F. von Müller (Munich), who followed, gave a very full and most instructive account of the pathology of chronic arthritis. A special feature of his address was the skill with which he figured on the blackboard the many morbid changes that might be met with in such conditions. Many of these changes, he pointed out, were of a degenerative rather than an inflammatory nature, particularly in those forms of chronic arthritis in which hypertrophy was a marked feature. He drew attention to the curious arthritic and periostitic changes not rarely met with in patients suffering from non-inflammatory mediastinal new growths.

Dr. Preston King (Bath) deplored the unhappy terminology employed in descriptions of chronic arthritis, and agreed with Professor Barker in believing that his fourth and fifth groups would one day be merged.

Professor Singer (Vienna) spoke of the care needed in discriminating those cases of chronic arthritis due to tuberculosis or syphilis from the other varieties.

Dr. J. B. Burt (Buxton) emphasized the important actions of exercise and work in determining the exact nature of the changes produced in chronically inflamed joints. Very similar changes—he called the phalanx of a London cab-horse to witness—might be produced by overwork alone; hence many of the hypertrophic changes in the bones of chronic arthritis might well be due to the work done, the use made of the joint, and not to the inflammation at all.

Dr. Hale White (London) expressed his belief in the unity and existence of a chronic arthritis that had been recognized in this country for more than half a century under the name of "rheumatoid arthritis." It was correctly placed by Professor Barker in his fifth group of cases; Dr. Hale White believed that it was due to a specific microbe that had not hitherto been isolated, and pointed out that the primary change, seen in early cases of rheumatoid arthritis, was confined to the synovial membrane.

Dr. Poynton (London) pointed out that whereas in days gone by chronic arthritis was attributed to errors of metabolism, at the present time the tendency was to attribute it to infection in every case. He believed that the truth lay somewhere between these two views. Injected intravenously into the rabbit, the rheumatic streptococcus isolated by Paine and himself was capable of producing any and every variety of chronic arthritis; further, the effusions withdrawn from such joints would often prove sterile, although there could be no reasonable doubt that they were in reality infected with the rheumatic streptococcus.

Dr. A. E. Garrod (London) deprecated the want of an international nomenclature, by the use of which the confusion at present reigning in the description and classification of cases of chronic arthritis by the writers of different nationalities might be got rid of. Modern treatment was undoubtedly better than the old, as was proved by the smallness of the number of very severe types of chronic arthritis to be seen nowadays.

Experiments on Animals.

At the beginning of the morning's session, on Tuesday, August 12th, the President, Sir William Osler, put to the crowded audience a motion affirming the importance and necessity of vivisection, carried out as it is under due control, for the progress of medical science. The motion was carried unanimously. A vote of thanks to the President and the General Secretary of the Congress was also put to the meeting and was carried by acclamation.

Independent Papers.

At the afternoon session on Monday, August 11th, the Section divided its forces into two. The papers read at the one part dealt with such subjects as duodenal ulcer, peptic ulcer, and functional tests of the liver.

Pneumothorax Treatment of Tuberculosis.

The pneumothorax treatment of pulmonary tuberculosis was expounded by Dr. Saugman, of the Vejlefjord Sanatorium. He had treated 186 patients and made some 5,000 punctures of the pleural cavity; he gave a statistical summary of his results. One patient who had been ill for nine years, and had a destructive infiltration of the whole of the left lung, had been treated with artificial pneumothorax successfully for five years; she had had no fewer than 106 inflations of the pleura, and continued fit for work and social life. The treatment was suitable for many of the advanced cases for whom no other method of treatment held out any hope of relief.

Test for Functional Efficiency of the Liver.

Dr. Rowntree (Baltimore) read an interesting paper on a new test for ascertaining the functional efficiency of the liver. Experiment had shown, he said, that the normal human liver excreted into the intestine some 30 per cent. of a dye—phenoltetrachlorphthalein. When the liver was diseased, the percentage of the dye thus excreted lessened; the test should be of service in a number of morbid conditions in which information as to the functional activity of the liver was desirable.

Duodenal Ulcer.

Professor M. Einhorn (New York) gave an account of the diagnosis and treatment of duodenal ulcer, recommending in no uncertain tones that its subjects should generally receive medical rather than surgical treatment. Complete rest was a most important factor in any treatment that might be advised. He also introduced to the audience his method of duodenal alimentation. The patient swallows a fine tube of soft rubber; when its orifice lies well in the duodenum, the tube is used for the passage of liquid food.

Dr. Bradshaw (Liverpool), who subsequently read a paper giving his own highly satisfactory experience with a modified Lenhartz treatment of peptic ulcer, raised the objection that the contact of this tube with the duodenal ulcer was little calculated to promote the complete rest that Professor Einhorn had advocated earlier in his paper. But rest is a relative term, Professor Einhorn replied, and the possible contact with the rubber tube was much less irritating to the inflamed or ulcerated duodenum than the passage of gastric contents, inevitable if the patient was fed by the mouth, would assuredly be.

Diagnosis of Pulmonary Embolism.

A number of other papers were read; among them was one by Dr. L. A. Conner (New York), who had been recently struck by the resemblance to lobar pneumonia that might be presented by cases of pulmonary embolism. The emboli were detached fragments of venous thrombi. He referred to the well-known fact that the signs and symptoms of pulmonary embolism might be the first thing to draw attention to the existence of thrombosis in a patient's venous system.

Laparoscopy and Thoracoscopy.

Dr. H. C. Jacobaeus (Stockholm) gave an admirable account of the practical utility of laparoscopy and thoracoscopy. This method of physical examination entails the puncture of the abdominal or chest wall with a stoutish trocar. The trocar is fitted with an electric lamp and eye-piece, and is so constructed that when its point has been introduced into a cavity the lamp can be lit and the observer can examine the contents and the walls of the cavity directly with the naked eye. Dr. Jacobaeus said that he had used the method in some 200 cases, and had never found it did harm to the patient. He quoted a number of instances in which it had yielded him useful information about the patient's viscera, and a number of coloured drawings were thrown upon the screen exhibiting the appearances seen through the laparoscope (or thoracoscope) in such cases as tuberculous peritonitis, cirrhosis of the liver, abdominal tumour, pleurisy, and the like.

The meetings of the Section of Medicine came to an end with the morning session. Every one of its meetings was well attended—even the meeting held on Saturday afternoon, an afternoon that is commonly held sacred to play in this country. The President and Secretaries are to be congratulated upon the skill and success with which they got through so heavy a programme of work in the five days on which the Section met.

SURGERY.

The Surgery of the Arterial System.

Professor Rudolph Matas (New Orleans) who had been chosen to lead the debate on Saturday, made a rapid survey of the whole range of this new movement in surgery. He described the suture of the blood vessels, both arteries and veins, arterio-venous anastomosis of various kinds, the transplantation of arteries and veins, and brought forward laboratory as well as clinical evidence to show the feasibility of these various procedures. In regard to vascular implantation of arteries and veins autogenetic methods were more suitable than heterogenetic, though these were not wanting in success. The segment of an artery or vein could be grafted to another, or branches of a parent trunk could be reimplanted on the same vessel at different levels. Arteries and veins could be patched with portions of blood vessel and other material. He spoke also of the implantation and transplantation of organs and limbs by vascular anastomoses. But the main portion of his paper was devoted to the method of treating aneurysm by suture associated with his name—intrasaccular suture or endoaneurysmorrhaphy. The latest statistics included an analysis of 215 reported cases. The results fully justified the confidence placed in this operation.

Mr. C. A. Ballance recognized that the surgery of blood vessels had advanced greatly. It was now known that wounds of the heart and of arteries and veins could be sutured, and that transplantation of portions of arteries was possible; there were many other operations on blood vessels in daily use in practice as well as in the laboratory. He specially spoke of the obliterative and reconstructive treatment of aneurysms recommended by Matas, and thought that since Hunter no advance had been made till Matas began his work. Mr. Ballance added, however, that except in the treatment of aneurysm of the aorta and some other great vessels, and in special circumstances, he did not think it probable that Matas's method would find general acceptance. He regarded popliteal aneurysm as the type best suited for Matas's operation, but nevertheless thought that the practical advantages and the extreme simplicity of the Hunterian operation still prevailed. He thought the Hunterian operation for popliteal aneurysm was the greatest advance in surgery ever made by the single act of one man. Matas's operation should be reserved for those cases in which the older operation was inapplicable.

Dr. A. L. Soresi (New York) showed his apparatus for suture of blood vessels. He had had made a small clamp which held the ends of the vessels to be joined in such a way that minute hooks held back a cuff so as to expose the intima all round. Then intima was sutured to intima by the insertion of very small gold wire clamps after the fashion of Michel's clamps. A single row of these was enough to effect a complete and safe junction. The members of the Section greatly admired Dr. Soresi's neat and ingenious apparatus, which, he said, he had thoroughly tested in the laboratory.

Dr. Danis (Brussels) recalled that Professr Oppel of St. Petersburg had said that ligation of both artery and corresponding vein gave a better final circulation than ligature of the artery alone. The principle was sound, but on one condition only—that the vein should be tied after the occlusion of the artery. He had proved the efficacy of the method and the truth of the principle by some experiments.

Dr. Ernst Jeger (Berlin), who has taken the place in Germany corresponding to that held by Carrel and Guthrie in other countries as an experimenter in blood vessel surgery, gave a short account of some of his studies. Eck's fistula, or anastomosis between portal vein and inferior vena cava, he had performed repeatedly on dogs. Magnesium tubes were a useful support to blood vessels in suturing, as the magnesium afterwards became absorbed. He demonstrated specimens of transplanted kidneys from their normal situation to the neck, the carotid artery being joined to the renal artery and the jugular vein to the renal vein. He had even inserted one end of a piece of vein into the left ventricle of the heart, and the other into the aorta, so that the aortic valve was put out of use. Most of these experiments were performed on animals, but he was hopeful that in time they would become applicable to the human subject in suitable cases.

Dr. Goodman (New York) gave some account of his work. He maintained that suture was preferable to the clamps of Dr. Soresi.

A lady laboratory worker from St. Petersburg, Mdlle. N. A. Dobrowolskuja, showed her method of suture and some preserved specimens of blood vessels after firm union. Her method did not appear to differ materially from the well-known technique of Carrel, except that the ends of the vessels were split so as to give a larger area for suture.

The experience of Dr. V. Soubbotitch of traumatic aneurysms in the Balkan war was interesting. The majority of the cases had to be treated by the older methods, but in some cases he and his colleagues were able to suture arteries and veins with moderately good results.

Dr. Chiasserini (Rome) had performed 13 experiments in transplanting flaps of fascia lata in repairing aorta or other large vessels with such success that he recommended that tissue as very suitable for the purpose.

Professor Matas, in reply, admitted that it was the work of Ballance and Bowlby which induced him to persevere in perfecting his own method of aneurysm suture. He agreed that the Hunterian was a highly successful operation, but when he looked over the records of his work and that of others he thought that his operation was the best. Nor could he agree with Dr. Danis, because he had lost cases where the vein had been ligatured or wounded in aneurysmorrhaphy. In operating on carotid aneurysm he applied a metal band around the vessel for six or seven hours before operation was contemplated to test the circulatory value of the circle of Willis. This occluding band could actually be left on the artery for three days without injuring the vessel or damaging the cerebral circulation. If no sign of interference showed itself the operation could be proceeded with. He recommended that the condition of the collateral circulation should be tested before aneurysmorrhaphy in all situations.

The Present State of Intrathoracic Surgery.

This was the subject on Tuesday of the last general discussion in the Section of Surgery. There was a very large and interested audience. The reporters were Professor F. Sauerbruch (Zurich) and Professor Tuffier (Paris). There were present also many other distinguished surgeons: von Eiselsberg (Vienna), Kocher (Berne), Laplace (Philadelphia), Macewen (Glasgow), Bastianelli (Rome), Lucas-Championnière (Paris), Delagénière (Le Mans), Ingianni (Genoa).

Professor Sauerbruch said that the factors which had been of most importance in the development of surgery of the chest were, in the main, three. First came the improvement of diagnosis by means of Roentgen rays; by this method changes in the lung substance, the formation of cavities, the presence of tumour, the stages of tuberculous disease, could be demonstrated, and the alterations and improvements following treatment could be traced. Next he placed the experimental researches on pneumothorax. The last factor was the introduction of methods to determine the difference of pressure within the lung in relation to atmospheric pressure. His own experience was that operations on the lungs were best performed by the aid of special apparatus to establish a negative pressure—that was, that the operator and the whole of the patient, except his head, were in a chamber whose pressure was less than the atmospheric pressure, so that collapse of lung did not occur when the pleural cavity was opened. The same object was attained in the reverse manner by making the patient breathe in a small chamber whose internal pressure was higher than atmospheric pressure; this was known as positive pressure. By these methods exploratory opening of the chest cavity was as simple an operation as exploratory opening of the abdominal cavity, and tumours could be removed. Bronchiectasis was treated by opening into the lung cavity, and drainage. He had cut the phrenic, and performed artificial pneumothorax for the purpose of putting the affected lung at rest. In tuberculous disease of lung he had performed Freund's operation of cutting the costal cartilages of some ribs to permit immobilization of the lung, and had also endeavoured to bring about the same object by artificial pneumothorax, thereby causing collapse of the lung.

In the Zurich hospital in 1910–13 he had operated on 183 cases of lung disease, as follows:—

1. Extra-pleural thoracoplasty, 113 cases (27 bronchiectasis, 86 tuberculosis).
2. Cavities opened, 5 cases.
3. Phrenicotomy, 24 cases.
4. Paraffin injections, 8 cases.

(*a*) Thoracoplasty—cavernous phthisis without rupture of cavity 74 cases, and (*b*) with rupture of cavity (pyopneumothorax), 12 cases.

In class (*a*) 17 were healed, 19 were greatly improved, 21 were improved; all the others died or were not improved.

In class (*b*) 6 were cured, 5 died, 1 was still under treatment.

Professor Tuffier's report was read in his absence by Dr. Caillard. The ground covered was similar to that by Professor Sauerbruch.

Sir William Macewen's contribution to the debate was by far the most interesting and informing of the day. He drew attention to two points. In the first place, he demonstrated a patient operated on by him eighteen years ago, whose left lung had been removed in its entirety for tuberculous disease. The patient had been brought from Glasgow, and was seen by the Section to be a strong, healthy-looking man whose left side was hollow and fallen in. He was engaged steadily at work. At the time of the operation the right lung was diseased, but the removal of the hopelessly diseased lung was followed by improvement in the condition of the remaining lung. The same experience had been found in four other similar cases. In all these cases the apex of the diseased lung had been adherent to the great vein at the root of the neck, and at a later stage in the last four cases the vein and that piece of lung were removed. In the first case the patient for some days suffered great distress from the "flopping" of his heart to and fro as his position was changed. This symptom was obviated by stitching the pericardium to the front part of the chest wall. Photographs of the five men operated on were shown, as also were photographs of the lungs removed. Sir William Macewen's second point was with regard to the differential pressure theories and apparatus of Sauerbruch and others. His belief was opposed to theirs that all these elaborate apparatus were necessary. It was not atmospheric pressure which held together the two surfaces of the pleura, the lung surface, and the inner lining of the chest wall. When a boy played with a leather sucker in the streets it was not atmospheric pressure that enabled that boy to lift things up with the wet sucker. He had there two such suckers of leather, which he wetted and stuck together with no interposing air. The string attached to one he gave to Professor Kocher to pull while he held the string of the other, and the string broke in the joint efforts to separate these two suckers. Now Sir William went on to show that it was not atmospheric pressure which held them together. He had consulted the late Lord Kelvin, and he had recognized that it was a much greater force, and he suggested it should be called "molecular cohesion." Professor Macewen proved to the Section by an experiment on the table that atmospheric pressure did not hold together two pieces of glass of uniform smooth surface, another well-known schoolboy trick. He put a weight on the lower glass and had it suspended within a bell jar which was rendered a vacuum by a pump, and the weight did not fall. Similarly, he believed that the pleural surfaces were held together by molecular cohesion, and that so long as the opening in the pleural cavity was patent to the atmosphere the collapse of the whole lung would not take place. He did not fear collapse of the part of lung he was dealing with, at any rate, as collapsed lung did not bleed; indeed, he could squeeze the blood out of it with his fingers. In regard to cancer of the lung, he had given patients great relief by opening into the lung cavity, clearing out the pus and broken-down lung substance, and allowing the cavity to close by granulations. He had not cured the cancer, but the patient's death was easier.

Mr. Morriston Davies (London) spoke on the production of artificial pneumothorax for phthisis by collapsing the lung and also on immobilization of the ribs for the purpose of keeping the ung at rest in phthisis. He advocated strongly frequent and repeated radioscopic examination. In experiment and in operation he had prevented shock by injection of 2 per cent. novocain into the vagus nerve. His last point was to recommend the injection of oxygen into the chest cavity at the same time as fluid was being drawn off in cases of empyema or pleuritic effusion.

Dr. Armstrong (Montreal) showed some charts to demonstrate the movements of the heart in a man of 46, who was shot in the region of the heart, the bullet lodging and lying loose in the pericardium. The bullet was successfully removed from the pericardial cavity five days after the accident.

Dr. Meltzer and Dr. Charles Elsberg (New York), Mr. G. E. Gask (London), and Dr. Danis (Brussels) all demonstrated methods of anaesthesia to be employed in operations on the lungs. All except the last were for intratracheal insufflation of ether.

Dr. Meltzer, the pioneer and introducer of this form of anaesthesia, said that the principle of the intratracheal administration of ether was now well known. Warm, moist, and etherized air was supplied to the patient at the bifurcation of the trachea by means of a catheter passed through the glottis. The air was under pressure, and as the catheter was only half the size of the glottis, the excess of air escaped easily between the catheter and the glottis; it remained, however, under sufficient pressure to expand the lungs, and, being constantly renewed, sufficed for respiration. Though primarily designed for the performance of surgical operations on the thorax, the method possessed the following further advantages in general surgery:

1. By its means thoracic surgery was rendered possible without resorting to the cumbersome and costly positive and negative cabinets.
2. In mouth, nose, and throat operations there was no danger of the inspiration of blood, mucus, or pus.
3. In goitre operations air was supplied below the tracheal obstruction.
4. In head and neck operations the anaesthetist was well out of the way of the surgeon.
5. It rendered easy, from the slight respiratory movements, operations on the upper part of the abdomen; and
6. It was a most efficient artificial respiration apparatus.

Independent Papers.

Direct Transfusion of Blood.

Dr. A. L. Soresi (New York), in discussing the value of direct transfusion of blood, held that it was not so often practised as it ought to be. He had performed a series of 600 operations by a technique specially adapted. He recommended joining the ulnar vein of the donor to the external jugular vein of the recipient. The operation was always performed with local anaesthesia, and both patients were extremely comfortable. The apparatus suggested by him held the ends of the veins in accurate apposition (intima to intima), and in this point lay the secret, because thrombosis never took place. The members of the Section were greatly interested in Dr. Soresi's ingenious and neat apparatus.

Control of Haemorrhage from the Liver.

A new method of controlling haemorrhage in operations on the liver was suggested by Dr. Charles Borszeky (Budapest). He had controlled the hepatic artery by means of a clamp, one blade of which was in the foramen of Winslow, and the other over the hepato-duodenal ligament. He had employed this manœuvre in 11 cases, in 2 cases with no success. The duration of compression ranged from fifteen to seventy minutes, and in every case it was harmless. Dr. Borszeky was understood to say that a Kocher's forceps was the instrument employed.

Arterio-venous Anastomosis for Impending Gangrene.

Dr. Charles Goodman (New York) read a paper on arterio-venous anastomosis for impending gangrene, containing records of his experience in 15 operated cases. The establishment of anastomosis between vein and artery was first done by Carrel successfully in dogs in 1902. Since then many cases had been operated on with variety of results and with variety of opinions as to the usefulness of the operation. Obliterative endarteritis was an ascending process, and while both arteries and veins might become involved the changes in the arteries preceded those in the veins. The process rarely extended beyond the femoral vessels. He recommended the following points in technique: In isolating the vessels preliminary ligation of all small branches was necessary; careful removal of all adventitia was required; thorough perfusion of the lumen to remove all fibrin and covering of the exposed vessels

with liquid petrolatum, paraffin, or vaseline, were required to prevent thrombosis. Suture were passed through all coats. The line of sutures on the intima was soon covered by a layer of epithelium and was quite smooth so that thrombosis did not occur. There were six successes out of 15 cases. The ages ranged from 28 to 87. Several cases which promised success later required amputation (8 cases), but even these patients received temporary relief from pain. The results on the whole seemed to warrant the conclusion that the operation was worth trying in suitable cases as it afforded the only hope except amputation, for threatened gangrene. He used very thin black Oriental silk and No. 16 needles.

Mesenteric Thrombosis and Thrombo-phlebitis.

Dr. Ernest Laplace (Philadelphia) described cases of arterial thrombosis and thrombo-phlebitis of the mesentery. Gangrene was inevitably the result of this condition. He had made some experimental investigations to elucidate the pathology. Analogous conditions were found in thrombosis of the femoral and sometimes iliac veins on the left side in appendicitis and also in enteric fever. The occurrence usually took place in afebrile cases of appendicitis. In so-called "clean" cases they might have this happening. His view was that some degree of infection was present; it was not a disease in itself, and that thrombosis might take place anywhere, let it be femoral vein, pulmonary artery, or mesenteric veins. The only sure way to prevent it was to maintain rigid asepsis, and in every abdominal case, even the afebrile type, to administer by the Murphy drip, 40 drops to the minute, a solution of 1 in 500 citric acid, which he thought would make the blood less prone to infection, would restrain the growth of germs.

Sir Frederic Eve pointed out that thrombosis of the left femoral and iliac veins were due to minimal infection, but it was a long step to admit the infective theory for all cases. Mesenteric thrombosis might occur without gangrene, as he had experienced.

Treatment of Old Dislocations by Operation.

At the session on Monday afternoon, August 11th, Professor Dollinger, Budapest, read a paper on the treatment of old dislocations of joints, with special recommendation of operative methods. In 150 cases there were 54 old dislocations of the shoulder: 45 were treated by arthrotomy, 8 by primary resection, 1 by osteotomy, and of these 46 healed without complication. In the elbow he had 64 cases: 39 were treated by arthrotomy and 29 by resection, with 59 good results.

The hip-joint was very suitable for treatment: there were 22 cases, comprising 16 arthrotomies and 5 primary resections, 16 good results; suppuration occurred in 18 cases. Function has been in some restricted, but in all cases the function was better than before reposition. Reposition, he believed, was generally possible in these three joints, and arthrotomy was better than the old conservative measures.

Ambulatory Treatment of Fractures.

Professor Dr. Hackenbruch (Wiesbaden) demonstrated an instrument to permit the ambulatory treatment of fractures. Models were shown, and a patient also was exhibited with the apparatus fixed. Cases of fracture of the femur would go about in sixteen days. The apparatus was fixed in plaster-of-Paris bandage, and was so devised with screws that extension could be made and various rotary and lateral movements made.

Dr. Fischer (Budapest) also demonstrated an apparatus for treatment of upper limb fractures, and Dr. Latis Bey (Alexandria) showed a simple apparatus for maintaining the position of the arm in dislocation and fracture of the humerus.

The last meeting of the Section took place on Tuesday afternoon, and was short.

Bismuth Paste in Sinuses.

Dr. Emil G. Beck (Chicago) gave an account of the bismuth paste treatment of suppurative sinuses and empyema, but had nothing new to add to what he had already published. Dr. Salatich (New Orleans) recommended the use of vaseline only, but Dr. Beck said he had already tried it, and had had to revert to the bismuth mixture.

Ovarian Grafts.

Dr. S. Voronoff (Nice) gave a most instructive account of experiments he had done in ovarian grafts in sheep. Each experiment comprised operations on two ewes. Under local anaesthesia he removed the ovaries of one and put in their place the ovary of another ewe. In practically every case the ewes bore healthy lambs and were really not much affected by the operation. Six of the ewes operated on two years ago and four ewes one year ago were alive and well.

DEMONSTRATIONS.

At the afternoon sitting on Friday the papers read were mostly devoted to subjects of general interest.

Mr. Evans (London) showed a patient, a woman aged 43, in whom the larynx, part of the pharynx, and the upper part of the oesophagus as far down as his fingers could reach, had been removed for carcinoma four years ago, and who had now used a rubber substitute for the oesophagus. The patient was plainly in excellent health, and had married one year after the operation. The specimen was shown, and Mr. Evans reported it to be a columnar-celled epithelioma. The patient breathed through a tracheotomy tube; her food, after being chewed, was swallowed, and then it passed into a rubber tube the end of which projected into the mouth just at the base of the tongue. This tube then passed out from the neck below the hyoid bone, and was conducted outside the body to a gastrostomy opening. This artifical gullet was adjustable by the patient, who boiled it regularly. The tube was hidden by her clothing, and no one could tell she had not a normal oesophagus. Mr. Evans was heartily congratulated on his success and ingenuity.

The second demonstration was by Dr. Keppich (Budapest), who showed an instrument for suturing intestine or stomach invented by Professor Hültl. The principle was similar to that adopted in the staple fixing or binding machine for books or pamphlets. The staples were of silver wire, and, after the clamps were adjusted, three and a half turns of the handle in as many seconds inserted a double row of sutures. There was sufficient space between to cut the tissues. Haemostasis was perfect, and all that was required then was a few Lembert stitches to infold the sutured edge.

ORTHOPAEDICS.

THE TREATMENT OF ANKYLOSIS.

THE report by Dr. W. S. Baer (Baltimore, U.S.A.) on the treatment of ankylosis aroused very great interest, for the experimental researches upon which his operations were based had enabled him to proceed on an assured footing, and the good percentage of success in his cases was most encouraging. He said that ankylosis in a bad position formed a crippling deformity, and when it affected the temporo-maxillary joint might imperil life, because the patient could not take proper food in a natural manner. Until within recent years the eradication of disease was almost the sole object of orthopaedic surgeons. The introduction of asepsis, which had rendered operations safe, and of *x* rays, which gave much increased knowledge of the condition and position of bones, together with accumulated experience, had led to attempts to restore physiological function. There were various methods of attempting this restoration, and they had various degrees of success. *Brisement forcé* was of use only in pseudo-arthritis, while arthrolysis was of use only in periarticular lesions. In fibrous or bony ankylosis it was always followed by reformation of adhesions. Resection of joints, when the locality allowed of enough bone being removed without too great mutilation, as in the elbow and shoulder, gave sometimes useful and movable joints, but in general its result was ankylosis. Transplantation of entire joints had been attempted with some measure of success. Arthroplasty aimed at forming a movable joint by interposing inorganic or organic materials between the bone ends. The organic material interposed in arthroplastic operations might be living or dead. When living it was generally derived from tissues in the neighbourhood of the joint, of which a flap was turned in between the bones but left attached by a neck to maintain nutrition. These living flaps might be muscular, fibrous, or fatty, or compounded of any of the connective tissues available. The objections to them in practice were the occasional pain in

the flap when squeezed between the bones, and the great limitation of adaptation to the bone end, due to the presence of the attached neck, which rendered it impossible generally to fit the tissue accurately round the contour of the bone end. Dr. Murphy (Chicago) had said that the fibro-fatty flap developed into hygromatous material, but other observers had not found in experiments on animals that any endothelial lining was developed on such flaps. Any medium which would effectually separate the bones or joint surfaces until the formation of smooth fibrous material over them would be effective. Experiments had induced Dr. Baer to try in the human patient pig's bladder, which was sterilized by heat and packed in convenient sized pieces in germ-proof envelopes; it was ready for use after ten minutes' soaking in saline solution to render it pliable. It could then be modelled accurately round the end of the bone and secured with points of suture of sixty-day catgut directly to the periosteum. The membrane remained *in situ* for from sixty to one hundred days, after which it ceased to exist as a foreign body, having been invaded by cell growth and absorbed, and its place taken by connective tissue. With this membrane there was less chance of infection, because much less handling was needed than was the case when attached flaps were used. Dr. Baer had operated upon 52 joints, using this membrane. These 52 included 4 temporo-maxillary, 23 hip, 19 knee, 3 phalangeal, 1 ankle, and 1 radio-ulnar joint. He had obtained painless and useful voluntary movement in 71 per cent. of these cases. The hip-joint gave the best results—namely, 87 per cent. of success. In the temporo-maxillary joint he had very good results. The 23 cases included the results of tuberculous, gonorrhoeal, and septic processes, and also arthritis deformans. Only one case used any aid in walking, and that was one crutch. In tuberculous cases it was necessary to make sure that active disease was at an end. He preferred to approach the hip by the anterior incision and preserved as much as possible of the capsule of the joint, which was afterwards closely sutured with fifty-day catgut. He preferred not to drain, though the presence of the membrane caused serous effusion, but this kept the capsule away from the bone, which was an advantage. He showed on the screen photographs in which 90 degrees of flexion-extension and 25 degrees of abduction were evident. In gonorrhoeal cases the results were not so good, and he recommended that operation should be deferred until one year after all active trouble had ceased. In a case of osteomyelitis of the humerus and arthritis of both hips, with complete bony ankylosis, he had obtained about 75 degrees of flexion-extension. Abduction in all cases was generally limited by bony contact, but was enough to be useful in progression. In the knee, when there was fibrous ankylosis of the femur and tibia, and bony or fibrous ankylosis of the patella and femur, the results of operation were always good despite the destruction of the crucial ligaments. In bony tibio-femoral ankylosis the results were not very good. In the one ankle case he obtained 43 degrees of voluntary movement.

Professor Putti (Bologna), who spoke in French, presented the following summary of his report:

1. That the indications for mobilizing a stiff joint depend on the causes of the ankylosis, on the anatomo-pathological conditions of the joint, and the state and social and physical conditions of the patient.
2. The technique required; the observance of the following points:
   (*a*) Orthopaedic and modelling resections, in order to secure an easy functional play of the limb.
   (*b*) Thorough destruction and removal of all such elements as might cause new formation of bony or connective tissue.
   (*c*) Interposition between the resected bone ends of soft parts, to oppose new bone formation, facilitate articular play, and favour the reconstruction of the joint surfaces and of the synovial sac. Free aponeurotic flaps taken from the fascia lata were best.
3. Every articular mobilization required a long and appropriate post-operative treatment.
4. The prognosis was favourable not only for the upper limbs but for the hip, knee, and foot. Bad results were to be ascribed to errors of selection of cases and of technique. It was demonstrated that it was possible to obtain joints functionally like the normal, and certain that every joint had its own prognosis.

Dr. Helferich (Eisenach), who spoke in excellent English, reviewed the history of this matter. Results were somewhat uncertain, sometimes too loose joints were produced and sometimes fresh ankylosis. The *via media* was difficult to attain. He had operated on the temporo-maxillary joint in 1893, turning in a flap. Improvement of movement followed. It was well to remove as little bone as possible. Traumatic cases gave the best results. He was surprised that Baer had operated on few or no elbow joints, because the elbow in Germany was one of the joints most often affected. Finally, in the interest of true progress, he appealed to all surgeons to publish all their cases, good or bad.

Professor Vulpius showed *x*-ray pictures of good results, especially in the hip and elbow.

Professor Kirmisson described the poor result of an operation on the knee for the instruction of his confrères.

Dr. Rocher (Bordeaux), Mr. Muirhead Little, and Dr. Royal Whitman also spoke.

Discussion on the Treatment of Tuberculous Joints in Childhood.

A very interesting discussion was elicited by the valuable reports of Professor Julius Dollinger (Budapest) on the general subject, and of Dr. Ridlon (Chicago), who limited himself to the mechanical treatment of hip disease.

Dr. Dollinger's report, which consisted of sixty-three pages fully illustrated, amounted almost to a monograph on the subject. Speaking in English, he said that in the local treatment the essential in acute and subacute cases was the fixation of the articulation, and in tuberculosis of the lower extremities suspension was necessary to render possible ambulatory treatment by means of the apparatus shown in the illustrations to the report. If fixation had been begun before tuberculosis had destroyed the anatomical form of the articulation, movement would return spontaneously during fixation, without the use of passive movements. Forced passive movements were harmful and caused relapses by lighting up fresh inflammation. The treatment of contracture should begin in every stage of inflammation with gradual restoration of the joint to a good position. As to general constitutional treatment, Dr. Dollinger regarded the sunlight treatment as important, but criticized the effects falsely imputed to it and the local treatment with which it was accompanied. He believed that it was fixation and not the sun's rays which caused the cessation of pain, but admitted that it was impossible to estimate how much of the improvement was due to the sun and how much to rest and pure fresh air; he believed, however, that the year-long lying down with which the sun treatment was combined was superfluous and harmful, and recommended a combination with ambulatory treatment. In the treatment of cold abscess after trying various other means, he had come back to evacuation with a trochar and the injection of iodoform emulsion. He regarded with great interest the experiments which had been made with the quartz lamp and the *x* rays in the place of sunlight. It almost seemed as if it would soon be possible to cure all early cases without operation which should only become necessary in neglected and exceptional cases.

Dr. John Ridlon's report was read by Dr. Torrance Rugh. He said that by hip disease was meant any chronic inflammation of the hip-joint that was not distinguished from tuberculosis, and, when left untreated, resulted in more or less diminished range of motion at the joint, with usually some deformity, and frequently shortening of the limb. All cases of hip disease demanded mechanical treatment; only a very small percentage of cases demanded operative treatment, and for these mechanical treatment was as essential as for the cases not operated upon. This mechanical treatment fell into three general classes—namely, plaster-of-Paris, splints (long and short); metal splints for immobilization (of which the Thomas splint was the best type); traction devices for use in bed and for walking (of which the Taylor splint was typical). Some cases required treatment in bed for a time; other cases might walk with crutches or the protecting traction splint; other cases—at least during the period of convalescence—might with advantage walk on the limb without crutches or any protecting device.

Professor Vulpius (Heidelberg) also spoke in English, and referred to the sun treatment carried out in Switzerland. If high altitudes were essential for this treatment

a great difficulty would arise, but fortunately they were not. There were quite enough ultra-violet rays in the sunshine of the plains to be efficacious, as was shown by pigmentation of the skin, which apparently was closely associated with cure. He described an establishment which he had opened one and a half years ago in a comparatively low situation. A combination of all useful methods was here used, including salt-laden air, which was artificially produced. Ultra-violet rays from quartz lamps, etc., were used when sunlight was not available. Some operations were still needful, and he believed that when tuberculous foci were demonstrated, their removal hastened cure.

Dr. Ménard (Berck-sur-Mer), said that cases treated at an early stage were curable with nearly normal movement and form, and he showed on the screen photographs of such cases. The ambulant treatment led to ankylosis in many cases. In hip disease the enlargement of the acetabulum was not due to pressure alone, for the *x* rays showed that it enlarged downwards as well as upwards, with deepening of the cavity.

Dr. F. H. Albee (New York) read a paper on bone transplantation in the treatment of Pott's disease of the spine and certain other deforming affections, which was illustrated by the lantern. He agreed in the main as to treatment with Professor Vulpius. He had treated 175 cases of various deformities by bone grafts. Of these 145 were cases of Pott's disease. The remainder included club-foot, ununited fractures, and fractured spine. The usefulness of bone grafts was already proved, no matter whether the graft itself lived in its new place or merely formed a mould for new bone. Animal experimentation had shown that the graft lost its identity and became indistinguishable at its borders from the indigenous bone in about four months. He always removed the periosteum with the bone, for although his experiments as to the bone-forming powers of periosteum were negative, he gave it the benefit of the doubt. On the screen he showed the method of removing the graft from the tibia, going deep enough to reach cancellous tissue and bone marrow, and the technique of its application to the split spinous processes. If there were much deformity it might be necessary to cut a number of notches two-thirds of the way through the graft, on its concavity, so as to allow of its bending. The ligaments should not be separated from the spinous processes, but the supraspinous and interspinous ligaments should be divided in the middle line. They and the muscular aponeurosis were afterwards united over the graft with medium kangaroo tendon or catgut. He believed that function stimulated the growth of the bone, and, therefore, he allowed early movement. No mechanical support was to be used, but after lying supine for six or seven weeks the patient was allowed to get about. Age was of no importance. The ages of his 145 cases ranged from 2 months to 60 years. The tibiae after the operation had given no trouble. In one case of severe almost angular lateral curvature from infantile paralysis he had used a lateral graft. In a case of dropped wrist from extensor paralysis, in which the flexor muscles were active, he had applied a bone graft, reaching from the radius to the trapezium and trapezoid, thus giving the patient a fixed point for the action of the flexors of the fingers. In the older cases of congenital club-foot he removed a wedge from the cuboid, etc., and transplanted it into a gap made by splitting the scaphoid and stretching out the foot, thus preventing the foot from falling back into varus. For the equinus deformity he removed a wedge from the tibia, and inserted it into a gap made by splitting the astragalus from behind and inserting the wedge in the gap. He did not find that the results of Lane's plates in the treatment of ununited fractures were good, but bone grafts had given him good results in the leg and thigh and the neck of the femur. The sclerosed tissue should be cut away, and a long mortice cut in the bone ends for the reception of the graft from the tibia of the other leg, or cold storage bone could be used. He had used an astragalus from a patient 18 years old to form a new caput femoris for a boy of 5 years old, and fixed it with a bone peg, securing ultimately two-thirds of the normal range of motion of the joint.

Dr. Rollier (Leysin, Switzerland) read a report on the sun cure for surgical cases of tuberculosis and its clinical results, illustrated by photographs. Great improvement appeared to have occurred in some cases. He summed up his paper by the statements that "a radiographical cure that is, a cure proved by *x*-ray pictures is the rule in all cases of closed tuberculosis; it is very frequent in cases of open tuberculosis. The synovial forms heal without leaving traces. Where the articulation is seriously affected one often obtains an integral cure with an ideal functional result, whilst remains of destroyed articulations can still occasion 'ne-arthrosis' with an equally unhoped for return of articular function." Whatever may be the final verdict upon the heliotherapeutical establishment at Leysin, the photographs of patients ski-ing naked on the snow strongly suggest the warming power of the sun at high altitudes and the Arcadian simplicity of Switzerland.

Dr. Torrance Rugh, while heartily approving of Albee's operation for Pott's disease, which he had performed a number of times, explained that when in discussing club-foot at a former session of the Subsection he had described a bone-grafting operation he did not know that Dr. Albee had already performed similar ones, and he was most anxious lest it should be thought that he had been guilty of stealing Dr. Albee's thunder. All his results had been good, but he had had one or two mishaps. In one case an unruly patient broke the tibia from which the graft had been taken by getting out of bed on to it. In another case a graft at the sacro-lumbar junction had broken. The end results in both cases were good. Dr. Rugh thought that this operation was the last word in the treatment of Pott's disease. It made a dependent individual independent in six months to a year, whereas the duration of the disease under other treatment was from five to ten years.

Dr. César Roux (Nice) read a paper on heliotherapy in surgical tuberculosis associated with other means of treatment.

Dr. Louis Mercière (Rheims) said that he was convinced that cases of joint tuberculosis in children and adolescents were not cured by the classical treatment of immobilization. As soon as the diagnosis was made, he began a local "precocious" treatment by intra-articular and periarticular injections of iodoform in ether, to which, when the bones were affected, he added boring into the epiphyses subcutaneously and injection of carbolic acid, a method introduced by him in 1901. Fresh air and sunlight were useful, but only local treatment was efficacious. The orthopaedic treatment of coxalgia and white swelling in children included besides local treatment the use of rigid appliances, afterwards articulated, and, lastly, mobilization of the joint, applied with prudence and discretion.

Dr. Calot (Berck-sur-Mer) insisted upon the importance of an early diagnosis of tuberculous lesions. A quarter of a century's experience at Berck enabled him to say that cure was certain if the tuberculosis was closed and restoration to normal (*guérison intégrale*) if diagnosis was early and treatment immediate. "To open a tuberculous lesion was to open the door to death." No violent corrections of deformity were permissible. The treatment of suppurating lesions was aspiration and injection; for dry and fungous tuberculosis sclerosing injections, followed by aspirations in serious cases. The statistics at Berck now were twenty times better than those of twenty-five years ago, when nearly all cases were operated on. They now had an average of cures of 98 to 99 per cent.

INDEPENDENT PAPERS.

Nerve Grafting.

Mr. A. H. Tubby read a paper on nerve grafting in certain cases of paralysis. In birth palsy from injury of the brachial plexus he had encouraging results. In the case of the popliteal nerve they were not so good, but the deformity of the foot should be completely corrected before any nerve operation was undertaken. He described various cases of injury of nerves in which he had performed neurorrhaphy or freed nerves from scar tissue. Lesions of the brachial plexus, if traumatic and if operated upon not later than four years after the injury, were the most hopeful. After that time the results were disappointing. Neuroplasty of the popliteal nerves was also not very satisfactory. In all cases of paralysis from the pressure of scar tissue on a nerve it was worth while to operate however hopeless the case might seem to be.

Operative Treatment of Paralytic Talipes.

Dr. Royal Whitman (New York) described the operation for paralytic talipes calcaneo-valgus which he had introduced in 1901. He alluded briefly to the anatomy of the foot and ankle, and emphasized the importance of the astragalus in deformities of the foot. Removal of this bone and displacement of the foot backwards upon the leg were the chief features of the proceeding. He had now given up the removal of cartilage with a view to producing arthrodesis, which he had formerly recommended and practised. No apparatus other than a gypsum bandage was worn after the operation. This proceeding, or a modification of it, was also useful for talipes equinus, or flail foot, and tuberculosis of the ankle. He laid down the rule that the foot should always be displaced backwards whenever the astragalus was removed for any reason whatever.

Dr. P. Desfosses (Paris) contributed a paper on the operative treatment of paralytic club-foot, in which he recommended arthrodesis of the ankle and of all three subastragaloid joints, combined with tenotomy if necessary.

Dr. Murk Jansen (Leyden) preferred to Whitman's operation transfer of the tendons of the toe flexors as well as the peronei to the os calcis in order to restore muscle balance. The deformity of the sole was first to be corrected by an apparatus which he described.

Dr. Chad Woodward and Dr. Baer both highly praised Whitman's operation.

Flaccid Palsy of the Upper Limb.

Dr. Louis Mercière dealt with the surgical and orthopaedic treatment of flaccid palsy of the upper limb, illustrating his remarks with drawings and diagrams. The proceeding which he had introduced in 1908 consisted essentially in using a graft of the pectoralis major and of the trapezius in place of the paralysed deltoid. He also described his grafting operations in the wrist and fingers and thumb.

Vulnerability of Fast-growing Cells.

At the last meeting of the Subsection on Saturday afternoon Dr. Murk Jansen (Leyden) read a paper on the vulnerability of fast-growing cells and rickets. Referring to the way in which the fast-growing cells of some morbid growths were alone affected by the *x* rays, he said that in the skeleton the interstitial cells were most easily affected. He drew a phylogenetic analogy between the growing point of a bud of a plant and the growing tissues of the embryo, and said that achondroplasia was the result of too great enfolding of the embryo and consequent ischaemia affecting the more vulnerable cartilage cells.

Proposed International Association of Orthopaedic Surgery.

The President reported the proceedings of the Committee appointed to consider the question of forming an International Association of Orthopaedic Surgery. It was unanimously resolved to adopt the report, and to ask the Committee to continue its labours and and to formulate a scheme for the organization ot the Association.

ANAESTHESIA, GENERAL AND LOCAL.

Post-operative Effects and Toxaemias associated with Anaesthetics.

On Monday, August 11th, the attendance was somewhat small compared with previous days, but the subject for discussion—the post-operative effects and toxaemias associated with anaesthetics—was interesting and brought forth some divergence of opinion.

Dr. William Hunter, the reporter, laid down the following proposition: Portal blood was poisonous, and if diverted directly into the systemic blood stream produced the same effects as those under discussion. The healthy liver cells purified it; the effect of anaesthetics, more especially chloroform, was to cause fatty degeneration of these cells; this was brought about by a process of self-digestion; oxygen, required for the due performance of their function, was normally obtained from stored glycogen; during a prolonged anaesthetization the supply of the latter, already depleted by the usual starvation methods preparatory to operation, was soon used up, and as it was not being contemporaneously renewed oxygen was obtained from the protein constituents of the cells; fatty acids were poured into the blood as a consequence, but were not themselves the cause of the symptoms, which were due to the impaired cells failing to purify the portal blood. Dr. Hunter illustrated his remarks by diagrams and lantern slides of microscopic sections of the liver and kidneys and heart, which were similarly affected. Anaesthetists, by their attention to the lungs and heart, had practically eliminated dangers from these sources, but they should remember that it was as important to conserve the functions of the liver during operations. In order to do this, glucose should be administered for twenty-four hours previously to operation up to within two or three hours of its taking place, thereby ensuring a large surplus of glycogen in the liver. In a series of cases investigated without glucose administration acetonuria was present in 25 per cent. before and 60 per cent. after operation; in patients previously fed on glucose for twenty-four hours acetonuria was present in 3 per cent. before and 22 per cent. after operation.

Dr. L. Guthrie agreed with Dr. Hunter that the symptoms were due to a general breakdown of the liver cells, and not simply fatty acid poisoning; but he did not think carbohydrate starvation was the only cause of breakdown. If this were so, these symptoms would be common, appearing in every case where carbohydrates were withheld for a short period; the symptoms were not present in children starving from pyloric obstruction. In fatal cases of acidosis the condition of the liver was peculiar so far as its macroscopical appearance went, differing entirely from the ordinary fatty liver.

His theoretical objections to the "carbohydrate starvation" theory were supported by the observations of Mr. E. Corner, who found that of a series of patients fed on glucose 32 per cent. developed acetonuria, whilst of a series not so fed 34 per cent. developed it, the difference being negligible; post-anaesthetic vomiting had been actually more common in the glucose-fed. Cyclical vomiting and post-anaesthetic vomiting were closely allied, and subjects of the former were extremely liable to the latter, the anaesthetic being the last straw in a person predisposed to these symptoms.

Mr. J. D. Mortimer (London), remarked that sickness and other after-effects, although often resulting from errors in selection and administration, were too commonly assumed to be due to the anaesthetic, so that other causes were overlooked and treatment ill-directed and inadequate. He had found, however, that vomiting was entirely absent in 60 per cent. of over 1,000 cases, excluding short administrations, and where considerable (2.5 per cent.) it could fairly be attributed chiefly to other causes. Sickness did not depend much on length of administration, but often on the nature and site of the operation. It was liable to occur especially after operations on the kidney, one reason probably being inhibition of the diaphragm allowing atonic distension, as it had been shown by Dr. Pasteur to favour pulmonary collapse. Better opportunities should be afforded to anaesthetists for investigation of patients when any after-complications occurred.

Dr. Frew said that his investigations at the Hospital for Sick Children, Great Ormond Street, satisfied him that acetonuria was far more frequent and occurred in a greater variety of cases than was thought. They also revealed the curious fact that whereas amongst medical out-patients only 2 per cent. had acetonuria, of 660 patients admitted into medical wards 400 had acetonuria in a few hours, increasing up to thirty-six hours and then decreasing. The diseases were various and the percentage distribution of acetonuria amongst them was equal. Assuming acetonuria to be dependent on carbohydrate starvation, he asked at what point did this occur. The diet supplied in the hospital was at least as rich in carbohydrates as that obtained outside. Was it in digestion, absorption, or assimilation that failure occurred? Some children were supplied from the time of admission with glucose; they seldom developed acetonuria and then only in a slight degree, showing that absorption and assimilation were normal. That left the indigestion of ordinary carbohydrate food as the cause. Children changed from mother's to cow's milk always developed temporary acetonuria.

The President was convinced that in routine practice sufficient attention was not given to detail. He distinguished between anaesthesia and anaesthetic toxaemia:

unnecessarily large doses of anaesthetics were a frequent cause of post-anaesthetic poisoning.

Dr. Hunter, in reply, pointed out that he was well aware of other factors; in many operations the liver was already partly *hors de combat* as the result of sepsis and toxic absorption. The length of administration was a factor; because operations were longer now the incidence of post-anaesthetic poisoning was greater than twenty-five years ago. He urged on surgeons the importance of wasting no time once the patient was anaesthetized; every minute saved was valuable.

Concluding Session.

Contrary to expectation, the attendance on the last day was better than the preceding one. The nature of the final discussion was such as to invite a review of the many methods advocated at the first and second days' sessions, and this doubtless stimulated the somewhat flagging enthusiasm of the members. Another factor was the adjournment of the discussion on open ether, reported on by Dr. Ferguson on the opening day, to this the last day. During the early part of the proceedings, in the unavoidable absence of the President, the chair was taken by Dr. Embley of Melbourne, and Dr. Carlo Oliva read a paper on variations of the adrenalin content in the suprarenal capsule following narcosis.

Discussion on the Selection of the Appropriate Agent and Method for producing Anaesthesia.

Dr. Silk, who replaced Dr. F. Dumont (Berne), having reviewed the work of many of the earlier speakers in the Section, especially endorsing Dr. Crile's pronouncement that the anaesthetist was not solely responsible for many of the troubles arising during or after operation, and usually attributed to him, Dr. Silk proceeded to expound his views on the matter of selection according to the type of the patient and the nature of the operation. Between the ages of 15 and 60 he was becoming more and more inclined to the use of alkaloids and open ether. He had a good word for the CE mixture, which had not as yet been mentioned at the proceedings, but which he was sure many used at the extremes of life and in a certain class of patient. He thought intratracheal ether had only a restricted field; he preferred chloroform to ether in the subjects of kidney disease; in heart disease, where there was compensation, the anaesthetic chosen was of no consequence, but in bad cases he thought it unwise to excite the heart's action by ether. He did not share Dr. Buxton's enthusiasm for the Vernon Harcourt inhaler; as a teacher he thought it best to instruct students, the majority of whom would be general practitioners, in methods which they could fairly be expected to adopt in practice. In operations on tonsils and adenoids he protested strongly against a simple gas anaesthesia, which generally terminated in an unseemly scramble between patient, surgeon, and anaesthetist, and for which the latter got the blame. In big operations about the mouth and in thyrotomies he liked the intravenous method, using ether, and strongly objected to the use of hedonal. After accidents to the lower limbs he thought spinal analgesia was valuable; in a general way, however, he deprecated its use in women and children, especially in private practice. With regard to the modern craze for complicated and cumbersome apparatus, he thought such was unsuitable in this country; on the Continent and in America all patients were operated on in hospital, but this condition did not obtain here so far as private practice went. After all, the personality of the administrator remained the dominant factor, and it was to his judgement and skill that the successful administration was due.

Dr. Ferguson (New Jersey) dwelt on the importance of the personal factor, and deprecated dependence on apparatus. Dr. V. Fielden was surprised Dr. Silk made no mention of ethyl chloride, which was the anaesthetic for short operations such as those on tonsils and adenoids.

Dr. Beresford Kingsford thought the Vernon Harcourt inhaler useful in the early training of students, as they were able to concentrate their whole attention on the signs and symptoms of normal chloroform anaesthesia; having acquired a thorough familiarity with these they could easily learn the drop method afterwards. In his opinion—and he had used it very largely in the past—ethyl chloride did not give sufficiently long an anaesthesia for the tonsil enucleations now in vogue.

Dr. Lloyd thought much of the new apparatus was the outcome of the impatience of the younger men, who were not content to wait till prolonged experience had given them the complete mastery of the simple and older methods which was essential to success.

Dr. G. A. H. Barton described his method of choice for routine work, which was applicable to 90 per cent. of all general surgery; his practice was alkaloids, a rapid induction with CE—ethyl chloride on a mask, followed by ether administered in a special inhaler which he described; he called it "open ether" (quite wrongly he was told), but at any rate it was as much an open method as that introduced from America. Professor Hobday spoke on methods adopted in veterinary surgery. Dr. Silk replied.

Open Ether.

The adjourned discussion on "open ether" was then taken. Dr. Gwathmey (New York) had a few words to say as to the safety of the continuous drop method. He had examined the mortality statistics of 400,000 anaesthetic administrations collected from American hospitals: contrary to expectation, the death-rate, compared with that of other anaesthetics, was high—higher than that of CE and of chloroform with oxygen. He compared some blood-pressure findings of Crile, showing the influence of trauma during the administration of anaesthetics. Under the drop method this fell; not so under nitrous oxide and oxygen, nor under ether given dosimetrically by means of an apparatus which he showed.

Dr. V. Fielden thought the amount of ether used in the drop method a drawback.

Dr. McCardie thought induction by this method too slow; he hastened it with ethyl chloride. There was danger in small rooms with an open fire.

Dr. Scharlieb had found open ether quite satisfactory in young children; he administered from Junker's apparatus, the bottle standing in warm water.

Dr. Foy (Dublin) remembered that in the days before he was qualified ether was always given on a cone and sponge inhaler; for his own part, he had given chloroform all his life without an accident.

Mrs. Dickinson Berry preferred to use open ether from the start; patients did not complain, soon lost consciousness, and in seven minutes were in a condition of surgical anaesthesia.

Dr. Barton said the apparatus he had previously described was dosimetric, and allowed of six different strengths being administered. In an hour's operation it did not use more than four ounces of ether, which could not be said of the drop method as practised in this country with chemically pure ether. Since using it he had never seen shock, no matter how severe or prolonged the operation, and the ward sisters told him that post-anaesthetic effects were practically abolished.

Dr. Lloyd advocated the use of Clover's inhaler without a bag, and Dr. Orr recommended open ether for children.

The President pointed out that Dr. Gwathmey's method was a further development of the "two-bottle" system of Dr. Tyrrel. Most methods described were not really open; it was doubtful whether surgical anaesthesia could be obtained by a strictly open method; it was not suitable for induction, but rather for the maintenance of anaesthesia. The importance of the CO_2 content should not be forgotten; under light ether narcosis, acapnia was likely to occur. He induced with gas and ether, or, if a previous alkaloidal injection had been given, with chloroform. In conclusion, he thanked all those who had helped to make the Section a success; he thought the excellence of the work done amply justified the formation of this Section, and trusted that anaesthesia would always be represented in future medical congresses. Dr. Ferguson, in reply, laid down the fundamental conditions of an open ether administration; these were not met by many methods described. He could induce by the drop method in four and a half minutes, and used no alkaloids. After Dr. Arrias, Mr. Hobday demonstrated an apparatus for administering chloroform to animals. It was safe, dosimetric, portable, and working automatically was well within the competence of an intelligent groom.

Independent Papers.

Oil-Ether.

Dr. J. D. Gwathmey of New York then read a preliminary report on oil-ether administration, based on laboratory work and a few trials in the human subject. The method consisted in pouring slowly into the rectum through a funnel and rubber catheter a solution of ether in oil; a previous dose of morphine was necessary; he preferred a suppository containing 1 grain and administered one hour beforehand. He used either olive oil or Carron oil, the latter giving up its ether more readily. Less than 60 per cent. of ether in the solution failed to produce anaesthesia, more than 75 per cent. caused irritation. Between 200 c.cm. and 300 c.cm. were injected, producing anaesthesia in ten to fifteen minutes, which lasted from three-quarters of an hour to an hour.

The President thought the method offered some advantages where rectal anaesthesia was desirable, and Professor Teter said he intended to adopt this method as an adjunct to gas and oxygen where such was required.

Ethyl Chloride.

Dr. E. Caillaud (Monte Carlo) read a paper on prolonged general anaesthesia by ethyl chloride, and exhibited an apparatus by which he administered this anaesthetic in regulated doses either alone or in conjunction with chloroform.

Dropper.

In the afternoon, when Dr. Silk was in the chair, Dr. Arrias (The Hague) exhibited a little contrivance for dropping ether and chloroform, separately or together, and in proportions varied at will.

OBSTETRICS AND GYNAECOLOGY.

Post-abortal and Post-partum Infection.

Several papers were read at a short session on Saturday. Professor Polak (New York) communicated his views on the management of the interior of the uterus in post-abortal and *post-partum* infection. Nature, he said, closed the uterine sinuses by the formation of blood clot; this was a conservative and protective process. A study of nearly 2,000 cases of infection had demonstrated that the endometrium should never be curetted in streptococcic infection, and that to curette the placental site was to court septic thrombo-phlebitis. When the inside of the uterus was not disturbed, there was little tendency for the infection to spread to the parametrium or peritoneum. Further, when the invasion of the lymphatics or blood channels occurred through a tear in the cervix, intrauterine treatment was obviously useless. He had found streptococcus in pure culture in from 30 to 40 per cent. of cases, and in mixed culture in from 60 to 70 per cent. The obstetric wound at the placental site should be regarded like a wound in any other place. The protective granulation zone should at all times be carefully preserved. It was well known that the danger from a curette increased as the period of pregnancy advanced, and no one present had ever curetted a septic uterus without witnessing an immediate rise in temperature. The essentials of treatment were (1) the promotion of drainage, (2) the stimulation of uterine contraction, and (3) the preservation of the protective granulation tissue. The speaker narrated the excellent results that had followed his adoption of this technique.

Indications for Inducing Premature Labour.

Dr. Tuszkai (Budapest) enlarged on the indications for inducing premature labour in cases of excessive vomiting and of heart disease. He commented upon the great difficulty of treating such cases, and briefly mentioned the various theories accounting for hyperemesis. He would not interrupt the pregnancy in this latter condition unless albumen appeared in the urine, the pulse-rate increased, and there was a rapid loss of weight and diminution of the chlorides in the urine. In several cases of pregnant women suffering from heart disease he had found that, when want of compensation began, the variation in the pulse, which had previously disappeared owing to the cardiac hypertrophy of pregnancy, reappeared again as a sign of subsequent dilatation. Induction of labour was less commonly necessary for these cases than many seemed to think.

Plastic Treatment of Malformations.

Professor Munro Kerr (Glasgow) created interest by his careful summary of plastic operative treatment for malformations of the uterus and vagina. He treated the conditions found under four headings: (1) Müllerian ducts fused; arrested development of the uterus. Cases were indicated where operation offered no hope of improvement, and thereafter various operations, mainly abdominal, for atresia of the cervix were described; excision was favoured. (2) Müllerian ducts fused; septum present. Excision of the septum from the vagina was recommended. (3) Müllerian ducts imperfectly fused. Where the depression at the fundus was deep (uterus cordiformis) the speaker recommended Strassmann's cuneiform excision by the abdominal route; it was rarely necessary to operate on uterus didelphys, but where complications appeared excision of the affected horn was advisable. (4) Vagina more particularly affected. Operations were rendered more satisfactory in difficult cases by a thorough exploration per abdomen.

A combined meeting with the Section of Radiology held on Monday morning for the discussion on Roentgen and radium therapy in gynaecology is reported on page 451.

Biochemical Function of the Endometrium.

At the afternoon session on Monday, Dr. J. Riddle Goffe, in a paper on the biochemical function of the endometrium in menorrhagia and metrorrhagia, confined himself to such cases as showed no pathological lesion on clinical examination. The haemorrhage from these cases showed delayed coagulation, and the generally accepted belief was that this deficiency of coagulating power was a local one, brought about by some factor, possibly an antithrombin, in the endometrial and subendometrial tissues. He had found that the blood from the uterine artery coagulated normally, but failed to do so when mixed with blood from the endometrial surface. There was no evidence of a lack of any essential for coagulation, but rather of the addition of an antithrombin. After referring to the close association now known to exist between the menstrual function and certain ductless glands, he suggested that ovarian and thyroid extracts should supersede the curette, ergot, and pituitary extracts. Rest in bed and firm packing of the vagina and uterus were advisable. In discussion, Miss McIlroy endorsed Dr. Goffe's remarks. She had found an excess of calcium salts in menstrual fluids, and emphasized the close association existing between the ovary and thyroid and the menstrual function. She hinted also at a syphilitic taint in some of these cases. Sir Francis Champneys considered that many cases of undue haemorrhage in young girls cured themselves. He strongly advocated swabbing the uterine cavity with fuming nitric acid in lieu of hysterectomy.

Vaginal Hysterectomy.

Dr. R. L. Dickinson (Brooklyn) narrated his simplified technique for vaginal hysterectomy. He advocated two catgut-suture ligatures instead of a tangle of interrupted ties. The two strands, one for each side, closed together the broad ligament and pulled it into view. Finally the two broad ligaments were sewn together and the peritoneum, bladder, and vagina attached to this strong bridge.

Cancer of the Uterus.

The last session of the Obstetrical Section was unfortunately rather poorly attended, and it was to be regretted that many of the foreign members who had indicated a desire to take part, and whose contributions were eagerly looked forward to, did not put in an appearance. The subject for discussion was on cancer of the uterus (cervix and body), its operative technique and results. A resolution of sympathy for Professor Wertheim on his recent accident was unanimously passed, and thereafter Dr. Weibel (Professor Wertheim's first assistant in Vienna) reported to the Section in his stead. Some recent modifications of his technique for the abdominal radical operation in cervical cancer were announced. The most important of these was the plugging of the vagina beforehand with gauze soaked in 5 per cent. silver nitrate solution. The peritoneum should be completely closed, and if resection of a ureter proved necessary and implantation into the bladder (or in some cases into the vagina or rectum) were impossible, excision of the

kidney was the best procedure. There had been no necrosis of the ureter in the last 214 cases. In all 714 cases were reported with a mortality of 16.6 per cent.; 186 were free from recurrence after five years, and of these 14 had shown invasion of the regional glands at the time of operation. These cures represented 53.3 per cent. of all cases after excluding primary and intercurrent mortality. His operability rate worked out at 50 per cent. He recommended the same operation for cancer of the body, for in these 14 per cent. showed gland invasion.

Professor Proust (Paris) advised a preliminary ligation of the internal iliac arteries, external to the ureter, and as high up as possible.

Dr. McCann (London) had used silver nitrate disinfection of the vagina for four years. He was against the curette as a preliminary step, and had not had a single case of infection of the abdominal wound. In 65 cases of cervical cancer he had only lost three patients. The first stage of the operation should be the separation of the bladder from the uterus. A subperitoneal gauze drain was advisable in cases where haemostasis was not absolute, but it should not be left in for more than forty-eight hours. He was strongly against any operation in the advanced cases, and favoured the complete operation for cancer of the body. In 28 of these cases he had had only one death.

Dr. Comyns Berkeley (London) considered that life-expectation should be held in mind as well as curability. Dr. Bonney and the speaker performed a very thorough operation, and did not exclude cases that many were disposed to leave alone. Their operability percentage was 63, their mortality 22.5, and, as evidence of the serious cases they accepted for operation, they found implication of the glands in 33 per cent.

Mr. Childe (Portsmouth) favoured clamp and cautery of the cut surfaces of parametrium and vagina; complete haemostasis was ensured, and ligatures were not necessary.

Demonstrations.

Professor Nagel (Berlin) demonstrated a beautifully injected puerperal uterus. The tortuous and convoluted branches of the uterine arteries were well seen. Conclusions as to the origin of the lower uterine segment were developed from the specimen.

Dr. W. R. Johnstone (Edinburgh) showed a cast and coloured photomicrographs of an early ovum which he believed to be a case of uniovular twins. The age was calculated at 15 days. The nature of a double layer of epithelium covering the vesicles was not quite clear. The lantern demonstration was much admired.

OPHTHALMOLOGY.

Affections of the Eye Produced by Undue Exposure to Light.

On Monday morning, when Sir Anderson Critchett was in the chair, a discussion on this subject was opened by Professor Carl von Hess (Würzburg). Ordinary daylight, he said, had no discoverable evil influence on the eyes either healthy or diseased, and the trouble in cases of photophobia in children was not caused by the cornea or iris, but by disorders which in themselves had nothing to do with photophobia. Prolonged exposure to sunlight, on the other hand, brought about conditions well known to occur during the watching of a solar eclipse, and also in the condition known as snow blindness. The first were produced by the long wave rays, and the latter by the short wave rays, of the spectrum, and they could both be prevented by suitable protecting glasses. The effects produced by lightning and short-circuiting of an electric current were caused chiefly by the ultra-violet rays, and it had been supposed, but not proved, that the same was the cause of glass-blowers' cataract. The fear that injury to the eyes was caused by modern sources of illumination was to a large extent groundless, and any discomfort could always be prevented by suitable shading of the lamps. Glasses for this were unnecessary except in the case of men who were working for hours together in artificial light rich in ultra-violet rays.

Mr. J. Herbert Parsons (London), after enumerating the various conditions of the eye which had been ascribed to too much or too little light, entered into the physics of light in some detail. Photophthalmia was due to undue exposure to sunlight, and one form had been called snow blindness, but it could also be produced by the electric arc lamps, and, in fact, any light rich in ultra-violet rays. The milder ocular symptoms of a lightning stroke resembled those of short-circuiting, but the severer forms were generally characterized by the formation of a cataract, though these severer injuries were probably caused by concussion or electrolysis. Heat as well as light was probably concerned in the development of glass-blowers' cataract. Many cases of eclipse blindness following the act of gazing at the sun with the naked eye had been seen, and there were always a number of them after every solar eclipse. These cases showed retinitis, and a scotoma when produced was not always recovered from. He mentioned erythropsia or the red vision so frequently seen after cataract extraction or after the exposure of the eyes to snowfields.

Dr. F. W. Edridge-Green (London) gave a full explanation of erythropsia on his theory of vision which was capable of accounting for the phenomenon. It was a photochemical condition and due to the visual purple. He thought red a most irritating colour, and it was for this reason that some totally colour-blind people were able to become aware of it.

Mr. Bishop Harman (London) called attention to the great change which had taken place in recent years in the general science of illumination. Unprotected arc lamps, metal filament lamps, and high-pressure gas caused great retinal and cerebral fatigue. New lights of great intensity were put into old fittings and shades were used in 100-candle power lights which were designed for those of 8-candle power. It mattered little how intensely an object which was being examined was illuminated, but it was most detrimental for the intense glare from a highly luminous point to strike the eye in an unprotected manner. He thought it should be an offence to display in a public place a naked lamp above 20-candle power or any arc or equivalent lamp nearer than 30 ft. above the footpath.

Mr. Priestley Smith (Birmingham) discussed the question of photophobia in children, and Dr. George Mackay (Edinburgh) said that the acute pain caused by excessive light was muscular. He called attention to the fact that while one person was quite comfortable with a great glare of light, and found it difficult to read with any less, others could not stand anything like so much. He asked if any one had had experience of moon blindness, which was firmly believed in by seamen; he had never seen a case.

Dr. G. A. Berry (Edinburgh) expressed the belief that blepharospasm was due to light falling on a retina in a state of dark adaptability. For protecting glasses he preferred neutral tint to "euphos" glass.

Professor Axenfeld (Freiburg) thought that spring catarrh was really due to exposure to air rather than to light, and he adduced evidence in proof of this idea.

Colonel Elliot said that in India cyanopsia followed cataract extraction in about 60 per cent. of the cases, while black cataract was extremely common. After extraction the pigment of the retina was greatly diminished and he suggested the possibility of its having found its way into the lens. Glare-photophobia, which was so very common in India, was associated with an irritable condition of the conjunctiva at the fornix, and treatment for that, with silver nitrate or similar drugs, cured it. He thought that previous to a solar eclipse notice should be put into the papers warning people not to look at the sun without protecting glasses; damage was frequently caused in India from ignorance of this fact.

Dr. Bernard Cridland thought that ironworkers, that was to say those who had to work with the metal at a white heat, were just as liable to cataract as glass-blowers. It should, he suggested, be included among the trade diseases. In this he was supported by Dr. Brinton (South Africa).

Independent Papers.

Sight Tests for Seamen.

At the afternoon session, when Mr. Charles Higgins, Vice-President, was in the chair, Dr. Karl Grossmann (Liverpool) read a paper on the sight tests for sailors. He advocated the standard of $\frac{6}{6}$ vision in each eye. He thought that a lantern was essential for testing for colour vision, and he also considered the Holmgren test particularly bad, while any defect in light perception

should be considered a bar to a candidate's employment as a seaman.

Mr. T. H. Bickerton (Liverpool) thought the whole matter should be dealt with from a practical point of view. He disagreed entirely with the finding of the Departmental Committee of the Board of Trade, and considered that a man with half normal vision was quite safe, though for new candidates a higher standard should be required. If a man could see a ship at a certain distance it was of far more importance than seeing what letter he could read on a board.

Dr. Edridge-Green (London) and Mr. Nettleship (London) also spoke.

Detection of Colour Blindness.

Dr. Edridge-Green read a paper on the detection of colour blindness from a practical point of view. He advocated his well-known tests for this purpose, and said that it was impossible for a man who was colour blind to pass his lantern test, and it was equally impossible for a skilled examiner to reject a normal sighted man. The Holmgren test was a very bad one, and was made still worse than it might be by the fact that colour names were not allowed to be used. He contended that it was absurd to conduct an examination for this purpose and not to use the names of colours. Since a lantern of what he considered to be of very imperfect construction had been used by the Board of Trade the percentage of rejections had gone up from 0.8 per cent. to 6.22 per cent.; not one candidate who could pass the lantern was rejected by the wools, but several who could pass the wools were proved to be dangerously colour blind by the lantern. No test ought to be relied upon which could be passed by the colour blind after coaching, and the wools and many other tests were not reliable after the candidate had once seen them. It was impossible for any one to be coached in the use of his lantern. A person might be an anomalous trichromatic and yet have perfect colour vision, while many colour blind people, even some dichromatics, made a normal equation with less deviation than the majority of normal sighted persons.

Mr. Nettleship defended the tests in use by the Board of Trade, and Dr. Berry (Edinburgh) said that he quite failed to follow Dr. Edridge-Green's theory, and thought the Holmgren test excellent.

Mr. Devereux Marshall (London) pointed out some inaccuracies in the nautical assumptions of some of the previous speakers. He thoroughly endorsed Dr. Edridge-Green's views, both from the theoretical as well as from the practical point of view. He could not understand any one failing to understand Dr. Edridge-Green's theory, for it not only explained all the known facts of colour vision, but also of vision of all sorts as well. No other theory was capable of explaining any of the facts.

Dr. Edridge-Green, in reply, stated that to show two lights in a lantern was harmful and unnecessary and did away with much that was useful in the lantern test. In one of the latest books on physiology his conclusions were mentioned not as a theory, but as fact.

The following resolution, proposed by Dr. Karl Grossmann (Liverpool) and seconded by Dr. F. W. Edridge-Green (London) was subsequently adopted:

1. That an international committee, with power to add to its number, be appointed by the council of this Section of the Congress to report on a suitable standard of form vision, colour vision, and light sense, in the interest of safety at sea.
2. That this committee also report on what it considers and recommends as suitable tests for carrying out the necessary examination of vision as mentioned above.

Radio-therapy and Light Treatment.

Professor W. Koster (Leyden) read a paper on the direct treatment of eye diseases with radium and mesothorium. These substances were contained in a small glass tube and directly applied to the diseased parts. He recommended the method in almost every disease to which the eye and the surrounding parts were subject. He considered that it had a great future before it, and was not dangerous in experienced hands.

Dr. Fritz Schanz (Dresden), who read a paper on light treatment in diseases of the eye, explained fully how he used the light, and mentioned some of the conditions in which he had found it beneficial.

Foreign Bodies.

Dr. Lauber (Vienna) gave an account of an operation for the extraction of foreign bodies from the eye which were either non-magnetic or so embedded that the magnet was not sufficiently powerful to withdraw them. The method was devised by Sachs. It consisted first of all in accurately localizing the foreign bodies by means of the x rays, and then making an incision through the coats of the eye as near to it as possible. The eye was transilluminated and the wound held open, and it was then usually possible to see, and to take hold of the body with forceps and withdraw it. If the media were clear it was quite easy to see exactly what was being done, and many excellent results with non-magnetic particles were recorded.

Other Papers.

Dr. Terrien (Paris) read a paper on the physiological mechanism of the coagulation of the aqueous humour, and Dr. J. Fejer (Budapest) described a case of temporary blindness due to ergot poisoning.

Infarction of Posterior Ciliary Arteries.

Mr. George Coats (London) read a paper on infarction of the posterior ciliary arteries, and showed microscopic sections illustrating the condition. The necrosis produced corresponded to the distribution of the affected arteries.

Astigmatism in Two Meridians.

Professor Marquez (Madrid) read a paper on astigmatism in two meridians corrected with two cylindrical glasses with oblique axes. Mr. Percival (Newcastle-on-Tyne) thought that Professor Marquez was to be much congratulated on the very fine piece of optical work.

Operative Treatment of Squint.

Mr. Bishop Harman (London) demonstrated his method of treating squinting eyes by means of taking a reef in the muscle and elongating the opposite muscle by its partial division. He presented the results of 100 cases which showed a very high standard of success. He illustrated the method both on a phantom and also by some very clear photographs. The advantages he claimed for it was that the results were very reliable, the muscle was not divided so that an over-effect was scarcely possible; while it was quite easy to shorten a muscle to the degree required, and it was never necessary to shorten it to anything like the extent that was possible. If too much shortening was produced on one muscle so as to cure a very marked squint it tended to make the eye assume a too deep position on the socket, and for this reason it was advisable to lengthen the opposite muscle. This could, of course, be done by doing a complete tenotomy, but he did not advise it owing to the uncertain effect produced. He showed that by means of a special pair of forceps and a knife three incisions might be so placed in the muscle that very considerable lengthening of it could be produced without actually dividing it. It was so often considered that a partial tenotomy was no more capable of lengthening a muscle than would the partial division of a piece of string. This, however, was not the case when done by his method. Photographs of some of his patients were shown, and he strongly recommended the operation on account of its simplicity, safety and success. Most of his cases had been operated upon as out-patients, but this was never desirable if other methods of advancement with division of the muscles were performed.

Dr. F. C. Todd (Minneapolis) said he had been working on similar lines to Mr. Harman for the last twelve years. The principle had this great advantage, that the results were permanent, and under no circumstances could they be made worse, for nothing was divided, so that if the whole thing failed they would only be left where they were; but this was, of course, practically impossible. He proposed to adopt many of the suggestions which Mr. Harman recommended. In reply to a question, Mr. Harman said that the reason the operation was done subconjunctivally was because it was easier, cleaner, and held better. Practically no lump remained after a very short time.

Prevention of Myopia.

Professor Levinsohn (Berlin) read a paper on short-sightedness, and strongly urged the necessity of outdoor

exercise and sports as a prophylactic against its development.

Mr. Percival pointed out the part taken by the superior and inferior oblique muscles in the pushing out the posterior pole of the eyeball. These muscles girdled the globe, and exerted considerable pressure in this direction.

Spring Catarrh.

Dr. A. Greene Brinton (Johannesburg) read a paper on the treatment of spring catarrh of the bulbar variety (not with radium). He considered that the term "vernal" or "spring" catarrh was applied to various forms of conjunctivitis. The ocular form, in which the conjunctiva of the globe was especially affected, and in which the conjunctiva became very swollen and "soggy," he designated "tonsillitic" conjunctivitis, for the reason that it was found to be always associated with tonsillar disease. In South Africa he had found that this form occurred at all seasons of the year, the only common cause being undue dampness of the atmosphere, which was the exciting factor in patients who were subjects of rhinitis and especially of enlargement of the tonsils, particularly the lower tonsillar lobe. All the usual local treatment he had found more or less useless until the tonsils were absolutely and completely enucleated, then the conjunctival trouble disappeared rapidly, sometimes in a few hours. He thought that this form of conjunctivitis was due not to bacterial infection but to lymphatic changes and possibly inflammation and obstruction of lymph channels, and believed the cure was due to the opening of lymph channels around the carotid sheath.

DISEASES OF CHILDREN.

Discussion on Infection of the Urinary Tract with Colon Bacilli.

Dr. John Thomson (Edinburgh), in opening the discussion, confined himself mainly to its clinical features, their value in diagnosis, and the light they might possibly throw on the pathology of the condition; he also discussed the course of the disease and its treatment, especially by drugs. His paper was founded mainly on personal observation of 71 cases of various types of *Bacillus coli* infection which had been under his care: 25 of these had already been considered in two former papers. He thought it was quite certain that they were carried from the colon to the urinary tract, sometimes by the blood stream, sometimes passed in by the lymphatic channels, and sometimes ascended from without by the urethra. He especially emphasized the great probability that the organisms often followed a combination of these paths. Thus they might pass from without through the short and wide female urethra directly into the bladder, thence through the mucous membrane into the lymphatics, and in them up the outer wall of the ureter until they reached the pelvis of the kidney. On the other hand, they might enter the blood or lymph stream through a rectal or intestinal excoriation and be taken straight to the kidney or pelvis, and from there might be washed down by the urine to the lower parts of the urinary tract. The normal colon bacillus seemed to have little pathogenic effect on healthy mucous membrane. If the virulence of the organisms had been increased by morbid processes in the intestine or otherwise, or the normal resistance of the tissues lowered by local or general disease, or, perhaps, if there had been some retardation of the flow of urine so that the bacilli had been retained abnormally long, then more or less violent inflammation with corresponding symptoms might be set up. Thus, in 32 out of his 71 cases the symptoms of urinary disease had set in during or shortly after some weakening disease or experience. In three-fourths of the cases in which this had been noted it was of the nature of a bowel disturbance. The disease might begin within the first few weeks of life, and was about twice as common in children under 2 as it was after that age. It was also generally more severe in younger children. The relative proportion of the two sexes affected and the way the clinical details differed in boys and girls were among the most striking features of this infection. The proportion of girls affected was much larger, and in his cases amounted to 79 per cent. In young infants the illness more often began with diarrhoea than in older children, and this symptom was more frequently marked in boys than in girls. During the first six months of life far more boys than girls were affected. Rigors and shiverings constituted an important symptom of this infection, contrasting with their infrequency in other infections in infants. They, however, were extremely rare at the onset of the symptoms in boys, and had not occurred in any of his 15 male cases. Mild cases of *B. coli* infection were rare in boys, and there were more cases of pyelonephritis among them than among girls. The significance of the clinical differences between the sexes was not quite clear. The great preponderance of female patients seemed to point to the conclusion that ascending infection must be a common occurrence. The greater prevalence of antecedent diarrhoea in boys would probably disappear if it were possible to subtract from the list of girls the cases infected by the urethra. The most frequent cases were those in which the parts above the bladder were invaded, and the striking peculiarity about their symptoms was the trivial and equivocal nature of the local manifestations, and the extreme severity of the general disturbance. The temperature chart was characteristically that of an infective disease. Nearly two-thirds of the female infants with symptoms of acute pyelitis were said to have had a well-marked rigor or shivering fit about the time of onset of their illness. Several also had repeated rigors during the first few days of treatment. In 3 or 4 cases "faint turns" were described, in which the patient became pale, rigid, and semi-unconscious. Like the rigors, these peculiar attacks were very characteristic of the disease in babies. The extreme misery, restlessness, and general tenderness when the temperature rose formed a valuable and important diagnostic sign. The first indication in treatment was always to ensure a free discharge of urine by giving the child large quantities of fluid to drink. Occasionally, when the patient refused to drink enough the fluid had to be administered through a stomach tube or by the rectum. A second indication was to see that the bowels moved adequately, for which he employed sodium phosphate. The other important forms of treatment were: (1) The alkalinization of the urine, (2) the administration of antiseptics, and (3) the use of serums and vaccines. The first of these methods by the use of potassium citrate or some other alkali was the form of treatment which he had found most effectual. The aim was to keep the urine alkaline for a week or two after the pus had disappeared and the symptoms had ceased. The dose of potassium citrate varied considerably. The smallest amount which he had found successful was 24 grains in the day, but generally it was advisable to begin with 60 grains if the patient was under 2 years old, and it was often necessary to give double this amount, and occasionally 150 grains.

The value of vaccine therapy by means of autogenous vaccines was attested by Dr. Gorter (Leyden), who had treated 18 cases in this way, only one of which was a simple case of pyelitis. Five were cases of chronic bacilluria; in 8 others there were frequent relapses, and in the remaining 5 severe complications were present. The effect of the vaccines was gauged by estimating the number of pus cells in the urine; 13 out of the 18 recovered, 1 died of bronchopneumonia, 2 did not improve, 2 did not recover but improved considerably. The number of bacilli injected varied from 10 million to 700 million.

Dr. Waller (London) called attention to the presence of bacilli in the urine in cases of oedema following enteritis in children. He had examined 11 male and 14 female children who showed this association. It seemed possible that in cases of diarrhoeal disturbance the presence in the urinary tract of *Bacillus coli communis* was by no means uncommon.

Dr. Ross related the results of the bacteriological examination in Dr. Waller's cases. The two organisms commonly found were the *Bacillus coli communis* and the *Bacillus proteus*.

Dr. Kerley (New York) spoke of the persistence of pus in the urine in this infection, in spite of the disappearance of fever, and in spite of alkaline or vaccine treatment. He was doubtful whether treatment did much good.

Dr. Butterworth (U.S.A.), Dr. Lapage (Manchester), and Dr. Sedgwick (Minneapolis, U.S.A.) continued the discussion, and Dr. Thomson replied.

Discussion on Polioencephalitis and Poliomyelitis.

Dr. F. E. Batten (London), in introducing this subject, pointed out that since the last International Congress of Medicine in 1909 great additions had been made to the knowledge of these diseases. It was true that in December, 1908, Landsteiner and Popper had succeeded in communicating poliomyelitis from human being to monkey, but all the knowledge now possessed concerning the nature of the virus had been furnished since by the experimental work of Landsteiner and Levaditi, Flexner and Lewis, Leiner and Wiesner, Roemer and Joseph. In 1909 Knöpfelmacher produced the disease in a monkey by injecting into the peritoneum an emulsion of the spinal cord from a case of poliomyelitis, and in the same year this experiment was repeated by Strauss and Hontoon in America. Towards the end of 1909 there came the communications, almost simultaneously, of Flexner and Lewis, Landsteiner and Levaditi, Leiner and Wiesner, and Roemer, showing that the infection could be transferred from monkey to monkey by an emulsion of the spinal cord. It was shown that the virus was filterable and would pass through the usual filters, but that after such a passage it lost some of its virulence, and the incubation period was always prolonged. It was also shown that the virus might be preserved for many months in pure glycerine, or 50 per cent. of glycerine in water, without affecting its virulence. In this respect the virus resembled that of rabies and vaccinia. The organism would withstand prolonged drying, so that material dried at 22° C. for twenty-four days was still virulent. The cultivation of the organism had up to the present not been definitely accomplished. Small round and oval corpuscles had been described under the ultra-microscope, and quite recently Flexner and Noguchi had described a medium and method of growth under anaërobic conditions. They described minute colonies of globular bodies averaging 0.15 to 0.3 of a micron in size. These bodies stained a pale reddish-violet in Giemsa solution. Monkeys inoculated with the cultures had developed typical poliomyelitis, but the authors were fully aware of the possibility of the carrying over of a quantity of the original virus sufficient to cause paralysis in the inoculated monkeys, and further experiments were in progress to prevent such an occurrence. Experimentally it was found that the most certain method of infecting monkeys was by injecting 0.5 c.cm. of an emulsion of an infected spinal cord into the brain, and at the same time 4 to 5 c.cm. into the peritoneal cavity. Subcutaneous and intravenous injections were, however, frequently successful. The virus would pass through the uninjured nasal mucous membrane and would also penetrate the intestinal mucous membrane. Shortly, it might be said that the virus existed in the central nervous system, in the mucous membrane of the nose, in the tissue of the pharynx, in the lymphatic glands, rarely in the salivary glands, and still more rarely in the blood; but it could not be proved to be present in the buccal, pharyngeal or nasal secretions or in the faeces. The great epidemic of poliomyelitis in Sweden in 1911 gave the observers Kling, Pettersson, and Wernstedt the opportunity of a thorough investigation. With regard to infection by fomites, Dr. Batten said that Josefson had succeeded in producing experimental poliomyelitis with a handkerchief and fancy work, and Neustaedter and Thro, after many failures, produced the disease in a monkey with a filtrate of macerated dust collected from infected rooms. Howard and Clark showed that the domestic fly could carry the virus and that the bed-bug had taken the virus with the blood from infected monkeys and maintained it in a living state within the body for a period of seven days. It had also been demonstrated that the disease could be transmitted from monkey to monkey by the stable fly. Dealing with the clinical manifestations of poliomyelitis and polioencephalitis in man, he said there were several forms: (1) The spinal type; (2) the ascending and descending, so-called Landry type; (3) the bulbar and pontine type; (4) the encephalitic type; (5) the ataxic type; (6) the neurotic type; (7) the meningeal type, and (8) the abortive type. Certain of these were not commonly recognized. One which was little known was the "Jump" type, in which the disease remained stationary for several days, and then rather suddenly and rapidly advanced. The bulbar type also not infrequently escaped recognition. The clinical picture was very striking, and, apart from poliomyelitis, was only seen in deaths from myasthenia gravis and probably in rabies. There was some question as to the presence of a neuritic type of the disease, and although at the present time it could not be asserted that toxic polyneuritis had been proved to be a manifestation of the virus of poliomyelitis, he thought that there was reasonable ground for considering that it might sometimes be the case. He then dealt with the incidence of poliomyelitis in London. There was no doubt that it had been endemic in London for many years. He exhibited charts showing that it was fairly evenly distributed over the country. England had never suffered from a severe epidemic, but from sporadic cases scattered over the whole country. The incidence of the disease in 1911 was unusually severe. In conclusion, he said that poliomyelitis and encephalitis must be regarded as an acute specific fever, having an incubation period which was variable, but on the average from eight to twelve days. The virus was carried in the mucous membrane of the mouth, nose, and pharynx, not only of those who had the disease, but also of those who had only been in contact with the infected. The disease might infect any part of the nervous system, but fell with greatest severity on the grey matter of the ventral horns of the spinal cord. The clinical symptoms were variable, depending on the incidence of the virus on the nervous system. This might either give rise to infiltration of the tissues and vessel walls with cells of a lymphocytic nature or act as a direct poison to the neuron. The form which the affection took depended to a great extent on the virulence.

Professor Netter (Paris) spoke of the meningeal form of poliomyelitis, emphasizing the fact that it was extremely difficult to distinguish from cerebro-spinal fever, and sometimes impossible.

Sir Thomas Barlow said that he had come to the conclusion some years ago that the infection was connected with infective catarrhal conditions. He referred to evanescent forms of the paralysis and cases in which the paralysis was scarcely noticeable. He argued that the meningeal form was very difficult to distinguish from cerebro-spinal meningitis, but thought that the head retraction was less and the subsequent paralysis more than in that disease. In cerebro-spinal meningitis, too, there was usually some spasticity at some time during its course. There was much to be said for recognizing neuritis as part of the disease. It was extremely important in the early stages to keep the children in bed in order to limit the output of nervous energy and reserve the strength of the child in the greatest degree possible. He disapproved of massage, electrical and allied treatments, before all pain and tenderness had quite gone.

Dr. Lovett (New York), Dr. Butterworth (New York), Dr. Gossage, Dr. Guthrie, and Dr. Kerley and Dr. Fischer (both of New York) also contributed to the discussion.

NEURO-PATHOLOGY.

Discussion on Motor Aphasia, Anarthria, and Apraxia.

Unfortunately Professor Dejerine of Paris was unable to attend on account of illness, but Dr. Jumentié read a summary of his report to the Section. It contained a general historical survey of theories, proved and unproved, on these important questions. The writer, after reference to the work of Broca, Marie, and others, dealt first with the history of motor aphasia, or aphemia, and the contradictory views which prevailed regarding this disorder until the work of Pierre Marie crystallized them in some measure. Then followed an account of the vicissitudes of the term "anarthria," which, to begin with, had a precise meaning, but in time became modified sufficiently to express quite an opposite meaning. In 1908, indeed, the Neurological Society of Paris declined to accept the term "anarthria" as indicating difficulties of the spoken word in motor aphasia and substituted for it the term "aphemia." Professor Dejerine then dealt with the clinical distinctions between aphasia and anarthria, and discussed in some detail the pathological anatomy of the subject. Anatomically, anarthria or dysarthria could be caused by bulbar lesions, cortical lesions, or lesions of the cortico-bulbar fasciculus. The term "anarthria" ought to be kept, but should be reserved for disorders of speech of motor origin, characterized by spasm, or paralysis of co-ordination. Aphasia, according to Lantzenberg, was verbal in character

anarthria purely vocal. The intrinsic part played by the lenticular nucleus in the production of anarthria, seemed to be negative. The doctrine of aphasia as enunciated by Broca and Wernicke was still a classic.

Professor Liepmann (Berlin), who had a hearty reception, plunged at once into his subject. Aphasia—not only motor aphasia, but every expressive-aphasic disturbance of speech—and apraxia were, he considered, essentially similar. The enlarged conception of apraxia was not limited to visible effects of movement. Very clearly and explicitly he distinguished apraxia from other disturbances of movement—for example, paralysis, or ataxia. Man was born with an executive apparatus—sensory and motor. If the former was impaired, ataxia, and possibly athetotic and choreiform movements, followed; if the latter, paresis. But this apparatus did not suffice for the functions of life. By imitation and instruction something new was added to the mere possession of a healthy executive apparatus. If this acquired capacity was lost or impaired, apraxia or dyspraxia ensued. Physiologically and psychologically, and therefore also pathologically, the expressive-aphasic disturbances belonged in principle to apraxia—using that word in the wider sense. By regarding motor aphasia as an apraxia the demarcation from anarthria was established. To French investigators was due the knowledge that the major share of the function of speech belonged to the left hemisphere. Liepmann's own investigations had shown that the left hemisphere preponderated in nearly the same measure for praxia as a whole. The want of independence of the right hemisphere showed itself particularly by its inability to initiate movements without handling an object. In many left-handed dyspractic patients movements involving the handling of objects were quite possible, but they failed completely to imitate movements made before them. The right hemisphere was dependent on the left hemisphere for the execution of these "free" movements.

An animated discussion followed, in the course of which von Monakow exhibited, by the aid of the lantern, a number of macroscopic sections of the cerebrum affected by tumours, which went to prove the argument he advanced that apraxia can be caused by lesions in almost any position.

Claude, Wilson, Gutzmann, Rothmann, and Heveroch all contributed something of interest to a valuable morning's work.

Discussion on the Myopathies.

The subject for discussion on Saturday—the relation of the myopathies—was introduced by Dr. Spiller (Philadelphia). The classification of the myopathies was, he said, no easy task; but there were two great groups of muscular atrophy or arrest: (1) The congenital; (2) the acquired. The first of these embraced the cases of arrested growth in certain limited regions of the body—for example, the infantile nuclear arrest of Möbius. This condition might be caused by muscular defects with complete integrity of the nerve apparatus, or, on the other hand, the peripheral neurones might be much affected. This congenital arrest was not usually progressive. Acquired muscular atrophy also presented two types—the primarily muscular, with intact nervous system, and the nuclear (neuronic), in which the nerve cells of the peripheral neurones were implicated. In the former were included progressive muscular atrophy including the bulbar form of Hoffmann; in the latter the Werdnig-Hoffmann muscular atrophy, the infantile bulbar atrophy of Fazio, Charcot, and Londe, and the forms of myelopathy occurring later than the period of childhood. These types were progressive, and the various types were combined in rare cases. He accepted Batten's classification of the myopathies as an excellent basis for discussion. The simple atrophic type of Batten was most in dispute. It was congenital or begun in early infancy, and was characterized by smallness, lack of power, and loss of tone in all the muscles of the body without localized atrophy or hypertrophy of individual muscles or groups of muscles. The disease was slowly progressive. With this type Batten had combined amyotonia congenita, and there were unquestionably many points of resemblance. Collier and Wilson, however, had formulated many points of distinction. Spiller then discussed the differential diagnosis between myopathy and amyotonia in detail. The most important distinction of amyotonia was that it was non-progressive, and that amelioration might occur. He then reviewed the distinctions between amyotonia and the Werdnig-Hoffmann atrophy as advanced by various authorities. These were not so definite and pronounced as some authors would suggest. He then discussed the distal type of myopathy, myotonia atrophica, and hypertrophia musculorum vera—the latter a somewhat neglected condition—and mentioned cases illustrative of the different types.

Dr. F. E. Batten (London) said that his classification of the myopathies was as follows:

1. The simple atrophic type (amyotonia congenita).
2. The pseudo-hypertrophic type.
3. The juvenile type (Erb).
4. The facio-scapulo-humeral type (Landouzy).
5. The distal type (Gowers).
6. The myotonia atrophica type.
7. Mixed and transitional types.
8. The true hypertrophic type.

He then discussed amyotonia congenita in relation to the simple atrophic type of myopathy. A feature of the former was an extreme state of hypotonus of the muscles, which allowed the limbs to be placed in unusual attitudes, and the loss of the deep reflexes. Hypotonus was not to be regarded as pathognomonic of amyotonia congenita. It was a symptom only, which occurred also in advanced rickets, spina bifida, and especially in the Mongolian type of idiocy. Some authorities regarded amyotonia congenita as an entity, affirming that it appeared acutely and reached a severe degree of paralysis in a few days, and that there was a tendency to recovery. He did not believe this, and thought that complete recovery was rare. There might be increased capacity—to perform certain actions as development took place—but a normal condition never obtained. The pathological findings were in favour of the view which regarded the condition as a myopathy. He next discussed amyotonia in relation to the progressive muscular atrophy of infants (Werdnig-Hoffmann type). The latter tended to affect the proximal rather than the distal portion of the limbs. It was slowly progressive, and often terminated fatally in six months. Typical atrophic changes were to be found in the ganglion cells of the anterior horns. Further, the intercostal muscles were frequently affected in Werdnig-Hoffmann's paralysis, but rarely in the myopathies. The hypotonus, too, was not so great in Werdnig-Hoffmann's paralysis. There was some difficulty in distinguishing the distal type of myopathy from the peroneal type of Charcot-Marie-Tooth, in that both started in the distal muscles, and were both familial and slowly progressive. In the latter, however, sensory changes were present and no deformities occurred. There were definite changes, too, in the spinal cord in the peroneal type, whilst in the distal type the cord was normal. The myopathies formed one large group and were primary diseases of muscle. Batten's remarks were illustrated by a number of beautiful lantern slides.

Gordon Holmes supported the conclusions of Spiller and Batten that there was no essential difference between amyotonia and the myopathies.

Professor Bruns (Hanover) having spoken briefly, Sachs pointed out that the most important task was to find out what was the underlying cause of these familial muscular affections. Were they due to changes in the ductless glands? Or to what were they due? He spoke hopefully of the prospects of considerable improvement in these cases. Foerster (Breslau) and Fisher, who followed, also took this view.

Discussion on Parasyphilis.

At the concluding meeting of this Section on Tuesday morning the subject for discussion was the nature of the condition named "parasyphilis." Professor Nonne (Hamburg), who spoke in German, gave a masterly summary of the subject; and in the course of developing his argument reviewed nearly all the most valuable contributions that have been made on the matter. The essential points of difference between tabes and general paralysis and so-called syphilitic disease of the nervous system were clinical and anatomical. Regarded clinically, the two former diseases, tabes and general paralysis, were slow or generally progressive, and there was uniformity of the clinical picture. As a rule, there was a long interval

between the original infection and the appearance of the disease. Then there was the failure of the usual anti-syphilitic remedies. Anatomically they differed in the systematic way in which the following conditions were found. In the case of tabes there was the commencement of the disease in certain defined parts of the nervous system. Then it progressed in a distinctive fashion, whilst there was, further, the primary neuro-degenerative character of the disease. General paralysis showed a predilection for certain parts of the brain, and a characteristic apposition of inflammatory and purely degenerative processes. There was evidence, too, of certain distinctive forms of cells. He quoted Fournier as saying that tabes and general paralysis were of syphilitic origin, but not of syphilitic nature, owing to the evidence of pathological anatomy. Strümpel, too, had said that the pre-existence of syphilis was a *sine qua non* of tabes, whilst Erb doubted whether, in view of many clinical facts, they could speak of meta-, para-, or post-syphilis, and Möbius affirmed that every case of tabes arose from syphilis. Häschl had stated that progressive paralysis was no other than a late result of syphilis—an encephalitis syphilitica of the cerebral substance ending in atrophy of the brain. The discovery of Wassermann and the performance of lumbar puncture assisted materially in cases in which there was no history of syphilis. Plaut's statistics had shown that the Wassermann test had been positive in all but one out of 183 cases. The answer to the question, Were tabes and general paralysis typical diseases in the same way as lues cerebro-spinalis? was both Yes and No. The former because certain symptoms such as papillary anomalies, absence of tendon reflexes, and constant subjective and objective disturbances of sensibility were always to be noted. "No" because both diseases could show such a confused variety of forms. Dealing next with the period between infection and the appearance of the disease, Nonne said that the long interval was not confined to tabes and general paralysis. He had seen a case in which an interval of thirty years had occurred in ordinary cerebro-spinal lues. As a rule the symptoms in the former were so slight at the beginning that the patient rarely consulted a doctor, whereas in cerebro-spinal lues the symptoms were often alarming, and the doctor saw the patient much earlier. With regard to the other clinical point mentioned—the uselessness of the usual antisyphilitic remedies—this too occurred in tertiary syphilis. In the case of old gummata in which there was little tissue capable of absorption, the spirochaete was found to be proof against known remedies. Before Noguchi's discovery Hoche explained the fact that treatment in cerebro-spinal lues was so frequently valuable by affirming that the excitant was present in the tissues, but was not present in tabes. Turning again to the anatomical side of the question, the anatomical marks of lues did not always suffice for a determination of its luetic nature. The anatomical findings in paralysis and tabes showed no distinction in their entities from the syphilitic diseases. Having discussed certain investigations connected with the *Spirochaeta pallida*, he stated that general paralysis and tabes were to be regarded as a spirillosis of the brain and spinal cord. He then analysed Noguchi's experiments at length and the conclusions to be drawn from them. Briefly, they went to prove the syphilitic nature of tabes and general paralysis. They could no longer look upon meta-lues as a "meta" disease, but had to regard it as evidence of a poison of the syphilitic excitant still active in the nervous system.

Dr. F. W. Mott, after paying a fitting tribute to the survey Professor Nonne had given, referred first to the primary and secondary symptoms of parasyphilis. In a record of 600 *post-mortem* examinations in general paralysis, he remarked the difficulty there was in finding signs of syphilis on the *post-mortem* table. Very frequently there was a nodular fibrosis of the aorta. The pathology of the condition presented great difficulties. Why, for instance, in tabes did they have an elective action? He was disposed to believe that the toxins passed along the perivascular lymphatics to the posterior roots of the spinal cord. In general paralysis the toxins travelled up to the parotid. They affected eventually the fore-brain, causing wasting of the frontal lobes without actual infection. But sooner or later the spirochaete began to grow. The toxin theory would explain matters, as they alone could pass along the lymphatics. His conclusion was that tabes and general paralysis was one and the same disease affecting different parts of the nervous system. The analogy of the condition to trypanosomiasis was not to be disregarded, and he appeared to suggest that the relationship was closer than was sometimes imagined. The whole character of syphilis was changing. Whether that was due to partial immunization of the race he could not say. He gave some striking and interesting statistics of the relative proportion of general paralysis in the West and East of London. The lower the social scale in women the greater the incidence of general paralysis. That was not so in the case of men. In the case of the West End the proportion of males so affected was 6 to 1, in the East End 5 to 1. Dr. Mott's valuable contribution was heartily applauded.

Léri said it was a question whether primary optic atrophy and lateral sclerosis ought not to be included in the parasyphilitic group. Tabetic blindness did not often accompany the ordinary signs of tabes. He had confined his attention in particular to cases of optic atrophy which accompanied abolition of the knee-jerks. Histologically it had been shown that primary optic atrophy was absolutely analogous with tabetic optic atrophy. Parasyphilis arose directly from syphilis and not from non-syphilitic affections developed on a syphilitic ground. Massary (Paris) followed and referred to the work of Noguchi, and Wollenberg (Strassburg), who spoke in German, mentioned the anatomical investigations of Steiner in connexion with the central nervous system of syphilitic rabbits. The changes for the most part consisted of inflammatory infiltration round the vessels of the central nervous system in the cerebral cortex and perineurium. This, for the most part, consisted of plasma cells with very few lymphocytes. The part of the brain near the spinal cord was most affected.

Dr. Henry Head (London), as the result of his own researches, had come to the conclusion that parasyphilis of the nervous system was a purely clinical conception. It was a diseased state which might affect any part of the brain or spinal cord. Some forms of progressive muscular atrophy, lateral and combined sclerosis, primary optic atrophy, and periodic epileptiform attacks might be equally manifestations of parasyphilis. Parasyphilitic states were peculiarly liable to arise after mild syphilitic infection, 60 per cent. of cases of tabes having suffered at most from a primary sore. Further, in dementia paralytica and in active unhealed cases of tabes the cerebro-spinal fluid yielded a positive Wassermann reaction. Dr. Head then referred to the question of "hyperallergie." The clinical manifestations of "parasyphilis" were an expression of the reaction and necrosis of hypersensitized areas of the nervous system evoked by the reappearance of the *Spirochaeta pallida*. The hypersensitive state of the tissues of the central nervous system was in all probability produced by the passage of the spirochaetes or their toxins along the nerves from the skin and mucous membranes during the secondary period. From the pathological point of view the term "parasyphilis" was inadmissible. These states depended on the reaction of hypersensitized tissues to the spirochaete or its toxins, and the reaction was as truly syphilitic as was the production of gummata.

Dr. McIntosh (London) then gave the conclusions arrived at by Sir William Gowers and himself from a pathological study of the question. He looked upon tabes and general paralysis as purely syphilitic diseases due to the direct action of the *Spirochaeta pallida*, and organ lesions equivalent to other organ lesions of syphilis, such as hepatitis and orchitis. He regarded general paralysis as a parenchymatous encephalitis and tabes as a myelitis. There was proliferation of the glia and interstitial tissues and degeneration of the nerve cells. The degeneration of the nerve cells was progressive, and antisyphilitic treatment had no effect when they were injured beyond a certain point. The parasyphilitic reaction differed only from the gummatous reaction in the location of the lesion. Parasyphilis was a tertiary lesion; the tissues were hyper-immune in the sense of von Pirquet, and therefore a hyperallergic reaction would occur as the result of an application of the virus. Sachs was quite willing to drop the term "parasyphilis" and call it "syphilis of the nervous system." "Tabes" and "general paralysis" were merely convenient terms. A great change had come over the general complexion of tabes and general paralysis in our time. This might be due to immunization of the race, or greater

"syphilization" of the race. Or again, it might be the result of specific treatment. He believed the specific virus had changed.

Professor Donath (Budapest) followed, and Dr. Swift (America) gave some interesting results of experiments carried out at the Rockefeller Institute. These were based upon the suggestion of Nonne that the serum of patients suffering from syphilis might have a curative effect. Lumbar puncture was done, and when the cerebro-spinal pressure had been reduced the serum was allowed to flow in by gravity. It must not be injected by means of the syringe. These experiments were at present incomplete, but the results so far had been encouraging. Lewy (Breslau) said that the spirochaete had been found in the cerebro-spinal fluid of a case of tabes. Dr. Purves Stewart (London) and Dr. Dercum also spoke, and then Professor Nonne and Dr. Mott dealt with the points raised by the various speakers.

Clinical Demonstration.

On Friday afternoon the Section met at the National Hospital, Queen Square, when patients were shown exhibiting the various forms of familial and hereditary diseases of the nervous system. Lantern slides were also shown exhibiting a number of curious features in nervous pathology, whilst a number of pathological specimens were also on view. Tea was provided for the members of the Section in the quadrangle of the hospital.

Vote of Thanks.

At the concluding meeting Dr. Fisher gave expression to the feeling of every member of the Section of Neuro-Pathology in moving a vote of thanks to the President, Sir David Ferrier, for his admirable conduct in the chair, and did not omit to include the indefatigable Secretaries, Drs. Head and Batten, to whom so much of the success of the Section was undoubtedly due. The motion was carried with acclamation.

DERMATOLOGY.

THE proceedings of the session on Thursday commenced with a display of rare and interesting cases by Drs. Sequeira, Adamson, and others.

Discussion on Epithelioma of the Skin, Benign and Malignant.

Professor Darier (Paris) read a paper on naevo-carcinoma, under which name he included malignant tumours arising from naevi and soft warts. As these tumours were of epithelial origin, they should be classified under the epithelial group of skin neoplasms—in a word as "epitheliomata." The treatment of these naevo-carcinomata included electrolysis, and surgical removal in selected cases, and should be undertaken before dissemination had occurred.

Professor J. A. Fordyce (New York) showed a series of forty admirable lantern slides, illustrating various types of malignant tumours of the skin.

Professor Yadassohn (Berne) classified the subject under the following headings, according to the etiology: A.—(1) Infectious types—for example, molluscum contagiosum and some of doubtful etiology—for example, condyloma acuminata; (2) chemical—for example, those due to tar and paraffin; (3) mechanical—for example, corns; (4) actinic—x ray. B.—Those of unknown etiology, such as the various types of naevi—for example, sebacei, pilosus, adenomatosus.

In the discussion which followed, Professor Dubreuilh (Bordeaux) emphasized his opinion that the initiating factor in the production of carcinomata was of parasitic nature. Professor G. Ciarrocchi (Rome) spoke of the treatment, laying stress on the uses of a new glycerine-arsenic preparation. Drs. Nicholas and Favre (Lyons) described recently discovered intracellular granules and filaments found in cutaneous neoplasms. Professor Noble (Vienna) reported success with mesothorium in doses equivalent to 22 mg. of radium bromide in selected cases of rodent ulcer. Mr. McDonagh (London) suggested a classification based on the origin of the growths from (1) the epidermis, (2) appendicular structures, and (3) mixed epidermic appendicular structures. Professor Saalfeld (Berlin) confirmed Noble's results with mesothorium, and Professor Ullmann (Vienna) discussed the etiology of arsenic cancer. Professor Unna (Hamburg) expressed his pleasure at hearing that his French colleagues supported his view of the epithelial nature of the naevus cell, and the suggestion of a stimulating action of the pigment on the further production of metaplastic changes and increase of the naevus cells.

Discussion on Alopecia Areata and Allied Conditions.

Professor Sabouraud (Paris) expressed the opinion that alopecia areata must no longer be regarded as a local but as a general disease with local manifestations. He admitted that Jacquet's theory suggesting a reflex dental etiology was only applicable to a few cases, whereas there was a frequently associated trophic disturbance of the nail growth, and a not rare concomitance of vitiligo, psoriasis, and lupus erythematosus—all diseases associated with constitutional and metabolic disturbances of unknown character. To the same category belonged those cases which occurred in association with syphilis and tuberculosis. Its incidence after traumatism, at the menopause, and after castration would seem to point to an associated neuropathic change.

Professor Pelizzari (Florence) agreed with Sabouraud in considering alopecia areata in the light of a symptomatic syndrome rather than as an entity, and instanced the conditions known by various names which closely resembled the symptoms under discussion—as, for example, those cases of baldness associated with cicatricial atrophy—in support of this view.

Dr. Bulkley (New York) said that his opinion coincided with Dr. Sabouraud's. He urged the energetic exhibition of large doses of iron carbonate, with strychnine and phosphoric acid, in all cases associated with nervous instability.

Professor Dubreuilh (Bordeaux), who read a paper by Drs. Petges and Muratet, stated that there was no evidence for a syphilitic etiology.

Professor C. Ciarrocchi (Rome), from an examination of 500 cases, was in favour of a trophoneurotic origin.

In his summary of 65 cases, Professor Noble (Vienna) came to the conclusion that familial and hereditary factors played a very considerable part in the etiology, but that a syphilitic taint was unimportant.

Sir Dyce Duckworth strongly supported the neuropathic theory in a very able paper. He had never observed that Graves's disease gave rise to the condition, nor could his colleague, Mr. Berry, whose work on the thyroid gland was well known, recollect the clinical association.

Professor A. Whitfield (London) drew attention to the local conditions which he had noticed had sometimes preceded the appearance of alopecia areata, in particular ringworm of the scalp and pediculosis capitis. Other types had undoubted relation to the mastoid operation, pityriasis capitis, and defects of vision.

Finally, Dr. Sequeira stated that he had tested Jacquet's theory of a dental etiology in 50 cases of alopecia areata at the London Hospital. The hypothesis seemed at first to be singularly applicable, but a subsequent analysis of 50 mixed cases in other departments had shown an almost equal co-existence of caries of the teeth.

Professor Yadassohn (Berne) stated that in his opinion the question of the infectivity of alopecia areata had been somewhat light-heartedly shelved. It was quite certain that in a few isolated cases the disease had been conveyed from one patient to another.

Discussion on the Vaccine Treatment of Skin Diseases.

The discussion was opened by Professor Gilchrist of the Johns Hopkins University, who admirably summarized the present unstable position of this department of therapeutics. He compared it to that occupied by radiotherapy at the end of the first two years of its application. The wholesale injection in unsuitable cases of commercial stock vaccines, especially in America, was threatening to bring the method into disrepute with the public, and there were those among them who, on the advice of friends whose experiences had been unfortunate, utterly refused inoculation where its services would be invaluable in skilful hands. Professor Gilchrist emphasized the importance of trying at once an autogenous vaccine in all cases that had failed to respond to the first dose of the stock preparation, and he was strongly in favour of employing none

but skilled bacteriologists for this very special branch. The diseases which in his hands had proved most amenable to vaccines were: (1) Chronic and subacute cases of staphylococcic infection, as, for example, weeping eczemas with a staphylococcic etiology; (2) pustular types of acne rosacea: (3) acne vulgaris, in which the acne bacillus often existed in pure culture, and a mixed vaccine of staphylococcus and acne bacillus had the best effect (10 to 20 million of acne bacillus repeated three or four times at intervals of ten to twelve days); (4) furunculosis, in which staphylococcus vaccines were used; (5) blastomycosis, in which an improvement equal to 80 per cent. had manifested itself after one injection of a pure filtrate of the three-months-old culture.

Dr. A. Whitfield (London) gave a very valuable account of his experiences with the method, which he had found of very great service in (1) furunculosis of the scattered type, not dependent on some source of local irritation—as, for example, in furunculosis of the neck in association with the friction of a high collar; (2) acne vulgaris, in which it was his practice to give large doses of from 125 to 250 million of the mixed staphylococcus and acne bacillus vaccines; (3) in acute and subacute erysipelatoid affections, in which the streptococcus vaccines had yielded excellent results in his hands; and (4) early sycosis. He discussed at considerable length the advisability of estimating the opsonic index as a preliminary measure, but gave good reasons for his opinion that the clinical and bacteriological estimations were often directly opposed, and that such estimations might therefore be actually misleading in practice. The estimation was of value in those cases of mixed bacterial infections in which it was doubtful which organism was responsible, and which only secondary implantations. In such the discovery of a low opsonic index for a certain organism would suggest the vaccine to employ. Regarding the length of time during which injections should be persisted with, Dr. Whitfield advised for furunculosis a course of three months, and if cured in that time, a cessation. In some cases the patient would have four or five outbreaks in the year; theoretically such patients should be treated continuously for eighteen months, and in general it could be stated that a man should be kept free of his lesions for double the expected time of recurrence. The vaccine treatment of staphylococcic sycosis was only successful in very early cases, when the infection had been occasionally found to clear up with only one or two injections. Even in chronic cases the initial dose was usually successful to a point, but the succeeding injections ultimately failed to clear up the condition and recourse to ointments and *x*-ray epilation was usually the end procedure. Dr. Whitfield was emphatic in his opinion as to the advantages of streptococcic vaccines in erysipelas, and subacute erysipelatoid infections. These had invariably responded to vaccine treatment, either stock, or where this failed after the first injection, autogenous. Tuberculin had been useful in small doses in the tuberculide affections, for example, erythema indurata (Bazin), in clearing up ulceration, but not in preventing the development of fresh nodules. In lupus vulgaris he could not recommend it. Dr. Lassueur (Lausanne), and Dr. Rockwell Varney (Michigan) also spoke. The latter laid stress on the importance in staphylococcic infections of employing vaccine from similar clinical cases.

Dr. MacLeod (London) said he agreed with Professor Whitfield's summary of the present position. He was not convinced that the acne bacillus was the cause of the comedo. He had seen no good effects from tuberculin. He was followed by Professor Yanowsky (Prague) who claimed some success for tuberculin on lupus. He had had excellent results with injections of antidiphtheritic serum in cases of erysipelas. Local treatment must never be neglected in favour of vaccines.

Independent Papers.

In the afternoon Professor V. Petersen (St. Petersburg) read an interesting summary of his successful results with salvarsan in the treatment of 3 cases of blastomycosis.

Professor Peyri y Rocamora (Barcelona) read a paper on psoriasis, which, in his opinion, was an individual reaction to various internal and external factors.

Dr. Allan Jamieson (Edinburgh) advanced an interesting hypothesis as to the nature of psoriasis to the effect that it was due to the absorption of ill-digested metabolic products. He had had very good results from the administration of lactic-acid-producing tablets in several cases.

Other papers on the schedule for the day were by Dr. Saalfeld (Berlin), on the histology of certain multiple skin tumours: Dr. Heidingsfeld (Cincinnati), on congenital absence of the nails; Drs. Favre, Nicholas and Durand (Lyons), on lymphogranulomatosis inguinale subacutis; and by Dr. Goodwin Tomkinson (Glasgow), on the treatment of lupus vulgaris.

Radio-therapy.

After viewing a most excellent series of 36 rare cases the Section resumed its work in two separate parties, as no less than nine papers were scheduled to be read and discussed.

Under Sir Malcolm Morris's presidency, a paper by Drs. Bellot, Degrais, and Wickham (Paris) on the action of radium on certain hypertrophic modifications of the epidermis dealt with the advantages of this method over any other in the treatment of the various kinds of warts, and especially in the removal of painful corns.

Mr. Hayward Pinch, of the Radium Institute, followed with a copiously illustrated discourse on the type of case most amenable to the rays, including in that category naevi of all kinds, warts, the lichenification (*névrodermite*) of Vidal, psoriasis, rodent ulcer, lupus erythematosus, keloid, Paget's disease of the nipple, and moles. For lupus vulgaris he preferred to order Finsen light where possible. He described the method and applicators in use.

Tuberculin.

Professor Oppenheim (Vienna) read a detailed account of his study of the effect of age, sex, and a number of different diseases on the reaction of the skin to tuberculin. Most local skin diseases had no effect. Lupus vulgaris increased the reaction, whilst secondary syphilis, gummata, and erythema toxicum diminished the reaction.

Dr. Klausner (Prague) discussed the histology of granuloma annulare with the help of some excellent microscopic slides, and Dr. Ritter (Hamburg) read a paper on the action of *x* rays on malignant metastases.

Short Papers.

Under the vice-presidency of Dr. Allan Jamieson (Edinburgh) the following papers were also read in another theatre: (1) Indications from the urine in treatment of skin diseases, by Dr. Bulkley (New York); (2) Subcutaneous calcinosis, by Dr. F. Parkes Weber (London); (3) Mycosis d'emblée, by Dr. G. Pernet (London); (4) Varieties of chronic congenital pemphigus, by Drs. Nicholas and Montot (Lyon).

Museum.

Dr. Sequeira (London Hospital) had taken endless pains to make the department of the museum concerned with dermatology representative and complete. It contained several drawings of historical interest, including the original drawings by Sir Jonathan Hutchinson of the notched teeth for ever associated with his name: the first case of rodent ulcer ever cured by *x* rays from Dr. Sequeira's collection; the first case of acanthosis nigricans recognized in this country by Sir Malcolm Morris; the original drawings made by Dr. J. J. Pringle of the disease that bears his name; and a host of valuable drawings and *moulage* reproductions kindly lent by Professors Neisser (Breslau), Noble (Vienna), Zinsser (Cologne), Dr. Gilchrist (America), Dr. Lawrence (Melbourne), and Drs. Galloway, Graham Little, and McDonagh (London). The museum was certainly one of the most notable collections ever exhibited to dermatologists, and reflects the greatest credit on the organizer.

UROLOGY.

The President of the Section (Mr. Hurry Fenwick) having opened its first meeting with a few well chosen words of welcome, reviewed some of the recent advances in urology, dealing chiefly with the introduction of the cystoscope by Nitze, and the discovery of the *x* rays by Roentgen. He showed how from these two signal advances the recent improvements in diagnosis and technique were derived; and that on account of the more accurate and scientific

methods now in vogue, the surgeon could approach the patient with a fuller and more exact knowledge of the pathological conditions he had to deal with. He enumerated instances of this kind, and then went on to show that not only had urology received much from other branches of medical science, but it had done something in return. For example, skiagraphy had learnt much about the interpretation of doubtful shadows in the abdomen and pelvis from the introduction and use of the opaque ureteric bougie, and medicine had extended her ideas as to the various forms of Bright's disease through the labours of the urologists.

Malignant Disease of the Prostate.

Professor H. Kümmel (Hamburg) opened the discussion on the diagnosis and treatment of early malignant disease of the prostate in a lucid and comprehensive paper which covered an extremely large field. He first gave statistics as to the frequency of cancer of the prostate as compared with cancer in general, and also as to the relative frequency of benign and malignant tumours of the organ. Turning to the discussion of symptoms, he showed that malignant disease might appear in hypertrophied or in non-hypertrophied prostates, and that in these two classes the symptomatology was different. In the former class the symptoms were chiefly those of ordinary senile enlargement, in the latter they were due to the carcinoma alone. He mentioned that occasionally cancer of the prostate might give rise to no symptoms till after metastases had occurred, and the condition become inoperable; but that in the majority of cases the early symptoms were frequency and difficulty of micturition. Having discussed the various forms the cancerous prostate might take, he took up the question of treatment. In the early stages, he said, the treatment was undoubtedly surgical, and that a radical removal of the gland by Young's method, or one of the allied operations, was the method of choice. He gave statistics from the leading urologists as to the results of this operation, and showed that well-authenticated cases of cure, in one case of 9 years' duration, had been obtained.

Professor H. Young (Baltimore) was the second reporter. Having reviewed the symptoms of the early cases that had been under his care, he pointed out that the malignant process tended to spread upwards into the alveolar tissue between the seminal vesicles, and from thence a glandular infection resulted. These observations led him to devise his operation, which consisted in the removal of the prostate within its sheath of fascia, the seminal vesicles, the lower end of the vasa, and a portion of the base of the bladder all in one mass. He had done this operation six times; of these one case died three years and another six and a half years after the operation. In the former a recurrence was found at the autopsy, in the latter none. Dr. Young then described the good results he obtained by doing an ordinary perineal prostatectomy in cases that were too advanced for the radical operation. These patients remained free from urinary trouble for a considerable time, occasionally till death, which of course was due to the spread of the cancer.

In the discussion that followed, Professor Gayet (Lyons) described his operation for the removal of cancerous prostate. His incision commenced at the tip of the coccyx, encircled the anus, and ended in the anterior part of the perineum. This, he claimed, gave more room than that used by Young, but his cases appeared to have suffered from stricture after the operation.

Mr. Joly (London) described 3 cases he had operated on by Young's method. All of them had recovered control after the operation. One was alive and well two and a quarter years; the others died in less than a year after operation. He described a fourth case which he had operated on by a combined abdomino-perineal method, but the patient died of shock.

Dr. H. Schüller (Vienna) dwelt on the difficulty of diagnosis in these cases.

Dr. O. Pasteau (Paris) recounted the results he had obtained by means of radium in cases of cancer of the prostate. He enclosed the tube of radium in an ordinary catheter and passed it till the radium lay in the prostatic urethra. By this means he had two patients apparently cured; a third was relieved of his urinary symptoms, but died of metastases.

Professor Rovsing (Copenhagen) said that he used a modification of Young's operation in 5 cases. He first made a permanent suprapubic fistula, and then removed the prostate, seminal vesicles, etc., from the perineum, completely closing the floor of the bladder.

Dr. F. Weiss (Budapest) confined himself to the question of diagnosis.

Dr. H. Wildbolz (Berne) described his modification of Young's operation designed to secure urinary control in the patients. This method was not so radical as the original one. Dr. Wildbolz operated on 8 cases; 2 of these were temporarily incontinent, the rest were continent.

Both Professor Kümmel and Professor Young replied briefly to the discussion.

Early Renal and Vesical Tuberculosis.

On Friday, August 8th, a discussion on the diagnosis and treatment of early renal and vesical tuberculosis was held jointly with the Surgical Section, and has been reported under that Section.

Haemic Affections of the Urinary Tract.

On Saturday, August 9th, the subject for discussion was the diagnosis and treatment of haemic infections of the urinary tract. Professor G. E. Brewer (New York), who was the first reporter, pointed out how for long infections of the upper urinary tract were thought to be ascending, and the only type of haemic infection recognized was where the kidneys were involved in a general pyaemia or septicaemia. Later on Israel had shown that haematogenous infection of the kidneys could be caused through quite insignificant lesions, such as furuncles. The third step was when it was found that very often these lesions were unilateral, at least in their early stages. Professor Brewer then briefly called attention to some of his own experiments in which one kidney was slightly injured and living bacteria introduced into the blood stream. The resulting kidney lesion was sometimes unilateral, and always much more severe on the injured side. Clinically he recognized three types of acute haematogenous nephritis —the fulminating, the intermediate, and the mild. The fulminating was ushered in by a rigor as a rule. The temperature rapidly rose to 104° or 105°; the pulse to 120 or more. Signs of intense toxaemia were present, and were progressive. Tenderness and muscular rigidity were present in one flank, and also a slight amount of vague pain. The urine appeared normal—at most a trace of albumin and a few blood and pus cells were found. This was due to the fact that the infected kidney excreted little or nothing. The symptoms grew rapidly worse, and death invariably ensued unless a nephrectomy was performed. Professor Brewer had 16 cases; 6 of these were treated either expectantly or by nephrotomy and drainage, and all died; while 10 treated by early nephrectomy all recovered. The intermediate type was the most common; the symptoms were practically those of the fulminating type, but in a less degree. The temperature was 102° to 103°, and the toxic symptoms not so marked. Again the urine was almost normal. Professor Brewer considered decapsulation the best treatment for these cases. The lesions were almost all subcapsular, and therefore removal of the capsule drained them better than nephrotomy. The mild type were generally diagnosed as idiopathic pyelitis. The symptoms were slight fever and tenderness in the costo-vertebral angle. Pain might not be a marked symptom. The treatment consisted of rest in bed, urotropin, and large quantities of water by the mouth.

Professor Rovsing (Copenhagen), who was the second reporter, divided haematogenous nephritis into two classes —the first in which the infective agent belonged to the colon bacillus group, and the second in which the pyogenic micrococci were present; the former was the class most frequently met with. In acute haematogenous nephritis the symptoms were usually sudden onset with rigors, high temperature, pain in loins or in one kidney region. Frequently haematuria was present at the onset, later the urine was turbid and contained pus, blood cells and bacteria. Tube casts were present if the infection was micrococcal, but were absent in the colon bacilli class. The cases were frequently diagnosed as renal colic, appendicitis, or some other acute abdominal trouble. The author stated he found his sign of great value in the

differential diagnosis, pressure on the descending colon increasing the pain of appendicitis, but having no effect on that of nephritis. Occasionally the attacks were recurrent, or developed into general septicaemia. The finding of normal urine coming from one kidney and infected from the other usually clinched the diagnosis. Discussing the treatment, Professor Rovsing said that he had to remove the kidney in a few cases of micrococcal nephritis. Once he did a partial resection where the disease was confined to the upper pole. In the colon bacillus group he never found operation necessary unless the case was complicated by stone, dilatation of the pelvis from narrowing or kinking of the ureter, or in cases of movable kidney. Even then the operation was directed towards the complication. He found salol, combined with rest in bed and large quantities (4 to 6 litres per diem) of distilled water, useful. In the more chronic cases he used autogenous vaccines with considerable success.

Mr. Frank Kidd (London) described the method he used in examining and treating these cases. He stated that in the male, pyuria with fever meant inflammation in the deep urethra or in the kidney; in the female these symptoms always pointed to kidney trouble. He thought that the kidney often got well before the bladder. He laid stress on the good results obtained by lavage of the renal pelvis, and instillations where the bladder was also infected. He thought that the disease rarely proved fatal, except when the patient was in a very depressed condition, and that nephrectomy was rarely if ever indicated. Generally rest, diuretics, and urotropin, and if the condition was chronic lavage of the renal pelvis, was the best line of treatment.

Dr. J. Cunningham (Boston) divided acute unilateral haematogenous infection of the kidney into a suppurative and a non-suppurative form. He thought an early nephrectomy was indicated in the first class, but in the second he preferred to try palliative methods first, and only do a nephrectomy if the symptoms did not clear up quickly.

Dr. Berg (Frankfort) described an interesting case of a patient with right-sided pyelitis complicated by appendicitis.

Dr. Picker (Budapest) thought that the fact that some cases persisted in spite of treatment might be due to the configuration of the renal pelvis being unsuitable for drainage.

Professor Brewer, in his reply, stated that he thought the micrococcal cases more serious than the colon bacillus ones, and more frequently required nephrectomy. He thought there was no such thing as haemic pyelitis; he had tried to produce it experimentally, but had always failed. What he did produce was a pyelo-nephritis.

Professor Rovsing quoted a case in which he had seen multiple abscesses in the kidney due to colon bacilli disappear. He uttered a warning against the indiscriminate use of collargol for pyelography, or for lavage of the renal pelvis. Six or seven deaths had been reported from its use, and other serious accidents had happened.

Independent Papers.

On the last day Dr. Georges Luys (Paris) read a paper on catheterization of the ejaculatory ducts. This procedure was indicated in retention of vesicular fluid, in cases of painful ejaculations, and in chronic seminal vesiculitis. In the latter case it facilitated the emptying of the vesicles by massage. The operation could easily be performed through the author's urethroscope.

Dr. Hugo Schüller (Vienna) demonstrated a series of instruments devised by him for the topical application of radium to various parts of the lower urinary tract. Where the treatment was directed towards the urethra or prostate, special bougies with a small receptacle at the end for the tube of radium were constructed. In cases of bladder tumours the author devised a cystoscope resembling the ordinary operating cystoscope, by which the tube of radium could be applied directly to the neoplasm. Dr. Schüller thought he had obtained the best results in prostatic cases, both in benign and malignant enlargement; in bladder tumours the benign papilloma markedly diminished in size under this treatment.

Dr. R. Picker (Budapest) applied his anatomical findings (described the previous day) to the treatment of spermatocystitis. He strongly recommended massage as the most rational method of treating this condition.

Mr. Joly (London) read a paper on congenital diverticula of the bladder. Speaking of the large single diverticula he recommended excision as the most satisfactory method of treatment. He then described 2 cases that had been under his care and on whom excision had been performed. In the second part of his paper he made the suggestion that some of these diverticula might be due to the persistence of supernumerary ureteric buds. That in these cases two ureteric buds sprang from the Wolffian duct; one of these became the normal ureter, while the other failed to reach the kidney, and became dilated into a diverticulum.

In the absence of Professor Rochet, Dr. Léon Thevenot read a paper entitled: Can the so-called senile enlargement of the prostate appear in cases of stricture of the urethra? The author appeared to hold the view that this combination was impossible, as in stricture cases the prostate was destroyed from back pressure, chronic prostatitis, suppuration, etc.; or its structure was so altered that the development of adenomata was impossible.

Dr. Georges Nicolich (Trieste) showed the specimens of 2 cases in which he had done a subtotal cystectomy for tumour. He removed the whole bladder with the exception of the trigone and the orifices. Both cases recovered, and from the small fragment left behind a capacious and functionating bladder had developed. He also showed the bladder of a case where fatal air embolism had followed injection of air into the bladder. There was a small abrasion in the mucous membrane over the posterior wall through which the air probably entered.

Dr. Berg (Frankfort) exhibited a large cystine calculus he had removed from a child.

At the termination of the sitting Professor Rovsing proposed, on behalf of the visitors, that the fourteenth Section should send a cordial vote of thanks to the General Secretary and the Central Committee for their labours in organizing such a successful Congress. This was passed with acclamation, and the President of the Section undertook to see that it was forwarded to the proper quarter.

Demonstrations.

The meeting on Monday, August 11th, was given up to a series of epidiascope demonstrations.

Dr. Newman (Glasgow) showed a series of coloured drawings illustrating early renal and vesical tuberculosis. They were all drawn directly from the cystoscope, and showed very clearly the changes that the ureteric orifice undergoes in renal tuberculosis, while a second series illustrated early vesicle tuberculosis. Dr. Newman's conclusions were that: (1) If the ureteric orifice was normal there was no serious disease of the corresponding kidney; (2) tuberculosis of the ureteric orifice was always associated with tuberculosis of the corresponding kidney; (3) that in tubercle of the bladder the ureters were not involved unless the kidney was infected.

Dr. R. Picker (Budapest) showed an interesting series of photographs illustrating his investigations on the anatomy of the seminal vesicles. He injected the vesicles with bismuth paste through the vas, and then dissected them. He recognized five anatomical types, according to whether the main tubes were straight or spirally twisted, and whether they had branches or diverticula or not. To examine the ampullae of the vasa he had radiograms taken of his specimens.

Dr. Kutner (Berlin) read a short paper on the treatment of bladder tumours by combined applications of the high-frequency coagulation and the electric snare. He stated that with the high-frequency method (fulguration) before the slough had entirely separated he had had severe bleeding, which delayed the convalescence. He also pointed out that these cases were very liable to infection. He therefore treated the tumour first by fulguration, and about five days later removed the necrotic mass by means of an electric snare. By this means, he maintained, he avoided the accidents of haemorrhage and sepsis. His paper was illustrated by photographs.

Mr. Thomson Walker (London) showed an interesting series of slides illustrating pyelography. Having described the method he used to prevent the over-filling of the renal pelvis, he demonstrated three series of cases. The first was where hydronephrosis was suspected, but the renal pelvis was proved to be normal. In the second some obscure abdominal tumours, simulating kidney conditions,

were demonstrated to be unconnected with the kidney, while the third series consisted of cases of hydronephrosis due to stone, movable kidney, aberrant renal arteries, etc. In each case the diagnosis made by this method was confirmed by operation.

Dr. Posner (Berlin) showed a series of photomicrographs of urinary sediments taken by means of the dark-ground illumination (ultra-microscope). By this means he was easily able to photograph almost transparent objects, such as pus and epithelial cells, crystals, tube casts, etc. The series ought to prove very useful for teaching purposes.

Professor Wahby (Cairo) demonstrated a series of specimens illustrating the anatomy of the renal vessels. They were obtained by injecting the vessels with fusible metal and then corroding the kidney.

Dr. Pasteau (Paris) exhibited photomicrographs of the effect of radium on tumours of the prostate, and also some photographs of the cystoscopic appearances of vesical diverticula.

Dr. Mosenthal (Berlin) showed a series of radiograms illustrating the differential diagnosis of obscure abdominal and pelvic shadows, and also some interesting slides of the descent of calculi down the ureter.

RHINOLOGY AND LARYNGOLOGY.

THIS Section commenced its proceedings on Thursday, under the presidency of Sir StClair Thomson, who gave a brief sketch of the progress of this department of medicine. He pointed out the marked advance that had taken place since the last Congress held in London thirty years previously; and how, thanks to improved instruments and the aid of cocaine, adrenalin and electricity, the various cavities, as the bronchi, oesophagus, stomach, and accessory sinuses, were now open to inspection and treatment. He considered that laryngology had made greater strides during the last ten years than any other speciality, and that the public hardly yet realized the benefits it conferred upon them. He concluded by giving a hearty welcome to those present, adding in French, Italian, and German a similar welcome to the distinguished foreigners who honoured the Section by their presence.

DISCUSSION ON ENDOSCOPIC METHODS.

A very excellent reception was accorded to Professors Chevalier Jackson (Pittsburg, U.S.A.) and Kilian (Berlin), who may be considered "the father of bronchoscopy." Each read a paper on the recent progress of endoscopic methods as applied to the larynx, trachea, bronchi, oesophagus, and stomach. The former dealt mainly with the progress made in the United States, while the latter confined himself to European methods. Emphasis was laid on the importance of all laryngologists acquiring a knowledge of the method for diagnostic purposes; but Professor Jackson thought that one or two specialists in each district should devote themselves more particularly to the subject, so that they might gain facility in operative procedures by constant practice, which alone could make one expert in surgical treatment. In the discussion which followed, on the other hand, Drs. Waggett (London) and Skillern (Philadelphia) put forward a plea that all laryngologists should be able to operate as well as to diagnose by this means. Statistics and accounts of cases treated were given, the mortality-rate showing a diminishing tendency as greater practice was acquired.

Improved methods of technique were dealt with at some length, and subsequently Professor Kilian gave an excellent demonstration of his recent method of suspension laryngoscopy, Dr. W. Hill (London) demonstrated his method of oesophagoscopy, and Dr. Lewissohn showed an instrument he had devised for obtaining an extensive view of the interior of the stomach, but which was useful for diagnostic purposes only, and not for operations. Dr. London (New York) also demonstrated his modified gastroscope, for which he claimed greater ease of introduction, it being curved, but, as it depended for its use upon a mirror, it could obviously be used only for diagnosis. It was generally considered that laryngologists owed much to radiography, which in the case of foreign bodies and in the examination of the oesophagus and stomach especially rendered valuable assistance.

The importance of the careful preparation of the patient and the necessity for asepsis was urged; the posture of the subject undergoing operation was also deemed of the greatest moment. For the removal of foreign bodies in the air passage the Trendelenburg position was thought the best, the action of gravity favouring their removal and preventing them from dropping further down. For diagnosis the anterior position of the cervical spine, with relaxation of the anterior muscles of the neck, was considered much the best, and this was demonstrated by Professor Moure (Bordeaux) and Mr. Hill, who stated that the credit of it really belonged to Mosher (Boston), although it was generally termed Johnson's position.

Tracheotomy was thought to be seldom necessary, while Jackson considered that oesophagotomy was never required. Considerable difference of opinion arose on the question of anaesthesia. Professor Jackson stated that it was unnecessary in the case of children, and that in the last 107 cases in children under 6 years of age he had used neither local nor general anaesthesia, his assistants knowing exactly what they each had to do. Some surgeons thought that a general anaesthetic was required, especially in the case of children, but the fact remained that Jackson could and did manage perfectly well without.

The indications for bronchoscopy were fully discussed, and the dangers considered. Dr. Mosher (Berlin) showed an adjustable speculum, and pointed out that no oesophagoscope could be considered non-dangerous, and that there was danger in the introduction of a rubber tube if done by unskilled hands. Everything should be done with the utmost care and gentleness, and foreign bodies should be extracted slowly, haste and force never being justifiable.

DISCUSSION ON INDICATIONS FOR AND RELATIVE VALUES OF TONSILLOTOMY AND TONSILLECTOMY.

Dr. Burger (Amsterdam), in introducing the discussion, advocated conservative methods, and only did tonsillotomy in children, but in adults more cases for the complete operation presented themselves in patients who had had frequent attacks of inflammation, and in cases of tubercle and malignant disease.

Dr. Goodall (Boston, U.S.A.), on the contrary, favoured more frequent tonsillectomy. He discussed the tonsil in its relation to Waldeyer's ring, and considered that they were all probably functionally similar, and that no specific function had yet been proved and no damage had yet been shown to occur through enucleation of the tonsillar portion of the ring. He discussed the question next from its surgical aspects of trauma, septic complications, haemorrhage, and alteration of the parts subsequent to operation. With reference to trauma, tonsillotomy meant less than tonsillectomy, and that resulting from the latter depended greatly upon the method adopted and the operator's dexterity. He described his method of operation and preferred ether to local anaesthesia, and out of several thousand cases had had only one of bronchopneumonia following operation. Sepsis, he thought, was more common in tonsillectomy, and so also was haemorrhage, and properly performed tonsillectomy should produce no more deformity than tonsillotomy. He then dealt with the causes for which an operation on the tonsils was required, as enlarged tonsils, their chronic inflammation, different forms of lacunar tonsillitis, and the various forms of chronic infection, as tubercle. In children he left the tonsil alone when not diseased or causing trouble, otherwise he enucleated, and in adults he performed enucleation. He dealt in detail with those cases of enlargement in singers, and thought that when the voice was already developed tonsillotomy was preferable, but when it was not so he would prefer tonsillectomy.

There was considerable divergence of opinion amongst the subsequent speakers, who seemed to range themselves into two camps, which peculiarly enough might be termed the English-speaking camp and the Continental, the former generally advocating tonsillectomy and the latter tonsillotomy.

Amongst the former were Dr. Jacques (Nancy), who employed the cold snare; Dr. E. D. Davis (London), who gave an analysis of 1,520 cases, and favoured the blunt guillotine or snare; Messrs. O'Malley, G. H. L. Whale, and T. J. Faulder of London, and Mr. Pybus and Mr. Whillis of Newcastle, who were thorough advocates for complete removal, and considered

that if the tonsil required surgical interference at all it should be treated upon surgical principles and removed.

Mr. Tilley (London) reserved tonsillotomy for a few cases of simple hypertrophy in children or very old people, and he got no more haemorrhage than formerly.

Dr. Sym (Glasgow) enucleated, but did not think it could be done by the guillotine. This statement was, however, entirely rejected by the users of that instrument. Dr. Marschik (Vienna) was inclined to favour tonsillectomy. Dr. Stookey (Salt Lake City, U.S.A.) strongly favoured tonsillectomy. Amongst those favouring tonsillotomy in general were Dr. Zétrop (Antwerp), Luc (Paris), who favoured local anaesthesia, Dr. Broeckhaert (Ghent), Dr. Kelson (London), Watson-Williams (Bristol), who thought that the tonsils exerted a protective influence, and probably prevented rheumatic infection, and therefore only diseased tonsils should be touched.

Professor Sobernheim (Berlin) reserved tonsillectomy for cancer, primary syphilis, and tubercle, and disease generally, but otherwise he preferred tonsillotomy. Dr. Friedrich (Kiel) thought that the tonsils were removed too freely nowadays, in the hope of curing general infections. Dr. Halle (Berlin) and Professor Uchermann (Christiania) were of a similar opinion. With regard to haemorrhage it was not generally considered to be greater after tonsillectomy than after tonsillotomy, and the same applied to deformity. Ethyl chloride seemed to be the anaesthetic most favoured.

Professor Burger in his reply considered that the treatment should be on general principles, and stated that he did not give a general anaesthetic at all. Dr. Goodall considered that the presence of desquamative epithelium around the follicles, cut off from the interior of the tonsil, was an indication of disease.

Independent Papers.

The Treatment of Inflammation of the Sinuses.

Professor Moure (Bordeaux) discussed the after-history of sinuses that have been operated on. After a rapid survey of the various methods of operation from the point of view of the primary object of operation, that is, the removal of all infected spaces, he expressed the belief that the cavities left after operation became obliterated. Experiments upon cats and dogs were cited to illustrate the truth of his views, and he maintained that treatment by the natural openings left a cavity always open to reinfection. These views were generally held, and Sir R. Woods (Dublin) instanced 100 cases of frontal sinusitis treated by this method without sepsis. Dr. Marschick (Vienna) also agreed, and considered that the more radical the operation the better the result. Dr. Luc (Paris) advocated most radical measures with thorough curetting of the mucous lining, and he was followed upon similar lines by Dr. Guisez (Paris) and Professor Kubo (Japan). Dr. Halle (Berlin) said that he practised that method, conservative or otherwise, which he thought most suited to the case; this view was supported by Dr. Tilley (London), who considered that the fibrous tissue which entirely filled the cavity, being only of the granulation variety, would be prone to suppuration later on. Dr. Jacques (Nancy) advocated the removal only of the diseased portion of the mucous lining, and drew attention to the importance of preventing the orbital fat from filling up the cavity and obstructing drainage. Dr. Waggett (London) and Dr. Donelan agreed in the main with these views.

Radium Therapy.

Dr. Guisez (Paris) read a paper on the progress of the therapeutics of tracheal, bronchial, and oesophageal affections, and specially the treatment of oesophageal cancer with radium. He described the beneficial effect of radium upon the cancer, and dealt with certain congenital cases of dilatation and pouching of the oesophagus which disappeared under treatment. He also referred to the diagnosis of varicose conditions of the oesophagus which were cured by this means. The treatment of cancer, however, was not palliative, but the use of radium and subsequent curetting prolonged life and ameliorated the condition of the patient.

Dr. T. Harris (New York) dealt with the use of radium in the treatment of papilloma of the larynx, and suggested that treatment which did not interfere with the voice was worthy of every consideration; he instanced various cases which had done well under radium after previous abortive operations. He advocated the use of a large amount of radium, which necessitated less frequent applications and a shorter duration of exposure.

Dr. Trendenthal suggested the use of pure radium.

Foreign Bodies.

Dr. Bostella (Madrid) contributed a paper on 54 cases of foreign bodies in the oesophagus, trachea, and bronchi. He dealt with their form, shape, and character. He spoke of their usual sites and the various symptoms to which they gave rise, such as pain, tumefaction, fetidity of breath, etc. He laid special stress upon a peculiar hoarse barking cough, which he considered pathognomonic of foreign bodies in the air passages. He discussed the technique of instrumentation and illumination and the position of the patient. He used no anaesthetic at all for oesophagoscopy in children, but occasionally adults required a little cocaine. In trachea bronchoscopy he used cocaine in adults and chloroform in children, but objected to a combination of the two in children.

Professor Kubo referred to 100 cases of foreign bodies in the oesophagus that he had removed.

Complications of Inflammation of the Frontal Sinus.

Dr. H. Zwillinger (Budapest) read a paper on experimental researches regarding the mechanism of the intracranial and cerebral complications of frontal sinusitis, in which he traced the relation of the perimeningeal lymphatics to those of the upper part of the nose, and the probability of the same connexion between the former and the mucous lining of the frontal sinuses. This would explain many of the intracranial complications in diseases of the sinus. He considered that this connexion was demonstrated upon anatomical grounds.

Dr. R. H. Skillern (Philadelphia) read a paper on unsound conditions following the external radical operation on the frontal sinus. He reviewed 30 cases upon which he had operated, and mentioned cases of diplopia, paralysis of the upper lid, neuralgia deformity. He referred to a special protector which diminished the subsequent oedema of the eyelids. The paralysis disappeared generally and the hemicrania always got better.

Post-cricoid Carcinoma.

Mr. Trotter contributed a paper on the general aspects of this disease, and suggested the term "hypopharyngeal" as a better name. Stress was laid upon an early diagnosis, which was more easy than usually considered. He discussed surgical treatment from the point of view of cure, the dangers attending the operation, and the resulting mutilation and disability, as of speech, swallowing, etc.

Mr. Waggett emphasized the importance of early diagnosis long before dysphagia showed itself. He thought sufficient care was not taken to discriminate between genuinely post-cricoidal growths and those which subsequently extend there. The majority of the patients were young and middle-aged women. Pain was not a marked feature until the oesophagus was invaded. He considered that all the growths were squamous epithelioma, and that they were at first superficial, only subsequently extending to the submucous tissues, and therefore in the early stage removable, with fair prospects of immunity from local recurrence. He advised that the septic cavity should be kept widely open, and the packing frequently changed. The great factors were asepsis and good technique, and even if the larynx required removal the operation should be performed. He could not deny that up to the present the records were bad, but that was generally true of cancer anywhere; recurrences generally took place in the glands, therefore these must be removed, as was the case in cancer of the tongue. The diagnosis was not so simple as in cases of early cancer of the larynx, where the parts were in full view, but the symptoms of localized pricking sensations on swallowing pungent food and drink should lead to careful examination, as physical signs in the early stages were not marked. The means of direct examination now available should be resorted to in all doubtful cases.

Mr. P. De Santi (London) said that he had had no good results from operative interference, but thought it was because his cases were too far advanced. He advised a primary gastrostomy for feeding purposes. Mr. Logan Turner (Edinburgh) referred to 70 cases (38 per cent. in

males and 61 per cent. in females). He remarked upon the relative frequency of cancer of the upper part of the larynx in man as compared with woman. He operated by a cervical incision.

Dr. Marschik (Vienna) referred to the finding of much more extensive disease upon operation than was thought beforehand. The possibility of carcinoma occurring together with syphilis should also be recognized.

Dr. W. Hill spoke of the additional benefit radium gave. Sir R. Woods emphasized the importance of early diagnosis. Professor Uchermann (Christiania) agreed with Dr. Hill as to radium, and uttered a warning as to the danger of too much iodoform gauze, which might cause iodoform poisoning.

Pachydermia Laryngis.

Dr. Jobson Horne then read a paper on this subject, illustrated by lantern views showing the sites of growth and the appearances presented by the corresponding cord. He discussed the pathological as well as the naked eye appearances.

The Pituitary Body.

Professor Hirsch (Vienna) read a paper on the surgical treatment of affections of the pituitary body by the nasal route. He grouped pituitary growths into three classes: (1) Intracellular solid tumours, which enlarge towards the sphenoidal sinus, but do not grow upwards; (2) intracranial solid tumours, which enlarge upwards towards the brain; (3) cystic tumours consisting of one large cyst, or smaller ones. It was not possible to decide save by operation whether the growth was cystic or solid, but *x* rays would show whether or not it was intracranial or not, mainly by the shape and size of the pituitary fossa. The tumour might press the optic chiasma against the vessels and cause blindness. He illustrated his remarks by diagrams. The intracranial tumours were inoperable by the nasal route, or by the cranial route, as they could not be detached from the floor of the fossa. Only the intracellular could be operated upon, and that could be done by bold methods. He gave figures showing the relative mortality of his operation, Krause's method, Victor Horsley's method, Schloffer's and Cushing's methods, showing that only the latter had a mortality as low as his own. He also illustrated his remarks by lantern slides.

He was followed by Professor Cushing, who discussed the subject very fully, and also illustrated his remarks by lantern slides. He included in his statistics some cases since those referred to by Professor Hirsch, thus further reducing his mortality. He asked what were the general symptoms of the disease of the pituitary body, and stated that it was as common as thyroid disease, but as yet had gone unobserved. He treated the symptoms in various groups, as those of the skin, bones, joints, general appearance, absence of hair, changes in the subcutaneous tissues, which looked somewhat like renal disease. He showed how intracranial interference would often greatly benefit a growth that could not be removed by any method. Dr. Hill referred to a case that he had operated on. Drs. Marschik and Broeckhaert spoke, and the latter suggested the possibility of the transpalatine route. Dr. Halle favoured rather the intranasal route of Hirsch. Dr. Westmacott (Manchester) thought the method of Hirsch limited to rhinologists.

DEMONSTRATIONS.

Dr. A. Gyergyai (Kolozsvár) explained a method for the direct examination of the naso-pharynx and Eustachian tube, which is illustrated by means of diagrams and a special instrument devised by himself.

Dr. Hoffmann (Dresden) read a paper on the anatomy of the inferior turbinate, which was mainly a description of some excellent lantern slides showing the structure of the mucous membrane and its relation to the venous sinuses underlying it.

OTOLOGY.

DISCUSSION ON THE PATHOLOGY OF ACQUIRED DEAF-MUTISM.

PROFESSOR ALFRED DENKER (Halle) opened this discussion with a lantern demonstration of specimens illustrating the pathological changes met with in the ears of deaf-mutes. He was followed by Professor Holger Mygind (Copenhagen), who presented conclusions based upon the published reports of the examination of petrous bones of deaf-mutes with acquired deafness. He had excluded a large number of cases, and had used only cases (1) which had been thoroughly investigated and fully described, or where at least the description justified the supposition that important anatomical changes had not been overlooked; (2) where the history of the case stated that the deafness had been acquired after birth; and (3) where the pathological changes described did not distinctly speak against the history of the case. The report was based upon 38 cases representing 75 petrous bones, as in one case only one side was examined. Amongst these cases there was not one in which the microscopical examination of the membranous labyrinth had yielded a negative result. In none of the cases of acquired deaf-mutism were abnormalities found in the cerebral part of the hearing apparatus which could be considered as causing the deafness. In cases in which there was no chronic suppuration the middle ear not infrequently contained residua of an inflammatory process in the shape of adhesive fibrous tissue, new formation of bony substance, or total or partial absence of the stapes, but in no case could the changes in the middle ear be considered as the immediate cause of the deafness. Deaf-mutism of tympanic origin was characterized by the presence of highly destructive processes in the middle ear or their residua, together with new formation of osseous or fibrous tissue in the labyrinth. Deaf-mutism caused by meningitis or other intracranial diseases was characterized by more considerable new formation in the internal ear, combined with a normal tympanic cavity, or with a tympanic cavity with moderate inflammatory alteration. Scarlet fever was more deleterious to the middle ear than measles, and the labyrinthine changes in deaf-mutism from measles were the result of a process less destructive than in cases of scarlatinal deaf-mutism. In cases of deaf-mutism of tympanic origin it was often difficult to find the route by which the inflammation had spread to the internal ear. In most cases of acquired deafness the changes found were macroscopic; in a few cases they were microscopic only, and in no case had a microscopical examination yielded a negative result. The vestibule was the part of the labyrinth least affected. In all cases except one the pathological changes were much more marked in the sacculus than in the utriculus. Macroscopical alterations of the semicircular canals were found with considerable greater frequency than of the vestibule, and with about the same frequency as in the cochlea. In a sentence, the superior part of the membranous labyrinth generally was less affected than the inferior. There was no decided evidence to answer the question as to the channel through which the labyrinth was generally secondarily affected. The acoustic nerve did not show a tendency to atrophy or to degenerate as a result of inactivity. No marked line could be drawn between the alterations found in acquired deaf-mutism and those described in some congenital cases, in which also the changes found were most naturally explained as being the results of fetal inflammatory processes. In conclusion, he said that the pathology of deaf-mutism acquired after birth was really the pathology of infantile labyrinthitis which had reached its final stage and caused lasting deafness.

The discussion was continued by Dr. Castex (Paris) and Professor Uchermann. The latter considered that Professor Mygind's final conclusion, that the pathology of deaf-mutism acquired after birth was "really" the pathology of infantile labyrinthitis, should have been worded "chiefly." He also considered that any changes in the brain were secondary to those in the ear, and due to diminished use and consequent defective development. Professor Brühl (Berlin) gave a demonstration of lantern photographs of pathological specimens bearing upon the subject. Professor Werner Kümmel (Heidelberg) and Professor Gustav Alexander (Vienna) also spoke.

Dr. Jobson Horne (London) expressed the opinion that meningitis—especially epidemic cerebro-spinal meningitis—and scarlet fever were more frequently the causes of acquired deaf-mutism than all other infectious diseases of childhood put together. At the same time he considered that mumps and hereditary syphilis as causative factors had not been taken sufficiently into account. For various reasons, which he stated, not a few of the so-called

acquired cases were due to direct heredity. Furthermore, a weakness or tendency to deafness was at times hereditary, and might become patent. Those were some of the difficulties to be contended with in arriving at a true estimate of the pathology of the cases of deaf-mutism alleged to have been acquired. Dr. Spira (Krakau) also spoke.

Discussion on the Climatic and Occupational Influences in Diseases of the Ear.

This discussion was opened by Dr. Clarence J. Blake (Boston, U.S.A.) and Professor Giuseppe Gradenigo (Turin). Dr. Blake said the influence of normal climatic changes upon diseases of the ear directly was slight, and was exerted principally through the medium of the associated organs, the nose and the naso-pharynx, or in participation with changes in a systemic condition. The influence of trades and occupations was much more pronounced, and was operative through the same media. "Welfare work" in connexion with manufactories was growing in vigour and in value with the increasing public appreciation of its importance, and was doing much to abolish prejudicial conditions; but there was one class of prejudicial occupational output, a by-product of mechanical industry, that was the most injurious of all, and one especially affecting the organ of hearing, and sometimes secondarily the organ of equilibration, which had been almost the last to receive welfare consideration, and that output was the deleterious effect produced by unnecessary noises. High grades of progressive impairment of hearing, presumably due to degenerative processes of the labyrinth, were more common among metal workers who were subjected to intense sounds made up largely of overtones of high pitch than among the workers in noises of lower pitch. Weavers in cotton mills, for example, and water tenders in paper mills were less subject to progressive impairment of hearing than were blacksmiths, boiler makers, button makers, metal stampers, and weavers. After reviewing the many climatic and occupational influences in diseases of the ear, including those induced by aviation, Professor Blake concluded his report by emphasizing the injurious effects of unnecessary noise. Those effects were no longer merely in the field of conjecture and clinical experience, but within the compass of little more than a decade they had been abundantly demonstrated by scientific research.

The President (Mr. Arthur Cheatle) spoke of the ear affections occasioned by flights in aeroplanes, and considered the matter required further investigation. He also commented upon a pilot being able to obtain his certificate without undergoing a medical examination.

Dr. Jobson Horne (London) discussed the ear affections caused by the telephone, the aeroplane, and the street traffic of the present day, all of which were the outcome of the application of science to modern life. Fortunately, the injurious effects of all three were due to causes which were in no small measure preventable. There was no evidence to show that the telephone *per se* was a cause of defective hearing, but the sudden and unnecessary adventitious sounds occasioned by defective apparatus and badly insulated wires were deleterious. Similar remarks were applicable to unnecessary noises occasioned by street traffic. The dizziness complained of at times by aviators he attributed to the vibrations of the engine. He summed up the harmful influences as due to the sudden and unexpected onset of noise rather than to its intensity and to sudden variations of atmospheric pressure together with the additional strain exerted generally upon the nervous system. The discussion was continued by Dr. Dan Mackenzie (London), Professor von Eicken (Giessen), Mr. Sidney Scott (London), Mr. H. Child (Exeter), Dr. Koenig and Dr. Maurice (Paris). Dr. Reik (Boston), who, in the unavoidable absence of Professor Blake, read the introductory report by the latter, in the course of his reply described many unnecessary noises which formed part of one's daily life in his own city.

Independent Papers.

The Surgical Treatment of Chronic Suppuration of the Ear.

Professor Gherardo Ferreri (Rome) read a paper on this subject, and the President (Mr. Arthur Cheatle) said that he formerly removed the ossicles in chronic suppuration, but that he had given up that treatment and regarded it as a waste of time. The ossicles might be left with safety at times in the mastoid operation. Dr. Dench (New York) was also opposed to ossiculectomy. In a very small percentage of cases did he find the hearing impaired after the radical mastoid operation. Professor Mygind considered that surgeons had to be optimistic, but that they were too optimistic as regards the hearing power after a mastoid operation. The subject was also discussed by Dr. Jansen (Berlin), Professor G. Alexander, and Professor Neumann (Vienna), and Mr. Ernest West and Mr. G. J. Jenkins (London).

Labyrinthine Nystagmus.

A joint paper, dealing with the mechanism of labyrinthine nystagmus and its modification by lesions in the cerebellum and cerebrum—an experimental investigation, by Dr. J. Gordon Wilson (Chicago) and Dr. F. H. Pike (New York), was read by the former. The paper discussed the typical form of labyrinthine nystagmus, which, it was said, consisted of a slow and of a quick phase. The slow phase could be elicited by stimulation of the labyrinth, independently of the cerebellum and cerebrum. The quick phase was independent of the cerebellum, and the paper discussed its cerebral connexions and the parts of the cerebrum essential for its production. The authors then contrasted labyrinthine nystagmus and the ocular movement following lesions of the cerebellum, and discussed how lesions of the vestibular tract and of the cerebellum modified the labyrinthine nystagmus, and how lesions of the cerebrum affected the nystagmus arising from lesions in or stimulation of the labyrinth.

Diseases of the Labyrinth.

At the morning session on Saturday, August 9th, the Section of Otology discussed non-suppurative diseases of the labyrinth, the reporters being Professor Gustav Alexander (Vienna) and Professor Karl von Eicken (Giessen). Professor Alexander also gave a demonstration of microscopic and macroscopic preparations bearing upon the subject. He was followed by Mr. J. S. Fraser (Edinburgh), who gave a similar demonstration. Dr. Nager (Zürich) demonstrated lantern photographs of histological specimens of influenzal labyrinthitis. Dr. E. B. Dench (New York) read a paper descriptive of two cases of sudden ablation of the labyrinthine function to the caloric test. In both cases the labyrinth, tested at intervals of twenty-four hours, showed a complete loss of caloric reaction. This seemed sufficient in both cases to warrant the complete labyrinth operation, and the findings at the operation clearly demonstrated the wisdom of such a procedure. In the first case a fistula was found in the horizontal semicircular canal, and the oval window was found open. In the second case infection of the labryrinth occurred secondarily to involvement of the sinus; the sinus thrombosis was apparently of long duration.

STOMATOLOGY.

Discussion on Reflex and Functional Disturbances in Connexion with the Teeth.

Dr. A. W. W. Baker (London) said that thirty-five years ago there was a strong belief that dental irritation was capable of causing many lesions in parts so remote from the teeth as to exclude the possibility of the direct extension of diseased conditions; reflex action was suggested as the only explanation. Further knowledge of pathology had shown that many of these cases were explicable on the grounds of toxic absorption; this was the view held by Mr. Colyer and Professor Pickerill. Nevertheless, an important residuum of cases remained which many writers agreed might be caused by dental irritation. In this category were placed epilepsy, chorea, hysteria, muscular spasm, and affections of the vasomotor secretory and motor nerves. The work of Dr. Head in mapping out areas of tenderness on the face and head associated with certain teeth had proved of great service. Not only could pain in the teeth be referred to other parts, but the reverse condition could happen. Odontalgia of a painful and often persistent character sometimes followed operations upon the nose. With regard to "teething" in young children there was some divergence of opinion, but most observers agreed in thinking that the irritation of

teething could cause disturbances of the general health; and Dr. Still in his book had given a list of conditions connected with teething. The rare condition called spasmus nutans was distinctly coincident with dentition in its onset and cessation. With regard to reflex irritation of the eye, many cases had been recorded in the past; but, as Sir William Collins had pointed out, with a more rigid method of observation and a more general use of the ophthalmoscope, the number of these cases had greatly diminished.

Dr. Rousseau-Decelle (Paris) thought that all dental lesions were capable of giving rise to reflex disturbances. He had often noticed hyperaesthesia of the skin of the face and head in cases of dental disease. Cutaneous lesions due to reflex irritation were common, and the association of alopecia with dental caries had been well established. The reason why these reflex disturbances occurred in some individuals and not in others was due to the condition of the nerve centres. A study of these cases often revealed some antecedent irritability which might be traceable to alcoholism, epilepsy, or syphilis. In nerve centres so weakened the tendency to reaction was great, and comparatively slight irritation might give rise to widespread nervous manifestations.

Professor Underwood related two cases that had come under his observation. In one, sciatica of long duration disappeared within a week of removing some decayed teeth.

Mr. Colyer said that with a better knowledge of pathology most of these cases of so-called reflex irritation had been transferred to their proper place as being due to sepsis. He thought that undoubtedly Professor Underwood's case came under that category. Teething, however, was responsible for some cases of general disturbance in children. He did not see how iritis could be caused by a reflex irritation, but he could readily understand such a condition being caused by septic absorption from the mouth.

Mr. J. G. Turner said that reflex irritation was like the Mahatmas of Thibet. When a case was sought for, it disappeared. With regard to teething, he had found that there was least irritation when the mothers had been careful to clean the bottle.

Drs. Coopman (Belgium), Cruet, Delguel, Amoedo, and Marques (Lisbon) continued the discussion, and Drs. Baker and Rousseau-Decelle replied.

INDEPENDENT PAPERS.

The Preparation of the Mouth for Surgical Operations.

Mr. H. Lloyd Williams (London) said that failure to produce favourable conditions in the mouth was followed, as elsewhere, by sepsis and secondary haemorrhage. Septic infection of the bone of the socket was frequently seen after extraction. The cause was to be found in the septic condition of the mouth at the time of operation. Before extraction the teeth should be carefully scaled and the gums wiped over with hydrogen peroxide (10 per cent.). In this way a dirty mouth could be made clean in a comparatively short space of time. It was important in treating fractures of the jaw to get the mouth as clean as possible by extracting septic teeth and roots in the neighbourhood of the fracture. Again, the mouth should be cleaned thoroughly before operations involving the adjacent and communicating cavities. The importance of a clean mouth before performing gastric intestinal operations was obvious.

Surgical Prosthesis.

Mr. Sheridan (Dublin) and Dr. Boerma (Holland) read papers on surgical prosthesis. Dr. Aguilar (Madrid) said that to be effective surgical prosthesis should be immediate—that is to say, the apparatus should be inserted after the removal of the bone and before the suturing of the skin. He had restored portions of the mandible in this way with satisfactory results. In one case the patient had worn the apparatus for two years.

CLINICAL DEMONSTRATION.

Cases illustrating deformities of the jaw in children, malignant disease of the mouth, and arthritis due to oral sepsis were shown, while Mr. Goadby exhibited some cultures of mouth organisms, and some rabbits in which he had produced experimental arthritis by the inoculation of pure culture of the *Streptobacillus malae*.

HYGIENE AND PREVENTIVE MEDICINE.

INFANT MORTALITY.

ON Friday morning the Section held a joint discussion with the Sections of Obstetrics and Gynaecology, and of Diseases of Children, on the subject of infant mortality. It was reported in detail at page 402 of our issue for August 16th. From the point of view of preventive medicine the most important conclusion reached seemed to be a general consensus of opinion that "prematurity," including under that head such conditions as premature birth, congenital defects, atelectasis, atrophy, etc., was one of the chief causes of high infantile mortality in the first four weeks of life, and following upon this, a conviction that greater attention should be given to the coming generation in the prenatal period. The remedies suggested in this connexion were: Observation and examination and, if necessary, treatment or detention in hospital of all women suspected of having syphilis, or deformities, such as contracted pelvis; notification of all cases of pregnancy, withdrawal of pregnant women from the labour market; education of women and girls, "prospective mothers," as to the duties and responsibilities of motherhood; avoidance of meddlesome midwifery, the encouragement of breast-feeding, and when this was impossible, an organized system of wet-nursing.

EPIDEMIOLOGY.

At the meeting on August 9th, Dr. W. H. Hamer in the chair, a discussion on the factors that determine the rise, spread, and degree of severity of epidemic diseases was opened by Dr. Major Greenwood, jun., Lister Institute of Preventive Medicine, who first gave a brief historic summary of the subject, describing the classical conceptions of epidemics from Hippocrates to Sydenham. He summarized the teaching of Sydenham as follows:

> An epidemic should be regarded from three points of view: (1) That there is a process of secular or long-period modification, in virtue of which a specific type becomes dominant in a particular epoch, and then gradually or suddenly gives place to a rival. (2) There is another set of factors producing short-period oscillations in the epidemicity of a given disease leading to the phenomena of seasonal prevalence. (3) Finally, we can connect these two trains of ideas by the conception of an epidemic constitution in virtue of which certain types of epidemic or certain features of morbidity tend to prevail at a given time to the exclusion of other types or symptoms. We may say that the amplitude of the first kind of wave is measured in centuries, that of the second in months, and that of the last in years.

Dr. Greenwood next traced the history of scarlet fever epidemics during the last hundred years, which showed evidence of a wide prevalence and high fatality at the commencement of the nineteenth century, followed by a remission, then succeeded by a period of gravity in the years 1830–40, which he termed the "golden age" of scarlet fever. That culminated between 1862 and 1865, followed by a remission. Then occurred a less marked rise in 1868–71, followed by another smaller rise; and from the year 1877 onwards there had been a continuous downward trend, disturbed only by occasional small ripples. With regard to the causes of such variations, he advanced the following propositions:

1. Secular variations were too striking to be attributed wholly to errors of record, although in this particular case of scarlet fever the early history of the disease could not be separated from that of diphtheria.

2. Such variations might be due to the action of natural selection operating upon variations of human resisting power, or upon the biological characters of the causative agent, or by a combination of both processes.

3. The direct action of public health authorities might have played an important part in bringing about the decline in prevalence and fatality of the disease. In this connexion, however, it should be remembered that the present decline had begun to be apparent before the initiation of modern hygiene.

With regard to the course of an epidemic, he suggested that laws descriptive of it might ultimately be propounded. One factor in the evolution of an epidemic was likely to be found in changes taking place in the infecting organism, as a consequence of which the latter's power of infecting susceptible subjects was a function of the time. In the case of certain diseases it was probable that the influence of such extrinsic factors as temperature was of

great importance in determining the course of an epidemic. The paper concluded with a description of the method of fitting of "frequency curves" to statistics.

The second reporter was Professor Dr. G. Sticker (Bonn), who said that the best known examples—influenza, plague, cholera—had shown that to discover the conditions of parasitic epidemics one must avoid all generalization, and study each malady by itself and in its environment, historically, geographically, biologically, nosographically, experimentally—in short, scientifically. It was never enough to consider it from an anthropocentric standpoint as only a human disorder, but that for the advance of epidemiology a higher standpoint—that of the loimologist—was necessary. The loimology of the future had for its object to discover what places and what times were favourable to each epidemic disease and what unfavourable, either continuously or for a time; whether and how far animals and plants took part as victims or as carriers of the germ of the human disease; where the original nidus of the germ lay hidden, what was its importer, whether there were animal or vegetable or lifeless undercarriers or intermediaries; whether the disease was spread by hosts which were themselves healthy or by lifeless material; what other epidemic disorders were either occasionally or regularly connected with the parasitic epidemics so as to aid their progress or increase their severity and to influence the severity of the several diseases.

Dr. John Brownlee (Glasgow) brought forward his interesting theory that the rise and fall of epidemics obeyed the laws of geometrical progression. This he illustrated in a graphic manner by diagrams. His chief conclusions on the subject were: (1) That an epidemic was an organic phenomenon caused by the organism becoming suddenly infective and thereafter losing its infectivity at a rate approximating to a geometrical progression. (2) That the progress of an epidemic might be due to the above process acting either directly or indirectly; directly, as an epidemic of small-pox, when the infection passed from one person to another; indirectly, as an epidemic of malaria, when the number of mosquitos rose and fell according to approximately the same law. (3) That it was probable that the epidemic ended because of loss of infectivity on the part of the infected organism rather than because of a change in susceptibility of individuals towards the organism, as epidemics of the same disease often ran identical courses whether occurring in winter or in summer. (4) With regard to summer diarrhœa, it was evident that the type of epidemic was to a certain degree fixed before the onset, and that it was only secondarily modified by the climate. (5) That the date of the epidemic was determined (*a*) by the date of the epidemic in the previous year, (*b*) by the temperature in the month of June, and (*c*) by the amount of rainfall in the month of June. (6) That the amount of the epidemic was determined chiefly by the temperature in the month of June.

Dr. W. H. Hamer said that he had been much struck by a suggestion thrown out by Dr. Greenwood as to whether the infecting organism in milder epidemics might not be the real lion at all, but only a jackal, and therefore incapable of doing so much damage. His experience of a couple of small epidemics that had occurred in London led him to the same conclusion. One was limited to a few cases of cerebro-spinal fever which were imported from the Continent, where the disease was raging, but it made no headway in this country. Another was an epidemic of rat plague, in which the plague bacillus was isolated; but the remarkable limitation of the infection to a few rats in London raised the question whether in this instance it was the real organism at all which caused the rat plague. The fact of the rarity of cases of glanders occurring in human beings pointed in the same direction.

Dr. Jamieson (Melbourne, Australia) referred to the great reduction that had taken place in Melbourne in the mortality from typhoid fever during the last twenty years or so. The mortality was now reduced to one-tenth of what it had been in the period referred to, owing to the adoption of modern drainage systems.

Dr. E. W. Goodall (Homerton) dwelt on the great decline of severe cases of scarlet fever during the last twenty years. The death-rate had been reduced from 3.6 to 0.22, and the percentage of cases of scarlatina anginosa from 15.1 to 2.9. Typhoid fever and measles had not declined to the same extent, but the death-rate from the streptococcal diseases—erysipelas, pyrexia, and puerperal fever—had also diminished. The conclusion he came to was that alterations in the severity of these diseases depended on alterations in the virulence of the micro-organisms. In his opinion the severe throat symptoms of scarlet fever were due to streptococcal infection, and not to the specific organism of the disease, whatever it might be, and the decline of mortality and of anginous cases was on all-fours with that obtaining in other diseases caused by streptococci, although the factor of variations in human resisting power must also be taken into consideration.

The discussion was continued by Dr. Ledingham, who dealt with the question from the bacteriological point of view, and by Professor Sudhoff (Leipzig).

Dr. Bond (M.O.H., Holborn) brought forward the view that diminution in the fatality of epidemics was due to increased urbanization, from which increased opportunities of infection occurred, with the result that the majority of the population were protected by going through mild attacks. He believed this was notably the case with regard to tuberculosis.

Dr. Keith (Singapore) differed from Professor Sticker's views as to the maturation of cholera germs in the soil. He quoted instances in his experience proving that the disease was transmitted by "carriers."

Dr. Greenwood and Professor Sticker replied to the various points raised by the discussion.

Visual Defects in School Children.

At the last meeting of the Section the chair was taken by Dr. W. Leslie Mackenzie, medical member of the Local Government Board, Scotland.

Dr. James Kerr (Principal School Medical Officer, London County Council), in introducing a discussion on the causes, prevention, and treatment of visual defects in school children, regretted that this discussion had not been arranged in conjunction with the Section of Ophthalmology, as the subject was one of great interest to eye specialists. He dealt chiefly with low-grade myopia, by which he meant myopia of less than 3 dioptres, and there was no doubt this was associated with school conditions, especially eyestrain from close work, particularly in bad light, debility from unhealthy rooms, and illness or malnutrition. He characterized the work done in school, even in early years, as strangely unsuitable. The educational system had not been built upon scientific lines, but had survived from the literary and clerical schools of the Middle Ages, when reading and writing to understand the services of the Church were the highest aims. There was too much of a literary aspect in the early years of schooling, and children were taught to deal with the symbols of things rather than with the things themselves. The learning of letter forms ought to be almost entirely muscular, and very large letters should be used. Fine writing copies and writing books with small-spaced lines and intervals should be excluded from the school which sought good ocular hygiene. The elements of writing should be learnt as coarse muscular exercises with chalk and blackboard, the child standing with outstretched arm and making large, free, rapid strokes. No precision or slow accuracy in detail should be expected, only rapidity and general legibility. The object of all this was to minimize the use of vision, and in his opinion the near-eye-work habit, now almost universally encouraged in schools, was the pivot on which so many questions of school hygiene converged. If that could be eliminated from the early years of school life, all the great discussions on school desks, vertical or oblique handwriting, *et hoc genus omne*, could be pushed to one side. It was most important also to avoid fatigue in every way. With regard to the size of letters, he would stipulate that no child learning letters—that is, up to the age of 7 years—should have type with letters less than 2 mm. high. From 7 to 9 the type might be 1.75 mm. and above that age 1.5 mm. high for small letters. With regard to other points, he was satisfied with the proportions of most modern seats and desks. Effective ventilation and sufficient desk width could not be obtained with less than 15 square ft. per head. The allowance for elementary classrooms of 10 square feet was too low. Illumination by daylight should be efficient, and arranged to come from

the left side; and for artificial illumination no school desk should have less than 2.5 foot candles. It was also of considerable importance to protect the eyes from glare and shine. These were the chief points emphasized with regard to the school prophylaxis of low-grade myopia. In dealing with higher degrees of myopia, what they wanted was protection during the growing period. He had devised what was known as the high myopia school, which was a method of eliminating eye work as far as possible from elementary education. That method had been found so successful that it was being extended, and applied to other rarer varieties of eye disease or malformation as well as to high myopia. In conclusion, realizing the dangers of literary careers for sufferers from myopia, he would like to see a stringent rule made to refuse scholarships to young myopes of 4 dioptres or more, and all candidates for the teaching profession should be rejected for myopia of 6 dioptres or over.

The second reporter was Professor R. Posseck (Graz), who considered that the chief cause of defect of sight in school children was myopia, which developed indirectly from the nearness of the work in school time. According to Levinsohn's observations, which the reporter could confirm, it was the bending of the head which produced in the eyes by the force of gravitation a traction on the hinder quadrant of the eye. On that account it was necessary to prevent everything that led to bending of the head. As well as avoiding every difficulty which led to a shortening of the work distance, such as bad lighting, small print, unsuitable seats, etc., it was most important to introduce a greater angular elevation of the desk table. Accurate medical control by specially trained school doctors, and early correction for myopes, was insisted on.

Dr. L. A. Parry (Hove) thought it was essential that school medical officers should have a training in diseases of the eye. He did not think that Dr. Kerr had laid sufficient stress on the importance of arranging that school desks should be lighted from the left side. In his opinion this was most urgent. He also advocated full correction of myopia. He would like to insist on all members of education committees having to pass an examination in hygiene. Dr. Hans Lauber (Vienna) laid stress on the development of myopia during the period of rapid growth, and on the importance of special attention being paid by teachers and parents to the eyesight of children whose growth was more rapid than usual. In his opinion Professor Posseck's anatomical theory was not properly supported. Professor Georg Levinsohn (Berlin) followed with an exposition of his theory of the causation of myopia. This was, briefly, that the eye, through the bending of the trunk and head during close working, was drawn down by gravity, the optic nerve and the muscles and various coats of the eye were stretched, so as to produce a lengthening of the eyeball and consequent myopia. In experiments on young rabbits, cats, and dogs by suspending them head downwards for several hours daily, he had succeeded in considerably augmenting their refraction. To obviate that cause of myopia, treatment should be directed to explaining in school the harmful effects of bending the trunk and head, providing proper school desks which encouraged an upright position, and introducing straight writing. Mr. Ernest Clarke (London) believed that excess of convergence over accommodation was what produced the mischief in myopia, and insisted on the necessity of full correction in myopia. In his opinion, school myopia was engendered by close work, and he urged the necessity of doing away with evening preparation at private and better-class schools. Another thing that should be discouraged by parents in private life was allowing little girls to do fine needlework. The next speaker, Professor Ralph Williams (Sheffield), also condemned fine sewing by girls, and all such kindergarten work as threading beads, pricking outlines of animals, etc. He handed round a specimen of the kind of coarse needlework which he thought suitable for young girls, and expressed his belief that one cause of the greater incidence of myopia in girls was their being encouraged in needlework.

Dr. Brindley James (London) objected to electric light on the ground that it gave a feebler illumination than gas, and Dr. Leslie Mackenzie objected to it on the opposite grounds—namely, that the light was too powerful and over-stimulated the retina. In his opinion, based on personal experience and on the views of an eminent expert, the best light for reading by at night was a paraffin candle.

In replying on the discussion, Dr. Kerr agreed that electric light contained rays which were peculiarly irritating to the retina, but thought this question was one of physiological adaptation of the eye. He considered Dr. Levinsohn's theory to be one of very great importance, though it did not contain the whole truth. When he was in Bradford people with myopia used to tell him that they were "slack set up," and he thought it would be hard to find a more expressive way of explaining the condition referred to.

INDEPENDENT PAPERS.

Registration of Stillbirths.

On Friday afternoon the first paper was read by Dr. Reginald Dudfield on the registration of stillbirths. Having shown by statistical tables that there had been a considerable reduction in infantile mortality during the last ten years, he said the conclusion was irresistible that this reduction had been effected by preventive measures affecting post-natal causes of death, while leaving ante-natal causes practically uninfluenced up to the present. He believed that the best hope of success in combating this state of affairs lay in the study of the causes producing stillbirth, for which purpose the compulsory registration of such births was absolutely essential. Such study should be extended to the statistics of other countries, and the first step should be a proper definition of the term "stillbirth." He suggested the following tentative definition:

> A stillborn child means a child whose body at birth measures not less than 13 in. (32 cm.) in length from the crown of the head to the sole of the feet, and who, when born (the head, body, and limbs of the child, but not necessarily the afterbirth, being extruded from the body of the mother), exhibits no sign of life—that is to say, whose heart has ceased to function, as demonstrated by the absence of pulsation in the cord at its attachment to the body of the child, and absence of heart sounds and impulses.

Used at the instant of complete birth, that test was one which a properly trained midwife should be able to apply, and it should not be beyond the skill of most lay assistants. If all countries could be induced to fix the same time, namely, the end of the twenty-eighth week of gestation, for the inception of registration, a large body of valuable data of a comparable character would be available. The speaker also indicated briefly the practice as to registration of stillbirths existing in other countries, and said that registration should provide for the declaration of the causes of death *in utero*, and that a special register of stillbirths should be provided.

Laryngeal Diphtheria.

Professor Alfonso Montefusco (Naples) read a paper on the diffusion of croup at Naples. He did not define croup, but apparently he meant by the term what is usually called in this country laryngeal diphtheria. There appeared to be nothing very striking about the incidence of the disease at Naples, except, perhaps, the fact that he found it to be more frequent in the country than in the town. The incidence of the disease was greater among males than females, but the mortality was the other way about—greatest in females.

Eugenics.

A paper having eugenics as its basis was read by Dr. E. Deutsch (Budapest) under the title, the social and hygienic care of abnormal children. In his opinion, consanguinity of parents had no bad effects, except in the case of retinitis pigmentosa and congenital deaf-mutism, in which diseases, however, hereditary transmission played the chief rôle and consanguinity only a minor part. He had personally examined 1,011 families, and from data thus obtained he concluded that poisoning of the germ cells by alcohol, tuberculosis, syphilis, malaria, lead, and morphine was the cause of various degenerations among children. As methods of prophylaxis, he suggested: (1) Rational pairing of men and women; (2) forbidding of marriage of abnormal subjects; (3) sterilization of the unfit; (4) segregation of unfit; (5) campaign against alcoholism and insistence on abstinence in children, temperance in adults; (6) syphilitics should not be allowed to marry without medical consent; (7) conception should be

prevented in the case of tuberculous women; (8) morphinomaniacs should not be allowed to marry; (9) quinine treatment in chronic malaria; (10) medical inspectors appointed by the State to carry out regulations against lead poisoning in various trades. The paper was discussed by Professor Sticker and Dr. Greenwood.

Tuberculosis in the Tropics.

Dr. Gedeon Biro (Budapest), having read a short paper advocating teaching in open-air schools,

Dr. Angus Macdonald (Jamaica) followed with a paper on preventive control of tuberculosis in the tropics. From this it appeared that, except in Australia, where the rate was only 1 per 1,000, and in Grenada 0.5 per 1,000, the death-rate from all forms of tuberculosis was considerably higher in most tropical countries than in the British Isles, ranging from 3.4 per 1,000 in Jamaica and Ceylon to about 5 per 1,000 in Trinidad and British Guiana.

There were certain different features found in the disease in the tropics. Thus death under 1 year was rare, and under 5 uncommon, and pulmonary tuberculosis caused 84 per cent. of deaths, other forms only 16 per cent., pointing to the comparative rarity of bovine tuberculosis.

Occupation played little part in the extension of the disease. Food infection had little or no effect, as tuberculous meat was rare, and milk was practically always boiled and consumed in relatively small amount. Climate as a causative factor was not statistically evidenced, the mortality-rate in the damp and relaxing climate of Grenada being 0.5 per 1,000, while it stood at 3.4 in dry and bracing Kingston. Evidence from everywhere pointed to tuberculosis being a disease almost entirely of domesticity. The wretched hovels of the people, the overcrowding of rooms at night, the closing of doors and windows and stopping of every chink, absence of ventilation and fear of night air, the fatalism of the people—all these features in tropical life enhanced the opportunity of infection and made inevitable direct communication of the disease from an affected person to all within striking range.

With regard to prevention and treatment, the same measures should be taken as were being made use of at home, especially compulsory notification and tuberculosis schools, where isolation could be practically carried out and its inculcation so established as to have patients coming back to their homes active apostles of hygiene.

Many efforts in these directions had been made in different parts, notably in Trinidad, but much of the good of those efforts was lost through want of co-ordination in administration.

In conclusion, Dr. Macdonald emphasized the fact that in studying statistics it was remarkable that the chief causes of death in the tropics, far from being purely tropical diseases, were the time-honoured diseases of civilization.

Support of Hospitals.

Dr. J. C. McWalter (Dublin) put in a paper on the necessity for State-endowed hospitals and a State medical service, in which he advocated the plan of the State handing over to the trustees of a hospital a certain sum per day for every patient occupying a bed. He also thought that the present ill-organized crowd of 14,000 doctors who now administered the Insurance Act could not be allowed to continue their labours without being digested into a more uniform organism, which ought to be a State medical service.

Prevention of Disease.

The business of the meeting concluded with a very long paper by Dr. A. L. Soresi (New York), the gist of which was that the problem of prevention of disease was more a social than a medical one, and that medical science would never be able to prevent the existence of infectious diseases until social science had been able to eliminate the conditions which created the favourable ground where infectious diseases grew and multiplied.

On the proposal of Dr. Gedeon Biro (Budapest), a resolution was passed by the Section to the effect that it was advisable to extend and further in every way possible the teaching of children in open-air schools.

NAVAL AND MILITARY MEDICINE.

Prevention of Malaria among Troops.

At the meeting of the Section on Saturday Colonel P. Hehir, I.M.S., read a paper on the prevention of malaria among troops in India, in which he enumerated the measures generally employed to prevent the breeding of mosquitos. He also stated that in his opinion the prophylactic administration of quinine was of great value in preventing the occurrence of malaria.

Discussion on Hospital Ships and the Transport of Wounded.

Surgeon-Inspector I. Nishi (Imperial Japanese Navy), in introducing this subject, divided the functions of a hospital ship into those which are performed in peace and those demanded of it in time of war. In the former category he mentioned the treatment of sick received from various vessels on foreign stations, and their conveyance. In war the duties of a hospital ship were multifarious, comprising not only the collection of wounded from the various battleships, their treatment, and transport to home territory, but also the supply of medical stores to war ships remote from the base, the provision of the necessary laboratories for chemical, physical, and bacteriological research, and the disinfection of smaller vessels which possess no disinfecting plant of their own. The ideal hospital ship would not differ from the ideal hospital on land, except that it was afloat. That ideal could only be attained by means of a ship specially designed for the purpose by an expert naval architect and a medical man working together in complete harmony, and was hardly practical in view of the expense entailed. It was necessary, therefore, to rely on merchant ships adapted for the purpose. The most important points to be kept in mind in selecting such a ship were that it should be steady, should have a large space on the hurricane deck to serve as a promenade for the patients, that passages from one compartment to another on the same deck should be wide and the incline of the companions not too steep. There should be a number of rooms, large and small, in the middle part of the upper deck, where motion and vibration were reduced to a minimum, convertible into wards. The interior should be free from ornamentation and similar "dust traps." The operating theatre and its adjuncts, the laboratories, wards, and, in fact, all those departments of the hospital used for the actual treatment of sick or the performance of expert medical and surgical work, should be in and above the middle part of the middle deck. The laundry, drying-room, steam disinfector, mortuary, and animal-room might be either in the fore or after part of the ship. The quarters for the crew, etc., spare wards, canteen, and store-rooms would be on the lower deck. Wireless apparatus should always be carried. All cleaning should be done by the vacuum system. All auxiliary machinery should as far as possible be worked by electric motors to avoid useless distribution of heat by steam pipes in the sick-rooms. Finally, the ship should be capable of a high speed. As regards the transport of wounded, Surgeon-Inspector Nishi said that under brisk shell fire carriage by hand was the only practicable method. In the Japanese navy this was practised with one or more bearers, the methods approximating fairly closely to those in use in Great Britain. In a novel method devised by Surgeon-General Kimura the patient sits on the centre of a four-tailed band of strong cloth. The tails were tied together and passed round the necks of two bearers, one of whom walked on either side of the patient and supported him by their arms behind his back. The speaker preferred the simpler forms of stretchers, such as the bamboo blind stretcher devised by Baron Surgeon-General Totsuka, to more elaborate contrivances.

Fleet Surgeon McNabb, while maintaining that the hospital ship must now be accepted as a factor in the equipment of a fleet both in peace and war, dismissed as an unattainable ideal the specially designed ship. He would prefer a well built cargo boat of between 6,000 and 8,000 tons gross, with a speed of 12 to 14 knots, and accommodation for 300 to 400 patients. The ship should be roomy, and well ballasted, so as to be steady in a sea way. A cargo boat was designed to run with a full load, and the fact of her being run only half full might seriously affect her structure. A large fuel capacity was advisable

to avoid frequent coaling, and for this reason oil fuel would be preferable. Special attention should be paid to the lighting and ventilation of the wards, which should preferably run from side to side of the ship. The water supply should be ample, and in case of doubt as to its quality, filters should be provided for all the wards. A refrigerating plant should be carried, and lifts for moving wounded from deck to deck would be of the greatest value.

Generale-Medico Comm. Calcagno, of the Italian Navy, gave a short account of the hospital ships used during the expedition to Tripoli. Two of these, the *Re d'Italia* and the *Regina d'Italia*, were of 10,000 tons burden, with a speed of 15 knots. The equipment included stills, refrigerators, etc., and the ships were coaled, watered, and provisioned for two months. The carrying capacity was 2,000 patients. The sleeping cabins for emigrants were converted into spacious wards, the number of beds being reduced from 1,800 to 750 to provide ample room. The deck infirmary for emigrants was utilized as an officers' hospital. The equipment for operations, examinations, etc., was thoroughly up to date. Up to September, 1912—that is, the end of the war—22,400 invalids were transported to the home country, 4,000 of whom were suffering from severe injuries. In spite of great difficulties resulting from the stormy sea and the dangerous nature of the coast, the results achieved were extremely good. Operations of the most difficult nature were performed even in stormy weather. The stretchers used were the British pattern, modified by Colonel Rosati, and adapted to the Italian system of portable litters. These possessed the important qualities of simplicity, lightness, strength, and moderate cost.

DISCUSSION ON WATER SUPPLY IN THE FIELD.

This subject was introduced by Regimentsarzt Dr. Zoltan v. Ajkay, of the Royal Hungarian Army, in any extremely valuable paper. After enumerating the different sources from which water is procured in the field, and the various advantages and disadvantages of each, the speaker passed to a consideration of the various methods employed at different times for purification—namely, filtration, the addition of chemicals, use of ozone, exposure to ultra-violet rays, and boiling, and summed up as follows: (1) The water carried by each man in his bottle is neither reliable in quality nor sufficient in quantity. Some method of treatment is therefore essential to render it germ-free. (2) Filters are not reliable, rapidly get out of order, and are difficult of transport. Chemicals merely improve the taste of the water, as no chemical agent could be relied on to kill noxious germs rapidly. If small quantities were allowed to act for a short time the action was uncertain; larger quantities and longer exposure led to alterations in the chemical character of the water. (3) Ozonization and the exposure to the ultra-violet rays seemed promising, but in either case clarification was necessary to ensure success. So far neither of these methods was applicable in the field, as both required skilled mechanics, a constant supply of electricity, and apparatus too heavy for transport, especially on bad roads. Improvements of a technical nature might remove these objections. (4) Boiling was the most reliable method of sterilizing water in the field, and the Hartmann portable apparatus was a satisfactory means of solving the problem. Battalions and detached companies could be equipped with these, whilst smaller parties should be supplied with a smaller pattern. The larger pattern should be supplied to dressing stations, and the smaller to the advanced aid stations.

Colonel Horrocks reviewed briefly the various systems and methods used in the British army, pointing out that a distinction must be made between the troops at the front and those on the lines of communication, which were more or less stationary. Various types of heat-exchange apparatus had been experimented with in which the temperature was not allowed to rise above 80° C. The results were not on the whole favourable. Fuel was not always obtainable, and the effect of transport over bad ground was to damage the mechanism, and to repair it a skilled mechanic was needed. The most satisfactory results had been obtained by pumping the water, to which alum had been previously added, from the source through a box containing alum and chloride of lime, and then through a specially woven cloth wrapped round a wire cylinder. A thick film of mud was deposited on the cloth, and by this means from 60 to 90 per cent. of the bacteria could be removed. The clarified water could now be passed through Berkefeld candles, which must from time to time be sterilized and cleaned. Candles had the defect of being fragile and developing flaws in consequence of rough treatment, but it was simpler to carry spare candles than to repair a heat-exchange apparatus which had broken down from jolting. By the means of such an apparatus pure water could be supplied much more rapidly than when a heat-exchange apparatus was used.

DISCUSSION ON ANTI-TYPHOID INOCULATION.

Professor M. H. Vincent, Médecin Principal of the Val-de-Grâce Hospital, in opening the discussion, referred to the fact that antityphoid inoculation was practised for the first time on man by Pfeiffer and Kolle and Wright in 1896, and had since then been widely and successfully used. The results obtained in France were as gratifying as in other countries. A special laboratory had been opened at Val-de-Grâce, from which enough vaccine had been dispatched for 280,000 inoculations, the number actually vaccinated being probably above 100,000. The vaccine was polyvalent, raised from various strains of bacilli, and was sterilized by the addition of ether. It contained no antiseptic when actually sent out for use. The dosage strength was equivalent to 400 million bacilli per cubic centimetre. It could be used in combination with an antiparatyphoid vaccine prepared in the same manner. Vaccination was optional in the French Army, but 53,157 men had submitted to the operation. The proportion of vaccinated to non-vaccinated was 1 to 4 in Tunis and Algeria, and 1 to 6 in Eastern Morocco. In Western Morocco, on the other hand, out of 17,087 men 10,794 were protected in this manner. A considerable proportion of the civil population in seriously affected districts had also been vaccinated. Local reaction was absent or slight, very rarely severe. In healthy subjects a temperature of 102° F. was noted in 1.5 per cent. of cases, lasting only a short time. In 3 per cent. a temperature of 100.4° was observed. Malarious subjects frequently suffered from an attack of ague after inoculation. People who were ill, convalescent, or anaemic, and those who had previously suffered from typhoid fever, should not be vaccinated. In some cases, owing to accident, doses as high as 20 c.cm. had been administered; fever, headache, and local pain resulted, but no really serious permanent effect was produced. The following results had been noted: At Avignon, where a very severe epidemic raged amongst the civil population, 1,366 soldiers out of a total strength of 2,053 were vaccinated. There were in the garrison 155 cases of typhoid fever and 22 deaths, all amongst the 687 unprotected men. None of those vaccinated suffered from even slight fever. In Eastern Morocco, amongst 962 vaccinated men there was no case of infection, whereas amongst the non-vaccinated the morbidity was 38.22, and the mortality 5.51 per 1,000. In Western Morocco, where the men went through an extremely arduous campaign, the admission-rate amongst the vaccinated was 0.18 and the death-rate 0.09 per 1,000. The corresponding figures for the non-vaccinated were 168.44 and 21.13 respectively. It might fairly be estimated that as a result of vaccination the country had been spared over 2,000 cases of typhoid fever and 266 deaths from this disease.

Major Russell, of the Medical Corps, U.S. Army, referred to the severe outbreaks of typhoid fever that occurred in the various military camps during the Spanish war of 1898, and also in other campaigns as showing the loss experienced in war from this cause. He then briefly sketched the history of antityphoid vaccination in the United States army, and described the process of manufacture, which approximates closely to that practised at the Royal Army Medical College. The first beginning was made in 1909, and though only 1,887 men were vaccinated in that year, in 1910 16,073 volunteered for the operation, and the numbers showed signs of increase in the following year. In the spring of 1911 orders were issued for the concentration of troops on the Mexican frontier, and compulsory vaccination was instituted on March 9th, for the troops forming the manœuvre camps. On June 9th it was made compulsory on all recruits. The following figures showed the contrast between the state of affairs in the Spanish war and that in 1911. At Jacksonville, in Florida,

in the earlier campaign there occurred certainly 1,729 and probably 2,673 cases of typhoid fever with 248 deaths. The strength of the force was 10,759. At San Antonio in 1911 a slightly larger force (13,000 men) was encamped for about the same length of time, and in this there were only 2 cases and no deaths, though enteric fever was actually present in the civil population of San Antonio, and the troops were allowed to enter the town freely. In the army as a whole a great drop had occurred in the incidence of typhoid fever since inoculation had been made compulsory. Severe reactions occurred in 1 to 3 persons in 1,000. Major Russell discussed shortly the relative advantages of living and dead vaccines, and concluded that for service use the former were unsuitable. The chief defect was instability, and their use was not unattended with danger. As regards the inoculation of the civil population, he thought that all people actually coming into contact with the disease should be protected, including the relatives and servants of patients. In isolated communities where the typhoid-rate was high, mining towns, lumber camps, many workhouses, asylums, and schools, the measure would be most beneficial.

Colonel Sir William Leishman limited himself, owing to the wide range of the subject, to a consideration of certain points interesting from the military standpoint, and especially affecting the British army. He advocated the use of a strain of low virulence, not being convinced that a strain of high virulence created a more effective protection—a quality which did not depend entirely on this peculiar characteristic only. In the same way he was not prepared to accept the argument that a polyvalent vaccine was more efficacious than the monovalent preparation in use at the Royal Army Medical College, and pointed to the remarkable uniformity of the results obtained by this vaccine in climates differing so widely as those of India, South Africa, and the West Indies. He preferred a vaccine prepared from a broth culture to one manufactured from a broth on a solid medium, owing to the technical advantages presented by the former method when production on a large scale was intended. He considered the temperature at which sterilization was effected a point of great importance, and that the disappointing results at one time met with by Wright were due to the use of too high a temperature for sterilization, combined with the addition of the preservative antiseptic to the vaccine before the fluid had been permitted to cool. Standardization was best achieved by a bacterial count, and the uniformity of the reaction produced was a fair proof of this. Individual susceptibility could, unfortunately, not be determined, and a previous analytical test of the blood, to ascertaining and guard against this peculiarity, was hardly feasible in practice. The keeping quality of the vaccine was a matter of great importance in the case of the British army in consequence of the number of tropical stations to which the vaccine had to be sent. Little if any change could, however, be ascertained even in vaccines which had been stored for six months at tropical temperatures. To be on the safe side a limit of three months was imposed, all vaccine of a greater age than this being destroyed. The dosage had remained unaltered for the last seven years. The rule was to give two doses, the first containing 500 million the second 1,000 million bacteria, at intervals of ten days. He did not think that a third dose would materially improve the immunity, and it would certainly affect the number of men volunteering for inoculation. Reaction was rarely severe, and though for military reasons it would be an advantage on mobilization to procure a vaccine that would cause no danger of incapacitation for even a short period, there was always the danger that this might be accompanied by a loss of protective power. He considered that the average duration of the protection conferred by the vaccine used was two years, after which reinoculation (one dose of 1,000 million) should be performed. He did not consider the so-called "negative phase" need be regarded as seriously affecting the value of the vaccine, and pointed to the fact that in the case of men who had been vaccinated in the stations where the disease was endemic, no proof existed that any increased susceptibility had resulted. The introduction of antityphoid inoculation had been followed by a striking decrease in the incidence of typhoid fever in India. In conclusion he submitted that the protective power of antityphoid inoculation could no longer be considered a matter for debate. Its existence had been proved, and he thought it should no longer be left to the individual soldier to say whether he wished to be inoculated or whether he preferred to run the risk of spreading infection broadcast amongst his comrades at a time when every rifle lost to the firing line might be a matter of importance to his country.

Professor Rodet wished to proclaim the utility of serum-therapy in the treatment of typhoid fever. He had records of 200 cases, and a good result was to be expected if only the treatment was applied early, before the tenth or eleventh day of disease. His figures were characterized by the large number of abortive cases, and especially the large number of cases in which reduction of temperature and general amelioration of symptoms were noted after the first inoculation. The mortality of cases treated in this manner before the eleventh day varied from 5 to 8 per cent. In those treated before the ninth day the death-rate fell to 4.7 per cent., and when an improved vaccine was employed the death-rate of those inoculated before the eleventh day fell to 3 per cent.

Inspector-General Cavallerleone referred to the practice of inoculation in troops sent to Tripoli. The serum used was that of Kolle-Pfeiffer combined with that of Professor Vincent. Local reaction was slight. The morbidity amongst the vaccinated was greatly reduced, and there were no fatal cases.

Generale-Medico Calcagno stated that antityphoid inoculation was begun in the Italian navy in July, 1912, owing to the outbreak of a severe epidemic amongst the troops at Tobruk. Two kinds were used—namely, that prepared at the Institute of Serotherapy at Milan, and that prepared at the similar establishment at Sienna. The former produced a severe reaction, and in consequence the men were reluctant to submit themselves to the second and third injections, and the Siennese vaccine was substituted. So far none of the inoculated had suffered from the disease, but the period was too short to warrant any definite conclusion.

Dr. Reynès described a vaccine made by Drs. Ranque and Senèz used at Marseilles. Sterilization was effected by iodine solution, this agent being subsequently neutralized by sodium hyposulphite. Amongst the workmen inoculated there had been no case of typhoid fever, although previously the death-rate from this cause had been high. Reaction was slight, and appeared only in 3 per cent. of the cases. The operation had been performed on a number of pregnant women, without untoward results.

Dr. Broughton Alcock discussed the use of a sensitized vaccine containing 1 million living bacilli per c.cm. In 25 cases two doses of 1 and 2 c.cm. had been given; two only complained of headache and malaise for two days subsequent to the injection. With doses of 1 and 3 c.cm. (12 cases) 4 suffered from the above symptoms. Larger doses were also used in certain cases. The cases were kept under observation for eight months, and the conclusion was arrived at that with doses of 1 and 2 c.cm. there was no danger to the patient, and little reaction except in peculiarly susceptible individuals. The interval between doses was from seven to ten days; with strong doses the patient should rest for twenty-four hours after the operation. The speaker quoted a case of pulmonary abscess secondary to typhoid infection, in which vaccine-therapy had given good results.

Professor Netter said that the therapeutic use of the vaccine resulted in decreased mortality and curtailed the duration and diminished the gravity of the symptoms. He thought that it might also be applied to the treatment of "carriers."

Caisson Disease.

At the discussion on this subject, with special reference to divers in the navy, Surgeon-General W. May, C.B., Medical Director-General, R.N., was in the chair, Staff Surgeon R. W. G. Stewart, R.N., who introduced th subject, gave an account of the proceedings of the Admiralty Committee appointed to investigate the causes of the accidents which happened to divers. Experiments on animals, coupled with chemical examination of the air in the divers' helmets, revealed the fact that the distress suffered by divers, especially at great depths, was due to an excess of carbonic acid gas. It was further

shown that men could work at considerably greater depths than had been believed to be possible, provided the volume of air supplied to the diver were maintained at not less than 1.5 cubic feet a minute. Previously sufficient allowance had not been made for the compression of the air due to the pressure at great depths. A table was drawn up showing the limit of time during which a diver could remain at various depths, and also the safe rate of ascent, which varied according to the depth at which the man had been working and the time spent there. The only treatment of caisson disease was also shown to be recompression with gradual decompression, either by sending the man down again immediately or by means of a compression chamber. The selection of men was important. Only men of spare build and temperate habits, who were in perfect health, should be permitted to act as divers. A very careful training also was necessary to ensure that the man thoroughly understood the use of the valve and what to do in the event of an accident. Staff Surgeon Stewart quoted a number of cases to illustrate the accidents which might occur and their most effective treatment.

INDEPENDENT PAPERS.

Yellow Fever and the Panama Canal.

Dr. J. J. van Loghem, Director of the Institute of Tropical Hygiene, Amsterdam, read a paper on the yellow fever danger for Asia and Australia, especially after the opening of the Panama Canal. He pointed out that *Stegomyia callopus* occurred commonly in the Dutch East Indies and neighbouring islands and that the larvae of this mosquito could breed in the water tanks of ships, hence there was a grave risk of *Stegomyia* infected with yellow fever being introduced from Central America to Asia and Australia, and that should this happen the local conditions were favourable to the occurrence of severe epidemics. He therefore strongly advocated the establishment of disinfecting stations under international control, at which all ships coming from a port where yellow fever was prevalent, should be thoroughly disinfected before being allowed to enter any harbour in tropical Asia or Australia.

Sir Patrick Manson said that in his opinion yellow fever would undoubtedly spread to Asia and Australia after the opening of the Panama Canal, unless stringent preventive measures were adopted.

A resolution proposed by Dr. J. J. van Loghem calling for international action on this subject was, after much discussion, rejected by the meeting.

Formaldehyde Vacuum Disinfection.

Stabsarzt Dr. Georg Mayer read a paper, illustrated by lantern slides, on a formaldehyde vacuum apparatus designed to carry out disinfection rapidly at low temperatures. The chamber was first warmed to 45° C. by steam, and the pressure in the interior was then lowered by means of an electrically-driven air pump to 0.2 of an atmosphere. Current steam was then admitted, and in its passage aspirated formaldehyde gas, vaporized from a 4 litre flask containing formalin solution; the pressure and temperature were kept constant. Spores were killed in fifteen minutes without damage to clothing or equipment. One of these installations had been set up in Servia at Pirot, and could disinfect the clothing and equipment of 6,000 men in twenty-four hours.

Epidemics due to Food Poisoning.

In another paper Dr. Mayer, working on the basis of official health reports from all countries in Western Europe, summarized outbreaks of food poisoning under three heads: (*a*) chemical poisoning, (*b*) bacterial and toxin poisoning, (*c*) trichinosis. The first class was nowadays rare. The second class was the most important, and though occasionally due to the consumption of diseased meat taken from animals which had been slaughtered in anticipation of death, were more often the result of contamination by extraneous bacteria between the time of slaughtering and consumption. Thus in Saxony, where raw meat was largely consumed, the incidence of food poisoning was higher than in any other part of Germany. The organisms most frequently implicated were *B. paratyphosus* B, *B. enteritidis* (Gaertner), and *B. proteus vulgaris*. He found in examining sausage skins prior to their being filled, as much as 16 grams of faecal matter in 1 metre. The temperature reached in cooking rarely exceeded 80° C. The bacterial content of sausage meat was in some cases as high as 16 million per gram.

Colonel Beveridge took exception to the general use of the expression "ptomaine poisoning." Almost all the cases in this country were due to poisoning by bacteria or their toxins, *B. enteritidis* being the chief offender. *B. paratyphosus* B was rare. As regards the temperature reached in cooking sausages, it frequently was much below 80° C., and in some cases not much above 50° C.

The Physiology of Physical Training and Marching.

Captain G. A. D. Harvey, R.A.M.C., read a valuable and instructive paper embracing the results of a number of careful observations carried out for the purpose of investigating the physiology of marching, and for determining the principles which should be observed by troops on the march. He pointed out that modern transport facilities had greatly reduced the amount of walking, and in consequence it had been necessary to adopt a special course of training in marching, for if troops could not march they were useless, as a commanding officer could not rely on having his men in the desired position at the appointed time. The human body resembled an internal combustion engine in that when working it produced heat. To a certain extent this was beneficial, and had long been recognized by trainers and others as "warming up to one's work." As the result of many observations it had been found that prolonged physical exercise caused a rise of body temperature. Any marked rise beyond 2.2° F. caused distress and lowered the efficiency of the body. A temperature of 103° F. was serious, and if maintained for any length of time gave rise to a condition resembling that of heat-stroke. The regulation of the body temperature depended on the production and dissipation of heat. The production of heat was increased by several factors, of which the principal were the load carried, the rate of marching, and any physical discomfort. The dissipation of heat was mainly effected by evaporation of water from the body. This again was largely influenced by the texture of the clothing, and by the manner in which it was worn. Thus, if the coat were kept open evaporation was facilitated. Humidity of the atmosphere also prevented efficient evaporation, and demanded special supervision of the men to detect any signs of distress. In order to permit of evaporation a sufficient quantity of water must be supplied to the men. This want was recognized, and arrangements were made to deal with it in the German army when troops were marching. Training was of the highest importance. Well-trained men could carry their loads and perform long marches without suffering distress, whereas a body of untrained troops would be totally unable to do so.

Major Jarvis (United States Army) said that the value of training in marching lay in the fact that marching became an automatic movement which did not call for the expenditure of any voluntary effort on the part of the central nervous system. Untrained men, if called on to do a forced march, were very liable to suffer from acute dilatation of the heart; this had happened in some of the National Guard regiments in America, and he thought that British Territorials would be similarly affected.

Colonel Jones, C.B. (Director-General of the Canadian Militia Medical Service), thought that the physical training of civilian youths ought to be considered. Nowadays no one walked, and in the event of having to mobilize the Territorials it would be found that the bulk of them were quite unable to march until they had had some time for training. He also drew attention to the fact that good marching depended on having a good disciplinarian in command who would enforce the observation of the various points which experience had shown to be essential.

Surgeon-General W. May, C.B. (Medical Director-General, R.N.), gave his experiences when marching across the desert to the relief of Gordon at Khartoum. He disagreed as to the necessity of having a plentiful supply of drinking water, as during that march of 200 miles under the most unfavourable conditions, the daily supply was only three tumblerfuls a head, yet no harm ensued.

TROPICAL MEDICINE AND HYGIENE.

Discussion on Beri-beri.

Professor C. Eijkman (Utrecht), in introducing the discussion on the etiology and prophylaxis of beri-beri, said that the cause seemed to be either dietary or infectious. No specific agent had been proved, whereas it had been shown to be possible to give animals beri-beri by diet alone. Professor Eijkman said that in 1888 he had produced polyneuritis in children by feeding them on white rice, whereas unhusked rice not only did not cause the disease, but actually cured the condition induced by feeding on white rice. Meat in large quantities given to animals cured the condition as well as whole rice; on the other hand, by adding 50 per cent. by weight of fresh meat to the starchy food emaciation could be prevented, and yet the disease would appear, showing that it was not a question of want of albumen or salt. The poison theory of beri-beri Eijkman dealt with in his earlier experiments, only to deny it later. He was in harmony with the findings of Fraser and Stanton concerning the chemico-physiological action of the subpericarpal materials of the husk of rice.

Professor Dr. B. Nocht (Hamburg) agreed with Eijkman in his conclusions, but thought also that there was some truth at least in Schaumann's theory of the lack of phosphorus in the food of persons suffering from beri-beri. Though this represented only one of the elements wanting, yet for the present it must be assumed that phosphorus was the standard by which the possibility of prophylaxis and the question of a systematic diet must be judged.

Dr. L. Braddon (Malay States) gave a convincing demonstration of the value of unhusked or whole rice as a preventive of beri-beri and as a means of curing the disease in persons who had contracted it from eating polished rice. In gaols, hospitals, asylums, plantations, and wherever men were aggregated so that tests could be applied, Braddon demonstrated by statistical tables, the import of which was most telling, that beri-beri could be induced, arrested, or cured in direct accordance with the nature of the rice supplied.

Dr. S. Shibayama said that no definite conclusion concerning the cause of beri-beri had been reached in Japan; it was not thought that rice was the cause, but that everything pointed to an intoxication by a poison produced by a micro-organism possibly in the intestine.

The following took part in the discussion: Dr. Funk (Lister Institute), Dr. Schaumann (Hamburg), Dr. Nattan-Larrier (Paris), Dr. Rho (Italy), Dr. Malcolm Watson (Malay States), Dr. Tschudnowsky (Paris), Dr. Fink (Burma), Dr. Crissiuma (Brazil), Dr. Agramonte (Cuba), Dr. Sambon (London), Professor Martin (London), Mr. J. Cantlie (London).

Discussion on Leishmaniasis.

Professor A. Laveran (Paris), Dr. C. Nicolle (Tunis), and Professor Nattan-Larrier (Paris) dealt with the presence of leishmaniasis in countries bordering on the Mediterranean—Tunis, Algiers, Italy, Greece, and Egypt—and in Russia. The disease chiefly affected children in these countries, but although at first considered not to be identical in origin with the form met with in India, the more modern opinion was that they were one and the same disease.

A full discussion followed. Dr. Crissiuma mentioned the presence of the disease in Brazil. Dr. Gonder (Frankfurt) gave a lantern slide demonstration of the different strains of Leishmania parasites. Sir William Leishman drew attention to the three forms of the disease—the India type (kala-azar) which attacks adults for the most part, the Mediterranean type affecting children, and the dermal appearing as Oriental sore under various names, and referred to the possible presence of the disease in the Soudan, West Africa, and Nigeria. Dr. Row (Bombay) showed specimens of Leishmania in the post-flagellate stage. Professor Ayres Kopke (Lisbon) showed lantern specimens of Oriental sores in man. Dr. Splendore (Brazil) stated that in Brazil Leishmania-like bodies occurred on sores along with tubercle bacilli. Dr. Rho referred to the disease in Italy. Dr. Phillips (Egypt) stated that although Oriental sore occurred in Egypt the constitutional form of the disease had not been found in that country. Sir Patrick Manson suggested the advisability of attempting to obtain a vaccine from Oriental sore which might prove efficacious in the constitutional form (kala-azar).

Independent Papers.

Dr. Evers read a paper advocating the use of chinosol in dysentery, given either by the mouth or intravenously.

Colonel P. Hehir, I.M.S., drew attention to a condition of ulcerated and swollen gums in Indian troops, which he ascribed to a defective dietary; catarrhal dysentery was usually present amongst men showing tender gums, and the symptoms seemed to indicate a scorbutic condition.

Dr. Charles E. S. Stewart (U.S.A.), in a paper on the probable identity of pellagra and sprue, maintained that there was a close resemblance between pellagra cases without skin eruption and sprue. His argument was based chiefly upon the alimentary manifestations by the true conditions.

Dr. Duncan White (China) drew attention to an undescribed form of ulcer met with in the tropics. It occurred in old men, chiefly in the leg; in 11 cases he had found that it could be cured by hydrogen peroxide.

Professor J. W. W. Stephens (Liverpool) gave a paper, with lantern demonstrations, on blackwater fever. He showed the relationship of malaria to blackwater fever, stating that in 64 per cent. of 75 cases observed parasites were present before the onset of haemoglobinuria; in 50 per cent. one day before the onset; in 33.3 per cent. on the day of onset; and in 19 per cent. one to fourteen days after blackwater fever subsided. Second attacks of blackwater fever occurred in about 10 per cent. of the cases, and the majority took place within twelve months of the original attack.

Dr. Masie (Jerusalem) referred to the presence of blackwater fever in Syria.

Dr. Fink (Burma) said he believed that blackwater fever was scarcely known in children.

Dr. Massey stated that Koch at one time did not believe that quinine-taking caused haemoglobinuria, yet he (Massey) induced a second attack in himself by a large dose of quinine. He believed there were two kinds of haemoglobinuria—namely, that induced by a specific organism and that induced by quinine.

Dr. S. T. Darling (Panama) remarked that at Panama blackwater fever occurred amongst labourers from Barbados (where malaria did not exist) after they contracted the disease in Panama.

Dr. Sambon remarked upon the seasonal variation of malaria and upon the geographical distribution of blackwater fever. Thus in the Roman Campagna blackwater fever was rare although malaria was rife, yet in Sicily and Sardinia blackwater fever was common.

Dr. Wasielewski (Heidelberg) gave a lantern demonstration of halteritidium in birds. He maintained that there were at least eight distinct varieties of haematozoa included in this group of bird parasites.

RADIOLOGY.

Radio-therapy in Cancer.

The discussion on the use of radium and *x* rays in the treatment of malignant disease was opened on Saturday by Dr. Robert Abbe, senior surgeon to St. Luke's Hospital, New York, and Dr. Robert Kienböck, of Vienna. The Austrian surgeon made a retrospective survey and critique of the whole subject, while Dr. Abbe contented himself with a description of his own methods and results in radium treatment during the last ten years. Both communications were valuable, the one as a general review, and the other as a personal experience.

Dr. Abbe, who illustrated his cases by means of coloured plaster casts, a method of record which he preferred to the less vivid one of photography, said that surgery had expended its utmost powers and ingenuity in cutting out every vestige of disease, but while knife and cautery occasionally saved the patient, they never cured the disease; they only removed it. He looked for the cure to such forces as organic chemistry or bio-chemistry, or to agents like *x* rays and radium. He went on to describe the experiments on seeds and bulbs which he had brought before the Electro-therapeutical Section of the British Medical Association recently. After the suitable exposure of seeds to varying amounts of incessant radiation, he found a threefold influence: first, a death-dealing force which played upon the seeds in closest

proximity to the radium; secondly, a stimulating effect upon seeds situated at some slight distance; thirdly, a depressing and retarding effect upon seeds situated at a still further distance—several inches from the radium—within the range of only the ultrapenetrating gamma rays. This undiluted gamma radiation was of immense importance to surgery. It was responsible for bringing about a retrograde change and depression in those cells which had shown erratic overgrowth and had formed life-destroying tumours. For the last ten years he had studied the efficacy of radium upon more than 750 individuals, and the phenomena noted in the seed experiments had been repeated—that is to say, there had been destruction of tissues too closely in contact; stimulation of pathological cells in tissues somewhat further removed, and also, given the proper dosage, efficient retrograde degeneration of malignant growth with lasting benefits, amounting at times to surgical cure. He went on to cite the effect of radium upon common warts, vocal cord papillomata, and epithelioma of the skin. Ulcerating types of cancer were more responsive than some others to the use of radium, but where the mass of disease was too great it was not possible to penetrate effectually, and it became the duty of the surgeon to reduce the diseased tissue to a minimum—a thin shell as it were—before applying the radium. Many types of mammary cancer which were near the surface and involved the skin could be radiumized without operation, while others must be incised and tubes of radium buried in the tumour. Nevertheless, he added, in justice to the victim of malignant disease, one must still advocate early and complete surgical removal where possible. Dr. Abbe hesitated to speak of actual progress in controlling cancer of the tongue and oesophagus. In most cases of advanced disease there was a prompt and marked amelioration after the judicious use of large doses of radium, but the disease gained headway ultimately. One exception which he claimed was an excision of epithelioma at the frenum of the tongue, which after radium application remained well for five years. In obstructive rectal cancer a greater and unquestionably favourable effect was seen, but the condition required large quantities of radium filtered through 2 mm. of lead, and applied for eight or twelve hours daily for several days. There were as yet no recorded cures. In the field of uterine cancer there was more hope, and it was certain that the immediate effect of extreme radiumization on cancer developed in the uterine cervix or in the scar after operation was to modify profoundly the condition and give a sound cicatrix. The specific action of radium as a curative agent was illustrated in a remarkable way in the destructive type of sarcoma, and especially in giant-cell sarcoma of bone. Finally, Dr. Abbe put forward the new idea of "distance filtration." The radium was to be so placed that the tissues were only within range of the gamma rays. The pure gamma radiation, with its depressing action on pathological cells, could be obtained by filtering through lead, but distance filtration through air—a distance of 1½ in. seemed in practice sufficient to exclude most of the injurious rays and to give free and instant play to the entire gamma range—had the advantage that it did not involve the delay incident to passage through lead.

Dr. Kienböck, in his more general survey of the subject, pointed out that the ideal method in the treatment of tumours must be one by which the dissipation of the pathological cells could be secured without injury to the contiguous healthy tissues. Such an ideal was realized in *x* rays and radium, thanks to their selective action, or, to put it another way, the greater sensitiveness of the pathological cells to their influence. These agents had a remarkable action upon sarcomas, and when a sarcoma disappeared rapidly by means of *x* rays a recurrence scarcely ever took place. He mentioned a case occurring within his own experience in which an inoperable sarcoma of the kidney had yielded to the insertion of radium tubes in the growth. If in carcinomas the results were less favourable, other methods were equally disappointing, and he quoted a statement to the effect that 75 per cent. of the operated cases of carcinoma showed relapses. Like his fellow reporter, Dr. Kienböck also touched on the possibility of a stimulation of the growth as a result of the radiation. But, he thought, given proper technique, that the percentage of cases of malignant tumours unfavourably influenced by the rays was small. When they did occur they were due, not so much to the stimulation of the tumour cells by the rays, as to the acute inflammatory infiltration of the tissues set up in the neighbourhood of the tumour. This inflamed base was excited to a still severer inflammation by the rays, and consequently became less resistant to the further growth of the tumour. Dr. Kienböck protested against the idea that small *x*-ray doses were in any important respect stimulation doses.

Dr. N. S. Finzi, in his contribution to the discussion, chiefly devoted himself to considering the differences between filtered and unfiltered rays. He believed that the filtering of *x* rays increased their power to deal with diseased cells, whether these were superficial or deep. An instance came to hand in certain skin diseases, such as lupus erythematosus. When this was treated by unfiltered rays the results were not satisfactory, but with rays filtered through 1 mm. of aluminium they were extremely good. Nevertheless this was an absolutely superficial disease which only extended a few millimetres into the skin, and it was not a question of the rays being absorbed by superficial layers. By filtration of radium the alpha rays were certainly cut out, and with a comparatively thin filter the beta rays were also excluded, and even when the gamma rays alone were concerned a difference in the thickness of the filter produced a difference in therapeutic effect. The higher the penetrability of the issuing ray the greater the selective action on the growth. As to the comparative value of radium and *x* rays, in his own experience, if the disease were sufficiently limited, whether it was operable or inoperable, he always used radium, but in extensive cases like, usually, carcinoma of the breast he preferred to treat the whole area with filtered *x* rays.

Mr. C. R. C. Lyster also entered into the merits of less and more penetrating radiation, and other speakers were Dr. J. R. Riddell of Glasgow and Dr. Béclere of Paris, while a lantern slide demonstration, showing the results with radium in some cases treated in an Australian practice, was given by Dr. Clendinnen, of Melbourne, who accounted for the action of the radium on the hypothesis that it induced increased leucocytosis locally.

In summing up the discussion, Sir James Mackenzie Davidson expressed the view that Dr. Abbe, with his distance filtration, had not succeeded in getting a pure gamma ray. In order to obtain the gamma sheaf alone it was necessary to have a filter of 1 cm. of lead—a procedure possible enough in physical experiments, but clinically out of the question. Unless this filter were used there would be an admixture of beta radiation. As to the injurious potentiality of the rays, he had good reason to be aware of it, though it seemed likely that these tragic instances were the result of errors in dosage, and that a more instructed technique would eliminate them in practice. Undoubtedly radium might have a stimulating action upon pathological cells as well as, under different conditions, a depressing one, but this contrariness of effect was a peculiarity which it shared with alcohol and with every drug. Dr. Abbe, in his reply, mentioned that he had dropped the use of *x* rays in connexion with general surgery. He considered that the essential thing for the radio-therapeutist to-day was to discover the range of the stimulating element in the rays he used.

Radiotherapy of Enlarged Prostate.

At the afternoon meeting in the Section of Radiology on Monday, Dr. Haret (Paris) described his method of treating hypertrophy of the prostate by *x* rays, while Dr. Paul Degrais (of the same city) described a similar application of radium. Using small doses, generally at weekly sittings, and filtering through ½ mm. of aluminium, Dr. Haret had observed a diminution of diurnal and nocturnal frequency, and locally a diminution of the prostate. The simple irradiation by the perineum was sufficient. All forms save the glandular hypertrophies, however, should be left to the surgeon. Dr. Ledoux-Lebard thought there was something to be gained by the combined use of radium and *x* rays in the treatment of diseases of the prostate. He had recently treated two cases of enlarged prostate by introducing the mesothorium into the rectum, applying the *x* rays in two directions, suprapubic and perineal. Professor Bergonié also cited a case

in which radium had proved of value in inoperable cancer of the rectum, having been applied for twenty-four hours after some preliminary surgical procedure.

Communications on the radio-therapy of uterine fibroma were forthcoming from Drs. Jaugeas and Béclère, the former stating, on the basis of 31 observations, that the artificial menopause appeared after four or five sittings in patients over 40 years of age, and after seven or eight sittings in younger patients.

Value of X Rays in Prognosis.

At the final meeting of the Section of Radiology on Tuesday afternoon, an interesting communication was made by Dr. E. H. Skinner (Kansas City) suggesting a rather new mode of procedure with the *x*-ray negative. Dr. Skinner believed that the prognosis in fractures at the ankle and wrist could be mathematically calculated from the radiograph. His method could not be summarized in a few words, but his main idea was that in the anatomical reduction of fractures less attention need be paid to the fragments if the joint surfaces were in correct relation and the lines of weight-bearing force functionally satisfactory. Nature was wonderfully tolerant of fragments if she could maintain the functional joint surfaces. He showed how the lines of weight-bearing force might be charted on the negative, and the proper adaptation, for instance, of the astragalus to the tibia, which was the secret of the correction of ankle fracture, noted. If the antero-posterior *x*-ray negative showed the astragalus centred under the tibia, the prognosis as to functional result would be more favourable than with any anatomical alinement of fragments. With regard to the wrist, his axiom was that the entire styloid process of the lower end of the radius was constantly distal to a line which touched the tip of the ulnar styloid, which line was at a right angle to the longitudinal axis of the radius. The charting, again, of certain lines made it possible to say whether or not the fracture was properly reduced.

Another piece of information which the skiagram might afford, according to Mr. S. Gilbert Scott, of the London Hospital, was with regard to the malignancy or otherwise of bone disease. Certain changes could be observed radiographically, and it was quite possible in most instances to judge from the rate of growth as shown in the skiagram whether a case was a myeloid or a true endosteal sarcoma. The typical skiagram of a myeloid sarcoma showed the expansion of the bone and trabeculation, which latter was not the exaggeration of the normal bone trabeculae, but consisted of irregularly arranged ridges in the wall of the expanded portion, the thin bone lying in the hollows formed by these ridges. Mr. Scott also dealt with the radiographic indications of endosteal and periosteal sarcoma and the worm-eaten appearance of the bone in secondary carcinoma.

Urinary Calculi.

Dr. Desmoulins, Director of the Radiological and Electro-Therapeutical Laboratories of the Department of the Seine, read a paper on the *x*-ray examination for urinary calculus. If the employment of rays of smaller penetration, together with intensifying screens, was required for the detection of the shadow of the kidney, he had observed, on the contrary, that in the case of large calculi it was necessary to employ a harder ray. With the softer rays the renal shadow was good, but the image of the calculus was indecisive. He admitted that it might happen, though rarely, that the most careful radiological examination allowed a calculus to pass unperceived, even in a thin subject.

Tuberculous Peritonitis.

The final paper was read by a Bulgarian medical man, Dr. Balsamoff, of Sofia, who gave an account of 11 cases of tuberculous peritonitis treated by *x* rays, and 1 case of tuberculosis of the liver similarly treated. Out of the 11 cases he claimed to have obtained 8 cures and 2 ameliorations.

HISTORY OF MEDICINE.

In the last days of a congress it is generally to be noticed that, although the interest is maintained, the attendance falls off. This was so with the History of Medicine Section of the International Medical Congress. The attendance, which on one day exceeded 80, fell on the last day to 20.

On the third day (August 11th) the first paper read was one by Dr. J. C. McVail (Edinburgh), tracing the history of small-pox to the ancient records of the Chinese and Hindustani before the Christian era, and the practice of inoculation to Brahmin observances of the same period. Then followed Dr. W. H. Hamer (London) with an important history of epidemiological research during the last seventy years, and Dr. Wickensheimer (Paris) with an interesting account of medico-astrological systems of the ninth, tenth, and eleventh centuries, and Dr. J. H. Bell with an instructive account of Bernard de Gordon's *De Conservatione Vitae Humanae*. A paper which elicited the keen interest of the home members was that by Dr. J. B. Nias (London) on the outbreak of typhoid fever among the Royalist troops during the siege of Oxford—an outbreak due to the same small streams being used for both cleansing and culinary purposes. Dr. Lewis Jones (London) traced the history of electro-therapeutics from the invention of the Leyden jar to the introduction of the high frequency current. Professor Fraser Harris returned to the old controversy whether the merit of discovering the circulation of the blood belonged to Harvey or to Cesalpinus, bringing forward new evidence in favour of the English claimant. This brought the President of the Section, Dr. Norman Moore, to his feet with a warm eulogium of Harvey, which elicited the hearty approval of all present. Dr. Hovorka (Austria) followed with an account of the votive offerings of the ancient Greeks—an interesting paper, in the discussion upon which Dr. Parkes Weber (London) and Professor Sudhoff (Leipzig) took part. Then followed Mr. S. M. Mitra, who gave an account of ancient Hindu medicine, and claimed for his fellow countrymen that they understood the circulation of the blood 4,000 years ago, though he did not claim for them that they understood at that period the structure and mechanism of the heart. Dr. E. C. Streeter (Boston, U.S.A.) read a paper in which he made certain corrections in the dates given in La Cumarcino's *De Morbo Gallico*. The last paper for the day was a very interesting account by Mr. Laurie Lawrence (London) of the little known Thomas of Wesham, surgeon to Henry III, who possessed the privilege of minting coins of the realm.

On the fourth and last day (August 12th) Sir Francis Darwin led off with a brilliant paper on the historical relations of medicine and botany, in which, after reference to the work of his distinguished father, he pointed out that although the old dependence of the physician upon the herb-gatherer had ceased, medicine had still much to learn from botany with regard to cell life. Dr. Milne (London) gave an interesting account of Galen's knowledge of muscular anatomy, which he pointed out was singularly accurate considering that Galen never dissected the human body. Dr. J. A. Nixon (Bristol) next described the interesting MS. of Guy de Chauliac, which had been presented by a former Archbishop of York to the Corporation of Bristol, and was still treasured by that body. Dr. Parkes Weber (London) described, and showed with the epidiascope, coins and medals having relation to the healing art, and Mr. Thompson described "Terra Stigillata," an antiseptic earth found in the island of Lemnos, which when made into little discs or seals was taken internally for a variety of ailments. Mr. Alban Doran followed with the subject he has so thoroughly made his own, the obstetric forceps used during the eighteenth century, and exhibited the collection in the possession of the Royal College of Surgeons. Mr. Nelson Hardy (London) read a paper upon epidemic mental disorders. The final paper of the Section and of the session was by Dr. Raymond Crawfurd, who, returning to a subject he had dealt with in his Bradshaw Lecture, the great plague of Athens, confessed himself, after further study, unable to determine whether that epidemic was one of bubonic plague or of typhus fever.

Proposed International Society of Medical History.

Before the sitting closed Dr. Capparoni (Rome) presented a suggestion he had brought from the Italian Medical Society that a permanent international society for the study of medical history should be formed. Upon the proposition of the President it was decided to refer this suggestion to an international committee composed as follows: President, Sir William Osler (England); other members: Professor Sudhoff (Germany), Dr. Wickersheimer

(France), Dr. Streeter (United States), Dr. Djurberg (Sweden), Dr. Johnsson (Denmark), Mr. Wellcome, and, as honorary secretary, Dr. Capparoni (Italy).

CLOSING SPEECH OF PRESIDENT.

The session was brought to a close by a speech by the President, who referred to the great importance of the papers read, and the great interest those papers had elicited, and expressed his belief that no future International Congress would be without its History of Medicine Section.

VOTE OF THANKS TO PRESIDENT.

A cordial vote of thanks for the ability and the courtesy Dr. Moore had shown in presidential office was then proposed by Professor Sudhoff, seconded by Dr. Capparoni, and carried by acclamation.

THE INTERNATIONAL CONFERENCE ON POST-GRADUATE MEDICAL INSTRUCTION.

The International Conference on Post-Graduate Medical Instruction was held in the Jehangir Hall of the University of London, on Thursday, August 7th. This Conference was promoted by the International Committee for Post-Graduate Medical Education—a society founded in 1910 on the initiative of Germany and now numbering among its members representatives from most of the European countries and from the United States of America. The International Committee, which has as its President Professor Waldeyer (Berlin), and on its board of management Professor von Grósz (Budapest), Professor Kutner (Berlin), Professor Landouzy (Paris), Sir Donald MacAlister, K.C.B. (Glasgow), and Professor von Rein (St. Petersburg), holds periodical conferences, generally in conjunction with the International Congress of Medicine. At these conferences questions of general interest concerning medical education and post-graduate instruction are discussed.

On the present occasion the subjects for discussion were as follows:

1. The present regular course of university education up to graduation (including the examinations) and the legal provisions governing the whole course.
2. The relationship between the university curriculum and the courses of instruction for post-graduates, and the present state of medical post-graduate instruction.
3. On the necessity of some reform in the courses of instruction in view of the importance of technical skill in the medical profession.
4. The importance of State medicine and its allied branches as a subject for instruction before and after qualification.

Reports on the first two subjects were submitted by various representatives and delegates from America, Germany, England, the Netherlands, Sweden, Switzerland, and Hungary, as contributions to the collective investigation being made by the Committee.

THE REGULAR UNIVERSITY COURSE FOR GRADUATION.

Sir HENRY MORRIS read a paper on the first subject, in which the whole curriculum requisite to obtain a qualification in the United Kingdom was reviewed. He drew attention to the fact that in Great Britain and Ireland the qualification to practise medicine and surgery might be either a university degree or a diploma of one or more of the medical corporations in England, Scotland, and Ireland, and that the medical curriculum had to be carried out in a recognized medical school, which might or might not be attached to a university. The standard of general education required by the various examining bodies was not the same, and reasons were given why it was desirable to raise the lower standards. The several kinds of institutions other than universities or medical schools at which the preliminary sciences—biology, chemistry, and physics—might be taught, were enumerated, and it was pointed out that an examination had to be passed in these subjects before the commencement of the study of the intermediate subjects. The whole curriculum lasted five years, and in the study of the higher medical subjects (clinical medicine and surgery) great importance was attached to the various methods of practical instruction and to the holding of clinical appointments. As soon as a qualifying degree or diploma had been obtained registration of the same at the office of the General Medical Council of Education and Registration in the United Kingdom was necessary. The constitution and the powers of the General Medical Council were then described, and it was pointed out that the influence of the Council on medical education was to standardize the minimum requirements and to raise and equalize the instruction given at the various medical schools as well as the various examinations. Sir Henry Morris concluded with some observations on the "one portal system," which he said should be made essential for registration to practise, but so as not to interfere with the existing university degrees or the higher qualifications of the Royal Colleges of Physicians and Surgeons, which, however, would not entitle their holders to practise without the possession of the "one portal" certificate.

Professor EMILE VON GRÓSZ of Budapest submitted a report on the teaching of medicine in Hungary—a report of much interest as exemplifying the Continental system. He began with a brief historical survey of the teaching of medicine in Hungary, which was placed on a sure foundation by the reorganization of the University of Nagyszombat by command of the King, Maria-Theresa, in 1769. This university was transferred to Buda in 1777 and to Pest in 1784, and placed in 1848 under the authority of the Minister of Public Instruction. Since 1867 the teaching of medicine had also been under the control of the Minister of Public Instruction. In 1874 a second university was founded at Kolozsvár, and last year Parliament had agreed to the establishment of two more universities, one at Pozsony (Pressburg), the other at Debreczen. Such had been the progress of university teaching in medicine that whereas in 1867 there were but 13 professorial chairs there were now 26, and, in addition, 120 privat-docents, of whom 20 bore the title of "Professeurs extraordinaires." In the University of Budapest the grave difficulty had been in the teaching of practical work owing to the large number of students—nearly 3,000.

The whole medical curriculum lasted six years for the diploma of Doctor. The preliminary studies in zoology, botany, and mineralogy were not made the subject of examination, and in consequence the study of them was purely nominal. Amongst the courses of lectures and demonstrations those given at the Institute of Legal Medicine were particularly mentioned. The material for teaching in this institute was abundant, more than 1,400 bodies being examined in a year, and, in addition, some 200 cases were subjected to examination during life. Clinical medicine and surgery were fully taught. After the fourth session (end of second year) students had to present themselves for the primary examination or first "rigorosum" in chemistry, physics, anatomy, and physiology. After the tenth session came the second "rigorosum" in pathological anatomy, general pathology, pharmacology, therapeutics, hygiene and forensic medicine; and after this the third "rigorosum" in clinical subjects. The examinations were held by the professors with a jury presided over by the doyen of the faculty. At the third "rigorosum" a representative of the Government was present. These "rigorosa" were practically State examinations. After passing the third "rigorosum," in order to obtain the diploma of Doctor from the University, students had to spend one year either in a university clinic or in one of the public hospitals. The latter were 75 in number, with 21,000 beds, and they could give accommodation to 700 of these students.

POST-GRADUATE TEACHING.

Professor von Grósz stated that the teaching of post-graduates had since 1910 been controlled by a Central Committee convened by the Minister for Public Instruction. This Committee dealt with the whole subject of post-graduate instruction, and arranged all the lectures and courses to be given. The Committee received from the Minister of Public Education 30,000 crowns yearly for the expenses of post-graduate teaching, and 4,000 crowns from the Minister of the Interior. Besides this the departmental and municipal authorities allotted some 10,000 crowns yearly to the doctors who attended these courses. The Central Committee paid from 16,000 to 18,000 crowns per annum to the professors who gave the post-graduate courses, and about 10,000 crowns to the doctors who attended them. Some such central institute as the Kaiserin Friedrich-Haus (the head quarters of the International Committee) in Berlin would be desirable in Budapest.

Dr. Hawthorne drew attention to the spread of the post-graduate movement in this country, and paid a tribute to the influence and example of the late Sir Jonathan Hutchinson, who had done so much to originate and further post-graduate teaching. The conclusions Dr. Hawthorne had come to were: (1) That there was a steadily increasing desire on the part of practitioners for opportunities to acquire the most modern methods of diagnosis and treatment. (2) That the teaching for practitioners must be separate and distinct from that for students. (3) That clinical demonstrations and practical laboratory courses were particularly needed. (4) That to be successful post-graduate instruction must be provided in such a way as to minimize the expenditure of time and money on the part of the practitioner. In spite of the many schools and institutions for post-graduates and of all the courses of instruction in special and general hospitals in London and the provinces, it was notorious that London, as a centre of post-graduate instruction, could hardly boast more than a minimum of success. What was required was: (1) a central office or bureau where information on post-graduate teaching might be obtained; (2) co-operation and co-ordination between institutions giving similar classes of work and practice; (3) some organized scheme of instruction embracing all departments of professional work; and, lastly, (4) the active support and co-operation of the London teachers. Such requirements would best be met by the co-operation and co-ordination of existing schemes and the organic relation of these to a central bureau and to a general hospital. Some such organization was essential if London was to live up to the height of its opportunities. In order to provide full opportunities for post-graduate study for every practitioner in the British Isles, similar organizations must be developed in each of the important medical centres of the United Kingdom. Further, the opportunities for post-graduate instruction should not be monopolized by the medical schools. On the contrary, county and other provincial hospitals might take a due share, such an arrangement tending, perhaps, by stimulating the interest of the local practitioners, to keep the old cases in touch with the hospital, and so to the preservation of records which would otherwise be lost. If in individual instances nothing else in the shape of post-graduate teaching were available, it was suggested that the *post-mortem* examinations conducted in hospitals and Poor Law infirmaries should be open to members of the profession. Post-graduate instruction of this kind could not be carried out without expense, and as the ultimate benefit would be to the public, it was not unreasonable to expect that the latter should bear at least some part of the expense. This might be in the shape of either public or private endowment of certain general post-graduation educational institutions.

Professor Kutner, the General Secretary of the International Committee, regarded the purpose of university education as being (1) to give the student a complete outline of the modern theoretical side of medicine in all its branches, and (2) to lay the foundation for the acquirement of that technical skill which could only be gained by practice. The purpose of post-graduate medical education was to keep the physician constantly informed in all the branches of theoretical and practical medicine by means of lectures and practical work in order to make him familiar with all new developments, and to keep him steadily on the highest level of professional attainment. In Berlin the Kaiserin Friedrich-Haus, under the directorship of Professor Kutner, was established by means of the "Kaiserin Friedrich Foundation for Post-Graduate Medical Education," founded for this purpose, its objects being to promote the whole system of such education, and at the same time be a memorial to her late Majesty the Empress Friedrich. The Haus was opened in March, 1909, and serves (1) as a central home for post-graduate medical education and its various organizations—namely, (*a*) the Federal Board for Post-Graduate Medical Education, (*b*) the Central Committee for Medical Post-Graduate Education in Prussia, (*c*) the International Committee for Post-Graduate Education; (2) as a centre of instruction for practitioners in all branches of work; (3) as a central department for lending, free of charge, charts, diagrams, microscopic slides, etc., for lecture purposes; (4) as a permanent exhibition of all forms of medical appliances, instruments, etc.; (5) as a place for special exhibitions for medical instruction; (6) as a medical information bureau which gives gratis information respecting post-graduate education throughout the German Empire; (7) as a literary centre for all matters concerning post-graduate education (journal, *Zeitsch. f. aerztliche Fortbildung*).

The Haus was built by voluntary contributions, and the cost of maintenance, etc., is 50,000 marks per annum. This sum is paid partly in rent of rooms taken by the State Government, partly from rents paid by exhibitors in the permanent exhibition, and partly from interest on the foundation capital not used up in building.

Professor Kutner also prepared for the Conference the Report of the Federal Board for Post-Graduate Medical Education in Germany—a pamphlet of 179 printed pages giving full details of the whole of the general and special courses arranged by the Board throughout the German Empire. This report indicates very clearly the high organization of post-graduate studies in Germany.

Practical Instruction.

On the third subject for discussion—namely, the necessity for "some reform in the courses of instruction in view of the importance of technical skill, etc."—Professor Kutner read a paper emphasizing the rapid growth of medical technique and the refinement of its methods, both of which demand a greater measure of attention than they receive at present in the course of the medical curriculum. Professor Kutner described in detail the subjects of instruction, which he considered should be essentially of a practical nature, these subjects covering a very wide range. He was of opinion that the final medical examinations should include practical tests in which the candidate's proficiency in the most important technical operations should be proved, and, further, that in medical post-graduate courses physicians should be given every opportunity of acquiring a manipulative skill by actual practice.

State Medicine.

On the fourth subject—namely, the importance of State Medicine and its allied branches—Professor Lennhoff submitted a report on the subjects which should form the basis of instruction, and also on the question of the times at which such instruction should be given in the university course and in post-graduate courses.

Meeting of Permanent Committee.

At the conclusion of the general meeting of the International Committee a meeting of the Board of Administration and of the permanent regular members of the Committee was held, Professor Waldeyer being in the chair.

Sir Donald MacAlister conveyed the good wishes of the Lord President of the Privy Council to the International Committee. He stated that the Privy Council, the War Office, the Admiralty, the India Office, and the Scottish Office had each agreed to appoint one of the five British members by whom the Government of this country was to be represented. The General Medical Council had also, at the instance of the Privy Council, interested itself in the work of the International Committee, and had through its officers obtained a large body of information for the collective investigation now in progress.

The report of the General Secretary, with reference to the applications for membership so far received from different countries, was submitted; resolutions with respect to further measures to be taken were considered; and the Treasurer's report received.

Dr. Fitzmaurice Manning and Dr. Thomas Hood, of the West African Medical Service, have been appointed medical officers for Northern and Southern Nigeria respectively.

The number of medical students in the Universities of Austro-Hungary in the summer session just ended were as follows: Vienna, 2,369; Graz, 241; Innsbruck, 326; Prague (German), 549; Prague (Czech), 874; Lemberg, 574; and Cracow, 539.

The late Mr. Alfred Willett left estate valued at £21,329.

Dr. John Crew, of Higham Ferrers, Northants, formerly president of the South Midland Branch of the British Medical Association, who died on June 16th, left estate of the gross value of £47,647, of which £44,017 is net personalty.

EXPERIMENTS ON DOGS.

THE Dogs (Protection) Bill has received its quietus, at least for the time. The matter has given rise to a controversy in the *Times* initiated by Mr. John Galsworthy. He takes the purely sentimental ground that the "dog is by far the nearest thing to man on the face of the earth"; therefore he "deserves loyal treatment." We may remind Mr. Galsworthy that there is a creature nearer to man even than the dog, and that is man, a fact often lost sight of by those who carry their love of the dog into a cult not much this side of idolatry. We yield to none in our appreciation of the fine qualities displayed by many dogs, but we recognize that even the most friendly and valuable dog is a little lower than a human being. The sentiment of the lady quoted by Mr. Galsworthy, that if she were condemned to spend twenty-four hours alone with a single creature she would choose to spend them with her dog, may be compared with that of the women who bedizen their dogs in what Lear might have called Persian attire and send them out walking under the care of stalwart footmen, and erect monuments to the pious memory of their pets, when they die, in prettily laid-out cemeteries. Such persons often treat their human dependants with scant consideration and sometimes—and here we speak of that which we do know—with positive cruelty. What Mr. Galsworthy means by the "loyal treatment" of dogs we do not quite understand. We owe them kind treatment on the ground of humanity, but surely he will not contend that we are under any obligation of fealty to them. The assumption that animals have rights is founded on a confusion of thought. If they had rights they would have correlative duties for neglect of which they would be liable to punishment. Surely it is not proposed to revive the farce of trying and executing animals for stealing and other offences, as was the custom in some countries in the Middle Ages. No reasonable cause was shown by the champions of the dog in Committee why he should be exempted from vivisection. The disingenuous cry of "torture" has again been raised. Need it be said once more that there is no torture when anaesthetics are used? The evidence given before the Royal Commission by Mr. F. Hobday of the Veterinary College is a conclusive proof of the falsity of the oft-repeated statement that dogs cannot be kept under anaesthesia. The whole subject of experiments on dogs was exhaustively dealt with in the Committee by Dr. Chapple in moving an amendment. As his speech has not been reported, and as one or two of his arguments have been misrepresented in certain quarters, we think it well to give here some of its most important passages. He said:

The vivisection of to-day is as different from that of Bell's time as is the surgery of to-day. Those who oppose this experimental research know nothing of this change, or blind themselves to it. Take an operation on a dog. He gets a hypodermic of morphine about half an hour before he is chloroformed. When he is sleepy and indifferent he is placed in his box, and a handful of cotton-wool, over which chloroform or chloroform and ether have been sprinkled, is dropped in beside him. He quietly passes from his sleeping or semi-sleeping state into that of anaesthesia. There is nothing dreadful about that. If the dog were to be dispatched, that is absolutely the most humane way in which it could be done. Then, if it is necessary that the dog should lie upon his back, he is fixed in that position by strings tied to his legs, not that he may be unable to move or struggle when under torture as the antis allege (for there is no torture, no pain, no consciousness), but because a dog will not lie on his back without rolling over on his side. When a man or a child is required in any other position than on the back for operation purposes, he must be fixed too. Then the operation is completed, and the observations made and recorded. A few extra drops of chloroform put the dog's life out. Where is the torture or pain, or even discomfort, here? There is none. If the dog must be kept alive, the effect of the morphine remains for twelve or twenty-four hours, and the after-pain is thus avoided, or an extra dose may be given. The pain after operations that belonged to the surgery and vivisection of sixty years ago was due to inflammation, suppuration, and other sequelae. Since the establishment of antiseptic treatment these are practically unknown. If by any chance they do occur, the dog is killed with chloroform. In the absence of these complications there is little or no pain after operations, and when it does, or is likely to occur, a small dose of morphine carries the patient or the animal over the post-operation period.

Now why dogs, and not other animals? If it were a matter of indifference we could quite easily yield to those whose misplaced sympathy has promoted this bill. But no other suitable animal is available. The dog is carnivorous like ourselves—he can be made omnivorous like ourselves, and therefore the study of his digestive organs gives us data upon which we can act in the study and treatment of the human subject. The circulation of the dog is similar, and the size of the heart and circulatory system makes it possible to experiment and observe. The number and price of mongrel-bred dogs make it possible to keep up the supply. Apes are not to be had; rabbits and mice are too small and dissimilar; sheep and goats and horses are too large and too costly.

The hon. member for Peterborough (Mr. George Greenwood) says that all this experimentation goes on for the sake of increasing the knowledge of scientific men. That is not the end. If it were I might be an antivivisectionist. The end is the alleviation and cure of pain in men and women and little children; of pain and suffering and disease in dogs themselves. The knowledge is merely a means to an end and not an end in itself.

Take dogs themselves. Hydrophobia has been exterminated in this country through the knowledge and practice that have come to us by experiments on dogs. (Mr. Auberon Herbert: It still exists in Constantinople.) They have not followed the advice which experiments have given. When the right hon. gentleman the member for the Strand (Mr. Walter Long) was in power he had two advisers: Pasteur, who told him the nature, cause, and means of prevention of hydrophobia, and the antivivisectionists, who told him that it was only "lunacy in dogs," and was not infectious. (Mr. George Greenwood: I never said that. We cannot be responsible for all that every one says.) I never thought so little of the hon. member's intelligence as to think that he did. Mr. Long followed the advice of Pasteur rather than that of the misguided "antis," and the dogs of Britain are to-day free from a loathsome and terrible disease, for which they have to thank the experiments of the past, for when all the facts are known experiments and vivisection cease. If no other result than this had followed upon the vivisection of dogs, these experiments would have been amply justified. I could mention the happy results on distemper and malignant jaundice, but I will hurry on to the results in man.

Experiments on eight dogs by Czerny showed that the larynx can be removed with safety. Cancer of this organ, therefore, can be cured by complete removal with little danger of recurrence. If the Emperor Frederick William had been suffering to-day he would have been indebted to dogs for his treatment and probable cure.

Valuable and promising experiments are now going on into the causation and cure of diabetes by Professor Starling. (Mr. Chancellor: He gets his living out of it.) That interjection is a fine example of the sordid and bigoted attitude of those who, in entire ignorance of the nature and aim of vivisection, can find no worthy motive in those who give their lives that suffering and disease in man and animals may be abolished, and who have constantly to defend themselves against malignancy and ignorance.

Professor Starling has shown that removal of the pancreas in dogs causes diabetes, a painless disease, but one, the cause and cure of which is not yet known. Here we have a ray of hope for thousands of children, women, and men in this country. How much would they give if you could tell them that the shadow of death from a fatal disease could be removed from their homes? Dogs who have thus got diabetes are being treated and fed in ways that suggest that the discovery of the true nature and cure of the disease are not far off. We must be able to diagnose a disease before we can cure it: we must know its cause before we can prevent it. If this bill passed in its present form it would tend to delay, if it would not frustrate, promising research along these lines.

Take, again, our knowledge of the diseases of the circulation. The hon. baronet in charge of this bill (Sir F.

Banbury) could not go into his doctor's consulting room with a gouty heart without being indebted for differential diagnosis and treatment to the dogs that have been submitted to experiment. If he sat with his hands and feet in salt water and let the electric currents of his heart express themselves on the cardiogram of a string-galvanometer such as this I hold in my hand he would have to thank dogs and their experimenters for the prospect of his cure.

I see the hon. member for Peterborough (Mr. Greenwood) handing round to members of the Committee photographs of dogs. I could hand him photographs showing idiots—stunted dwarfs, with scanty hair and parchment skin and dull eyes, and thick limbs, and slow, unresponsive movements, and also contrast photographs showing those same children after a few months of treatment, discovered by experiments on dogs, with such a complete change from the idiot to the sane and normal, that the facts would seem incredible. Would the hon. member take as much delight in such photographs as in those he hands round, or would he deny to the mother of an idiot the joy that this research work has brought to her heart?

We may also refer readers interested in the subject to the leaflet (Form C 28) addressed "To lovers of dogs," and issued by the Research Defence Society, 21, Ladbroke Square, London, W.

LITERARY NOTES.

The June number of *L'Hygiène* is as usual admirably illustrated, and contains a number of interesting and instructive articles. Dr. "Horace Bianchon" writes on the new law of three years' military service from the hygienic point of view. Professor Marcel Labbe treats of food and sport. He says that while vegetarianism has a brilliant record of victories in running, climbing, cycling, and so forth, it is in accordance with physiology and experience that the fundamental ration of the sportsman must be a mixed diet, but with only a small proportion of meat. All athletes now recognize the danger of excessive feeding, and especially of the abuse of meat and alcohol. All seek in a light and sugared diet the supplement of energy necessary for the rapid restoration of their strength. Dr. Maurice de Fleury writes on the causes of neurasthenia. Speaking of the relations between neurasthenic and surgery, he cites Professor Pierre Delbet as saying: "The hysteric is a creator (of morbid manifestations), the neurasthenic a victim; the hysteric creates his symptomatology, the neurasthenic suffers it. The neurasthenic is a beaten man—beaten by fatigue, by emotions, by intoxications, by the stress of life, often also by visceral disturbances." Cases are cited in which a pancreatic cyst, a gastric or duodenal ulcer close to the pylorus, chronic appendicitis, diseases of the genito-urinary apparatus in man or woman have been accompanied by evident symptoms of neurasthenia that have wholly disappeared after operation. M. Francis Marre, chemical expert to the Paris Court of Appeal, deals fully with milk and cream; and Madame Augusta Moll-Weiss contributes a short article on the hygiene of the house in time of disease. She holds that flat roofs properly sheltered from wind should be used for hygienic purposes. She urges that such roofs should be provided for workmen's dwellings. There pure air could be breathed, and people could aseptic ize themselves by free exposure to the rays of the sun.

The *Aberdeen Weekly Journal* of July 25th contains a note by "J. M. B." on William Gordon, Professor of "Phisick," who is remembered by reason of the licence he got from the Privy Council in 1636 to dissect dead bodies for the instruction of his students. The following royal reference to him is quoted:

1632. April 5. Hearing that the office of Professor of Physick in the Vniversitie of Aberdene is voyd and at our gift, We, being informed of the sufficiencie of Mr. William Gordon, Doctour of Phisick, to discharge the place;

Our pleasour is that yow informe yourselff of that Estate thereof, and if yow find that the right of presenting thervnto be unto Ws. that furth with you draw up a presentatioun to that effect in behalff of the said Mr. William that he may discharge the same and enjoy the priviledges belonging therunto, willing that the presentatioun pass immediatlie under our cachet and Prive Seall, without further warrant; ffor doing whairof these presentis shal be unto yow and other our officeris to whom it may concerne a sufficient warrant.—The Earl of Stirling's *Register of Royal Letters*, 585.

In Publication No. 7 issued by the Medical Faculty, Queen's University, Kingston, there is an interesting article by Professor Adami, of Montreal, giving an account of his teacher, Sir Michael Foster, and his influence. Foster was led to take up the study of medicine because, although he gained the first place in classics at the B.A. examination at the London University he could not, as he was a Nonconformist, proceed to Cambridge. Signs of pulmonary disease showing themselves not long after he had taken his doctor's degree, he went to sea for a time as ship surgeon, and afterwards returned to Huntingdon, his native place, to start in practice with his father. Country practice, however, did not appeal to him. Professor Adami says:

A great reader, he would sit up late at night, and then, as once with a reminiscent smile he confessed to me, he could not get up in the morning, and that was bad for routine calls. The daily round did not appeal to him. When, therefore, six years later, his old teacher Sharpey invited him back to University College, to give a course in practical physiology, he accepted the invitation with alacrity, and gave up medical practice for ever.

Sharpey's teaching was far ahead of that of any of his British contemporaries. He was the first teacher in this country to devote his life to the subject, and he realized the need of practical instruction. In London, Foster also came under the influence of Huxley, who made him the biologist as Sharpey had made him the physiologist. It was at the suggestion of George Eliot and George Henry Lewes that in 1871 Foster was invited to become prelector in physiology at Trinity College, Cambridge. He determined to establish as great a biological and physiological school at Cambridge as was in his power. He was given only half a room, a large chamber being divided by a wooden partition into two, the other half being occupied by the Plumian Professor of Astronomy. The accommodation was too small. Foster, however, did not complain, but by a scientific manœuvre dislodged the astronomer.

With a wise humour he suggested to one of his pupils a research into some of the rarer of the dissociation products of proteid metabolism; if I remember aright I think the substance was uro-erythrin. It was a research which, in order to obtain an adequate amount of material, demanded the boiling down over several days and weeks of many gallons of excrementitious fluid. The Plumian professor did not merely vacate the premises; he spread about so dire a report of the disadvantages of close proximity to the physiological laboratory that by a natural process Foster's accommodation was doubled.

It is to Foster that we owe the thorough course in practical physiology common nowadays throughout the English-speaking world. His pupils made the Cambridge School of Biology and Biological Research. Francis Balfour, who had been a keen naturalist while a boy at school, when he went up to Cambridge wished to study biology. He went to Foster for advice. In accordance with his habit Foster gnawed his moustache for a moment or two, sunk in thought, then his eye falling upon an egg lying upon the laboratory bench, he cracked the shell and showed Balfour the germinal disc floating on the top of the yolk, saying, "What do you think of working at that?" Balfour took the advice with enthusiasm, and became the founder of comparative embryology, incidentally building up at Cambridge a school of keen zoologists. As Foster's classes increased he realized more and more acutely the absence of any sound textbook on physiology. He was, therefore, impelled to write one; the work itself, first published in 1877, was such a success that the rest of his life was spent in bringing successive editions up to date. The labour was so great that he told Adami to take warning by him never to write a textbook:

If it is a failure it is time thrown away and worse than wasted; if it is a success it is a millstone around your neck for the rest of your life.

The list of Foster's pupils includes such names as Sir Sydney Vines, Sir Francis Darwin, Newell Martin, Dew Smith, Gaskell, Langley, Sherrington, Henry Head, and many others who are handing on the torch they received from him.

British Medical Journal.

SATURDAY, AUGUST 23rd, 1913.

EUGENICS

Sydney Smith in one of his letters said his friend Francis Horner was so extremely serious about the future of the human race that he had to compose his face half a street off when they met. At the present time we are all discussing the same problem, though in a more concrete form than that which formed the subject of the philosophic Scotsman's concern. The subject of "eugenics" is in the air; it is dealt with in the newspapers, and it has found its way into light literature. In Ian Hay's last novel, *Happy-go-Lucky*, one of the characters asks another if he happens to have any sort of notion "what eugenics is—or are." The other replies hazily that he believes it is some sort of scheme for improving the physique of the race. It is characteristic of the all-pervading zeal for the regeneration of the race that the girl to whom the inquirer is engaged wishes him to become a local vice-president of the Eugenics Society. Even schoolgirls of 16 are familiar with the question, at least in theory, and freely discuss its practical application. There can be no doubt of the importance of human stock-breeding, and it was fitting, therefore, that a discussion on the subject should have been included in the programme of the Section of Medical Sociology at the recent Annual Meeting of the British Medical Association. A full report of the discussion appeared in the Journal of August 2nd, and it is significant of the widespread interest now taken in eugenics that the debate was opened by a man of science not belonging to the medical profession, while among those who took part in it were an official of the Poor Law, a lady who is secretary of the National Association for the Feeble-Minded, a Russian anarchist of the philosophic kind, and a dignitary of the Roman Catholic Church. The debate, therefore, represented views of the most various kind, and it is this that forms its value as a contribution to a practical solution of the problem.

The discussion, if it had no other outcome, helped to place in a clear light the aim of eugenics. If any real reform is to be effected, it is vitally important that we should not be led astray into Utopian schemes by over-enthusiasm. Some put before them the ideal expressed long ago by Walt Whitman, whose prophetic vision saw a race of supermen among whom there should be no bodily defect or disease:

> When America does what was promis'd,
> When through these States walk a hundred millions of superb persons,
> When the rest part away for superb persons and contribute to them,
> When breeds of the most perfect mothers denote America,
> Then to me and mine our due fruition.

This goes further than our most advanced eugenists, for although they look forward to a population of "superb persons," as far as we are aware no one has advocated that the "rest" should "contribute to them." But some come pretty near to this aspiration of the poet. Only a short time ago a distinguished exponent of the new science thought it necessary to explain that eugenists did not deny to those who would not find a place among the poet's "superb persons" the right to live. This may come; the principle of making undesirable offspring "part away for superb persons" was recognized and acted upon in ancient Greece. In the meantime the saner reformers will doubtless be content to accept the more modest ideal of Dr. Harry Campbell, who defines the object of eugenics as the promotion of the welfare of the human race by encouraging biologically suitable and discouraging biologically unsuitable matings. It is, in fact, to use his own phrase, the "science of man breeding."

That this has been deplorably neglected is unquestionable. More than twenty years ago, when a famous racehorse was sold for a large sum for stud purposes, we dwelt on the striking illustration of the relative value placed on animals and on human stock afforded by the fact that, whilst a horse was judged unworthy to beget issue because he was a "roarer," many owners of such an animal would have had no objection to allow their own offspring to marry into families in which tubercle or other hereditary disease was handed down from one generation to another as an inalienable heirloom. We pointed out that a diseased inheritance was sometimes, as in the case of gout, actually boasted of as a mark of blue blood. It was added that, under existing social conditions, it was vain to hope for any great or general improvement in these respects, though a family doctor gifted with the necessary tact could often use his influence advantageously for the prevention of undesirable marriages. If a fraction of the care exercised in the breeding of horses were used in the propagation of the human species, there might be a hope that the race would be vastly improved.[1] Darwin, in his *Descent of Man*, wrote: "Man scans with scrupulous care the character and pedigree of his horses, cattle, and dogs before he matches them; but when he comes to his own marriage he rarely or never takes any such care. . . . Both sexes ought to refrain from marriage if they are in any marked degree inferior in body or mind; but such hopes are Utopian and will never be even partially realized until the laws of inheritance are thoroughly known." There is nothing new, therefore, in the eugenic doctrine except the disposition now shown to push it to extremes in its application.

Dr. Campbell contrasts man's interference with natural selection with the method of Nature. Man, he says, is seeking to obtain efficiency by bestowing infinite pains on the individual. Nature's method, which has been in operation since the first dawn of life, is not that of bolstering up the unfit but of wiping them out. Her chief concern is to produce the best and to secure the survival of the best. In regard to this, we may ask: When people talk of wiping out the unfit, and the survival of the fittest, what exactly do they mean? The fittest for survival in the struggle for existence are not necessarily by any means the best from an ethical point of view or the most likely to promote the welfare of the human race. This truth was set forth with his usual lucidity by Huxley in his Romanes

[1] British Medical Journal, November 28th, 1891.

lecture (1893). He there pointed out that we commonly use "fittest" in a good sense with an understood connotation of "best," and "best" we are apt to take in its ethical sense. But the fittest which survives in the struggle for existence may be and often is the worst. He adds that the ethical process is in opposition to the cosmic process to which the struggle for existence belongs. Some eugenists in their concentration on physical fitness lose sight of the moral qualities that have raised man to the place which he now occupies in Nature, and that most encourage the hope of his ascent to still higher planes. Dr. Campbell, indeed, holds that man is still evolving and will continue to evolve in the moral sphere. This is true to a certain extent, but it has nothing to do with natural selection. When Dr. Campbell declares that "the lazy, the intemperate, the dishonest, the aggressively antisocial, those who love not home life, those who shun the cares and self-sacrifice demanded of fatherhood and motherhood—these are one and all being eliminated, while their opposites are surviving and the attributes which secure their survival are being racially accentuated," we can only say that a man who believes this must be an optimist of the highest degree. It is one of the signs of the times that men and women alike shirk their duties as citizens, help in the perpetration of "racial suicide," and live solely for pleasure. Men avoid the service which they owe to their country, and the feeling of patriotism which has made our "rough island story" a large part of the history of the modern world, is scoffed at by an increasing number of our people as a superstition. Women think more and more of "expressing themselves," and, like Nora in *The Doll's House*, slam the door on the traditions in which the British race has been bred for so many centuries, and go forth to lead their own lives. So far from seeing the signs of moral evolution that are visible to Dr. Campbell, we see a gradual sapping of the moral character of the nation akin to that which finally brought the Roman Empire to ruin.

At first sight there may seem to be an antagonism between the aims of the physician and those of the eugenist. The object of medicine is to preserve life regardless of the good or bad qualities, moral or physical, of the individual; and, since hygiene has become more and more an active factor in the safeguarding of the health of the community, especially during the last fifty or sixty years, an incalculable number of lives have been saved which, from the eugenic point of view, might be described as undesirable. In the discussion on eugenics at Brighton great stress was laid on this point by Mr. Edgar Schuster, who, while stating that in this respect medicine might be accused with some justice of being dysgenic, thought it necessary to defend eugenists from the suspicion of antagonism to the art of healing. If doctors as a body are not very enthusiastic about what is called the science of eugenics, it is because as practical men who have to deal with the actual facts of life they are more than doubtful whether such a thing as the science of eugenics yet exists. Have we, in fact, got much beyond the knowledge embodied in the Horatian *Fortes creantur fortibus et bonis?* And the ancients understood that this was by no means invariably true, for they had a proverb, *Filii heroum noxae*, which seems to show that they knew the progeny of great men are often degenerate. There is so much that is obscure in the whole matter of generation and the transmission of qualities or constitutional characteristics, that the medical profession is fully justified in warning enthusiasts against radical measures for the prevention of procreation by the "unfit."

What is the practical outcome of eugenic doctrines? Is the marriage of human beings to be reduced to a system like that which Touchstone calls the "copulation of cattle"? This is vehemently denied by most eugenists: but their teaching carried to its logical conclusion certainly points that way. Some tentative experiments in that direction have been made: for instance, in the Oneida Community founded by J. H. Noyes, and by Friedrich Wilhelm, father of Frederick the Great, who tried to "propagate procerity" by marrying his gigantic Guards to such tall women as he could find. Neither of these experiments was very successful. The difference between medicine and eugenics lies in the fact that while medicine looks to the individual first and only indirectly to the race, eugenics cares nothing for the individual, but solely for the race. And though the whole subject of heredity is still wrapt in darkness, enough is known to show that if the ardent eugenist had his way the world would be the poorer both in genius and in many of the qualities which make for the goodness of men and the happiness of human life. Not only literature, art, and philosophy, but statecraft and the safety and greatness of the empire, would suffer to an extent beyond all conjecture.

The segregation of the mentally deficient is justifiable at once in their own interest and in that of the community. But surgical sterilization would not be accepted by the Legislature or by public opinion, and would lower those who practised it to the level of the hangman. This would inevitably bring discredit on the whole profession. It is the duty of the doctor to do his best by reasoning and moral suasion to prevent the marriage of persons whose offspring are likely to be diseased in body or mind. In Dr. Campbell's words, he should foster the development of a eugenistic conscience. Nowadays, however, the chief difficulty would seem to be to get people of the better classes to marry at all. As to legislation, we entirely agree with Mr. Bateson, who in his address on heredity published in the Journal of August 16th, protests against the organization of "a wholesale tampering with the structure of the population such as will follow if any marriage not regarded by officials as eugenic is liable to prohibition. . . . This measure," he adds, "we are told is actually proposed in certain States [of the American Union]. Nothing yet ascertained by genetic science justifies such a course, and we may well wonder how genius and the arts will fare in a community constructed according to the ideals of State legislatures." The law can surround the marriage of those who are deemed "unfit" with difficulties. Human nature being what it is, the inevitable result of these difficulties would be that the ceremony of marriage would be dispensed with, and the unfit would propagate degenerates with the added stigma of illegitimacy. Hence those outcasts would be brought up in the unfavourable environment which illegitimacy brings in its train. Love which laughs at locksmiths will as readily laugh at law. Nature, even if it be expelled for a time by the parliamentary pitchfork, will inevitably come back and claim its rights. All that can prudently be attempted in the present state of knowledge is to regulate natural instincts, when this appears to be desirable in the interests of the community, without looking at human beings from the standpoint of the stock-breeder and treating them by his methods.

CRIME AND PUNISHMENT.

In his weighty contribution to the discussion on crime and punishment, held in the Section of Medical Sociology at the recent meetings of the Association, Sir Bryan Donkin said that in most writings, ancient or modern, informed or ignorant, there was a prevalent lack of definitive use of the words "punishment" and "crime." This lack of definition, or rather this want of agreement as to the connotation of the terms employed, is the cause of much avoidable confusion and barren argument whenever crime and criminal responsibility come under discussion. The disputants and their auditors, in fact, mostly "come out by that same door wherein they went." The profound thinker and lucid expositor—and as an example Dr. Mercier's remarkable book, *Criminal Responsibility*, may be quoted—takes infinite pains to analyse the content of the terms he uses, and explain the values he attaches to them. Such definitions may be arbitrary; indeed, when dealing with matter so disputable as wrong-doing, so plastic as law and so progressive as penology, they are almost bound to be so; but, whenever there is general consent as to definitions, the ground is not only cleared, but the foundations are laid for the erection of practical principles.

The papers of the three openers of the discussion, each in his own department perhaps the most authoritative voice in this country, should do much in this way to pave the path of progress. Each emphasized the essentially antisocial character of crime, Dr. Mercier considering criminal or antisocial acts broadly as wrong-doing, and Sir Bryan Donkin more strictly as acts deemed to be antisocial, and forbidden on the part of the State by enactments provided with legal sanctions. With no intention of entering here into the philosophical consideration of crime as defined by the last-named speaker, it may be well to allude in passing to one aspect, at times overlooked, of this great question. "Crime," Dr. Mercier said in his opening sentence, "is a consequence of the social state." But, further, what is deemed punishable in one form of social state is not so deemed in another—bigamy, for example—and what is not considered criminal conduct to-day—say, inebriety—may be so considered to-morrow—that is, law is the reflection of public opinion. The importance of this obvious and universally recognized relation between law and order on the one hand and public opinion on the other appears to be overlooked in its practical bearing on punishment. Any weakening on the part of the public of its respect for law and order or its abhorrence of criminal acts, any public condonation of criminal acts—following the doctrine of the irresponsibility of the criminal, the existence of criminal types, and the hereditarily predetermined and inevitable nature of criminal conduct—are bound to injure the law which society has built up in its own defence just as surely as the violation of public feeling by the infliction of unduly severe punishment will do so. In these days of growing contempt for convention, when many forms of antisocial conduct are regarded as mild eccentricities, when to go to prison and then write a book is almost as fashionable as it was at one time to shoot lions in Central Africa, it is well to be reminded, in the wisely conservative words of Dr. Scott, that a healthy public opinion, which loves order and deprecates crime, is a most important factor in social well-being.

Readers of Sir Bryan Donkin's paper will have noted the sentence printed in italics, "There is no 'criminal type.'" Sir Bryan states this without referring to any substantive investigations; but we presume he had in mind not only the results of his own long experience with criminals, but also the important anthropometrical work, which extended over some years, carried out in English convict prisons. This work appears to have established the truth of Sir Bryan's dictum, and to have disproved extreme Lombrosan views.

It cannot be too clearly recognized that, to again quote Dr. Mercier, "the root of all crime is the determination to obtain gratification for oneself regardless of the cost to others." With the criminal, as with the gorilla in one of Rudyard Kipling's stories, "there is too much Ego in his Cosmos." It is true that this bald statement leaves the question why there should be this preponderance of Ego outside consideration. It is equally true that for the purposes of practical penology this is precisely where this question—with certain exceptions, as Sir Bryan Donkin cautiously observes—should be left. These "certain exceptions" are especially the class of offenders in whom mental defect or disorder exists, though not to such degree as warrants certification as insane, and whose "criminal responsibility" is therefore held to be in question. Here we not only strike at the root of the whole matter, but attempt to dissect it. Unfortunately there is disagreement as to the *terrain* of the argument, and even upon the meaning and application of the term "responsibility," though here if anywhere there is vital need for attaching the same values to the words employed, if only by consent, to furnish a basis for argument. The position as expounded by Dr. Mercier is quite plain: for him, responsibility is liability to punishment or culpability. "A person is held responsible when the enlightened public opinion of his age and country demands that he shall be made to suffer in return for the pain that he has inflicted. *Responsibility* (our own italics) *is, therefore, not a quality of the person who has inflicted the pain, but a demand on the part of others that he shall suffer.*"

On the other hand, many, and possibly most, of those who use the term think of a man's responsibility for his actions as residing somewhere within his personality, just as they think of his goodness or his righteousness as so residing, though obviously these are judgements passed on him by "the enlightened opinion of his age and country." Sir Bryan Donkin's proposal to grade non-certifiable defectives according to the degree of their "responsibility" suggests that he is not in accord with the views set forth by Dr. Mercier, just as the French term "attenuated responsibility" lends colour to the view that responsibility or irresponsibility is attached, in the minds of those who use the terms, more to "the person who has inflicted the pain" than to "the demand on the part of others that he shall suffer." The first task of the proposed Committee to consider the present state of the law with regard to the legal responsibility for crime, if appointed by the Council of the British Medical Association, should be to come to a clear understanding on this point. In any case, however, it seems that, whether we accept responsibility as connoting liability to punishment, or, according to the other view, as the ability on the part of the subject of inquiry to conform to standards of behaviour set by his fellows, and irresponsibility as liability to err, we arrive in the end by different doors at the same tribunal—"the enlightened public opinion of our age and country."

The evolution and nature of punishment, its *raison*

d'être and justification, have been so ably treated in the papers from which we have quoted that we need do no more than commend them to our readers. The first law of society is self-preservation, and therefore society is compelled to take all measures, whether by the infliction of pain on wrongdoers, the intimidation of potential wrongdoers, or by reformatory endeavour, which it finds successful in securing its solidarity, so long as these measures do not conflict with the public conscience.

Sir Bryan Donkin, we hope, may presently find time to follow up one of his assumptions. "I assume," he said, "that the actual conviction and treatment by the State of persons guilty of law-breaking should be regulated, not only with regard to the degree of harm and menace to society involved in the crime, but also, as far as practicable, to the character and conditions of the individual criminal." The discrimination between one wrongdoer and another, according to the degree of responsibility or culpability involved in their acts, must take into account the character and conditions of the subjects. The modern tendency is to adjust the treatment to the criminal rather than to the crime. This tendency, which has come to be known as the individualization of punishment, is expressed in a number of modifications of criminal procedure, such as conditional release, the establishment of juvenile courts, and in particular, in America, in the indeterminate sentence. The indeterminate sentence is held to be that most in harmony with the results of scientific criminology, according to which crime is regarded as the expression of moral invalidity, requiring treatment as long as the invalidity continues. This sentence, which is said never to have been put into effect in the strict sense of the term, might, if applied logically, have some curious results. The homicide might be released a short time after his incarceration, whilst the petty thief might be detained all his days. This anomaly would undoubtedly have an injurious effect on the public conscience, the maintenance of which intact is one of the prime objects of the punishment of criminals. Nevertheless we welcome the observations of Mr. Jennings, Registrar of the High Court of Justice, who said that the present system of punishment was accompanied by too little discrimination, and suggested that in the case of more serious offences the final sentence might come for revision before a Punishment Board, which should have fuller information about the prisoner and his history than would be likely to come out in the course of the trial.

REORGANIZATION OF UNIVERSITY EDUCATION IN LONDON.

The final report of the Royal Commission on University Education in London was issued on April 15th; summaries of its recommendations were published in the issues of the British Medical Journal of April 19th, 26th, and May 10th, 1913, and subsequently Professor Starling contributed two articles on the subject. The report made a large number of recommendations involving the interests of many existing institutions in London. The President of the Board of Education has now appointed a Departmental Committee to inquire and report, after consultation with the bodies and persons concerned, as to the steps by which effect shall be given to the scheme of the report of the Royal Commission, and to recommend the specific arrangements and provisions which may be immediately adopted for that purpose and as the basis of the necessary legislation. The Committee consists of Sir George H. Murray (chairman), Sir L. Amherst Selby-Bigge, Sir John Rose Bradford, Sir William S. MacCormick, Dr. George Franklin, Dr. Arthur Keith, Mr. John Kemp, barrister-at-law, and Mrs. Henry Sidgwick, with Mr. H. F. Heath, C.B., as secretary. The committee, as will be seen, has largely an official complexion. Sir George H. Murray, the chairman, is the Permanent Secretary of the Treasury, Sir L. A. Selby-Bigge is the Permanent Secretary of the Board of Education, and the secretary, Mr. H. F. Heath, C.B., is at the head of the university branch of the office of the Board; Mr. Kemp was joint secretary with him of the Royal Commission, and Sir William S. MacCormick, Secretary of the Carnegie Trust for the University for Scotland, was a member of the Treasury Committees on University Colleges in Great Britain and on the University of Wales, and Chairman of the Advisory Committee on University Grants. A series of articles by Sir Henry Morris criticizing the scheme for the medical department of the university have been published in the *Times* within the last few days. We hope on a future occasion to consider the views he expresses.

CONTROL OF VENEREAL DISEASES.

Dr. R. W. Johnstone, one of the medical inspectors of the Local Government Board, was instructed in April, 1912, to undertake an inquiry into the control over venereal diseases, with special reference to the adequacy and general character of the arrangements for institutional treatment in England and Wales. His report, with a prefatory letter addressed to the President by the Medical Officer of the Local Government Board, has just been issued.[1] Being addressed to the general public, it rehearses many facts with which all members of the medical profession are familiar, and its chief interest for them resides in the passage in which the means for the control of these diseases are discussed. Dr. Johnstone rejects the police regulation of prostitution, which was tried in this country from 1864 to 1836, when the Contagious Diseases Acts were in force, and has been tried in many European countries. The failure to check venereal diseases by such measures has been acknowledged not only in this country, but also in Italy, Denmark, and Norway, where they have been abandoned, and in France. Professor Fournier, though in favour of maintaining the existing system of police regulation of prostitutes in Paris, admits that it has failed to control venereal diseases in that city. The failure is attributed to two circumstances—first, that "clandestine" prostitutes form a more numerous and dangerous class of women than the acknowledged prostitutes; and, secondly, that the large majority of infected individuals are males. These considerations lead Dr. Johnstone to the conclusion that it is "obviously unscientific and unprofitable to attempt to deal with an infectious disease by repressive legislation directed against a particular class of sufferers, and those not the largest class nor the most dangerous." Further, "the injustice of applying pains and penalties to a particular class of loose livers of one sex, while those of the other sex are allowed to go free, is in itself sufficient to arouse the resentment and opposition of fair-minded people," more especially as the avowed object of police measures is to check venereal disease, not to suppress prostitution. The medical officer to the Board concurs in Dr. Johnstone's opinion that the notification of venereal disease is not at present to be recommended, on the ground, mainly, that in existing circumstances it would tend to concealment of disease and delay in a neglect of skilled treatment. Dr. Johnstone adds: "Full notification could probably be usefully introduced later on, but to make it effective, it should be accompanied by legislation designed to prohibit the treatment of venereal diseases by unqualified persons,

[1] H.M. Stationery Office [Cd. 7029], price 2½d.

as has been done in Australia and elsewhere, as well as by adequate provision for skilled diagnosis and satisfactory treatment." The main conclusion of Dr. Johnstone's report is contained in the following passage: "It cannot be too strongly urged that the best method of controlling venereal diseases and protecting the free from infection would be the provision of means for early and accurate diagnosis, with skilled advice and adequate treatment available for all infected persons. In short, the essence of the problem is how to get a willing patient at the earliest time to the doctor from whom, or to the institution from which, such advice and treatment are to be had." Dr. Newsholme emphasizes this view and expresses the opinion that a full inquiry is desirable into the measures which should be taken with this object and into the subject generally.

SIGHT TESTS FOR SEAMEN.

THE Board of Trade was never noted for its comprehensive grasp of things pertaining to eyesight, and it is not likely to improve until the simple fact is realized that members of the medical profession who make a special study of the eye are likely to know more about it than the lay officials of the Board or the retired seamen and clerks appointed to act as examiners in eyesight. Some hope was awakened when a Departmental Committee was appointed to investigate the question, but faith in it diminished when it was found to be largely composed of advocates of present methods. So strong was the feeling that the Imperial Merchant Service Guild would have nothing to do with it. The Committee's report has carried conviction to none, for it did little more than bless the present methods, although, as we pointed out at the time, it did recommend one or two of the things which have so long been known to be necessary. Their introduction has made a considerable difference in the published statistics, but in the main the results have been of little or no importance. At one time there seemed to have been a disposition to move in the right direction. New regulations were published which were to come into force next year. They proposed to raise the standard of form vision to six-sixths in one eye and at least six-twelfths in the other, and each eye was, of course, to be tested separately. In reply, however, to a question addressed to him in the House of Commons recently, the President of the Board of Trade stated that he had carefully considered the matter, and had decided that a candidate would be considered fit if he could see six-sixths when using either both eyes together or either eye separately. This means that a man may have one glass eye, or even if he still has his own it may have any degree of defect up to total loss of sight, but so long as he gets six-sixths with the other he is to be considered fit, although the fully competent man with six-ninths in each eye is to be rejected. That this is an illogical position becomes evident if we suppose the man with the blind eye (glass or otherwise) to have an accident which necessitated his keeping his only seeing eye closed. Is he still to be considered as more useful than his rejected companion who had six-ninths in each eye? But another notice has now been issued which shows no greater grasp of the subject. The Board's new instruction is: "That in future any candidate who already owns a certificate of competency of any grade who is presenting himself for examination for a higher certificate shall not be required to undergo any colour vision test." When it is remembered that the Board of Trade, owing to the fact that it employs examiners with no special training, has over and over again passed and rejected the same men, it can only be supposed that it hopes by this means never again to find itself in the particular dilemma in which it was in the famous Trattles case, where the candidate was alternately passed and rejected something like six times. Even then it was not decided whether he was dangerously colour blind or not; and finally a lawyer and several other non-medical men were called in to consider the evidence and decide the matter for the Board. At any rate, now a man may by excessive smoking or from disease have a central scotoma for red and green so that he would be unable to tell the colour of a signal light, and yet he will be assumed to be safe because, perhaps years ago, he was stated to be so by an examiner who knew nothing about optics, and had no acquaintance with the physiology of the eye. The strength of the feeling among ophthalmologists is shown by the fact, first, that the Ophthalmic Section of the recent Annual Meeting of the British Medical Association unanimously passed a resolution declaring that the sight tests of the Board of Trade are not satisfactory, and that an inquiry is urgently needed in the interests of the mercantile marine and the nation; and, secondly, that the corresponding section of the International Medical Congress adopted a similar resolution calling for an international committee to report on a suitable standard of form vision, colour vision, and light sense, in the interest of safety at sea, and also on the tests suitable for the examination. An inquiry seems to be necessary to convince the administrative authorities, although the question is really a simple one, and was solved some time ago by the British Admiralty. What is required are expert examiners who know the subjects on which they have to decide as to the fitness or otherwise of a candidate, and to allow them to use tests which are adequate for the purpose. At the present time men are appointed to make the examination who have no scientific training and not even much empirical knowledge of the subject, and are provided with tests which are so bad that no expert would rely on being able to detect many of the dangerously colour blind among those who present themselves for examination.

CANCER CURES.

REFERENCE was made in the report of the annual meeting of the Imperial Cancer Research Fund, published in the JOURNAL of August 2nd, to the fact that twelve alleged "cures" for cancer had been investigated. In every one of these cases it was found that the evidence did not bear out the claim. A brief account of some of them will serve to show the futility of the pretensions advanced on behalf of these cures. In one the disease was a round-celled sarcoma of the cheek, which had been twice operated upon. A third operation was refused, and the patient was treated by a herbalist with a remedy the composition of which was not disclosed, and at the same time by the patient himself with rose-leaves. It turned out that the owner of the remedy had himself suffered from epithelioma of the cheek eighteen years before, which had been cured, not by his own remedy, but by operation and subsequent skin-grafting! As *pièces justificatives* of another secret remedy two cases were submitted. In one of these cases a growth had been "extracted" which on microscopic examination showed no definite histological structure. No evidence was forthcoming that the patient's ultimate condition was due to the remedy. In a second case mammary tumours which had been removed proved to be not cancerous, but adenomatous. In a third case the claim had been the object of inquiry on previous occasions. So far as could be ascertained, it consisted in the injection of a solution of potassium permanganate. It was possible to identify four patients treated by the remedy. In one an operation had been performed for scirrhus of the breast. No recurrence took place in the scar. Later the supraclavicular glands became enlarged; they were not certainly malignant, and a second operation was not advised. After treatment by the "cure" the surgeon again saw the patient, when these glands were still in the same state. The medical man who was

stated to have operated on the second patient had been dead for many years, and no trustworthy information was obtainable as to whether there was any reason to suspect cancer or not. In the third case the patient was operated on for an obscure condition of the tongue; no certain diagnosis as between papilloma and epithelioma was arrived at, as no microscopical examination was made. Subsequently the patient went to a second surgeon with an enlarged gland in the neck. The gland was removed for microscopical examination. As the gland showed no signs of epithelioma, the tongue was not again operated on, and the diagnosis was entered as "lymphoid hypertrophy of the base of tongue." The patient subsequently underwent treatment with the "cure," which he speedily gave up as a waste of money. He is still alive, and in the same condition after several years. A fourth patient was suffering from multiple tumours in the neck. A surgeon removed one for microscopical examination by a competent pathologist, who reported it to be lympho-sarcoma. An operation was not performed, the patient underwent the treatment, and has since died. Other things put forward as "cures" were "brandy and egg," a "germicide" the nature of which was not disclosed, "liquid paraffin," and a mineral water stated to be radio-active. In these instances no evidence was advanced that any tumour had been treated. In the case of the mineral water, it was urged that it was already being tried in a well-known London hospital; inquiries failed to show that there was any foundation for this statement. Claims have also been submitted on behalf of preparations advertised as "cancer cures" in this country and on the Continent. As the result of the investigation no claims to cure cancer were substantiated. Any lump is called cancer, or, if the diagnosis of cancer has been established, either a cure has not been effected or the patient has been found to be already dead.

EUGENIC MARRIAGE LAWS IN AMERICA.

THE Governor of Pennsylvania recently signed a bill passed by the Legislature providing that marriage licences shall in future be issued only to those who can show that they are free from communicable disease. Under the new law marriage licences will not be granted to imbeciles, epileptics, or lunatics. Moreover, a licence will not be issued if at the time of application either of the contracting parties is under the influence of alcohol or any drug. The State Legislature of Wisconsin recently passed a bill making the production of a health certificate a necessary condition for the issue of a marriage licence. Another bill provides for the sterilization of criminal, insane, feeble-minded, and epileptic persons confined in State institutions. In regard to these measures, the Washington correspondent of the *Times* (August 13th) writes: "The much-advertised measure passed a few weeks ago by Pennsylvania appears already to be falling into obsolescence owing to the fact that the law does nothing except offer the unfit applicant the choice between perjury and humiliating and damaging admissions about himself. Nor does Wisconsin's more sensible law appear so far to be particularly effective. Such newspaper comment as the measure has elicited is rather uncertain in tone, while in a country where the Roman Catholic Church is so powerful and respected as it is here strict men of authority like Cardinal Gibbons cannot but greatly handicap the movement." The Cardinal is reported to have said before the American Federation of Catholic Societies that eugenics was only a fad. With reference to the Wisconsin laws in particular he said: "I don't like to talk on this subject, but marriage is something sacred, and it should be left to the man and woman to decide whether they wish to make the contract or not. No civil law should interfere." In reference to the sterilization of criminals, the correspondent from whom we have quoted says that the movement has not made much way in recent years. "While various States have more or less impetuously passed the necessary laws the statutes, except in two communities, do not appear to have been enforced." There is, he adds in a significant phrase, some tendency towards legislative activity and executive slackness in regard to the marriage laws. The explanation of the executive slackness here referred to may be that, whilst legislators pass measures to please faddists among their constituents ("Folks mun do something for their bread"), they, like George III on a certain occasion, make a note "to remember to forget" to provide the funds necessary to stir the law into effective life.

NATIONAL TEMPERANCE LEAGUE.

THE National Temperance League gave a breakfast to members of the International Medical Congress at the Grafton Gallery on August 8th, under the presidency of Sir Thomas Barlow, who, in the course of his remarks, referred to the remarkable growth of the temperance movement in almost every rank of society in this country during the last generation. It had made great progress in the army and navy, and the officers of those services now recognized their responsibility to teach both by precept and example. In commerce even men who did not abstain themselves recognized the value of having abstainers in their service, and the fact that alcohol took away the sense of control had been brought home to every one by the growth of rapid means of transit. The decrease in the administration of alcohol in hospitals was nothing less than a revolution; whereas in the old time it was ordered as a matter of course, the doctor now felt that when he ordered alcohol he should prescribe how much was to be given, and for how long. In spite of all that had been accomplished the drink bill was still enormously large, and he appealed to his hearers to exercise common sense with regard to medicated wines, the growing use of which he strongly condemned. Sir Victor Horsley and Sir Alfred Pearce Gould also spoke in support of the temperance movement. Dr. Wu Lien Teh, director of the Chinese Medical Service, said that so far from Chinese doctors losing practice for failing to administer alcohol, they would do so if they administered it.

A BACTERIOLOGICAL MUSEUM IN LONDON.

THE new bacteriological museum at the Royal Institute of Public Health, which has been made possible by the generosity of Sir William Lever, was thrown open to general inspection on the occasion of a recent visit of press representatives, and the significance of the various items in the collection was explained by Professor William R. Smith, M.D., the Principal of the Institute. The museum occupies a large room on the ground floor overlooking Russell Square, and although doubtless much has yet to be added, the display is already very interesting. On two sides of the room the walls are lined with glass cases containing a collection of micro-organisms, pathogenic and non-pathogenic, as well as specimens illustrating the pathological lesions produced by certain organisms in the body, and others showing bacterial products with remedial agents. The organisms are arranged in groups in order to illustrate their typical growth and the biological characteristics which lead to their identification. The cultivation of the organisms in different media is exemplified, as, for instance, the reactions of *B. coli* in agar-agar, broth, gelatine, and various sugars. A remarkable feature of the museum is the display of photomicrographs, nearly a thousand in number, chiefly in the form of transparencies. These are arranged in front of the windows, but in such a manner that they can be artificially illuminated from behind if necessary. For a large

proportion of these records, which show the appearance of micro-organisms at various magnifications, the Institute has to thank Professors Bujwid and Nowak, of the Cracow University; and for another valuable exhibit, consisting of a complete series of vegetable and mineral poisons (which is to be found in the section of forensic medicine and toxicology), it is indebted to the Society of Apothecaries. Among the interesting exhibits closely concerned with public health are examples of good, bad, and indifferent water, and of contaminations in milk; and another section is given over to demonstrations of the various serological reactions. These, together with pathological atlases and the like, complete a collection which will be permanently preserved and made available for the student. The museum, we understand, represents a cost of something like £600. On the occasion of the press reception Professor Smith summarized the history of the science of public health during the twenty-seven years of the Institute's existence, and also described the present work of what, as he said, was really a public health training college, with activities as diverse as medico-legal inquiry and instruction in domestic hygiene. Subsequently the visitors went the round of the bacteriological, serological, and chemical laboratories, and the water analysis room, and gained some idea of the assistance which the Institute is rendering the sanitarian, the jurist, the general practitioner and the public. The whole of the laboratories are now available for researches of a public health character, and for clinical investigations. The museum will be the laboratory's right hand.

HENRI ROCHEFORT AS A PATIENT.

IN the *Chronique médicale* of August 1st, Dr. Brochin gives some personal recollections of Henri Rochefort, who was his patient and his friend. It is interesting to learn that the pulse of the man who was described by Thiers as a *fou furieux*, and whose newspaper diatribes read as if they had been written at fever heat, did not as a rule exceed 52. Rochefort suffered from his youth from Reichmann's disease, which is defined as gastric hyperchlorhydria with dilatation of the stomach and continual hypersecretion throughout the intervals between meals. This may help to explain the corrosive acidity of his style. He had naturally a good constitution and was extremely temperate. He never drank a drop of wine and did not smoke. His only nourishment was 4 to 5 litres of milk a day. This statement, we presume, refers to his latter days, for we have ourselves seen Rochefort eat a hearty luncheon of the usual kind, and on that occasion he told the company that he drank wine at Sydney after his escape from New Caledonia by way of celebrating the event. From the therapeutical point of view he was a difficult subject to deal with, and could not bear any active medication. He never forgave a leading Paris consultant who prescribed large doses of bismuth, which he did not find to his taste. But if he did not love drugs he liked doctors, though rather for what he could learn from them than for the benefit of his health. M. Brochin does not mention that Rochefort had been a medical student, but his excitable nerves made him unable to stand the sight of a surgical operation. This was in 1850. All his life, however, he continued to take a keen interest in the progress of medicine, and hailed the results of the serum treatment of diphtheria with enthusiasm, for he adored children as much as Victor Hugo. He was one of the founders and a most generous benefactor of the Belleville Goutte-de-Lait dispensary, where more than 10,000 nurslings have been saved from death in the last twenty years. His name is inscribed in the list of founders with those of Victorien Sardou, Ludovic Halévy, and other well-known men of letters. Although he had fought fourteen duels, he was a man of extraordinary sensitiveness, and although he would have killed his man without compunction, he would not have fired on a rabbit. In fact, he had the temperament of the antivivisectionist, for although he took pleasure in causing mental pain to his fellow men with a pen steeped in vitriol, he could not bear the sight of a suffering animal. He was himself very intolerant of physical pain. He had many friends among members of the medical profession. He was linked by ties of friendship with Péan, Robin, d'Arsonval, Fournier, and many others. There was a great contrast between Rochefort, the rabid pamphleteer, and Rochefort, the private gentleman. He had the manners of the *grand seigneur*, which he was by birth, and if he mixed with the crowd it was obviously more from the necessity of his profession than from taste.

ADVERTISEMENT BY PROXY.

WE are all familiar with the too grateful patient who advertises in the local papers his recovery from a serious illness, "coupled," as the organizers of post-prandial oratory say, with the name of the doctor who wrought the "miracle of cure." In the majority of such cases it is probable that the doctor has done good by stealth and blushes to find it fame; but sometimes the inspired paragraph may be a veiled advertisement. After all, there is nothing worse in these harmless, if unexciting, bits of news than in the announcements which appear from time to time in that Pharos of journalism, the *Times*, that Sir Snobby Stitcher has been called in to the Duke of Barcacres, whose noble blood has incarnadined the common highway as the result of a collision between his motor and a village pump. We have found an example of a subtler form of advertisement in the *Journal de médecine de Bordeaux*. The following announcement appeared not long ago in the daily papers of that joyous city: "An American millionaire who has come on purpose to Bordeaux would be grateful to any one who should inform him as to doctors capable of curing his tuberculous daughter and his syphilitic son. £4,000 if cure effected. Write to B. S. R., Agence Havas." Bordeaux ought to be proud of being selected as the place of all others where this millionaire Diogenes looks for a man—that is to say, a man likely to cure his afflicted offspring. His publication of the nature of their diseases, though a trifle offensive to a fastidious taste, may, perhaps, be excused by his parental anxiety. This unusual procedure seems to have been justified by its success, for a few days later there appeared a second advertisement to the following effect: "The American millionaire thanks his correspondents, and has chosen Dr. X., of Bordeaux, as all the letters received recommended him for the treatment of his tuberculous daughter and syphilitic son." We can only hope that the fortunate practitioner selected for the purpose may be successful and may get his fee. But a few questions may suggest themselves to the inquiring mind. Why should an American millionaire go to Bordeaux for a doctor, and why should he advertise for one in the papers? No doubt there are first-rate doctors in Bordeaux, but there are surely plenty of physicians in America who would be capable of treating the patients whose condition has thus been made public. If the millionaire pinned his faith on French science, why did he not seek what he wanted in that city of light, Paris? A curious point in this strange story is the rapidity with which the right man was found. Still more remarkable is the fact that his modest merit—for his name does not seem to be famous in Bordeaux—should have been brought to light by all those who answered the millionaire's appeal. It would seem that when the good folk of Bordeaux—or at any rate such of them as are philanthropic enough to take an interest in the sorrows of a wealthy stranger—do agree, their unanimity is wonderful. Or is it possible that the correspondents who sang the praises of Dr. X. may be a stage army consisting, perhaps—horrid thought!—of himself?

TRYPANOSOMIASIS.

In the *Annals of Tropical Medicine and Parasitology* (August 11th, 1913) J. W. Scott Macfie describes what he believes to be a new species of human trypanosome. The parasite, he states, differs in several respects from the typical strain of *T. gambiense*. In man it produces a form of sleeping sickness, that is relatively mild, and occurs most commonly in young people, in which the trypanosomes are, apparently, either absent from the peripheral blood altogether, or present in such small numbers that hitherto they have not been detected. To the smaller laboratory animals the strain seems to be but slightly pathogenic. The morphology of the trypanosome as it appears in the blood of a guinea-pig shows some peculiar features. The trypanosome is smaller than *T. gambiense;* the cell protoplasm when well stained is homogeneous, and there appear constantly in the blood films a very few minute parasites measuring as little as 8 μ in length. Some of the short and stumpy parasites have the nucleus situated far forwards at the anterior (flagellar) end of the body. The occurrence of a few peculiar trypanosomes which appear to have a flagellum free in its whole length is also remarkable. Considering the morphological features of the parasite and the peculiar symptoms of the disease produced by it, the author is convinced that this trypanosome from Nigeria cannot be regarded as belonging to the same species as *T. gambiense*, and therefore proposes for it the name *T. nigeriense*. It is doubtful if protozoologists will accept this new species on the evidence so far produced. Absence of virulence of the disease is not peculiar to Southern Nigeria, but has been observed in various parts of the West Coast as well. The symptoms of some of the chronic forms of the disease described are typical of sleeping sickness generally. The presence of very short forms of the parasite, measuring only 8 μ in length, is interesting, but further observations of the strain in different experimental animals is required before a definite decision can be reached.

Medical Notes in Parliament.

End of the Session.—Parliament was prorogued on August 15th, after the Royal Assent had been given to a large number of bills, which, in addition to the Insurance Act (1911) Amendment Bill, included the Public Health (Prevention and Treatment of Disease) Act, the Mental Deficiency Acts for England and Scotland, and the Highlands and Islands (Medical Service) Grant Act.

Poor Law Medical Service (Treasury Grants).—In reply to Mr. Ginnell, the Financial Secretary to the Treasury said that such Exchequer assistance as was given in England and Wales towards the cost of the Poor Law medical service formed part of the general subventions for Poor Law services, and could not be specifically earmarked.

Medical Service in Jamaica.—Dr. Chapple asked the Secretary for the Colonies whether he would call for a report from the Governor of Jamaica on the system of medical service on the island, with a view to its reorganization, in order to meet the pressing needs of the population. Mr. Harcourt said that the information at his disposal indicated that the medical service of Jamaica was as good as financial exigencies permitted and that every attention was being paid to its improvement. In those circumstances he did not feel justified in calling for a detailed report, but he would invite the Governor to say whether he considered that there were any serious grounds for dissatisfaction with the present system. Mr. Harcourt, in reply to further questions by Dr. Chapple, said that the total provision of hospital beds in the colony, so far as could be ascertained, amounted to 1,504, of which 207 were in the coolie wards of the various hospitals; the total population of the island, according to the census in 1911, was 831,383 persons; there were about seventy estates employing indentured labourers. Dr. Chapple inquired if the natives were not now excluded from the hospital. He also asked whether it would not be possible to so increase the hospital accommodation and improve the treatment of the natives that their efficiency as workers would be increased, and they would eventually be fitted to take the place and do the work of indentured coolies to a greater extent than they at present did. Mr. Harcourt said he could not answer that in detail, but he should hardly think, as there were 207 beds in the coolie wards, as against 1,504 for the whole of the island of Jamaica, that the assumption was justified. Dr. Chapple asked the Secretary for the Colonies whether he would take steps to provide that increased facilities were given to ordinary medical practitioners in the island of Jamaica for visiting the hospitals and for rendering such service as would enable them more effectively to cope with the increasing mass of contagious and other diseases. Mr. Harcourt said he would ask the Governor to consider whether increased facilities were required.

Mental Deficiency and Lunacy (Scotland) Bill.—The amendments of the House of Lords to this measure were considered and agreed to by the House of Commons on August 14th, and the bill received the Royal assent on the following day.

Sight Tests in the Mercantile Marine.—In reply to Mr. Walter Rea, Mr. Buxton said he had considered very carefully the representations which had been made to him with regard to the form vision standard which it was proposed to bring into force next year. That standard required a candidate to have normal vision in one eye and half-normal vision in the other. He had decided to make a substantial modification in this standard by omitting the requirement for the weaker eye and by making the standard normal vision only. To reach this standard a candidate would be allowed, at his own option, to use either both eyes together or either eye separately.

Highlands and Islands Medical Service Board.—Mr. McKinnon Wood informed Mr. James Hogge that the Board appointed to administer the Highlands and Islands (Medical Service) Act were as follows: Sir John Dewar, Chairman; Sir Donald MacAlister, Principal of the University of Glasgow; Lady Susan Gilmour, Honorary Secretary of the Queen Victoria Jubilee Institute for Nurses; Dr. McVail, of the Scottish Insurance Commission; Dr. Leslie Mackenzie, of the Local Government Board; Dr. John Macpherson, of the Lunacy Board; Mr. J. L. Robertson, Chief Inspector under the Scottish Education Department.

A SERIES of post-graduate lectures will be given in the school of dentistry of the Royal Dental Hospital of London, Leicester Square, during October and November. Further particulars can be obtained on application to the secretary.

The fifty-sixth course of lectures and demonstrations for sanitary officers organized by the Royal Sanitary Institute will take place during September–November next. Particulars can be obtained from the Secretary of the Institute, 90, Buckingham Palace Road, London, S.W.

The Home Secretary has issued an order dated July 30th and now in force extending the provisions of the Workmen's Compensation Act, 1906, to writer's cramp, but a person suffering from that disorder will not be entitled to compensation for a longer period than twelve months. The order also contains the following definition of nystagmus, which is now scheduled as "The disease known as miner's nystagmus, whether occurring in miners or others, and whether the symptom of oscillation of the eyeball be present or not."

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

MANCHESTER AND SALFORD.

Infant Mortality in Manchester and Salford.

The recently issued Local Government Board report on infant mortality shows that for the years 1901–1910 Lancashire has held an unenviable pre-eminence in its high infant mortality, and some statistics for Manchester and Salford, gathered from the reports of the medical officers of health, may perhaps afford a clue to some of the factors at work in these two towns. The figures given are the number of deaths under one year per 1,000 births.

For the years 1901–1910 the average infant death-rate in Manchester was 160. The figures for 1912 are not yet available, but in 1911 there were 18,583 births, of which 780—that is 4.2 per cent.—were returned as illegitimate. The total infant death-rate was 156, but while it was 148 among the legitimate births, it reached 336—that is, about 1 in 3 among the illegitimate. In Newton Heath district the illegitimate infant death-rate was 452, in West Gorton 476, Bradford (Manchester) 478, and Openshaw 538 per 1,000. It appears to be acknowledged that the illegitimate are not as a rule less healthy at birth than the legitimate, and the figures given are frightful in their suggestiveness. As a matter of fact these infants are not wanted, therefore they die. Taking separate divisions of Manchester, the lowest infant death-rates are in Moss Side 84, and Withington 87. These are the least crowded and the more residential districts, and they have the lowest general death-rate for all ages, that for Moss Side being 12.01 and Withington 10.29, the rate for Manchester as a whole being 17.12. The highest infant death-rates are in Ancoats and Central, each 204, Beswick 211, and Crumpsall 242. Ancoats and Central are, perhaps, the most congested and poorest areas, with a large proportion of unhealthy dwellings, and their general death-rates for all ages are above the average—namely, Ancoats 26.26, and Central 25.45. The excessively high infant death-rate in Crumpsall cannot be explained in this way. It is by no means one of the most congested or unhealthy districts, its general death-rate being only 15.13, which is less than the average for the whole city. Its high rate cannot be put down to summer diarrhœa, which exacted a high death-rate in Manchester generally in 1911; in fact, the infant death-rate from diarrhœa in Crumpsall was only 24.6 per 1,000 births, while in Manchester generally it was 45, in Ancoats 76.4, Beswick 75.3, and Central 64.6, and at the other extremity Moss Side had only 7.6, and Withington 15.5. Neither can the high rate in Crumpsall be explained through measles, scarlatina, diphtheria, or phthisis, in all of which Crumpsall compares favourably with the rest of Manchester. Its proportion of illegitimate births is less than the average, nor is there any greater proportion of industrial married labour than in several other districts with lower infant death-rates. Its rate for the previous ten years (1901–1910) averaged only 119, compared with 160 for Manchester as a whole. Its population is only a little over 10,000, and, of course, statistics from so small a population are apt to vary considerably; but it is evident that in 1911 some unusual and unexplained causes were at work in Crumpsall which need further investigation. It is interesting to note that the contiguous district of Cheetham, which is far more crowded and poorer than Crumpsall, has an infant death-rate of only 110, which is considerably less than half that for Crumpsall. Cheetham is the Jewish quarter of Manchester, and though perhaps cleanliness is not characteristic of the Jewish quarters, there is extremely little drunkenness. The Jewish mothers do not as a rule go out to work, and they generally give their children the breast for the usual time. The advantage of this cannot better be shown than by the table quoted below from the report of the medical officer of health for Salford. The infant death-rate for Salford in 1911 was 154, but in 1912, when there were 6,227 births, the rate had fallen to 130, largely owing to the lessened incidence of summer diarrhœa. Just as in Manchester, the extremes in the different districts are very great, the Albert Park district having an infant death-rate of 69, and Kersal 74, while Islington has a rate of 192, and Trinity 173. The table is obtained from the results of systematic visits and inquiries by the lady health visitors. The

Feeding of Infants born in 1911 in Salford visited and watched by the Health Visitors.

	Number of Births.	Infant Death-rate per 1,000 Births.
Breast and other food from birth ...	112	357.1
Breast 1 month, other food 5 months ...	181	237.6
Breast 2 months, other food 4 months...	158	291.1
Breast 3 months, other food 3 months...	113	159.3
Breast 4 months, other food 2 months...	82	146.3
Breast 5 months, other food 1 month ...	79	126.6
Breast only, 6 months	4,127	96.2
Other food entirely	353	388.1
Children died under 1 day...	62	—
Totals	5,267	145.2

rates given are not comparable with the general infant death-rate, as the figures are confined to infants born in 1911 and watched until they died or were 12 months old, but they show in a remarkable way the enormous advantage to be derived from breast feeding.

LIVERPOOL.

Housing and Rehousing.

The Housing Committee of the Liverpool Corporation, in presenting its last annual report, takes occasion to review the work of the committee from 1864 to the present. Prior to 1885 its activities were confined to the demolition of insanitary property. This led to the persons displaced overflowing into the immediate neighbourhood, where they went into sublet houses, increasing the number of the latter and also increasing the number of insanitary cellar dwellings and adding to the overcrowding in the city. Down to 1896 about 10,000 insanitary houses had been demolished, 40,000 persons being in that manner displaced. Any new buildings that had been erected by the corporation or by private owners in the decade ending 1896 were at once occupied by the better class artisans, while the persons turned out of insanitary dwellings found themselves as badly off as ever. About 1896 it became the policy of the committee to restrict the use of its dwellings to persons actually dispossessed, but it was not till 1900 that provision began to be made for all such displaced tenants. A report issued in 1902 gave the number of structurally insanitary houses then existing in the city as 9,943. Since 1902 some 5,358 of these have been dealt with, leaving 4,585 (including 2,939 back-to-back houses) still in occupation. Up to the end of 1912 the cost of demolition and rebuilding amounted to £1,137,452. The interest and sinking fund at the present amounts to £48,015. Of this amount £10,792 is defrayed from the rents of the dwellings, while the balance, £37,223, falls on the rates (2½d. in the £). Against this expenditure is to be placed the marked amelioration in the social conditions of the tenants. Evidences of this amelioration are forthcoming from many quarters; the death-rate has fallen to half, typhoid has almost disappeared and phthisis is diminishing. The police returns show less crime, and even the casual observer can see that the children are cleaner and better clothed than before. In dealing with further insanitary areas the committee hopes to be able to transfer some of the dispossessed tenants to the suburbs. This transfer has become justifiable in view of the facilities for rapid transit afforded by the electric cars. Great interest has been manifested in the work of the Liverpool Housing Committee, and deputations from various large towns of the United Kingdom, the Continent, India and the Colonies, have visited and inspected the work.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Overcrowding in Irish Asylums.

In the course of a discussion on the overcrowding of the Mullingar District Lunatic Asylum at a meeting of the Joint Committee, Dr. L. Gavin, Resident Medical Superintendent, said the overcrowding at present was to the extent of 81 males and 88 females. The average annual increase had been about 15 patients. It was decided to leave the matter over till the October meeting, and Dr. Gavin was asked to furnish a report on the feasibility of extending the short dormitories.

The Resident Medical Superintendent of the Monaghan and Cavan Asylum has reported that, owing to the very large number of admissions recently, the number of patients in the asylum had reached the very high figure of 943. As accommodation was only provided for 793, the house was overcrowded to the extent of 150, and if the admission-rate continued anything like what it had been lately it would be necessary for the committee to provide without delay some temporary relief, as it was almost impossible to put more beds into some of the dormitories, especially on the female side.

Derry.

It is reported that the scheme of importing medical men into Derry City for the purpose of attending insured persons has broken down. Both the medical men who accepted the offer of the Federation of Friendly Societies have, it is stated, already left the city, and it appears probable that the Insurance Committee will now allocate all the insured persons to local doctors who have established a proper medical service.

Medical Officer's Superannuation.

At a recent special meeting of Sligo Board of Guardians, Alderman Jinks, in accordance with notice, moved that a superannuation allowance of £136 0s. 8d. be granted to Dr. John Laird, late medical officer of health of Sligo No. 1 (Rural) Dispensary District, this amount being two-thirds of his salary. Dr. Laird had held the position for a period of forty years and one month. Amendments were proposed to give him no retiring allowance, but these were withdrawn, and a sum of £125 a year was eventually agreed to.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Continental Physicians in Scotland.

The closing of the International Congress of Medicine in London has been followed by the arrival in Scotland of several large parties of Russian and German medical men and women. Some thirty or forty Russian alienists, including eleven ladies, were in Glasgow from August 13th to the 15th, and visited the Eastern District Hospital, the Epileptic Colony at Chryston, the Woodilee Asylum, Hawkhead Asylum, Gartnavel Asylum, and the University. On Friday evening, August 15th, the same party visited Edinburgh, and on Saturday morning the Russian medical men and women travelled out to Morningside, where Craig House was open for their inspection. Mlle. R. Lansberg (London) and M. Dimitrieff, a student in Edinburgh, acted as interpreters, and Dr. George Robertson, the Physician Superintendent, and the Craig House medical staff showed the visitors over the premises. The party included medical men from Moscow, Odessa, Novgorod, Kharkof, and St. Petersburg. They were entertained at lunch by the Board of Management of the Royal Edinburgh Asylum and Dr. Robertson, and partook of haggis to the accompaniment of pipe music. In the afternoon the party proceeded by train to Bangour Asylum Village, where they were received by Mr. James Gibson, Chairman of the Parish Council and District Lunacy Board, by Miss Lees, by Dr. John Keay, the medical superintendent, and others. A thorough inspection of the village was made, and much interest was shown in the open doors and the absence of walls round the institution. After partaking of tea the visitors returned to Edinburgh. A large party of German doctors and others, about 250 in number, including some ladies, having visited Edinburgh, went on to Aberdeen on the 16th. They were received by Professor Cash, the Dean of the Medical Faculty, and were shown over the university and other places of interest. The party is making a cruise round Scotland, and intends calling at Oban and Glasgow.

South Africa.

The Annual Congress.

The fourteenth annual South African Medical Congress was held in the second week of July in East London, at the invitation of the members of the Border Branch of the South African section of the British Medical Association.

Relation of the Medical Profession to Provincial Councils.

The proceedings were opened on July 8th by Sir Frederick de Waal, the Administrator of the Cape Province, who delivered an address on the relations of the medical profession to the provincial councils, including in his survey a reference to the attitude taken up on this subject by the Congress of 1910.

Among the leaders of the medical profession in South Africa there had been, he claimed, up to the present a good deal of misunderstanding in regard to the Act of Union. If this passed away and the opportunity of obtaining legislative reforms by means of the provincial councils were realized to the full, the medical profession would endeavour to influence public opinion so as to obtain from the provincial legislature some of those things for which it had been unsuccessfully striving in the past.

As an example of the benefits that might be expected to accrue the speaker referred to certain resolutions regarding the provision and maintenance of public hospitals which had been passed by the Congress of 1910. Recognizing that public hospitals had been placed under the control of the provincial councils the Congress caused these resolutions to be brought to the notice of the executive council of the Cape province and, the speaker believed, of other provinces likewise. In the Cape province the resolutions were brought to the notice of the executive council by a deputation and there was a free exchange of views. He had previously been in charge of the hospitals for some years as colonial secretary, but had never before had an opportunity of viewing matters from the standpoint of practitioners. He had, however, been converted to the views expressed in the resolutions, and these were embodied in their entirety in an ordnance which was passed by the provincial council. Hence as the result of co-operation between the medical profession and the councils the hospitals were now being maintained and controlled on lines fully according with the wishes of the former.

On the other hand the same congress passed resolutions hostile to the idea of any matters which related to the public health, or otherwise affected the medical profession, being placed under the control of the provincial governments, and later on when a general election was in progress a section of the profession embarked on a political campaign against any such arrangement. This hostility on the part of the Congress led incidentally to difficulty in persuading the provincial legislature to adopt its views regarding hospitals, and was in other respects, in the speaker's opinion, a grave error. The establishment by the central government of a department for the promotion and control of research work, and to deal with vital statistics and other public health questions affecting the whole union, was certainly very much to be desired; but it was by the local authorities that the real executive public health work of the country must be done, and these local authorities, the Act of Union prescribed, should be controlled by the provincial councils. Hence it would be much wiser if the medical profession, instead of agitating against the authority of these councils in matters of public health, co-operated with them in endeavouring to develop the work of municipal and other local authorities in the connexions indicated. Certainly in Cape province, and probably elsewhere, the executive committee of the

provincial council was always ready to accept advice on matters of a professional kind from recognized professional organizations.

One of the matters which these councils would have to decide was the question of the issue of licences for the practice of medicine; at present there was no uniformity in the amount annually paid by medical practitioners. In the Cape a fee of £5 was payable on registration, and an annual fee of £2 10s. was imposed if the practitioner dispensed medicine. In the Orange Free State the registration fee was £7 10s., and all practitioners had to pay an annual fee of £15. In Natal there was a registration fee and an annual fee of £5, while in the Transvaal only a registration fee was exacted. The speaker held that the registration fee should be the same in all the provinces, and that if there was any occupation which could properly be exempted from payment for an annual licence it was the medical profession.

At one time the medical profession in South Africa had appeared to be anxious to see established a general medical council for the whole union; but in view of the vast extent of the country it was open to question whether a council for each component State would not be preferable, as otherwise the government of the profession would fall into the hands of a few individuals out of touch with local conditions. In any case it was desirable that the Congress should keep more in touch with the local medical councils than in the past, so as to make sure that the views expressed in its resolutions were upheld by these bodies when they were officially consulted in regard to the legislative and other proposals.

The powers and duties of the new South African Committee of the British Medical Association would doubtless be considered. For years past the profession had sadly needed co-ordination, and the speaker was glad that there had at length been brought into existence a definite body capable of expressing to the Government and the public the views of the profession in regard to matters with which the interests of medical men were concerned. Undoubtedly this new South African Committee of the British Medical Association had a useful future before it, but its powers should be carefully defined if it was to serve the profession to the best advantage. South Africa as a whole had benefited by political union between its different states, and the speaker hoped that similar cohesion between the various sections of its medical population would produce equally beneficial results. Hitherto the medical profession had not exercised as much influence in the formation of public opinion in South Africa as was desirable, because it lacked the co-ordination of effort which this new South African Committee of the British Medical Association might be expected to secure.

President's Address.

On the conclusion of Sir Frederick de Waal's speech, the President of the Congress, Dr. J. Barcroft Anderson, delivered his presidential address, in the course of which he dwelt on the disadvantages from which the medical profession as a whole habitually suffered. The profession never was and never would be a rich one, partly because its services were rendered mainly to individuals by individuals, partly because its members were carried away by an enthusiasm for their occupation, to the neglect of their own interests. The legal profession enjoyed a monopoly as the exclusive interpreter of the law both to the public and to the Government, but the medical profession had no corresponding advantage. On the contrary, it had to compete against unauthorized persons of all kinds, and was unable to do so on equal terms, because qualified medical men refrained from advertisement. The legal profession was even vested with authority to imprison those who did not treat it with respect. No such power was desired by the body which represented the medical profession; all that it wished was to see its members continuously increasing their ability to perform their duties efficiently by increase of knowledge, and by abstaining from serving the public under conditions which were calculated to render their work of an inferior quality. Twenty years ago the medical profession in South Africa was so well treated by the public and by the State that the question of organization or self-defence had not arisen; but with the advent of a Cabinet whose prime minister and deputy prime minister had both been general practitioners the troubles in the Cape began. The more perfect the organization of the medical profession for self-defence, the greater would be the gain of the public. It would be much more satisfactory to the public if it could deal with a profession which was a principal, not the servant of any lay organization, which was conscious of its strength and of its dignity, and which was untrammelled by care for the necessaries of life and free to devote its talents to the public weal.

Special Correspondence.

BUDAPEST.

Compulsory Vaccination in Bosnia.—Oriental Phraseology.—Foundation of Laboratories for the Investigation of Cholera.—Noisy Health Resorts.—Outbreak of Black-pox in Fiume.

THE passing of the bill which renders vaccination compulsory in Bosnia and Herzegovina, recently sanctioned by the King of Hungary, marks an epoch in the history of public health in those countries. The new law is far more drastic than those of more highly civilized states—as, for example, Austria, where even yet vaccination is not compulsory. In Bosnia and Herzegovina, on the other hand, under the new régime, parents are obliged to have their children vaccinated before they are two years old, save in the case of illness or constitutional delicacy or where the child has already been infected with small-pox. Every child, moreover, must be revaccinated on attaining its eighth year; and, should the operation be unsuccessful, it must be repeated within twelve months, or, if this also fails, within the next two years. The vaccinations are usually performed by the medical officer of health for the district; but, if the latter is unavailable, it may be done by any legally qualified practitioner, who is bound to report every case of vaccination to the local board of health. Although the Bosnian Government, so far, has been very successful in checking the spread of small-pox, there can be no doubt that the new law will do much to improve the state of public health in the two annexed states.

A little book on *Oriental Phraseology* has just been published by Dr. Ignacz Kimosi, containing a list of the most commonly used terms and phrases relating to first aid and surgery in the Hungarian, Russian, Greek, Roumanian, Bulgarian, and Turkish languages. Dr. Kimosi, who has already edited similar dictionaries for the use of French and German doctors, now contemplates the compilation of another for the use of Englishmen, in view of the large number of English doctors and nurses sent by the British Red Cross Society to the assistance of the Balkan armies.

The close of the war in the Balkans will doubtless be followed by a considerable extension of commerce between Hungary and the Balkan States; and the Hungarian Minister for Public Health has therefore decided to establish a number of laboratories for the investigation of cholera, an outbreak of which is now feared. The reason for this decision is the fact that the recognition of epidemic diseases, particularly cholera, requires expert bacteriological examination in specially equipped laboratories. A certain number of experts will be employed for this purpose by the Board of Public Health, and the investigations will be carried on partly in the new laboratories and partly in the bacteriological stations. The first two laboratories will be established at Orsova, on the Roumanian, and Hjvidek, on the Servian frontier, both towns being situated on the banks of the Danube.

For some years past the number of visitors to Hungarian summer resorts has been steadily decreasing, a fact which is all the more remarkable inasmuch as Hungary abounds in excellent spas, which might be expected to attract strangers. A committee sent by the Balneological Society to investigate the causes of this sudden loss of popularity, attributes it in great part to the noisiness of certain places. The report of the committee observes that although people go to health resorts for a rest, this is precisely what they cannot get. They are disturbed when they wish to sleep by the loud talking or singing of servants and of their

fellow guests, the walls in some hotels being so thin that every sound in the adjacent rooms can be heard, whilst doors are banged and bells rung without any consideration for the feelings of others. The street noises also form a legitimate ground for complaint, particularly the cries of the night revellers and the nocturnal singing in which Hungarian youth is apt to indulge to excess. The committee considers these causes sufficient to justify the desertion of Hungarian health resorts, and suggests that the following rules should be observed in every spa in order to ensure the comfort of their summer visitors: (1) Every effort should be made to render the baths quiet and orderly. The bath buildings should be situated at some distance from the hotels, whilst in the hotels themselves there should be no bars, and only a restaurant in the strictest sense of the word. Care should also be taken that the streets are made as noiseless as possible by laying down asphalt or macadamized pavements. (2) All unnecessary noises likely to disturb visitors should be carefully avoided. (3) Strict supervision should be exercised as regards the music in restaurants, cafés, and other places of entertainment, and bands should not be permitted to play after a certain hour. The inspector of baths should be empowered to enforce the observation of the foregoing regulations.

Very few fresh cases of black-pox have been notified in Fiume during the last fortnight, the number of cases in that town having previously amounted to 35. Nine deaths have occurred out of this number, and several of the patients, the majority of whom were very young, have been in grave danger. The cases have all been carefully isolated, and every precaution is taken in ports and railway stations to prevent the spread of infection by travellers. This present outbreak of black-pox (variola haemorrhagia) is the second of its kind that has occurred within the last decade in Hungary. Up to the present, however, few cases have been notified in any other part of the kingdom, and in each instance the infection has been traced back to Fiume, where, thanks to stringent isolation, the epidemic shows signs of dying out.

Correspondence.

THE FUTURE OF THE INDIAN MEDICAL SERVICE.

Sir,—There are few more interesting and remarkable movements at the present day than the rapid transformation of Indian conditions as a result of widespread higher education. It is only natural that the medical profession should share in these changes, and the effect is the greater owing to the conspicuous success of the great medical colleges in the country. This is becoming increasingly evident in the demands of Indians for a larger share in Government medical appointments. Those who have carefully watched the progress of events during the last few years will not be in the least surprised that educated Indians should be now demanding the abolition of the civil branch of the Indian Medical Service, or that they should expect the prize appointments, especially the professorships of the colleges which have educated them, to be handed over to them without delay. The first great success obtained by this movement was Lord Morley's much criticized order stopping any increase of the cadre of the Indian Medical Service, and the handing over of a number of civil surgeoncies to Indians. Although this order has been modified to some extent, because experience showed that it had a retarding effect on the progress of medicine in India, it still remains a potent force.

These changes are, however, a mere trifle in comparison with the effects which will ensue if a recent suggestion of the Government of India is actually carried out. This is no less than the virtual abolition of the right of Indian Medical Service officers to general private practice wherever it still remains an appreciable factor in adding to their incomes. The suggestion is that the order should apply for the present to all the professors of the medical colleges throughout India, who are to be limited to consultant and specialist practice, each in his own particular line. This is in theory a plausible idea. It is, however, clear from the Government of India's letter that the change is to be made in the interests of the "independent medical practitioner." It is at once obvious that the same principle applies, and must inevitably be extended, to every town where the independent practitioner makes a similar demand, and the result must be detrimental to the civil surgeon in each such town. This would eventually include every place where any practice worth having remains to officers of the civil branch of the Indian Medical Service, for it is well known that in all but a small fraction of civil surgeoncies in each province the private practice does not now cover the loss incurred by the lower grade pay drawn by civil surgeons during the greater part of their service as compared with that of their military brethren. It seems clear, therefore, that the introduction of the principle involved in the present suggestion of the Government of India will practically tend rapidly to bring about the abolition of the right of private practice for Indian Medical Service officers in civil employment. As, however, this right is guaranteed in the memorandum issued by the India Office for the guidance of all candidates for the service, it would appear to be impossible to apply it to officers now in the service, unless compensation which is acceptable to them is provided. The other alternative would involve a distinct breach of faith with these officers, and the result could not fail to be disastrous to the popularity of the service, which is already greatly diminished.

It is easy to foresee the effect of these proposals on the professorships at the medical colleges. It is well known that, on account of the high cost of living in the Presidency towns, no professor can live on his pay, plus the slight additions which would be derived from consultant practice, if the term "consultant" is to be rigorously interpreted as it is understood is to be the case; at any rate until he has been long established, and has had time to pay off the debt inevitably incurred. It is not too much to say that in Calcutta and Bombay the pay of a medical professor amounts to only half the expenses of keeping up the position expected of him. Granted that the pay will be sufficiently raised to continue to draw the class of men who have up to now adorned the medical colleges of India, the proposal to supply pure specialists is an excellent one. Without the utmost liberality in the new rates of pay suitable men will no longer be obtainable among the European members of the Indian Medical Service.

Meanwhile, those medical men in this country who may be contemplating becoming candidates for the Indian Medical Service should duly note its rapidly changing conditions, and will be wise not to count on any augmentation of their pay through private practice during any of their twenty to thirty years' service in India.

If the policy now outlined is to be persevered with, the time would appear to have come when the India Office should withdraw or modify the statement that private practice is allowed, so that candidates may know that they are entering a military service, with a civil branch possessing only administrative and hospital duties. In that case it would obviously be necessary that the pay should be revised on this basis. A frank policy on the part of the authorities has become very necessary if candidates are not to be misled, with the certainty of creating such bitterness as will sooner or later stop the entry of British medical men into the Indian Medical Service.—I am, etc.,

I.M.S.

THE CONTROL OF THE MILK SUPPLY.

A Practical Object Lesson.

Sir,—In his very interesting paper in the Journal of August 16th, Mr. Harold J. Stiles says he has long been convinced that the reason for the prevalence of surgical tuberculosis amongst the children in this country is the prevalence of tuberculosis amongst dairy cows, and because it is the exception rather than the rule to sterilize the milk; and he comes to the conclusion "that under the present unsatisfactory legislative control of bovine tuberculosis and of the milk supply, sterilization of the milk is the only prophylactic measure we possess if we wish to safeguard our children against acquiring bovine tuberculosis." He admits, however, that 38 per cent. of the tuberculous bone and joint cases referred to in his paper, when examined, contained the human tubercle bacillus.

1. If we go to China, Korea, or Japan the rule is that no cow's milk is given to children, and yet there we find

prevalent just as much bone, gland, and joint tuberculosis as at home. In Ireland the infantile mortality in 1912 was only 86 per 1,000 births, as against 95 per 1,000 in England and Wales, and 111 (1911) in Scotland (1912 statistics not available). Now this low death-rate in that country is due largely to the fact that in the rural districts (where the infantile mortality is far lower than in the towns) the women nurse their children, yet in these very areas you meet all types of bone, joint, and gland tuberculous diseases. These facts would seem to show that in the prevention of surgical tuberculosis we must attack the disease, not alone as due to a milk cause, but also as arising from human contamination. Further, we want far more information as to how the bovine tubercle bacillus may be modified in the human body, and vice versa, how the human tubercle bacillus may be changed in the bovine environment.

2. Agreeing as I do with Mr. Stiles that milk is one source of surgical tuberculosis in children, I cannot go with him in his statement that if we wish to safeguard our children against acquiring bovine tuberculosis we must sterilize the milk. Looking at the question from a practical point of view, who, may I ask, is to sterilize the milk? Is it the dairy farmer, the various public health departments, or the consumer? Will any form of sterilization render a milk that has been altered either by additions to or abstractions from its constituents, or that is, from a nutritive point of view, defective, a good article of food? Should not the main feature of a milk and dairy bill be this: that the person who purchases milk is guaranteed that he is procuring an article of food that is as pure as it left the cow's udder? If sterilization is the final solution of the milk problem, why should the dairyman take any trouble in producing an article which should be absolutely pure, when he thinks sterilization will, as a final process, cover up all his sins of omission and of commission? Surely we must throw some initiative on the milk producer. If we take such enormous care as to our water supplies—especially as to the purity and non-contamination of the catchment areas—surely our duty is to be even more careful with an article like milk, which is a medium so easily affected by adverse influences.

Is the final word of the medical profession to the general public as to such constantly used articles as water and milk to be "sterilize them"? If so, I submit we are attacking the wrong end of the problem, and are opposing the present trend of medical science, which is that prevention is better than cure.

3. An ounce of practice is worth—according to the old saying—a pound of theory, and the following experiment will show how the milk problem may be faced in a more scientific way than by advising "sterilization."

In 1904 I got an extremely intelligent dairy farmer in the neighbourhood of Belfast to supply his customers (of whom I was one) with milk in sealed bottles.

In 1906, after, at my suggestion, visiting the famous dairy at West Huntington, York (you drew attention to it in the JOURNAL), established by Mr. Sorensen, nephew of Mr. Busck, of the well-known "Copenhagen Milk Supply Company," he adopted "clean milking"—that is, washing of the hands of the milkers and the udders of the cows, clean vessels, rapid cooling of the milk, and its distribution in sealed bottles, with, in addition, medical and veterinary inspection of the dairy.

In 1908 he decided, on my advice, to go a step further, and to have every cow tested by tuberculin by the leading veterinary surgeon in Belfast, and to keep no animals that reacted. He had then twenty cows, now he has one hundred, the herd consisting of cross-bred shorthorns, Jerseys, and some Aberdeen-poled-Angus. Every cow has a brand mark indicating that she has been tested: and the milk of this dairy is supplied to the two children's hospitals in Belfast, to the Maternity, the Ulster Institution for the Deaf and Dumb and the Blind, the Babies' Home, and to the Babies' Clubs. The milk costs 4d. per quart all the year round, and, as it is supplied in sealed bottles, does not need to be opened until it is placed in the nursery or table of any room for use. In very warm weather the bottles can be kept standing in a vessel of cold water.

When, under the health scheme of Her Excellency the Countess of Aberdeen, the Babies' Clubs were established in Belfast in 1906, and it was necessary in any cases (breast feeding is the ideal always taught), where the mothers were unable to nurse, to give milk to the very poor children, the milk was supplied, and continues to be supplied, from this dairy in this way: If the doctors who attend the Babies Clubs recommend it in any case, the milk is delivered direct to the home of the child's mother at 2d. per pint, and, in order to encourage thrift, the mothers are obliged to pay one half, the Babies' Clubs being responsible for the other portion. One condition is always enforced, and that is that the mothers bring the children once a week for examination to the Babies' Clubs, unless the Babies' Clubs' nurse finds they are too ill to attend. In the report for the year ending September 30th, 1912, I read that 504 new babies were enrolled during the twelve months, in addition to those also in attendance from previous years; and when the year before last we had a very hot summer, the mortality among the children taking this milk was much lower than the general infantile mortality of Belfast, the weaklings sent from the maternity (the premature, twins, etc.) did well, and, what was most remarkable, there were practically no deaths from diarrhoea, which caused such a mortality in the autumn of that year, in the case of children using this milk. Further, so far as we can judge, since the establishment of these Babies' Clubs, bone, joint, and glandular tuberculosis have been rare among the children seen there.

Now another step will, I hope, in time be taken, and that is to adopt the plan suggested by Professor Bang, of Copenhagen, which is to isolate in a farmer's herd those cows affected with tuberculosis, and to feed the calves of those born of diseased mothers with the milk of those not affected, and to continue this process regularly until a non-tuberculous herd is the result, the wastrels either dying out or being destroyed, some compensation being paid by the Government. Can we in England, Scotland, and Ireland not learn a lesson from Denmark? At one time the cows in that country were free from tuberculosis, then the malady—introduced by the English shorthorn—became very prevalent, while now, by Bang's method, the herds have again been cleared of the disease. In Copenhagen to-day you can buy for an infant a milk in a sealed bottle which is guaranteed by the authorities as being a pure, clean, non-tuberculous article, and which can be used without any form of pasteurizing, boiling, or sterilizing. Is not this the ideal the medical profession in Great Britain should teach the public to aim at?—I am, etc.,

Belfast, Aug. 18th. JOHN W. BYERS.

SPECIAL HOSPITALS.

SIR,—The *Liverpool Daily Post and Mercury*, on August Bank Holiday, published a leading article on Mr. Bickerton's address in the Section of Ophthalmology of the British Medical Association, and referred incidentally to a leading article in the BRITISH MEDICAL JOURNAL. The article in the *Post* concludes:

> The association of eye and ear is quite indefensible. They have no connexion physiological, anatomical, or pathological. The relations between the eye and the big toe, and the ear and the big toe are more intimate than the relations between the eye and the ear. But we in Liverpool seem to have been fond of double harness surgery, as is illustrated by our eye and ear hospitals and our Skin and Cancer Hospital, in which a union of incompatibles has been attempted with ill results to science and practice. A divorce has been pronounced at the St. Paul's Eye and Ear Hospital, which now figures as the St. Paul's Eye Hospital, and the implied purpose of Mr. Bickerton's paper, to which the Editor of the BRITISH MEDICAL JOURNAL gives unstinted praise, is to bring about, if possible, further dissolutions of such unnatural unions.

Whether Mr. Bickerton's address admits of the construction put upon it by the leader writer of the *Post* is open to doubt, and there are statements in the article with which I am sure Mr. Bickerton would not agree.

A letter from a correspondent signing himself "F.R.C.S.," controverting some of the points raised, was printed in the *Post*, but elicited from the editor the comment:

> The statements on which we commented were published by the BRITISH MEDICAL JOURNAL, which would be a more suitable medium for controversy on such a subject than our columns.—Ed. *D. P. and M.*

A judgement with which I entirely agree, though it is difficult to understand why it was not made when the leading article came before the editor.

Under the circumstances, I venture to ask you, Sir, for space in which to discuss the article in question, which seriously affects the position of a great medical charity.

There is no question of "the cap fitting," for there is only one head to try it on. There is now only one special hospital in Liverpool which deals with both eye and ear cases—namely, the Liverpool Eye and Ear Infirmary, Myrtle Street. I am therefore bound to assume that the alleged injury to ophthalmic and aural surgery is charged to the account of the Eye and Ear Infirmary, though the responsibility was shared by the St. Paul's Eye (and Ear) Infirmary until that institution closed its doors to ear cases. It is interesting to note here that the staff of the latter hospital consists (even now) of one pure ophthalmic surgeon and four general practitioners who are also competent oculists and aurists, while the former hospital has been staffed for the last twenty-five or thirty years by pure specialists, some of whom nearly or entirely confined themselves to eye work. Even on these grounds alone it may be said that the paragraph quoted does, by implication, a grave injustice to the Liverpool Eye and Ear Infirmary, and is calculated to lower that hospital in the eyes of the profession and public.

Before the *Daily Post* countenanced an attack on the oldest special hospital in Liverpool it would have done well to make a few inquiries into the amount, kind, and quality of the work done there, and into the future plans of its staff and committee. Speaking for myself and the colleagues who assist me, we should have been only too pleased to give the representative of the *Daily Post* every opportunity and help it required. Fortunately, in this Journal there is no need to refute the ludicrous assertions made in the passage quoted above.

Personally I have never defended the practice of compelling one man to do work of different kinds for one of which kind he had a disinclination, or for which he was unfitted by lack of training or of certain natural qualifications. For many years I have advocated the division of the staff into two main groups and a third smaller one consisting of those who from love of the work, long training, and the character of their private practice found it impossible to relinquish either of the two specialities. The third group would be gradually eliminated without injury to any one, and, as a matter of fact, this transformation is in progress at the present time. I am, however, a strong advocate for "double harness"—that is to say, I think there are many advantages to be gained by carrying on two or more specialities under the same roof. Two, three, or more horses can do better work more quickly and more economically when harnessed together than when drawing separate loads. On the same principle I think that a large general hospital with many special departments has great advantages over a number of isolated special hospitals, and in a less degree two or three specialities carried on in the same building afford one another mutual help. I will go further and say that I see no reason why, other things, such as energy and ability, being equal, a man who finds his recreation in golf or medical history should be a better practical ophthalmologist than another who finds part of his work and recreation in otology and rhinology. Personally I do not think that operating for cataract or glaucoma incapacitates me from doing an ossiculectomy or a delicate operation on the labyrinth, nor that a knowledge of labyrinthine nystagmus vitiates my diagnosis of other forms of nystagmus; nor, again, that a knowledge of the accessory sinuses of the nose interferes with an investigation of optic neuritis or proptosis or the treatment of dacryocystitis on true surgical principles.

There is one confession I will make: I believe that a man who confines himself to one speciality has more time and energy for research than one who works at two subjects; but, on the other hand, I find that in this country even the single-subject specialist, who has much hospital and private practice and who does research work of any value, is a rare and exceptionally energetic and able man. This failure to do research work is not entirely the fault of the specialist, for there is no endowment of research and no army of young men willing to work under the guidance of their seniors without the hope of immediate remuneration.

Although, in his Presidential address, Mr. Bickerton professes a preference for the "bare oculist" as opposed to the "complete oculist," and although he has close at hand the laboratories of the university, he honours the Liverpool Eye and Ear Infirmary by sending his specimens to the laboratory of that maligned institution to be cut, mounted, and examined, showing that he, at any rate, appreciates the value of the work done there.

I have referred to future plans. For years it has been the desire of some members of the staff (myself included) to organize the hospital on the plan of the New York and Boston Eye and Ear Hospitals, but owing to circumstances over which we have had no control our wishes have not been realized, though there has been for many years an informal partial division of labour.

Some of the difficulties have now been overcome; a large building adjoining the infirmary in Myrtle Street has been bought by the committee, and when the necessary funds are available it will be possible to provide a new ear out-patient department and 30 or 40 additional beds. At present the infirmary has 65 beds divided between the two specialities, and served by two operating theatres, the first floor being devoted to aseptic eye work and the second floor to ear work. It will probably be necessary to add to the staff, and it is hoped that eventually a complete and separate staff of surgeons will be provided for each department. Meanwhile I do not think the *Daily Post* or the large clientèle of the infirmary (about 12,000 new cases per annum) will find much reason to complain of the work done by the existing staff, even if the surgeons cannot all claim to be "bare oculists" and bare aurists.—I am, etc.,

Hugh E. Jones,
Senior Honorary Surgeon, Liverpool Eye and Ear Infirmary.

Liverpool, Aug. 18th.

THE NEED FOR THE PSYCHOTHERAPEUTIC CLINIC.

Sir,—The announcement in your columns quite recently that it is proposed to found a medico-psychological clinic in London, combined with the fact that such a clinic has been in existence in Liverpool for some little time, make this a fitting moment to call the attention of the profession to the need for such institutions.

It is known that psychotherapy has been and is daily practised by men all over the country, whether in the form of suggestion, hypnotism, persuasion (Dubois), education of the attentive control, or psycho-analysis. The increased interest shown by the medical profession and the public in general in mental therapy, and the undoubted stimulus derived from the brilliant achievements of the Vienna school in particular, make it imperative that the subject should be given a wider recognition. The establishment of clinics in the large industrial centres for the express purpose of carrying out the various forms of mental treatment are a need of the times, and but a reflection of the change of medical opinion in this direction. In addition to meeting an undoubted want on the part of suffering humanity, they would help to co-ordinate the efforts of those already working on those lines, and serve as teaching centres and foci for the dissemination of knowledge on the subject. The establishment of such clinics would, moreover, help to popularize this form of treatment with the general public and divest it of any residual aroma of charlatanism which may remain from former days. Hypnotism, for instance, is still unfortunately associated in many people's minds (and those not the least cultivated) with a species of histrionics and showman claptrap which hardly conduces to its serious consideration as a therapeutic agent. Thanks to the courage and perseverance of pioneers in this treatment, much of the unfortunate prejudice has been lived down, and it remains for a later generation to consolidate the success so hardly won by its predecessors. It is time, too, one would imagine, that a therapeutic agency, which on the Continent and in America has long been regarded as a legitimate item in the physician's armamentarium, should be accorded such sanction and status as are enjoyed by any other form of treatment. Any one who is acquainted with the psychotherapeutic clinics on the Continent, private or public, cannot but feel a little ashamed and mortified to think that Great Britain should lag behind in a matter of such prime importance.

Through the kindness of the honorary physicians, I was recently accorded an opportunity of visiting the Liverpool clinic, which has been open only about nine months, and which I understand is already more than

justifying its existence. It is to be hoped that other large towns will follow the lead of Liverpool and the metropolis, and that psychotherapeutists in the near future may enjoy the facilities that are available for the practitioners of any other speciality, and which are such an essential factor in its development.—I am, etc.,

Leeds, Aug. 11th. J. E. Middlemiss.

ASSISTANT MEDICAL OFFICERS IN ASYLUMS.

Sir,—Your correspondent "A.M.O." gives a useful warning to prospective candidates for the asylum service. Prospects more barren or conditions more irksome would be hard to imagine. In scores of cases men are working after ten years' service with almost precisely the same pay as is offered to newly qualified men on entering. They reach the age of 40 and 50 and find themselves without privacy, living in two rooms, often overlooking the exercising grounds of the patients, with little independence of position or liberty. Their tenure of office entirely depends on the good will of their superintendent—in practice, whatever it may be in theory. Whilst it is very important for colleagues to work together amicably, this is too much power to be placed in the hands of one man. No other employees in the whole institution are treated in the same fashion. The chaplain, clerk, storekeeper and often even the latest-joined assistant attendant are provided with separate houses. Fixed leave on a liberal scale is given to the very scullery maids. The assistant medical officer in many asylums must make a personal request for even an hour's absence. If he wishes to do post-graduate work he must do his best during his annual leave. It has been urged that a year or two may be profitably and pleasantly spent at asylum work before settling down in practice. A worse training would be hard to imagine. There are to all intents and purposes neither midwifery, serious accidents, or infectious disease, and the surgery is almost everywhere quite negligible. Writing practically useless notes that nobody reads, supervising meals, bedding, and the state of the clothing are in many places considered of infinitely more importance than good clinical or research work. We have lately read in the medical and lay press able addresses deploring our lack of knowledge of the causes for the increase of insanity, and our inadequate methods of relief and cure. With superintendents burdened with a mass of routine details, and their colleagues living in the conditions described, what else can be expected? If committees or the public generally properly realized the present state of affairs they would put an end to a condition bad for the individual and infinitely worse for his patients.—I am, etc.,

August 9th. Another A.M.O.

LIGHT AMBULANCES FOR YEOMANRY REGIMENTS.

Sir,—The wagon described by Lieutenant D. G. Kennard, R.A.M.C.(T.) in the British Medical Journal for August 9th would no doubt be serviceable for parades and civilian life on good roads, but for the wear and tear of annual trainings, daily use, or for the strenuous work of active service it is immensely inferior to the admirably light cavalry ambulances which form part of the peace equipment of the mounted brigade field ambulances attached to the yeomanry brigades, and which are capable of being used in any country on or off the roads.

As a commanding officer I have had ample experience for the last six years of the light cavalry ambulances. I have used them at annual trainings, manœuvres, etc., in the most hilly districts in Wales, on and off the roads and in the open country, and with these well horsed with van horses, I know of nothing approaching their value; and I believe this is the experience of all officers who know these ambulances.

The statement "that more or less serious accidents occur on parade almost daily" is not in accord with my experience, in fact, during the recent training of my own brigade, the South Wales Mounted, consisting of three regiments of Yeomanry, a Transport Supply Column and a Field Ambulance, the only serious casualties were three, that is, cerebral concussion, compound fracture of the elbow, and severe abdominal injury. The minor casualties were under twenty, and I may add in previous trainings casualties were in the same proportion. I do not consider an ambulance necessary on parade except on special occasions, such as field firing, and most officers would consider a one-horsed vehicle such as the wagon described rather an impediment than a gain to a fast-moving unit, such as a yeomanry regiment. What is really required in a yeomanry regiment is the presence on parade of the regimental medical officer with his mounted orderly and equipment, on special occasions, and the utilization of the regimental baggage carts, which with little care can easily form an extempore ambulance, and that is all that is required, and not an extra wagon.—I am, etc.,

J. R. I. Raywood,
Lieut.-Colonel R.A.M.C.T., Officer Commanding.
South Wales Mounted Brigade Field Ambulance.

Hereford, August 14th. R.A.M. Corps.

OPERATION FOR CHRONIC INFLAMMATION OF THE UTERINE APPENDAGES.

Sir,—I notice in the British Medical Journal of August 16th, on page 396, an account of a paper read by Professor Beuttner of Geneva, in which he describes a method of dealing with chronic inflammatory diseases of the uterine appendages, when it was possible to save one ovary, by excision of the tube, one ovary, and a wedge-shaped piece of the fundus uteri.

I have independently practised exactly this same procedure for some time as a routine measure in suitable cases, and I have at the present moment four patients recently operated upon under my care.

I was not aware that the paper was to be read, and, unfortunately, I was unable to be present at the sectional meeting, so I take this opportunity of bearing testimony to the great merits of this method of dealing with serious infections of the appendages in young women.

As I have described in detail and figured the operation as performed by me for the forthcoming edition of Burghard's *Operative Surgery*, I will not now give the obvious arguments in favour of it.—I am, etc.

Liverpool, Aug. 17th. W. Blair Bell.

THE TREATMENT OF PNEUMONIA.

Sir,—I have obtained the same result that Dr. Arnold describes in the British Medical Journal of July 12th, but I use salicylates and calomel, so that I venture to suggest he is mistaken in swearing by quinine, for the drug we use in common is calomel. So gratifying have the results been that I now meet these cases with complete confidence, whereas formerly I dreaded nothing so much as having to treat a case of pneumonia. Of course, pneumonia in a dipsomaniac is hopeless; it is only a question of how far the constitution has been undermined. Directly pneumonia has been diagnosed, I commence by giving 4 grains of calomel, which is continued in doses of 2 to 4 grains every day or every second day, according to the state of the bowels, till the temperature falls. In every instance the most noticeable favourable sign is the patient is able to get some sleep. Equally beneficial effect is seen in ulcerative tonsilitis with thick white membranous deposit or sloughy base, which may be said to clear up in double quick time. Of course, calomel in either case is used as a routine adjuvant and not as a specific. What I mean is, calomel lavage is looked upon as an essential part of the treatment with appropriate remedies, and not relied upon *per se*.—I am, etc.,

London, W.C., Aug. 14th. D. N. Cooper, L.R.C.P., etc.

A SECTION OF THE HISTORY OF MEDICINE.

Sir,—As the History of Medicine Section of the recent International Congress proved so successful, allow me to suggest that a similar section should be formed for each Annual Meeting of the British Medical Association.

In each town in which the Association holds its Annual Meeting, the amount of local material alone appears to me to justify the formation of such a section; and in no town more so than in the great northern city in which the Association is to meet next year. Aberdeen has not only produced some of the most brilliant members of the medical profession, but it has the credit of being the first corporation in the country to issue an edict for the segregation of syphilitics. This it did in 1495.

Leaving this proposal to the sympathetic consideration of our Council, I am, etc.,

August 14th. Senex.

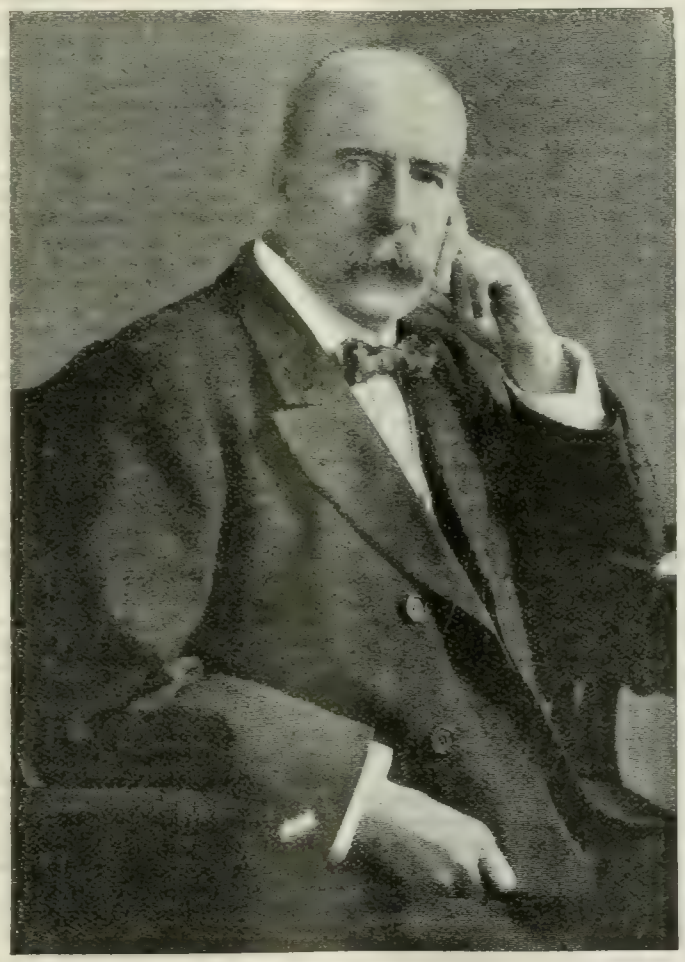
Obituary.

WALTER WHITEHEAD, F.R.C.S.Edin., F.R.S.Edin.,

CONSULTING SURGEON TO THE MANCHESTER ROYAL INFIRMARY; EX-PRESIDENT OF THE BRITISH MEDICAL ASSOCIATION.

We regret to have to announce the death, on the evening of August 19th, of Mr. Walter Whitehead, President of the British Medical Association in 1902, when the annual meeting was held at Manchester. Some years ago Mr. Whitehead had an attack of cerebral thrombosis, and has since been in failing health; his death therefore was not unexpected, but has caused great grief to a large number of friends.

Walter Whitehead, the son of John Whitehead, who married Eliza Ellen, daughter of John Allanson of Tottington, was born at Haslam Hey, Bury, October 12th, 1840. His great-grandmother was a daughter of Robert Kay, inventor of the drop-box used in weaving, who was the son of John Kay, the inventor of the fly-shuttle, and his father's family had resided at Haslam Hey for upwards of 250 years. They had been bleachers at Lowercroft during the whole of that time. Robert Whitehead, of torpedo fame, was cousin to John Whitehead. From his earliest days Walter Whitehead seems to have been possessed of the family originality, for he tells us that at the age of 8, by unanimous vote of all his relatives, he was sent to an academy in the Isle of Man, the head master of which promised Mr. Whitehead, senior, that he would see a marked change in Walter at the end of twelve months. After three years' suitable treatment, during which, he said, he changed his dorsal integuments several times but without any commensurate development of character in the way hoped for, he returned home, and for six months was at a school at Altrincham, Cheshire. The atmosphere of this school was as relaxing as that of the former had been bracing; and as he thought it a point of honour for every boy to run away from school once in his lifetime, he walked home fourteen miles to Bury one day, making a detour of four additional miles to regale himself with Eccles cakes, then much appreciated by the youthful epicures of Lancashire. It was well that he did this, for no fatted calf was prepared for him at home, and next day, duly chastened, he was returned to school. He was next sent for a time to Making Place School, at Ripponden, near Halifax, where the head master acted on the principle of trusting his boys absolutely, believing that if put on their honour they would behave properly, and they did. These were halcyon days after the island experiences, and he naturally, as he says, became the head of the school in two years, and was awarded a silver cup, which was always one of his proudest possessions. Whitehead was as much impressed with the successful results of the original methods of the schoolmaster as he was with the personality of the man, and later in life he joined with many of his schoolfellows in placing a window in Ripponden Church to the memory of their revered master. It thus came about that he did well at school, though to his own surprise.



WALTER WHITEHEAD.
(From a Portrait by Elliott and Fry.)

At the age of 16 he entered his father's bleaching works, and, after the initial difficulty of putting to practical advantage in his new occupation anything he had learnt at school, he settled down and thoroughly enjoyed working for three years as an ordinary workman, at half a crown a week, beginning at the bottom and never getting any further. His facility as a boy for extracting the teeth of his younger brothers and sisters had awakened in him the desire to be a surgeon, and an invitation from a medical student, met whilst attending chemistry lectures, to see the operations at the Manchester Royal Infirmary rekindled his ambition. During the last year of his business career it was his duty to attend Manchester market each day, and his idea of fulfilling this duty was to spend most of his time in the company of medical students at the Infirmary, taking care only to call at the warehouse on the way home at night. This languid attention to business had the advantage of lessening the resentment of his parents when he announced to them that he had borrowed money and had entered the Chatham Street School of Medicine, Manchester. The delightful autobiographical details of the days of his youth: how he was bidding fair to rival his father's cousin, Robert Whitehead, of torpedo fame, by his youthful experiments with explosives; how he managed to inoculate a neighbour's cat, which was eating his pigeons, for which he got one shilling each for the table, with a dozen bullets from a pistol in daily doses; how when called in to diagnose the ailment he suggested lead poisoning, which a subsequent *post-mortem* examination enabled him to report as correct; and how he, his brothers and sisters were cured by his mother of a fondness for whist, are they not written in the chronicles of the medical students of Manchester (1902)?

He was at first apprenticed to Drs. Harris and Bennett, of Bury, and having in this way gained considerable experience in practice he was able to get temporary employment as locumtenent, on and off for eighteen months, to residents in the Manchester Royal Infirmary, but he never was appointed to any definite post there himself. He was also in residence for a time at the Withington Workhouse Hospital. He qualified in 1864 by taking the L.S.A.Lond., the L.F.P.S.Glasg., and the L.M.Edin., and he began practice at Mansfield Woodhouse, Notts., where he remained for four years. Whilst there he organized a village hospital with 8 beds; it has since been enlarged and rebuilt, and now has accommodation for 43 patients. In 1866 he took the diploma of F.R.C.S.Edin., and in the following year returned to Manchester and began general practice; in 1868 he was appointed surgeon

to St. Mary's Hospital for Women and Children. He resigned this post in 1873, when he was appointed honorary assistant surgeon to the Manchester Royal Infirmary. He became honorary surgeon in 1879, and remained on the active staff until 1900, when he retired on attaining the age of 60. For the last eleven years he was senior surgeon to the hospital. When he retired from the active staff he became honorary consulting surgeon. In 1881 he was appointed honorary surgeon to the Manchester and Salford Lock and Skin Hospital, and in 1888 he was instrumental in having the cases separated, and the Manchester and Salford Hospital for Diseases of the Skin was in consequence founded. He was also honorary surgeon for a time to the Christie Cancer Pavilion. He was actively interested in the establishment of day nurseries in Manchester, being medical superintendent of one in the slums of the town, and he gave evidence before a Committee of the House of Commons (1871) on the Protection of Infant Life.

In the first years of his life in Manchester he wrote many papers on various surgical topics, and he published during his active career about fifty articles in all, several of them recommending methods of treatment devised by himself. He was also an active member of the local societies, and was president of the Manchester Medical Society in 1885.

In 1870 he and his great friend, the late Samuel Messenger Bradley, began the publication of the *Manchester Medical and Surgical Reports*, which contained papers by local men chiefly. After two years the journal was amalgamated with a similar one published at Liverpool with the name of the latter town added to the title.

The most important of his earlier papers was on mucous disease (colitis), read at the meeting of the British Medical Association at Newcastle in 1870. It was published in an extended form in the *Manchester Medical and Surgical Reports, 1870.* This was a full and interesting account of the disease, of cases seen by himself, and a bibliography of 90 papers. It is all the more interesting, coming from Whitehead, as it is a purely medical paper. He strongly recommended the administration of potassium bromide over a period of many months, believing that it acted as a good anaesthetic to the nerves supplying the mucous membrane.

Whitehead will long be remembered in the history of surgery as the originator of two important operations—the one for the excision of the tongue, and the other for removal of haemorrhoids. They are always referred to in works on operative surgery. His first case of excision of the tongue by means of scissors was performed on November 3rd, 1877, and a brief note of thirty lines recording the operation was published in the BRITISH MEDICAL JOURNAL, December 8th, 1877. He recommended the operation as having the following advantages over removal of the tongue by the ecraseur, galvanocautery, or knife: (1) Its extreme simplicity; (2) the prospect of a quick convalescence; (3) the control obtained by scissors in the direction of the cut and the amount of the tongue removed; (4) the absence of any sloughing, affording immunity from septic changes and lessening the risk of secondary haemorrhage. The point which he regarded as of most importance in the operation was that each snip must be short and alternately from one side to the other to avoid division of the larger arteries at the same time. The scissors which he used were the ordinary blunt-pointed kind with cutting portion about half the length of the handle. At one time he sent quite a large number of pairs away to surgeons who wrote asking for the exact description of the scissors he used.

In 1881 he read a paper before the Surgical Section of the International Medical Congress held in London, on excision of the tongue. It was published in the *Lancet*, October 22nd, 1881, page 1292, and reprinted in pamphlet form the same year. In the pamphlet he reported the results of 30 cases, more than half of which he had done himself, and 26 of which were from Manchester. The paper is an interesting summary of the subject. In it he refers to Billroth's operation which, quite unknown to him, was similar to his own in the use of scissors, but Billroth, as a preliminary, ligatured both lingual arteries to save haemorrhage. Whitehead snipped away without any such preliminary procedure and twisted every bleeding point. He practically never had any haemorrhage worth speaking of, either primary or secondary. His next paper on the subject was read before the Medical Society of London, April 27th, 1891. This was published in the BRITISH MEDICAL JOURNAL, May 2nd, and in the *Lancet*, May 9th, 1891. It dealt with 100 cases of excision of the entire tongue. Of the 100 cases, 66 were simple, uncomplicated excisions, and only 3 patients died. He used as an application to the stump of a tongue, after excision, a solution which came to be known as "Whitehead's styptic." It was composed of a saturated solution of iodoform in ether, with the solid ingredients of friars' balsam added. He recommended this strongly, maintaining that he kept his patients' mouths very healthy and sweet by its use.

The last paper which he wrote on this subject appeared in the *Practitioner* (May, 1903). It was almost entirely confined to a restatement of the essential features of his operation, but it included a description of the method which, as a result of long experience, he and his anaesthetist, Mr. Alexander Wilson, devised to get the patient into the best position for the operation. He used an ordinary rocking-chair, in which the patient was securely fastened by a roller or "Jack" towel in a way best understood by a study of the illustrations to the paper. The position of the patient when anaesthetized and ready for the operation was regulated by wedging two suitable pieces of wood beneath the rockers, one in front and the other behind. The whole story of the conception and development of this operation illustrates Whitehead's two chief characteristics, his desire for simplicity in method, and the attention he gave to minute practical details.

The original paper on the excision of piles was published in the BRITISH MEDICAL JOURNAL, February, 1882. In it he contended that internal piles were not distinct localized tumours, but component parts of a diseased condition of the entire plexus of veins, and that to effect a cure the whole of the affected mucous membrane, and not merely the tumours themselves, should be removed. The details of the operation are too well known to need relating here, but the important features, careful attendance to which is essential to success, may be pointed out. The first was that the greatest care must be taken to cut through the mucous membrane and not to cut the skin of the anus. Inattention to this was the cause of want of success in the hands of other surgeons who found that stricture sometimes ensued. If the mucous membrane alone were cut, he held that this would not happen, and as a matter of fact he never had a single case of stricture. The other point was, in removing the plexus of veins, to do it gradually, stitching after each successive snip the healthy mucous membrane, which was drawn down, to the ring of mucous membrane left above the anus. All haemorrhage was arrested by twisting. He pointed out that if the whole mass were removed before the sutures were put in there was a tendency for the mucous membrane above the cut to retract. The patients had their bowels opened on the fifth day and he allowed them to sit up next day.

At the annual meeting of the British Medical Association in Brighton (1887) he read a paper before the Section of Surgery on 300 consecutive cases of haemorrhoids cured by excision. He said: "I have now operated upon more than 300 patients without a death, a single instance of secondary haemorrhage, or one case where any complication, such as ulceration, abscess, stricture, or incontinence of faeces has occurred. I may go further, and state that I have never had one moment's anxiety about any of the cases, and, to the best of my knowledge, every patient has been completely and permanently cured" (BRITISH MEDICAL JOURNAL, February 26th, 1887, p. 448). In all he performed the operation some thousand times with invariably good results and no relapse or strictures.

He wrote the articles on affections of the mouth; the surgery of the thyroids; and, conjointly with Mr. Bilton Pollard, that on the surgical treatment of tumours and other obscure conditions of the bladder in Treves's *System of Operative Surgery, 1885.* He was one of the first surgeons in England to undertake the removal of the thyroid gland for cases of ordinary goitre.

Of his other new methods a modification of tracheotomy was perhaps the most important. The paper in which

it was described was published in the *Lancet* (April 30th, 1887), and was quoted in standard works in surgery. He used a raspatory to get down to the trachea after the incision through the skin and fascia. The operation was, he said, easy, required few instruments, and avoided haemorrhage.

When other means of treatment failed he was not above using empirical methods, formerly much in vogue amongst surgeons of a generation previous to his own. One of his last contributions to medical journals was the recommendation of seton as a cure for intractable migraine. (British Medical Journal, 1901, i, p, 335). He used this successfully in several cases of over five years' standing. One of the patients was a lady who was crippled by frequently recurring headaches which no doctor had been able to cure. He put a seton in the back of the neck over the last cervical vertebra, and although its presence was disfiguring his patient preferred it to the headaches. Another patient came specially from America to have the small operation done. He recommended the wearing of the seton for three months in the first instance, and its replacement if relapse occurred.

When mesmerism was much in vogue in the eighties, Whitehead took a keen interest in it, having seances at his own house, and he actually tried its anaesthetic effect for an operation on the knee.

For some years (1894–1900) he was Professor of Clinical Surgery in the Victoria University of Manchester, but he did very little teaching. About 1880 he was very keen on teaching, and, with other clinicians who were not on the teaching staff of the Owens College, contemplated the foundation of a rival medical school. He was to take surgery himself, James Ross, medicine, David Little, ophthalmology, A. H. Young, anatomy, and Henry Ashby, whose *Notes on Physiology* were then very popular, physiology, and others were to fill the remaining posts. They got so far as to take a convenient warehouse, and Whitehead had the key of this in his pocket. An advertisement promising, amongst other things, scholarships for the sons of medical men was actually drawn up. Then, full of his scheme, Whitehead went to London to consult his friend Sir William Savory on the necessary equipment of the school. On his return his ardour was seen to be damped, and, when asked about the interview, all that his friends could get out of him was, that in reply to his inquiry, Savory said: "Well, I suppose you will want a skeleton—and a microscope." For various reasons the scheme was dropped, the chief one being that Arthur Gamgee, then Professor of Physiology, and Dean of the Medical School, was considerably scared by the probable effect which the scheme would have on the College, and arranged for the addition of more clinical teachers to its staff.

In 1894, on the resignation of Professor Hare, the Chair of Surgery in the Owens College was divided, and Whitehead chose that of Clinical Surgery, for he then preferred the informality of bedside teaching to the more arduous work of regular instruction in the lecture theatre. His junior colleague Tom Jones took the Chair of Systematic Surgery.

In his later years there was a want of keenness in teaching, probably due to the fact that he felt his knowledge of the principles of surgery and their rapid changes was becoming deficient. At the bedside he could give most valuable advice on practical lines, especially to senior students and qualified men, and his ward classes were always well attended on account of his unconventional method of teaching, his great reputation, and his personality.

When the local members of the medical profession resolved to invite the British Medical Association to hold its Annual Meeting in Manchester, Mr. Whitehead was chosen President-elect, and accordingly he presided over the seventieth annual meeting held in 1902. The meeting owed not a little of its scientific and social success to his genial spirit and organizing powers. With characteristic loyalty to the city of his adoption, to the University, and to his old friends, he devoted his Presidential address to a discussion of Manchester's early influence on the advancement of medicine and medical education. The address showed much research, but was thought by some to have been too laboured for the occasion. To commemorate his Presidency, he printed for private distribution a well-illustrated and handsomely produced volume—*Some Apostles of Physiology*—compiled by his intimate friend, Dr. William Stirling, Brackenbury Professor of Physiology in the University of Manchester. It was a worthy memento of the occasion. Two hundred and fifty copies only were printed; some were presented to medical libraries and others he gave to friends, by whom the volume is much prized.

In his palmy days Whitehead had a very large surgical practice and enjoyed the reputation of a brilliant and bold operator. He was looked upon by people with awe as a surgeon who would not hesitate a moment to cut a leg off or a tongue out, and in less than no time, too, and who would do operations no one else would undertake. He certainly did tackle cases then which in later life he left to others. An instance of his boldness which impressed his then dressers took place in the late Eighties. In the removal of a large goitre very troublesome haemorrhage took place, so troublesome that even Whitehead had to ask the resident surgical officer to give a hand. Much of the bleeding came from a tear in the jugular vein. All measures to stop this having failed, he closed the tear with a pair of Spencer Wells forceps, and dressed the case with the handles protruding from the dressing. The forceps were to be taken off in two days, he told his house-surgeon; the latter diplomatically asked whether Mr. Whitehead would like to take them off himself. Certainly he would, and when the actual time arrived, and the dressers expected to see some delicate coaxing of the forceps, Mr. Whitehead simply unclasped them, and took them off as he would have done at an ordinary operation—and nothing happened. This case was that of a lady's maid, and the mistress, out of gratitude for the successful relief of her maid from the presence of a disfiguring and distressing tumour, sent Mr. Whitehead a cheque for £25. This he handed over to the committee of the infirmary with the suggestion that it might form a nucleus of a pension fund for nurses. As another instance of his boldness may be mentioned his pushing of morphine beyond the maximum official dose to relieve the pain of inoperable cancer. One of his patients took 30 grains of morphine three times a day during the last twelve months of life. This kept the pain off, without interfering with the patient's intellectual interest in his daily surroundings. This case was mentioned in his address to the Medical Society of London in supporting a protest against the timidity of the profession in giving more than the official dose of opium.

During his days of active work in Manchester his chief recreation was yachting, at first at sea off the coasts of Lancashire and Cheshire; after one or two rather perilous adventures in these waters he transferred himself to Lake Windermere, where he lived in a house-boat and took keenly to yacht racing. Later he took rooms on shore, and became the owner of a steam launch which in its day was one of the fastest afloat. While still retaining an interest in yachting on Windermere he acquired property at Colwyn Bay, and found great occupation in laying it out, making gardens and shrubberies on a hillside which did not at first sight appear particularly well adapted to the purpose. After retiring from active practice he spent more and more time at Colwyn Bay, and after his last fatal illness commenced residing there altogether.

It is not easy to sum up a life so full of variety and a character presenting some marked contrasts. Taking him all in all, he was probably the most original, and certainly the most widely known, of the surgeons Manchester has produced. If he had had a sounder knowledge of the principles of surgery, he probably would have had as brilliant a career as any English surgeon of his time. In his earlier days he had to work hard for his living, but during the last ten years of his connexion with the Manchester Royal Infirmary he was in very easy circumstances and had other interests which kept his pen idle. He had set about collecting cases for further papers on his special operations, but never completed this work. During his prime of life and, indeed, down to a somewhat advanced age, Whitehead lived what it is now the fashion to call a strenuous life; he worked hard and played hard—rather disposed to burn the candle at both ends. He loved his work as a surgeon and he loved yachting, and both he did with all his might. He loved cheery company and a good story, and was always one of the most cheery himself. He had, perhaps, an undue suspicion of academic

methods, and sometimes liked to shock a donnish person by a paradox, as when he said that the greatest drawback under which a surgeon could suffer was a knowledge of anatomy, since it made him timid. Yet one of the characteristics which impressed observers was his adaptability to changed conditions. He was a careful antiseptic surgeon when this view of the proper way of conducting operations prevailed, but when asepsis displaced antisepsis he adopted its principles and practised it at once. Many surgeons over 50 find it hard to break out of a groove.

He had a wide knowledge of the world and human nature, and this, with his intuitive instinct of what was best to relieve his patient, made him successful in his work, where a man of wider reading and deeper knowledge might easily have failed. When on the active staff of the Skin Hospital the first remark which he made to a youthful admirer who went to see him at his work was, "We don't diagnose here, we cure."

He was twice married; his second wife was a daughter of Mr. C. J. Schofield of Manchester, and he left one daughter by this marriage.

His brother, Mr. Henry Whitehead, High Sheriff of Lancashire in 1903, endowed a bed in the Manchester Royal Infirmary (1909) to commemorate his services to the charity.

William Smith, L.R.C.S.E., L.R.C.P.E., L.F.P. and S.G., of Potton, Bedfordshire, died on August 9th, at Potton, where he recently practised, and was buried on August 14th, at Caxton in Cambridgeshire, where his family are well known. He underwent a surgical operation at Sheffield about two years ago for malignant obstruction of the intestines, and recovered so well as to take up country practice again and even attend camp with the Bedfordshire Territorials, of which he was Surgeon-Lieutenant. Although the malady gradually returned, full of pluck and vitality he stuck to his work almost to the last, and only retired a month or two before his death. He began his medical career as assistant to the late John Benson, of Sheffield, whom he left in order to resume his studies, and take his diplomas in Edinburgh in 1900. Afterwards he served as civil surgeon during the Boer war; at the Station Hospital, Devonport, and the Station Hospital, Perth, where he was the guest at mess of the Black Watch. Afterwards he practised at Barton in Bedfordshire, Hawkesbury in Gloucestershire, in Shropshire, and finally at Potton. A general favourite with all whom he met, and a dear friend of many, remembered well by his sporting friends as a man who really loved a horse, his loss will be keenly felt by many at home, and a few of whom are now in the colonies, and all of whom will cherish the memory of "Billy" Smith.

Dr. Arthur Lee Wright, one of the vice-presidents of the American Medical Association in 1911–12, and one of the foremost surgeons of Iowa, died at the American Hospital, Paris, on July 19th, aged 62. He sailed for Europe with a number of members of the American Society of Physicians' Study Travel, intending to make a Continental tour before attending the International Medical Congress in London. In Paris Dr. Wright was taken ill with intestinal obstruction; an operation was performed, but he died four days afterwards. He was President of the Association of North-Western Railway Surgeons, of which he was one of the founders.

Dr. J. Byrne Hackett of Kilkenny, who died recently in that town, was born at Midleton, and received his medical education at the Ledwich School, Dublin. He obtained the diplomas of L.R.C.P.Edin. in 1868, and soon afterwards settled in practice at Kilkenny. He became surgeon to the County Infirmary, and medical officer to the workhouse and dispensary district. He had been for over twenty-five years Coroner for North Kilkenny, and was also coroner for the city. He took an active part in political life as a Parnellite, and in recent years had devoted considerable attention to the work of the Gaelic League and the industrial revival.

The number of the survivors of the Crimean War has been further diminished by the death of Deputy Surgeon-General Thomas S. Hollingsworth, who passed away at his residence in Spring Grove, Isleworth, on August 1st. He was born in July, 1828, and was thus in his 86th year. He received his professional training at University College Hospital, where he obtained medals for anatomy and biology. He passed the examination for the diploma of M.R.C.S. in 1851. He entered the Army Medical Service in November, 1854, and was shortly sent out to the Crimea; he received the English and Turkish medals with the Sebastopol clasp, as he was on duty during the siege of that place. He was also on duty in Scutari, where he saw the work of Miss Florence Nightingale and her nurses. From there he was sent to India, and subsequently was stationed at the Cape and Mauritius; his last years of service were spent in India. He leaves a widow, whom he married since his retirement. He has remembered the hospital at which he was educated by leaving it a legacy of £100.

Surgeon-Colonel Samuel Bradshaw Hunt, of the retired list, Madras Medical Service, died at Limerick on July 24th. He was educated in the school of the Royal College of Surgeons, Ireland, took the diplomas of L.R.C.S.I. and L.R.C.P.Edin. in 1864, and entered the Indian Medical Service on April 1st, 1865, being one of the first batch commissioned after the service had been closed for nearly five years. He became Surgeon on July 1st, 1873, Surgeon-Major on April 1st, 1877, Brigade Surgeon on August 26th, 1886, and Surgeon-Colonel on March 1st, 1893. He retired after the usual five year tour in that rank on March 1st, 1898. His first ten years' service was spent in native regiments, chiefly in the 7th Madras Infantry. On December 9th, 1876, he was appointed surgeon to the Bodyguard of the Governor of Madras, and held that appointment for nearly twenty years till his promotion to the administrative grade. During this time he was twice on furlough—in 1878–79 and in 1890–91—and for a short time, in 1882, surgeon of the hill station of Coonoor. From 1884 the post of surgeon of the 3rd District of Madras was continued with the charge of the Bodyguard. As assistant medical officer, he served first in the Rangoon district, afterwards in Bangalore and the Southern district; and in 1895 acted for a time as principal medical officer of the Madras Command with the temporary rank of surgeon-general. The Army List assigns him no war service.

Surgeon-Colonel John Richardson, Bengal Medical Service, retired list, died at Totland on August 13th, 1913. He was born on February 26th, 1837, educated at King's College, Aberdeen, where he took the degree of M.A. in 1856, and that of M.B. in 1859, and at University College, London, and after taking the L.R.C.S. and L.R.C.P. of Edinburgh, entered the Indian Medical Service as Assistant Surgeon on July 27th, 1859. He became Surgeon on July 27th, 1871; Surgeon-Major on January 1st, 1873, Brigade-Surgeon on April 29th, 1887, and Surgeon-Colonel on May 19th, 1889, retiring on May 19th, 1894. While serving in the army he took part in the Bhutan Expedition of 1864–65, and was present at the capture of Buxa and of the Bala pass, and at the storming of the stockades above the pass, receiving the medal and clasp. In 1866 he entered the Sanitary department in the North-West Provinces as Deputy Sanitary Commissioner, subsequently becoming Sanitary Commissioner, and in 1883 took the diploma in Public Health at Cambridge. In May, 1889, he was appointed Administrative Medical Officer of the Central Provinces, and in March, 1890, Inspector-General of Civil Hospitals in the North-West Provinces, where he was a very popular and also a strong head of the medical department of that province. In 1887 he represented India at the Sanitary Conference at Venice, and in 1897 he served on the Indian Famine Commission, and for ten years—July, 1896, to July, 1906—was a member of the Army Sanitary Commission. He was appointed Honorary Physician to the King on September 26th, 1903.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Dr. J. M. Aguilar, professor of gynaecology in the Medical Faculty of Granada; Dr

Bourget, professor of clinical medicine in the University of Lausanne; Dr. Henry Jacques Garrigues, for some years professor of obstetrics in the New York Post-graduate Medical School, and professor of gynaecology and obstetrics in the New York School of Clinical Medicine, and consulting surgeon to several special hospitals in New York, aged 82; Dr. Karl de Gheldere, of Couckelaere, a distinguished Flemish poet and a well-known practitioner of medicine; Dr. Warren Nichols Horton, professor of genito-urinary diseases in the College of Physicians and Surgeons of Los Angeles, aged 32; Dr. Edward Everett Hyde, assistant editor of the *Journal of the American Medical Association*, aged 38; and Dr. Horace Jayne, professor of vertebrate anatomy and secretary of the Faculty in Biology of the University of Pennsylvania, aged 54.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following candidates have been approved at the examination for the Diploma in Ophthalmology:

Harriet R. D. Ford, D. Horgan, K. N. Karanjia, G. C. L. Kerans, G. H. Oliver, D. D. Paton, A. C. Reid.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examination indicated:

FIRST M.B.—G. Adler, R. D. Aylward, S. E. Barraza, M. Ba Thin, J. C. Blake, H. J. Blampied, J. E. A. Boucaud, G. Bourne, N. J. Boxall, C. H. Bracewell, H. W. Breese, C. H. Brew, R. B. Britton, Elsie C. Bulley, Ellinor M. Burnett, F. Caldecott, D. Cameron, D. G. Churcher, H. J. C. Churchill, W. E. Le G. Clark, A. J. Cokkinis, E. V. Corry, W. A. Date, C. O. Davies, G. V. Davies, E. F. Deacon, Phyllis D. Dixon, H. L. Douglas, M. Edwards, D. W. Evans, Grace H. Ewart, W. Feldman, L. A. R. Gaud, J. Gay, M. W. Geffen, Nannie Gibson, Dorothy Gilford, E. H. Glenny, H. Gluckman, *E. Glynne, Alice M. Griffiths, H. G. Hall, J. Hardy, C. G. Harper, L. W. Hefferman, Bertha Hinde, E. C. Hinde, G. F. W. Howorth, N. R. Jenkins, H. C. C. Joyce, Amy M. Kerr, J. I. Kühne, F. R. Leblane, L. K. Ledger, Emily C. Lewis, P. T. Liang, G. P. Lindsay, Alice L. Lloyd-Williams, W. A. Low, K. McFadyean, B. Maclean, T. H. McLeod, B. G. Marshall, C. L. Mason, F. Morcos, E. R. D. Nagel, M. H. Oldershaw, A. E. P. Parker, A. E. B. Paul, E. D. Pridie, H. N. Pritchett, W. R. Ranson, Olive Rendel, J. C. R. Richardson, G. F. Rodrigues, Gwendolen M. Rolfe, J. P. Ross, H. Rowan, W. H. Royal, Eleanor M. Scarborough, S. C. Shaw, M. B. Tench, B. Thomas, D. J. Thomas, *J. H. Thomas, G. E. Tilsley, C. M. Titterton, A. R. Tothill, R. W. Twining, A. J. Usborne, R. Walters, S. A. T. Ware, F. W. A. Watt, A. Whiteway-Wilkinson, I. G. Williams, S. C. Woodhouse, Irene Yates, F. Young.

SECOND M.B.—*(Part I)*: G. C. Agarwala, J. R. Banks, Grace M. Beaven, H. F. G. Berncastle, Alethea J. Bolton, G. W. J. Bousfield, O. C. Carter, P. C. L. Carrier, J. D'A. Champney, P. S. Clarke, P. N. Cook, Dorothy T. Daintree, R. C. Davenport, J. M. Davey, A. N. M. Davidson, G. Day, J. D. Dyson, A. W. F. Edmonds, C. F. Eminson, L. B. Goldschmidt, H. O. Gunewardene, Iris Harding, A. R. Hart, G. W. Heckels, Blanche A. M. Henderson, W. A. Hewitson, C. A. Hutchinson, J. W. D. Hyde, Helen Ingleby, J. Joffee, S. R. Johnston, V. E. Jones, M. H. K. Kane, G. E. Kidman, C. A. Kirton, E. E. Lightwood, Marguerite F. J. Lowenfeld, Ethel M. McCartney, M. H. MacKeith, H. I. Marriner, A. Morford, A. H. Morris, J. J. Murphy, N. Olivier, Irene G. Parsons, E. F. Peck, V. J. Perez y Marzon, E. S. Phillips, B. H. Pidcock, Sybil M. G. Pratt, T. D. Pratt, S. H. de G. Pritchard, C. N. Read, J. B. Reed, P. R. Riggall, H. B. Russell, M. Shimberg, Ellen Sylk, A. L. Telling, A. A. Thiel, N. B. Thomas, R. E. S. Webb, A. W. Wells, Effie A. Wharton, G. S. Wilson, C. Young.

* Passed with distinction in one or more subjects.

UNIVERSITY COLLEGE, LONDON.

THE vacancy in connexion with the department of chemistry, created by the resignation of Dr. W. C. McC. Lewis, has been filled by the appointment of Dr. R. E. Slade. The further vacancy on the staff of the college, caused by the election of Dr. A. J. Clark, assistant in the department of pharmacology, to the lectureship on this subject at Guy's Hospital, will be filled at the beginning of next session.

KING'S COLLEGE HOSPITAL.

As the authorities of King's College Hospital expect in the new quarters at Denmark Hill much more work than in Portugal Street, several additions have been made to the staff, these including the appointment of Sir Ronald Ross as physician for tropical diseases. The staff of the medical school has also been considerably increased.

Prize Awards.

As the result of the examinations recently held, the following awards have been made: The senior scholarship and the prize for diseases of children to Mr. C. F. Hacker; the prizes in obstetric medicine, forensic medicine, and clinical surgery to Mr. F. H. Mosse; the *Todd* prize and the *Tanner* prize to Mr. E. W. Carrington; and the prize in medicine to Mr. A. E. Panter.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—*†S. H. Andrews, *†P. R. Cross, *†G. E. Cuttle, *†C. Duncan, *† H. E. B. Finlaison, *†A. Lowndes, *W. E. Masters, *†S. E. Murray, †T. B. Paul.

MEDICINE.—*†T. H. Cresswell, †G. E. Cuttle, *C. Duncan, *†W. E. Masters, *S. E. Murray, *†T. B. Paul, *C. E Reckitt.

FORENSIC MEDICINE.—L. B. Clarke, G. E. Cuttle, H. Dudley, C. Duncan, W. E. Masters, S. E. Murray, W. Smith.

MIDWIFERY.—C. Duncan, G. W. Maw, W. E. Masters, H. Morrison, S. E. Murray, W. Smith.

* Section I. † Section II.

The diploma of the society has been granted to Messrs. S. H. Andrews, G. E. Cuttle, H. E. B. Finlaison, A. Lowndes, and T. B. Paul.

Public Health AND POOR LAW MEDICAL SERVICES.

COMPENSATION FOR LOSS OF OFFICE.

J.—The only valid reason for including the salary for medical inspection of school children received from the county council in the total amount claimed for compensation as loss of office would be that a smaller salary was given as medical officer of health owing to the receipt by him of fees from the county council for school work.

CLEANSING OF VERMINOUS CHILDREN.

P. G.—The carrying out of Section 122 of the Children Act, 1908, which provides for the cleansing of verminous school children, is in the hands of the school medical officer or any person provided with his authority in writing. It is competent for such authorized person to give evidence in a court of justice in connexion with legal proceedings taken under the section. A conviction might more certainly be obtained if it were possible to obtain evidence from a registered medical practitioner.

Medical News.

Two courses of demonstrations, the one on selected surgical cases of special interest, and the other on subjects of clinical medicine, began last Monday at the London Hospital, and will continue daily except on Saturdays until the end of September. The demonstrations are timed for 2 p.m. and 2.15 p.m. respectively, and are free to all qualified practitioners.

AT the annual meeting of the Association for the Oral Instruction of the Deaf, under the presidency of Captain H. M. Jessel, M.P., the Rev. C. H. Parry presented the annual report for 1912, and its adoption was moved by the Chairman, who spoke of the benefit which had accrued to the deaf—no longer of necessity dumb—by the oral and lip-reading method since its introduction into this country by the late Mr. Van Praagh. The official recognition by the Board of Education of the training college for teachers and the institution of examinations for the teachers' certificate jointly by that Department and by the Joint Examination Board for Teachers of the Deaf had placed professional training on a more stable and satisfactory footing, and he was glad to say that for the fifth year in succession a Fitzroy Square student headed the pass-list. It was hoped that the amalgamation with the Ealing College would soon be achieved, and from this fusion a single training college, sufficiently equipped to keep up the supply of teachers to the fifty or more schools for deaf children in various parts of the country, would arise. The initial expense would, however, be large—not less than a capital sum of £15,000, with an increased income for maintenance. These were ambitious aspirations, but he trusted they would be carried into effect. An interesting demonstration of the mode of imparting instruction to deaf children of varying ages was subsequently given by Mr. G. Sibley Heycock, director of the school at 11, Fitzroy Square, and specimens of manual and other school work, some of it extremely well executed, were on view in the room. Mr. Heycock pointed out that the profession of oral teacher of the deaf was at present understocked, and after two years' training, which could be had by intelligent and well-conducted young men and women at a very moderate cost, might be depended on for a very respectable livelihood. The proceedings closed with a vote of thanks to the Chairman, moved by Mr. St. John Ackers, representing the Ealing Training College,

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

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CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

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2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

ANSWERS.

RED CROSS COMMANDANT.—The Red Cross Manuals Nos. 2 and 3 should be almost sufficient for Red Cross nurses. For improvization work Mackay's *Improvised Methods of Aid in the Field*, published by Eyre and Spottiswoode at 1s. 6d., might be studied. For nursing duties Domville's *Manual for Hospital Nurses*, published by Churchill at 1s. 6d., and McIsaac's *Primary Nursing Technique*, published by Macmillan at 3s., should be useful. If less elementary or more detailed information is desired the ordinary nursing textbooks for trained nurses must be got, and these are not supposed to be necessary for voluntary aid work.

LETTERS, NOTES, ETC.

NURSES AND TRACHEOTOMY.

MR. MORLEY ROBERTS writes: As I have only just seen your paper's criticism of July 19th on my story, "Holloway's Corot," which appeared in *The Strand Magazine*, perhaps you will allow me to reply to it. The reviewer deems it extraordinary for me to make the doctor think that the nurse, in the absence of proper professional aid, ought herself to have done a tracheotomy in so desperate a case. As the child in question was actually moribund, and as the doctor who did operate was there by chance, this seems to imply that in any case she should have let it die rather than trench on surgical prerogative. Your reviewer does me the honour to say that I seem to know more of surgery than most lay writers. Having also some slight knowledge of the theory and practice of nursing I feel sure that most members of the medical profession would agree with me that in such a case as the one of which I wrote a nurse, who had received a proper training of at least three years, should risk doing an operation, which she should certainly have seen done, rather than let her patient die unnecessarily on a mere point of etiquette. If the surgeon, who had been unable to get to the case in time to assume full responsibility, had to deal on his arrival with her possible mistakes in technique, he could at any rate be in a position to do more than merely notify the coroner. I may add that the story in question was placed in the country, and at some distance from a town. Of course, such an emergency could not easily arise in London.

*** A nurse can only be expected to do the work for which she is trained. The performance of tracheotomy is no part of that training. As any medical man would tell Mr. Morley Roberts, tracheotomy in the circumstances described in his story requires all the skill of a surgeon who can use the knife as deftly as our correspondent uses the pen.

INTERNATIONAL CO-OPERATION.

DR. GEORGE PERNET (London) writes: In your review (BRITISH MEDICAL JOURNAL, August 9th, p. 320, col. ii) of the German translation of Darier's work on diseases of the skin annotated by Jadassohn, the following passage occurs: "On the other hand, it is a new departure, and very interesting, to see the opinions of two great European authorities . . . chronicled side by side in the text. . . ." May I point out that this is not a new departure? Some years ago now Kaposi's *Diseases of the Skin* was done into French by Doyon and annotated by the great clinician, Besnier.

THE ADVANTAGE OF THE "SQUATTING" ATTITUDE IN DEFAECATION.

P. A. T. writes: The "squatting" closet to be seen at the exhibition in connexion with the International Congress, based on the idea that the attitude naturally adopted by uncivilized man was intended, amongst other things, to prevent hernia, is, as any one can prove for himself, one of those airy, scientific assumptions that have only to be put to the test to be at once exploded. In this attitude the apposition of the fleshy part of the thigh with the abdominal walls is at its very weakest, and if there is any mechanical predisposition to hernia at the external abdominal ring, it could not be prevented. The fingers can be placed between the thighs and the abdomen at this spot without any sense of pressure such as would be required to prevent a hernia forcing its way out, as it does, downwards and inwards. As can be seen in anatomical diagrams, the tendons of the adductor muscles and gracilis, the muscular portions of which must be relaxed in this attitude, cannot possibly close the outlet of the ring; and certainly there is nothing to appose the umbilicus! On the other hand, the greatest pressure on the abdominal walls occurs by the apposition of the quadriceps and sartorius muscles supported by the femur on the outer halves of the lower part of the abdomen, tending to increase the internal abdominal pressure and thus actually help to produce a hernia if predisposed!

But, sitting on the ordinary closet seat, the mechanical conditions tending to prevent hernia are enormously improved by the fact that when leaning well forward the weight of the body rests almost entirely on the fleshy parts of the thighs, just below the glutei. Hence the muscles internal to the femur are powerfully thrust forward to help to close the inguinal ring; and thus they might be successful in preventing the exit of an incipient hernia due to undue straining.

Therefore, before wasting money on expensive designs based on pure assumption—Experiment.

Undue straining is not always caused by constipation—that is an insufficiently frequent action of the bowels—but may occur in those whose rectum is unduly enlarged above the sphincter, so that the first part of the motion tends to be unduly large as well as hard. But I have found a very simple device to prevent the straining in such cases—with the fingers protected with a piece of paper, firm pressure below the coccyx will soon shift and dislodge this initial obstruction, and people who come complaining of constipation or straining should be told of this.

HERPES AND VARICELLA.

DR. ARTHUR Z. C. CRESSY (Wallington, Surrey) writes: I must say I read the correspondence concerning chicken-pox following shingles with much unbelief, but a fortnight ago a patient called on me and showed me a large patch of shingles on her side. I told her of the cases reported, and asked her to see if her children developed chicken-pox in fourteen days. To-day (fourteen days exactly) she asked me to see her little daughter, and I found the child suffering from a smart attack of chicken-pox. I have not seen any theory put forward to account for this seeming coincidence. I suppose I am right in assuming that shingles is caused by inflammation of the trunk of a nerve. Could not the vesicles of chicken-pox be produced by inflammation of the terminals of the sensory nerves to the skin all over the body?

DR. JAMES D. HALSTEAD (Burnley) writes: It would be interesting if some of your readers would record their experience during the last few months with regard to herpes zoster. There would appear to be prevalent at present a mild epidemic of the disease, as within the last month I have had four cases—one in a middle-aged adult on the Yorkshire coast; another in a male, aged 30, in the West Riding; and two cases, aged 10 and 4 respectively, in North Devon. Perhaps if any of your readers are meeting with a similar abundance of these cases in general practice at present they will record their experience, as it will do much to establish the acute specific epidemic character of this ancient but still obscure disorder.

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A Lecture
ON
MODERN METHODS IN THE DIAGNOSIS OF PHTHISIS.*

BY
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I HAVE selected the subject of modern methods in the diagnosis of phthisis with two very definite ideas in my mind. First, I find that some of them are credited with a value to which they have no claim; or their value is misunderstood or exaggerated, greatly to the detriment of older and more reliable methods of diagnosis. Secondly, I find that others are subjected to a neglect they do not deserve, with the result that valuable evidence in cases of difficulty is left out of consideration. In the diagnosis of phthisis at a really early stage we cannot afford to leave any witness unquestioned. Every piece of evidence has its due importance, but above all is it vital that we should appreciate as nearly as may be what weight to attach to each kind of evidence, and that we should not be deceived by the glamour of novelty, nor, on the other hand, put off by the difficulty of mastering a new technique.

The first of the modern methods I am going to bring to your notice first saw the light in the year 1863! It is true that it had not reached adult proportions till some quarter of a century later—namely, 1889—but my claim to regard it as a modern method depends on my belief, possibly unfounded, that not a dozen of my audience have yet made use of it in any regular manner. I refer to topographical percussion, a method, I may say at once, of great help in the diagnosis of early phthisis, and also of commencing disease at the apex of the second lung where the first is already involved.

Topographical Percussion.

In its best known form topographical percussion is associated with the name of Krönig, and though attempts were made to map out an anterior and posterior apical resonance before his time, the credit of fully describing the boundaries of the apical resonance certainly belongs to him. He was the first to join the anterior and posterior areas of resonance by a narrower "isthmus" over the shoulder. The method of finding Krönig's area consists in mapping out, by the highest possible percussion, the band of resonance passing from the front to the back of the chest over the shoulder on each side. Percussion may proceed either from dullness to resonance, or vice versa; the end of the finger only must be used, the area marked with a skin pencil and carefully verified after it is marked. Having marked out both shoulders, the resulting figures are compared and measurements taken at the isthmus, and perhaps elsewhere. Normally the two sides correspond, save in cases of chest deformity. Lack of correspondence points to a one-sided lesion, which may or may not be phthisis.

Now the changes we find in early phthisis are either a blurring of the outline of Krönig's area on one or other side, leading later to the appearance of a band of relative impairment, or a retraction of the apical resonance as a whole. It will be remembered that Birch-Hirschfeld, Schmorl, and others, found the earliest lesions in phthisis in the medium-sized bronchi running to the apex; disease leads to blocking and collapse of lung, and infiltration of the collapsed area follows. In some cases, no doubt, infiltration keeps ahead of collapse, and in a few apical infiltration is itself the primary lesion. Topographical percussion seems to bear out this view of the common march of events in apical disease. After the size and shape of the two apical areas have been compared, the next point is a careful comparison of their resonance to light percussion, and this is conveniently done in finger-breadths above the clavicle.

* Delivered at the Medical Graduates' College and Polyclinic.

Now Krönig's area is easy to map out and the information we get from it is often valuable and decisive, but it is not, as Goldscheider objected, the actual lung apex we are mapping out, but only an artificial area of resonance projected to the surface from points mostly on the outer side of the apex. Goldscheider set himself to percuss the lung apex itself in front and behind, and by this means we have another method of topographical percussion. The apex in front lies between the heads of the sterno-mastoid muscle, but as it rises little more than a finger-breadth above the clavicle—Stuart Dickey made it 2.2 cm., or nearly an inch—and as the inner end of the clavicle presents no good point for taking a measurement, I do not recommend you to do more than note the presence of resonance in this area, and perhaps compare it with that on the opposite side. I say "perhaps" because the ability to do so correctly lies partly in the arrangement of the lower heads of the sterno-mastoid muscle. The space between them, and the prominence of one or other head varies greatly in individuals, and it is only when percussion can be made directly backwards, to avoid tracheal resonance, that the lung apex can here be reached.

Behind, the matter is different; the apex lies close to the spine, but it is thickly covered by muscle and protected by the first rib and lateral process of the vertebra. Nevertheless, it is possible to determine the height of the actual apex at this point, and this should be done, the normal resonance rising here to the spine of the first dorsal vertebra.

So much for topographical percussion—Krönig's method, easy to apply and accurate, giving, indeed, a magnified view of the lung apex; Goldscheider's, difficult in practice, of little value in front, but of distinct worth behind. What do we learn from topographical percussion? Not the presence of phthisis any more than this can be deduced from ordinary percussion used alone; but the presence of:

1. Equality on the two sides both as to size and resonance, evidence of health.
2. Inequality of size: shows retraction of an apex, over-expansion of the opposite apex, or both together.
3. Equality of size, but blurring of outline passing on to production of bands of relative impairment: generally points to infiltration with little or no retraction in early phthisis.

These points give us valuable information for further investigation. We have interviewed a useful witness; we record his evidence and proceed.

Tidal Percussion.

Before leaving topographical percussion, however, I may well add a word about tidal percussion, a method designed to discover the movements of the lungs, whether at apex or base, during deep respiration. At the apex I have found the method of but slight value, for the movement here is slight, and may be none at all in health. At the base useful information as to pleural adhesions is obtainable, and the presence or not of such adhesions may be of value in a diagnosis between apical collapse accompanying nasal obstruction, and somewhat similar signs of tuberculous origin. Tidal percussion is closely comparable to Williams's diaphragmatic and Litten's shadow-phenomena, and the results subject to similar interpretation.

Radiography.

The next point I should like to bring to your notice is the value of the *x* rays in the diagnosis of phthisis. Not only do they give us help in cases of difficulty, but they have to some extent altered our views with regard to the disease. For a long time the teachings of von Behring, Paul Römer, and others, that phthisis was only the final stage of a childhood infection, and that this smouldering disease and the immunity it caused were the conditions which made a chronic pulmonary tuberculosis possible, were hardly tolerated by most of us. Now the skiagram seems to bear out the correctness of this view. For we find thereby not only that old disease of bronchial and pulmonary glands is common or even the rule, but also that in cases of phthisis such disease appears to spread round the bronchial branches into the lung, especially towards the apex, and that fresh outbreak tends to occur

in the neighbourhood of these strands. The implication of apical bronchi so commonly observed, and especially of the posterior branch, as stereoscopy has demonstrated, falls into line with the teachings of Birch-Hirschfeld already quoted, and this no doubt is quickly followed by conditions of partial collapse which allow recognition of the disease at an early stage on the surface.

Before giving any opinion on skiagrams in cases of chest disease, and their probable significance, I would warn you to study carefully the picture presented by the normal chest. You must note the "hilus shadow" caused by the large vessels and perhaps the bronchi, and deepened where these cross one another on the ribs or are viewed tangentially. Calcareous or fibrosed glands must be looked for, but their presence need not be viewed askance. Arborization of vessels and tubes may be seen even to the periphery of the lung, and especially visible are branches running to the apex and also those to the base. Shadowing of the apex and outer boundaries of the lungs caused by thick muscle layers and the inner border of the scapula are to be expected, and these may be thicker on the right side. Fat obstructs the rays, as do also the breasts in women, and the diaphragm is normally somewhat higher on the right side. Not only must all these things be allowed for, but also temporary differences between expansion of the apices of the two sides and also inequalities due to differences of technique, such as position of plate, duration of exposure, hardness of tube, and subsequent development of the photograph.

What we generally see in an early case of phthisis may be grouped as follows:

1. Old disease at the hilum of the lung in most cases; Ziegler and Krause, Stürtz and others declare they have rarely or never seen apical disease without hilum disease of the same side.

2. Attention must be directed to an imaginary triangle, bounded by the clavicle above, the mediastinum within, and, below, a line joining the hilum to the shoulder, for in this space the earliest signs of activity are usually observed. As a rule, two shadows of vessels and tubes will be clearly seen running to the apex, and it is around these that changes are most early seen. In some cases these represent peribronchial tuberculosis, but in others it seems to me quite possible that the shadows are only those of dilated vessels directed to an apical inflammation. Where the disease tends to fibrosis, thickened strands form the main feature; where an acuter process is present irregular flecks of bronchopneumonia in the lung tissue, growing and coalescing, may be seen.

It happens in some cases that disease of unexpected amount is found by the *x* rays where surface signs were not discovered. It must not, therefore, be supposed that radiography can in any way replace ordinary examination. Where the earliest changes consist in an exudative process round a few scattered tubercles, the stethoscope has ample warning, while the skiagram shows nothing. Moreover, disease of ascending bronchi, though it appears to the radiographer to be far from the surface, yet soon causes slight impairment and stethoscopic signs from interference with blood and air supply. You cannot long interfere with the lines of communication without its being apparent at the distant front! In addition, the *x* rays do not, as a rule, tell you much about the actual apex of the lung, and they only give partial information as to activity of the process visualized. They should be used in conjunction with other methods, and are then of the highest utility. They may confirm the diagnosis in a doubtful case, give great assistance in the determination of the extent of disease, help to show whether the other side is free—for the spread on the second side invariably starts deep in the lung and may be appreciated earlier in a skiagram than by auscultation and percussion.

Tuberculin.

We now come to tuberculin diagnosis, a matter round which no little controversy has raged. The facts about the value of tuberculin are nevertheless pretty clear, and their interpretation should be open to but little doubt. Two points need to be clearly separated in the use of tuberculin at the outset:

1. The detection of tuberculous infection.
2. The diagnosis of active disease.

1. *Tuberculous Infection.*—The tuberculin reaction is truly specific, and there is no other comparable test of tuberculous infection. As you know, its most delicate application (intracutaneous and subcutaneous local tests apart) is in the cutaneous or von Pirquet test, and to this nearly all adults react. Its utility is confined to the first few years of life, when infection generally spells active disease, and undiluted tuberculin should be used, since the stronger the solution the more inclusive the test.

2. *Active Disease.*—For the detection of active disease tuberculin has had, so far, only partial success, and that largely because its limitations have not been clearly understood. It would have seemed clear to most that at any rate the ordinary cutaneous test, which discovers tubercle in about 90 per cent. of healthy 14-year-olds and in nearly all adults, would hardly be claimed as a test of clinical disease. Yet it is only some weeks since this claim was put forward by a writer in one of our best known medical periodicals.

The reaction to tuberculin subcutaneously by fever and other disturbance is, as you know, not infrequently relied upon by practitioners in deciding the diagnosis of phthisis in a doubtful case. And yet, on inquiry, what are the facts in regard to tuberculin given subcutaneously in the usual doses? The well-known experiments of Franz on healthy Bosnian soldiers showed that 61 per cent. reacted to doses up to only 3 mg., whereas, after a year's stay in Vienna, 76 per cent. gave positive reaction. Beck, among 2,137 convalescents, found 54 per cent. react to injections of 1, 5, or 10 mg., and Fränkel obtained similar results. Obviously a test for active tubercle which gives such result among the clinically non-tuberculous is utterly worthless. A few days ago I came across a very interesting communication to a discussion by Dr. Hamman, of the Johns Hopkins University. It is so much to the point that I will quote it. He says:

> We had innumerable cases of early pulmonary trouble in those days, many more than you could find on our records now. We were further intrenched in our confidence by the confirmatory evidence lent by tuberculin. To give added assurance we administered tuberculin to these patients subcutaneously. Of about 35 patients so tested at Eudowood, all but one reacted. Slight physical signs and the tuberculin reaction played so smoothly into one another's hands that we at last became suspicious and began to give tuberculin indiscriminately to as many patients as we could control, and, to our dismay, found that about 60 per cent. of all individuals react, whether they are suspected of having tuberculosis or not.

We may take it, then, that a positive febrile reaction to tuberculin gives little evidence either way in the diagnosis of phthisis. True, the amount of sensitiveness is of some importance, but time does not permit me to go into this point. On the other hand, a negative result to subcutaneous injection is of very definite value in excluding active disease, and this alone makes the test of considerable value in properly selected cases. Hammer among sanatorium cases got 7.4 per cent. of such negative results. Hamman on similar material found that he got definite evidence from subcutaneous injection of tuberculin in 26 among 75 suspected cases; 12 were negative, and 14 gave a focal reaction.

This brings us to the other element of the subcutaneous test which is of distinct value in the diagnosis of phthisis. The negative febrile and the positive focal reaction are our two stand-bys in tuberculin diagnosis! The focal reaction shows itself in symptoms—cough and increased expectoration, pain or sense of oppression in the chest, and in the appearance or increase of physical signs, whether to percussion or auscultation or both. Its value is not only that it is truly specific and points clearly to a tuberculous process, but also that it definitely indicates the position of disease in the lung. There is also good evidence to believe that a focal reaction gives evidence of activity, or at any rate of disease which is far from obsolete and may well become active. The frequency of appearance of a focal reaction to injected tuberculin varies enormously with the observer; it needs considerable skill to detect its appearance in some cases; moreover, it is probably not difficult to imagine its presence when attention is concentrated on it.

Otten, working under Professor Romberg of Tübingen, records 324 cases, tested with a view to focal reaction. Of these, 60.8 per cent. gave a focal with a general reaction,

7.4 per cent. a focal reaction alone, and 23.8 per cent. a general reaction alone. Walterhöfer obtained a focal reaction in 54.5 per cent., Hamman in 36.5 per cent. Other observers have found it more seldom, A. Fränkel in only 10.8 per cent., showing how largely the personal factor enters into its discovery. No uncertain signs must be accepted as evidence of its presence.

The question which especially assails us with regard to the focal reaction is that of its possible danger. This can only be insured against by the most scrupulous observation of all the rules and contraindications which experience of the method have indicated. Especially important among these are two: First, never to give subcutaneous tuberculin for diagnosis to a febrile case, and this rule is the one most sinned against, with disastrous results. The writer has several times seen disease lighted up and rendered hopeless by tuberculin needlessly given to cases of obvious febrile phthisis. The second rule is never to increase the dose, but only to repeat it, where a doubtful reaction has been obtained and it is decided to test the matter further. If, for instance, no reaction occurs to doses of $\frac{1}{10}$ mg. and 1 mg., and a doubtful one to 5 mg., instead of going on to 10 mg., the 5 mg. should be repeated, or even a smaller dose given, when the sensitiveness produced will be amply sufficient to secure a definite result in the presence of active disease.

Tuberculin should not be given subcutaneously where the diagnosis can be made without—meaning where the diagnosis can be made without by those with special knowledge and skill, for quite obvious disease may be overlooked by those whose skill is not kept up to date. If this rule were followed out, the test would remain, where it should be, in the hands of those of special training, and specially qualified both to discover and to interpret any reactions which may appear. It would be used in but a few selected cases, and the risks would disappear. Bardelier and Roepke have given ten to twelve thousand injections without any evidence of harm, and it has proved harmless in the hands of other experts of similar experience. Take it out of these hands, and it becomes a fallacious and dangerous instrument.

Quantitative Cutaneous Test.

I have already mentioned that the amount of sensitiveness to tuberculin is of some moment, though, unfortunately, it can only tell us of probabilities more or less high. Of recent years a method of measuring sensitiveness has been applied to the skin reaction, and designated the "quantitative cutaneous test." This is most conveniently applied after the method of Ellerman and Erlandsen, where four simultaneous scarifications on the skin are treated with four dilutions of tuberculin rising in geometric progression. As a result of this papules develop whose diameter is said to rise in arithmetic progression from lowest to highest. From the size of these papules and the difference in size between them, there can be calculated the lowest dilution of tuberculin to which a particular patient will react, and the reciprocal of this represents his sensitiveness. Thus, a patient who reacts to 1 per cent. tuberculin has a sensitiveness = 100, one who reacts to one-thousandth tuberculin has sensitiveness = 1,000.

This method has points to recommend it, but it is unfortunately open to certain fallacies. The technique presents much room for error, since differences in the absorption of tuberculin are apt to occur from differences in depth of scarifications, quantity of tuberculin left on the skin, time it is allowed to dry, and so on. Above all is it easy to mistake the "traumatic" reaction occurring after the use of the von Pirquet scarifier for a slight real reaction to the lower dilutions. To avoid this error, I am accustomed myself to make a fifth control scarification beside the lowest one on the arm, and consider this essential to the proper interpretation of the results.

Given the individual skin sensitiveness, we are provided with information whose value is still very difficult to gauge and apt at times to play us false. Skin sensitiveness, like general sensitiveness to subcutaneous tuberculin, is generally higher in active disease than in the presence of an obsolete or healed focus, but the line is difficult to draw, and there will always be exceptions both above and below it. The figure 100 is usually put as the sensitiveness above which active disease is usually found—figures below this are generally said to indicate its absence. But Hamman and Wolman found 16 per cent. of the non-tuberculous sensitive to 1 per cent. tuberculin; and 44 per cent. of cases of incipient tubercle negative to 1 per cent. tuberculin—that is, with a sensitiveness below 100. These figures fall into line with my own experience of the quantitative cutaneous method, and I do not think it wise to pin much faith to its findings at present. At the same time there is value in the test at the further ends of the scale—a very high sensitiveness on the one hand as evidence of disease, and a very low one on the other in the absence of other explanation, as evidence of its absence. We are, however, working with probabilities only and must view all such evidence in the light of information obtained from other sources.

Laboratory Methods.

First of all comes the sputum examination and the advances that have been made of late years in its technique. The introduction of the antiformin method by Uhlenhuth was the most notable achievement. By this other less resistant organisms and organic material are brought into solution, and the tubercle bacilli collected by sedimentation. Then comes the discovery of Much, that there exists a granular form of tubercle bacillus which does not retain the stain in Ziehl-Neelsen's method, and requires a modification of Gram's staining to demonstrate its presence. Roepke found 12 per cent. failures to the acid-fast method, with positive results in all these to Much's method, and he thinks both must be used where certainty is required. Beyer had 4 cases among 78 where Ziehl-Neelsen failed and Much succeeded. A further novelty in sputum examination concerns the search for the tubercle bacillus by animal experiment in cases where sputum examination proves negative. Not only can antiformin be used before injection to render the sputum less septic to the guinea-pig, but also it is of value to dissolve the tissue pulp in searching for the bacillus in the inguinal glands. Further, Bloch, by bruising the glands before injection, has succeeded in so lowering their resistance that bacilli can be demonstrated in them as early as fourteen days after injection in a positive case.

Another method, which may become more useful than was expected, is the examination of the sputum for *albumin*. By this means it is determined, not whether the disease is phthisis or some other lung disease, but whether the sputum is only bronchitic or reveals a pulmonary origin. This may give valuable information in a differential diagnosis between phthisis and an apical bronchial catarrh of simple causation. Further, a cytological count of the sputum may be of assistance, since it has been shown by Wolff-Eisner that a large preponderance of mononuclear cells (called by him lymphocytes, but alveolar cells by French observers) occurs in early phthisis, and may focus suspicion on a case before the tubercle bacillus has been discovered. Where this fails is in the fact that in most really early cases no true lung sputum exists, but not all cases requiring diagnosis are at so early a stage as this.

Some Newer Methods.

The examination of the blood for tubercle bacilli has hardly yet reached the stage of practical utility, though it may do so in the near future. Complement deviation or Wassermann's reaction appears to be of little use in diagnosis, as positive results are obtained in cases of old healed as well as active disease. Much more may be said for *tuberculo-opsonic* determination if the indices are done by a bacteriologist of known skill.

A series of indices taken under different conditions are needed for the diagnosis of phthisis, or other form of autotoxic tuberculosis, the best plan being to induce a definite autoinoculation and take the blood at certain times before and after. Walking exercise may sufficiently autoinoculate some patients, but I have found it fail to give sufficiently marked results, and more violent exertion may be required. Most certain is the use of a suction mask, for which purpose an ordinary ether mask may serve a temporary need; with this a few minutes of forced respiration will give the required result. The index should be taken before this autoinoculation with the patient at rest, about an hour after the mask, and again six hours, and preferably also twelve hours later. If the

case is tuberculous, a fluctuation of the index follows, and, according to the amount of the autoinoculation, the negative phase comes late or early (or is not found at all), and is, finally, followed by a positive phase. The number of examinations and their spacing are timed to hit off, if possible, both negative and positive phase, so that the double evidence of disease may be obtained. The evidence from opsonic examination must be viewed in just proportion with evidence derived from other sources. Not too much reliance should be placed on fluctuations of slight extent, for experimental error is large, probably 20 per cent., even in the most competent hands.

And now I will end my lecture with a few words of advice on general lines. To begin with, I would remind you that phthisis is a disease of intermittent course, that the real beginning is often passed over as an influenza or a "chill," and that it has generally advanced to quite diagnosable stages by the time the patient has discovered his symptoms. This is true, as a rule, even in cases of haemoptoic onset; even here signs are generally discoverable to skilled examination.

Secondly, I would advise you to devote all the attention you can to ordinary physical signs, especially to light percussion, and after this to auscultation. The modern methods cannot in any way take the place of physical examination, though they are most valuable aids to it. Do not, also, neglect the temperature chart, nor yet the evidence of symptoms.

Thirdly, study carefully the value of the evidence to be derived from modern methods; do not be put off by their apparent difficulty, nor misled by the glamour of their newness. Blind reliance should not be placed on any of them, any more than it should be on any single physical sign. I think we have reached a stage in the diagnosis of phthisis where a warning on this point is greatly needed: we should all like to diagnose 100 per cent. of the cases, but I fear some people are diagnosing more than this at the present time. It gets too like the old age pension in Ireland, which was said to go to fully 120 per cent. of the people over 70 years of age! Most of these modern methods give us valuable information, but this must be weighed against other information from other sources before judgement is given. If this is done, and the other methods, under modern improvements, are not put aside, it may be said that we have made considerable strides in the diagnosis of phthisis in recent years. It is, indeed, only here and there that a case is met where skilled examination is not able to decide the matter, and that fairly rapidly, one way or the other.

THE NOMENCLATURE OF TUBERCULIN DOSES.

BY

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WHATEVER value we may individually attach to tuberculin in the treatment of its specific disease, there can be little doubt that it has come to stay, and however restricted its use may become in future, it is scarcely thinkable that it should again vanish from our armamentarium. Hitherto in its recent renaissance its use has been in the hands of two classes of practitioners. Firstly, a small class of specialists who have studied it exhaustively, and know everything about it that is known. Secondly, a larger class who know very little about its technique, and who use it in a rule-of-thumb manner.

Now, most of the latter are highly intelligent practitioners, but in this matter have been overwhelmed by the minuteness of the doses, and the absurd manner in which these doses have been expressed. It has been customary to take the milligram or the cubic centimetre as the unit, and the early doses have been represented as fractions having a long series of noughts, like a belated railway viaduct!

Now, it is an elementary psychological fact that the mind cannot grasp fractions so readily as multiples. We talk glibly of a million pounds, but we should all be rather staggered at the thought of a millionth of a pound. We can all conceive of a million cubic centimetres, and the conception becomes more realistic when we think of it as one thousand litres, and when we look at one pond containing a kilolitre the realism becomes complete. But "0.000001 c.cm.," or "$\frac{1}{1,000,000}$ c.cm.," or even the much simpler form "10^{-6} c.cm.," are too unwieldy to be constantly intelligible. I wonder how many practitioners who have not been working at tuberculin or at recent mathematical problems could sit down and write off without thinking it out the decimal expression or the minus index for one-millionth. I think in many cases there would be a zero too little or too many. And it is very difficult to carry these highly fractional figures in mind. The obvious remedy is to use smaller units. All scales of weights and measures are founded on this principle, and when the conventional scale does not go far enough in any branch of work, the worker invents new measures. The millimetre used to be the limit of length, but when the microscopist found this too large for his unit, he invented a smaller one, the "micron" or μ. Now the first unit that occurs to us is the cubic millimetre, $\frac{1}{1,000}$ of a cubic centimetre, and this has already been suggested by Dr. Clive Riviere, but this is not small enough, as the millionth of a cubic centimetre has been given, and it is well to select as final unit the smallest dose likely to be given. For this unit a name must be found, and it should be an "unappropriated" Greek letter, with an associated word with meaning suitable to its minute dimensions, and so I suggest the letter ψ and the word *psilon*, which may be conveniently translated "shred," "residue," or "atom," though it occupies a big space in Liddell and Scott. Thus:

1,000 psilons (ψ) = 1 cubic millimetre (c.mm.).
1,000 cubic millimetres = 1 cubic centimetre.

Thus fractions may be obviated, the dose being given in psilons until it reaches the cubic millimetre, and then be given in cubic millimetres until it reaches the cubic centimetre.

Another suggestion is the abolition of the absurd English practice of speaking of the dose of TR in terms of milligrams of the original bacillary substance, when three-fifths of that substance is no longer present. It is just like speaking of a dose of liq. strychninae, not as 5 minims, or as $\frac{1}{20}$ grain, but as the original weight of nux vomica bean from which this quantity of liquor had been made. If, however, clinicians still wish to prescribe TR in terms of the weight of the original bacillary substance, it would be still practicable to use the symbol ψ for 100,000 milligrams of original bacillary substance of TR, and its quantity would be the same as if the dose had been expressed in the Continental fashion—that is, in cubic centimetres of tuberculin fluid.

In the method of prescribing tuberculin which we have adopted at the General Hospital, Wolverhampton, we use the psilon unit, and the cubic millimetre unit. And the cubic centimetre unit is only used when the dose has attained unity or beyond. If this method were generally adopted it would render the use of tuberculin more popular and more intelligible to busy practitioners, who do not give their whole time to unravelling these ponderously expressed fractions.

THE Third International Conference on Cancer recently held at Brussels decided that its next meeting should be held at Copenhagen in 1916.

A Yellow Fever Bureau *Bulletin* states that a report by Seidelin on the subject of vomiting sickness in Jamaica will soon be published. Scott has recently shown conclusively that at least a certain number of cases of so-called vomiting sickness are really cases of cerebro-spinal meningitis, as had been previously suspected but never satisfactorily demonstrated; secondly, it is stated that Seidelin's investigations have not resulted in establishing the identity of vomiting sickness with yellow fever. For practical purposes it is suggested that the islands, meaning essentially the seaports and the commercial highways, are free from yellow fever, though it is admitted that endemic foci may continue to exist in remote parts of the interior, the prevailing forms of the disease probably being mild. The possibility of spontaneous cases occurring occasionally cannot be excluded. It can, however, be definitely stated that yellow fever is not prevalent in Jamaica to any considerable extent.

A DIFFICULT DIAGNOSIS IN AN INSANE PERSON.

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It is always a difficult matter in the insane to obtain reliable, even if any, subjective symptoms of diseases, and the diagnosis of abdominal complaints among this class becomes a matter of considerable uncertainty as well as of anxiety. The following case will illustrate my statement:

A male patient, aged 48, blind from double cataract since an early age, 5 ft. 8 in. in height, 11 st. 7 lb. in weight on admission, was under continuous treatment in the Claybury Asylum for about sixteen years, suffering from maniacal excitement with delusions of persecution, and being also a case of congenital weak-mindedness.

He was taken ill somewhat suddenly and abruptly on May 21st last, and died on May 23rd—that is, in less than three days. The family history records eccentricity and nervousness amounting to actual insanity, although the father was a man of distinction, having attained the position of surgeon-general in the British army. There is no inheritance recorded of abnormal bodily states.

For the past few months the patient had been slowly losing flesh, 2 st. between January and April, but no organic condition was discovered to account for this. His first symptom, which came on rather abruptly, was the complaint of a vague pain "under the ribs," amounting, on pressure with the fingers, to severe abdominal tenderness, especially so under the costal arch of both sides. On palpation there was marked rigidity of the left rectus abdominis.

On May 21st he was carried from his ward into the infirmary upon a stretcher; his pulse was 112 and feeble; he perspired freely, vomited some altered food, and was in a somewhat collapsed state, appearing to suffer much pain. Hot water bottles were placed in his bed and turpentine stupes applied to the abdomen; also, as the patient refused a soap and water enema, a calomel tabloid of 5 grains was given, but no action of the bowels followed then or afterwards. He passed a restless night, and the next day, as far as could be ascertained, he appeared to be in continuous pain.

On further examination on this day (May 22nd), there was marked tenderness over the region of the appendix vermiformis, especially at the base of the appendix (McBurney's spot). The constipation and pain continued, and although there was no fever it occurred to me that the case might be an appendicitis. I have known intussusception—presumably from irregular peristalsis in a section of paralysed gut—to occur in the insane, but as no definite swelling could be made out this was excluded from the diagnosis. Later in the day the patient brought up some foul dark "coffee grounds" matter which appeared to be faecal. Its reaction was not taken. When questioned he continued to complain vaguely of pain on the left side of the abdomen, afterwards on the right side, and later still in the pit of the stomach, which gave us no definite clue. There was rigidity present on both sides, and the abdomen did not move during respiration. The pulse was 152.

Suspicions of obstruction (and I think the symptoms, such as they are, point to this as the most likely conclusion) from internal strangulation were then aroused—I have seen local paralysis of parts of the intestine in the insane give rise to symptoms of obstruction—and the cause was sought in some possible adhesion from bands or possibly a malignant stricture about the pylorus, but no definite hardness could be felt, although the examination of a resistive patient unable to give information was necessarily unsatisfactory as to this. Both pain and tenderness seemed at times to be referred chiefly to the left side, and, as stated at first, the left rectus was felt to be the more rigid. A volvulus of the sigmoid flexure on its own mesenteric axis—or even of the caecum—was then suspected. I had previously had experience of three cases of volvulus of the sigmoid flexure in the insane—one was operated upon and recovered, the other two were not and died. In the present case the constipation continued, but a soap and water enema administered the second day, much against the patient's will, returned without effect almost as soon as given.

During the second night the patient was very restless, refusing all medicines—an opiate had been prescribed. He resented being touched, and threw his hot-water bottles out of bed and angrily cast off his fomentations. He drank a little milk and some tepid water.

The next day, the third and his last, the sickness ceased, but continuous hiccough came on; the pain was more marked and some tympanitis occurred, possibly due to decomposing faeces or to the extravasation of septic material into the peritoneum, and although the pleural cavity seemed to be unaffected, the lungs being clear and there being no empyema or pneumothorax and no abscess pointing, and although also there were no rigors and no elevation of temperature (it only reached 99° this last evening), a subphrenic abscess, either retroperitoneal or intraperitoneal crossed my mind, caused perhaps by the extension of some infectious material through a perforated chronic ulcer (on the anterior or posterior wall) of the stomach. Although Fenwick states that 80 per cent. of all subphrenic abscesses are due to perforated gastric or duodenal ulcer, my only previous experience was in the case of a young nurse who was operated upon for a perforated gastric ulcer and died. I consider that the age of my patient, as well as his sex, were against a subphrenic abscess connected with a perforated acute gastric ulcer, but Krause states that duodenal ulcers are seven times more common in males. Moreover, a subphrenic abscess due to a gastric ulcer is limited above—when on the anterior surface of the stomach—by the diaphragm and left lobe of the liver, and does not encroach, as did this case, on the right side beyond the falciform ligament, adhesions forming between the stomach (or omentum) and the anterior abdominal wall, but the seat of pain seemed to be against the view of a gastric ulcer. In ulceration of the duodenum or of the posterior wall of the stomach the lesser sac of the omentum may become filled with pus, which may work its way into the retroperitoneal tissue, tearing up the solar plexus, and so (as in this case) causing hiccough and vomiting. It was quite possible from the appendicular pain that a subphrenic abscess may even have been set up by the appendix trouble, but we found no special indication of this from the vague symptoms presented.

The patient gradually became weaker and sank into a condition of semi consciousness for several hours; the respirations, which were entirely thoracic, became shallower, the pulse more rapid—nearly 140—and feeble, hardly to be felt at the wrist, and the patient passed away on the third evening. I naturally viewed the prognosis as most grave—and in this my colleagues, the assistant medical officers, agreed—yet for several reasons beyond those already advanced, and which I need not here indicate, we deemed it inadvisable to operate. Had the diagnosis been more clearly made out, it is possible that an early abdominal operation might have saved his life.

Post-mortem Examination.

The only interest for present purposes was within the abdomen. When the abdomen was opened there was general peritonitis, and there were recent adhesions along coils of intestine, especially in the situation of the vermiform appendix, which was inflamed and swollen, although free. There were flakes of lymph in the pelvis, whilst in local cups or depressions there was dark yellowish fluid free. At the splenic flexure of the colon there was a constriction, but no obstruction, and the descending colon and sigmoid flexure were contracted and empty, but the ascending and transverse colon distended and tympanitic, showing that there had been irregular contraction and dilatation of this part of the intestinal wall, indicating local paralysis and "pseudo-obstruction."

On the under surface of the right lobe of the liver were adhesions—some old and firm, others recent—and within a cavity thus formed by adhesions was a collection of dark clotted blood, amounting to about 4 oz. Blood and fluid appeared to extend into the retroperitoneal structures, and the lesser sac of the omentum contained the same kind of fluid that was seen in the general peritoneal cavity. There was no pus. The posterior wall of the "blood-clot" cavity was formed of the duodenum with its perforated ulcer, the pyloric end of the stomach, and the head of the pancreas. On cutting into the duodenum two ulcers were seen about an inch from the pylorus on the anterior surface and in the first portion of the duodenum: one ulcer was about the size of a sixpence vertically above and close to another the size of a threepenny piece. The larger had perforated right through the three coats of the duodenum; the smaller one had not yet eroded into the peritoneal covering. Both had markedly thickened, but

abrupt and rather clean-cut edges, and were evidently of a chronic nature, although no stenosis of the duodenum was noted.

It is stated that one-fifth of all cases of duodenal ulcers are latent, and it is also stated that melaena in such cases appears before the haematemesis; but there was no melaena in this case; that in duodenal ulcers the localized pain is deeper and more towards the right side than is the case with gastric ulcers, and that in such cases pain is not infrequently associated with the right iliac fossa. Further, it is stated that the gastric juice is alkaline, that it digests fibrine and contains bile when there is sickness accompanying a duodenal ulcer, and, as occurred in this case, there is persistent emaciation; but loss of weight is a condition which is not infrequently associated with insanity apart from a duodenal ulcer. Some authorities have stated that when vomiting occurs after a perforated duodenal ulcer it is continuous, and not a single occurrence as it was to some extent in this case and as is usual after a gastric ulcer. There were no definite dyspeptic symptoms in this case apart from infrequent attacks of sickness, which were relieved from time to time by the ordinary treatment of constipation.

I have brought this case into prominence to show the difficulties there are in the treatment of the insane on lines adopted for the sane, owing to the extreme uncertainty there must be in arriving at a true diagnosis, from the absence of the usual subjective symptoms. Some have described the treatment of the insane to be as difficult a task in clinical medicine as can be set before any physician or surgeon. I venture to think the above case supports this view.

The above account has been submitted to Mr. W. McAdam Eccles, surgeon to St. Bartholomew's Hospital, who writes: "I am a little doubtful, even if the abdomen had been opened in the early stages of the disease, whether his life could have been saved, and I think the case shows very significantly the difficulty of diagnosis and treatment in insane patients."

THE TREATMENT OF CONGENITAL SYPHILIS BY SALVARSAN.

BY

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THIS paper is based on the results obtained in 40 children with congenital syphilis, varying in age from 1 month to 11 years. The cases were not specially selected in any way, but were taken as they appeared in the out-patient department of the Children's Hospital. When there was any doubt as to the true nature of the case the diagnosis was always established by obtaining a positive Wassermann reaction.

The treatment of congenital syphilis by mercury has in the past met with fairly good results, but, in out-patient practice especially, it has two rather serious drawbacks. These are (*a*) the great difficulty there is in keeping the child under its influence for a sufficiently long period, as the parents, on the slightest improvement taking place, often neglect to bring the child back for further treatment; and (*b*) the frequent recurrence of symptoms, even after prolonged mercurial treatment; also the possibility of the disease reasserting itself in later life, with the usual symptoms of late hereditary syphilis. Salvarsan has proved so successful in acquired syphilis that it is obviously desirable to give it a thorough trial in the congenital form of the disease. We hope to show in this paper that it can be given with reasonable safety and with great advantage in most cases.

Two methods of using salvarsan have been recommended:

1. *Indirect*, by injecting the mother before her confinement, or during lactation, so that the child may receive the preparation through the milk.

2. *Direct*, by injection of the child itself.

We have no personal experience of the first method. Fabre and Bourret, however, concluded that it is rarely advisable as a prophylactic means on behalf of the fetus, where the mother shows no actual symptoms of the disease, mercury here being quite efficacious. Should the mother, however, become primarily affected during pregnancy, or begin to exhibit secondary symptoms of the disease at this time, the use of salvarsan is urgently called for, as it is of vital importance to get the mother under the influence of an antisyphilitic remedy at once, before the fetus has had time to become seriously affected. In all such cases concurrent treatment with mercury is essential.

Jeanselme has noted sixteen cases where the mother's milk has been used as the medium; he concludes that, although this method occasionally causes a rapid disappearance of the superficial lesions, recrudescence of symptoms not unfrequently occurs. There is considerable doubt, indeed, as to whether this so-called "salvarsan milk" really contains any arsenic at all, Jesionck being apparently the only observer who has found it, and then only in minute traces. Ehrlich ascribes any benefit which may follow this method to the excretion of antibodies in the milk—these having been set free in the mother by destruction of the spirochaetes—and at best, as he says, the effect on the child is necessarily uncertain. Meirowsky and Hartmann tried the plan of injecting the child with the blood serum of patients treated with salvarsan, but the results were not satisfactory.

The *second* method, therefore—that of injection of the child—seems to be the only one of value, and gradually improving results from its use have been reported. These are largely due to two causes—namely (1) the administration of an approximately correct dose, usually 0.01 gram for every kilo (2¼ lb.) of the child's weight: and (2) improved method of injection. This consists in cutting down on the selected vein, laying it bare, opening it, and then inserting the cannula, just as in transfusing. In children under 1 year, and even up to the age of 3 or 4, the best vein to use is the external jugular. The dilated head veins, or the veins of the arm, will be found unsatisfactory for use, as they collapse when their sheath is opened and become very small. In some cases there is a difficulty in getting the cannula even into the relatively large external jugular. After the age of 4 or 5 years the arm veins may be used. In infants it is advisable not only to cut down on, but also to open the vein, as a hypodermic needle is apt to penetrate right through the vessel.

The subcutaneous and intramuscular methods formerly employed often led to an area of necrosis or to an abscess. This caused doubt as to the quantity of the dose actually absorbed, and also severe pain usually followed. It is now generally held that the direct method of injection by salvarsan is the most efficacious, and that it is free from serious danger.

Before detailing cases, personally treated, which have led us to concur in this belief, a word may be said as to the value of the Wassermann reaction in the congenital form of syphilis. The reaction is stated to be almost invariably positive, and although not necessarily so at birth, it is always found so on the first onset of symptoms; the reaction in the later manifestations is also constantly positive. This is confirmed by our experience.

As an index of the efficacy of the treatment, however, the reaction is much less useful, as it has been found to vary from time to time without any indication being given by the patient's "going back" in any way. We have not, therefore, considered it necessary or expedient to have this reaction systematically tested, because that would entail considerable loss of blood to children often wasted and anaemic. The results in the cases of mothers of syphilitic babies are also very instructive. The reaction is always positive within about a year of the child's birth, which proves that the mother of a syphilitic child is herself necessarily syphilitic. In any doubtful cases of congenital syphilis, therefore, we should examine the Wassermann reaction of the mother, instead of that of the child, and if it is negative, we may conclude that the child is free from infection.

Cases Treated by Salvarsan.

During the past twelve months we have treated 40 children suffering from congenital syphilis with salvarsan.

Up to the present 7 deaths have occurred, while the other 33 cases are alive and doing well.

Deaths.

Six of the 7 deaths were in children under 6 months. One of these, who had an extensive pemphygoid eruption, had a fit and died suddenly forty-four hours after the injection. At the *post-mortem* examination the spleen and liver were found to be studded with numerous minute gummata. Another child died three days after injection. In this case it was afterwards found that the water had not been freshly distilled, and this may have been a contributory cause of death. A third, with a severe skin eruption covering most of the body, including the palms of the hands and the soles of the feet, died of broncho-pneumonia five days after the injection. Of the other 4 cases, 1 was a very wasted child. She steadily lost weight and died in three weeks. The other 3 did well for some time. One had a convulsion two and a half months afterwards and died suddenly. The other 2 died six months later of broncho-pneumonia.

Age : Physical Signs.

The ages of the children at the time of injection varied from 1 month to 11 years, as shown in the following table :

3 months and under	... 15 cases
Between 3 and 6 months ...	... 7 ,,
Between 6 and 12 months ...	... 5 ,,
Between 1 and 5 years ...	... 7 ,,
Between 5 and 11 years ...	... 6 ,,

The 22 cases under six months showed practically all the symptoms usually associated with the disease at this age. The most frequent of these were rashes, usually with coryza and fissuring about the mouth and anus. There were also several instances of epiphysitis, onychia, etc.; and hoarseness, epistaxis, bossing of the skull with cranio-tabes, and large dilated veins over the scalp, were also met with.

Condylomata were principally seen in the cases between 1 and 5 years of age. Three of the cases between 5 and 11 years showed syphilitic synovitis of both knees—one of these cases having also interstitial keratitis. Another (with interstitial keratitis) was mentally deficient. The fifth case had multiple gummata, while the sixth showed general enlargement of the superficial lymphatic glands.

Effect of the Injections.

Rashes.—These included all varieties—macular, maculo-papular, pustular, etc., and one case with a pemphygoid eruption where spirochaetes were obtained from the serum. The effect of salvarsan on all such conditions was that in three to four days there was a well-marked improvement. In cases in which the rash was slight complete disappearance took place in seven days, while in more aggravated cases the rash had gone entirely in sixteen days. Fissuring and ulceration around mouth and anus reacted in much the same way. In one week the fissuring (if not very deep) was replaced by a scar, whilst in those with deeper fissuring three weeks were necessary to effect this. Condylomata gave also much the same results—namely, marked improvement in one week and complete disappearance in fourteen to sixteen days. In from seven to ten days there was usually only a reddened shining area of skin left.

Coryza.—Even in very young children marked falling in of the bridge of the nose was noticed, showing the early destructive nature of the lesion. The coryza, if at all severe, was most intractable, no doubt owing to a mixed infection having taken place. After the injection in mild cases the snuffling improved fairly quickly, and usually disappeared in from six weeks to three months. In more severe cases, while treatment always caused some immediate improvement, the troublesome condition did not disappear in much less than six months. In one specially severe case a second injection of salvarsan was given three months after the first, and this seemed markedly to modify the unfavourable symptoms. In addition, all severe coryza cases were treated by antiseptic nasal douches.

Epistaxis.—Two of our cases before injection suffered from slight but repeated attacks of epistaxis. After injection one of these cases had no further haemorrhage, while the other after one severe attack has had no further relapse.

Hoarseness.—This condition always improved rapidly and disappeared entirely in from two to three weeks.

Syphilitic Nails.—Two cases showed onychia, but after injection all the nails came off and were replaced by good, well-formed nails in about two months.

Epiphysitis.—These cases all showed great improvement in from five to twelve days. The pain disappeared quickly and the child was well and able to use arms and legs in fourteen to twenty days.

Enlargement of Spleen and Liver.—This was seen in one most interesting case. The child after birth did not thrive satisfactorily, and at 4 months old the mother noticed a lump on the "left side of the stomach." This gradually became larger but nothing was done, and the child was first seen in hospital at 9 months old. He was very anaemic and wasted, with a distinct specific rash and one large fissure on the upper lip. The head veins were greatly distended, there were condylomata at the anus, the spleen reached to the umbilicus, and the liver was three fingerbreadths below the costal margin; after injection the rash and condylomata disappeared rapidly and the spleen gradually diminished in size, until now (eight months later) it is only just palpable. Its consistence also changed, being at first very hard, but gradually becoming softer. The liver, too, is now normal in size. The dilated veins have disappeared and the child has put on 10 lb. in weight.

In congenital syphilitic infants the superficial lymphatic glands are not appreciably enlarged, but in late hereditary cases these glands are frequently found greatly increased in size. For example, a syphilitic boy, aged 9 years, was seen in the out-patient department. He was found to have two enlarged glands in the neck about the size of a Tangerine orange. Smaller enlarged glands were also found in the axillae and groins. Salvarsan was given, and in one month a marked improvement was noted. A second injection was given four months afterwards, with the satisfactory result that the swelling in the neck has disappeared, although the axillary swellings do not yet show much improvement.

Syphilitic Synovitis.—Three of our cases, all over 6 years of age, had swelling of both knees as one of their symptoms. The diagnosis of syphilis was confirmed by getting a positive Wassermann reaction. The first case was treated, to begin with, by potassium iodide and mercury for four weeks with very slight improvement. Salvarsan was then given. The knees improved rapidly, and were quite cured in two months. The second case also did well. The third has not improved so quickly. The improvement was certainly greater after potassium iodide and mercury were given in addition to salvarsan.

Eyes.—One of our cases with arthritis had also well-marked keratitis and irido cyclitis, with a good deal of conjunctival discharge and great photophobia. The eyelids were red and swollen, and the child was unable to open them. At first he was put on potassium iodide and mercury, and the eyes were treated by atropin, etc., without any apparent improvement taking place. Salvarsan was then given, and the results were at once encouraging. In six days the child was able to open its eyes slightly, and in one month completely, while the corneal condition also improved. In two months he could distinguish accurately objects and colours 12 ft. away. A later injection of salvarsan was given, and at the present time (six months after being first seen) he is in robust health, all unfavourable symptoms, with the exception of slight keratitis, having disappeared. The other child with keratitis was mentally deficient. The eye condition is improving, but the mental state remains unchanged.

Gummata.—We had one case which showed two large breaking-down superficial gummata. In two to three weeks after salvarsan was given a large slough had separated, and in two months the wound had healed completely.

Reaction to Salvarsan.—Several observers have noticed various reactions after injections—for example, marked exhaustion and sleeplessness, great nervousness, with photophobia, and undue sensitiveness to noises, with sometimes fever and bronchitis. In our cases we twice met with slight bronchitis, but beyond this the only reaction noted was an increase of temperature in about half the cases. It rarely

rose above 100°, however, and in twelve to twenty-four hours it fell to normal. Two cases were exceptional. In one, thirty hours after injection, the child had epistaxis, with increased nasal discharge, and the temperature ran up to 104°. It continued above 103° for three days, and then, within twelve hours, fell to normal, and continued so. The other case (synovitis of knees) was brought in with a swinging temperature, which ran up at night to 101.5°. After salvarsan was given this swinging temperature became normal in seven days.

Recurrence of Symptoms.—In only one of our cases, a child of 3 months, with epiphysitis, have we seen any recurrence of symptoms of syphilis after treatment with salvarsan. All the symptoms disappeared quickly after the injection, and the child afterwards had mercurial treatment (byd. c. cret.) for five months. The mother then ceased coming to the hospital, but two months later she reappeared with the child, who was in good health but had developed a condyloma at the anus. This soon disappeared under further treatment with mercury.

CONCLUSIONS.

Salvarsan is a potent remedy, and with proper dosage and technique can be used with safety in the case of the youngest child. In very severe cases, however, such as those with pemphigus, extreme wasting, etc., the dose should be reduced from 0.01 gram to perhaps half that amount. In three of our most severe cases death ensued within sixty hours, and we think that a smaller dose, repeated afterwards if necessary, would have been safer. In comparison with mercury, salvarsan gives much better results, especially in the severer cases. After giving an injection it is wise to continue the mercurial treatment, as a combination of the two seems to be more efficacious. Some of our cases, however, which did not attend again for three or four months, had done well with salvarsan alone. In all the older children mercury and iodide had been previously given, with very slow improvement (especially in eye cases). After salvarsan was given improvement was much more rapid, but it is always advisable to carry on the mercury and iodide treatment also after the injection.

As already mentioned, in doubtful cases of congenital syphilis it is better to take the blood from the mother for a Wassermann reaction than to submit a weakly infant to such a procedure.

We express our sincere thanks to Mr. John Fraser, Assistant Surgeon to the hospital, for his kindness in performing all the injections; also to Dr. Melville Dunlop, Senior Physician to the hospital, for his help and his kindness in allowing us to keep the first dozen cases under observation in his ward until we were satisfied as to the effect of the drug; after this experience we felt justified in treating the later cases as out-patients.

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THE first International Exposition of Safety and Sanitation ever held in America will take place in New York in December of this year, under the auspices of the American Museum of Safety, of which Dr. William H. Tolman is director. The exposition will include exhibits devoted to safety, health, sanitation, accident prevention, welfare of the public and the individual, and the advancement of the science of industry. By a special Act of Congress, exhibits from foreign countries will be admitted free of duty. According to the *New York Medical Journal*, from which we take these particulars, every year 40,000 workers are killed in the United States; two million are injured, and three million become ill from preventable causes. The main object of the exposition is to point the way to the conservation of human resources.

THE PHYSIOLOGICAL TREATMENT OF PATHOLOGICAL SCOLIOSIS BY ROTATION.

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AT the last meeting of the American Orthopaedic Association, which was held at Washington in May, 1913, a committee was appointed which is to be known as the Scoliosis Committee. It is their duty to undertake an investigation and comparison of the results of the treatment of structural scoliosis by the methods under discussion at the present time. The report made by this Committee will be looked for with some eagerness by those interested in the surgery of the bones and joints on both sides of the Atlantic.

As the rotation method of treatment, which was first brought before the Canadian Medical Association over two years ago, will be subjected to rigid investigation and inquiry by this committee, it may be of interest to consider briefly the claims which are made for this form of treatment, which is founded on theories differing essentially from most, if not all, other theories of the mechanics of scoliosis.

To have a clear knowledge of the mechanics and theories of treatment by rotation it is necessary to have a definite idea of the movements possible in the normal, and especially of the inter-relation between the movements of the vertebrae and the movements of the rib walls of the thorax. This, a knowledge of the physiological, with a clear conception of the pathological, is the foundation on which our ideas of the rational treatment are constructed.

If we examine the cadaver of one who has presented the signs of organic scoliosis during life we notice that scoliosis is more than a deformity of the spinal column; it is a deformity of the trunk and especially of the thorax. If we examine the thorax more particularly we will observe that there is a prominence of the ribs on one side posteriorly and at the same time there is a bulging of the ribs on the other side anteriorly. These are signs of pathological scoliosis and signs of equally great importance as those seen in the spinal column.

The movements possible in the thorax are neither many nor great, according to authorities; in fact, Feiss takes great care to impress that the thorax moves as a whole and that movements of it are conducted in the dorso-lumbar region, but the theory that there is little movement between individual dorsal vertebrae is disproven by the great change of position assumed in pathological scoliosis. In fact, one is impressed with the amount of movement, both rotation and lateralization, that has taken place between individual vertebrae when one takes the trouble to examine such a cadaver. It seems well, then, since scoliosis has proved the extent of movement possible, to accept the statement that a wide range of movement is possible, but not usual. (The decided difference between the range of physiological movement possible and the result of pathological movement may probably be explained by the slow yet sure action of gravity, which eventually produces the extreme changes found in organic scoliosis. Temporarily applied force can only produce the more limited movements of physiological scoliosis.) A point of the greatest importance in the consideration undertaken by us is that of all movements possible rotation is the freest in the dorsal region. A second important point was demonstrated by Bradford twenty years ago, and later Lovett also drew attention to the fact that movements of the trunk are most possible in an attitude of flexion. The truth of this statement becomes evident on examining one in whom the pelvis has been fixed. It will be found in that case that all attempts to either rotate the body or bend it sideways will, in order that these movements may be carried out to the fullest extent, be accompanied by an involuntary flexion of the body forwards. This is probably due to the direction of the articular processes of the vertebrae. The truth of the statement that movements are most possible in flexion is borne out by the examination of a model whose pelvis has been fixed. If she attempt either side-bending or rotation to an extreme degree it is noticed that an involuntary

position of forward bending or flexion is assumed by her at once.

One of the most interesting points to notice in studying the effect of movement on the thoracic parietes is the correlation of movements in the rib wall and the spinal column. Movement of a rib means movement in vertebrae, and movement in the latter means movement in the former. This statement is important. The thorax is said to move as a "whole." Now it may move more or less as a separate entity, but, whilst the thorax is moving as such, each integral part of the thoracic parietes moves also, independently of the "whole," and, too, there is probably a constant relationship between these movements. (This is important, as this may give a means of measuring degrees of scoliosis if there is a constant relationship between the position of the ribs and the position of the vertebrae.) We see, then, that the assumption of an attitude must cause or be accompanied by extensive changes in the thoracic parietes, because of this correlation of movements seen in the walls of the thorax. Further, any attitude is either one of strain or non-strain. If one bends to the left side, the ribs on the right side become more prominent posteriorly and flattened laterally. If the reverse attitude is assumed, the similar changes take place on the reverse side. We have, then, in the assumption of such attitudes the assumption of positions similar in most respects to pathological scoliosis. The differences between the two conditions are, first, that the position in physiological scoliosis is not a permanent one, as is seen in organic scoliosis; secondly, we do not see in physiological scoliosis compensatory or secondary curves.

In the study of organic scoliosis one is impressed with the fact that in all cases of this condition there are two features to be considered: first, the primary cause, such as anterior poliomyelitis, for instance; and, secondly, the gradual changes induced by the primary cause. These latter illustrate the mechanics of scoliosis. Now the mechanics of pathological scoliosis can hardly be said to differ from those of physiological scoliosis, except that in the former conditions go further. Here, as we have said, we have organic change and compensatory curves, but both of these must be preceded by the earlier conditions such as are seen in physiological scoliosis. If this be so, the cause of pathological scoliosis may be said to be physiological scoliosis.

There is a limit to the elasticity of all bodies. This limit can be reached in the physiological scoliotic, just as it can be reached in a green stick. Bend far enough or often enough, and there will be no return to the normal, and thus the physiological may become the pathological.

Treatment.

The rotation treatment of scoliosis is based on our ability to secure physiological scoliosis by posture. In studying a transverse section through the trunk of a scoliotic we are impressed with the fact that the two hemispheres are opposed in form. If we could reverse these opposing hemispheres, we would have scoliosis of an opposite character. Let us, then, attempt this by inducing physiological scoliosis the counterpart of the pathological scoliosis. This may be done by bending towards the side of the convexity or by rotating towards the side of the convexity of the spinal curve.

If we choose side-bending as our means of obtaining physiological scoliosis, we must necessarily bend the patient's trunk towards the side of the convexity of the organic curve—that is, in the direction of the concavity of the compensatory curves; then these latter will be increased and important organs will be pressed upon.

If, on the other hand, we choose rotation as a means of obtaining physiological scoliosis, we choose the movement which is freest in the dorsal region, and we must realize that our organic change is most frequent in this region; further, we are not liable to cause distressing compression. Rotation, it may be added, acts on the dorsal vertebrae in one way and on the lumbar and cervical vertebrae in another way. In the rotation method used by us the ribs are first acted upon. These, in their turn, act as levers on the vertebrae; we force, by this method of leverage, the posterior part of the vertebrae away from the rib wall and the bodies naturally rotate towards the rib wall; thus, if we rotate the dorsal vertebrae towards the rib wall on which we act, we must also rotate the lumbar vertebrae in the same direction because of their attachments to the dorsal vertebrae. The rotation treatment acts primarily on the rib wall and secondarily on the dorsal vertebrae, and lastly on the lumbar vertebrae. With this rotation we get straightening of the spinal column. It cannot be otherwise. Mechanical principles support this contention. Skiagrams demonstrate it.

Practical Application.

The rotation treatment of scoliosis aims at causing the correction of the deformity by the production of its counterpart. The production of physiological scoliosis of an opposite character to the pathological scoliosis which already exists is undertaken by rotating the patient's thorax on a fixed pelvis, in a direction towards the side of the convexity of the curve. In thus producing physiological scoliosis of an opposite character to the pathological scoliosis from which the patient suffers we not only change the curve of the spinal column, but we change the deformity of the thoracic walls; that side which bulges unduly is flattened, and the flattened side is filled out.

We have already shown in this study that the chief deformities of scoliosis are in the thorax; that rotation is the chief movement of the dorsal spine; and that the greatest rotation possible is to be had when the dorsal spine is flexed, because here, probably, the articular processes of these vertebrae are in a position furthest removed from impinging on one another.

We have drawn attention to the difference in the behaviour of the spinal column when submitted to twist—say, by a wrench—and when submitted to the same by means of the attached ribs.

In other words, we have drawn attention to the fact that vertebrae may be rotated around their own centre of rotation, which may be a varying one. We will, then, endeavour to obtain the greatest possible rotation of the thorax, and, through its rib wall, of the vertebrae. As we can best obtain this when the thorax is in the flexed position, we will rotate the patient by means of the arms after having flexed the thoracic spine.

In doing this we must always remember that the paradox already mentioned must be kept in mind—the vertebrae rotate in a direction opposite to that of the thorax.

Those who employ this physiological form of treatment by rotation believe that the aim and object of treatment in scoliosis should be to place the thoracic parietes (including the vertebrae) in a position removed as far as possible from their present position of deformity. There they must be held in any possible way until by Wolff's law they have been so changed that it has become possible for their new and more normal position to be maintained. In scoliosis of a non-paralytic type this may be done by the application of plaster-of-Paris. (In scoliosis of a paralytic type neither plaster nor dependence on the law of Wolff will suffice. It is to be feared that the best treatment for these may prove to be the use of buried splints of either bone or steel.)

The primary deformity being found, its counterpart is produced by the induction of physiological scoliosis by rotation. The charms of this form of treatment lie in the fact that each step undertaken can be thought out and a reason suggested for every move, and that any one can produce correction without apparatus and simply maintain the same by the use of plaster-of-Paris. The writer employs a more or less complicated and continually evolving apparatus in order to secure the greatest possible rotation. Dr. Adams of Boston uses no very special apparatus, and yet can show most gratifying results. All one has to do is to rotate by means of the arms and fix. We rotate in flexion because we get greatest rotation in this position. We most carefully cut out windows over contracted thoracic walls and provide pressure over bulging walls. We recommend a course of breathing exercises, calculated by my colleague Dr. F. W. Harvey of Montreal, to expand contracted parts; but the principle, however, remains the same. These are simply adjuncts to the real form of treatment, which is the induction of physiological scoliosis by rotation.

ACUTE PANCREATITIS: ITS CAUSES, SYMPTOMS, AND TREATMENT.

WITH A DESCRIPTION OF THREE CASES.[1]

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THE rapid development of abdominal surgery in recent years, especially as regards the treatment of diseased organs lying in the upper abdomen, has in a large measure been due to the pioneer work of Mayo Robson and Moynihan, and to this must be added the no less important pathological, chemical, and experimental work of Cammidge, Opie, Flexner, and others.

We have now, therefore, a very precise knowledge of the intimate inter-relationship between the biliary passages, the duodenum and the pancreas, and how disease of one of these structures may affect the other, more especially so if it be of a catarrhal or microbic nature.

It has been my lot within the past eighteen months to operate on three cases of acute pancreatitis, a condition which, not many years ago, often passed unrecognized, even on the operating table and sometimes in the *post-mortem* room.

The recognition of acute pancreatitis from a clinical standpoint during life is still an exceedingly difficult matter, and in only one of my cases was the diagnosis suspected before the abdomen was opened.

CASE I.

E. J., male, aged 35, a dock labourer, was brought into hospital in a state of collapse. He had been drinking heavily during the previous ten days, and had hardly been sober during that period.

He had been vomiting frequently for some sixteen hours, and complained of intense paroxysmal pain in the epigastric region. The conjunctivae were slightly tinged yellow; there was no jaundice of the skin; the symptoms were typical of an "acute abdomen."

He vomited some black altered blood during my examination.

The abdomen was retracted, and the recti firmly contracted in their upper half. The patient, at intervals, lapsed into delirium; the pulse was exceedingly rapid and thready, the temperature subnormal.

There was no loss of liver dullness. A perforation of the stomach or duodenum was suspected, and an immediate laparotomy was performed under open ether, the region of the stomach being explored by the usual median incision. The peritoneum and omentum was found to be oedematous and swollen and of a deep red colour.

Recent adhesions were evident in the anterior abdominal wall.

The stomach and duodenum were carefully examined, and there was found no evidence of perforation.

The omentum was separated from the anterior abdominal wall, to which it was adherent, and on its under-surface were several well-marked white areas, varying in size from that of a millet seed to a shilling. It was then at once recognized that the pancreas must be the seat of the disease.

On exploring the small peritoneal sac with the finger, a large mass of black necrotic tissue, together with blood clot, was dislodged. A large drainage tube was passed down to the pancreas and the wound closed hurriedly, owing to the collapsed condition of the patient.

He died six hours after the operation.

The autopsy disclosed extensive inflammation of the common bile duct and upper part of the duodenum. There were no calculi in the biliary passages; the pancreas was to all intents and purposes unrecognizable as a definite organ. The head consisted of a large necrotic cavity, filled with blood clot and débris; the body and tail were swollen, red, and oedematous, and exceedingly friable, so much so that they could not be removed except in small portions.

CASE II.

A. F., aged 51, female, was brought into hospital in March, 1912. She had been vomiting for some days previously, and had suffered severe pain in the upper abdomen, which came on in paroxysms, for the past four months.

This culminated in a very severe attack previous to admission. She had had several "bilious attacks" during the past seven years, but had never had jaundice to her knowledge. She had been in the habit of drinking alcohol, but not heavily. The patient was of the fat, plethoric type, and was exceedingly collapsed on admission. There was no jaundice. On examination of the abdomen there was no undue distension, the recti, especially in their upper half, were firmly contracted, and she complained of excruciating pain on palpation over the region of the stomach and transverse colon. The liver was not enlarged, but there was tenderness over the region of the gall bladder. No other abnormality could be distinguished, but she was a difficult case to examine owing to her obesity.

The pulse was 130, and the temperature subnormal. Laparotomy was immediately performed, a vertical incision being made in the upper part of the right rectus, which would command the exploration of the bile passages, and the pyloric region of the stomach. On opening the parietal peritoneum the gastro-colic omentum was exposed. This was seen to be somewhat matted together and covered with white, glistening plaques of various sizes and irregular shapes, standing out in marked contrast to the yellow, fatty membrane in which they were embedded. "Fat necrosis" was at once recognized.

The whole omentum was then drawn through the wound and its under surface examined; this was studded over with shining clusters of "fat necrosis," and presented a picture never to be forgotten. Exploration of the small peritoneal sac with the finger released some blood-stained fluid, and beneath the finger the pancreas was felt to be swollen and oedematous. The peritoneum in front of it was gently torn through and a quantity of dark-brown-stained fluid was evacuated; a large drainage tube was inserted down to the pancreas through the gastro-colic omentum. The gall bladder, which was distended, was then opened through the upper part of the incision. It was found to contain a large quantity of thick, viscid bile and several small calculi. A drainage tube was sutured in and the wound closed.

The patient made a steady and uneventful recovery and is alive and well to-day.

CASE III.

D. C., male, aged 52. I am indebted to Dr. Touch, of St. Helens, for the notes on this case. The patient had been a very healthy man up to the illness. He had had pneumonia fourteen years previously and had entirely recovered from it. He was extremely temperate as regards alcohol but was a heavy smoker; he was very regular in all his habits and lived a generally healthy life. There was no history of any biliary trouble; he had put on flesh very rapidly during the past six months.

On November 6th, 1912, he became suddenly ill, with severe agonizing epigastric pain, the pain being entirely localized to the epigastric region. This pain lasted some twenty-four hours and was accompanied by frequent vomiting of some brownish material. The abdominal muscles were not rigid, but the tenderness made palpation difficult. Pulse-rate 120, small and regular. After the pain disappeared, deep palpation gave the impression of a fairly large tumour behind the stomach, but, as the acute symptoms passed off, it was decided to watch the case further.

There was obstinate constipation for the first few days; this was followed by diarrhoea, six to eight stools a day being passed up to the date of operation. They were greenish in colour and extremely offensive. The urine was found to contain sugar, and was of a high specific gravity, 1025. The patient remained in a more or less quiescent state for nearly a month, but on December 2nd he was again seized with an attack, the feature of which was precisely the same as in the first instance. Some abnormal condition of the pancreas was then suspected.

I saw him in consultation on December 4th, and an operation was decided upon. This was performed at St. Helens Hospital the next day.

On opening the abdomen extensive adhesions were found between the omentum and the anterior abdominal wall; the peritoneum and omental fat were stained a dirty red colour. No fat necrosis could be seen owing to the general discoloration of the tissues. An irregular mass could be felt behind the stomach, lying in relation to the small peritoneal sac. The foramen of Winslow was occluded by adhesions. The finger was introduced into the small sac above the stomach, via the gastro-hepatic omentum; and a large quantity of brown "muddy" fluid was evacuated through the opening, followed by brown-coloured débris and blood clot. The whole of the posterior portion of the upper abdominal cavity appeared to be filled with the same material. As much as was possible was removed by gauze swabbing, but, owing to the extremely collapsed condition of the patient, a large quantity had to be left behind. A large drainage tube was passed down to the pancreas, and the wound sutured.

The condition of the gall bladder and common bile duct could not be ascertained owing to the extensive adhesions around and the critical condition of the patient.

The patient showed marked improvement immediately after the operation. The sugar, which previously had been found regularly in the urine, entirely disappeared. On the seventh day, however, he showed signs of delirium, which came on at intervals. This gradually increased, with other signs of internal toxaemia. He died ten days after the operation. An autopsy could not be obtained. Two interesting features marked this case: First, the occurrence of two separate acute attacks, with an interval of twenty-six days between. Secondly, the appearance of glycosuria after the first attack, and its immediate disappearance after the operation.

Acute pancreatitis is a disease of adult life, and is more frequently found in males than in females. It occurs very rarely in children, as a metastatic manifestation following mumps.

[1] Read before the North Wales Branch of the British Medical Association.

Cases have also been reported as being due to traumatism. It has been produced experimentally by injecting bile and bile salts into the pancreas of dogs; and it has been found to have occurred in the human subject by the impaction of a gall stone in the ampulla of Vater, thus deviating the bile, which has been previously infected by cholangitis, into the duct of Wirsung, and thence into the head and body of the pancreas.

It has again been shown that the injection of the secretions of the duodenum alone into the pancreas has been followed by acute necrosis; this coincides with the *post-mortem* conditions sometimes found after death from this disease, where the duodenum is inflamed, and in some cases the seat of ulcer. It has, however, been clearly shown from the existing literature that at least 50 per cent. of all cases of pancreatitis are complicated by gall stones or cholangitis.

The histological structure of the gland, as Mayo Robson and Cammidge have pointed out, are of importance in view of the acute changes which may take place as the result of microbic or inflammatory invasion. The gland itself has no true capsule; its lobes and lobules are but loosely held together by delicate connective tissue, while the blood vessels and ducts are much thinner and finer than those found in the salivary glands. The digestive ferments also which it secretes are the most powerful in the body, thus rapidly producing, when set free, autodigestion in the gland itself.

It follows, therefore, that when the organ becomes invaded—via its ducts—by any irritant, and more especially so by infective material, a rapid and extensive inflammatory reaction results.

Acute haemorrhagic pancreatitis, gangrenous pancreatitis, and purulent pancreatitis are simply phases of the same disease. Haemorrhage probably follows the initial inflammation, the haemorrhage causes a rapid disintegration of the friable organ, and rapid destruction of its structure takes place. Added to this, its powerful digestive ferments are let loose in the abdominal cavity, and one striking evidence of their potency is found in the presence of so-called "fat necrosis." This latter condition is due to the "steapsin," or fat ferment, splitting the fat of the gland itself into fatty acid and glycerine, together with any other fatty structure it may meet. The soluble glycerine is absorbed, while the fatty acids are deposited in needle-like crystals in the fat cells. These altered fat cells are arranged in clusters or patches, and are of a striking dull-white colour, and stand out in unmistakable contrast to the surrounding yellow fatty tissue.

Symptoms.

These are at first vague in the early stages. There is often gastric uneasiness, flatulence, obstinate constipation, and persistent vomiting.

After some hours—sometimes several days—the patient is struck down by agonizing unbearable pain in the epigastric region, often shooting towards the back. This is followed by vomiting and collapse.

The pain is continuous, with periods of paroxysmal increase, and it may be so intense as to cause the patient to faint.

There is also acute tenderness of the upper abdomen, especially so in the middle line.

The pulse becomes rapid and thready, and assumes the abdominal type. The temperature is usually normal or subnormal, but as inflammation increases it may become irregular. In two of my cases there was marked cyanosis, in striking contrast to the pale, pinched aspect of ordinary peritonitis.

Constipation is a marked feature, so much so that this condition has been mistaken for intestinal obstruction.

Delirium is very constant, and was particularly marked in my third case, alternating with perfect mental clearness.

Jaundice may be present. It was noticed in Case I. Its presence and its intensity are entirely dependent upon whether there is obstruction in the bile passages or not.

Sugar is rarely found in the urine, although it was present in my third case.

If the disease has progressed for some days a definite mass can be felt in the epigastric region: it is well defined, circumscribed, and limited to the upper abdomen. In front of it the stomach and colon can be percussed. The mass is due to localized peritonitis, and the accumulation of blood and inflammatory exudate in the small peritoneal sac in front of the pancreas.

Diagnosis.

This is exceedingly difficult, and in most cases impossible. Given, however, a patient who has been previously healthy and who begins to complain of flatulence and dyspepsia, this being followed rapidly by the acute symptoms already referred to, with the formation of a definite circumscribed mass in the upper abdomen, the presence of pancreatitis is probable. The differential diagnosis must be made from a perforating gastric or duodenal ulcer, intestinal obstruction, acute inflammatory affections of the bile passages, and acute appendicitis.

The very nature of such symptoms warrant, however, an immediate exploratory laparotomy, and in most cases it is only by these means that the diagnosis can be made with certainty.

Cammidge's test, which depends upon the demonstration of pentose and other substances in the urine, has proved highly successful in his own hands, but its complexity, together with the length of time involved in performing it, do not warrant its use in so rapid and lethal a disease as pancreatitis in its acute form.

Treatment.

The treatment is wholly surgical—immediate laparotomy, with exposure of the pancreas, and its free drainage. If the patient's condition will allow it, drainage of the gall bladder also should be established. If this is not possible at the time, the gall bladder should be drained as soon as the patient's condition improves sufficiently. The mortality is exceedingly high. Fully 60 per cent. of the recognized cases succumb after operation; without operation it is almost certain death.

The intensity of the disease depends in a large measure on the amount of gland destroyed, the actual cause of death being trypsin poisoning.

This protein-splitting enzyme has only a feeble digestive action of itself, but when brought into contact—as shown by Pawlow—with the ferment "enterokinase" found in the succus entericus, its digestive action is rapidly brought into play. When, therefore, following the rapid disruption of the gland, it is thrown into the free abdominal cavity, its action on the tissues is not of a digestive nature, but it is absorbed, and produces that intense "lethal" condition, which is so characteristic of this interesting but deadly disease.

It is stated that there are now some 250 legally qualified women practising medicine in Japan, and that there is an almost equal number of women studying medicine in the University of Tokyo. One of the chief private hospitals in the Japanese capital is that carried on under the direction of Dr. Yoskoka Yacoi, one of the leading medical women of Japan; it has an out-patient department where the average attendance of patients is about eighty a day. The movement for the repeal of the law forbidding women to practise medicine was started by a lady named Hagino Yosei-Ko in 1884.

Heiser, in the *Philippine Journal of Science*, vol. viii, Section B, No. 2, April, 1913, describes the recent outbreak of plague in Manila. He states that after an absence of six years in human beings, and five years among rats, plague was again found in the Philippine Islands on June 9th, 1913. Manila is in almost daily communication with badly plague-infected foreign ports, which are within a few days' steaming distance for the average vessel, and therefore passengers, crew, rodents, and vermin may arrive well within the incubation period of the disease. This being the case, it seems remarkable that the Philippines should have remained free from plague for so many years. During the period of its absence, however, cases of the disease have been detected from time to time amongst human beings upon incoming vessels, but such infections have always been intercepted at quarantine stations. As the outbreak was still going on when Heiser's paper was written, he has confined himself strictly to a statement of facts, and for the present has not attempted to draw any conclusions as to the source of origin of the outbreak.

EIGHTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF CLIMATOLOGY AND BALNEOLOGY.

F. J. PALEY, M.D., President.

PRESIDENT'S INTRODUCTORY REMARKS.

AFTER a few initial observations, Dr. Paley said: As you are doubtless aware, there has not, I believe, ever been a Section devoted to balneology and climatology at the annual meeting of the British Medical Association. But, as Brighton occupies a proud position as a seaside health resort and has done so for more than 100 years, it was felt that it was peculiarly appropriate that such a Section should be instituted here. The credit of this idea is due to our hard-working local secretary, Dr. Copeman, who suggested it at a meeting of the local executive. Though Brighton cannot, perhaps, be considered a balneological station in the sense that Bath or Harrogate or Buxton and many others are—that is to say, that, though there is no natural spring or spa of mineral water here, yet we have that largest of all baths, the sea.

DISCUSSION ON SEA BATHING.

OPENING PAPER.

By W. J. TYSON, M.D., F.R.C.P.,
Physician, Royal Victoria Hospital, Folkestone.

IN considering the subject of *sea bathing*, we must take into account, not only the sea water, but also the *sea air* and the character and situation of the town itself.

1. *Sea Water.*—The name "salt water" is appropriate, for its principal ingredient is common salt, 3 per cent., but no doubt other constituents, such as the sulphates of magnesia and soda, muriate of magnesia and lime, with salts of iodine and bromine, add to its value—the total solids amounting to 4 per cent.

Sea water does not evaporate so readily as fresh water, and doubtless after bathing the salt particles, remaining in the skin, even when it has been dried with a towel, keep up a certain amount of irritation and warm glow. For this reason people do not as easily take cold after a sea wetting as after a wetting with fresh water.

The temperature of the sea is affected by its saline constituents. Maury writes: "It is the salts of the sea that assist the rays of heat to penetrate its bosom; but for these the solar ray, instead of heating large masses of water like the Gulf Stream, would play only at or near the surface, raising the temperature of the waters there, like the sand in desert places, to an inordinate degree."

The temperature of the sea is more equable than that of river water, so that bathing in sea water can be continued for a longer period of the year.

There is another physical characteristic of the sea, namely, its constant motion. The friction so induced produces a continuous and exhilarating tonic action, but of course, if the immersion is carried on for too long a time, or in too rough water, exhaustion of the nervous system may occur.

The immediate action on the skin does not sensibly differ whether the water is salt or fresh, but the remote effects are not the same, for the density and composition of the former are different, and the environment of sea bathing is unlike that of fresh water bathing. The first shock of the water contracts the surface blood vessels, with abstraction of heat and a determination of blood to the interior, succeeded by a reaction—a sense of warmth and glow; this cycle may be repeated during the bath, but of course in a lessened degree, but if the bath is continued too long, a depressing effect appears.

It is the above action that produces the tonic effect of sea bathing when wisely and judiciously carried out in suitable cases.

2. *Sea Air.*—This cannot be left out of account in dealing with our subject, for sea air is always breathed whilst bathing, and, be it remembered, at sea level.

Now what are the qualities of sea air which give tone to the system, strengthen our energies, increase the appetite, and give that feeling of well-being to most people who come to the seaside?

In the first place, we inhale more oxygen and less carbonic acid in a given volume at the sea coast, because of breathing the air at sea level. This will necessarily produce a greater metabolism in the economy of the body, so that old materials are thrown out and new ones produced.

Again, owing to the sea breezes, landward in the day and seaward at night, there is a constant change of air—an air which is practically always pure. Again, there is a greater uniformity of temperature, which is neither so high in summer, nor so low in winter as inland—a fact borne out by meteorological reports.

Upon this follows the consideration of the humidity of the sea air. As the sea is the great source from which the moisture in the air is drawn, so must the land which is by the seaside first share in this moisture. This greater relative humidity of sea air doubtless plays an important part in the benefits which accrue from breathing it.

Ozone is a constituent we must recognize as important in sea air. Its presence, I think, accounts for the great benefit which children seem to derive from residence at the seaside.

Lastly, in the sea air we have salt, iodine, and bromine, the principal constituents of sea water, the salt existing sparingly in the air, but of course more largely in the sprays. The iodine is mainly noticeable at low water, when the marine plants are exposed—thus people who bathe in the sea, or sit upon the beach or sands, or walk about in the immediate neighbourhood of the sea will inhale air containing the above. When the weather is rough and boisterous this saline and iodined air will be wafted far inland.

It is rather strange that while many Continental inland spas are using their saline waters for inhalation in the form of artificial throat sprays, we have in our home seaside resorts thought so little about the simple uses of our natural products.

3. *Selection of a Seaside Resort for Bathing or Otherwise.*—I suppose we can say that there is no country in the world so well provided with seaside holiday or health resorts as Great Britain and Ireland.

It has seemed to me to be an exceedingly difficult problem to gauge their respective merits. There must be considerable differences in aspect, amount of verdure, protection by cliffs or hills from the wind, and bathing facilities. Yet certain seaside places stand out definitely for the cure or alleviation of certain diseases. I am afraid some seaside places owe their popularity to advertisement. But we can say honestly that we possess in our seaside resorts an asset for giving health and strength unsurpassed by any other country.

We now arrive directly at our subject—namely, *sea bathing*. We must at once admit that few patients consult doctors about it. It is rather difficult to say why this is so. Perhaps it is because the sea is a domain which all can use when and how they like. If it were more inaccessible and more expensive to use, it would probably be held in higher esteem. Nevertheless, unless people are in robust health and within certain limits of age, medical advice should, as a rule, be taken before resorting to sea bathing.

I intend to refer only to the general principles to be observed in sea bathing.

Season.—This must vary with the position and aspect of the town. It is generally recommended between June 1st and October 1st. In my opinion June is too early for most people: the water is often very cold, and the east winds apt to be prevalent.

October may be a warm month, and when so bathing can be prolonged with pleasure and benefit; but really the best test is whether there is a good or bad reaction after the bath.

Time for Bathing.—My experience leads me to think that early morning bathing before breakfast was more common years ago than it is to-day; perhaps we were less luxurious and more strenuous. There are many people who enjoy the bath before breakfast, but they are strong, and do not require medical care; but the experience of men most able to judge is that the best time to bathe is between breakfast and lunch.

Duration.—There is one rule which must never be forgotten in bathing—namely, always leave the sea before the reaction stage ceases. Serious symptoms are liable to follow if this maxim is neglected. I have seen two cases of complete paraplegia follow on bathing, doubtless from haemorrhage into the spinal cord; one recovered, but the other remained paraplegic. I suspect many cases of drowning from syncope have been due to the effect of the cold on the nervous centres. It is usually stated that from five to fifteen minutes is the proper time, and for non-swimmers the former time is sufficient.

After the Bath.—Slow dressing is as bad as slow bathing, for in both heat is lost, to the detriment of the bather. A rough towel is of more use for the friction it produces than for the drying; and the glow of the skin following the towel exercise should be maintained by a brisk walk, followed by a moderate meal.

Mode of Bathing.—Open beach bathing is only fit for the robust, and tents do not afford the protection of wooden machines. Every one who uses sea bathing for health purposes should know fully the rules I have sketched above.

Treatment of Diseases by Sea Bathing.

Let us consider the diseases which seem most benefited by this practice, and afterwards those which are not improved by it. I think the convalescents from acute disease—those run down from overwork, mental anxiety, or general fatigue—derive the most benefit from sea bathing, but the precautions already mentioned must not be neglected. Again, strumous and tuberculous cases do especially well. Rickets is another disease which improves under this treatment; but here, as with tuberculous cases, time is the great requisite. Most forms of atonic dyspepsia do well, as do the milder forms of catarrhal affections. Asthma behaves, as it always does, most erratically. Some cases do remarkably well, others do badly.

It is interesting to note that dermatologists very seldom send skin cases to the seaside. I suppose there must be some reason for this, although my own experience leads me to think that the influence of sea air and sea bathing has not always this deleterious effect. I admit some cases of acute eczema do badly.

I feel sure that anaemia is more common at the seaside than it is inland; but, whilst saying this, please remember that treatment with iron, good feeding, and sea bathing give satisfactory results.

In rheumatism, warm sea bathing is preferable to cold, but I believe whenever it is possible it is better for those thus affected to live in warm and dry climates.

The disease of women most benefited by the sea is leucorrhoea; the mere residence at the seaside will often effect a cure, but, when combined with bathing or injections, the results are most marked.

Many cases of hysteria and neuralgia do particularly well at the sea.

Lastly, there are diseases in which sea baths are not to be recommended—namely, advanced heart disease, asthma, bronchitis, Bright's disease, rheumatism, acute gout, and all other acute conditions; for here the sudden cold to the skin and subsequent flushing of the internal organs, with an absence of reaction, may lead to serious consequences. The same remarks apply to young children and old people.

Among the minor maladies which may at the outset be aggravated by sea bathing or even by sea air the most tiresome is an attack of "biliousness" followed by insomnia. The best remedy is a dose of blue pill, followed next morning by a saline draught.

DISCUSSION.

Dr. G. MAHOMED (Bournemouth) said he had been struck by the fact that some very well-nourished persons of excellent physique and of lively disposition disliked, or even received harm from, sea bathing; whereas others, who were weakly and lethargic, derived great benefit. In explanation of these phenomena he offered the conjecture that sea bathing acted as a stimulant to secretion of the thyroid gland. As a consequence, those in the first group, whom he supposed to be already well supplied or over-supplied with that secretion, would be inconvenienced by a procedure which further augmented the dosage. Conversely, weakly subjects who might be held to be suffering from thyroid deprivation would certainly be benefited by measures which led to greater activity on the part of the gland.

Dr. W. D. JOHNS (Bournemouth) said: During the fifteen years that I was medical director of an open-air sanatorium at Bournemouth I was in the habit, every summer, of taking about a dozen patients to bathe two or three times a week, and I have no hesitation in saying that of all the diseases benefited by sea bathing tuberculosis deserves a foremost place. I only remember one untoward event, when a patient, contrary to my instructions, would insist on diving, and managed to get a small haemorrhage, but nothing serious. I was never able to trace a single case of dry pleurisy—that great bugbear of the consumptive, and the circulation was always recovered immediately. The restrictions were few. Old swimmers were allowed to swim, but not dive. I encouraged swimming on the back in preference to the chest stroke. Non-swimmers were not encouraged to learn to swim. After the bath—and I believe this was the secret of success—I used to serve out hot milk all round, and the carriages were ordered to await us at the top of the hill so that the patients had a nice little climb up the cliff before taking their seats.

Dr. ODELL (Torquay) agreed with Dr. Tyson that it was a mistake to wash off the salt water, as was often done, but much better to rub well with a rough towel and allow the effect of the salt water to remain. He considered sea bathing infinitely superior to fresh-water bathing, but, in every case, the length of time should never be continued after there was the least feeling of chilliness. The benefit of *warm* sea baths could not be over-rated for patients whose nervous systems were overwrought. He mentioned one case in which great risk of life had occurred in a strong man who had jumped into the sea when he was in an exhausted condition from previous muscular exertion; and another in which the man died from heart disease brought on in rescuing an attempted suicide. He spoke of the value of sea-water packs in rheumatoid arthritis. He thought that the hot milk given by Dr. Johns to his patients, after bathing, was of the utmost value. Dr. Odell mentioned the value of seaweed baths in psoriasis, and spoke of the complete system of baths which was now in process of formation in Torquay.

Dr. W. KENNEDY (Bath) considered that for fairly strong subjects the best time for bathing was before breakfast. He held that the average time-duration of the bath usually laid down (five to fifteen minutes) was much too long. The utmost benefit accrued to elderly persons from sea bathing, and at the other extreme of life to very young children, under the closest possible supervision.

Dr. R. WHITTINGTON (Brighton) said that the time of immersion should be increased gradually. He referred to the beneficial effects of paddling in water of suitable warmth.

Dr. CLIPPINGDALE (London), dipping into history, said: The modernity of sea bathing as a therapeutic remedy will surprise any one who looks into its history. The ancients used sea water externally for all sorts of ailments, especially for diseases of the skin. For other maladies they used it internally as a purgative. They occasionally mixed it with their urine. It was used as a lotion for wounds. As such, Richard Wiseman tells us he found it useful when at sea with his fugitive Prince, Charles II; and Sir John Floyer, who flourished at Lichfield in the reign of James II, and who founded in

Lichfield the first public bath in this country, also praises the external and internal use of sea water, but he only makes one reference—and that a very casual reference—to immersion in the sea itself. The first author to deal with sea water and sea bathing as remedial agents was a foreigner, M. T. Bartholin, who, in 1671, wrote a work advocating the use of sea water as a remedy for gangrene. M. Bartholin was followed by another foreigner, Mons. Lanzoni, who in 1699 advocated its use in cases of herpes. The first English author was Dr. T. Speed, of Oxford, who wrote his book in the year 1755. Speed's work was included in the first edition of Dr. Richard Russell's work published in 1756. This Dr. Russell was, of course, the physician who did so much to make Brighton, as a health resort, famous. Russell, in the second edition of his work, published in 1769, states that he had only tried sea water in cases of enlarged glands. He had tried it, however, in such cases with so much success, that he intended trying it for other disorders, and it is interesting to note that he found those who made a living by picking up sea shells at Brighton seldom suffered from caries of the teeth. Russell's book is well worth purchasing by any one interested in the subject who can hear of a copy. Following Dr. Russell was Dr. T. White, who, in 1775, issued a warning against the excessive use of sea bathing. After this the literature of sea bathing, both in this country and abroad, becomes voluminous. In sea bathing, as in other things, fashion gives an impetus, and the impetus to sea bathing in this country seems to have been given by George III and his family, who went to Weymouth for the purpose in the summer of 1789, and repeated their visit nearly every year afterwards for about a dozen years.

Dr. TYSON, in his reply, expressed a general concurrence with the remarks which had fallen from the various speakers. He said that the duration of the bath should be measured by the capacity of the bather for exercise. Properly conducted paddling he believed to be very beneficial to children. He thought that rheumatic subjects often did badly at the seaside.

DISCUSSION ON INTERNATIONAL ASPECTS OF BRITISH HEALTH RESORTS.

OPENING PAPER.

By NEVILLE WOOD, M.D., M.R.C.P.

I WISH to preface my remarks by saying that the term "health resort" in this communication is used in the restricted sense of a place to which patients are usually sent for a comparatively limited time and for a definite course of treatment. It is the equivalent of the German word *Kurort*. I should add also that in advocating active measures for the attraction of foreigners to our shores, I refer only to invalids and persons accompanying them, and not to tourists or travellers.

In a paper read before the Royal Society of Medicine in 1910, I was able to travel over the whole field of the subject we are about to discuss; but to-day a more severe time limitation compels me to confine myself to an endeavour to show that we may reap advantage from pacific penetration by the foreigner and to enter a plea for assistance in the furtherance of this object.

The specific merits of our insular climate for certain categories of foreign patients, though so great as to justify the use of the term "overwhelming," are practically unsuspected on the Continent and imperfectly appreciated even in America.

Hitherto, in the face of a vast annual emigration of British invalids with no corresponding influx from other lands, the efforts of our municipalities have been confined to begging the leaders of opinion to set their faces against this exodus. That, I contend, is a policy weak in dignity, weak in a suggested inferiority which does not exist, and weak, above all, in the arguments used in its support. Not thus is the balance to be redressed. A substantial number of the invalids of every country do unquestionably benefit by being sent to some other land for change. Let the authorities of our home resorts frankly recognize this fact in its application to Britons. When they have done so they can, with a greater prospect of success, urge the acceptance of the same principle in a plea for reciprocity from abroad.

Among the countries of Europe possessing important health resorts England alone pursues a narrow policy of isolation. It becomes necessary, therefore, to look abroad to find what may be gained by the substitution of one which is more progressive. The most striking fact, and one which at once compels attention, is that by far the largest profits from the health resort industry are reaped by that country which makes the smallest effort to keep its nationals at home; yet, numerous as are the foreign patients attracted, they are always outnumbered by the native-born. In the country referred to, on the opposite shore of the North Sea, the courses of treatment at the spas, together with the sale of mineral waters, bring in annually a revenue of 19 millions sterling, while it is estimated that if to this were added the sums spent by visitors in the health resorts, the gigantic total of 40 millions would be reached. Thus, by appealing to figures, we find proof that the fullest measure of esteem at home and the greatest prosperity are attained by the establishment of prestige abroad—a prestige based on efficiency but fully established by great ability and untiring energy in maintaining publicity abroad. It is only in this lack of world-wide prestige that our health resorts compare unfavourably with those of the Continent.

It is unfortunately the case, however, that not a few Englishmen, especially among the wealthy leisured class, take it for granted that Continental spas occupy a higher plane than those of our own country—an opinion shared by some members of the medical profession. With such persons argument in detail is in vain, but were we in a position to state that foreign experts prefer our spas for some groups of their patients, the prestige of the British resorts would at once be assured, and we should have less difficulty in prevailing on the larger number of our invalids to remain at home.

The advantages of prestige cannot be set down in terms merely statistic. It is the very breath of life in health resort practice, bringing in its train confidence in ultimate recovery and a cheerful willingness to submit to necessary discipline. These are considerations which will be appreciated by those practitioners who complain of the difficulty of obtaining proper control over their patients. It rests with British physicians and those who control our health resorts to place this prestige on a sure footing.

We are in a position to show that we possess spas of the highest rank and of very great variety, from the very quiet to the sufficiently gay; spas with a finely graduated scale of springs, from the feebly mineralized to the most highly concentrated in Europe, and many of them equipped with every useful appliance for physio-therapy. In every one of them I believe there is model sanitation, while the facilities for health-giving outdoor exercises and recreation are unsurpassed in the world.

Let us turn now to the inland "climatic stations," a term which refers to places where excellence of situation is combined with organization for the special needs of invalids. Inland, then, we have villages and small towns in addition to large tracts of land almost uninhabited which would well repay the attentions of the capitalist were he sure that when his task was completed their fame would be spread throughout the world.

Even if time permitted, I should leave to subsequent speakers the discussion of our seaside resorts, which have justly been called the "glory of England," for I know that at this meeting there are authorities on the subject from whom I should only wish to learn; but members representing Brighton will perhaps bear with me if I quote some opinions on London-by-the-Sea held in London-on-the-River. Brighton is spoken of as a convenient and healthful dormitory for the metropolis, as an accessible spot for week-ends and Sunday luncheons, and as a place for permanent residence possessing many amenities. We know Brighton, in fact, as one of the most important of healthy resorts. To what extent you desire us to regard it as coming within my definition as a health resort, and whether in any month it is, in the jargon of the spas, contraindicated, perhaps you will enlighten us.

I ask for the co-operation of members of the profession in bringing to the notice of our foreign colleagues the

advantages offered by the health resorts of Great Britain. The first step has already been made by the publication of a volume in which the leading resorts are described, and special cognizance has been taken of international aspects.

As the next step, I would suggest the production and wide distribution of pamphlets giving much fuller topographical details, written in the chief European languages and especially designed for the purpose in view.

The profession, too, might fairly urge on those in authority that they should make some concessions to the taste convenience of the foreigner, as he has made many to ours, though I believe that our resorts would lose rather than gain in attractiveness in his eyes if they too radically ceased to be British, and so foreign—to him.

Finally, there is an aspect which, though partly commercial, demands mention, since on it has been founded an objection to the whole project now under discussion. It is that during their chief season many of our resorts are already full to repletion. However true that may be of some of them, the practical answer furnished by those who are in a position to know, is that the greater number of the Continental visitors to our shores between the months of spring and autumn come before our summer season is in full swing, while Americans arrive for the most part when it is on the wane. I am informed, too, that those of our health stations which enjoy a winter season are never at that time actually overcrowded.

In a discussion of the subject I would suggest the following issues as full of interest:

1. What have British health resorts to gain from the advent of foreign invalids?
2. What steps should be taken by British medical men to inform their foreign colleagues of the therapeutic resources bestowed upon these islands by Nature?
3. What measure should be taken to supplement the amenities already existing with a view to the attraction of a larger number of invalids and their companions from foreign countries, from our dominions overseas, and from our own country.
4. What are the methods by which we may add to our therapeutic resources or render them more efficient?
5. What are the most distinctive advantages of our health resorts, and for what categories of invalids, British or foreign, are they specially indicated?

DISCUSSION.

Dr. Gordon (Exeter) said: In the large debt which British health resorts owe to Dr. Neville Wood, not the smallest item is the movement he has started to draw foreigners to this country for certain advantages which the Continent does not offer. In Devon and Cornwall there are many places whose merits are just beginning to be understood, but for the purpose of this discussion I must limit myself to their southern coast. Its climate is remarkably equable (the Scillies are perhaps the most equable place in Europe), with a mild, moderately warm winter, moist yet not too rainy, sunny, and greatly wind-sheltered. Such a climate should benefit the more irritable dry varieties of respiratory catarrh. And actual experience has abundantly proved that it does. There are parts of Europe where such catarrhs are common. Why do they not send their patients so suffering to the south coasts of Devon and Cornwall? It would be much to their benefit if they did. In South-East Devon also, not only is bronchitis uncommon, but rheumatic fever is also rare, and heart cases in my experience consequently do remarkably well. It will be well worth considering whether heart cases from abroad might not derive very real benefit in South-East Devon. That, however, remains to be tried. The experiment is necessary in respect of irritable bronchitis and laryngitis in all the sheltered resorts of the southern coast of the two counties.

Dr. Copeman (Brighton) felt sure that British health resorts were far too little advertised abroad. He deplored the linguistic deficiencies of British medical men.

Lieutenant-Colonel W. Burke had satisfied himself, by personal observation, that some of our spas were as well equipped as those of the Continent. Alluding to the specific value of change, he cited some remarks made to him by a Carlsbad physician whose patients were cured by remedies applied at that spa, although exactly the same measures when made use of in their own homes had proved inefficacious. He found fault with the management of English hotels, and believed those of Switzerland to be much superior.

Dr. Paley (Brighton) agreed with the opinions expressed by Dr. Neville Wood, and regretted that British doctors set so little store by the health resorts of their own country.

Dr. Neville Wood, in his reply, thanked the members of the Section for the attention they had given to a topic presenting many elements of novelty. He discussed some of the means by which British health resorts might be rendered more attractive to foreigners. With the generous aid of local members of the profession visits were being planned for foreign visitors to the forthcoming International Medical Congress to some of our leading health resorts, among them being Bath, Harrogate, Leamington, Llandrindod, Droitwich, and Torquay.

A CRITICISM OF METHODS OF TREATING PHTHISIS BY "CLIMATE."

By H. de Carle Woodcock, M.D., M.R.C.P., D.P.H.

I have spent so vast a number of dulled hours in collecting and arranging statistics that I am rejoiced at the thought that in this paper statistics will have little place.

Dr. Gordon of Exeter set me on my present trail. He has long studied the evil effects of exposure to rain-bearing winds, and has recently lamented our ignorance of climatology in relation to disease. There are certain differences in phthisis mortality of, say, stations on a hill-side. Admitting Dr. Gordon's decimal points of difference in different stations of the same locality, I ask myself, Is this knowledge of much value to the physician seeking to find a suitable locality in which to place his phthisical patients? And with this unanswered question in my mind, I began to review the wide question of the climatic treatment of patients suffering from phthisis, remembering the variety of types of phthisis—for instance, the coarser type, slow in its decay; and the finer type, in which so often beauty seems the sunset of health.

At time not distant no one threw doubt upon the value of climate as a factor in the cure of pulmonary tuberculosis. Our lung patients were, whenever possible, directed to a sunnier land. It was assumed that a sunlit land was an impossible country for the tubercle bacillus, and a theoretically perfect country for the patient. Patients started on a long pilgrimage, which oftener than not included a Calvary.

Of course, it was always possible to quote the optimistic evidence of the survivors. Clifford Allbutt brought back conviction from Davos and Arosa. Bennett discovered Mentone, as Brougham had previously discovered Cannes. Other men have favoured Hyères.

Much might be said for Switzerland and the Riviera, notwithstanding the bitter winds of the latter; but what madness was it that sent our consumptives on long voyages to distant parts of America, to Australia, to Cape Colony? What evidence was there here of any insight into the knowledge of climatology in reference to the needs of the patient? A friend of mine was, twenty years ago, told to take her invalid husband by sailing ship to Melbourne. So great was the rage to send consumptives to Australia that nine people on this sailing ship died on the voyage and had to be buried from the ship's side. As directions to these people needing minute guidance for conduct were seldom given, the patient, I am told, rode forty miles on horseback on one day, and was prostrated with a severe febrile reaction. He presently died.

It is within memory how South Africa was another land of mirage for the consumptive. I have actually been asked to consent to men in the last stage of disease going to South Africa. Of course doctors know a lot more about South Africa now. The hundreds of returned soldiers who came back to die in our sanatoriums have doubtless

had something to do with our present absence of faith. I have sent patients to New Zealand, although the rapid immolation of aborigines might have prevented me. But a message from a patient of mine begged me never to send another. The hardships had nearly killed him when he wrote me. Then we have the Andes, praised by many, and Saranak Lake, where R. L. Stevenson stayed awhile. And, of course, there is Canada, where, so Father Ward told me, the great fear in the mission schools is phthisis. Then there is Egypt, where I have seen emaciated Soudanese spitting on the sidewalks.

What is the important factor in the very terrible death-rate among the blacks in Trinidad? These men contract tuberculosis more easily in this sunny land, and they all die of it, and die as of an acute infectious disease.

They have more sunlight and more phthisis in France, and who can explain the high death-rate in Ireland? The Irish is a great emigrant race, but in the United States, in a climate not virulent to the native-born American (though, again, virulent to the negro), the Irishman finds his death-rate as cruel as that of his motherland. We may find the solution of these varying death-rates, but not in climate, which gives one set of inhabitants an advantage over another set. Mr. Redmond and Sarah Grand state that Ireland suffers since it is drained of its best blood, but its best blood suffers and dies as easily in the United States. These facts make one easily conceive that methods of treatment are of much more importance than locality.

I am inclined to ignore the claim of theoretically perfect climates in the cure of consumption. Indeed, there is a paradox. I have found in Wharfedale and Airedale very successful sanatoriums surrounded by populations suffering quite severely from phthisis. It may be the benefit obtained from skilled attendance in Ireland, France, or Switzerland is not dependent upon the climatic conditions. Of course, a fog-producing river is part of the London climate, and these fogs kill consumptives, much as the sand-storms of Egypt or of Australia do.

Nordrach, within a forest, damp part of the year; Falkenstein, a broad open glade; Grabowsee, a sandy plain, have all cured their patients. On the other hand, sailors, who in Dr. Mead's time had a terrible phthisis death-rate, still suffer far too much owing to the horrible sanitary conditions of ships. I do not think the terms on which the tubercle bacillus lives depend much on the barometer, and the bacillus is at a constant temperature. Anyhow, a sheltered case seems to me to be the best life for the sufferer from active tuberculosis, but this sheltered case may be obtained in the worst of climates. In the non-febrile cases of phthisis methods of treatment in sanatoriums are even more independent of climate than in the febrile cases. It is, of course, not the purport of this paper to enter into details of treatment. Personally, I believe in comfort and shelter. A good income is a better preventive of consumption than is a good ancestry, though, of course, riches may chain a man to licentiousness. You must defy the hygienic conventions if you wish to prevent or cure phthisis.

I may appear to have unfairly attacked the prescribing physicians of twenty years ago. Many of their opinions were not theories but hypotheses, while, as Dr. Gordon has wisely said, climate has never been studied in a scientific spirit—at least, not in modern times.

DISCUSSION.

Dr. GORDON (Exeter) said: Dr. Woodcock has done good service in emphasizing the need for further work on the climatology of phthisis. There can be no doubt that in the past harm has been done by unsound theory—sometimes even by mere fashion. The subject is still more or less chaotic, but order should emerge to careful investigation. By "treatment" I assume he means open-air methods, graduated exercise, suitable feeding, and perhaps tuberculin in proper cases. There can be no doubt of the great revolution in phthisical treatment which open-air methods have effected. But suitable climates should aid such treatment. I have shown that in two neighbouring areas the course of the disease has been considerably modified by local aspect. I hope Dr. Woodcock's remarks will help to stimulate fresh work on the climatology of the disease.

Dr. GORDON EVANS (Davos) was of opinion that the treatment of pulmonary tuberculosis was more successfully carried out at high altitudes, such as Arosa or Davos. This was suggested by the well-known fact that consumptives did better in cold than in hot climates. Referring to the methods of treatment, he commended the induction of artificial pneumothorax by the injection of nitrogen into the pleural cavity, a procedure that might be repeated several times. By this means the lives of many apparently hopeless cases had been preserved, tubercle bacilli had disappeared, and the patients had resumed their occupations.

MASSAGE IN FIBROSITIS AND OTHER PAINFUL CONDITIONS.

By R. ACKERLEY, M.B.,
Llandrindod Wells.

AT most of the English spas a large percentage of the visitors who seek treatment are suffering from some form of fibrositis, which is often described as rheumatism, muscular rheumatism, or neuritis.

Before going to the spa the treatment adopted in their own homes has in very many cases been directed mainly to relief of pain; rest has been enjoined, analgesic drugs have been given, often until the heart has suffered; potassium iodide until the digestive organs have been upset; soothing liniments have been applied; and the patient, or parts of him, have been baked or parboiled or electrified in various ways. If and when these means have failed to give relief, he is advised, or allowed, to go to a spa for treatment, and in many cases in worse, and not better, condition than he was some days, weeks, or months previously.

The failure to cure has often been due to the fact that no serious attempt has been made to ascertain and treat the fundamental cause or causes of painful conditions. But, apart from fundamental causes, mere rest, anodynes, and heat are calculated to give at best temporary, and not permanent, relief.

It is impossible to be certain and foolish to be dogmatic about the exact way pain is caused in the cases which I have referred to, but it seems probable that it is caused in one of the following ways: (1) Irritation of nerves by toxins, etc., circulating in the blood;[1] (2) direct injury and laceration of nerves; (3) by nerves being involved in fibrous nodules, or being compressed by fibrous or inflammatory tissue; (4) or by nerves being pulled on during movement owing to fibrous adhesions either of nerve sheath or of muscle or tendon. Comparatively rarely, in my own experience, is there, or has there been, any definite inflammation of the nerves themselves. In recent injuries, besides the tearing of small nerves, the pain seems to be due mainly to the pressure on nerves owing to haemorrhage or serous effusion.

For the permanent relief of all these conditions skilled massage discreetly given is the most efficacious in obtaining rapid permanent relief. As supporting this view, I can quote the advice of Professor Stockman, Dr. Maxwell Telling, and many others, including for recent injuries, Professor Lucas-Championnière. I am, however, frequently told by patients that their doctors have forbidden massage; and one finds in the Harveian Oration delivered by Dr. Luff statements such as the following. Speaking of fibrositis he says: "Massage is very useful in the later stages, but it should only be employed when it causes no pain. The manipulations should be very gentle at first, so as to promote removal of exudation and to relieve the tension. Afterwards more vigorous massage is most efficacious in dispersing the indurations and fibrous thickenings, and in removing the stiffness of the affected parts. General massage should not be employed, but the tender and affected areas should be carefully marked out for treatment. Massage should not be used to affected joints, but only around them, so as to improve the circulation in their neighbourhood. I have frequently seen the most disastrous results to joints from their over-zealous manipulation by masseurs and masseuses, as such treatment only increases the inflammation and bruises the synovial fringes. The same remarks apply with equal

force to acute affections of the bursae and tendon sheaths, and to fibrositis of nerve sheaths until the acute affection has entirely subsided." And, "In cases of chronic subcutaneous fibrosis in very fat people (adiposis dolorosa) massage is quite ineffective, and often unbearably painful. In such cases it is essential, first of all, to get rid of the superabundant fat by means of a strict diet, and by the administration of thyroid gland."

Now one grants at once that unskilled massage is bad—and I agree with Dr. M. Telling that the country is being flooded with imperfectly trained masseurs and masseuses who have neither the requisite skill nor experience for treating injuries or diseased conditions; but that is no justification for the condemnation of massage by persons with proper experience. But apart from that I find myself in definite disagreement with Dr. Luff. Massage does not give the immediate relief of the anodyne: but time after time in my own practice I have found that where patients have been kept at rest and had treatment by hot air or ionization, and taking some analgesic drug, say aspirin up to 45 grains or more a day, with only partial relief of pain, when one has stopped all drugs and used massage only, the sum of pain even in the first week has been greatly reduced. The analgesics do nothing to remove the *cause* of pain; the massage does.

To go over the suggested causes of pain, it is obvious that, owing to the improved circulation due to massage, toxins will be removed from the painful areas (and fibrous nodules are found sometimes after a preliminary swelling to disappear often with extraordinary rapidity), tension is relieved by the emptying of engorged vessels and lymph spaces; adhesions are broken down, so that nerves are not pulled on by the contraction of muscles, the movement of joints, or the pull on the nerve by the nerve sheath. In recent injuries, such as fractures and sprains, the reduction of swelling and consequent lessening of pain by massage is so rapid that one cannot understand why it is not universally employed. I have known even a young and nervous child within a few days of a bad fracture of the forearm welcome the arrival of a masseuse, because he knew that she would leave him more comfortable than she found him.

In sprains not only is there vastly less pain owing to the use of massage applied as soon after the injury as possible, due no doubt to the reduction of the swelling, but as the ends of the torn structures are able to come into apposition much sooner than they could otherwise do the healing process is greatly accelerated, and, if movement is continued from the first, stiffness and deformity do not occur.

In all cases of recent injury, and any acute or subacute inflammatory conditions, massage should always be begun at a little distance from the inflamed part, so as to empty the lymphatics and produce a more active circulation away from the seat of injury. The hand should gradually approach the painful part, but, as a rule, a skilled masseur will be manipulating the actual injured tissue at the first sitting with relief to the patient.

It has been my practice for some years past to use massage in cases of gout. The condition of the tissue round the inflamed joint is suggestive that, so far as the local condition goes, the body is attempting to get rid of some toxic material, the redness and swelling being due to the blood that is thrown, as it were, into the inflamed part in an endeavour to remove toxins. The encouragement of this by skilled massage, beginning, I may repeat, above the seat of inflammation and gradually getting down on the joint itself, gives such excellent results, so much better than those I have been able to obtain by any other method, that one would like to demonstrate on a case of gout the use of massage in painful conditions.

I will now mention some illustrative cases. H. R., aged 51, had been suffering from general rheumatic pains, followed by acute sciatica, from January of this year. He was in bed for a month with various treatments of the anodyne type, and in the middle of March had some ionization with temporary improvement. In May there was a recrudescence of the sciatica, and for a month, to use his own words, "he was entirely unable to sleep or even remain in bed, and could hardly walk." All previous remedies entirely failed to give relief. I saw him on June 2nd of this year. He looked exceedingly ill; was worn out from want of sleep, even anodynes having very little effect, and, as he says, the pain was so acute that he could not remain quiet for more than a minute or so at a time. There was a good deal of pain and tenderness in the course of the sciatic nerve and adhesions of the sheath in several places. He began massage the day after I saw him. Within three days he was very much better, and in less than a week his nights were good: after June 13th he had no pain at night at all. On the 15th he walked four miles, and on and after the 16th he did a round of golf a day on a heavy course without pain or discomfort, and was, in fact, perfectly cured.

G. V., aged 48, had frequently suffered from attacks of lumbago, which usually confined him to bed for ten days and left him incapable of walking with comfort for some time afterwards; in fact, there was more or less chronic stiffness of back. On June 7th he had one of his usual attacks of lumbago, if anything more severe than usual. With massage twice a day, the pain, except for some in unnecessary movements, was gone. In three days he was walking about, and at the end of a week, except for some stiffness far less than he had had previous to his attack, he was free from discomfort.

H. G., aged 44, had several fairly acute attacks of lumbago, and for nine months had had severe sciatica in the right leg. He suffered very considerably from pain when he sat down, and walking was almost impossible. He had light baths and other treatment on two occasions at one of the spas, but without any good result. He came under my treatment on July 16th, 1912. It was quite obvious that the pain was mainly due to perineuritis on the right sciatic nerve, with adhesions, but there was also some general fibrositis of the lumbar region. He was at once put under massage by a Swede, and his course was one of uninterrupted improvement. In less than a month he was perfectly well, and has remained well up to the present time.

In chronic fibrositis, which is very often designated neuritis, it is quite common to see patients who have undergone almost every kind of treatment, including ionization, and have obtained relief only at the expense of mobility, who after a few days of massage suffer less pain than formerly, with improved movement.

The last two cases I give are those of painful fat. The first a woman of 60, definitely obese, with deposits of painful fat, especially about the neck, abdomen, and buttocks. She had taken various forms of treatment, including the administration of thyroid extract and ionization, without any perceptible relief. Under this treatment she was putting on weight; under massage the tenderness rapidly diminished, and the weight decreased. The massage has been continued intermittently for the last year, and she is now practically well.

In the second case, M. D., a lady aged 53, a hopeless prognosis had been given on account of the condition known as Dercum's disease (adiposis dolorosa). Even light pressure on practically every part of the body was painful; she could not sit or lie down without pain, and there was that extensive bruising on slight pressure which is not an uncommon feature in this condition. Under massage of less than a month's duration, except in one or two places the pain and tenderness entirely disappeared, and a subsequent short course at her own home removed all traces of disease.

In all these cases any treatment which aims at mere relief of pain without taking account of the underlying condition cannot secure permanent relief, and in Dercum's disease it is not the fat but the inflamed fibrous tissue which requires treatment.

As regards gout, among other cases, I have notes of two of men over 63, both obese, whose lives for years had been miserable on account of recurrent attacks of the malady. Both of them consented to treatment by massage; for two or three weeks the several joints were treated in the acute condition, and the massage was continued for about six weeks. The result was that not only were these attacks shortened in length of time but an immunity was obtained from subsequent attacks, which has lasted for between two and three years, a much longer period than had ever existed before.

In conclusion, I should like to say that to treat pain as the main symptom which requires relief, and to obtain temporary relief from that without reference to the future condition of the patient, is a mistake. On the other hand,

to aim at removing the causes of pain, even at the risk of increased pain temporarily, is the right course to pursue.

REFERENCE.
[1] Adami, *Principles of Pathology*, 1910, vol. i, p. 448.

THE DISTRIBUTION OF CANCER CASES IN TWO REGISTRATION DISTRICTS OF NORTH-EAST CORNWALL.

BY
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AND
W. F. THOMPSON, M.D., C.M.,
Medical Officer of Health Launceston Union.

THE evidence we are able to place before you is slight and the conclusions negative, but the facts seem to justify our stating them.

The contiguous registration districts of Camelford and Launceston, in the north-east of Cornwall, present a marked contrast in respect of their cancer death-rates. Camelford has one of the lowest in England, Launceston one of the highest in the south-west. It appeared, therefore, desirable to inquire into the precise distribution of the cases, in order to discover whether any reason could be assigned for this inequality. Accordingly the location of all deaths from cancer occurring between 1897 and 1907 in both districts were marked as exactly as possible on an ordnance survey map of an inch to the mile scale.

[A series of maps were then shown. The first was an orographical map to illustrate the relation of the cancer deaths to the configuration of the country; the second a geological map to indicate the relation of the cases to subsoil; the third was a map tinted in colour scale to represent the distribution of the disease in the parishes.]

The best-known suggestions hitherto made regarding the conditions which may affect the prevalence of cancer are:

(1) That the disease is relatively common in low clay levels along rivers which flood their banks,
(2) but relatively rare on higher drier ground;
(3) that geological structure affects it, in so far as it is said to be relatively uncommon on limestone;
(4) that it is prone to occur amongst trees
(5) and to recur in the same house.

Now if you examine these maps, I do not think you will be able to trace any distinct tendency in the disease to follow the course of the rivers, except in so far as the habitations follow them, since many of the heights consist of bleak and barren moor; nor any special prevalence amongst woods or in single homesteads: nor any influence of geological structure, although the chief soils lived on are associated elsewhere with a marked contrast of prevalence in the case of another disease, phthisis—phthisis tending to be common on millstone grit and uncommon on "Devonian."

The one fact which does seem to stand out clearly in this cancer distribution is its want of uniformity, its tendency to form "pockets." Why this is so we cannot say. We cannot even tell how much these "pockets" may be due to chance. The fact of their occurrence, however, in this small area may be worth remembering when wider areas and longer intervals of time are brought under consideration.

DISCUSSION.

Dr. ACKERLEY gave expression to a provisional belief in the existence of cancer virus. In the town of Ashburton in South Devon he had found that along the course of a stream which ran through the town there were houses in which there was an unduly large incidence of cancer. In one house three successive occupiers, unrelated in blood, developed carcinoma. In Surbiton he knew of four houses in which, in the last thirteen years, eight people if not nine, long resident in those houses, had acquired and died from cancer. He had suggested that the rodents of "cancer houses" should be more carefully examined, and thought that valuable information might be obtained from the investigation.

Dr. ODELL (Torquay) quoted instances of house infection.

Dr. WOODCOCK remarked on the fact that in the East infected houses are deserted after the death of the patient.

Dr. GORDON replied.

THE RATIONALE OF THE PLOMBIÈRES DOUCHE.

By CHARLES W. BUCKLEY, M.D.,
Physician to the Devonshire Hospital, Buxton.

THE Plombières method of intestinal lavage has now taken a prominent place in the armamentarium of our leading spas, and that it has gained this position on its merits will not be denied by anyone who has had practical experience of its use. There are, however, still those who scoff at this method, just as there have always been at any new method of treatment, and one of my objects in writing this paper has been to explain its underlying principles. Established first at Plombières, it was soon taken up at Châtel-Guyon, a spa which had already earned a reputation for the treatment of abdominal disorders. It was introduced into this country early in the present century, and has rapidly come to the front owing to the excellent results it has given in a great variety of cases.

Intestinal lavage is no new thing, but there are very considerable differences between the Plombières douche and the ordinary enema. The douche is given by means of a soft rubber tube of some 10 or 12 in. in length, and this is inserted into the rectum as far as it will conveniently go—generally from 3 to 5 or 6 in. This tube is connected by means of another to the reservoir containing the fluid to be injected, which is graduated so that the exact quantity prescribed may be given, and fitted with a thermometer, that the temperature ordered may be strictly adhered to. This reservoir is suspended by means of cords and pulleys against a graduated scale, so that the pressure in inches or centimetres may be regulated.

The quantity of fluid injected is generally from 1 to 3 pints, and if it is allowed to run in slowly at a pressure of not more than 18 in. or 2 ft. it will pass into the sigmoid flexure and on into the colon by a process of antiperistalsis. Under favourable circumstances, if there is no faecal or other obstruction, it will thus reach the higher parts of the colon and even the caecum, as may easily be demonstrated by abdominal examination. It is retained for ten or fifteen minutes and then evacuated in the normal manner, carrying with it the whole of the contents of the colon. A second douche is sometimes given in a similar manner, the chief indications for this being either faeces in the rectum (in which case a preliminary douche will serve to clear them away and allow the second douche to deal with the higher parts of the bowel) or difficulty in expelling the water after it has been injected (in which case a second douche, given, perhaps, a little more rapidly, and stopped directly the impulse to defaecate is felt, will promote the desired result). In cases also of extreme constipation in which a large part of the colon is packed with faeces a single douche will be insufficient.

The temperature of the fluid injected must be modified according to the condition to be treated. In spastic conditions of the bowel and muco-membranous colitis it should be about body temperature, but in cases of atony of the bowel a lower temperature will be found more effective; it should not, however, be much below 90°, or painful contractions of the bowel may be set up, and even at this temperature there will be a tendency for the fluid to be expelled before it has been in the bowel long enough to exert a satisfactory effect. The injection is usually followed by an immersion bath of warm water in which a stream of hotter water is played from a large rose douche at a specified pressure upon the abdominal wall along the course of the colon. This has a stimulating effect upon the abdominal circulation and the intestinal movements.

Before considering the nature of the fluids injected and their special advantages or drawbacks it will be well to review the general effects produced, and they may be epitomized as follows:

The douche by its mechanical action removes faecal accumulations often of long standing, especially in atonic states of the bowel, where, although a daily action may have been kept up by the use of aperients, this has been insufficient and the recesses of the colon are packed with scybala. It removes putrefactive material which would otherwise be absorbed and produce harmful effects. It removes at the same time enormous numbers of bacteria and also the products of metabolism of the *Bacillus coli communis*. These products in normal amount tend to inhibit the development of foreign organisms, but if in excess they also interfere with the normal development of the *Bacillus coli* itself, which is essential to well-being. On these grounds I do not hesitate to say that the Plombières douche is the most efficient means we possess of overcoming those putrefactive processes in the intestine which are at the root of alimentary toxaemia. The futility of intestinal antiseptics (so called) is generally recognized: for even if they could be given in sufficient doses to exert their action at such a distance from the point of administration, the results would be undesirable; we do not want to sterilize the intestine, but to render its bacterial content as normal as possible—that is to say, to ensure the healthy activity of the *Bacillus coli communis*. Purgatives cannot procure this result in cases of long-standing constipation without setting up such irritation as may tend ultimately to produce the conditions it is desired to overcome.

In cases of muco-membranous colitis, and even in those less marked results of chronic faecal stasis which may be better described as mucous catarrh of the colon, the mucus is removed, often in long strings and casts and the irritated mucous membrane is cleansed and soothed by the washing, and put into better condition for carrying out its normal functions.

The effects of the douche are not limited to the interior of the bowel. The fluid which has been injected will be absorbed to some extent, the degree varying with the nature of the fluid used, the time for which it is retained, and the extent to which the intestinal mucous membrane retains its normal function. Hypotonic and unirritating fluids, which are the most suitable for this purpose, will be absorbed in the largest proportion. An effect which is sometimes observed after the first one or two douches is directly attributable to this absorption; there is an increase in the toxaemic symptoms which have been previously observed owing to the poisons which have been carried into the circulation by the absorbed water. This effect is, however, evanescent, since the free diuresis which results from the entrance of the water into the circulation speedily carries away these toxins.

It is usual to give a course of douches varying in number. I find that ten or twelve will usually suffice except in the most severe cases, and I allow an interval of a day, as a rule, between the successive administrations. Too long a course of douches given at too frequent intervals are apt to increase the atony of the colon which it is one of our objects to overcome.

The question of alimentary toxaemia and its treatment has received so much attention of late that I should have liked to deal with its treatment by the Plombières method in very much greater detail, but this is outside the limits of the present paper. I think, however, that it would be of considerable interest if a series of cases in which the *Bacillus coli* has been judged to be the cause of the symptoms were taken, and one half treated by Plombières douches, the other half by vaccines. While I should be loth to deny in any way the value of vaccine treatment, I have little doubt which group of cases would show the best results.

It is now desirable to consider in a little more detail how these effects are modified by the nature of the fluid used for the injection. Two special forms present themselves for consideration—the mineral waters, and artificial solutions of antiseptics or other substances.

The mineral waters may be divided into two principal groups: The thermal waters, also variously described as indeterminate, nitrogenous, and radio-active; and the saline waters, which include the sulphur waters commonly used. The following are best known, and may be taken as types:

Thermal Radio-active Waters.

Plombières.—The most radio-active water in France, contains a faint trace of arsenic. Total solids, 0.28 per 1,000.

Buxton.—Radio-activity 1.2 (apart from the gases). Total solids, 0.32 per 1,000.

Bath.—Radio-activity 1.7. Total solids, 2.0 per 1,000; contains also calcium sulphate.

Saline Waters.

Châtel-Guyon.—Simple saline, chief constituents magnesium chloride and calcium carbonate. Total solids, 8.3 per 1,000.

Harrogate.—Starbeck, which is, I believe, the spring chiefly used for this purpose, sulphuretted saline; chief constituent sodium chloride 1.5 per 1,000, earthy and alkaline carbonates 0.5 per 1,000. Total solids, 2.17 per 1,000. Old Sulphur Well: Sodium chloride 12.7 per 1,000, with about 1.3 per 1,000 of other chlorides. Total solids, 14.97 per 1,000.

Llandrindod Wells.—Sulphuretted saline; the solids, chiefly chlorides, vary from 1.8 to 6.2 per 1,000.

The artificial solutions are chiefly salines of the type of normal saline, and solutions of the sulphates of sodium or magnesium. Antiseptic solutions have been employed, but I have no experience of them. I have known picric acid solution to be used, but the effects were the reverse of encouraging. Perhydrol or dioxogen added to a simple saline are the only antiseptic solutions I have used, and I did not find they possessed any special advantages.

Of the mineral waters it may first be said that the beneficial effects of the first group depend chiefly upon their non-irritating effects. Upon the skin these waters have a soft silky feeling, a characteristic which will render them peculiarly welcome to an irritated mucous membrane. To their radio-activity some benefit may probably be attributed, but, in my opinion, we have yet to discover some of the most important reasons for the peculiarly beneficial effect of the waters of this group in the conditions for the treatment of which they have acquired such a reputation.

With regard to Bath, it may be noted that while for all practical purposes its radio-activity is the same as that of Buxton it contains a little calcium sulphate. To the sodium sulphate antiseptic effects upon the bowel contents have been attributed, the sulphate radicle uniting with the phenol and indol groups set free by the splitting up of the protein molecule, to form harmless substances of the type of indican. Whether the calcium sulphate in so small an amount can be credited with any such effect is a question which may be left to the medical men of Bath to demonstrate.

Of the saline waters Châtel-Guyon claims special advantages from the large amount, relatively speaking, of magnesium chloride in the water. This is credited with a special effect upon the intestinal functions.

The Harrogate Starbeck water and the Llandrindod Wells water may be grouped together. They are, like those we have already dealt with, hypotonic and in respect of the saline constituents are solvent of mucus. I am disposed to think that the sulphides are an undesirable constituent from the point of view of the Plombières treatment since they must tend to be irritating. This irritating effect is probably only slight and may then be designated by the less objectionable term stimulating.

The Harrogate Old Sulphur well water differs from those we have already considered in that it is hypertonic to the blood plasma. It will, therefore, tend to cause an exosmosis from the plasma rather than absorption, and this may be an advantage in certain cases; it must, however, be rather more irritating, and therefore contraindicated in the majority of cases.

I have referred briefly to artificial solutions; of these I think the most useful will be solutions of sodium sulphate or magnesium sulphate if antiseptic action is desired; they may, however, be found to be slightly irritating, in which case a simple solution of sodium chloride may be used, preferably isotonic. For Plombières treatment at home these artificial solutions are the most suitable; I do not advocate the use of bottled water from the spas.

I have not said anything about the drawbacks and dangers of the treatment. It is undesirable, certainly, in hypochondriacs to devote too much attention to the treatment of the lower bowel, but it must not be forgotten that often it is the want of proper treatment of this despised organ that has induced the hypochondriacal state. The chief contraindications are dilatation of the bowel to an extreme extent, ulceration of the bowel, advanced arterio-sclerosis, and cardiac weakness.

THE CLIMATE OF BRIGHTON IN RELATION TO DISEASE.

By EDMUND HOBHOUSE, M.D., F.R.C.P.,
Physician to the Sussex County Hospital.

THE climate of Brighton owes its special characters to the circumstance that the town has the sea on the one side and the South Downs on the other, and in fact is largely built on spurs of the latter formation. It is divided by a valley, down which a stream once flowed that has now long disappeared. The soil of the valley and part of the front on the sea level is alluvial with patches of clay or marl. Kemp Town is on chalk or a coarse conglomerate of chalk and flints known as "elephant bed," and the rest of the town, with the more elevated part of Hove, is upon chalk with patches of clay. The clay becomes more predominant as you go west, and the greater part of Hove west of Brunswick Square rests upon a thick bed of clay. The aspect of the town is S.S.W., so that it faces the prevailing winds.

The mean annual rainfall is about 25 in., and the average of rainy days 164. The most important point as regards the temperature is that the mean daily range is 11.6°, as compared with 16° at Greenwich and 17° at Uckfield. I do not consider that statements as to mean annual temperatures are of any value in the estimation of climate unless the differences are so great as to make comparison unnecessary.

It may interest you if, to illustrate the irrelevance of such facts, I refer to the Medico-Chirurgical Society's volume on the *Climates and Baths of Great Britain*. In the report on the climate of Worthing it gives a comparison with Brighton.

The table of the comparative temperatures of Brighton and Worthing for ten years drawn from the Meteorological Society's *Transactions* shows that the mean maximum and minimum temperature of Brighton throughout the year is about 0.7° higher than that of Worthing, the sole exception being the mean maximum for August, which is 0.5° higher at Worthing. This makes it very difficult to explain the climatic differences which undoubtedly exist. I have come to the conclusion that as regards the towns of the South Coast from Folkestone to Bournemouth there is probably on the average of a number of years very little difference in the matter of actual temperature and range, hours of sunshine, amount of precipitation, whether rain or snow, amount of fog, etc. The differences which undoubtedly exist must be due to differences of position, soil, amount of shelter to be obtained from winds. The advantages which are common to them all are those due to the fact that the sea absorbs heat slowly and parts with it slowly. It does not attain its maximum temperature till summer is really over, or its minimum till spring is well advanced inland. Therefore we find that the best time of year at Brighton is the autumn and early winter, and the worst the late spring. The winds coming off the sea in the spring are often exceedingly cold, almost as cold as the North-East. This is as true of the resorts in the Isle of Wight as at Brighton. I never realized this myself till a few years ago, when, after an attack of whooping-cough, I wished to find a warmer place than Brighton in March, and went to the Isle of Wight. I soon found that the spring winds were as cold there as at home. In this connexion I may say that I cordially agree with the remark of a Dr. Martin, who, writing many years ago about the climate, says, in connexion with Ventnor, "We have no good spring climate in Britain, whatever may be said or written to the contrary." That is the real truth, but what needs to be realized is that all seaside places suffer from cold winds in the spring owing to the unalterable physical fact that the temperature of the sea is then at its lowest.

If it is a delusion to suppose that Brighton is warm during the spring, it is equally so to imagine that it is hot in the summer; the fact is, as with other sea resorts, that the temperature during the summer months is almost always lower than inland. Not only is this so, but in hot weather there is almost invariably a breeze off the sea at night. Owing to the lower temperature of the sea, a really oppressive night at Brighton is almost unknown in my experience, and the change coming down from town during hot weather is startling. Almost the only exception to this rule is when, after a hot spell, the wind blows from the north and arrives heated by the warmth of the land. This belief, that Brighton is very hot in summer, is very widespread and utterly erroneous. I suppose it arises from the fact that most visitors spend or expect to spend their time on the front, and forget that sand and shingle are incompatible with shade. They forget that when the temperature is 80° here it is generally 90° inland. There is no doubt, I think, that the glare and absence of shade on the front produce the impression of great heat when the sun is at all powerful. On the other hand, the absence of trees is an advantage in the autumn when the leaves fall. To sum up, then, Brighton is at its best from September to the end of January, and it is quite a pleasant abode during the summer months, especially when the weather is very hot; nineteen days out of twenty it is far cooler than any place inland, whether town or country. The spring months are the worst, as in England generally; the fine days then are generally treacherous, like the Riviera, with a bright sun and a bitter wind.

Average Sunshine: Influence of Sea Currents.

I will now say a few words on the relation of the climate to disease, indigenous or imported. Ten years' experience in the out-patient room have forced on me the conclusion that the ailments treated there differ very little from those in any other town with a considerable poor population. It is the social and domestic conditions which are responsible for those diseases, not the climate. Anaemia, gastric troubles, rheumatism, tuberculosis in its various forms, rickets, are almost as much the main stock in trade of the assistant staff here as elsewhere. But it must be remembered that a very considerable portion of the population have come to Brighton because they were weaklings in one way or another. Therefore, the population is unfairly handicapped, and the death-rate is certainly increased to a considerable extent by cases which have simply come to Brighton to die. (The indigenous population of Brighton is very small; it is quite rare to meet with a family who have been in the town for two whole generations.) As a matter of fact, many who come to die recover and live long. But the question what diseases may arise in a climate under improper hygienic conditions is really quite apart from the question what conditions the same climate may benefit in those who come from other parts. No climate will prevent disease; it is notorious that phthisis may develop in Alpine valleys in ill-ventilated houses and anaemia in the purest air if the patient lives indoors. The mere fact of change is a very important factor, and Brighton is a highly stimulating climate to visitors, though old residents cease to notice it, just as they do the effects of any other tonic.

Early cases of phthisis, cases of arrested diseases with or without cavities, and most cases of chronic tuberculous troubles do very well here, provided they have a fair amount of resistance to cold winds. Phthisical cases with susceptible bronchial tubes and a marked tendency to catarrh should not be sent to Brighton. Haemoptysis is comparatively rare. Children with glands soon feel the benefit of the climate, and do remarkably well. It may be said also that children in general do remarkably well in Brighton, and grow up strong and healthy.

The climate is not recommended for chronic bronchitis, but many live here with suitable precautions in the winter. Renal disease is not common, especially large pale kidney. Stone is distinctly rare; it is hardly necessary to remark on the popular fallacy connecting stone with hard water. Acute rheumatic fever is rare in private practice; but slight rheumatic attacks, with endocarditis, are common among the poor. Rheumatoid arthritis is not specially common, and often does well here, if not too near the sea.

The Brighton climate is specially suited for building up convalescents from an acute illness, influenza, malaria, pneumonia, surgical operation; those who have been in India and tropical climates always find it favourable, and have since the days of Jos Sedley in *Vanity Fair*.

Some care is required on first coming down to prevent that condition difficult to define, but known by the public as an attack of liver. It is, I think, partly due to the effect of a sea climate and partly to the fact that appetite is stimulated on coming down, and, perhaps, too much food taken. Clinically it is the condition admirably described by Murchison years ago as "lithaemia."

The healthiness of the climate is proved by the fact that the town is never without one or two centenarians and large numbers of very elderly people, many of whom have resided in it for a great part of their lives.

DISCUSSION.

Dr. Whittington (Brighton) said that there was a considerable difference between the climate of Kemp Town and that of Hove. Although the latter place could not justly be described as relaxing, that charge was sometimes levelled against it by persons who had resided in Kemp Town.

Dr. Copeman (Brighton) had often watched with astonishment the rapid progress made at Brighton by convalescents from acute disease. The very keen air had, however, a disadvantage in some cases by over-stimulation of the appetite; but the "liverishness" thus induced might easily be overcome by an aperient taken on the second day after arrival. He uttered a caution against the chills which might be caught when the temperature was suddenly lowered by a sea fog. Remarking on the curious tradition which assigned certain places for the cure of particular maladies, he affirmed that surgical tuberculosis did quite as well at Brighton as at Margate.

Dr. Griffith (Hove) spoke of the differences due to elevation. While the air was always bracing on the Downs, it was sometimes relaxing on the sea front. At Hove the lowest recorded figure for moisture was 43.4 per cent.

PANNICULITIS.

By D. Durward Brown, M.D., L.R.C.P.Lond.,
Harrogate.

Panniculitis is a disease which has not received the attention it deserves. Possibly this neglect is due to its merciful nature. It is merciful in the sense that it never kills, but it is merciless in that it is an exceedingly chronic painful affliction. The successful treatment of panniculitis is emphatically satisfactory to the patient and consequently to the doctor, but to be successful it must be carried out with skill and patience. The medical man who can keep together his flock of panniculitis patients is not a physician only, but a diplomatist, for all painful affections tend to mutiny; hence it is that nearly all my patients have been treated by other medical men before consulting me, and in a great number of cases they have ultimately transferred their affections to other physicians.

Panniculitis has been aptly described by a French physician, Carl Molin, as "a disease quite compatible with life, but incompatible with comfort," and the same author says: "It disappears, leaving no traces (in the majority of cases) if properly treated; it is characterized by the greatest of all subjective symptoms—pain—and though the disease has an organic basis, it makes one think of neurasthenia."

When I listened to a doctor describing the symptoms as suffered in his own person, it was evident to me and to others that even he, a trained observer, was describing mental suffering based on a true physical cause, but to us the subjective symptoms described were so bizarre, that it was difficult to believe that this doctor was not the victim of an obsession.

I have more than once been humiliated by female patients leaving me and carrying to the next practitioner an indignant description of my unsympathetic stupidity. Indeed, patients suffering from this disease are trying to themselves, to their friends, and to their medical *man*—or may I say medical *men?*

It will be quite readily understood from the fact that the condition is not a mortal disease that I have not met with any *post-mortem* evidence. The pathology of the living—to borrow Moynihan's famous phrase—suggests that one should examine the little circulatory eddies during such an operation as laparotomy, and one author has done this and found in some cases indurations which have been associated with the seat of pain, yet after death there may be no indication of any nodules. Apparently there is anatomically more than one form of our nodule to be described; indeed, observers have spoken of infiltration, of plastic lymph or serous fluid, or, again, of single fibro-plastic indurations, and the other day the British Medical Journal added the term "angio-lipoma."

These nodules are certainly supplied with small veins and arterioles—in some cases, I am told, dilated. These tumours, if I may use the word, vary greatly in size, and are described as varying "from a grain of rice to a fetal head." Here I would mention that Dr. de Carle Woodcock, hearing of my interest in this subject, sent me a patient and an accompanying note, in which he stated: "I send you a case of adiposis dolorosa, and I have told the patient that you will call it panniculitis." The patient had been away from work for many months; her friends had told her she had nothing the matter with her. She looked robust in body, but one could see she was very conscious of the importance of her sufferings. Dr. Woodcock, in his note, said: "I can do nothing for her, but I have told her you will cure her in a month." She came, I saw, but did not conquer, for in less than three weeks she was on the doorstep of a neighbouring medical man, and some months later under the care of an irregular practitioner.

Now, this was a very ordinary case of panniculitis with hysteria, the panniculitis well marked all over the abdomen, giving the patient acute abdominal pain. She also had a slightly enlarged thyroid, and altogether she was an acutely neurotic person, who, because she was not cured in the first few weeks of treatment, became impatient, and refused to continue the treatment prescribed. From a relative who called to see me afterwards I found she had had an operation for appendicitis and curetting of uterus, both with no result. That speaks for itself.

Now in this case the medical man spoke of adiposis dolorosa, and though I would not say that very many cases described as adiposis dolorosa are identical with a form of panniculitis, yet if any one else makes the assertion I shall not dispute it.

In panniculitis the anatomy of pain—if I may use a confusing yet descriptive phrase—is not definitely made out, but it is sufficiently real to allow one to dogmatize somewhat on the treatment.

The etiology is quite obscure. I have found it in patients of a nervous heredity, especially in women with menstrual irregularities. Microbic infection has been blamed (for example, pyorrhoea), traumatism also. It is significant that benefit by thyroid treatment was observed by Dercum. I am much impressed with the association of this disease with those functional disorders which we, in our ignorance, call hysteria. In one case of hysteria with pain the nurse drew my attention to what she called eczema, and I found not only some exfoliation but nodules were running along the ribs, as if they were nodular and not vesicular, as in herpes zoster. Others have referred to dermographism in these cases. In some instances the pains of the disease have led to a suspicion of angina. In one of my cases the nodules were found running down among the branches of the brachial plexus and again along the sciatic nerves; indeed, panniculitis may give rise to a curiously wrong diagnosis, as in a case quoted, I believe, by Miss Jane Walker. In this case a surgeon had diagnosed appendicitis.

Treatment.—Pain is undoubtedly relieved by aspirin, etc., and the bath treatment of Harrogate, with the addition of massage, I always advise. Massage is the panacea for panniculitis. Massage is painful at first, and if carried out brutally may end miserably, as the patient will not long endure it. The masseur or masseuse must use prudence, must work softly and gently, and for a short time, and only apply firm and deep pressure when sensibility has considerably diminished. The masseur's technique is different for different parts of the body. The first treatment must be only a few minutes though it may be gradually increased up to the hour. Each day must bring its "bath" and massage, and this may in some cases go on for six months, or a year, or even longer. It is never safe to promise to cure in less than a month.

To summarize: I find the majority of cases in women, and in five distinct varieties.

Young women after childbirth.
Young women with neurosis.
Young women after operation.
Women after the menopause.
Women with abnormal thyroids or some other abnormality of metabolism.

Principal Symptoms.—1. Pain on manipulation, especially after rolling movements. 2. Pain simulating neuritis (but

due to pressure). (By pinching up the tissue you may get the dimply appearance of a fatty tumour, but note, there is always pain.)

Pathological Anatomy.—Evidence disappears after death.

Treatment.—Balneotherapy, including massage.

Finally let me say, I have laid great stress on these cases of neurotic tendency because they bring disappointment. Persons of this type have not the patience that is necessary; in every case the treatment is long and tedious, and requires a determination which neurotics so often lack. Speaking generally, a hopeful prognosis can be given; especially is this so in young adults, and still more when there is no pronounced neurotic tendency.

Dr. William Bain declines to accept the frequency of the neurotic tendency, but I am unable to agree with him, my experience absolutely supporting the views I have here expressed.

R. Stockman and Maxwell Telling have made observations on an allied condition, the latter giving it the name of "fibromyositis," but in this disease there is a definite anatomical lesion of a static kind (if I may use the word), whereas panniculitis is much more of a phantom disease anatomically, but dynamic in actual suffering, and deserves the respect of all clinicists, for it is a cause of intense suffering to a not inconsiderable number of their patients.

Dercum tells us of a case in which the thyroid gland showed atrophic changes, and improved by the use of thyroid extract, and in another case in the practice of the same physician there was a complete disappearance of all the neuritis symptoms coincident with a great diminution in the size of the fatty deposits.

DISCUSSION.

Dr. Ackerley said he agreed—as would be found on referring to his short paper on massage in painful conditions—very fully with the lines of treatment advocated by Dr. Brown. But he would like to make a suggestion as to the supposed neurotic element. He regarded this as part of the whole condition. He believed it was due to a toxæmia, and that the nervous system was poisoned and debilitated by the same toxins which, by irritating the fibrous tissue, caused fibrositis.

Dr. Durward Brown, replying to observations made by Drs. Ackerley, Woodcock, and Blackburn, said that so far as he knew the nodules had never been examined microscopically. The nodules were found between the skin and the muscles, and were most closely grouped over the thighs, shoulders, and neck. He believed the disease to be a separate morbid entity, and he distinguished between it and the allied condition of fibrositis.

Memoranda:
MEDICAL, SURGICAL, OBSTETRICAL.

ECLAMPSIA.

Treatment of this terrible complication of the pregnant and puerperal state still being somewhat varied, I venture, having seen a recent article in the Journal on this disease, to send the following notes relative to my own experience.

During the past thirteen years I have attended considerably over 2,000 cases of labour, and during this period have had in all 9 cases of eclampsia. Of these, 7 were primiparae, and, with one exception, young primiparae; of the multiparae, one had had several children, the other three. In 6 of these cases the fits complicated actual labour (in stages varying from the earliest dilating os to the head in the pelvic cavity); in 2 they occurred altogether prior to labour, and in the remaining case soon after the completion of the third stage. In every instance the urine was either, for the time, suppressed or almost solid with albumin; the convulsions have varied, in some cases they were very severe.

The plan of treatment to which I have invariably resorted has been, medicinally, the hypodermic administration of morphine (½ grain as a first injection, three or four two-hourly injections of ¼ grain being further given if the fits continued) combined with hot packs, croton oil, and, when the patient could take it, diuretic and diaphoretic medicine by the mouth.

As regards the induction of labour, if labour has not already commenced I first await the results of one or two injections of morphine, when, if no amelioration of the symptoms occurred, I bring on labour; if labour has commenced and be but in a very early stage, I act similarly: if, on the other hand, labour were reasonably advanced, I, whilst giving morphine, deliver instrumentally under cover of chloroform.

In two cases (in which the convulsions started prior to labour) this treatment sufficed to bring about a cessation of the fits, premature labour happening uneventfully a month or six weeks later; and, in addition, to save five of the remaining seven.

W. Boxer Mayne, L.R.C.P.Lond.,
Swindon. M.R.C.S.Eng.

CALCULUS OF THE UMBILICUS.

The report of a case of this condition in the Epitome for July 12th recalled to my mind a very similar case I had in my practice many years ago. On looking up my notes of the case I find the following record:

On January 29th, 1901, a grocer, aged 35 years, consulted me about the condition of his umbilicus, at and around which he had pain and a sensation of "fullness and stretching." On examination I found the skin around the umbilical depression red, swollen, and very tender. The patient was unable to spare the time from business for a rest in bed. His skin was very unclean, and, suspecting the insanitary condition of the parts to be the cause of his local inflammation, I prescribed a lotion of boric acid to be used with a syringe. I gave him also a mixture containing mag. sulph. and tr. chlor. et morph.

On January 31st I saw the patient again—he had had to go to bed. There was now a considerable discharge of pus from the navel. The pain, which at first was local, was now felt (during any violent respiratory act) along the intercostal nerves on both sides. The man had had pneumonia, and was much alarmed by the character and situation of the pain. I was able to satisfy him about the healthiness of his lungs. I now ordered boracic fomentations.

On February 4th, on removing the dressings I discovered in them a hard oblong body, about ¾ in. long by ⅓ in. wide, covered with pus, having a very unpleasant odour. The pain ceased; pus continued to flow. Projecting from the navel was now seen a smooth, red, raw-looking surface. By cautiously passing a probe between this surface and the skin around it I found that it sprang from the base of the umbilical depression. On the lower right side the probe passed to a distance of 1 in. The patient's temperature was very slightly elevated throughout. Very considerable force was required to break the "stone." The fracture showed a concentric arrangement of alternate light and dark layers. I had the stone in my possession for a considerable time, and had intended sending it with a note on the case to the Journal. This intention was never realized. In the communication I had then prepared for the Journal I see I asked the question, "Is this substance inspissated wax?"

London. A. R. Eates, M.B.

SUBCUTANEOUS INJECTIONS OF ADRENALIN.

The safe strength of solutions of adrenalin which may be injected has not yet been determined. Injections of adrenalin (1 in 1,000) have caused several deaths. It has been stated lately that dilutions of this with four parts of water were quite safe. On August 25th an injection of this strength into the nasal septum of a boy of 10 who was lightly under chloroform caused sudden stoppage of respiration with pallor. Fortunately, after three or four minutes of artificial respiration, etc., cause for anxiety passed. It seems, however, desirable to record the fact that even with this degree of dilution the adrenalin seemed to be the cause of a sudden serious condition, and I shall in future try weaker solutions still.

Leicester. F. W. Bennett, M.D.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

STATION HOSPITAL, DALHOUSIE, INDIA.

TWO CASES OF ACUTE HEPATITIS TREATED BY HYPODERMIC INJECTIONS OF EMETINE HYDROCHLORIDE.

(By D. H. C. MACARTHUR, M.B., Ch.B.Edin., Captain, R.A.M.C.)

IN the BRITISH MEDICAL JOURNAL of June 22nd and August 24th, 1912, Major Leonard Rogers, I.M.S., called attention to the specific curative action of the soluble salts of emetine in various classes of amoebic diseases. The following is a record of two cases in which this drug was used.

CASE I.

Corporal D., 1st Connaught Rangers, was admitted to hospital on October 13th, 1912, complaining of a severe pain over the region of the liver, and slight cough. The onset had been acute, the symptoms developing in twenty-four hours.

He had been a heavy drinker, and stated that he had passed blood in his motions two years previously, but had not been in hospital before.

State on Admission.—He had severe pain over the tenth intercostal space in the right mid-axillary line; it increased on pressure. Pain was also felt in the right shoulder. The pulse was 98, the respirations 19, the temperature 102.4°. He had severe rigors.

Physical Examination.—There was slight but very definite rigidity of the right side of the abdomen. The lower margin of liver dullness was at the normal limit, but the upper limit was at a higher level than usual, extending upwards in a dome-shaped manner into the axilla. The lungs, heart, and urine were normal. The blood showed marked polymorph leucocytosis. No malaria parasites were present.

Treatment.—He was put to bed on a milk diet, and calomel and mist. alba freely given. This produced a watery motion, but with no suggestion of dysentery, and no amoebae were found in the stools.

Having recently read Major Rogers's paper on the value of emetine in conditions due to amoebae, I thought that this was most probably a suitable case for its use, as it appeared to be in the pre-suppurative stage of liver abscess. Emetine hydrochloride gr. ½ was therefore injected, and repeated on each of the three days following admission.

Progress.—On the second day it was noticed that the hepatic area, chiefly over the right lower costal margin, was distinctly bulged. This area was tender on pressure. For the first week the temperature ranged from 100° to 102°, but from the third day the patient's general condition improved, pain diminishing in intensity and the rigors ceasing.

On October 21st the temperature began to rise again, and emetine gr. ½ was given. For the next four days the temperature continued above normal, and emetine was given daily. During this period the patient had no pain or tenderness, and felt quite comfortable.

On October 26th the temperature was normal and continued to be so throughout the remainder of his stay in hospital. Emetine was given every second day until November 3rd, when it was discontinued. The swelling in the liver region and increased dullness lasted for a considerable time after the acute symptoms had disappeared, and it was not until six weeks after admission that the liver resumed its normal limits.

Conclusions.—I think that this was a typical case of hepatitis which, without treatment, would have gone on to suppuration. During the first ten days I was more than once on the point of exploring the liver, as the rigors and leucocytosis were most suggestive of pus formation. The patient remained in hospital for some time longer, during which time he gained a stone in weight.

CASE II.

This patient was a native carpenter. He was admitted to the wards for natives in October, 1912, with a complaint of pain in the right side and fever.

State on Admission.—There was obvious bulging of the liver on the right side. Liver dullness extended as high as the fourth rib in the mid-axillary line. There was no downward enlargement. There was fluctuation, oedema, and great tenderness on pressure over the most prominent part of the swelling.

Treatment and Progress.—An aspirating needle was inserted and twelve ounces of typical liver pus withdrawn. Emetine gr. ½ was injected, and repeated daily for three days. The patient did not vomit, and was very much relieved, temperature remaining low for several days. On the fifth day it was noticed that pus was again accumulating, and a small quantity (between 2 and 3 oz.) was withdrawn. On this occasion a grain of emetine diluted in 2 oz. of saline solution was left in the abscess cavity.

Result.—Emetine injections were continued for three days, after which time, as the hospital had to be closed for the winter, I recommended the patient to go to Ambala to continue treatment at a native hospital there. He refused to do so, and said that he would return to his village and die there. He therefore left Dalhousie, and I heard nothing further of him until the beginning of January, when, on making inquiries, I found out that he had made a complete recovery without any further treatment, and was pursuing his occupation.

Conclusions.—I did not at the time consider this a suitable case for aspiration, as, on account of the fact that the pus was almost through the skin, I thought there was almost certainly some secondary infection. I had no alternative, however, as I knew that the patient would not go to another hospital on the closure of the one of which I was in charge. The patient was a heavy drinker, and I did not expect him to live long after leaving the hospital. I think the emetine injected into the abscess must have had a very effective result in destroying the organisms there, and thus produced a cure.

The points which I wish to emphasize in connexion with these two cases are:

First, emetine injections did not produce vomiting in either case. The great disadvantage of ipecacuanha by the mouth in the treatment of similar cases is the distressing vomiting, and the associated physical and mental depression which it so often produces.

Secondly, in both of these cases I think the necessity of open operation was avoided, together with its attendant risk of secondary suppuration—a risk which no aseptic technique entirely obviates in a hot climate.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BOMBAY BRANCH.

AN ordinary meeting of this Branch was held in the University College Library on April 10th, when Dr. SORAB NARIMAN presided. Major E. F. GORDON TUCKER, I.M.S., read notes of several cases of *Cerebro-spinal meningitis* now prevalent in Bombay, and treated by him in the Jamsetjee Jeejeebhoy Hospital. Drs. CHOKSY, R. ROW, SABAWALLA, A. POWELL, and others took part in the discussion which followed. Dr. R. Row gave a short account of the results of *Vaccine treatment in plague* during the last twelve months where he has been able to examine systematically the peripheral blood of every case by a simple bacteriological examination (by culture) at the bedside just before injecting the vaccine. Total cases treated, 87 (non-septicaemic 44, recovery in 35; septicaemic 43, recoveries 0). Percentage of recoveries in non-septic cases, 79.5; percentage of recoveries in septicaemic, 0. Assistant Surgeon A. K. TURNER, L.M.S., read notes on and demonstrated a new test for the detection of saccharine substances in urine. Notes on an unusual case of *Malarial fever with aphasia and dysphagia* ending in recovery were read by the Honorary Secretary (Dr. BARDI), on behalf of Assistant Surgeon R. M. Tembe, L.M.S.

At an ordinary meeting, held on June 26th, when Lieutenant-Colonel ASHTON STREET presided, Dr. A. POWELL and Lieutenant-Colonel ASHTON STREET, I.M.S., showed interesting specimens. Dr. Powell showed an instance of complete obliteration of the superior and inferior longitudinal sinuses from a case where sudden death had occurred, and Colonel Street a specimen where the obstruction in a hernial sac was due to a guinea worm. Major T. S. NOVIS, I.M.S., read notes of cases of gastro-enterostomy and intestinal obstruction under his care. Dr. A. K. DALAL showed a specimen of urine containing chyle and blood, sent to him for his opinion.

PUNJAB BRANCH.

AN ordinary general meeting of this Branch was held on July 22nd at Simla. Colonel C. J. BAMBER, M.V.O., I.M.S., Inspector-General of Civil Hospitals, Punjab, presided, and there were some twenty members present.

Fasting as an Aid in the Prevention and Cure of Disease.

Major AUSTIN, R.A.M.C. (retired), showed Mr. A., aged 49 years, as a successful result of treatment by fasting:

	Before.	After.
Weight	17 st. 1½ lb.	13 st. 2½ lb.
Measurement round abdomen	47½ in.	38 in.
Blood pressure...	150 mm.	110 mm.
Respiratory capacity	230 c.in.	250 c.in.

This patient had undergone a complete fast, drinking water only, for thirty-one days. From the thirty-second to the forty-second day he subsisted on a few mangoes, peaches, or grapes. He then began to get a return of appetite, and started two meals a day, taking smaller quantities of food than he had been accustomed to take before. He had put on 9 lb. since he had recommenced eating, but thought he was now not increasing any further in weight. While he had reduced the number of cigarettes he had been accustomed to, he had not given up smoking throughout his treatment. He thought his mental processes had been improved. He had taken vigorous walking exercise throughout, and while before he could not by stooping reach to closer than 11 in. from the ground with his finger-tips, he could now touch his toes. The treatment was supplemented by aperients and enemata in the earlier stages. He stated that he felt fitter than for years, and while before the slightest chill brought on an attack of fever, now he could indulge in very cold baths, and feel the better for them. Major Austin emphasized the difference between true and false hunger. The former had no morbid feelings, as a sinking sensation, or headache, or faintness, which were really the results of indigestion or autointoxication from undigested and fermenting material in the stomach. Such sensations could be abolished equally as well by a dose of magnesium sulphate as by taking more food. He insisted that most people suffered from undue frequency of feeding. Prolonged periods of rest for the stomach were necessary, and he advocated two meals a day, breakfast being taken at the luncheon hour. Leanness might be the result of starving from overfeeding, for it was not the amount eaten, but the amount digested which mattered. Some thin people were small eaters, but he considered that lack of appetite was tantamount to ill health, and what they required was not more food, but more rest from food. Stoutness again was eating and digesting more than the body could utilize.

Lieutenant-Colonel BRAIDE, I.M.S., thought that the range for such treatment would be very limited and applicable only to men of exceptional will and staying power.

In answer to Lieutenant-Colonel AUSTEN-SMITH, I.M.S., as to the apparently successful feeding-up methods employed in most sanatoriums for tuberculous patients, Major AUSTIN expressed the opinion that the method he had described would give better results.

In answer to a question by Major BLACKHAM, R.A.M.C., he thought that the reason why some persons collapsed quickly under starvation was because they abstained from liquids as well as solids and that, as they were not purged, they suffered from autointoxication.

Chloroform Anaesthesia.

Sir JAMES ROBERTS, I.M.S., in a note on the administration of chloroform, amplified Hewitt's dictum that the dangers of chloroform administration were mainly above the larynx, and advocated the use of the finger in preference to the instruments, in freeing the epiglottis in cases where the patient stops breathing under chloroform. He strongly advocated the use of Vernon Harcourt's inhaler.

Lieutenant-Colonel JAMES, I.M.S., whilst agreeing with Sir James's remarks in the main, considered that the reason why so little was heard of chloroform poisoning in India was the general use of the open method. The usual mistake made was in choking the patient by too much chloroform at the start. Major BLACKHAM, R.A.M.C., advocated Schäfer's in preference to Sylvester's method when the patient stopped breathing under chloroform.

Cases.

Lieutenant-Colonel JAMES, I.M.S., showed an interesting case for Lieutenant-Colonel Austen-Smith, I.M.S., of a young man, Mr. S., aged 26 years, who had had tuberculous bursitis over both great trochanters. The bursae had been excised, and slides from them were shown under microscopes. The patient had enjoyed good health for some time, but had now returned as he had noticed three subcutaneous nodules in the small of his back. The nature of these was doubtful.

Colonel JAMES also showed a case of excision of the knee-joint in an Indian. He advocating wiring, as enabling this class of patient to get home quickly; also it obviated much pain in the convalescent stage.

Papers by Colonel Hendley, I.M.S., and Lieutenant-Colonel Austen-Smith, I.M.S., were unavoidably held over owing to the lateness of the hour.

Reports of Societies.

BRITISH OTO-LARYNGOLOGICAL SOCIETY.

AT a meeting on July 16th, Dr. FREDERICK SPICER in the chair, the following were among the exhibits: Dr. PERCY JAKINS: (1) A man, aged 24, with a plum-coloured growth on the left vocal cord. The CHAIRMAN suggested the desirability of removing a portion and examining it microscopically before making a diagnosis. (2) A woman, aged 35, with perforation of the nasal septum and extensive specific ulceration of the tonsils and fauces healing rapidly under treatment by salvarsan. Mr. CHARLES HEATH suggested that the slighter existence of repair in the septum was perhaps due to its non-vascular structure. Dr. MCCULLOCH: Four cases of labyrinthine deafness showing improvement by treatment with the ultra *x* rays. Dr. WALKER WOOD said that he had examined and tested these cases before treatment and again three months later. There was an undoubted improvement, and, although it was but slight, it was encouraging. Mr. CHARLES HEATH: (1) A case of aural suppuration of forty years' duration in one ear and thirty-eight in the other, with an interval of two years between the operations. There had been complete recovery with excellent hearing on each side after conservative mastoid operations by the method devised by the exhibitor of the case. (2) A case of chronic aural suppuration of two years' duration with cholesteatoma in both ears (specimen shown), with perfect restoration of structure and function in each ear after conservative mastoid operation by the exhibitor's method. The CHAIRMAN thought Case I evidenced the most satisfactory results of mastoid operations he had ever seen. With regard to Case II the result of operation showed how much advance there had recently been in the treatment of chronic aural suppuration; not long ago a patient such as this would have undergone the radical operation, and would have been made deaf by it. Dr. PULLIN drew attention to the cosmetic effects of these two cases of double mastoid operations. Mr. HEATH, in reply, said, with regard to the case of forty years' duration, she was referred to him by Dr. Meggison, who did not anticipate that hearing could be restored, but in the hope that arrest of aural suppuration by mastoid operation might put an end to the severe headaches which had marred the whole life of the patient. But in this event hearing had been restored to $\frac{2}{3}$ths and $\frac{4}{5}$ths, which was really useful hearing; the headaches, too, had abated. With regard to the double cholesteatoma case, prior to the introduction of the conservative mastoid operation in 1906 he would have performed radical operations, and this patient would now be more or less deaf, whereas at present her hearing was more acute than the average girl of her age. A paper by Dr. JAMES HARPER (Glasgow) on a new after-treatment of intra-nasal operations was also read.

THE late Dr. Roderick Maclaren of Carlisle left estate valued at £15,051.

Reviews.

CLINICAL RADIOLOGY.

The study of radiology, as applied to the elucidation of problems in medical diagnosis, has not hitherto received the same meed of attention as its more obvious application in the domain of surgery. With improved apparatus the power of observing the normal and abnormal shadows cast by thoracic and abdominal organs has been greatly increased, and the use of oblique as well as of frontal and lateral observations has opened up fresh lines of investigation which will doubtless lead to valuable practical results as the study becomes more generally pursued.

An interesting work[1] has recently been published in France, in which the careful investigations of Drs. Vaquez and Bordet are recorded, showing the various methods by which they have been enabled to use radiology successfully in the diagnosis of affections of the heart and great vessels.

Only by analytical examination of skiagrams, both in the healthy and in a full series of morbid cases, can any definite certainty be arrived at with respect to the exact significance of the shadows obtained. Just as the tracings obtained in sphygmography and cardiography have undergone analysis by means of experiment, so may the indications of the radiograph be mapped out for practical use in diagnosis. The writers of the work in question have made great use of oblique examination of the thoracic organs in definite directions, as expressed by fixed angles. This method was employed some years ago, but the uncertainty attending its indications at that time would appear to have outweighed any attempt at definition. Greater precision and uniformity has now been achieved by the use of tele-radiographic and orthodiagraphic systems. By using a very powerful current and tube the patient can be examined at a distance of 2½ metres from the source of the rays, with the result that there is far less distortion, and the shadows of the organs appear to be but slightly, if at all, larger than if they were cast by parallel instead of divergent rays. This effect can be further developed by the use of a diaphragm, and the organ or part which it is desired to examine can thus be brought into the very centre of the circle of illumination. The value of this method is particularly shown in taking observations obliquely, and the clear space visible between the heart and the spinal column is then found to be occupied by well-defined shadows cast by the left auricular appendix, the ventricle, and the apex of the heart respectively. Careful study of these shadows and their variations within the limits of health is needful before the morbid variations can be properly interpreted, but the writers claim to have arrived at a degree of precision by which they have been enabled to form a correct diagnosis of cardiac disease without seeing the patient, being guided solely by their interpretation of the skiagraphic picture. But though they make this claim, they emphasize the need for systematic examination of the chest in various directions, and extol the use of the screen. The photographic plate, as they express it, is at best a dead record, whereas the screen, if properly used, will enable abnormalities of action to be discovered as easily as abnormalities of shape.

In regular order the writers pass in review the well-known forms of heart disease, describing and discussing the shadow changes that they have been found to produce. A relatively small number of skiagrams are reproduced, the graphic method of outline diagrams being preferred. These, while they make the teacher's meaning clear, are not by any means so convincing to the reader of the volume as the actual shadows themselves would have been.

Various morbid conditions which have been noted as the result of disease elsewhere in the body—as, for instance, the enlargement in renal disease or the excessive action in exophthalmic goitre—are also studied. Pericardial and mediastinal affections and finally aneurysm, come in for their full share of notice, and complete a very interesting, practical work which should fill up a gap in the modern clinical library.

[1] *Le cœur et l'aorte: Etudes de radiologie clinique.* Par MM. H. Vaquez et E. Bordet, à la Faculté de Médecine de Paris. Paris: J. B. Baillière et Fils. 1913. (Roy. 8vo, pp 250; 169 figures. Fr.15.)

CEREBRO-SPINAL MENINGITIS.

Severe epidemics of cerebro-spinal meningitis have occurred in various parts of the United States of America during the last few years: New York City counted 1,026 cases of the disease in 1906, and in the Texas epidemic of 1912 the State Health Officer collected 2,575 cases, to mention only a couple of instances. Dr. Sophian[2] has had the opportunity of studying the Texas epidemic on the spot, and in both the laboratory and the hospital, and he has written an admirable account of the symptomatology and epidemiology of the disease as it was then met with. He concludes that it occurs sporadically as well as in epidemics, and that the most important predisposing factor is probably unusual climatic change, to which people are unaccustomed and are non-resistant, and which occasions general naso-pharyngeal catarrh. The immediate exciting factor is, of course, the meningococcus, one of a group of Gram-negative cocci that can all (except perhaps the gonococcus) be found in the nose and throat; usually the meningococcus can be differentiated easily from the rest by the ordinary morphological and cultural characteristics together with fermentation reactions. It enters the body—the blood stream—from the nose and throat. The infection is transmitted chiefly by healthy persons who carry the cocci in the naso-pharynx for months and years; only a small percentage of these carriers contract the disease themselves. The incubation period seems to be very variable, from one to thirty-six days according to some observers; Dr. Sophian believes that it lies between one and five days. His second chapter extends to fifty pages and gives a very clear account of the symptomatology of epidemic cerebro-spinal meningitis and its clinical diagnosis; then follow thirty pages on its laboratory diagnosis.

The last 100 pages are devoted to an account of the treatment and prophylaxis that have been found most successful. Isolation is the most important step in the control of an epidemic; all carriers of the meningococcus, identified by cultures from throat-swabs, should be quarantined so long as they continue to carry the microbe. No arbitrary time limit for the quarantine (ten days to several weeks, for example) is practically useful. Gargles and sprays to the throat and nose, with prophylactic doses of 20 to 30 grains of urotropin a day, are recommended; this antiseptic drug is excreted by the nasal and naso-pharyngeal mucosae and is also found in the cerebro-spinal fluid. Dr. Sophian believes that protective vaccination with killed meningococci, with which he is now experimenting, has a future before it. The disease itself is to be treated by lumbar puncture and the intra-meningeal injection of highly potent multivalent anti-meningococcic (antimeningitis) serum; the dose in which it is administered is to be regulated by observing the patient's blood pressure, and averages 20 to 25 c.cm. in adults. Details of the method of administering the serum are given by Dr. Sophian very fully and are too long to be enumerated here; an average case receives three or four such injections.

Dr. Sophian's book may be cordially recommended to the attention of all medical men who have to deal with cerebro-spinal meningitis. It is written with the authority of a practical man who has had a wide experience of the disease in its epidemic form and of its treatment, and is thoroughly up to date. The volume is typically American in get-up and appearance, contains many misprints, and is well indexed.

TREPHINING FOR GLAUCOMA.

"The present time may be spoken of in ophthalmological history as the glaucoma age. The magnificent work of past decades associated with the honoured names of Priestley Smith, Lagrange, de Wecker, and many other workers has suddenly reached fruition. The underlying principle is to be expressed in one word 'sclerectomy.'" With these words Colonel Elliot introduces his book upon *Sclero-corneal Trephining*,[3] an operation which, introduced by Argyll Robertson and Freeland Fergus,

[2] *Epidemic Cerebro-Spinal Meningitis.* By A. Sophian, M.D. London: H. Kimpton; Glasgow: A. Stenhouse. 1913. (Med. 8vo. pp. 287; 23 illustrations. 12s. 6d. net.)

[3] *Sclero-Corneal Trephining in the Operative Treatment of Glaucoma.* By R. H. Elliot, Lieutenant-Colonel, I.M.S., M.D., B.S.Lond., Sc.D. Edin., L.R.C.S.Eng. London: Pulman and Sons. 1913. (Demy 8vo. pp. 135; 33 figures. 7s. 6d. net.)

he has elaborated and developed until it is now almost universally called the "Elliot operation." The author further expresses the opinion that the day of iridectomy for glaucoma, von Graefe's operation, is over; its sun has set after nearly fifty years of undisputed supremacy. We agree with Colonel Elliot in so far that we consider that any large incision such as is necessary for a glaucoma iridectomy, and equally for Lagrange's sclerectomy operation, is dangerous, and now that other safer methods have been shown to be equally, if not more, efficient, should be definitely abandoned. It has long been felt that iridectomy in chronic glaucoma was hazardous and often quite ineffective, and all ophthalmologists welcomed the newer and safer methods which, originally starting with de Wecker's classical but generally useless sclerotomy, were modified and amplified by Lagrange, by Herbert, by Freeland Fergus, and finally by Elliot and Holth.

We are fully prepared to agree with Elliot that it is essential to tap the anterior chamber, to excise a piece of sclera, and to keep well away from the region of the ciliary body. This involves the rejection as ephemeral in action of all sclerotomies and demands sclerectomy. An operation which entails a large section is objectionable, and for these two reasons Herbert's methods and Lagrange's would not be operations of election. It does not necessarily follow from this that trephining is the best method of effecting sclerectomy in all cases, for in many Holth's punch might be as efficient as the trephine; but Elliot's contention that corneo-sclerectomy must be employed should be accepted, and we believe that alone, or better combined with a small iridectomy, it will before long be the procedure universally adopted for chronic glaucoma and generally for acute glaucoma. The operation is safe and its effect is permanent and certain. One school of ophthalmic surgeons believes in iridectomy, another school in sclerectomy. It is always possible, and may be wise, to combine the two. Thomson Henderson has definitely proved that the iris cut in iridectomy never heals, and he urges, but cannot prove, that the raw surface enables the iris to act as a sort of wick and drain off the excess of fluid in the eye.

The book before us contains a detailed account of Colonel Elliot's operation, its indications, its complications, dangers, and results. The technique is detailed in the clearest manner, and its pitfalls exposed.

There is also an article on the trephine in the treatment of glaucoma by Sydney Stephenson, and an able review of the whole subject by Arthur J. Ballantyne. Another chapter upon the site of trephining is written by E. Temple Smith.

We have only two criticisms to offer to this extremely able book. We wish that Colonel Elliot, in describing the various trephines which have been used, had not omitted the one which we have found to cut best, the Freeland Fergus instrument. Colonel Elliot's test for filtration is to press a probe into the conjunctiva in the neighbourhood of the scar; pitting, he says, indicates filtration. We find, however, that pitting can be obtained in the neighbourhood of any perfectly healed incision into the globe, and also in many eyes which have not been touched at all, especially those of the aged. We believe that the only test of a filtering cicatrix is a definite bleb which can be increased by pressure upon the eye.

The book affords evidence of the exceedingly thorough way in which the Eye Hospital at Madras is managed, and to the perfection of the operative technique followed there. The careful taking and scheduling of the notes could not be excelled. The volume is an exceedingly valuable addition to ophthalmic literature.

THE AMERICAN GYNECOLOGICAL SOCIETY.

THE first article in the *Transactions of the American Gynecological Society*[4] is the address of the President, Professor Howard Kelly, on the history of vesico-vaginal fistula. Dr. Kelly dwells on the treatment of this type of fistula down to the days of Marion Sims. Bozeman, and Emmet, according well-merited credit to his distinguished countrymen. "Sims and Emmet developed an insight and an accuracy born of the experience of many failures finally converted into successes. I am convinced that these older operators succeeded with a regularity and in a class of cases which no operator of to-day can hope to imitate if limited to the same means." The long-forgotten criticisms of the opponents of these great innovators are quoted, and Dr. Kelly promises a future review of contemporary practice in the same field. The *Transactions* include several communications relating to cancer of the uterus and radical operations for its extirpation; some of the papers relate to work, already widely known, done at the great Baltimore School of Medicine. Dr. Craig Ne l reminds us that since 1900 the abdominal route has been employed in practically all the operative cases in the Johns Hopkins Hospital. The discussion on the radical operation for cancer of the cervix occupies over twenty pages. Dr. Cullen insists that an extensive operation for the removal of cancer of the cervix by Wertheim's method is the most difficult operative procedure in the realm of abdominal surgery. He adds significantly that those who claim such good results by means of the thorough use of the cautery should continue to use that instrument, whilst those who feel that Wertheim's operation offers the best chance will continue to perform it. He believes that a comparison at the society each year of the results would "soon determine absolutely which is the better procedure," a surprisingly confident assertion for so able and experienced a surgeon to make. Dr. Cullen advocates the wholesale education of the masses without creating alarm. The volume also contains some papers of much weight on eclampsia and the toxaemia of pregnancy, and, as usual, several communications relating to prolapse and its treatment. On the other hand, there is but one article on fibromyomata, till recently so prominent a subject in the annual archives of societies, and that communication, fairly scientific and also of much clinical worth, treats of the influence of myomata on the blood supply of the uterus, with special reference to abnormal uterine bleeding, based on the study of 150 injected uteri containing these tumours, by Dr. Sampson of Albany. There is yet much to be learnt about the genesis and the significance of uterine fibroid disease, and the distinction between different forms of metrorrhagia. Dr. R. Schröder's *Atlas* demonstrating the normal menstrual cycle of the endometrium, recently reviewed in the JOURNAL, showed that changes in the epithelium of the uterine mucosa go on steadily through each cycle, yet the meaning of these changes is not clear. Dr. Sampson has taken the endometrium into account in relation to fibromyoma, and his researches point in the right direction: but the normal endometrium demands yet more study under the direction of histologists and physiologists.

[4] *Transactions of the American Gynecological Society*. Vol. 37, for the year 1912. Philadelphia: W. L. Dornan. 1912. (Demy 8vo, pp. 509.)

NOTES ON BOOKS.

IN writing an elementary textbook on the subject of *Medical Electricity and Light*,[5] Miss ETTIE SAYER has made it her special object to instruct the nurse, not in order that the nurse may assume supervision of the treatment, but that she may assist the doctor more intelligently, and therefore more efficiently, in general electro-therapeutic administration. The author herself well says that the introduction of such a force as electricity into the human body "ought to be attended with as much care and consideration as if it were a surgeon's knife." When one remembers that in electrical treatment the patient is conscious—indeed, is often excited and apprehensive—the nurse who has a sure capacity and a command of soothing suggestion will be found to be as valuable an acquisition as anything in the armamentarium. We believe that this little book will multiply her number.

The fifth edition of *Birch's Management of Children in India*[6] has been prepared with great care by Drs. GREEN and GREEN-ARMYTAGE. Every chapter has undergone thorough revision. There are many elisions and numerous additions. Among the latter the most important are: More detailed information respecting general hygiene and the prevention of disease (including recent bacteriological

[5] *Medical Electricity and Light*. An elementary textbook for nurses. By Ettie Sayer, M.B., B.S.Lond. London: The Scientific Press, Limited. 1913. (Foolscap 8vo, pp. 136; 44 illustrations. 3s. 6d. net.)

[6] *Birch's Management and Medical Treatment of Children in India*. By C. R. M. Green, M.D., Lieutenant-Colonel, I.M.S., and N. B. Green-Armytage, M.D., Captain, I.M.S. Fifth edition. Calcutta: Thacker Spink and Co. 1913. (Demy 8vo, illustrated. Rs. 7-8).

researches); an expansion of the chapter on artificial feeding (no fewer than thirty-seven infant foods being described); and a recasting of the sections relating to fevers. The chapters on simple continued, ardent and remittent fevers are omitted, and descriptions of seven-day (sandfly) fever, kala-azar, and undulant fever introduced. The subject of bowel complaints has also undergone radical alteration. The identification of poisonous snakes has been rendered easier by descriptions and diagrams. The book has been brought up to date, and for purposes of reference and guidance has undoubtedly been made more instructive and useful. The work as now published presents a striking contrast to the modest *Hints for the General Management of Children in India in the Absence of Professional Advice* prepared and published by Surgeon Henry Hurry Goodeve of the Bengal Medical Service in 1844, of which this is the tenth successor. The tendency has been, in editing new editions, towards elaboration and scientific development. It is now more a practitioner's than a mother's book—too scientific for the latter, and perhaps not scientific enough for the former. Still the work has established for itself great popularity in India, and this is, perhaps, the best test of its success and utility. We notice that a subject of great concern to mothers and nurses has been omitted, namely, the toilet of the prepuce, and an account of the symptoms of stone in the bladder and urethra might have been advantageously introduced.

Dr. D. B. Lees has printed in a small volume the Bradshaw Lecture on Tuberculosis delivered before the Royal College of Physicians of London on November 5th, 1912, and has added an address on the treatment of pulmonary tuberculosis delivered before the Cambridge Medical Society last May.[7] An abstract of the Bradshaw Lecture was published in the Journal on November 9th, 1912, p. 1269. The main contentions are stated by Dr. Lees in a preface to this volume, as follows:

1. That the existence of an incipient pulmonary tuberculosis can be easily demonstrated by careful percussion (provided that during examination of the front of the chest the patient is in the recumbent position with relaxed muscles) long before any bacteriological evidence is obtainable, and while the auscultatory evidence is still insufficient for a diagnosis.
2. That a negative bacteriological report is often fatally deceptive, and that to wait for the demonstration of bacilli in the sputum is like postponing the diagnosis of cancer until the glands are involved.
3. That in the earliest stage of a pulmonary tuberculosis it is always possible, and in a somewhat later stage usually possible, to obtain prompt and permanent arrest of the disease by the employment of the method of continuous antiseptic inhalation.

In support of this statement Dr. Lees has added to the lecture particulars of 70 cases.

Dr. Peel Ritchie has done very well to translate, in a volume entitled *Orthopaedics in Medical Practice*,[8] the book published by Professor Lorenz and his assistant, Dr. Saxl. As was pointed out in the review of the German edition published on February 10th, 1912, the book is written from a rather unusual point of view. It is addressed to the general physician and general practitioner, and has two purposes, first to indicate the signs and symptoms which should put the practitioner on his guard, and secondly to give a sketch of the methods of treatment now generally used by surgeons who devote themselves specially to orthopaedics.

[7] *The Bradshaw Lecture on the Diagnosis and Treatment of Incipient Pulmonary Tuberculosis.* By D. B. Lees, M.D.Cantab., F.R.C.P.Lond. London: H. K. Lewis. 1913. (Demy 8vo, pp. 124. 5s. net.)

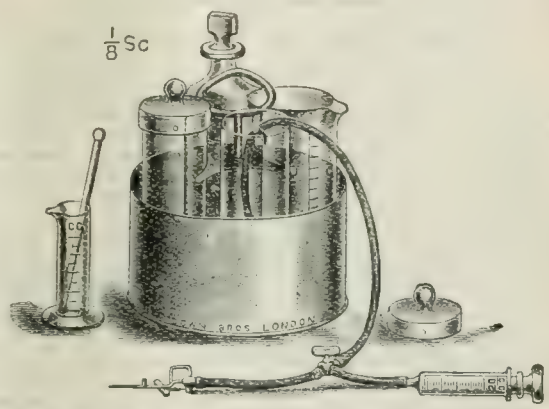
[8] *Orthopaedics in Medical Practice.* By Professor Adolph Lorenz and Dr. Alfred Saxl. Authorized translation from the German by L. C. Peel Ritchie, Ch.M., M.D., F.R.C.S.Edin. London: John Bale, Sons, and Danielsson, Ltd. 1913. (Med. 8vo, pp. 288; 39 illustrations. 7s. 6d. net.)

The Roman Anthropological Society has decided to form an Italian Committee for the study of eugenics. Its organization has been entrusted to a special committee of which Professor Giuseppe Sergi is President. The Committee will study the factors which may determine the progress or decadence of races considered from both the physical and the psychical aspects. To elucidate this, researches will be made on the normal or pathological inheritance of characteristics, on the influence of the environment, on the mode of life of parents and the character of the offspring, on the importance of momentary conditions of the organism at the time of reproduction, and on the influence of mode of life and environment in which the new organism develops.

MEDICAL AND SURGICAL APPLIANCES.

An Outfit for the Intravenous Injection of Salvarsan.

Mr. Alfred Allport (London) writes: In giving intravenous injections of salvarsan or neo-salvarsan it is simple to get the glassware aseptic, but it is not easy to make certain of having it also spotlessly clean and free from any foreign substances which might float off into the solution. If the glass is boiled in tap water a fine sand is apt to be deposited on it. This has to be wiped off with a sterilized towel, and the towel will generally leave minute pieces of cotton adhering to the glass which can be seen floating in the solution if held up to a good light. These minute particles may be of small importance, but it gives a more comfortable feeling to the operator if he feels that he is not injecting anything extraneous to the solution into a patient's veins. Messrs. Down Bros. have made for me a convenient portable outfit for intravenous injection. It consists of an ordinary round sterilizing drum, into which is fitted a metal tank about 4 in. deep. Into a rack somewhat like a cruet-stand with a handle fits a 20-oz. graduated measure for mixing the solution, and a glass rod, and a small 50 c.cm. measure for the sodium hydrate solution (if neo-salvarsan be used these two measures are not needed); two 300 c.cm. graduated glass vessels (Ehrlich), one for the saline solution or distilled water, and one for the salvarsan or neo-salvarsan solution; a 30-oz. stoppered bottle for the saline solution or distilled water, and two clips for the glass syringe. After an injection has been given, the Ehrlich glass which contained the salvarsan solution is thoroughly well rinsed three or four times by vigorous shaking with the saline



or distilled water which has been left over from the operation, the covers are put on both glasses and they are replaced in the rack with the other ware, the rack fitted into the drum, and the whole outfit sterilized in the sterilizer. There is room on the top of the vessel for a couple of towels and some dressings.

There are objections to a metal tap, which becomes corroded after use, and Messrs. Down Brothers have provided a glass two-way tap, which I consider to be preferable. It is clean, and what is going on inside it can be seen—the backward flow of the blood when the vein is first entered, or a bubble of air if one happens to get through. The plunger of the tap should be smeared with a little glycerine, and an elastic band placed over one of the arms and carried over the top to prevent the plunger from rising up and becoming loose. I have used this glass tap for a year, and it is quite easy to manage. Messrs. Down Bros. have made an injection needle for me which is a slight modification of McDonagh's needle. It has a more convenient handle and a plain flat plate by which it can be secured to the limb with a small strip of adhesive strapping, if it is desired to do so. I prefer to sterilize the needles in alcohol, and the metal box which contains them can be filled with alcohol while the other things are being prepared.

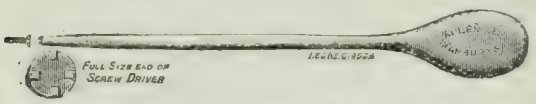
The rubber tubing should be boiled, and afterwards well syringed through with saline before use. If salvarsan is being used the temperature can be accurately maintained at from 94° to 97° F. by partially filling the tank which holds the glasses with hot water. In giving the injections the two Ehrlich vessels stand side by side in the tray, one containing a few ounces of saline and the other the salvarsan solution. A little metal retainer clips the rubber tubing and hitches over the edge of the glasses.

The whole apparatus in its sterilizer drum fits into a canvas waterproof cover with a leather handle for

carrying, and is very compact and portable. It will rest firmly on the patient's bed, and, with the clip to hold the tubing, no assistance is required in giving the injection.

A New Screw and Screw-driver for use in the Operative Treatment of Fractures.

Dr. J. ST. ANDREW TITMAS (London) writes: The driver has projecting from its end four prongs, which fit into corresponding notches at the margins of the head of the screw. A very secure "bite" is thus obtained, the driver having no tendency to slip off the head of the screw, as so often happens with the ordinary form of driver and screw in common use. It is also more easy to drive the screw straightly home, there being no tendency to deviation. The driver is magnetized, so that the screw can be carried



to the bone on its end, and placed in position without any screw-holder. Nothing, therefore, should touch the screw after it has once been put in place on the end of the driver. The screw can be driven in flush with a Lane plate, as the end of the driver is the exact size of the head of the screw. The advantages over the ordinary driver and screw are the much more secure bite and the portability gained by magnetization. The instruments are made by Messrs. Allen and Hanburys, Limited, of 48, Wigmore Street, London, W.

MOTOR CARS FOR MEDICAL MEN.

BENZOL.

THE high price to which petrol has risen has led to increased interest being taken in the substitutes for it which admit of being used in motor engines without material alteration in the engine or its carburettor—a matter of the more consequence as it does not seem probable that the price of petrol will be reduced in the near future. Of these substitutes benzol is the most promising; it is a product of coal-tar distillation, and is formed in converting coal into coke in gas manufacture, though a certain amount is usually left in the gas to enrich it. It is a hydrocarbon with the formula C_6H_6, petrol being in the main pentane which has the formula C_5H_{12}; hence, bulk for bulk, it has a somewhat higher calorific value than petrol, so that a better mileage, amounting to nearly 20 per cent., can be obtained with it.

A valuable leaflet has been issued by the Petrol Substitute Joint Committee giving instructions for its use. A trial run is recommended without alteration of the carburettor, but if it is found that the engine becomes overheated, or that the exhaust gases are excessively hot, the size of the jet must be reduced; the same thing is needed if the plugs, or the valve caps, soot up more than usual. The advice has usually been given to increase the air supply, but the Committee finds that better results are got by reducing the benzol supply. The writer of this note has found that the easiest way of reducing a jet for experimental purposes is to pass through it wires of varying thickness, and when the right one has been found it is not at all necessary to get a new jet, for the wire can be left in; the writer's car has been running for two or three years with a jet so treated.

Pure benzol cannot be obtained at a reasonable price, but the samples vary, and many commercial benzols are pure enough. The impurities which matter most are coumarine, a dark, sticky substance which gums up the valves and valve stems, and sulphur. The presence of coumarine in harmful amount is indicated by a yellow colour of the spirit, although some yellow samples of benzol do not contain enough to matter. If the use of benzol becomes at all general there will be no real difficulty in getting rid of this impurity. A material amount of sulphur, up to even 250 or 300 grains per gallon, does not seem, so far as present experiments have gone, to be of any importance. One peculiarity of benzol, as compared with petrol, is that too early ignition does not cause that knocking noise which is a valuable warning against exposing the mechanism to this undue strain. This would seem to point to the explosion being rather less sudden, though we are not aware whether this has been experimentally determined. As the specific gravity is higher than that of petrol (0.899 as against 0.670 to 0.700), it may be in some cases necessary to weight the float slightly, and as its boiling point is higher (80° C. as against 50° C. to 60° C.), warming of the carburettor or of the inlet pipe is rather more important than it is with petrol, though most modern carburettors already have provision for this. A warning is given that its solvent powers are greater, so that care must be taken not to spill it on paint work; and, indeed, sometimes when it is first used in a car it can pick up paint from the tank or elsewhere and block the jet, but this difficulty soon passes away. Benzol can be obtained from most gasworks, and the Automobile Co-operative Association—now styled the Automobile Consolidated Alliance—has already arranged for a supply to its members.

THE MOTOR CAR PROBLEM.

DR. EDWARD PHILLIPS (Coventry) sends us the following notes:

Expense and first outlay, of course, have to be seriously considered, but the statement often made of a car being able to do forty or fifty miles to the gallon of petrol is misleading, and should influence no man in buying a car. Running along a straight road on the high speed with a minimum of petrol and an abundance of air (air is cheaper than petrol), a car may do forty miles to the gallon, but with stopping, turning, and gear changing, such a car's consumption will be a surprise to the novice. Efficacy and freedom from complications are of more importance than the consumption of a few ounces of petrol.

Excessive speed, too, is not to be considered. Slow speed in traffic and ability to pick up at once when required will appeal to the doctor more than forty-five miles on the level. Hill climbing at a good speed is so essential, and a low-powered car will only creep up inclines, much to the chagrin of the man driving. Hence nothing short of a four-cylinder engine will be required, developing some 10 or 12 h.p., mounted on a fairly long wheel base and a body not too cumbrous.

The English car maker has certainly not catered for the doctor, possibly because he did not understand what was required. Neither has he for the colonies, for it is estimated by a writer from Victoria, B.C., that "there are some 3,000 American cars in that city to 10 English, because the English makers will persist in making cars which do not suit their roads." I take from this that they are too heavy and badly sprung for rough roads. The springing of the American cars has developed into a fine art, and might with advantage be imitated. (Perhaps it is a pity that the body work and other details have not developed in the same way.) The low price is probably why many English doctors have set up cars from the other side of the Atlantic.

More attention has to be paid to silencing; a noisy car puffing and blowing outside a patient's house is an abomination, quite as annoying to the invalid as barking dogs, squalling children, and street organs. Many cars are quiet on the high speed—covered-in valves has had a good deal to do with this—but the gears on the low are often perfect rattletraps. A man buying a car should bear this in mind, and at the trial ask for the car to be put into reverse. For some cars the noise in this manœuvre will astonish him, and he will be well advised to change his mind if this particular type has taken his fancy. The doctor who drives himself, keeping a man for cleaning the car, will become more numerous, and it is for this class that these remarks are written. The man who for medical practice keeps his chauffeur and has a huge car can sit inside reading his daily paper and content himself that his expenses are reaching the maximum limit.

The BRITISH MEDICAL JOURNAL in the early days of motoring did me the honour of publishing articles from my pen, in which I advocated the price of a car for a doctor as being £150. This statement was taken up by several papers as being a jest or made without chapter and verse. I often wonder how many doctors have American cars to-day for which £150 to £160 has been paid.

In the last few years vast improvements have taken place, refinements and more particular work have been put into the car. For this the purchaser must pay. The doctor now should not make a greater outlay for a car fully equipped for the road than £200. There are a few English cars which fall in with the above requirements at the figure named. If light on tyres and economical in petrol, as it ought to be, his running expenses should not be extravagant.

QUESTIONS.

M. S. desires to obtain the receipt for a good liquid brass polish for cleaning such work on a motor car.

E. asks what are the best glasses or goggles for motoring to relieve the eyes from strain, glare, and wind; what coloured glasses are recommended for the above purposes; and should they be flat, or what shape?

OVERTYRED asks for experience on the following points: (1) Cost of upkeep and running of light cars, say two-seaters, home or American. (2) What depreciation should amount to, the car doing from fifty to sixty miles a week in well-paved streets. (3) Have the American cars special claims in the matter of accessibility of parts, and are there extra facilities given by the agents in the allowance for the old car when getting a new one?



Australian Institute of Tropical Medicine, Townsville.

THE AUSTRALIAN INSTITUTE OF TROPICAL MEDICINE.

As was briefly mentioned in the Journal of July 5th, Sir William McGregor, G.C.M.G., Governor of Queensland, on June 28th formally opened the recently erected buildings of the Australian Institute of Tropical Medicine at Townsville.

The institute has been in existence since the beginning of 1910, but it was housed in a small and entirely inadequate building. The energy and activity, however, of the Director, Dr. Breinl, were not long in convincing the Government that a much more extensive establishment was necessary. Accordingly in 1912 steps were taken towards the erection of a commodious new building, and at the same time it was decided to make a large increase in the staff.

The New Institute.

The new institute, which stands in the grounds of the Townsville Hospital, adjoining the hospital itself, is a large two-storied structure of ferro-concrete, built on a solid concrete foundation. Around each floor runs a wide, shaded verandah, which renders the interior of the building comparatively cool even on the hottest days. The building itself is a plain rectangle without any attempt at ornamentation. The main entrance, which opens from the hospital drive, leads into a wide corridor. At the far end of this is the large students' laboratory and lecture room, which is fitted with four long benches and all the necessary requisites for teaching and demonstrating. The room is well lit from three sides and will accommodate about a dozen students. Adjoining the lecture room is the museum, which, though providing ample space at present, will probably soon be found too small. Already about half the available space is occupied. Opposite the museum is a spare research room. Next to the latter is a small incubator room, and adjoining this a photographic dark-room. At the entrance the room of the head attendant and the chief assistant face each other.

On the upper floor above the lecture room is a large library and reading room. At present it is stocked chiefly by books belonging to the members of the staff, and there is urgent need for more literature. Adjoining the library on either side are the chemical and bacteriological laboratories. There is also an entomologist's room, an office and the Director's room. The research rooms are all furnished. In the centre of each room is a large square table, while along the walls are the usual laboratory benches. A cabinet and bookcase complete the furnishings.

At the rear of the institute, and separate from it, is a fairly large animal house. Beyond that again is a compact *post-mortem* room, while a third annexe does duty as a sterilizing and media room. The fittings of each of these buildings are highly modern, though from lack of funds they are not by any means as complete as could be desired.

Opening Ceremony.

At the opening ceremony, which took place in the afternoon, and which was largely attended, both by local people and by medical men from all over Queensland, Professor Anderson Stuart of Sydney, representing the committee of the institute, presented the Governor with a suitably worded illuminated address, in which was expressed an appreciation of the services which the Governor himself had rendered towards the study of tropical medicine. The Governor in a short speech congratulated the committee on the excellent staff it had been fortunate enough to secure, and in particular on their choice of Dr. Breinl as Director; his long and varied experience of tropical disease well fitted him to guide the destinies of the young institute, and his work in Australia had already shown excellent promise. The other members of the staff were all men of tried experience each with some particular speciality which rendered their service to the institute invaluable. Dr. Nicoll, formerly Ernest Hart Memorial Scholar in State Medicine of the British Medical Association and Lecturer in Helminthology at the Imperial College, London, was a parasitologist of wide repute. His work at the Lister Institute of Preventive Medicine in London had eminently equipped him for tackling several of the most pressing problems to be faced in North Queensland. Dr. Priestly was an expert bacteriologist and had demonstrated his ability during his two years' tenure of the Beit Memorial Fellowship at the Lister Institute. A graduate of Sydney University, he had early shown a liking for research work, and had particularly interested himself in protozoa. Dr. Young, who had also come out from the Lister Institute, had specialized in the chemistry of fermentation and the digestive processes—work which amply qualified him to deal with the intricate problems of metabolism which would bulk so largely in the work of the Institute. Mr. Taylor, who had already been at the institute for two years, was an entomologist and general zoologist of unusually great promise. By his work on mosquitos and other biting and blood-sucking insects he had shown that he was possessed, not only of remarkable energy, but also of very great ability. His Excellency referred in fitting terms to the very great services which had been rendered in bringing the institute into existence by Dr. Frodsham, until recently Bishop of North Queensland, and by Professor Anderson Stuart, of Sydney. The institute owed its conception and birth to these two gentlemen. He congratulated the committee on the completion of the new laboratories and sketched the aims and objects of the new institute and its importance in the opening up and colonization of tropical Australia. With a thorough grasp of his subject, Sir William briefly detailed the various problems with which the institute would have to grapple, and referred to the lines of research which had already been taken up by members of the staff. He emphasized the importance of ascertaining the effects of tropical conditions on white people, and in particular under such conditions as obtain in Australia, where all manual labour even of the heaviest description has to be performed by white men and women. The question was of the most far-reaching political importance, and round it would centre the future destiny of tropical Australia, and indeed of the whole Continent, for, as Professor Stuart had said, there was little doubt that if the northern part cannot be effectively held by Australians, it will at no distant date be occupied by an alien race which will threaten the very life and existence of the Australian people. His Excellency's remarks were received with frequent applause, and it was evident that his hearers, who included many of the most influential men in the North, were fully alive to the importance of the situation which he described, and that the institute would receive their warmest sympathy and support.

In the evening the Governor was present at dinner, while the ladies of the Reception Committee entertained Lady McGregor. Later, the institute was open to the general public and a very successful conversazione was held. The building was artistically decorated and numerous exhibits illustrating the work of the institute were on view.

The first report of the institute, dealing with the year ending March, 1912, shows that already a good deal of useful work had been undertaken by the Director, Dr. Breinl, with the assistance of the small staff then at his disposal, consisting of an entomologist, Mr. Frank H. Taylor, and a laboratory assistant. Dr. D. Steel, who had been appointed medical assistant and had begun work in the middle of October, 1911, unfortunately succumbed to pneumonia five weeks later. One of the first investigations undertaken was an inquiry into the etiology of worm nodules in cattle due to the parasite *Onchocerca gibsoni*, and the volume contains a description of the nodules, of the parasite, and of its life-history. Another subject investigated was human filariasis. The report of the entomologist deals with the mosquitos, Tabanidae and ticks of North Queensland. Finally Dr. Harvey Johnston, lecturer in biology in the University of Queensland, Brisbane, undertook the study of the cestodes, and the volume contains a report by him, in the course of which he gives a detailed description of eleven new species.

VOICE AND SPEECH TRAINING.

WE have received the following communication from Sir Henry A. Miers, Principal of the University of London:

Sir,—An influentially signed memorial was presented to the University some time ago requesting the University to appoint a committee to investigate certain difficult matters in regard to voice and speech training. On January 15th, 1910, a conference was held at the University of London, at which representatives of the following universities were present: Oxford, Cambridge, Durham, London, Wales, Birmingham, Liverpool, Leeds, and Sheffield, in addition to a certain number of the signatories to the original memorial. As a result of the conference it was decided to appoint a committee of investigation to inquire into the present knowledge concerning voice and speech training in order to ascertain the scientific basis upon which speech training should be conducted and what agreement exists in regard to first principles.

Owing to difficulties into which I need not enter at present, only a portion of the work contemplated has been carried out. The committee was not constituted as a whole, but the following persons kindly consented to act in the first instance as a subcommittee to investigate normal healthy breathing in relation to speech:

Mr. H. H. Hulbert, M.A., M.R.C.S.
Dr. Arthur Keith, F.R.S., Hunterian Professor at the Royal College of Surgeons.
Dr. William Pasteur, of the Middlesex Hospital.
Dr. C. S. Sherrington, F.R.S., Professor of Physiology in the University of Liverpool.
Dr. Peter Thompson, Professor of Anatomy in the University of Birmingham.

With the consent of Dr. Pasteur, who has acted as chairman of the subcommittee, I enclose for publication their preliminary report, which I think is likely to be of interest to medical men, teachers, and other persons.

VOICE TRAINING CONFERENCE.

Report of Subcommittee No. 1.

Reference: To investigate normal healthy breathing in relation to speech.

In view of the unforeseen delays encountered in carrying out the investigations referred to this subcommittee by the conference, it has been decided to present the subjoined preliminary report in the hope that it may prove useful to other subcommittees in the course of their inquiries.

Whilst recognizing that the manner of breathing of healthy individuals may vary within certain limits, the subcommittee are of opinion that some general principles can be laid down with regard to the modifications of breathing necessary for action (speech, singing, and exercise). They are further of opinion that their conclusions can most conveniently be presented in the form of general statements, which they believe to be of fundamental importance.

1. The law of "reciprocal innervation" governs all muscular contraction.*

2. Ideal breathing (for voice) is carried out by those muscular movements which produce efficient expansion of the chest, under perfect control; (provided always those muscles are kept out of action which interfere with the action of respiration—for example, shoulder and neck muscles).

3. Such breathing should bring every part of the lung into activity.

4. Beyond a certain point every additional gain in expansion of the chest is at the expense of control, and is liable to lead to permanent deterioration of the muscles and injury to the lung.

5. Ideal breathing should secure a maximum of mobility o the chest and abdominal walls, such mobility being under perfect control.

It will be advantageous to consider somewhat more fully in what manner, and to what extent, the normal respiratory movements are modified by the introduction of speech.

In health, respiration properly carried out brings the whole lung into activity, and in ordinary quiet breathing this process is (largely) automatic. Breathing for voice introduces a voluntary or quasi-voluntary factor—an addition to the purely respiratory function.

By means which are under the control of the will the capacity of the chest can be so enlarged that varying amounts of air, for varying requirements, can be drawn into it over and above the amount required for the aëration of the blood.

This bringing of the more or less automatic muscular apparatus of respiration under the direct influence of volition is what is meant by control, and without it sustained co-ordinated speech is impossible.

Breathing for voice, as contrasted with the breathing of repose which is automatic and mainly diaphragmatic, presents certain new factors. Of these the employment of the diaphragm as a voluntary muscle is probably the most important.

When the diaphragm acts in this way, in addition to its descent which is the more obvious result, the lower ribs are elevated increasing the transverse diameter of the body at this level, this providing additional space at that part of the abdominal cavity for the viscera displaced by the descent of the diaphragm. Simultaneously the muscles of the abdominal wall come under the sphere of influence. In the breathing of repose the tonus of the broad muscles of the abdomen is such as just to admit of the necessary bulging forward which is determined by the downward displacement of the abdominal contents by the contracting diaphragm. In breathing for voice this tonus is increased, as can readily be appreciated by palpation. The effect of this hardening of the abdominal wall checks the outward bulging (which is no longer necessary) and by steadying the lower part of the chest takes a share in the control of expiration.

Regarding the other factors concerned in the control of expiration, the Subcommittee are of opinion that further investigations must be undertaken before any authoritative pronouncement can be made.

H. H. HULBERT.
ARTHUR KEITH.
W. PASTEUR.
C. S. SHERRINGTON.
PETER THOMPSON.

April 8th, 1913.

Note by Professor Sherrington on "Reciprocal Innervation."

The inspiratory and expiratory muscles are mutually antagonistic. There is reason to believe that like other antagonistic muscle-groups they obey in their relations the rule of reciprocal innervation, that is, when the motor centres of the inspiratory muscles are discharged (activated), those of the expiratory are inhibited; and conversely.

It has been shown that in the normal breathing of the rabbit the electrical current (action-current) of the diaphragm ceases altogether during the expiratory phase, but that in the abnormal breathing of the animal under chloral the action-current of the muscle (diaphragm) persists, even throughout each expiration, although in diminished intensity. The diaphragm and its motor centre are in the latter case never given a full repose at all, and fatigue of respiration ensues.

*See explanatory note by Professor Sherrington at end of this report.

Nova et Vetera.

THE PLATONIC VIEW OF MEDICINE.

It has often been observed that artists are not the best judges of their own department of art. Thus the poet may be a better judge of a picture than a painter, while the painter or sculptor may form a more correct appreciation of a great symphony than a professed musician. Medicine, however, being partly an art and partly a science does not readily conform to this rule. The judgement of the enlightened layman on the general theory and practice of medicine in modern times can seldom be of much value, because it nearly always lacks that indispensable basis of anatomical and physiological knowledge without which any rational opinion on matters medical must be almost impossible. But in the world of antiquity, when no one thought of the possibility of medicine being a science, when the knowledge of anatomy and physiology hardly existed, the views of the elect spirits among the laity possessed a greater importance, for the various departments of knowledge had not become specialized, so that want of technical information was hardly an obstacle to forming a good judgement on a subject which had scarcely elaborated for itself any technical nomenclature. Apart from the value of opinions passed upon particular medical points, the views of a great mind on any subject can never be without interest. The intuitions of genius may give us a more just estimate of the importance of any art or intellectual activity, whether looked at from the point of view of practical utility, or as a means of culture, or as an end in itself, than could be obtained from the actual practitioners of that art. It is in the light of conceptions such as these that it becomes worth while asking what views were held by Plato about medicine and what place it occupied in his scheme of things.

The Platonic philosophy of poetry and art has been frequently expounded and discussed: we all know how Plato banished the poets from his ideal republic, because they were allied to sense and stimulated the emotions, and how he regarded the painter who portrayed a bedstead as inferior to the workman who made it, as being three removes from the true or ideal bedstead. Following in this exalted company of poets and artists, no physicians were to be admitted to his ideal republic. This banishment of physicians causes us the less surprise, as in an ideal state with a system of education fitting each citizen for his own special life's work, together with a somewhat Spartan discipline as regards diet and living generally, the tendency to chronic diseases at all events might have been very greatly reduced; indeed, Plato seems to have thought that they might have been eliminated altogether, if it were not for the practice of the physicians which he believed tended to foster rather than to repress disease. Thus he says in the *Republic*:

> In former days, before the time of Herodicus, the guild of Asclepius did not practise our present system of medicine which may be said to educate diseases. Herodicus had a mortal disease which he perpetually tended, and as recovery was out of the question he passed his entire life as a valetudinarian, he could do nothing but attend upon himself, and he was in constant torment whenever he departed in any way from his usual regimen, and so dying hard by the help of science he struggled on to old age. In all well-ordered states every individual has an occupation to which he must attend, and therefore has no leisure to spend in continually being ill, the carpenter sees no good in a life which is spent in nursing his disease to the neglect of his ordinary calling, when a man has a livelihood he should practise virtue. Asclepius did not want to lengthen out useless lives, if a man was not able to live in the ordinary way he had no business to cure him, for he would have done no good either to the man himself or to the State. The art of medicine was not designed for unhealthy and intemperate subjects, whose lives are of no use either to themselves or others, though as rich as Midas the sons of Asclepius would have declined to attend them. (*Republic*, Bk. III, 406–7.)

In forming an ideal State the question of disease, like the origin of evil, must always be troublesome. Admitting, with Plato, that a certain Dorian simplicity of life might rid us of many chronic diseases, and agreeing, with La Rochefoucauld, that it is *ennuyeux de conserver la vie par un régime trop sevère*, we yet have to face the problem of acute diseases which seem to defy any ordinary human precautions. True, indeed, that some acute diseases are, so to speak, self-limited and end with themselves—that is to say, either recovery takes place or the illness proves fatal—yet in others the acute disease leaves behind it permanent traces of itself, only to mention such cases as scarlet fever, rheumatic fever, or acute poliomyelitis. It may be that increased knowledge with a more subtle observation of the individual from infancy would enable us to detect special premonitory symptoms of a disease and take measures to avoid it, but for the present it is, and still more must it have been in Plato's day, impossible to lay down any scheme of the simple life which should abolish disease.

The uselessness, or even positive harmfulness, of physicians, as depicted in the passage from the *Republic* which we have quoted, though affording the most obvious reason for banishing them from the ideal State, was not the only reason. There was a more profound cause for this antipathy to the healing art and to the professors of it. For Plato's mind was one which revelled in abstractions, the chief object of his philosophy being to realize abstractions and to connect them. For him the unseen world was more definitely real than the seen, and abstractions more worthy of love than personalities. Thus the idea of Beauty was the final realization to which a man eventually rose on the stepping-stones of individual manifestations of beauty. It is this objective reality which has given to the Platonic abstractions or ideas a colour and a life for which we look in vain in the *Ding an sich* of Kant and other German philosophers. To the writings of Plato there clings a perennial charm, because he has been able to invest the universal abstract conception of the mind with the palpitating emotion and shimmering colour which belong to our notion of personality. Such a standpoint naturally leaves small scope for the activities and concerns of the body, so that Plato, particularly in the *Republic*, continually insists on the importance of the removal of all superfluities from existence; thus the life of the highest type of his citizens who are the "Guardians" of the State comes very near to the monastic ideal of mediaevalism, and he outlines for them an almost ascetic rule of life. Since the pursuit of wisdom was to be the highest aim of life, the body could only be regarded from the point of view of its utility in helping or hindering this pursuit. Apart from the various diseases of the body, which of necessity must impair the activity of the soul in seeking after truth, the complex and unnecessary desires of the body are always tending to drag the soul down to a lower level, and to prevent it from realizing those aims which are its ultimate goal. Plato, in his whole theory of education, is considering primarily the soul—and the soul only. The two main elements in his system of education—namely, music and gymnastic—are directed entirely to the education of the soul, this being true of gymnastic no less than music; for Plato's belief was not that the good body improves the soul, but that the good soul improves the body. It seems, indeed, that "excessive attention to the training of the body brings with it evils as great as the undue neglect of it." The body then gradually swallows up the mind; the whole man swells with the pride of conscious strength; by degrees his courage sinks into brutality and his high spirit into insolence; his senses, the windows of his mind are clogged and darkened; his intelligence, neglected and starved, grows weak, deaf, and blind (*Hellenica*, p. 20). "For the athletic habit of body is a sleepy sort of habit, and is liable to upset the health. We see how the professional athletes doze away their life, and how, if they deviate a little from their prescribed diet, they get serious and violent diseases." Asclepius was regarded by Plato as a statesman, and he was so politic as to have exhibited his art only to persons who, being generally of healthy constitution and habits of life, had a definite ailment, such as these he cured by ordinary measures and bade them live as usual, thus consulting the interests of the State; but bodies which disease had penetrated through and through he would not have attempted to cure, as he did not want

to lengthen out useless lives, or that weak fathers should beget weaker sons.

In his various dialogues Plato does not pretend to any absolute consistency of statement about the different subjects with which he deals; varied aspects of a subject strike in upon his subtle and penetrating mind in different moods, and probably no one knew better than he the difficulty of finishing off with precision his opinions on any subject. Thus at times, as we have seen, he regards medicine as of little importance, or even as actually pernicious, because it tends "to educate" diseases, while at others he refers to it in a more lofty strain. Thus in the *Symposium* he makes the physician Eryximachus speak as follows:

> My art informs me that a double love is to be found in all animals and plants and I may say in all that is, for Medicine may be regarded generally as the knowledge of the loves and desires of the body and how to satisfy them or not: and the good physician is he who is able to separate fair love from foul, or convert one into the other, and he who knows how to eradicate or implant love, whichever is required and can reconcile the most hostile elements in the constitution and make them friends, is a skilful practitioner. (*Symposium*, 186.)

This, of course, is the doctrine of the unity of opposites, or rather harmony after discord, which was derived from Heraclitus. In another dialogue medicine is compared to rhetoric. Thus Socrates says:

> Rhetoric is like Medicine, because Medicine has to define the nature of the body and Rhetoric of the soul, or, if we would proceed not empirically but scientifically in the one case to impart health and strength by giving medicine and food, in the other to impart the principle or virtue which you require by the right application of words and training. (*Phaedrus*, 270.)

Again, in the *Gorgias*, which treats of Rhetoric, we have an allusion to cookery as an inferior aspect of medicine, the former being compared to rhetoric and the latter to justice; thus cookery stands to medicine in the same relation as rhetoric to justice. However, Gorgias, the teacher of rhetoric, seems quite certain that the physician would be no match for the rhetorician in the art of persuasion, as appears in the following passage:

> On several occasions (says Gorgias) I have been with my brother Herodicus, or some other physician, to see one of his patients, who would not allow the physician to give him medicine, or apply the knife or hot iron to him: and I have persuaded him to do for me what he would not do for the physician just by the use of rhetoric. And I say that if a rhetorician and a physician were to go to any city and there had to argue in the Ecclesia, or any other assembly, as to which of them should be elected, the physician would have no chance, but he who could speak would be chosen if he wished, and in a contest with a man of any other profession the rhetorician more than any one would have the power of getting himself chosen, for he can speak more persuasively to the multitude than any of them, and on any subject. (*Gorgias*, 456.)

He goes on to say, however, that the Rhetorician ought not to make a bad use of his art, and because he is able to persuade men of anything, he ought not on that account to defraud the physician or any other artist of his reputation: he ought to use rhetoric fairly, as he would also use his athletic powers. Socrates with much truth points out that the power of the Rhetorician can be exercised only over the ignorant in matters which concern medicine.

> *Soc.* He who is not a physician must, obviously, be ignorant of what the physician knows.
> *Gor.* That is evident.
> *Soc.* Then when the rhetorician is more persuasive than the physician, the ignorant is more persuasive with the ignorant than he who has knowledge.

In the same dialogue Plato tells us how the soul and body being two, have two arts corresponding to them: the art of Politics attends to the soul, while the other art, attending on the body, has no specific name but has two divisions—one of them being gymnastic and the other medicine. In Politics there is a legislative part which answers to Gymnastic, just as Medicine corresponds to Justice. Now these four arts, which deal with the body and the soul, are simulated by flattery, which has no regard for men's highest interests, but is ever deceiving men into the belief that she is of the highest value to them. Thus, Cookery puts on the disguise of medicine and pretends to know what food is best for the body; and if the physician and the cook had to enter into a competition in which children were the judges, or men who had no more sense than children, as to which of them best understands the goodness or badness of food, the physician would be starved to death. But if the body presided over itself, and were not under the guidance of the soul, and the soul did not discern and discriminate between cookery and medicine, but the body was made the judge of them and the rule of judgement was the bodily delight which was given by them, then the word of Anaxagoras would come true: Chaos would return and cookery, health, and medicine would mingle in an indiscriminate mass. (*Gorgias*, 465.) Rhetoric bears the same relation to the soul which cookery has to the body.

Plato doubtless thought that most diseases could be treated by diet, and even this was to be deprecated if it involved much alteration from one's ordinary mode of life. Thus, he says in the *Timaeus*:

> Diseases, unless they are very dangerous, should not be irritated by Medicines, since every form of disease is in a manner akin to the living being whose complex frame has an appointed term of life, and if any one, regardless of the intention of Nature, would get the better of their disease by medicine, he only increases and multiplies them. Wherefore we ought always to manage them by regimen, as far as a man can spare the time, and not provoke a disagreeable enemy by medical treatment. (*Timaeus*, 89.)

In the same dialogue he speaks of diseases of the soul which originate in the body, and these are madness and ignorance. Whatever affection gives rise to either of them may be called disease:

> Excessive pains and pleasures are justly to be regarded as the greatest diseases of the soul, for a man who is in great joy or great pain, in his irrational eagerness to attain the one and avoid the other, is not truly able to see or to hear anything; but he is mad, and is at the time quite incapable of any participation in reason.

Plato was fond of illustrating his arguments with pictures drawn from Medicine and Navigation; oddly enough; these two arts have been often compared, and with some reason, for both depend on scientific principles, and consist in the application of science to particular and varying conditions, guided by natural acumen and controlled by long experience. Plato foresaw the absurdity of the State trying to lay down the law either for the physician or the pilot, and says:

> It may be a great evil that physicians should kill their patients or captains cast away their ships, but it would be a far greater evil if each particular detail in the practice of Medicine or Seamanship were regulated by law.

There is a fine passage in which he points out the impossibility of any art imposing upon itself universal rules: Thus:

> Let us put to ourselves the case of a physician who is about to go into a far country, and is expecting to be away a long time from his Patients; he leaves written instructions for the Patients or pupils, under the idea that they will not be remembered unless they are written down. But what would you say, if he came back sooner than he had intended, and, owing to an unexpected change of the winds or other celestial influences, some other remedies happened to be better for them, would he not venture to suggest those other remedies, although differing from his former prescription. Would he persist in observing the original law, neither himself giving any new commandments, nor the patient daring to do otherwise than was prescribed, under the idea that this course only was healthy and medicinal, all others noxious and heterodox? Viewed in the light of Science and true art would not all such regulations be utterly ridiculous? (*Politicus*, 295.)

In *The Laws* we read with some surprise that Plato assumed it to be quite natural when patients only required to be given directions as to their diet and general line of

life, that then an inferior practitioner should be sought, and only when medicine had to be given was it considered necessary to have recourse to a properly qualified physician. The inferior doctor or "assistant" was one who acquired his knowledge of medicine by obeying and observing his master—empirically, not rationally, as the manner of freemen is who have learnt scientifically themselves the art which they impart to their pupils; and then he goes on to say how "the inferior or slave doctor never talks to his Patient individually or lets him talk about his own ailments, the doctor prescribing what he thinks good out of the abundance of his experience, as if he had no manner of doubt. But the doctor who is a freeman attends and practises upon freemen; and he carries his inquiries far back, and goes into the nature of the disorder; he enters into discourse with the patient and with his friends, and is at once getting information from the sick man, and also instructing him as far as he is able, and he will not prescribe for him until he has first convinced him; at last, when he has brought the patient more and more under his persuasive influences and set him on the road to health, he attempts to effect a cure." (*The Laws*, 720.)

Though to the Greek generally, as to most sane minds, disease must be regarded as wholly an evil, yet Plato, in one passage in the *Republic*, seems to regard a mild degree of ill health as partly beneficial, in that it may prevent a man from joining in the hurly-burly of politics and dispose him to the study of philosophy: he refers to this as the "bridle of Theages" (*Republic*, vi, 496), which restrained his friend from taking part in the active life of the world and made him a worthy student of philosophy.

The extraordinary interest of the modern world in medicine and disease is wholly alien to the Platonic conception of them. To Plato, as to the ancient world generally, disease was a tiresome and meaningless exception to the ordered regularity of a harmonious life; it was a kind of square root which would not come out, belonging to the realm of τὸ ἄπειρον, which no philosophic mind would waste time in studying. The ordinary citizen ought to be healthy, sane, and strong, and the man who was properly occupied had "no leisure to be ill."

Focussed upon the State, as the mind of the antique world undoubtedly was, the needs of the individual were less minutely considered than is the case with us, and not only sickness but also old age was apt to come off second best. For the modern world the influence of Christianity has shifted the centre of gravity from the State to the individual, and the special value which is thus set upon each individual soul brings with it a more tender solicitude for the healthy condition of the body. Then again with the increase in the apparatus of living, and the general complexity of modern life, every aspect of existence is subjected to a minute analysis, so that perhaps more time is expended on the means of living and the side-issues of life than on life itself. Among the ancients life was infinitely more simple than with us, but it must be confessed that to some extent the simplicity was purchased by ignoring some awkward facts such as disease, and the discomforts of old age; indeed, with regard to the solution of many difficult social problems the ancients had a genius for cutting knots which the modern world has a love for trying to untie.

HEISER, in his quarterly Report of the Bureau of Health for the Philippine Islands, states that during the month of January there were only 502 deaths, as compared with 698 for the same month of the previous year; during February there were 445 deaths, as compared with 611; and during March 451 deaths, compared with 732. As the population of the city is constantly increasing, it is apparent that the improvement is even greater than the numbers indicate. The decrease in the number of deaths is largely attributed to the improved city water supply and the more general use of the new sewer system. The many other sanitary reforms which have been brought about—as, for instance, the proper collection and disposal of garbage, the reduction in the number of mosquitos, the rejection of unwholesome food, regulation of the milk supply, the improved sanitation of houses, the prompt isolation of dangerous communicable diseases, and many other factors—are also no doubt responsible to a large extent for the improvement in the public health.

LITERARY NOTES.

WE learn from Messrs. W. and G. Foyle that they have just opened at 5, Manette Street, adjacent to their premises in Charing Cross Road, a foreign book department, comprising what they describe as the largest stock of secondhand foreign books in this country. The books are arranged in strictly classified order. The firm invites readers of the BRITISH MEDICAL JOURNAL to call and inspect their collection.

Messrs. J. and A. Churchill will issue the following works in the autumn:—*Dental Anatomy: Human and Comparative*, by Mr. C. S. Tomes (seventh edition), revised by Dr. Marett Tims and Mr. A Hopewell-Smith; *Industrial Organic Analysis*, by Paul S. Arup, with a foreword by Dr. J. C. Irvine, Professor of Chemistry at the University of St. Andrews; *Quantitative Analysis in Practice*, by John Waddell, Assistant Professor of Chemistry, School of Mining (Queen's University), Kingston, Canada: Bloxam's *Chemistry, Inorganic and Organic* (tenth edition), thoroughly revised by A. G. Bloxam and S. Judd Lewis; *Practical Chemistry: Qualitative Exercises and Analytical Tables for Students*, by the late J. Campbell Brown, Professor of Chemistry, University of Liverpool (sixth edition), revised by Dr. G. D. Bengough, Lecturer on Metallurgy, University of Liverpool.

Among Messrs. Methuen's announcements of forthcoming books for the second half of 1913, are the following: *The Threshold of Religion*, by R. R. Marett, Reader in Social Anthropology, Oxford; and *Minds in Distress* by Dr. A. E. Bridger. Mr. Marett's work, which is described as a study in the psychology of religion, suggests that the primordial category of religion consists in the notion of power rather than in the notion of spirit. It may be asked, If so, what about magic, which also participates in the notion of power? The reply is that there is present in religion, even in the early stage, the saving grace of humility which is absent in magic. Dr. A. E. Bridger's work is described as a psychological study of the masculine and feminine minds in health and in disorder. The author maintains that both in time and in importance the psychic must take precedence of the physiological and the anatomical; that mind is the generator, tissue and function the servants; that life is a problem set by the senses, but not to be resolved unaided by them.

The July number of *L'Hygiène* is mainly occupied with a report of the Congress of the Alliance of Social Hygiene held not long ago in Paris. The inaugural address was delivered by M. Léon Bourgeois, who dealt with the need of public education in social hygiene. In the course of his remarks he touched on the preventive mission of the doctor, and expressed the opinion that to the task of "doctor of disease" must be joined in future the functions of "doctor of health." The doctor should make periodical inspections to note any appearance of oncoming disease. The "visit of health" should to a large extent replace the "visit of sickness." Professors Albert Robin and Letulle dwelt on the same subject, which is also discussed by the writer who adopts the pen name of "Horace Bianchon." He appeals to the mutual aid societies to take steps in this direction and to allocate for the prevention of disease a part of the funds which are now often wasted on its treatment. The August number contains an article by the same writer on the effect on the health of the army and the nation of the enrolment for military service of young men at the age of 20. Professor Blanchard gives an account of the struggle against hookworm and other parasitic diseases in America and the organization for that purpose which the munificence of Mr. Rockefeller has made possible. Dr. C. W. Stiles is at the head of the organization, which consists of seventy assistants and a large staff of micrographers and secretaries. During the last three years they have visited the worst foci of disease, sought out persons suffering from it, and opened dispensaries, where the patients have been treated with thymol. The success of this campaign has already been so remarkable that Professor Blanchard thinks it ranks with the marvellous results obtained in Cuba and elsewhere in the struggle against yellow fever and in Italy against malaria. A particularly interesting article is one on the famous old

Quinze-Vingts hospital for the blind in Paris. It was founded by St. Louis the Ninth on his return from the Holy Land, about 1254. The article, which is by Dr. E. Valude, gives a complete account of the buildings and working of the institution. The ophthalmological clinic is attended each day by more than 200 cases, and about a thousand operations for cataract are performed every year. Dr. Maurice de Fleury discusses the mechanism that produces neurasthenia. Dr. J. Laumonier contributes an interesting article on our means of defence against heat. Professor Antonin Poncet of Lyons gives an account of his successes in the treatment of tuberculous osteo-articular disease by sunlight. Heliotherapy has in the last ten years wrought a transformation in treatment. Whereas formerly radical treatment meant amputation and conservative treatment resection, now resection has come to be looked upon as the radical measure, and it is only in exceptional cases that it is required. Edmond Cleray gives an account of a French woman professor of obstetrics in the eighteenth century. This was Madame du Coudray, a licensed midwife of the Paris Faculty, who about 1750 began to teach midwives with the help of a mannequin. So successful was her teaching that a patent was granted by the King for its use in the instruction of midwives throughout the kingdom. The illustrations in both numbers are varied and appropriate in subject and admirably reproduced.

Gymnastics have long been recognized as a necessary part of a child's education; but of recent years they have also been advocated as a very effectual means of stimulating the mental as well as the physical growth, and as contributing as much towards the development of the mind as that of the body. The July number of *The Child* contains an interesting article on this subject by Dr. Edgar F. Cyriax, who warmly advocates the use of medical gymnastics for backward or abnormal children. This little known form of treatment, which aims at putting into proper working order the sense organs and muscles which in the normal person incite the brain cells into activity, and whose functions in the mentally deficient are either wholly or partially in abeyance, consists of the manual stimulation of certain nerve centres, or, in the less advanced cases, of a system of exercises designed to produce the same effect. This enforced bodily activity usually acts like a spur upon the arrested mental development of defective children, whilst even in cases of congenital idiocy a marked amelioration may often be obtained. Dr. Cyriax, who claims to have "effected considerable benefit by means of medical gymnastics in cases considered to all intents and purposes practically hopeless," tells us that it is rare indeed to find a patient who derives no benefit from this form of treatment, which at the present moment appears to offer a wide field for investigation to those who are interested in the different manifestations of mental instability in childhood and youth. The July number of *The Child* also contains an article by Mr. Macleod Yearsley on the causes of deafness in childhood, and a short account by Dr. C. E. McCombs of child hygiene in America, whilst Mr. James Cantlie has contributed an excellent article on the health of the adolescent and the risks to which it is constantly exposed.

The August number of the *Arena* gives in its "Past and Present" series an illustrated account of University College, Reading, which should be of particular interest at the present time in view of the fact that the college hopes shortly to obtain the status of an independent university. The article gives an historical sketch of the growth of the college since its infancy, and special stress is laid on the importance attached to the residential system. It is claimed that there exists at Reading a corporate collegiate life unlike that which is to be found in any of the other modern universities of England. The college is not merely a local institution, but one that fulfils needs of real national importance. Another university institution dealt with is Dalton Hall, Manchester, which is interesting as being the oldest hall of residence now surviving in a modern university. Those of our readers who are interested in academic dress will find entertainment in an article on Oxford and Cambridge robes, which has been written by Mr. Noel Barwell, who has made a special study of the subject. In an article entitled "The Art of Collecting Autographs" Mr. R. H. Cust publishes some letters sent by members of the nobility in the year 1835 to an Eton boy who obtained them on the false plea of inquiring for the character of imaginary servants. The amount of trouble which the distinguished persons took to make inquiries into the matter is remarkable, as is the courtesy with which they replied. O'Connell's reply is delightful:

Dear Sir,
I make a point of never giving my autograph to anyone.
Yours faithfully,
DANIEL O'CONNELL.

Other articles which are worthy of special mention are a short paper on the Indian Civil Service Examination, a literary sketch entitled "Two Gardens of France," by Mr. Arthur Eckersley, and an article-review by Mr. Gilbert Wakefield on Dr. Grey's book *Public Schools and the Empire*. Holiday matters are dealt with in the two articles named An Inconsequent Holiday and the Playgrounds of Europe. Mr. Christopher Stone has contributed a short sketch entitled "A Suffragette," and Mr. Wilfred Blair the first of a series of poems under the heading "Ancient Tales Retold." The illustrations are of the high order of excellence which we have learnt to expect in this admirably conducted periodical.

Dr. J. Westall Anderton (Arnside, Westmorland) writes:

Apropos of Dr. Robert Bridges's story in the JOURNAL of July 19th, I am reminded of a not dissimilar incident which took place at a northern hospital some few years ago. One of the residents, called to see a newly-admitted patient, prescribed for her a stock cough mixture, writing on the bed ticket:

Mist. Expect. ter die.

The ward sister, on going to her a few hours afterwards, found the woman in tears, with a rise in temperature of 5°, which speedily went down when she was assured that the writing was of the nature of a remedy and not of a prognosis.

The authenticity of Ambroise Paré's famous phrase, "Je le pensay, Dieu le guarit," was much debated in former times, but the authority of Malgaigne has, since his edition of Paré's work appeared, generally been accepted as final. To make assurance doubly sure, Dr. Flandrin of Grenoble has made a careful examination of the original sources. It is in the fourth edition (Paris, Gabriel Buon, 1585) that there appears for the first time the *Apologie et Traicté Contenant les Voyages faicts en divers lieux. Par Ambroise Paré, Conseiller et premier chirurgien du Roi.* In that chapter the author, relating the case of Captain le Rat, wounded by a shot from an arquebus in the ankle at the siege of Turin in 1536, wrote that he had dressed his wounds and God had healed them. The text, reproduced in facsimile in the *Chronique Médicale* for August, which contains the result of M. Flandrin's researches, is as follows:

D'avantage ie veux icy monstrer aux lecteurs les lieux & places ou i'ay peu apprendre la Chirurgie, pour tousiours mieux instruire le ieune Chirurgien. Et premierement en l'an mil cinq cens trente six, le grand Roy Francois enuoya vne grande armee à Thurin, pour reprendre les villes & chasteaux qu'auoit pris le Marquis du Guast, Lieuyenant general de l'Empereur: ou monsieur le Connestable, lors grand Maistre, estoit Lieutenant general de l'armee, & monsieur de Mont-jan Collounel general des gens de pied, duquel lors i'estois Chirurgien. Vne grande partie de l'armee arriuee au pas de Suze, trouuasmes les ennemis qui tenoyent le passage, & auoyent faict certains forts & trauchees, de façon que pour les faire debusquer & quitter la place, il conuint combattre où il y eut plusieurs tuez & blessez tãt d'vne part que d'autre: mais les ennemis furent contraints se retirer & gangner le chasteau, qui fut en partie par le Capitaine le Rat, qui grimpa auec plusieurs soldats de sa compagnie sur vne petite montagnette, là où ils tiroyent à plomb sur les ennemis, il receut vn coup d'hacquebute à la cheuille du pied dextre, où tout subit tomba en terre: & alors dit, A ceste heure le Rat est pris. *Ie le pensay, & Dieu le guarit.* Nous entrasmes à foulle en la ville, & passions par sus les morts, & quelques-vns ne l'estans encore, les oyons crier sous les pieds de nos cheuaux, qui me faisoit grande passion en mon coeur.

Flandrin points out that the cause of a good deal of misapprehension has been that in the editions earlier than that of 1585 the history of the captain and his wound is not mentioned. Phrases such as "Notwithstanding the said Lord, thank God, was cured," and "Whom also I dressed till he was healed, thanks be to God," have misled critics into thinking that the historic phrase was only the fixation in a striking form of a thought expressed in manifold ways in Paré's narratives, and that it was really invented by some commentator.

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SATURDAY, AUGUST 30TH, 1913.

ART AND INSANITY.

During the meeting of the International Congress a number of pictures executed by the inmates of asylums and collected by Sir George Savage, with the co-operation of Dr. Stoddart, the Superintendent of Bethlem Hospital, were exhibited in one of the large rooms of that institution. More was to be got from studying them than the mere indulgence of curiosity, although no indication was given of the kind of insanity their authors suffered from, nor of their previous history. Indeed, the impression was left that, given these data, drawings might prove a fruitful line of study and a good index of the patient's state, for, after all, drawing is a mode of expression in which the individuality of the person is well marked.

It may be premised that insanity, even strongly marked, does not of necessity impair artistic skill; thus there were several drawings by a well-known deceased artist, who cut his father's throat, which do not differ from his earlier work either in execution or conception, though a few—as, for instance, one depicting a lunatic in chains—would hardly have been conceived in his saner times. There were others by different artists which, though slight, are of very high artistic excellence—as, for instance, some studies in coloured chalk on tinted paper of Coquelin in various parts, and a tender little landscape of Bethlem itself under an evening light. But it may be observed in passing that landscape is much less represented than figure subjects; the repose of landscape does not seem very often to appeal to disordered minds.

There was a pen-and-ink head of Gladstone, wild and cleverly conceived in a spirit of moderate caricature, but this might have been done by any one with the requisite skill whose admiration for that statesman was qualified by difference of opinion. There were also some excellent designs for posters or advertisements.

Leaving these pictures upon which lunacy has set no stamp, we come to a few in which the draughtsmanship is still good but the motive more doubtful. Thus, there is a clever pen-and-ink sketch comprising several figures, with legends such as "A 10 per cent. commission to doctors sending patients here," and the like. But perhaps the most interesting of this class were a series of outline drawings, all from the same hand, strongly reminiscent of the work of the Post-Impressionists. They are nude figures, in which the easy flow of line shows marked facility combined with a disregard of correct drawing; the limbs are out of proportion and do not join up properly with the body, and yet it is not in the least the incorrect and cramped drawing of a child or of an unskilled draughtsman. One is executed in squares, and is absolutely a "Cubist" drawing, though much more intelligible than many of those which recently found a place on the walls of the Grafton Gallery. It would be very interesting to know whether the patient who executed these had seen the Post-Impressionist exhibitions or had heard of them, or whether he evolved the manner from his own inner consciousness. It would be going too far to say that these drawings are any proof that the Post-Impressionists owe their peculiarities to disordered minds; and yet it is an uncomfortable fact that, of the three artists who are recognized as the founders of the school, one expatriated himself and lived the life of a native in the South Sea Islands; the second, after committing a murderous assault with a razor upon the first, died by his own hand whilst under confinement; the third, however, appears to have had a clean record. There is a goggle-eyed face, much like Post-Impressionist work, which comes from the hand of another insane person; and, from other hands again, an Impressionist peacock and some weird creatures more or less bearing the same stamp of extravagant fancy and disregard of correct drawing.

Then there are several drawings, of some decorative merit but with less evidence of artistic skill, which are combined with a geometrical figure such as might be found on old astrological prints; at least, this appeared to be its character. These geometrical figures are executed with care and precision, but the intention of the whole thing is hard to divine. The lesson to be drawn from them seems to be that a certain consistency running through the whole series and care in execution are not incompatible with the adoption of an unintelligible design.

Side by side with the drawings of persons of unsound mind were placed a number of drawings executed by normal children under the age of 10 at an elementary school. It has been shown by an American writer (Chamberlin) that the work of young children bears a singularly close resemblance to that of savages, both in execution and in conception, and in the collection at Bethlem were many drawings by insane persons which are upon the same plane in both respects. They are neither better nor worse than the children's drawings, and are very closely similar to them. With respect to these it would be interesting to know what degree of skill had been possessed by the executants before they became of unsound mind; it would seem unlikely that an adult unaccustomed to draw would, whilst an inmate of an asylum, take to this form of expression. On the other hand no person of sound mind would be satisfied with such representations as we see here, but would tear them up. There are two drawings which have an especial interest. They are obviously the work of a professional architect; one is an elevation, excellently executed, and having just the slight indication of landscape surroundings usual in such architectural drawings. The other is another elevation of the same building, and, so far as the building is concerned, it is nearly as good as the first. But it is set in a more complete landscape which is executed in an absolutely puerile fashion; thus on his own ground the artist was possessed of his former skill, but when he got beyond it he was satisfied with setting his architectural work in a wretched surrounding, not a bit better than the work of the young school children. As the elevation is that of Bethlem Convalescent Asylum it would be interesting to know which of the two was executed first in point of time.

None of the drawings exhibited reveal the smallest indelicacy of feeling, but in their selection those displaying sexual tendencies were excluded, and the absence of the smallest impropriety may have been due to the rigour of the censorship.

But notwithstanding that for the purpose of close psychological study the exhibition was incomplete both in this respect and in the absence of case records, it was exceedingly interesting alike from the point of view of art and of psychology. It has been suggested by a writer in the *Times* that from the artistic standpoint there may be a gain for the artist in being unfettered by the necessity of pleasing the public eye, and in not caring in the least what others think of his work; on these grounds he defends the Post-Impressionists. It is true that early man in his drawings upon bone and on the walls of caves did display a rude artistic power, and the Japanese are able, though disregarding perspective, to please the cultivated eye. But there are not wanting examples of good artists who from senile degeneracy have come to paint in the manner of the Post-Impressionists, or of children, or of the inmates of asylums; further, the work of infant prodigies, however remarkable, always lacks that something which is needed to satisfy the educated eye. It does not, then, seem worth while to go back to the outlook of the child or of the savage in order to escape the academic trammels. At all events, this exhibition lends no support to ideas of this kind.

In the absence of histories of the patients it is not possible to speak without fear of contradiction; but, so far as can be judged from inspection of the drawings, every one worthy of consideration from the artistic point of view betrays the practised hand, and does not suggest the spontaneous evolution of an art expressive of untrammelled ideas. In other words, degeneracy from a previous standard of excellence is strongly suggested rather than an advance along hitherto untrodden paths.

MEDICAL HYDROLOGY AND ITS ALLY.

ONE of the questions which arises annually for settlement is as to the number of Sections in which the scientific work at the next annual meeting shall be done. Claimants for the allocation to them of a special territory are generally numerous, but over-fine division of subjects is generally felt to be undesirable. The matter is not one that can advantageously be made the subject of a standing rule, for the town where the meeting is to be held may offer special facilities for the fruitful discussion of some particular class of subject. Thus, to take one example, we find that a Section devoted to the discussion of industrial hygiene and diseases of occupation was instituted at the Annual Meeting at Manchester in 1902, and continued at the meetings in Leicester in 1905, and in Sheffield in 1908. At Birmingham in 1911 and at Liverpool in 1912 the subject of industrial disease was included with that of state medicine in general in the business of a Section bearing a joint title. When the arrangements were being made for the annual meeting in Brighton this year, a plea was put forward for the institution of a Section devoted to the discussion of subjects comprised within the terms "balneology and climatology." The reasons for instituting a Section dealing with these allied subjects in a health resort such as Brighton were well stated by the President, Dr. Ainslie Hollis, and carried conviction. The organization of this first Section of Balneology and Climatology was entrusted to Dr. Copeman of Brighton, and despite inherent difficulties and a certain not very comprehensible lack of enthusiasm on the part of some who might be supposed to be specially interested in spa and allied treatment, he carried it through with much success.

An account of what was done in the Section appears elsewhere in this issue, and it will be noted that, with one or two exceptions, all the eight subjects discussed were special in character. To bring this about is in itself something of an achievement, for those who are readers of *Transactions* need not be told that it sometimes happens that at gatherings held for the discussion of balneology and climatology most of the subjects raised really belong to general medicine rather than to any special department thereof. One factor in contributing to this undesirable result is the circumstance that balneology, or medical hydrology—to use the term for which Dr. Fortescue Fox made out a good case in his Hyde Memorial Lectures a couple of years ago—lends itself in its present state of development much less readily to really scientific discussions than to expositions of the conflicting claims of different spas.

Balneological methods properly so called have features in common all the world over, and, though the chemical composition of the waters is very various, differences in composition and in the mode of application are not usually so great as in themselves to explain the special therapeutic results claimed for their use. On this and other grounds there have been people who have maintained that rather than depend therapeutically on the chance composition of natural waters it would be wiser to decide what indications it is desired to meet in the case of different disorders and to construct artificial waters accordingly.

Apart from other reasons, such as those connected with climate and regimen, it is very doubtful whether in the present state of knowledge this proposal is scientifically defensible. Observations recently made on the effect of very minute traces of metals on protoplasm, especially perhaps those made on yeasts used in brewing, have yielded very remarkable results, and although it is a long step from the yeast cell to the mammalian organism the influence on growth and metabolism now known to be due to hormones—or "chalones," to use Sir Edward Schäfer's more comprehensive term—shows the importance of very minute quantities of substances produced in the animal economy. Further, the new ideas which are surging up on the border-line between physics and chemistry suggest that something in the therapeutic action attributed to natural mineral waters, as compared with the artificial products of the chemical laboratory, may be due not merely to the quantities of the salts present, but to the mode in which they exist in the water. There is also the question of the possible influence of the presence of radio-active substances in such waters as those of Bath, a subject upon which it would not be wise at present to dogmatize.

Climatology, in so far as it is concerned with the record of climatic conditions, is in itself a comparatively simple subject, a mere matter of the careful use of barometers, thermometers, wind gauges, and other meteorological appliances. But the case is very different when the term is made to cover climatological therapeutics; it then becomes a subject of immense difficulty, one in real knowledge of which little progress has perhaps been made, but which lends itself all the better on that account to careful study and unbiassed discussion.

So far there has been too great readiness to assume, on the basis of very few data, that a climate of such and such general characteristics must

necessarily be favourable to persons suffering from disorders presenting such and such clinical phenomena, and in consideration of the results to fail to distinguish between those which are certainly due to true climatic factors and those which can much more easily be explained by other features of the individual's environment for the time being. It should not be forgotten that many of the views on the subject of climatology which still obtain originated at a date when the direct dependence of many disorders on the life processes of micro-organisms was little if at all recognized, and that pharmacologically, so to speak, the study of the effect of a given climate is far more difficult than that of any drug.

One of the tendencies to which allusion has been made is well illustrated by the history of the treatment of tuberculosis. In turn we have seen patients inspired with a belief that their recovery depends on residence at sea-level in warm climates of high relative humidity, such as that of Madeira and the West Indies; in climates which are warm, yet dry, such as those to be found within a short distance of the southern coast of the Mediterranean; in those which tend to be mild yet relatively bracing, as on the French Riviera; in dry, cold, rarefied atmospheres, such as characterize the higher mountain ranges of Switzerland; or on constant exposure to sea air, as during sea voyages. The general opinion now seems to be that, though for certain individual sufferers from tuberculosis one climate may possibly be more favourable than another, the cure of an ordinary case, if possible at all, can be obtained almost equally well in any locality provided that its atmosphere is pure and reasonably free from sudden and violent fluctuations in temperature and the rate of air movement.

The first discussion in the Section at Brighton was, appropriately enough, on sea bathing, and Dr. Tyson of Folkestone, who introduced it, not only discussed its physiology and therapeutics, but laid down certain contraindications to which his long experience gives special value. Dr. Hobhouse, in a paper on the climate of Brighton in relation to disease, incidentally expressed an opinion which illustrates the complexity of the subject. From a comparison over a number of years of the temperature and its range, of the duration of sunshine, and of the amount of precipitation in fog, rain, or snow, he was unable to attribute the differences to be observed in the effect produced by residence at the several seaside resorts from Folkestone to Bournemouth to these phenomena or any combination of them. He was therefore driven to the conclusion that the different effects must be due to variations in aspect, soil, and in the shelter afforded from prevailing winds.

Custom counts for a great deal in the prosperity of seaside resorts, and the discussions at Brighton revealed a general agreement that the belief of British parents in the advantages of a visit to the seaside for children is well grounded, and it may be added that it is not only in summer that such a visit may be very advantageous to them. But in the matter of mineral water stations custom rather runs against this country to-day, for there is a fashion for seeking foreign spas. It will therefore be noted with particular interest that Dr. Neville Wood made out a good case for the suggestion that the aim of the authorities of British health resorts should be less to stem the outflow of British invalids to foreign health resorts than to attract foreign invalids to British spas. One way of doing this which has been too much neglected in the past is to make our watering-places more attractive.

TROPICAL AUSTRALIA.

The opening of the enlarged Institute of Tropical Medicine at Townsville, Queensland, may be regarded as marking the beginning of a new era in the study of tropical diseases. Hitherto attention has been almost wholly devoted to tropical diseases as they affect countries supporting a large indigenous native population. The countries of tropical America may possibly be quoted as exceptions to this statement, but even these countries can hardly be considered to be peopled by a pure European stock. Tropical Australia, however, is at present an essentially European, practically entirely Anglo-Saxon, colony, and has only a very small native or coloured population. It thus presents conditions radically different from all other tropical countries. In consequence of the sparsity of the population tropical diseases are, as yet, comparatively rare, though it is true that a large variety occur. There is thus absent at the very outset one of the most serious obstacles which the white man has had to face in his conquest of the tropics. In tropical Australia he has not yet learnt to fear the menaces of malaria, of plague, of sleeping sickness, yellow fever, and the numerous other essentially tropical diseases. The only tropical diseases which have established a firm foothold are ankylostomiasis, filariasis, and dengue fever.

In view of this relative absence of tropical disease, it is evident that in tropical Australia there is an ideal field for the study of that other factor which is held responsible for the white man's inability to live in the tropics—namely, climatic conditions. So long as tropical diseases can be held in check and their spread prevented, North Queensland will continue to offer a perfect field for this study, and even for that purpose alone the existence of the Australian Institute of Tropical Medicine would be justified.

The new laboratories have been completed and equipped with a staff of highly trained British scientists. Work has been in full swing since the beginning of this year, and already results are appearing which, both from a purely scientific and a practical point of view, have shown that the Institute bids fair to occupy a prominent position amongst establishments of its kind.

The question whether tropical Australia can be colonized by Europeans alone was fully dealt with a year or more ago at the Royal Colonial Institute by a number of men who were, presumably, fully alive to the peculiar local conditions, and the opinion of the majority was unhesitatingly affirmative. The whole question of the white man in the tropics is still *sub judice*, and this applies particularly to tropical Australia. The conditions there are very different from what they are in India or tropical Africa. The absence of native labour necessitates a much more active and strenuous life for white men and women of all classes, and this, though it leads to many hardships, may have the effect of maintaining the physical standard.

With the history of only the past fifty or sixty years to guide us, there has so far been no evidence to show that white men cannot permanently populate tropical Australia. The question is not so much, "Can they?" as "Will they choose to do so in view of the hardships and discomforts?" The question is essentially an economic one, and it may be well to analyse the factors involved. There is, first of all, the discomfort due to climatic conditions, the close muggy heat and heavy rains of the coastal regions, and the dry scorching heat and low rainfall of the

inland. Then there are the natural environmental conditions, the plagues of flies (biting and non-biting), of mosquitos, of white ants, and numerous other kinds of vermin. Particularly in the less settled parts, but even in some of the larger townships, these constitute a very serious source of annoyance. As time goes on we may expect that these nuisances will to some extent be mitigated, but without a large increase in population and enormous sanitary schemes the process must be slow. Lastly, there are the social and domestic discomforts. In a new country such as North Queensland a very high standard of social culture or domestic comfort cannot be expected. In these respects the country is still in a primitive state, and few serious attempts have so far been made to effect permanent improvement.

In all the towns there is a considerable floating population. A large proportion of junior men in business, Government officials, and even workmen regard their sojourn in the North merely as a step towards a position in the South. They have no intention of settling down, and are, so to speak, only in camp. We do not forget that even in English towns there is always a certain proportion of men eager to be on the move, but in tropical Australia this disposition is much accentuated. Even leading business and professional men are actuated by the same desire. With few exceptions, their chief aim is to make sufficient money to enable them to clear out.

In spite of all this there are many people in North Queensland, both men and women, who have lived there, in the best of health, upwards of thirty years, who have brought up large and healthy families, and who find the conditions agreeable. They afford standing evidence that Europeans can live well in tropical Australia and rear healthy offspring to the second generation at least. It is too early to speak yet of the investigations of the Institute on this matter, but, so far as they have gone, we believe, they show little, if any, tangible deterioration in the third generation. There is a popular belief that the blood "becomes thin" after residence in the tropics, but the evidence so far does not support this; and, although the women and children certainly look paler than in England, they are not any more so than in Brisbane and several towns in the South. The North Queenslander, indeed, is a typical Australian. At the same time, it must be remembered that there has been a continual stream of immigration both from Britain and from the South. The intermixture of this fresh blood may have had some effect in maintaining the standard of the race, but this supposition can only be confirmed or refuted by future inquiries.

In view of what has been said it is evident that some inducement must be held out to prospective settlers. They must first of all be assured that they and their offspring will suffer neither impairment of constitution nor undue ill health. If the Institute of Tropical Medicine is eventually in a position to give these assurances it will have done good work. Beyond this, however, inducement will have to be offered in the shape of compensation for the discomforts and disadvantages to which we have alluded. Some hope of a more easily acquired and greater prosperity, and of a more pleasant and less arduous life, must be held out before the North will possess any very great attraction for immigrants. There is little doubt that if Australia pursues her present policy and intends to carry out the policy of colonizing the North with her own sons and daughters, she will have to be prepared not only to pay generously, but at the same time to make all due allowances for those who are submitting themselves as subjects for one of the greatest experiments of the present century.

EGYPT AND THE SOUDAN.

Lord Kitchener's report for 1912 states that 50 students joined the School of Medicine during that year, raising the number in attendance to 244. The number of students in the school and the work in the laboratories show constant growth, and it is recognized that additions both to accommodation and staff are desirable. The requirements are to be met as soon as funds are available. Further provision was made in 1912 for infectious diseases. The free dispensaries in 1912 in the country districts numbered 42, and gave relief to 32,000 persons, as against 28,000 in 1911. Two new permanent ophthalmic hospitals have been opened—one at Mansura and the other at Beni Suef. Travelling hospitals have been established by the provincial councils of Gharbia and Assiut, and others are in contemplation. The first portion of the new Khanka Asylum has been opened for some time, but the asylum at Abbassia still remains overcrowded, though every effort is being made to relieve the strain on the present accommodation. The total number of lunatics in the two hospitals was 1,651, an increase of 263 over 1911. A slight reduction in the infant mortality in the principal towns was recorded during the year. The prescribed course in first aid has been completed by 170 village barbers, who have entered upon their duties. They have been supplied with simple remedies and bandages. A beginning in the regular training of midwives has been made by the establishment in Cairo by the Government of a maternity school, and similar institutions are being established in provincial centres. During 1912 there was a satisfactory diminution in the number of outbreaks of plague, and also in the total number of cases and rate of mortality. The decrease in mortality was mainly due to the fact that the number of pneumonic cases, practically confined, as usual, to Upper Egypt, diminished by more than a third. The Plague Research Service, established at Assiut under Dr. Petrie in 1911, continued its inquiry in Upper Egypt, and has issued a progress report. The destructive epidemic of cholera which occurred among the Turkish troops in Rumelia after the outbreak of the war between Turkey and the Balkan States, constituted a serious danger to Egypt, and was increased by the arrival of numerous refugees from Turkey; in some cases it was found necessary to examine bacteriologically every passenger arriving on crowded ships. Extensive and very successful experiments have been made at Tor with the serum treatment of bacillary dysentery, and the Government has granted a sum of money to the Quarantine Council for the preparation of tis serum. During 1912 the Sudan was again free from serious epidemics, and a considerable amount of excellent work has been carried out in regard to combating of sleeping sickness.

VIKING SURGERY.

Professor Finnur Jonsson, of the University of Copenhagen, has lately published a paper[1] in which he shows that surgery was practised in Scandinavia even in the Stone Age, for skulls have been found with circular holes, the margins of which present bony changes clearly indicating that the patient had survived the operation. Presumably trephining was part of a religious rite; at all events it must have been performed with considerable skill and neatness. Skeletal remains found in Denmark show such conditions as fracture of the fossa olecrani, patent sutura frontalis mediana, and arthritis deformans.

[1] *Medicinsk-Historiske Smaaskrifter*. Ved Vilhelm Maar. København: Vilhelm Trydes Forlag. 1912.

While myositis ossificans appears to have been extraordinarily common, dental caries was very rare in the Stone Age. At a much later date "first aid" was practised by surgeons, who, after the battle of Lyrskovshede in 1043, were so overwhelmed by work that King Magnus the Good selected twelve new surgeons from among his soldiers by feeling the palms of their hands. The successful candidates were those whose palms were the softest. Though they had never practised surgery before, they acquired a skill in their new craft, which in several cases was handed down to their descendants. Among the most famous surgeons of his day was the chieftain Hrafn Sveinbjörnsson, who died in 1213, and who operated on one of his men for vesical calculus. This had caused retention of urine, and the patient, who was at death's door, had swollen to the dimensions of an ox. After five *pater nosters* had been sung, Hrafn palpated the calculus till it escaped into the penis, where it became impacted. He now ligatured the penis above and below the calculus, cut down on it, and removed it. The wound was dressed with oil and the patient recovered. Such rational treatment does not appear always to have been meted out to sufferers from calculus, and it is probable that the attitude of the old Scandinavian physician to surgical diseases resembled that of his mediæval successors. He treated calculus of the bladder by feeding the patient with the excreta of a chicken which had lived exclusively on wine and ivy for nine days. The surgical instrument most often mentioned in the Sagas is a pair of pincers used to extract arrows and other foreign bodies after a battle. Judging by one specimen preserved in a museum in Christiania, this instrument may well have served the blacksmith in times of peace, for its dimensions are heroic. But there were also heroes in those days, and at the battle of Stiklestad in 1030 one Tormod Kolbruneskjald was wounded in the breast by a barbed arrow. A skilled female attendant could not withdraw it, even with the pincers. Then Tormod pulled it out himself, and when he saw red and white fibres of his heart on it he exclaimed, "At least the roots of my heart are fat!" In another Saga the tale is told of one, Snorre Tordbrandsson, who, after a battle, sat at meat with his namesake Snorre the Good, a famous surgeon. The latter noticed that his guest was slow in eating his milk and cheese, and on examining his neck, found an arrow sticking in it and reaching to the base of the tongue. The pincers were applied, and this trifling obstruction to deglutition having been removed, the interrupted meal was satisfactorily concluded. No dainty carpet knight this! "Bone-setting" was also practised by the Vikings, and it is told how a wrist was dislocated, and three men, presumably manipulating the joint simultaneously, could not better matters. This seems most credible. A saint was now called in who sprinkled the joint with holy water from a consecrated well. Three days later some one seized the patient's hand firmly, a grating sound was heard, and the dislocation was found to be reduced. The bone-setter's achievement was doubtless attributed to the efficacy of sanctified hydrotherapy. Faulty union of a fracture was sometimes dealt with summarily, and a Saga relates how a patient was dissatisfied with the deformity following fracture of his leg. Though the bone had set, he instructed his attendants how to break it and set it again, the result being almost perfect, leaving but a slight limp on walking. It is conceivable that in that hardy age anæsthetics would have been scorned as the refuge of the effeminate, and have become a drug on the market.

INDUSTRIAL DISEASES.

The Report of the Departmental Committee on Compensation for Industrial Diseases,[1] which has just been issued, is an important document, and as such deserves attention. The Committee had a number of diseases under consideration. It eventually recommended that some of them should be added to the schedule of industrial diseases, and the Home Secretary, under the powers conferred on him by Section 8, subsection 6, of the Workmen's Compensation Act, 1906, has made an Order in respect of the recommendations of the Committee. The evidence before the Committee led it to recommend an alteration with regard to nystagmus. Hitherto the word "nystagmus" stood alone in the first column of the schedule and the word "mining" in the second column. Now the word "nystagmus" is replaced by "the disease known as miners' nystagmus, whether occurring in miners or others and whether the symptoms of oscillation of the eyeballs be present or not." The word "mining" remains in the second column, and this will retain to a miner suffering from nystagmus the benefit of the presumption that it was caused by his occupation. The Order also meets the case of workmen not engaged in mining who may possibly contract the disease, but with the difference that in the case of non-miners the burden rests on them to prove that it is due to the nature of their employment. The Committee came to the conclusion that the symptom nystagmus, that is oscillation of the eyeballs, though easily found in many cases, ought not to be taken always as a conclusive test either of the presence or absence of a disease of which it is but one symptom. No doubt this symptom appears some time or other during the disease in all cases, but it may be accompanied by, or even replaced by, clonic spasm of the muscles of the eyelids. The Order provides also that a person suffering from writer's cramp shall be entitled to compensation for a period of not more than twelve months. The Committee came to the conclusion that writer's cramp is an occupational disease specific to the employment of writing, although one which is not very prevalent. In diagnosing this disease it is not enough to accept an allegation of pain alone; the subject should be required to write for half an hour, when the important objective sign of involuntary contraction—that is, cramp—must be seen. With this will also be observed definite faults in the writing. As the disorder incapacitates only from writing, the twelve months' rest is considered sufficient for either cure or to show the necessity for a change of occupation. The term "writer's cramp" is therefore added to the first column of the schedule, the second column being left blank. The onus of proof is thus on the applicant for compensation; he must show that the disease is due to the employment. Cow-pox, which affects milch cattle on the udder and may infect man through abrasions of the fingers during milking, was also considered by the Committee, which came to the conclusion that there was no doubt as to the occupational character of the disease, but that the disability does not usually extend beyond ten days. The cases in comparison with the number of persons employed in the agricultural industry are few, and as many are hired by the half-year they are not likely to lose their employment or suffer loss through a few days' disablement. For these reasons the disease has not been scheduled. Dupuytren's contraction was brought under the notice of the Factory Department in the belief that there was evidence which would support the view that the disease was occupational to certain lace makers. An extensive inquiry was made and the conclusion arrived at was that a connexion between an employment and the disorder was not established, consequently the Committee recommended that Dupuytren's contraction should not be scheduled. The report is very interesting and shows that a great deal of care and close attention is given by the Home Office to matters connected with occupational diseases. This Committee has done its work very thoroughly.

[1] Cd. 6956. To be obtained from Wyman and Sons, Fetter Lane, London, E.C.; H.M. Stationery Office, 23, Forth Street, Edinburgh; and E. Ponsonby, 116, Grafton Street, Dublin. Price 1½d.

A PSYCHO-PHYSIOLOGICAL STUDY OF TYPE-WRITING.

WE remember a time when a leading physician caused serious offence to a patient by sending her what she took to be a printed letter. This was in the early days of typewriting. Now the click of the typewriter is heard everywhere, and to those who have much correspondence or who write books and papers the machine has become a necessity of existence. Although the average of skill among typists is probably higher than it is among pianists, there are probably greater variations among performers on the typewriter. In a note presented to the Paris Académie des Sciences on June 2nd, an abstract of which appears in the *Semaine Médicale* of July 9th, M. J. N. Lahy stated that he had made an investigation of the work of typists in order to determine the psycho-physiological signs which mark superiority in execution. Three qualities are necessary for good typists—rapidity, accuracy, and taste. Leaving taste out of account as being less important, M. Lahy classified his subjects according to rapidity and accuracy. He made them copy a text of 1,702 signs which was afterwards submitted to the head of a typewriting service and several professional typists, strangers to such researches. Then measurements were made as to memory for figures and phrases, attention, and some superior processes of the intelligence—imagination, abstraction, judgement, and reasoning, by means of appropriate tests. Tactile sensibility was tested by means of the aesthetic compass, muscular sensibility by means of the myoesthesiometer, the times of auditory reaction with d'Arsonval's chronometer, the dynamometric force with Régnier's instrument. The object of this last experiment was less to determine the muscular force of the subject than the relation between the strength of the right hand and that of the left, for the purpose of establishing a muscular equilibrium which seems to be essential to good typewriting. Notwithstanding the parallelism established between the results obtained in men and in women, M. Lahy found that these results could not be compared in detail. He observed between the two sexes psycho-physiological differences which are expressed by differences of value observed in the same reactions. For this reason he separated his subjects into two groups and afterwards compared the two series of results. From his experiments he drew the following conclusions: Abstraction, judgement, and imagination seem to play no part in the superiority of typists, although M. Lahy found them in all his subjects. Superiority results from a totality of points variable for each individual, but represented to a certain extent in each in whatever way they may be combined. In general terms the points observed constantly in good typists are: A good memory for "concrete phrases" which we take to mean dictated sentences; a tendency to muscular equivalence of the two hands; a delicate tactile and muscular sensibility and sustained attention. These points, which are slightly or not at all marked in bad typists, vary in degree in others from the middling to the first rate. One of the most curious results of the experiments has been to show in all the good subjects the relative slowness of the times of auditory reaction. This suggests that a relatively slow but well adapted action is preferable to a rapid and imperfectly co ordinated action. Therefore, after experiments made on a large number of functions M. Lahy has succeeded in determining those which characterize superiority in the profession studied. By examining the subjects on these points alone it becomes possible to determine before a course of instruction is entered upon the eventual value of a typist. We venture to suggest that M. Lahy should next turn his attention to medicine (observation, percussion, auscultation, etc.) and surgery (delicacy of touch, deftness of manipulation, etc.) and work out by a series of experiments the "eventual value" of candidates for the medical profession. If this could be successfully done the unfit could be eliminated and much waste of time and money prevented.

MEDICAL TERMS IN THE NEW ENGLISH DICTIONARY.[1]

THE latest instalment of the *New English Dictionary* is a single part, the work of Dr. Bradley. The alphabetic rubrics run from *Several* to *Shaster*. It contains comparatively few medical words proper; indeed, even a purely medical dictionary, such as Gould's, has very few entries between *Sev* and *Shas*. There is *sevum*, a non-naturalized word, meaning suet as used in pharmacy; Gould's dictionary has *sevum* and also *seviparous* (fat-producing), but the *New English Dictionary* omits the latter, probably as being too technical. Then there is *sextan*, the designation of a fever the paroxysms of which recur every fifth day, or, according to the old reckoning, every sixth day. There is *sextuplets*, which Dr. Bradley defines as "six children born at one birth," and *sextuplet*, which Gould calls "one of six offspring of a single gestation." The latter lexicographer gives a place to *sextipara* (a woman in labour for the sixth time), but Dr. Bradley omits the word. These are some of the differences which one would expect to meet in a general as compared with a special dictionary. Other medical terms are *sewer-gas*, *shaking palsy*, and *share-bone*, which both the works give. *Share-bone* is a very interesting word. It means, of course, the os pubis, for the word *share* itself had the signification, now obsolete, of the division or fork of the body (the pubic region). To share a thing is to divide it, so the *share* part of the body was known where the trunk divided into two lower limbs, and as the os pubis was situated there it was termed the *share-bone*. Similarly the *share artery* is the old name for the pubic artery. Apart, however, from these medical terms, the *New English Dictionary*, in this, as in preceding sections, is worthy of all praise for the faithful way in which it records and explains all ordinary words which have medical uses; it is hardly possible to catch it tripping in this respect. Take, for instance, the word *severe:* When employed regarding an attack of illness or disease, it means "attended with a maximum of pain or distress"; and five illustrative quotations are given of this use, including the following from Allbutt's *System of Medicine:* "In severe cases of eczema there may be some prodromal symptoms." So also under *severely* and *severity*. Then again there is *shabby*, as applied to the weak pulse: the *Dictionary* registers this use of the word, and gives an illustrative quotation from this JOURNAL (from the number for January 13th, 1906)—"a rapid shabby pulse." About this word *shabby* it is interesting to find Dr. Johnson writing in his *Dictionary*, "a word that has crept into conversation and low writing, but ought not to be admitted into the language." So, too, with *shallow*, in reference to respiration; it is defined as "slight, diaphragmatic." Under *shadow*, not a suggestively medical term by any means, we find the meaning, "the appearance of degenerate corpuscles, bacilli, etc., faintly visible under the microscope"; *shadow-photograph*, the Roentgen ray picture, is not forgotten; and *Land of the Shadow of Death*, in one of its modern uses, is said to be "a rhetorical name for a tract of Western Africa in which the mortality among the white inhabitants is very great." *Shank*, as applied to the stylet of a trocar is included, but for once we miss any reference to the *shanks* of the midwifery forceps, although we must own that Dr. Bradley gives us the shanks of a pair of scissors, which are almost identical. Finally, under the special combinations and collocations of *sharp* there is given the *sharp artery*

[1] *A New English Dictionary on Historical Principles.* Several—Shaster (Volume VIII). By Henry Bradley, Hon. M.A.Oxon., Ph.D. Heidelberg. Oxford: at the Clarendon Press. July 1st, 1913. (2s. 6d.—60 cents.)

(arteria aspera), meaning the windpipe. The net of the *Dictionary* is very finely meshed, and few medical (or other) terms can slip through.

A PLÉBISCITE ON STATUES.

The *Journal des Débats* not long ago invited its readers to vote on the following question: "If a law were passed limiting the number of statues in Paris to twenty, which, do you think, should be retained?" The number of votes recorded in this *plébiscite des statues* was 7,280. Joan of Arc was at the top of the poll by a huge majority, no fewer than 6,858 votes being cast in her favour. Next to the Maid of Orleans came Pasteur; after him came Napoleon, Victor Hugo, Gambetta, Henry IV, Louis XIV, Voltaire, Charlemagne, La Fontaine, Molière, Corneille, Gutenberg, Parmentier, the elder Dumas, Lafayette, de Musset, Jean Jacques Rousseau, Denis Papin, the rear of this bright host being brought up by Richelieu. The *Journal des Débats*, of course, can scarcely be taken as reflecting the opinion of the masses, but it doubtless fairly represents the views of the most highly educated section of the French people. Even with this limitation, the list is remarkable. The place given to Joan of Arc is due to the patriotic feeling which has found such strong and general expression in the last few years. The high place assigned to Pasteur is significant of the keen appreciation of the practical value of scientific work which is characteristic of the French mind. The names of Denis Papin and Parmentier are further illustrations of this. Denis Papin, who was born at Blois in 1647, was the son of a physician, and himself graduated in medicine at the University of Angers in 1669. Turning his attention to physics, he invented the condensing pump, and the "steam digester or engine for softening bones" which bears his name. He was one of the inventors of the steam engine. He died in London in 1712, and, like so many inventors, in obscurity. Antoine Auguste Parmentier (1737–1813) did much in the eighteenth century to popularize the use of the potato as an article of diet in France. Gutenberg, again, was the inventor of printing. The other names, with the exception of Gambetta and Lafayette, who were mere politicians, and of Louis XIV, whose sole title to greatness is the reflected glory of the great men who adorned his reign, are all those of men well worthy of commemoration. It is noteworthy that, with the exception of Charlemagne, Henry IV, and Richelieu, they were all men of letters. Further with, the exception of Dumas père, they are all classics. What would be the result of such a plébiscite in this country? We have seen lists of great men in which the name of Lister did not appear, and worse still academic persons who may be presumed to have some tincture of education have protested with the contempt of ignorance against its inclusion in other lists. We hazard the conjecture that of twenty men selected to be the subjects of such immortality as the sculptor's chisel can confer, at least one-half would be politicians and most of the rest would be soldiers or sailors. One or two might be religious "leaders" and it would be scarcely decent not to reserve a niche for Shakespeare in the national Valhalla. But while we think it probable that literature would be poorly represented, we regard it as almost certain that science in general and medicine in particular would be left out in the cold.

GRANTS TO UNIVERSITIES AND UNIVERSITY COLLEGES.

Two volumes[1] containing reports for the year 1911–12 from those universities and university colleges in Great Britain which are in receipt of a grant from the Board of Education have been issued. The first volume contains the reports from the universities and university colleges in England outside London. The second contains the reports from the University of London, the University of Wales, and Dundee University College. Prefixed to the first volume is a report to the Crown from the Board of Education, in which the work of the year is reviewed. The total amount of the grant for university colleges (and universities) in Great Britain in the financial year was £150,000, and for the colleges in Wales which receive grants £25,500. A paragraph is devoted to the report of the Royal Commission on University Education in London, and the Board of Education states that there appears to be a general consensus of opinion that the present organization is unsuitable for the manifold purposes which the university of the metropolis must serve. The hope is expressed that "the recommendations of the Commission will receive the deliberate consideration of all who are interested, that they will help towards a clearer understanding of the principles which should guide university organization as well as of the difficulties involved, and that all the various parties concerned will co-operate whole-heartedly in the effort to establish a seat of learning which will have the power, as it has the wish, to offer the best teaching to all who are fit to profit by it, irrespective of their wealth, their antecedents, or their future occupations." In another part of the report the advantages and disadvantages of the so-called "sandwich system" of education for the engineering profession are considered. In the case of medical education the problem is stated to be even more acute than in engineering, "because of the growing length of the whole curriculum and the pressure of the rapidly developing sciences which are ancillary to medicine and surgery, and which tend to encroach upon the time available for the study of pure physics, chemistry, and biology." As to what is the proper method to follow the Board at present keeps an open mind, but holds that it is not the aim of a university to produce a finished medical practitioner, and that the multiplication of university departments, "though it allows of, and indeed compels, a more thorough treatment of each branch, is also liable to encourage the student to specialize too early, if not during his undergraduate course, then at the outset of his professional career." Another evil of the multiplication of courses which is pointed out is that it causes a conflict of studies and over-pressure on the time table. Statistics are given as to the finances and number of students of the ten London medical schools now in receipt of a grant from the Board. This total includes the London School of Tropical Medicine; of the remaining nine schools, four—the London Hospital, the London School of Medicine for Women, St. Mary's Hospital, and St. Thomas's Hospital—are "complete schools." The other five are "final schools," and in this number are included King's College Hospital and University College Hospital Medical Schools. The income of the nine schools increased by over £6,000, and their expenditure by nearly £4,500 as compared with the previous year. The increase in income would have become a decrease of £1,200 had it not been for the grants from the Board of Education, which in 1911–12 amounted to £11,200, as compared with £3,900 for the previous year. The Board expresses the gratification with which it observes that some of the medical schools have made further reductions in the amounts expended out of general income on scholarships and remission fees. The statistics of the number of students in the medical schools in London are by no means clear, and the paragraph devoted to the subject in the introductory report does not remove the obscurity. The number of full-time degree students is given as 682, which is stated to be an increase of 27 as compared with the previous year. The number of full-time students preparing for a diploma in medicine and surgery is given as 446, a decrease of 100, but this diminution is said to be

[1] H.M. Stationery Office, vol. i [Cd. 7008], price 2s.; vol. ii [Cd. 7009], price 1s. 10d.

apparent, rather than real, being due partly to the transfer of preliminary and intermediate students from Charing Cross Hospital Medical School to King's College, and partly to a more accurate classification of full-time and part-time students.

DEMOCRACY AND VACCINATION.

OUR Sydney correspondent gives an account of an outbreak of small-pox in that city which though mild in type has caused something like a panic among the inhabitants. It is not surprising that such an outbreak should have occurred, as vaccination is not compulsory and has been largely neglected in New South Wales and other parts of the Commonwealth, not so much, as we gather from the *Australian Medical Journal* of July 19th, from any real hostility on the part of the people as from mere apathy. The warnings of the medical profession have passed unheeded because the danger seemed so remote as to be negligible. Now thousands have rushed to be vaccinated, and efforts are being made by the New South Wales Branch of the British Medical Association to induce the Government to make vaccination compulsory. The attitude of the Government as represented by Mr. Holman, the Premier, is sympathetic but cautious. In the meantime the Federal quarantine authorities have proclaimed Sydney to be a quarantined district. The effect of this proclamation is that any person entering or leaving the quarantined area must produce a certificate of having been successfully vaccinated within the previous five years. A person so journeying must report himself for quarantine inspection under a penalty of £50. How necessary this action was is shown by the fact that the presence of small-pox in Sydney was causing a heavy commercial loss to that city itself and a serious interference with its export trade. The gravity of a situation which but for the prompt action of the Federal Government might have grown into a tragedy has been lightened by the comic relief supplied by Mr. Will Crooks, the Labour member for Woolwich, Mr. A. W. Black, Liberal member for Biggleswade, and Mr. Edgar Jones, Liberal member for Merthyr Tydfil. These stalwarts were unvaccinated, and their democratic feelings seem to have received a severe shock when, on making demand of the Commonwealth authorities whether it was imperative that they should submit to the "Jennerian rite," they were informed that if they did not they would be placed in quarantine at Sydney. At first they took up the attitude of Ajax defying the lightning, but realizing that a really democratic government is, as Wellington said, the strongest of all governments, and in matters of public health, in particular, has small respect for persons who place themselves in opposition to the law, finally accepted the situation with the best grace they could. They are members of the Empire Parliamentary Association visiting Australia at the invitation of the Australian branch of that Association. Had they persisted in their attempt to override the authority of the Australian Government, they would have had to come home in rather inglorious fashion with only the record of a futile journey to present to the Association which they represent. We hope the incident will teach them the lesson that the will of a self-governing people has to be obeyed even by democratic Members of Parliament who think they know better.

PELLAGRA.

AT a meeting of the Pellagra Investigation Committee, Dr. Dawson Williams in the chair, held on August 22nd, 1913, Dr. Sambon explained to the Committee the work he had done lately in regard to pellagra, and stated that he was on the eve of starting for the United States, on his way to the West Indies to investigate the prevalence of the disease in these islands. It is well known that Dr. Sambon has contested the truth of the maize theory of the etiology of pellagra, and the fact that the disease has declared itself in the British Isles would seem, without any other epidemiological or experimental inquiry, to prove that maize-eating cannot at least be the only cause of pellagra, seeing that maize is not consumed, or but sparingly consumed, in Britain. Some 40 to 50 cases are believed to exist in England and Scotland, of which number over 20 have been actually seen and diagnosed by Dr. Sambon. The first case known in England dates only from October, 1912, so that as in ten months a considerable number of cases have been found, it is possible, if not probable, that when medical men become better acquainted with the signs and symptoms of this disease, which may be new in Britain, many more cases will be brought to light. Dr. Sambon is going by invitation to the United States of America to confer with experts in pellagra, for in that country, where within the past few years pellagra has been proved to be widely prevalent, some reports place the number of pellagrins as high as 50,000. The presence of pellagra in a country throws a great strain upon the lunatic asylums, for many pellagrins find their way thither as the disease advances. The Committee conveyed a cordial vote of thanks to Mr. H. S. Wellcome for the help he had given in the past, when he generously came forward and paid the expenses of the Second Field Commission, consisting of Dr. Sambon, Dr. Chalmers and others, who visited Southern Europe in 1912, and brought home a wealth of information concerning the epidemiology of pellagra. Mr. Wellcome has again shown his interest in this scientific investigation by placing Dr. Sambon's services at the disposal of the Committee.

THE WASSERMANN REACTION IN CHILDREN.

A DISCUSSION on this subject was recently held at a meeting of an American society in New York. Dr. Emmett Holt related his experience at some length.[1] He found that the reaction not only affected the detection of syphilis in doubtful cases, but excluded that disease in many instances where it was formerly suspected. Children, where the reaction was positive, should receive the benefit of specific treatment. It must not be forgotten, Dr. Holt reminds us, that, like all laboratory tests, the Wassermann reaction is not infallible. Positive reactions may be obtained in certain cases of scarlet fever, and in infection with the trypanosomes, but neither of these conditions is likely to be taken for syphilis. Errors on the positive side were most frequent, children being occasionally pronounced syphilitic when free from the taint. Dr. Holt reported a series of observations carried on in an infant's hospital. The Noguchi modification of the Wassermann reaction had been employed because it required much less blood than the older test. All the tests had been made at the Rockefeller Institute under the supervision of Dr. Noguchi; 34 cases of hereditary syphilis admitted into hospital for treatment had come under observation. In 31 blood tests were made, and all but one gave a positive reaction; in the exceptional case the infant had undergone inunctions of mercury for three months. It was further noted that mercurial treatment did not seem to affect the reaction unless it had been continued for a considerable time with regularity. The positive reaction in nine of these cases, some of which had been treated from birth, showed how incomplete and uncertain was the "cure" of syphilis by mercury and potassium iodide. Of 178 tests made on hospital subjects showing no definite signs of syphilis positive reactions were obtained in eleven only; five of these, however, proved on further investigation to be hardly without doubt syphilitic. Two of the remaining cases were doubtfully tainted. The great proportion of congenital deformities had no relation to syphilis, since not a single positive reaction was obtained in a series of 56 consecutive

[1] The Wassermann Reaction in Various Conditions in Children, *American Journal of Obstetrics*, June, 1913, page 1228.

cases. Out of 62 infants suffering from malnutrition, only 5 gave a positive reaction, and were included in the group of 178 mentioned above. Of the remaining 57 ill-nourished subjects nearly one-third had considerable enlargement of the liver or spleen; in several both organs were involved. These cases, Dr. Holt assures us, were selected from a much larger number as most likely to be syphilitic, so he could hardly regard syphilis as a common cause of marasmus, at least in the infants admitted to his hospital. As the error is almost invariably on the positive side, errors of technique must always be suspected when a large percentage of positive reactions is registered among infants with marasmus in hospitals and public institutions of other kinds. Mere splenic and hepatic swellings in such subjects are more often seen where rachitis is present. The only glandular swellings that strongly suggested syphilis were those that affected the epitrochlear glands without any peripheral lesion to explain that local condition.

EPIDEMIC DIARRHOEA.

THE Local Government Board on July 25th issued a circular letter to sanitary authorities in England and Wales inviting them to take all practicable measures for the prevention of infectious diseases, including epidemic diarrhoea, among infants, and to promote hygienic conditions in the food of infants. The value of systematic visitation of homes soon after the birth of a child is emphasized and the importance of adopting the Notification of Births Act, 1907, with this end in view is insisted upon, since under it the medical officer of health receives information as to the birth of a child within thirty-six hours. The Act, it is stated, is now in force in 390 districts, with a total population exceeding 20,000,000, or about 56 per cent. of the total population of England and Wales. The Board intimated that it is of opinion that under the Public Health Act, 1875, local authorities might properly employ and pay women to give advice with the object of preventing the infectious diseases of infancy, including those arising in connexion with improper feeding. Where there is not sufficient work to employ the whole time of a woman in this capacity the office may be joined with that of assistant inspector of nuisances, tuberculosis visitor, or school nurse. It is added that care should also be taken to utilize to the full all voluntary work in this direction, and to co-ordinate it under the medical officer of health. The frequent removal of house, stable, and street refuse is recommended, and the abolition, wherever possible, of privies and other closets of the conservancy system. A supplement in continuation of the report of the medical officer to the Local Government Board for 1912–13 has been issued containing a second report[1] on mortality during the first five years of life, dealing with statistics of 212 towns and 29 metropolitan boroughs during the four years 1907–10 (grouped) and the year 1911.

THE CALCUTTA SCHOOL OF TROPICAL MEDICINE.

THE *Indian Medical Gazette* for August announces that the scheme for the establishment of a School of Tropical Medicine in Calcutta is now so far advanced towards fulfilment that there is every reason to hope that it will be opened in the autumn of 1914. The proposal to establish such a school was originally made by the Medical Section of the Asiatic Society of Bengal; it was intended as a memorial to King Edward VII. It was, however, rejected in favour of other schemes which, we gather, have so far come to nothing. To the credit of the Government of India be it said that it at once saw the advantages of the proposal, though at first it appears to have done little to carry it fully into effect. It suggested tentative arrangements for post-graduate teaching at the Calcutta Medical College Hospital without addition to the staff or laboratories. After some negotiations it was decided to build a laboratory on a site adjoining the college and to provide additional research rooms for the Tropical School. It was not, however, till well on in 1912 that the sanction of the Secretary of State for India was obtained. In the meantime a larger site than that for which the original plans were drawn up was sanctioned by the Government of India. This made a reconsideration of the designs necessary. Thanks to the Government of India which gave an extra lakh of rupees on the advice of Sir Pardey Lukis (says our contemporary), the plans now adopted provide for a two-storied building with 220 ft. of north light facing Colootolah Street, with foundations to carry a third story when it is required. A library and reading room, as well as a practical class room, will be provided for the post-graduates, while the lecture theatre will be fitted for the use of the epidiascope, microscope projection apparatus, and a cinematograph for films illustrating such subjects as malarial prophylaxis and the movements of trypanosomes in the blood of an animal. Further, a number of separate research rooms for different branches of medical science will be provided, in addition to a fine general pathology laboratory in which the post-graduate students can be helped in working out clinical cases and learning methods of research. But the equipment of the school with an adequate staff remains to be sanctioned. It is understood that several whole-time officers who have already won a reputation in scientific research will be appointed. It is pointed out that additional workers specially qualified to carry out investigations in various branches of tropical medicine will be required if the vast material in the Medical College Hospital and other large institutions in Calcutta is to be fully utilized. Already very valuable work on cholera, epidemic dropsy, dysentery, and other diseases has been done by a small number of workers in Calcutta. What is now wanted is money. The *Indian Medical Gazette* asks for substantial endowments of three or four lakhs for several additional research chairs, or annual subscriptions of 20,000 rupees for each. A scheme for the establishment of a school on the lines of that at Calcutta at Parel in Bombay has also been put forward. As to the advantages of this there appears to be some difference of opinion. We can express no opinion on the subject, but we welcome the recognition of the importance of tropical medicine by the Government of India.

EXPERIMENTAL TRANSMISSION OF VERRUGA.

ACCORDING to *Science* of August 15th, Mr. Charles H. T. Townsend, who was some time ago specially charged by the Peruvian Government with the investigation of the insect transmission of verruga, injected a dog with triturated females of *Phlebotomus* on July 11th. On July 17th an unmistakable verruga eruption appeared. The gnats used for the injection were caught on the night of July 9th in Verrugas Canyon, well known as a hot-bed of the disease. This is said to be the first experimental proof of the transmission of verruga by insects. The details of the experiment will be published shortly. Further experiments on transmission in the laboratory will be pursued at once, both by injections and by making the gnats bite. Verruga peruana or Peruvian wart is a disease which occurs in certain narrow valleys on the Andes, between the ninth and sixteenth parallels of latitude, and at an elevation of 3,000 ft. to 10,000 ft. The disease attacks domestic animals as well as human beings living in the endemic district. The characteristic lesion is a granuloma identical in appearance with that of yaws. It is accompanied by rheumatic pains and by fever, which may last for weeks or even months. A well known case is on record in which a medical student named Carrion inoculated himself experimentally with blood from a Peruvian wart. The bold investigator died as the result of his experiment.

[1] Cd. 6909. price 2s.

Australia.

[FROM OUR SPECIAL CORRESPONDENT.]

AN EPIDEMIC OF SMALL-POX IN SYDNEY.

OUR correspondent in Sydney, writing on July 15th, states that an epidemic of small-pox of a very mild type prevailed in Sydney, and that there were then 65 patients, 112 convalescents, and 23 contacts at the quarantine station. He continues:

The suspicions of the Public Health Department were aroused about the end of May, when the proprietor of a clothing factory in a populous suburb of Sydney reported that a number of his employees were absent from work in consequence of a "rash," and he requested that an investigation should be made as his business was greatly disturbed. On the same day application was made at the hospital admission dépôt for treatment in the case of a girl who was employed at this factory. The patient was removed to the Coast Hospital, and the disease diagnosed as varicella of a severe type. Dr. Armstrong visited about fifteen of the employees at the factory, and found them to be suffering from what appeared to be varicella. The case at the Coast Hospital aroused suspicion, and a full investigation of all the circumstances was made by the medical officers of the Department of all the cases which could be traced, amounting to some sixty in all. On June 24th the facts were reported to the Acting Premier, who directed that the assistance of Dr. Reid, the chief quarantine officer for New South Wales, and Dr. Walter Hull should be sought to decide whether the disease were varicella or variola. The Board of Health on that same day gave instructions that vaccination was to be offered to all contacts, and that medical men were to be invited to notify to the Department any severe cases of what might be considered to be varicella. As a result of an exhaustive inquiry into the circumstances of all the cases which could be traced, the Board was informed that the outbreak was one of varicella, but that this conclusion had been reached with some diffidence owing to the unusual type of case. The medical men above mentioned advised that the precautionary measures of vaccination and isolation at the Coast Hospital should be continued. This recommendation was adopted, and the patients supposed to be suffering from varicella were vaccinated. This test gave negative results, and the President of the Board of Health, acting on his own observations and on the advice of his medical officers, came to the conclusion that the disease was really small-pox, but of an extremely mild type. It appears from the history available that the first case occurred about April 12th, having been brought by one of the crew of a steamer from Vancouver, where a mild outbreak of small-pox had been reported.

The mildness of the epidemic can be seen from the fact that although the first case occurred as far back as April 12th, only 60 cases could be traced up to the beginning of July, and the majority have been so slight that no medical man has been sought, and this in a practically unvaccinated community. Since that time the cases have all presented the same mild type of symptoms. The call of the Board of Health to all citizens to undergo vaccination has resulted in an enormous demand for this procedure, and free vaccination dépôts in different parts of the city have been opened. It was stated at first that the Board of Health had a sufficient supply of vaccine lymph for all demands, but owing, it is stated, to the unexpected response to the call to vaccination, the supply ran short, and the request of a large number of medical practitioners for lymph to enable them to vaccinate their private patients was refused. Moreover, the supply of lymph to the hospitals, both public and private, was for a time suspended, and an effort was made to drive all persons to the public dépôts. To add to the difficulties of the situation, Sydney was declared a quarantined district by the Federal quarantine authorities, and persons travelling from one State of the Commonwealth to another were required to produce a certificate of having been recently vaccinated. Now, however, the situation has been relieved to some extent, for the Federal authorities have undertaken to supply the medical practitioners with lymph daily. Very strong feeling has been aroused against the Government and the Board of Health, but of course in a time of panic all sorts of stories are circulated, the truth of which is not borne out by subsequent investigation. There is not entire unanimity in the minds of the profession in general that the epidemic is one of real small-pox; but it is generally admitted that it is a good thing for the community to be vaccinated, owing to the great risk which we run of having virulent small-pox from the East introduced by a patient still in the incubation period. The profession agreed also that the isolation of patients and the quarantining of contacts is the right course to pursue in the presence of the epidemic. But exception has been taken to the action of the authorities in withholding lymph from the general practitioners, and in attempting to drive all persons, whether they are able and willing to pay for vaccination or not, to the free dépôts, with the consequent herding together of large crowds, including possible patients, contacts, and healthy persons—a procedure which is calculated to spread the disease. In view of the strong socialistic tendencies of the Labour Government, and the aim of that party to nationalize the hospitals and the profession, it is believed in some quarters, at any rate, that the present epidemic is being used for the purpose of introducing the thin edge of the wedge. Whether this has been directly aimed at cannot be proved, but the general result of the course adopted must be recognized as supporting the policy of the Socialists.

Although vaccination is compulsory in some of the other States, it is not in New South Wales, and the present epidemic has been made use of as a ground for urging the introduction of legislation to make vaccination compulsory in this State. An influential deputation, introduced by Dr. Richard Arthur, M.L.A., waited on the Premier to advocate regular and compulsory vaccination in normal times as against present methods. The deputation included the President, the Vice-President, and Secretary of the New South Wales Branch of the British Medical Association, representatives of the Chamber of Manufactures, the Chamber of Commerce, and various shipping interests of Sydney. Dr. Arthur, in introducing the deputation, said that it did not wish to suggest that the Government was not doing all it could to check the epidemic, but the deputation desired to urge that something of a more permanent nature should be done to obviate a panic in the future. Owing to the increasing rapidity in transit from the East, the risk of infection in Australia was increasing every year. This was one of the few civilized communities in the world unprotected in this regard, and the solution of the problem of the prevention or mitigation of the disease would lie in the enactment of a compulsory Act on the lines of those of Great Britain, Germany, Victoria, and other communities. Other speakers emphasized these same points, and the Premier promised to consider the matter, in conjunction with his medical advisers. He admitted that the arguments used by the deputation had made a great impression on his mind, and that these statements called for the serious consideration of any Government. It will depend on the views of the Labour Caucus whether the Government will be allowed to introduce such a measure.

SCHOOL MEDICAL INSPECTION.

A new scheme of medical inspection of children attending State schools has been inaugurated in New South Wales by Dr. Willis, the recently appointed chief school medical officer. It is recognized that the present provision, though not sufficient to meet all the needs of the case, is a satisfactory beginning. The total staff comprises ten full-time medical officers, as compared with two full-time and two part-time officers who have been employed hitherto. The present staff of five nurses will probably also be increased. The work of the doctors will include the medical inspection of the children, the inspection of school buildings, lectures on hygiene and public health at the Teachers' College and Hereford House, the examination of candidates for entrance to the teaching service, and of sick teachers, investigation of outbreaks of infectious diseases at schools, and lectures to senior girls on the care of babies, personal hygiene, and hygiene in the home. Dr. Willis states that the first task which lies before the new medical officers is to find out what medical work has been done in connexion with the schools.

A commencement has been made in collecting statistics as to the number of tuberculous children in the State, with a view of starting special open-air schools for these children. Statistics are also being collected with regard to the number of mentally defective children, with a view to starting special schools for them. Beneficial results are looked for, specially from medical inspection in the country, where ophthalmia is very prevalent. It is proposed to appoint a doctor with special experience in this kind of work to travel round these districts and give the necessary treatment to the afflicted children, and then to show the parents how to continue the treatment. To ensure the attention of the parents to the advice given by the school medical inspectors, it is intended that in the metropolitan areas the nurses shall follow up neglected cases, and endeavour to persuade parents to adopt the advice given. At each inspection a certain time will be set apart for talks to the parents by the medical officers, and it is hoped that these will have the effect of securing the co-operation of the parents in carrying out the advice tendered. Attention to the teeth and the eyesight of school children are other matters which are to receive special attention at the hands of the medical school inspectors.

Canada.

MEDICAL INSPECTION OF IMMIGRANTS.

THE chief medical officer, Dr. Peter H. Bryce, acting on the authority of the Minister of the Interior of Canada, has issued instructions for the medical inspection of arriving immigrants by officers of the Interior Department. The general instructions are as follows:

1. Medical inspectors are instructed to exercise due care, when making reports, to classify cases and to give such details of symptoms as will indicate the chief characteristics of the disease reported upon.

2. Examinations must be made in the daytime, and under no circumstances in badly lighted places. In dull weather artificial light must be used, and should shine from behind the examiner. The medical inspection should be carried out as soon as possible after arrival of the vessel in port, and before passengers are identified by the agent of the port.

3. Crowding of those presenting themselves for inspection must not be permitted, and the inspector must so arrange that he has free space of 10 ft. in front, so that he can observe properly the walk of the person approaching. Except infants under one year, children in arms must be placed on the floor to show if any evidence of infantile paralysis is present, while a proper view of the eyes may be had by causing the person to look at the raised finger as he approaches.

4. The medical inspector must look especially for lameness, ataxic gait, and paralysis, spinal curvature and hunchbacks, and pigeon-breasts for evidences of disease.

5. He must further carefully examine the marks or stigmata of degeneracy, as strabismus, hare-lip, defects of the palate, defective speech, and any other abnormal developments.

6. He must also examine for evidence of rickets, as knock-knee, and for scrofulous glands of the neck, discharging ears, scabies on hands, etc.

7. Especially must he look for these several defects in all undersized persons, as it is in persons from the slums that these defects are most commonly present.

8. Having had the hat removed, he must examine the scalp for evidence of favus, tinea, pediculi, etc., and in all cases of baldness, where the scalp is in any way abnormal, hold them for special examination.

9. The eyes must be carefully examined by everting the lids and examining the mucous membrane for trachoma or chronic conjunctivitis, characterized by firm, persistent granulations, general or localized, often associated with a muco-purulent discharge, eroded mucous membrane with scar tissue in patches or bands, roughened cornea and pannus, trichiasis and entropion. The mild cases of conjunctivitis and blepharitis, due to smoke and dust of the voyage, should be distinguished from the contagious forms of disease.

10. He shall in all cases, before allowing the vessel to proceed, receive from the ship-master and surgeon a signed statement, giving the facts regarding diseases or accidents, if any, which have occurred or been present in patients during the voyage, and shall examine the vessel with a view to reporting to the Department any lack of structural or sanitary conveniences likely to promote the spread of disease amongst passengers.

Persons suspected by the medical inspector to be suffering from any disease or condition dealt with under the Act, or referred to him by the immigration officer of any foreign country, or by the ship's officer, are to be subjected to special examination, and in any doubtful case the person is to be detained and sent to the Detention Hospital. When the nature of the case has been ascertained the superintendent of the Detention Hospital must make a written report to the immigration agent of the port for communication to the transportation company. If the physical condition is such as is likely to make the person a public charge or such as cannot be cured except by long treatment, the report must recommend that the person be rejected.

The instructions contain a section dealing specifically with certain diseases including heart disease, varicose veins, tuberculosis, bronchitis, defective vision, conjunctivitis and trachoma, alopecia, ringworm, favus, eczema, scabies, chicken-pox, diseases and injuries of the bones and joints, paralysis, hernia, and senility and debility.

Another section deals at length with the examination of immigrants suspected to be mentally defective, epileptics, and persons of unsound mind. Suggestions are also made with regard to the inspection of passengers and the sanitation of vessels, with special reference to overcrowding, air space, and ventilation, sanitary appliances, and the medical care of passengers.

INSANITARY HOUSING.

An address on insanitary housing, by Dr. C. A. Hodgetts, Medical Adviser to the Public Health Committee of the Commission of Conservation, Canada, has been published by the Commission. The housing conditions described as existing in Montreal, Toronto, Ontario, and some other places convey the impression that serious evils have grown up. Extracts from reports by the Secretary of the Quebec Board of Health, the Superintendent of Neglected Children in Ontario, and the Medical Officer of Health, Winnipeg, indicate the existence of much insanitary housing in three sections of the Dominion. Sixteen photographic reproductions are issued with the address, and Dr. Hodgetts's verbal description of the slums is frequently also graphic. Speaking of the "attributes" of insanitary housing, he says:

> Some of these attributes may be applied to the expensive apartment-house, which is little better than a series of packing boxes, a human storage warehouse, . . . not a slum but an unhealthy hive, an architectural monstrosity; but these are just the kind of houses that in their decadence make the worst kind of slum homes. . . . The slum, like the tentacles of the devil-fish, receives its prey within its walls, retains, and engulfs him by imperceptible yet rapid degrees.

Thousands of emigrants leave the United Kingdom yearly for Canada, and Dr. Hodgetts's description of the housing of immigrants is at once interesting and disconcerting. The newer additions to the towns and cities known as "shack towns" have been allowed to produce a new variety of slum as deadly and dangerous as any of the older products derived from ramshackle and old houses in the congested districts. Little Italys, Little Londons, and Little Chinatowns have sprung up devoid of the simplest modern sanitary requirements. Dr. Hodgetts's address is a striking contribution to the discussion of the housing problem in Canada, and indications are not wanting that the matter is receiving serious attention. Official publications drawing public attention to matters relating to health and hygiene are frequently issued in Canada and circulated freely among the people. Here is an object lesson for other Governments.

THE ROYAL EDWARD INSTITUTE, MONTREAL.

The third annual report of the Royal Edward Institute for the Study, Prevention, and Cure of Tuberculosis, Montreal, shows that about 550 patients were treated every month during 1912 at the dispensary. Montreal has followed the Edinburgh plan of developing the dispensary system of dealing with tuberculosis. The actual number of deaths from consumption was slightly higher than in the previous year, but it was thought probable that when the increase in population was taken into consideration it would be found that the death-rate had not increased. The total number of patients attended was 2,351; of the new patients, 565 were found to be definitely tuberculous, 816 were non-tuberculous, 259 were doubtful, and 38 refused examination. The dispensary was opened on 305 days of the year with a total of 11,903 consultations, or an average of slightly over thirty-nine a day. In the throat department 312 patients attended. The board

of management has decided to open an open-air school on the roof and verandahs of the institute.

TORONTO GENERAL HOSPITAL.

The new buildings of the Toronto General Hospital were formally opened by the Lieutenant-Governor, Sir J. M. Gibson, a short time ago. The actual cost of the buildings is stated to be about £700,000. When the plans were first drawn up in 1904 the estimated cost was £250,000. The site, which has an area of about nine acres, was bought at a cost of £121,600. The work of building was begun in November, 1910. The hospital contains 670 beds; of these, 520 are for the public ward patients, and 150 for private ward patients. The resident medical staff numbers 26, the nursing staff 176. There are many verandahs, and the hospital is well supplied with roof gardens. The number of patients treated in the hospital in 1912 was 5,705, an increase of 99 over the previous year. There was a notable decrease in the number of cases of typhoid fever. In the year 1909–10 there were 304 cases, in the following year 209, and last year 117. Of these, 42 contracted the disease outside Toronto. For the first time in the history of the hospital the nursing staff has been inoculated against typhoid fever. There was an increase of 270 in the number of cases in the surgical division, largely accounted for by the increase in the number of cases of appendicitis, from 290 in 1909-10 to 372 in 1910-11, and 523 for this year. The number of cases of enlarged tonsils and adenoids increased from 260 to 469. This increase is attributed to medical inspection of schools.

The Therapeutic Inoculation Department treated 88 cases, chiefly localized tuberculosis, erysipelas, boils and carbuncles, sycosis, gonorrhœal arthritis, acne vulgaris, and streptococcal cellulitis. Many members of the profession throughout the province were supplied gratuitously with autogenous or other vaccines for use in hospital cases.

India.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE EUROPEAN DEFENCE ASSOCIATION ON THE NECESSITY OF SUPPLYING EUROPEAN DOCTORS IN ALL DISTRICTS IN INDIA.

THE recent greatly increased political power of Indians, resulting in the persistent demand for admission to a greater proportion of higher Government posts hitherto held by Europeans, has led to the formation of a strong European Defence Association, with branches all over India. This important body has addressed to the Government of India a memorial on "a question gravely affecting Europeans in the mufussil or country districts of India." It is pointed out that until recently both official and non-official Europeans have usually been able to obtain European medical officers to attend themselves and their families, but that an Order of the Secretary of State issued in 1908 stopped all further increase in the civil side of the Indian Medical Service.

The paragraphs to which reference is made are as follows:

> I have consequently decided that the time has now arrived when no further increase of the civil side of the service can be allowed, and when a strong effort should be made to reduce it by gradually extending the employment of civil medical practitioners recruited in India.
>
> When it is found impossible to obtain a man from outside the Indian Medical Service to fill a particular new civil appointment, or one which has not previously been so filled, I will not object for the present to that service being drawn upon; but the vacancy so caused must be filled from outside it—that is, no appointment must be made in succession which would involve an addition to the cadre of the Indian Medical Service.

In commenting on this the memorial observes that with the inevitable increase of specialist posts due to the advance of medical science, there has been a corresponding steady decrease in the number of district civil surgeoncies, and "the effect of the policy indicated in this Order has already been a gradual but appreciable withdrawal of European civil surgeons from mufussil districts." This process, the memorial indicates, must go on, and as, unfortunately, India does not, and cannot, attract well-qualified European practitioners except for the presidency towns, "the civil surgeoncies in the mufussil are being surrendered to civil and military assistant surgeons or to independent practitioners of secondary attainments," and "there is nothing to prevent this process continuing under the existing state of affairs until such time as the civil surgeoncies in the mufussil areas are entirely in the hands of those who, it is submitted, are, either professionally or racially, unfitted to hold them." Already two-fifths of the district civil surgeoncies are without Indian Medical Service officers, although many of them have about one million inhabitants.

The Council of the European Defence Association make it clear that it does "not approach this question from a racial standpoint in the sense of any point of antagonism between the European and Indian races, but from the universal racial standpoint as touching the most intimate and delicate side of private life. From this standpoint it is no question as between European and Indian any more than between one European race and another. It is a question of the intimate relations which must of necessity exist between a doctor and a patient, and of the sacred right and privilege which every man, and more especially every woman, seeks to exercise of being professionally attended by a qualified practitioner of his or her own race, custom, and ideas in life. To force upon European ladies, more especially in maternity cases, practitioners of secondary qualifications, or, as the case may be, practitioners of alien race and customs, is to create a position which no British Government should tolerate for one moment, and yet this is the situation which arises to-day, and which is being steadily extended, as a result of the operation of the orders passed by the Right Hon. Viscount Morley. No Government would dream of attempting to force European male doctors on Indian ladies, but, nevertheless, it has not been considered improper to adopt the reverse attitude, and to issue orders which have the effect of forcing Indian doctors on European ladies."

The last-quoted sentence sums up the situation tersely and forcibly, and it is to be hoped that the Government of India and the India Office will seriously consider an aspect of the question which seems hitherto to have received insufficient attention.

THE MEDICAL COLLEGE FOR WOMEN AT DELHI.

Her Excellency Lady Hardinge has received the following towards the establishment of a medical college for women at Delhi: Donations of 1 lakh each from H.H. the Nizam of Hyderabad, H.H. the Gaekwar of Baroda, the Jodhpur Durbar, and H.H. the Maharao of Kotah.

KING EDWARD MEMORIAL HOSPITAL AT BOMBAY.

The Bombay Corporation has under discussion a scheme for the foundation of a new hospital at Parel as a memorial to the late King Edward. The Bombay Presidency King Edward Memorial Association offers to supply money at its disposal amounting to 7 lakhs, as well as land vested in it by Government valued at 5 lakhs, if the corporation will undertake the building, equipment, and maintenance of the hospital, subject to certain conditions. The total cost of the hospital is estimated at Rs. 21,00,000, for which sum 250 beds are to be provided.

LUNACY IN THE PUNJAB.

The annual report on the Punjab Lunatic Asylum for 1912 shows that the number of inmates increased during the year, a circumstance which the Government regards as indicating a growing confidence in the methods of treatment. There was an even more striking increase in the number of recoveries, as 155 patients were discharged as cured, the average for previous years being only 87. The health of the inmates was not so good as usual, and the daily average of sick patients was 112, or 34 more than the normal for the past five years. A brief cholera epidemic which occurred during the year cannot be said to account for this general ill-health. On the other hand, the number of deaths was only 61, as against an average of 82. In consequence of the cholera epidemic, which did not cause more than four deaths, 20 special quarantine cells have been constructed. Two murders were committed by lunatics during the year, and in this connexion the superintendent of the asylum blames the inferior quality

of the attendants for the frequency of assaults by the patients. There has naturally been special difficulty with male European inmates in the absence of an European attendant, and it is satisfactory to learn that the Government has sanctioned the employment of one European and two additional Indian attendants. It is hoped to attract for the latter men of the type of retired soldiers, "who will supply that element of firmness, tempered with consideration, which the superintendent desires." As regards the etiological factors of insanity, it is stated that the use of drugs is the most common, and was present in 43 out of 134 cases. Owing to the more scientific methods of classification epilepsy is much less prominent in this return than of old.

The Segregation of Lepers.

It appears from the thirty-eighth annual report of the Mission to Lepers in India and the East that 3,537 lepers are voluntary inmates of forty asylums of the society throughout India. They belong largely to the homeless and destitute class, and their segregation must be accomplishing very much for the public safety. The society is also aiding or has some part in the work of nineteen other asylums in India. The segregation of the healthy children of lepers from their diseased parents is an outstanding feature of the society's work. Some 500 children are being thus segregated, supported, and educated. Mr. W. H. P. Anderson, for many years superintendent of the leper asylum at Chandkuri (C.P.) has been appointed permanent secretary, with an office at Hornby Road, Bombay, to represent the interests of the mission in India. The total income of the society for 1912 is given as £45,847, and of this amount £20,788 was expended in India.

Smoke in Plague Prevention.

The following official statement has been issued by the Punjab Government:

> In connexion with the method of treatment of plague during February, 1913, it may be of interest to notice the successful results that have attended the use of smoke in preventing the outbreak of the disease. The town of Sargodha in the Shahpur district has again been systematically smoked. It was done experimentally in May and June last, and the results were very encouraging. It was repeated in January and February before the onset of plague. . . . One of the most striking features in this second smoking of Sargodha is the marked appreciation of the inhabitants. The reports of the plague staff repeatedly call attention to this encouraging sign, and mention that the people gave the plague staff great aid in clearing their houses and pointing out holes themselves. In very few cases indeed were shops found shut against the measure.

The Health of Gaols in Assam.

The Chief Commissioner, in a resolution on the report on the administration of gaols in Assam, in 1912, states that a noticeable feature in the administration of the gaols of the province during the year under review was the marked decrease in the daily average strength of the jail population. There was a satisfactory decline in sickness and mortality during the year, but the ratio of sickness to admissions and the death-rate were still very heavy. The question of diet had an important bearing on the health of the prisoners, and it is satisfactory to find that the revision of the diet scale is engaging attention. The introduction of fish diet in the gaols at Tezpur and Nowgong, in lieu of dal, has been attended with satisfactory results.

Tribute to a Civil Surgeon.

At a recent meeting of the Delhi Municipal Committee the following resolution was passed:

> This committee is very sorry to hear of the transfer of Colonel Davidson, Civil Surgeon, from Delhi to Lahore, and is bound to place on record its deep sense of gratitude for the invaluable assistance rendered and sound advice given by Colonel Davidson as a member of this committee during the tenure of his office as civil surgeon. This committee also appreciates the great interest taken by Colonel Davidson in the welfare of the Delhi citizens, and in maintaining the standard of the civil dispensaries and hospitals of Delhi, which confer an inestimable boon upon the Delhi public in alleviating their sufferings.

Lady Sanitary Inspectors for Malarial Work in Madras.

Lady sanitary inspectors were added some time ago to the Special Malaria Staff in Madras. These ladies, who have to be fully trained are paid the relatively high salary of Rs. 200 a month. They visit the homes of the people, attend to the women and children, and, as in the slums of England, "bring a message of hope, strength, and education, to the houses of the poor." It was feared at first that suitable women of the class required would be impossible to obtain in India, and that the appointment of trained nurses from England would be open to the fatal objection that they would be ignorant of the language of the people they were intended to help. There was in fact difficulty in making appointments and the full cadre of six nurses has never yet been reached; but, by bringing in two experienced lady assistant surgeons, the health officer has succeeded in obtaining five. These ladies visit the houses daily, and not only tend the sick, but teach elementary sanitary rules to the women they meet, doing in this way more real good in a day than the rules and regulations of the sanitary authority in a year. They have completely overcome the suspicion of the ignorant people among whom they work, and have abolished by their work the dead wall of popular opposition which formerly met the Corporation officials whenever they attempted to introduce the simple rules of personal and household cleanliness inculcated by the Malaria Staff. As a result of the measures described above, the malaria epidemic has decreased, and the return of fever cases in the Northern Divisions is now no higher than normal. That this reduction is not due merely to the dry season, when a reduction is naturally expected, is held to be proved by the fact that the number of cases is now about the same as in Pursewalkam, while during the epidemic it was very much larger.

Strike of Pupil Nurses at Bombay.

The latest development in strikes took place recently at the Cama Hospital, Bombay, a large lying-in hospital. Thirty pupil nurses there alleged that some of the duties they were required to perform were usually performed by female scavengers, and one morning they refused to go on duty unless the rules were altered to suit them. The lady physician in charge refused any concession. The women then carried their complaint to the Honorary Secretary. He summoned the committee, and the committee has now issued a statement to the nurses entirely upholding the lady physician. They dismissed the ringleaders of the strikers, suspended another for six months, and allowed the other girls to return unconditionally if they did so at once, otherwise the whole of the pupil nurses would be dismissed. During the strike the regular qualified nursing staff of the hospital carried on the whole duties of the hospital in which the probationers ordinarily assist.

The Rangoon General Hospital.

In his annual report on the medical services in Burmah, the Inspector General of Civil Hospitals says that the Rangoon General Hospital is now very fully equipped and furnished. During the year the hospital mortuary and laboratory buildings were completed, and are now in full working order. The year under report was rather an unfortunate one for this institution. Captain Crump, the resident medical officer, had to take sick leave, and Captain Dougan, the pathologist, died from the effects of blood poisoning contracted while performing his duties.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Foreign Physicians in Scotland.

In addition to the parties of Russian and German physicians who were referred to last week as prolonging their visit to Great Britain by a tour in Scotland, another detachment of medical men attending the International Congress of Medicine was to be found as far north as Strathpeffer Spa. The doctors of this party were from France, and after partaking of luncheon in Inverness,

where they met a number of the local medical men, they proceeded to Strathpeffer, where they were welcomed by Sir George Hastings and Major Walter, of the Spa Company, and by Drs. Bruce, Duncan, Kaye, and Adam. Dr. Fortescue Fox, of London, was with the party, and at the dinner in the evening, which was given in the Highland Railway Hotel, he proposed the health of the guests, and in doing so took occasion to refer to the wealth of Great Britain in health resorts which were still unkown upon the Continent of Europe. He thought that for some invalids an invigorating and tonic climate, such as the British Isles possessed, was needed if they were to obtain good effects from their bath treatment, and he spoke highly in praise of the benefits which the north-eastern part of the Highlands of Scotland was able to confer on men advanced in years and fatigued with the life and labours of great cities. The benefits were both climatic and medicinal, for the springs were strongly sulphurous and were useful for many chronic disorders, especially for gout, rheumatism, maladies of the stomach, and for skin diseases, especially eczema. He concluded by assuring the guests that to benefit from the reviving power of the Scottish climate it was not necessary to be a Scotsman. M. Blondel replied on behalf of the French physicians.

Bequest to Aberdeen University.

The newspapers confirm the report that Mr. William Robbie, a Scotsman, 91 years of age, who went to Melbourne a poor man in 1852, has recently died, leaving £29,000, the interest on which is to be employed in maintaining perpetual scholarships at Aberdeen University.

Medical Matters at the Miners' Conference in Edinburgh.

At the meetings of the twentieth annual conference of the Scottish Miners' Federation, held in Edinburgh on August 20th, when Mr. Robert Smillie, the President, occupied the chair, several medical matters were touched upon. Mr. Leishman, the Chairman of the Scottish Insurance Commissioners, said that the Insurance Act had achieved great success; the only disquieting feature was that many societies were a little uneasy about the amount of sickness claims that were being paid. He thought it was well to remember that sickness claims were paid only if people were incapable of working, and that the Act was not a fresh-air fund or a holiday fund; any man or woman who took money who should not take it was really inflicting an injustice on all other insured persons, and all the others were paying some deficit or some levy because of this improper use of funds. Another medical matter dealt with was the provision of drinking water in mines. Mr. Hood (Ayrshire) moved that "employers be compelled to supply drinking water in the mines the same as in all public works," and this resolution was adopted, as was also the following, moved by Mr. Doonan:

> (*a*) That where workmen are permanently, totally, or partially disabled, they shall have the right to secure a commutation of their compensation on the same terms as the employers; (*b*) that medical men shall be barred from granting certificates based on conditions not existing when they examine, but which they think may exist at some future time, and shall be confined to stating health conditions and fitness for work at the time of their examination; (*c*) that employers shall pay full compensation to parents in all cases of fatal accidents even when they are not totally or partially dependent on the deceased at the time of death.

The Ayrshire delegates brought up the matter of the capitation grant, and Baillie M'Kerrel moved:

> That the National Health Insurance Act, 1911, be amended to the effect that dependants of insured persons be included under the capitation fee paid to the medical practitioners.

Mr. Hood seconded, but Mr. Murnin (Stirlingshire) thought it was an insult to advocate that doctors should be paid 7s. a year for attending insured persons and their dependants, and he moved the rejection of the resolution; and Mr. Gilmour said it was ridiculous to include these dependants at the present capitation fee; they paid 13s. before, and against that they had no complaint. Mr. Adamson, M.P., pointed out that the resolution did not say what the capitation fee was to be; and Mr. Smillie said that the resolution did not confine itself to the capitation fee at present paid; the Ayrshire people had been badly treated by the medical profession, but it was not necessary at present to inquire closely into the question whether or not the present capitation fee was sufficient; all that should be done was to affirm the principle. With this explanation the resolution was unanimously adopted. A resolution for the abolition of female labour from the pit banks was also adopted. The conference continued to sit on August 21st and 22nd, but no further matters affecting the profession were discussed.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Crooksling Sanatorium.

THE Dublin County Council and the Corporation of Dublin have failed to come to an understanding as to the joint control of the Crooksling Sanatorium, and the county council has asked for a Local Government Board inquiry.

Insanity in Ireland.

The annual report, covering the year 1912, of the Inspectors of Lunacy in Ireland, recently laid on the Table of the House of Commons, is a most depressing volume to analyse. On January 1st, 1912, there were 12,868 males and 11,787 females, or a total of 24,655 insane patients confined in the lunatic establishments of Ireland. These numbers had increased on January 1st, 1913, to 12,962 males and 11,877 females, or a total of 24,839. There was, therefore, a total increase of 184 during the year—the corresponding increase for the previous year having been 261. The increase for 1912, however, was 118 less than the average increase for the preceding ten years, which was 302.

The numbers in district and auxiliary asylums increased by 278, and the single patients in unlicensed houses by 2; those in the private asylums and institutions for the insane decreased by 26, those in Dundrum by 6, and those in workhouses by 64. One of the tables in the report, giving the number and distribution of all lunatics under care on December 31st of each year from 1880 to 1912, shows that in this interval of time an increase of 11,857 has taken place in the total; the inmates of district and auxiliary asylums have increased by 12,491; the criminal lunatics in Dundrum Asylum have decreased by 6; the patients in private asylums and institutions have increased by 258; while the pauper lunatics in workhouses have decreased by 1,020.

The report goes on to say that this does not include all the insane in the country, as a number reside in their own homes, or with relatives, or are wandering at large. The general census, according to the inspectors, is, therefore, the only means by which the number of the latter classes can be ascertained. At the last census they amounted approximately to 14 per cent. of the total.

Speaking of the State Criminal Lunatic Asylum at Dundrum, the report states that the number of patients resident there at the end of 1912 was 162—namely, 141 males and 21 females, as compared with 147 males and 21 females at the end of 1911—thus showing a decrease of 6 patients during the year 1912.

The admissions (22) during 1912 showed a decrease of 5 on the number for the previous year, while the discharges numbered 24, being 2 less than in the previous year.

There were 4 deaths in 1912 as compared with 1 in 1911.

Of the 22 cases admitted, 12 were found insane on arraignment, 1 was found guilty but insane when the offence with which he was charged was committed, and 9 convicts, having become insane whilst undergoing sentences of penal servitude, were transferred to the asylum.

The net average cost of maintenance during the financial year 1911–12 was £43 4s. 1d. per patient, as compared with £43 0s. 1d. in the previous year, showing an increase of 4s.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LONDON.

Radium in Poor Law Infirmaries.

The Wandsworth Board of Guardians at its meeting on August 21st discussed a resolution submitted by Mr. D. Grundy that the Local Government Board be asked to sanction an expenditure of at least £1,000 on the purchase of radium for St. John's Hill Infirmary. Mr. P. Rees, the chairman, thought the better course would be to ask the Board to place the whole of the radium treatment for the metropolis in the hands of a central authority such as the Asylums Board, which could appoint a travelling operator to visit all the infirmaries. Dr. MacCormac, the medical superintendent, stated that there ought to be a sufficiently large amount of radium in the institution to ensure treatment for all suitable cases. The board decided to take no action at present.

LIVERPOOL.

The controversy between the local Division of the British Medical Association and the Liverpool Watch Committee has resulted in the concession of the demands of the medical profession. It will be remembered that the salary for the vacant post of police surgeon was fixed by the Watch Committee at a figure (£80) approximately equivalent to 1s. a head of the persons to be attended. The local profession pressed for a salary (£100 a year) based on Insurance Act rates, with extra fees for examination of recruits, and asked the Watch Committee to receive a deputation from the Association to discuss the question. The request was, in the first instance, declined, but subsequently accepted, and after a full discussion of the points raised the Committee has now decided to recommend the Council to accept the terms suggested by the Association. This decision is all the more satisfactory as it appears that there were some applications forthcoming even on the conditions originally offered by the Committee.

Report of Medical Officer of Health.

The report of the medical officer of health for the past year affords further evidence of the beneficent results of modern sanitation. The general death-rate (17.7 per 1,000) is the lowest recorded, and contrasts favourably with the average (23.1) of the first five years of the incorporation of Greater Liverpool. This record has been established in spite of an epidemic of measles, and in spite of the usual contribution of deaths from transmigrants, foreign sailors, and from amongst persons coming to the city for the first time to undergo medical treatment in the hospitals.

The verification of diagnosis in obscure cases, the systematic examination of rats for plague infection, and many other lines of investigation in port sanitation are making many calls on the city bacteriologist.

The campaign against tuberculosis is steadily developing. A scheme was adopted in 1907 which provided twenty-four beds for the treatment of tuberculosis at Fazakerley Hospital. The success which attended this experiment led the Hospital Committee to proceed further, and by the time of the passing of the Insurance Act the municipal hospitals were providing beds for 100 cases of pulmonary phthisis. Favoured by the facilities afforded by the Act a comprehensive scheme for the treatment of all forms of tuberculosis has now been launched. This includes the provision of 300 beds for pulmonary consumption at Fazakerley, as well as beds for other forms of tuberculous disease at Park Hill and elsewhere. A beginning will be made in the provision of open-air schools for the simultaneous education and treatment of tuberculous children. This will obviate the loss of education to the child, and the loss of the Government capitation grant to the Education Committee.

In Liverpool the decline in the birth-rate is more than counterbalanced by the decline in infant mortality. An investigation has been going on for some time with the view of finding a cheaper and more effective method of sterilizing milk. A special electrical apparatus has been devised which promises to be both effective and commercially sound. The idea is due to a layman, Alderman Shelmerdine, who has devoted much time and thought to the problems involved in the preservation of infant life. The necessary experiments were carried out in the laboratory of the City Bacteriologist.

A few cases of typhus fever were detected among transmigrants and their contacts. Typhoid shows a gradual decline, especially marked in rehoused areas. The occurrence of an epidemic of measles has impelled the Health Committee to institute an investigation into the etiology of that disease.

Special Correspondence.

PARIS.

Blood Changes During Digestion.—Myelitis Due to Eberth's Bacillus.—Autovaccination in Typhoid.

Dr. Krolunitsky, who has been studying the blood changes found during digestion, recently reported his findings at a meeting of the Society of Biology. He found that within even four minutes after taking a meal there was a considerable diminution in the number of leucocytes to be found in the blood. This diminution was found to be due to the action of a ferment known as leucocytolysine, and can be found in the blood serum within a few minutes after taking a meal, and disappears again towards the fourth hour of digestion. The diminution in the proportion of leucocytes present in the blood was found to be unaffected either by the quality or quantity of the food taken, and in dogs was observed to be brought about even by the sight of food, thus proving the truth of Pawlow's assertion as to the existence of a psychic factor in digestion.

An interesting case of myelitis was reported by Dr. Renault at a recent meeting of the Medical Society of the Hospitals. The patient, a young child, was brought to hospital suffering from phenomena which at first sight suggested spastic paraplegia. Preference, however, was given to a diagnosis of toxic myelitis, and on further inquiry into the history of the case it was discovered that a brother of the child had suffered some little time previously from typhoid fever. The Widal test was then applied to the child's blood, and gave a positive reaction, while at the same time the *B. typhosus* was recovered from its urine. In the event the myelitis gradually cleared up and the patient was discharged well, though only after prolonged treatment.

At a further meeting of the same society Drs. Josué and Belloir reported success in the treatment of enteric fever by autovaccination. When a suspected case arrived in hospital a haemoculture was made, and usually gave a positive result forty-eight hours later. This culture was then sterilized for six hours at 58° C., and three injections of 200 million were given at twelve-hourly intervals. If the temperature had not fallen to normal within five days another like dose usually brought the temperature down. Severe cases, the authors claimed, became moderate cases after vaccination and moderate cases became benign. Of 12 patients thus treated 11 gave good results. In the serious cases the temperature fell to normal between the twenty-fifth and thirtieth day, and in moderate cases the temperature fell to normal on the appearance of the rose-spot eruption. The authors recommended this autovaccination in all cases of typhoid.

At the Royal Institute of Public Health in October there will be delivered by various medical men a course of lectures on tuberculosis for the benefit of general practitioners, candidates for appointment as tuberculosis officers, and others. The introductory lecture will be delivered at 5 p.m., on October 10th by Professor Sims Woodhead. The series of eleven lectures is intended to cover all aspects of the subject, and will include bacteriological demonstrations and visits to sanatoriums and tuberculosis dispensaries. At the close of the course there will be an optional examination, followed by the granting of certificates to those who are deemed to have acquitted themselves well. The fee for the course is 3 guineas.

Correspondence.

THE PRODUCTION OF IMMUNITY TO RINDERPEST.

SIR,—A short time ago a friend drew my attention to the following statement, contained in the article on immunity in the *Textbook of General Pathology* (page 139, line 17), written by Dr. C. H. Browning, which reads as follows:

> Koch immunized cattle against rinderpest by injecting, subcutaneously, the bile of animals dead of the disease. Certain constituents of the bile have a mitigating effect on the unknown virus which is present, since Kolle showed that if the infective bile is certrifugalized and the washed sediment is used for inoculation, the animals acquire the disease in a mitigated form.

I have had some experience in the cure and prevention of rinderpest, and this statement is, in my opinion, open to misinterpretation. When it was evident that bovine plague was approaching the Cape Colony, the Colonial Government obtained the services of Professor Koch, who arrived in South Africa in November, 1896. As he was obliged to leave the colony in 1897, having started the bile process of immunization, I was relieved of my duties as medical officer of the Cape Colony and sent to Kimberley to succeed Koch as Director of the Kimberley Rinderpest Experimental Station, a post I held until the station was closed in July, 1898, the disease having been stamped out of South Africa, thanks to the simultaneous method of inoculation.

I was with Koch for three weeks or a month before he left the colony, and during that time had very many discussions with him, and received much valuable instruction, all of which I noted at the time, and Koch kindly read my notes so that I might be sure I had correctly stated his opinions.

Later Dr. W. Kolle, who had gone to the Cape to take up research work in leprosy on Robben Island, was sent to Kimberley to assist me.

The question of the nature of the organism contained in the immunizing gall was discussed by Professor Koch and myself. On March 10th, 1897, Dr. Koch asked me my views as to the way in which the bile from a rinderpest animal operated to produce immunity. My answer was: "I suppose the bile contains the organism, whatever its nature may be, which causes the disease. This organism, growing in a medium unfavourable to its full development, becomes attenuated, and when injected into an ox produces a disease the manifestations of which are chiefly local, but which protects the animal much as vaccination protects against small-pox. Professor Koch told me I was mistaken; that the organism in the bile was not attenuated. His view was that the swelling caused by the injection of the bile incarcerated the organism so that while it could not invade the system it produced protective substances, which entering into the circulation produced immunity.

From such an authority I received this explanation with implicit faith, until, thinking over the question in the light of my daily increasing experience, I began to doubt its correctness, and I resolved to put it to the test.

I took 60 c.cm. of bile from an animal suffering from rinderpest after inoculation with virulent blood—a quantity of bile sufficient to immunize six oxen. The specific gravity of the bile was 1,018.97 at 80° F.—the laboratory temperature. It was a vivid green, and the spectroscope showed the two absorption bands of arterial blood, which were reduced, and gave the characteristic spectrum on the addition of Stokes's reagent.

By means of a suction pump 60 c.cm. of bile were passed through a Berkefeld filter. The filtered bile amounted to 55 c.cm., the remaining 5 c.cm. being absorbed by the bougie or collected at its base round the washer. These 55 c.cm. of filtered bile were preserved.

After removing all the bile from the bougie by passing normal saline solution through it, the bougie was scrubbed with a stiff brush and normal saline, and subsequently scraped with a platinum spatula. The washings amounted to 15 c.cm.

Examined, both stained and unstained, under a $\frac{1}{12}$ in. oil immersion, no organisms besides a very few cocci could be detected.

I considered that if the organism were contained in these 15 c.cm. of saline, and if it were unmodified, then the injection of the whole quantity, which would under such conditions contain many thousand lethal doses, into a susceptible animal would inevitably be followed by rinderpest, and almost equally certainly would cause death.

Accordingly, on April 10th, 1897, I injected into an ox (No. 209) the whole 15 c.cm. of saline, which contained the organisms from 60 c.cm. of bile.

From some cause which, after the lapse of sixteen years, I can no longer remember, the animal's temperature was not taken until the afternoon of April 11th. It was then slightly elevated—103.6°. The normal range at Kimberley being between 100° and 102°. With this exception, the temperature remained fairly normal until April 20th—that is, the tenth day after the injection. The ox had shown absolutely no symptoms, and there was no swelling at the point of inoculation into the dewlap, which always occurs when bile is injected subcutaneously.

It was known from experiments made by Koch, and confirmed by me, that it was not safe to inoculate a beast with virulent blood until ten days after the injection of the immunizing bile. After the sixth day or so the animal might have rinderpest, but would probably recover. So on the tenth day (April 20th) this animal received a subcutaneous injection of 0.2 c.cm. virulent blood, mixed with 10 c.cm. of normal saline—enough to kill many oxen.

There was a suggestion of a rise of temperature between April 22nd and the 26th; but this would have occurred under similar circumstances with any freshly immunized animal. Certainly there was no fever, and the animal's health was perfect. On May 8th it received 10 c.cm. of virulent blood, and was none the worse. There was no rise of temperature.

This animal was the first I used to produce serum of high power; it received repeated injections of virulent blood in increasing doses at intervals, until at last it was given 4,000 c.cm. at once. Its serum was sold, and brought in the respectable sum of £200, and when the station was closed the animal was sold for £12.

This experiment was performed at the time when the greatest care was exercised to prevent infection. If animal 209 had developed rinderpest after this injection it would not have been conclusive proof that the disease was caused by the injection. The fact that no signs or symptoms of rinderpest followed the injection shows clearly that these 15 c.cm. of normal saline did not contain any unmodified virus. Again, the fact that the animal was immune after the injection proves that, despite the absence of any symptoms, the 15 c.cm. did contain an organism capable of conferring immunity—in other words, a modified rinderpest organism.

I made another experiment to ascertain the condition of the organisms contained in the bile.

It seemed to me that if Professor Koch's theory were correct—namely, that an unmodified organism was incarcerated in the swelling caused by the subcutaneous injection of the bile, and if the same quantity of bile—10 c.cm.—were introduced into the venous circulation, with proper precautions, there would be no incarceration, and the organism, if unmodified, would certainly cause the animal to suffer from rinderpest.

On April 20th, 1907, I introduced 10 c.cm. of immunizing bile into the jugular vein of a cow (No. 213). The cow did not have rinderpest. On the other hand she was not immunized, because she succumbed to an inoculation of 0.2 c.cm. virulent blood, which was administered on May 8th.

I afterwards found that more virulent blood than would suffice to kill an ox, if administered by subcutaneous injection, could be introduced into the venous circulation without necessarily giving rise to an attack of rinderpest, but that the animal was not immunized thereby.

When Dr. Kolle performed his experiment we were making very powerful serum, and the minute precautions against infection, so necessary when working with bile, not being required, were not taken. In addition there was rinderpest in the country all round the experimental

station, and more than once the oxen sent to me for serum production and experiment were found to be incubating rinderpest. It is therefore not surprising that the ox, the subject of Dr. Kolle's experiment, had rinderpest.

I submit, with all deference, to my friend and late junior colleague that he is not entitled to make the assertion attributed to him, on the evidence of one experiment, carried out under the conditions I have described, especially in face of the much more conclusive experiments performed by me.

Four oxen were injected with 10 c.cm. each of the filtered bile used for the first experiment, one with 10 c.cm. of the filtered bile pure and simple, three with different amounts of virulent blood added. The injection of the bile produced no evident effect, but all four had rinderpest, and two died when they were subsequently inoculated with 0.2 c.cm. of virulent blood, showing that they were not completely immunized. In fact, rinderpest bile kills the rinderpest organism. No ill results follow the injection of a mixture of rinderpest bile and virulent blood until the amount of blood amounts to 50 per cent. of the bile—that is, 10 c.cm. bile with 5 c.cm. blood.

The action of rinderpest bile and of the immunizing serum is very interesting; they are essentially different, and are totally unlike that of antidiphtherial serum. But I have not now the time, nor would you grant me space, to discuss this subject.—I am, etc.,

GEORGE TURNER,
Late Director of the Kimberley Rinderpest Experimental Station and Laboratory, and late Medical Superintendent of the Pretoria Leper Asylum.
Colyton, Devon, July 14th.

P.S.—I see that Professor Loeffler is reported in the BRITISH MEDICAL JOURNAL of August 23rd, p. 466, to have stated that the virus of rinderpest will pass through a filter, presumably a porcelain filter. Yet in my four experiments a Berkefeld did not permit its passage. I may also remark that the experiment performed by Todd, mentioned by Dr. C. J. Martin (p. 467), was also tried by me, with similar results, in 1897, and that Koch, earlier in that year, showed that while serum from a rinderpest ox transmitted the disease if it were allowed to sediment two or three days in a test tube several cubic centimetres from the upper layer were harmless, but a few drops from the bottom killed.

THE FUTURE OF THE INDIAN MEDICAL SERVICE.

SIR,—As a close observer of the evolution of medicine in India, and as one interested in this matter, as well as in the future of the Indian Medical Service, I should like to make some remarks to some extent amplifying those made by your correspondent "I.M.S." in your issue of August 23rd.

The position of affairs appears to be, briefly, as follows: Lord Morley in 1908 somewhat abruptly announced that in his opinion the time had arrived when no further increase in cadre of the Indian Medical Service could be permitted, and that so far as possible Indian Medical Service officers in civil employ should be withdrawn to make room for civil medical practitioners recruited in India. The promulgation of this policy led to results which were no doubt neither intended nor expected. Competition to enter the service suffered an unwonted check and, owing to the fact that the opportunities of civil employment were curtailed, the service ceased to attract men of high professional standing in the same numbers as formerly. This in turn has led to more Indians obtaining admission to the service, so that, for example, at the last examination no less than 50 per cent. of the successful candidates hailed from the East. A further result of Lord Morley's policy has been the withdrawal from a number of districts of the European civil surgeon, a circumstance which has met with the approval of neither Europeans nor Indians. Further, strenuous efforts have been made to fill all new appointments with Indians, such, for example, as the sanitary service, which within the last few years has been extensively reorganized and expanded.

None of these results point to an increase of efficiency on the part of the medical science in India, but if it could be shown that they are counterbalanced by others favourable to the welfare of India as a whole, there would be much to be said in their favour. But this is notoriously not the case, and, owing to the lack of suitable private medical practitioners, in spite of strenuous efforts on the part of the Government of India, it has not been found possible to give full effect to Lord Morley's policy. Thus, throughout the whole of India at the present time there is only one civil surgeoncy held by a private medical practitioner. It is not altogether that suitable men do not exist, but they are unwilling to leave lucrative practices in the large towns for the small pay and hard work of isolated districts.

The truth is, Western medical science is at the present time in its infancy in India, and any decrease in the efficiency or numbers of its representatives is bound to act prejudicially on its advancement. At the present time there are some 250 civil surgeoncies scattered amongst 310 million people—and only 138 of these are held by European officers of the Indian Medical Service. In these circumstances, is it possible to argue seriously that the civil surgeon, burdened with his multifarious official duties, has the time even if he had the inclination to interfere appreciably with private medical enterprise?

On the other hand, there are many cogent reasons why the European civil surgeon should be retained, not the least important of which is that in the present stage of medical evolution in India it is essential for the welfare of India itself that a leaven of medical officers conforming to the highest professional and ethical standards should be available to foster the growth of scientific medicine and to ensure its advancement along right lines.

Unfortunately, Lord Morley's policy, which no doubt has the same object in view, pursues a diametrically opposite course, with the result so far that, whilst he has struck an unmerited blow at the prestige of an old and distinguished service, he has not been able to find any workable substitute.

It remains for his successor at the India Office to re-examine the question with an open mind, and to take such steps as he may consider necessary to repair the damage before it is too late.

In conclusion, I do not think that exception can justly be taken to the recent circular, mentioned by your correspondent, in regard to the professors at the medical colleges being limited to consultant practice. These colleges are all situated in cities where private practitioners abound, and it is surely inexpedient, if not derogatory, for them as specialists to engage in private practice in competition with the general practitioner.

Even the extension of this principle to the district civil surgeon, in regard to private practice amongst Indians, would cause little hardships; for to all intents and purposes the district civil surgeon is even now the local consultant in the same manner as the professor at the medical college may be termed the provincial consultant. As a matter of fact, at the present time most civil surgeons attend well-to-do native patients at the consultant fee of one guinea, and direct elsewhere those who wish to pay smaller sums. It may well be that the time has arrived when this innovation might be officially adopted, but it is only reasonable to expect that it should be accompanied by a revision of the emoluments affected by it.—I am, etc.,

August 26th. SCRUTATOR.

SURGICAL TREATMENT OF TUMOURS OF THE BRAIN.

SIR,—In your summary of the proceedings of the joint meeting of the Sections of Surgery and Neuro-Pathology of the International Medical Congress on the treatment of tumours of the brain in last week's issue (p. 449), I am reported to have said, "his pathological experience convinced him years ago that the surgeon could do little or nothing, and that he had not seen reason to alter that opinion." This statement fails to represent what I said. My statement was "that in comparatively few cases of intracranial tumour could the tumour be successfully removed and the patient completely cured by surgical operation." My experience is that in many cases the surgeon can do a very great deal to relieve suffering, save sight, and prolong life by suitable operation in cases of brain tumour.—I am, etc.,

Edinburgh, Aug. 23rd. BYROM BRAMWELL.

THE TREATMENT OF NEURASTHENIA.

SIR,—Since I always take two or three cases of neurasthenia or borderland conditions into my own private house, I have thus had the opportunity of carefully observing the effects of treatment.

A quiet place with a bracing atmosphere and dry soil should be selected. Each patient should be treated as an individual according to the requirements of his own case.

Sea air is unsuitable where insomnia or constipation is present. Prolonged rest in bed at the outset is invaluable accompanied by massage, or that light stroking which resembles stroking a cat. If the patient has lost flesh, it is advisable to feed to excess, and give large quantities of milk. Electricity—faradic or galvanic—is, I am convinced, helpful as a rule; in some cases it is detrimental, and must then be applied very weakly for its suggestive effect. Suggestion is most important. Liquid petroleum should be used for constipation, and for insomnia paraldehyde, but the general treatment soon rights the latter.

After the period in bed is over the patient's interests should be roused in as many healthy directions as possible. This entry into the home life of the doctor with whom the patient is appears to me to be the best method of restoring lost equilibrium.—I am, etc.,

Chorley Wood, Aug. 13th. CLAUD F. FOTHERGILL.

THE COLOUR VISION TESTS OF THE BOARD OF TRADE.

SIR,—With reference to your article (p. 512) on the sight tests of the Board of Trade. I may say that a year or so ago the head of one of the Government departments told me that it was an invariable rule that no pioneer or inventor should be allowed to benefit by his work by being given an appointment which arose through that work, "because it would be such a score for him." The appointment was always given to a neutral man. The Board of Trade has not acted up to these traditions. Though it has adopted a lantern lacking many of the essential features of a lantern test, it has only appointed as advisers those who have strenuously opposed the lantern test and advocated the wool test. Had a neutral man been appointed the chief essential of a lantern test would not have been omitted. The chief fact which makes colour-blind men so dangerous is that, though in ordinary conditions ships' lights may be named correctly, in certain conditions a red light will be called green and a green light called red without the faintest hesitation or doubt, the observer feeling certain that he is right. This can be demonstrated with my lantern, but not with that of the Board of Trade. The fact can be equally well demonstrated by a practical examination at sea conducted by an examiner with a knowledge of colour blindness. This fact is now becoming universally recognized. The chief examiner of one of the largest European countries told me at the late International Medical Congress that his decision that a man was colour blind was disputed, and several captains stated that they had carefully tested the man at sea and that his colour vision was absolutely normal. The chief examiner (a medical man, not a physicist or a sailor) tested the man at sea with ordinary ship's lights in the presence of many officers and other unbiassed persons. The man made so many mistakes between the red and green lights that the examiner's decision has never been disputed since. This fact, which I pointed out twenty five years ago, and which has been so entirely neglected by the Board of Trade, is recognized by many ship owners. In the minutes of evidence given before the late Committee the following appears from Yeoward Bros.:

> The most prevalent error appears to be the mistaking of the port light, during rain or misty weather (when the brilliance of the red light is dimmed) for green.

The Booth Steamship Company report:

> The wool test has, in the experience of this company, failed completely to detect colour blindness, whereas the lamp with the modifying glasses will always catch a colour-blind man.

The British are a very practical nation, and very few normal-sighted officers of the mercantile marine, much less any of the public, would travel in a ship with an officer in command who called a blazing red light "green" before them. Until the present tests are abolished normal-sighted persons will be rejected and colour-blind men passed as before. It is absolutely necessary to exclude dangerously colour-blind men from our ships, but when they have been passed before as normal they should be fully compensated.—I am, etc.,

London, N.W., Aug. 23rd. F. W. EDRIDGE-GREEN.

SIGHT TESTS FOR SEAMEN.

Dr. KARL GROSSMANN (Liverpool) writes to correct errors in the brief note (BRITISH MEDICAL JOURNAL, August 23rd, p. 480) on his paper on this subject read in the Section of Ophthalmology of the International Medical Congress. He writes:

1. I did not say I consider the Holmgren test "particularly bad." What I said was that it was interesting and instructive to a certain degree, but not reliable enough. I was one of the first to demonstrate this insufficient reliability at the International Medical Congress held in Berlin in 1890.

2. I never made the absurd statement that "any" defect in light perception should be considered a bar to a candidate's employment as a seaman. In my paper I advocated the introduction of the examination of the light sense so as to avoid any case of night-blindness being allowed to be considered as perfect normal sight in those who are responsible for the navigation of a ship. I further advocated the examination, for daylight and dusk, of those to be employed as look-outs, and further, the noting down of the vision of all seamen, not for the purpose of disqualifying anyone, but to show the master of the ship at once on whom to rely for look-out purposes, in case of need and of shortage of hands.

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

A COUNCIL meeting of this association was held at 34, Copthall Avenue, London Wall, E.C., on August 14th, Dr. Balding, J.P., presiding.

West Ham Dispute.

The Honorary Secretary reported that on the refusal of the district medical officers in West Ham to consent to the deduction from their salaries proposed by the guardians, the latter had applied to the Local Government Board, which had written to the medical officers, asking for their comments on the proposal. The following reply had been sent to that authority:

> Sir,
>
> We are in receipt of circular letter of 16th July, and in reply we beg to state:
>
> 1. The central relief station is on the extreme edge of the district.
>
> 2. We the medical officers should have to attend there at certain hours, and in all weathers. This would mean a great amount of inconvenience, as in the past we have always seen patients at our surgeries, and very often private patients at the same time.
>
> 3. The reduction of salary proposed by the guardians, namely, £20 a year, does not mean value of drugs, but it also means reduction of superannuation benefit. Two of us have paid superannuation deduction on £180 for some time, Dr. Beaumont, senior medical officer, about 15 years.
>
> 4. After hours at the central station, any urgent case will have to be treated at our surgeries, and we shall have to supply medicines, as we are now doing. We are quite prepared to do the work at the central station, but we respectfully suggest that the increased work and inconvenience should be compensated for by the supply of drugs being made by the guardians without deduction from our salaries.
>
> President of Local Government Board.

No answer had so far been received from the Local Government Board.

Maternity Benefit.

Dr. Holder reported that his application to the Southcoates Guardians for compensation for loss of fees through the action of the Insurance Act with regard to maternity benefit had been refused, on the ground that his practice had been benefited in other ways through the Insurance Act. He did not think that anything further could be done in his case, but he recommended that attention should be given to complaints coming in from other quarters on the same subject.

Annual Meeting.

The Honorary Secretary reported that the next annual meeting would be held at Burnley, and proposed that Dr. Agnew of that town should be elected a member of the council, and he was unanimously elected.

Attendance on Resident Insured Members of Poor Law Staffs.

The council next considered a claim made by certain boards of guardians to receive the fees paid to indoor Poor Law medical officers by Insurance Committees for attendance on resident insured members of the staff. The Insurance Act Committee of the British Medical Association, after considering the matter, had instructed the Medical Secretary to send a strong protest against such a practice to the Local Government Board. A copy of the letter was read, which was much approved by the members of council present. The Honorary Secretary had also brought the subject before the Representative Meeting at Brighton, where the following resolution was unanimously carried:

> That this meeting strongly condemns any arrangement made by indoor Poor Law medical officers with boards of guardians in reference to insured members of their staffs, whereby the whole or a portion of the fees paid to the said medical officers by an Insurance Committee is handed over to the treasurer of the guardians. That it is of opinion that any Poor Law medical officer who accepts such a condition is acting in a manner derogatory to the medical profession and against the interests of the Poor Law Medical Service and the profession.

The Council expressed its agreement with this resolution, and hoped that all indoor Poor Law medical officers would resist such unworthy treatment, and refuse to go on the panel unless all fees paid by the Insurance Committees were handed over to them without deduction.

A letter was read from Dr. Cannan (West Ham), asking advice with regard to a demand from the guardians of the district asking medical officers for a fortnightly return of the sick poor treated by them. The Honorary Secretary had advised resistance to the demand, on the ground that the medical register which all district medical officers were required to keep would give all the information required. This was approved by the Council.

Burnley Dispute.

Dr. Agnew then explained the position of things in the Burnley Union. So far the guardians had only been able to fill up three of the fifteen vacancies. He read the following letter that had been sent to the Local Government Board on the existing impasse:

President of Local Government Board—

Sir,

With further reference to my letters of December 9th, 1912, and March 8th, 1913, to your Honourable Board, I am directed by the Burnley Division of the British Medical Association to protest very strongly to your Honourable Board against the confirming of (*a*) the medical appointments, and (*b*) the medical arrangements in the other twelve districts for attendance on sick poor made on Thursday last, May 29th, by the Burnley Board of Guardians.

The grounds of the protest are:

1. The reason given by the guardians for splitting up the union into smaller districts was that the population of most of the districts exceeded the number allowed under Article 159 of the General Consolidated Order, July 24th, 1847, of the Poor Law Commissioners. On Thursday last the guardians considered applications for the fifteen medical posts they had advertised. There were only three applicants, and these were appointed to the three districts for which they had made application. A small subcommittee was appointed at the same guardians' meeting to consider the question of medical relief in those districts for which there was no application. This subcommittee has decided that the whole of the union is to be worked by these three officers and have fixed salaries for this work.

The first contention of the guardians—namely, that the original districts were too large and contained too great a population for one man to look after—thus falls to the ground, in that they appoint now three men to do the work which they considered was too great to be done, as formerly, by *nine*, and which they contend can only be efficiently done by *fifteen*.

2. It is impossible that considerable hardship to the sick poor will not be the result of this arrangement, many of whom will be called upon to travel five or six miles to get medical attention. Further, I am to point out that these three officers, who are busy practitioners, will not be able to attend these persons at their homes with any degree of efficiency or regularity.

3. I would further point out that in none of the three districts to which medical officers were appointed is the salary a sufficient one for the work. The whole of the Burnley profession, with these three exceptions, is unanimous in the opinion that the conditions of service offered are not such as can be accepted.

4. We understand that the opinion of the Local Government Board is that vaccination is most efficiently performed when done by officers holding appointments for large areas. The present policy of the Burnley Guardians is to appoint public vaccinators for very small areas. Moreover, without there having been any application for an increase of fees for vaccination, the guardians, after dismissing their public vaccinators, have voluntarily increased the fees for vaccination when giving the post to that of district medical officer. The reason appears obvious.

The Burnley Division of the British Medical Association therefore prays that you will not confirm the appointments made by the Burnley Guardians, nor will you permit the arrangements made by the said guardians for medical relief in those districts for which there were no applicants for office. As the new board of guardians refused at their first meeting to receive a deputation of medical men, I am now desired to ask your Honourable Board to receive a deputation of medical men practising in the union. If, therefore, you are willing to receive such a deputation, and will inform me which would be a convenient date for you, I will arrange the matter for that date.

I am, etc.,
A. E. Bird, Honorary Secretary.

A copy of this letter was sent to the Burnley Guardians by the Local Government Board with a request for comments.

The following were the guardians' observations:

1. Owing very largely to the action of the Burnley Division of the British Medical Association, the guardians have been unable to appoint medical officers and public vaccinators for the fifteen districts into which the union has been divided with the sanction of your Honourable Board. It is quite correct that the guardians up to the present have been able to appoint only three medical officers and public vaccinators, but it is not correct to state that only these three are in attendance on the sick poor in the other districts of the union. The guardians' temporary arrangements are such that the sick poor are receiving adequate and efficent attention.

2. As regards the allegation that many of the sick poor will have to travel five or six miles to get medical attendance, this statement is misleading and incorrect. The sick poor have to make application in the first instance to a relieving officer, and the situation of the relieving officers has not been changed in any respect.

3. The old board did receive a deputation from the Burnley Division, when their case was fully stated. With regard to vaccination fees, the guardians have made them uniform throughout the district. The guardians strongly resent the autocratic action of the Burnley Division in their attempt to dictate to them how the union should be divided for medical and vaccination purposes, and as to the salaries to be paid to the medical officers. The guardians respectfully request your Honourable Board to advise them on the whole question, bearing in mind that three appointments have already been made.

The guardians' letter with the above comments had again been sent them by the Local Government Board, and they were about to forward an answer dealing with it. At the present time it was impossible to forecast the final result.

There was some discussion, and the Council expressed its warm approval of the loyalty shown generally by the Burnley profession, and the active assistance rendered by the local Division of the British Medical Association.

Insurance Act Committee of the British Medical Association.

The attention of the Council was called to the resolution of the Annual Representative Meeting, authorizing the Poor Law Medical Officers' Association to elect a member of the Insurance Act Committee of the British Medical Association. The Council elected Dr. Major Greenwood.

The Shoreditch Guardians.

The Honorary Secretary reported that another vacancy had occurred in the parish of St. Leonard, Shoreditch, with respect to a medical officer for the No. 2 District. When a vacancy occurred in the No. 3 District two years ago the association had approached the Local Government Board in conjunction with the City Division of the British Medical Association, and protested against the new medical officer being appointed at the old salary of £115 a year. Owing to this intervention the salary was raised to £150 per annum. The No. 2 District contained more sick poor than the No. 3, and consequently the medical work was heavier, yet the guardians had elected the new officer at the old salary of £115 per annum. The City Division and the Poor Law Medical Officers' Association had, therefore, again appealed to the Local Government Board not to confirm the appointment unless the salary were made the same as in the No. 3 District.

The Services.

INDIAN MEDICAL SERVICE.

The Government of India has decided that lieutenants of the Indian Medical Service should, at their departmental examination, take up both subheads of any subject together, and not at different examinations.

The Secretary of State for India has sanctioned the addition to the cadre of the appointment of Health Officer, Delhi.

The Head Quarters Office.

During the past few years all questions concerning accelerated promotions, examinations of lieutenants, courses of study at home and in India, the *x*-ray institute, and specialist appointments have been transferred to the office of the Director-General, Indian Medical Service. The Secretary of State has now decided that the office shall be augmented and organized as follows: In place of one Secretary who controlled the whole office under the Director-General, there will in future be a Deputy Director-General, and an Assistant Director-General (Stores). The Deputy Director-General will draw the same pay as at present, the Assistant Director-General (Stores) will be paid as a Medical Storekeeper to Government. The Assistant Director-General will be an inspecting officer, as far as medical stores depôts are concerned, and will thus take the place of the Inspecting Medical Storekeeper. Lieutenant-Colonel Bruce Seton, V.H.S., who has held the office of Secretary to the Director-General for over a decade, has been appointed Deputy Director-General, and Major Jay Gould has been gazetted to the new appointment of Assistant Director-General.

Gratuities for Infection when Operating.

The following order of the Government of India is a somewhat tardy recognition of the risks run by Civil Surgeons in a country like India and Burma, where venereal diseases are lamentably rife amongst both rural and urban populations.

"It has been ruled by the Secretary of State for India that the performance of operations on venereal patients may fairly be regarded as a duty involving extraordinary bodily risk within the terms of Article 735 of the Civil Service Regulations. Proposals for the grant of pensions or gratuities to civil medical officers injured in this manner may accordingly be dealt with under Articles 739 and 740 of those Regulations."

Obituary.

GEORGE MIDDLEMISS, M.D.Durh., L.R.C.P. and L.M. Edin., L.F.P.S. and L.M.Glasg.

Dr. George Middlemiss died at his residence, Wear Court, Darlington, on August 4th, and was buried on August 6th, aged 68 years.

He had been in practice forty years in Darlington, and although during the last two years he had suffered from arterio-sclerosis his pluck and vitality refused to allow him to give up work until the day he was stricken down—five weeks before his death. He held a large place in the public eye of Darlington by reason of his long and honourable association with the Volunteer Force, and his work amongst the poor during the thirty years he was medical officer at the workhouse and for a portion of the Darlington Union. The duties connected with these offices he fulfilled with a thoroughness characteristic of the man. He treated the poor with every consideration, and did many personal acts of kindness. A striking tribute was paid to his memory by the large number of Darlington poor present at his funeral.

He was house physician in the Glasgow Royal Infirmary at the time of Lister's experiments in the antiseptic methods. Absolutely self-reliant, always an enthusiast in his profession, he kept himself abreast of modern methods—an example to many men a good deal younger than himself. He was a prominent member and joint secretary with Mr. Rutherford Morison of the old South Durham and Cleveland Medical Society, and in 1889 was President of the North of England Branch of the British Medical Association, and maintained an interest to the last in the work of the Association.

George Middlemiss took an exceedingly active interest in the volunteer movement, joining the force in 1861, and being present at the great review in Edinburgh in 1862 by Her late Majesty Queen Victoria. The volunteer decoration (V.D.) was conferred on him in 1902, and he retired with the rank of surgeon-colonel of the 1st Volunteer Battalion Durham Light Infantry in 1907. He instructed the first batch of regimental bearers who in 1884 obtained the army ambulance certificate, this battalion being the first in the country to obtain it and permission to wear the Geneva badge. He was an honorary associate of the Order of St. John of Jerusalem in England, and gave a good deal of time to the service of that Order as instructor and examiner of ambulance classes. He was also a prominent Freemason. He had held the office of P.J.G.W. of the province of Durham, and was also P.M. of University Lodge, Durham, and Marquess of Ripon Lodge, Darlington.

A cheery, kind-hearted man, full of animal spirits, he was one of the old type of family doctors who practised modern methods, and his loss will be much felt by his old patients. Honest and straightforward to the core, and possessed of great moral courage, he offended some where a more timid man would have succeeded.

WILLIAM GAYTON, M.D.Brux., F.R.S.Edin.,

late medical superintendent, north-western fever hospital.

We regret to record the death, on August 7th, of Dr. William Gayton, a medical man who had a very extensive clinical experience of zymotic disorders and enjoyed the distinction of being the first medical superintendent ever appointed by the Metropolitan Asylums Board. His death was due to angina pectoris and took place at his residence in Finchley in the 75th year of his age. Dr. Gayton was born in Church Street, Spitalfields, where his father was in practice. He received his professional education at the London Hospital, and became L.S.A. and M.R.C.S. in 1860, L.R.C.P. Edinburgh in 1863, M.R.C.P. Edinburgh in 1875, and M.D. Brussels in 1876. He was also a Fellow of the Royal Society of Edinburgh, and had been admitted to the Bar.

On first leaving the London Hospital he was occupied for a few years in private practice, and was then selected by the newly constituted Metropolitan Asylums Board to take charge of its hospital for small-pox at Homerton. He remained in this position for some thirteen or fourteen years, and during their course did allied work of an important character in connexion with the ship for small-pox patients stationed at Greenwich and the camp established at Darenth during the severe outbreak of small-pox in 1881. His next appointment was to the North-Western Fever Hospital at Hampstead. Of this he remained in charge for some twenty-two years, and as one of the board's official lecturers on the subject of contagious fevers became well known to many medical men other than those at work in his immediate neighbourhood.

He retired from the service some nine years ago, and having a few years previously been placed on the Commission of the Peace for London, spent a good deal of his time in the performance of work more or less directly connected with this position. Among other things he served as a member of the Pentonville Prison Committee, and on the Lunacy Committee, and made a hobby of the study of Roman law. In earlier days he had given valuable evidence before the Hospital Commission of 1882, and before the Vaccination Commission of 1889.

He was the author of a work on *The Value of Vaccination as Shown by an Analysis of 10,403 Cases of Small-pox*, which went through three editions, and also of a book entitled *Notes on Small-pox and Its Treatment*. In addition he wrote the article on small-pox in Quain's *Dictionary of Medicine*, and was the inventor of a special form of ambulance for the transport of fever cases.

In private life he took a very keen interest in Freemasonry, being the founder of the London Hospital Lodge, grand registrar of the Essex Hope and Unity Chapter, and at three separate lodges had served a term of office as master. Dr. Gayton was married, and is survived by his wife, as also by four daughters and a son, the latter being at present senior assistant medical officer of Kensington Infirmary.

JOHN CHARLES MITCHELL, M.B., C.M.Edin., D.Sc.,

johannesburg.

The death of Dr. John Charles Mitchell, which took place on July 24th at Johannesburg, South Africa, brings to an end, at the early age of 42, a life of great promise and of no small accomplishment. He was born at Gilmerton,

near Edinburgh, where his parents still reside, and was educated at George Watson's College and the University of Edinburgh. After passing his second professional examination in medicine, Mr. Mitchell for a time devoted himself to science, which held then, as indeed always, a large share of his affections. He took the degree of B.Sc. in 1891 and that of D.Sc. in 1896; meanwhile he was acting as lecturer in zoology in the Agricultural College at Ghizeh, near Cairo, and had made a communication (in 1892) to the Royal Society of Edinburgh on the lateral sense-organs of elasmobranchs. Just before leaving Egypt he carried out an investigation regarding the edible fishes of Lake Menzaleh, and his services were recognized by the Khedive, who decorated him with the Order of the Medjidieh. He returned to Edinburgh in 1898, and finished his medical studies, graduating M.B., C.M. in 1900. At the same time he gained the M'Cosh Graduate's Bursary, by means of which he was able to study at the Pasteur Institute in Paris. He had already (in 1899) gained the Special Certificate in Tropical Diseases and Bacteriology of the University of Edinburgh. Dr. Mitchell next acted as Medical Officer for Plague in Cape Colony when that disease was prevalent there in 1901; later he was made Government Pathologist and Bacteriologist for the Transvaal, but his health was already weakened by attacks of malaria which he had contracted in Egypt, and in 1911 he was led to resign this appointment and to busy himself in his own laboratories in Johannesburg. Dr. Mitchell leaves a widow and five children.

The late Mr. Walter Whitehead.—The remains of the late Mr. Walter Whitehead, whose death was announced in these columns last week, were cremated at the Manchester Crematorium on August 23rd. In addition to Mrs. Whitehead and other members of the family, the funeral service, which was conducted by the Rev. J. B. S. Barrett, Vicar of Pendlebury, was attended by representatives of medical and other institutions with which the late Mr. Whitehead was associated, included Professor Stirling (Dean of the Faculty of Medicine, Victoria University), Mr. H. H. Smith-Carrington and Mr. W. Stones (Board of Management of the Manchester Royal Infirmary), Mr. F. H. Westmacott and Dr. F. Craven Moore (Medical Board, Royal Infirmary), Dr. J. Prince Stallard (St. Mary's Hospital for Women and Children), Mr. N. W. Smith-Carrington (Christie Hospital), Dr. Louis Savatard and Dr. Graham Steell (Hospital for Skin Diseases), Mr. Wilfred Becker (Lock Hospital), Mr. F. H. Smith-Carrington and Mr. G. Whittaker (Manchester Dental Hospital), and Dr. W. Coates, C.B. (East Lancashire Division Royal Army Medical Corps Territorial Force, of which the late Mr. Whitehead was honorary colonel). Among others present were Dr. Reynolds, Dr. J. Brassey Brierley, Dr. E. Luckman (Altrincham), Dr. Worswick, Dr. Owen Jones (Bowdon), Dr. J. Howson Ray, Dr. Hamill, Dr. Colin Campbell (Southport), Dr. P. G. Mould, Dr. Morrish (Penmaenwawr), and Dr. Tytler.

Universities and Colleges.

SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have been approved in the subjects indicated:

Surgery.—*A. C. Brown, *†T. H. Cresswell, V. H. M. A. Dangerfield, *†H. G. Marshall, †H. C. Wright.

Medicine.—*†D. T. Corke, †P. R. Cross, V. H. M. A. Dangerfield, T. H. Edey, *D. Havard, *†A. R. Jennings, *†H. G. Marshall, †O. Marshall, †C. E. Reckitt, *†W. V. Tothill, *†H. C. Wright.

Forensic Medicine.—D. T. Corke, V. H. M. A. Dangerfield, A. R. Jennings, H. G. Marshall, G. W. Maw, S. Rawlinson, W. V. Tothill, H. C. Wright.

Midwifery.—J. C. P. Bayley, A. R. Jennings, H. G. Marshall, W. R. Sadler, H. C. Wright.

* Section I. † Section II.

The diploma of the society has been granted to Messrs. T. H. Cresswell, P. R. Cross, H. G. Marshall, O. Marshall, and C. E. Reckitt.

The third International Pharmaceutical Exposition will be held at Vienna in September under the honorary presidency of Dr. Zenker. The British Representative on the Honorary Committee is Mr. E. White, of London.

Medical News.

A committee of medical men and sanitarians has been organized in Italy for the purpose of investigating *de visu* the miracles alleged to be performed at Lourdes. The party will start from Ventimiglia on September 5th.

The usual courses of instruction in hospital administration for the diploma in public health will be given at the North-Western Hospital, Hampstead, N.W., by Dr. J. MacCombie, and at the Grove Hospital, Tooting Graveney, S.W., by Dr. J. E. Beggs, commencing in the first week of October. The fee for the course is three guineas, and full particulars can be obtained on application to the Clerk of the Metropolitan Asylums Board, Embankment, London, E.C.

The late Sir Jonathan Hutchinson left estate of the gross value of £92,269, of which £39,226 is net personalty. He left his museums at Haslemere, Selby, and Chenies Street, London, to trustees, to whom he had explained his wishes as to their disposal. He left the following direction in his will: "I desire to be buried in the same grave with my late beloved wife. The inscription on the gravestone is to be in addition to the names and dates, 'A Man of Hope and Forward-Looking Mind.'"

A stained-glass window will be unveiled at the ancient church of St. Martin, Ashton-upon-Mersey, on September 7th, to the memory of Jeremiah Renshaw, surgeon, who practised in Ashton-upon-Mersey and Altrincham from 1831 to 1862. Mr. Renshaw was one of the early members of the British Medical Association, in the time of its founder, Sir Charles Hastings. The window has three panels: in the centre is a figure of St. Martin, dividing his coat with the beggar, and on either side are St. Cecilia and St. Elizabeth. The window has been erected by his son, Dr. Charles J. Renshaw, late President of the Lancashire and Cheshire Branch of the Association, and is by Percy Bacon and Brothers, of London.

The fifth annual report of the Eugenics Education Society states that during the year 1912–13 several new branches were founded in different parts of the empire, including one in Manchester, two in New Zealand, and one in Sydney, the last being the first branch of the society to be formed in Australia. In addition, the Birmingham Society for the Study of Heredity has recently become affiliated to the society. The report expresses the opinion that the International Eugenics Congress held in London gave considerable impetus to the eugenic movement in other countries, the committees composed at the time of the congress by the leading eugenists of each country having formed, in four instances, the nucleus of permanent organizations for the purpose of directing eugenic propaganda and research. The effect of the congress upon the eugenic movement in England was equally satisfactory, whilst one immediate result of the awakening of public interest in the question was a sudden increase in the work of the society, which rendered necessary a removal into larger premises. Rooms were accordingly taken in Kingsway House, Kingsway, W.C., into which the staff of the society moved in December last. In order to meet the demands for information constantly received from the masters and mistresses of elementary and secondary schools, the society organized a special conference for educational authorities, which was held at the University of London on March 1st, and was largely attended by headmasters and mistresses from every part of the kingdom. A medical committee and a research committee were also founded, and the former met for the first time in December, 1912, when a subcommittee was appointed to discuss the methods of diminishing the ravages of venereal diseases. A library of eugenic literature for the use of members and associates is now in process of formation, and the society has recently made arrangements for a course of lectures on eugenics to be held at the Imperial College of Science and Technology, South Kensington, where students may train and qualify as lecturers on this subject.

Medico-Legal.

Workmen's Compensation Act.

Report of Medical Examiner.

In a case heard recently in the Court of Sessions, Edinburgh, Lord Guthrie found against the employers on the ground that they had, in error, refused to furnish the complainer with a copy of the report of the doctor who had examined him on their behalf.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

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CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

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2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

ANSWERS.

BRUSHING THE TEETH.

DR. HORACE DOBELL, M.D.(ret.) (Parkstone Heights, Dorset), writes: Will you permit one, who does not pretend to any special knowledge of dentistry, to ask those who do, what appears to him to be a most important question, namely, whether they are not making a serious mistake in promoting so much tooth brushing, especially for young people, as is now the fashion? Throughout the animal kingdom it is the rule that the part of the teeth to be employed in mechanical work shall be protected by a coat of enamel, and that the part of the tooth not so employed shall be free from enamel but protected by gum. Now, although from original flaws in the enamel and from portions being removed by mechanical accidents, caries does sometimes begin in the enamelled portion of the tooth, I believe it to be a general rule that it begins in the unenamelled portion, that is, the portion protected by gum. In young people the small milk teeth are easily so protected; but, as the second teeth come forward it is important that every encouragement should be given to the larger development of gum necessary to protect them. May I suggest that brushing the teeth, which involves brushing the edges of the gums, interferes with such development, and spoils it when it has taken place by wearing it down? I think, therefore, that, for the young at least, all that is necessary or advisable is to well rinse the mouth after meals.

LETTERS, NOTES, ETC.

DR. W. A. SOMERSET (Wolverhampton) states that he recently recommended that the milk for the use of an infant on a voyage to Australia via the Cape should be sterilized in England and kept in cold storage on board the boat. He has now heard that the experiment proved quite satisfactory, and that the milk was in good condition two months after leaving Wolverhampton.

AN ELECTUARY.

MAJOR C. MADDOCK, I.M.S. (Civil Surgeon, Ahmednagar), writes: A Hindu, aged 40, was admitted to hospital for pain in the left side of the chest and dyspnoea on exertion. This pain and shortness of breath had begun seven months earlier without apparent cause and gradually became worse. His relations, therefore, who suspected his wife, with whom he was not living on exactly friendly terms, called a family council and asked her what she had given to her husband to cause this disease. She admitted to having mixed in his food the following prescription: Powdered glass, sulphate of copper, hairs of a cat, moustaches of a tiger, pieces of lizard. The family council, being quite satisfied with their detective work, recommended the husband to go to hospital for treatment, and he came demanding the antidote for the above electuary. He would only stay in hospital twelve days and left quite satisfied that the poison would no longer do him any harm, as he felt so much better.

HERPES AND VARICELLA.

DR. HOWARD WISE (London, W.) writes: With reference to the notes in this week's BRITISH MEDICAL JOURNAL on herpes zoster by Drs. Cressy and Halstead, I should like to say that I have seen several cases during the last week or two. Moreover, for years past I have noticed that a number of cases always occur about September. There have also been a few seen usually about February or March. I have not so far seen it associated with varicella, and I have never yet seen two cases in one household.

DR. EDWARD J. BRUCE (North Leverton, Lincoln) writes: On April 29th a man called, complaining of acute pain in his right side, which on examination I found to be due to a sharp attack of shingles. The attack cleared off in a week to ten days. On May 14th—fifteen days after—I was called in to see his child aged 12 months, and found him to be suffering from a typical attack of chicken-pox. He had then been ill two days. I was somewhat puzzled as to where the infection came from, as there were no cases to my knowledge in the neighbourhood. There is now no doubt that the child was in some way infected from the father, and an examination of the matter from the pustules and blood (by cultures, etc.) from persons suffering from the two diseases might lead to some interesting bacteriological discovery. The fact that there are so many cases of herpes zoster occurring at the present time, followed by varicella in members of the same family, leads one to think that it is due to a specific micro-organism and not to a simple inflammation of the nerve trunks as is generally supposed. I find an attack of herpes clears up sooner if the patient is put on small doses of sodium salicylate, combined with local treatment.

DR. D. OWEN WILLIAMS (Glandovey) writes: I have recently attended a case of herpes zoster in a male, aged 23. It was during the hot spell of weather in July. There was a band of herpes about 6 in. wide, extending on the right side from the spine to the front of the abdomen, along the course of one or two of the lower intercostal nerves. Under suitable treatment it soon recovered, but so far it has not been followed by any case of varicella, either in the house or near by. Previous to this I attended several cases of varicella in an epidemic about five miles from this case, but I do not think that there was any association between them. If it were not for the smarting pain and the unilateral character of the herpes one would think that it was a case of chicken-pox, so much alike were the spots in appearance. This person has been subject to a sore throat and subacute rheumatism. I have seen cases of herpes zoster at different times and places, but never yet associated with varicella, but this case struck me by the similarity of the spots.

DR. G. E. ROBERTS (Twyford, near Winchester) writes: Recently there occurred in my practice a case of shingles of the scalp in an old patient who had previously met with an accident to his head. About a fortnight afterwards a child in the same house developed chicken-pox. There was no other case of chicken-pox at the time in the neighbourhood from which the child could have contracted the disease.

A POSSIBLE CASE OF PELLAGRA.

DR. A. M. PILCHER (Mosborough, Sheffield) reports the following case as possibly one of pellagra. The patient is a female, aged 18. Her mother died of pulmonary phthisis, also her mother and two sisters. The patient's only brother and sister are alive and working, though very delicate and thin. The patient always slept with her mother (only one bedroom) till the age of 12, since then, being motherless, other people adopted her, and she has lived in very comfortable circumstances, and for twelve months up to February, 1913, was more or less in a draper's shop. She never ailed till February, 1913, when she was treated for appendicitis, during this illness and since she has had more or less persistent diarrhoea. In June she got cold and has had a cough ever since, she is now very emaciated, and in the third stage of pulmonary phthisis (T.B. positive). I think her appendicitis was tuberculous, as she has now tuberculous peritonitis and also infected mesenteric glands. Towards the end of July, when I began to attend her during her ordinary doctor's holidays, her hands, wrists, and face, were very sunburnt, but I attached no importance to this as she had been exposed in the garden during glorious weather; but in the middle of August I observed desquamation of the backs of the hands and about 2 in. of the wrists; the desquamation was very coarse in large pieces and very yellowy brown, leaving the skin below quite parched, the face was not so bad owing to her large hat, but there was marked pigmentation under the eyes and in upper sterno-mastoid region and also desquamation. The skin all over the body is always sallow and rough due to sudamina. It might be thought the cases published in BRITISH MEDICAL JOURNAL made me call the case pellagra; but I certainly have not seen a case like this before, and if I had I should not have known what to call it. Beyond the ordinary irritability and worrying, etc., of such tuberculous cases, there are no mental symptoms, no spinal symptoms. There is no trace of maize eating, and, beyond an occasional walk by a running stream in the neighbouring woods, nothing to excite suspicion from flies.

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THE PROFESSION OF MEDICINE.

For many years past it has been the custom of this JOURNAL to publish some time before the opening of the winter session a Special Educational Number. As the years have rolled on the form and contents of the issue have undergone more or less change, but its primary object has remained unaltered. This is to supply parents, guardians, and others in a position to influence the careers of young men and women with information (*a*) as to the course of education required by those who wish to have their names placed on the *Medical Register*, and thereby to become legally entitled to practise medicine and surgery in all or any of their branches; (*b*) as to the places at which the required education can be obtained; and (*c*) as to the universities and other bodies which are entitled to test by examination the knowledge thus acquired, and, if satisfied of its sufficiency, to issue degrees or diplomas entitling their holders to registration by the General Medical Council.

It should be clearly understood that there is no State examination in medicine in this country, and that the control of the State is exercised indirectly through the General Medical Council, which was constituted by the first Medical Act (1858). As originally constituted, the General Council of Medical Education and Registration of the United Kingdom, to give it its full title, consisted of representatives of the universities and medical corporations with certain Crown nominees. By the Medical Act of 1886 this constitution was extended by the admission of direct representatives of the practitioners in the United Kingdom. One of the duties of that Council is to maintain a register of duly qualified medical practitioners. Admission to the *Medical Register* can be claimed by any person producing a medical degree from a university in the United Kingdom, or a diploma from one of the medical corporations in England, Scotland, or Ireland. The General Medical Council issues regulations with regard to the medical curriculum and the examination for the degrees and diplomas granted by the universities and corporations, but these bodies exercise their discretion in interpreting the regulations, and the curriculum, though everywhere the same in its main outlines, varies considerably in detail. The series of articles which follow deal in turn with the General Medical Council; with the various universities and diploma-granting bodies in England, Wales, Scotland, and Ireland; with the schools of medicine in these four countries, and with various institutions in the provinces which, though not medical schools, afford opportunities of work to students of medicine at different periods of their career.

A second object of the Educational Number is to supply the necessary information to those who, having already gained admission to the *Medical Register*, wish to know what further requirements they will have to meet if, instead of engaging in general practice or devoting themselves to one of the well-recognized special branches of medicine, they determine to seek a career in one of its newer provinces—such as public health or psychological medicine—or to enter one of the military services, or to practise their profession in British dominions beyond the seas or in foreign countries. Hence this issue supplies information on such subjects, and also as to the numerous opportunities now offered to those who, while adhering to the practice of clinical medicine or surgery, desire to widen or perfect their knowledge of the growth of special departments. The education of those who propose to pursue the calling of a surgeon-dentist is also described.

These are the only aims which this Educational Number seeks to fulfil, and as a rule the statements made in it relate simply to matters of fact. The intention is to afford information, not to offer advice as to the desirability of entering the medical profession at all, or as to the relative attractiveness of the various paths which those who have passed its portals may pursue.

It has never been easy to assess the attractions of medicine as a profession—that is to say, its attractions not only as an occupation but as a means of livelihood—and at the present moment this would be more difficult than ever. While medicine as an art and science is making immense strides, medicine as a profession is undergoing changes which are not only rapid in their sequence, but may variously be termed either evolutionary or degenerative according to the point of view from which the observer regards them. For this reason little assistance can be afforded to those who are endeavouring to decide for themselves or for others whether medicine is a desirable career to adopt, beyond directing attention to one or two points which possibly might not occur to any one who had had no experience of the profession, but are yet worthy of consideration by those who must look to the calling they adopt to provide a means of livelihood.

In the first place, there arise questions as to the expenditure in time and money. Within living memory the process of becoming a medical man was comparatively simple. A man first served a term of apprenticeship, then "walked" the hospitals for a

while, and finally received a diploma or a degree after passing a relatively simple examination. Since then a definite course of study spread over a term of years has been imposed. This term was formerly four years; it is now five, and at least one degree-granting body refuses to admit to its final examination any one who has not pursued a career as a medical student for six years. This official extension of the curriculum is due to the difficulty of finding time for the adequate study of the increasing number of scientific subjects and practical arts. Hence, notwithstanding the very great improvement made by the medical schools in their arrangements for teaching, the average period necessary, even in the case of young men of industrious habits and excellent mental ability, is nearer seven than six years.[1] This is considerably longer than is required for admission to any other profession. In weighing the advantages and disadvantages of medicine as a career this initial objection must constantly be borne in mind.

In this connexion, moreover, there is an almost inevitable relation between the expenditure of time and the expenditure of money. A medical student can hardly be expected to keep himself during any period of his six or seven years of education, and though the precise sum necessary will vary somewhat according to his personal habits and the expense of life in the town in which his education is pursued, it is in no case likely to fall much short of £1,000. It is true that the existence of scholarships, bursaries, and exhibitions at very many medical schools, and the operations of the Carnegie Fund in Scotland, may enable a diligent and fortunate student to effect important economies in his expenditure, but the estimate given, which is only intended to be a rough approximation, will as a rule hold good. Here, again, medicine stands at a disadvantage, and one which, it is believed, would materially be accentuated if data were available for making a precise comparison between the returns for the capital outlay involved in obtaining admission to various professions. It is easy to deceive oneself as to the financial position of a medical man unless it is borne in mind that to live in a good house and to keep horses or a motor car are commonly deemed necessities of his position.

Another factor which needs to be considered is the exacting nature of a medical man's occupation. Even if he is so placed that he can shut himself off from the public for a certain number of hours, during a twenty-four hours day, his work is not really at an end, for medicine is so progressive an art that any medical man who respects his profession and himself must remain a constant student to the end of his career. Comparatively few medical men, however, are ever in a position to limit the time during which they are at the disposition of the public. Most of them must be ready to answer a call at whatever hour it is received, and however physically or mentally unfit for a fresh task they may happen to feel.

There are, of course, differences in this respect—some branches of medicine are less exacting than others; but no man should enter the profession in the belief that it will rest entirely with himself which branch of it he will eventually adopt. Very few men can hope to become even moderately successful consulting physicians or surgeons, or clinical specialists, unless they have a private income sufficient to tide them over many years of waiting. A successful physician, surgeon, or specialist is made, not born, and the process of making himself is not remunerative.

Those who decide to enter one of the public services, military or civil, will find themselves at once in receipt of a professional income which will provide them with the necessaries and some of the amusements of life so long as they remain unmarried; but they will soon realize that for an uncertain number of years they will not be in a position prudently to undertake further responsibilities. Only in the military services is there any definite system of promotion, and in no service open to medical men are the rates of pay—even in the highest positions of all—such as would be considered attractive in business.

General practice has been, and probably always will be, the mainstay of the vast majority of men who enter the medical profession. This being the case, it should be of all forms of medical work the easiest to describe, but in point of fact it is the most difficult. There have always been more or less well-defined classes of general practice. Family practice, when the practitioner retained his independence and was not under the often hard yoke of the friendly societies in industrial districts, has represented a form of work very much to the liking of many men. A typical family practitioner, of the kind that has hitherto been the backbone of the profession, occupies an excellent position among his neighbours, and is the friend and confidant as well as the medical adviser of many of his patients. He cannot but feel that he is filling a useful place in the world, and he may succeed in making a by no means inconsiderable income. True family practices, however, are already much less numerous than they used to be, and it is open to question whether within a few years they will not have ceased to exist. Furthermore, the acquirement of a family practice, or of a share in one, has almost always meant, and will doubtless continue to mean, the expenditure of a considerable amount of capital, and, owing to this circumstance, many men who take part in the conduct of a family practice have to occupy the position of assistants from beginning to end of their career.

Speaking generally, it may be said that the conditions in which general practice are conducted have for many years past tended to deteriorate. This is due to several causes. It must be remembered that the law does not seek to limit the practice of unqualified persons save in respect of certain matters in which the services of a qualified medical practitioner is necessary to the due administration of public business. Unqualified practitioners, therefore, cannot hold public appointments and cannot sign certificates required by law. Such persons cannot sue for fees, but this last difficulty can easily be turned, and we have recently seen the practice of herbalists among insured persons officially sanctioned under the provisions of an Act of Parliament. The General Medical Council can exercise discipline over legally qualified practitioners, but can do nothing to put down quackery or to check the tendency of the public towards self-medication, or to counteract its belief that each and every portion of the human system is independent of the other, and must be treated by a "specialist" in the diseases of that region. Furthermore, the progress made by State medicine and in civilization as a whole has in some instances practically abolished, and in others taken out of the hands of general practitioners, many diseases which used to be the source of a good part of their income. These circumstances have been operative for several years past, and the National Insurance Act seems certain to bring about still more

[1] Report of the Education Committee of the General Medical Council, Minutes, vol. xliv (1907), p. 291.

rapid changes, as to the ultimate outcome of which it is difficult to feel certain. But on one point there can be little doubt, and that is that if the Insurance Act, when amended and reamended, proves a true success, the tendency will be for a contract form of practice to spread upwards above the classes to which that Act applies it. This will involve a huge increase in the amount of money which the State or local authorities will have to provide, coupled with a tendency to increased State interference between the doctor and his patient. The results, it may be expected, will be an increasing tendency towards a dead and very moderate level in professional incomes and a disappearance of many of the features which have made general practice an attractive and mentally stimulating occupation.

If, on the other hand, the aspirations which led to the introduction of the Act, and to its receiving a blessing from almost all classes before the precise nature of its provisions were known, are not fulfilled, the net outcome will simply be a perpetuation of all the worst features of what was known in the past as contract or club practice. It is perfectly true that hundreds of men who in the past were engaged almost solely in club practice and who at present are occupied almost solely in panel work are entitled to the fullest esteem of their fellows, but it can hardly be believed that a young man who knew in advance that practically nothing but club practice lay before him would agree to spend six or seven years and a large amount of capital in preparation for admission to the ranks of medicine.

A final point, which should not be overlooked by any one who desires to consider comprehensively the desirability of entering medicine, is the attitude of the State towards the profession. Public representatives of the State have always been ready to pat medicine on the back and to declare what splendid citizens its practitioners are, but they have never been prone to give their approval any very tangible form. Furthermore, during the past few years, when the time of Parliament has very largely been devoted to the discussion and passage of domestic measures, the Legislature has shown an increasing tendency to treat members of the medical profession not as independent members of the community, but as servants of the State, and to place upon them all kinds of unpaid work. This disposition, and an allied disposition on the part of public bodies as a whole, can only be opposed by corporate action, and for this reason it is more necessary than ever that medical men should band together, partly, as in the past, with a view to promoting the progress of knowledge, but still more for self-protection.

The effect of many modern measures is so far-reaching that no medical man, whatever his position or particular occupation, can safely assume that he can stand aside from his fellows; besides this, *esprit de corps* is a virtue in itself, and every medical man, young or old, should carefully cultivate it in his own person. For this reason all medical men alike should join the British Medical Association. By so doing they will not only be enabled to assist in the advancement of the science and art of medicine and the dissemination of knowledge, but will place themselves in a position to take part in the formation of decisions to which a yearly increasing importance is attached by the public, and to assist generally in the attainment of the aims of the Association, which are, to quote the words of the Memorandum under which it is constituted, "the promotion of medical and the allied sciences, and the maintenance of the honour and interests of the medical profession."

THE NATIONAL INSURANCE ACT AND NEWLY QUALIFIED PRACTITIONERS.

As has been said in the preceding article, it seems certain that the National Insurance Act must in the long run produce a profound effect on the practice of medicine in the United Kingdom. The Act has introduced into the life of the nation the principle of compulsory insurance against disease, and also gives State approval to the principle of undertaking, in return for an annual payment *per caput*, all medical treatment which, consistently with the best interests of the patient, can properly be undertaken by a general practitioner of ordinary professional competence and skill.

But it has also been suggested that in addition to creating a probability of far-reaching changes in the practice of medicine at some more or less distant date, the Act has already materially altered some of the conditions which a medical man must consider if he engages in general practice. It is worth while, therefore, to consider how far this suggestion is well founded, and whether, if it is, the change affects the immediate prospects of newly qualified men.

It may be said that there are three ways of engaging in general practice: (1) As an assistant; (2) as a partner in a firm; and (3) as an independent practitioner.

The work of a general practitioner—or, more accurately, perhaps, the conditions in which it is performed—differs so greatly from that of a hospital surgeon, physician, or resident medical officer, that no man, however well qualified, can successfully undertake it without first undergoing a kind of pupilage as an assistant to a general practitioner. For this reason nearly all general practitioners begin their work as assistants, and some, owing to lack of capital, remain permanently in that position. An assistant serves his principal under a legal agreement, which as a rule contains provisions requiring him to perform any piece of professional work which his principal may assign to him, securing to him an agreed payment for an agreed period, however many or few patients he may see; and precluding him for a term of years from practising within a certain distance of his principal's residence after he has left his service.

A partner in a firm receives an agreed proportion of the net profits, and, as a rule, is responsible in the absence of the other members of the firm for seeing that the whole of its work is being properly done. The patients who represent that work have not, as a rule, a contract with the firm as a whole, and commonly regard the partner who attends them as if he stood alone, and the latter usually treats them as if he were in fact in that position.

An independent practitioner stands alone. He can act as he thinks fit in the matter of declining or accepting patients, or ceasing to attend them, and can employ assistants to attend any of his patients who do not object. He acquires his practice either by purchasing the goodwill of some other practitioner, or by setting up his tent in what he considers a promising neighbourhood and waiting for patients to come to him.

In very brief outline these are the main conditions in which general practice has been conducted up to the present, and they will remain unaffected by the Act provided that the practices in question include no panel patients. In the contrary case, the conditions will be somewhat modified in regard to all classes of general practitioners described, for whatever arrange-

ment may be made in different areas one thing is inevitable. An insured person under the Act—that is to say, a panel patient—will be not an ordinary patient, but a patient attended under a contract which, whatever else it may contain, must under the regulations conform in general with the following description, irrespective of whether the payment made under it is a yearly payment or a payment for each visit.

Nominally the contract is between the Insurance Committee of the area and each medical man who has agreed to join the panel in that area and to undertake the treatment of insured persons living within its confines; but in effect it practically amounts to a personal contract between the practitioner and the insured person. Furthermore, the contract will not be variable by either of them without the other's consent unless the patient leaves the area to which the contract applies, or the practitioner ceases to practise in that area, or the Insurance Committee intervenes on due cause shown.

It will be a contract for a year, such year usually terminating on the 14th of each January, and will hold good for a further year in default of notice of a desire to abandon it being given to the Insurance Committee by one or other party not later than a month before a date in November fixed upon by the Committee for the revision of panel for the ensuing year. On neither side will the contract be always voluntary, for if an insured person omits to exercise his right to select a medical man for himself he may be assigned to a practitioner by the Committee, and a practitioner on the panel must accept a patient assigned to him by the Committee, provided that the assignment is, so far as practicable, made under arrangements approved by the practitioners on the panel.

Perhaps, however, the point in the contract of chief importance is this. The treatment which the practitioner will contract to provide is not treatment by deputy, but personal treatment by himself, and he will be entitled to employ another person to carry out his contract with each patient only when he himself is prevented for the moment from doing so, either by the urgency of other professional duties, or his absence from home, or other "reasonable" cause. Furthermore, if he does not attend the patient at the patient's residence, he must undertake to give attendance on application at an arranged place and hour, and he will not be entitled to vary either place or time without giving not less than seven days' notice to the Committee and to each of his panel patients.

A contract of this nature is already in operation in nearly every district, and if a really strict interpretation is placed upon it, it seems likely to affect the conditions in which general practice has hitherto been carried on, in several ways. The discretion of a practitioner in the matter of choosing the work on which to employ his assistant will be more restricted than hitherto, since he must be prepared to give a specific reason, if challenged, for assigning attendance on any case or on any occasion to his assistant acting as his deputy. This might seriously interfere with the usefulness of assistants should the Insurance Committee of the area seek to enforce the strict letter of the contract, and might sometimes place the assistant in a difficult position.

The hands of partners will be somewhat more tied than they are at present in the matter of the division of their labours according to the needs of the moment and their own convenience. A panel patient having a contract right to receive treatment at the hands of a given individual may prove less ready to be transferred to the care of a partner than a patient who merely has a general understanding with the firm. Likewise one of two partners may have a strong objection to undertaking contract work on the terms and conditions offered under the National Insurance Act, but it seems clear that he will nevertheless at times have to do the work as the deputy of his partner if the latter is unable to attend to it himself.

An independent practitioner who is on a panel, in addition to the liability of having to put upon his list insured persons he would refuse to attend as private patients, will, if recent experience is any guide, find it increasingly difficult to obtain a deputy or locumtenent when he wishes to hand over his practice for a longer or shorter time.

The acquirement of a practice by purchase will still be possible, and, so far as concerns practices catering mainly for the class from which insured persons are drawn, it may conceivably be a slightly less risky undertaking than formerly. The insured persons on the retiring practitioner's list will have a right to decline to be transferred to the newcomer, but if they consent they will have to remain his patients until the end of the year's contract. On the other hand, it may not be possible to sell such practices on as good terms as before, because the attitude of an insured person towards his medical attendant is not likely to be quite the same as that of a private patient of the same class, and refusals on the part of insured persons to oblige their medical attendant by allowing themselves to be handed over to his successor are not unlikely to be frequent.

Acquiring a practice by the process of sitting down and waiting for it, or by "squatting" as it is sometimes called, will also continue to be possible, but on the whole seems likely to be rendered more difficult than before. Except in totally new neighbourhoods, such as rapidly growing suburbs, the ordinary method of acquiring a practice by "squatting" is for the practitioner to lay himself out to attend as many of the poorer classes as possible, in the hope that little by little the character of his practice may improve. In future, however, he will be handicapped by the fact that if he somehow manages to make his presence favourably known in the area, most of his prospective patients will be bound to an already established practitioner for a time which will vary with the period of the year at which the newcomer commences the process of squatting. He can get his name put on the panel, but even if he has an active member on the Local Insurance Committee as a friend at court, this fact will not be of material assistance to him, since the only patients that such committee can assign to him forthwith will be persons of the insured class who have newly arrived in the area and have not chosen a doctor for themselves, or old residents whom for some reason or other it is necessary to distribute, or the "undesirables" who have been refused by the other practitioners and have not yet been assigned.

At the present moment a certain amount of successful "squatting" in connexion with panel work seems to be going on in certain areas where the number of insured persons is quite out of proportion to the number of practitioners prepared to undertake their treatment. In some such areas the local committees may be disposed to favour newcomers in the distribution of hitherto unassigned patients, but as soon as matters have settled down throughout the country the prospects of the "squatter" seem likely, for the reasons stated, to be even less hopeful than they are at the present time.

THE GENERAL MEDICAL COUNCIL.

The curriculum through which a student of medicine or of dentistry must pass is determined in its general features by the General Medical Council, which holds its sessions at its head quarters in London (299, Oxford Street, London, W.), and has branch offices in Scotland (54, George Square, Edinburgh), and in Ireland (35, Dawson Street, Dublin).

The Council prescribes and from time to time varies the terms upon which aspirants shall be recognized as medical students, the education which they must receive, the minimum number of years for which it must be carried on, and the general nature of the examinations by which its proficiency shall finally be tested by the universities and corporations which have authority to issue degrees, diplomas, and licences entitling the holder legally to practise as a medical man or as a dentist.

Regulations in respect of these matters have been compiled, and a summary follows of those which have more particular application to the intending medical student: it should be carefully studied. The primarily important things to note about the regulations are that they entail (1) the production of proof of a certain degree of proficiency in subjects of preliminary or general education; (2) application for registration as a medical student either at the head-quarter office in London or at one of the branch offices in Edinburgh and Dublin, although this latter requirement is not invariably enforced.

Preliminary Education.

The subjects of which proof of efficient knowledge must be produced by applicants for registration as medical students are as follows:

(1) *English:* Grammar; paraphrasing; composition; questions on English history and geography.

(2) *Latin:* Grammar; translation into English from unprescribed Latin books; translation into Latin of a continuous English passage, and of short idiomatic English sentences. In the case of natives of India or other Oriental countries, whose vernacular is other than English, a classical Oriental language may be accepted as equivalent to Latin.

(3) *Mathematics:* Arithmetic; algebra, including easy quadratic equations; geometry, including the subject matter of Euclid, Books i, ii, and iii, and simple deductions.

(4) One of the following subjects:

(*a*) *Greek:* Grammar; translation into English from unprescribed Greek books; translation into Greek of short idiomatic English sentences; or

(*b*) *A modern language:* Grammar; translation into English from unprescribed books; translation of a continuous English passage, and of short idiomatic English sentences.

The Council does not hold an examination itself in these subjects, but expects a candidate to prove his knowledge of them by the production of evidence either that he holds a degree in Arts or that he has passed one or other of the tests imposed by various educational bodies which it recognizes for this purpose. Such tests include the matriculations of universities at home and abroad, and the "local examinations" held by the Universities of Oxford and Cambridge, the "leaving" and other examinations held by the Education Departments in Scotland, Ireland, and Wales, as also the examinations of the College of Preceptors and the Educational Institute of Scotland. In regard, however, to nearly all these tests the Council qualifies its acceptance of them by some condition, and these vary so considerably and are so numerous that the leaflet issued by the Council should itself be studied.

Registration of Medical Students.

In addition to showing that he has passed one of these examinations, any person applying for registration as a medical student must (1) produce satisfactory evidence that he has attained the age of 16 years; (2) show that he has commenced medical study at a university or school of medicine, or at a teaching institution recognized by one of the licensing bodies and approved by the Council. The commencement of professional study will not be reckoned as dating earlier than fifteen days before the date of registration.

Application for registration should be addressed to the Registrar for the division of the United Kingdom in which the applicant is residing—England and Wales, or Scotland, or Ireland. It must be made on a special form, which can be obtained on application at the offices either of the General Medical Council itself or of one of the various licensing bodies and medical schools, and when forwarded it should be accompanied by the certificates as to age and general education.

The regulations with regard to registration apply equally to medical and dental students, with the exception that in the case of the latter pupilage with a registered dental practitioner may be regarded as a commencement of professional study, and that applications for registration should be addressed to the London office only.

Professional Education.

The rule is that it is only from the date which appears against his name in the *Students' Register* that the medical student's career officially begins; thereafter five years must pass before he can present himself for the final examination for any diploma which entitles its lawful possessor to registration as a qualified medical practitioner under the Medical Acts.

There are, however, certain important exceptions to this rules: thus (1) to meet the circumstances brought about by the dates at which sessions of the medical schools commence and end, the close of the fifth year may be reckoned as occurring at the expiration of fifty-seven months from the date of registration. (2) Graduates in arts or science of any university recognized by the Medical Council, who have spent a year in the study of physics, chemistry, and biology, and have passed an examination in these subjects for the degrees in question, may be held to have completed the first of the requisite five years. (3) The Council will accept as six months of that year six months passed, subsequent to obtaining a certificate in general education, as a student of chemistry, physics, or biology at any teaching institution recognized by a licensing body and approved by itself. In any case the period of five years must be one of bona fide study, and during its course education in the following subjects must be pursued and examinations passed:

(i) Physics, including the Elementary Mechanics of Solids and Fluids, and the rudiments of Heat, Light, and Electricity.
(ii) Chemistry, including the principles of the science, and the details which bear on the study of medicine.
(iii) Elementary Biology.
(iv) Anatomy.
(v) Physiology.
(vi) Materia Medica and Pharmacy.
(vii) Pathology.
(viii) Pharmacology and Therapeutics.
(ix) Medicine, including Medical Anatomy and Clinical Medicine.
(x) Surgery, including Surgical Anatomy and Clinical Surgery.
(xi) Midwifery, including Diseases peculiar to Women and to newborn Children.
(xii) Theory and Practice of Vaccination.
(xiii) Forensic Medicine.
(xiv) Hygiene.
(xv) Mental Disease.
(xvi) Anaesthetics.

The practical study of Subject (xi) shall not commence until the student has held the offices of Clinical Clerk and Surgical Dresser and the work done in connexion with it must follow prescribed lines. The Council also expects that study of the Subjects vii to xvi shall extend over not less than twenty-four months subsequent to success at the examination in Subjects iv and v. It also now recommends licensing bodies to require of candidates at their final examinations evidence of instruction in the administration of anaesthetics and in infectious diseases, and of sedulous attention in hospital wards, out-patient departments, and *post-mortem* rooms, as clerks and the like.

Wherever the first of the five years is spent, the next three must be passed at one of the schools of medicine recognized by any of the licensing bodies enumerated in the schedule to the Medical Act of 1858. The final or fifth year the Council recommends should be devoted to clinical work at any public hospital or dispensary at home or abroad which is recognized by any of the licensing bodies.

Special Considerations.

The requirements of the General Medical Council in respect of the education of those who desire to enter the medical profession have now been given in sufficient detail, but before leaving this part of the subject the steps

which the aspirant should take may finally be rehearsed in their due order:

(1) Pass an examination in arts;

(2) Enter himself at a medical school or other scientific institution recognized by the Council;

(3) Get himself registered as a medical student;

(4) Study for a minimum of five years certain prescribed subjects;

(5) Meanwhile pass sundry intermediate examinations, and, finally, at the end of the fifth year, one which will entitle him to receive at the hands of a licensing body a legal authority to practise.

The Arts Certificate.—There are, however, other important considerations; thus, it is not a matter of indifference what certificate of proficiency in general education, or arts, the student obtains. The General Medical Council, it is true, will accept any of the large number of tests to which reference has been made, and this, too, is the case with practically all the college corporations in England, Scotland, and Ireland. But all the licensing bodies are not equally accommodating; some of the universities require that their own ordinary matriculation should be passed, others have special matriculation examinations for those wishing to join their medical faculty, and a third and larger number will accept any arts degree and certain matriculation examinations, as well as several other of the tests entered in the Council's list.

The first thing, therefore, the future medical student should, if possible, decide is at what degrees or diplomas he intends to aim, and then find out what arts certificate will be required. If he cannot decide the question in advance, the best course probably would be to matriculate at London University, choosing as two of his optional subjects Latin and one other language, so as to meet the requirements of the General Medical Council with respect to general education. It is a troublesome examination in many respects, but gives a wide choice of subjects, and has the advantage of being accepted as sufficient testimony to general education by a larger number of bodies than is any other analogous examination.

The Minimum Period.—Another point to remember is that the period of five years mentioned is a minimum; a good deal more will almost certainly be required even by the man of good abilities and reasonable industry. Besides these qualities, a student to obtain a registrable qualification in the minimum period of five years, or fifty-seven months, must have a considerable amount of good luck; in other words, he must keep in good health through every term, and never fail at a single examination. Otherwise it is almost inevitable that his career as a student should be prolonged for a greater or smaller number of months beyond the possible minimum. Thus, for instance, a student before presenting himself for any examination has to get what is called "signed up" for the subjects covered by that examination: this means that his teachers have to certify that he has attended the required number of lectures or classes in the subjects in question. If, however, the student happens to be ill during the term when such lectures or classes are taking place, he may miss a sufficient number of them to make it impossible for him to be "signed up." Then, again, should a student fail to satisfy the examiners at some examination, he cannot present himself again for re-examination for at least three months. This fact generally entails further consequences, because, apart from the student's success at the next stage in his career being imperilled by his having to give up some time to restudying the subjects in which he has failed, the Examining Boards in the majority of instances insist upon a definite interval elapsing between a student passing one examination and his presenting himself for that which should follow it. Then, again, many Boards refuse to recognize lectures and classes which have been attended at a date anterior to that at which the student has passed the requisite examination in earlier subjects. Failure at an examination may thus not only mean deferment of the date of examinations, but deferment of the commencement of the student's study of certain subjects. It is thus exceedingly easy for a student to fail to qualify in five years, and, as a matter of fact, the vast majority of students take very much longer than that period.

Furthermore, in speaking of the minimum period, it is to be remembered that that time is only sufficient to gain a registrable qualification, such as a Bachelorship of Medicine or Surgery or a diploma of one of the Royal Colleges. These are quite sufficient for the purposes of general practice, or for entering the Services, etc., but those who wish to take a higher qualification—for instance, the F.R.C.S.Eng.—must prolong their work for another year or more. So, too, must in some cases they who desire to convert their Bachelorship into an M.D. This may entail further formal examination, but at some universities the M.D. is obtainable on presentation of a thesis when the Bachelor has attained a certain age, and has practised his profession for a certain number of years. However, a student's career proper may be considered, perhaps, to have ended at the time he obtains his first registrable qualification, for while preparing himself for any further tests he can, and usually does, hold some junior appointment which more or less covers his expenses.

The Normal Course.

In conclusion, it may be convenient to sketch the general fashion in which the student will pass his five years or more, but discussion of this need not be prolonged, because once a student has entered at a school, and chosen the degrees or diplomas at which he wishes to aim, the dean of the school will guide his steps in every particular.

Whatever the precise final goal, the path thereto is in all cases identical in broad outline. Practically it is divided into three stages, the conclusion of each being marked by an appropriate examination. In the first stage the student acquires a more or less extensive knowledge of the preliminary sciences — chemistry, physics, and biology; in the second he studies anatomy and physiology; and the third he devotes to the real work of his future life—medicine and surgery and their branches. During each of these stages the student must attend not less than the prescribed number of lectures and classes to ensure getting "signed up" in the subjects of the stage, and also do a very considerable amount of practical work. As for the examinations at the end of the stages, these are known by different titles by different examining bodies, but "preliminary science," "intermediate," and "final" are in common use. Some bodies demand that the student should pass in all the subjects of one stage at one time; others allow the candidate to present himself in each of the subjects separately, thus multiplying the actual number of examinations, but limiting their scope. There are also differences in the requirements of the different licensing bodies as to the length of each stage, but practically all demand that the second shall be longer than the first, and the third not shorter than the second. By the length of the allotted stage the candidate may gauge the comparative importance the licensing body attaches to the subjects within the stage and the difficulty of the tests it will impose, and he may feel certain that the time allotted is none too much.

In any case it should be the aim of the student to get through his first two stages as quickly as his abilities and the regulations will allow; and, as a rule, he should have completed the first stage by the end of his first year, and may hope to complete the second stage not later than the end of his third year. He will then have two years in which to prepare for his final examination, and it will prove a very crowded period, for he has to get into it not only medicine, surgery, and midwifery proper, but many other allied subjects, such as pathology and bacteriology, forensic medicine, gynaecology, and therapeutics. In the first of the final two years he may be able to complete his formal lectures, and thus have the fifth year for entirely practical work and private study; during those two years, too, he will take part in the work of his hospital by holding clerkships and dresserships in the wards and out-patient department for the periods laid down by the licensing bodies. Then, at length, after perhaps a few weeks of special coaching, he will be ready to present himself for his final examination, which the regulations of most bodies will allow him to divide into two or more parts. The final examination passed in its entirety, he will be able to claim registration as a qualified medical practitioner at the hands of the General Medical Council, and become an independent personage. There is still room for him to continue a student's career if he will, for, apart from the higher qualifications to which reference has been made, it may seem to him worth while to devote time to acquiring greater

knowledge of some particular branch of medicine, such as ophthalmology or laryngology, or to undergo the courses of study necessary to obtain a diploma of special proficiency in questions of public health (page 630) or in tropical medicine (page 628). Points such as these, however, the student will be fully capable of deciding for himself when he has reached the stage to which our account has now brought him.

The next matters to be considered, therefore, are the requirements in detail of the different licensing bodies, and what they have to offer in the way of degrees and diplomas.

The English Universities.

THERE are now eleven universities in England and Wales, and ten of them have fully developed medical faculties, of which an account is here given. The exception is the University of Wales, whose constituent colleges are those of Aberystwith, Bangor, and Cardiff. It is in a position to grant degrees, and has laid down a six years' curriculum for candidates for the M.B. degree, but the arrangements of its medical faculty are not yet quite complete. It already provides, however, at the School of Medicine at Cardiff—of which an account will be found at page 614—thorough training in the work of the first three or four years.

UNIVERSITY OF OXFORD.

THE professional degrees conferred by this university are those of Bachelor of Medicine (B.M.), Bachelor of Surgery (B.Ch.), Doctor of Medicine (D.M.), and Master of Surgery (M.Ch.). It also grants a diploma in State Medicine and a diploma in Ophthalmology. On receiving the B.M. the candidate is entitled to registration by the General Medical Council. In favourable circumstances this degree and the B.Ch. may be obtained in six or seven years from matriculation. Before receiving either, however, the candidate must have taken a degree in arts (B.A.), for which three years' residence within the university is necessary. This, however, does not necessarily mean deferment of professional study for that period; for some of the subjects chosen for the final stage of the arts course may be the same as those in which examinations would in any case have to be passed for the medical degrees.

THE B.A. DEGREE.

A candidate may obtain the B.A. degree in either of the following ways:

(*a*) By passing Responsions (or one of the examinations which are accepted as equivalent), Moderations, a Scripture examination, or, in the event of a candidate objecting, an examination in some substituted book; and the Final Pass School in three subjects, two of which may be the same as two in the preliminary examinations in natural science.[1]

(*b*) By passing Responsions, an additional subject in Responsions, the Scripture examination, some of the preliminary examinations in the Natural Science School,[1] or the Preliminary Examination and the School of Jurisprudence, or the Honour School of Mathematics in the first public examination; and one of the final honour examinations.

Responsions and the additional subject may be passed before a candidate is a member of the university;[2] Moderations and Scripture can be passed in or after the second term; the final pass school may be taken any time after Moderations; a final honour school may be taken at the end of the third or within the fourth academical year—that is, twelve or sixteen terms respectively; the preliminary examinations of the Natural Science School may be taken as soon as Responsions have been passed.

PROFESSIONAL DEGREES.

To obtain the B.M., B.Ch. degrees the candidate must first pass in four of the subjects of the Preliminary Examination of the Natural Science School—namely, physics, chemistry, zoology, and botany.

He then has two further examinations to pass—the First M.B. and the Second M.B. These take place twice a year, the first on the Thursday, the second on the Wednesday, of the eighth week of Michaelmas and Trinity terms. Every candidate at the First M.B. is examined in human anatomy and also in physiology and in organic chemistry, unless he has previously taken a first or second class in the two latter subjects in the Natural Science School. Once he has passed this examination he can, on production of certain certificates, be examined as soon as he pleases in pathology, forensic medicine, and hygiene, materia medica, and pharmacology[3] (subjects of the second examination), but cannot present himself for the remaining subjects—medicine, surgery, and midwifery—until the twenty-fourth term from the date of his matriculation, and not until a period of at least twenty-two months have elapsed from the date of his passing the first examination, and he must take all the three subjects at one and the same time.

D.M. AND M.CH. DEGREES.

A Bachelor of Medicine who wishes to proceed to the M.D. must have entered his thirty-ninth term and must present a dissertation for approval by the appointed examiners. If a candidate for the M.Ch., he must have entered his twenty-seventh term and must pass an examination which is held in June.

TEACHING.

The several colleges provide their undergraduate members with tutors for all examinations up to the B.A. degree. In addition, the university provides certain courses of instruction, including lectures, demonstrations, and practical work, which cover all the subjects of the Preliminary Examination and First M.B., and in part those of the Final Examination. For the diploma in State Medicine and the diploma in Ophthalmology certain of the courses can be taken in Oxford.

SCHOLARSHIPS.

The several colleges grant scholarships of £30 a year, tenable for four years, in natural science, chemistry, physics, and biology. Exhibitions of varying value are also awarded in these subjects. Particulars can be obtained on application to the college tutors. A Radcliffe Travelling Fellowship of £200 a year, tenable for three years, is conferred annually; candidates must have taken the B.M. degree. A Philip Walker Studentship in Pathology of £200 a year, tenable for two years, is awarded biennially for the encouragement of research in pathology, as also are the Rolleston Memorial Prize, for research in natural science (including pathology), and the C. Theodore Williams Scholarships in Anatomy and Physiology, and in Pathology, of the value of £50 each, tenable for two years.

FEES.

An annual fee of £2 10s. is paid to the university for the first four years, being reduced to £1 when the B.A. has been taken. For the degree the fees are—the B.A., £7 10s.; the B.M. and B.Ch., £14; the D.M., £25; the M.Ch., £12. College fees, varying in amount, are paid for the first four years of membership and in taking degrees. Tuition fees vary from £21 to £50. The minimum annual cost of living during the three university terms may be regarded as not less than £120.

UNIVERSITY OF CAMBRIDGE.

THE professional degrees given by this university are those of Bachelor of Medicine (M.B.) and Bachelor of Surgery (B.C.), which entitle the possessor to admission to the *Register* by the General Medical Council, and the higher degrees of Doctor of Medicine and Master of Surgery. It also grants diplomas in State Medicine and Tropical Medicine to persons who are registered medical practitioners, but not necessarily graduates of the university.[4] A candidate for the M.B., B.C. degrees need not possess a degree in arts; it is sufficient if he has passed the *Previous examination* or some other examination accepted by the university as its equivalent.

[1] The four subjects of the medical preliminary examinations are four of the subjects in the natural science preliminary, and can be commenced directly after passing Responsions.

[2] Membership is constituted by matriculation and by becoming a member of a college or hall, or a non-collegiate student.

[3] A candidate who passed in materia medica and pharmacy under the old regulations in the First Examination before April 14th, 1909, is exempt from the examination in materia medica and pharmacology in the second examination.

[4] See pp. 631 and 628.

PROFESSIONAL EXAMINATIONS.

To obtain the M.B., the candidate must pass three examinations, of which the latter two take place twice a year—in Michaelmas and Easter terms; those who are finally successful receive the B.C. degree without further examination.

First M.B. or Preliminary Examination in Science.—This comprises (1) chemistry, (2) physics ,(3) elementary biology. The parts may be taken together or separately. In either case the candidate before admission to examination must have satisfied the requirements in respect of the *Previous examination*, paid the matriculation fee, and entered on his first or some later term of residence. The examination is held three times a year—in October, December, and June.

Second M.B.—This examination, which cannot be passed until the first examination has been completed comprises Part I, human anatomy and physiology; Part II, elementary pharmacology, including pharmaceutical chemistry and the elements of general pathology. No one may enter Part II unless he has passed Part I. The candidate must be signed up in both subjects and have dissected for six months.

Third M.B.—This is divided into two parts, to neither of which is the candidate admitted until he has passed the examinations previously mentioned. A candidate for the first part, which deals with surgery and midwifery, must be signed up in these subjects and have completed two years of hospital practice.

Before admission to the second part the candidate must have completed five years of medical study and be duly signed up in all subjects. He must also possess certificates showing that he has fulfilled all the recommendations as well as the requirements of the General Medical Council. The examination consists of principles and practice of physic, pathology, and pharmacology.

Act for the M.B.—Before receiving his degree, a candidate who has been successful at the Final M.B. has to write a thesis. This he reads in public on an assigned day, and is then questioned concerning it and other subjects of medicine by the Regius Professor of Medicine. If approved at this test he is then certified as having "kept the Act" satisfactorily, and in due course receives his degree. Medical degrees may be taken in absence, the candidate sending a thesis to the Regius Professor of Physic, which is laid before the Board.

THE HIGHER DEGREES.

The M.D. degree may be taken by an M.B. of three years' standing, after keeping a further Act and writing a short extemporary essay, in which he may deal at his choice with either medicine, physiology, pathology, or State medicine. The M.C. degree may be granted to a candidate who has qualified for the B.C. at least three years previously; he is then examined in pathology, surgery, surgical anatomy, and surgical operations, or submits books or writings of his own which constitute original and meritorious contributions to the science and art of surgery.

FEES.

In addition to college fees, tutorial fees, and the expenses of living, the following examination fees are payable: First M.B., £4 4s.; Second M.B., £4 4s.; Third M.B., £9 9s. For schedules referring to the examinations, lists of schools recognized by the university, and other information, application should be made to the University Registrar.

UNIVERSITY OF LONDON.

UNDER the regulations of the University of London, the degrees obtainable in the Faculty of Medicine are those of Bachelor of Medicine and Surgery, Master of Surgery in two branches, and Doctor of Medicine in six different branches. The university has its own matriculation examination, and this is of so peculiar a kind that candidates should secure and carefully study the booklets relating to it.

In no circumstances is a degree granted to any one in less than three years after the date at which he passed the Matriculation Examination or obtained registration in some other way, and unless they are already registered medical practitioners of a certain age and standing, all students must pass not less than five and a half years in professional study subsequent to matriculation. Four and a half of those years must be passed at one or more of the medical institutions or schools at home or abroad recognized by the university for the purpose; and not less than one school of the university itself.

PROFESSIONAL EXAMINATION.

M.B., B.S.—There are three examinations, the two last being subdivided.

The First Examination, which takes place twice in each year, covers inorganic chemistry, general biology, and physics, there being two papers, a practical test and a possible viva voce test in each subject. The names of successful candidates are placed in alphabetical order, with a note as to any subject in which a candidate has distinguished himself.

The Second Examination, Part I, also takes place twice a year, usually in March and July. It cannot be passed within six months of the passing of the First Examination. It covers organic and applied chemistry, the candidate's knowledge being tested as in the earlier examination. It is a pass examination, but a mark of distinction may be won.

The Second Examination, Part II, also takes place twice a year, about the same dates. Candidates must have passed the First Examination at least eighteen months previously, and also have passed Part I of the Second Examination for Medical Degrees. The subjects of examination are anatomy, physiology, and pharmacology, the tests being written, oral, and practical. Candidates who fail in one subject may offer themselves for re-examination in that subject alone if the examiners think fit. After passing this examination a candidate may, if he please, enter in the following year for the degree of B.Sc.(Honours) in physiology or human anatomy and morphology, provided he has completed a course of study approved for that examination in a school or under a recognized teacher of the university.

The Third M.B., B.S. Examination takes place twice a year—in October and May. No candidate is admitted to it within three academic years from the date of his completing the Second Examination.

The subjects are medicine (including therapeutics and mental diseases), pathology, forensic medicine and hygiene, surgery, and midwifery and diseases of women. They may be divided into two groups, one comprising medicine, pathology, forensic medicine and hygiene, and the other surgery and midwifery and diseases of women. Either group may be taken first at the option of the candidate, or the groups may be taken together. Only candidates who show a competent knowledge of all the subjects comprising a group are passed. There is no separate examination held for honours, but in the list of successful candidates the names are divided into an honours list and a pass list, in each of which the names are placed in alphabetical order, and a university medal may be awarded the candidate who has most distinguished himself in the whole examination.

THE HIGHER DEGREES.

M.D.—An examination for the M.D. is held twice yearly—in December and July. Every candidate must have passed the examination for the M.B., B.S., unless he became M.B. before May, 1904. He may present himself for examination in any one of the following branches: (1) Medicine, (2) pathology, (3) mental diseases and psychology, (4) midwifery and diseases of women, (5) State medicine, (6) tropical medicine; and, if he wishes, may pass also in another branch at a subsequent examination.

The period that must elapse between acquiring the M.B. and sitting for the M.D. in any branch varies with the nature of the candidate's previous work between one year and two years, and in all cases evidence must be afforded of special study of the subject chosen, whatever the branch; both written and practical examinations must be passed, though exemptions can be obtained from the former in exceptional circumstances.

In each branch the scheme of examination is the same: two papers on its special subject, a paper on an allied subject—for example, medicine in the case of branch (4), pathology in branch (1)—an essay on one of two suggested topics connected with the special subject, and a clinical or other practical test.

In any branch of the M.D. Examination a gold medal of the value of £20 may be awarded.

M.S.—The regulations with regard to the Mastership in Surgery are of a corresponding kind, but there are only two branches in which it may be obtained—General Surgery and Dental Surgery.

FEES.

For Matriculation: £2 for each entry.

First Examination: £5 for each entry to the whole examination. For re-examination in one subject the fee is £2.

Second Examination, Part I: £2 for the first and each subsequent entry.

Second Examination, Part II: £8 for each entry to the whole examination. For re-examination in one subject the fee is £4.

M.B., B.S. Examination: £10 for each entry to the whole examination, and £5 for examination or re-examination in either group.

M.D. and M.S. Examinations: £20 and £10 on re-examination.

UNIVERSITY OF DURHAM.

To its own graduates, who may be of either sex, this university grants the degrees of Bachelor and Doctor of Medicine (M.B. and M.D.) and Bachelor and Master of Surgery (B.S. and M.S.); it also grants special degrees and diplomas in State Medicine, Psychiatry, and Dental Surgery.[1] To become a graduate, however, at the university it is not necessary to pass the major portion of the five years' curriculum within its precincts, or even to commence that period by matriculation. It is sufficient if, before he presents himself for his final examination, the candidate has passed at least one year in study at the University of Durham College of Medicine, including the practice of the Royal Victoria Infirmary in the same city. The earlier examinations may be passed while a student elsewhere, but not less than a year must elapse between the time that the student satisfies the requirements of the university as regards matriculation and his presenting himself for the Final M.B., B.S. Examination.

MATRICULATION.

The university has its own matriculation examination, but accepts the following as an equivalent:

A degree of arts of any university in the British Empire.
The examination for Responsions of the University of Oxford.
The Previous Examination of the University of Cambridge.
The Matriculation Examination of the School Leaving Examination of the University of London.
The Preliminary Examination of the Joint Board of the Scottish universities.
The Joint Matriculation Examination of the Victoria University of Manchester, the University of Liverpool, the University of Leeds, and the University of Sheffield.
The Matriculation Examination of the University of Wales.
The Preliminary Examination of the University of Birmingham.
The Senior Local Examination of the University of Oxford, provided the subjects required by the university are included.
The Senior Local Examination of the University of Cambridge, provided the subjects required by the university are included.
The Higher Certificate Examination of the Joint Examination Board of the Universities of Oxford and Cambridge, provided the subjects required by the university are included.
The Leaving Certificate of the higher grade of the Scottish Education Department, provided the subjects required by the university are included.
The Senior Certificate or the Honour Certificate Examination of the Central Welsh Board, provided the subjects required by the university are included.

In addition, those who have satisfied the requirements of the General Medical Council, as regards general education, by some test other than one of the above, will be exempted from matriculation, provided that they satisfy the Durham examiners in any three of the subjects set by the Durham Matriculation Examination, exclusive of religious instruction and elementary mathematics. One of the three subjects must be a language other than English.

PROFESSIONAL EXAMINATIONS.

There are four professional examinations for the M.B., B.S. degrees. They are held twice a year—in March and June. The first deals with elementary anatomy and biology, chemistry, and physics; the second with anatomy and physiology; the third with pathology, materia medica and pharmacy, elementary bacteriology, medical jurisprudence, and public health. At the final M.B., B.S., the candidate is examined in medicine and clinical and psychological medicine; surgery and clinical surgery; midwifery and diseases of women and children; clinical and practical gynaecology. From March, 1914, onwards, the subject of therapeutics will also be included in this examination.

M.D.—A Bachelor of Medicine who wishes to proceed to this higher degree must be of at least two years' standing, and satisfy the university that he knows either Greek or German. He then submits a typewritten essay dealing with original work or observation of his own, and is examined in its subject. If the candidate is not an M.B. of the university, he must be a practitioner of fifteen years' standing and submit to special tests.[2]

B.S.—A candidate for this degree must have passed the examination for the M.B. of the university, and have attended courses on operative surgery and regional anatomy. He must then perform operations on the dead body before the examiners.

M.S.—Candidates for this degree must, like those for the M.D., satisfy the authorities as to their knowledge of Greek or German, and must have been engaged in practice for at least two years subsequent to becoming B.S. Durham. They are submitted to an examination which covers the whole range of surgical knowledge.

FEES.

The following fees are payable: Matriculation or its equivalent, £1 10s.; First, Second, and Third M.B. Examinations, each £5; Final M.B., £10; M.D., B.S., and M.S., £5 for each examination and £6 6s. for each degree. Further information respecting the examinations and degrees may be obtained from Professor Howden, at the University of Durham College of Medicine, Newcastle-on-Tyne.

VICTORIA UNIVERSITY OF MANCHESTER.

THIS university grants the four ordinary degrees in medicine and surgery, M.B. and Ch.B. and M.D. and Ch.M.; a diploma and a degree (B.Sc.) in public health; a certificate in factory and in school hygiene; a diploma in psychological medicine; and a degree and diploma in dental surgery. Candidates for degrees must pass the special Matriculation Examination prescribed by the Faculty of Medicine (or some equivalent examination accepted in lieu thereof; see the prospectus of the Joint Matriculation Board), and study at the university itself for at least two years of the five years' curriculum, one such year being subsequent to the passing of the First M.B. Examination. The Matriculation Examination comprises (1) Latin, (2) mathematics, (3) the English language, its literature and history; (4) English history; (5) two subjects at choice, one of which must be a language approved by the Joint Board, the other being elementary mechanics, *or* physics, chemistry, geography, natural history, *or* botany. It is held in July and September.

PROFESSIONAL EXAMINATIONS.

M.B., Ch.B.—There are four examinations for this degree. They must be passed in proper order, and before admission to them the candidate must be duly certified as having attended in the subjects involved. At all examinations the subjects, or groups of subjects, prescribed can be taken separately or together, as the candidate pleases. The First M.B. is divided into Part 1, inorganic chemistry and physics; Part 2, biology (including animal and vegetable morphology, physiology, and laboratory work); Part 3, elementary organic chemistry and bio-chemistry. The parts may be taken separately or together. At the Second M.B. the candidate is examined in anatomy and physiology; at the Third in pathology, hygiene, and pharmacology and therapeutics (including materia medica and practical pharmacy). The Final Examination includes medicine, systematic and clinical (separate papers being given on mental diseases), and diseases of children, surgery (systematic, clinical, and practical, with a separate paper on ophthalmology),

[1] See pp. 632 and 639.

[2] See p. 625.

obstetrics and gynaecology, and forensic medicine and toxicology.

M.D.—A candidate for this degree must be an M.B. of at least one year's standing. He has a choice between presenting an original dissertation or undergoing a written (practical and clinical) examination in medicine, and a written and practical examination in pathology, and one other subject to be selected by the candidate.

Ch.M.—A candidate must have held, since becoming Ch.B., and for not less than six months, an appointment in a public institution affording opportunity for the study of practical surgery, and produce certificates of having attended certain courses of study. The examination comprises the general field of surgery, including ophthalmology and bacteriology.

FEES FOR EXAMINATIONS.

The following fees are payable: Matriculation, £2; on readmission, £1 10s. Each M.B. examination, £5; on readmission, after failure, £2. M.D., including the conferring of the degree, £10. Ch.M., £5 each for the examination and degree. Application for further information should be addressed to the Dean of the Medical Faculty.

UNIVERSITY OF BIRMINGHAM.

THIS university confers the ordinary medical and surgical degrees—M.B., Ch.B., M.D., and Ch.M., and also diplomas and degrees in State medicine and dentistry. It has a plan, too, by which, extending his study to six instead of five years, the M.B., Ch.B. candidate may become a Bachelor in Science as well. Of the five years' curriculum, the first four must be spent, as a rule, at the university itself, the fifth being passed at any approved school or schools. Occasionally, however, the Senate will reduce the period of enforced residence to three years and exempt from the First M.B. those who have passed elsewhere an examination considered to be its equivalent.

All students in the Medical Faculty must (1) either matriculate in mathematics, in chemistry or experimental mechanics, in the English language and literature and history, and in Latin, and one other foreign language; or (2) show that they have passed an examination deemed an equivalent elsewhere. Subject to certain provisos, the following are at present thus regarded:

(*a*) The Previous Examination of the University of Cambridge if it includes the "additional subjects." (*b*) Responsions of the University of Oxford, except in mathematics. (*c*) The Matriculation Examination of a recognized university. (*d*) The Higher Certificate of the Oxford and Cambridge Boards. (*e*) The Oxford or Cambridge Senior Local Examination.

PROFESSIONAL EXAMINATIONS.

The candidate for the M.B., Ch.B. degrees has five examinations to pass. In the second and final examinations the candidate must pass in all the prescribed subjects or undergo the whole examination again.

First M.B.—This deals with chemistry, physics, and elementary biology; it may be passed before the student commences residence at the university, provided the regulations as to matriculation have been met.

Second M.B.—This deals with anatomy and physiology, and the student must pass in both simultaneously.

Third M.B.—This deals with pathology and bacteriology, materia medica, and practical pharmacy.

Fourth M.B.—This takes place at the end of the fourth year, the subjects being forensic medicine, toxicology, public health, and therapeutics.

Final M.B.—This comprises medicine, surgery, midwifery, and diseases of women, ophthalmology, and mental diseases. The candidate, in addition to more ordinary certificates, must be prepared with a certificate of having acted as a *post-mortem* clerk for three months, and received special instruction in anaesthetics and clinical instruction in diseases peculiar to women, asylum ward work, and ophthalmology. In respect to the latter he must show that he has learnt refraction work. He also has to present to the examiners reports drawn up by himself on six gynaecological cases, and certificates drawn up by himself regarding four actual cases of lunacy, and notes respecting two others.

M.D.—An ordinary candidate for this degree must be an M.B., Ch.B. of not less than one year's standing. He presents an original thesis for approval, and then passes a general examination in the principles and practice of medicine. From the latter the Board of Examiners may exempt a candidate whose thesis is of exceptional merit. The regulations respecting the Ch.M. are of the same general character. Subject to certain requirements as regards special research or other post-graduate study, the graduates of other universities may obtain the M.D. and Ch.M. in the same way as the holders of the Birmingham M.B., Ch.B.

FEES.

The fee for matriculation is £2, and that for each of the first four professional examinations the same amount, M.B., Ch.B. degree fee, £8; M.D. and Ch.M. examination, £10 each. For further particulars application should be made to the Dean of the Medical Faculty.

UNIVERSITY OF LEEDS.

THE degrees granted in the Medical Faculty of this university are Bachelor of Medicine, Bachelor of Surgery (M.B. and Ch.B.), and Bachelor of Dental Surgery (B.Ch.D.), Doctor of Medicine (M.D.), Master of Surgery (Ch.M.), and Master of Dental Surgery (M.Ch.D.). It also gives diplomas in public health, psychology, and in dental surgery.

Candidates for the M.B. must have attended courses of instruction approved by the university for not less than five years, two at least of such years having been passed in the university subsequently to the date of passing the first examination. They must also have matriculated by satisfying the examiners in (1) English (language or literature); (2) English history; (3) mathematics; (4) Latin; (5) two of the following, one of which must be a language: (*a*) Greek, (*b*) French, (*c*) German, (*d*) some other modern language approved by the Board, (*e*) either mechanics or physics, (*f*) chemistry, (*g*) geography, (*h*) natural history. Exemption from the examination may be granted to applicants holding certificates of having passed examinations of a standard deemed by the Matriculation Board to be at least equal to the Board's examination.

PROFESSIONAL EXAMINATIONS.

The examinations for the M.B., Ch.B. number three. The first deals with (1) physics and chemistry, (2) biology. In each subject laboratory work is included, but the two parts can be taken separately. For neither can the candidate present himself until after matriculation, and at least two or three terms' approved work in the respective subjects indicated.

Second M.B.—This may be taken in two parts, (*a*) anatomy and physiology, including practical work; (*b*) materia medica and pharmacy, including actual compounding of drugs. The candidate's certificates must show, among other things, that he has dissected during at least five terms.

Final M.B.—This may be divided into three parts. The first part, pathology and bacteriology, may be taken at the end of the tenth term; the second part, forensic medicine and public health, and the third part, medicine, surgery, and obstetrics, cannot be taken before the end of the fifth year; and before being admitted to the examination in its subjects the candidate, in addition to ordinary certificates, must produce proof that he has done both intern and extern maternity work, and received clinical instruction in gynaecology, and in eye, skin, or laryngeal diseases, and in the administration of anaesthetics. This division covers all branches of surgery, medicine (including mental diseases and diseases of children), and obstetrics and gynaecology. Passages for translation from French and German are included in the papers on medicine. First and second class honours may be obtained in this division.

M.D.—A candidate for this degree must be an M.B., B.Ch. of at least one year's standing. He presents a dissertation embodying the results of personal observation or original research, and, if this is approved, passes an examination which consists in the writing of an extemporary essay, and answering questions on the history of medicine and the subject of his dissertation.

Ch.M.—The candidate for this degree must have been admitted to the M.B., Ch.B. not less than a year previously, and during that time must have held for at least six months a surgical appointment in a public institution affording full opportunity for the study of practical surgery. In addition he must have attended certain special courses, including one on ophthalmology and one on bacteriology; he is then examined in the subject of surgery in all its branches.

FEES.

The matriculation fee is £2, and on readmission £1 10s. For each of the other examinations £5, and £2 on readmission. On conferment of the degree of Ch.M. £5 is payable, the same remark applying to the M.D. degree.

UNIVERSITY OF LIVERPOOL.

THIS university, besides granting degrees in medicine (M.B. and M.D.) and in surgery (Ch.B. and Ch.M.), gives a degree in dental surgery (B.D.S.) and a degree in hygiene (M.H.) Diplomas are awarded in dental surgery (L.D.S.), tropical medicine (D.T.M.), public health (D.P.H.), ophthalmic surgery (D.Ch.O.), and in several single subjects.

MATRICULATION.

The Matriculation Examination is governed by the Joint Matriculation Board, 24, Dover Street, Manchester, which accepts under certain conditions the tests of several other bodies as its equivalent. These *include* the Matriculation of London University, the Senior Local Examination of Oxford and Cambridge, the Higher Certificate of the Joint Oxford and Cambridge Board, Responsions of the University of Oxford, the Previous Examination of the University of Cambridge, the Leaving Certificate of the Scottish Education Department, and the Senior Certificate of the Central Welsh Board. Of the five years' curriculum, not less than two must be passed in the university itself, one such year being subsequent to the date of passing the First M.B. Examination.

PROFESSIONAL EXAMINATIONS.

Candidates for the M.B., Ch.B. degrees have three examinations to pass, the first including (1) chemistry, inorganic, organic, and physical; (2) biology, including zoology and botany; (3) physics. Section 2 may be taken alone or in conjunction with Sections 1 and 3.

Second M.B.—This test covers (1) anatomy and physiology, including physiological chemistry and histology, and (2) materia medica, pharmacy, and pharmacology; these two sections may be taken separately.

Final M.B.—This examination deals with six subjects, which may be taken all together or divided into three parts: (1) Pathology, morbid anatomy, and bacteriology; (2) therapeutics, forensic medicine, toxicology, and public health; (3) obstetrics and diseases of women, surgery, including ophthalmology, medicine, including mental diseases and diseases of children.

M.D. and Ch.M.—Candidates for these degrees must have received the M.B. and Ch.B. at least a year previously. The M.D. candidate submits for approval a dissertation covering original work, the M.Ch. candidate undergoing an examination in all subjects of surgery, including ophthalmology. Other information concerning the diplomas of this university and its medical school will be found on page 628.

UNIVERSITY OF SHEFFIELD.

THE degrees of this university (M.B., Ch.B., and M.D. and Ch.M.) and the diploma in public health are open to candidates of either sex. Candidates for a degree must have matriculated in the university or have passed such other examination as may be recognized for this purpose by the university, and sanctioned by the Joint Matriculation Board. The subjects required by the General Medical Council must be included in the Matriculation Examination or its recognized substitute.

PROFESSIONAL EXAMINATIONS.

A candidate for the degrees of M.B., Ch.B. must produce certificates that he will have attained the age of 21 years on the day of graduation; that he has pursued the courses of study required by the university regulations during a period of not less than five years subsequently to the date of his registration as a medical student by the General Medical Council, three of such years at least having been passed in the university, one at least being subsequent to the passing of the first examination. He or she has eventually to pass the following examinations in due order:

First Examination.—The subjects are chemistry, physics, and biology. The examination is divided into two parts: (*a*) Chemistry, physics, (*b*) biology; and candidates may pass in each part separately. The intermediate examination in science—chemistry, physics, and biology—will, on payment of the required additional fee, be accepted instead of this examination. Candidates on presenting themselves for this examination are required to furnish certificates of having attended for not less than one year approved courses of instruction, after matriculation and registration as medical students in: (i) Chemistry, inorganic and organic. (ii) Physics. (iii) Biology.

Second Examination.—The subjects are anatomy, physiology, materia medica, and pharmacy. The examination is divided into two parts, (*a*) anatomy and physiology, and (*b*) materia medica and pharmacy; and candidates may pass in either part separately. The candidate must have completed the third winter session of professional study, must have passed the First Examination, and must have attended (1) lectures on anatomy, and dissections during five terms; (2) lectures on physiology during four terms, practical, experimental, and chemical physiology during four terms, and histology during one term; and (3) materia medica and pharmacy, including practical instruction approved by the university for one term.

Final Examination.—The subjects are divided into two parts—namely, (A) forensic medicine and toxicology, public health, pathology, and morbid anatomy; and (B) medicine, including pharmacology and therapeutics, mental diseases, and diseases of children, surgery, obstetrics, and gynaecology. Candidates may present themselves for examination in both parts on the same occasion or separately, but Part A may not be passed before the completion of the fourth year of study. Candidates for the whole examination, or for Part B, must have completed the fifth year of study.

M.D.—Candidates for the degree of Doctor of Medicine must have passed the examination for the degrees of M.B., Ch.B. at least one year previously, must present a thesis embodying observations in some subject approved by the Professor of Medicine, and must pass an examination in the principles and practice of medicine.

Ch.M.—Candidates for the degree of Master of Surgery must have passed the examination for the degrees of M.B., Ch.B. at least one year previously, and must, since taking the degrees of M.B., Ch.B., have held for not less than six months a surgical appointment in a public hospital or other public institution affording full opportunity for the study of practical surgery. The subjects of examination are systematic, clinical, and operative surgery, surgical anatomy, surgical pathology, and bacteriology.

Other information concerning this university will be found in the section devoted to Provincial Medical Schools.

UNIVERSITY OF BRISTOL.

THE university grants the following degrees: In medicine and surgery, M.B. and Ch.B., M.D., Ch.M. (the M.D. may be taken in State Medicine); in dental surgery, B.D.S., M.D.S. Diplomas in public health (D.P.H.) and dental surgery (L.D.S.) are also granted. Candidates for degrees must pass the Matriculation Examination (or some equivalent examination accepted in lieu thereof; see the Regulations for Matriculation), and study at the university itself for at least three years of the five and a half years' curriculum, two such years being subsequent to the passing of the Second M.B. Examination. The Matriculation Examination comprises (1) Latin, (2) mathematics, (3) English grammar and composition, (4) two subjects at choice, one of which must be a foreign language. It is held in July and September.

PROFESSIONAL EXAMINATIONS.

M.B., Ch.B.—There are three examinations for this degree. They must be passed in proper order, and before admission to them the candidate must be duly certified as having attended in the subjects involved. The First M.B. comprises chemistry, physics, botany, and zoology. The Second M.B. comprises organic chemistry, elementary anatomy (Part I), advanced anatomy, physiology (Part I). The two groups may be taken separately or together. The Final Examination includes materia medica and pharmacy, pharmacology and therapeutics, general pathology, morbid anatomy and bacteriology (Part I), special pathology, forensic medicine, toxicology and public health, obstetrics (including diseases of women), surgery (systematic, clinical, practical, and operative), medicine (systematic, clinical, and practical), including mental diseases (Part II). The two groups may be taken separately or together. At the option of the candidate, forensic medicine and toxicology may be taken either with Group I or Group II. First and second class honours may be obtained by a candidate whose work is deemed of sufficient merit, but cannot be awarded to one who has recorded against him a failure at any examination after the First M.B.

M.D.—A candidate for this degree must be an M.B. and Ch.B. of at least two years' standing. He has a choice between presenting an original dissertation, undergoing a general examination in medicine (including medical anatomy, medical pathology and bacteriology, systematic and clinical medicine), or passing an examination in State medicine.

Ch.M.—A candidate must have attended, since becoming M.B., Ch.B., and for not less than two years, a public institution affording opportunity for the study of practical surgery, and produce certificates to that effect; the candidate shall be required to pass a general examination in surgery (including surgical anatomy, surgical pathology and bacteriology, operative and clinical surgery), and to present a dissertation in some department of surgery. He must be of two years' standing as an M.B., Ch.B.

FEES FOR EXAMINATION.

Applications for information should be addressed to the Dean of the Medical Faculty.

UNIVERSITY OF WALES.

THE statutes of the University of Wales provide for a Faculty of Medicine and for the granting by it of the following degrees: Bachelor in Medicine (M.B.), Bachelor in Surgery (B.Ch.), Master in Surgery (M.Ch.), and Doctor in Medicine (M.D.).

A candidate for the M.B., Ch.B. cannot be admitted to examination until the completion of not less than six academic years subsequent to matriculation in the university, and of these years at least three must have been passed as a student in one of the constituent colleges of the university. He must also hold an Arts or Science degree of the University of Wales, or of some other university approved for this purpose. Some of the courses of study pursued for a B.Sc. or B.A. degree may be counted as part of the courses required for the degrees in the Medical Faculty.

The courses for the M.B., Ch.B. are divided into two sections, of which the first include the preliminary subjects—physics, chemistry, botany, zoology; and the ancillary subjects—organic chemistry, human anatomy, and physiology. Study of the preliminary subjects must extend over at least one academic year, study of the ancillary subjects must extend over at least two academic years, and, excepting organic chemistry, cannot be commenced until all the preliminary courses have been completed; hence the first section of the course must occupy not less than three years. The second section includes courses in pathology, bacteriology, pharmacology, medicine, surgery, and obstetrics, and cannot be commenced until the examinations relating to the preliminary and ancillary courses have been passed. Examinations in the earlier subjects are held at the end of each academic year, and in the subjects of the second section each July.

English Medical Corporations.

THERE are three medical corporations in England—the Royal College of Physicians, the Royal College of Surgeons, and the Society of Apothecaries of London. The first two combine for certain purposes to form what is known as the "Conjoint Board." Details concerning this body, its component colleges, and the third licensing body here follow.

THE CONJOINT BOARD.

THIS body deals with the qualifications of all candidates for the Licence of the Royal College of Physicians of London and for the Membership of the Royal College of Surgeons of England. It prescribes for them certain periods of study, and recommends those who satisfy it for the licence and diploma of Membership respectively. The successful candidate is then entitled to admission to the *Medical Register* as an M.R.C.S.Eng., L.R.C.P.Lond. It performs the same task in connexion with diplomas in State medicine and tropical diseases jointly issued by the two colleges in question. It obliges all candidates to pass one of a large number of examinations which it considers satisfactory tests of general education, and thereafter to pass five years in professional study at a recognized medical school, allowing, however, six months to be spent at any institution which may be recognized by the Board as giving efficient education in chemistry and physics. A list of such institutions, as also of the tests accepted in regard to general education, can be obtained from the Secretary of the Board at Examination Hall, Queen Square, Bloomsbury, W.C.

PROFESSIONAL EXAMINATIONS.

There are three examinations for the Conjoint diploma, or M.R.C.S., L.R.C.P., which are commonly known as First Conjoint, Second Conjoint, and Final.

First Conjoint.—This examination is in four parts: (1) Chemistry, (2) physics, (3) elementary biology, (4) practical pharmacy.

A candidate must present himself for examination in Parts I and II together until he has reached the required standard to pass in both, or in one of these parts, but he will not be allowed to pass in one part unless he obtains at the same time half the number of marks required to pass in the other part. A candidate may take Parts III and IV separately, or he may present himself for the whole examination at one time.

Before admission to either part the candidate must show that he has undergone certain courses of theoretical and practical instruction, but these courses need not be completed within one year, nor need they run concurrently, and they may be commenced or attended before the candidate passes the required preliminary examination in general education. A candidate referred in any part or parts will not be admitted to re-examination for three months. If referred in chemistry, physics, or biology he must produce evidence of further instruction. Those who are already graduates in medicine, or who have passed an examination in the same subjects before a university board for a degree in medicine, may obtain exemption from re-examination in those subjects at this examination.

Second Conjoint.—This examination deals with anatomy and physiology, and both subjects must be passed at the same time. A candidate must have attended at a recognized medical school lectures on anatomy, physiology, and a course of practical physiology and histology, and have dissected for twelve months during the ordinary sessions. The study of anatomy and physiology before passing in two of the first three parts of the first examination is not recognized. If rejected, a candidate, before being admitted to re-examination, must continue his studies at a recognized medical school for not less than three months.

Final Conjoint.—This examination consists of three parts: Part I, medicine, including medical anatomy, pathology, practical pharmacy,[1] therapeutics, forensic medicine, and public health; Part II, surgery, including pathology, surgical anatomy, and the use of surgical appliances; Part III, midwifery and gynaecology. The

[1] Candidates who have previously passed in practical pharmacy will not be re-examined in that subject at the Third Examination.

examination may be passed at one time or in each part separately. Evidence of attendance at courses of instruction in the subjects of the three parts must be produced, and also of having conducted twenty labours. A candidate will be admissible to Parts I, II, and III of the Third or Final Examination at the expiration of two years (twenty-four months) from the date of passing the Second Examination, and on production of the required certificates of study, provided that the examination is not completed before the expiration of five years (five winter and five summer sessions) from the date of passing the Preliminary Examination. A rejected candidate must produce evidence of further instruction during three months.

NOTE.—A person holding a Colonial, Indian, or foreign qualification which entitles him to practise in the country where such qualification has been obtained is, after a course of study and examination equivalent to those required by the Regulations of the two Royal Colleges, admissible to the Second and Third or Final Examinations without any interval. Members of an English, Scottish, or Irish university are under certain conditions eligible for admission to the Third or Final Examination two years after passing at their university the subjects included in the First and Second Examinations of the Board.

A Doctor or Bachelor of Medicine or Surgery of an Indian, Colonial, or foreign university recognized for the purpose, who shall have passed at his university in the subjects of the First and Second Examinations will be eligible for admission to the Third or Final Examinations two years after passing in the said subjects.

FEES.

First examination, £10 10s. Re-examination, Parts I and II, £3 3s.; Parts III and IV, each £2 2s. Second examination, £10 10s. Re-examination, £6 6s. Third examination, £21. Re-examination, Part I, medicine, £5 5s.; practical pharmacy, £2 2s. Part II, surgery, £5 5s. Part III, midwifery and diseases of women, £3 3s. Members of an English, Scottish, or Irish university, £5 5s. For the diplomas, £36 15s.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THIS College has three grades—its Licentiates, its Members, and its Fellows. The Licence is only issued through the Conjoint Board, as already stated, unless the candidate commenced professional studies before October, 1834. Its Membership is only granted to those who have passed the final examinations for the Licence; or those who are registered practitioners and graduates of a recognized university; in any case they must be persons over 25 years of age, who do not practise in partnership, dispense medicines, or engage in trade. Candidates are examined in pathology and the practice of physic, partly in writing and partly viva voce. Those under 40 are also examined in Latin, and either Greek, French, or German. The examination fee is £6 6s., the Membership fee being £42, or the difference between that sum and what the candidate has already paid if a Licentiate. The body of Fellows is maintained by election from among the Members.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THIS College has two grades—Members and Fellows. The Members are admitted as stated in the section dealing with the Conjoint Board. The Fellowship is granted after examination to persons at least 25 years of age who have been engaged in professional studies for six years. There are two examinations—the first in anatomy and physiology, which may be passed after the third winter session; the second, chiefly directed to surgery, which may be passed after six years of professional study. Candidates must pass the Final Examination of the Examining Board in England and be admitted Members of the College before admission to the Second Examination for the Fellowship, except in the case of graduates in medicine and surgery of not less than four years' standing of universities recognized by the College for the purpose, who are required to attend for one year the surgical practice of a general hospital recognized by the College after obtaining their degrees. The College also issues a diploma in dentistry.[1]

Fees.—At first examination: £5 5s. At second examination: £12 12s. Diploma fee: Members, £3 3s.; non-members, £13 13s.

[1] See p. 638.

SOCIETY OF APOTHECARIES OF LONDON.

THIS body confers a registrable diploma in medicine, surgery, and midwifery, now known as the L.M.S.S.A. There are nominally only two examinations, but both are subdivided.

Primary Examination.—Part I includes elementary biology, chemistry, chemical physics, practical chemistry, pharmacy, and before passing it the candidate must have undergone certain courses of tuition. Part II includes anatomy, physiology, and histology. This examination cannot be passed before the completion of twelve months' practical anatomy, with demonstrations. These subjects cannot be taken separately, except in the event of the candidate having previously passed in one. Candidates will be excused any or all the subjects of the primary examination on producing evidence that they have passed equivalent examinations before an examining body recognized by the Society. Candidates referred in anatomy will be required to produce evidence of further work in the dissecting room before being admitted to re-examination.

Final Examination.—This is divided into two sections, the first section being again subdivided into three parts. The first part includes the principles and practice of surgery, surgical pathology, operative manipulation, surgical anatomy, instruments and appliances. Part II includes: (*a*) The principles and practice of medicine (including therapeutics, pharmacology, and prescriptions), pathology, and morbid histology; (*b*) forensic medicine, hygiene, theory and practice of vaccination, and mental diseases. Part III: Midwifery, gynaecology, and diseases of newborn children, obstetric instruments and appliances. A candidate cannot present himself for this section before the expiration of forty-five months, during which time not less than three winter sessions and two summer sessions must have been passed at one or more of the medical schools connected with a general hospital recognized by the Society. Section 2 consists of clinical surgery and clinical medicine and medical anatomy, and a candidate before appearing at it must have completed five years of medical study.

FEES.

Primary examinations, £5 5s.; final, £15 15s. Further information may be obtained from the Secretary, Court of Examiners, Apothecaries' Hall, Blackfriars, E.C. It is worth noting that Licentiates of this Society are eligible for admission to its membership, a position conferring the advantages commonly accompanying membership of a city guild. Information on this point should be sought from the Clerk of the Society at its Hall, Blackfriars.

The Scottish Universities.

THERE are in Scotland four universities, each of them possessing a faculty of medicine, and having the right to confer degrees which admit the holder to the *Medical Register*. In essential points the regulations in their medical faculties for undergraduates are on all-fours with one another, so that an account can be given of all of them together.

The universities in question are, of course, those of Edinburgh, Glasgow, Aberdeen, and St. Andrews, and in point of standing and repute it is not easy to differentiate between them. What provision each of the cities in which these universities are situated makes for the education of medical students will be found in the section on Medical Schools in Scotland; here it need merely be said that degrees in medicine from Scotland as a whole have always enjoyed an excellent repute.

The degrees granted in medicine and surgery to candidates of either sex are four in number—Bachelor of Medicine (M.B.), Bachelor of Surgery (Ch.B.), Doctor of Medicine (M.D.), Master of Surgery (Ch.M.). The two former are not separably obtainable one from the other. Besides these degrees a diploma in tropical medicine and hygiene is obtainable from the University of Edinburgh, as also a diploma in psychiatry. As for public health, registrable degrees in this subject are granted both by the University of Edinburgh and that of Glasgow, while diplomas in public health may be obtained from the universities of St. Andrews and Aberdeen. Information

as to these will be found in the appropriate sections dealing respectively with preventive medicine and tropical medicine.

Matriculation.

Matriculation is effected by signing the statutory declaration, or *sponsio academica*, and paying a fee of £1 1s., but to make it effective enrolment as a student of some class of the university is necessary; moreover, to make matriculation a step to a degree a preliminary examination must be passed. This for medical students is an examination in English, Latin, elementary mathematics, and either Greek or French or German. Candidates are required to pass in all these subjects, either at one or at not more than two examinations, but they can present themselves as often as they please. These preliminary examinations are held twice a year—in spring and autumn—and in point of standard are believed to correspond to that set at the examinations for the Lower Certificate of the Oxford and Cambridge Schools Examination Board. The universities accept as the equivalent of the preliminary examination a large number of corresponding tests held by other bodies. The fee is 10s. 6d. Compliance with the regulations of the General Medical Council as to registration as set forth on p. 589 is necessary.

Professional Education.

The regulations as regards the subjects to be studied comply in all respects with the requirements and recommendations of the General Medical Council, and in addition necessitate definite study for stated periods of diseases of children, of the larynx, ear and nose, of the skin, of ophthalmology, and of mental diseases.

In respect of midwifery, the student must either conduct personally twenty cases of labour or attend a lying-in clinic for three months, and personally conduct twelve deliveries. He must also attend the medical and surgical practice of a hospital recognized for the purpose for at least three years. In each of the prescribed subjects of study the student must attend one or more courses of definite length, those in the more important subjects lasting not less than five months, and in the minor subjects half that time. In respect of these courses certificates must be obtained showing that the student has not only attended the courses regularly, but has duly performed the work of the class.

Out of the necessary five years of medical study, not less than two must be spent at the university whose degrees the student hopes to obtain, and the balance at any place officially recognized for such purpose. In each academic year there are two sessions—one lasting from the beginning of October to the middle of March, and the other from the middle of April to the end of June.

Professional Examinations.

The distinctive feature of the Scottish curriculum is that, though nominally there are only four examinations, each of these may be, and habitually is, split up by the student into sections. Hence, a student may complete some stage of his career during the course of nearly every session. Thus, by the end of the first winter session the student may get rid of physics and chemistry. At the end of the first summer session he can finish with botany and zoology, and with anatomy and physiology at the end of the second. Practical materia medica may be taken at any period of examination after the necessary course of instruction has been attended. Pathology and materia medica he will pass at the end of the third year, and so on, until the final examination in midwifery, surgery and medicine, and the corresponding clinical subjects at the end of the fifth year of study. At each examination the candidate may pass "with distinction," and a record is kept of the merit displayed, so that, when the time comes for the candidate to graduate, one who has done well throughout can be declared as graduating with first or second class honours. A further point in the system is that the student's own teachers commonly take some part in his examination.

Of the four examinations, the first deals with physics, botany, zoology, and chemistry; the second with anatomy and physiology; the third with materia medica and pathology; the fourth with medicine and surgery (clinical and systematic), midwifery, forensic medicine, and public health, and clinical gynaecology. The first three examinations are held three times a year; the final twice a year.

Exemption from the first professional examination can be obtained by candidates who have passed an examination at any recognized university in its subjects qualifying for a degree in science or in arts. Before appearing for examination at the stated periods the student must have attended the necessary course of lectures in each subject and have satisfied the examiners in all the subjects of the previous examination. When a candidate presents himself for an examination in several of its parts, but is not successful in all of them, he is credited at the next examination with those subjects in which he has previously been approved.

The Higher Degrees.

It is open to those who are already M.B., Ch.B. to proceed either to the M.D. or the Ch.M. A candidate for the former must have been engaged for not less than one year at work in the medical wards of a hospital or in scientific research in a recognized laboratory or in the Naval or Military Medical Services, or have been at least two years in general practice, and he must be 24 years of age. He has to write a thesis on any subject not exclusively surgical, and is examined in clinical medicine and in some one or other of its special departments. The regulations for candidates for the Ch.M. are of a corresponding character, a period of surgical work in a hospital or elsewhere being substituted for medical work, and his thesis being on a surgical rather than a medical subject. He is examined in surgical anatomy, clinical surgery, operative surgery, and in some of the special departments of surgery.

Fees.

It is estimated that the class examination and other fees for the M.B., Ch.B. come altogether to £150, the separate fees included in this calculation being as follows:

	£	s.	d.
Preliminary Examination	0	10	6
First Professional	6	6	0
Second Professional	5	5	0
Third Professional	4	4	0
Finals	7	7	0

Re-entry in any subject in which the candidate has failed entails a fresh payment of £1 1s. Candidates for the M.D. and Ch.M. pay £15 15s., and on re-entry £5 5s.

More detailed information with regard to the University of Edinburgh can be obtained from the *Medical Programme*, price 2d., which is published by Mr. Thin, 55, South Bridge, Edinburgh, or on application to the Dean of the Faculty of Medicine. Similar information about Glasgow should be sought from the Assistant Clerk, Matriculation Office, Glasgow. With regard to Aberdeen, application may be made to the Secretary of the Medical Faculty, Marischal College. In respect of St. Andrews, information can be obtained either from the Secretary of the University or, alternatively, the Secretary of the United College, St. Andrews, or the Secretary of University College, Dundee, these being the two constituent colleges of the University of St. Andrews.

Finally, it should be mentioned that, in connexion with all the Scottish universities, including St. Andrews, there are valuable bursaries and scholarships, some information as to which will be found in the article on Medical Schools.

THE CARNEGIE TRUST.

In 1901 Mr. Andrew Carnegie, of New York and of Skibo in Scotland, made his great gift of ten million dollars (two million pounds sterling) to the universities of his native land; and since that year a sum of one hundred thousand pounds, being interest at the rate of 5 per cent., has annually been distributed by the Trustees for the benefit of these institutions, which are four in number—namely, the universities of St. Andrews, Glasgow, Aberdeen, and Edinburgh. It is only with the Trust in its relation to medical education that this article is concerned, but it is necessary to take note of some matters which are common to the whole scheme for the distribution of the annual grants.

CONSTITUTION AND ADMINISTRATION OF THE TRUST.

The Trust is administered by the trustees, with the Right Honourable the Earl of Elgin and Kincardine as chairman (through an executive committee of nine members, of which Lord Elgin is also chairman). The trustees are guided by the terms of the trust deed and by Mr. Carnegie's letter to the Earl of Elgin of June 7th, 1901. During the early years of the administration of the Trust the executive committee was of necessity feeling its way in several directions, and there was in consequence a degree of latitude in the disbursements which was considerably restricted in what was called the second quinquennial scheme of distribution. The second quinquennium embraced the period from October 1st, 1908, to September 30th, 1913, and must be regarded as the first series of years in which the committee, with the knowledge gained in the previous quinquennium, has been able to administer the funds in a critically intelligent and discriminative manner as well as with benevolent intentions. With the information now in its possession the executive committee can still further bring into play a selective influence, and can more than in the past make the benefaction an assistance to the students who show greater mental ability than their fellows. Selection, it should be added, is possible because the applications for assistance are greater than the sum of money available each year for distribution. Selection also affects the medical student more than the students of the other faculties, for his financial demands upon the Trust have been greater.

Grants to Medical Faculties.

The whole sum of £100,000 a year is not devoted to the payment of class fees. One-half of it is given in the form of (*a*) grants for buildings and permanent equipment, for the endowment and aid of teaching, and for libraries; and (*b*) of money spent in the endowment of post-graduate study and research. Of the £50,000 thus annually allocated, the medical faculties of the four universities have received and still receive a large share. No one doubts the value of the benefactions which have thus been made. Taking Edinburgh as an instance, we find that in the quinquennium just expiring £20,000 were given for the endowment of six lectureships, two of which were medical—namely, those of bacteriology and diseases of tropical climates; £13,000 were given for new buildings for physiology, etc.; and smaller sums were given for a catalogue of the anatomical museum, apparatus, etc. Further, for two bodies closely related to, but not actually included in, the university financial help was forthcoming; to one of these, the School of Medicine of the Royal Colleges, the sum of £1,250 was given for permanent equipment; whilst to the other, the Edinburgh School of Medicine for Women, the same amount was handed over for general expenses and permanent equipment. The Royal (Dick) Veterinary College also received £2,000 during the quinquennium for the purchase of site, buildings, and permanent equipment. A good share of the grants has been allotted in aid of research to medical post-graduates. Taking again the case of Edinburgh, we note that the Laboratory of the Royal College of Physicians receives an annual grant, that three grades of post-graduate workers—namely, Fellows, scholars, and grantees—are helped financially to carry on experimental and other research studies, and that a considerable number of the Fellows, scholars, and grantees are graduates in medicine of Edinburgh University. The other three universities also enjoy, through their former medical graduates, some of the aid given for research.

With regard to the value of the sums of money spent upon the medical faculties of the universities under the foregoing heads, and known in the constitution of the Trust as Clause A, there is no criticism. The universities have thus received laboratories and other aids for teaching which could hardly have been expected through any other sources for many years; weak parts of the armamentarium and of the equipment have been strengthened in a most satisfactory way; and an immense impetus has been given to scientific research among the men and women most likely to do good work therein. The lists of articles which have already been published containing the results of some of the many pieces of research going on only require to be read over to demonstrate the excellent work being done in this department. One matter seems to us to be regretted, the decision of the Executive Committee to regard the payment of the fees of post-graduates for the August and September post-graduate classes in medicine as outside the sphere of their benefactions. Many post-graduate students require such classes before they have enough experience to embark upon research work at all.

Grants in Relief of Fees.

This brings us to the question of the destination of that part of the money which is given away under Clause B. According to the constitution of the Trust one-half of the income (£50,000), or such part thereof as in each year may be found requisite, shall be devoted to the payment of the whole or part of the ordinary class fees exigible by the universities from students of Scottish birth or extraction, and of 16 years of age and upwards, or scholars who have given two years' attendance after the age of 14 years, at such schools and institutions in Scotland as are under inspection by the Scottish Education Department. To this part of the business of the Trust objections have been raised from various points of view, upon it much criticism has been made, but some of those who have been most opposed to it seem to have forgotten the existence of the other part of the Trust's work (under Clause A).

Part of the money under Clause B is distributed to the medical students of the four universities, and, some say, a disproportionately large share of it. Thus in the academic year 1911–12 the medical students of Edinburgh received £4,745 out of a total of £15,171 distributed among the six faculties (Arts, Science, Medicine, Law, Divinity, Music); in Aberdeen they got £2,203 out of a total of £8,857; and in a somewhat similar proportion in Glasgow and St. Andrews. In each one of the universities the average fees paid in respect of each beneficiary were largest in the Faculty of Medicine. In the future, however, there is to be a change; indeed, the change has already come, for the beneficiaries entering the Trust after October, 1911, have received only fixed annual grants, whereas formerly all their class fees were paid. The rule now is that the medical student who is accepted as a beneficiary gets five grants of £15 each for the five years of the medical curriculum, and if he chooses to conjoin science with medicine he gets from the Trust two science grants of £12 and five medicine grants of £15, or £99 in all. Thus the sum which the student of medicine may now receive from the Trust is smaller than it was when all his class fees were paid.

This reduction meets one of the objections brought against the Carnegie Trust, or rather against the effects of its action, but it does not meet the other criticism, which is that anyone can get the grants whatever be the financial circumstances of his or her parents, or of himself or herself (for the benefits of the Trust are available to students of both sexes). It is, however, not the case that there is no selection and that anyone may get his or her fees paid, but the principle of selection is educational not social status. Some critics would have it that to prevent pauperizing anyone the test should be both educational and social, and that the enjoyment of the benefits should be limited to those students who are quite unable to meet the cost of a university education in any other way. The answer to this criticism is to be found in Mr. Carnegie's letter to the Earl of Elgin of June 7th, 1901. He wrote:

> As your Lordship is aware, my desire throughout has been that no capable student should be debarred from attending the university on account of the payment of fees.

This part of the letter is often quoted; but it is important to go on and quote also what follows:

> I believe that the conditions of application ensure a sufficient standard of merit, and I hope that the honest pride for which my countrymen are distinguished will prevent claims from those who do not require assistance, and that the invidious task of inquiring into the circumstances of each candidate need not be imposed upon the trustees.

Now, it may be that even after this expressed wish, which is almost an appeal, some students whose parents are well able to meet their fees continue to apply for and to receive help from the Trust, but they must at least have merit to pass the higher standard of the preliminary educational test required by the Trust. The ordinary medical preliminary examination does not suffice, and the executive committee requires that would-be beneficiaries shall have obtained the leaving certificate of the schools

under the Scottish Education Department. It is to be noted that the leaving certificate is not the Intermediate, or what the children themselves often call the "lower leaving certificate," but what they call the "higher leaving certificate." This rule has been in operation since 1907. Under special circumstances an examination which is considered equivalent to the Leaving Certificate may be accepted—for example, the Arts or Science Preliminary—but this is exceptional. Failure to pass professional examinations and to fulfil the work of the classes brings with it a stoppage of grants and an obligation to refund the fees of the classes in which a certificate has not been obtained. It is evident, therefore, that the trustees are insisting upon a higher standard of preliminary examination than suffices for the ordinary student and are exercising discipline. In other words, they are endeavouring to carry out Mr. Carnegie's wishes, but it is noteworthy that the possibility of the "invidious task" of having to inquire into the circumstances of the applicants is not for ever excluded by the words of the letter quoted above.

But selection by merit finds a critic in the person of Sir James Donaldson, the Principal of St. Andrews University, who (as reported in the *Scotsman* newspaper for July 14th) thinks that a dependence upon class certificates and the passing of examinations may actually keep the geniuses out of the universities. There is, of course, evidence that geniuses were not always, or perhaps often, students who passed their educational tests with regularity and promptness, and possibly the embryo geniuses of the present time may be of the same temper; but it is difficult to see where this criticism would lead to, for if the Trust were to seek to help those who do not pass their examinations with alacrity, they would without doubt be aiding many who have no seeds of genius.

In Mr. Carnegie's letter above quoted there is a very kindly and delicately worded clause by which the trustees are given power to receive repayment of fees from beneficiaries "in after-life." About £2,740 have already been refunded in this way. It has been said that this is a very small amount, and that its smallness shows that Mr. Carnegie's gift has taken away the independence of the young people of Scotland. But if the matter be looked at fairly this is hardly the case. If we take the student of medicine who began his classes in 1902 it would be 1907 before he was qualified, and there are not many medical men who in the first five or six years of professional life are able to make enough money to enable them to pay off obligations which are described as "free gifts." That over £2,500 has actually been refunded seems good.

General Effects of the Trust.

There are other criticisms upon the effect which the Carnegie benefits have had upon the universities of Scotland. There is, for instance, the cry of the pessimist that the Carnegie beneficiaries have frightened away the wealthier or better-class colonial and English students; but that is not the common experience of those who know and converse with these men. They are not heard objecting to "sitting on the same bench with a Carnegie student," and, indeed, short of inquisitorially seeking to know, they are not able to tell whether any given student is in receipt of Carnegie assistance or not.

Moreover, such questions do not affect the main question, which is whether the Carnegie benefaction has done good or harm to the medical students of the Scottish universities; it may be safely said that whilst some students have been able to afford bicycles, etc., who would otherwise have had to do without such means of progression, and whilst others of limited means who could not otherwise have entered the university, have by means of the Trust been able to do so, the general effect upon the welfare of the universities and students alike has been greatly for good. It may be that the influence which the Trust directly or indirectly exerts upon the universities—for example, in the matter of the inclusive fee, may be dangerously great, and may lead to unexpected developments; it may also be, in Edinburgh at least, that the prosperity of the extra-mural school of medicine has been undermined, if not actually weakened; but these are not, after all, a big price to pay for a gift of £100,000 a year in aid of university education.

The Scottish Corporations.

THERE are three medical corporations in Scotland—the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow. Their licences can be separately obtained only by persons who are already in possession of a recognized qualification—in surgery in the case of the College of Physicians, and in medicine in the case of the College of Surgeons and the Faculty of Physicians and Surgeons of Glasgow. All others must submit to the examinations held by the Conjoint Board which the three corporations have combined to form. Details concerning this Board and its component colleges follow. The conditions on which their higher qualifications are granted will be found set forth separately in connexion with each corporation.

THE CONJOINT BOARD IN SCOTLAND.

THIS body has charge of all questions connected with candidates for the Conjoint Licences of the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow. Those who are approved at its examinations are entitled to registration and to the initials denoting the Licences of the three bodies concerned—namely, L.R.C.P.Edin., L.R.C.S.Edin., and the L.R.F.P.S.Glasg. It requires all candidates to comply with the regulations of the General Medical Council as regards registration of medical students set forth on page 589, and to pass a preliminary examination in arts.

It has an examination of its own of this character, which is conducted for it by the Educational Institute of Scotland, but is prepared to accept any of the educational tests approved by the General Medical Council, a list of which will be found on page 589.

PROFESSIONAL CURRICULUM.

Subject to the passage of the preliminary examination for registration as a medical student, the candidate must pass not less than five years in medical study, each comprising a winter and a summer session. On this point and all others connected with the curriculum the regulations of the Board are in keeping with the recommendations and requirements of the General Medical Council as already set forth. The Board does not exact that candidates shall pursue their study at any particular place, and is prepared to accept certificates of having attended the necessary courses from any recognized medical school.

Its examinations are four in number, each of them being held six times every year—four times in Edinburgh and twice in Glasgow; and it is open to candidates to present themselves for examination either at one place or the other. The first examination deals with physics, chemistry, and elementary biology; the second with anatomy and physiology, including histology; the third with pathology and materia medica, including pharmacy; and the final with (1) medicine, including therapeutics, medical anatomy, and clinical medicine; (2) surgery, including surgical anatomy, clinical surgery, and diseases and injuries of the eyes; (3) midwifery and diseases of women and of newborn children; (4) medical jurisprudence and hygiene. Candidates may also be examined on diseases of children, diseases of the ear and throat, insanity, vaccination, etc.

These examinations must be passed in due order, and before admission to any of them the candidate must supply certificates showing that he has completed the due periods of study of their subjects. On the other hand, the examinations, other than the final examinations, can be broken up by the student and each of the subjects taken separately. If a candidate takes up several subjects of an examination or the whole of the subjects at one time but fails in some of them, he is credited at the next examination with those subjects in which he has been approved. As regards the final examination, a candidate can present himself in medical jurisprudence and public health at any time after completion of the previous examination and of his study of these subjects; but in medicine, surgery, and

midwifery a candidate cannot present himself until the completion of five years' study, and must enter therefor conjointly.

Finally, it should be mentioned that a person who holds a qualification from a recognized university conferring a legal right to practise in the country from which it was obtained and granted after courses of study and examination deemed by the Board to be the equivalent of its own, may be exempted from the three earlier examinations in whole or in part, particularly in such cases as are recognized for registration on the Colonial List of the British *Medical Register*: but to no examination can a candidate be admitted within three months of his rejection by some other licensing body.

FEES.

It is estimated that the total cost of lectures and fees for the conjoint examinations is about £152. The separate examination fees are as follows: Preliminary, £1; First, Second, and Third Professional, £5 each; and the Final, £15. On re-entry for all divisions of the first three professional examinations payment of £3 is required, and on re-entry for the Final Examination, £5. Smaller payments are necessary when re-entry is only in one or two subjects.

Information concerning this Board should be sought either from Mr. James Robertson, 54, George Square, Edinburgh, or from Mr. Alexander Duncan, B.A., LL.D., Faculty Hall, St. Vincent Street, Glasgow.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THIS College has two grades—its Licence and its Fellowship. Licentiates may be of either sex, but for the Fellowship women are not eligible. As an original qualification the Licence is only granted after fulfilment of the regulations of the Conjoint Board, but as an additional qualification can be obtained by those already possessed of a registrable qualification in medicine. In this case the candidate has to pass a written, oral, and clinical examination in surgery and surgical anatomy, and may be asked to operate on the dead body. The fee is £15 15s., of which £10 10s. is returned to unsuccessful candidates. On due cause being shown, a special examination may be granted, the fee being £20, of which £10 is returned to a candidate if he is not approved.

Candidates for the Fellowship must be not less than 25 years of age, and have been in practice subsequent to registration for at least two years, and must hold either a surgical degree from a university recognized for that purpose by the College, or an approved diploma obtained as the result of an examination which includes surgery as well as medicine. Candidates are examined in surgery, including clinical and operative surgery, surgical anatomy, and one other subject which they may choose from among the following: Ophthalmology, laryngology, including aural and nasal surgery, dental surgery, advanced midwifery with obstetric surgery, gynaecology, surgical pathology and operative surgery, and advanced anatomy. The examination is written, oral, and clinical or practical. A candidate who desires to be examined must give one month's notice, his application for admission being supported by two Fellows of the College, one of whom must be resident in Edinburgh, or, in default, by testimonials obtained specially for the purpose.

Licentiates of the College pay £35, and others £45. For further information application should be made to the Clerk of the College, Mr. D. L. Eadie, 54, George Square, Edinburgh.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

THIS College has three grades—Licentiateship, Membership, and Fellowship; to the two latter women are not admissible. The regulations applying to candidates for the Licentiateship have already been generally indicated. If desirous of receiving it apart from those of the other two corporations, they must be holders of a surgical qualification recognized by the College, and must pass an examination corresponding to the medical part of the Final Examination of the Conjoint Board, and conditioned in the same way, and also an examination in materia medica. The fee for examination is 15 guineas, a special examination being obtainable on due cause being shown, and on payment of 5 guineas extra. Ordinary examinations take place monthly on the first Wednesday, except in September and October. A candidate for the Membership must be either a Licentiate of a Royal College of Physicians or a graduate in medicine of a British or Irish university, and in either case not less than 24 years of age. He is examined in medicine and therapeutics, and in one further subject at his choice. This may be either (*a*) one of the departments of medicine specially professed; (*b*) psychology; (*c*) general pathology and morbid anatomy; (*d*) medical jurisprudence; (*e*) public health; (*f*) midwifery; (*g*) gynaecology; (*h*) diseases of children; or (*i*) tropical medicine. Licentiates of the College pay £21, others £36 15s. A candidate who is not less than 40 years of age, and who has been in practice not less than ten years, may be exempted from part or all of the examination, provided he is highly distinguished for his scientific attainments. The latter is held quartely, and application for admission to it must be made a month previous to its date. For the Fellowship, the candidate must have been a member of the College for at least three years, and, if accepted, pays fees amounting altogether to a little less than £65. Any further details required can be obtained on application to the Secretary of the College.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

THIS body possesses two classes—Licentiates and Fellows. The regulations applying to the former correspond with those respecting candidates for the Licence of the Royal College of Surgeons of Edinburgh. Candidates for the single Licence are examined in surgery (including clinical surgery and surgical anatomy). The fee is £15 15s., and examinations are held quarterly. Candidates for the Fellowship must be qualified medical men of not less than two years' standing and 24 years of age. Candidates approved at this examination are then eligible for election as Fellows. The Faculty can also elect two Fellows annually without previously submitting them to examination, provided they "have highly distinguished themselves in medical science or practice." They must be of not less than ten years' standing and 40 years of age. Further information can be obtained from Mr. A. Duncan, B.A., LL.D., Faculty Hall, St. Vincent Street, Glasgow.

The Irish Universities.

THE opportunities in Ireland for acquiring medical and surgical degrees are ample, for there are nominally three and practically five universities, each possessed of a medical faculty. These are the University of Dublin, usually known as Trinity College, Dublin, the Queen's University of Belfast, and the National University of Ireland. The two former teach students, examine them, and grant or withhold degrees accordingly; while the third is by way of being an academic body only, inasmuch as its practical work is divided up among three constituent colleges. One of these is University College, Cork, another University College, Galway, and the third University College, Dublin. The regulations of all these universities in respect of medical degrees are given in the following sections; while specific information as to the arrangements for the education of medical students made at each of them will be found in the section relating to Irish Medical Schools.

UNIVERSITY OF DUBLIN.

THIS university, better known, perhaps, as Trinity College, Dublin, grants two degrees in medince (M.B. and M.D.), two in surgery (B.Ch. and M.Ch.), two in midwifery (B.A.O. and M.A.O.), and diplomas in the same subjects and in public health. It also confers two degrees in dentistry. Its degrees it only grants to those who, besides having passed the Professional Examination, have graduated in arts.

PROFESSIONAL EXAMINATIONS.

A candidate for the Final Examination for the M.B., B.Ch., and B.A.O. degrees must be a matriculated student

of at least five years' standing, and though he need not have taken his degree in arts before admission to the Professional Examination, he cannot take his medical degrees until he has been admitted a B.A. As a rule, at least three years of his medical study must be pursued at the university, but the Board has power to accept one year at a recognized London or Edinburgh hospital as the equivalent of one year's attendance at a recognized Dublin hospital, or two years at a recognized country or Colonial hospital as one year of metropolitan work. The examinations which he has to pass are the Preliminary Scientific, Intermediate Medical, and the Final, and of course before admission to any of them he must be duly signed up as regards study in the subjects involved.

Preliminary Scientific.—This covers (*a*) chemistry and physics, (*b*) botany and zoology; the two divisions may be taken together or at different times.

Intermediate Medical.—This is divided into two parts: (*a*) Anatomy, physiology, and histology; (*b*) applied anatomy and applied physiology. The two parts may be taken separately, but in each part all subjects must be passed at one time.

Final Examination.—Part I: Hygiene and medical jurisprudence, pathology, materia medica, and therapeutics. *Part II:* (*a*) Midwifery, gynaecology (clinical, paper, and viva voce); (*b*) medicine, clinical medicine, and mental diseases; (*c*) surgery in all branches, including clinical ophthalmology. The three sections of Part II may be taken separately or together. In either case the full curriculum must have been completed, nor can the final subject be taken until at least the end of the fifth year.

M.D.—The candidate must have passed all the qualifying examinations in medicine, surgery, and midwifery, and have taken, or have been qualified to take, the degree of B.A. three years previously. He must read a thesis before the Regius Professor of Physic.

M.Ch.—The candidate must be a B.Ch. of not less than three years' standing, and have been engaged in practice for two years. Graduates of ten years' standing may be given a special examination.

M.A.O.—The candidate must have passed the qualifying examination in medicine, surgery, and midwifery. The examination is specially directed to obstetrics and practical gynaecology.

For the university diplomas mentioned the candidate must have completed two years in arts and five in medical studies. The examination and courses required are the same as for the degrees.

FEES.

Matriculation, 5s.; M.B., B.Ch., B.A.O., £17; M.D., £13; M.Ch., £11; M.A.O., £5; L.M., L.Ch., L.A.O., £11. Further information may be obtained from the Registrar of the School of Physic, University of Dublin.

QUEEN'S UNIVERSITY, BELFAST.

THE degrees granted by the Medical Faculty of this university are as follows: Bachelor of Medicine (M.B.), Bachelor of Surgery (B.Ch.), Bachelor of Obstetrics (B.A.O.), Doctor of Medicine (M.D.), Master of Surgery (M.Ch.), Master of Obstetrics (M.A.O.). The university also confers a diploma in Public Health. The first three degrees mentioned serve as a qualification for admission to the *Medical Register*, and are not granted separately. In addition to matriculating and passing his professional examinations, a candidate for these degrees must have passed three of the regulation five years as a student at the Belfast School of Medicine.

PROFESSIONAL EXAMINATIONS.

The examinations for the M.B., B.Ch., B.A.O. are four in number. The first deals with: (1) Inorganic, Organic, and Practical Chemistry, (2) Experimental and Practical Physics, (3) Botany and Practical Botany, (4) Zoology and Practical Zoology. It is divided into two parts, of which Botany and Zoology form one. The Second Examination covers Anatomy and Physiology, and may be taken at the end of the second year of the student's career. The Third Examination includes: (1) Pathology, (2) Materia Medica, Pharmacology and Therapeutics, (3) Medical Jurisprudence, and (4) Hygiene. To be valid a certificate in regard to the study of the subjects of this examination must show that the work has been done subject to passing the First Examination.

The Final Examination includes: (1) Medicine, (2) Surgery, (3) Midwifery, (4) Ophthalmology, and Otology. The student may pass in all subjects at once at the end of his fifth year, or he may divide the examination into two parts—namely, (1) Systematic, (2) Clinical, Practical, and Oral. The first part may be taken at the end of the fourth year, but for the second part the candidate may not present himself until the end of his fifth year. No certificate in regard to study of the subjects of this examination will be valid unless the work was done subsequent to passage in all the subjects of the Second Examination.

THE HIGHER DEGREES.

Candidates for the degree of Doctor of Medicine must be graduates in Medicine of at least three years' standing, unless they hold also a degree of the university in arts or science. In that case a standing of two academic years will suffice. Moreover, candidates must be able to show that the interval has been passed in the pursuit of such courses of study or practical work as may be prescribed. The degree may be conferred either (*a*) after a formal examination, or (*b*) in recognition of the merits of a thesis or of some piece of original study or research carried out by the candidate, followed by an oral or other examination in its subject. When an ordinary examination is imposed it will include (1) a written paper on the principles and practice of medicine, (2) a commentary on a selected clinical case, (3) a clinical and viva voce examination, and (4) a written paper and clinical or practical and viva voce examination of a subject chosen from the following list: (1) Human Anatomy, including Embryology, (2) Physiology, (3) Pathology, (4) Pharmacology and Therapeutics, (5) Sanitary Science and Public Health, (6) Forensic Medicine and Toxicology, (7) Mental Diseases. The regulations for the degrees of M.Ch. and M.A.O. are of the same general nature.

NATIONAL UNIVERSITY OF IRELAND.

THE National University of Ireland carries on most of its educational work through three constituent colleges—one in Dublin, one in Cork, and one in Galway. Each of these provides a full medical curriculum, and all candidates for the medical degrees of the university must pass three of their five years of study at one or other of them. These years do not count except after matriculation or recognition as a student of the Medical Faculty obtained in some other fashion. The candidates at each constituent college are examined thereat by the university, and a common standard of education is secured by all courses of instruction and the regulations concerning them having to be approved by the Senate, after considering report thereon from the Board of Studies of the University. In addition to the ordinary degrees in medicine and surgery, the university grants those of Bachelor and Master of Obstetrics, Bachelor and Master of Science in Public Health, and Bachelor and Master in Dental Surgery, as well as diplomas in Public Health and in Mental Diseases.

PROFESSIONAL EXAMINATIONS.

There are four examinations. The first, which should be passed at the end of the first year, includes Part A (Chemistry and Physics) and Part B (Botany and Zoology), which parts candidates may take separately or together. At the end of the second year they should pass in Anatomy and Physiology; and at the end of the fourth year in Pathology, Materia Medica and Therapeutics, Hygiene and Public Health, Forensic Medicine, and Toxicology. The final examination is divided into three parts, each of which may be taken separately—namely, (*a*) Medicine, including Mental Diseases; (*b*) Surgery, including Ophthalmology and Otology; (*c*) Midwifery and Gynaecology.

The higher degrees are obtainable either by examination or on presentation of an approved work, but in each case not less than three years must have elapsed since the candidate acquired the corresponding degree of Bachelor. Information as to the arrangements of each of the constituent colleges will be found in the section relating to Irish Medical Schools.

The Irish Corporations.

There are in Ireland, as in London, three licensing bodies other than the Medical Faculties of Universities, and, just as in London, there are two Royal Colleges of Physicians and Surgeons and an Apothecaries' Hall. The similarity is still more complete, for in Ireland also the two colleges have formed a Conjoint Board, as in London, which is responsible for the recommendation of candidates to the two bodies for their respective licences. The Apothecaries' Hall gives its Licence separately. The Conjoint Board also holds examinations for the diploma in Public Health granted by the two colleges.

THE CONJOINT BOARD IN IRELAND.

This body requires of candidates the passage either of its own preliminary examination in the subjects of general education or proof that the candidate has passed one of the tests accepted by the General Medical Council.

Professional Examinations.

There are four professional examinations, the first of which cannot be passed earlier than the end of the first winter session, nor the fourth before the conclusion of full five years of medical study, and before being admitted to any of them the candidate must show that he has studied the different subjects in practice and theory for the requisite periods, certificates to this effect being accepted from the authorities of most of the recognized medical schools at home and abroad. The first and second examinations deal respectively with (*a*) chemistry and physics, and (*b*) biology; and (*a*) anatomy, and (*b*) physiology and histology. All parts of these examinations, as also of the following one, which deals with (*a*) pathology, (*b*) materia medica, pharmacy, and therapeutics, (*c*) public health and forensic medicine, may be taken separately.

Final Examination.—This is divided into three divisions, which cannot be completed until at least four years have passed in medical studies other than those for the first examination, and five years, at least, since the beginning of the curriculum. The divisions are (*a*) medicine, including fevers, mental diseases, and diseases of children; (*b*) surgery, including ophthalmic and operative surgery; (*c*) midwifery, including diseases of women and newborn children, and the theory and practice of vaccination. Candidates are recommended to present themselves in all the subjects of the Final Examination at one time, but a candidate at or after the end of the fourth year may present himself in any one of the divisions (*a*), (*b*), or (*c*), provided he has completed his curriculum as far as concerns the division in which he presents himself.

Fees.—Preliminary Examination, £2 2s.; re-examination, £1 1s. First Professional Examination, £15 15s.; second, £10 10s.; Third, £9 9s.; Final, £6 6s.; re-examination fee is £2 2s. for each division.

Further information can be obtained from Mr. Alfred Miller, Secretary of the Committee of Management, Royal College of Surgeons, 123, St. Stephen's Green, Dublin.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

Those whose names already appear on the *Medical Register* can obtain the separate Licence in Medicine of this College, and its Licence in Midwifery. In either case an examination has to be passed in the subjects indicated, questions on midwifery, hygiene, and jurisprudence being included in the examination for the Licence in Medicine. For the Licence in Midwifery practitioners of over five years' standing are exempted from examination by printed questions. The other grades of the College are Members and Fellows. The former are admitted after an examination which is open to all university graduates in medicine and Licentiates in medicine of Royal Colleges of Physicians, and deals with the general subjects of medicine. Fellows are selected, by vote, from among the Members.

Fees.—For the Licence in Medicine, 15 guineas; for the Licence in Midwifery, 5 guineas; or 16 guineas for both if they are taken within an interval of a month. Special examinations cost in each case 5 guineas extra. For the Membership, 20 guineas to a Licentiate of the College; 35 guineas to others; a special examination costing 10 guineas extra. The Fellowship £35, in addition to stamp duty, £25. Information as to special examinations and other points can be obtained from the Registrar, the Royal College of Physicians, Kildare Street, Dublin.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

This body, besides granting a Licence in Surgery, admits those possessed of registrable surgical qualifications to its Fellowship under certain conditions. Its Licence is usually granted conjointly with that of the College of Physicians, but it is given separately to holders of a registrable qualification in medicine, provided that the College is satisfied that adequate courses of study have been pursued, and provided its own professional examination is passed. This examination is held on its behalf by the Conjoint Board, and is identical with the ordinary surgical portion of the examinations imposed by that body.

The Fellowship.—Candidates for the Fellowship must pass two examinations, of which the first is in anatomy (including dissections), physiology, and histology; and the second in surgery (including surgical anatomy) and pathology. Both examinations are partly written, partly practical, and partly viva voce; while the final examination includes the performance of operations. All subjects of either examination must be passed at one time, and to neither can a candidate be admitted who has been rejected in any of its subjects by any other licensing body within three months. Candidates are not admitted to the Primary Examination except on evidence that they have already passed an examination in anatomy, physiology, and histology, held by some university or other body whose degrees or licences entitle the holder to admission to the *Register*; if, however, the candidate is a person whose name is on the Colonial or foreign medical *Register*, at the discretion of the Council. Candidates for the Final Examination must be over 25 years of age, produce a certificate of general good conduct signed by two or more Fellows of the College, and, if successful, must make a declaration before admission to the effect that they do not conduct dispensing practices, and will not do so as long as they are Fellows.

Fees.—Candidates for the Licence pay 5 guineas for examination, which sum, if they pass, is counted as part of the fee payable on admission to the Licence, this being 25 guineas. Candidates for the Fellowship pay 5 guineas for each examination, the total of 10 guineas being reckoned as part of the fee payable on admission to the Fellowship. That fee is 25 guineas in the case of those who are already Licentiates, and 40 guineas in the case of others.

APOTHECARIES' HALL OF IRELAND.

A diploma is granted by this Hall which entitles the holder to be registered as a practitioner of medicine, surgery, and midwifery, and confers also the privileges of an apothecary. Two periods of dissection, each not less than six months, must be included, and twenty-seven months of hospital attendance, or its equivalent. Three professional examinations have to be passed; they are held quarterly. The Primary Examination deals with biology, physics, and chemistry, practical and theoretical; the Intermediate Examination is in practical anatomy and physiology, and histology and materia medica. A candidate who has passed tests in any of the subjects of these examinations before another licensing body is exempt from further examination in such subjects. The Final Examination deals with medicine, medical and surgical pathology, medical jurisprudence and hygiene, pharmacy, surgery, ophthalmology, midwifery, and gynaecology. The Hall's own examination in all these subjects must be passed, except in the case of candidates who have already been admitted to the *Register*. These are only examined in subjects not covered by their previous qualifications. Women candidates are eligible.

Fees.—Primary Examination, £5 5s.; Intermediate Examination, £10 10s.; Final Examination, £15 15s.; Final alone, when the others have been passed elsewhere, £21.

Application for other information should be made to the Registrar, 40, Mary Street, Dublin.

MEDICAL SCHOOLS AND COLLEGES.

LONDON.

APART from post-graduate and other special schools, the medical schools of London number as many as fourteen, including in the count two institutions which provide education only in the preliminary and intermediate subjects, under the title of "university centres."

Little guidance can be given in these columns as to choice of one school rather than another, for such choice must depend largely on personal factors. In a general way, however, it may be said that while to the student of to-day it may, perhaps, be almost a matter of indifference to what school he belongs, there is often in after-life a certain advantage in having been an alumnus at one of the more celebrated schools. On the other hand, at the smaller schools more opportunities, perhaps, present themselves to the average man for obtaining student appointments, and especially the coveted posts of house-physician and house-surgeon.

Information as to the fees at the different schools, and the scholarships, prizes, and junior appointments which they offer, will be found in the following pages, and should be carefully studied by those who have no personal reason for preferring one to the other. The courses which they provide are fundamentally the same, and in all of them the arrangements made are such as to meet the requirements of students of every class—of those who are aiming at the diplomas of the Conjoint Board or the Apothecaries' Society not less than of those who have London or other university degrees in view. At all, too, as has been said, special facilities are offered to men who have commenced their professional education at the older universities, Oxford and Cambridge. Apart from these facts, the only point to which attention can usefully be directed is that on personal inquiry and investigation reason may perhaps be found for regarding the teaching accommodation and general arrangements for students at some schools as superior to those at others.

ST. BARTHOLOMEW'S.

THIS institution fills one side of Smithfield and Giltspur Street, sharing with the Post Office buildings a large island of ground separated practically from all other buildings; it is on the edge of the City, and easily reached from all parts of London. The hospital contains 750 beds. Extensive new buildings, opened in July, 1907, occupy part of the ground acquired from the old Bluecoat School, and these materially enhance the attractions of the place as one of medical study. The library and the chemical, physical, biological, and physiological laboratories have now at their side a very large building, which includes club rooms for the Students' Union, a writing room, luncheon and dining halls, new quarters for the resident staff, and an out-patient department and accommodation for special departments of such large size as to be unsurpassed by any hospital in the kingdom. During the year 1909 a second block of new buildings was completed. These form the pathological department, and include, in addition to a new and extensive *post-mortem* room, large and well-equipped laboratories for clinical pathology, pathological histology, bacteriology, and chemical pathology, altogether forming the most complete pathological department in the country. Within the precincts of the hospital also there is a residential college for a large number of students. The Students' Union owns, moreover, grounds of some 10 acres in extent for recreative purposes at Winchmore Hill, which is easily accessible from the hospital.

Special classes are held for students preparing for the Preliminary Scientific and other examinations for the M.B., M.D. of the Universities of London, Oxford, and Cambridge, and for the higher surgical degrees at the same universities, including the M.Ch.Oxon., M.C.Cantab., M.S.Lond., and F.R.C.S.Eng. Special laboratory instruction for the D.P.H. of Cambridge, Oxford, Durham, and London is also given.

Appointments.—Clinical clerks to the physicians and to the physician-accoucheur, and dressers to the surgeons and in the casualty department, are chosen from the students; clerks and dressers are also selected from the students to attend in the out-patient rooms, in the special departments (Ophthalmic, Orthopaedic, Gynaecological, Laryngological, Aural, Dermatological, Electrical, and Dental), and in the *post-mortem* room. Chief assistants and clinical assistants are selected from qualified men appointed yearly to help in the special departments just named. Ten house-physicians and ten house-surgeons are appointed annually. During their first six months of office they act as "Junior" house-physicians and house-surgeons, and receive a salary of £25 a year. During their second six months they become "Senior" house-physicians and house-surgeons, and are provided with rooms by the hospital authorities, and receive a salary of £80 a year. A resident midwifery assistant, an Ophthalmic house-surgeon, and a house-surgeon for diseases of the throat, nose, and ear are appointed every six months, and are provided with rooms and receive a salary of £80 a year. Two Assistant anaesthetists are appointed annually, and receive salaries of £120 and £100 a year respectively. An Extern Midwifery assistant is appointed every three months, and receives a salary of £80 a year.

Scholarships. — Five entrance scholarships are annually awarded after an examination held in September. The subjects of examination and conditions of eligibility for these scholarships are: (1) Two scholarships, value £75 each, in not fewer than two nor more than three of the following subjects—Chemistry, Physics, Botany, Zoology, Physiology, and Anatomy, limited to students under 25 years of age who have not entered on the medical or surgical practice of any London medical school. (2) One scholarship, value £150, in not fewer than three of the following subjects — Chemistry, Physics, Botany, Zoology, and Physiology, limited to students under 21 years of age who have not entered on the medical or surgical practice of any London medical school. (3) The entrance scholarship in Arts, of the value of £100, will be given in Latin and Mathematics, with one other language—Greek, French, or German. (4) The Jeaffreson Exhibition in Mathematics, Latin, and one other language—Greek, French, or German—and of the value of £50. The value of the scholarships and prizes is over £1,000 annually.

Further information and a handbook can be obtained on application to the Dean of the Medical School, St. Bartholomew's Hospital.

CHARING CROSS.

THIS school, with its hospital, is situated in the very centre of London, and is easily accessible from all parts. It is within a few minutes' walk of the University of London laboratories at King's College. Its courses of instruction are specially designed to meet the requirements for the University of London degrees, the diplomas of the Royal Colleges, and the final studies of other universities. The hospital, with its convalescent home at Limpsfield, contains 200 beds. Over 2,000 cases pass through its wards each year, and some 24,000 out-patients and casualties are treated. There are special departments for all classes of work.

The school, alike in the interests of educational efficiency and in accordance with one of the chief recommendations of the University of London—of which it is a constituent college—has an arrangement whereby its students can carry out their work in the primary and intermediate portions of their studies in the laboratories of the University of London (King's College), and situated within a few minutes' walk of the hospital. It enables its students to get the best university education from a large professional and teaching staff in their earlier studies, while still allowing them to take advantage of their own school for social and collegiate purposes.

As a further result of this reorganization the school has now exceptionally large and commodious laboratories for the final studies. A large laboratory, capable of accommodating up to 100 students, is available for general pathological work, demonstrations, and research, and is in the charge of the Lecturer and Assistant Lecturer of Pathology. Systematic demonstrations covering the whole range of pathology are arranged daily throughout each session between 10 a.m. and 5 p.m. Good departments are also available for other final subjects of bacteriology, chemical pathology, materia medica, toxicology, public health, and operative surgery, and also for research work by post-graduates. The school has adapted an exceptionally fine series of its departments for purposes of these studies, and the University of London has taken over these for their departments of public health and bacteriology in King's College, as their "University

Laboratories of Public Health and Bacteriology," and have transferred to them their full professorial and teaching staff.

The museum contains over 4,000 specimens, and has received a notable collection of over 700 gynaecological specimens, "The Cuthbert Lockyer Collection," from one of the members of its hospital and school staff.

The library contains the latest editions of the usual textbooks and the chief medical periodicals. The Students' Club Union includes reading and smoking rooms, cloak room, refreshment room, etc., in which extensive alterations have taken place, adding greatly to the social comfort of the students.

Appointments.—Demonstratorships and assistant demonstratorships are open to students of the school. Medical, surgical, and obstetric registrars to the hospital are appointed annually. Six house-physicians, six house-surgeons, and two resident obstetric officers are appointed each year after competitive examination. They are provided with board and residence in the hospital. Clinical clerks and dressers are appointed in all the general and special departments of the hospital, and arrangements are also made for students who have not entered for the entire medical curriculum to hold these posts. Every student holds in turn the post of pathological assistant and assists at the autopsies, and on the completion of his clinical appointments takes up the duty for three months of pathological clerk in the clinical laboratory under the immediate supervision of the bacteriologist. The above appointments are open without any additional fee.

Fees.—Sessional payments of 17 guineas for the winter session and 8 guineas for the summer session for London University and other university students and 15 guineas and 7 guineas respectively for Conjoint Board students, with an entrance fee of 10 guineas; or a total composition fee for five and a half years' tuition of 120 guineas in the case of London University students, and of 110 guineas for five years' tuition for the Conjoint Board students. Special facilities are offered for students and post-graduates desiring to take up particular classes or work in the wards and special departments of the hospital for longer or shorter periods. The fees are those of the classes attended or in accordance with the period and character of hospital attendance desired. Students and graduates entering for these shorter courses are eligible for the various resident and assistant appointments in the hospital. The above fees are absolutely inclusive, with the exception of vaccination, dispensing, and fever hospital attendance, which have to be taken outside the school.

All information regarding scholarships, prizes, etc., or any further information desired, may be had of the Dean (Dr. William Hunter), the Medical School, Charing Cross Hospital, London, W.C.

St. George's.

This school is at Hyde Park Corner, and is carried on in connexion with St. George's Hospital, an institution having a service of 436 beds, of which 100 are at the convalescent hospital founded by Atkinson Morley at Wimbledon. It provides for the instruction of its students in the preliminary and intermediate subjects of the curriculum at the teaching centres of London University established at King's College and University College. The school at Hyde Park Corner is devoted entirely to the teaching of clinical subjects, great attention being paid by the members of the staff to individual teaching. A number of special courses are given, in which the requirements of university and all other examinations receive careful attention.

The St. George's Hospital Club consists of an amalgamation club, with smoking and luncheon rooms on the hospital premises, and other students' clubs, with an athletic ground at Wimbledon. Students have the advantage of a well-filled library of medical and scientific books. A register of accredited apartments, and a list of medical men and others willing to receive St. George's men as boarders, may be seen on application to the Dean.

Appointments. — Dresserships to the surgeons and clinical clerkships to the physicians are open without fee to all students of the hospital. There is a large number of resident appointments, which may be held for six, twelve, or eighteen months, and are open without fee to every perpetual student of the hospital, and are made strictly in accordance with the merits of the candidates. Besides this, after the student has held a house appointment, the following are, among others, open to him: Medical registrarship at £200 per annum; surgical registrarship at £200 per annum; curatorship of the museum at £200 per annum; assistant curatorship at £100 per annum; obstetric assistantship, resident, at £50 per annum; the post of resident anaesthetist at £100 per annum; the post of senior anaesthetist at £50 per annum; the posts (2) of junior anaesthetists, each at £30 per annum.

Scholarships.—Two university entrance scholarships in anatomy and physiology (70 guineas and £50) are awarded at the commencement of each winter session. The William Brown Exhibition of the value of £100 per annum (tenable for two years) is awarded by examination to a perpetual pupil of the hospital every second year. The William Brown Exhibition of £40 (tenable for three years) is awarded by examination to a perpetual pupil of the hospital every third year. Other prizes to the value of £200 are awarded annually to the students of the hospital.

Fees.—First year (preliminary science or first conjoint) £26 5s., or £21, according to course. Second and third years, £63 in two equal instalments. For the course of clinical study, in the fourth and subsequent years, entrance fee, £10 10s.; annual composition fee, £31 10s. No entrance fee is payable by St. George's students who have studied at King's and University Colleges.

Further information may be obtained from the Dean of the Medical School.

Guy's.

The hospital contains 617 beds in constant occupation; an additional 50 beds have been opened on the medical side of the hospital. Thirty-three beds are set apart for diseases of the eye, and 40 for the most urgent and interesting medical cases, which form the subjects of the weekly clinical lectures. There is a special ward of 32 beds for the reception of cases of diseases of women and for cases of difficult labour. Beds are also allotted to the throat and ear departments, to the orthopaedic department, and to the department for the treatment of diseases of the genito-urinary system.

The medical college fronts the east gate of the hospital, providing accommodation for 60 resident students. This contains a dining-hall, reading rooms, a library of general literature, and a gymnasium for the use of the residents and of the members of the Clubs Union. The athletic ground at Honor Oak Park is reached from the hospital in twenty minutes. The Gordon Museum of Pathology, the Wills Library, the newly-built Departments of Chemistry, Physics, Pathology, and Pharmacology, and the school buildings in general afford unrivalled opportunities for a liberal education and for research. Special classes are held for the Preliminary Scientific and Intermediate M.B. examinations of the University of London and for the first F.R.C.S.Eng. Special teaching is provided to meet the requirements of the Universities of London, Oxford, and Cambridge in general pathology and pharmacology.

Appointments.—All appointments are given to students without extra payment, and according to the merits of the candidates, as determined by a committee of the medical staff. Sixteen out-patient officers, 8 house-physicians, 20 assistant house-surgeons, 8 house-surgeons, 2 ophthalmic house-surgeons, and 9 resident obstetric assistants, are appointed annually. The house-physicians and house-surgeons, obstetric residents and ophthalmic house-surgeons hold office for six months each, and receive free board and lodging in the college. Every student is provided with rooms and commons in the hospital during the period of his "take in" as dresser. In addition to the clerkships and dresserships in the medical and surgical wards, students are appointed to the posts of clinical assistant, dresser, or clerk in the special departments of ophthalmology, laryngology, gynaecology, diseases of children, diseases of the nervous system, dermatology, otology, electricity, anaesthetics, and dentistry. More than 150 additional appointments have been added to the list of those annually open to students of the hospital, the majority of them being in the special departments.

Scholarships, Prizes, etc.—There are two entrance scholarships in Arts; one of the value of £100 open to candidates

under 20 years of age, and one of £50 open to candidates under 25. Subjects: English, Latin, Arithmetic, Algebra, Euclid, and either Greek, French, or German. Three open scholarships in Science: One of £150 and one of £60, open to candidates under 25, and one of £50 to university students who have completed their study of Anatomy and Physiology. Subjects: Anatomy, Physiology, Chemistry, Practical Chemistry, Biology, and Physics. Junior prizes for general efficiency, £20, £15, £10; Hilton prize for Dissection, £5; Michael Harris prize for Anatomy, £10; Sands-Cox Scholarship for Physiology, £15 for three years; Wooldridge Memorial prize for Physiology, £10; Beaney prize for Pathology, £34; Treasurer's gold medal in Medicine, Treasurer's gold medal in Surgery, and the Golding-Bird gold medal and scholarship for Bacteriology (£20) are awarded annually after competitive examination. The Gull Studentship in Pathology and the Beaney Scholarship in Materia Medica, of the annual value of £150 and £31 10s. respectively, are awarded without examination to enable research to be carried on in these subjects. An Arthur Durham Travelling Scholarship of £100 is awarded triennially. The Douglas Research Studentship in Pathology, value £300 per annum, is awarded without examination.

Fees.—An annual composition fee is paid by all students until a registrable qualification is obtained. Further information may be obtained from the Dean of the Medical School.

KING'S COLLEGE HOSPITAL.

THE medical school carried on in connexion with this institution, at Denmark Hill, deals, as do the sister institutions at Westminster and University College Hospitals, with the advanced or final subjects of the medical curriculum. The arrangements for education in these subjects are very complete. The new and up-to-date hospital opens with 224 beds. There are also special departments for diseases of women and children, ophthalmology, otology, laryngology, dermatology, and dental surgery; pathological and vaccine departments are also included.

Appointments.—Sixteen resident medical and surgical officers are appointed yearly, as well as dressers and clerks in the wards, out-patient departments, *post-mortem* room, and special departments. Each of the special departments has also a senior clinical assistant, and there are six registrars, most of whom receive salaries or honorariums. There is also a Union Club, which combines athletics, music, and other societies connected with the school, and provides also a common room.

Fees.—The composition fee is 70 guineas if paid in one sum, or 72 guineas in two instalments, one of 40 guineas at entrance and the other of 32 guineas at the commencement of the second year.

The prospectus of the school can be obtained on application to its Secretary, Mr. Clifton Kelway, King's College Hospital, Denmark Hill, S.E.

THE LONDON.

THIS hospital (which contains 922 beds) and its medical college and dental school are in the Mile End Road, Whitechapel. All the departments are modern, and adapted for the teaching of all subjects in the curriculum. Special classes for the first and second M.B.Lond., the primary and final Fellowships, and other examinations are held. Those for the final and primary F.R.C.S. commence early in September. A special course for the D.P.H. will commence at the beginning of the winter session. A residential hostel on hospital ground has been opened for the convenience of students who wish to live near the wards and casualty departments. The college athletic club is at Highams Park, and is open to all members of the Clubs Union.

Appointments.—The salaried appointments open to students are those of medical registrars (3), surgical registrars (3), obstetric registrar, registrars in the ear, nose, and throat department (2), medical, surgical, and obstetric tutors; senior dressers to out-patients; clinical assistants in the medical, surgical, ophthalmic, aural, light and skin, orthopaedic, and electrical departments. There are 2 resident accouchcurs, 6 resident house-physicians, and 8 resident house-surgeons, 7 receiving-room officers, 2 emergency officers, 1 assistant director of Pathological Institute, and 3 pathological assistants, also paid and unpaid clinical assistants in the various special departments. In addition there are numerous assistantships, clerkships, and dresserships in the various departments.

Scholarships and Prizes.—The following is a list of scholarships and prizes: At Entrance: Price Scholarship in Science, £160; in Anatomy and Physiology, £52 10s.; Entrance Scholarship in Science, £50; Epsom Scholarship, £126; Buxton Scholarship in Arts, £31 10s. After Entrance: Anatomy and Physiology Scholarship, £25; Letheby Prizes, £25; Prizes in Clinical Medicine, Surgery, and Obstetrics, £20 each; Duckworth Nelson Prize, £10; Hutchinson Prize, £40; Sutton Prize, £20; Sir Andrew Clark Prize, £26; Anderson Prizes, £9; Dressers' Prizes, £40; Practical Anatomy Prizes, £10; Douro Hoare Prize, £5; Wynne Baxter Prize, £5 5s.; Harold Fink Prize in Dental Surgery, £5 5s.; Prize in Dental Microscopy, £5; Frank Farmer Prize, £5 5s. The London Hospital Medical College and the Eliza Ann Alston Medical Research Funds amount to over £21,000.

Fees.—Full course, entrance fee, 15 or 20 guineas, according to examinations passed; annual fee 30 guineas, commencing with second year. Full information may be obtained from the Dean at the London Hospital Medical College, Mile End, E.

ST. MARY'S.

THIS school and its hospital are situated in Praed Street, in the neighbourhood of the residential districts of Paddington, Bayswater, and North Kensington, and is thus especially convenient to students who wish to reside in the immediate vicinity. A register of approved lodgings is kept in the office of the Medical School.

The athletic ground at Park Royal, Acton, is easily accessible from the Medical School. It is seven acres in area, and provides ample accommodation for the various athletic clubs; the pavilion is large and well equipped.

The hospital at present contains 301 beds, of which 31, situated in the new wing, are devoted to treatment by therapeutic inoculation. This wing also contains the department for Therapeutic Inoculation, which consists of a large block of consulting rooms, waiting rooms, and laboratories under the direction of Sir Almroth Wright.

The out-patient department, situated on the ground floor, has been in use for some years, and an additional operating theatre has recently been opened. During the past year the Casualty Department has been rebuilt and more accommodation provided.

The Medical School provides complete courses in the preliminary and intermediate subjects of the curriculum which are recognized by the University of London as approved courses for internal students. Students may join in October, January, or April.

The departments of biology, chemistry, anatomy, physiology, and pathology are under the direction of full-time lecturers, and special courses are provided twice yearly for the Primary F.R.C.S. In addition special tuition is provided for the Intermediate and Final Examinations of the Universities of Oxford, Cambridge, and London, and for the Final F.R.C.S.

All clinical appointments in the hospital are free to students of the school, the term of office in each case being of four months' duration, and the resident medical officers are chosen by competitive examination. Six house-physicians, six house-surgeons, four obstetric officers, two resident medical officers to the inoculation wards, and two resident anaesthetists are appointed each year, and receive board and residence in the hospital. A large number of salaried appointments are open annually to qualified students, including those of medical registrar, surgical registrar, casualty physician, casualty house-surgeon, assistant curator, together with several demonstratorships. In the Inoculation Department there are nine assistantships, the salaries of which amount to £1,600 per annum.

In appointing to these posts preference is given to students of St. Mary's.

Scholarships.—There are Entrance Scholarships in Natural Science. One of £100, one of £50, one of £26 5s., and two University Scholarships of £52 10s. awarded annually by competitive examination in September.

Fees.—The composition fee for students is £140 if paid in one sum, or £145 if paid in four instalments. University students who have completed their examinations in anatomy and physiology are admitted on payment of a composition fee of 65 guineas (£68 5s.) paid in one sum, or 70 guineas (£73 10s.) if paid in two annual instalments. Separate courses of lectures, laboratory work, or hospital practice may be taken.

The School Calendar and full information can be obtained from the Secretary, St. Mary's Hospital Medical School, Paddington, W.

THE MIDDLESEX.

THE school and hospital are in Mortimer Street, W., close to Oxford Circus, Goodge Street, and Portland Road stations. There is a residential college for a limited number of students overlooking the hospital garden, a gymnasium within the precincts of the hospital, and an athletic ground within easy distance at Park Royal. The hospital contains 440 beds, including a wing containing 90 beds for patients suffering from cancer, and special cancer investigation laboratories, which offer unrivalled opportunities for the study of this disease, both in its clinical and pathological aspects. In connexion with the investigation laboratories, there are several valuable scholarships awarded.

There are special wards for maternity and gynaecological cases, and for diseases of children and of the skin and eye.

There is a clinical laboratory under the charge of a director, where all bacteriological, chemical, and microscopical examinations of material from the wards, operating theatres, and out-patient departments are carried out. Senior students are eligible for clerkships in this laboratory, and every facility is given for original investigation.

In the electro-therapeutical department special attention is given to the treatment of lupus and cancer by the *x* ray, and opportunities are afforded to students wishing to become acquainted with the use of the apparatus employed in this method of treatment.

Appointments.—Twenty-two resident appointments are open annually for competition among students of the hospital. The officers reside and board in the residential college free of expense. Two Casualty medical and two Casualty surgical officers, and two resident officers to the special departments, are appointed annually. Eight house-surgeons are appointed every year at intervals of two months, after examination; six house-physicians are also appointed annually at similar intervals. An Obstetric and Gynaecological house-surgeon is appointed every six months. In the Out-patient departments the appointments are: Clerk and dresser to the physicians and surgeons to out-patients; clerk in the departments for Diseases of the Skin and Nervous Diseases; dresser to the department for Diseases of Women, to the ophthalmic surgeon, to the Throat and Ear department, and to the dental surgeon. Extern midwifery clerks and *post-mortem* clerks are also appointed. The appointments are so arranged that every student may, during his course, hold all the Out-patient and In-patient clerkships and dresserships. Students must have held an Out-patient clerkship and dresserships before being eligible to hold In-patient clerkships or dresserships. No student can be appointed to any of these offices until he has passed the Second Examination of the Examining Board in England or its equivalent. Non-resident qualified clinical assistants are appointed in the Medical, Surgical, Skin, Neurological, Ophthalmic, Throat and Ear, Odontological, Children's, and Electro-Therapeutical Out-patient departments.

Scholarships.—Three Entrance Scholarships, value £100, £50, and £25 respectively, are open to students commencing their medical studies in April or October, 1913. An annual Entrance Scholarship, of the value of £50, is open to students of the Universities of Oxford and Cambridge who have completed the curriculum for, or passed the examinations in, anatomy and physiology. The examination for these scholarships will take place on September 22nd, 23rd, and 24th. Application for admission must be made on or before September 13th. Students joining the school in the previous April are eligible. The Freer Lucas Scholarship, value £126, is annually awarded on the nomination of the head master to a pupil of Epsom College who has passed the first examination for medical degrees (Preliminary Scientific Examination). There is also a scholarship, value £50, awarded annually to students from New Zealand. In addition to the Entrance Scholarships there are a number of other valuable scholarships, prizes, and exhibitions open to students of the hospital, including the Broderip Scholarships, value £60 and £40; Lyell Gold Medal and Scholarship, value £55 5s.; Freeman Scholarship, value £30; John Murray Gold Medal and Scholarship, value £25; Hetley Clinical Prize, value £25; Leopold Hudson Prize, value 11 guineas; and the Second Year's Exhibition, value 10 guineas.

Fees.—The composition fee for students taking the London University degree is 145 guineas, or by five equal annual instalments of £32 11s. For those who have passed the first examination for medical degrees (Preliminary Scientific) the fee is 120 guineas, or by four equa annual instalments of £34 2s. 6d. Students taking the Conjoint Board diploma pay 135 guineas, or by five equal annual instalments of £30 9s. Students who have passed the First Professional Examination (chemistry, physics, and biology) pay 115 guineas, or by four equal annual instalments of £32 16s. 3d. For members of universities and others who have completed their anatomical and physiological studies the fee is 70 guineas, or by three equal annual instalments of £26 5s. Students who intend to take the dental diploma pay 54 guineas, or by two equal annual instalments of £31 10s. For those who have completed the Preliminary Scientific Examination the fee is 46 guineas, or by two equal annual instalments of £27 6s.

Further information may be obtained on application to the Dean.

ST. THOMAS'S.

THIS school, and the hospital in connexion with which it works, is situated in Lambeth, the joint buildings on the Thames facing the Houses of Parliament, and forming one of the well-known architectural features of London.

The school buildings are separated from the hospital by a quadrangle on which there are cricket practice nets for the use of the students, and comprise numerous theatres, laboratories, and class rooms well adapted for the modern teaching of large bodies of students in the subjects of the medical curriculum. A splendid library and reading room and a complete museum are open to all students from 9 a.m. to 5 p.m.; Saturdays, 2 p.m. The club premises contain a dining room and smoking and reading room supplied with daily and illustrated weekly papers, and a gymnasium. Good meals are obtainable at a moderate tariff, with facilities for exercise and recreation. A cloak room with lockers, and a lavatory with bath rooms, are in the main school building. Students are thus able to spend the whole day at the school. The sports ground of more than nine acres in extent is at Chiswick. It can be reached in forty minutes from the hospital; it is admirably adapted for football, cricket, lawn tennis, and athletic sports.

The hospital contains 604 beds, and in addition to the ordinary provisions of a great hospital has connected with its out-patient department physicians' and surgeons' rooms provided with ample sitting accommodation, so that large numbers of students are enabled to follow closely the practice and teaching of the out-patient staff. There is a full complement of special departments, and connected with the hospital a special tuberculosis department gives opportunity for instruction of students. There is a clinical theatre, centrally situated, so as to facilitate the illustration of lectures by patients from the wards and out-patient room: it is arranged also for lantern demonstrations. The maternity ward, containing 20 beds, affords students full facilities for maternity training, under supervision, within the precincts of the hospital. This obviates any necessity for seeking instruction elsewhere, and fully prepares the student for the extern maternity practice of the hospital district. The revised regulations of the examining bodies can thus be fully complied with.

Appointments.—All hospital appointments are open to students without charge. A resident assistant physician and a resident assistant surgeon are appointed annually at a salary of £150 each, with board and lodging. Two hospital registrars, at an annual salary of £100 each, are appointed yearly. The tenure of these offices may be renewed for a term not exceeding two years. Eight resident casualty officers and anaesthetists are appointed every six months. An obstetric tutor and registrar is appointed each year at an annual salary of £50. Four house-physicians, four house-surgeons, two obstetric house-physicians, two ophthalmic house-surgeons, and eight clinical assistants in the special departments are appointed every three months, and hold office for six months if recommended for re-election. Clinical clerkships and dresserships to the in-patient and out-patient departments are available to the number of 400 each year.

Scholarships.—There are five entrance scholarships offered: Two in Arts, giving one year's free tuition; one of £150 and one of £60, in Chemistry, Physics, and Biology, for students who have not received instruction in Anatomy or Physiology; one of £50 in any two of the following subjects: Anatomy,

Physiology, or Chemistry, for students who have completed their examinations in Anatomy and Physiology, for a medical degree in any of the universities of the United Kingdom, and have not entered as students in any London medical school. Numerous scholarships, prizes, and medals are open for competition throughout the whole career of a student, including a Fellowship of £100 given by the Salters' Company for research in Pharmacology, and the Louis Jenner Research Scholarship of the annual value of £60 for Pathological research.

Fees.—The entrance fee for second year's students is 20 guineas; for third year's students 10 guineas. The annual composition fee is 30 guineas. For Preliminary Science students the fee is 15 guineas. No extra charges are made for materials required in practical courses. Special courses of instruction are given for various examinations, and a register of lodgings is kept at the school. A list of medical practitioners, clergymen, and others who receive students is also available. Further information may be obtained from the Secretary of the School, St. Thomas's Hospital, Albert Embankment, S.E.

University College Hospital.

THE school, which forms part of the Corporation of University College Hospital, is in immediate proximity to the hospital in University Street and opposite University College. Its work is carried out in a building erected through the munificence of the late Sir Donald Currie, and opened in September, 1907.

The medical school comprises departments of medicine and clinical medicine, surgery and clinical surgery, midwifery and gynaecology, pathology including morbid anatomy, clinical pathology and bacteriology, cardiography, forensic medicine, mental physiology and mental diseases, dental surgery, practical pharmacy, and other departments for the study of special diseases, such as those of the eye, skin, ear, and throat, and for instruction in anaesthetics, electro-therapeutics, and radiography.

The school thus provides the final course of study for the degrees of the Universities of London, Oxford, Cambridge, and Durham, and for the diplomas of the Royal Colleges of Physicians and Surgeons, and the Licence of the Society of Apothecaries. Special bacteriological classes are also held in preparation for the various diplomas of public health.

Each of the departments is also equipped for more advanced work, and provides facilities for research.

A student may enter the medical school at the commencement of his career, in which case he will pursue his preliminary and intermediate studies at the University of London, University College, and his final studies in the school. He may also enter the school for the final studies after having completed his preliminary and intermediate studies at any recognized university or school.

Scholarships.—The following scholarships and prizes are open to competition: Two Entrance Exhibitions of 80 guineas each, awarded after a competitive examination in anatomy and physiology; Graham Scholarship in pathology of a sum not exceeding £200 per annum; the Atkinson Morley Scholarship of £45 a year for three years, awarded after examination in the theory and practice of surgery; the Atchison Scholarship of £55 a year for two years for general proficiency in medical studies; the Filliter Exhibition in pathology of £30; Graham Gold Medal for research work; four Fellowes Medals in clinical medicine; Liston Medals in clinical surgery; the Bruce Medal in pathology and surgery; two Tuke Medals in pathology, and the Erichsen Prize for practical surgery.

Appointments.—All the appointments at the hospital are reserved for students of the school, the dresserships and clerkships being open, of course, to those who have still to qualify. The qualified appointments, in addition to a number of posts as house-physicians and house-surgeons and obstetric assistants, include the appointments of resident medical officer, surgical registrar, obstetric registrar, casualty medical officers, casualty surgical officers, assistant in ear, nose, and throat department, assistant in ophthalmic department, registrar in anaesthetic department, and deputy anaesthetists.

Fees.—The fee for the full course of final studies at the school is 80 guineas if paid in one sum, or 82 guineas if paid in two instalments.

Westminster.

THIS school, with its hospital, situated in Broad Sanctuary, opposite Westminster Abbey, provides for the education of its students in the preliminary and intermediate subjects of the University of London established at King's College. The rest of the work is done in the school buildings near the hospital, which contains upwards of 200 beds, and affords most ample facilities for instruction in all branches of medicine and surgery.

Appointments.—A medical and surgical registrar are appointed annually, each with a salary of £50. Two house-physicians, three house-surgeons, one assistant house-physician, one assistant house-surgeon, and a resident obstetric assistant are appointed after examination, and are provided with rooms and commons, except the assistant house-physician and the assistant house-surgeon, who are provided with commons only. The assistant house-physician after three months' service becomes house-physician for a further period of six months, and the assistant house-surgeon, after two months' service, becomes house-surgeon for a further period of six months. Clinical assistants to the assistant physicians and assistant surgeons, and to the officers in charge of special departments, are appointed from among qualified students. Every student must perform the duties of out-patient dresser for four months, and afterwards hold the office of in-patient dresser for four months. He is also required to serve two terms of four months each as medical clinical clerk to in-patient physician and one term as gynaecological clinical clerk. Two Pathological clerks are appointed every four months to assist in the *post-mortem* room. No student is eligible as an in-patient dresser or clinical clerk until he has passed the Second Examination of the Conjoint Board, or an equivalent examination. Clerks and dressers in the special departments of hospital practice are periodically appointed. So far as vacancies permit, students of other hospitals are admitted to in-patients' dresserships or clerkships.

Scholarships.—The following scholarships are offered for competition during the year 1913-14. In the summer session two natural science scholarships, £60 and £30, and one in Arts, £60 (and again in July, 1914). In the winter session two scholarships in anatomy and physiology, £50 each. In the spring two scholarships in anatomy and physiology, £50 each; one science scholarship, £40.

Fees.—The annual composition fee is 25 guineas, and an entrance fee of 15 guineas is payable by every student, including scholars. Under certain conditions 10 guineas of the entrance fee is returnable on qualification. Special terms are given to the sons of medical men. These fees include subscriptions for membership of the Clubs Union.

Further information can be obtained on application to the Dean at the Westminster Hospital Medical School, Caxton Street, Westminster, S.W.

London (Royal Free Hospital) School of Medicine for Women.

THIS school is carried on at 8, Hunter Street, Brunswick Square, in connexion with the Royal Free Hospital, and it is, like all the other London schools which have so far been mentioned, one of the constituent schools of the Medical Faculty of London University. The new school buildings, among the best of their kind, were completed in 1900 at a cost, with equipment, of over £35,000. The laboratories are large and well lighted, and are fully equipped for the first and second medical examination courses of the University of London. A large library and common room are provided for the use of the students, and sets of chambers to accommodate sixteen students.

The hospital has 165 beds, all of which are available for clinical instruction. There are also separate departments for gynaecology and obstetrics, and diseases of the eye, ear, and skin. Instruction is given in anaesthetics, bacteriology, etc., in addition to the ordinary clinical lectures and demonstrations and tutorial classes. Students also attend the practice of one of the fever hospitals of the Metropolitan Asylums Board, and receive special instruction in lunacy at Bethlem Hospital; they are also admitted to the practice of a number of special hospitals.

The work of the school includes preparation for the M.B., B.S.Lond., the diplomas of the Royal Colleges of England and of the Conjoint Boards of Scotland and Ireland, and the Society of Apothecaries, London; also for the greater part of the course required by the University

of Durham and the other universities of England which admit women to their degrees, and the University of Glasgow; also for the medical school and general hospital course for dental students.

Appointments.—Qualified students of the school can obtain appointments as house-physician and house-surgeon, obstetric assistants, surgical and medical registrars, anaesthetists, medical electrician, radiographer, curators of the school and hospital museums, and clinical assistants and demonstrators in various subjects.

Scholarships.—The Isabel Thorne Entrance Scholarship value £30, the St. Dunstan's Medical Exhibition value £60 a year for three years, extendible to five years, and the Mabel Sharman-Crawford Scholarship value £20 a year for four years, are offered for competition in each year. The Bostock Scholarship, value £60 a year for two or four years, is awarded by the Reid Trustees on the result of an examination held in May by the University of London. The holder of the scholarship must enter the London School of Medicine for Women. The Agnes Guthrie Bursary for Dental Students, value £60, is awarded each year. The John Byron Bursary of £20 a year for two years, the Helen Pridcaux Prize of £40, the Mabel Webb Research Scholarship of £30 for two years, the Fanny Butler Scholarship of £14 10s. a year for four years, together with many other scholarships and prizes, are offered on sundry conditions. Various missionary societies also offer scholarships on certain conditions, and assist ladies who wish to go to India and other countries as medical missionaries.

Fees.—University of London and diplomas of Royal Colleges of England, first medical examination course, £25: course for second and third medical examinations, £135; course after second medical examination, £90. Composition fee for course of study for other qualifications, £140.

Full particulars as to curriculum and scholarships can be obtained from the Secretary, Miss L. M. Brooks, 8, Hunter Street, W.C.

KING'S COLLEGE.

SINCE the incorporation of King's College in the University of London, the instruction given to medical students is carried out there in the classes of the Faculty of Science (Medical Division), and deals only with the subjects of the preliminary and intermediate parts of the curriculum. King's College Hospital (which see) is now a separate institution, and the studies for the final examinations only are carried out there.

A special class for the Matriculation Examination is also held.

There is a large athletic ground at Wormwood Scrubbs, managed by the Students' Union Society.

Scholarships.—The entrance scholarships are: 1. Two to four Warneford Scholarships, each £25 for four years; subjects—mathematics, classics, divinity. 2. One Sambrooke Exhibition of £25 for two years, open; subjects of examination—mathematics, elementary physics, inorganic chemistry, botany, and biology. The holders of the preceding awards must proceed to King's College Hospital. 3. Rabbeth Scholarship, value £20, in July, for best evidence of early scientific training.

Fees.—Information as to fees should be obtained from the Dean of the Medical Division of the Faculty of Science at the College. He attends daily, except Saturday, for the purpose of receiving students and their friends.

For conditions of scholarships and subjects of examinations apply to the Dean or the Secretary, King's College, who will send a full prospectus post free.

UNIVERSITY COLLEGE.

THIS institution, one of the principal component parts of the University of London, possesses a Faculty of Medical Sciences whose work covers all the subjects included in the group commonly known as the preliminary medical sciences—namely, physics, chemistry, botany, and zoology; and also the intermediate medical sciences—namely, anatomy, physiology, and pharmacology. The Department of Hygiene and Public Health prepares for the diplomas in public health of the Royal Colleges and of the various universities. Research work is undertaken in all the above-named departments, as well as in pathological chemistry, the work of which is entirely post-graduate. It undertakes the education of students in all the subjects mentioned, leaving them free to complete their education in the strictly professional subjects—medicine, surgery, and the like—at any one of the recognized schools of advanced medical studies. The work is somewhat differently arranged, accordingly as whether the student has in view the degrees of the University of London or the diplomas of the Royal Colleges. In either case the whole work to be done is divided into courses devised to meet the requirements of different examinations, and students can join the College for any of them. The general arrangements for the benefit of students include membership of the Union Society, with its gymnasium and athletic ground. There is also a collegiate residence for about forty students at Ealing.

Scholarships.—The scholarships and exhibitions obtainable include the Bucknill Scholarship, value 135 guineas, in chemistry, physics, botany, and zoology (the successful student must complete his work at University College Hospital Medical School), and two entrance exhibitions on the same subject, each of the value of 55 guineas.

Fees.—The fees for the courses covering the work of the First Examination for medical degrees of the University of London, and in both parts of the Second Examination, amount to 86 guineas. The fees for the courses covering the corresponding examinations held by the Conjoint Board in England come together to 79 guineas. These fees may be divided into payments for the different courses which it may be desired to take out, but do not cover tuition for more than a stated period.

A handbook specially relating to this faculty may be obtained on application to the Provost of University College.

COOKE'S SCHOOL.

THIS school is prepared to admit to its supplementary work all who may wish to join the same, but in regard to its curriculum work it does not receive more than half a dozen students in the course of the year; these have special advantages, both as regards anatomy and physiology. The fees, we are informed, are but slightly in excess of current charges. The operations of surgery are performed on the dead body. Such courses are recognized for promotion examination in the services.

The school, which is open all the year round, possesses a good collection of anatomical models, physiological and chemical apparatus, and gentlemen preparing for the higher examinations (F.R.C.S.Eng., M.B.Cambridge, Oxford, London, etc.) receive special instruction in the more difficult subjects. Other information may be obtained from the Secretary on the school premises, Handel Street, W.C.

THE PROVINCES.

THERE are in England and Wales, not counting London, ten medical schools, each, with one exception, supplying instruction in the full medical curriculum. Accounts of them here follow, these being placed more or less roughly in the order of their foundation. In several cases there is appended information concerning other hospitals than those directly connected with the school in question; such hospitals, officially and unofficially, play a part in the education which the students of the school receive, and in any case serve as places of additional or post-graduate study.

OXFORD AND CAMBRIDGE.

THE medical schools of these ancient seats of learning play a very important part in medical education. At both there are unsurpassed opportunities for obtaining a good knowledge of the preliminary sciences and of anatomy and physiology, and the same might be said with equal, if not greater, truth in respect of pathology. All the laboratories are very completely equipped, and the teaching staffs most distinguished. Each of these schools provides a full medical curriculum, and there is no essential reason why the student should not complete his career at either of them, but this is not commonly done. The local hospitals are comparatively small, so the authorities encourage the students, so soon as they have completed the earlier examinations, to join some London school, and thus spend the time of their preparation for the final examination in a city where the opportunities for gaining clinical knowledge are greater and more varied. Most of the London schools make for such students special arrangements, information as to which can be obtained from the respective Deans.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.

THIS, the Medical School of the Faculty of Medicine of the University of Durham, is in the neighbouring city, Newcastle-on-Tyne. Its classes and lectures are arranged to meet the requirements of the university in all the degrees which the latter grants, and also those of the other examining bodies. The students do their work in the preliminary sciences at Armstrong College, also part of the university, and then carry on their studies in the new Royal Victoria Infirmary, an institution with over 400 beds and special accommodation for the benefit of students. In a new wing of the school itself there are the departments of bacteriology and physiology. There are also in this wing a gymnasium and a set of rooms for the use of the Students' Union.

Appointments.—Assistant demonstrators of anatomy and prosectors for the professor of anatomy, assistant physiologists, pathological assistants, assistants to the dental surgeon, and assistants in the eye department, throat and ear department, and department for skin diseases, are elected annually. Four times in the year clinical clerks and dressers are appointed for three months.

Scholarships.—A University of Durham Scholarship, value £100, for proficiency in arts, open annually at the beginning of the winter session to intending students. The Pear Scholarship, value £150, for proficiency in arts (when vacant). The Dickinson Memorial Scholarship, interest of £400, with a gold medal, for medicine, surgery, midwifery, and pathology, open to perpetual students in their fifth year. The Tulloch Scholarship, interest of £400 annually, for anatomy, physiology, and chemistry, for students at the end of their second year. The Charlton Memorial Scholarship, interest of £700 annually, open to full students entered for the class of medicine, at the end of their fourth or fifth winter. The Gibb Scholarship, interest of £500 annually, for pathology, at end of summer session. The Goyder Memorial Scholarship, proceeds of £325; subjects: Clinical medicine and clinical surgery. Luke Armstrong Memorial Scholarship, proceeds of £680, for best essay in some subject in comparative pathology. The Stephen Scott Scholarship in Surgery, interest on £1,000 annually. The Heath Scholarship in Surgery, interest on £4,000, awarded every other year. First award in 1896.

Fees.—The composition fee for the university course is 72 guineas. Other information should be sought from the Secretary of the School at Newcastle.

Other Hospitals.—(1) In the *Hospital for Sick Children* there are 76 beds, besides an isolated block for infectious and doubtful cases. The practice of the hospital is open free to all students or qualified practitioners. The number of in-patients average about 900 a year. The out-patient department is distinct from the hospital, being carried on in buildings erected in the central part of the city. The number of out-patients in 1910 was 10,854. (2) At the *Infirmary for Diseases of the Eye* there are 20 beds. Its out-patients number 6,600 annually. Clinical instruction is given daily from 11 a.m. to 1 p.m.

BIRMINGHAM.

THE Medical School in this city is carried on by the Medical Faculty of the University of Birmingham, its students having an adequate number of good laboratories, class rooms, and other necessaries devoted to their use by the university. The clinical work is done at the General and Queen's Hospitals, which are amalgamated for this purpose. Together they have upwards of 500 beds for medical, surgical, and special cases, and with an array of special departments of all kinds, including a large maternity department. Clinical instruction is given in the wards and out-patient and special departments daily, and formal clinical lectures delivered weekly throughout the winter and summer sessions. Special tutorial classes are also held alike for the degrees of Birmingham and some other universities and for the diplomas of Corporations.

Appointments.—The large number of appointments open to past or other students include the following:—At the General Hospital: One resident medical officer, salary £100 a year. One resident surgical officer, salary £100 a year. One resident pathologist, salary £50 a year. Two non-resident casualty assistant physicians, salary £50 a year. Three non-resident surgical casualty officers, salary £50 a year. Two non-resident anaesthetists, salary £50 a year. Four house-surgeons, office tenable for nine months, £50 a year. One house-surgeon to the gynaecological and one to the ophthalmic and aural departments, each tenable for six months, £50 a year. Three house-physicians, post tenable for six months, £50 a year. One resident medical officer at the Jaffray Branch Hospital, salary £150 a year. One resident assistant at the Jaffray Branch Hospital, tenable for three months. At the Queen's Hospital: Three house-physicians and three house-surgeons (post vacant in January and April). One obstetric and ophthalmic house-surgeon (post vacant in April and October). These appointments are tenable for six months. Salaries at the rate of £50 per annum, with board, lodging, and washing. One resident dresser, tenable for three months: candidates must previously have attended all their lectures, etc., and need not be qualified. At the Maternity Hospital: One house-surgeon, salary £50 a year. At the City Workhouse and Workhouse Infirmary: Five resident medical officers. At the Birmingham General and Branch Dispensaries: Twelve resident surgeons. At the Birmingham Lunatic Asylums: Five assistant medical officers. At the City Fever Hospitals: Three assistant medical officers. At the Children's Hospital: One resident surgical officer, one resident medical officer. At the Birmingham and Midland Eye Hospital: Four resident surgeons. At the Orthopaedic and Spinal Hospital: Two clinical assistants (non-resident). At the Ear and Throat Hospital: One house-surgeon, £70 a year; four clinical assistants (non-resident). There are also four non-resident Poor Law appointments in the gift of the Board of Guardians.

Scholarships.—There are numerous money and other awards for students of sufficient merit, among them being the following: The Walter Myers Travelling Studentship of £150; the Sands-Cox Scholarship of £42 (an entrance scholarship in the Faculty of Medicine, awarded on matriculation marks); four Queen's Scholarships of £10 10s. each, awarded annually at the second, third, fourth, and final university examinations respectively; one or more Sydenham Scholarships, allotted on entrance to students who are the sons of deceased medical men. The Ingleby Scholarship of £10 for proficiency in midwifery and diseases of women. There is also an entrance scholarship of £37 10s. for students proceeding to a degree in dental surgery, besides prizes in money for successful class work by senior and junior students.

Fees.—The composition fee is £85. This covers all the work required for the degrees of Birmingham and some other universities, and for the ordinary qualifications of licensing corporations, but not the additional courses required for the Fellowship of the Royal College of Surgeons of England, the diploma and degrees of the university in State medicine and some other special work. Other information should be sought from the Dean of the Medical Faculty.

MANCHESTER.

THE staff of the Medical School in this city constitutes the Medical Faculty of the Victoria University, all the arrangements for the instruction of students, both in their earlier and their later studies, being of an elaborate nature. The clinical work of the undergraduates is done chiefly in connexion with the Royal Infirmary, an institution which itself contains about 592 beds, and has associated with it a large convalescent home and the Royal Lunatic Asylum at Cheadle. Instruction in practical gynaecology and midwifery is given at the Royal Infirmary and the St. Mary's Hospitals.

Appointments.—The following are among the appointments open to past and present students of this school in connexion with its arrangements for clinical tuition: A surgical registrar, at £75 per annum; a pathological registrar, at £100 per annum; a medical registrar, at £75 per annum; a surgical tutor, at £30 per annum; a director of the clinical laboratory, at £250 per annum, and one assistant director, at £75; three assistant medical officers and three assistant surgical officers, each at £35 per annum; one assistant medical officer, Aural department, at 35 guineas per annum; five anaesthetists, at £50 per annum each; medical officers for radiography and electricity, £100 per annum; medical officer for home patients, one year, £150 per annum; resident medical officer, one year, £150 per annum; ditto, at Cheadle, one year, £150 per annum; resident surgical officer, one year, £150 per annum; two resident medical officers for Central Branch, £100 per annum; accident room house-surgeon, six months, £100 per annum; an assistant medical officer at the Convalescent

Hospital at Cheadle, appointed every six months, at a salary of £80 per annum; eight senior and eight junior house-surgeons and ten house-physicians, appointed during the year for a term of six months. Resident officers are appointed to the Gynaecological, the Eye, and the Ear and Throat departments every six months. Four or more clinical clerks are attached to each physician and assistant physician, and four or more dressers to each surgeon and assistant surgeon, to the Gynaecological surgeon and assistant Gynaecological surgeon, to the Ophthalmic surgeon, and to the surgeon for the Ear and Throat department, and four or more clerks to the Pathologist, two clerks to the Director of the Clinical Laboratory, and a number of clerks, not exceeding six, are appointed to assist the medical officer for home patients. Accident-room dressers will be appointed every three months, three senior dressers and twelve or more junior dressers.

Entrance and other Scholarships.—The following are among the scholarships obtainable by students of the school: Rogers and Seaton Scholarships in Arts (in alternate years), £40 per annum, tenable for two years. Two Dalton (entrance) Scholarships in Mathematics, tenable for two years, value £40, one being awarded annually, except in such years as a Cartwright Scholarship is awarded. Cartwright Scholarship, £35 per annum, tenable for three years. Three Hulme Scholarships, tenable for three years, of £35, one being awarded annually for proficiency in subjects of general education. Two James Gaskill Scholarships of £35, tenable for two years, one being awarded annually for proficiency in the branches of Mechanics and Chemistry. A Dora Muir Scholarship, £30 per annum, tenable for three years, and open to the competition of women students only. This is awarded triennially; next competition in May, 1914. Sir J. P. Kay-Shuttleworth Scholarship, £50 per annum, tenable for three years, open to the competition of scholars from Sedbergh School, Giggleswick School, and Burnley Grammar School. Subjects: Mathematics, Chemistry, and Mechanics. Dreschfeld Memorial Scholarship, value £30, awarded annually on the results of the Matriculation Examination. A Theodores Modern Languages Exhibition, £20, awarded annually. Two Dauntesey Medical Scholarships, value £45 and £35, tenable for one year, for candidates who have not commenced the second year of study leading to a medical qualification. Subjects: Zoology, Botany, and Chemistry. Two Entrance Scholarships in Medicine, value £100, awarded annually for proficiency in Arts or Science respectively. Two Research Fellowships in Public Health of £50 each, awarded annually. Tom Jones Exhibition in Anatomy: £25, offered annually. Robert Platt Physiological Exhibitions: Two, about £15 each, offered annually. A Robert Platt Physiological Scholarship of £50, tenable for two years. A Robert Platt Zoological and Botanical Scholarship, £50. A Leech Fellowship of £100 for original research after graduation. A Graduate Scholarship in Medicine: One of £25, tenable for one year, awarded annually for proficiency shown at Final M.B. Examination. The Tom Jones Memorial Surgical Scholarship: Value £100, tenable for one year, awarded usually triennially; next award in September, 1916. The Turner Medical Scholarship: Value £20, awarded annually for proficiency in certain subjects of the Final M.B., Ch.B. Examination. The John Henry Agnew Scholarship of £30, awarded annually for proficiency in the Diseases of Children. The Bradley Memorial Scholarship in Clinical Surgery of £20. The Ashby Memorial Scholarship, tenable for one year (£100), for research in the Diseases of Children; offered biennially; next award, 1916. Sidney Renshaw Exhibition in Physiology: One, offered annually.

Fees.—The composition fee for the university courses in medicine is 70 guineas, payable in three instalments of 30, 20, and 20 guineas, but this sum does not include the fee to cover the work required for the First M.B. Examination. This is £25, payable in one sum. A prospectus and further information about the school and scholarships may be obtained on application to the Registrar.

Other Hospitals.

1. The *Royal Eye Hospital* contains 160 beds, but 30 of them have been closed pending an increase in income. Clinical instruction is given to students.

2. *The Manchester Northern Hospital for Women and Children*, situated in Cheetham Hill Road, near the centre of the town, containing 70 beds and cots. Out-patients are seen daily at 9 a.m.

3. The well-known *Hospital for Children* at Pendlebury, near Manchester, contains 168 beds, and 24 beds at the Convalescent Home, St. Anne's-on-the-Sea. The visiting staff see out-patients daily at the Out-patient Department, Gartside Street, Manchester, at 9.30 a.m., and visit the hospital daily. The practice of the hospital and out-patient department is free to students accompanying the visiting medical and surgical staff.

4. *St. Mary's Hospital for Diseases of Women and Children.*—There are 115 beds at the High Street Branch, 90 being for gynaecological cases and 25 for children. The Whitworth Street West Branch has 56 maternity beds, and also an out-patient department. In the out-patient department students are taught the various methods of examination and diagnosis, while in the wards they have an opportunity of becoming familiar with the diagnosis and treatment of graver cases, and of witnessing gynaecological and obstetrical operations. The number of maternity cases attended annually is over 4,500. The hospital possesses a library, presented by the late Dr. Radford, consisting of nearly 5,000 volumes, chiefly on subjects connected with obstetrics and gynaecology. There is also a museum, containing a large number of pathological specimens, and a valuable collection of deformed pelves, casts, obstetric instruments, and anatomical models. The gynaecological practice of the hospital is free to fourth and fifth years' students. The fees for the midwifery practice are £8 8s. per month. Only twelve students are received at one time, thus allowing each one ample opportunity of attending the number of cases of labour required by the examining bodies. Application must be made to the Secretary at the Hospital.

Liverpool.

The Medical School of this city is part of the university, and, owing to the enlightened liberality of several men of wealth, is particularly well provided with special laboratories, as well as with ordinary spacious and well-equipped class rooms and laboratories for the instruction of students proceeding to medical degrees and diplomas in special and ordinary subjects. All the laboratories and other rooms are situated close to one another and intercommunicate, together forming large blocks of buildings. The anatomical department is very complete, and includes a large and well-stocked museum and a well-lighted dissecting room on the upper floor measuring 70 ft. by 40 ft. The departments of physiology and pathology are accommodated in the block provided by the generosity of the late Rev. Thompson Yates. Comparatively recent additions are the Johnston laboratories for experimental medicine and bio-chemistry, and the building for surgery, ophthalmology, materia medica, and toxicology. The work of the students at the later periods of their study is arranged upon equally satisfactory lines, the teaching hospitals, of which an account is given below, having amalgamated to form the clinical school of the university.

Appointments.—The nature of the appointments open to past and other students at this school will be gathered from the account which follows of the hospitals forming its clinical department.

Scholarships.—The awards made each year to successful students total over £1,000. They include the following: Two Holt Fellowships, one in Pathology, the other in Physiology; a Robert Gee Fellowship in Anatomy; an Alexander Fellowship for Research in Pathology; a Johnston Colonial Fellowship in Pathology, Bacteriology, and Bio-Chemistry; a John W. Garratt International Fellowship in Physiology, Pathology, and Bio-Chemistry; an Ethel Boyce Fellowship in Gynaecology and Pathology, and a Thelwall Thomas Fellowship in Surgical Pathology, all of the value of £100; a University Scholarship of £25, awarded on the results of the Second M.B. Examinations; a Scholarship in Mechanical Dentistry of £20; two Lyon Jones Scholarships, of the annual value of £21 each for two years, one for the junior and the other for senior students; the Derby Exhibition of £15; the Clinical School Exhibition of £15; the Torr Gold Medal in Anatomy; the George Holt Medal in Physiology; the Kanthack Medal in Pathology; the Robert Gee Prize of £5 5s. in Children's Diseases; two Robert Gee Entrance Scholarships, each of the value of £25 per annum for two years; Orthodontia Prizes, Senior £3 3s., Junior £1 1s.; Dental Operating Prizes, Senior £4 4s., Junior £2 2s.; Ash's Prize in Dental Surgery, value £2 2s.; and other Entrance Scholarships.

Fees.—Information as to the fees paid for the courses of instruction provided by the schools should be sought from the Dean of the Medical Faculty.

The Clinical School.

The following hospitals form the clinical school of the university:

1. The *Royal Infirmary* contains altogether 299 beds, and is immediately adjacent to the university; it covers in its work all branches of clinical study. The wards

are arranged in separate clinics, with a physician or surgeon, and a resident medical or surgical officer attached to each, each clinic having a "clinical room" in which to interview patients and conduct microscopical and chemical tests. The assistant physicians and assistant surgeons conduct the medical and surgical out-patient department, and take charge of the wards in the absence of the physicians and surgeons. There are four theatres for surgical operations and one for clinical lectures, and there is a theatre and a laboratory for morbid anatomy. There are two electrical rooms, with three Roentgen-ray installations and a high-frequency apparatus, and there are provisions for the employment of various kinds of baths. There is also a room for the medical and surgical registrars, and for the records kept by them. There is a special laboratory for the investigation of morbid products, and another for the investigation of cancer. Separate cloak-room accommodation is provided for women students. The eight resident medical and surgical officers have each their own bedroom and private sitting room, in addition to common rooms for meals and recreation. Two senior students are appointed resident casualty officers. They attend to accident cases brought to the hospital, accompany the ambulance, and help in the clinical work. A large waiting room is set apart for the use of students, for whom there is, besides, ample cloak room and lavatory accommodation.

2. The *David Lewis Northern Hospital*, possessing 246 beds, is situated in Great Howard Street. There are three surgical and two medical clinics and a large out-patient department with suitable rooms for examination and an operation theatre. A fully-equipped clinical laboratory provides means for clinical investigation and research, in addition to those afforded in the clinical rooms of the various wards. Among the other departments is one for electro-therapeutics and *x*-ray examination, and one for orthopaedic exercise and gymnastics. Excellent accommodation is available for students, including a common room and cloak room. In the common room is a reference library for the use of students. Facilities are offered for post-graduate work. The five resident medical officers receive salaries at the rate of £60 per annum; they each possess a separate bedroom and sitting room, in addition to a common room for meals.

3. The *Royal Southern Hospital* contains over 200 beds, and is fully equipped for clinical instruction. There are three medical and three surgical clinics. Various changes have been carried out, in particular the opening of a new clinical laboratory for chemical and bacteriological work close to the site of the pathological laboratory. The electrical department has been reorganized, and a new and complete installation for *x*-ray work and light treatment has been made. A resident pathologist has been appointed to conduct investigation in connexion with the hospital work and to instruct the students. The hospital is easily accessible from all parts of the city.

4. The *Stanley Hospital* contains 106 beds, divided into two medical and two surgical clinics. There are two modern operating theatres and a well-equipped clinical room and gynaecological ward. The resident house-surgeons are appointed periodically at salaries ranging from £60 to £90 per annum. There is a large out-patient clinic in each of the special departments of Ophthalmology and Laryngology. The large Medical and Surgical Out-patient departments provide a considerable amount of clinical material. There is a complete *x*-ray installation.

5. The *Infirmary for Children* has 100 beds and a large out-patient department. Students are admitted to the practice of the hospital for periods of three months, such practice including attendance both in the wards and the out-patient clinics. Students are invited to become out-patient clerks for a period of three months during the fifth year, and to attend two afternoons each week at 2.30.

6. The *Hospital for Women* contains 55 beds. Students who take their course of clinical gynaecology in the hospital receive instruction in the wards and out-patient department. The honorary surgeons attend daily at 1 p.m.

7. The *Eye and Ear Infirmary* contains 65 beds. Evening courses of lectures on refraction and ophthalmoscopy and diseases of the ear are delivered during the winter months by the honorary medical staff. Students who take out their course of clinical ophthalmology in the hospital receive clinical instruction in the out patient department. The surgeons attend daily at 1.30.

8. *St. Paul's Eye Hospital* contains 68 beds. The surgeons attend daily at 1.30. Complete arrangements are made for instruction in clinical ophthalmology to students for periods of three months.

9. *St. George's Hospital for Diseases of the Skin* has a large dermatological out-patient clinic. Demonstrations are given by the honorary medical staff on Mondays, Tuesdays, and Wednesdays, at 12.30.

Leeds.

The School of Medicine—which is open to both male and female students—in this city forms the teaching centre of the Medical Faculty of the University of Leeds, and is situated in immediate proximity to the General Infirmary, where students sufficiently advanced receive their clinical instruction. The buildings were opened in 1894, and contain excellent dissecting rooms, several well-arranged laboratories for physiology, pathology, and bacteriology, three lecture theatres, and several similar class rooms. In addition there are a library and reading room and two museums, one being devoted to pathology and the other to anatomy. The comfort of the students is secured by common rooms and refectory in which they can take meals. It is estimated by the authorities that the approximate cost of medical education to a student in this university is £195, plus, of course, the expenses of living during the five years covered by the curriculum. The General Infirmary has over 420 beds in constant use, and includes gynaecological and ophthalmic wards and a large out-patient department. The Ida and Robert Arthington Semi-convalescent Hospitals, Cookridge, attached to the infirmary, has over 80 beds. The West Riding Lunatic Asylum at Wakefield is also open for the study of mental diseases. Students can, in addition, attend the practice of the Leeds Public Dispensary (where the practical instruction in dental subjects is also given), the City Fever Hospitals (100 beds), the Hospital for Women and Children, and the Leeds Maternity Hospital.

Appointments.—Senior anaesthetist, £50; seven anaesthetists, £25 each; medical tutor and surgical tutor, at £125 each per annum. The resident medical and surgical officers, each at £150 per annum. The casualty officer, at £125 per annum. The resident ophthalmic officer, at £100 per annum. The resident aural officer at £100 per annum. A resident obstetric officer at £50 is attached to the gynaecological ward and an extensive external maternity department. An ophthalmic house surgeon at £50 per annum. A resident medical officer is appointed every six months for the Ida Semi-convalescent Hospital (honorarium £30). Six house-physicians, each holding office for six months, and eight house-surgeons, holding office for six months. Physicians' clerks and surgeons' dressers are appointed for six months; ophthalmic and aural dressers, gynaecological ward clerks, gynaecological out-patient clerks, maternity clerks, assistant physicians' clerks, and assistant surgeons' dressers, dressers in the casualty room, *post-mortem* clerks and laboratory assistants for three months. A clinical pathologist (£300 per annum), together with an assistant clinical pathologist (£150), has charge of the pathological laboratory. Appointments are also open to students at the Leeds Public Dispensary (three resident medical officers, with salaries commencing at £80), at the Hospital for Women (two house-surgeons, honorarium £120 and anaesthetist £25), and at the West Riding Asylums.

Scholarships.—The university awards annually a scholarship on the results of the July Matriculation Examination in the form of a free admission to the lectures and classes given in the university, which are covered by the composition fee. The infirmary also awards a scholarship on the results of the first examination, of the value of 40 guineas, in the form of a free admission to the clinical teaching of the infirmary.

Fees.—The composition fee for the university course is £73 2s. 6d. (for students who have passed the second examination, £48 16s. 6d.), and for the clinical work at the infirmary, £42.

Further information can be obtained from the Academic and Clinical Subdeans, School of Medicine, Leeds.

SHEFFIELD.

IN this city the Medical School is one of the departments of the university, being conducted and controlled by its Medical Faculty, and occupying practically the entire north wing of the quadrangle of the university buildings overlooking Weston Park. The laboratories and lecture rooms connected with the subjects of the first and second examinations — namely, chemistry, physics, biology, anatomy, and physiology—are, both as regards structural arrangements and scientific equipment, on the most modern and complete lines. No expense has been spared in the matter of apparatus for teaching or research work, and the facilities for practical study in these subjects are as excellent as all the other arrangements of the school.

For students of pathology and bacteriology there are laboratories replete with everything necessary for the most advanced work, and a large pathological museum, which is open daily. In addition, there is a museum devoted to materia medica specimens, and a large library and reading room. There are a number of recreation, athletic, and other societies, all under the management of an annually elected students' representative council, and large and comfortable common rooms both for men and women students.

In the university buildings there is a refectory open to all students of the school, in which luncheon, dinner, and other meals may be obtained at extremely moderate prices. A university journal, *Floreamus*, edited by a joint committee of the staff and students, is published each term. The ordinary clinical work of the school is done at the Royal Infirmary and Royal Hospital, which have amalgamated for the purpose of clinical instruction. Between them they provide 517 beds for the treatment of medical, surgical, and special cases, each having both an in-patient and out-patient department for diseases of the eye.

In addition, the Royal Infirmary has special departments for the treatment of diseases of the skin and ear, with beds assigned to them; whilst at the Royal Hospital there are special out-patient departments for diseases of the throat, ear, skin, orthopaedics, and mental diseases. During the last year over 6,000 patients passed through the wards of the two institutions, while those attending as out-patients numbered over 45,000. The medical and surgical staffs attend daily, and give clinical instruction in the wards and out-patient rooms. Clinical lectures in medicine and surgery are given weekly. Instruction in the practical administration of anaesthetics is given at either institution by the anaesthetists, and the *post-mortem* examinations at both institutions are in charge of the Professor of Pathology, and afford ample material for study of this subject. In addition, the students have the advantage of being able to attend the practice of the *Jessop Hospital for Diseases of Women*, an institution which takes in yearly about 900 gynaecological patients and about 450 cases of confinement, and has as well large out-patient clinics for both classes of patient, the external maternity work numbering about 700 cases a year. Special courses on fever are given at the City Fever Hospital (570 beds), and on mental diseases at the South Yorkshire Asylum (1,610 beds).

Appointments.—The following appointments are open to all students who have passed their examinations in anatomy and physiology: (1) Casualty dresserships, (2) surgical dresserships, (3) medical clerkships, (4) pathological clerkships, (5) ophthalmic clerkships, (6) clerk to the skin department, etc. Except in the case of casualty dressers, these appointments are made for three months, commencing on the first day of October, January, April, and July. The casualty dresserships last two months, beginning on the first of any month. All students are required to hold them, and to have attended the tutorial classes for casualty dressers, before being eligible for any other of the above appointments.

Scholarships.—Entrance Medical Scholarship, value from £122 to £139, open to both sexes. Two Town Trustees' Scholarships, each of the value of £50, tenable for three years, for boys or girls under the age of 19 years who have been educated in a Sheffield secondary school for a period not less than two years immediately preceding the examination. Four Town Trustees' Scholarships, value £50, for boys or girls under 19 years of age educated in any school in Sheffield, secondary or otherwise. Town Trustees' Fellowship, value £75, tenable for one year. Mechanics' Institute Scholarship, value £50, tenable for one year, and renewable for a second year. The Frederick Clifford Scholarship, value about £50, tenable for two years. Kaye Scholarship, for proficiency in anatomy and physiology, value £22 10s. Gold and bronze medals are also awarded for proficiency in various subjects.

Fees.—The composition fee of £80, payable in three instalments, covers attendance on all the courses of lectures and practical classes, except pharmacy, required for a degree course in the university, or for the ordinary qualifications in medicine and surgery of the Examining Boards. It does not include hospital practice, the fee for which is £49 17s. 6d., payable in three instalments.

BRISTOL.

THE school is carried on by the Faculty of Medicine of the university, and provides full instruction for all its degrees and diplomas. The greater part of the lecture and laboratory work has been transferred to the new wing, which is admirably equipped in every way for the purpose. The allied hospitals (Bristol Royal Infirmary and Bristol General Hospital) have between them 470 beds and extensive out-patient departments, special clinics for diseases of women and children, and those of the eye, throat, and ear, in addition to arrangements for dental work and large outdoor maternity departments. At each of these institutions there are well-arranged pathological departments, comprising large pathological museums, *post-mortem* rooms, and laboratories for morbid anatomy. There are also laboratories for work in clinical pathology, bacteriology, and cytology, in which special instruction is given in these subjects. Departments are provided and well equipped for *x*-ray work, both for diagnosis and treatment, the various forms of electrical treatment, including high-frequency currents, electric baths, Finsen light treatment, and massage.

The students of the school have also the advantage of attending the practice of the Royal Hospital for Sick Children and Women, containing 108 beds, and that of the Bristol Eye Hospital, with 40 beds. The total number of beds available for clinical instruction is therefore upwards of 600. Excellent facilities are thus afforded to students for obtaining a wide and thorough acquaintance with all branches of medical and surgical work. Each student has the opportunity of personally studying a large number of cases and acquiring practical skill in diagnosis and treatment. All classes are open to women.

Appointments.—A, Undergraduate: Clinical clerkships, dresserships, also ophthalmic, obstetric, and pathological clerkships, are tenable at the Bristol Royal Infirmary and the Bristol General Hospital. In these institutions the dressers reside in rotation free of charge. B, Post-graduate: —At the Bristol Royal Infirmary: Two house-surgeons, £100 each per annum; two house-physicians, £100; resident obstetric and ophthalmic house-surgeon, £75; throat, nose, and ear house-surgeon, £75; casualty officer, £50; dental house-surgeon, £100. All these appointments are made for twelve months, except that of casualty officer, which is for six months. From the resident officers a senior resident officer is appointed at an additional salary of £30. At the Bristol General Hospital: Senior house-surgeon, £150 per annum; casualty house-surgeon, £100 per annum, if another resident appointment has been previously held; two house-physicians, £80 per annum; house-surgeon, £80 per annum; dental house-surgeon, £200 per annum. All these appointments are for six months, except that of senior house-surgeon, which is for three years, and that of dental house-surgeon, which is for two years.

Scholarships.—The following are among the scholarships and other awards open to students of the school: Two Martin Memorial Pathological Scholarships, of £10 each; the Tibbits Memorial Prize, value 9 guineas, for proficiency in practical surgery; the Committee's Gold and Silver Medals for fifth-year students for general proficiency; the Augustin Prichard Prize, value 7 guineas, for proficiency in anatomy: the Henry Clark Prize, value 11 guineas, for general proficiency; the Crosby Leonard Prize, value 7 guineas, for proficiency in surgery; the Suple Surgical Prize, a gold medal and 7 guineas; the Suple Medical Prize, a gold medal and 7 guineas; the Henry Marshall Prize, value £12, for dressers; the H. M. Clarke Scholarship, value £15, for proficiency in surgery; the Sanders Scholarship, value £22 10s., for general proficiency.

Fees.—The composition fee for all the courses required for the medical curriculum, including hospital practice, is 140 guineas.

CARDIFF.

THE school in this city is carried on by the University College of South Wales and Monmouthshire, and devotes itself principally to training students during the first three or four years of the medical curriculum, all classes being open to women students. The courses of instruction given are recognized by all licensing bodies in Great Britain, and, after passing the tests corresponding to the first three years of the curriculum, the student can complete his course, for whatever degree he is aiming at, in London or elsewhere. Besides this, there is an arrangement with the Managing Committee of the infirmary by which students at the school can take advantage of the opportunities for acquiring experience afforded in the wards of this large, well-ordered hospital. Hence many students, especially from Wales and Monmouthshire, find it convenient to avail themselves of the advantages of being able to pursue the earlier part of their medical curriculum near home. They can also obtain instruction in the administration of anaesthetics, and with a little additional work can qualify for the B.Sc. degree of the University of Wales. This degree includes the subjects which comprise the first three years of a medical student's curriculum, and it (or the B.A.) is a compulsory degree for those students who propose to sit for the M.B., Ch.B., of the University of Wales. There is also a department of public health, in which all the work for diplomas in State medicine, whether for the University of Wales or other Examining Boards, can be done. A Chair of Pathology and Bacteriology has been established, and it is intended to offer facilities for the study of the subjects of the fourth year of the medical curriculum.

Post-graduate vacation courses are carried on in association with the Cardiff Infirmary.

Scholarships.—There is a considerable number of scholarships connected with the college, and open to students of the School of Medicine, information as to which can be obtained on application.

Fees.—The composition fee for the three years' courses required for students proceeding to the degrees of the University of London is £63; that for the two years' courses for students proceeding to a diploma of the licensing corporations being £41 10s. The composition fee for D.P.H. classes is £30. Further information may be obtained on application to the Dean of the Faculty of Medicine, or to the Registrar of the College.

SCOTLAND.

As will be gathered from the following paragraphs, the facilities for acquiring a medical education in Scotland are very ample, whether the student be proceeding to a university degree or to a diploma. To the descriptions of its different medical centres is in some cases added an account of hospitals which either play an official part in the education given to students as yet unqualified or offer valuable opportunities for post-graduation work.

ABERDEEN.

THE school is conducted by the Faculty of Medicine. This comprises twelve chairs, from which instruction is given in all the main branches of medical science—namely, botany, zoology, physics, chemistry, anatomy, physiology, materia medica, pathology, forensic medicine, surgery, medicine, and midwifery. Special opportunities for practical instruction are afforded in the laboratories and museums attached to these departments.

Clinical instruction is obtained in the Royal Infirmary (accommodating 230 patients), the Royal Lunatic Asylum (700 patients), the Sick Children's Hospital (85 patients), the City Fever Hospital (200 patients), the General Dispensary, Maternity, and Vaccine Institution (10,000 out-patients annually), and the Ophthalmic Institution (1,600 patients annually). Courses of practical instruction are given in diseases of children at the Sick Children's Hospital; in fevers at the City Fever Hospital; in insanity at the Royal Asylum; in diseases of ear, nose, and throat at the Dispensary; in diseases of the eye at the Infirmary and Eye Institution; in diseases of the skin at the Royal Infirmary.

Bursaries.—Scholarships and Fellowships, to the number of fifty and of the annual value of £1,180, may be held by students of medicine in this university. They range from £8 to £100 per annum, and are tenable in most cases for two or three years.

Fees.—The fee for each university course is, as a general rule, £4 4s.; and for a second attendance, £3 3s. Matriculation fee, both sessions, £1 1s.; summer session alone, 10s. 6d. Royal Infirmary, perpetual fee, £6; or, first year, £3 10s.; second year, £3. The winter session begins on October 9th.

EDINBURGH.

THERE are three Schools of Medicine: the School of the University, the School of Medicine of the Royal Colleges, Edinburgh, and the Edinburgh School of Medicine for Women.

THE UNIVERSITY SCHOOL.—This school, of course, furnishes a full curriculum, and, in addition to other resources of the university, has the following means for practical instruction: Royal Botanic Garden, Herbarium, and Museum; Zoological Laboratory and Museum of Science and Art; Physical Laboratory; Chemical Laboratories; Dissecting Room, Bone Room, and Anatomical Museum; Physiological Laboratory; Medical Jurisprudence Laboratories; John Usher Institute of Public Health; Materia Medica Museum and Laboratory; *Post-mortem* Department of the Royal Infirmary and University Pathological and Bacteriological Laboratory; Tutorial Classes of Practice of Physic, of Clinical Medicine, and Clinical Surgery, Surgery, and Midwifery; and the practice of the hospitals, of which some account is given on p. 615.

Fees.—The sessional fee for zoology, botany, chemistry, anatomy lectures, physiology, pathology, materia medica, medical jurisprudence, surgery, medicine, midwifery and gynaecology, clinical surgery (winter), clinical medicine (winter), is £4 4s. each. Second course £3 3s. Third free. A perpetual ticket taken at the beginning of the first year is £6 6s. Physics, practical chemistry, advanced practical physiology, practical pathology, clinical surgery (summer), clinical medicine (summer), practical anatomy (winter), operative surgery, obstetric operations, practical materia medica, including pharmacy, pathological bacteriology, experimental pharmacology, vertebrate morphology and comparative embryology, are £3 3s. Practical botany (besides garden fee of 5s.), elementary practical zoology, practical physiology (experimental), practical physiology (histological), practical botany (advanced), practical zoology (advanced), practical anatomy (summer), anthropology, anatomy demonstrations, diseases of children, diseases of the eye, diseases of the larynx, ear, and nose, diseases of tropical climates, clinical instruction on diseases of the skin, regional anatomy, physiological chemistry, invertebrate zoology, organic chemistry, mental diseases, £2 2s. Applied anatomy (medical and surgical), £1 1s. Vaccination, £1 1s.

Scholarships.—In connexion with the University of Edinburgh and its Medical Faculty there is a very large number of funds for the assistance of students by means of bursaries, scholarships, exhibitions, and money awards from the beginning to end of their undergraduate career. In addition there are funds which help those who have taken a first degree in medicine and surgery to continue at work as research students. The value of these very numerous awards, and the conditions attaching to them, are so varied that it would hardly be possible to give an adequate account of them within the limits of space at disposal, and at the best such an account would be somewhat confusing to those studying the subject for the first time. The purpose of this issue of the JOURNAL will therefore best be fulfilled by merely pointing out that no other university is in a better, even if in as good, a position to smooth the financial path of earnest students, and by referring those interested to the prospectus relating to the Medical Faculty for detailed information.

THE SCHOOL OF MEDICINE.—This School of Medicine is composed of lecturers licensed by the Royal College of Physicians and the Royal College of Surgeons, and also recognized by the university through their *licentia docendi*, who, for the sake of convenience, lecture in separate buildings near at hand to the Royal Infirmary. The lecturers form one body, are all subject to the same rules and regulations, and enjoy the same privileges. A constitution and set of regulations have been drawn up, in virtue of which a medical corporation has been formed,

recognized by both Royal Colleges; the government of the school is placed in the hands of a governing board consisting of five members elected by the Royal College of Physicians, of five members elected by the Royal College of Surgeons, and of five members elected by the lecturers in the school. This board, with the assistance of the standing committees of the school, supervises the whole management, and specially the maintenance of the efficiency and discipline of the school. The different buildings at present utilized for the purposes of lecturing are the following: (1) Surgeons' Hall, Nicolson Street; (2) New School, Bristo Street; (3) Nicolson Square; (4) Marshall Street; and other places. The teaching is similar to that of the Scottish universities, and the students receive similar certificates at the close of each session. The courses on the special subjects not included in the curriculum of the Examining Boards are also conducted by teachers specially qualified in each branch, and have for the last quarter of a century formed a special feature of the school. The fees payable for class and other instruction, and including the sums payable on admission to the examination of the Conjoint Board for the triple qualification, amount to about £115. The Calendar, giving full information regarding classes and fees, can be obtained gratis on application to the Dean of the School, 11, Bristo Place, Edinburgh.

THE EDINBURGH SCHOOL OF MEDICINE FOR WOMEN.—The Edinburgh School of Medicine for Women provides all the classes required for a complete curriculum. The classes qualify for the university degree in medicine, for the diploma of the Royal Colleges, and for the triple qualification. The lecturers of the school are specially recognized by the Court of Edinburgh University for the education of women who propose taking the degree in medicine of the University of Edinburgh. Most of the classes are held in Surgeons' Hall. The office of the school and a sitting-room and other conveniences are provided in the same building for the use of the women students. The clinical instruction of the students is conducted in the wards of the Royal Infirmary specially set apart for the purpose, in the Royal Hospital for Sick Children, in the City Hospital for Infectious Diseases, at Bangour Asylum, and at the various public dispensaries. The fees and the regulations as to the course of study are the same as for pupils at the School for Male Students. Further particulars are obtainable from the Dean of the School of Medicine for Women, Surgeons' Hall, Edinburgh.

Clinical Hospitals.

1. *Edinburgh Royal Infirmary.*—There are over 900 beds and 80 at the Convalescent House at Corstorphine. The average number of patients admitted yearly is over 12,000, and the out-patients are correspondingly numerous. Instruction is given in all the special departments of medicine and surgery, in gynaecology, eye, ear, throat, and nose affections, diseases of skin, dental work (extraction, stopping, and artificial cases), the administration of anaesthetics, electro-therapeutics, hydro-therapeutics, and *x*-ray work, etc. Women are admitted and receive special and separate tuition on both the medical and surgical sides. Nine resident physicians and eleven resident surgeons (three of whom are entirely set apart for the out-patient department) are appointed every six months. They live in the hospital free of charge. They must be registered. Thirty non-resident clinical assistants are also appointed for six months in the various departments. The physicians and surgeons appoint their own clerks and dressers, and assistants in the pathological department are appointed by the pathologist. Fees: one month, £1 1s.; three months, £2 2s.; six months, £4 4s.; one year, £6 6s.; perpetual ticket, £12 if paid in one sum, or £12 12s. if by separate payments.

2. *Royal Victoria Hospital for Consumption.*—Excellent opportunity is afforded for the study of tuberculosis and the Edinburgh anti-tuberculosis system. Special clinics by the staff are arranged from time to time, both in the hospital, which contains about 100 beds, and at the Royal Victoria Dispensary for Consumption, Castle Terrace, close to the university. The number in attendance at these clinics is limited. The Royal Victoria Hospital Farm Colony may also be visited.

3. *Royal Edinburgh Hospital for Sick Children.*—The hospital is in Sciennes Road, about seven minutes' walk from the Medical School and Royal Infirmary. It contains over 120 available beds. There are some 2,275 in-patients and about 8,000 new out-patients yearly. The out-patient department is conducted in a building adjoining the hospital, and is well equipped. Systematic clinical courses of instruction, which qualify for the university and other examinations, are given at various times throughout the year by the ordinary physicians and surgeons. Students may enter at any time. Four resident appointments are made half-yearly. Further information should be sought from the Registrar of the Hospital.

4. *Edinburgh Eye, Ear, and Throat Infirmary.*—Open daily at 6, Cambridge Street, at 1 p.m., for eye diseases; on Monday, Thursday, and Saturday, at 12, and on Tuesday and Friday at 4, for ear, nose, and throat diseases. There is a small infirmary of ten beds in male and female wards. In-patients, 132; out-patients, 5,311.

5. *Edinburgh Royal Maternity and Simpson Memorial Hospital* has 44 beds, about 615 in-patients and 756 out-patients yearly. A nursing home in Leith is worked in connexion with the hospital, and annually supervises the deliveries of some hundreds of out-patients. Daily clinics are given by the physicians and assistant physicians. Two house-surgeons are on duty, one being appointed each quarter. *Fees:* The hospital fee is £4 4s. per month. Students can also attend the hospital and take out their cases in connexion with a number of associated dispensaries.

6. *Edinburgh City Hospital for Infectious Diseases* at Colinton Mains contains 600 beds, a large number of which are available for teaching purposes. Qualifying courses of instruction are given by the Consulting Physician and the Medical Superintendent during the winter and summer sessions. The fee is £1 1s.

7. *Royal Asylum, Morningside, Edinburgh.*—There is a clinical field of 400 beds at "The West House," comprising all the wards except those for private patients. Students have the opportunity of personally coming in contact with and examining the cases, so as to learn the modes of dealing with patients suffering from mental disease; they are exercised in diagnosis and the drawing up of certificates, the aim being to enable them to recognize its early stages, to distinguish its varieties, to adopt suitable treatment, and to advise the relatives as to sending the patient to an asylum. There is a systematic course of lectures and clinical demonstrations during the summer session (fee £2 2s.). During the winter months there is a weekly ward visit and clinic on Saturdays at 9.30 a.m. open to members of the class, and facilities are given for case-taking and for original research on subjects connected with insanity, in the laboratory of the asylum.

8. *Edinburgh District Asylum, Bangour Village.*—The asylum for the City of Edinburgh has over 900 beds, all of which are available for teaching purposes. Systematic courses of lectures and clinical demonstrations, for men and for women students, are given during the summer session at Surgeons' Hall and the village asylum, qualifying for all examinations. The fee is £2 2s. Resident clinical assistants are annually appointed from members of the class.

GLASGOW.

THERE are five medical schools in this city: the two schools of the university, one of which (Queen Margaret College) is for women students; St. Mungo's College (the school of the Royal Infirmary), Anderson's College, and the Western Medical School.

THE UNIVERSITY SCHOOL FOR MEN.—The whole course of study required for graduation at the University of Glasgow can be passed here. Besides work of a practical and clinical kind in the hospitals, practical courses are conducted in the laboratories of the following departments: Surgery, Pathology, Public Health, Pharmacy, Physiology, Anatomy, Chemistry, Zoology, Physics, and Botany, the Botanic Garden and the Hunterian Museum being also open to students. New buildings and equipments have been provided for botany at a cost of £20,000, for practical anatomy at £14,000, for operative surgery at £9,900, as well as for pathology, while very large additions, costing

nearly £12,000, have been made to the Chemistry Laboratory, rendering it probably the most extensive in Scotland. New class rooms and laboratories have been erected for the departments of Physiology, Materia Medica, and Medical Jurisprudence and Public Health, costing, with equipment, upwards of £60,000. The university has of late been making efforts to extend and improve the accommodation, especially the laboratories, of the medical departments, to strengthen the teaching staff, and to encourage post-graduate and research work. Three very extensive general hospitals in the city afford exceptional opportunities for clinical instruction—namely, the Western Infirmary (600 beds), near the university, and attended by the bulk of the men students; the Royal Infirmary (600 beds); and the Victoria Infirmary (260 beds); while the Royal Asylum (460 beds), the Royal Hospital for Sick Children (74 beds), the Maternity Hospital (34 beds), the Glasgow Eye Infirmary (100 beds), the fever hospitals at Belvidere (680 beds), and Ruchill (540 beds), and other institutions afford facilities for the practical study of special branches.

Bursaries.—Bursaries confined to the Medical Faculty amount in annual value to about £1,000, while bursaries in any Faculty, amounting to about the same annual sum, may be held by students of medicine, a number of both sets being open to women. Several valuable scholarships may be held by medical students who have graduated in Arts. Some of the bursaries are described below.

Fees.—The matriculation fee for each year is £1 1s. In most cases the fee for each university class is £4 4s., but in some cases it is £3 3s. For hospital attendance students pay an entrance fee of £10 10s. at the Western Infirmary, with an additional fee of £3 3s. for each winter and £2 2s. for each summer clinical course; at the Royal Infirmary the fees are somewhat similar. The university fee for the four professional examinations is £23 2s. (£6 6s. for each of the first and second examinations, and £5 5s. for each of the third and fourth). For the whole curriculum, the fees for matriculation, class attendance, hospital attendance, and professional examinations, amount to £150.

For further information apply to the Registrar, Glasgow University.

Bursaries.—The following bursaries are open to undergraduates of both sexes: The Gibson Bursary, annual value £36, tenable for four years. This is open to medical students who are preparing for service as medical missionaries in connexion with the Church of Scotland, and will be awarded to the eligible candidate who has gained the highest number of marks in the First Professional Examination. One Logan Bursary, annual value £16, tenable for four years; appointment by the Senate. The Mackintosh Mental Science Bursary in medicine, of the value of £31, is awarded annually to the student (of either sex) attending the class of insanity who stands first in an examination in that subject, the bursar to continue the practical study of the subject to the satisfaction of the Faculty of Medicine. The Gardiner Bursary, annual value £14, tenable for two years, will be awarded after the autumn professional examination to the candidate who has passed in physiology at the Second Professional Examination, and whose aggregate of marks in that subject and in chemistry and physics of the First Professional Examination is the highest. Next vacancy, 1913. The following are tenable in any faculty: Two Pratt Bursaries (each £20 and tenable for four years), both open in 1913; and two Taylor Bursaries (each £10, tenable for four years), one open in 1913 and the other in 1914. Andrew and Bethia Stewart Bursaries (£50 each, tenable for three years); one is vacant in 1913; candidates must have taken the M.A. degree of Glasgow. There is a special examination. Nine Glasgow Highland Society's Bursaries, for students of Highland descent, of the annual value of £25, and tenable for five years; probably two will be vacant in 1913. The Carnegie Trust for the Universities of Scotland is empowered to pay the whole or part of the university ordinary class fees of students of Scottish birth or extraction, under conditions given in the *University Calendar*. The Dobbie Smith Gold Medal is awarded for the best essay on a prescribed subject within the science of botany. The Brunton Memorial Prize of £10 is awarded annually to the most distinguished graduate in medicine of the year. The University Commissioners issued an ordinance to make regulations for the admission of women to certain bursaries, scholarships, and fellowships. Scholarships and fellowships are offered by the Carnegie Trust in science and medicine for post-graduate study. There are also four McCunn Medical Research Scholarships (£100 for one year) for graduates in medicine of the Scottish universities.

QUEEN MARGARET COLLEGE.—In this, the Women's Medical School of the University of Glasgow, the courses of study, degrees, regulations, fees, etc., are the same as for men. Women students have their own buildings, with class rooms, reading room, library, etc. They are taught in some classes apart from male students, in others together with them, but in either case have all the rights and privileges of university students. Their clinical studies are taken in the Royal Infirmary, where wards containing 400 beds are available for their use, and in its dispensary; also in the Royal Hospital for Sick Children, the Glasgow Ear Hospital, the Royal Asylum, Gartnavel; the Ophthalmic Institution, the City of Glasgow Fever Hospitals, Belvidere and Ruchill, and the Glasgow Maternity and Women's Hospital.

Scholarship.—The Arthur Scholarship, annual value £20, tenable for three years. Open to competition by medical students of first year at the First Professional Examination in October each year. This scholarship is the gift of Mrs. Arthur, of Barshaw, and is restricted to women medical students.

Board for Students.—A house of residence for women students, Queen Margaret Hall, is situated near the college. The cost of board and residence is from 17s. 6d. to 25s. 6d. per week, according to accommodation. Full information can be obtained from the Mistress, Queen Margaret College, or from the Warden, Queen Margaret Hall, Bute Gardens, Glasgow.

ST. MUNGO'S COLLEGE.—This is the Medical School of the Royal Infirmary, which is the largest in Glasgow. The infirmary is situated in Cathedral Square, Castle Street, and has car communication with every part of the city. St. Mungo's College is in the infirmary grounds.

The infirmary has (including the ophthalmic department) over 660 beds, the average number occupied in 1912 being over 600. When the reconstruction of the infirmary, long in progress, is completed, it will have about 700 beds. There are special beds and wards for diseases of women, of the throat, nose and ear, venereal diseases, burns, and septic cases.

At the outdoor department the attendances in 1912 numbered over 180,000. In addition to the large medical and surgical departments, there are departments for special diseases—namely, diseases of women, of the throat and nose, of the ear, of the eye, of the skin, and of the teeth. A fully equipped electrical pavilion was opened a few years ago, and year by year the latest and most approved apparatus for diagnosis and treatment has been added. Wards are set apart for the teaching of women students.

Appointments.—Five house-physicians and ten house-surgeons, having a legal qualification in medicine and surgery, who board in the hospital free of charge, are appointed every six months. Clerks and dressers are appointed by the physicians and surgeons. As a large number of cases of acute diseases and accidents of a varied character are received, these appointments are very valuable and desirable.

Fees.—The fees for hospital attendance, including clinical lectures and tutorial instruction, attendance at the outdoor department, at the pathological department, *post-mortem* examinations, and the use of the museum, which has been rearranged and catalogued, are as follows: 1. Hospital attendance, outdoor department, etc.: For perpetual ticket, in one payment, £7; for season tickets, six months, £2 2s., three months, £1 1s. Separate payments amounting to £7 7s. entitle a student to a perpetual ticket on return of previous season tickets. 2. Clinical instruction for six months, £3 10s.; for three months, £1 15s.

ANDERSON'S COLLEGE.—This school provides education in all subjects of the five years' curriculum. The hospital practice and clinical lectures are provided in the Western or Royal Infirmary; pathology in the Western or Royal Infirmary; vaccination and dispensary practice in the Western or Royal Infirmary Dispensary. These classes are recognized by all the licensing corporations in the United Kingdom, and also by the Universities of London, Durham, Glasgow, and Edinburgh (the latter two under certain conditions which are stated in the school Calendar). The courses (lectures and laboratory) in public health are also recognized by the Scottish Licensing Board, Queen's University of Belfast, the Irish Colleges, and the University of Cambridge.

The school buildings are situated in Dumbarton Road, immediately to the west of the entrance of the Western Infirmary, within two minutes' walk of that institution, and four minutes' walk of the university.

Class Fees.—For each course of lectures (anatomy, ophthalmic medicine and surgery, aural surgery, diseases of throat and nose, and mental diseases excepted), first session £2 2s.; second session (in Anderson's College), £1 1s. For practical classes (except anatomy, chemistry, and public health), namely, botany, zoology, physiology, pharmacy, operative surgery—first session, £2 2s.; second session, £2 2s. Anatomy class fees, winter: First session, lectures and practical anatomy, £5 5s.; practical anatomy alone, £2 2s. Second session, lectures and practical anatomy, £5 5s.; practical anatomy alone, £2 2s. Third session, practical anatomy, £1 1s. Summer: Regional course or dental course (each including nervous system), and practical anatomy, £3 3s.; regional course, or dental course alone, £2 2s.; practical anatomy alone, £1 11s. 6d.; osteology and practical anatomy, £2 12s. 6d.; osteology alone £1 11s. 6d. Chemistry: Lectures, £2 2s.; practical chemistry, £3 3s. Botany and zoology: Reduced fees for lectures with laboratory work in botany or in zoology, during same summer session, £3 3s. For lecture class or practical class separately, in botany or in zoology, during the same summer session, £3 3s. For lecture class or practical class separately in botany or in zoology, £2 2s. Ophthalmic medicine and surgery (including hospital practice), aural surgery, diseases of throat and nose, and mental diseases: Fee for each course, £1 1s. Public Health Laboratory: Fee for six months' course, including lectures, £12 12s. Western Infirmary.—Fees: For hospital attendance, £10 10s.; for clinical instruction, winter session, £3 3s.; summer session, £2 2s. Students who have completed the clinical course elsewhere are permitted to enter for a six months' course at the hospital only on payment of a fee of £2 2s. Pathology, £4 4s. Practical pathology, £3 3s. Pathology demonstrations only, £1 1s. Vaccination fee, £1 1s. Royal Infirmary.—Fees: Hospital practice and clinical instruction, first year, £10 10s.; second year, £10 10s.; afterwards free. Six months, £6 6s.; three months, £4 4s. Pathology, both courses, £4 4s. Vaccination fee, £1 1s. Attendance at the dispensaries of the Western and Royal Infirmaries is included in the hospital fee. Eye Infirmary.—Fee: Hospital practice and clinical instruction, including lectures at the college, six months, £1 1s. The session opens on Monday, October 13th, 1913.

The Carnegie Trust pays the fees of students at Anderson's College on conditions regarding which particulars may be obtained from the Secretary, Carnegie Trust Offices, Edinburgh.

A Calendar will be sent on receipt of a post-card by the Secretary to the Medical Faculty, Anderson's College Medical School, Glasgow W., who will forward any further information which may be desired.

GLASGOW WESTERN MEDICAL SCHOOL.—This school, which is situated in University Avenue, faces the principal entrance to the university, and is not far from the Western Infirmary. The subjects in which it affords instruction by means of lectures and demonstrations are chemistry, anatomy, medicine, surgery, ophthalmology, dermatology, midwifery, and gynaecology. Some of the classes qualify for the medical degrees of the university, and also for the diplomas of the Scottish Conjoint Board. The fee for most of the subjects is £2 2s. There is no matriculation fee. Further particulars relating to the school can be obtained from its Secretary, Mr. J. N. Morton, 58, Bath Street, Glasgow.

Clinical Hospitals.

1. The *Royal Infirmary.*—Some notes respecting this institution have been given in connexion with its Medical School.

2. *Glasgow Western Infirmary.*—This hospital adjoins the University of Glasgow, and has 600 beds. The clinical courses are given by the physicians and surgeons, each of whom conducts a separate class, and students may attend whichever they select at the beginning of the session. Special instruction is given to junior students by tutors or assistants, and clinical clerks and dressers are selected from the members of the class. Special wards are set apart for diseases of women and for diseases of the skin. In the out-patient department there are special clinics for diseases of women and for diseases of the throat, ear, and teeth, etc. All the courses of clinical instruction are recognized at the University of Glasgow and other Boards in the kingdom. Fifteen resident assistants are appointed annually without fee from those who have completed their course. *Fees.*—(1) Every student must pay a fee of £10 10s. for hospital attendance, and this is kept quite apart from the fees for clinical instruction. (2) Every student pays £2 2s. for each summer and £3 3s. for each winter session of clinical instruction, or such other fees as may be fixed from time to time by the managers in conjunction with the University Court. (3) Students who have completed their clinical course elsewhere are permitted to enter for a six months' course of the hospital only, on payment of a fee of £2 2s. The in-patients average over 9,000; the out-patients nearly 40,000 a year.

3. *Glasgow Eye Infirmary.*—This infirmary is situated at 174, Berkeley Street, and 80, Charlotte Street, and has 104 beds. Dispensaries open daily at 12.30 p.m. Operations performed on Monday and Wednesday at 10 a.m. and 2 p.m., and Friday at 9 a.m. and 2 p.m. Students' fees for six months, 1 guinea. In-patients, about 1,600; out-patients, about 28,000.

4. *Royal Hospital for Sick Children.*—This hospital, containing over 100 beds (26 of which are at the country branch at Drumchapel), and devoted to the non-infectious diseases of children, is open for clinical instruction, as also is the out-patient department in West Graham Street. Students, by paying a fee of £1 1s., are entitled to the practice of the hospital and dispensary for twelve months from the time of entry. The in-patients number about 1,100 yearly, and the out-patients about 14,000, involving over 50,000 attendances.

5. *Glasgow Hospital for Diseases of the Ear, Nose, and Throat.*—This institution has 12 beds and a large out-patient department, the latter being open daily and attended by over 3,000 patients annually. Classes for practical work in connexion with the university lectures on the ear, nose, and throat are held during both the winter and summer sessions, and prizes are awarded.

ST. ANDREWS AND DUNDEE.

THE medical departments in these two teaching centres cater specially for students proceeding to the degrees of the University of St. Andrews, but admit other students as well. In the former city the United College provides education in all subjects of the first two years. In Dundee, University College provides for the needs of students from the beginning to the end of the five years' curriculum. Its buildings are modern, and contain laboratories and work rooms for anatomy, physiology, materia medica, pathology, ophthalmology, public health, medicine, surgery, and gynaecology. The clinical work of the school is facilitated by the institutions below described. The class fees are 4 guineas for systematic classes and 3 guineas for practical classes. The hospital ticket is £1 1s. for three months, £3 3s. a year, or perpetual £10 in one sum or £10 10s. in instalments. Added up, the fees for the curriculum amount to about 100 guineas. In connexion with both institutions there are bursaries and scholarships of considerable value, which are awarded after competitive examination. Information as to these can be obtained from the Secretary of the University of St. Andrews. Information regarding the clinical facilities may be obtained from Professor Kynoch, Dundee, Dean of the Medical Faculty.

Dundee Royal Infirmary.—The infirmary contains 400 beds, with special wards for the treatment of diseases of women, of children, of eye diseases, and of diseases of the ear and throat. Five resident and one non-resident qualified assistants are appointed annually. Clinical clerks and dressers are attached to the physicians and surgeons, and students are appointed to assist in the *post-mortem* room. Out-patients are seen daily at 9 a.m. There is an intern and extern maternity department connected with the infirmary. The instruction given at the infirmary is recognized for purposes of graduation by all the Scottish universities, the University of London, the University of Cambridge, the Royal University of Ireland, and by the Royal Colleges of England and Scotland. Further information on application to the Medical Superintendent.

Dundee District Asylum.—The appointments include two qualified resident assistants and two resident clinical clerks. Clinical instruction is given.

IRELAND.

THERE is a choice of six schools for those prosecuting their medical studies in Ireland, and for clinical instruction the choice is equally satisfactory and varied, though the hospitals themselves are comparatively small. Some account of the schools follows:

THE SCHOOL OF PHYSIC.

This school is in Dublin, and is carried on under the joint auspices of the University of Dublin and of the Royal College of Physicians in Ireland; the King's professors of institutes of medicine, practice of medicine, materia medica, and midwifery being appointed by the latter. Clinical instruction is given at Sir Patrick Dun's Hospital, and some twelve other metropolitan hospitals and asylums are recognized by the Board. A three weeks' post-graduate course is given each autumn, and covers all departments of medicine and surgery. Information concerning it can be obtained from Dr. Alfred Parsons, 27, Lower Fitzwilliam Street.

THE SCHOOLS OF SURGERY.

These are schools carried on in Dublin under the supervision and control of the Council of the Royal College of Surgeons. They are formed of the college's own school, combined with two famous old medical schools—Carmichael and Ledwich; they are attached to the college by charter. The buildings contain spacious dissecting rooms, one set apart for lady students, and special pathological, bacteriological, public health, chemical, and pharmaceutical laboratories. Advantage can be taken of the lectures and instruction afforded by students otherwise unconnected with the college.

Prizes.—Among the prizes annually awarded are: The Barker Anatomical Prize (£26 5s.); the Carmichael Scholarship (£15); the Mayne Scholarship (£8); the Gold Medal in Surgery, and the Stoney Memorial Gold Medal in Anatomy; class prizes of £2 and £1, accompanied by silver medals, will also be given in each subject.

The next session begins October 15th. A prospectus can be obtained post free on application to Mr. Alfred Miller, Registrar, Royal College of Surgeons, Dublin.

UNIVERSITY COLLEGE, DUBLIN.

This is one of the constituent colleges of the National University of Ireland, and at present conducts its work at buildings on St. Stephen's Green, at those formerly occupied by the Cecilia Street School of Medicine, and at the University Buildings in Earlsfort Terrace. Its permanent home is not yet ready. It possesses a good library, and the arrangements for the teaching of medical students from beginning to end of the curriculum are adequate. The teaching staff is numerous, and through it the college is connected with many of the hospitals of the city. Students, however, are allowed to pursue their studies at any of the hospitals which are recognized as a clinical school. Some account of these is given in this section under the heading of "Other Educational Facilities."

BELFAST.

The Medical School is part of the Faculty of Medicine of Queen's University, Belfast, and provides a complete medical curriculum for all purposes. The laboratories in connexion with the departments of biology, chemistry, physiology, pathology, anatomy, physics, and materia medica are all excellent, and there is a Students' Union which gives students the advantage of dining rooms, reading rooms, a library, and various recreation rooms. Women are eligible as students. Clinical instruction is given at the Royal Victoria Hospital, which was rebuilt a few years ago and has 300 beds, and the Mater Infirmorum Hospital, which has 150 beds. Other hospitals open to the students of the university are: The Maternity Hospital, the Ulster Hospital for Women and Children, the Hospital for Sick Children, the Ophthalmic Hospital, the Benn Ulster Eye, Ear, and Throat Hospital, the Union Infirmary and Fever Hospital, the Fever Hospital, Purdysburn, the District Lunatic Asylum, the Samaritan Hospital, Forster Green Hospital for Diseases of the Chest, and the Belfast Hospital for Skin Diseases.

Scholarships.—(1) Twelve are assigned as Entrance Scholarships in the Faculties of Arts, Science, and Medicine, tenable for one year; (2) sixteen Professional Scholarships, value from £15 to £40 each; (3) one Hutchinson Stewart Scholarship, £12, in mental diseases; (4) one Mackay Wilson Travelling Scholarship, £100, awarded triennially; (5) Isabella Tod Memorial Scholarship, tenable for three years, awarded triennially to a woman student; (6) numerous sessional prizes. There is also a post-graduate research fund open to all graduates of not more than three years' standing. Gold medals are awarded at M.D. examination.

Fees.—The cost of the curriculum intended for students proceeding to the degrees of the Queen's University of Belfast is, approximately, £105. This includes examination fees and a perpetual ticket for attendance at the Royal Victoria Hospital or the Mater Infirmorum Hospital, but not fees for the special hospitals. The course for the Conjoint Board costs about the same amount. A pamphlet containing full information can be obtained on application to the Secretary, Queen's University, Belfast.

UNIVERSITY COLLEGE, CORK.

This institution, formerly known as Queen's College, Cork, is one of the constituent colleges of the new National University. It holds examinations for all the faculties of that university, in addition to continuing the work which it has hitherto performed—namely, that of providing education adapted to the needs of medical students at all stages of their career. Its first aim is to fit students for the degrees of the new university, but students proceeding for the examinations of the Conjoint Boards of England, Scotland, or Ireland, the Society of Apothecaries of London, or the Apothecaries' Hall of Ireland, or London University, can arrange the courses of lectures which they attend, and the order in which they attend them, to meet the requirements of those bodies. Certificates of attendance at the college courses are also accepted by the University of Cambridge. Clinical instruction is given at the North and South Infirmaries (each 100 beds) and at the Cork Union Hospital (1,200 beds). Students can also attend the Mercy Hospital (60 beds), the County and City of Cork Lying-in Hospital, the Maternity, the Hospital for Diseases of Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital, and the Eglington Lunatic Asylum. The session extends from October to June inclusive. The college contains laboratories in the departments of biology, chemistry, physiology, pathology, and materia medica and pharmacy, and there are a botanic garden and plant-houses in the grounds.

Scholarships.—Over £4,000 is available annually for scholarships in the college. Particulars as to each of them can be obtained on application to the Registrar.

Fees.—The fees for the lectures and hospital attendances required by the National University of Ireland course, including examination fees, come to about £120. Further information can be found in the college regulations, or obtained on application to the Registrar.

UNIVERSITY COLLEGE, GALWAY.

This institution, to which further reference is made at p. 602, is one of the constituent colleges of the National University of Ireland, and includes Faculties of Arts, Science, Law, Engineering, and Medicine. Candidates for degrees in medicine must reside for three years. For the remaining two years certificates from any recognized medical school are accepted. The college buildings are well lighted and well ventilated, and contain dissecting rooms, an anatomical theatre, and laboratories for the study of physiology, chemistry, physics, and other departments of medical science. For pathology and chemistry new laboratories are in process of construction. It has good grounds surrounding it, and there are many arrangements, such as a library and an athletic union, for the benefit of those belonging to the Medical Faculty, as well as for students in other departments of the college. The clinical teaching, which is recognized as qualifying not only for the degrees of the National University, but for those of London University and the diplomas of the various colleges in the three kingdoms, is carried on at the Galway County Hospital, the Galway Union Hospital, and the Galway Fever Hospital. The former is a general hospital, and at the two latter students have ample opportunities of studying

zymotic and chronic diseases. The Union Hospital has a special ward for diseases of children. The college entrance scholarships number thirteen, and range in value from £30 to £25 each. They are open to all students, including those of the Faculty of Medicine. For students in their second, third, and fourth years, two scholarships are in each year reserved for those belonging to the Faculty of Medicine. Further information as to these scholarships, and as to fees for hospital attendance, laboratory work, and lectures, and all other items of the medical curriculum, can be obtained on application to the Registrar at the College.

OTHER EDUCATIONAL FACILITIES.

SOME account may also be given of the many hospitals in and around Dublin which, officially or unofficially, take a share in the educational work of this centre of medical study, and also afford opportunities to post-graduate students.

SIR PATRICK DUN'S HOSPITAL.

This hospital, situate in Grand Canal Street, is connected with and close to the school of physic of the University of Dublin, but its practice is open to students of medicine attending other schools, and its certificates are recognized by the National University of Ireland and the Royal Colleges of Surgeons in England, Scotland, and Ireland. Clinical instruction is given daily by the physicians and surgeons, and special classes for students commencing their studies are held during October, November, and December. They embrace the elements of medicine and surgery, including note-taking. The operating theatre is thoroughly in accord with the requirements of modern surgery. Clinical teaching on the diseases of women is given twice a week, and in the special wing devoted to fever cases regular clinical instruction is given throughout the winter and summer sessions. Pathological and bacteriological demonstrations are given on Fridays during the winter and summer sessions in the new pathological laboratory. Special arrangements have been made for practical and theoretical instruction in the administration of anaesthetics. A department for the treatment of throat, nose, and ear diseases affords instruction in these subjects, and in the use of the laryngoscope and otoscope. There is also a department for dentistry. In the *x*-ray department opportunities are given the members of the hospital class of seeing the various applications of the *x* rays to the diagnosis and treatment of injury and disease. The out-patient departments are similarly useful. Special demonstrations are given upon diseases of the skin.

Appointments.—A resident surgeon, with salary, is appointed annually, and six resident pupils each half-year; six surgical dressers and six clinical clerks each month.

Prizes.—The Haughton clinical medals and prizes, value about £15 each, in medicine and surgery, are awarded annually, other candidates who show special merit being given certificates.

Fees.—The fees are: Winter and summer session, together, £12 12s. Winter session only (six months), £8 8s. Summer session only (three months), £5 5s. Other information can be obtained from the Honorary Secretary to the Medical Staff of the Hospital.

RICHMOND, WHITWORTH, AND HARDWICKE HOSPITALS.

Of these combined hospitals, Richmond deals with surgical work, Whitworth with medical, and Hardwicke with fever cases. Together they contain over 300 beds, and have special clinics for diseases of the eye, ear, throat and nose, and for diseases of women. The Truss Establishment, for the distribution of trusses to the ruptured poor of Ireland, is connected with these hospitals. A fully equipped pathological laboratory has been opened and a new mortuary built. An *x*-ray and an electrical department of the most modern types have been installed. The Richmond Lunatic Asylum, containing 1,200 patients, is close by, affording facility for the study of mental diseases.

Appointments.—A resident physician and a resident surgeon are elected half-yearly, and receive a salary. Twelve resident clinical clerks are elected quarterly. These appointments are not only open to students of these hospitals, but also to students of other hospitals and to qualified doctors.

Further information can be obtained from the Honorary Secretary and Treasurer, R. Travers Smith, M.D., 20, Lower Fitzwilliam Street.

ADELAIDE MEDICAL AND SURGICAL HOSPITALS.

The hospitals contain 140 beds. A house-surgeon and a house-physician, resident and salaried, are appointed yearly, and four resident pupils are selected half-yearly. Further particulars may be obtained on application to the Secretary of the Hospital, or to any of the members of the medical staff.

ROYAL CITY OF DUBLIN HOSPITAL.

This hospital, in addition to the general medical and surgical wards, contains special wards for ophthalmic, throat and aural cases, diseases of women, and diseases of children. There is also an isolated building for the reception of infectious cases. An entirely new operation theatre has been constructed in accordance with the most modern surgical requirements. Roentgen-ray and lupus lamp departments have been installed. Special instruction is given in the administration of anaesthetics, and certificates are awarded to students taking out this course.

Appointments.—Clinical clerks to the physicians and dressers to the surgeons are appointed from the most deserving of the class, and certificates awarded for the faithful performance of their duties. Medical and surgical resident pupils are appointed, and special certificates awarded if merited. A resident medical officer is appointed annually.

For further particulars application should be made to the Honorary Secretary of the Medical Board at the Hospital.

MATER MISERICORDIAE HOSPITAL.

This hospital contains 345 beds, and is open at all hours for the reception of accidents and urgent cases. Clinical instruction is given by the physicians and surgeons at 9 a.m. daily. A course of clinical instruction on fever is given during the winter and summer sessions. A certificate of attendance upon this course, to meet the requirements of the licensing bodies, may be obtained. Ophthalmic surgery is taught in the special wards and in the dispensary. Surgical operations are performed daily at 11 o'clock. Connected with the hospital are extensive dispensaries, which afford valuable opportunities for the study of general medical and surgical diseases and accidents. Instruction is given on pathology and bacteriology. Leonard prizes will be offered for competition annually. Certificates of attendance are recognized by all the universities and licensing bodies in the United Kingdom. Private wards have been opened for the reception of medical and surgical cases. A training school and a home for trained nurses have been opened in connexion with the hospital. For further particulars see prospectus.

Fees.—Nine months, £12 12s.; six winter months, £8 8s.; three summer months, £5 5s. Entries can be made with any of the physicians or surgeons, or with the Registrar, Dr. Martin Dempsey, 35, Merrion Square.

MEATH HOSPITAL AND CO. DUBLIN INFIRMARY.

This hospital was founded in 1753, and now contains 160 beds available for clinical teaching. A building containing 40 beds for the isolated treatment of fevers is attached to the hospital. The certificates of this hospital are recognized by all the universities and licensing bodies of the United Kingdom. Six medical clinical clerks and twelve surgical resident pupils and dressers are appointed every six months, and a house-surgeon and a house-physician and one assistant physician are elected annually. The session opens on October 1st. A prospectus giving the complete arrangements for the medical and surgical classes for the coming session may be obtained from the honorary secretary of the Medical Board at the hospital.

MERCER'S HOSPITAL.

This is situated in the centre of Dublin, in the immediate vicinity of the Schools of Surgery of the Royal College of Surgeons, the Catholic University School of Medicine, and within five minutes' walk of Trinity College. It contains

120 beds for medical and surgical cases, and arrangements have been made with the medical officers of Cork Street Fever Hospital whereby all students of this hospital are entitled to attend the clinical instruction of that institution, and become eligible for the posts of resident pupils, etc. There is a large out-patient department, and a special department for diseases peculiar to women. There are also special wards for the treatment and study of children's diseases. During the past few years the hospital has undergone extensive alterations in order to bring it up to modern requirements.

Appointments.—A house-surgeon is appointed annually. Five resident pupils, each for six months, and clinical clerks and dressers are appointed monthly from amongst the most deserving members of the class.

Fees.—Winter, six months, £8 8s.; summer, three months, £5 5s.; nine months, £12 12s.

Further particulars can be obtained from the Honorary Secretary of the Medical Board.

Dr. Steevens's Hospital.

This hospital, situated at Kingsbridge and containing over 200 beds, affords exceptional advantages for clinical instruction. Owing to its position amongst manufactories and railway works a large number of casualties are always under treatment, while there are to be found occupying its beds at all times numerous cases of acute and chronic medical and surgical diseases. There is a ward entirely devoted to venereal diseases, and a detached building for fever cases, and a newly-built extensive general out-patient department, with separate clinics for diseases of the eye and ear, skin, throat, teeth, and diseases of women, daily opportunity being afforded to students to become thoroughly familiar with the modern appliances used in diagnosis and treatment of disease. A new and well-appointed receiving room for accidents has recently been added. There is also a fully-equipped X-ray Department and a fully-furnished Pathological Laboratory. General operations are performed on Tuesday, Thursday, and Saturday, and gynaecological operations on Wednesday. The hospital accommodates four medical, six surgical, and two specialist (Gynaecology and Ophthalmology) resident pupils, who are provided with separate furnished rooms, with coal and gas. There is a comfortable common sitting room for meals, which can be obtained at a reasonable rate.

Fees.—Hospital practice, nine months, 12 guineas; six months, 8 guineas; three months, 5 guineas. Residence: Each three months, 10 guineas, which includes fee for hospital practice and certificate.

A prospectus may be obtained from the Resident Surgeon or the Honorary Secretary to the Medical Staff.

The Rotunda Hospital.

This institution consists of two distinct hospitals, and is the largest combined maternity and gynaecological hospital in the British Empire. Nearly 3,000 patients are admitted annually to the hospital, and more than 2,000 cases of confinement are attended annually at the patients' own homes, whilst over 14,000 patients are attended in the out-patient department. A pathological laboratory is one of the important features of the hospital. The clinical instruction given includes daily lectures and practical demonstrations in midwifery, gynaecology, and cystoscopy. Students also conduct its maternity cases and assist at all operations, both obstetrical and gynaecological. Qualified practitioners who reside in the hospital for more than one month are allowed to perform operations. A diploma is granted to pupils on their passing an examination after a period of six months' attendance on the practice of the hospital. Paid clinical clerks are selected (by examination) from amongst qualified men who have obtained the hospital diploma. The residential quarters in the hospital for both men and women students have within the last few years undergone complete renovation, and afford comfortable accommodation. The grounds of the hospital contain grass courts for lawn tennis and croquet. Pupils can enter at any time for a period of one month or longer. The hospital offers exceptional opportunities for qualified practitioners of any nationality who desire to take out a course of post-graduate instruction.

Fees.—Intern pupils: Six months, £21; three months, £12 12s.; two months, £9 9s.; one month, £6 6s. Extern pupils: Six months, £10 10s.

Royal Victoria Eye and Ear Hospital.

This hospital, situated in Adelaide Road, Dublin, is an amalgamation of two institutions which formerly gave special instruction in ophthalmology separately—namely, St. Mark's Ophthalmic Hospital and the National Eye and Ear Infirmary. The combined institution, which was opened in February, 1904, contains 82 beds. Clinical instruction in diseases of the eye, including refraction, and the use of the ophthalmoscope, is given daily, and students attend the operations, which are performed as occasion requires. Instruction in aural surgery is also given daily. Special classes for practical instruction in the use of the ophthalmoscope, etc., and for the demonstration of cases, are formed from time to time. A detached out-patient department, specially designed to meet all the requirements of eye, ear, nose, and throat patients, and complete in every respect for the cure and demonstration of their diseases, has been erected and is now in occupation. It is believed that this department is one of the most complete of its kind in existence.

CLINICAL HOSPITALS IN ENGLAND.

There are a great many hospitals in the United Kingdom which, though not connected with any medical school, open their doors either to those who have yet to become qualified, to those who are doing post-graduation work, or to both. The facilities they offer for gaining practical clinical experience are very great, and should not be overlooked. Their honorary staffs commonly make a point of giving what instruction opportunity offers; and at those which are situated in the larger towns there are often appointments as clinical assistants to be obtained. In addition, they all have to offer, at shorter or longer intervals, appointments in the way of resident medical officerships, house-physicianships, and house-surgencies. These are usually paid offices, which may be held for periods varying from six months to a year. Notices of the vacancies as they occur appear in our columns, and there is rarely any lack of candidates, since the holder is placed in a particularly favourable position for gaining either general or special experience. An account of some which are situated in London and the provinces here follows, reference to those in large medical centres other than London being made in the accounts given of the Medical Schools in Scotland, Ireland, and the provinces respectively.

LONDON.

General Hospitals.

Great Northern Central Hospital, Holloway Road, N.—This hospital is recognized by the Examining Board in England of the Royal Colleges of Physicians and Surgeons as a place of study during the fifth year of the medical curriculum. The hospital contains 185 beds, all of which are at present available for occupation (that is, no beds empty for want of funds). The large rectangular and circular wards, each of which contains 20 beds and 4 cots, the operation theatre, and an additional out-patient department, general and special, and the pathological departments, have all been erected since 1887. A second operation theatre and a new surgery block containing two observation wards, patients' waiting hall, examining rooms, and surgery proper, were opened in 1906. There is also an electrical department, and a children's ward containing 20 cots. Medical practitioners are invited to attend the general and special practice of the hospital. Clinical assistants (qualified), clinical clerks, and pathological clerks are appointed in the general and special departments, and may receive certificates at the end of their terms of office. There are one resident medical officer, three house-surgeons, two house-physicians, a pathologist, and five anaesthetists. Full particulars concerning these appointments can be obtained from the Honorary Secretary of the Medical Committee. Owing to the development of tube railways and electric trams the hospital is now one of the most accessible in London.

London Temperance Hospital.—The hospital in Hampstead Road contains 100 beds. The medical and surgical practice is open to students and practitioners. There are several appointments (vacancies in which, when they occur, are advertised in the Journal). The principal are those of surgical and medical registrars, pathologist and

bacteriologist, anaesthetist, radiographer, resident medical officer, one assistant medical officer, and assistant house-surgeon. From time to time clinical classes are held by members of the staff.

Seamen's Hospital Society.—Dreadnought Hospital, Greenwich, 250 beds. Albert Dock Hospital, 50 beds. Dispensary in the East India Dock Road, and at Gravesend. The London School of Clinical Medicine is attached to the first mentioned, and the London School of Tropical Medicine to the latter. Reference to the opportunities which these institutions afford for general clinical study and for obtaining special instruction in the diseases of tropical climates will be found at pages 627 and 629 respectively.

West London Hospital.—The hospital possesses 160 beds, and, besides having a large out-patient department, the work of which is subdivided among the different special branches of medicine and surgery, it treats annually between two and three thousand in-patients. The excellent opportunity it affords for clinical study will be found fully described at page 627 in the article on Post-Graduate work.

Prince of Wales's General Hospital, Tottenham, N.—Full information as to the attractions of this hospital as a place for clinical study, and as to the manner in which its valuable resources are utilized, will be found at page 528 in the article on Post-Graduate work. The district in which the hospital is situated has been growing rapidly of late years, and attendance in its various departments has annually increased.

Children's Hospitals.

The Hospital for Sick Children, Great Ormond Street, W.C. (Medical School recognized by the University of London for the Study of Children's Diseases), contains 240 beds, divided into 96 medical, 106 surgical, and 38 for special and infectious cases, besides 36 beds at the Convalescent Branch, Highgate. The hospital having been recognized by the Conjoint Board for England as a place where, under the new curriculum, six months of the fifth year may be spent in clinical work, the practice is arranged to meet this need, and is open to students who have completed four years of medical study, and also to qualified medical men. The sessions are of ten weeks' duration, and begin in October, January, and March. Appointments are made every three months to medical clerkships. The hospital practice includes attendance in the wards and in the out-patient department during the visits of members of the staff, and the right to be present at operations and the performance of *post-mortem* examinations. Fees for hospital practice: One month, 2 guineas; three months, 5 guineas; perpetual ticket, 10 guineas. Special for clinical clerks, £1 1s. for three months. Facilities are afforded for obtaining theoretical and practical instruction in clinical pathology and bacteriology in the pathological laboratories. Clerks attend for about four hours daily. Fees: One month, 3 guineas; two months, 5 guineas; three months, 6 guineas. A reduction is made in the case of those already holding tickets for general attendance at the hospital. Certificates of attendance are granted. Special post-graduate courses are held throughout the year, comprising classes dealing with special subjects. About six classes are held each term, each class meeting twice weekly over a period of three weeks. Admission to each class of six meetings, £1 1s. Classes are arranged so that they do not overlap. A detailed syllabus is published at the beginning of each term, and may be obtained on application. Prospectuses and further information will be forwarded on application to the Dean or the Secretary at the Hospital.

Paddington Green Children's Hospital, Paddington Green, London, W.—Number of beds, 46; average number of beds daily occupied, 32; average number of in-patients, 681; average number of out-patients, 14,501. Daily attendance of the medical and surgical staff. There are eleven clinical assistants. There is a convalescent home attached to the hospital at Fair View, Slough, with accommodation for 16 children in the winter and 24 in the summer months.

East London Hospital for Children, Shadwell.—The hospital contains 120 cots. Two house-surgeons and two house-physicians (holding office for six months) are appointed annually. This hospital is recognized by the Conjoint Board for England as a place of instruction for students at which six months of their fifth year may be spent in clinical work. The following opportunities for the study of the diseases of childhood are offered to gentlemen who have completed four years of medical study, and to those who are already qualified: The practice of the hospital (in the out-patient department) is open to students every day (except Saturdays), at such hours as the physicians or surgeons for the day are attending. The in-patient practice is open to students holding clerkships or dresserships in the hospital, and to students not holding appointments during the attendance of the physicians and surgeons. A certain number of clinical clerks and dressers are appointed every three months to each physician and surgeon. They are eligible for reappointment at the end of three months. Additional information may be obtained on application to the Secretary at the Hospital.

The Queen's Hospital for Children, Hackney Road, Bethnal Green.—This hospital, formerly known as the North-Eastern, has 134 beds in London and 30 at the seaside branch at Bexhill, which is known as "Little Folks'" Home. The in-patients in 1912 numbered 1,624, of whom 545 were children under 2 years of age; out-patients, 29,315; new cases, 72,731 attendances. There are special Dental, Eye, Skin, Ear, Nose and Throat, and Roentgen-rays Departments. The institution offers plenty of facilities for medical and surgical study of all kinds. A course of post-graduate lectures and demonstrations, open free of charge to qualified medical men and women and students of medicine, is given by members of the visiting staffs weekly during the spring and autumn. Detailed information can be obtained on application to the Secretary.

The Belgrave Hospital for Children.—The hospital has accommodation for 40 children and a very extensive out-patient service. The proportion of very young children to the total number treated is high. Medical and surgical out-patients are seen at 9.30 a.m. on Mondays, Tuesdays, Thursdays, and Fridays. Clinical assistants to the out-patient staff are appointed from time to time.

Lying-in Hospitals and Hospitals for Women.

Queen Charlotte's Lying-in Hospital.—This hospital, situated in Marylebone Road, receives over 1,800 patients annually, besides having a large out-patient department. Medical students and qualified practitioners are received, and on account of the large number of primiparous cases—nearly one-half of the total admissions—have unusual opportunities of seeing obstetric complications and operative midwifery. Clinical laboratory instruction is given. Certificates of attendance at this hospital are recognized by all universities, colleges, and licensing bodies. There is a residential college opposite the hospital and in telephonic communication with it. *Fees:* Those attending the practice of the hospital, in order to conduct the number of cases they are required to attend by the licensing bodies, pay a fee of £8 8s. for a course of four weeks. Those who attend only for the preliminary instruction in midwifery now required by the General Medical Council pay £5 5s. for a calendar month. Students are accommodated at the residential college adjoining the hospital. Terms for residence and full board, 30s. per week.

Samaritan Free Hospital for Women, Marylebone Road, N.W.—The Samaritan Hospital treats diseases peculiar to women only. It has 64 beds. It receives qualified practitioners as clinical assistants in both in-patient and out-patient departments; fee, £3 3s. per quarter. Further particulars can be obtained from the Secretary.

Ophthalmic Hospitals.

Royal London Ophthalmic Hospital (Moorfields Eye Hospital, City Road, E.C.)—This hospital contains 138 beds, and treats annually about 2,100 in-patients and 50,000 out-patients. Operations are performed daily from 10 a.m. to 1 p.m., and four surgeons attend on each day. Students are admitted to the practice of the hospital. *Fees:* For six months, £3 3s.; perpetual, £5 5s. Courses of instruction in the following subjects are given each term: (1) Examination of the eye; (2) the use of the ophthalmoscope; (3) errors of refraction; (4) external diseases of

the eye; (5) surgical anatomy of the eye; (6) motor anomalies; (7) pathology of the eye; (8) practical pathology; (9) bacteriology; (10) operative surgery; (11) classes for *x*-ray work. A composition fee of £10 10s. will entitle students of the hospital to a perpetual ticket, and will admit them once to all the above lectures and demonstrations, except the classes on practical pathology, bacteriology, operative surgery, and *x*-ray work. Students of the hospital are eligible for the offices of house-surgeon, refraction assistants, or clinical and junior assistants. Any further information desired can be obtained on application to the Secretary.

Royal Westminster Ophthalmic Hospital, King William Street, West Strand.—The hospital, modernized throughout, contains 40 beds, a large out-patient department, a lecture room, and a well-equipped pathological laboratory. The practice is open to practitioners and students from 1 to 4 p.m. daily. Special instruction is given in the pathology, diagnosis, and treatment of eye affections, including the operations on the eye, the treatment of errors of refraction, and the use of the ophthalmoscope. *Fees:* Six months, £3 3s.; perpetual, £5 5s. Shorter periods of instruction can be arranged. For further particulars apply to the Secretary at the Hospital.

Royal Eye Hospital, St. George's Circus, Southwark, S.E.—This hospital contains 40 beds and 2 cots. The out-patients number over 28,000 yearly. Operations are performed and patients seen daily at 9 a.m. and 2 p.m. Qualified practitioners and students are admitted to the practice of the hospital. Courses of instruction in ophthalmology are given during the summer and winter sessions. Fee for each course, £2 2s.; including three months' hospital practice, £3 3s. Qualified students of the hospital are eligible for the offices of registrar and house-surgeon; they may also be appointed clinical assistants for six months, and are eligible for re-election. Further particulars may be obtained from the Secretary at the Hospital.

Central London Ophthalmic Hospital, Judd Street, W.C.—This hospital has 26 beds and possesses facilities for clinical teaching daily. Last year there were 414 in-patients and 13,475 out-patients (entailing 31,177 attendances). A short vacation course of instruction in the various branches of ophthalmology will be held during September and October, and the winter session will commence in October. The new hospital has every facility for ophthalmic teaching, and has a fine and well-equipped laboratory. The out-patient work begins at 1 o'clock, and operations are performed daily between 1 and 4 o'clock. *Fees:* A composition fee of £5 5s. will entitle students to a perpetual ticket, and £3 3s. to three months' hospital practice, and either fee will admit students to the ophthalmoscope and refraction classes.

Fever and Small-pox Hospitals.

Students are admitted to study at the Fever and Small-pox Hospitals of the Metropolitan Asylums Board after they have completed the third year of medical education, provided they have held the offices of clinical clerk and dresser, and have obtained the sanction of the authorities of the medical school to which they belong. The minimum duration of the course of study at the fever hospitals is two months, and the ordinary course of study at the small-pox hospitals consists of three demonstrations. At the fever hospitals the student must attend two days a week, and a third attendance is allowed, which may be taken at the convenience of the student, either in the morning or afternoon. To enable him to do this, an afternoon class is held once a week at those hospitals which have morning classes, and a morning class once a week where students are now received only in the afternoon. A register of students and the number of attendances of each individual is duly kept at each hospital. At the small-pox hospitals the dates and times of demonstrations are notified to students who have entered for a course. They must abide by the rules laid down as to disinfection and other matters, and must satisfy the Board of Management that they are sufficiently protected against small-pox by vaccination or otherwise. A certificate signed by the medical superintendent of the hospital at which attendance is made, and countersigned by the Clerk to the Board, is granted to a student when he has satisfactorily completed the course of study. Qualified medical men are admitted under similar terms and conditions, except that the sanction of the authorities of the medical school is not required in their case, and that they may attend the small-pox demonstrations without payment of a fee. Courses of instruction in the diagnosis and treatment of fevers are held three times a year at most hospitals, beginning in January, May, and October respectively, and other courses are usually arranged to commence in February, August, and November respectively. Information as to the classes is furnished to each of the recognized medical schools in the metropolis. Courses in connexion with small-pox are held from time to time as circumstances permit.

Fees.—Fever hospitals, two months, £3 3s., and £1 1s. for every additional month; small-pox hospitals, £1 1s. for the course of three demonstrations, but qualified medical men and students who may be receiving, or who may have received during the previous six months, instruction in fevers at the Board's hospitals may attend without payment of a fee.

Chest Hospitals.

Hospital for Consumption and Diseases of the Chest, Brompton.—The hospital has been recognized by the Conjoint Board for England as a place where six months of the fifth year may be spent in clinical work. It is also one of the institutions belonging to the London Post-Graduate Association. There are 333 beds in the two buildings constituting the hospital, and a special throat department, as well as an open-air sanatorium at Frimley with 150 beds. Pupils are admitted to the in-patient and out-patient practice of the hospital and to the laboratories. Courses of lectures and demonstrations are given during each term on Wednesdays at 4 p.m. Clinical assistants, who must be qualified men and perpetual students of the hospital, are appointed to the assistant physicians in the out-patient department for periods of six months. The fee for the practice of the hospital is £1 1s. for each month, or £2 2s. for each period of three months, or a perpetual fee of £5 5s. The charge for one month's study in the clinical laboratory is 5 guineas.

City of London Hospital for Diseases of the Chest, Victoria Park.—There are 175 beds. The practice of the hospital, both as regards in-patients and out-patients, is open to students and medical practitioners. Certificates of attendance in the medical practice of this hospital are recognized by the London University, the Conjoint Board, and the Society of Apothecaries. Information as to medical instruction can be obtained on application to the Secretary to the Medical Committee at the Hospital.

Throat and Ear Hospitals.

The Metropolitan Ear, Nose, and Throat Hospitals (1838) (Incorporated).—This hospital is situated in Fitzroy Square. The out-patient department is open daily at 2.30 p.m. to practitioners and students for acquiring clinical instruction and technical knowledge. Operations are performed on in-patients on Tuesdays, Wednesdays, Thursdays, and Fridays, at 10 a.m. Fee for one month's attendance at the hospital, £1 1s., and for three months £2 2s. During the forthcoming session demonstrations will be given by members of the staff on the pathology and treatment of diseases of the ear and respiratory passages. Short practical classes will also be held in clinical pathology and surgical anatomy. Weekly clinical lectures are given by the staff on the special diseases treated at the hospital; the date, time, and subject of these lectures are previously announced in this JOURNAL. The lectures are free to all medical practitioners and students.

Royal Ear Hospital, Dean Street, Soho, W.—Courses in diseases of the ear and nose are given by members of the staff throughout the teaching year. The teaching is of a practical character, and clinical assistants are appointed. Ten clinics are held every week. The operation days are Tuesdays, Thursdays, and Fridays. Students are charged 1 guinea for six weeks' attendance and instruction. For full particulars address the Honorary Secretary of the Medical Board, Royal Ear Hospital, Dean Street, Soho.

Hospital for Diseases of the Throat, Golden Square, London, W.—The hospital contains 75 beds for in-patients.

There is an annual out-patient attendance of over 50,000. Operations are performed every morning (except on Mondays). Practitioners and medical students are admitted to the practice of the hospital at a fee of 5 guineas for three months, 7 guineas for six months, or 10 guineas for perpetual studentship. The courses may commence at any date. Special terms are granted to medical men in actual practice who can only attend the hospital once or twice weekly. Clinical instruction is given daily in the out-patient department from 2 to 5 p.m., on Tuesdays and Fridays from 6.30 to 9 p.m., and on Mondays at 9 a.m. Systematic courses of lectures, with clinical and pathological demonstrations, are given in the winter session, and are free to students of the hospital. From amongst the students are selected junior clinical assistants, to assist the member of the staff to whom each is appointed. Application for further information should be addressed to Mr. George W. Badgerow, F.R.C.S., the Honorary Secretary to the Medical Staff.

Central London Throat and Ear Hospital, Gray's Inn Road.—The hospital contains accommodation for 30 in-patients, and, in addition to new operating theatres, has a very extensive out-patient department (between 40,000 and 50,000 attendances yearly), which is open daily to all medical practitioners and students. Fee for six weeks' attendance, 2 guineas. There are frequent vacancies on the staff of clinical assistants; fees, for three months' clinical assistantship, 5 guineas; for six months, 8 guineas; perpetual, 10 guineas. Courses of practical instruction are in progress all the year round. They consist of (1) preliminary lessons on methods of examination, instruments, etc.; and (2) systematic lecture-demonstrations of a more advanced character. The fees are from 1 guinea upwards, but the classes are free to clinical assistants. Operative Surgery classes are held at intervals. Operations on in-patients and out-patients are performed on Mondays, Tuesdays, Wednesdays, Thursdays, and Fridays at 9 a.m. (minor operations out-patients); 2 p.m. (major operations in-patients). In the newly equipped laboratory considerable attention is given to scientific work, particularly with regard to the pathology and bacteriology of the diseases of the ear and upper respiratory passages. Full particulars will be supplied on application to the Dean at the Hospital.

Miscellaneous Special Hospitals.

Bethlem Royal Hospital.—At this hospital for mental diseases, in St. George's Road, Southwark, two resident house-physicians are appointed twice a year for six months from recently qualified medical students. Students of general hospitals and qualified medical men are allowed to attend for clinical instruction for three months on payment of a fee. Post-graduate courses are given from time to time.

St. Peter's Hospital for Stone and Urinary Diseases, Henrietta Street, Covent Garden.—Qualified medical men and students are admitted free to the practice of this hospital, which contains 32 beds, and has a large out-patient attendance (40,890 for 1912). New cases, 3,570. Operations are performed and consultations held on Wednesdays and Fridays at 2. Clinical instruction is given regularly by members of the staff. In-patients admitted in 1912, 471.

St. Mark's Hospital, City Road, E.C.—This hospital, which devotes itself to the treatment of diseases of the rectum, including cancer and fistula, has 50 beds, the average number of in-patients being over 600. There is also an out-patient department. Operations are performed on three afternoons a week (Mondays, Wednesdays, and Thursdays), and registered medical practitioners and senior students are admitted to the clinical instruction given in the wards and elsewhere. There is also a yearly course of formal lectures.

St. John's Hospital for Diseases of the Skin.—The out-patient practice (at 49, Leicester Square, W.C.) is open free to any member of the medical profession every week-day, from 2 to 3.30 p.m., on presentation of his card to the medical officer in attendance. The *x*-ray department is in operation on Tuesday, Wednesday, and Thursday from 2 to 4 p.m. Chesterfield lectures are given free, October to May, on Thursdays at 6 o'clock. In connexion with these lectures a practical course is given in the laboratory, comprising microscopic examinations of sections, hair examination, staining, etc., during the summer. The Chesterfield Silver Medal is competed for annually in the month of June. The in-patient department, with 37 beds, is at 262, Uxbridge Road, W. Further particulars may be obtained from the Secretary-Superintendent, 49, Leicester Square, W.C.

The Hospital for Diseases of the Skin, 52, Stamford Street, Blackfriars, S.E.—This hospital was founded in 1841 as a special school for the study of diseases of the skin. Its practice is free to practitioners and students. It is open daily for out-patients at 1 p.m. Last year 5,410 cases were seen, and 13,343 attendances made. Practical courses of cutaneous histo-pathology and on the diagnosis and treatment of diseases of the skin and syphilis are held at frequent intervals. There are fully-equipped pathological and light departments. Clinical assistants are appointed from time to time.

National Hospital for the Paralysed and Epileptic, Queen Square, Bloomsbury.—This hospital, with the Finchley Branch, contains 200 beds and cots. The in-patient, out-patient practice, and lectures are open to students and practitioners on payment of the fee of 1 guinea for three months. Lectures and demonstrations are given on Tuesdays and Fridays, at 3.30, in three courses—spring, summer, and winter—and the physicians for out-patients attend every Monday, Tuesday, Thursday, and Friday at 2. Surgical operations are performed on Tuesdays and Fridays at 9. The hospital is a school of the University of London, and has been recognized by the Conjoint Board of England as one of the places where part of the fifth year of study may be spent. The physicians for in-patients attend at 2.15 on Monday, Tuesday, Wednesday, and Friday. Clinical clerks are appointed for three months. Communications regarding clinical clerkships, lectures, and hospital practice should be addressed to the Secretary at the Hospital.

THE PROVINCES.

It is the practice at a great many of the larger county and other hospitals in the provinces to offer facilities for instruction in their wards to medical students, who are usually treated as the pupils either of the resident officers or of the honorary medical staff. In some cases they pay fees, in others they receive an honorarium for the services they render as dressers, and in like capacities. A list of these and some allied institutions follows.

Bath.

Royal United Hospital.—The hospital contains 130 beds, and is recognized by the Royal Colleges of Physicians and Surgeons as a medical school. It contains a library and an excellent museum, in which are a large number of interesting specimens, both in pathology and comparative anatomy. Fees for attendance: Twelve months, £10 10s.; six months, £5 5s. (Temporary pupils can also, by permission of the honorary staff, attend the practice of the hospital by the payment of £1 1s. for each month.) Instruction in practical pharmacy for three months, £3 3s. Further particulars can be obtained on application to the Secretary.

Bradford.

Bradford Royal Infirmary.—The hospital contains 210 beds. Non-resident pupils are received, and have every opportunity of acquiring a practical knowledge of their profession under the superintendence of a resident surgical officer, three house-surgeons, and a house-physician. One year's attendance is recognized by the Examining Boards. *Fee:* Perpetual, £10 10s.

Brighton.

The Royal Sussex County Hospital.—The hospital contains 196 beds (136 surgical, 60 medical), with separate ward for children and separate blocks for diseases of women and for cases requiring isolation; and the Out-patient Department is attended by 1,100 to 1,300 patients weekly. It is recognized by the Conjoint Board as a hospital where part of a course of dispensing may be taken. Pupils are admitted to the clinical teaching. There is also a Pathological and Bacteriological Department. Further information may be obtained from the House-Surgeon.

CANTERBURY.

Kent and Canterbury Hospital.—The hospital contains 91 beds. Over 900 in-patients and 1,200 out-patients attend every year. Lectures are delivered weekly during term time on Practical Medicine and Surgery to the students of St. Augustine's Missionary College.

DERBY.

Derbyshire Royal Infirmary.—The infirmary has beds for 256 patients. Pupils are admitted to the in- and out-practice at a fee of £10 10s. a year.

DEVONPORT.

Royal Albert Hospital and Eye Infirmary.—The hospital contains 50 beds in the general wards, 13 additional beds for emergency cases only, and 2 home wards for the accommodation of private patients on payment. A course of practical pharmacy is given by the dispenser on payment of a fee of £5 5s.; pupils of the medical staff can attend this course on payment of £2 2s. The number of in-patients treated during the twelve months ended September 30th, 1912, was 756. In the casualty department first aid was given to 2,116 persons, and in addition 638 minor surgical and 421 dental cases received treatment. The out-patients treated in the ophthalmic department numbered 1,025.

EXETER.

Royal Devon and Exeter Hospital.—The hospital contains 200 beds, including a special ward for children. There are a library, museum, pathological department, and *post-mortem* rooms. A new operating theatre was opened in 1906, and an electrical treatment department in 1907. A new Accident Department was opened in 1913. Attendance on the practice at this hospital qualifies for all the Examining Boards. Arrangements are made by which students can attend midwifery. For further particulars apply to the Secretary.

West of England Eye Infirmary.—This infirmary contains 64 beds. Arrangements can be made for students at the Exeter Hospital to attend the practice of the Eye Infirmary.

GLOUCESTER.

Gloucestershire Royal Infirmary and Eye Institution.—The hospital contains 140 beds. Resident and non-resident pupils are admitted by the General Committee on the recommendation of a member of the Medical Board. Each pupil pays in advance £10 for the first half-year and £5 for every subsequent quarter, or portion of a quarter, of a year. Each resident pupil has board and lodging in the house, for which he pays in advance 26 guineas for the first half-year, and 13 guineas for every subsequent quarter, or portion of a quarter, of a year. Each pupil pays in advance to the house-surgeon a fee of £5 5s. for instruction, and a further fee of £3 3s. for every subsequent year or portion of a year. One year spent at this hospital, after passing a preliminary examination, is recognized by the Conjoint Board.

LEICESTER.

Leicester Royal Infirmary.—In this infirmary there are 270 beds, of which some 260 are in constant use. Of these beds, 42 are in a special annexe known as the Children's Hospital. There are six resident medical officers, and in addition two resident clinical assistants are appointed every six months, an honorarium of £10 10s. being given at the end of their term of office, in addition to board and apartments (particulars on application to the House Governor and Secretary). The work of the hospital, especially on the surgical side, is very extensive, four operating theatres being in use. There is also a large out-patient department; it is fitted with rooms for the accommodation of the members of the staff in charge of the various special departments, and is a complete and well-equipped building. A new south-east wing has recently been erected at a cost of £20,000. It contains three wards, each accommodating 30 patients. In addition, there are side wards to each floor (a two-bed and a one-bed ward) for observation and for delirious cases, and clinical laboratories. An electric lift conveys patients from top to bottom. The X-Ray Department has recently been remodelled and equipped with new apparatus. A Pathological Department has been introduced. A sum of £100,000 has been expended on the reconstruction of the institution during a period of seven years, and the infirmary is now thoroughly modernized and efficient. Building operations are now being carried out for improvements to the Children's Hospital and the construction of an additional floor containing 22 cots. A special feature is being made of the balcony system. The cost is estimated at £11,000, and includes the provision of a central sterilizing plant in place of the present theatre plant.

LINCOLN.

County Hospital.—The hospital contains 110 beds. The house-surgeon is allowed to take two pupils, on terms arranged between the weekly board, himself, and the pupils. A fee of not less than £10 10s. is paid by every pupil to the hospital. The house-surgeon is responsible for the conduct of his pupils. The pupils remain in the hospital only when occupied in performing or observing the actual work of the hospital.

NORTHAMPTON.

General Hospital.—There are 166 beds and a large out-patient department. Out-pupils are received, and have every opportunity of acquiring a practical knowledge of their profession. Instruction is also given in anatomy, materia medica, and pharmacy. Non-resident pupils are taken at a fee of £10 10s. annually.

NORWICH.

Norfolk and Norwich Hospital.—The hospital contains 230 beds, and those who have obtained registrable qualifications are admitted as non-resident clinical students in return for the following payments: For three months, £3 3s.; for six months, £5 5s.; as permanent students, £8 8s. The resident officers are a house-physician, resident surgical officer, two house-surgeons, and a casualty officer.

NOTTINGHAM.

General Hospital.—The hospital contains 254 beds. The honorary staff introduce pupils to witness the practice of the hospital on payment of £10 10s. annually in advance. The pupils receive instruction from the resident medical officers.

PORTSMOUTH.

Royal Portsmouth Hospital.—150 beds. One year's attendance is recognized by the Examining Boards. For particulars as to fees, application should be made to the Secretary.

SOUTHAMPTON.

Royal South Hants and Southampton Hospital.—The number of beds is 130. The in-patients number about 2,200 a year, the out-patients about 10,000. Large additions to buildings, including new isolation wards, new operating room, a new ward block and a steam laundry, new night casualty receiving room and nurses' homes for 44 nurses have been completed, and a new out-patient building. Attendance at this hospital is recognized by the Conjoint Board.

STAFFORD.

Staffordshire General Infirmary.—There are 77 beds. The pupils of medical practitioners, resident in the county of Stafford, are allowed to attend the medical and surgical practice of the infirmary, and to be present at operations. The pupils of the officers of the institution are admitted to these privileges gratuitously, those of other practitioners on payment of £10 10s. by each pupil.

North Staffordshire Infirmary.—The infirmary has accommodation for 220 patients, including children's wards, eye department, and electrical and *x*-ray departments. The attendance of pupils in this infirmary is recognized by all the Examining Boards. Particulars as to fees, etc., may be obtained from the Secretary and House-Governor of the Infirmary, Harthill, Stoke-on-Trent.

WINCHESTER.

Royal Hampshire County Hospital.—The hospital contains 108 beds. The physicians and surgeons are allowed to introduce a certain number of pupils: the resident medical officers may also receive a pupil, for whose maintenance a certain sum, to be fixed by the committee, is payable annually in advance. Pupils of medical men not on the staff of the hospital may, with the consent of the committee, become out-pupils and attend the practice of

the hospital, under the direction of the resident medical officer, on payment of £10 10s. for one year, or £21 for unlimited attendance.

WOLVERHAMPTON.

Wolverhampton and Staffordshire General Hospital.—There are 200 beds. It is recognized by the University of London, the Royal Colleges of Physicians and Surgeons, and other Examining Boards. The in-patients number 2,973, and out-patients 23,633. The operating theatre, laboratory of bacteriology and pathology, and *post-mortem* room are new and well equipped. Special departments for children, gynaecology, ear, throat, and nose diseases, electro-therapeutic and *x*-ray departments. There is an excellent library. The resident officers are a resident medical officer, three house-surgeons. Pupils are allowed to witness the whole of the practice of the hospital and to be present at operations, and have every opportunity of acquiring a practical knowledge of their profession. *Fees:* £3 3s. a quarter, £10 10s. the first year, and £5 5s. subsequent years. A course of practical pharmacy is given by the dispenser. *Fees:* £3 3s. for three months. Application should be made to the Secretary of the Medical Committee.

YORK.

York County Hospital.—The hospital contains 150 beds, including children's ward, eye department, and *x*-ray apparatus. Non-resident pupils may be introduced by the honorary medical and surgical officers, or by the resident staff (which consists of a house-physician and a house-surgeon) on terms to be arranged with the honorary staff. Pupils visit the wards with the members of the honorary staff (the house-physician and house-surgeon are present at the operations and necropsies), and are instructed in the elements of minor surgery in the casualty department. The in-patients number about 1,400 annually, and the out-patients 11,000, who make 44,000 attendances. Further particulars may be obtained from the Senior Resident Officer.

MEDICAL EDUCATION OF WOMEN.

WOMEN are admitted to the medical examinations of the following qualifying bodies: All the universities of Great Britain, with the exception of Oxford and Cambridge; the Royal College of Physicians, London, and the Royal College of Surgeons, England; the Society of Apothecaries of London; the Conjoint Colleges of Scotland and of Ireland.

The regulations of each differ considerably, so that it is necessary for a student to decide, before beginning her course, which degree or diploma she will aim at obtaining. The ordinary regulations of the General Medical Council (see page 589) must be observed, and women can pursue their education either at certain schools only open to women, or at ordinary schools where they do their work more or less in common with men students.

The schools which admit women only are the London (Royal Free Hospital) School of Medicine for Women, which is one of the constituent schools of the Medical Faculty of the University of London; the Edinburgh School of Medicine for Women (see page 615), and Queen Margaret College, Glasgow (see page 616). Women are also admitted to the schools of medicine conducted in connexion with the Universities of Dublin, Dundee, Durham, Liverpool, Manchester, Birmingham, Leeds, Sheffield, Bristol, and Aberdeen; St. Mungo's College, Glasgow, the Schools of Surgery of the Royal College of Surgeons in Ireland and of the National University of Ireland in Dublin, Cork, and Galway. Women can also attend classes for the first three years of the medical curriculum at University College, Cardiff.

Year by year the openings for women who adopt a medical career have increased, and the field open to their energies is now wide. Women hold many appointments as resident medical officers in hospitals for women and children all over the country, and are eligible for appointments in some general hospitals, and in a large number of sanatoriums, infirmaries, fever hospitals, and asylums. Many medical women are also engaged in public health and school inspection work.

As regards the London School of Medicine for Women, particulars will be found at p. 608 in the article on London Medical Schools.

DEGREES FOR PRACTITIONERS.

AT one time it was almost the universal custom for medical students educated in London not to seek a university degree, and as that custom still prevails to a considerable extent, a very large proportion of medical men in actual practice in England possess diplomas to practise but not degrees in medicine. The question whether a medical man not known to be a pure surgeon should be addressed as "Doctor" or "Mr." is one which the general public has settled, as it settles most things, for itself and according to its own views of the proprieties; but, nevertheless, those who have not taken a degree often regret their inability to sign themselves "M.D." Hence, some universities have issued special regulations under which the degree of M.D. is granted to practitioners of a certain standing under special conditions. The regulations of these universities are stated briefly in the following paragraphs. The University of Brussels also grants the degree of M.D. to practitioners after examination, without restriction as to residence or curriculum. It is not, however, a registrable degree when it has been obtained subsequently to June, 1886.

UNIVERSITY OF LONDON.

Registered medical practitioners who have passed the First Examination for medical degrees and the Second Examination for medical degrees, Part I, may proceed to the Second Examination for medical degrees, Part II, and M.B., B.S. Examinations without observing the intervals prescribed by the regulations on producing certificates that they have gone through the required course of study at a school of the university; subject to the proviso that no degree of the university can in any circumstances be granted by examination to any one in less than three years after passing the Matriculation Examination or after admission by the university of the candidate's right to exemption therefrom.

UNIVERSITY OF DURHAM.

The degree of M.D. is granted by the University of Durham to registered practitioners of not less than fifteen years' standing, who have been qualified and in practice for that period, upon the following conditions without residence: The candidate must be 40 years of age, and must produce a certificate of moral character from three registered medical practitioners. Should he not have passed previously to the professional examination in virtue of which his name was placed on the *Register* an examination in arts, he is examined in classics and mathematics; if otherwise, he is required to translate into English passages from any one of the following Latin authors: Caesar *De Bello Gallico* (first three books), Virgil, *Æneid* (first three books), or Celsus (first three books).

Professional Examination.—The candidate must pass an examination in the following subjects: (i) Principles and practice of medicine, including psychological medicine, hygiene, and therapeutics; (ii) principles and practice of surgery; (iii) midwifery and diseases of women and children; (iv) pathology, medical and surgical; (v) anatomy, medical and surgical; (vi) medical jurisprudence and toxicology. The examination is conducted by means of printed papers, clinically and viva voce, at the College of Medicine, Northumberland Road, Newcastle, and in the Royal Victoria Infirmary, Newcastle. The classical portion of the examination may be taken separately from the professional on payment of a portion (£10 10s.) of the full fee.

Foreign and Colonial Practitioners.—Natives of India or the British Colonies are placed on the same footing as natives of Great Britain. Natives of India must produce evidence from an Indian university that they have passed within one year an examination in Latin.

Fees.—The inclusive fee is 50 guineas; if a candidate fail to pass, 20 guineas are retained, but if he present himself again, 40 guineas only are required.

Dates, etc.—The examinations are held twice a year, towards the end of March and of June. Notice, accompanied by the fee and certificates, must be sent to Professor Howden, Secretary of the University of Durham College of Medicine, Newcastle-on-Tyne, at least twenty-eight days before the commencement of the examination.

UNIVERSITY OF BRUSSELS.

This university grants its M.D. to such foreign candidates as are already duly qualified in medicine and surgery in their own countries, provided they pass the three examinations imposed. These must be passed in due order, but if desired may be passed without any formal interlude, the time covered in the latter case being ten or twelve days. They are viva voce examinations, the language used being French. There is, however, an official interpreter present whose services are at the disposition of candidates; besides this, the examiners commonly speak the English language. At their desire candidates may also undergo written tests on payment of an extra fee of £1 for each test, but such written examination does not exempt them from the viva voce examination. There are now over six hundred medical men holding this degree in England and the colonies.

Examinations.—Of the three examinations, the first Doctorate covers general medicine, materia medica and pharmacology, general surgery, and the theory of midwifery. The second covers general therapeutics, pathology and morbid anatomy (including microscopy), special and general therapeutics, the special branches of surgery, and mental diseases. The third covers public health, medical jurisprudence, clinical medicine, and surgery, operative surgery (including the performance of some of the commoner operations on the dead subject), ophthalmology, midwifery (including obstetric operations on a model), regional anatomy (with dissection), and bacteriology. The examinations commence on the first Tuesday in November, December, March, and May, and the second Tuesday in June.

Fees.—The fees aggregate to £22; they are paid in advance, but those for any examinations to which a candidate has not been admitted are returned to him. A rejected candidate may be examined three months later on repayment of the examination fee, provided his second appearance takes place in the course of the same academic year; otherwise the matriculation fee (£8 12s.) must be paid again. Any fee paid includes the right to attend any lectures delivered in connexion with the subjects of the examination to which it relates. Other information can be obtained either from the Secretary of the University, 14, Rue des Sols, Brussels, or from Dr. Arthur Haydon, Honorary Secretary of the Brussels Medical Graduates' Association, 23, Henrietta Street, Cavendish Square.

POST-GRADUATION STUDY.

THE value, and in some circumstances even the necessity, of post-graduation study is now so generally recognized that there is no occasion to dilate upon it here. The need for some means of acquiring direct knowledge of the technique of the new branches which are constantly springing up is indeed so generally felt among otherwise experienced practitioners, that several institutions designed solely for their benefit have been at work now for some years. Of these institutions some account follows. Beyond this it need merely be said that in most medical centres it is now exceptional for one or more courses for qualified men not to be held once or more often during the year; that most of the institutions mentioned in the section on Clinical Hospitals make special arrangements for the benefit of qualified men desirous of studying work of the kind undertaken within their wards; and that valuable adjuncts to post-graduation study exist in the shape of the Library of the British Medical Association — one specially rich in recent works—of the libraries of the several universities, and in those of the Royal College of Surgeons of England and of the Royal Colleges of Physicians in London and in Edinburgh.

LONDON POST-GRADUATE ASSOCIATION.

The wealth of London in material for clinical study is, of course, enormous, and the object with which the London Post-Graduate Association was started, now many years ago, was to throw open to the general body of medical practitioners all that is most useful and attractive in it.

To fulfil this purpose it entered into arrangements with the principal medical schools of London and with the administrators of the leading special hospitals of such a nature that it is now able to issue a ticket which admits the holder to all the clinical instruction provided in these institutions. Armed with this ticket, a medical man can enter freely any of the institutions concerned, becoming to all intents and purposes one of their students, and having as much right to visit their wards and attend in their out-patient departments as if he were once more in his salad days and back within the familiar walls of his old school. He can thus get as much clinical instruction in the wards and in the special and general out-patient departments as he pleases, and the operating theatres and the *post-mortem* rooms are equally open to him.

The fact that one ticket admits him to so many hospitals is a decided advantage, for if interested in one particular branch of the work, he can follow that up throughout the day in different institutions, instead of having to limit his study of it to one or two days a week. A further useful point in the system is that it affords practitioners an opportunity of becoming acquainted with the different methods of a large number of specialists, and of noting the different ways in which men all equally eminent in their particular line deal with cases much of the same type; there could be no better way, indeed, of getting abreast with the results of modern research and into touch with current thought in medicine and surgery than by attending various hospitals with the help of a ticket from this association.

The institutions thrown open are, among general hospitals, Charing Cross, Guy's, King's College Hospital, St. George's, St. Mary's, St. Thomas's, and University College and Westminster. Among special hospitals, the Brompton Hospital for Diseases of the Chest, the Hospital for Sick Children (Great Ormond Street), the National Hospital for the Paralysed and Epileptic, the Royal London Ophthalmic Hospital, and the London School of Tropical Medicine, St. Mark's Hospital for Diseases of the Rectum, and the Medical Graduates' College and Polyclinic. The fee for a ticket lasting three months is £10 10s., while for £15 15s. one for six months is issued.

Further particulars about this association can be obtained from the Secretary, London Post-Graduate Association, 20, Hanover Square, London, W.; if application is made in person, the visit should be paid between the hours of 10.30 a.m. and 1 p.m.

LONDON MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

This institution, familiarly known as the Polyclinic opened its doors some fourteen years ago, its work being arranged on quite original lines. The soundness of these became very early apparent, and large numbers of practitioners now attend the classes and avail themselves of the various forms of instruction which the college offers.

The work is carried on in a building in central London which is well arranged and readily accessible from all quarters. It stands at the corner of Chenies and Ridgmount Streets, its postal address being 22, Chenies Street, W.C. This latter street runs at right angles to Tottenham Court Road, crossing Gower Street. The ground floor of the college is given up to the class rooms, which are furnished with various appliances for clinical instruction. When occasion requires the partitions between adjacent rooms can be removed, and a lecture room of fine proportions thus provided. On the first floor is a library, a reading room, and the consultation theatre, and on the upper floor is found an excellent laboratory for bacteriology and clinical pathology, each table being provided with its own set of reagents and test tubes and its Bunsen burner. Besides these rooms there is in the basement an important annexe in the shape of a dark room so arranged that twelve patients can be examined simultaneously, but separately from each other, with the ophthalmoscope, laryngoscope, or other instruments of precision. An adjoining room is fitted with appliances for instruction

in ophthalmic cases, such as type tests, working models of eyes, stereoscopes, lenses, etc.

Another important part of the college is the museum, situated at the side of the building and devoted to clinical illustrations. Portraits and models of diseased conditions find their place here, and the newest medical and surgical instruments and appliances of all kinds, which can be examined at any time, form a marked feature of this department of the college. The museum has been enriched by a unique collection of valuable pictures of disease, especially skin diseases, most of which are painted from life, together with many other specimens of rare clinical value, which were placed at the service of the Polyclinic by the late Sir Jonathan Hutchinson, F.R.S., and the museum has been appropriately named after him the Hutchinson Museum.

Perhaps, however, the most characteristic feature of the school is the system of consultations and clinical demonstrations. These take place every afternoon at four o'clock, and patients attend them either at the invitation of the management, or they may be brought by practitioners who are members of the school. Besides the excellent opportunities for teaching which these consultations afford, they provide occasion for discussing difficulties and studying exceptional forms of disease by the most recent methods of diagnosis. Notes are taken of the cases, and are supplemented on occasion by photographs or other portraits of the rarer morbid conditions.

On Mondays, Tuesdays, Wednesdays, and Thursdays of each session, at 5.15 p.m., formal lectures are delivered on medicine, surgery, and their branches, while at the same hour on Fridays the resident pathologist gives an occasional pathological demonstration.

An annual payment of 1 guinea admits to the consultations and lectures, and secures the use of the reading room, museum, and library; subscribers also receive the *Polyclinic Journal*, which is published every month.

Of practical classes there are four sessions in the year, each lasting six weeks, while a vacation course extending over three weeks takes place in August.

These classes include such special subjects as clinical pathology, haematology, cyto-diagnosis, opsonins, bacterial vaccines, ophthalmoscopy, retinoscopy, laryngology, rhinology, otology, sigmoidoscopy, cystoscopy, intestinal surgery, graphic methods in cardiac disease, and the examination of the gastric contents, etc. Private personal instruction in these and other subjects may also be obtained, and all forms of clinical and pathological investigations are undertaken in the laboratory.

Provision is also made for those who are reading for the higher qualifications, special tutorial classes being conducted for this purpose. Full particulars of all the work done may be obtained on application to the Medical Superintendent, 22, Chenies Street, W.C.

West London Post-Graduate College.

The work of this institution is carried on at the West London Hospital, the first in London to devote its clinical material solely to the instruction of qualified medical men. The college started in 1895, and the present building was opened in 1901; it is provided with lecture, reading, writing, and class rooms, and accommodation of all sorts for the convenience of post-graduate students. In the last five years the yearly entry has averaged over 220.

As for ward work, the students accompany the senior staff on their visits to the wards at 2.30 p.m. daily, and also go round with the resident medical officers in the morning. Out-patient work begins at 2.15 p.m. This department is large, and affords ample facilities for post-graduates to see and examine patients. There are the usual special departments dealing with diseases of the eye, ear, throat, nose, skin, orthopaedics, *x*-ray work, electrotherapeutics, gynaecology, and mental diseases of children. Post-graduates are appointed to act as clinical assistants for three or six months. There is no charge to members of the college. Practical classes are held in medicine, general practical surgery, intestinal surgery, surface anatomy, and blood and urine analysis, cystocopy, venereal disease, tropical diseases, retinoscopy, ophthalmic operative surgery, and in operative surgery. The size of the classes is limited so as to ensure that each student shall have full opportunities of gaining experience in methods of examination and treatment.

Operations take place at 2 p.m. daily, the surgeons often availing themselves of the assistance of the post-graduates, and in any case making arrangements so that they can readily see what is going on. The anaesthetists give instruction in the administration of different anaesthetics, including spinal analgesia, on the operating days, students being allowed to administer them under supervision, while special classes are held in each session.

The pathological laboratory is in charge of a pathologist who attends every day. In bacteriology and microscopy special instruction is given on three mornings a week, the students working at other times under the general guidance of the pathologist.

Demonstrations are given every day in the morning by the assistant physicians, assistant surgeons, and by the medical and surgical registrars in practical medicine and surgery. Lectures of a practical kind are given daily (except Saturday and Sunday) at 5 p.m.

The arrangements of the college may be said to be equally suited to those who are preparing themselves for examination for the higher degrees and diplomas, to the needs of officers in the different services on study leave, who attend in large numbers, and to those medical men in ordinary practice who desire to get themselves up to date in general medicine and surgery, or to make a special study of some particular branch of work. The college, it may be noted, is in a residential quarter, and there are plenty of good lodgings in its neighbourhood.

The fees are as follows: Hospital practice, including all ordinary demonstrations and lectures, £1 1s. for one week, £3 3s. for one month, £4 4s. for six weeks, £6 6s. for three months, £10 10s. for six months, £15 15s. for one year, and £30 for a life ticket. Every year in August there is a special vacation class lasting four weeks, for which the fee is £3 3s. Three months' instruction in the administration of anaesthetics costs £3 3s. Subscriptions for any course can be taken out from any date. The certificates of the school are recognized by the Admiralty, the War Office, the Colonial Office, the India Office, and the University of London (for higher degrees).

All communications concerning the school should be addressed to the Dean, Mr. Donald Armour, or the Vice-Dean, Mr. Bishop Harman, Post-Graduate College, West London Hospital, Hammersmith, W., from whom also a full prospectus can be obtained by any person holding a medical qualification.

The London School of Clinical Medicine (Post-Graduate), Seamen's Hospital, Greenwich, S.E.

The school buildings, lecture rooms, operative surgery class rooms, pathological laboratories, museum, library, etc., are in the Seamen's Hospital at Greenwich. The whole hospital of 250 beds, with its out-patient departments, is open to students from 10 a.m. till 5 p.m.

Medical, surgical, and special department in-patient clinics are held every afternoon except Saturday by the senior members of the staff, whilst out-patients are demonstrated daily in the forenoon in the medical, surgical, and special departments by the assistant physicians and assistant surgeons. Operations are performed daily both in the in-patient and out-patient theatres. A series of lectures are delivered each session in the afternoon by specially invited lecturers, Emeritus lecturers, members of the staff of the Seamen's Hospital, and by members of the staff of the hospitals affiliated to the school. Practical classes are arranged each session in the following subjects: The practice of medicine, diseases of the nervous system, medical diseases of women, medical diseases of children, diseases of the skin, practice of surgery, operative surgery, diseases of the eye; diseases of throat, nose, and ear; surgical diseases of women, midwifery and gynaecology, surgical diseases of children, pathology, clinical pathology, bacteriology, surgical and medical pathology, hygiene and public health; the administration of anaesthetics, radiography, mental diseases.

Two sessions of five months (October–February) and four months (April–July) are held in each year. The session's work is arranged so as to enable individual students to join the demonstrations, etc., at any time during the session.

Affiliated to the London School of Clinical Medicine for the purposes of extension of the variety of clinical material and teaching are the Royal Waterloo Hospital for Children and Women, the Miller General Hospital, Greenwich, and the Bethlem Royal Hospital for Mental Diseases. These hospitals are directly linked to the Dreadnought both by rail and by tram. The supply of material affords exceptional facilities for practical instruction in operative surgery and in pathology. There is also a wide field for the study of venereal diseases, on which special clinics are given, and there is a department with open-air wards for the treatment of tuberculosis. Every variety of disease may be studied in the wards and out-patient rooms of the Seamen's Hospital and at the affiliated hospitals. The certificates of the school are recognized by the University of London (for the higher degree), the Admiralty and the War Office, the India Office, and the Colonial Office.

Appointments.—There are a medical superintendent, surgical and medical registrars, two house-physicians, and two house-surgeons at the Seamen's Hospital, Greenwich. The pay of these officers varies from £50 to £150.

Prospectuses, lists of special lectures, and other particulars can be obtained on application to the Dean at the School.

North-East London Post-Graduate College.

The head quarters of this post-graduate school are situated at the Prince of Wales's General Hospital, which is in the midst of what is now a densely-populated neighbourhood containing about a quarter of a million inhabitants. It contains 125 beds, and its precise situation is South Tottenham, N., where it is within a few minutes' walk of South Tottenham Station on the Midland Railway, Seven Sisters Station on the Great Eastern Railway, and Tottenham Hale on the Great Eastern main line. It is also readily accessible from Finsbury Park and Hackney by electric tram passing the hospital door, and by corresponding means may be reached easily from Dalston, Edmonton, Hackney, and other parts of North London.

The college is recognized by the Admiralty and the India Office for the purposes of study leave, and by the University of London as a place for advanced study for the M.D. and M.S. degree; the course of practical teaching of bacteriology is approved by the University of Cambridge for its D.P.H. diploma, and there are ample arrangements for the convenience of men who are thus working, or who are general practitioners desirous of getting themselves into touch with modern methods. There is provided for their use a reading and writing room, and they can obtain afternoon tea and receive telephonic messages; similarly there is a reference and lending library for their benefit, and a museum and pathological laboratory in which they can work. The hospital as a whole certainly affords excellent facilities to qualified medical practitioners who wish to take part for a time in the work of an active general hospital, or to obtain special instruction in the several branches of medicine and surgery, since it is open to them to study diseases of the eye, ear, throat, nose, skin, fevers, children's diseases, psychological medicine, dental surgery, radiography, and the application of electricity in disease, and the administration of anaesthetics. Throughout the sessions into which the year's work is divided, clinics, lectures, and demonstrations are given by members of the teaching staff in the lecture room, in the wards, in the various out-patient departments, and in certain affiliated institutions. Operations are performed every afternoon of the week except Saturday. Special classes are arranged in modern methods of the investigation and treatment of diseases of the lungs and heart, gynaecology, diseases of children; diseases of the throat, nose, and ear; diagnosis of diseases of the nervous system, ophthalmoscopy and refraction, diseases of the skin, abdominal surgery, surgical anatomy, surgery of the urogenital tract, radiography, anaesthetics, bacteriology, clinical pathology, vaccine therapy, pathological chemistry, and medical electricity. In all these classes the numbers are carefully limited, so as to give every member full opportunity for work.

As for fees, these are as follows: One guinea for a three months' course of study in any one department, which may be begun at any time; a fee of 3 guineas admits to the whole practice of the hospital for a similar term (one month, 2 guineas), and a perpetual ticket for the practice of the hospital may be obtained on payment of a fee of 10 guineas. Clinical assistants are appointed in the various departments. A certificate, signed by the staff, may be obtained at the end of three months' hospital attendance. The opening address of the winter session will be given at 4.30 p.m., on October 23rd, by Sir Arbuthnot Lane, its subject being intestinal stasis.

Additional information about the college and its work can be obtained on application to the Dean of the Post-Graduate College, 142, Harley Street, London, W., who will also supply a prospectus, a syllabus of the lectures and demonstrations to be given during the next formal session, and a syllabus of the ensuing vacation course.

TROPICAL MEDICINE.

THERE are Schools of Tropical Medicine in London and Liverpool, and several examining bodies have instituted diplomas or degrees in the subject. The Colonial Office now expects all nominees for the Colonial Medical Service to pass through one or other of the two schools mentioned before their appointments are confirmed, and commercial firms engaged in tropical enterprise commonly demand from medical applicants for employment corresponding evidence of special knowledge. Information with regard to these schools and diplomas and degrees follows.

Diplomas and Degrees.

LONDON UNIVERSITY.—Tropical medicine is one of the six branches in which the M.D. degree may be obtained, the regulations relating to the curriculum and examination corresponding to those applying to the other branches.

LONDON CONJOINT BOARD.—This body grants a diploma in tropical medicine to candidates after an examination usually held in the months of April and October. Ordinary candidates must present evidence of having attended, subsequently to obtaining a registrable qualification in medicine, surgery, and midwifery, (1) practical instruction in bacteriology, parasitology, medical zoology, and haematology in a laboratory recognized for this purpose during not less than six months; (2) instruction in hygiene applicable to tropical countries; (3) the clinical practice of a hospital recognized for the study of tropical diseases during not less than six months. These conditions may be modified in the case of candidates who have had practical experience in tropical countries deemed likely to have furnished them with the same kind of training. The fee for admission to the examination is £9 9s.

UNIVERSITY OF EDINBURGH.—This university grants a diploma in tropical medicine and hygiene after an examination which is usually held twice a year. It is open to those who are graduates of the university in medicine and surgery, and to registered practitioners who have had experience of tropical diseases in a tropical country, who may be approved by the Senatus on the recommendation of the Faculty of Medicine. In addition to this the candidates must show that they have attended approved courses of instruction in practical bacteriology (including the pathogenic micro-organisms of tropical diseases), in diseases of tropical climates (including the zoological characters and life-history of disease-carrying insects), in tropical hygiene, and in clinical study of tropical diseases. They must possess, too, certificates of efficiency in the conduct of *post-mortem* examinations. The examination is in the four subjects indicated, the fee for each part being £1 1s.

UNIVERSITY OF LIVERPOOL.—A diploma in tropical medicine is given by this university to students who have been through the courses provided by the Liverpool School of Tropical Medicine, and have passed the examination held twice yearly by the university examiners. The examination lasts three days, and consists (1) of three papers dealing with tropical medicine, tropical pathology, and tropical sanitation and entomology respectively; (2) of a clinical examination; and (3) of an oral examination. The results are declared as soon as possible afterwards. Further information can be obtained from the Dean of the Faculty of Medicine, University of Liverpool.

UNIVERSITY OF CAMBRIDGE.—This university grants a diploma in Tropical Medicine and Hygiene to any person whose name has been on the *Medical Register* for not less

than a year, provided that he passes the examination of the university in this subject. Previous to admission to the examination, however, he must produce approved evidence that he has studied pathology (including parasitology and bacteriology in relation to tropical diseases), clinical medicine, and surgery at a hospital for tropical diseases, and hygiene and methods of sanitation applicable to tropical climates.

The examination deals with the following subjects:

1. The methods of pathological and bacteriological investigation. The examination of the blood. The characters, diagnosis, and life-history of animal and vegetable parasites. The examination, chemical and microscopic, of poisonous or contaminated foods and waters.

2. The origin, pathology, propagation, distribution, prevention, symptoms, diagnosis, and treatment of the epidemic, endemic, and other diseases of tropical climates, including malaria; blackwater fever; trypanosomiasis; relapsing fever; dengue; yellow fever; plague; tetanus; beri-beri; dysentery and hepatic abscess, cholera, enteric fever, Malta fever, and specific diarrhoeal affections of the tropics; diseases due to cestode and other worms; filariasis; bilharzial disease; specific boils, sores and other cutaneous affections; mycetoma; ophthalmic affections of the tropics; affections caused by poisonous plants and animals, and by poisoned weapons; sunstroke.

3. The general effects on health in the tropics of seasons and climate, soil, water, and food. Personal hygiene, acclimatization. Principles of general hygiene, with special reference to food supplies and water supplies, sites, dwellings, drainage, and the disposal of refuse. The sanitation of native quarters, camps, plantations, factories, hospitals, asylums, gaols, pilgrim and coolie ships. Principles and methods of disinfection.

Examinations are held in January and August each year, and last four days. The fee for the examination and diploma is 9 guineas on admission or readmission. Application for further information should be made to Dr. G. S. Graham-Smith, Pathological Laboratory, Cambridge.

Schools.

LONDON SCHOOL OF TROPICAL MEDICINE.—This school is under the auspices of the Seamen's Hospital Society. Its buildings, laboratories, museum, library, etc., are within the grounds of the Branch Hospital, Royal Victoria and Albert Dock (Station, Connaught Road, Great Eastern Railway), and excellent opportunities are afforded to students and others who may be desirous of studying diseases incidental to tropical climates before entering the services or going abroad. In the hospitals of the society are to be found cases of tropical disease such as may be met with in actual practice in the tropics. There are three courses in the year, each lasting three months, beginning October 1st, January 15th, and May 1st respectively. The course is so arranged as to equip men for the D.T.M. and H.Cambs., and the D.T.M.Eng. Advanced classes in entomology, protozoology, and helminthology are held each term by the respective teachers in those subjects, and for the accommodation of students taking these advanced courses new and commodious laboratories have been provided. The laboratories, museum, and library are open all day, and clinical instruction is given daily in the wards of the hospitals. Certificates are granted after examination to those who complete a full course. Resident chambers are available for students. All qualified medical practitioners and students in the final year of their studies and qualified veterinary surgeons may attend the course. Women graduates are received as students. The Stanley Memorial Grant of about £55, and the Wandsworth Scholarship of about £300, for research work, are awarded annually. Prospectus, syllabus, and other information can be obtained on application to the Secretary, Seamen's Hospital, Greenwich, or to the Director at the school.

LIVERPOOL SCHOOL OF TROPICAL MEDICINE.—This school is affiliated with the University of Liverpool and the Royal Southern Hospital of Liverpool. Two full courses of instruction are given every year, commencing on January 6th and September 15th, lasting for the term of about thirteen weeks, and followed by the examination for the Diploma of Tropical Medicine given by the University of Liverpool. Each course consists:

(1) Of a systematic series of lectures on tropical medicine and sanitation delivered by the Professor of Tropical Medicine at the university; (2) of systematic lectures and demonstrations on tropical pathology, parasitology, and bacteriology by the Assistant Lecturer on Parasitology at the university; (3) of similar instruction on medical entomology by the Professor of Medical Entomology and the Assistant Lecturer on Entomology at the university; and (4) of clinical lectures and demonstrations delivered at the Royal Southern Hospital by the physicians in charge of the tropical ward or the Professor.

The instruction given occupies six hours a day for five days a week during the term. Teaching under headings (2) and (3) above is delivered in the laboratory of the school at the university, which contains accommodation for thirty students, with all necessary appurtenances, including a well-equipped museum, a class library, and access to the general departmental library. Teaching under heading (4) is given in the tropical ward and the attached clinical laboratories of the Royal Southern Hospital on two or three afternoons a week.

In addition to the full courses, an advanced course of practical instruction in tropical pathology and medical entomology, lasting one month, will be given every year in June, and will prove very useful to medical men returning from the tropics on short leave. This course is followed by a class examination with a certificate of satisfactory attendance, possession of which excuses the first month's attendance during the full autumn and Lent courses. A special course of instruction in entomology, etc., is also given three times a year to officers of the East and West African Colonial Services.

Students of the school who do not care to undertake the examination held by the university at the end of each term for its diplomas in tropical medicine are given a certificate for attendance if the latter has been satisfactory.

For research students there is most excellent accommodation at the laboratories of the school in the university, and also in the research laboratories of the school at Runcorn, sixteen miles distant from the city.

Since it was instituted the school has dispatched to the tropics thirty scientific expeditions, many of the workers having been taken from among its students. The work done by them has been published in twenty-one special memoirs, with many plates and figures, besides textbooks and numerous articles in the scientific press. From the beginning of 1907, however, the memoirs have been succeeded by the *Annals of Tropical Medicine and Parasitology*. These are published by the committee for the school, and its pages are open to outside contributors.

Fees.—The fee for the full course of instruction is £13 13s., with an extra charge of 10s. 6d. for the use of a microscope if required. The fee for the Diploma Examination is £5 5s., and that for the Advanced Course is £4 4s. A prospectus and further information about the school may be obtained on application to the Secretary, 10B, Exchange Buildings, Liverpool.

PSYCHOLOGICAL MEDICINE.

THE study of mental diseases has long been a necessary part of the ordinary medical curriculum, the work including attendance at lectures and instruction at a recognized asylum. But more attention is now paid to it than formerly, and mental psychology is one of the branches of medicine which candidates for the M.D. degree of the University of London can take up. In addition diplomas in psychiatry can be obtained from the universities of Edinburgh, Leeds, and Cambridge. The Medico-Psychological Association of Great Britain and Ireland also grants certificates of proficiency after examination. In connexion with such examinations the association awards the Gaskell Prize (value £30), while it also offers for competition among assistant medical officers of asylums a prize of 10 guineas and a bronze medal for the best dissertation on any clinical or pathological subject relating to insanity. There is also the Hack Tuke Memorial Prize.

Those who take up psychological medicine as a career work as medical officers either of private mental hospitals, or of county or other public institutions of the same order. In all cases they are resident officers, those in the lower ranks always receiving board and lodging in addition to their salary. As a whole they may be written down as falling into three ranks—junior assistant medical officers, senior assistant medical officers, and medical superintendents. The salaries of those belonging to the junior rank are commonly in the neighbourhood of £150 a year, in the second about £300 a year, and in the third from £500 to £1,500 a year. Medical superintendents are always provided with a house in the grounds of their asylum, and

usually draw allowances in the way of vegetables, coal, and light; at some asylums the same rule applies to senior assistant medical officers.

Many asylums are now provided with pathological departments, and this fact, coupled with increasing knowledge of the physical causes of mental disease, has made asylum work more scientifically interesting than formerly. The financial returns, as compared with those of some other services, are also fairly good.

Nevertheless, asylum work as a career is by no means growing in favour. The reasons for this are numerous. The daily work of men in the lower ranks includes a great deal of monotonous routine, and may be sufficient to prevent them paying much attention to the scientific side of their occupation. On the surface they have plenty of amusement and also time for it, but in effect this is not always the case, because many asylums lie at a distance from any town, and their medical officers in consequence find it difficult to obtain ordinary society. But the chief cause of discontent is the fact that, with the exception of the asylums under the control of the London County Council, all the asylums in this country are conducted as entirely independent institutions, with the result that asylum work does not constitute a real service, and there is no regular system of promotion among those who belong to it. Hence it is quite possible for a man who does excellent work to remain in the lower rank the whole of his life, and for this reason the prospects of medical men who take up medical psychology are extremely uncertain. If the whole of the asylums in this country were brought together in such fashion that their officers were all regarded as members of one common service the attractions of the career would be materially increased.

PUBLIC HEALTH SERVICES.

THE Public Health Service, to use the term in a strict sense, consists of medical officers of health appointed by local public health authorities and holding office under varying conditions of tenure. In addition, there are county medical officers appointed by the county councils. The latter are not, strictly speaking, public health authorities; the duties of their medical officers are somewhat similar to those of other medical officers of health, but include few executive functions. In many of the county boroughs and counties, assistant medical officers of health or assistant county medical officers are appointed, and such appointments may afford stepping stones for promotion to higher offices. The service is, however, not unified throughout the country, and there is no regular system of promotion; appointments are to be obtained only by application to some particular local authority which has advertised a vacancy.

Also ungraded are two other services which have been brought into existence by recent legislation, and whose members are charged with duties which bring them into more or less direct relation with public health authorities or county councils and their officers. The members of the one are called school medical officers, and those of the other tuberculosis officers. Appointments as school medical officer are made by education authorities, while appointments as tuberculosis officer are made in fulfilment of the duties imposed directly on the county councils and the county borough councils, and indirectly on the Insurance Committees by the scheme for the treatment and prevention of tuberculosis which has been worked out by the Local Government Board for England in consultation with the Insurance Commissioners.

The Local Government Board for England, it may be noted, employs a staff of medical inspectors in connexion with the performance of its duty as the controlling department of the Government in matters of public health, and the same is true of the corresponding boards in Scotland and Ireland. The medical men forming these staffs are, however, appointed to their position directly by the head of the Local Government Board in each country, and the posts are not open to public competition.

MEDICAL OFFICERS OF HEALTH.

The office of medical officer of health in a county borough—a designation which now includes nearly all the larger towns—is in practice a permanent appointment so long as the incumbent desires to retain it, and is the same by law in administrative counties and metropolitan boroughs. The position is one of considerable importance, the work interesting, and the remuneration, though usually lower than that enjoyed by the heads of other municipal departments, fairly satisfactory. A medical officer of health to an urban or a rural district, or to a combination of districts which have joined together to obtain the services of a whole-time medical officer of health, is appointed for a year, or a term of years, and thereafter continues to hold office from year to year. The authority may, however, in any year after the expiration of the term serve such an officer with three months' notice to terminate his appointment. Advantage has been taken of this power on not a few occasions, for if a medical officer of health does his duty he will be forced at times to tread on the toes of landlords, manufacturers, and other persons of local importance. These observations apply with even greater force to the similar appointments in single rural districts or small towns which are commonly held by general practitioners who only give part of their time to the duties of the office.

A young medical man who thinks of seeking a career as a medical officer of health should bear in mind that as yet no superannuation scheme is in existence. The need for a superannuation or pension scheme was recognized as long ago as 1869, when the Royal Sanitary Commission reported that it attached great importance to a provision for superannuation "which might put public medical health officers on an equal footing with other branches of the civil service." The British Medical Association has made several attempts to secure for public health officers this much-needed reform, but Parliament has not yet found time to deal with the matter. A medical officer of health to a district or combination of districts having 50,000 inhabitants must hold a diploma in public health. The first step which must be taken by any medical man who desires to follow the career of medical officer of health must be therefore to obtain such a diploma.

SCHOOL MEDICAL OFFICERS.

School medical officers are appointed by local education authorities under schemes of medical inspection of school children which must be approved by the Board of Education. Primarily their duty is to detect among the children attending the public elementary schools any physical or mental defect which may retard the education of such children, and to inform their parents of its existence. But practically their duties vary considerably in different areas. This is because most approved schemes of inspection include systems of work which aim at facilitating the task of parents in obtaining for their children the necessary treatment, at checking the results of the latter, and at keeping each defective child under skilled observation both at home and at school until it has passed altogether out of the hands of education authorities. The general object of all schemes alike is to make the inspection imposed by law of benefit not merely to the individual child, but to the community at large, by preventing conditions which lead to the existence of a large proportion of inefficient citizens among the adult population.

Hence the work of a school medical officer is so far related to that of a medical officer of health that in 302 out of 317 areas in which schemes of inspection had been approved up to the end of last year the school medical officer was the medical officer of health. Taking the service as a whole it included 943 medical men, of whom 385 were part-time assistant school medical officers and 212 were whole-time assistant school medical officers. The latter are commonly paid salaries ranging between £250 and £300 a year, the chief attraction of the posts being that they may lead on to appointment as medical officer of health of some large area where the combined salary of medical officer of health and school medical officer will represent a fair income. In view of this consideration, if for no other reason, it is desirable for a prospective whole-time school medical officer to obtain a diploma in public health.

TUBERCULOSIS OFFICERS.

The plan of dealing preventively and curatively with tuberculosis which is now more or less in operation throughout the country is based on the recommendations

of the Departmental Committee appointed by the Local Government Board for England and Wales for 1911, under the chairmanship of Mr. Astor, M.P. The appointment of tuberculosis officers was described by that Committee in its report as the one essential feature of its scheme; it added that the persons appointed to this position should be first-class clinicians, with special training in tuberculosis, and of suitable age and attainments to command general confidence, and paid as whole-time officers.

Their prescribed duties are to act as advisers to insurance committees in connexion with the operation of the sanatorium clauses of the National Insurance Act and to take charge of the work of the tuberculosis dispensary, which is the main unit of the Departmental Committee's scheme. The dispensary is intended to act as a receiving house and centre of diagnosis in regard to persons suffering from tuberculosis, as a clearing house and as a centre for observation, curative treatment, examination of contacts, after-care, educational work, and distribution of information. The tuberculosis officer is a whole-time officer and expected to co-ordinate his work as closely as possible with that of the medical officers of health within his area, and to keep in close touch with other authorities and agencies therein which have an interest in tuberculous patients. At present not very many such officers have been appointed, and those that have are receiving salaries which do not usually exceed £500 a year.

Diplomas in Public Health.

Most of the universities and licensing corporations now grant diplomas in public health to candidates who pass the examinations imposed by them. Since all such tests must conform to the requirements of the General Medical Council there is considerable similarity in their nature, though they differ not a little in their reputed difficulty. All of them aim at excluding any candidate who does not appear to have a thorough knowledge of his work in theory and in practice, for the regulations of the General Medical Council demand that the granting of a diploma in Sanitary Science, State Medicine, or Public Health shall be proof of the "possession of a distinctively high proficiency, scientific and practical, in all the branches of study which concern the public health." The tests, in short, are supposed to constitute an honour and not a mere pass examination. As regards the special tuition required, it is now easy to obtain this in practically every centre of medical education, and at almost every medical school of any importance. It is desirable to note in this connexion that the chemical and bacteriological examinations for many of the health diplomas are so practical, and the time allowed so short, that unless a candidate—even though familiar with the duties of M.O.H.—has a considerable amount of the manipulative dexterity only to be acquired by ample work in a laboratory, he would not be likely to satisfy the examiners.

The regulations of the General Medical Council require that every candidate (subsequent to obtaining a registrable qualification in medicine and surgery) shall have passed through a stated curriculum in the subjects of sanitary science. This must last not less than nine calendar months, and include four months' study in a laboratory in which chemistry, bacteriology, and the pathology of diseases of animals transmissible to man are taught, six months' practice study of the duties involved by public health administration, and attendance at least twice weekly for three months on the practice of a hospital for infectious diseases, at which instruction is given in methods of administration. These rules do not apply to practitioners registered or entitled to be registered before January 1st, 1890, while that regarding six months' practical study of public health administration is waived in the case of a candidate who has himself been in charge of a sanitary district with a population of not less than 15,000, for a period of not less than three years. The study in question must be passed under the personal supervision of a medical officer possessing certain definite facilities for affording it, these being carefully described in the regulations. The period may be reduced to three months in the case of a candidate who has undergone a corresponding period of study in the public health department of a recognized medical school, or who has been resident medical officer at a hospital for infectious diseases with accommodation for 100 patients for not less than three months. The laboratory study must include at least 240 hours' work, not more than half being devoted to practical chemistry. The examinations imposed by the diploma-granting bodies must extend over not less than four days, one at least being devoted to practical work in the laboratory, and one to practical examination in, and reporting on, subjects within the duties of a medical officer of health, including those of a school medical officer.

The steps which examining bodies take to ascertain the candidate's fitness for a diploma are in all cases much the same, though the order in which the subjects are taken is not always identical. Practically all of them divide the examination subjects into two parts, which are usually taken by candidates at more or less widely separate dates. Many of the bodies also have an age clause not allowing the candidate to complete the examinations until he is two or three years older than the average newly-qualified man. The general rule is to place in the First Examination such subjects as chemistry and physics (in relation to the air, water, food), ventilation, the sanitation of houses, principles of architecture, of sanitary engineering, geology in relation to the same, bacteriology in all its relations, and the pathology of human and epizootic diseases. Two or more papers are devoted to such subjects, this being followed by a corresponding number of practical examinations in the laboratory, at one of which the candidates will have to complete an analysis of a specimen of water, discover the impurity in some specimens of air, identify the adulteration in some food specimens, and the like. The other laboratory examination will probably be given up to the preparation of bacteriological specimens, the identification of cultures and parasites, and other tests of practical knowledge of bacteriology; as a rule a viva voce on the work done follows. In the second part are commonly included two or more papers dealing with sanitary law, epidemiology, vital statistics, the management of hospitals, and all other general questions which affect the public health. The practical examination in this part commonly consists in drawing up a report on the sanitary construction and condition of some actual building or habitation, the whole being followed, perhaps, by a clinical examination in a fever hospital, and nearly always by a viva voce test in which the candidate is called upon to explain the use of apparatus shown him, express an opinion of specimens of food and answer offhand queries as to the established practice concerning various points of sanitary administration, including school work. As has been stated, however, there are variations among the Examining Bodies which, though possibly not great in themselves, may be quite enough materially to increase or diminish the difficulty of passing examinations which many Boards seriously endeavour to make a proof of really high proficiency. Every candidate, therefore, should, when he has settled what diploma or degree in State Medicine he wishes to obtain, seek the schedule relating to it from the authority concerned. He will find most of these mentioned in the concluding paragraphs of this section.

Conjoint Board in England.—This body holds an examination on behalf of the Royal College of Physicians and the Royal College of Surgeons. It usually takes place in January and July of each year, a fee of 6 guineas being payable for each of its two parts if the candidates are diplomates of the two Colleges concerned, and 10 guineas for each part to others. Candidates before admission to Part II must be aged at least 24 years.

University of Oxford.—The diploma given by this body is open to all persons who possess a registrable qualification in medicine and surgery. The examination is held twice annually, and is divided into two parts, the fee for each being £5.

University of Cambridge.—This university also gives its diplomas to all persons who possess a registrable qualification in medicine, surgery, and midwifery. The fee for each of the two parts is 6 guineas. Special courses of instruction are given at Cambridge for these examinations, though the work done at other institutions is accepted. Inquiries about the diploma should be addressed to the Secretary to the State Medicine Syndicate, the Chemical Laboratory, Pembroke Street, Cambridge.

University of Liverpool.—The university grants a degree in Hygiene (M.H.) and a diploma in Public Health (D.P.H.) to candidates who take out the courses of instruction at the university, or otherwise qualify themselves

according to regulations. The examinations are held twice yearly—in January and July. The prospectus of the Department of Public Health may be obtained on application to the Dean of the Faculty of Medicine.

London University.—Graduates of London University can obtain a registrable Public Health qualification by passing Branch 5 (State Medicine), one of the six branches of medicine out of which candidates for the M.D. degree of this university can select their special subject.

University of Durham.—A diploma in Public Health and two degrees in the same subject (Bachelor of Hygiene, B.Hy., and Doctor of Hygiene, D.Hy.) are granted by the University of Durham. The conditions applying to the examination of candidates for the diploma and for the B.Hy. are practically identical, except that the degree candidate must be a graduate in medicine of a recognized university and have performed his three months' work at comparative pathology and bacteriology and his three months' work at chemistry at Newcastle-on-Tyne. The regulations regarding education for the D.P.H. are in accordance with the new rules of the General Medical Council. The fee for the examination is 10 guineas. A B.Hy. who wishes to proceed to the Doctorship must have engaged in public health administration, or in research work relating to public health, for two years subsequent to the date of his acquirement of the former, and submit a thesis on some subject on hygiene for approval.

Victoria University of Manchester.—Both a degree and diploma are granted by this university, the former being known as the B.Sc. in Public Health, and there are also certificates in factory hygiene and in school hygiene. The diploma is open to all candidates possessing a registrable qualification in medicine, the examination fee being 5 guineas for each of the two parts of the examination. They can obtain their instruction in the public health laboratories of the university. Candidates for the B.Sc. must be graduates in medicine of Manchester or some other university recognized for the purpose. They must have studied certain approved subjects in the university for not less than two years after graduation, and devote a third year to work in two of its scientific departments. They also have to pass the D.P.H. examination, attaining a special standard in it. Full particulars of the courses of study and the fees for the same are given in the prospectus of the Department of Public Health issued by the university.

University of Birmingham.—A diploma may be obtained from this university by all persons registered under the Medical Act, the fees being £5 for each part of the examination. They must, however, unless old students of Birmingham, receive their instruction in the necessary subjects at the hands of the university itself. The university also grants a degree in Public Health (B.Sc. in Public Health), candidates for which must be graduates in medicine of the university, must attend a course of geology, and pass an examination of a higher standard than that for the diploma.

University of Leeds.—A diploma is given by this university, and special courses of instruction are provided, which are available for candidates for any diploma in State Medicine. The fees for such instruction are 10 guineas for the practical work in sanitation under the medical officer of health of the city; 7 guineas for each laboratory course, and to those who have not before been students of the university, a fee of 1 guinea for registration.

University of Sheffield.—A diploma is granted by this university, the regulations concerning it being on all-fours with those of the General Medical Council. As elsewhere, there are two examinations which must be passed in turn. The university provides laboratory and other facilities for the study of public health, accepts certificates from other bodies, but requires that the practical work in chemistry, bacteriology, and pathology shall be taken in the university.

University of Bristol.—This university grants a diploma in Public Health, the examination in respect of it being, as usual, divided into two parts. In connexion with the medical school conducted by the university, special arrangements have been made for the training of candidates in all branches of public health work, the total fees amounting to 30 guineas.

University of Edinburgh.—Two degrees in science in the Department of Public Health—B.Sc., and D.Sc.—are here given. Candidates must be graduates in medicine of this or some other university. Those proceeding to the higher degree must have held the B.Sc. in the same subject for at least five years, and submit an approved thesis, and must pass an examination. The fee for the B.Sc. examination is £3 3s. for each part. The examinations are held in March and July. Six months must elapse between the first part and the second.

University of Aberdeen.—A diploma in Public Health is granted by this university to graduates in medicine, the regulations entailing, besides laboratory work and instruction in public health administration, six months' attendance at an infectious hospital containing not less than 50 beds, and special instruction in the drawing and interpretation of plans. Those who are graduates of some university other than Aberdeen must attend certain of the courses on the subject of public health provided by the university. The fee for the examination is 5 guineas.

University of St. Andrews.—A diploma is granted by this university to its own medical graduates and those of other universities. There are two examinations, the fee for each being 5 guineas.

University of Glasgow.—Two degrees in science, as applied to State Medicine, are granted by the university—the B.Sc. Public Health and the D.Sc. Public Health. Candidates for B.Sc. must be graduates in medicine, and, if they have not already done so, must matriculate at Glasgow for the year in which they appear for examination. They have to follow certain courses of study, some of which must necessarily be taken out in the public health laboratory of Glasgow University. A candidate for the D.Sc. Public Health must have obtained the B.Sc. Public Health.

Conjoint Board in Scotland.—This body examines candidates for a diploma in Public Health, granted by the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow conjointly. The examination takes place in Glasgow or Edinburgh, and is held twice a year—in October and May. The fee for each of its two parts it £6 6s. It is open to all candidates holding a qualification which has been registered, and who have taken out the required curriculum. Applications for examination in Edinburgh should be sent to Mr. James Robertson, 54, George Square, Edinburgh; and in Glasgow to Mr. Alexander Duncan, B.A., LL.D., 242, St. Vincent Street, Glasgow, not later than fourteen days before the examination day. The regulations and synopses of subjects may be had on application to either of these gentlemen, or may be found in the *Calendar of the School of Medicine of the Royal Colleges, Edinburgh*, issued gratis by the Dean of the School, 11, Bristo Place, Edinburgh.

University of Dublin.—Candidates for the diploma in Public Health of this university must be registered medical practitioners. Examinations are held in December, March, and June, a full syllabus concerning them being obtainable from the Registrar of the School of Physic, Dublin.

Queen's University, Belfast.—A diploma in Public Health is granted to all legally qualified practitioners who have satisfied the special requirements of the General Medical Council and have passed two examinations.

National University of Ireland.—The regulations of this university have in view the granting both of a diploma and degrees in Public Health. The latter are not open to other than matriculated students attending courses at one or other of the university's constituent colleges.

Conjoint Board in Ireland.—This body holds an examination on behalf of the two Royal Colleges of Physicians and Surgeons, which together grant a diploma in Public Health. The fee for examination is £10 10s., a special examination being obtainable for an extra fee of £15 15s. Further information can be obtained on application to Mr. Alfred Miller, Secretary of the Committee of Management, 123, St. Stephen's Green, Dublin

THE PUBLIC SERVICES.

THE ROYAL NAVY, THE ARMY, AND THE INDIAN MEDICAL SERVICES.

General Regulations.

The following are the general rules governing admission to these services:

All candidates must be between the ages of 21 and 28 years, must possess registrable qualifications to practise medicine and surgery in Great Britain and Ireland, and must be adjudged by the Medical Board appointed for the purpose to be physically fit for service before being admitted to the entrance examination. This examination takes place before permission is accorded to compete at the entrance examinations. Special attention is given to the candidate's power of vision. A moderate degree of myopia is not considered a disqualification, provided that it can be corrected by glasses so as to secure adequate vision for the performance of operations, and that no organic disease of the eye exists.

Testimony has also to be furnished, or is sought by the authority concerned, with regard to the candidate's moral and general character, and the Secretary of State in each service reserves the right to refuse permission to compete to any candidate he pleases.

As the prospect of a medical officer in any of these services attaining to the highest administrative grades depends to a large extent upon the regulations with regard to compulsory retirement at the age of 55 (if below a certain grade at that age), there is a distinct advantage in entering at as early an age as possible.

ROYAL NAVAL MEDICAL SERVICE.

In addition to being qualified as stated in the foregoing paragraph, a candidate for admission to the Medical Department of the Royal Navy must be of pure European descent and the son of natural-born British subjects, or of parents naturalized in the United Kingdom. Applications for admission to compete should be addressed to the Director-General, Medical Department, the Admiralty, S.W.

Entrance Examination.

Candidates found duly qualified are admitted to a competitive examination which takes place twice yearly, the subjects being (*a*) medicine, including medical pathology and therapeutics; (*b*) surgery, including surgical pathology and clinical surgery. The examination is partly written and partly practical, marks being allotted under the following scheme:

Medicine.		*Surgery.*	
Paper	400	Paper	400
Clinical	400	Clinical	400
Oral	400	Oral	400
	1,200		1,200

No candidate will be considered eligible unless he obtains 50 per cent. of the marks in each subject.

A candidate who has served in the Officers' Training Corps has added to the total of the marks gained by him at the examination 1 per cent. of the maximum number of marks if he holds Certificate A and 2 per cent. if he holds Certificate B likewise.

Successful candidates are given appointments as Acting Surgeons in the Royal Navy, and then enter upon a six months' course of training. The first two months are passed at the Naval Medical School, Greenwich, where they will receive instruction in Tropical Medicine, Pathology, and Hygiene. The remaining four months are passed at Haslar, and will be devoted to the study of Naval Hygiene, Recruiting, Physical Training, Diving and Submarine Work, Radiography, Anaesthetics, Dentistry, etc.

At the conclusion of the Greenwich and Haslar courses examinations are held, and the marks gained in these, added to those gained at the entrance examination, determine the seniority of the commissions granted to the successful candidates as Surgeons, R.N.

Promotion Examination.—Another examination has to be passed before a surgeon is promoted to the rank of staff surgeon. It is held twice yearly at Greenwich and London, following on the course of instruction described under (*a*) in the next paragraph.

Post-Graduate Courses.—1. Prior to presenting themselves for the examination for qualification for the rank of staff surgeon, officers are provided with a complete course of instruction of five months' duration at the Royal Naval Medical School, Greenwich, the Dreadnought Hospital, Greenwich, and other civil hospitals in London, as may be arranged from time to time. This course of instruction comprises:

(*a*) Clinical medicine and clinical surgery.
(*b*) Operative surgery.
(*c*) Anaesthetics (practical).
(*d*) Ophthalmology.
(*e*) Clinical pathology.
(*f*) Hygiene.
(*g*) Throat, nose, and ear diseases.
(*h*) Skiagraphy.

2. A course of three months' duration for officers of not less than fourteen years' seniority is arranged for twice yearly, and is directed to affording them opportunities of acquiring special knowledge.

3. In addition, courses of instruction of about six weeks' duration in clinical work and hospital administration are arranged for at each of the home ports for the benefit of those officers who may be in the ports at the time.

There are no formal examinations at the end of these courses, but they have a certain bearing on the progress of officers, as reports concerning them are transmitted to head quarters.

Various prizes, which include a gold and silver medal, may be won at the examination held at the end of the acting surgeon's course, and the Gilbert Blane gold medal is awarded annually to the surgeon who gains the highest aggregate marks at the half-yearly examinations for promotion to the rank of staff surgeon. There is also a prize of £100—the Chadwick Naval Prize—which is awarded once in five years for distinguished work in naval hygiene.

Promotion.—Ordinary promotion to the rank of staff surgeon and of fleet surgeon takes place at the end of eight and sixteen years respectively—provided the qualifying examination for staff surgeon has been passed. Special promotion may be made as a reward for distinguished service or conspicuous professional merit. Accelerated promotion is granted to officers who, at the qualifying examination for staff surgeon, obtain at least 75 per cent. of the total marks. Promotion to the ranks of deputy surgeon-general and surgeon-general is by selection from the ranks of fleet surgeons and deputy surgeons-general respectively.

Pay.—The net pay of a surgeon is on entry £255 10s., and rises by two-yearly increments to £328 10s. at the end of six years' service. The net pay of a staff surgeon is on first promotion £365, rising to £456 5s. at the end of six years in the rank. The net pay of a fleet surgeon is on promotion £492 15s., rising by two-yearly increments to £638 15s. at the end of eight years in the rank, those of a surgeon-general and deputy surgeon-general are £1,300 and £821 5s. respectively. There are also sundry allowances to officers serving on shore at naval hospitals and elsewhere, to senior medical officers of flagships and those with complements of over 650 men, and to medical officers in charge of hospital ships. At sea all officers draw rations.

Retirement.—Officers are allowed to retire from the service at certain periods and to draw gratuities in respect of their service: After four year's full-pay service, £500; after eight years, £1,000; after twelve years, £1,500; after sixteen years, £2,250. The next period for retirement is twenty years, an officer of this service, if of the rank of a fleet surgeon, drawing a pension of £365 a year. The pension rate gradually increases to £547 10s. a year in the case of fleet surgeons of thirty years' service, £638 15s. for a deputy surgeon-general, and £730 for a surgeon-general.

ROYAL ARMY MEDICAL CORPS.

A candidate qualified as stated in the first note on this page must fill up a form of application and declaration, which can be obtained on application to the Secretary, War Office, London, S.W., and forward it to the War Office in sufficient time to permit of reference to the

medical school in which the candidate completed his course as a medical student.

If accepted as a candidate he undergoes an examination as to health and physical fitness, paying a fee of £1, and if passed is then entitled to take part in the next competition for admission to the service. Such competitions usually take place twice a year—in January and July—each being held in London and lasting three or four days.

All the competitors are examined by the Examining Board in medicine and surgery; the tests in these subjects are of a clinical and practical character, partly written and partly oral. Marks are allotted under the following scheme:

	Maximum Marks.
Medicine (written).	
A. Examination and report upon a medical case	125
B. Commentary upon a case in medicine	100
Medicine (oral).	
A. Clinical cases	100
B. Medical pathology	75
Surgery (written).	
A. Examination and report upon a surgical case	100
B. Commentary upon a case in surgery	125
Surgery (oral).	
A. Clinical surgery (including diseases of the eye)	75
B. Operative surgery and surgical pathology and bandaging (including surgical instruments and appliances)	100
Total marks	800

A candidate who holds Certificate A or B of the Officers' Training Corps may have credited to him one or two per cent. of the total marks obtainable.

Successful competitors are appointed lieutenants on probation, and then undergo two courses of instruction at the Royal Army Medical College and at Aldershot respectively. Each ends in an examination, and candidate's seniority is determined by the aggregate of his marks at the three examinations. Should a candidate fail to pass either the second or third examination, he is given a second trial. If then successful, he is placed at the bottom of his batch. If unsuccessful, his connexion with the Service ends forthwith. If, however, a lieutenant on probation is seconded in order to hold appointment at a civil hospital, he retains the place in the list which he gained at the entrance examination, and has merely to qualify at the remaining examinations when in course of time he goes up for them.

An officer finally accepted is eligible for promotion to the rank of captain after three and a half years' service, and to that of major after twelve years' service; in both cases a promotion examination has to be passed. The first and third promotion examinations are mainly technical, while the second, that for promotion to major, includes professional as well as military subjects. Above the rank of major promotion is by selection from among those who have qualified for such promotion by passing an examination.

The rates of pay and allowances for officers are at present as follows, but the allowance rates vary slightly from time to time. In addition, specialist pay and charge pay are given under certain conditions:

	£	s.	d.
Lieutenant	325	19	2½
Captain	372	1	9
And after seven years' full-pay service	399	9	3
And after ten years' full-pay service	472	9	3
Major	583	9	7
Major, after three years' service as such	629	2	1
Lieutenant-Colonel	711	4	7
Lieutenant-Colonel, after three years' service as such	802	9	7
Colonel	1,008	16	1
Surgeon-General	1,447	16	3
Deputy Director-General	1,500	0	0
Director-General	2,000	0	0

While in India the pay is in rupees, a lieutenant receiving 420 rupees a month.

Retirement.

An officer of more than three, but not less than six, years' service may be permitted to join the Reserve. In such case he receives £25 a year, and has the option of returning up to a certain number of years. After five years' service as a captain he may retire with a gratuity of £1,000; after three years as a major, with a gratuity of £1,800, and after six years in that rank, with a gratuity of £2,500. A major of twenty years' service receives a pension of £1 a day, the rate in higher ranks gradually rising to £2 a day in the case of a surgeon-general.

Retirement is compulsory on reaching the age of 55, unless he is above the rank of lieutenant-colonel; he may then remain a few years longer. Retirement on the pension or gratuity equivalent to his grade and length of service may be imposed on any officer not promoted in the ordinary course owing to his failure to pass the necessary examination or other like cause.

Exchanges between officers of the Royal Army Medical Corps and the Indian Medical Service are occasionally permitted, subject to the officers having less than seven years' service and other conditions.

The regulations as regards pensions and compassionate allowances to widows and other dependants of officers are the same in the case of officers of the Royal Army Medical Corps as in the case of ordinary officers. There is, in addition, an army medical officers' widows' annuity fund on mutual assurance principles.

INDIAN MEDICAL SERVICE.

A CANDIDATE for this service must be a natural-born subject of His Majesty, of European or East Indian descent, and the general rules mentioned in the first note on page 633 apply to him; he must make his application for permission to compete for a commission on a prescribed form which is obtainable from the President of the Medical Board, the India Office, Whitehall, S.W. The accompanying certificates must include one showing that the candidate has studied in an ophthalmic hospital or ophthalmic department for not less than three months, the work including refraction. If allowed to compete he pays a fee of £1, and is then examined in the following subjects:

	Marks.
1. Medicine, including therapeutics	1,200
2. Surgery, including diseases of the eye	1,200
3. Applied anatomy and physiology	600
4. Pathology and bacteriology	900
5. Midwifery and diseases of women and children	600
6. Materia medica, pharmacology and toxicology	600

The examinations in medicine and surgery are in part practical, and include operations on the dead body, the application of surgical apparatus, and the examination of medical and surgical patients at the bedside. As regards the subjects of the examination, no syllabus is issued, the questions put being such as to test the candidate's general knowledge of them. Copies of papers set at previous examinations can, however, be obtained on application. No candidate is permitted to compete more than three times. A successful candidate is given an acting commission as a lieutenant, and receives 14s. a day as pay and quarters, or an allowance in lieu thereof. He then (after two months' leave) attends courses lasting about two months each at the Royal Army Medical College, Millbank, and at Aldershot respectively, and on conclusion of each is examined in its subjects. He must obtain not less than 50 per cent. of the total possible marks. If he fails to do so on a second chance being given him his acting commission is cancelled. The position of a candidate in his batch is determined by the aggregate of his marks at the entrance and other examinations. These matters complete, the candidate is sent to India, usually in a troopship. Occasionally an officer is allowed to defer his departure in order to sit for some professional examination or take up a resident appointment at a civil hospital for a time. But in such case he draws no pay.

On his arrival in India an officer serves for two years with troops, and is then eligible for an appointment on the civil side if he wishes to transfer from the military department. On the civil side there are several hundred appointments which together cover all the work done by medical men in this country. The titles of most of them and the pay granted are shown in the table at the foot of page 635. But, although he may hold a civil appointment, an officer remains liable to be employed on military duty in case of necessity. Private practice is usually allowed. All officers must pass the lower standard examination in Hindustani, and until they do so are ineligible for staff pay.

Promotion.

Even if he transfers to the civil side of the service an officer still bears a military title, and is promoted at the same rate as those who remain on the military side. Thus a lieutenant may be promoted to captain on completion of three years' full-pay service from date of first commission; but after completing eighteen months' service, and before promotion to the rank of captain, he will be required to pass an examination in military law and military medical organization. A captain is promoted to major on completion of nine years' full-pay service in the rank of captain, but this promotion may be accelerated by not more than six months in the case of officers who fulfil certain specified conditions. A major is promoted to lieutenant-colonel on completion of eight years' full-pay service in the rank of major. All promotions from the rank of lieutenant-colonel to that of colonel, and from the rank of colonel to that of surgeon-general, are by selection for ability and merit.

Pay and Allowance.[1]

The following are the monthly rates of Indian pay drawn by officers of the Indian Medical Service when employed on the military side:

Rank.	Unemployed Pay.	Grade Pay.	Staff Pay.	In Officiating Medical Charge of a Regiment.	In Permanent Medical Charge of a Regiment.
	Rs.	Rs.	Rs.	Rs.	Rs.
Lieutenant	420	350	150	425	500
Captain	475	400	150	475	550
,, after 5 years' service	475	450	150	525	600
,, after 7 years' service	—	500	150	575	650
,, after 10 years' service	—	550	150	625	700
Major	—	650	150	725	800
,, after 15 years' service	—	750	150	825	900
Lieutenant-Colonel	—	900	350	1,075	1,250
,, ,, after 25 years' service	—	900	400	1,100	1,300
,, ,, specially selected for increased pay ...	—	1,000	400	1,200	1,400

NOTES.—(*a*) An officer in officiating charge of a regiment, provided he has passed the Lower Standard examination in Hindustani, draws grade pay plus half the staff pay of the permanent incumbent, but his half staff pay will not be less than Rs. 100 per mensem in any case. (*b*) An officer of less than seven years' service, holding no specific appointment, draws unemployed pay, and continues to draw it when holding officiating or substantive medical charge of a native regiment unless he has passed the Lower Standard examination. An officer of more than seven years' service draws grade pay alone when unemployed. Staff pay is the pay of an appointment, and is drawn in addition to grade pay. (*c*) Horse allowance is granted to officers in substantive charge of cavalry regiments at the rate of Rs. 90 a month to lieutenant-colonels and majors, and Rs. 60 a month to captains and lieutenants.

Leave Rules.

(The paragraphs in small type apply only to officers in military employ.)

Officers below the rank of colonel may be granted:

1. Privilege leave under such regulations as may from time to time be in force.
2. Leave out of India, for no longer period than one year, capable of extension to two years' absence from duty on the following pay:

On first appointment	£250 a year.
After the commencement of the 10th year's service for pension	300 ,,
Ditto, ditto, 15th ditto	450 ,,
Ditto, ditto, 20th ditto	600 ,,
Ditto, ditto, 25th ditto	700 ,,

3. Leave in India, but for the period of one year only, on full military pay, and half the staff salary of appointment.

No extension of leave involving absence from duty for more than two years, whether taken in or out of India, can be granted, except on specially urgent grounds and without pay.

An officer unable on account of the state of his health to return to duty within the maximum period of two years' absence (unless, as under the foregoing paragraph, he is specially granted an extension of leave without pay) is placed on temporary half-pay or the retired list, as the circumstances of the case may require. An officer is also liable to be placed on half-pay or the retired list should his health require an undue amount of leave whether in or out of India.

Leave may be granted at any time, but solely at the discretion of the civil or military authorities in India under whom an officer may be serving.

Extra furlough may be granted to officers desirous of pursuing special courses of study at the rate of one month's furlough for each year's service up to twelve months in all.

Retiring Pensions and Half-Pay.

Officers are allowed to retire on pension on completing 17 years' service, the amount they receive varying with the precise number of years they have served. The lowest rate for 17 years' service is £300 per annum, and the rate for 30 years £700 per annum. The increases in pension for each additional year's service over 17 are somewhat higher in the last 5 than in the first 8 of the 13 years between the shortest and longest periods of pensionable service. Service for pension reckons from date of first commission, and includes all leave taken under the rules quoted.

Additional pensions for wounds and injuries received in action or in the performance of military duty are awarded to officers of the Indian Medical Service on the same terms as to combatant officers of the Indian Army.

All officers of the rank of lieutenant-colonel and major are placed on the retired list on attaining the age of 55 years; the greatest age to which any officer can serve being 62.

Family Pensions.

The claims to pensions of widows and families of officers are treated under the provisions of such Royal Warrant regulating the grant of pensions to the widows and families of British officers as may be in force at the time being. The widows and families of officers are also entitled to pensions under the Indian Service Family Pension Regulations, for the benefits of which all officers must, as a condition of their appointment, subscribe from the date of their arrival in India, except in the case of natives of India, for whom it is optional.

[1] Under present arrangements officers of the Indian Medical Service who are not statutory natives of India receive exchange compensation allowance to compensate them for the fall in the value of the rupee. The allowance consists of an addition to their salaries (subject to certain limitations) equal to half the difference between their salaries converted at (1) 1s. 6d. the rupee, and (2) the average market rate for each quarter.

Principal Civil Appointments.	Approximate Number of Appointments in Each Class.	Salary per Mensem. When held by a Lieutenant-Colonel.	When held by a Major.	When held by a Captain.	When held by a Lieutenant.
		Rs.	Rs.	Rs.	Rs.
Inspectors-General of Civil Hospitals	6	2,250–2,500			
Sanitary Commissioner with Government of India ...	1	2,000–2,500			
Inspectors-General of Prisons	8	1,500–2,000			
Principals of Medical Colleges	5	1,650–1,800	1,200–1,300		
Professorial Appointments	32	1,500–1,650	1,050–1,150	800–950	750
Sanitary Commissioners	8	1,250–1,300			
Deputy Sanitary Commissioners	13	1,450–1,600	1,000–1,100	750–900	700
Bacteriological Appointments	11	1,500–1,600	1,050–1,150	700–900	650
Superintendents of Central Lunatic Asylums	6	1,400–1,550	1,050–1,150	700–900	550
Superintendents of Central Gaols	31	1,300–1,550	850–1,150	600–750	550
Civil Surgeoncies (First Class)	37	1,300–1,350	850–950	600–750	550
Civil Surgeoncies (Second Class)	171	1,200–1,350	750–850	500–650	450
Probationary Chemical Examiner	1	—	—	600–750	550
Officers deputed to Plague Duty	—	1,450	1,050–1,100	750–900	700

PRISON MEDICAL SERVICE.

CANDIDATES for the medical staff are approved by the Secretary of State for the Home Office on the recommendation of the Prison Commissioners. The Chairman of the Board is Sir Evelyn Ruggles-Brise, K.C.B. Application for employment may be made to the Board on a special form, which can be obtained from the Secretary, Prison Commission, Home Office, London, S.W.

In the smaller prisons the medical officer is usually a local practitioner, but in the larger the members of the medical staff are required to give their whole time to the service.

In the case of those required to give their whole time to the service the appointment in the first instance is to the post of deputy medical officer, and from the seniors of this rank the medical officers are selected as vacancies occur. The deputy medical officers are paid £225 yearly, rising to £400, with unfurnished quarters. The whole-time medical officers are paid £450, rising to £550, with unfurnished quarters. There are twenty deputy medical officers and ten whole-time and forty-six part-time medical officers. The number of vacancies is never large.

APPOINTMENTS UNDER THE COLONIAL OFFICE.

MEDICAL appointments are from time to time filled up by the Colonial Office in the following Colonies and Protectorates: British Guiana, Jamaica, Trinidad, Windward Islands, Leeward Islands, Barbados, British Honduras, the Bahamas, Bermuda, Fiji, Sierra Leone, Gambia, Gold Coast, Northern and Southern Nigeria, East Africa and Uganda Protectorates, Nyasaland, Somaliland, Ceylon, Straits Settlements, the Federated Malay States, Hong Kong, Wei-hai-Wei, Mauritius, Seychelles, Cyprus, Gibraltar, St. Helena, and the Falkland Islands. In Ceylon, Jamaica, and Mauritius vacancies are almost almost filled locally by the appointment of qualified native candidates. As a rule officers are required on appointment to undergo a three months' course of instruction at the London or Liverpool School of Tropical Medicine, and to obtain a certificate of proficiency before taking up their appointment. In addition to the ordinary medical appointments, vacancies also occasionally, though very rarely, occur, for which specialists are required—for example, to take charge of a lunatic asylum.

All candidates for ordinary medical appointments must be between the ages of 23 and 35.[1] Preference is given to those who have held junior appointments on the staffs of hospitals. Testimonials to character and professional competence are required, and every officer before being appointed must be medically examined by one of the consulting physicians of the Colonial Office. A pamphlet giving a good deal of information as to the various posts is published. Copies can be obtained on application by letter to the Assistant Private Secretary, the Colonial Office, Downing Street, S.W.

The nominal value of the appointments in the gift of the Colonial Office varies very considerably; but, as a general rule, it will be found on close examination that the rates of pay correspond in real value pretty closely when questions of climate, opportunities for private practice, the cost of living, and the actual work demanded are taken into consideration. The posts to which the lower salaries are attached commonly involve work which can be regarded as merely an adjunct to ordinary private practice, while high pay means either few opportunities for practice, an undesirable climate, or work of a special character demanding high administrative ability. Taken as a whole, all these appointments may be put down as offering their occupant the opportunity of gaining his livelihood, and possibly saving a little money, in a fashion which will test his abilities to the full.

In some respects the most important appointments are those to membership of the West African Medical Staff. This is a regular service somewhat on the lines of the Indian Medical Service; the rates of pay in the higher grade are fairly satisfactory as compared with the cost of living on the coast; the opportunities for scientific practice of medicine are ample, and at the end of every year's work an officer can return to England for several months' leave. A separate pamphlet setting forth the emoluments and general conditions of service is published, and can be obtained in the same fashion as that already mentioned.

Besides these appointments under the various Colonial governments, a large number of men are employed in the Colonies and Protectorates as medical officers of mining and other companies carrying on their operations in various parts of the tropics. Much caution should be exercised in accepting these appointments, and those to whom they are offered would find it worth while to read what was said on the subject in our issues for May 25th, 1912, and August 24th, 1912.

[1] In the case of East and West Africa preference will be given to candidates who are over 25 years of age. In the case of Fiji, preference will be given to candidates who are under 30.

PRACTICE IN BRITISH COLONIES.

THE following notes supply a general indication of the requirements which must be satisfied by those desirous of practising in the Colonies on the strength of qualifications received from licensing bodies in the United Kingdom. Personal inquiry should, however, always be made on the point.

MEDICAL REGISTRATION IN CANADA.

The Medical Council of Canada, which was constituted on November 7th, 1912, under the Canada Medical Act, has issued a first announcement dated July 1st, 1913, dealing with registration and the examination for the licence of the Medical Council of Canada. It is provided that any person who on or before November 7th, 1912, was the holder of a licence or certificate in any province of Canada, and who has been in active practice in Canada, shall, ten years after such provincial registration, be entitled to register without examination. The fee for such registration is 100 dollars. A person who has been registered and in practice in a province of Canada for less than ten years may be required to submit to examination before being registered on the *Medical Register* for Canada. All other persons must pass the prescribed examination in (*a*) Physiology, (*b*) Anatomy, (*c*) Hygiene and Public Health, (*d*) Pathology and Bacteriology, (*e*) Midwifery and Gynaecology, (*f*) Surgery, (*g*) Medicine, including Therapeutics. The examination in each subject will be partly written and partly oral, and 60 per cent. of the marks in each part of the examination in each subject will be required to pass. Failure to pass in more than two subjects will necessitate re-examination in all. A candidate who fails in not more than two subjects may present himself for re-examination in those subjects only. There are special provisions for homœopathists. The fee for the examination is 100 dollars, but this includes registration. The Registrar of the Medical Council of Canada is Dr. R. W. Powell, 180, Cooper Street, Ottawa, Ontario.

Neither this "first notice" nor the Medical Act of Canada itself directly touches the position of medical men who hold only British qualifications but desire to obtain legal authority to practise in Canada. In these cases, as heretofore, it would seem to be necessary to apply to the Medical Council of the province in which they desire to settle for information as to the terms on which such permission will be accorded.

There is, however, some improvement in this direction, for now only Ontario, Alberta, Saskatchewan, and British Columbia impose an examination on qualified British medical men as a preliminary to registration. In Quebec, Newfoundland, Nova Scotia, Prince Edward Island, and Manitoba, legal authority to practise is accorded on presentation of a certificate of registration in the United Kingdom, and proof of identity and of good character. The fees for registration are generally in the neighbourhood of £5. The four provinces which impose an examination make an exception in favour of medical men registered in the United Kingdom before June 30th, 1887.

AUSTRALASIA.

In Australia and New Zealand admission to the Register is accorded to those who can supply proof that they are registered in the United Kingdom, that they are of good repute, and that they are the rightful owners of the documents which they present.

SOUTH AFRICA.

Admission to the Register is a necessary preliminary to practice in all the four States of the Union of South Africa—Cape Colony, Natal, the Transvaal, and Orange River Colony. It may be obtained by any medical man registered, or entitled to be registered, in the United Kingdom, on his payment of varying fees and his production of proof of his possession of the necessary diplomas. In each case application for admission to the Register should be addressed to the secretary of the medical council concerned. Registration, or, more accurately speaking, a licence to practise, is also necessary in Rhodesia, and is granted by the Administrator of Rhodesia at Salisbury, on practically the same terms as is registration in any of the four localities mentioned.

CROWN COLONIES.

In the Crown Colonies, including Ceylon, the Straits Settlements, Mauritius, British Guiana, and the West India Islands, and many other of the smaller British possessions scattered throughout the world, no difficulty is raised to the practice of medicine and admission to the Register, if one is kept, in the case of any medical man who is in a position to prove his qualification to registration under the Medical Act of 1858.[1]

PRACTICE IN FOREIGN COUNTRIES.

THE following notes give some indication of the conditions under which medical men possessing British degrees or diplomas may obtain permission to practise in foreign countries.[1]

FOREIGN STATES.

Austria.—It is necessary to pass the State examination, or to obtain a university degree in medicine, a necessary preliminary to which is naturalization as an Austrian subject. Recognition of foreign diplomas may be obtained on passing certain examinations.

Belgium.—Permission to practise must be obtained by foreign practitioners through a duly appointed medical board. To obtain it is a matter of extreme difficulty.

Bulgaria.—Foreign medical graduates must pass a viva voce examination conducted in the Bulgarian language.

Denmark.—Foreigners are allowed no privileges in respect of exemption from examination.

Egypt.—Permission to practise is accorded by the Director-General of the Sanitary Department to registered British practitioners upon proof of identity and a certificate of good character from the British Consul-General.

France.—The degree of M.D. must be obtained by examination before a French faculty (Paris, Montpelier, Nancy, Bordeaux, Lyons, Lille, or Toulouse). This regulation applies to Algiers also. The degree, moreover, confers the right to practise only if it has been obtained on precisely the same conditions as those to which French students are subject.

Germany.—Any person may practise medicine in this country, but does so at his own peril unless he has passed the *Staats-Examen*. The latter alone confers recognition as a legal medical practitioner, and must be passed even by those who are already graduates of German universities. It takes place every year in November, and can be held by a medical board of examiners at any German university. The application of a candidate for admission to the examination must be accompanied by certificates of admission to the university from a German public school, and of at least nine half-yearly terms of medical study at a German university. The Government reserves to itself the right to exempt from this examination men of medical distinction under certain conditions, but the latter have no application to foreign medical men. Very occasionally also certificates of study at other than German universities and medical schools are accepted in lieu of some of the courses imposed on candidates.

Greece.—A State examination must be passed, but graduates of foreign schools may take their examination in French or German, and if of a certain standing in their own country may be exempted altogether.

Holland.—Foreigners are required to pass the State examination, but registered English medical men are entitled to exemption from part of it.

Hungary.—An English diploma does not entitle its owner to practise, but recognition of British qualifications may sometimes be obtained.

Italy.—This country, which has always been disposed to make things easy for foreign practitioners, now accords to those whose names are on the *Register* kept by the General Medical Council the right of admission to the Italian Register.

Monaco.—In virtue of the reciprocity in the matter of recognition of medical degrees and diplomas now existing between Italy and Monaco, the following British qualifications are, for the purposes of medical practice in the Principality of Monaco, considered equivalent to the French Diploma of Medicine: The degree of Doctor of Medicine of the University of "the United Kingdom of Great Britain," and the diplomas of Fellows of the Royal Colleges of Surgeons and Physicians of London, Edinburgh, Dublin, and of the Faculty of Physicians and Surgeons of Glasgow. Every application for leave to practise must be accompanied by the diplomas of the appplicant or by copies of those documents certified as correct either by a Consul of the Principality or by the Mayor of Monaco. The applicants must enter into an undertaking to live in the Principality and to practise their profession during the whole or part of the months of May, June, July, August, September, and October, agreeably to Article 1 of the Ordinance of May 29th, 1894.

Norway.—The State examination must be passed. The Government may, however, grant permission in individual cases to persons who produce satisfactory evidence that they possess the requisite knowledge.

Portugal.—The State examination must be passed.

Roumania.—The State examination must be passed by all applicants.

Russia.—Foreign medical men must pass a comprehensive examination at the Medical Academy of St. Petersburg or one of the universities of Russia, and must know Russian. Those who have not a B.A. degree must pass an examination in general education, and in Greek and Latin.

Servia.—No permission to practise can be obtained by any one other than a Servian subject, irrespective of examinations.

South America.—All the foreign States in the South American continent require a medical man who seeks permission to practise to pass an examination conducted in Spanish, irrespective of any degrees or diplomas which he may hold.

Spain.—The regulations in this country have varied a good deal, the present position being that foreign medical men must qualify in the same way as Spaniards, or at all events must pass an examination before the medical faculty of a Spanish college and be recommended by it for the grant of a permission to practise. Temporary permission to practise seems, however, often to be accorded.

Sweden.—The State examination must be passed. Some reduction in the length of the curriculum may be granted.

Switzerland.—A qualified English practitioner desiring to practise in Switzerland, even if only among his countrymen, is required to pass the Federal Examination in that country. The degree of Doctor of Medicine does not give the right to practise. The Federal Examination may be passed at Basle, Zürich, or Berne in German, and at Geneva or Lausanne in French. The applicant is advised to obtain from one of his teachers or some persons of recognized scientific eminence in this country an introduction to a professor at the university at which he proposes to pass the examination. It would also be well for him to call upon the Rector of the University.

The United States.—Each of the States has its own laws and regulations; some of them will admit any man to the Register who holds a diploma or degree wherever obtained; the majority require the candidate for registration to submit to an examination. Attempts to bring about reciprocity between the States have long been in progress. Changes are frequent, and any one proposing to practise in America should address special inquiries to the Medical Board of the State in which he desires to settle for information as to the regulations in force.

Turkey.—A viva voce examination in the chief branches of medicine and surgery must be passed at Constantinople

[1] *The Digest of Laws in the British Empire and Foreign Countries*, published by the General Medical Council (to be obtained through any bookseller, price 1s.), may also be consulted.

(fee, about £20). Before being admitted to the examination the candidate must present a diploma from a medical school recognized by the Government of the country in which it is situated.

Dental Surgery.

According to the regulations of the General Medical Council, candidates for registrable qualifications in Dental Surgery must produce certificates of having been engaged during four years in professional studies, and of having received not less than two years' instruction in mechanical dentistry from a registered practitioner, or at some dental hospital where instruction is given in this subject. One year's bona fide apprenticeship with a registered dental practitioner, or one year's instruction at a dental hospital, after being registered as a dental student, may be counted one of the four years of professional study. The two years of instruction in mechanical dentistry, or any part of them, may be taken by the medical student, either before or after his registration as a student; but no year of such mechanical instruction will be counted as one of the four years of professional study unless taken after registration. As regards preliminary examination and registration, dental students are subject to the same regulations as medical students, but professional study may commence by pupilage with a registered dental practitioner.

As regards registrable qualifications, candidates can obtain either diplomas or degrees at the hands of a large number of bodies, some account of which follows, while they have an even larger choice in the matter of places of technical education. The following is a list of some of them:

In London:
(1) The Royal Dental Hospital of London, Leicester Square.
(2) The National Dental Hospital and College, Great Portland Street, W.
(3) The Dental School of Guy's Hospital.
(4) The Dental School of the London Hospital.

In the Provinces, at schools connected with:
(1) The University of Sheffield.
(2) The Victoria University of Manchester.
(3) The University of Liverpool.
(4) The University of Leeds.
(5) The Devon and Exeter Dental Hospital.
(6) The University of Bristol.
(7) The University of Birmingham.

In Scotland at:
(1) The Incorporated Edinburgh Dental Hospital and School.
(2) Glasgow Royal Infirmary.
(3) The Incorporated Glasgow Dental Hospital and School.

In Ireland at:
(1) The Dental Hospital of Dublin.
(2) Trinity College, Dublin.

DIPLOMAS AND DEGREES.

Royal College of Surgeons of England.

This body grants a diploma to candidates who pass three successive examinations, to which they are admitted on production of the following certificates:

Before the First Examination.—Of having received instruction at an institution registered for the purpose in chemistry, physics, and practical chemistry.

Before the Second.—Of having been engaged during a period of not less than two years in acquiring a practical familiarity with the details of mechanical dentistry.

Of registration as a dental student.

Of having attended at a recognized dental hospital and school (*a*) a course of lectures on dental metallurgy; (*b*) a course of practical dental metallurgy; (*c*) a course of lectures on dental mechanics; (*d*) a course of practical dental mechanics, including the manufacture and adjustment of six dentures and six crowns.

Before the Third.—Of having been engaged during four years in the acquirement of professional knowledge subsequent to the date of registration as a dental student.

Of having attended at a recognized dental hospital and school (*a*) a course of dental anatomy and physiology; (*b*) a separate course of dental histology, including the preparation of microscopical sections; (*c*) a course of dental surgery; (*d*) a separate course of practical dental surgery; (*e*) a course of not less than five lectures on the surgery of the mouth; (*f*) a course of dental bacteriology; (*g*) a course of dental materia medica; (*h*) a course of instruction in the administration of such anaesthetics as are in common use in dental surgery.

Of having attended at a recognized dental hospital, or in the dental department of a recognized general hospital, the practice of dental surgery during two years.

Of having attended at a recognized medical school (*a*) a course of lectures on anatomy, (*b*) a course of lectures on physiology, (*c*) a separate practical course of physiology, (*d*) a course of lectures on surgery, (*e*) a course of lectures on medicine; (*d*) and (*e*) must be attended after the completion of courses (*a*) and (*b*).

Of having performed dissection at a recognized medical school during not less than twelve months.

Of having attended at a recognized hospital or hospitals the practice of surgery and clinical lectures on surgery for twelve months during the ordinary sessions.

Of being 21 years of age.

The first examination is identical with Parts I and II of the First Examination of the Conjoint Board for medical students, and exemption from it may be obtained under corresponding circumstances. This first examination must be passed before commencing the study required for the third examination.

The second examination deals with (Part I) mechanical dentistry and (Part II) dental metallurgy. Candidates who have passed the previous examination may present themselves for the two parts separately or for the whole examination at one time on production of the certificates already specified. A great deal of practical work is included in this examination.

The third examination covers (1) general anatomy and physiology, general pathology and surgery; (2) dental anatomy and physiology, dental pathology and surgery, and practical dental surgery. This examination is partly written, partly practical, and partly oral, and in Section II candidates may be examined practically:

(*a*) On the treatment of dental caries, and may be required to prepare and fill cavities with gold or plastic filling or material, or to do any other operation in dental surgery.
(*b*) On the mechanical and surgical treatment of the various irregularities of children's teeth.

Candidates who have passed the Second Examination at least six months previously may present themselves for the two parts separately, or they may take the whole examination at one time. But they may not proceed to Part II until they have passed Part I.

Candidates who have passed the Second Examination of the Examining Board in England, or produce evidence of having passed the examination in anatomy and physiology required for a degree or other qualification in medicine or surgery registrable under the Medical Act of 1886, are exempted from re-examination in those subjects in Section I.

Candidates who are members of the college, or who have passed the examination in surgery of the Examining Board in England, or who produce evidence of having passed the examination in surgery for a degree or other qualification in medicine or surgery registrable under the Medical Act of 1886, are exempted from examination in surgery and pathology in Section I.

The holders of certain degrees or licences in dental surgery recognized by the college are admitted to the second and third examinations together, without passing the Preliminary Science Examination, provided they produce evidence (*a*) of having passed a satisfactory Preliminary Examination in general education, (*b*) of having completed the curriculum of professional study required by the regulations, (*c*) of having passed the required Professional Examinations for their degree or licence in dental surgery. The following are the degrees and licence at present thus recognized: D.D.S. University of Harvard, D.D.S. University of Pennsylvania, D.D.S. University of Michigan, Licence of the Dental Board of Victoria. Special regulations apply to holders of registered diplomas in the Colonies.

Fees.—The fee for the diploma in Dental Surgery is 20 guineas, payable in certain instalments.

Further information may be obtained from the Secretary of the Examining Board in England, Examination Hall, Queen Square, Bloomsbury, London, W.C.

University of Birmingham.

Degrees in dentistry—namely, Bachelor and Master of Dental Surgery (B.D.S. and M.D.S.) and a diploma in Dental Surgery (L.D.S.)—are granted by the University of Birmingham. All candidates for degrees must pass the same Matriculation Examination as that required from candidates for medical degrees. The degree of Bachelor of Dental Surgery is not conferred upon any candidate who has not obtained the Licence in Dental Surgery of the university or from some body legally entitled to confer such qualification. The candidate is not eligible for the degree until a period of twelve months has elapsed from the passing of his examination for the Licence in Dental Surgery, and must produce evidence of having undergone certain courses of instruction additional to those required for the diploma. He is then admitted to an examination covering dental physiology and pathology and dental surgery and prosthetic dentistry, both from a theoretic and clinical standpoint. Promotion to the grade of Master is accorded on the production of an approved thesis.

The regulations concerning candidates for the diploma are comparable to those of other licence-granting bodies, such as the Royal College of Surgeons of England, but examination in the subjects of the curriculum is divided into four sections.

University of Leeds.

The degrees of Bachelor of Dental Surgery (B.Ch.D.) and Master of Dental Surgery (M.Ch.D.) are granted by this university, and also a diploma. Candidates for the degree of Bachelor of Dental Surgery must have passed the Matriculation Examination or its equivalent, and have pursued thereafter approved courses of study for not less than five academic years, two of such years at least having been passed in the university subsequently to the date of passing Parts I and II of the First Examination, and such period of pupilage or hospital attendance, or both, as may be prescribed by the regulations of the university. Three examinations—First, Second, and Final—must be passed. The First Examination, which is held twice a year, covers (1) physics, chemistry; (2) biology; (3) dental mechanics and dental metallurgy. Candidates are allowed to take each part separately.

The subjects of the Second Examination are: Anatomy, physiology, dental anatomy and physiology, dental materia medica. The subjects of the Final Examination are: Dental surgery, dental pathology and bacteriology, operative dental surgery, medicine and surgery. Candidates are required, before presenting themselves for the Final Examination, to have passed the First Examination not less than two years previously, to have passed the Second Examination not less than six months previously, and to have attended courses of instruction in accordance with the regulations of the university.

Candidates for the diploma must have attended courses of instruction approved by the university extending over not less than four years, and have completed a pupilage of three years. They have to pass three examinations, besides one in general education. The first deals with chemistry and physics. For the next they cannot present themselves until the third year of their pupilage; it deals with dental metallurgy and dental mechanics. The Final Examination consists of two parts—Part I: Anatomy, physiology, dental anatomy and physiology. Part II: Surgery, dental surgery, pathology and bacteriology, operative dental surgery (practical), dental materia medica and therapeutics.

Fees.—The composition fee for the requisite courses for the B.Ch.D. is £65; and for the D.D.S., £60. A prospectus containing full information may be obtained on application to the Academic Sub-Dean of the Faculty of Medicine.

Victoria University of Manchester.

The degrees of Bachelor of Dental Surgery (B.D.S.) and Master of Dental Sargery (M.D.S.) are granted by this university, and also a diploma. Candidates for the degree are required to pass the Matriculation Examination as for the Faculty of Medicine, and pass four examinations.

First Examination.—Before admission candidates must produce evidence that they have attended at least one year's course in each of the subjects of the examinations: (*a*) Chemistry, Inorganic; (*b*) Physics; (*c*) Zoology; (*d*) Elementary Organic Chemistry and Bio-Chemistry. They may be passed separately.

Second Examination.—Candidates for this must show that they have attended the Prosthetic Laboratory Work of an approved dental hospital for at least two years and attended courses in each of the subjects of the examinations, which are: (*a*) Dental Mechanics; (*b*) Dental Metallurgy.

Third Examination.—Candidates before admission must have duly attended in each of its subjects: (*a*) Anatomy; (*b*) Physiology and Histology; (*c*) Dental Anatomy (Human and Comparative), and Dental Histology.

Final Examination.—This comprises: (*a*) Surgery; (*b*) Pathology; (*c*) Dental Surgery and Pathology, and Dental Materia Medica; (*d*) Dental Prosthetics; (*e*) Orthodontia; (*f*) Operative Dentistry; and admission to it depends on the candidate having made the required number of attendances at the classes and practical work.

To proceed to the higher degree of Master of Dental Surgery the candidate must be of not less than one year's standing as a Bachelor, and either present an approved thesis or pass an examination in some group of dental subjects.

The courses and examination for the diploma are of the same general nature and arranged in much the same fashion, but for the two years' prosthetic laboratory work apprenticeship to a regular dentist may be substituted; while for the final examination orthodontia and dental pathology and materia medica are omitted.

University of Liverpool.

This university grants a Licence in Dental Surgery (L.D.S.) and two degrees in the same subject (B.D.S. and M.D.S.), the management of the curriculum being in the hands of the Board of Dental Studies. The Dental Hospital (opened in March, 1910) is in close proximity to the university, and is completely equipped for clinical instruction. Application for further information should be made to the Secretary of the Board at the University.

University of Durham.

This university grants a Licence in Dental Surgery. The regulations as to the curriculum to be followed by candidates are in keeping with those of other dental licensing bodies, but examinations in the subjects of study, which include dental bacteriology and anaesthetics, are broken up into four. Before the date of the final examination the candidate must have undergone three years' pupilage in mechanical dentistry with a registered dentist.

University of Bristol.

This university grants two degrees (B.D.S. and M.D.S.), and a Licence (L.D.S.) in Dental Surgery, and has also made comprehensive arrangements for the dental education of candidates. The course for the degree lasts five years; that for the diploma one year less. In either case the candidates must be registered dental students, but those for the diploma need not matriculate. The fees for the B.D.S. curriculum amount to 190 guineas, and to 168 guineas for the diploma curriculum.

Royal College of Surgeons in Edinburgh.

This body grants a diploma in Dental Surgery, and imposes on candidates two examinations. The only special point about the regulations is that before admission to the second examination a candidate must afford proof that he has undergone instruction in mechanical dentistry, either as a registered dental student or otherwise, for not less than three years. The fees for examination and diploma amount altogether to 15 guineas.

Royal College of Surgeons in Ireland.

This body grants a diploma in Dental Surgery, for which candidates have to pass two examinations. At the first examination the subjects are: (A) Physics and chemistry, including practical chemistry and metallurgy; (B) General anatomy, physiology and histology; and dental anatomy, physiology, and histology. The two groups may be taken together or separately. At the second, or final examination, the subjects are general pathology, medicine and surgery, dental surgery and dental pathology, with the materia medica and therapeutics applicable to dental

surgery, dental mechanics and metallurgy, and orthodontia. The candidate must pass in all subjects on one occasion. Candidates who have within the previous three months been rejected by any licensing body in the subjects of the examination for which they are presenting themselves are not admitted thereto.

From certain subjects of each of the examinations candidates are exempted who have previously passed in those subjects examinations held by various bodies recognized for this purpose. Those fully qualified in general surgery may also have remission made in the time for which they must devote themselves to technical studies.

The total sum payable for examinations and diplomas is £21.

National University of Ireland.

The scheme of work of this university includes the granting of two degrees in Dental Surgery. For the lower degree—the Bachelorship—four examinations will have to be passed, and, in addition to other requirements, the candidate must have been apprenticed to a registered dentist for a period of not less than two years. Candidates for the Mastership must have held the lower degree for at least three years.

Medical News.

The number of students of medicine in the German universities in the last winter session was 13,904. Of these, 2,278 were foreigners and 683 women. In the summer session the total number increased to 14,632, of whom 2,162 were foreigners and 773 women. In these totals the students of the Kaiser-Wilhelms-Akademie are not counted.

An excellently illustrated souvenir of the competition this year for the Lawn Tennis Challenge Cup for nurses, issued by the *Nursing Times*, shows that it was won for the second time by a team representative of the nursing staff of Guy's Hospital. The cup was first offered by the *Nursing Times* last year, and sixteen teams competed. This year the number increased to twenty-three, the final tie being played off in the grounds of St. Marylebone Infirmary between Guy's and Queen Mary's. The members of the winning team receive small silver reproductions of the cup itself. As the promoters expected, the competition has done good work in drawing more closely together the nurses in general, fever, mental, and Poor Law hospitals.

At practically all the Schools of Medicine in London work will be in full progress within four weeks of the date of this issue, the day of nominal commencement being in each case Wednesday, October 1st. The arrangements are not everywhere complete, but most of the institutions have only dinners of old students in view. St. George's, the Middlesex, and the London School of Medicine for Women and St. Mary's are, however, exceptions. At the first named an address will be delivered by Sir William Osler subsequent to the distribution of prizes, while at the Middlesex Mr. Sampson Handley will deliver an address as a preliminary to a distribution of prizes by Sir Squire Bancroft. At St. Mary's and the London School of Medicine for Women addresses will be given by Sir John Prescott Hewett and Sir Charles Pardey Lukis respectively.

The annual meeting and launch party of the Brussels Medical Graduates' Association was held on July 11th, when the saloon launch *Empress of India* left Maidenhead for Henley with a party of thirty-two members and friends. Among those on board were Sir Griffith Boynton, Bart., Sir George Scott, Mr. Tubby, and Dr. Cato. At the luncheon the President, Dr. Howard Humphris, proposed the health of the visitors, which was responded to by Sir Griffith Boynton, Bart. Mr. Tubby then proposed the toast of the Brussels Medical Graduates' Association. This was responded to by Dr. Arthur Haydon, who said that the association was making very good progress, and that the number of candidates who were working for the degree was increasing. As the weather was fine, a most enjoyable day was spent. The following were elected officers for the ensuing year: President, Dr. Howard Humphris; Vice-President, Dr. Fielden Briggs; Honorary Treasurer, Dr. Major Greenwood; Honorary Secretary, Dr. Arthur Haydon; Council, Drs. Wilkinson, Cowburn, Callender, Smallwood, Dutch, Bryce Macaulay, Bruce-Porter, Tom Robinson, Hugh Gibbon, and James Metcalfe.

DEATH OF MR. ANDREW CLARK.

It is with the deepest regret that we announce the death of Mr. Andrew Clark, which occurred at Folkestone on Friday, August 29th. Mr. Clark had for many years taken a leading part in the affairs of the British Medical Association, to which he rendered invaluable services. He was President of the Council from 1902 to 1904, Treasurer from 1899 to 1901, and held other high offices. At the time of his death he was a Vice-President of the Association. In 1905 the Association awarded him the Gold Medal "For Distinguished Merit." Mr. Clark, who was 66 years of age, was consulting surgeon to the Middlesex Hospital. He held the rank of colonel in the Army Medical Corps (Territorial Force), and was appointed honorary surgeon to the King in 1910. He was a Knight of Grace of the Order of St. John of Jerusalem. The funeral service took place at Holy Trinity Church, Folkestone, on Tuesday, September 2nd. Owing to the suddenness of the event and to the dispersal caused by the holiday season, many who would have wished to attend were unable to be present; hence, unfortunately, the British Medical Association, for which Mr. Clark had done so much, was not formally represented. All the chief officers were away, and Mr. Guy Elliston, Financial Secretary and Business Manager, who hastened back from the Continent, did not reach England in time to attend. We hope to publish an obituary notice in a later issue of the Journal.

Public Health.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Borough of Shrewsbury.—The birth-rate in 1912, based upon an estimated population at the middle of the year of 29,521, was 22.5 per 1,000, and the corrected death-rate from all causes was 12.8 per 1,000; the infant mortality-rate was equal to 72 per 1,000 births. During the past three years the average annual infant mortality-rate was 86 per 1,000 births, compared with an average rate of 123 per 1,000 in the three immediately preceding years. Dr. Orr, the medical officer of health, claims this to be a significant result of the sanitary measures adopted by the town council in recent years. A health visitor was appointed in 1909, and in 1912 she visited the homes of 93 per cent. of the children born during the year. Dr. Orr considers that these visits not only have an effect on the feeding of the infants, but influence to a very large extent the feeding of the other children and the general management and cleanliness of the house. There are now only five private slaughter-houses in Shrewsbury, a public abattoir, where about three fourths of the meat consumed in the town is prepared, having been opened in 1911. The superintendent of the abattoir is a certificated meat inspector, and acts as inspector for the borough, visiting the private slaughter-houses, butcher's shops, and the markets. Out of 46 samples of milk taken during the year five were found to be adulterated. Proceedings were taken against four dealers. In one instance, where the percentage of fat was 2.95, the case was dismissed on the payment of 27s. costs. In another, where there was 9 per cent. of added water, the case was dismissed without any payment of costs; while in a third, where there was 6.5 per cent. of added water, a fine of £2 was imposed. The water supply of Shrewsbury appears still to be distributed in a manner which was described by a former medical officer of health for the county as mediaeval. The drinking water is procured from stand-pipes in the streets, and the river water only, which is said to be not a potable water, is laid on to the houses.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

Note.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address
ON
MIND AND MOTIVE:
SOME NOTES ON CRIMINAL LUNACY.

Delivered before the Section of Forensic Medicine of the Seventeenth International Congress of Medicine.

By DAVID NICOLSON, C.B., M.D.,
Lord Chancellor's Visitor in Lunacy.

There is no royal road to a knowledge of criminal lunacy. This hydra-headed conjunction of crime and insanity forces itself upon our acquaintance through miserable lives and surroundings, through wretched and disordered phases of mind, through noxious records of jealousy and drink, and of sexual and savage passions, and through manifold experiences taught in reformatories, prisons, and asylums.

It occurred to me that the Forensic Medicine Section of this International Congress might be interested in listening to some notes on criminal lunacy from an old Government official of forty-six years' service: with a record of ten years' medical work in convict prisons, twenty years at Broadmoor Criminal Lunatic Asylum, and sixteen years in his present office as Lord Chancellor's Visitor in Lunacy, work varied during the last twenty-seven years by holding from time to time special inquiries on behalf of the Home Office.

The idea of crime on the one hand and the idea of insanity on the other, each in its way, implies a deviation more or less important from standards of conduct which bear the stamp of social sanction.

What those standards are and what those deviations amount to are the questions which form the basis of any estimate regarding individual members of the community who have committed acts of criminal import. From the estimate thus formed we have the evolution—so far as criminal acts are concerned—of the criminal and the criminal lunatic.

Crime, criminals, and criminal lunatics are subjects which lend themselves to much thought and contemplation, and also to much literary effort and bookmaking; and they are subjects with regard to which it may be said that the less you know the more you can write, especially if you are gifted with an abounding imagination and a metaphysical turn of mind.

However that may be, as big social problems they are subjects which stand out prominently in the range of economical science, domestic politics, and legislative procedure; but taking them to-day, as we are, on the more limited, but still comprehensive, area of criminal psychology, we are to regard them from two principal points of view—the theoretical or speculative and the practical or medico-legal.

The Theoretical or Speculative Aspect.

The theoretical standpoint need not keep us long, as it does not immediately concern us.

Insanity is a mental condition or a neurosis, and its heredity or hereditary transmission is a fact in nature well established and universally accepted.

The heredity of crime, of which we hear so much, is a mythical and dangerous doctrine advanced by those so-called "criminologists" who would have us look upon criminals as poor, hapless creatures foredoomed by nature from birth to eventuate as parasites preying upon society by the perpetration of certain punishable acts. Now, crime, unlike insanity, is neither a mental condition nor a neurosis; it has to be regarded in the main* as an occupation, an employment, or a business taken up as the outcome of environment, education, training, and circumstances, and entered upon as a means of trying to make a living; and the same train of thought may be applied to shoemaking, agricultural labour, and other occupations, where sons succeed fathers, and children parents. It is too much to expect a young thing—an infant or an infant brain—to rise superior to the compulsory education in crime with which criminal parentage and the criminal atmosphere generally smother it. I defy the children of the most intellectual and the most cultured and moral Lord Chancellor or Lord Archbishop not to succumb under similar circumstances.

Besides, the "heredity" idea as to crime takes the heart and the hope out of all philanthropic and legislative measures for the education and proper upbringing of children and youths. Look what has been done by training-ships, and by Barnardo and other homes for waifs and strays! This could never have been done if crime is an inborn and inherent ingredient of any mental life.

Again, we are not concerned to-day with the theorist and faddist doctrine that all who commit murder are insane; nor with that other tenet which one so often hears from people who look upon themselves as specially strong-minded, that tenet—a remedial one of sorts—which would make a clean sweep of all lunatics, ordinary and criminal, by consigning them to the lethal chamber.

The Practical or Medico-Legal Aspect.

Coming now to criminal lunacy (involving crime, criminals, and criminal lunatics) in its practical or medico-legal aspect, we find, to start with, that while the criminal tendency or bent in the sane is towards thieving and plunder, the criminal tendency in the insane is towards homicide or personal violence. Thus, of 1,120 criminal lunatics under detention at the end of the year 1911, more than 800 were detained for murder, manslaughter, attempts to murder, and wounding. Of this 800 as many as 478 (nearly five-eighths) had committed murder, the proportion being 289 males and 189 females.

A peculiar interest attaches to the question of insanity when it is raised with regard to a fellow-being who is under trial for a criminal offence, however trivial in character; but when the offence is murder and when a verdict of guilty involves the possibilty of the death penalty the interest to the medical men concerned becomes absorbing and laden with heavy responsibility.

The notes I am submitting here have reference to murder cases only, and are necessarily, with the time at my disposal, somewhat crude and sketchy in character.

The Prevention of Crimes by Lunatics.

Insanity and all the conditions leading up to it are the *bête noire* of the medical practitioner, for in the first place it brings him into contact with the domestic difficulties and troubles of his patients at an inconvenient and disagreeable angle, especially if he has to send the head of the house or any of its members to an asylum; and, secondly, his education and training for his profession have probably been so far neglected, that he has not had the opportunity of dealing practically with the insane. I have always held that no medical man is fully equipped for the practice of his profession unless he has had some months' experience, the more the better, as a medical officer in an asylum. To this lack of experience is no doubt traceable much of the criminal lunacy which is preventable, and which *would be prevented* if certification and if removal to an asylum or to proper care and supervision were not so long delayed. Experience and the resulting capacity for arriving at a proper decision enable the physician more effectively to gauge the mental characteristics of the individual, and also the motives which are most likely to actuate him when deviations from the normal in the direction of insanity thrust themselves prominently into notice.

When the provisions of the Mental Deficiency Bill, now in process of becoming law, come into operation there will be a more ready means of preventing weaklings and mental defectives from qualifying as criminal lunatics by committing murder or other crimes more or less grave. Doctors will then have a less troublesome task in dealing with patients of this class, who are so difficult and impossible at home. The Act will thus have an immense and

* In the Criminal Statistics for the year 1911 it is shown (Table V) that, of 10,646 persons convicted and sentenced, as many as 8,297 were convicted for offences against property, with or without violence, and for forgery and offences against the currency—that is, as many as 77 per cent. were convicted for crimes which had reference to the acquirement of property by larceny and other thievish and fraudulent means; or, in other words, that more than three-fourths of our crime has relation to the means used for earning a livelihood or maintaining a family.

direct beneficial social influence, and will also become a veritable means of effecting a reduction in the number of criminal lunatics. There is, however, undoubtedly a risk of abuse in this matter which will have to be guarded against. That risk is lest unquestionably certifiable lunatics should be shut up in institutions as mere defectives under the operation of the Act. On this account I think it is fortunate for the public that the Commissioners in Lunacy are to be administrators in this somewhat ticklish matter. How they will like it is another question!

I may mention, by the way, that the Board of Lord Chancellor's Visitors are fully cognizant of frequent abuses arising in connexion with a beneficent provision which was made in the Lunacy Act, 1890, Section 116, Subsection 1 (*d*), on behalf of persons who are merely suffering from senility or from such mental infirmity as incapacitates them from looking after their own affairs. Undoubted and certifiable lunatics, often of a troublesome description, are dealt with under this particular subsection of the Act in order to avoid certification. The authorities are thus deprived of the power of dealing with the patient personally, and have to confine themselves to the disbursement of his money. These cases are not under official medical cognizance or supervision, and they are therefore liable to careless management and a retardation of recovery.

Medical Jurisprudence of Insanity.

The broad guiding principles upon which medical opinion has to be based are two in number:

1. *That no lunatic shall be hanged.* This would be an unworthy and repulsive spectacle, repugnant to public feeling—a spectacle to which no Judge of the High Court, however officially dogmatic in rigid application of the "right and wrong" test of insanity, would, as a private gentleman, allow himself to subscribe as a contributing party. In cases where a judge has, on the rigid test or on the failure of the plea on other grounds, to sentence to death a prisoner whom he has some reason to believe to be insane, he has always the opportunity of communicating with the Home Secretary on the subject.

2. *That no mere criminal shall, on the plea of insanity, be allowed to escape the due punishment for his act of murder.* Herein lies the responsibility of the doctor who is giving evidence, expert or otherwise. He is on the horns of a dilemma. If, from lack of experience or want of sufficient careful examination into the mental condition, motives, and circumstances, he fails to trace the insanity which, as a matter of fact, exists, he runs himself against the first principle and contributes to the hanging of a lunatic. If, on the other hand, he declares for insanity from sentiment or on insufficient grounds, or if he fails to see through the prisoner's sham indications of insanity, he runs against the second principle by "standing in" with the criminal impostor and helping him to escape punishment, thereby failing in his duty to the public.

Procedure.

The administration of justice in England in murder cases rests, before and during the trial, with the Treasury, which acts as prosecuters; and after the trial with the Home Office, which has to carry out the sentence of the court, or, if occasion arises, reconsider it, possibly in consultation with the judge.

In the procedure by which a decision is arrived at as to whether a prisoner is or is not a criminal lunatic, there are three stages where the state of his mind may come up for consideration.

1. The jury may be called upon to give their verdict as to his fitness to plead. It is always best, if possible, to let the prisoner stand his trial and plead. This course does away with his after-grievance that he was not allowed to speak on his own behalf. Cases, however, do present themselves where the dementia or the insanity is such as make it futile to place the prisoner in the dock.

2. *The trial itself.* Here the examination of the prisoner before trial by medical men is apt to be handicapped by the fact that the prisoner is not bound to answer truthfully (if he answers at all), apart from any confession he may have made, or in view of his coming plea of not guilty.

3. *The prerogative of mercy* exercised by the Home Secretary on behalf of the King. The Criminal Lunatics Act, 1884, Sec. 2 (1), empowers the holding of a statutory inquiry in the following terms:

> In the case of a prisoner under sentence of death, if it appears to a Secretary of State, either by means of a certificate signed by two members of the Visiting Committee of the prison in which such prisoner is confined, or by any other means that there is reason to believe such prisoner to be insane, the Secretary of State shall appoint two or more legally qualified medical practitioners, and the said medical practitioners shall forthwith examine such prisoner and inquire as to his insanity, and after such examination and inquiry such practitioners shall make a report in writing to the Secretary of State as to the sanity of the prisoner, and they, or the majority of them, may certify in writing that he is insane.

In this regard, the recommendation of the jury, a letter from the judge, or information sent by responsible citizens is duly considered by the Secretary of State.

Medical Examination of the Accused.

I have already referred to the grave responsibility that rests with medical men called in to examine and report, or to give evidence as to the mental condition of a prisoner charged with murder. The range of their examination has to deal with the general mental condition of the prisoner, his mental condition at the time of the murder or alleged murder, the circumstances which led up to the murder, and the circumstances and the mode of the murder itself. Running through the whole area of our inquiry the question of motive or the inciting cause has to be in the forefront; for in some cases strange beliefs and morbid fancies show themselves in the previous life-history of the individual which, although in themselves seemingly remote, *may* afford some clue or explanation as to *why* the murder was committed. After sentence to death, the restrictions which hampered examination before the trial are to some extent removed.

I am anxious to-day to impress upon you not merely the necessity of not being contented with finding mere "indications" of insanity, which may be real, or may be false and assumed for the purpose of deceiving, but also the necessity of leaving nothing out in our scrutiny which would help in getting at the inciting cause, getting at the motive, for the murder. We must continue to ask ourselves, "Why did he do it?" For this is the crux in forming an opinion as to the existence of insanity in criminal, as compared with ordinary, non-criminal cases, it is the *focus* upon which our investigation must be directed and centred. There is, in murder cases, a specific act round which our examination concentrates itself.

Conduct of Medico-Legal Inquiries.

I now propose to deal briefly with some questions and considerations connected with the medico-legal inquiries in murder cases.

Knowledge of Right and Wrong.

This is not a bad rough and ready test for use in a court of law, and the question is one which a medical witness ought to be prepared to answer.

> 1. If he can say the prisoner did not know right from wrong, let him say so.
> 2. If he has an opportunity of saying the prisoner knew right from wrong, but that his power of self-control was in abeyance or lost, let him say so.
> 3. If he believes the prisoner knew right from wrong absolutely, let him say so.

At the trial of James Jefferson, at Leeds, in July, 1908, for murder, the medical witness said, "I think he knew he was doing wrong;" whereupon a juror asked: "If he knew he was doing wrong, but was insane, how then?" Mr. Justice Bingham: "If he knew he was doing wrong it does not matter how insane he was, he is guilty." The jury, after a retirement of an hour and a half, found the prisoner guilty, and he was sentenced to death. The case came before the Court of Criminal Appeal (consisting of Mr. Justice Lawrance, Mr. Justice Ridley and Mr. Justice Darling), and the decision arrived at was as follows (*Times*, July 31st, 1908):

> Mr. Justice Lawrance, in giving judgement, said that there was no doubt that the verdict was unsatisfactory, and in his judgement it ought not to stand. He had read the evidence given by the doctors, and it appeared that there was strong evidence called before the jury, which showed that this man was not in such a state of mind as to make himself responsible

for his act. The verdict being unsatisfactory, he thought they ought to say that the verdict which the jury should have returned was that the man was insane when he committed the act. . . . The verdict would be set aside, and the order would be that the prisoner should be detained during His Majesty's pleasure.

No word in this decision as to "right and wrong" as a test of responsibility. I think it well to mention this case here as showing that in the eye of the law a knowledge of right and wrong is not incompatible with the existence of insanity, carrying with it irresponsibility, in the individual.

Take the case of insane persons—and there are many of them—who commit murder and who at once either go and give themselves up to the police or make their escape, showing that they knew they had done wrong. R. D. murdered his father in Cobham Park many years ago, not from any malicious motive but because the apparent approximation of two stars in the Great Bear was a behest to his deluded mind that he had to do this "to set free the great God Osiris." He escaped at once to France, where he was found wandering and placed in an asylum, whence he was brought back to this country and died in Broadmoor. Again, W. A. N., an insane person, murdered his two children by cutting their throats one morning in Bermondsey. He went straightway to the police-station and told the sergeant on duty what he had done. He was found insane and ordered to be detained during His Majesty's pleasure.

Again, many insane women who commit infanticide know that it is a wrong act; but the judge does not even put his question as to right and wrong to the jury.

Pre-existing Mental Enfeeblement: its Degree and Character.

Mental enfeeblement in some form is a precursor of the insanity which leads up to murder in a large number of cases, and has to be reckoned with in our estimate of the general mental condition of the alleged murderer. Its action is two-fold: on the one hand, it causes failure and disaster in business operations, in industrial occupations, and in the affairs of life generally; and, on the other, it is apt to expand into more serious and more active mental derangement under the pressure of poverty and distress. Over-anxiety, stress, worry, and domestic trouble, especially when combined with some amount of intemperance in drink, form most potent outside factors in the production of criminal insanity.

For our purpose mental enfeeblement may be classed under four heads:

1. *Natural mental defect.* This may be congenital or it may arise from arrested mental development later in life. This is a very large class, and it supplies the "borderland cases" in questions of insanity, and also those cases—those "mental defectives"—for whom the Legislature is at present making provision, as already referred to. Moral obliquity finds a place here.

2. Mental enfeeblement resulting from *idiopathic cerebral lesions*, softening, senility, and the like.

3. Mental enfeeblement resulting from *traumatic cerebral lesions*, from blows and from injuries due to external influences, including sunstroke.

4. Mental enfeeblement associated with neurasthenia, malnutrition, and drink.

In dealing with the various conditions here specified, it must be clearly understood and constantly borne in mind that they do not in themselves either constitute insanity in any form or imply irresponsibility. The individual, in spite of them and of their supposed influence, has to be regarded as sane and responsible and capable of committing acts which are referable to ordinary malicious motives—acts which, in themselves, are of purely criminal import, and therefore punishable. Nevertheless, they are conditions of mind that have to be considered and weighed when we are dealing with homicides whose crime is a matter of life and death, and may or may not be due to insanity.

The Question of Infidelity.

Where the victim is wife, paramour, or sweetheart, the question of infidelity arises in many cases of murder, and it is a question which is by no means always easy of solution; for the belief in the prisoner's mind may be well founded and true in fact, or it may be an absolutely groundless delusion. This is one of the cases in which it is sometimes necessary to have recourse to outside evidence of the police or of neighbours as to domestic relationships, where that has not already been given at the trial. Jealousy, "the green-eyed monster," has much to answer for in these cases.

The circumstances of the case, the personal narrative of the accused, and the opinion we have already arrived at (before the subject of the murder is touched upon) as to the reliability, or otherwise, of his statements, no doubt help us in forming a judgement in a matter where, as frequently happens, a jealous disposition and some indulgence in drink about the time of the murder combine to complicate the situation.

R. G. murdered his child and at the same time threatened to murder his wife, who, he alleged, was unfaithful to him. He was found guilty and sentenced to death. The late Sir Richard Brayn and I examined him at the request of the Home Office, and found that he had delusions, not only about his wife's unfaithfulness, but also that the child whom he murdered was not his. He had other delusions, as well as hallucinations of vision. We reported to the Home Secretary that in our opinion he was insane and irresponsible for his actions at the time he committed the murder, and we certified him to be insane at the time of our statutory inquiry into his mental condition. The death sentence was repealed and the man was sent to Broadmoor.

This case was especially interesting, as the judge who tried him spoke to me afterwards unofficially on the subject, and said he could not understand how we came to report in favour of the insanity of the prisoner, as he had gone closely into all the evidence in the case, and could find nothing to justify him in thinking he was of unsound mind or unaccountable for his actions. (This was before the Act was passed which enables a prisoner and his wife to give evidence.) I pointed out to him that he had all the evidence except that which was most vital, and which my colleague and I had—namely, that of the prisoner himself and that of his wife, upon which we were able to arrive at our decision. Whereupon the judge expressed his agreement with the opinion we had formed and his satisfaction with the ultimate ruling of the Home Office in the case.

Alcoholic Excess.

The medico-legal relations (in murder cases) of (1) delirium tremens, (2) drunkenness to oblivion, and (3) simple drunkenness—three phases of excessive indulgence in alcohol—need only be referred to briefly.

1. *Delirium tremens* is a recognized disease of the brain, in which delusions of a dangerous sort are apt to prevail; and when murder is committed by a person suffering therefrom the jury are not unwilling to record their verdict that the act was that of an insane person.

I. E. was indicted for the murder of his son, aged 3 years, by cutting his throat. After medical evidence of delirium tremens was given, Mr. Justice Charles, in his summing up, said: "Although the mere condition of drunkenness did not excuse the committal of crime, yet drunkenness might bring about a diseased condition of mind which proved an excuse for crime, in so far that such a person was not held responsible in the ordinary way, but was detained during the pleasure of Her Majesty." The jury then found the prisoner guilty, but added that they considered he was of unsound mind when he committed the crime.

In the case of H. H., who, during an attack of delirium tremens, murdered a domestic servant by shooting her, the accused was similarly found insane by the jury—and numerous other cases are recorded.

2. *Drunkenness to oblivion* ("mad drunk" or "blind drunk"), unlike delirium tremens, is not a disease, and cannot be dealt with on that footing. As a condition where some amount of derangement of consciousness and volition leading to crime is brought about by the individual's own act, aggravated drunkenness is not looked upon in courts of law as favouring a verdict of insanity. In murder cases, however, where the death penalty has been recorded, circumstances have occasionally been found such as have justified the Home Secretary in granting a reprieve to penal servitude for life.

3. The part played by *simple drunkenness* with regard to criminal lunacy is a grave one, as it is largely responsible for the fact that many harmless and inoffensive lunatics, or quasi-lunatics, are converted into criminal lunatics. In homicidal cases where this takes place

drink is the last straw in determining that nothing short of murder will, to the lunatic's mind, meet the revengeful demands of the over-heated brain. It would never do to let mere drunkenness weigh, as insanity does, in relieving a murderer of his responsibility for the homicidal act. The case of H. T. in this relation is an interesting one. This man was sentenced to death and ultimately hanged for the murder of his wife, about whose fidelity he had doubts. Dr. Brayn and I held a medical inquiry into the state of his mind after he was sentenced. We found no insanity, but he told us that on the day of the murder he took a half-holiday and primed himself to excess with drink, to give him courage to carry out his intention of killing his wife.

Epilepsy.

Epilepsy has a weird and somewhat anomalous association with criminal lunacy and a real and important significance in homicidal cases. Genuine epilepsy may occur with sane states or with insane states of mind. In either case, in connexion with the fits, homicidal acts may be committed during unconsciousness and with complete obliviousness afterwards. But these acts are not complicated acts, nor, so far as my experience goes, premeditated or murderous in intent; and the motive will be searched for in vain, although in some cases some amount of association of idea with thoughts occurring during the pre-epileptic stage is discoverable.

The well-known Broadmoor case of E. C. is an interesting one. Mrs. C. while dressing her infant went to cut some bread for another child. She had an epileptic seizure, and, instead of cutting the bread, severed her infant's arm at the wrist. She had no consciousness of the act, and she told me at Broadmoor that she had no recollection whatever of what she had done.

Another case, that of H. J., is referred to by Dr. Baker, the Superintendent of Broadmoor, in an instructive analytical paper on epilepsy and crime in the *Journal of Mental Science* (April, 1901). H. J. was the subject of epilepsy after head injury, intensified by habits of intemperance. He went to a slaughterhouse with the object of interviewing a man concerning the killing of a pig. On returning home he beckoned his little girl, who was sitting on the doorstep, into the house, and he had no recollection of anything happening until a few minutes afterwards he discovered the child lying across his knees with her throat cut.

In the case of William G., a man well known to be epileptic, the death sentence was recorded, and Dr. Brayn and I were able to report to the Home Secretary that his act of putting his child on the fire, resulting in death, was committed while he was in an epileptic condition supervening upon alcoholic intoxication, and that at the time he was not conscious of what he was doing. Nor did he afterwards remember anything about having done it. He was reprieved.

Delusions.

Genuine delusions of one sort or another, with or without hallucination, in an insane person charged with murder constitute the most frequent inciting cause of the homicidal act, and they are not difficult to detect in ordinary straightforward cases. The prisoner is only too willing, for the most part, to narrate the circumstances, to explain his grievances, and to justify his conduct if he believes himself to be the victim of conspiracy or persecution.

Speaking generally, they are mostly divisible into two classes: (*a*) delusions in conditions of mental exaltation or mania, and (*b*) delusions in conditions of mental depression or melancholia.

(*a*) Delusions in conditions of mental exaltation and excitement are chiefly exemplified in cases where one man kills another man, the incitement to murder being usually a delusion, or delusions, of persecution, suspicion, or of aggravated personal injury or annoyance in some form.

W. C. M., an American gentleman, of temperate habits and of great intelligence, murdered a complete stranger under somewhat unusual circumstances. He was the subject of very strong and active delusions to the effect that he was one of the many victims of a widespread criminal conspiracy which pervaded all ranks in society. One night, towards the early morning, he imagined he heard a man outside the door of his room—"one of the devils." With a pistol in hand he followed, as he believed, the man downstairs and out at the front door, where he saw, on the opposite side of the street, the man Merritt going to his work at a brewery in Lambeth. Mr. M. went across and deliberately shot him, regarding him as one of the gang of conspirators, and then went and gave himself up to the police. At the trial there was abundant evidence of insanity in the case; and his brother said prisoner had sustained a sunstroke and had been confined in an asylum in America. His delusions, curiously enough, prevailed most actively during the night and scarcely ever showed themselves during the day. The police produced a letter which prisoner had written to them the month before the murder, and in it he said, "My life may be taken any night: I trust your agents are not to be bought over as the American police are." The Lord Chief Justice (Bovill) in his summing up said, "There is evidence here that the mind is unsound, and if the evidence satisfies you that the prisoner at the time he committed the act was not in a state to distinguish right from wrong, and was *not capable of controlling his actions* (the italics are mine) then he would not be responsible for the act he committed and you would find a verdict of not guilty on the ground of insanity." The jury returned a verdict in those terms, and the prisoner was placed in Broadmoor, where his delusions continued very active, and led years afterwards to his mutilating his own person rather than yield to the uncleanly demands which the "conspirators" made upon him.

The following is a case of delusion of another description:

J. H., a labourer, murdered an old woman under the superstitious delusion that she was an old witch who had "looked upon" him and tormented him day and night and injured his health; and he justified his act by quoting texts of Scripture, and especially one in Leviticus where it says, "A man also or woman that hath a familiar spirit, or that is a wizard shall surely be put to death," etc. The farmer who captured him gave evidence that prisoner said there were fifteen or sixteen damned witches in the parish: he had killed one and he would kill the rest. The Governor of the prison stated that prisoner never appeared to think he had acted against the law in killing the woman, and that he seemed to think he had merely done his duty because she was a witch. The judge in his summing up said (and I think rightly) that he doubted very much whether there was in this case much of the impulse spoken to by the medical gentlemen; and that from the way in which the prisoner had spoken of the witches and of his intention he thought it was much more a case of intention. After a few minutes' deliberation the jury returned a verdict of "not guilty on the ground of insanity."

A drinking bout is no doubt a frequent cause of the culminating incitement to murder in these cases of delusion when the pre-existing exaltation reveals no such pronounced indications as would in themselves lead us to anticipate the homicidal act. In other, non-drink, cases there may be no marked behaviour of an excited or noticeable sort; but the delusive idea may be carried out under a quiet, steady fixed determination.

"*Homicidal mania*" and "*homicidal impulse*" are unsatisfactory and for the most part unjustifiable phrases or terms made use of when a prisoner, who has undoubtedly committed the murder, is uncommunicative as to details or says he has no recollection whatever of the circumstances or of the act, giving and leaving the impression that at any rate there was no motive, even if he was guilty. In these cases, with few exceptions I should say, prolonged examination or prolonged observation, where the case is a genuine one, has revealed the existence of delusions or other indications of the insanity of which the murder was the outcome. In cases of this sort it was by no means an unusual experience among inmates of Broadmoor to find that the individual had struggled with himself for weeks or months against committing the act which he ultimately did commit under the overpowering influence of definite and well-marked delusion.

(*b*) Delusions in conditions of mental depression, where, in women for the most part, there is an insanely exaggerated extension of religiousness and foreboding, accompanied by an overpowering sense of personal unworthiness and unfitness to live. In a mother the resulting actively suicidal ideas are apt to become associated with a strong morbid feeling that it is her bounden duty to her child not to leave it behind her to live the horrible life as pictured by her anguished mind; or it may be that she imagines she hears the voice of God telling her that it is her duty. In any case she takes the child's life, and in so doing it often happens that her death-dealing hand is stayed from carrying out the intended suicide.

The great frequency with which these infanticides occur is illustrated by the fact that of 181 female homicides who were detained in Broadmoor during the year 1911, as many as 154 had taken the lives of their own child or children; and it is evident that

a somewhat similar condition of mind is not uncommon in men, as 54 men had murdered their own child or children out of the 303 men so detained for murder.

Murder under these circumstances—that is, where an atmosphere of melancholy and foreboding becomes accentuated into an overpowering and insane sense of dejection and self-recrimination—more often than not occurs in the morning; while the opposite condition, revengeful suspiciousness and insane aggressiveness and excitement, involving captious self-assertion, possibly under the influence of drink (exaltation), is more likely to lead to murder late in the day or after midnight hours.

The occasional *morning* evanescent wave of gloomy dejection, and the occasional ultra-roseate and absurdly sanguine *evening* point of view are phases of self-introspective experience not unfamiliar to our normal selves. If either of these phases were to last indefinitely and persistently, we would in time become unfit for our work, and goodness knows what might happen.

Obliviousness of the Act.

A profession of obliviousness of the act (amnesia, forgetfulness, loss of memory) is often had recourse to as an expedient by prisoners in cases of murder, but it is an indication fraught with the gravest suspicion, and medical men ought to place no reliance upon it as a sole indication that the case is one of epilepsy or insanity. The prisoner usually in time, and when it suits him, is able to give a detailed account of the circumstances. Single and simple automatic acts are often completely forgotten in drink or epilepsy, but I am bound to say that in all my experience I have never been able to satisfy myself in any case of drink or insanity where murder has been committed that the recollection of a series of purposive and exceptional acts extending over a number of hours, and involving preparations for the murder and including all the circumstances of the act itself, has been absolutely and completely obliterated from the memory. Confusion and incompleteness of memory regarding some portion or portions of the circumstances connected with the act may certainly occur, but that is a totally different matter.

B. W., a soldier, was under sentence of death and afterwards hanged at Chelmsford for the brutal murder of the woman he was keeping company with. Dr. Brayn and I held a statutory inquiry by direction of the Home Secretary. At the commencement of our interview the prisoner assumed an aspect of stupidity and of incapability to understand our questions on the most ordinary matter of everyday life, and his replies were disjointed, calculated, and evasive. Later on, however, he gave up this attitude and talked more to the purpose on subjects that had no connexion with the murder itself. He told us about meeting and walking with the deceased on the evening of the murder. As we approached the circumstances leading up to the murder he completely "dried up," and indignantly and persistently denied having murdered her, avowing that he had no recollection whatever of the allegations made against him. We told him that the judge and jury were satisfied of his guilt, and that he had better think it over during the night and tell us about it in the morning. He, however, left us with an offended air, saying his word had never been disbelieved before. In the morning, after we spoke to him of the seriousness of his position, he broke down and told us in detail how he carried out the murder.

H. W., a drink case without insanity but with assumed obliviousness. This was a very bad and complicated murder where, having, against my own convictions, been persuaded by the prisoner that he had no recollection of the murder or the circumstances connected with it, I gave evidence to that effect at the trial, saying that although much under the influence of drink he was not insane. He was found guilty on abundant evidence and sentenced to death. Being anything but satisfied on the obliviousness in the case, I obtained permission from the Home Office to have another interview with the prisoner. I reasoned with him for a long time, and it was not till I caught him tripping that he gave way and told me the whole details of the murder in every particular, working himself up into a state of great excitement.

Feigned Insanity.

Malingering, imposture, and feigned insanity have to be guarded against, as they are sure to be "tried on" in many cases. They require tactful dealing when suspicion arises. As a rule the prisoner overacts the part and gives himself away.

Medical men should not be too ready to see insanity and give the prisoner the benefit of the doubt, merely because they feel that protracted examination may prove useless. The impostor not infrequently excites suspicion by a bad habit of repeating the words of the question put to him in order that he may have time to think what is the best kind of answer to give. Besides this, there are many little things in the manner of the prisoner and his mode of response that contribute to detection.

A. B. was convicted and afterwards hanged for the murder of a woman with whom he had cohabited for years. A plea of insanity was set up, and the superintendent of the asylum and the medical officer of the prison gave evidence that he was insane. He was, however, sentenced to death. Dr. Brayn and I held an inquiry, and found that the indications of paralysis and imbecility were feigned. We reported to the Home Office that he was an impostor. The medical officer of the prison said he certified insanity because the asylum superintendent had done so and because he "hated these hanging jobs."

A Family History of Insanity.

A family history of insanity (often of the flimsiest sort), which is often advanced by well-meaning relatives and doctors, cannot be regarded as being of value in helping us to ascertain the prisoner's condition of mind at the time of the murder or his motive or object in committing it. If we first find the man to be insane, such a family history may come as corroborative and be useful later on in dealing with him.

Alleged Predisposing Causes.

Anomalous predisposing causes are also urged as evidence of mental derangement. Convulsions (fits) when teething, blows on the head and injuries when at school, severe effects of scarlet fever, measles, etc., are seldom any helpful guide to us in medico-legal cases. When a prisoner has advanced to manhood or middle life, has married and taken up positions of responsibility, childhood troubles rarely weigh for much.

Multiple Crimes.

Multiple murders and murder with attempted suicide must each be taken on their merits, different values *qua* insanity being given according to the circumstances of the case and the mental condition of the prisoner, and the motive where found.

Provocation and Premeditation.

Provocation and premeditation are points that have to be considered in any complete statement of the circumstances under which a murder has been committed.

MALINGERING.*

BY

SIR JOHN COLLIE, M.D., J.P.

THE question of feigning or exaggerating illness has of late attracted considerable attention in this country, but it is a mistake to suppose that the condition is of recent origin. Those who have to advise insurance companies know that exaggerated and fraudulent claims are, at any rate, as old as the accident laws. The reason for the prominence the matter has now attained is that many of the approved societies under the National Insurance Act have taken fright and become obsessed with the idea that excessive sickness claims from this cause must inevitably lead to serious financial embarrassment. On the other hand, there are those who emphatically deny any tendency on the part of the working classes to exaggerate or feign disease. It obviously would be unscientific to attempt to form any estimate of what the triennial valuation will disclose based merely upon the results of three or six months' working of the Act; therefore no one knows, or indeed can know, which view is correct until sufficient statistics are available. However, it may be safely assumed, judging from the experience of the Workmen's Compensation and Employers' Liability Acts, that it will be necessary to take special precautions for the prevention of malingering when dealing with thirteen millions of insured people, nearly half of whom, prior to the passing of the National Insurance Act, had not in any way been insured against sickness.

To most medical men the simulation of disease presents a difficult, almost insoluble, puzzle, for in ordinary medical practice such cases seldom occur; but those who have the

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administration of the Insurance Act must ever keep an open eye for the possibilities of fraud or quasi-fraud.

A malingerer has been defined as "one who feigns sickness, or who (deliberately, knowingly, and wilfully) induces or protracts an illness with the object of avoiding duty, claiming money compensation, exciting sympathy, or from any other reason." Now the out-and-out malingerer who fills this definition is as rare as he is interesting, and *his* unmasking should not be very difficult. The process of accumulating data to expose fraudulent cases often resolves itself into a battle of wits between the medical examiner and the so-called patient. Fortunately, in most cases it is a contest between knowledge and ignorance, and in such matters the ignorant are very heavily handicapped. Examinations in these cases, apart from the routine investigation of the various systems, can follow no set rules; the method of meeting the various difficulties as they arise are only learnt by long and sometimes bitter experience; difficulties are met at almost every turn for which academic training gives little preparation. Effective assistance can frequently be obtained by simple means such as the following case illustrates:

A woman was condemned by a house-surgeon to wear for many weeks a back splint for an alleged stiff right knee. I removed the splint, and directed her to sit down and take off her right boot; meanwhile, I eagerly plied her with questions as to what exactly happened at the moment of the accident—whether the company's servants had been becomingly polite, what she said, what they said, and so forth—all of which was no business of mine. It was intensely interesting to her, however. She forgot the present and lived in the past, removing her boot in the usual way as she spoke—that is, she crossed her legs and bent her knee!

Straws show how the wind blows. On two separate occasions, after examining plaintiffs, with the medical assessor before the judge in his private room in the course of a trial, I have given the necessary turn in favour of the defendant by pointing out that whilst the man declared he had a limp, the soles of his shoes were equally worn.

Few as the cases of absolute malingering may be, if they escape detection for any length of time they have a material bearing upon any fund from which they may be drawing. I will venture to quote a case where quite minor injuries resulted in the payment of a large sum of money.

A workman bruised his leg and dislocated his thumb whilst at work, for which he received prompt treatment. His employer's doctor nine months later, and on several subsequent occasions, certified that there were no objective signs of injury to his leg and that he voluntarily kept his thumb stiff. The man continued to receive compensation for seven and a quarter years, at the end of which period I saw him. He complained of stiffness and continuous pain in his leg, and brought with him his son, who he insisted should valet him as if he were helpless. Prolonged and exhaustive examination revealed no reason for incapacity. He made many attempts to frustrate my examination, keeping his leg stiff, and describing the necesssary manipulation as "inhuman." Although he complained of intense and continuous pain on attempting to move his thumb, there was no muscular wasting such as would have occurred had his complaint been genuine. X-ray photographs confirmed my diagnosis that he was a rank impostor.

His employer having learnt that he frequented certain swimming baths had him watched, with the result that he was seen swimming and diving, and dressing and undressing himself.

On my advice the employer stopped payment, the case was taken to court, and the judge, who was assisted by a medical referee, made an award terminating the weekly payments from the date of my examination. From the date of the accident to the time of the decision he had received sick pay amounting to some £290.

I may remark that it was the aggressive and ostentatious way in which this man asserted his complete inability to undress and dress himself that first aroused my suspicions.

I have given much attention to the question as to why it is that so many of the working classes can be accused of not acting fairly by their fellows, in that they either feign sickness or, after a genuine illness, linger on the threshold of work. The vast majority of those who give the impression of shamming, and are classed as malingerers, are people who, although they have to work, are of poor physique, and their standard of health is, at best, far beneath the normal. This is especially so with women. It is interesting to note that in the outcry as to the unexpected demands upon the sickness funds much has been attributed to female workers, of whom four millions are compulsorily insured. Those who thoughtlessly assert that malingering is rampant, and mainly confined to women, have lost sight of the necessity of having ample data before right conclusions can be drawn; and also of the fact that as the same results often proceed from different causes, there is therefore a liability to attribute a result to the wrong cause. Before the passing of the National Insurance Act there were thousands of women, many of them badly underpaid, constantly employed in the hard grind of daily toil, who were wholly unfit, and the passing of the Act was their emancipation, because it will ultimately entail their drawing permanently on the sickness benefit fiund. It should also be borne in mind that low wages conduce to frequent sickness. A large number of women wage-earners do not earn enough to keep them in health. The Board of Trade returns show that 10s. to 15s. a week is about the average in the lace, hosiery, woollen, cotton-winding, and silk-weaving trades. Whether the societies to which these women belong were wise in admitting them does not now concern us, but who will blame these underfed, ailing, dispirited toilers if they claim the sickness benefit to which they have a right under the Act, and for which they have been compelled to make contributions?

It is also no secret that in the competition between approved societies large numbers of weakly males who ought to have been post-office contributors were eagerly sought after and enrolled.

It often happens that, in addition to the payments under the National Insurance Act, a man is in receipt of weekly allowances from one or more clubs, and the total amount of his income when he is on the sick list is actually *more* than when he is working.

An infinitely larger class than the out-and-out malingerer will be found to consist of those who are by no means intentionally dishonest, but who nevertheless remain long on the sick list as a result of an introspection which savours of cowardice, a bad heredity, or a pessimistic temperament. Of these not a few come perilously near to fraud. It is in the proper supervision of this class that millions of pounds can be saved per annum by a strong, resolute, and conscientious stand on the part of medical men. In a large number of cases introspection and subjective sensations are unwittingly fostered, and a condition is brought about which is of psychogenic origin, and does not rest upon the physical disability itself, but upon the *idea* of the disability, which in its turn is dependent upon the personal equation and the personality of those who are associated with the patient. To many the temptation of obtaining week by week money which has not been worked for is irresistible; unearned increment has a fatal fascination for all classes. The idea that they are entitled to have, as they say, "some of their own back" when, as too often happens, the disability from which they are suffering is a comparatively trifling one, will be found to account for a certain proportion of the illicit demands made on sick funds by those whose complaints are begotten not of disease but of covetousness.

The problem frequently presents itself for solution: Is the patient a wilful malingerer, or the victim of the psychical conditions consequent upon an accident or illness?

Psychologists tell us that we conceive only that partial aspect of a thing which the individual regards, for *his* purpose, as its essential aspect. What is considered essential varies, of course, with the point of view of the individual. For instance, a piece of chalk is looked upon by different people according to the use to which it is put: The geologist thinks of it as the cemetery of millions of animalculae; the schoolmaster as a messy but useful aid to imparting knowledge; the chemist, as a carbonate of calcium. In short, the essential quality of a thing is its worth to the individual, and its value to him is its power to serve his private ends.

It must be remembered that sick and injured workmen belong to a class whose education is incomplete, and that they are peculiarly unfit to take a detached view of themselves, especially when ill. Too often the essential aspect of their case is the value unconsciously put upon their abnormal sensations in so far as they influence the continuance of sick pay.

If an introspective, self-centred workman is unfortunate

enough to find himself entitled, when sick, to the material advantages before mentioned, he is much to be pitied; for he is subject to temptation that many, even in a class whose antecedents and traditions are not his, succumb to. It is impossible for him to think impartially.

Many working men of fair education, who in ordinary matters can reason quite logically, and whose mental equilibrium is properly balanced, seem to be congenitally incapable of appreciating ordinary moral obligations when it rests with them to decide whether they shall or shall not return to work. Much would be gained if the working classes could be brought to appreciate that self-respect, self-control, and a return to work when able are of more service and more lasting value than a continuance of doles from a State-aided fund.

Some are pseudo-neurasthenics for medico-legal purposes; others are hysterics with not a little guile. Many are professional valetudinarians, and how far they differ from real malingerers is an ethical point of great subtlety. As a rule, they have a small mental banking account, little sense of responsibility, very little idea of the proportion of things, and are quite ignorant of the fact that the only true happiness lies in work.

This class is likely to be a diminishing one, for time works wonders in teaching even ignorant people to view things in their proper perspective.

Another class who may well be dealt with in this category are those nervous people who are generally given to self-examination, and unconsciously foster subjective sensations which their stronger and better-balanced neighbours would ignore. The idea of an illness or an injury obsesses them. Their pains are real, but often only psychic. Such people are victimized by their unstable nervous systems, and too often they make no stand against introspection.

We know that cerebral tissue holds the master key of all the functions. Who would deny that mental anxiety and worry tend to leanness?

The impressions which are written on the brain cells by some physical or chemical process, of the exact nature of which we are ignorant, are stored by the million in the cortical tissue of the brain. Our ideas and impressions come to us from without. Intuition, I believe, plays but a small part in our mental processes, and outside influences and associations determine what we are and what we shall be. Normally when we reproduce impressions they are by no means as vivid as they were originally, but some brains can produce an impression so as to almost visualize it. This has an important bearing upon the mental attitude in the class of case I now propose to consider. Our mental processes are such a conglomeration of subconscious operations and conscious thinking, that it is difficult to understand exactly what foreruns conduct, otherwise it would not be difficult to understand the psychology of the fraudulent mind. At any rate we are fully cognizant that groups of thought run along the line of least resistance, and that every repetition makes the trodden path more passable. That these become to some extent automatic, and are reproduced with but a trifling stimulus, is well illustrated by the story told of the veteran who, upon a wag suddenly shouting in a stentorian voice, "Attention," was promptly brought to a standstill with his hands in the orthodox position, forgetful of the fact that he had been carrying with both hands his dinner rations which had just been served out to him.

All our minds are to a large extent suggestible, and in many cases the best chance of restoration to a life of usefulness is to obtain a readjustment of the master sentiment, and thus redirect the mind's activity.

Whether we slavishly follow suggestions made, or resist them, depends very largely upon whether our volition is strong or weak. That we are all largely dependent upon suggestion for our conduct will, I think, be admitted.

In too many cases a desire to live a life of idleness induces men of the working classes to conjure up memory pictures so persistently that the repetition becomes a habit. People of this class have little innate power of inductive reasoning, and by the mere process of repeated thought unconsciously educate themselves. Sympathy feeds the flame, and contemplated legal procedure engraves deeper and deeper on the brain cells what *should* be the phantom memory picture of an accident, the real physical disabilities of which have long since disappeared.

Too often the pains and aches, the loss of sensibility, and the nocturnal neuralgias are but the echoes of a former injury; they have no pathological entity, and are but functional in nature.

It is a mistake to suppose that the inhibition of the higher controlling centres, the loss of self-control, and the habit of visualizing memory pictures of past painful sensations is found exclusively in the highly strung and delicately nurtured. My experience is that the stolid, respectable working man, when taken out of his normal somewhat humdrum existence and placed in a suitable environment, is quite as likely to react to his surroundings and, as a result, ultimately succumb to the temptations of the pettifogging lawyer. In the event of an accident to such a man, if he receives for several weeks in a large public institution the kindly ministrations of a skilled doctor and trained nursing staff, and finds himself the object of much sympathy and many anxious inquiries by genuinely distressed relatives, he is in an exaggerated state of impressionability, and therefore becomes an easy prey to the suggestion of the rascally solicitor's touts, who so frequently, by various devices, obtain an entrance to the hospitals.

The receptive capacity of many people depends upon the quality of the dogmatic assertion of those who are endeavouring to make an impression on them. The broken-down members of the legal profession may be trusted in their capacity of sham legal advisers so to dogmatize that they insidiously teach the commercial value of an accident and of the supposed benefit accruing from the unearned increment. Fortunately, psychotherapeutics is now taking a prominent position in scientific medicine, and the susceptibility to external impressions to which I have just referred is taken advantage of in the modern method of treatment which is adopted for the cure of such cases. This is the golden thread which runs through the illuminating argument of Dubois's work on psychic treatment of nervous diseases. The mental effect of suggestion as a curative agent, combined, as it now is, with the detachment of the patient from the sympathetic environment of injudicious friends, and the scientific study of the mental processes of his case, is the method now adopted by all scientific physicians in Europe, and can be seen in daily practice in all our hospitals where functional nerve disease is treated.

The masterly way in which patients are seductively led from their morbid mentality and made to view themselves and their surroundings in a proper perspective has always called forth my admiration.

The treatment is necessarily institutional; it consists for the most part in complete isolation from relatives, absolute rest in bed, abundance of good nutritious food, massage, electric baths, and bright and tactful nursing. The curative effect is marvellous. As a rule, severe cases take several months, but I have had many cases where a comparatively short residence in the hospital has been successful. The result in the majority of cases can be confidently counted on.

Occasionally—rarely indeed—a sudden cure is effected in this class of case, but the fact that sudden cures *do* occur goes a long way to prove that the pathology is of a psychic and not a physical character.

To a layman a paralysed limb implies organic disease, and it is with the greatest difficulty that one can convince the non-medical mind that functional disease connotes no destruction of nervous tissue, but is merely a local manifestation of a functional inactivity of the brain cortex.

The following story illustrates my point:

Some years ago a lad of about 15 was admitted to one of the large London hospitals suffering from contraction of his hamstrings, which he had had for two years. He sat in bed all day, and slept all night with his knees drawn up, and was apparently unable to straighten them. On several occasions he was given an anaesthetic, and the joints at once relaxed, but immediately contracted again on his recovering consciousness. At 4 o'clock one morning the house-surgeon was urgently summoned to see the patient who occupied the bed next to the boy's. He had been seized by an acute attack of mania, and was wildly gesticulating with a knife. Several nurses were attempting to restrain him, and others were engaged in securing the knife. Another patient was in an epileptic fit from sheer fright, and the boy with the useless knee-joints had suddenly jumped out of bed and run downstairs! The interesting point is that the boy was made to live up to it, and was permanently cured.

The fright, the abrupt introduction into a totally new environment, the horror of the situation, suddenly brought into activity the set of cells whose duty it was to originate or inhibit nerve activity, but whose latent potentialities could not be called into action without a powerful stimulus.

We have seen that in addition to the malingerer who can properly be so designated there are several classes which are either on the border-line or, but for careful discrimination, would be so placed. The general practitioner will now find himself frequently confronted with the complex problem of classifying such cases.

When a case is confidently diagnosed as malingering the treatment is simple, it cannot be too drastic. It may be that in the fullness of time the underfed and overworked class will disappear; until that happy day arrives the medical man will still have many difficulties in dealing with this problem. Those who are on the borderland of fraud require an appreciation of their position, and a possible indication that in the velvet glove there is an iron hand. Far more difficult is it to deal with the introspective, imaginative, and pessimistic class, but the exercise of that moral stimulus which medical men possess can work wonders.

It is a mistake to think that all malingering is the outcome of deliberate wickedness. Because a man does not return to work as soon as one thinks he ought, it is harsh to assume that he is a shammer and should be branded as a wilful malingerer. Such a view is not only unjust, but demonstrates a poor knowledge of human nature. Great allowance has to be made for the personal equation. Moral responsibility, even amongst the highly educated, is a variable quantity; indeed, it almost varies as much with different individuals as do the features. We cannot always fully appreciate the mental processes taking place in each individual mind, and so long as unregenerate human nature is being dealt with, so long are we bound to weigh all the circumstances of each case, if we wish to be fair. The mental attitude of workmen with regard to recovery after sickness is a very complicated one, and it is only by studying and fully understanding it that one can successfully deal with such cases.

THE SCIENCE COMMITTEE
OF THE
British Medical Association.

REPORT ON URINARY ANTISEPTICS.*

BY
ANSON JORDAN, M.D., F.R.C.S.

INTRODUCTION.

URINARY antiseptics are drugs given by the mouth with a view to disinfecting the urine and the urinary tract. They form an important class of drugs, and one to which a new and most valuable group (urotropin and its derivatives) has been added within recent years. In the case of these drugs we are not concerned with obscure actions upon diseased tissues or a disordered metabolism, but with the simple fact of the production of antiseptic substances in the urine. Consequently it is obvious that a great deal of valuable information as to their mode of action and relative efficiency may be obtained by purely experimental laboratory work.

By growing bacteria in the urine of a person taking the different drugs they may be standardized and compared in the same way as any other antiseptics, while by varying the acidity and alkalinity of the urine information as to the effect of this most important factor upon the action of the drugs may be obtained, and it was upon these lines that the work to be described was undertaken.

One method of estimating the antiseptic power of the urine after taking these drugs would be to add it to cultures of the organisms, but another, which is far preferable since it closely imitates the actual conditions, is to grow the organisms in the urine itself, comparing their behaviour in urine after taking the drugs to that in normal urine. It was this latter method which I adopted. It necessitated a preliminary investigation upon the growth of the bacteria used in normal urine, and the effect of acidity and alkalinity upon that growth and the results of this will be first recounted.

The organisms I selected for the experiments were the *B. coli* and the *Staphylococcus pyogenes aureus*. They were grown in the urine in pure culture, and were chosen as representing two common types of organism present in urinary infections. It is, unfortunately, impossible to work with either the tubercle bacillus or the gonococcus owing to the uncertainty of cultivating them.

In addition, in each case I investigated the "putrefaction" of the urine when simply incubated in unsterilized vessels—since this "putrefaction"—the result of infection with mixed non-pathogenic organisms of all kinds—is the condition which is present usually in the common cases of cystitis due to infection of residual urine in patients leading a catheter life, and is probably more practically important in this connexion than the cases of "pure" infections of the urine.

The drugs I have investigated are as follows:

1. Hexamethylenetetramine and its derivatives (urotropin, helmitol, etc.).
2. Sandalwood oil.
3. Salicylic and benzoic acids.
4. Boric acid.
5. Uva ursi and arbutin.

METHODS.

I made use of my own urine for the experiments. It was tested before and after the work, and found to be normal to the ordinary clinical tests—that is, as to reaction, specific gravity, and absence of albumin, sugar, and deposits. The diet, exercise, and mode of life were kept as far as possible constant at the time, so that the results are strictly comparable. The complete twenty-four hours' specimen was collected from morning to morning, and samples of that of the previous twenty-four hours used in each day's work. In the determination of acidity it was found convenient to take as an arbitrary standard a "degree of acidity," which may be defined as the amount of acid in 10 c.cm. of a urine of specific gravity 1020, which will exactly neutralize 1 c.cm. of decinormal soda, using phenolphthalein as the indicator. The urine was diluted ten times with distilled water to make the colour less obvious. The first definite change of tint was taken as the end point. The degree of acidity is then found by taking the amount in cubic centimetres of decinormal soda required for 10 c.cm. of the given urine, and dividing it by the number, beyond 1,000, in the specific gravity of the specimen, and multiplying by 20. Thus urines of different specific gravities are reduced to a common level. For example, suppose a urine of specific gravity 1015 required 2.8 c.cm. of decinormal soda, then the acidity is $2.8 \times \frac{20}{15}$. By this means, as was pointed out by Joulie, the acidity is given in terms of the total solids, and not of the bulk of fluid.

I am of course aware that this direct titration of alkali does not give the true acidity of such a mixture of acid salts as the urine, nor the amount of any one acid constituent, but it is the only simple and accurate method of determining the urinary acidity, and it gives reliable comparative results. In alkaline urine the degree of alkalinity was found by adding excess standard acid and titrating as above.

The acidity and alkalinity was varied by taking acid sodium phosphate or potassium citrate respectively by the mouth. In certain experiments with sandalwood oil and with salicylic acid the acidity was increased or diminished by adding directly to the urine known amounts of NaH_2PO_4 or Na_2HCO_3. By this method specimens of different acidities can be obtained more readily than by the more laborious method of taking each drug by the mouth and sterilizing each specimen of urine; and, moreover, it was found experimentally that this method was satisfactory—that is, the same results were obtained as if the drug had been taken by the mouth.

The various drugs were taken by the mouth for periods of three to five days, and specimens of urine were not tested until the drug had been taken for at least twenty-four hours. In those experiments dealing with putrefaction the urine was incubated in chemically clean but

*A portion of the work here described was done under a grant from the British Medical Association.

unsterilized tubes at body temperature, and thus allowed to putrefy. In experiments with other organisms in pure culture, it was necessary to obtain sterile urine and to infect it with the organism in question. Boiling might alter the composition of the urine, and so is inadmissible; and it is impossible to obtain sterile urine with any degree of certainty by the method of cleansing the meatus, etc., and passing into sterile vessels, so it was sterilized by passing through a Pasteur-Chamberland filter fitted with an arrangement for collecting large quantities.

THE EFFECT OF VARIATIONS IN THE ACIDITY ALONE.

A number of experiments were made in which the different organisms were grown in urines of varying acidity and alkalinity. Measured by the standard already given, it was found that the average acidity of the twenty-four hours' specimens of urine over a period of five weeks was 3.9, the extreme variations being between 3 and 5; the average of the morning specimens being 4.3 and the extreme variations from 3 to 5.5. By taking reasonable doses of acid sodium phosphate the acidity was raised to 8.9, while with potassium citrate the urine was readily made alkaline to the extent of 2.5 degrees. The results are shown in detail graphically in the accompanying curve (Fig. 1). The results correspond closely to those of Hutchison, and subsequent investigations in a large

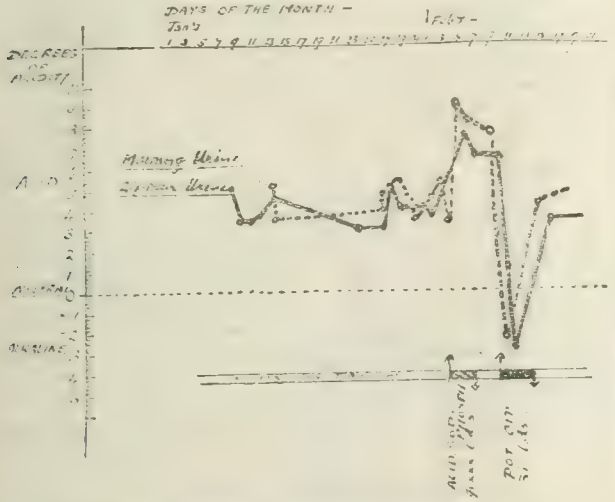


Fig. 1.—The variations in the normal urinary acidity and the effect of drugs in altering it.

number of different individuals show that these are about the average figures, and the variation is not large.

When a urine of average acidity is allowed to putrefy in the manner described above, it becomes alkaline in twenty-four hours, and is giving off free ammonia in two to three days. Urine which is alkaline when passed putrefies rapidly, while the putrefaction of urine of high acidity is considerably delayed.

A number of experiments were made with a view to determining the effect of the degree of acidity upon putrefaction.

EXPERIMENT 1.—*Specimens of Urine Incubated at Body Temperature.*

(*a*) Twenty-four hours' urine, January 14th to 15th. Specific gravity 1016; 2.8 c.cm. of decinormal soda required for 10 c.cm.; acidity 3.5.

Result.—Alkaline in less than twenty-four hours; ammoniacal in thirty-six hours.

(*b*) Twenty-four hours' specimen, February 11th to 12th. Acidity – 2.5 (alkaline).

Result.—Ammoniacal in twenty-four hours.

(*c*) Morning specimen, February 3rd to 4th. Acidity 8.9. Alkaline in two days and ammoniacal in three.

(*d*) Specimen to which acid sodium phosphate had been added, artificially raising the acidity to 20.

Result.—Alkaline in four days and ammoniacal in five days.

To stop putrefaction altogether the acidity must be raised to 80 or 90—that is, seven or eight times as high as it is possible for it to be raised by giving drugs by the mouth.

In the experiments with *Staphylococcus pyogenes aureus* tubes of filtered urine were taken, shown to be sterile by incubating for twenty-four hours without change, and sown with staphylococcus from a young agar culture. The tubes were then incubated at body temperature. In this way the staphylococcus is found to grow very readily in urine, and is seen as a deposit of minute whitish granules, which tend to adhere to the sides of the tube. It breaks up urea, giving rise to ammoniacal fermentation, but the characteristic foul smell of advanced putrefaction is generally absent. Its growth is favoured by alkalinity, and is delayed by acidity in the same manner as is putrefaction. The time of the first appearance of free ammonia, as in the case of putrefaction, was taken as the gauge of the rate of growth, and similar experiments in the putrefactive ones were performed. The results are illustrated in Fig. 2. The only differences of importance are that the staphylococcus is a little more active and the experiments more constant than those with the mixed organisms of putrefaction. Now and again strains of *Staphylococcus aureus* will be encountered which, though quite vigorous on culture media, fail to grow actively in urine, and take double or treble the above time to ferment urea.

The *Bacillus coli* was grown in sterile urine in the same way as staphylococci. It grows very readily, and appears as a fine cloudy deposit which renders the urine uniformly

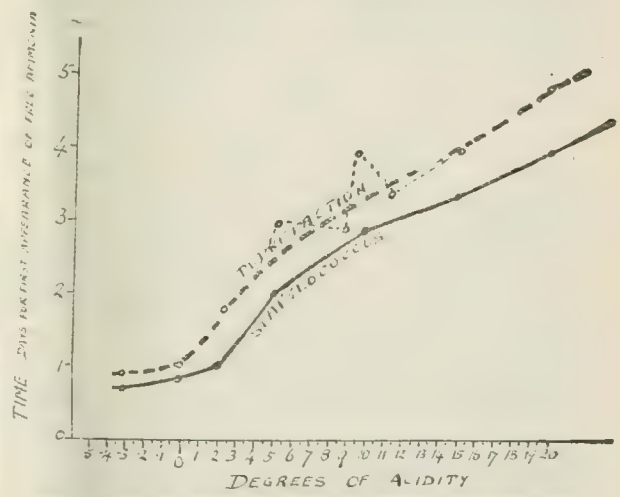


Fig. 2.—The effect of variations in the acidity upon the rate of alkaline fermentation.

turbid. On shaking or stirring, peculiar glistening swirls are seen.

The *B. coli* is sometimes seen in urine joined end to end, and forming a long spirillum-like structure, which in a hanging drop worms its way among the normal motile bacilli. Sown back to agar the bacillus assumed its normal form, and these curious forms appear to occur more frequently in old growths in urine. In urine made artificially many times more acid or more alkaline than occurs in the body, the *B. coli* will grow; and, despite what is said to the contrary, no marked differences are observed in its rate of growth, whether the urine be acid or alkaline. It grows more readily in acid urine, but the inhibitory effect of alkaline urines is quite inconsiderable.

The *B. coli* does not cause alkaline fermentation, and in consequence it is impossible to obtain any such simple indication of its rate of growth as with the other organisms. I therefore made the simple observations that either (1) the organisms grew readily; (2) grew with difficulty, or (3) grew not at all.

THE EFFECT OF DRUGS.

1. HEXAMETHYLENETETRAMINE AND ITS DERIVATIVES.

Urotropin.

Hexamethylenetetramine, commonly known by the trade name of urotropin, was discovered by Butlerow in 1860 as a chemical substance, and introduced as a drug in 1894 by Nicolaier. It was first suggested as a solvent for uric acid in the same way as was piperazine. The use of both these drugs as solvents of uric acid in the body is now discredited, but the action of urotropin as a urinary antiseptic is

established. The fact that urotropin is synthesized from formaldehyde, and readily yields that substance on boiling with acid, suggested that its action was due to the liberation of formaldehyde in the urine. Nicolaier, in his early papers on the subject, showed that the disinfecting power of urotropin in the urine varied a good deal with temperature and other conditions, and he expressed the view that the action of the drug was due to the formation of formaldehyde. Caspar demonstrated formaldehyde in the urine of certain patients taking urotropin. Citron considered that the formaldehyde was present as a loose soda compound. Cotyl and Salus came to the conclusion that the antiseptic action was due to urotropin itself, and not to formaldehyde. Cammidge failed to find formaldehyde in the urine, and concluded that urotropin does not act by its formation; and recently L'Esperance has made the surprising suggestion that formaldehyde occurs after taking urotropin in the urine of some individuals, but not others.

Experiments with Urotropin.

1. Bacteriological experiments as to the antiseptic power of the drug. Samples of twenty-four hours' specimens of urine, obtained as follows, were used:

A. Urotropin, 10 gr. t.d.s. taken. Acidity + 1.5.
B. Urotropin, 10 gr. with acid sodium phosphate, 30 gr. t.d.s. Acidity + 7.0.
C. Urotropin, 10 gr. with potassium citrate, 60 gr. t.d.s. Acidity − 1.5 (alkaline).

From these three specimens some samples were allowed to putrefy, while others were sterilized by the filter and sown with the organisms in pure culture, as in the previous experiments on acidity.

Results.

(In all cases the urine was incubated at body temperature.)

Urine of Acidity	Putrefies in	Staphylococcus renders Ammoniacal in	*B. Coli.*
C. Acid − 1.5 (alkaline)	2 days	3 days	Grows freely.
A. Acid + 1.5	4 days	4 days	Grows not freely.
Acid + 5.0	12 days	10 days	No growth in 14 days.
*B. Acid + 7.0			

* No change after fourteen days' incubation in any case.

In further experiments with urines of intermediate degrees of acidity the acidity was varied by adding acid sodium phosphate or sodium bicarbonate directly in the manner already described. In all cases the same dose of urotropin was taken by the mouth. The results are shown with those tabulated in the subjoined curve (Fig. 3).

These experiments demonstrate that the antiseptic power of urotropin in alkaline or neutral urine is almost *nil*, that this power rises rapidly as the acidity increases, and when the latter reaches about 4 (that is, slightly above the normal), it becomes absolute and the urine remains indefinitely sterile. Furthermore, no differences of any importance were here observed in the cases of the different organisms; all were affected in much the same way. These experiments can only be explained by the assumption that in the urines of higher acidity there is present an antiseptic of considerable power which does not exist in the urines which are alkaline or of low acidity.

The degree of antiseptic power of these acid urines was to some extent ascertained as follows: It was found that urotropin urine of acidity 7 (Specimen B) was added in varying proportions to normal urine of acidity 3.9; one part of this urotropin urine with nine parts of the normal urine was sterile when incubated. Now in these experiments 30 grains of urotropin was taken in the twenty-four hours, and about 50 oz. of urine was secreted during that time. Urotropin is shown by the bromine water test to appear in the urine about twenty minutes after its administration, and to persist for about twenty-four hours after this has ceased. Not all, but probably the greater part, of the 30 grains is therefore contained in the 50 oz. of urine, so that the strength of the substance secreted in the urine will be about 1 in 1,000 or less, and this further diluted to the extent of 1 in 10 is, as we have seen, sufficient to prevent putrefaction. I found that if carbolic acid be added to urine to stop putrefaction, about 1 in 800 is required for the purpose, so that the antiseptic substance in acid urotropin urine must be at least ten times as powerful as carbolic acid. Moreover, Mosso and Palcotti have shown that if formaldehyde be added directly to urine it stops putrefaction when of a strength of 1 in 10,000, and has a definite antiseptic effect when present 1 in 50,000, so that it is obvious that the substance present in acid urotropin urine corresponds closely in antiseptic power with formaldehyde and with no other known antiseptic which could be present.

It remains to demonstrate the presence of formaldehyde in urotropin urine, and if possible to determine the conditions of its formation. It is upon a failure to do this that the workers, who have come to the conclusion that urotropin does not act by the formation of formaldehyde, have based their views. Cammidge showed that 5 per cent. of urotropin in neutral solution was required to exert the same antiseptic power as 0.08 per cent. of formaldehyde.

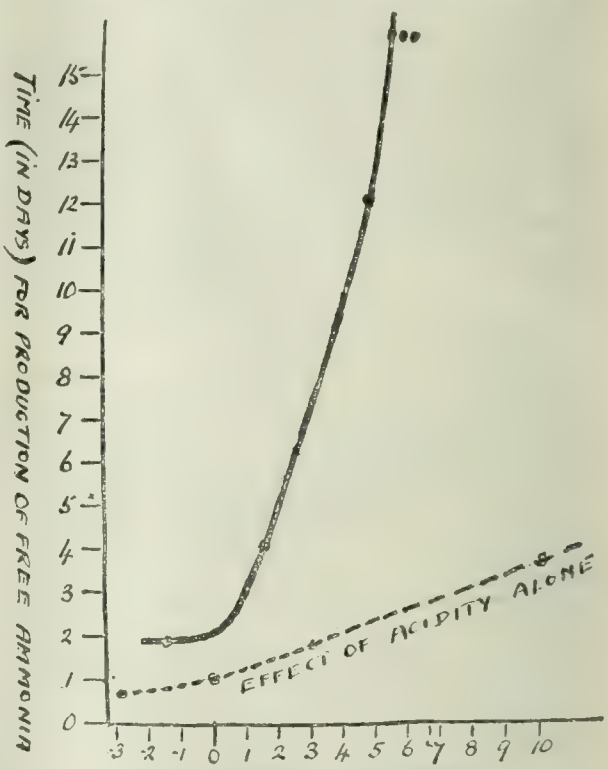


Fig. 3.—To show the effect of acidity upon urotropin. (Against putrefaction.)

It is obvious which of these figures corresponds most nearly to the maximum possible strength of the substance present in a urotropin urine, with antiseptic power, yet Cammidge concluded from a failure to detect it chemically that no formaldehyde was present. He used as tests for formaldehyde the reduction of Fehling's solution, the resorcin test, and Schiff's rosanilin reaction. I repeated some of his experiments with results corresponding to his. He does not appear to have realized in how small an amount the formaldehyde would be, if present, for he mentions the fact that urotropin urine never smells of formaldehyde as evidence against its presence.

A solution of 1 in 10,000, which would exert quite a powerful antiseptic action, as we have seen, would, of course, have not the slightest smell. Moreover, none of Cammidge's tests, if tried upon a 1 in 10,000 solution of formaldehyde, is positive. There is, however, an extremely delicate test which will readily detect 1 in 200,000 of formaldehyde or even less. This is the phloroglucin test. A 1 per cent. solution of phloroglucin with 25 per cent. of alcohol is made with distilled water, and a little strong caustic soda solution added. A few drops of this

gives a bright cherry-red colour with solutions of formaldehyde. In testing for small amounts the solution should be added slowly, and the colour appears in a few seconds and fades after a time (probably by reason of the combination of the formaldehyde and the soda). The test solution must be fresh. With this test I have never failed to detect formaldehyde in acid urotropin urine. A distinct red colour is produced on adding the test fluid directly to the urine which is not produced in normal urine or in alkaline urine containing urotropin. The demonstration may be made more obvious by distilling the urine *in vacuo* at body temperature and testing the distillate, when a bright cherry-red colour is produced. Boiling is of course inadmissible, since formaldehyde might then be produced by the heat.

Experiments to elucidate the conditions under which formaldehyde is formed in urotropin urine:

Broth Culture Experiments with Urotropin.

Broth cultures to which drugs had been added as described were infected with the staphylococcus and incubated for twenty-four hours.

Drugs Added to Culture.	*Result.*
(1) Urotropin 1 in 1,000 with trace of NaH_2PO_4	No growth.
(2) Urotropin 1 in 300 with trace of NaH_2PO_4..	No growth.
(3) Urotropin 1 in 100 alone	Grew slightly.
(4) Urotropin 1 in 20 alone	No growth.
(5) Urotropin 1 in 20 with trace of $NaHCO_3$ ...	Grew slightly.

These experiments demonstrate that outside the body the addition of a trace of an acid salt to urotropin will enormously increase its antiseptic power. They also show that in natural solution a strength of 1 in 20 will inhibit growth, but that this property is destroyed by the addition of alkali; an explanation of this fact is given later.

Chemical Experiments.

By means of the phloroglucin reaction not only can very small amounts of formaldehyde be detected, but, in addition, from the depth of colour a rough indication of the strength of the solution can be obtained. For this purpose the test is applied and the colour matched by adding the same amount of phloroglucin solution under identical conditions to solutions of formaldehyde of different known strengths. When the colour is identical the strength of the formaldehyde may be assumed to be nearly so. In this way a rough quantitative estimate is obtained.

EXPERIMENTS.

A solution of urotropin in distilled water of strength 1 in 1,000, that is, about the strength in which it occurs in urine, was made up, and samples of it were incubated at body temperature for twenty-four hours.

(*a*) In neutral solution it was found that the slightest trace of formaldehyde was liberated, probably about 1 in 200,000.

(*b*) In solution with a small amount of acid sodium phosphate, or a trace of a mineral acid, a strong reaction was given, the colour indicating a strength of 1 in 10,000.

(*c*) In solution with a small amount of sodium bicarbonate or other alkali no reaction is given, even after prolonged incubation. This, of course, explains the differences in the behaviour of tubes 4 and 5 in the last described broth-culture experiments.

(*d*) Lastly, if a solution is acidified, incubated, and gives the reaction indicating about 1 in 10,000 formaldehyde, and to it is then added sufficient sodium bicarbonate to make it alkaline, together with a slight trace of ammonia, after twenty-four hours' incubation it fails to show the least trace of formaldehyde; all the urotropin has been reconstituted.

It will be seen that these chemical experiments are in every respect consistent with those in which the actual effects of urotropin as a urinary antiseptic were investigated, provided that it be accepted that its powers are due to formaldehyde. Urotropin in solution is a comparatively unstable substance. In acid solution it tends to disintegrate into formaldehyde and ammonium compounds. In alkaline solution the reaction tends the other way. Various factors—the dilution, the time allowed and, above all, the temperature—will affect these reactions, which in extreme circumstances may be made to take place the reverse way, but, from a pharmacological point of view, one is only concerned with these factors as they occur in the body when urotropin is being given as a drug—namely, with a dilution of 1 in 1,000 or less, and with effects taking place during a number of hours at a temperature of about 37° C. If these conditions are observed, it is found that urotropin in neutral solution disintegrates, yielding formaldehyde to very small extent—namely, about 0.05 per cent. to 0.1 per cent. In alkaline solution no dissociation occurs. In acid solutions the percentage of urotropin which breaks up increases considerably, in a degree related to the acidity, so that with an acidity corresponding to that of acid urine about 10 per cent. is split up into formaldehyde.

It has been shown that these processes occur in urine when urotropin has been taken; hexamethylenetetramine itself is not an antiseptic, and the antiseptic power of the drug runs parallel with, and can only be explained by, the amount of formaldehyde present. So that the object in giving urotropin as a urinary antiseptic is to exhibit formaldehyde in the urine, and to keep this in view constitutes, I believe, the key to the correct use of the drug.

Helmitol, Hetraline, Cystopurin, etc.

The success of urotropin as a drug was naturally followed by attempts to improve upon it. Of these the most notable is the introduction of helmitol, which is hexamethylenetetramine-anhydro-methylene-citrate. Unlike the original substance, this compound yields formaldehyde as readily under the influence of alkalis as of acids—in the test tube—and it might be expected, and indeed is claimed, that it will act as well in alkaline as in acid urine. There is evidence that the hexamethylenetetramine element in this drug when taken by the mouth acts as does urotropin. There is some experimental evidence which would point to the other element yielding formaldehyde in the blood. But there is no direct evidence that helmitol yields formaldehyde in alkaline urine, and indeed it is doubtful whether formaldehyde could exist for long in alkaline urine at all.

Experiments on the lines of those above described which I have made with helmitol showed it to be as inert as is urotropin in alkaline urine, no formaldehyde being detected after taking it unless the urine were acid. So that I consider there is no pharmacological evidence of any superiority in this drug as a urinary antiseptic.

Other derivatives which have been produced are hetraline, which is hexamethylenetetramine-dioxybenzene; citramin, which is a mixture of urotropin and helmitol; and recently cystopurin, which is a mixture of hexamethylenetetramine and sodium acetate, the latter being added as a "diuretic."

I know of no pharmacological evidence as to any differences in action of the first substance from the original urotropin, while from what has been said as to the necessity of acidity of urine, it may be safely stated that the addition of sodium acetate in cystopurin can only be detrimental, although the dose is so small that the effect is inappreciable. In conclusion, one can only say that as urinary antiseptics there is no real evidence of superiority in any of these derivitives over the original substance.

Hexamethylenetetramine in Cerebro-Spinal Fluid and Bile.

The fact that this substance is excreted in other secretions besides urine has often been demonstrated. It has been found in appreciable quantities in cerebro-spinal fluid, bile, and saliva, and it is likely that so readily soluble a substance permeates the tissue fluids generally.

This naturally suggested its use as a disinfectant of these fluids, and it has been used considerably in meningitis, as a prophylactic against meningeal infection before operation, in compound fractures of the skull, etc., and to a less extent in cholecystitis. It has also been given in pericarditis, synovitis, etc. There is a certain amount of clinical evidence as to its value in cerebro-spinal fluid and bile.

From what has been said above as to the action of this substance, it will be apparent that since all these fluids are alkaline one would not expect to get any appreciable antiseptic action. None the less, the faintly alkaline and ammonia-free cerebro-spinal fluid is very different to alkaline urine, and if any formaldehyde were present in it it would continue to exist and exert its action. So that these drugs are certainly worth further trial in this connexion, and, owing to its properties, "helmitol" would appear likely to be the most efficient for these purposes.

2. Sandalwood Oil.

Sandalwood oil has largely superseded copaiba and cubebs, and is generally reputed to be the most efficient of the essential oils. It contains two substances allied to the sequiterpenes—santalol and santalal. In the last few years these substances, or combinations of them, have been put upon the market under the names of gonosan, santyl, etc. Santyl, which is santalol-salicylate, is highly praised from a clinical standpoint, and in consequence some experiments were done with it to compare its efficiency with that of the crude oil.

Sandalwood oil, like most other essential oils, is excreted in the urine partly unchanged and partly as a compound of glycuronic acid. Its reputation as a urinary antiseptic is not great, though it is acknowledged to be of value in the treatment of gonorrhœa. It would seem that here it must act as an antiseptic, though some writers regard its action rather as an "astringent" to the mucous membrane, because in cases of gonorrhœa which are benefited by sandalwood oil, other and more powerful antiseptics are said to be of little avail. This astringent speculation is nonsense; none of the essential oils exhibit astringent properties. Urotropin has not been given a full trial; Leedham-Green found it useful in certain stages of the complaint.

Experiments with Sandalwood Oil.

The sandalwood oil was taken in gelatine capsules in doses of 20 minims three times a day, and specimens of the resulting urine were used. The acidity of the specimens was varied by the method of direct addition (v. s.):

1. Putrefaction:

Acidity.	*Time for First Appearance of Free Ammonia.*
− 2 (alkaline)	1 day.
+ 3.5	4 days.
+ 10	7 days.

Some cloudiness in 24 hours in all these tubes.

2. Growth of *B. coli* in sterilized sandalwood-oil urine:

Acidity.	*Result.*
− 2 (alkaline)	Growing freely in 24 hours.
+ 3.5	,, ,, ,,
+ 10	,, ,, ,,
+ 15	,, ,, 48 hours.

3. Growth of staphylococcus in sterilized sandalwood-oil urine:

Acidity.	*Time for First Appearance of Free Ammonia.*
− 2 (alkaline)	3 days.
+ 3.5	9 days.
+ 10	14 days.
+ 15	Growing but not alkaline in 14 days.

It will be seen that the action of sandalwood oil against putrefaction is very feeble. It about doubles the time the urine takes to putrefy. In the case of the *Bacillus coli* there is practically no antiseptic action at all, this organism growing quite well in sandalwood-oil urine. With the staphylococcus, however, the case is entirely different; here there is quite a powerful antiseptic effect. In alkaline urine sandalwood oil is far more potent against the staphylococcus than is urotropin, while though in urines of higher acidity it does not entirely prevent the growth of the organism as does urotropin, it has yet a marked and powerful effect.

This selective action of the drug upon a particular organism was so unexpected that to exclude the possibility of error all these experiments with the staphylococcus were repeated, using controls of normal urine of corresponding acidities, but similar results were obtained, and there seems no question of the accuracy of the observations, although it is possible that they cannot be applied to every strain of the *Staphylococcus aureus*.

It was noticed that in the sandalwood-oil urine which was undergoing putrefaction, while there was a delay in the appearance of free ammonia, the cloudiness of commencing putrefaction appeared fully as early as it does in normal urine. It may be suggested that this is due to a restraining influence of the drug on the putrefactive cocci rather than the bacilli, if, as seems likely, we assume that the cocci are the chief agents in breaking up urea. Moreover, the fact of the value of sandalwood oil against the gonococcus would be explained if we assume this selective action to extent to cocci generally. However this may be, there seems to be no doubt that sandalwood oil has a considerable degree of power in preventing the growth of staphylococcus, while towards the other organisms it is almost inert.

Experiments with Santalol Salicylate (Santyl).

To obtain some idea of the comparative values of sandalwood oil, and of its derivative santalol salicylate (santyl), some specimens of urine after taking the latter drug were allowed to putrefy, and the results compared with those obtained with the crude oil.

Experiments.

(Doses of santyl of 30 minims t.d.s.: 24 hours' urine used.)

Acidity.	*Time for First Appearance of Free Ammonia.*
− 2 (alkaline)	2 days.
+ 2 (acid)	3 days.
+ 5 (acid)	5 days.
+ 10 (acid)	8 days.

These results are slightly better than those with the crude oil, but since the dose was nearly double that of the latter it must be concluded that santalol salicylate has a rather feebler action than has sandalwood oil; this can, however, be made up for by the fact that the drug can be given in larger doses, and it is less unpleasant to take.

3. Salicylic Acid.

Salicylic acid was chosen as a representative of those coal-tar products which have a urinary antiseptic action. Of these, salol-phenol salicylate is reputed to be the most powerful, but since it has a double action, due to its two constituents, it seemed not to be so suitable for experimental purposes.

Salicylic acid is excreted in the urine as salicyluric acid and as sodium salicylate. In an acid urine some of this sodium salicylate is split up, yielding the free acid. As a pure antiseptic it probably does not matter much in what form salicylates are taken, but the acid itself has the power of increasing the urinary acidity to some extent, and it was among many drugs used for this purpose before the introduction of acid sodium phosphate. With a view to getting some idea of this secondary action, I took salicylic acid instead of any of its derivatives.

Experiments with Salicylic Acid.

Salicylic acid in doses of 20 grains three times daily. Twenty-four hours' specimens of urine used. No appreciable increase in the acidity of the twenty-four hours' urine resulted. The twenty-four hours' specimens with which the pure culture experiments were made had an acidity of 3.5, that is, slightly below the average.

Hutchison, who investigated this point, found that the acidity was increased. Possibly had the drug been taken for a longer period, the average acidities would have shown some increase, but my result shows that this action is very feeble and quite insignificant.

For investigating the antiseptic action experiments were done of the same kind as with the other substances.

Putrefaction.

Acidity.	Time Taken to Become Alkaline.	Time Taken to Become Ammoniacal.
− 3.5 (alkaline) ...	1-2 days	2 days
+ 3.5	4 days	5 days
+ 10	8 days	10 days

Some specimens of higher acidities were clear at the end of ten days.

Experiments with the Staphylococcus.

Acidity.	Time Taken to Become Alkaline.	Time Taken to Become Ammoniacal.
− 2 (alkaline) ...	2 days	3 days
+ 3.5	3 days	4 days
+ 10*	—	—

* Not alkaline at the end of 10 days.

Experiments with the Bacillus coli.

In urines of all acidities up to 10 the bacillus was growing well in twenty-four hours; in the urines of higher acidity it was forty-eight hours before any growth was apparent, and the organism was not growing well then.

It will be noticed that the antiseptic power of salicylic acid in the urines of high acidity is somewhat greater than can be accounted for by the increase in the acidity alone; this may be due to an alteration of the proportions between salicylic acid and salicyluric acid, but this is not likely, since upon investigation I find there is no great difference between the powers of these substances as antiseptics.

BENZOIC ACID AND AMMONIUM BENZOATE.

These drugs, like salicylic acid, are used as urinary antiseptics and also for the purpose of increasing urinary acidity, for both of which purposes their reputation is higher than that of salicylic acid. The increase in acidity is, of course, due in part at least to the formation of hippuric acid. I found that this increase in acidity is quite a real and decided one. After taking 15 grains of ammonium benzoate t.d.s., the acidity of the "morning specimen" was raised to between 5 and 6, the average being nearer the latter, and one specimen at 6.5 being obtained. Benzoic acid does not yield any higher degree of acidity than does ammonium benzoate, and I could not find that it possesses any advantage over the salt. The benzoates are thus second only to acid sodium phosphate in raising urinary acidity (this was first demonstrated by Hutchison), and it would naturally seem that by taking the two salts in conjunction a urine of acidity representing the sum of the increase due to each might be got. This, however, appears not to be the case. The resulting urine has only an acidity such as might be obtained from acid sodium phosphate alone. I have twice confirmed this fact, but can suggest no explanation of it. As regards the antiseptic power of the benzoates, alkaline benzoic urine appears to possess no antiseptic power worth speaking of. It putrefies, and the organisms grow in it almost exactly as in normal alkaline urine. As the acidity increases, a retarding effect upon putrefaction and upon *B. coli* become apparent, so that with a moderate acidity putrefaction takes three or four days and *B. coli* grows not freely. With a high acidity (7 or 8) putrefaction is partially inhibited—that is to say, though the urine becomes cloudy and organisms are growing in them, alkaline fermentation does not take place even after ten days or so. The *B. coli* in these highly acid benzoic urines grows very sparsely—there is definite and decided inhibition. The staphylococcus, on the other hand, seems quite unaffected by benzoic urine. A vigorous specimen will render even highly acid benzoic urine ammoniacal in twenty-four hours. It will be seen that in the case of both benzoic and salicylic acids there is an increase in antiseptic power in the highly acid urine, which is greater than can be accounted for by the increase in acidity alone.

BORIC ACID.

Boric acid, given by the mouth, as a urinary antiseptic does not seem to have yet obtained general recognition—for example, this use of it is not mentioned in most text-book accounts of the drug, but it has been extensively used and is strongly recommended by several writers. Freyer says he has found it most useful as a urinary antiseptic, and Newman places it next to urotropin.

The drug was taken in doses of 30 grains four times daily. These large doses I found unpleasant to take, and one dose induced extreme nausea, so that I think it would be better to keep within the limit of the pharmacopoeial dosage for repeated administration.

The experiments with acid boric urine showed that the urine took from four to five days to putrefy; that the staphylococcus did not render it ammoniacal until three or four days had elapsed; and that the *B. coli* grew in it with difficulty.

When boric acid and potassium citrate were taken in conjunction so that the resulting urine was alkaline to the extent of 2 degrees, there was very little alteration in the results. *B. coli* grew even more badly, and the putrefaction took four days, while the staphylococcus required between three and four days to liberate free ammonia.

Some results in urine passed at different times after the cessation of taking the drug show that it is rapidly excreted.

By far the most important results here were those with the alkaline urine. It will be seen that the antiseptic power of boric acid is apparently practically unaffected by the reaction of the urine. In this respect it differs from all the other drugs I have investigated, and it is undoubtedly, even when taken in large doses, by far and away the most efficient urinary antiseptic when the urine is alkaline and cannot be made acid. It will also be seen that it is apparently of equal efficiency against the different micro-organisms.

UVA URSI AND ARBUTIN.

An infusion of uva ursi leaves is a very old preparation in urinary therapeutics. It is generally stated to have a diuretic and mild antiseptic action, and in this respect is classed with infusion of buchu, and generally used as a vehicle for more powerful antiseptics or antispasmodic drugs. It has, however, been praised as an antiseptic by various German writers, and, moreover, it contains a substance—arbutin—which is excreted as hydro-quinone in the urine, and, since hydro-quinone is known to be an antiseptic two or three times as powerful as carbolic acid, the antiseptic action of uva ursi is said to be due to this, and the arbutin is sometimes referred to as the "active principle" of the drug; moreover, on this account arbutin has itself been given as a urinary antiseptic. Upon this matter some doubt exists; Hale White in his *Textbook of Materia Medica* says, "The disinfectant action of uva ursi is probably due to the decomposition of arbutin. . . . Against this it is urged that giving arbutin does not disinfect the urine, but others deny this, and probably the first-mentioned view is correct." With these facts in view the action of uva ursi itself and of arbutin were investigated under exactly comparable conditions.

Experiments with Uva Ursi.

The uva ursi was taken in the form of a preparation known as "pil. vesicaesan," which is stated to be a dried alcoholic extract of uva ursi leaves, each pill being equivalent to 7½ grains of the leaves. Seven of these pills were taken four times daily, being thus the equivalent of about 2-oz. doses of the infusion of uva ursi. The resulting urine became a dark brown colour on exposure to air.

Specimens of the resulting urine were treated in an exactly similar way to those with the other drugs. I found that the drug has a slight but noticeable diuretic action. That as regards putrefaction the specimens as passed (acidity = 4) putrefied very slowly, taking from four days to a week to become ammoniacal; that the highly acid specimens (acidity = 10) took at least a week to become ammoniacal; but that the alkaline specimens were ammoniacal in forty-eight hours, the normal time being here about doubled. The *B. coli* grew fairly readily in acid specimens but very badly in alkaline ones. It does, however, grow in them and can be demonstrated after a fortnight has elapsed. The staphylococcus is very little affected by this drug. The growth appears to be slightly inhibited, but only to a very small extent.

It thus appears that uva ursi has a general urinary antiseptic action at least equal to that of salicylates, and for *B. coli* in alkaline urine it is second only if not equal to boric acid.

Experiments with Arbutin.

The arbutin was taken in doses of 20 grains three times daily in solution in water. It resembles quinine in appearance and taste, but is less bitter and much more soluble in distilled water. The diuretic action was distinctly more marked than with uva ursi. The resulting urine became almost completely black on exposure to the air. From these results it would seem as if in these doses more arbutin was being taken than was contained in the uva ursi. Unfortunately I have not yet been able to ascertain how much arbutin any preparation of uva ursi contains, and so to make certain of this.

The urine after arbutin was examined in a similar way to that after uva ursi. The results differed but to a slight extent from those obtained with normal urine. The time of putrefaction was somewhat delayed, but the organisms in pure culture grew with the utmost readiness. In consequence, I consider that arbutin is, as regards antiseptic action, certainly not the active principle of uva ursi. This

action of the latter is very possibly due largely to the essential oils, but certainly not entirely, nor probably chiefly, to the arbutin.

As regards the diuretic effect, arbutin seems likely to be the chief agent, but I am convinced that in all other respects it is no substitute for the crude drug.

SUMMARY AND CONCLUSIONS.

1. The acidity of the urine is readily increased to an extent of more than double the normal by acid sodium phosphate, and to a considerably less extent by benzoates. With large doses of citrates it is easily rendered alkaline.

2. Putrefaction of the urine and the growth of the staphylococcus is aided by alkalinity and delayed by acidity in proportion to the amount thereof. The reverse is the case with *B. coli*, but only to a small extent; its growth in both acid and alkaline urines quite luxuriant.

3. Hexamethylenetetramine is not itself antiseptic, but acts by producing formaldehyde in the urine. This only takes place in acid urine, and the drug is inert in alkaline

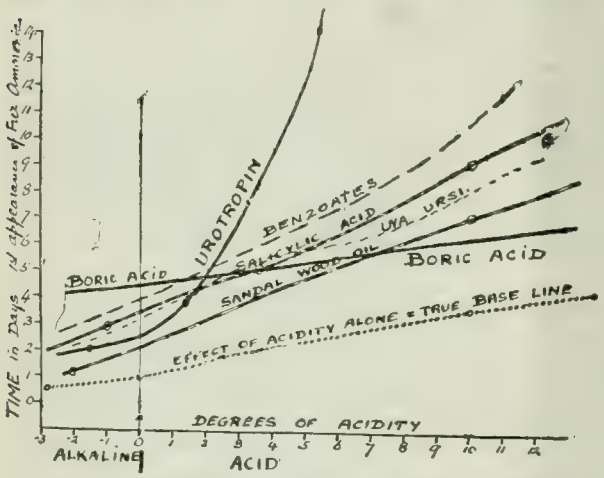


Fig. 4.—The effect of the degree of urinary acidity upon the antiseptic power of the different drugs against putrefaction.

urine. The degree of antiseptic power is proportionate to the acidity, and where this is normal or higher the drug is far the most efficient of all the urinary antiseptics. Despite its undoubtedly different behaviour in the test tube, there is no evidence that helmitol acts differently to hexamethylenetetramine in the urine, and this remark applies also to citramine, hetraline, and cystopurin.

4. Sandalwood oil is a bad general antiseptic, but appears to have a specific action on the staphylococcus which may apply to cocci generally. It is of some use in alkaline urine.

5. Benzoic and salicylic acids are very similar in action. Both are fairly efficient antiseptics in the urine, but are of very little use in alkaline urine.

6. Boric acid is an efficient antiseptic. Its action is unaffected by alkalinity, so that it is the most efficient drug in alkaline urine we possess.

7. Uva ursi is quite a good antiseptic. Its action is certainly not due chiefly to the arbutin it contains.

The whole of this work was done with a view to its clinical application and the drugs were chosen, and investigated with a view to obtaining increased knowledge of their therapeutic application. The following are, I think, legitimate practical deductions.

1. The use of urotropin (together with acid sodium phosphate which should always be given with it) as a prophylactic before any operation or procedure where the urine may become infected is of the utmost value, since if the urine is clean and highly acid, and sufficient urotropin is given in small doses to keep it continually present, the urine will not support the life of any organism, and becomes indeed a powerfully antiseptic fluid.

2. Urotropin should only be given where the urine is or can be made acid, otherwise it is inert. It should never be given with potassium citrate in *B. coli* infections. If it is desired to try the effect of making the urine alkaline in these conditions use boric acid and uva ursi infusion.

3. Where the urine is undergoing ammoniacal fermentation in the bladder, bladder washes or some operative procedure will always be the most important part of the treatment. The best drugs to use are boric acid in large doses, uva ursi, and possibly sandalwood oil.

4. Sandalwood oil is always worth trying in a cystitis due to the staphylococcus alone.

5. When acid sodium phosphate is prescribed it is as well to write chemical formula ($Na\ H_2\ Po_4$) on the prescription and to ascertain that the right phosphate has been dispensed. It is worth while in giving this drug to estimate the acidity of the urine occasionally (after the simple manner described) to make sure that there is an increase, unless the acidity is kept above 4 or 5 urotropin will not act efficiently, and a high acidity is of much more value than a large dose of urotropin.

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EIGHTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF PHARMACOLOGY, THERAPEUTICS, AND DIETETICS.

W. HALE WHITE, M.D., F.R.C.P., President.

PRESIDENT'S INTRODUCTORY REMARKS.

AFTER the expression of a brief welcome to the members of the Section present and a few references to the work to be done, the President declared the Session open.

DISCUSSION ON URINARY ANTISEPTICS.

OPENING PAPER.

By J. W. THOMSON WALKER, M.B., F.R.C.S.,
Surgeon to Hampstead General and North-West London Hospital, Assistant-Surgeon to St. Peter's Hospital.

THE use of drugs for the purpose of influencing bacterial growth in the urine is no new thing, but the scientific study of urinary antiseptics is of recent development, and is still in its earliest stages. A wide field is opening up in which the chemist, the bacteriologist, the physician, and the surgeon must all co-operate if really useful results are to be obtained.

Pioneer work has been done in this country by Robert Hutchison and by the admirable articles of Jordan, in Germany by Nicolaier and Caspar, and in America by Burnam and L'Esperance.

Up to the present time there has been a tendency for the work to be too exclusively pathological, or too purely clinical in its nature. It is the combination of the scientific with the practical sides of this question which is most likely to give us trustworthy information. Those who rely entirely upon laboratory work for their views on urinary antiseptics must be prepared for some degree of disappointment when they come to apply in practice the knowledge so gained. We owe a great deal to laboratory investigation of the different urinary antiseptics, but we must remember that the information obtained in this manner may require considerable modification when the subject is the living body and the conditions under which the drugs are used are the varying phases of different diseases.

Drug.	In Circulation.	Excreted by.	Excreted as.	Antiseptic and Disinfectant Action.	Effect on Reaction of the Urine.	Selective Action.
Hexamethylene tetramine urotropin (condensation product of ammonia and formaldehyde)	In large part unaltered; small amount of formaldehyde has been detected	Largely by kidneys, also traces in bile, pancreatic fluid, saliva, secretions of nasal sinuses and middle ear, cerebro-spinal fluid, synovial fluid	Decomposed in acid urine and formaldehyde liberated	Antiseptic action depends upon production of formaldehyde, which only takes place in acid urine; formaldehyde added directly to urine stops putrefaction in strength of 1 in 10,000; the growth of typhoid bacillus and streptococcus inhibited in solution of 1 in 20,000; 1 in 5,000 destroys typhoid bacillus and streptococcus in 24 hours, *Bacillus pyocyaneus* in 48 hours, colon bacillus in 4 days; *Staphylococcus aureus* alive after 7 days, but destroyed in 48 hours by 1 in 2,000	Acidity slightly increased	Typhoid bacillus and streptococcus most sensitive; *Staphylococcus aureus* most resistant.
*Benzoic acid, ammonium benzoate, sodium benzoate	Combined with glycocoll to form hippuric acid	Kidneys	Hippuric acid, small amount as benzoic acid	Benzoic acid 1 in 2,000 inhibits putrefaction; 1 in 400 prevents multiplication of pus cocci; sodium benzoate 1 in 100 has slight retarding influence on growth of bacteria; alkaline benzoic urine has no antiseptic action	Increase acidity; benzoic acid not more effective than ammonium benzoate	*Bacillus coli* grows very sparsely in benzoic urine; staphylococcus quite unaffected.
†Boric acid, boracic acid, sodium borate (borax)	—	Kidneys	Over one-half the quantity excreted in 12 hours, after that in traces for 5 days	Disinfectant action very feeble; antiseptic influence distinct; 2½ per cent. prevents development of bacteria, but exposure to 4 per cent. solution for 24 hours does not prevent subsequent growth	No effect	——
‡Salicylic acid, salol	Some oxidation takes place; combines with glycocoll to form salicyluric acid; probably circulates as sodium salicylate	Kidneys, skin, breast, liver	Salicyluric acid and sodium salicylate	As a germicide equals, if it does not surpass, phenol; 1 in 1,500 prevents development of bacteria in organic mixtures; 1 in 3,000 to 1 in 4,000 kills bacteria; 1 in 5,000 kills *Bacillus coli* in 10 minutes; the neutral salts of salicylic acid are not germicidal in 1 in 4,000 solution; the form in which the benzol derivatives are excreted by the kidneys is generally much less irritant and antiseptic than those in which they are administered	Acidity slightly increased	Fermentation and growth of staphylococcus in urine delayed; *Bacillus coli* growth hardly affected.
Sandalwood oil, contains santalol and santalal	Some oil partly oxidized, rest unchanged	Kidneys, small amount by lungs	Some oil unchanged, the rest in combination with glycuronic acid	Slight retardation of putrefaction of urine, and bacterial growth somewhat retarded	—	*Bacillus coli* growth practically unaffected; putrefaction not delayed; growth of staphylococcus delayed six or seven times the normal period (Jordan); the gonococcus may grow readily in culture media made up with sandalwood oil urine instead of water.

* No advantage in combining benzoates with sodium acid phosphate with view to increase acidity of urine (Jordan).
† Four per cent. is saturated solution used in surgery.
‡ If much protein present the salicylic acid preparations are less efficient than phenol.

There are many obvious fallacies which reduce the value of purely laboratory work. Mixed infections, common in urinary disease, are difficult to reproduce, yet the influence of the different bacteria upon the growth of others is undoubted.

In the body the bacterial toxins are constantly being removed and neutralized by the tissues, whereas in laboratory experiments they accumulate and must eventually tend to reduce or even destroy the growth of the bacteria. The bactericidal action of living tissues cannot be reproduced, and even exactly similar conditions of light and heat to those present in the body are difficult to obtain.

It is acknowledged that the presence of large quantities of protein greatly reduce the efficacy of antiseptics and disinfectants, most of which act by their affinity for the proteins of the bacteria. In the diseased urinary tract the bacteria are suspended in protein-rich medium, and the bactericidal substances combine more readily with the protein-containing medium outside the bacteria. Ehrlich and Bechhold have done good service in drawing attention to the effect of proteins in protecting bacteria from the action of bactericides. As Sulzberger pertinently remarks, "What we really care to know about a pharmaceutical preparation, in particular about an antiseptic, is not its germicidal powers in an artificial culture medium, but its disease-destroying properties in the living body."

A urinary antiseptic is peculiar in that it passes through two selective organs—the intestine and the kidneys—and for a time circulates in a powerful oxidizing agent, the blood, before finally appearing in a solution of uncertain concentration at the seat of bacterial growth. The ideal urinary antiseptic would be one which is readily absorbed from the intestinal tract, and is non-irritating at the point of absorption, which is so stable as to remain unchanged in the blood, which is excreted entirely, or in large proportion, by the kidneys, and is non-irritating to these organs; and, finally, which will exert an antiseptic action on the bacteria commonly found in the urine in a state of dilution, which will not cause irritation in the urinary passages. Such a perfect drug we do not at present possess.

I have placed in the above table a list of the principal drugs used as urinary antiseptics, with some particulars concerning each.

I. The Formaldehyde Series of Urinary Antiseptics.

By far the most important of these drugs is hexamethylenetetramine or hexamethylenamine. This is so generally known under the proprietary name of urotropin that I shall refer to it under this shorter name.

Urotropin, a condensation product of ammonia and formaldehyde, was first used as a urinary antiseptic by Nicolaier. Urotropin has no antiseptic action so long as its constituents, ammonia and formaldehyde, are in combination. An aqueous solution (10 per cent.) to which a little ammonia has been added to prevent the splitting off of formaldehyde, has no antiseptic power on cultures of the typhoid bacillus, *Bacillus coli*, or on staphylococci.

Urotropin is rapidly absorbed from the intestine without causing irritation, even in fairly large doses. In the blood it circulates as urotropin, although a very small amount of

formaldehyde is split off and can be detected by the more delicate formaldehyde tests. The greater part of the drug is excreted by the kidneys, but it has also been found in the bile and pancreatic secretion, in the sputum (Armstrong and Goodman), and in the secretions of the nasal sinuses and middle ear. It has been demonstrated in the cerebrospinal fluid obtained by lumbar puncture (Flexner and Clark) and in the synovial fluid. In regard to its antiseptic value in these fluids other than the urine, we are not concerned to-day.

In the urine urotropin is split and formaldehyde is given off. There is no longer, I think, any doubt that the antiseptic power of urotropin on the urine is due to the splitting off of formaldehyde.

With the phloroglucin and Rimini-Burnam tests, to which I shall refer later, we are now able to demonstrate the presence or absence of formaldehyde in the urine and make accurate observations. According to a rough estimate by Burnam, the administration of 5 or 10 grains of urotropin thrice daily will give a solution of about 1 in 5,000 or stronger of formaldehyde in the urine.

The solution of formaldehyde thus obtained may be insufficient to prevent the development of bacteria, for I have seen a pronounced bacilluria develop in a case of stricture where the patient was taking 30 grains of urotropin daily and formaldehyde was being freely liberated in the urine.

I shall refer briefly to the excretion of urotropin in a normal individual. After a dose of 10 or 15 grains of urotropoin, urotropin or formaldehyde can be detected in the urine in about an hour, but it is frequently delayed for longer than this—two, or even three, hours is not unusual in my experience. I have never seen it appear in the urine in fifteen or thirty minutes after oral administration, as is stated by Burnam. The excretion is at its maximum during a period of from four to eight hours after administration. After about twelve hours the excretion is still going on in small quantities. I have detected formaldehyde in the urine seventeen and even twenty-two and a half hours after a single dose of 15 grains of urotropin. It would thus be possible, by taking two doses of 15 grains in twenty-four hours and passing water as seldom as possible, to keep the urine in the bladder continuously mixed with a strong solution of formaldehyde.

In diseases of the bladder, in which frequent micturition is a symptom, the period during which the bladder is under the influence of formaldehyde—urine is reduced to the time during which the drug is being excreted in quantity by the kidneys, and this may be a much shorter time, probably about six or eight hours. In such cases small doses frequently repeated (5 grains every four hours) will be more effective in giving a continuous antiseptic action.

I may say a few words in regard to the question of dosage; 5 or 10 grains taken three times daily is, I think, the common dose. An increase in the dose to 15 or 20 grains three times daily will be followed by an increased output of formaldehyde in the urine. In a number of cases under my observation no formaldehyde was produced in the urine when the patient was taking 5 or 10 grains, but there was abundance of formaldehyde with doses of 15 or 20 grains. Or when the formaldehyde reaction was feeble with the smaller doses, it became powerful when the dose was doubled or trebled.

There is a limit to the increase in dosage, which in some individuals is very quickly reached. Urotropin itself is non-toxic, but the liberation of a high percentage of formalin in the urine gives rise to irritation of the urinary tract. Irritability of the bladder, frequent micturition, and eventually strangury may occur. Haematuria has been recorded in a fairly large number of cases.

These symptoms have been known to follow small doses (2½ grains) in certain individuals, but this idiosyncrasy is fortunately uncommon. Most patients can take 15 or even 20 grains three times a day without any irritation. On the whole I am inclined to prescribe larger doses than is customary, and this is especially the case where I am dealing with an infection of long standing. It is better, I think, to produce a powerful action, and do it for a short time, than to be content with a feeble antiseptic action spread over a long time. The symptoms of an overdose of urotropin are, after all, not of a very alarming or of a permanent character, and can be quickly controlled by ceasing the administration of the drug and giving an alkaline mixture; 25 or 30 grains repeated every four or six hours for twenty-four or forty-eight hours may suffice to cut short an infection which will drag on for weeks or months with smaller doses. It is a wise precaution before giving these larger doses to ascertain by smaller doses if the patient has any idiosyncrasy in regard to urotropin.

II. The Effect upon Bacterial Growth or upon the Action of Urinary Antiseptics of Variation in the Reaction of the Urine.

I shall now pass to consider the effect of variation in the reaction of the urine: Firstly, upon bacterial growth in the urinary tract; and secondly, upon the action of urinary antiseptics.

The normal acidity of the urine is due to the presence of sodium acid phosphate. There is seldom any difficulty in lowering the acidity of the urine and giving it a moderately alkaline reaction. The drugs which are commonly used for this purpose are potassium citrate and acetate and sodium bicarbonate. The latter drug is, in my experience, the most powerful.

It is a much more difficult matter to turn an alkaline urine acid. There are two types of alkaline urine met with in practice. One is a faintly alkaline urine which deposits phosphates and which, apart from the change in reaction, is normal in other respects. The second is a powerfully alkaline urine with ammoniacal decomposition, in which there is an abundant growth of bacteria, together with other abnormal constituents, such as mucus, pus, and blood.

The value of the different drugs used for rendering alkaline urine acid was investigated by Dr. Robert Hutchison, and his important article has formed the basis for subsequent work on this subject. Mineral acids (hydrochloric, sulphuric, phosphoric) have an extremely slight action. Organic acids (tartaric, acetic, citric, and lactic) have a slight but distinct action in increasing the acidity of the urine. Benzoic and boric acids have no influence on the reaction of the urine. Dr. Hutchison recommended the administration of sodium acid phosphate with the view of increasing the acidity of the urine, and this drug has proved of great value.

In regard to benzoic acid, or rather, to ammonium benzoate—for the acid is so poorly soluble as to necessitate excessive quantities of fluid being added to it—my experience does not coincide with the observation made by Dr. Hutchison. Ammonium benzoate in doses of 15 or 20 grains thrice daily has in some of my cases rendered a strongly alkaline ammoniacal urine acid after a few doses, when sodium acid phosphate in doses of 30 grains thrice daily has failed to change the reaction. This action is not invariable, but it is sufficiently reliable to make the drug rank with sodium acid phosphate as an acidifier of the urine.

What now is the importance of variations in the reaction of the urine in relation to the subject of urinary antiseptics? A varying reaction may either affect bacterial growth directly, or interfere with or aid the action of urinary antiseptics.

1. The Effect of an Alkaline Urine upon Urinary Infection.

The treatment of urinary infection by the administration of alkalis has been especially used in the pyelitis of childhood. It has also been extended to the pyelitis of pregnancy, and is occasionally advocated in adult pyelonephritis. The pyelitis of childhood is an infection of the renal pelvis with a pure culture of the *Bacillus coli communis* and the alkaline treatment of these cases is the settled practice with the great majority of physicians.

Potassium citrate and potassium acetate and sodium bicarbonate are the drugs usually given, in doses of from 24 to 48 grains in twenty-four hours. Under this treatment the urine becomes alkaline either after a few doses or in two or three days. When this has been accomplished the symptoms subside. The temperature falls to normal, the drowsiness and mental oppression vanish, the pain ceases, and the frequent micturition and scalding disappear.

If the alkaline treatment is discontinued there is a tendency for the temperature to rise again and the

symptoms reappear. Resumption of the alkaline treatment is again followed by disappearance of the symptoms. Eventually the alkalis may be discontinued altogether without recurrence of the symptoms. When alkalis are not given these cases recover, but they tend to run a long course, with frequent relapses and often with the complication of spread of the infection to the kidney.

From clinical experience in these cases, the impression appears to have arisen that the development of the *Bacillus coli communis* is inhibited or the growth destroyed by the action of alkalis, and this view has apparently obtained support from the observation that when the urine is decomposing and ammoniacal, the *Bacillus coli* is either not the infecting agent, or, if it is present, it occupies an entirely subordinate position. Bacteriologists, on the other hand, deny that any disinfectant, or even antiseptic action is exercised by alkalis in strengths such as can be developed in the urine.

According to Jordan the *Bacillus coli* will grow in urine made artificially many times more alkaline than occurs in the body, and, "despite what is said to the contrary, no marked differences are observed in its rate of growth, whether the urine be acid or alkaline."

There appears to be here a direct conflict between clinical and bacteriological work. How is it possible to reconcile these apparently opposing views?

I will relate the following case, which may help to elucidate the matter:

I was asked by my colleague, Dr. G. A. Sutherland, to examine a patient who had passed through an acute attack of pyelitis. The history was briefly as follows:

Caroline M., aged 28, was admitted to the Hampstead General Hospital on April 19th, 1913. Since April 3rd there had been increased frequency of micturition and scalding. She had been constipated, with one attack of diarrhoea, and the urine was thick and reddish in colour. On admission the temperature was 101° F., and the pulse 116, and there was herpes labialis. The muscles of the left side of the abdomen were rigid, and the left kidney was large and tender. The urine showed a pure growth of *Bacillus coli*.

The patient was placed on a mixture of potassium citrate and potassium acetate (15 grains of each every eight hours), alternating with urotropin (15 grains).

During the next ten days the left kidney diminished in size, and the right was no longer palpable. Sodium bicarbonate was substituted for the medicine on May 2nd. On May 9th the temperature was normal and the kidney less in size.

On May 15th the urine was faintly acid, contained a few pus cells, and many masses of pure *Bacillus coli*.

I saw the patient on the 23rd, and found the left kidney slightly enlarged and tender, but all the symptoms had disappeared. The urine contained some mucus, and there was well-marked bacilluria. I suggested omission of the alkalis and the administration of urotropin alone in increasing doses. Urotropin was given in doses of 20 grains thrice daily. On the 27th the urine became acid, and a specimen on the 28th showed a few pus cells and a few colonies of *Bacillus coli* in culture.

On June 6th the urotropin was increased to 25 grains three times daily, and after a few days the urine became continuously acid.

After a few days the urine was found to be sterile, and it has since remained so.

The points of interest about this case are that the symptoms rapidly disappeared under alkalis; that after the symptoms had entirely disappeared there remained a bacilluria which persisted in spite of continued alkaline treatment; that this bacilluria was rapidly cured by large doses of urotropin.

We have here, I think, an explanation of the opposing statements made by the clinician and bacteriologist. The apparent cure in these cases is only a cure so far as the symptoms are concerned, for the bacterial infection remains and the bacteria are still active and numerous.

The action of the alkalis in pyelitis appears to me to be a neutralization of the acid toxaemia produced by the *Bacillus coli*. The cures which are claimed clinically are not cures in the bacteriological sense, for the infection remains, only the symptoms which were due to the acids or acid endotoxins have disappeared. I would suggest, therefore, that the proper treatment in these acute cases of pure *Bacillus coli* infection is the following: There should first be a course of alkalis and the urine kept alkaline until some days after the symptoms have completely disappeared. The alkalis should then be omitted and urinary antiseptics given in increasing doses. If the urine remains alkaline after the alkalis have been omitted, sodium acid phosphate or ammonium benzoate should be given to render it acid and cause the breaking up of urotropin. The antiseptic course should not be commenced too soon, lest there be a recurrence of symptoms.

2. I shall now turn to the second part of the reaction question—namely, *the effect of alkalis upon the efficacy of urinary antiseptics.*

It has long been recognized that the action of urotropin is more powerful in an acid than in an alkaline urine, that the combination of urotropin with sodium acid phosphate assisted its action, while the combination with alkalis retarded it.

With the recognition that urotropin acted only by the production of formaldehyde, the question of efficacy has turned upon the splitting of urotropin in an alkaline and in an acid urine.

A good deal of discussion has waged around this point. One of the chief difficulties has been the lack of an accurate test which will distinguish formaldehyde from urotropin. Helbner's test (a purple violet ring on the addition of strong sulphuric acid) has been much used. It is a test of extreme delicacy, but it does not distinguish between solutions of varying strength, such as 1 in 10,000 and 1 in 100,000, and, further, it fails to differentiate between urotropin and formaldehyde.

There are two reliable tests for formaldehyde with which all who are interested in the subject of urinary antiseptics should be familiar:

1. *Phloroglucin Test.*

The following solutions are used: (*a*) Aqueous solution of phloroglucin (1 per cent.); (*b*) solution of caustic soda (30 per cent.). A few drops of phloroglucin solution are added to the urine in a test tube, and then 5 drops of the caustic soda solution. A bright cherry-red colour appears if formaldehyde is present, but no colour if there is only urotropin in the urine. This test will show the presence of formaldehyde in a dilution of 1 in 50,000 in the urine.

2. *Burnam's Modification of Rimini's Test.*

The following three solutions are used: (*a*) Phenylhydrazine hydrochloride, 0.5 per cent.; (*b*) sodium nitroprusside, 5 per cent.; (*c*) sodium hydrate, saturated solution.

Three drops of each of the first two solutions are added to the urine, and a few drops of the sodium hydrate solution poured along the side of the test tube.

If formaldehyde is present, a deep greenish black colour passes down through the urine and clouds the fluid. This rapidly changes to green, and fades through bright green to orange and pale yellow.

The urine and the sodium hydrate solution should be warmed to slightly above body temperature. This test will detect formaldehyde in urine in a dilution of 1 in 150,000, but does not show the reaction with urotropin. According to Burnam, there is an intense dark blue colour, changing to green in solutions of 1 in 20,000 or stronger, and in solutions of less strength the first colour is an intense green. If these tests for formaldehyde are negative, a fresh sample of urine should be boiled after the addition of a few drops of sulphuric acid. The test is then applied, and if the formaldehyde reaction is now present the urine has contained urotropin.

Of these two tests I prefer the Rimini-Burnam test. The colour is very striking, and there is little or no difficulty in deciding as to a positive or negative result. With this test I have made observations on 230 patients suffering from all varieties of urinary disease as well as a number of normal individuals. In many of these cases the phloroglucin test was also used. I have to acknowledge valuable help in collecting these cases from Dr. Pearce at St. Peter's Hospital, and Dr. Erlank, at the Hampstead Hospital.

Turning now to the question as to whether formaldehyde is split off from urotropin in an alkaline or neutral urine—

(*a*) There is in the first place the question as to whether urotropin is effective when prescribed with an alkali. Take first a normal individual, with a sterile, slightly acid urine, in whom formaldehyde is liberated in the urine with ordinary doses of urotropin. After the administration of 15 grains of urotropin formaldehyde appeared in the urine in two hours. Twenty grains of sodium bicarbonate were then administered. Half an hour later the urine had become alkaline and formaldehyde was no longer present, although urotropin was being excreted. Forty grains of sodium acid phosphate were given, and a further dose of 20 grains two hours later. Three and a half hours later the urine was again acid, and formaldehyde was present in quantity. In this case, on a

single dose of urotropin, the urine was made positive to formaldehyde, negative to formaldehyde, and positive to formaldehyde again by changing the reaction.

It will be seen, therefore, that the administration of an alkali, together with urotropin, will prevent the liberation of formaldehyde. This was illustrated in practice in a case under my care where the patient had undergone prostatectomy and cystitis was present.

He was taking 15 grains of urotropin and the same amount of ammonium benzoate, and the urine was acid and formaldehyde being freely produced. The urine suddenly became alkaline, and formaldehyde disappeared. On inquiring for a possible cause I found that the doctor in attendance had given a cough mixture containing sodium bicarbonate. When this was omitted the urine again became acid, and formaldehyde was liberated.

Another patient was suffering from malignant growth of the prostate and cystitis. Suprapubic prostatectomy had been performed a year before he came into my hands, and a urinary fistula still remained.

The urine was strongly acid, contained a mixed infection in which the *Bacillus coli communis* predominated. There was great vesical irritation. With 10 grains of urotropin thrice daily formaldehyde was freely liberated in the urine. When 20 grains of potassium citrate were added the urine became alkaline and ammoniacal, and formaldehyde disappeared from the urine although urotropin was still present. On omitting the alkali, the urine became acid, and formaldehyde again appeared in the urine.

These cases should suffice to show that the prescription of an alkali with urotropin prevents altogether the production of formaldehyde and therefore destroys its antiseptic action. Any action that may be obtained from this combination is due to the alkali and would be equally well and at much less expense produced by giving the alkali alone.

(*b*) Let me now refer to the administration of urotropin alone where the urine is already alkaline.

I have alluded to two clinical types of alkaline urine, one in which the urine is habitually slightly alkaline and cloudy with undissolved phosphates and the second when there is decomposition of urea by the action of bacteria.

I should first like to point out that a normal individual who is taking urotropin regularly may produce formaldehyde at one part of the day and fail to do so at another. This is due to the varying acidity of the urine. The morning urine is the most acid, and in these individuals always shows formaldehyde, but the urine taken after meals during the alkaline tide may show urotropin but no formaldehyde. On increasing the dose or by adding an acidifying drug, such as ammonium benzoate, formaldehyde is continuously present in the urine.

I shall now turn to cases of phosphaturia. Phosphaturia in a mild form is extremely common, and it is not confined to brain workers and individuals of a nervous temperament.

In a minor degree occurring without other disease, it is of no importance in itself, but it is important to know that these patients do not liberate formaldehyde. In such cases sodium acid phosphate or ammonium benzoate must be combined with urotropin before any formaldehyde is produced.

In regard to the second type of alkaline urine, that due to bacterial decomposition of urea, the same holds good. So long as the urine remains alkaline no formaldehyde appears in the urine, and therefore no antiseptic action is obtained. The whole question of urinary antisepsis in these cases turns upon our ability to render the urine acid. If we are unable to do so an antiseptic action cannot be obtained with the formaldehyde series of urinary antiseptics.

The degree of acidity necessary for the splitting of urotropin appears to vary somewhat. With the ordinary litmus paper test a faint tinge of red will practically always mean a negative formaldehyde, and a well marked red reaction will be definitely positive. Jordan states that the urine must have an acidity of 5 or over to make certain of obtaining the antiseptic effect of urotropin. This, however, is a comparatively high acidity, and the majority of individuals split urotropin freely with a much less degree of acidity.

At this point it may be allowable to refer, in view of the knowledge we have already gained, to some combinations of hexamethylenetetramine that have been used, and have been placed before the profession with claims to certain advantages over the original form of the drug.

There are two different types:

1. *Combination with an Alkali.* — Hexamethylenetetramine with sodium acetate (cystopurin). For this combination it has been claimed that a diuretic and sedative action is combined with an increased action of hexamethylenetetramine. As would be expected from what I have already said in regard to the effect of an alkaline urine upon the splitting of urotropin, no formaldehyde is liberated during the administration of this drug unless the acidity of the urine is sufficiently high to neutralize the sodium acetate with which it is combined. As an antiseptic this combination has no action since no formaldehyde is liberated, and I have no reason to suppose that the sodium acetate would not act quite as well as an alkali without the addition of hexamethylenetetramine.

2. *Combination with Acidifying Drugs.*—Hexamethylenetetramine, formaldehyde, and citric acid (helmitol). The antiseptic action of this drug is obtained by the production of formaldehyde. It is claimed that formaldehyde is liberated more easily than in the case of urotropin, and that the drug will act as an antiseptic in alkaline as well as in acid urine. I have tried it in a number of cases when the urine was infected and alkaline, and where urotropin alone, or in combination with moderate doses of sodium acid phosphate or ammonium benzoate, had failed to liberate formaldehyde. Formaldehyde was not detected in these cases. I cannot say that I found the claim so prominently made for this drug—that it liberated formaldehyde equally well in an alkaline or an acid urine—was substantiated by clinical experience. In the neutral or mildly alkaline urine in cases of phosphaturia the same change took place as with urotropin alone—namely, the urine became acid, and formaldehyde was liberated and the phosphatic cloud disappeared from the urine. The citric acid has a recognized action in increasing the acidity of the urine, and this is a distinct advantage in neutral or faintly alkaline or in faintly acid urines. This, together with the additional formaldehyde present in the drug, leads to ready liberation of formaldehyde. But the acidifying action is a feeble one, and if the urine is distinctly alkaline the addition of sodium acid phosphate is necessary (ammonium benzoate is incompatible) in the same way as in giving urotropin.

Dioxybenzol-hexamethylenetetramine — a combination of urotropin with resorcin (hetraline)—is claimed to act with equal efficacy whether the urine be acid, alkaline, or neutral. Here the resorcin acts as an acidifier, and thus facilitates the liberation of formaldehyde. Here, again, the drug prescribed alone may offer a slight advantage over urotropin in the type of case I have indicated, but when sodium acid phosphate is used to acidify the urine I have not been able to detect any special advantage in this drug over urotropin.

III. The Causes, apart from the Reaction of Urine, which Influence the Efficacy of Urinary Antiseptics.

I shall only take up the two most important points, although there are others.

(*a*) *Idiosyncrasy.*—I shall refer under this head to the statements of two observers who have recently been working at the splitting of urotropin into formaldehyde in the urine.

According to Burnam, not more than two patients out of every ten showed any decomposition of urotropin with formaldehyde. This statement applied not only to those suffering from urinary infection, but also to normal individuals; with small doses not more than 20 per cent. showed free formaldehyde; with large doses (20 or 30 grains repeated in four or six hours) 60 per cent. showed free formaldehyde. In a few cases where formaldehyde was not present with doses of 30 grains, the dose was raised as high as 100 grains at a single dose, without causing decomposition of the urotropin.

L'Esperance used Burnam's test on 250 patients, and found that only about 50 per cent. of patients excreted formaldehyde. This was constant under all conditions of age, sex, disease, or health. The reaction of the urine was of no importance. Alkalis taken with or combined with urotropin had no effect on the production of formaldehyde. And increase in the dosage did not produce formaldehyde in negative urines.

The figures given by L'Esperance are: 130 = 52 per cent. positive, 120 = 48 per cent. negative.

I find it impossible to reconcile these statements with the results I have obtained. I have already shown in individual cases the extremely powerful effect of rendering the urine acid or alkaline. I shall now turn to larger numbers of cases.

In 230 cases, all of which were given a dose of 10 grains three times daily, there were 79 (34.3 per cent.) negative to the formaldehyde test. Of these, urotropin was being excreted but not split in 64, and 15 were negative both to formaldehyde and urotropin—that is, urotropin was not being excreted. The reaction of the urine was alkaline or neutral in 52 of the 64 formaldehyde negatives, and acid in 12.

Of the 52 alkaline negative formaldehyde cases, 28 became positive formaldehyde when the urine was made acid. In 23 the urine did not turn acid under treatment, and they remained negative to formaldehyde. In 1 the urine turned acid, but the formaldehyde test remained negative. It will be seen, therefore, that the alkalinity of the urine was the dominating factor which prevented the splitting of urotropin.

There were 12 cases of acid urine with negative formaldehyde. Of these 4 were faintly acid, and became positive when the acidity was increased; 4 were faintly acid, but there was no opportunity of increasing the acidity; 3 were faintly acid, but were cases of renal inefficiency, and the acidity could not be increased; 1 was distinctly acid and negative, the urine being foul.

Passing now to the 15 cases when no urotropin was excreted. In 8 cases a small dose was being given (5 or 10 grains), and when this was increased urotropin appeared in the urine. Three cases, with similar doses, could not be followed up. There was one case of advanced renal inefficiency and one of profuse polyuria, with very dilute urine. In 2 no cause for the absence of urotropin could be found. Certainly not more than 5 cases could be ascribed to idiosyncrasy in regard to the drug; 3 that did not split urotropin in an acid urine, and 2 that did not excrete urotropin at all.

These figures are very different from those given by the American authors I have quoted. The chief point of difference appears to me to be in the effect of alkalis in the splitting of urotropin. My results entirely corroborate the work of Jordan in regard to the essential importance of a strongly acid urine in the production of formaldehyde from urotropin.

(*b*) *Renal Inefficiency.*—In giving urinary antiseptics we assume two things—first, that absorption takes place from the intestine; and secondly, that the antiseptic is excreted by the kidney. In regard to the first of these I have nothing to say to-day, although the subject is worthy of attention.

It is in regard to the renal function I wish to say a word. Urotropin is given in many cases of advanced disease of the kidneys in the simple faith that excretion of urotropin and liberation of formaldehyde will go on as if the kidneys were healthy. If we are to judge by experience in regard to other drugs, such as potassium iodide, opium, methylene blue, or indigo carmine, we would at once conclude that this could not be the case. So far as I know, this point has not been raised in regard to urinary antiseptics, but it is one which invites our serious attention.

Urotropin fortunately is non-toxic, and its accumulation in the blood if the kidneys were too diseased to excrete it would not have serious effects. At the same time, it would be useless to give urotropin in advanced renal disease if it is not excreted.

The following case is of interest from this point of view:

A female, aged 30, had multiple calculi removed from both kidneys five years ago. The kidneys were found septic and extensively diseased, and the patient made a very slow convalescence, during which she had one attack of anuria.

There were dyspepsia and flatulence, but no uraemic symptoms. The urine drawn by catheter from the kidneys is feebly acid (18 $\frac{N}{10}$ soda), specific gravity 1010, a trace of albumin, urea 0.7 per cent., and a deposit of red blood discs and a few granular casts and leucocytes. The *Bacillus coli communis* and the paracolon bacillus were present.

The administration of urinary antiseptics gave the following results:

1. Urotropin 10 grains thrice daily—urotropin faint reaction, no formaldehyde.
2. Urotropin 15 grains, ammonium benzoate 15 grains—urotropin faint reaction, formaldehyde absent.
3. Urotropin 20 grains, sodium acid phosphate 30 grains—urotropin faint reaction, formaldehyde absent.
4. Helmitol 10 grains, sodium acid phosphate 20 grains—no urotropin, no formaldehyde.

Here we must conclude that the urotropin is being excreted in very small amount, and that whatever is excreted is not split into formaldehyde.

By increasing the dose of urotropin it may in some cases be excreted in quantity, and if the urine can be rendered acid will be split up.

In a man of 33 suffering from bilateral calculus hydronephrosis, I removed a calculus from one ureter and short-circuited the ureter into the lower pole of the kidney after nephrolithotomy on the other side in order to circumvent the obstruction. The urine was neutral and pale, with a specific gravity of 1006 and a trace of albumin. Urotropin, 10 grains, given thrice daily, produced a faint urotropin reaction, but no formaldehyde. On increasing the urotropin to 20 grains and adding ammonium benzoate, the urine became decidedly acid, and a strong formaldehyde reaction was obtained.

From these and other similar cases I have come to the view that there are two factors which reduce the efficacy of urotropin as a urinary antiseptic in advanced disease of the kidneys. First, there is diminished excretion of the drug, and secondly, when urotropin is well excreted, the condition of the urine in these cases is unfavourable for the liberation of formaldehyde. The urine is neutral or faintly acid and copious, and it is difficult to increase the acidity.

The splitting of urotropin and liberation of formaldehyde is held by Burnam to be due to a vital action of the renal epithelium. The cases that I have just quoted appear to support this contention.

There are, however, many objections to this view. The dissociation is easily produced *in vitro* by the addition of acid and heat. In the human body the splitting of urotropin can be influenced at will by turning the urine acid or alkaline, and it is extremely unlikely that a vital phenomenon could be so easily influenced in this manner. There is, I think, no doubt that the process of disintegration of urotropin in the urine is entirely a chemical one, and depends upon an acid reaction.

IV. Have Urinary Antiseptics a Selective Action?

Urinary antiseptics act under peculiar limitations in regard to the strength of the antiseptic solution produced in the urine, so that it is well to take full advantage of any affinity, however slight, that may be shown by any of them in regard to the bacteria commonly found in the urinary tract.

In formaldehyde we have an all-round antiseptic of great power. The exact percentage of this drug found in the urine during the administration of urotropin has not been fully determined, but it is probably about 1 in 5,000 in patients taking 5 or 10 grains of urotropin thrice daily.

Formaldehyde has its most powerful effect upon the typhoid bacillus and may be said to have a selective power in regard to this bacillus and the streptococcus.

Burnam states that a solution of 1 in 5,000 destroyed the typhoid bacillus and streptococcus in twenty-four hours, the *Bacillus pyocyaneus* in forty-eight hours and the colon bacillus in four days. The *Staphylococcus aureus* was the most resistant, being alive at the end of seven days. It was completely destroyed in forty-eight hours by solution of 1 in 2,000.

Jordan has made the following suggestive statements in regard to sandalwood oil: against putrefaction the action of sandalwood oil was feeble and the *Bacillus coli* was practically unaffected. With the staphylococcus, however, there was a marked antiseptic effect in both alkaline and acid urines. The value of sandalwood oil against the gonococcus is well-known and would be explained, Jordan believes, if we assume this selective action to extend to all cocci. More work is required in regard to the action of sandalwood oil.

Benzoic urine delays putrefaction and the development of the *B. coli*, but has no effect on the staphylococcus.

In conclusion, let me make some practical observations in regard to the use of urinary antiseptics.

1. I have already suggested that the most effective treatment in acute pure *Bacillus coli* infection is, first, to neutralize the poison with alkalis, and when the symptoms have subsided to turn the urine acid and give urinary antiseptics in progressive doses.

2. In subacute and chronic cases of infection the drugs used should be dictated by the reaction of the urine.

If the urine is acid urotropin should be given alone; if it is alkaline or neutral urotropin should be combined with sodium acid phosphate or ammonium benzoate.

3. In persistent infection the dosage of urotropin should be raised until symptoms of formaldehyde irritation commence to appear.

4. The Rimini-Burnam test should be used in every case that is treated by urotropin or other formaldehyde-producing drug. Without it the physician is completely in the dark as to whether formaldehyde is being liberated or not.

DISCUSSION.

DR. HALE WHITE said that those cases in which bacteria continued to appear in the urine at intervals during treatment were probably due to fresh doses of bacteria being excreted from some focus.

Professor BRADBURY related his experiences of various urinary antiseptics. In *Bacillus coli* cystitis he gave a combination of alkalis, henbane, and buchu followed by urotropin. He had seen marked improvement of the symptoms without diminution of the number of bacteria in the urine. He had had favourable results with helmitol and areol. In some cases in children urotropin was not so useful as potassium citrate. Sodium salicylate and salol were frequently valuable urinary antiseptics. He had formed a high opinion of cystopurin.

THE PHARMACOLOGY OF BODY TEMPERATURE.

By HENRY GRAY BARBOUR, M.D.,
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A PATIENT lying ill with a fever exhibits a high body temperature because his "heat centres" have been over-stimulated by toxins arising perhaps from bacteria, perhaps from breaking-down tissues. This over-stimulation is combated physiologically by the depressing effect of the overheated blood as it passes through the brain. It can be further combated therapeutically by antipyretic drugs which also act by depressing the temperature centres. We may not give these so-called centres too narrow an anatomical limitation, but it has long been recognized that the region of the basal ganglia (especially the caudate nucleus of the corpus striatum) plays an important part in the co-ordinating of those processes which affect body temperature. The most important of these processes include (1) those tending to raise body temperature, oxidations in the muscles and other tissues (heat production), peripheral vaso-constriction (heat sparing); (2) those tending to lower body temperature: inhibition of oxidations (lessened heat production), peripheral vaso-dilatation, increased respiration, and sweating (heat dissipation). The central apparatus which co-ordinates these processes can, like other nervous mechanisms, be influenced by cold and heat and by drugs. Such agents can never alter the nature of the nervous response; only quantitative changes which we term stimulation and depression can be elicited. This is a fundamental law of nerve pharmacology.

A. DIRECT APPLICATION OF COLD, HEAT, AND DRUGS TO CORPUS STRIATUM.

Last year in the Vienna Pharmacological Laboratory I studied the effect of temperature itself upon the temperature centres, and found that cold and heat exert a definite action directly upon the region of the corpus striatum.

The experiments were performed by a modification of the ordinary "heat puncture." The corpus striatum was punctured with a double metal tube under conditions of strict asepsis and ether anaesthesia.

This tube was left firmly in place by means of a suitable attachment to the skull, and the temperature of the region of the brain invaded could be varied at will by the passage of hot or cold water through the instrument.

Following recovery from ether, a rise in body temperature, of course, ensued as a result of the mechanical stimulation, as in the ordinary "heat puncture" made with a needle. When, however, the corpus striatum was heated to 42° C. or higher by a stream of warm water through the closed tube the rectal temperature at once responded by a *fall*.

Heat centrally applied acts, therefore, as an antipyretic; upon this fact undoubtedly depends the automaticity of the temperature centres: the overheated blood of the fever patient tending by its central depressing action to keep the body temperature from going still higher.

A striking phenomenon accompanied the experimental reduction of temperature; often within two minutes from the time of beginning to warm the centres the rabbit's ears, which previously had been cold with constricted vessels, became warm from a marked dilatation of the vessels. This shows one of the important methods of giving off bodily heat.

Since heating the temperature centres cooled the body as a whole, what was the result of submitting this part of the brain to the influence of cold? Under the influence of cooling the centres to 33° C., or lower, the curve of body temperature was again reversed and a condition of high temperature at once began anew. Was this the result of a definite cold stimulus, or was it merely a reversion to the high temperature caused by the irritating instrument? Several experimental results combined to show clearly that cold itself is an adequate stimulus to hyperpyrexia. It is effective, for example, after the fever due to the instrument has abated, it induces shivering (heat production) and peripheral vaso-constriction (heat sparing), so that it is analogous to the puncture hyperpyrexia.

Since cold and heat thus stimulate and depress the centres, it is not surprising to find that the body temperature can be similarly affected from this region of the brain by the local application of drugs. Results illustrating this point have recently been obtained in our laboratory at Yale with the assistance of Mr. E. S. Wing. The drugs were applied to the region of the caudate nucleus through an aperture made by a heat puncture instrument, and were given in such a way as to exclude changes in intracerebral pressure. By testing with dye stuffs, and later examining the brains, it was ascertained that the substances in practically all cases had had access to the lateral ventricle. We have found in a large number of such experiments with antipyrin and chloral that these two drugs will give distinct reductions of body temperature if applied to the centres in one-third of the minimum dosage required for injection into the general circulation. In the case of antipyrin centrally applied a very marked respiratory increase seems to be the chief method utilized by the body in giving off heat. With chloral centrally applied peripheral vaso-dilatation was the most striking factor. Quinine given directly into the brain in a few experiments also produced a marked fall in body temperature, accompanied by vaso-dilatation and hyperpnoea. Of course this drug reduces the body temperature by a universal inhibition of metabolic processes, thus limiting heat production; but our experiments show that the central nervous system, in this animal at least, also plays a part in the antipyretic effect of quinine by increasing heat dissipation. A few experiments upon alcohol indicate that weak solutions (5 per cent.) given into the brain reduce the body temperature; 25 per cent. and 95 per cent. alcohol have the reverse effect, undoubtedly acting as irritants.

Epinephrin intracerebrally in doses of 0.01 or 0.1 mg. per kilo always gave a fall in rectal temperature. This drug has been regarded usually as a pyretic substance when given intravenously, by which method our results were inconstant. Our animals were upon a winter diet which is regarded as less favourable to the pyretic action of epinephrin.

The characteristic action of all the above-mentioned drugs, when introduced into the region of the caudate nucleus, has been to lower the body temperature. The method evidently required to be controlled by using agents which would have the opposite effect. This was success-

fully done with caffein. Intracerebral doses of about 1 mg. per kilo will usually raise a rabbit's temperature at least 0.5° C. In some cases a marked dilatation of the pupil is observed, besides vaso-constriction (heat sparing) and an increased tonicity of the skeletal musculature (heat production).

Still more interesting were two experiments with a small dose of beta-tetra-hydronaphtylamin, the classical pyretic drug; 2 cg. given subcutaneously required three hours to raise the temperature 0.5° C. No other symptoms could be observed. The same amount introduced into the brain of a somewhat large animal caused within one hour a rise of 1.1° C. with all the characteristic effects of the drug: vaso-constriction, extreme dilatation of the pupils (this occurred within twenty-five seconds), motor excitement, convulsions, and death. This supports the claim of those who designate the higher centres as the seat of action of this drug.

The method employed, therefore, lends itself to the study of both pyretic and antipyretic drugs.

B. Paradoxical Antipyrin Action in Partially and Wholly Decerebrate Rabbits.

In connexion with the above work an interesting experimental demonstration of the paradoxical action of antipyrin was encountered. This was investigated with the assistance of Mr. C. L. Deming.

Clinicians have occasionally observed after antipyrin a decided rise in temperature, which could be ascribed to no other cause than the drug. Gottlieb has shown that this substance always increases heat production in the body, although this effect is, of course, masked by the far greater increase in heat dissipation from the results of which antipyrin derives its name and its use in medicine. A rise in body temperature after antipyrin is therefore spoken of as a "paradoxical" effect.

This effect has been obtained by other workers by placing a rabbit in a chamber warm enough to prevent heat dissipation. The drug was then limited to the exhibition of its heat-producing effect. We have achieved the same result by preventing heat dissipation in another way, by removing a portion of the heat-regulating mechanism.

The cerebrum and corpus striatum were removed (from one side only) in 18 rabbits. Most of the animals survived the operation by at least four or five days. In 9 of these cases, being those exhibiting at autopsy the fewest anatomical complications, a subnormal temperature was typical for the days following operation.

These hypopyrexia animals showed signs of collapse, asymmetrical muscular disturbances, peripheral vasoconstriction, and slow respiration. Control experiments excluded cold surroundings or loss of blood as the essential cause of the low temperature, and the animals were fed daily by stomach tube. Evidently a profound disturbance of the heat-regulating mechanism had been effected by removal of the cerebrum and corpus striatum.

Now the striking thing about these animals with subnormal temperatures was the effect of antipyrin upon them: 0.1 to 0.4 gram per kilo animal, an average antipyretic dosage for normal rabbits, produced a definite rise in temperature of from one-half to several degrees Centigrade. This was accompanied by entire absence of the vaso-dilatation usually seen after the drug and of the hyperpnoea which normally accompanies the larger doses. Instead were seen muscle stiffness passing (with the larger doses) into tonic and clonic convulsions. Thus the operation had impaired the power of the body to respond by heat dissipation, and had left intact the power of heat production. The latter was exaggerated, as seen by the tendency towards convulsions. This may have been due to the removal of cerebral inhibitory influences, which removal is known to augment the convulsive action of other drugs.

The rabbits not giving subnormal temperatures after operation behaved essentially like normal animals and responded to antipyrin in the usual way.

Several animals were bilaterally decerebrated, including corpora striata and optic thalami, and also gave the paradoxical response to antipyrin, but larger doses were usually necessary.

This action of antipyrin upon partially and wholly decerebrate animals furnishes evidence that the central mechanism for heat dissipation is probably higher than that for heat production.

Summary.

The first group of experiments mentioned show that the heath-regulating centres are directly susceptible to cold and heat, as well as to specific neuro-pharmacological action. Analogous to the high temperatures which can be produced by the "heat puncture" experiment we have demonstrated a stimulation of the temperature centres with cold, caffein, and beta-tetra-hydronaphtylamin. Depression, giving an antipyretic effect, has been obtained with chloral, antipyrin, quinine, and epinephrin.

The second series of investigations shows that animals deprived of one cerebrum and corpus striatum (often), or of both cerebra corporo striata and optic thalami (always), run a subnormal temperature for the days which they survive the operation. In such animals, when given average doses of antipyrin, the phenomena of increased heat dissipation do not occur, and those of heat production are exaggerated. The total effect is a paradoxical rise in body temperature.

NOTE.—Full details of the experimental work are now in press with the *Journal of Pharmacology and Experimental Therapeutics*.

DISCUSSION ON THE USE AND ABUSE OF HYPNOTICS.

OPENING PAPER.

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It will be well to define clearly what is meant by the term "hypnotic." In its broadest sense it means a remedy for inducing sleep, and no doubt general measures—for example, those of hydrotherapy, electricity, etc.—might be rightly regarded as hypnotic in action. For the purposes of this discussion, however, it will be necessary to restrict the term "hypnotic" to the following definition: A drug, or combination of drugs, which produces sleep resembling natural sleep.

In every case of supposed "insomnia" it will be well first to make quite sure that absence of sleep really exists. Not infrequently a patient imagines that he has had a sleepless night, whereas he may have slept for several hours.

When insomnia really exists it must be remembered that this condition is only a symptom, and its cause in every case must be very thoroughly and carefully investigated. The immediate resource to hypnotic drugs is greatly to be deprecated, since frequently harmful results follow this procedure. Not only is there danger of the development of a drug habit, but commonly the patient develops a sad lack of self-reliance, and is apt to think that he cannot exist without these artificial aids to sleep. It must also be remembered that "sleep induced by drugs" is not the same as natural sleep, and has not the same beneficial value.

The following classification indicates the common causes of insomnia, and the use of hypnotics may be necessary in any of them:

1. *Pain*, and other conditions which act as sources of irritation and prevent sleep; for example, cold, heat, light, irritative bed clothing, eyestrain, adenoids, pruritus, etc.
2. *Nervous Causes:*
   - (*a*) Psychical causes in the sane; for example, mental emotions, as grief, worry, shock, etc. Intellectual overwork, change in the mode of life, neurasthenia, hysteria, hypochondriasis, etc.
   - (*b*) Cerebro-spinal causes; for example, cerebral irritation, meningitis, etc.
   - (*c*) The insomnia of insanity.
3. *Toxic Causes;* for example:
   - (*a*) Microbic and parasitic infections, as pneumonia, typhoid fever, influenza, rheumatism, etc.
   - (*b*) Chemical poisons, as alcohol, tea, coffee, lead, tobacco, and the insomnia so characteristic of the drug habit.
   - (*c*) Autointoxication; for example, gout, renal disease, fatigue, etc.
4. *Gastro-intestinal Causes;* for example, dyspepsia, dilatation of the stomach, constipation, and the various diseases of the gastro-intestinal and alimentary organs.

5. *Cardio-vascular Causes;* such as arterio-sclerosis, angina pectoris, and diseases of the pericardium, myocardium, or endocardium.
6. *Respiratory Diseases;* for example, asthma, bronchitis, pneumonia, etc.
7. *Genito-urinary Diseases.*
8. *The Insomnia of Physiological Epochs;* for example, menopause, old age.

It will be universally agreed that in every case of insomnia, after having carefully determined the etiological factors, the first therapeutic measures should be directed towards the treatment and removal of the cause.

Any pathological condition present should be treated by those special therapeutic measures most suitable for the particular case. In addition, general measures for promoting sleep should be carefully considered and recommended, such as a modification of the mode of life and habits of the patient as regards work, rest, diet, exercise, smoking, etc.

The conditions of the bedroom and bed itself as regards comfort, quiet, proper ventilation, warmth, etc., should be made suitable. The taking of a hot drink before bedtime may be found to suffice. Simple measures of hydrotherapy, such as baths, douches, and in severe cases warm or cold packs, may be employed before hypnotic drugs are given. In some cases massage or electrical treatment have been found helpful.

It will be found that in many cases of insomnia the employment of such measures as those just described fails to remove this distressing symptom, and in such cases where the sleeplessness is likely of itself to exercise a harmful effect on the patient's health, it will be advisable to employ some suitable hypnotic drug.

The dangers and objections attaching to the use of hypnotics should always be carefully borne in mind. They may be summarized as follows:—

1. *The Unnecessary Use of Hypnotics.*—There should always be a real necessity for the employment and continued use of hypnotics for reasons given above.
2. *The Danger of the Formation of a Drug Habit.*—This applies especially to certain hypnotics, such as morphine, and opium preparations, veronal, chloral, paraldehyde, etc.
3. *The Danger of Toxic Symptoms Resulting from the Use of Hypnotics.*—A single medicinal dose of a hypnotic drug may cause unpleasant and even alarming symptoms, and the continued use of these remedies may produce toxic symptoms, either by the simple effect of a repeated therapeutic action, or, as in the case of drugs which are slowly absorbed, such as sulphonal, trional, etc., by a cumulative action. The cumulative action of drugs which are slowly absorbed is often prevented by the avoidance of constipation.
4. *The Danger of Fatal Poisoning.*—Fatal poisoning is generally due to the patient gradually increasing the dose of the hypnotic unknown to his medical adviser, so that ultimately a dose is taken which produces dangerous, or even fatal, symptoms.
5. *Special Dangers due to Existing Disease or Age of the Patient.*—In certain diseases there is greatly increased susceptibility to particular hypnotics—for example, morphine and preparations of opium are especially potent in renal and respiratory disease and in cirrhosis of the liver; also to children these hypnotics must be prescribed in very small doses.
6. *Idiosyncrasy.*—Certain individuals have an increased susceptibility to some hypnotics, so that a large dose should not be given for the first time.
7. *The Use of Hypnotics when Other Measures of Treatment should be Employed.*—In many cases instead of giving hypnotics the giving up of work and the adoption of some special treatment ought to be advised.

THE USE AND ABUSE OF HYPNOTICS.

The object of this discussion will be best attained by considering hypnotics individually and discussing the uses and abuses attaching to them respectively.

Hypnotics may be conveniently classified as follows:

CLASSIFICATION OF HYPNOTICS.

I. *Derivatives of Methane.*—These may be subdivided thus:—(*a*) The Chloral, Alcohol, Group: Chloral, chloralamide, choralose, butyl chloral, chloretone, hypnal, dormiol, isopral, viferral, ural, bromal; alcohol, paraldehyde; amylene hydrate, aponal, neuronal. (*b*) The Sulphonal Group: Sulphonal, trional, tetronal. (*c*) The Ureide Group: Urethane, hedonal; veronal and its derivates—medinal (sodium veronal), proponal, luminal and sodium luminal, codeonal, adalin, bromural.

II. *Opium and its Preparations and Alkaloids and their Derivatives.*—The various official preparations of opium; morphine and its preparations: codeine, apomorphine, heroin, dionin, omnipon.

III. *The Atropine Group of Hypnotics.*—Atropine, hyoscine or scopolamine, hyoscyamine, the vegetable preparations of hyoscyamus stramonium and belladonna.

IV. *Cannabis Indica and its Preparations.*

V. *The Inorganic Bromides.*

VI. *Vegetable Hypnotics* other than those mentioned above, such as hops, sumbul, etc.

VII.—*Other Hypnotics.*—Phenacetin, acetanilide (antifebrin), phenazone (antipyrin), pyramidon, aspirin, novaspirin, camphor monobromide, pellotine, etc.

CONSIDERATION OF HYPNOTICS SERIATIM.

I.—A. THE CHLORAL, ALCOHOL GROUP.

Chloral (dose 5 to 20 grains).—This is a powerfu hypnotic, which has been used for over forty years. It is very reliable, and rapid in action owing to its solubility. It must be used with care, since it has a depressant action on the heart, and some patients have an idiosyncrasy to the drug. There is danger of drug habit in its continued use.

Chloralamide (dose 15 to 45 grains).—This is a mild hyynotic. It is a crystalline substance, moderately soluble in water. It is incompatible with alkalis which decompose it. It is a very useful drug in mild cases of insomnia.

Chloralose (dose 3 to 10 grains).—It is a powerful and often dangerous hypnotic, and sometimes produces excitement and tremors. It has a depressant action on the heart.

Butyl Chloral (dose 5 to 20 grains).—This drug has very little hypnotic action. It is sometimes useful in the insomnia of neuralgia.

Chloretone (dose 5 to 20 grains).—This is not a reliable hypnotic. It is mild in its action, and sometimes causes unpleasant gastric symptoms.

Hypnal (dose 5 to 15 grains).—This is a compound of chloral and antipyrin. It has no special advantages as a hypnotic, and is not recommended.

Dormiol (dose 5 to 40 minims).—It is a compound of amylene hydrate and chloral. It has an unpleasant taste; it is a mild hypnotic. It sometimes causes gastric disturbance, headache, and symptoms of intoxication.

Isopral (trichlor isopropyl alcohol; dose 5 to 15 grains).—It is a dangerous hypnotic. It is a cardiac depressant, and causes gastric and vasomotor disturbance.

Viferral (dose 15 to 40 grains).—This is a compound of pyridine and chloral. It is said to be a mild hypnotic, but it has not been used sufficiently to be recommended.

Ural (dose 15 to 45 grains).—This is a compound of chloral and urethane. It is a dangerous and uncertain hypnotic. Its toxic action lasts longer than its hypnotic effect.

Bromal (dose 2 to 5 grains).—It is much more toxic than chloral, and has no special advantages. It is not recommended.

Alcohol.—Some alcoholic preparation taken at night is often a most useful hypnotic, and it will commonly be employed with advantage before using special hypnotic drugs. It is especially useful in febrile conditions.

Paraldehyde (dose ½ to 2 drachms).—This drug is a very useful and safe hypnotic, producing light and natural sleep. It has an unpleasant taste, and may produce symptoms of intoxication. It should not be given in digestive or respiratory diseases.

Amylene Hydrate (dose ½ to 2 fluid drachms).—It is a mild and safe hypnotic. It acts quickly. It has an unpleasant taste, and may cause gastric disturbance and (in full doses) headache, erythemata, mental excitement, and cardiac depression.

Aponal (dose 15 to 20 grains).—This is a compound of urea and amylene hydrate. It is a mild hypnotic, and does not appear to cause unpleasant symptoms.

Neuronal (diethyl bromide acetamide; dose 5 to 20 grains).—It is a powerful hypnotic, and produces a heavy sleep like intoxication. It is a depressant drug, and may cause cardiac depression, digestive disturbances, and urticarial rashes.

B. THE SULPHONE GROUP.

Sulphonal (dimethyl-methane-diethyl sulphone).—This is a white crystalline substance, not readily soluble in water. Dose 10 to 30 grains. It is a hypnotic which has been very largely used. It produces a light natural sleep, lasting some hours. It has been successfully used in cases of insomnia of nervous origin. There are many objections to the indiscriminate use of this hypnotic. Its insolubility and slow rate of absorption often cause sleep to be

delayed for several hours. After large doses, or frequently repeated small doses, toxic symptoms may develop. These symptoms are digestive disturbances, headache, faintness, muscular inco-ordination, drowsiness, and deep coma. In some cases haematoporphyrinuria occurs. This is a very grave symptom, which is commonly followed by death. Sulphonal is a drug which is not readily excreted, and cumulative action may occur. It has been said that toxic symptoms are in some cases due to impurities in the drug.

Trional (methyl sulphonal).—This is a white crystalline substance rather more soluble in water than sulphonal. Dose 10 to 30 grains. It is a powerful hypnotic, which is useful in some nervous cases. Its toxic action is similar to but greater than that of sulphonal. It acts more quickly than sulphonal, but it should be used with caution.

Tetronal (ethyl sulphonal).—This is a white crystalline substance. Dose 10 to 20 grains. It is less soluble than sulphonal, and it is more toxic. It is a dangerous hypnotic, and is better avoided.

It will be remembered that the members of this group have recently been placed on the Poisons Schedule.

C. The Ureide Group.

Urethane (Ethyl carbamate).—A white crystalline powder, very soluble in water. Dose 10 to 60 grains. It is a very mild and safe hypnotic. It is especially suitable for children.

Hedonal.—A derivative of urethane, a white crystalline powder, slightly soluble in water. Dose 15 to 30 grains. It has an unpleasant taste. It is a mild and safe hypnotic. It sometimes causes digestive disturbance and unpleasant nervous symptoms, as giddiness, headache, or excitement.

Veronal (Diethyl barbituric acid.)—A white crystalline powder, slightly soluble in water and of bitter taste. Dose 3 to 10 grains. It is a powerful hypnotic, and has been extensively used by the profession and by the public. Veronal has been recommended for nervous cases, febrile conditions, and in respiratory and cardiac diseases. It is well, however, to remember that a milder hypnotic may be safer and equally efficacious. Veronal may in full or even moderate doses, especially if repeated, cause toxic symptoms such as drowsiness, giddiness, headache, digestive disturbances. Skin rashes of an erythematous or urticarial type, and sometimes marked mental symptoms with hallucinations and delusions, may result. Disturbances of speech and sight sometimes occur, and the gait may be reeling. In severe cases coma will supervene, and this is generally accompanied by high temperature, rapid breathing, and the clinical signs of acute pneumonia. Fatal poisoning has been recorded from relatively small doses of the drug—for example, 15 grains. Idiosyncrasy and cumulative action occur with this drug.

Medinal.—This is the sodium salt of veronal; dose 3 to 10 grains. It is very soluble in water, and therefore more rapid in action than veronal. The therapeutic effect and toxic action are similar.

Proponal (dipropyl barbituric acid; dose 2 to 8 grains).—A white crystalline powder, insoluble in water. It is a powerful hypnotic, and is more toxic than veronal. It is best avoided.

Luminal (diphenyl barbituric acid; dose 3 to 5 grains).—A white powder, insoluble in water. It is a very powerful hypnotic, and should only be used in special cases; for example, severe nervous cases.

Luminal sodium (dose 3 to 5 grains).—The sodium salt of luminal. It is very soluble in water and has too powerful an action for general use.

Codeonal (dose 2 to 10 grains).—A mixture of medinal and codeine-veronal. It has an action similar to that of veronal, but more powerful.

Veronal and its derivatives have recently been placed on the Poisons Schedule.

Adalin (bromo diethyl acetyl urea).—A white powder, nearly insoluble in water. Dose 5 to 10 grains as a sedative, 10 to 15 grains as a hypnotic. This drug has the advantage of being both a sedative and hypnotic. It is very useful in most forms of insomnia, and does not appear to cause unpleasant after-effects. No serious toxic effects from medicinal doses appear to have been recorded.

Bromural (a brom-iso valerianyl urea).—A white crystalline powder, slightly soluble in water; dose 5 to 10 grains. This appears to be a good and safe hypnotic. Its use may occasionally be followed by headache. No serious toxic effects from medicinal doses appear to have been recorded.

II. Opium and its Preparations, Alkaloids, and Derivatives.

Opium.—The use of opium and its preparations for promoting sleep is so well known that little need be said of them. Their action, generally speaking, is that of relieving pain and inducing a state of mental calm which is followed by sleep. The mild diaphoretic action of opium renders it especially useful—as, for example, in Dover's powder—in catarrhal febrile conditions.

Morphine, generally speaking, has a similar effect to opium, and there is the great advantage of hypodermic administration which ensures certainty and rapidity of action. Morphine in small doses is often most valuable in conditions associated with much pain—such as after operations, in the early stages of pneumonia, pleurisy, etc. It may with advantage be combined with atropine for this purpose—for example, morphine $\frac{1}{3}$ grain, with atropine $\frac{1}{150}$ grain. It must be remembered that morphine has an exciting effect on some patients, and is then contra-indicated.

Codeine is much milder in its action than morphine, and is less effective as a hypnotic.

Heroin (diacetyl morphine).—Dose $\frac{1}{12}$ to $\frac{1}{12}$ grain.

Dionin (ethyl-morphine).—Dose $\frac{1}{4}$ to $\frac{1}{2}$ grain. The hydrochlorides of these two alkaloids are sometimes useful instead of morphine in respiratory diseases.

Omnipon is a preparation said to contain all the alkaloids of opium; its action will therefore be similar.

It must be borne in mind that opium and its preparations, as well as the above alkaloids, have their toxic action greatly increased in cases of renal disease and cirrhosis of the liver. In respiratory diseases they must be used with caution. The danger of a drug habit is known to all.

Apomorphine has recently been highly recommended by Dr. Francis Hare for cases of alcoholism. In acute cases $\frac{1}{10}$ grain is recommended hypodermically, but watch must be kept lest vomiting should result. In chronic cases $\frac{1}{30}$ grain hypodermically usually produces a short sleep.

III. The Atropine Group of Hypnotics.

Atropine is rarely used as a hypnotic, except in combination with morphine.

Hyoscine or Scopolamine (dose $\frac{1}{200}$ to $\frac{1}{100}$ grain).—The hydrobromide of this alkaloid, if given hypodermically, has a powerful sedative effect. It is useful in severe nervous cases of insomnia, and sometimes in renal disease.

Hyoscyamine sulphate (dose $\frac{1}{200}$ to $\frac{1}{100}$ grain) has been found to be a useful hypnotic when given hypodermically in severe nervous cases of insomnia.

Of the vegetable preparations of this group of drugs, those of hyoscyamus have been found most useful as hypnotics. They are usually given in combination with other hypnotics.

IV. Cannabis Indica and its Preparations.

In certain cases of nervous insomnia these preparations have been found useful.

V. The Inorganic Bromides.

The potassium, sodium, and ammonium salts are most commonly employed. In full doses—for example, 30 grains or more—they act as mild hypnotics in cases of insomnia of nervous origin without organic disease. The bromides are generally given with advantage in combination with other hypnotics, as, for example, in the well-known prescription of Sir Lauder Brunton: Tinct. opii, ♏ v; chloral, gr. v; potassium bromide, gr. xx; aq. chloroformi, 1 oz.

VI. Vegetable Hypnotics other than those Mentioned Above.

Preparations of hops have a mild hypnotic action, and they may often be usefully employed in combination with other hypnotics.

Tincture of sumbul (dose 30 to 60 minims) has a mild sedative action and may be given with other hypnotics.

Carminative drugs—for example, oleum cajaputi, ♏ v, etc.—have often a useful adjuvant action as hypnotics.

VII. OTHER HYPNOTICS.

Phenacetin, acetanilide (antifebrin), *phenazone* (antipyrin), *pyramidon* (a derivative of antipyrin), are all drugs which have an analgesic and antipyretic action, so that they often act indirectly as hypnotics.

Aspirin and *novaspirin* both act as mild hypnotics in many cases, especially in cases of febrile catarrh or of neuralgic or rheumatic pains.

Camphor-monobromide (dose 2 to 10 grains) is sometimes useful as a hypnotic in special nervous cases of insomnia.

Pellotine, an alkaloid from a cactus (dose $\frac{1}{3}$ to $\frac{2}{3}$ grain hypodermically), has been said to be a safe hypnotic, but it has not been sufficiently used for its claim to be established.

Many of the abuses of hypnotics have been indicated in the above remarks. In addition it is important to bear always in mind the dangers of "self-drugging" on the part of patients. Every patient taking hypnotic drugs should be impressed by his medical adviser with the undesirability of taking them except in real necessity.

In giving prescriptions for hypnotic remedies the drug prescribed should be dispensed in such a way that the patient will not be induced to purchase the remedy for himself and dose himself. Bottles of tablets of hypnotic drugs should never be supplied except with a written label, according to the directions of the prescription. (The printed trade label should not be on the bottle.)

It would be most desirable if definite hypnotic drugs were only supplied on the prescription of a medical man. In the case of drugs of a powerful hypnotic action it would be desirable if medical practitioners wrote on the prescription, "Not to be repeated."

Many of the abuses of hypnotics can be prevented by a loyal co-operation of pharmacists with the medical profession, and this co-operation will be to the great advantage of the public and all concerned.

DISCUSSION.

Dr. MAURICE CRAIG (London) said that while it was true that some physicians prescribed hypnotics before they were really necessary, on the other hand, in his experience there was a great danger of not giving hypnotics early enough. By too long a delay a patient might lose confidence in his ability to sleep. Hypnotics should be given on definite principle and not in haphazard manner, the aim being never to let the patient have a bad night. The patient should not be allowed to continue work while taking hypnotics. Such work was never good, and the patient frequently had to rise before the effect of the drug had passed off. Some patients slept best on excitants, others on depressants, and it was very important in a given case to find this out. Hypnotics had to be used in effective doses if sleep was really bad—for example, a dose of 4 or 5 drachms of paraldehyde. Bromides were useless in serious cases, as they only confused the mind without giving sleep, and in many cases gave rise to furring of the tongue and gastric disturbances. Some sedatives acted best in combination with other hypnotics. Certain individuals had an increased susceptibility to some hypnotics. In early types of nerve exhaustion and mental disorder opium and morphine were usually worse than useless. Opiates acted best when the patient was seriously physically ill. Sulphonal had to be used with special care in young persons, but was invaluable in the chronic insane and in old persons. He tabulated the abuses of hypnotics as follows: (1) The continuance of mental work while taking hypnotics; (2) the prescribing of hypnotics by patients themselves; (3) the use of the wrong class of drugs; (4) the increase of the dose to a poisonous extent in the endeavour to obtain sleep when the usual medicinal doses had proved ineffective; (5) leaving the patient on some hypnotic night after night without bearing in mind the effect that the drug might be having on the patient.

Professor BRADBURY (Cambridge) said the views expressed by Dr. Willcox were greatly in accordance with his own in the article on "Disorders of Sleep" in Allbutt's *System of Medicine* and in his Croonian Lectures on the same subject before the Royal College of Physicians. He agreed with Dr. Willcox that many persons who were supposed to be suffering from insomnia slept more than they thought they did. Some people also required less sleep than others, finding four or five hours, or even less, quite sufficient. Much depended upon the quality of the sleep. If this were sound and unbroken it was more refreshing than that in which the patient frequently awoke and went off to sleep again. He mentioned cases in which persons awoke precisely at the same moment, night a ter night, at 3 a.m., and found it difficult, if not impossible, to get off again. These were generally cases of gouty insomnia, and were benefited by change of air and a laxative dose of effervescing citrate of lithia given every morning on waking. He agreed with the previous speaker as to the importance of breaking the habit of sleeplessness, and for this he knew of no better and safer drug than veronal. He prescribed it at bedtime in 5-grain doses for a woman and 10-grain for a man, washing it down with some hot water. He had never found it necessary to give more than 10-grain doses, and he had had no untoward effects, such as those mentioned by Dr. Willcox, from the drug. In his experience the remedy acted not only the night it was given, but frequently for two, three, or even four nights running, and his plan was in ordinary cases of nervous insomnia to give it only twice a week. Unlike sulphonal, which he had for a long time ceased to prescribe, veronal did not produce sleepiness and tiredness the next day, but as a rule the patients felt refreshed as if they had had ordinary sleep. He thought sulphonal a dangerous drug for insomnia unless the bowels were kept open regularly, as there was always the danger of haematoporphyrinuria and other untoward symptoms. He agreed with Dr. Maurice Craig as to the value of paraldehyde in some cases of insomnia, and as to the dose in the *British Pharmacopoeia* being too small. It should be from 1 to 4 drachms; indeed, Sir Thomas Clouston had given as much as 6 drachms in bad cases. He (the speaker) had found a dose of whisky and hot water frequently act as well as paraldehyde, and most people would agree it was a pleasanter remedy. Bromides were sometimes useful in the insomnia occurring at the menopause, especially if combined with tincture of sumbul, tincture of hops, and camphor water. In a case which came under his observation there was, however, after taking only two or three doses of 20 grains, a condition of loss of memory, temporary aphasia, etc., produced, and in other cases—as the previous speaker had mentioned—bromides upset the digestion, caused coating of the tongue, constipation, etc. Chloralamide was a drug he had found most helpful in the sleeplessness of cardiac disease, as also a hypodermic injection of morphine, as was originally recommended by his colleague Sir Clifford Allbutt. The latter remedy was sometimes useful in the insomnia of renal disease, and had been prescribed by the late Sir Stephen Mackenzie and others. Chloretone he looked upon as a somewhat dangerous drug. A patient of his, a girl aged 10, suffering from chorea after taking 5-grain doses three times a day, developed serious symptoms of cardiac failure and a condition of apathy, but after a time recovered. Hyoscine, if given cautiously, was of use in acute mania, delirium tremens, and in the insomnia of paralysis agitans. Luminal and its sodium salt had been recommended as substitutes for it, but he had no experience of these drugs. Bromural had disappointed him, and he had no experience of adalin. The phenacetin group was especially useful if the insomnia was due to pyrexia or pain or both, and pyramidon acted remarkably well in a case of locomotor ataxy under his care.

Dr. URTHOFF (Hove) remarked on the appalling number of new hypnotics that were constantly being put forward by the trade, and each represented as superior to any previously known. He laid stress on the importance of not establishing a habit of waking at a certain time by looking at a watch, or striking a light, or taking food in the night, and on the value of aids to sleep in the form of blue pill or sodium bicarbonate in hot water, the former to reduce arterial tension, and the latter to prevent flatulence and acidity, which seemed to be so often a cause of sleeplessness.

Dr. BLACKBURN (West Hartlepool) said that the last thing that should be given for sleeplessness was a drug. In the

majority of cases the best treatment was change—to go away from the worries and anxieties of ordinary routine, etc. The best drugs were the old ones—paraldehyde, opium and chloral. In his opinion veronal and sulphonal were very dangerous drugs. In early insanity, particularly climacteric borderland cases, the treatment by three daily doses of a few minims of tincture of opium was frequently very efficacious.

Dr. HUMPHREY DAVY (Bournemouth) said that in the question of hypnotics one had to consider the state of the stomach, of the circulation, and of the brain. In regard to (1) symptoms of gastric irritation must be sought for. The use of small doses of calomel with sodium bicarbonate often brought on sleep by correcting acid secretions. In regard to (2) circulatory stimulants were often useful. In (3) disorders of the brain, a combination of hypnotic and sedative (potassium bromide and opiate) was valuable in overstrain of the brain, while in mania a combination of trional and sulphonal was better than either drug separately.

Dr. E. R. HUNT (Brighton) said that aspirin was frequently of great value during the first few nights after surgical operations. In his experience adalin acted quickly and satisfactorily in some cases, although it seemed to have no hypnotic effect on certain neurotic patients. He had, however, found that the effect quickly wore off, and in some cases, at any rate, after doses had been given for, perhaps, six or eight nights, it seemed to quite lose its effect. He did not remember having seen definitely bad results in a limited experience of the drug. The question of the prevention of the formation of a drug habit was a very difficult one, and he was doubtful as to the efficacy of noting on the prescription that it should not be repeated, especially as so many of these drugs were not scheduled. He was in the habit of going a step further in this matter, and either himself handing over the requisite number of doses to a patient or giving him an order on a particular chemist for the drug, allowing the latter to charge it to his own account and thus ensuring that the patient did not obtain either the prescription or—what was equally dangerous—the name of the drug.

Dr. GUNN (Oxford) said that this was the second public discussion that he had had the privilege of hearing upon the subject of hypnotics, and on both occasions he had formed the opinion that the discussion would have been more valuable if its scope had been more limited. He suggested that the Section of Pharmacology, having cleared the ground with a general discussion, should at the meeting next year take up one division of the subject—for example, the sulphonal and ureide groups, so that some finality of opinion might be obtained in regard to the members of those groups. He considered that this procedure would be of value not only to the practitioners, but also to those who had to select hypnotics for the *Pharmacopœia* and to those who had to teach pharmacology. As an instance of the value of detailed information, he took the statement of Professor Bradbury, who had never found any untoward effect from a dose of 5 grains of veronal to a woman, or of 10 grains to a man. If this experience were universal, then it was a fact of the utmost value in regard to veronal. Similarly, Dr. Craig had said that sulphonal was a dangerous hypnotic for young people, but invaluable for old people. Others, he believed, had stated that sulphonal was more dangerous for women than for men. If these statements were true they ought, if possible, to be established beyond dispute and given a stamp of authority. He asked upon what grounds was based the almost universal statement that a disadvantage in regard to choral was its depressing action on the heart. He knew no reliable clinical or experimental evidence to prove that therapeutic doses of chloral had any depressant action on the heart. In the course of some experiments he had made, which were in the course of publication, he had found that it required a strength of solution of chloral hydrate above 1 in 400 to arrest the isolated heart of the rabbit or cat, and a concentration of at least 1 in 1,000 to produce any depressant action. A dose of 1 gram of chloral given to an adult of 70 kilograms, if it were all present in the blood at one time, represented a maximum concentration of 1 in 5,000 (the blood being taken as one-fourteenth of the body weight). When this dose was given by mouth, not only would this concentration not be reached, but the coefficient of distribution of chloral between the blood and heart would be different from what obtained in his experiments in such a way that the heart, for this reason too, would be subjected to a relatively much lower concentration. Judged from this point of view, the hypnotic dose of chloral came well below the heart-depressant dose, so much so that he doubted if a dose of 30 grains of chloral given by the mouth to an adult would exert the slightest depressant action on the heart. At all events, it appeared that further clinical evidence was required before the odium of a heart-depressant action should be permanently associated with one of the most certain and reliable of hypnotics.

THE ACID CHILD IN RELATION TO ERRORS IN DIET.

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THE child during its growth produces much phosphoric, hydrochloric, and sulphuric acids from the metabolism of a relatively large quantity of proteid. The results of this are reduced alkalinity of blood and increased acidity of urine, hence we have an acid child, a child whose blood and fluids are bad solvents of uric acid, and this substance is very liable to be thrown out of solution and deposited in the tissues.

The growing child also forms relatively large quantities of uric acid, and, when to this large formation considerable quantities of exogenous uric acid are added in unnatural food, it is not very extraordinary that retention and accumulation of uric acid should become the most pronounced features of child pathology.

When the solvent power of the blood is fairly good, there is excess of uric acid in the circulation. When it is poor, uric acid is driven out of the blood into the tissues. The common bilious attack, migraine headache followed by vomiting, is the sign of excess in the blood. Catarrh, pharyngitis, bronchitis, enteritis, and arthritis are the common signs of its retention in some of the tissues. These troubles have been spoken of as "diseases," but I suggest that "food poisonings" would be more correct.

The bilious attack and headache are results of obstructed capillary circulation and high blood pressure causing pressure inside the skull, dilatation of the heart, congestion of the liver, stomach, and digestive viscera, the extent of which it is now easy to measure.

The local irritations and inflammations occur when the excess of uric acid is driven out of the blood by cold, high acidity, acid food, or drinks or local injury. Child life in the food-poisoned is thus a continued oscillation from solution to retention, from collaemia (biliousness) to retention (arthritis), and vice versa.

In certain periods of life retention preponderates because the acidity is high. In other periods with lower acidity collaemia preponderates. The acid child is the stage in which retention preponderates on account of its large nitrogenous metabolism. The results which this produces both in the child and in the later stages of its life-history I am endeavouring to outline in this paper.

For the benefit of those who have not read my books I may explain that life is divided into four stages: The first retentive stage from infancy to 15 or 17, the stage of the acid child with which we are here specially concerned; the first collaemic stage from 15 or 17 to 25, in which the accumulations of the previous retentive stage are more or less dissolved, causing collaemia. The second retentive stage, the high acidity period of the prime of life, from 25 to 55; and, lastly, the second collaemic stage from 55 to old age, in which the accumulations of the second retentive stage are in their turn dissolved (see *Uric Acid*, ed. vii, p. 236).

The headache of the bilious attacks rarely gets very severe before 7 or 8 years of age, because the pain is due to blood pressure, and till this age the heart is not strong enough to keep up a pressure inside the skull which will cause pain. The child was food-poisoned long before this, but headache was not one of the prominent signs of its condition. But even though such a child does not die of acute bronchitis or enteritis, or suffer from rheumatism and

morbus cordis, it may none the less have the development of both mind and body seriously interfered with. Such children do not grow up, such food-poisoned races do not grow up either; they remain undeveloped throughout their lives, and tend to live the lower selfish life in place of the higher altruistic one; thus is the evolution of man hindered by food-poisoning.

Constipation, which is common among children on unnatural food, is a powerful factor in high acidity and retention, for it is from the large bowel that water and acid products are chiefly taken up into the blood. Hence any undue delay in this part of the intestine means increased absorption of acids and a doubly acid child.

During and after bilious attacks there is a period of collaemia, and all collaemia produces anaemia. How far this is due to increased destruction of blood elements, as, for instance, in paroxysmal haemoglobinuria, and how far to defective circulation in blood-forming glands is uncertain, but there is no doubt as to the fact that anaemia increases with collaemia and diminishes with retention.

Such anaemia becomes more marked as the first retentive stage nears its close, and may continue with increasing severity through the first collaemic stage. Everything that knocks the child over—such as a shock, injury, or severe illness—will tend to damp down the fires of life, to diminish the formation of acids, and will thus bring in collaemia and anaemia in place of the retentive troubles.

Towards the end of the first retentive stage or sooner we get a certain amount of anaemia, which, in its turn, brings in some failure in the nutrition of the heart and other muscles of the body; and we must remember that all the muscles of the body take some part in forwarding the circulation of the blood—a most important reason for seeing to their proper development and use in childhood.

An antecedent bronchitis, if severe and continued, may take a hand in straining and dilating the heart, then heart strain brings in congestive dyspepsia, and these troubles may lead on to chronic and progressive debility of the muscles, the heart, and the general metabolism. Here may originate syncopal or epileptic attacks, enuresis, chorea, insomnia, somnambulism, night terrors, and the more severe of these troubles may be accompanied by albuminuria or glycosuria as the first hints of a possible Bright's disease or diabetes; and, in any case, there is sure to be greatly diminished mental power and very defective development of mind and body.

We have thus a complete explanation of the alternation of retentive with collaemic forms of food poisoning, the latter being dependent both as regards severity and duration on the extent of the previous retention. Thus it comes about that the very uric acid which produced the rheumatism of 12 or 13 produces also the chlorosis, debility, and heart failure of 17 to 20 and their sequelae.

This poison-laden body, with its slow capillary circulation and feeble nutrition, low temperature, and anaemia, is the happy hunting ground of the ubiquitous microbe. It is thus small wonder that tuberculosis so often fastens a deadly hold on its victims in the first collaemic stage.

The excess of uric acid has three sources: (1) Formation of some excess in relation to an excessive metabolism of proteins. (2) Excess introduced in unnatural food, whether this is the milk of a mother living unnaturally, or foods, other than milk, which it may be given later on—for example, meat juice, raw pounded meat, meat extracts, soups, peas, beans, or lentils, tea, coffee, chocolate, and cocoa, of which large quantities are to-day consumed by children. (3) It retains some of that which is provided from sources 1 and 2, its fluids being too acid to hold it in solution till the kidneys can excrete it. Then once a focus of retention has been set up this tends to go on attracting more and more uric acid, acting in fact just like the well-known uric acid filter. Uric acid in the blood, like that in the urine, cannot pass a focus of retention without clinging to it.

Every move in this chain of causation, every fluctuation of uric acid from the tissues into the blood stream, or vice versa, is visibly recorded in the rate of the capillary circulation, in the blood pressure, in the size of the heart and liver. Every similar fluctuation can be easily watched and recorded in curves, every sequence foretold and, if necessary, controlled. The same circulation records also tell you when you have succeeded in clearing both blood and tissues from excess of uric acid (see "Some Circulation Factors Admitting of Easy Measurement," BRITISH MEDICAL JOURNAL, vol. ii, 1911).

A temperature chart will also tell the quantity of uric acid in the blood, as temperature is to a large extent a matter of capillary circulation. The temperature is subnormal in collaemia, especially when the heart is defective. But when the uric acid has been driven out of the circulation into some of the fibrous tissues the temperature tends to be irregular and slightly raised.

Thus the acid child retains, but the retention is not continuous, the uric acid overflows now and then into the blood, and by obstructing the circulation causes a uric acid storm or bilious attack. Most of the symptoms of this attack are, as we have seen, the mechanical results of the obstructed circulation. By the time we come to gastro-duodenal and hepatic congestion with nausea and vomiting, there is more or less marked tendency to faintness corresponding with the strain and dilatation of the heart, and the patient lies in a mixed condition between collapse, coma, and sleep. The skin and extremities are cold and the capillary circulation in them is very slow. This is the time to look for a paroxysmal albuminuria or glycosuria.

Later on sleep probably gets the best of it, the stomach having been relieved of its irritating contents, a certain amount of digestion and absorption takes place lower down in the intestines, the absorbed albumins produce a rise of urea and acidity, the blood is cleared of some of its excess of urates, the skin and extremities become warm, the attack passes off, and the child after some hours of sleep wakes well. The attack is followed by a period of good appetite after the temporary starvation; this means a further rise of acidity and urea with increasing retention of urates; the retention goes on for ten days or more and is followed by another collaemic storm; and so on through life or till the stage of life alters, substituting a more stable and permanent condition of retention or collaemia.

During the bilious attack some 15 or 20 grains of excess uric acid are excreted and, as the attack passes off, retention sets in once more. This explains why migraine generally alternates with arthritis or other gouty local troubles, being worse and more frequent when the arthritis is better and vice versa.

Many things, however, may produce a break in high acidity and retention, and thus bring back collaemia and migraine. Thus getting hot in the incoming season of spring and summer, any unwonted exertion causing perspiration and fatigue, or dyspepsia from indigestible food will lower urea and acidity (formation of acids), and increase the solvent powers of the blood for urates. Irregular meal times or an unusually long fast will do the same, hence a fast properly conducted is as powerful an eliminator of deposited urates as any drug known. Hence the remarkable way in which gout, cancer, and wealth follow in each other's track. It is difficult to grow either gout or cancer on deficient protein.

With such fall of acidity, however produced, collaemia is certain in the urate-laden; and dilatation of the heart and congestion of the digestive viscera follow. If the heart is strong there is a rise of blood pressure producing headache, but in most children there comes a time when the heart has more than it can do, and you then get a tendency to collapse with falling pressure; but with the increasing congestion of the abdominal viscera comes increasing metabolic defect, and albuminuria or glycosuria may appear (see "Metabolism and the Circulation," *Medical Record*, New York, July 12th, 1913). It is this congestion accompanied by feelings of weight and fullness in the right side that has led to bilious attacks being "chill to the liver." If gastro-intestinal putrefaction is marked owing to stoppage of digestion there may be a more or less marked rise of temperature, and this is followed later on by the passage of motions or flatus which are very offensive. Such a temperature can be brought down at once by a dose of mercury which clears the blood of uric acid and frees the capillary circulation; it is by no means necessary to purge, for all the good results can be obtained without any purgation. What is necessary is to free the circulation and thus let normal digestive processes replace putrefaction. It is at the time of the most severe collaemia and the most complete block in all digestive and metabolic processes that we get that excessive destruction of red cells that has been called "paroxysmal haemoglobinaemia," but this is only an exaggeration of

the similar destruction and resulting anemia which all collaemia produces to a greater or less extent.

But the clearing of the blood from excess of uric acid either by mercury or as Nature does it by a rise of acidity, does not clear it out of the body. It generally produces a retention in the liver, and thus an accumulation is provided ready for the next storm. There is no real cure for any of these troubles except by clearing, not the blood only, but the entire body from excess of uric acid. Hence the great success of the uric-acid-free diet by which alone complete clearance is made possible.

Such deposits may affect many other parts of the body besides those already mentioned—all the fibrous tissues, fascia, glands, the eyes, nose, pharynx, ears, and the periosteum of the teeth may be irritated by urates and eventually become enlarged and fibrosed. Many glandular enlargements in children betray their uratic origin by quickly clearing up on solvents, such as salicylates or alkalies, or on a diet containing much potato. Adenoids and tonsillitis represent the reaction of the naso-pharyngeal glands and mucosae to irritation by uric acid, and this is clearly evidenced by their well known relation to cold and damp. These troubles often attain their maximum near the end of the first retention stage, and then gradually dwindle and disappear in the first collaemic stage, thus paralleling the history of bronchitis, rheumatism, and other results of the first retention stage (see *Uric Acid*, ed. vii, p. 392).

Children are often quite insufficiently clothed and exposed to cold in houses which are badly warmed; they very often do not get nearly enough exercise, or exercise of such a kind as to develop and employ all their muscles. These are all conditions which tend to raise still further the acidity of the acid child, and thus to still further hamper the solution and removal of urates. Heat is both directly and indirectly a solvent of uric acid, and its indirect action is due to its aiding the elimination of acids from the body in perspiration.

The signs of an acid and food-poisoned child are a constant tendency to migraine or bilious attacks, dyspepsia, rheumatism, eczema, catarrh, enteritis, and with these there is often a red flushed face, giving a bright complexion often mistaken for a sign of conspicuous health, an irritable or dry skin, considerable irritability of temper, frequent micturition with a highly acid urine, which colours the collecting vessel with urates, or throws down red sand.

With regard to the bright-coloured rheumatic complexion, I believe that the difference between the English and American complexions is to some extent accounted for by difference in exposure to cold in childhood. Both nations are alike as regards the introduction of urates in foods, but the English take their poisons along with exposure to cold, which drives them out of the blood into the tissues, leaving the circulation free and the colour good, but they get arthritis, bronchitis, and other retentive troubles. American children, on the other hand, living in much warmer houses, carry more of their urates in their blood, they have a lessened tendency to arthritis but get in place of this anaemia and a more defective skin circulation, hence their relatively pale, muddy complexions. Neither child is natural, but the English child gives the more misleading appearance of health. Natural healthy colour is a general warm tone due to free circulation of good blood, but no vessels are visible.

By the time all these signs are evident in the acid child who has reached the later years of the first retention stage it may have scores, even hundreds, of grains of urate distributed throughout the tissues of the body. When the retention stage comes to an end all this quantity becomes available to pass through the blood, producing collaemia, anaemia, and all the troubles of the first collaemic stage, beginning with headache and ending perhaps in Bright's disease or diabetes.

The child is of necessity a factory of acid products on account of its rapid metabolism up to the completion of growth. Under normal conditions of food, clothing, housing and muscular exercise this high acidity of rapid combustion does no harm. The acids are neutralized and eliminated; there is no excess of uric acid for them to retain, for there is no introduction of uric acid, and all the uric acid of formation is excreted day by day as it is formed. Life is then an altogether different matter; in place of "disease" we see physiology. But when under these conditions of high acidity a large quantity of uric acid is added from without, there comes an ever-increasing tendency to retention, and this soon includes both the uric acid of introduction and that of formation. The child then gets into troubles from which there is no escape. The accumulating poisons produce effects according to the extent of the accumulations and the stage of its life-history in which they are able to act. The apparently various results have been looked upon as "diseases" simply because their real origin in food poisoning, reinforced by other abnormal life conditions, was never suspected. The best proof of this causation is to be seen in the results of bringing up a child correctly. When he is fed on natural food, warmly housed and clothed, and able to use all his muscles naturally as they grow and develop, he will himself develop into the most magnificent specimen of the human animal, and be free not only from the plague of names that to-day obscures his physiology but from almost everything that can reasonably be called "disease."

DISCUSSION.

Dr. Gunn (Oxford) said that, having read Dr. Haig's book some years ago, he made some experiments on rabbits to determine what effect, if any, uric acid produced on the blood pressure. He failed to obtain any pressor effect from intravenous injection of uric acid, and he therefore doubted one of the most important of Dr. Haig's premisses.

Dr. Haig, in reply, said he also had obtained similar results, but that such experiments did not reproduce the conditions as regards uric acid in the blood in man.

ERRORS IN DIETETICS.

By H. F. Winslow, M.D.Lond.

The subject which I have asked permission to bring before you is one which, in one aspect, is of the simplest elementary character, and which meets us at every turn in our daily life; but, on the other hand, in consequence of its universal application, is of the very greatest sphere, and affects in no small degree our personal comfort and our enjoyment of life, as well as the physical development of every one of us.

As it refers to the method of our feeding, and its effects on bodily nutrition in general, it will not be out of place to draw your attention to the common and ordinary method of taking food, in this country at least.

You will find on consideration that the taking of food does not greatly differ in the various grades of society.

We have still to acknowledge that society is divided into two principal classes—the upper or richer class, composed of the man of independent means, the professional man, and those who earn their living by the work of their brain; and the lower class, composed of those who live by the labour of their hands, the mechanician, the working man, the labourer, and such like, most of whom are maintained by the receipt of a weekly wage—a rough classification, no doubt, but sufficient for the consideration of the matter in hand. The mode of taking food, as I have already said, does not greatly differ in these two classes.

As a rule there are four meals a day for all—the breakfast, which is universal; the midday meal, which is the dinner of the working man and the luncheon of the richer class; the tea, and the late meal or supper of the working man and the late dinner of the upper class.

The breakfast and tea I would designate as the two fluid meals, seeing that they are characterized by the coffee, tea, or other fluid which is their main feature; and the dinner of the working man and the late meal which constitutes his supper, and the late dinner of the richer man and his midday luncheon as the two solid meals respectively. It is to these meals that the observations I venture to make mostly refer, but more or less remotely to all the other meals and to all other classes who partake of them.

It is familiar to us all that we begin the main meal of the day with some kind of soup, the essential element of which is a warm fluid, with a meat flavouring, but conveying only a small amount of nutritive matter: the typical form of this food is beef-tea, so universally used for sustaining the bodily powers of the invalid; but even

beef-tea and all other forms of broths must be looked upon with a certain amount of suspicion. We all may, perhaps, call to mind an experiment, quoted in many works on physiology, which was carried out on a pack of hounds; one half of the pack was fed on the fluid in which the meat was thoroughly boiled, and the other half was fed on the shreds which were left after the boiling. The half of the pack of hounds fed on the beef-tea (let us call it) became emaciated and poor, whereas those fed on the shreds maintained their rotundity, indicative of good assimilation and healthy nourishment. It is true, however, there are other kinds of soup which, doubtless, convey a fair amount of nutriment.

Now, commencing with the soups which I have mentioned, we will all agree that it is not uncommon to fortify our appetites with a glass of sherry or other fluids, with the intention of giving a stimulus to the digestive capacities of the stomach and other surfaces over which the food is passed in the natural order of digestion. It is not too much to say that there is a pretty continuous process of "sipping" throughout the whole meal, either of alcoholic fluid or of some other and perhaps more exceptional drink. And here I wish to state very clearly that I am not proposing to advocate or deprecate the use of alcoholic drinks. I am not referring now to temperance or total abstinence in any form whatever, and I prefer not to enter into that question.

The "sipping" of fluids is almost universal in all classes. The working man has his half-pint or pint of beer, the richer man has his wine or other liquor in some other but more indefinite form; and so it is that a very considerable quantity of fluid is introduced into the digestive area, to the amount of some 50 to 100 per cent. of the normal digestive fluids. And that is the pith and substance of what I wish to bring under your notice to-day. It will, I think, be generally agreed that the "sipping" of fluids of some sort or another is almost of universal custom. And I expect that there are few amongst us who could say that they never mix their solid with their fluid foods. If we take observation of animals in their normal state, they will be found never to mix their solid and fluid foods. The beasts of prey mostly hunt and kill their quarry at the close or middle of night. They carry it off and tear it in solitude, and towards morning or in the decline of day they visit the stream, or pool, and there quench their thirst, apart from the solid meal, the mid-day being mostly devoted to siesta.

Nor do we find animals that are domesticated mix their solid and fluid foods as do men. One exception to this is found in the common pig. Pigs mostly, in the domestic state, are fed on pig-wash of barley meal, bran, or grains mixed with water to make a sort of mash; and what is the result of that? They become overloaded with fat, are unwieldy and sluggish in their movements, and are almost a different tribe of animal to the wild boar, which is one of the most hardy, active, and vigorous animals—the joy of the hunter in India, full of courage and spirit. Can we not draw some inference from this instance of the difference which would follow to human beings were they nourished by solid food apart from fluids, instead of living, as they have done and still do, on a kind of "mash"? Did time allow I would like to draw your attention to milch cows as fed in some parts of America on the wash of whisky distillation—called swill-fed cattle—and the direful effects it has upon them.

As a matter of fact, human beings are fed on a kind of "mash" compounded of all sorts of heterogeneous solids and fluids which it might almost horrify us to enumerate.

Depend upon it, Nature has amply provided for the reception, the digestion, and the assimilation of all food which is requisite for our nourishment and development. The salivary glands are those which come under our more immediate observation; those glands of the stomach, which follow after, and those of the alimentary canal, no doubt are brought into similar and subsidiary action, and are, more or less remotely, affected in a similar way. The very thought of food will excite the action of the salivary glands, especially the sublingual glands, and cause a copious secretion of saliva, commonly spoken of as a "watering of the mouth"; how much more will the contact of solid particles of food urge on the secretion of that saliva. I doubt not that the drier and more crisp the food introduced into the mouth, the freer and more copious will be the salivary secretion. For instance, it will be found that a crisp and dry biscuit, such as the common water biscuit, provided it is sufficiently masticated (and that is of the first importance), will form a soft and semifluid emulsion, which, as a matter of fact, requires but little swallowing to admit it into the stomach preparatory to assimilation. If complete mastication be carried out, this class of food requires no addition of fluid to render it in a fit state for digestion in the stomach, but, I contend, is hindered in its assimilation to the very extent to which the fluid has been added. How can we reasonably expect the salivary fluids, or the gastric or other alimentary fluids, to carry out their normal functions if they are handicapped by something to the extent, or may be far beyond, their own weight? We are surely placing a burden upon the digestive functions, a burden which it is simply impossible for them to bear. What applies to dry foods such as the biscuit evidently applies in a like degree to all other solid foods, and those of a nitrogenous character; in these, the non-digestible parts, such as ligamentous and densely fibrous portions, should be removed before they are taken as food, such matters passing from us practically unaltered. The fatty and muscular parts, if fully and fairly subjected to mastication, are sufficiently and thoroughly moistened by the secretion of the glandular surface of the whole of the alimentary canal so as to require no additional extraneous fluid, and I should indeed be glad if I could impress this truth so far as to carry conviction. Do not for a moment suppose that I am advocating the entire exclusion of fluids as an article of food; that would be palpably absurd; what I wish to impress, and that with the whole power of argument at my command, is not so to mix up the fluid with the solid ingredients of our dietary as to impede and in a measure neutralize the beneficial action of the salivary and gastric juices; and that, I maintain, can be done, and done with signal and evident benefit.

It will naturally be asked by what means and by what alteration of method this reform is to be effected. The answer to that inquiry is, The solid food which we take must be allowed to be so adapted for normal assimilation by being subjected to the action of the gastric juices, unalloyed, unadulterated, and unweakened, by mixture with extraneous fluids, and that during the time that the process is going on. I am fully alive to the fact that fluid food is necessary, as well as not to be denied, but let that fluid be kept apart from the solid materials while undergoing digestion. We should therefore allow a fair interval, from half an hour to two hours, before we take our drinks.

It may be objected that the sociable character of our dinners would be much hampered—that people love to linger over their food, and to give evidence of the goodwill that they feel one for the other, by the "passing of the bottle" and the drinking of healths.

I think such an idea is imaginary and would be little supported by practical experience. The fact is that the system which I advocate tends rather to the prolongation of meals, caused by the greater time taken by a more perfect and complete mastication. Unless this be done but little benefit will be observed by any such change, and the salivary and gastric juices will remain clogged and hampered.

What, then, more simple than to commence our meal with a biscuit, or piece of toast tempered, if you wish it, with some savoury, and make that the beginning of our meal, in place of clear or other soup? Most of the dishes which follow supply their own fluid constituents, the gravy of the joint, the sauce of the pudding, and, above all and ever acceptable, the juices of the fresh fruits of the dessert. But with all this the mastication must be complete, or little good will be realized.

Any person giving expression to these thoughts will properly and naturally be asked upon what authority and evidence they are founded. Here the personal element must inevitably come in. I myself have carried out the method of feeding which I have endeavoured to describe for some time past, extending to about a year, and from that experience I feel fully justified in declaring that the statements I have made are absolutely correct. I cannot say I have ever been a martyr to dyspepsia, but, like most other people, I have had my turn now and then. Since

my change of diet and method of feeding I have had none. I have had no occasion to take medicines of any kind. I have had no depression, giving rise to the thought of neurasthenia, in any form, and, in a word—making allowance for advanced age—I have had no occasion to complain of any untoward sensations arising from dyspeptic disorders. I feel, too, that had I followed the lines set forward above ten or twenty years ago, instead of only one year or thereabouts, I should have reaped full benefit from so doing. I do not know that I could give a much higher credential.

I would only say, Do not take my word for it, but try it for yourselves, and if you find it comes up to sample you will most assuredly give salutory instruction to those who seek your advice.

I have but one word to say in conclusion, and that is, Give the salivary, gastric, and alimentary juices the fair chance which is their due, and we may be sure that they will, on their part, duly respond.

DISCUSSION.

Dr. UHTHOFF (Hove) said that he was not in agreement with Dr. Winslow in regard to taking the lower animals in all cases as our standard. For example, surely no one would advocate the consumption of meals with the rapidity that the dog gulps down its food. The point he considered of importance was not the avoidance of fluid with meals so much as the avoidance of mixing fluids with the process of mastication.

Dr. MAURICE CRAIG (London) deprecated the making of a general rule for all cases in regard to such a subject. For example, one person grew fat on taking fluids with meals whereas another lost weight, and the same might be said of taking fluids between meals. It was right to turn to the biological world when in difficulties as to what suited animals as a whole, but, on the other hand, it was a mistake to be alone guided by such an investigation.

Dr. BERNARD SMITH (London) advocated the early draught of fluid nutriment (hot cocoa, coffee, or milk) as being the first thing to be thought of in the morning. An impulse towards solid food followed naturally according to individual habit and inclination.

CONTINUOUS ANTISEPTIC INHALATION IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

By C. MUTHU, M.D.,

Physician, Mendip Hills Sanatorium, Wells, Somerset.

I.

THE ravages caused by pulmonary tuberculosis have been so persistently brought before the public during the last few years that we are all more or less interested in the study and eradication of the disease. Those of us who have been fighting this white scourge for many years are convinced that it cannot be exorcised by any kind of jugglery or by any witches' concoctions or injections. As the causes that make for tuberculosis and the conditions in which it prevails are complex and varied, so its treatment to be effective should embrace many sides and many factors, and must be proceeded with step by step, line upon line, till the patient is finally restored to health. Believe me, it takes many months and even many years for the disease to develop and manifest itself, and it also takes a considerable time to get the patient well. Nature never does things in a hurry. She builds slowly but surely. Based on these convictions, we have built up a line of treatment which has been very successful in dealing with a large number of cases of consumption. I cannot do better than describe briefly what I call the (*a*), (*b*), (*c*), or three main lines of treatment which have been systematically worked in our sanatorium for some years. They are: (*a*) Aëro-therapeutics, (*b*) breathing and graduated exercises, (*c*) continuous inhalation.

(*a*) The first line of treatment consists in building up the resisting powers of the patient by fresh air, food, and rest. The freedom of the open country with its green fields and meadows, the quiet and restful conditions imposed by sanatorium life, the new habits acquired, such as early to bed, etc., have all a psychic effect, and act favourably upon the patient's jaded mind and enable him to recuperate his failing energies. The open-air life brings him into close communion with Nature, who nurses her sick children back to health. This first step alone is sufficient to arrest the disease in some early cases.

(*b*) In the second line of treatment the patient is taken a step further. Here he is gradually introduced to various kinds of exercises—to breathing, singing, physical exercises, such as chopping, sawing and planing wood, digging broken and unbroken ground, and, as he gets nearly well, to tramping the surrounding country, camping, etc. The rationale of graduated exercises is that rest and exercise are so adjusted by the physician that for every time bacterial products escape the focus of infection, Nature responds by manufacturing protective substances from her secret laboratories. This constant conflict of toxins with antitoxins gradually increase the level of patient's resisting power till a natural immunity is created against the disease. But we must remember that the second line of treatment would be ineffective without the first. If it is absurd to expect a bankrupt to discharge his debt, it is equally futile for a patient to create antibactericidal substances when he is poor in health and low in vitality.

(*c*) Side by side with these measures, or when they have failed, the third line of treatment takes the patient still further on the way and brings its powerful aid by directly attacking the morbid activity of the bacilli and their toxins. At this stage three important therapeutic measures claim our attention—drugs, tuberculin injection, and continuous inhalation. It is not possible to deal effectively with living pathogenic organisms and their products by the administration of drugs by the mouth. If the dose is small, the potency of the drug is neutralized and becomes lost by the flow of many secretions and the blood stream it meets on the way. If the dose is large it produces a toxic effect, deranges the stomach and other digestive organs. I cannot honestly say I have seen any permanent good from administering medicines such as creasote by the mouth. Medical opinion is yet very much divided as to the efficacy of tuberculin in the treatment of consumption. My experience of tuberculin has on the whole been disappointing, and will, I am sure, be corroborated by many medical men and by the report which the King Edward Sanatorium is issuing on the subject. To expect to raise the patient's resisting powers by a course of tuberculin when his health is broken down and his vital powers are low, is like trying to squeeze money out of a bankrupt or whipping a tired and hungry horse to do more work. It does not seem right or reasonable to inject into the system what Nature throws out as poison. I still believe, what I consistently maintained for some years, that there is a risk of tuberculin injection lighting up fresh activity in a latent or quiescent tuberculous focus in the lungs or glands. Besides, a regulated system of rest and exercise has done what tuberculin professes to do, only without incurring any danger and in a more natural manner—namely, it has provoked auto-inoculations and antitoxins at the right moment, with the right dose and in the right way, thus helping to create a natural process of immunity.

II.

Of late years there has been a steady revival to introduce inhalation in the treatment of pulmonary tuberculosis. Antiseptic inhalation is a very ancient remedy. Centuries before the time of our Lord both Indian and Greek physicians made use of inhalation in the treatment of bronchial and chest affections. Charaka, Susruta, Hippocrates, Galen, Laënnec, are some of the classical names that figure in the history of inhalation treatment. While, coming to our own times, many distinguished men, such as Sir W. Roberts, Dr. Coghill, Dr. Burney Yeo, Dr. Wilson Fox in England, Dr. Beverley Robinson in New York, Dr. Ruata in Perugia, and lately Dr. David Lees, stand prominently in their advocacy of this method of treating consumption. The Indian physicians of the pre-Christian era not only used aromatic substances (which were ground into powder, made into a paste, smeared over thin tubes, and lighted, and the smoke

inhaled) as inhalants, but they gave, among other things, garlic and pepper in increasing doses. They also ordered their consumptive patients to sleep in the same room and in the same house with goats, so that they might inhale ammonia and other products given off from their urinary excretions. Curiously enough, the maggotorium establishments for consumptives, the first of which was opened in Bradford in 1911, make use of the same principle of administering the inhalation of ammonia and other gaseous emanations from maggots. Also it is noteworthy that after so many centuries garlic should be revived in the form of inhalation of allyl sulphide, by Dr. Minchin and others. So that whether in the form of volatile drugs or the emanations of ammonia from the goats or maggots, or allyl sulphide, the principle of inhalation has once more come to be recognized as a rational means in the cure of consumption.

Ever since 1895 I have been treating pulmonary tuberculosis with antiseptic inhalations; and since 1899 I have used them in combination with sanatorium treatment. At the Tuberculosis Congress held in London in 1903 I reported a group of cases successfully treated by this method of treatment.

How inhalation is used in our sanatorium. We use two methods in the sanatorium: The lamp method—where formaldehyde is vaporized in a methylated spirit-lamp, containing a hot-water boiler, the inhalation being taken in patients' own rooms with wholly or partially closed doors and windows for half an hour at a time; the continuous method—for which I have devised an inhaler after the pattern of Dr. Yeo and Dr. Ruata, which combines all the advantages without their disadvantages. It is not enough to make use of antiseptic drugs for inhalation purposes, but they must be more or less volatile, and be easily taken into the lungs in the form of vapour with the inspired air. The efficiency of the treatment lies in proportion to the degree of diffusibility of the antiseptic mixture used. We use two groups of solutions—formaldehyde and guaiacol group. The first is found in A mixture, the second in C and D, and both in B. Of all the antiseptic solutions formaldehyde stands first, as it is not only a strong germicide, but is highly volatile, and possesses great penetrating power into tissue cells. It is first introduced to the patient in A mixture, which is a mild combination, containing only 2½ per cent. in strength and made pleasant with the addition of menthol, pine, and chloroform. B is a stronger inhalant, containing 5 per cent. of formaldehyde with menthol and pine, and the whole dissolved in chloroform and alcohol. In this way I have given formaldehyde in hundreds of cases, and even to young people, without any difficulty. It possesses the property of hardening the mucous membrane of the nose and air passages; hence the patients do not feel any inconvenience after a few days. After B, the patients go on to C. B and C are our standard mixtures, and more generally used, while D, which contains iodine with guaiacol and terebene, is kept as an alternate solution, or for night use. Guaiacol is much more easily absorbed and less irritating than creasote. Where, in a very few cases, formaldehyde is not tolerated, or where pulmonary tuberculosis is complicated with the affections of the nose and throat, C and D solutions are tried from the beginning. The advantage of having more than one solution is this: The monotony of using the same mixture over and over again has a wearying effect upon the mind, whereas a constant change of inhalants keeps up a fresh interest in the treatment till success is achieved. Besides, all the solutions in succession gives the patient the advantage of trying many antiseptic drugs in the course of the treatment. Both the inhaler and the mixtures are manufactured by Messrs. Oppenheimer, Son and Co., London.

The mode of procedure is as follows: When a patient first comes to the sanatorium he is sent to bed and kept there if he shows any signs of a rise of temperature. He has the inhaler for two hours the first day, four hours the second, six hours the third, and eight hours the fourth and the following days. In this way he is gradually prepared to use the inhaler a great part of the day as well as the night. Patients keep on the inhaler while they are walking, resting, reading, or playing games, etc. In fact they are encouraged to keep on the mask at every opportunity from the time they wake up in the morning till late at night, and even during the night. And as they improve and show signs of arrest of the disease the hours are gradually reduced to six, four, and two hours a day. As I have had so many inquiries concerning the various solutions I herewith give their formulae:

A.—Formaldehyde, 2½ per cent.; chloroform, ʒj; menthol, gr.x; ol. pini pumilin., ♏x; spt. vin. rect. ad ʒj.

B.—Formaldehyde, 5 per cent.; guaiacol, ʒj; chloroform, ʒij; menthol, gr.xv; ol. pini pumilin., ♏xv; spt. vin. rect. ad ʒj.

C.—Guaiacol, ʒij; terebene, ʒj; menthol, gr.xv; ol. pini pumilin., ♏xv; chloroform, ʒij; spt. vin. rect. ad ʒj.

D.—Guaiacol, ʒij; iodine, ʒj; terebene, ʒj; ol. pini pumilin., ♏xv; chloroform, ʒij; spt. vin. rect. ad ʒj.

N.B.—About 10 drops to be sprinkled on the inhaler about every half to one hour.

One or two words of caution are here necessary for carrying out the treatment effectually. See to the purity and fresh quality of the drugs used. As formalin contains more than 50 per cent. of water, formaldehyde is conveyed into the inhalants in the form of gas to make them more volatile. Hence the solutions A and B, if not all, are better obtained from the manufacturers who have taken special pains to ensure the purity and excellence of the inhalants. Keep the mixtures in brown stoppered drop bottles, as they are very volatile. Change the lint in the mask as often as necessary; it is better to have two inhalers for day and night use; the inhalers must be worn at least eight hours a day or more for the first few weeks; it is absolutely necessary for the patient to live, as it were, with his mask and make it his friend and constant companion. The secret of success of the inhalation treatment very largely depends upon carrying it out continuously and perseveringly.

Other advantages of the inhaler are: It affords protection against strong winds and dust while walking. Colds and influenza are practically unknown in our sanatorium. When the visitors do bring a catarrhal infection from outside, the use of the mask prevents the cold from spreading downwards and starting fresh mischief in the lung. The inhaler makes the patient to take a deeper breath. It also provides a certain amount of resistance and favours the flow of blood into the lungs like Kuhn's suction mask, and facilitates healing. Two more minor advantages are that the wearing of the inhaler enables the patient to be quiet, while it keeps his time and mind occupied from dwelling too much on the disease.

III.

Many years' close observation leave no doubt in my mind that by continuous inhalation volatile antiseptics in the form of vapour mixed with air enter the alveoli as well as the bronchial passages, and get slowly absorbed into the circulation in the lungs and reach the tuberculous focus. All theoretical objections must be laid aside and should give place to clinical facts, which, after all, is the only true evidence that is worthy of notice. Case after case that have got well when other measures have failed point out that in some way antiseptic inhalations help to check, if not destroy, the morbid activity of bacterial organisms, which is seen clinically in the diminution of cough and expectoration and the reduction of temperature. A remarkable case of bronchiectasis with suspected tuberculosis that was successfully treated in 1908 by continuous inhalation (and reported in the BRITISH MEDICAL JOURNAL, September 23rd, 1911) further proves my contention that inhalation has a distinct effect in inhibiting the growth of septic organisms. Of the 20 successful cases treated in 1911 (reported at the annual meeting held at Liverpool), all have kept well, except one who went back through his own fault. He is, however, getting better. In 1912 38 cases were under the treatment from four to eleven months, out of which 18 made a good recovery and 3 greatly improved. One of the 18 that got well, writing on July 22nd, 1913, says: "I am pleased to say that I have enjoyed increasing good health ever since I left Hillgrove. At the present moment I feel better than ever. . . . Next month I shall reach the respectable age of 60. . . ." The results of patients treated from 1910 to 1912 give on the whole an average of 50 to 51 per cent. cases of recovery. And every year the results will improve as we get more and more patients in the early stage.

To sum up, in considering the treatment of pulmonary tuberculosis we must bear in mind two opposite facts. Nature can cure her consumptive children without man's

assistance, and all man's resources will be of no avail if Nature fails with her help. Without any exaggeration, and looking merely at the results of many years' treatment, I can say that in the (*a*), (*b*), (*c*) method of treatment we have a sure and certain means of saving a great majority of early cases of consumption. The combined treatment is a carefully worked out system, takes the patient step by step, lays a good foundation by raising the resisting power by fresh air, food and rest, helps to create a natural immunity by graduated exercises, arrests the morbid activity of bacterial organisms and their toxins by continuous inhalation which is simple, can be used at all times, incurs no risk, and can be carried out at home with advantage if a sanatorium is not available. Just as on a battlefield, it is not all artillery or infantry or cavalry, but all the forces united together and planned and directed by wise generalship that wins the day, so it is the combined system of fresh air, rest, exercises, and inhalation, supervised and controlled by an experienced physician, that holds out the best prospect of conquering the disease in a large number of early cases. If this system fails it is either because the patient has not carried out the treatment conscientiously or his vital powers were too low for Nature to respond to the means employed.

In conclusion, I should like to raise a note of warning in reference to the recent national provision of sanatoriums in England. Nature knows no short cut to the cure of consumption. All attempts to treat the disease by cheap and quick methods will prove expensive in the long run. While palatial buildings and expensive sanatoriums are a mistake, the tendency to run cheap sanatoriums with cheap buildings and cheap food is equally wrong, and will bring discredit to the whole sanatorium movement. Nature cannot be hustled or bullied. It is better to leave the consumptive alone than use half-measures. For it is well known that patients live longer when they are left alone than when they are partially patched up by sanatorium treatment.

DISCUSSION.

Dr. WILLCOX said that in some cases of pulmonary tuberculosis the use of antiseptic inhalations was beneficial. It was valuable in the very early cases when combined with the usual methods of treatment, and also it was useful in advanced cases with much expectoration. He referred to the valuable work done by Dr. David Lees on this subject. If the method of treatment by antiseptic inhalation was to be carried out successfully it was necessary for the inhaler to be used continuously and for the antiseptic to be added at frequent intervals. There was need of some simple form of apparatus whereby the antiseptic inhalant could be automatically added.

FURTHER INVESTIGATIONS OF THE ACTION OF DIGITALIS ON THE BLOOD PRESSURE IN MAN.

By FREDERICK W. PRICE, M.D., M.R.C.P.,
Physician to the Great Northern Hospital; late Physician to the Mount Vernon Hospital.

AT the annual meeting of last year, before the Section of Pharmacology and Therapeutics, I read a paper, which appeared in the BRITISH MEDICAL JOURNAL of September 21st, 1912, entitled "Some Investigations of the Action of Digitalis on the Blood Pressure in Man." The paper was based upon investigations conducted at the bedside at the Mount Vernon Hospital for Diseases of the Chest, and it referred to 21 cases of heart disease. In regard to the first 16 of these cases the blood-pressure measurements were part of a series of investigations on 40 cases of heart disease and 3 cases of pulmonary tuberculosis, dealing in detail with the action of the digitalis series of drugs on the cardio-vascular system in man, in which I was associated with Dr. James Mackenzie, Professor Cushny, and others, during a period of two or three years.*

The reason why I referred to only 16 of the 43 cases was that, except in the early stages of our investigations, the blood-pressure observations were confined to cases with a regular heart action, or with only an occasional irregularity—that is, where there are periods of regularity of sufficient length during which to take measurements. In hearts with a completely irregular rhythm—in other words, in cases of auricular fibrillation, where there is a constant variation in the strength of the pulse-beats and the beats come through in an irregular fashion—it is impossible to get a figure which actually represents the condition. It will be well to tell you some other points in regard to the methods of investigation of these 16 cases. All the patients were first of all given a course of rest before any drug was administered. This plan prevented any drug being credited with results which were in reality due to adventitious circumstances. The sphygmomanometer used was Martin's modification of the Riva-Rocci. Only the systolic pressure was taken, for, in our opinion, it is not certain that as yet we have a method of accurately determining the diastolic pressure. The measurements were taken either every day or nearly every day. In regard to dosage, as a rule we gave a drachm, but sometimes 45 minims, of the tincture of digitalis per day. The cases were 7 cases of mitral disease, 1 case of mitral disease with also a systolic murmur over the sternum, 1 case of cardio-sclerosis, 4 cases of double aortic and mitral systolic bruit, and 2 cases of double mitral and double aortic disease. In all excepting 5 cases there was no observable change in the blood pressure during the administration of the drug. Of these 5 cases, in 3 there was a fall equal to about 20 mm. of mercury towards the end of the period of administration (in 1 of these cases the fall remained after the drug was stopped); in 1 there was probably a fall; and in 1 there was a rise equal to about 20 mm.—namely, in a case of double aortic disease with also a mitral systolic murmur, arterial wall thick and somewhat tortuous, cyanosis, orthopnoea, slight jaundice, much oedema, and slight albuminuria, and with a blood pressure varying between 170 and 180 mm. So much for these 16 cases.

It seemed to me that the matter was of such practical importance that I decided to extend these observations, and since then I have conducted clinical investigations on the general subject of blood pressure. I have tried to eliminate all possible sources of error. This is most important in investigations of this kind. The measurements were taken either by myself or by a few individuals with whose results I have repeatedly compared my own and always found them to be the same. They were almost invariably taken each day, and always at the same time of day. Excepting on a few occasions, the patients were confined to bed throughout the observations, and lived under exactly the same conditions when they were taking the drug as when they were not taking it. In each individual case the same instrument was used throughout. As previously, Martin's modification of the Riva-Rocci was employed, the systolic pressure only was dealt with, and the measurements were confined to cases with a regular heart action or with only an occasional irregularity. In some cases observations were taken over prolonged periods, even up to five months.

The same dosage of tincture of digitalis was used. In some cases I gave only one course of the drug, in others two, and in one case three courses. I described 5 cases in my last paper. They were: (1) A labourer, 52 years of age, with arterio-cardio-sclerosis, a considerable degree of thickening of wall of radial artery, a moderately enlarged heart, and an average pressure of 152 mm. Three courses of the drug were given. (2) A carpenter, 36 years of age, with mitral incompetence, hypertrophy of the left ventricle, and an average pressure of 147 mm. Two courses of the drug were administered. (3) A bricklayer, 59 years of age, with angina pectoris, wall of radial artery considerably thickened and tortuous, and average pressure of 111 mm. One course of the drug was given. (4) A carman, 37 years of age, with angina pectoris; on examination of the cardio-vascular system nothing abnormal was detected (though *post-mortem* examination revealed extensive syphilitic aortitis, the cusps of the aortic valve having escaped, and gummatous changes in the myocardium), and an average pressure of 120 mm. One course of the drug was administered. (5) A man, formerly a machinist, 45 years of age, with pulsus alternans, auricular flutter, mitral

* For some of the practical results of these general investigations see a short paper in the BRITISH MEDICAL JOURNAL of October 7th, 1911.

Table Showing the Action of Digitalis on the Blood Pressure.

	Blood Pressure in Millimetres of Mercury (Measurements taken on Consecutive Days).																									Averages.		
																										Before Drug.	During Drug.	After Drug.
Case I ...	125	135	125	132	120	132	135	138	138	130	125	145	125	140	145	140	145	145	145	145	150	140	145	145	140	145	136	141	142
Case II ...	120	115	125	125	115	115	120	118	124	115	125	115	125	115	115	120	118	120	125	130	125	135	135	135	125	132	119	119	131
Case III ...	180	180	165	160	170	180	180	180	180	175	180	185	170	180	180	180	182	180	170	175	172	160	200	190	190	185	179	176	180
Case IV ...	110	110	112	115	115	110	108	110	125	112	113	118	125	130	125	125	120	125	115	115	125	120	122	125	123	122	113	120	122
Case V ...	130	154	136	140	140	140	140	130	160	140	138	146	130	142	126	130	134	134	136	138	134	132	140	136	138	138	140	137	137
Case VI ...	122	128	136	136	130	130	132	134	128	128	130	124	124	124	132	114	120	124	120	124	110	120	120	132	102	130	130	126	119
Case VII ...	130	130	118	104	116	110	112	106	110	118	102	110	118	128	124	112	108	112	112	114	120	114	116	112	106	120	117	114	116
Case VIII ..	112	112	112	112	112	120	118	114	118	118	108	116	110	112	116	110	110	104	100	114	106	114	100	100	116	120	112	112	110
Case IX ...	94	120	100	112	120	120	110	110	110	114	108	108	108	—	—	—	—	—	—	—	—	—	—	—	—	—	111	110	—
Case X ...	150	138	116	126	120	124	138	120	114	104	130	124	112	124	116	100	128	118	138	—	—	—	—	—	—	—	129	120	121
Case XI ...	108	116	108	112	116	108	120	112	108	110	126	110	118	120	126	114	112	112	114	—	—	—	—	—	—	—	111	115	116

NOTE.—It has not been possible to give all the measurements, but selections have been made from each case to show the blood pressure before digitalis was administered, while the drug was being taken, and after. The averages do not relate to the figures here given, but to the whole of the measurements taken. The smaller figures indicate the measurements while the patients were taking the drug.

stenosis, and enlarged heart; the pressure varying from 132 to 146 mm. One course of the drug was given. In none of these cases was there a rise of blood pressure during the administration of the drug; indeed, in the third case there was possibly a fall.

Having investigated those cases which exhibited some cardio-vascular disease, I thought it advisable to turn my attention to cases in which the rate and rhythm of the pulse were normal, the wall of the radial artery not unduly palpable, and on examination of the heart nothing abnormal detected; and to-day I wish to bring before you the results of observations of 11 cases. Blood-pressure measurements were taken daily, and at the same time of day. Fifteen minims of tincture of digitalis were given three times a day, usually until some definite reaction was obtained.

The first four are cases of apyrexial pulmonary tuberculosis, admitted to the Mount Vernon Hospital for Diseases of the Chest. The samples of digitalis used were obtained from the hospital dispensary, since previous specimens tested at the University College Pharmacological Laboratory proved wonderfully constant in strength.

The other cases were under observation in the wards of the West End Hospital for Diseases of the Nervous System. The samples of digitalis used were obtained from Messrs. Wallas and Co., New Cavendish Street, W., and had been physiologically standardized at the Physiological Laboratory of the University of Liverpool.

CASE I.—W. H., an ex-soldier, 30 years of age. Measurements were taken for fifty-four days. The pressure usually varied from 125 to 145 mm., the average being 140 mm. Two courses of the drug were given, the first for eight days, the second for thirteen days.

CASE II.—A. G., male, a fruit picker, 31 years of age. Measurements were taken for twenty-eight days. The pressure usually varied from 115 to 135 mm., the average being 125 mm. One course of the drug was administered for ten days.

CASE III.—T. P., male, a groom, 30 years of age. Measurements were taken for sixty-three days. The pressure usually varied from 175 to 185 mm., the average being 178 mm. Three courses of the drug were administered, the first for eight days, the second for eight days, and the third for nine days. (A short course of four days has not been taken into account.)

CASE IV.—N. M., male, an artesian well engineer, 31 years of age. Measurements were taken for twenty-nine days. The pressure usually varied from 110 to 125 mm., the average being 118 mm. One course of the drug was given for eleven days.

CASE V.—W. B., male, a stoker, 42 years of age. Measurements were taken for twenty-seven days. The pressure usually varied from 130 to 140 mm., the average being 138 mm. One course of the drug was given for fourteen days.

CASE VI.—A. M., female, of no occupation, 17 years of age. Measurements were taken for twenty-seven days. The pressure usually varied from 120 to 130 mm., the average being 125 mm. One course of the drug was administered for fourteen days.

CASE VII.—W. T., female, a clerk, 26 years of age. Measurements were taken for twenty-seven days. The pressure usually varied from 110 to 120 mm., the average being 116 mm. One course of the drug was given for fourteen days.

CASE VIII.—R. W., female, married, 42 years of age. Measurements were taken for twenty-six days. The pressure usually varied from 110 to 120 mm., the average being 111 mm. One course of the drug was administered for fourteen days.

CASE IX.—J. C., female, no occupation, 17 years of age. Measurements were taken for thirteen days. The pressure usually varied from 108 to 120 mm., the average being 110 mm. One course of the drug was given for six days.

CASE X.—E. P., female, married, 50 years of age. Measurements were taken for nineteen days. The pressure usually varied from 104 to 138 mm., the average being 123 mm. One course of the drug was administered for seven days.

CASE XI.—E. H., male, a boiler maker, 34 years of age. Measurements were taken for nineteen days. The pressure usually varied from 108 to 126 mm., the average being 114 mm. One course of the drug was given for seven days.

Turning to the results of these 11 cases, in none was there an appreciable rise of the systolic blood pressure during the administration of the drug. In order to make quite certain of this I have worked out averages and compared them.

Let me now summarize the results of all the investigations.

In all 37 cases have been observed. Of these, 26 were cases exhibiting some cardio-vascular affection, including arterio-sclerosis, myocardial degeneration, and valvular disease (mitral and aortic), the systolic blood pressure in some of these being subnormal, in others normal, and in others supernormal; 11 were cases in which on examination of the radial artery and heart nothing abnormal was found. I submit that the methods of investigation were adequate and accurate, and that a definite conclusion is warranted.

In only one case was there a rise in blood pressure, in several there was a fall, and in the remaining cases there was no observable change. I do not suggest that the fall was due to the administration of the drug.

One very important point has emerged from my investigations—namely, that in a considerable percentage of cases considerable fluctuations in the systolic blood pressure occur from day to day. There is no doubt about this. I am not now referring to the variations associated with meals, physical exertion, or mental states, but to diurnal variations which appear to be quite independent of these. In one case the variations amounted to 26 mm. of mercury.

Now, if in by no means a small proportion of cases there may be considerable normal fluctuations from day to day, we should be very careful in coming to conclusions in regard to the action of drugs on the blood pressure in man. It should never be forgotten that any changes observed during or after the administration of a drug in disease may be due to the natural course of the malady.

Taking these two facts into consideration—namely, (1) that in only one case was there a rise in blood pressure,

while in several cases there was a *fall* of pressure, and in the remaining there was no change; and (2) that not infrequently a normal diurnal variation of considerable range occurs—I think we must say that, so far as these cases are concerned, the internal administration of digitalis does not raise the blood pressure in man by constricting the peripheral vessels. This is directly contrary to the belief which has hitherto been held without questioning by the profession at large, and the view which is found in the textbooks of pharmacology and therapeutics, and is taught in the medical schools.

Upon what evidence has the belief rested? So far as I can discover from the literature of the subject, with the exception of Sir Lauder Brunton's observations by means of the sphygmograph upon himself, the belief has rested entirely upon experiments upon animals, and animals which were in normal health.

Now, as I have pointed out before, although it may be proved that a particular drug has a certain action on an animal, especially a healthy animal, it does not necessarily follow that it has the same action on a human being, especially with a diseased condition. The experimentalist, in order usually to get his result within a few hours, usually employs extremely large doses. Also, the reaction of a drug is influenced by the nature of the lesion. Furthermore, in regard to blood pressure we should remember that in man, in order that the upright posture may be maintained, the vaso-constrictor mechanism is much more perfect than in the lower animals. Anyhow, I submit that these investigations go to prove that, judged by the methods in use for observing the blood pressure clinically, the internal administration of digitalis does not raise the blood pressure in man by constricting the peripheral vessels. Hitherto therapeutists have been afraid of administering the drug in cases of cardiac failure in which there is extensive degeneration of the arterial coats, for fear of rupture of their walls and apoplexy, or where cardiac dilatation is associated with increased arterial tension from disease of the arterial coats and of the kidneys. Some have tried to get over the difficulty by prescribing along with digitalis some appressor, such as sodium nitrite or nitro-glycerine, in order to dilate the vessels and lessen the arterial tension. It should not be forgotten, however, that the effects of appressors are but transient, while the rise in the peripheral resistance—if it is brought about by digitalis—is practically continuous. Others employ strophanthus instead in these cases, because of the prevailing view that it constricts the peripheral vessels less or not at all. But if digitalis does not raise the blood pressure in man by constricting the peripheral vessels, there is no risk in administering the drug in cases of degeneration of the walls of the blood vessels or of supernormal blood pressure. The point is of great practical importance, and it is because of this that I venture to lay before the profession the results of these investigations.

Records of the measurements of the 11 cases are appended (see table on previous page).

I wish to express my most cordial thanks to my late colleagues at the Mount Vernon Hospital; to Drs. Harry Campbell, Frederick Palmer, and Purves Stewart for kindly allowing me to make observations on their patients; and to Drs. Linnell, Shinnie, and Kimbell, and Mr. Hewitt Jones for much assistance in these investigations.

A CHAIR of Medical History has been established in the University of Siena. Dr. Domenico Bartuzzi, President of the Italian Society for the Critical History of the Medical and Natural Sciences, has been appointed professor.

THE fourth Congress of the International Surgical Society will be held at New York in April, 1914 (14th to 18th), under the presidency of Professor A. Depage, of Brussels. The following questions are proposed for discussion: (1) Gastric and duodenal ulcer (reporters, Sir Berkeley Moynihan and Drs. de Quervain, Hartmann, Lecène, Mayo, and Payr). (2) Grafts and transplantations (reporters, Drs. Carrel, Lexer, Morestin, Ulmann, and Villard). (3) Technique of amputations (reporters, Drs. Binnie, Ceci, Durand, Kuzmik, Ranzi, and Witzel). In connexion with this discussion there will be an exposition of artificial limbs. All communications relative to the congress should be addressed to Dr. Ch. Willems, President of the International Committee, 6, Place St. Michel, Ghent; or to Dr. L. Mayer, 72, rue de la Loi, Brussels.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

STRANGULATED HERNIA IN AN INFANT.

I WOULD like to add another to the cases of strangulated hernia in young infants recorded by Dr. Nichols and and Messrs. Dent and Nance. The mother, a primipara, was confined on May 8th, 1912, forceps being used with light chloroform anaesthesia; the child was a vigorous male about 9 lb. weight. A fortnight later it developed acute eczema, which speedily became general, and caused great irritation. On May 30th the mother noticed a swelling in the right scrotum. Next day, as the bowels had not moved for thirty hours and vomiting had set in, and the swelling could not be reduced by taxis, the infant, then aged 3 weeks, was removed to the Parramatta Hospital. Under chloroform I cut down on the sac of a right strangulated inguinal hernia containing a loop of small intestine. The bowel was very dark but fit to return. The sac contained ½ oz. of dark turbid fluid. The neck of the sac was incised, the bowel returned, and the neck ligatured with catgut, the edges of aponeurosis being brought together with three chromic gut sutures. The skin was sutured with horsehair and painted with collodion, and dressed with a pad of wool. In spite of the skin being in a state of acute eczema the wound healed by first intention (no preparation of the skin before operation was attempted at all), and the eczema cleared up in about ten days from the operation under the application of calamine lotion.

Two points are worth noting: (1) The strangulation was probably caused by the straining induced by the constant crying from the irritation of the eczema. The bowel was forced through an almost closed neck into a sac which had not yet undergone obliteration, hence the strangulation. (2) In spite of the eczema and the absence of preparation of the skin, the wound healed by first intention. Any application of biniodide lotion or iodine to the skin would have been folly.

E. CUTHBERT HALL, M.D., M.S.Syd.

Parramatta, Australia.

THE MOUTH IN MEASLES.

IN spite of the number of deaths from measles, and of the more serious light in which it has come to be regarded by medical men to-day, lay tradition for the most part looks upon measles as a trifling disorder. And one cannot but be struck by the simultaneous occurrence in every epidemic of cases presenting, on the one hand, an illness of the most trifling character, and upon the other a condition placing the patient in grave danger of his life.

Of the causative factor we are yet ignorant, but a necropsy upon a fatal case always reveals to the bacteriologist the presence of one or more pathogenic micro-organisms, not, indeed, constant in variety, but notably the pneumococcus, the streptococcus, and the *Staphylococcus pyogenes aureus*.

It is submitted that measles is a condition in which certain tissues (notably mucous surfaces such as of the respiratory and alimentary tracts) are so affected as to render them unduly susceptible to the mischief which these organisms are able to bring about; and that herein lies the danger of the disease.

I contend that the first point of entry of these micro-organisms is the mouth, and in support of this submit that, in my experience: (1) Every case of measles with severe complications (whether of bronchopneumonia or diarrhoea) has presented a mouth of exceeding foulness; (2) among my patients, since the adoption of routine cleansing of the mouth, no case brought under treatment within twenty-four hours of the appearance of the rash has had a fatal termination.

The treatment adopted is simply to order the mother or nurse to wipe out the mouth carefully but gently every four hours with a piece of clean boiled rag or lint dipped in borax or thymo-glycerine; attention is directed not only to the tongue and roof of the mouth, but especially to the inside of the cheeks and labial surface of the gums.

I claim nothing new for this method; it finds mention, among other details, in every textbook and system of medicine. But from the number of instances (both in

consultation and in conversation with other medical men) in which it would seem that this simple piece of therapeutics has been omitted, it has seemed well to set down that which I have come to regard as the most important detail in the treatment of measles, the disregard of which produces results as unhappy as they are avoidable.

St. Columb. J. R. R. TRIST.

THE ETIOLOGY OF BERI-BERI.

IN connexion with the recent memoranda on this subject, I wish to add my testimony to those who hold that the etiology of beri-beri is still unsolved. I have had a unique opportunity of studying this disease during an epidemic on board a survey ship carrying a native crew of over a hundred, and I can state definitely that diet had nothing to do with the spread of the disease. Of the warrant officers' mess the assistant surgeon and of the officers' mess I myself were the only members that contracted the disease; of the native crew about half suffered.

In this outbreak there were many factors indicating the infectiousness of the disease, but time forbids my giving details here. Exponents of the food-deficiency theory have proved that multiple neuritis may result from sins of omission as well as from sins of commission, but they have assumed, not proved, that the multiple neuritis arising from sins of omission is beri-beri.

One instance alone of beri-beri occurring where no fault in diet can be found, or on a diet known to be incapable of producing multiple neuritis, is sufficient to overthrow the deficiency theory, if beri-beri is a clinical entity. Now many such instances are being reported from different countries. We must conclude either that beri-beri is not a clinical entity, or that the food-deficiency theory is wrong.

Personally, I look upon beri-beri as a clinical entity and an infectious disease; and I believe that an examination of the gastric contents by a skilled mycologist will reveal the true cause of the disease. The infectiousness being of a low order, a large dose of concentrated virus is required, such as can be obtained only under conditions of overcrowding. Under good hygienic conditions beri-beri is practically unknown.

A. C. MACGILCHRIST, M.D., D.Sc., M.R.C.P.,
Bengal. Major, I.M.S.

TORSION OF THE TESTICULAR CORD.

THE following case is of interest from the fact that the treatment adopted was not one which I have ever seen suggested in works on surgery.

About 11.30 one night I was called out to see a young officer who was complaining of severe pain in the left testicle and vomiting. He stated that he had suffered from an undescended testicle on the left side as a boy. On two previous occasions he had suffered from similar attacks of pain in the organ which had, however, recovered spontaneously in a few hours.

The present attack had begun suddenly while the patient was dining, and he was forced to retire to his tent, where he vomited several times. When I saw him his left testicle and cord were swollen and tender, his temperature was 97° F., and his pulse 100. A diagnosis of torsion of the testicle was made, but in view of the facts that from his history similar attacks had been recovered from, and that he would have to travel seven miles to obtain suitable conditions for operation, I at first tried palliative measures. These failed. The vomiting persisted, and the testis became more painful.

Before finally sending him to hospital manipulation was tried. Twisting the organ outwards increased the pain, so that it was rotated inwards, and after passing through nearly 180 degrees it suddenly "reduced" with a jerk not unlike that felt on reducing a dislocation. The patient experienced almost immediate relief, and beyond a slight local effusion felt quite well the next morning.

C. M. FINNY, M.B.,
Barian, Punjab. Lieutenant, R.A.M.C.

THE late Professor Francis Gotch, F.R.S., left estate of the gross value of £19,928, of which the net personalty has been sworn at £18,621.

THE Treasurer of the Society of Medical Phonographers has forwarded a donation of £7 7s. to the Royal Medical Foundation of Epsom College.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

ROYAL VICTORIA INFIRMARY, NEWCASTLE-UPON-TYNE.

A CASE OF PARALYTIC ILEUS TREATED WITH PERISTALTIC HORMONAL.

(Under the care of Professor RANKEN LYLE.)

[Reported by J. C. YOUNG, M.B., B.S., House-Surgeon, and T. A. HINDMARSH, M.B., B.S., late House-Surgeon to Gynæcological and Skin Departments.]

THE patient, E. G., a married woman, aged 50, no children, was admitted to the Royal Victoria Infirmary on April 7th, 1913. She was suffering from a large impacted cervical fibroid; the bladder was greatly distended and there were symptoms of cystitis. The bowels were obstinately constipated.

Total hysterectomy was performed by Professor Ranken Lyle on April 14th. Owing to the tight impaction of the tumour and numerous adhesions, the operation was very difficult. On the day following the operation the temperature was 100.4°.

On April 16th the patient vomited several times, the abdomen was becoming distended, and there were signs of diffuse post-anæsthetic bronchitis. As there was evidently commencing peritonitis, vigorous measures (calomel, enemata, etc.) were taken to procure evacuation of the bowels, but without success.

On the two following days (April 17th and 18th) vomiting was frequent. The vomited matter consisted of dark brown fluid. The belly was becoming more distended, and there was marked tenderness with slight rigidity of the lower abdomen.

On April 19th the bowels were still constipated, and no flatus had been passed since the operation. Vomiting was copious and persistent. The temperature was 101° and the pulse 144. At 11 a.m. 20 c.cm. of peristaltic hormonal (as suggested by Dr. Zuelzer of Berlin) were injected intravenously. When 10 c.cm. had been slowly run in, the patient complained of pain in the head; her pupils became dilated, her pulse almost disappeared, and she became markedly cyanosed. She quickly passed into a practically unconscious condition. The injection was hurriedly completed, and 1 c.cm. of pituitary extract and $\frac{1}{20}$ gr. of strychnine were then injected into the same vein. After about two minutes the cyanosis disappeared and the patient rallied. Before the full quantity (20 c.cm.) had been injected there was a very audible passage of flatus; five hours after the injection a copious motion was passed, and this was repeated thrice later in the day.

On the day following injection (April 20th) the patient's general condition was much improved; the pulse was reduced to 120 and the temperature to 98.4°; the abdominal distension was much less marked, and she passed several more motions with free escape of flatus. Vomiting had not occurred since the injection.

On April 21st the chest condition, unfortunately, became much worse. The bowels, however, continued to act freely, and the distension had almost disappeared. Rigidity and tenderness were very slight. On April 22nd the chest condition gradually became worse, and the patient died on the evening of April 23rd, the bowels having continued to act frequently up till six hours previous to death.

Post-mortem Examination.—There was diffuse bronchitis and oedema of the lungs, with patches of bronchopneumonia at the bases. There was definite pelvic peritonitis, and several coils of small intestine lying in the pelvis were covered with lymph. One or two small pockets of pus were also found. The action of the hormonal in overcoming the paralysis and distension due to the peritonitis was completely satisfactory. The dangerous symptoms immediately following the injection gave rise to considerable anxiety, and seem to be the only drawback to the use of the drug. These symptoms—fall of blood pressure, etc., due presumably to vaso-dilatins—were successfully combated by the vaso-constrictor action of the pituitary extract and by the strychnine.

We have to thank Professor Ranken Lyle, under whose care the patient was, for permission to publish these notes.

Reviews.

SURGERY.

In the preface to the bulky volume, entitled *Thérapeutique Chirurgicale*,[1] by Professor PHOCAS and Dr. BAROZZI, we find that the first edition, comparatively small in size, has been long out of print, and we cannot wonder when we consider that twelve years have passed since its issue. Surgery has expanded enormously during the last decade, and it is a matter of great difficulty for practitioners to keep pace. This volume is intended to be a book of reference mainly on surgical treatment, and especially the surgery likely to be met with in everyday practice. It is divided into three main portions. The first deals with generalities, such as sterilization, haemostasis, anaesthesia, amputations; the second with diseases of the tissues; and the third with diseases of regions. Each section contains a short preliminary statement of pathology and symptomatology before proceeding to details of therapy. An examination of the treatment advised in many diseases shows that in all instances the recommendations are practical and fairly modern. There is really no difficulty which might present itself to the busy practitioner, to whom the book is addressed, for which a solution of some sort is not given. But we have to admit that there often is difficulty in finding what we seek. There are three indexes, and what ought to be the chief, the ordinary alphabetical index, is sadly wanting in fullness. One index is the list of authors quoted, but its value is seriously diminished by inaccuracies in spelling of well known English, American, and even French names. The book is too big, and its size might be diminished without any real loss to the reader were all matter which is out of date rigorously expunged. The Macewen operation (this is one of the proper names the author misspells, but it has always been a difficult one for the Frenchman) of osteotomy is mildly condemned because it is a "blind" operation, forgetful of its sound anatomical basis. In dealing with this rickety deformity the authors commend manual osteoclasia reintroduced by Italian surgeons. We are relieved to know, however, that Professor Kirmisson in his recent work regards osteotomy after the Macewen method as greatly to be preferred to osteoclasia and uniformly successful in his hands. In discussing prostatectomy premier place is given to the perineal operation, which is very fully described and illustrated. The suprapubic operation is not well described, and the authors' recommendation is to employ perineal drainage along with it. The work of English surgeons in this department hardly receives its due appreciation. Indeed, this criticism may be made of the whole book, that the authors are scarcely cosmopolitan enough, but they may think that as the work is for their own countrymen there is little need to go further afield.

It is only about a year ago that we noticed favourably the volume of the London Medical Publications on *Minor Surgery*.[2] The second edition has been greatly enlarged and discreetly revised. The lamented death of the author, Mr. LEONARD A. BIDWELL, as the new edition was passing through the press necessitated the final proof reading being delegated to Mr. Percy Dunn, but the work is now presented to the profession exactly as it was completed by Mr. Bidwell. We may say at once that it is greatly improved. It is larger but lighter, and its scope is wider. The area of minor surgery is broadening, and there seems no good reason to exclude from this category any operation or surgical procedure which may be carried out in the dispensary or outdoor department of a hospital. For example, children, provided they can be seen frequently, may be operated on for hernia as outdoor cases. However, in this volume the operations of suprapubic cystotomy and opening of appendicular abscess are described, and the inclusion of these operations appears to us to widen beyond reasonable limits the range of minor surgery. Prompt minor surgery smartly done and neatly dressed appeals to patients; they do not stop to find out whether the lesion is minor to the doctor; it is for the moment major to them. And if they are roughly handled and the dressing is slovenly, they know it and tell their friends. The practitioner will find much pleasure in reading this book, and he will profit the more he studies it, for in it he will find guidance in the use of old methods, and many suggestions fer efficient employment of the new.

In 1896 Mr. A. ERNEST MAYLARD published a treatise on the surgery of the alimentary canal; it was largely a compilation to show the advance made in abdominal surgery. It is now followed by a volume entitled, *Practice and Problem in Abdominal Surgery*.[3] Mr. Maylard announces in the preface that it is not intended to be a treatise on abdominal surgery, but is the outcome of his own experience since 1880. Chapters I, II, and III deal with abdominal pain, and contain general remarks and discussion on the difficulties in diagnosis and prognosis. His technique and procedure are a combination of new and old methods; he sterilizes his hands by soaking in hot water for ten minutes, then soaking in 1 in 20 carbolic; he prefers this to using gloves; he no longer uses iodine for the patient's skin, but 1 in 20 carbolic, except in cases of acute appendicitis. He makes transverse incisions unless speed is essential, adheres to catgut for both sutures and ligatures, and prefers gauze pads rather than sponges. He nearly always gives $\frac{1}{6}$ grain morphine immediately after the operation, and recommends four weeks in bed for clean and six for suppurating cases. Chapter IV is devoted to hernia; he has no experience of wire filigree. In Chapter VI peritoneal adhesions are discussed. Over 100 pages are given to conditions of and operations on the stomach; for perforated gastric ulcer he prefers to close the ulcer and wait and do a gastro-jejunostomy later if necessary; he performs Finney's gastro-duodenostomy or the no-loop gastro-jejunostomy for pyloric obstruction. He finds that the majority of cases of carcinoma of the stomach are not suitable for laparotomy; whenever possible he performs subtotal gastrectomy. Chapter XVI is on chronic intestinal obstruction; he performs intestinal anastomosis by invagination. Chapter XIX deals with cholelithiasis; he is in favour of cholecystectomy. The last chapter recommends a revised nomenclature for operations on the abdominal viscera. The book is mainly composed of short accounts of symptoms and pathology, with a discussion on the various treatments and descriptions of those the author prefers, illustrated by accounts of cases. It would be far easier to read if the cases were printed in different type and separated from the text. The book is a practical account of over thirty years' experience, and, though parts of the work may be described as old-fashioned, it can be recommended to those desirous of following one man's experience.

In *A Student's Manual of Surgical Diagnosis*[4] Dr. G. E. BREWER impresses on the student the importance of diagnosis by exclusion. The book consists of 40 pages. Sixteen of these are charts of surgical lesions based on anatomy and pathology. Six cases are described, with differential diagnosis. No account is given of how histories should be taken or examinations conducted. Diagnosis is to be arrived at by a comparison of cases with the charts and other conditions excluded. Some of the charts contain over fifty lesions. We do not think the book can be recommended.

The authors of a short German monograph[5] on surgical technique in normal and pathological physiology of the intestinal tract, Professor BICKEL and Dr. KATSCH, state that much of the operative work done in the laboratories is not known because it is hidden away in all sorts of published transactions, and is not available for ready

[1] *Thérapeutique chirurgicale et chirurgie journalière.* Par G. Phocas, Professeur de clinique chirurgicale à la Faculté de Médecine d'Athènes, et J. Barozzi, Ancien Interne des Hôpitaux de Paris. Second Edition. Paris: Vigot Frères. 1912. (Sup. roy. 8vo, pp. 1187; 630 figures. Fr. 16.)

[2] *Minor Surgery.* By Leonard A. Bidwell, F.R.C.S. Second edition, revised and enlarged. London Medical Publications. London: University of London Press: Hodder and Stoughton and Henry Frowde. 1913. (Demy 8vo, pp. 316; 129 figures. 10s. 6d. net.)

[3] *Practice and Problem in Abdominal Surgery.* By A. E. Maylard, B.S.Lond. London: J. and A. Churchill. 1913. (Demy 8vo; 38 figures. 8s. 6d. net.)

[4] *A Student's Manual of Surgical Diagnosis.* By G. E. Brewer, M.D., New York. London: D. Appleton and Co. 1912. (Med. 8vo, pp. 40.)

[5] *Chirurgische Technik zur normalen und pathologischen Physiologie des Verdauungsapparates.* Von Dr. Adolf Bickel, a.o. Professor an der Universitäts, Berlin, etc., und Dr. Gerhardt Katsch, Assistant am städt. Krankenhaus, Altona, etc. Berlin: A. Hirschwald. 1912. (Roy. 8vo, pp. 120; 6 plates and numerous illustrations. Mk.12.)

reference. They have therefore put together in practical form all the known operative experiments with descriptions concise enough for completeness, and with illustrations numerous enough for easy comprehension. The work is in two parts, general and special. The general section is concerned with laboratory arrangements, preparation and after-treatment of the animals; while the special section describes in detail various groups of operations performed. It is of interest to know that general anaesthesia with ether, preceded by morphine and atropine by hypodermic injection, is found to give the best results, and is employed in every experiment. Needless to state, the strictest possible aseptic precautions are observed, and the manipulations are carried out precisely as for an abdominal operation in the human subject. The dogs are carefully nursed and tended after operation, each in its own cubicle; the arrangements are shown in a sketch plan for a small institute for physiological surgery. In the special part there is a full description of the various operations associated with the name of Pawlow and others of the St. Petersburg school, whose work on the gastric secretion by means of modified oesophagostomy and gastrostomy accompanied or not by vagotomy has elucidated so many obscure features of digestion. Then we find here also fully set forth the recent operations on the thoracic organs by means of the positive and negative pressure apparatus which are figured in the text. And lastly, we wish to note the method of performing the operation of establishing an Eck fistula or communication between the portal vein and the inferior vena cava, an operation suggested for the treatment of cirrhosis of the liver with ascites in the human being. This is a work which will be very valuable to those engaged in laboratory experimental surgery on animals. The operations are plainly described, and useful anatomical points are brought clearly to the front, evidently because these have presented difficulties to the authors themselves in their work. Physiological investigation is the main purpose of the book.

Professor GEBELE, in the preface to his textbook on methods of surgical examination,[6] says that in German surgical literature there is a distinct place for such a work. Most books of the kind indulge too freely in clinical description of diseases; for the temptations of an author to permit a work to expand are great, so that the original purpose may be lost sight of. Here we have a book which teaches systematic, painstaking methods in clinical surgery. The reader learns first how to inquire into personal and family history, then into the course of the present illness, and then to go from point to point through the various means at disposal for arriving at a diagnosis—inspection, palpation, puncture of cavities, and so on. There is a chapter also on the serum diagnosis of syphilis, tubercle, and echinococcus. Of the value of this means of investigating syphilis and tubercle there can be no doubt; but, on the author's admission, the method is of doubtful value in echinococcus disease, reactions occurring only in half the cases. The methods of using the oesophagoscope, gastroscope, and tracheoscope are quite reasonably described, with explanatory photographs. The employment of these instruments is only possible in expert hands, but no harm can come from students and practitioners being at least acquainted with such special methods of examination. The book is fully illustrated with many excellent photographs of cases from the clinic. We may well believe that it will thoroughly meet the wants of students of clinical surgery, whether they are still "walking the hospitals" or are working in the wider field of practice.

OPHTHALMOLOGY.

AMONG the volumes in "The Edinburgh Medical Series" is one on *Diseases and Injuries of the Eye*,[7] by Dr. W. G. SYM. It is of medium size, and is well illustrated with both black and white and coloured plates. The whole subject of ophthalmology is dealt with from the point of view of the requirements of the practitioner and student. The text is excellent, and the various chapters deal efficiently with the subjects of which they treat. Rather dogmatic statements are found on points which might be debated, but it is better for a student to be told what a thing is and what he ought to do for it than to be treated to a discussion of disputed points, which may leave him in doubt as to what he should do. It is rather unusual to find a chapter on the medico-legal aspect of eye conditions in a book of this sort, but it will be very useful in these days when so many cases of injury have to be considered from the point of view of compensation. Most of what is modern is alluded to, and the various new operations of Lagrange, Herbert, and Elliot are discussed when considering glaucoma. A curious mistake is to be noted on page 15 when dealing with the examination of the eye. Snellen's letters are being explained, and the author states that the normal measure of vision is that of an eye which can see a letter subtending an angle of 5", while the individual parts of the letter each subtend an angle of 1', and vision of this standard is called $\frac{6}{6}$. Such a statement makes one doubt whether the author has ever used a sextant, for even the best of these delicate instruments do not pretend to measure an angle of less than 10", and many of them will not even do this, while the slightest touch of the vernier would induce an error of a great deal more than 10". To see as two objects which subtend an angle of 1' is absolutely beyond the power of any human eye. The angle which Snellen arranged for was one sixty times larger than this—namely, letters giving an angle of 5', with parts giving an angle of 1'. We noticed in another well-known book a short time ago that the figures read 5° and 1°, but this is going to the opposite extreme with a vengeance. When different textbooks talk about degrees, minutes, and seconds, and all mean the same thing, it is about time authors took the trouble to ascertain and use the correct terms. There is a useful chapter on nursing, and a very short one on the visual requirements of some of the principal public services.

From Professor Gullstrand's eye hospital in Upsala we have received a monograph on the localization of foreign bodies in the orbit by the Roentgen rays for which Dr. K. G. HOLM[8] received the degree of M.D. He first reviews the primitive methods of detecting foreign bodies within the orbit used when the Roentgen rays were first introduced. Many improvements have since been made, and for much of this British workers, including Mackenzie Davidson, W. Lang, MacCallan, and Holmes Spicer, are responsible. The author does not, however, consider that any of the methods hitherto described are perfect, and he proceeds to give a detailed account of the modifications he has introduced. His description is illustrated by numerous drawings and photographs, and he reports in full 24 cases of foreign bodies in the orbit treated at Gullstrand's hospital.

It is ten years since the second edition of *Ophthalmic Nursing*[9] appeared, and the author, Mr. SYDNEY STEPHENSON, has now issued a third. It is a book very worthy of being brought up to date. A great many changes in treatment have taken place during the last decade. In general appearance the book is much like its predecessor, but it is a good deal fuller, and contains much new material, all of which has a very definite bearing on the nursing of eye cases. The arrangement is excellent, and every care has been taken to make the text clear and intelligible to those for whom it is intended. Its basis is some lectures given by the author to the nurses at the Ophthalmic School at Hanwell, now a good many years ago. The anatomy of the eye is first of all described, and then a brief but lucid description of the germ theory is followed by a chapter on its application to contagious and infectious diseases. In the subsequent pages dealing with the various stages of nursing stress is always laid on the why and wherefore of anything that a nurse has to do, so that she cannot be left in doubt about the various

[6] *Die chirurgischen Untersuchungs-methoden. Lehrbuch for Studierende und Aerzte.* Von Professor Dr. Hubert Gebele. München: J. F. Lehmann's Verlag. 1912. (Med. 8vo, pp. 198; 154 figures. Paper covers, Mk. 8; bound, Mk. 9.)

[7] *Diseases and Injuries of the Eye: a Textbook for Students and Practitioners.* By William George Sym, M.D., F.R.C.S.Edin. London: Adam and Charles Black. 1913. (Cr. 8vo, pp. 509; 87 figures, 25 plates. 7s. 6d. net.)

[8] *Om Bestämning af Främmande Kroppars Läge i Ögat och Orbita med Röntgenstraalar.* By K. G. Holm. Upsala: Almquist and Wiksells Boktrykeri. 1912. (Roy. 8vo, pp. 59; 7 tables, 3 plates.)

[9] *Ophthalmic Nursing.* By Sydney Stephenson, M.B., C.M. F.R.C.S.E., D.O.Oxon. Third edition. London: The Scientific Press, Ltd. 1912. (Post 8vo, pp. 243; 80 figures. 3s. 6d. net.)

manipulations she may have to perform. A detailed description is given of the method of preparing both the patient and the room in which the operation is to be performed, and directions are added for sterilizing the hands of the nurse and those who have anything to do with the operation. A brief account is given of the commoner operations of the eye and the method of examining troublesome children. The last chapter contains hints on school inspection and the treatment of refraction cases; and, finally, there is an appendix giving a list, with illustrations, of the principal instruments used in ophthalmic operations, as well as a glossary of ophthalmic terms. We cordially recommend the book to all ophthalmic nurses, and it may well be read and studied by any one who occasionally undertakes ophthalmic work, and especially by those who may find themselves without the assistance of a trained ophthalmic nurse.

PRACTICAL EXPERIENCE OF TUBERCULIN.

THE therapeutic employment of tuberculin has become so widespread of late years that conclusions may fairly be drawn from the results hitherto obtained. A report by Dr. F. M. POTTENGER,[10] who has had extended experience as director of a sanatorium in California, presents a good account of the whole subject of tuberculin treatment from the point of view of the clinical observer who is not biassed by excessive enthusiasm nor discouraged by occasional failure. The theories upon which the treatment is based must, of course, be studied with care by every one who would use the method intelligently, but there is no common agreement as to its precise mode of action, and the practice may be said to rest upon a shifting base, since further knowledge may materially alter present views. But practical results obtained by uniform methods are incontestable, and it is by examination of these that judgement must be formed. Thus, the various forms of reaction which may be trusted to indicate the presence of tubercle in the body, while subject to many variations, are nevertheless positive in so large a proportion of cases that reliance may generally be placed upon them. Dr. Pottenger, however, is not one who would place absolute trust in positive reactions, and would only use them as confirmatory of suspicions aroused by definite symptoms of a more familiar type. Like every other experienced clinician, he recognizes the vast importance of dealing with tuberculous infiltration while it still remains closed and uncomplicated by the presence of other microbes or toxins. A definite reaction indicates to him the presence of tuberculous antibodies, but his large experience has evidently taught him that the conditions which may interfere with reaction are so numerous that the evidence can only be relied upon if other indications are recognizable. The same strain of caution runs throughout the whole of the book, and it is clear that he regards tuberculin as a useful adjunct to general hygienic conduct, but not by any means as a specific which can operate for good under all conditions. That tuberculin increases the percentage of cures and shortens the duration of treatment are conclusions that may fairly be drawn from analysis of a very large number of cases. The evidence as to the duration of the "cure" is not so convincing, and in many instances it has been shown that relighting-up of the tuberculous process may take place in those who have been cured by tuberculin as well as in those who have obtained apparent relief by hygienic means alone. Dr. Pottenger's book may be described as a comprehensive textbook containing all available and trustworthy information on the theory and practice of tuberculin treatment leavened with a wholesome strain of common sense in the application of it.

THE PSYCHOLOGY OF THE CHILD.

DR. PINTNER'S translation of SCHULZE'S *Experimental Psychology and Pedagogy*[11] will, no doubt, be welcomed by all who are interested in the important subject with which it deals. The experimental investigation of the sensory, emotional, mental, and physical capacities of school children is as yet in its infancy, but no one who reads this book can have any doubt as to its immense possibilities. The time will no doubt come, although it can hardly be said to be yet in sight, when the classification of children in accordance with their general or special abilities will be a matter of course. At present the investigator has for the most part to content himself with a laborious testing of individual functions, the relation of which to one another and to the general ability of the subject remains quite problematic. "We can measure accurately the difference sensitivity for colours, the direction of our associations, the excellence of our memory, but where is the method that takes account of the fact that our soul is not a mere sum of difference sensitivities and reproduction tendencies? Where is the method that does justice to the soul as a whole?" At present the problem is being tentatively attacked by the attempt to discover relations between different functions, and it is found that, whereas between certain forms of ability—for example, writing, counting, and adding—a high degree of correlation exists, others, as spatial sensitivity and memory, appear to be independent or nearly so. A great part of the present volume is necessarily occupied by the description of apparatus and by mathematical and technical details. This naturally detracts in a measure from its readableness, but every page nevertheless bears evidence of the genially human standpoint of the author and his enthusiastic faith in the future of his science. The translation deserves high praise for its clearness and fluency.

INDUSTRIAL POISONING.

As Dr. LEGGE, who has issued a translation under the title, *Industrial Poisoning from Fumes, Gases, and Poisons of Manufacturing Processes*,[12] justly remarks, one of the apparent drawbacks to Professor RAMBOUSEK'S book is that forms of industrial poisoning are referred to in two or three different places in the text; but notwithstanding this drawback, there is a completeness in it which to some extent is a recompense for this defect. In the chapter on chemical industry the processes of manufacture are suitably described and many of them are illustrated, while the harmful effects upon the men on their exposure to chemical compounds—particularly those of organic chlorine constitution with which we in this country are not familiar—are appropriately depicted. The completeness of the description of the various manufacturing processes is not quite maintained throughout the book. It could hardly be expected that it should. The illuminating gas and coke industry is dealt with at considerable length. In the processes concerned there is always the possibility of the escape of CO_2. The chapter on the coal-tar industry is, medically speaking, thanks to the translator, one of the best in our language. The possibilities of aniline poisoning in its various manifestations, including cancer of the bladder in aniline workers, are fully discussed, and Rambousek reminds us that at first all tar colours were considered to be poisonous. From products of the triphenylmethane type containing arsenious acid the arsenic is now removed. To the possibility of inflammation of the cornea following exposure to methyl violet dust, and for which both it and basic aniline dyes are blamed, must be opposed the fact that methyl violet and auramine are used as antibactericidal agents in ophthalmic practice, but it must be remembered that for this purpose the compounds are used in the form of a weak solution.

An interesting account is given of lead smelting works in Germany and Austria-Hungary in which plumbism is extremely prevalent among the workmen, probably owing to frequent changes in the personnel; 52 cases out of a total of 400 men employed is a large percentage, but at Przibram, and also at Selmeczbanya in Hungary, considerable reductions have followed the introduction of hygienic measures. The manufacture of white lead by the old Dutch process is alluded to, but in Central Europe this

[10] *Tuberculin in Diagnosis and Treatment.* By Francis Marion Pottenger, A.M., M.D., LL.D., Medical Director of the Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, California. London: Henry Kimpton. 1913. (Medium 8vo. pp. 242; 35 illustrations. 12s. 6d. net.)

[11] *Experimental Psychology and Pedagogy.* By R. Schulze. Translated by R. Pintner, M.A., Ph.D. London: Geo. Allen and Co. 1912. (Demy 8vo. pp. 390: 314 illustrations. 15s. net.)

[12] *Industrial Poisoning from Fumes, Gases, and Poisons of Manufacturing Processes.* By Dr. J. Rambousek, Professor of Factory Hygiene, Prague. Translated and edited by Thomas M. Legge, M.D., D.P.H., H.M. Medical Inspector of Factories. London: Edward Arnold. 1913. (Demy 8vo. pp. 370; 59 figures. 12s. 6d. net.)

pigment is produced probably in larger quantities by the German or Austrian methods, in which acetic acid vapour and CO_2 from burning coke are led into a chamber in which strips of metallic lead are hanging. On the Continent, as in Great Britain, the amount of lead poisoning is proportional to the extent unskilled labour is made use of. In British factories the cases of plumbism formed only 6 per cent. among persons regularly employed, but 38 per cent. among casual workers.

The second part of the book is devoted to the symptoms and treatment of industrial poisoning. These are briefly detailed as occurring in particular industries. The symptomatology might be more complete than it is, but the size of the volume may be partly responsible for this deficiency.

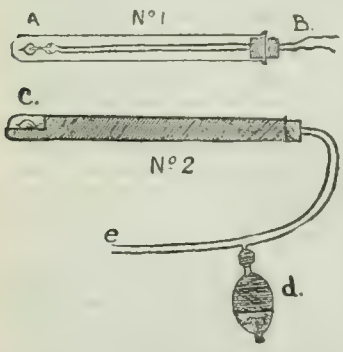
The remainder of the book deals with preventive measures—social and legislative. An interesting account is given of the origin and aims of the International Association for Labour Legislation and of the good work it has accomplished. This association is not known in Great Britain as it ought to be. Dr. Rambousek's experience does not lead him to expect any serious contribution to the elucidation of disease from the sick insurance societies. The inclusion of occupational disease in the same category as accidents for insurance purposes, as in France, Switzerland, and Great Britain, has, he maintains, the advantage of removing many hardships.

Some of the regulations in force in various European countries for the reduction of industrial poisoning are given. As an indication of the wide reading of the author, it may be said that an excellent bibliography has been collected from the text by Dr. Legge, who pays a well-merited compliment to his sister Miss H. Edith Legge, not only for the part she has played in the translation of the book, but for her sustained interest throughout, which acted as a stimulus to her brother.

MEDICAL AND SURGICAL APPLIANCES.

An Inexpensive Transillumination Lamp.

DR. E. DRYBROUGH-SMITH (Shebbear, N. Devon) writes: The following method of making an inexpensive transillumination lamp may be of service to those interested in diseases of the maxillary antrum and frontal sinus. Take an ordinary test tube, fit to it a cork; bore a hole in the cork. The end of a piece of twin silk-covered electric wire (of about 6 ft. in length) is passed through the cork. (Fig. 1b.) A small electric "pea" lamp of six volts or more is now attached to the ends of the wire in the test tube. (Fig. 1a.) Slip a piece of rubber drainage tubing over the test tube. Cut out a piece from the end of the tubing ½ in. long, leaving a flap projecting. (Fig. 2c.)



One of the twin wires is now interrupted at a convenient distance from the test tube by the intervention of a small pear-shaped bell push which acts as a switch. The termination of the wires (Fig. 2e) may be connected to any suitable source of electricity, such as an accumulator used for a cystoscope or a head lamp. The instrument is used in the usual way, the rubber flap being placed on the dorsum of the tongue. To examine the frontal sinus slip a piece of drainage tubing over the exposed end of the test tube; then the light will be directed forward in a suitable manner for examination of the frontal sinus. One of the special features of this instrument is the ease with which it can be sterilized. Remove the cork with its wire and lamp attached; the test tube with its rubber covering can then be boiled. My "pea" lamps cost about 6d. each, and the small bell push about 4½d. For the convenience of the reader I add that I believe these small things can be obtained from the Ever Ready Electric Company, Twickenham, London. The complete instrument did not cost me 1s. 6d.

THE first Italian Congress of Medical Radiology will be held at Milan on October 12th and 13th. Dr. L. Parola is the President of the Organizing Committee.

LONDON WATER.

THE seventh annual report of Dr. A. C. Houston, Director of Water Examination, Metropolitan Water Board, on the results of the chemical and bacteriological examination of the London waters for the twelve months ended March 31st, 1913, has just been issued. The results are carefully tabulated, and the document is full of interesting details. In his introduction Dr. Houston states that the most notable event of the year under review was the opening of the Chingford reservoir and Humphrey pumps by His Majesty the King on March 15th.[1] This is not the only reservoir drawing water from the River Lee. There is already a chain of reservoirs at Walthamstow, having a combined capacity of 2,400 million gallons, and it is a little difficult to see how all these reservoirs are to be utilized for storage purposes, unless on the assumption that it is proposed to utilize flood water for this purpose. Dr. Houston goes on to say that it must not be forgotten that a progressive increase of storage capacity with no new or augmented source of supply inevitably tends in the direction of encouraging the abstraction of worse and worse river water. Reflections such as these have led Dr. Houston to experiment more and more on such supplementary processes of water purification as will convert the very worst river water into water of passable purity. In the interest of London water consumers it is necessary to look a long way ahead and not leave the solution of these and kindred difficulties entirely to posterity. The greater part of the report is of a technical character, and only a short summary can be given here.

Bacteriological Results.

The results of the bacteriological examination are stated as follows:

Raw Water.—The averages of microbes per cubic centimetre for the twelve months were as follows: Raw Thames water, 6,550; highest, 16,530 (October); lowest, 1,931 (May). Raw Lee water, 11,772; highest, 29,443 (October); lowest, 2.726 (May). Raw New River water, 2,777; highest, 6,770 (December); lowest, 1,055 (July).

Attention is again drawn to the fact that the amount of river water abstracted during the months when the river contains an excessive number of bacteria is so large as to emphasize the desirability of passing it through storage reservoirs antecedent to its filtration. It is possible, however, that by using on special occasions the supplementary processes of water purification alluded to in Dr. Houston's previous Research Reports, the yield of the Rivers Thames and Lee might, apart from economic considerations, safely be utilized to an extent hitherto not contemplated. In other words, at the price of supplementary processes of water purification, the "intakes" need practically never be "closed."

Filtered Waters (including Kent and Lee Valley Unfiltered Well Water).—The following statement indicates that the exclusive (that is to say, exclusive of samples containing 100 or more microbes per cubic centimetre) figures for the filtered waters were small and the percentage reduction effected by the processes of subsidence and filtration remarkably good:

	Thames.	Lee.	New River.
Raw water (microbes per c.cm.)...	6,550	11,772	2,777
Filtered water (microbes per c.cm.)	14.5	30.5	12.6
Percentage reduction	99.8	99.7	99.5

It is pointed out, however, that too much stress must not be laid on percentage reduction of microbes. The worse initially the raw water, the easier it is to obtain a final filtrate yielding satisfactory results on the basis of percentage purification.

The order of merit, based on the exclusive figures, is as follows, the average number of microbes per cubic centimetre being respectively:

Chelsea, 7.1; Kent, 9.1; New River, 12.6; Grand Junction, 14.7; West Middlesex, 14.8; Lambeth, 14.9; Kempton Park, 15.9; East London (Thames), 16.1; Southwark and Vauxhall, 18.2; East London (Lee), 30.5.

[1] BRITISH MEDICAL JOURNAL, March 22nd, 1913, p. 624.

Tests for Special Organisms.

The following are the results of tests for special organisms:

B. Enteritidis Sporogenes Test.

Raw Waters. — 49.0, 58.4, and 15.1 per cent. of the samples of Thames, Lee, and New River water respectively yielded positive results with 10 c.cm. of water.

Typical B. coli Test.

Raw Water.—The results, judged by this test, were unsatisfactory, having regard to the fact that the Rivers Thames and Lee are known to be seriously polluted with sewage, and that there is every reason to suppose that the majority of the *B. coli* found in the raw waters are of human excremental origin. The New River contained *B. coli* in 1 c.cm. (or less) in 48.1 per cent., the River Thames in 89.6 per cent., and the River Lee in 85.0 per cent. of the samples. Taking a one-figure average result, the average number of *B. coli* per cubic centimetre, according to this calculation, was as follows:

Typical B. coli per Cubic Centimetre of Raw Water.

	Arbitrary One-figure Result.
River Thames	15
River Lee	4
New River	0.5

The "best month" results were remarkably good, and the average results were also satisfactory.

For the filtered waters a one-figure result per cubic centimetre of water—expressed as typical *B. coli* per 1,000 c.cm. of water—is as follows:

Kent, Kempton Park, 1 to 2; New River, East London (Lee), Chelsea, Grand Junction, West Middlesex, Southwark and Vauxhall, Lambeth, 2 to 3; East London (Thames), 3 to 4; Lee derived water, New River derived water, Thames derived water, All London waters, 2 to 3.

It is noted that, whereas out of every 100 *B. coli* isolated from the raw Thames, Lee and New River waters, 85.4, 85.2, and 83.5 respectively proved to be typical *B. coli*, the corresponding figures for the filtered waters derived from these sources were 48.2, 38.7, and 44.8 respectively. The collective results were 84.8 in the case of the raw waters, and 45.6 in the case of the filtered —including a proportionately small number of unfiltered water samples. This is a *proportional* statement, and does not refer to the actual number of *B. coli* in the two cases.

CONCLUSIONS.

In conclusion, Dr. Houston says that about 80 per cent. of the London water supply is derived from sewage-polluted rivers. As judged by the usual chemical and bacteriological standards, the raw waters above the "intakes" for waterworks purposes are undoubtedly unsatisfactory in quality, particularly during the winter months. Within recent years a marked improvement has taken place in the methods of purifying sewage so as to render the resulting effluents non-putrescible and chemically unobjectionable. Apart from sterilization, however, no known practical process has yet been found which turns out a "safe" effluent, bacteriologically, and the great majority even of chemically satisfactory effluents are swarming with excremental bacteria. It is possible that improved methods of purification will, in a chemical sense, keep pace with increasing pollutions of the Rivers Thames and Lee, but the outlook bacteriologically is less hopeful. Prospective legislation as regards sewage purification would seem likely to run on the common-sense lines of protecting the general interests of the community at large, leaving to individual authorities, who venture to utilize polluted rivers for waterworks purposes, the full responsibility of employing such superadded processes of purification as the particular necessities of their own case demand. Belief in the future "safety" of London as regards water supply ought not, it is pointed out, to depend on the chimerical hope that the Thames and Lee are destined to become progressively less impure, but on increased knowledge as to the best means of purifying the water before it is sent into consumption.

Although the raw Thames and Lee contain *B. coli* in undesirable numbers, faecal streptococci are seldom discoverable in 1 c.cm. amounts of the water. Further, the results of a most elaborate search for the typhoid bacillus and Gaertner's bacillus have yielded practically negative results under conditions of experiment which have been shown to be successful in the case of artificially infected samples. Dr. Houston does not, however, contend that these pathogenic microbes are in reality uniformly absent, but that, if present, their numbers must be so small that it is almost inconceivable that any of them could ever survive passage through the storage reservoirs and reach the filter beds, which in their turn remove about 98 per cent. of bacteria of all sorts.

Storage.

Dr. Houston calls attention to the striking fact, shown in his past reports, that London is not really drinking merely filtered raw river water, but raw river water which by storage processes has been purified bacteriologically antecedent to filtration to a remarkable extent. If all the pre-filtration waters were mixed in their respective proportions, the quality of the mixed water antecedent to filtration would be such that on the average about one-third of the samples would contain no typical *B. coli* in 10 c.cm. of water. When it is remembered that 89.6, 54.7, and 10.7 per cent. of the samples of raw Thames water contain typical *B. coli* in 1 c.cm., 0.1 c.cm., and 0.01 c.cm. respectively, the corresponding figures for the Lee being 85.0, 39.8, and 8.7 per cent., the transformation the river water has undergone before filtration becomes strikingly apparent. Nor does even this represent the highest level of efficiency. Under different and elastic regulations as regards abstraction of river water, improved circulation of water in the storage reservoirs, and a more complete system of "pooling" of stored water interests, over one-half the samples (individually as well as collectively) of pre-filtration water ought to contain no typical *B. coli* in 10 c.cm. of water. Even putting sedimentation and devitalization completely on one side, the "levelling" effect of storage renders the possibility of any sudden, accidental, concentrated, and dangerous pollution of the river water above the "intakes" a matter of much less grave concern than would otherwise be the case. Storage, in this sense, is equivalent to dilution, inasmuch as it "spreads" the dose of poison over weeks or months; and it may, indeed, quite apart from any question of devitalization, render innocuous a microbial contamination which in a concentrated form would be apt to be highly dangerous.

Filtration.

Dr. Houston points out that the rate of filtration at the different works is unequal, and would seem to bear no apparent relation to the variable quality of pre-filtration water. Other things being equal, the rate of filtration at a works should be largely governed by the quality of the water that is being filtered. All the filter beds should have separate filter wells for sampling purposes. It is not sufficient that the quality of the mixed filtered water is good; it is most desirable that each of the filtration units should be in proven and perfect working order. The desirability of using only stored water becomes the more apparent when it is remembered that when a filter bed is yielding unsatisfactory results, the filtrate cannot, generally speaking, be run to waste until the reports are of a more reassuring character. Speaking generally, it would seem to be safer to use a coarse sand and filter rapidly when dealing with an adequately stored water than to use a fine sand and filter slowly when dealing with raw or inadequately stored river water. In the former connexion, as pointed out in a previous report, mechanical filters may play a useful part owing to the ease and rapidity with which they can be cleaned, but it is possible that the old sand filters if worked under slightly altered conditions—that is, using coarser sand and filtering more rapidly—may greatly increase their field of usefulness. The only way, apart from sterilization, of rendering the pre-filtration water always comparatively, if not absolutely, innocuous, is by sedimentation, devitalization, and equalization—in other words, by storage.

Service Reservoirs.

Service reservoirs should never be so small as to lead to variable rates of filtration during the twenty-four hours; hence a "pooling" of service reservoir accommodation is desirable. The equalizing and delaying effect of even

transitory storage in service reservoirs is the culminating step in the protection afforded to the water consumer.

The Water as Finally delivered to Consumers.

Over seven years' work on the London water question has convinced Dr. Houston that to a progressively increasing extent the Water Board is securing the reasonable, if not the absolute, "safety" of the metropolitan water supply. As a counsel of perfection he still feels bound to advocate the choice of an initially pure source of water supply; but his own results and experiments seem to indicate clearly that the evil effects even of an impure source can be largely, if not entirely, annulled by adequate storage and efficient filtration.

The Question of Accident.

Dr. Houston again points out that in addition to filtration and storage it is also necessary to guard against the possibility of accident. In this connexion questions of drainage, health of workmen, suction of impure water into water mains, laying of new mains, alteration to existing mains, condition of service reservoirs, etc., deserve attention. There is a growing tendency to regard any sudden accidental gross infection as of most dangerous significance, and to consider more constant but highly diluted pollutions as, relatively speaking, of lesser importance. The method of water purification now in progress (storage) renders the position "safe" as regards the river water, provided that no fresh and dangerous contamination takes place in connexion with the storage reservoirs, the filter works, the service reservoirs, or the delivery mains. Dr. Houston's final opinion is that the "*quality* policy" of the Metropolitan Water Board should be directed towards securing an "epidemiologically sterile" water (that is, a water containing none of the microbes associated with water-borne epidemic disease) antecedent to filtration by means of storage (sedimentation, devitalization, and equalization), aided, if need be, by the occasional employment of supplementary processes of water purification.

Complaints from Consumers.

Although in previous years very few complaints have reached the department as to the quality of the water, the year under review has proved to be a marked exception to this rule. Dr. Houston points out, however, that the complaints, which were very numerous, urgent, and justifiable, were confined almost entirely to the districts supplied with water derived from the Staines reservoirs. The Grand Junction District, despite the use of Staines water, escaped altogether, and the Kempton Park Works were only implicated on two occasions. The majority of the complaints arose from the consumers of West Middlesex water, and there can be no doubt, says Dr. Houston, that on a number of occasions, chiefly Mondays, the water had a most unpleasant, if transient, "geranium" taste and smell. The water, although always innocuous, was at times almost undrinkable.

Research Work.

Several special researches have been undertaken during 1905–13 and nine reports have been issued:

A special report (First Research Report) on the vitality of the typhoid bacillus in samples of raw Thames, Lee, and New River water. Another research (Second Research Report), which occupied twelve months, involved special search for the typhoid bacillus in samples (collected weekly) of raw Thames, Lee, and New River water. The results were negative. A special report (Third Research Report) on the question of storage was published in March, 1909. A report (Fourth Research Report) on the vitality of the cholera vibrio in raw river water was also published in the same year. A fifth report on research work was published in 1910, dealing with: (1) The results of the examination of samples of raw Thames and Lee water for the presence of the typhoid bacillus and Gaertner's bacillus; (2) the results of the examination of the raw river waters (Thames, Lee, and New River) for faecal streptococci; (3) the results of the examination of the pre-filtration water—that is, representative samples of practically all the London water (raw, stored, gravel, well, and mixed water) antecedent to filtration; (4) the negative results of the examination of samples of raw Thames, Lee, and New River water for the presence of Morgan's No. 1 bacillus; (5) the isolation of cholera vibrios from samples of raw river water artificially infected with only a few vibrios. A sixth report on the comparative vitality of "uncultivated" and "cultivated" typhoid bacilli in artificially infected samples of raw river water, with special reference to the question of storage, was also published in 1910. A seventh report was published in 1911. It dealt with (1) pathogenic microbes, (2) uncultivated bacilli, (3) temperature, (4) *B. coli*, (5) rapid sedimentation, and (6) coagulants. An eighth report on the softening, purification, and sterilization of water supplies (excess lime method) was published in February, 1912. A ninth report on search for certain pathogenic microbes in raw river water and in crude sewage has recently been issued.

The report is a most valuable document to all interested in the scientific and practical problems with which it deals, and Londoners in particular have reason to be grateful to Dr. Houston for his vigilance in watching over the purity of their water supply.

EXPERIMENTS ON LIVING ANIMALS.

THE return showing the number of experiments on living animals during the year 1912 under licences granted under the Act 39 and 40 Vict., c. 77, has just been issued.

ENGLAND AND SCOTLAND.

Professor Thane's report contains the names of all "registered places." Nine new places were registered for the performance of experiments, and one was removed from the register during the year. All licensees were restricted to the registered place or places specified on their licences, with the exception of those who were permitted to perform inoculation experiments in places other than a "registered place," with the object of studying outbreaks of disease occurring in remote districts or under circumstances which render it impracticable to perform the experiment in a "registered place." The names of all the persons who held licences during 1912 are given; the total number was 598. Reports furnished by the licensees show that 151 of them performed no experiments. The numbers given above include 16 licensees whose licences expired on February 29th, 1912, and of whom 14 returned no experiments in 1912. The experiments are, as usual, set forth in a table (IV), which is divided into two parts, A and B, for the purpose of separating experiments performed without anaesthetics from experiments in which anaesthetics were used.

Number of Experiments.

The total number of experiments included in Table IV (A) is 5,043. Of these there were performed:

Under licence alone	2,584
Under Certificate C	219
Under Certificate B	1,673
Under Certificate B + EE	567

Table IV (B) is devoted entirely to inoculations, hypodermic injections, and some few other proceedings, performed without anaesthetics. It includes 78,556 experiments, whereof there were performed:

Under Certificate A	78,225
Under Certificate A + E	321
Under Certificate A + F	10

The total number of experiments was 83,599, being 11,604 less than in 1911. There was a decrease in the number of experiments included in Table IV (A) of 47, and a decrease of 11,557 in Table IV (B).

The Use of Anaesthetics.

The larger part of the experiments included in Table IV (A)—namely, all performed under licence alone and under Certificate C, 2,803 in number—come under the provision of the Act that the animal must be kept under an anaesthetic during the whole of the experiment, and must, if the pain is likely to continue after the effect of the anaesthetic has ceased, or if any serious injury has been inflicted on the animal, be killed before it recovers from the influence of the anaesthetic.

In the experiments performed under Certificate B, or B linked with EE, 2,240 in number, the initial operations are performed under anaesthetics, from the influence of which the animals are allowed to recover. The operations are required to be performed antiseptically, so that the healing of the wounds shall, as far as possible, take place without pain. If suppuration occurs the animal must be killed. After the healing of the wounds the animals are not necessarily, or even generally, in pain.

In the event of a subsequent operation being necessary in an experiment performed under Certificate B, or B linked with EE, a condition is attached to the licence requiring all operative procedures to be carried out under anaesthetics of sufficient power to prevent the animal feeling pain; and no observations or stimulations of a character to cause pain are allowed to be made without the animals being anaesthetized.

In no case has a cutting operation more severe than a superficial venesection been allowed to be performed without anaesthetics.

The experiments included in Table IV (B), 78,556 in number, were all performed without anaesthetics. They were mostly inoculations, but a few were feeding experiments, or the administration of various substances by the mouth or by inhalation, or the abstraction of blood by puncture or simple venesection. In no instance has a certificate dispensing with the use of anaesthetics been allowed for an experiment involving a serious operation. Inoculations into deep parts, involving a preliminary incision in order to expose the part into which the inoculation is to be made, must be performed under anaesthetics.

Professor Thane goes on to say:

It will be seen that the operative procedures in experiments performed under Certificate A, without anaesthetics, are only such as are attended by no considerable, if appreciable, pain. The certificate is, in fact, not required to cover these proceedings, but to allow of the subsequent course of the experiment. The experiment lasts during the whole time from the administration of the drug, or injection, until the animal recovers from the effects, if any, or dies, or is killed, a period possibly extending over several days, or even weeks. The substance administered may give rise to poisoning, or set up a condition of disease, either of which may lead to a fatal termination. To administer to an animal such a poison as diphtheria toxin, for example, or to induce such a disease as tuberculosis, although it may not be accompanied by acute suffering, is held to be a proceeding "calculated to give pain," and therefore experiments of the kind referred to come within the scope of the Act 39 and 40 Vict. c. 77. The Act provides that, unless a special certificate be obtained, the animal must be kept under an anaesthetic during the whole of the experiment; and it is to allow the animal to be kept without an anaesthetic during the time required for the development of the results of the administration that Certificate A is given and allowed in these cases.

It must not be assumed that the animal is in pain during the whole of this time. In cases of prolonged action of an injected substance, even when ending fatally, the animal is generally apparently well, and takes its food as usual, until a short time before death. The state of illness may last only a very few hours, and in some cases it is not observed at all.

In a very large number of the experiments included in Table IV (B) the results are negative, and the animals suffer no inconvenience whatever from the inoculation. These experiments are therefore entirely painless.

In the event of pain ensuing as the result of an inoculation, a condition attached to the licence requires that the animal shall be killed under anaesthetics as soon as the main result of the experiment has been attained.

Cancer Investigation Experiments.

During the year 1912, 24,870 experiments were performed by 24 licensees, working at eight institutions, in the course of cancer investigations. Of these, 521 are in Table IV (A) and 24,349 in Table IV (B). The latter were almost entirely inoculations into mice.

Experiments for Government and Public Bodies.

A large number of experiments, almost all simple inoculations and similar proceedings contained in Table IV (B), were performed either on behalf of official bodies, with a view to the preservation of the public health, or directly for the diagnosis and treatment of disease. Several county councils and municipal corporations have their own laboratories in which bacteriological investigations are carried on, including the necessary tests on living animals, and many others have arrangements by which similar observations are made on their behalf in the laboratories of universities, colleges, and other institutions. A sewage farm is registered as a place in which experiments on living animals may be performed in order that the character of the effluent may be tested by its effects on the health of fish. The Local Government Board and the Board of Agriculture and Fisheries have laboratories which are registered for the performance of experiments having for their object the detection, prevention, and study of diseases of man and animals. In other places experiments have been performed on behalf of the Home Office, the Naval Medical Service, the War Office, the Army Medical Department, the Army Medical Advisory Board, the Army Veterinary Service, the Local Government Board, the Metropolitan Asylums Board, and the Advisory Committee for Plague in India.

Eighty-two licensees report over 22,000 experiments which were performed for Government Departments, county councils, municipal corporations, or other public health authorities; and fifteen licensees performed over 12,000 experiments for the preparation and testing of antitoxic serums and vaccines, and for the testing and standardizing of drugs.

Inspections.

During the year the usual inspections of registered places were made by Professor Thane and Sir James Russell. They saw numerous animals under experiment, both of those coming into Table IV (A) and of those coming into Table IV (B). They everywhere found the animals suitably lodged and well cared for, and the licensees attentive to the requirements of the Act, as well as to the conditions appended to their licences by the Secretary of State.

Irregularities.

The following irregularities occurred during the year:

A licensee holding certificates for certain experiments on various animals performed an operation of the same nature on two rabbits, which were not named in his certificate B.

A licensee holding certificates B, EE, for certain experiments on cats performed an operation of a similar character in a situation other than that specified in the certificate.

A licensee holding Certificate B for experiments on guinea-pigs and frogs performed 10 experiments in excess of the number for which the certificate was given.

A licensee holding Certificate A for inoculations administered substances to animals by feeding, that proceeding not being specified in the certificate.

The Secretary of State was satisfied from the explanations which were given that these errors were due to misunderstanding or inadvertence, and that in none of the cases was any operation performed which he would have refused to allow if it had been covered by the terms of the certificate submitted; and by his direction a suitable admonition was addressed to the licensee in each case.

IRELAND.

Dr. J. F. O'Carroll reports that in 1912 there were in Ireland 15 registered places; in two of them no person was licensed to perform experiments during the year 1912. One place was newly registered and one has ceased to exist. Twenty-one licences were in force during the year, and no new licences were issued. One licence lapsed on December 31st, 1911.

Number of Experiments.

The experiments performed were 287 in number, 21 under licence alone and 266 under certificates. Seventeen licensees performed experiments, the number of experiments under each certificate being:

Under Certificate A	213
Under Certificate C	49
Under Certificate E + A	4

Animals Used.

The animals experimented on were as follows: Guinea-pigs, 123; rabbits, 67; cats, 31; mice, 17; dogs, 11; cattle, 15; sheep, 2; pigs, 2; frogs, 19.

Nature of Experiments.

Of the experiments 74 were physiological, 15 therapeutical, and 198 pathological. The greater number consisted of hypodermic injections and inoculations. Apart from the very limited number of experiments made for the purpose of teaching students some of the fundamental principles and methods of physiology, the majority of the investigations of the year dealt, by means of simple hypodermic injection, with questions of diagnosis of infective disease in man and the lower animals, and with the effects of antidotal vaccines. Some of the original investigations on respiration, ethyl chloride, and nutrition, noted in last year's report, were continued during 1912.

Dr. O'Carroll is satisfied that all the holders of licences have carried out their experiments in accordance with the provisions of the Act.

THE INTERNATIONAL DENTAL FEDERATION.

THE annual meeting of the International Dental Federation, held at the Hague on August 27th to 29th, was well attended by the delegates of the twenty-three countries represented in the Federation. Mr. W. B. PATERSON, F.R.C.S., L.D.S. (London), in his presidential address, gave an outline of the arrangements for the sixth International Dental Congress, which will be held at the University of London and the Imperial College of Science and Technology from August 3rd to 8th, 1914, and of which the King has consented to be patron. He stated that the Foreign Office had invited official delegates from all the principal countries of the world to attend the congress, and the Colonial Office had done the same for the self-governing dominions of the British Empire.

Dr. C. VAN DER HOEVEN (the Hague) welcomed the Federation on behalf of the Dental Societies of Holland.

Mr. J. HOWARD MUMMERY, M.R.C.S., L.D.S. (London), President-elect of next year's congress, spoke for Great Britain, and extended a cordial invitation to the delegates present, the following of whom replied: Dr. BROPHY (Chicago), Dr. SCHAEFFER-STUCKERT (Frankfort-on-Maine), M. VILLAIN (Paris), Dr. WEISER (Vienna), Dr. GUERINI (Naples), M. ROSENTHAL (Brussels), Dr. AGUILAR (Madrid), Professor CHRISTENSEN (Copenhagen), Mr. LENHARDTSON (Stockholm).

Telegrams were sent to the Queen-Mother of Holland, the King of Denmark, and the King of Sweden, in recognition of their patronage of the Dental Hygiene National Committees in their countries, and gracious replies were received. The Federation afterwards resolved itself into its various commissions.

Hygiene Commission.

Professor JESSEN (Strassburg) presided over the Hygiene Commission, and announced that many new national committees and associations had been established, notable progress having been made in Russia, where dental treatment was prominent in the Hygiene Exhibition now being held in St. Petersburg. In the report of the secretary of the Commission, it appeared that in Great Britain many education authorities were appointing whole-time or part-time school dentists. London had now twelve dental clinics, and twenty would be in operation by the end of this year. The county of Montgomery (Wales) had appointed two school dentists, one of whom would have a dental surgery caravan for travelling through country districts. Germany had now 200 dental clinics for school children in full working order, and efforts were being made to provide for rural districts. In the United States of America the Forsyth Children's Dental Institute, costing over three million dollars, would be opend in Boston in November next; and Professor Jessen, at the request of the President, would attend the ceremonial as the representative of the Federation. It was also announced that a Royal Commission had been appointed in Sweden, following upon the meeting of the Federation in Stockholm last year, to organize school dental treatment.

Commission on Education.

Dr. BROPHY (Chicago), in the absence of Dr. Kirk (Philadelphia), presided over the Commission on Education. Dr. W. GUY (Edinburgh) presented the report. At the request of Dr. DUBEAU (Montreal), delegates were appointed to attend the opening of the new dental school in October. The school buildings have been erected by the Government of Quebec Province at a cost of £60,000. Delegates were also appointed to attend the inauguration of the new dental school at Philadelphia, U.S.A., in 1914, founded under the will of the late Dr. T. W. Evans of Paris. A coloured print of the architectural details of the Philadelphia school, which was distributed at the meeting, disclosed a clever blending of the external characteristics of Magdalen College, Oxford, with the most modern and up-to-date requirements in the matter of internal lighting. It is anticipated that some £200,000 will be expended in the cost of production. The Commission considered the question of dental pedagogics, and ordered a report to be presented at the London Congress.

Commission of Bibliography and Statistics.

The Commission of Bibliography and Statistics was presided over by M. HUET (Brussels), who reported on the progress being made in the codification of documents and statistics relating to dental curricula, registration of dentists, and dental literature thoughout the world, a report of which was ordered to be presented to the London Congress, and a salaried assistant was appointed to take charge of the same.

Dentistry and Medical Inspection of Schools.

At the concluding meeting the Federation passed a resolution urging upon all Governments the importance of including treatment by qualified dentists in all State-aided schemes of medical assistance, and especially in the case of children.

Banquet.

The banquet of the Federation was held at the Palace Hotel, Scheveningen, during the course of which the PRESIDENT presented to Dr. Charles Gordon, officer of the Legion d'Honneur and chief of the Ecole Dentaire, Paris, the Diploma of Honour of the Miller Prize, a prize founded in memory of the late Professor Miller, of Berlin, and awarded biennially by the Federation to the person who "has rendered the most eminent services to dentistry."

Lecture by Professor Bolk.

On Saturday, August 30th, Professor BOLK delivered a lecture before the Federation in the Anatomical Theatre of the University at Amsterdam, on the results of his examination of the teeth and jaws of 30,000 crania. Amongst various differences noted he dwelt in particular upon (*a*) the non-eruption of the mandibular second premolar and the continued existence of the mandibular second milk molar until middle age; (*b*) the so-called maxillary fourth molar, which he demonstrated in some thirty specimens to be a single-rooted tooth with a molariform crown, existing buccally between the second and third maxillary molars ("para-molar" he named it), or behind the third molar (disto-molar); (*c*) the proximity of the roots of the teeth to the maxillary antrum, more especially in the region of the second and third molars.

The members of the Federation afterwards visited the Museum and inspected the specimens, the mounting of which was generally admired. Professor Bolk spoke in French, as the language of international diplomacy, in his welcome to the Federation, and in English, as the language of international dentistry, during his address.

Entertainments.

The dental societies of Holland provided various entertainments for the Federation, including an excursion to the Muiderslot Castle and the Zuyder Zee, and notwithstanding the crowded state of the Hague during the ceremony attendant upon the opening of the Palace of Peace, the comforts and pleasures of the members of the Federation were well looked after, and elicited warm approval on all hands.

MOTOR CARS FOR MEDICAL MEN.

THE DE DION BOUTON 12-H.P. MODEL.

AT one time it was comparatively easy to classify a motor car merely by a brief examination of its general structure, coupled, perhaps, with a few hours' trial of its work on the road. But this is no longer the case; the whole art of engine designing and body building has made great advances, and all cars which make any serious bid for public favour are so well thought out that in weighing their comparative merits, fine points (including the special point of view of their prospective purchaser) have to be taken into consideration. In addition, any practical test to which the car is submitted must be very prolonged. Still, there is a good deal that can be found out even by a short road trial; the probable accuracy of the statements of those who have had such a car for some time, and exhibit enthusiasm as to its merits, can, for instance, be assessed. This being the case, it seemed worth while recently to take advantage of an opportunity of trying the 12-h.p. four-cylindered car which Messrs. De Dion put on the market some years ago, and which, with a few modifications, they have made their model chassis for cars of this power for the current year. We gave it a six-hour trial, running it, in this time, 104 miles, dividing the time between roads on which there was heavy traffic, very hilly ground, and straight level roads. In traffic the engine proved very easily controlled,

allowing the rate of progress to be reduced to a walking pace when required and quick movement to be obtained from a practical standstill. On one occasion extreme use of the throttle, during an intentional pause, stopped the engine unexpectedly, owing to the over-fine, but easily altered, adjustment of the throttle stop. Out in the country its work was equally satisfactory, all hills being taken with entire ease and no tendency to overheating showing itself. With regard to speed, the rate on the second gear, with 1,600 revolutions per minute, is, according to the makers, 16¾ miles an hour, but the actual rate of travel as gauged by the speedometer seemed to soar considerably higher than this, the same being also true of the third forward gear, which normally gives 28$\frac{7}{16}$ miles per hour. The car, therefore, was certainly capable of travelling at all reasonable speeds from slow to fast. The reverse gear also worked satisfactorily, and in the way of noise there was nothing beyond a pleasant hum while hill-climbing. For a car not sufficiently heavy to demand shock-absorbers, progress was smooth. The trial, therefore, so far as it went, endorsed the very emphatic approval of several medical men who have had cars of the same build for several years. For taxation purposes it is a three-guinea car, subject to the usual reduction in the case of medical owners. The average petrol consumption appeared to be about a gallon for each thirty miles. In regard to throttle and brake, Messrs. De Dion have adhered to the plan which they adopted with their earliest cars—namely, that of controlling both throttle and brake by one pedal, the first part of the downward movement of the pedal closing the throttle and the remainder bringing into action a double shoe brake which is applied to the end of the second gear shaft. This, besides being a very logical arrangement, has the advantage of simplifying driving. The complete car price ranges between £350 10s. and £389 10s., according to the type of body fitted.

"JUGGINS" will be glad if any one who has had experience with the Dodson valveless—two-stroke—engine will give him any information as to its virtues or vices. The conception, he says, seems so absolutely ideal that one is compelled to believe there must be compensatory disadvantages which prevent its taking the foremost place to which it is otherwise apparently entitled. Any opinions, favourable or the reverse, will be appreciated, as "Juggins" desires to be helped to make up his mind.

"VERDANT GREEN" asks if any medical motorists can advise a Coupé car costing from £250 to £350; also the probable cost for upkeep, etc. Most Coupé cars on the market cost over £400, and would require an expensive driver.

DR. R. ALEX. SHANNON (Crofton, Orpington, Kent) writes: On page 556 of BRITISH MEDICAL JOURNAL of August 30th I observe a request from "M. S." about brass-cleaning fluid, and I beg to enclose the following, which I have found to be an excellent brass-polishing fluid:

Oxalic acid	ʒiv
Powdered rotten-stone	℥vi
Paraffin	ʒiv
Methylated spirit	ʒvi

Dissolve the acid in half a pint of boiling water, and, when dissolved, add the rotten-stone; shake well; add the paraffin and spirit, and make up to half a gallon with boiling water.

DR. L. F. HEMMANS (Lewisham, S.E.) writes: In reply to "M. S.," I use the following compound as a brass polish:

Cret. praep., liq. ammon. fort.	āā ʒj
Sp. vini rect.	ʒvi

A BOARD for the study of tropical diseases has been organized by the Medical Department of the United States Army at Ponce, Porto Rico. Major Bailey K. Ashford has been appointed President of the Board.

THE Society of Medical Heads of Laboratories of Radiology and Electro-Radiotherapy of the Paris Hospitals has organized courses of lectures, theoretical and practical, of electrology, roentgenography, and radiology. Two courses will be given every year, one in November the other in May, each lasting a month. The first will be given from November 3rd to December 2nd, 1913, in the theatre of the Hôpital de la Pitié, 83, Boulevard de l'Hôpital, Paris. The opening lecture will be delivered at 4.30 p.m. on November 3rd by Dr. A. Beclère, physician to the St. Antoine Hospital, and member of the Académie de Médecine. Practical demonstrations will be given in the morning in the laboratories of radiology and electro-radiotherapy of the Paris hospitals. The courses are free. Application should be made to Dr. Delherm, Boulevard de l'Hôpital, 83, Paris (XIIIe), or to Dr. Aubourg, Rue de la Convention, 62, Paris (XVe).

ONE HUNDRED YEARS AGO.

RICHARD BRIGHT ON SEPTEMBER 13TH, 1813.

ON September 13th, a hundred years ago, Richard Bright was one of a band of twenty-three young graduands who received the degree of Doctor in Medicine from the University of Edinburgh, "after having gone through the appointed examinations, and publicly defended their respective inaugural dissertations." They constituted the autumn band of graduates, for on June 24th another and a larger band (thirty-nine in number) had emerged from the academic portals. The total output, so to say, of young doctors from Edinburgh for the year was 62, of whom 28 belonged to Scotland, 15 hailed from England, 9 from Ireland, 4 from Jamaica, 2 from Wales, and 1 each from Canada, America, St. Croix, and the Canary Islands.[1]

At the autumn graduation there were four candidates besides Bright who wrote "Anglus" after their names: these were John Conquest, Stevenson Eden, Robert G. A. Collingwood, and Joseph Dyneley. The future discoverer of the great clinical fact that dropsy with albuminuria is due to a disease of the kidney was already the greatest man of the quintet, and showed promise of what he afterwards became—the most distinguished graduate of his year. It may be supposed that it was in this little group of Englishmen that young Bright formed his college friendships; but through his membership of the Royal Medical Society he would be brought into touch with men from all parts of the world, and since he was president for the year he was certainly known to all the other members of that society. Still he would draw naturally enough to his fellow-countrymen; and it is interesting to find that the name immediately preceding his in the list of graduates is that of John Conquest. Indeed, these two names, Bright and Conquest, are the only ones which are immortalized in the pages of that British temple of honour, the *Dictionary of National Biography*. Another great medical man, for whom that temple finds a niche, was now a student in the university and may have been known to Richard Bright, but he was not to receive his M.D. till 1815; this was Thomas Addison, afterwards Bright's colleague in Guy's Hospital.

At any rate, however these other things were, we can safely have in our mind's eye John Conquest, sitting beside Ricardus Bright on that September morning a hundred years ago, little dreaming that together they were to enter the pages of the *Dictionary of National Biography* in that future which to them, as to all other young and healthy graduands, had, we doubt not, an abundance of roseate hues of hope on that occasion at least. John Tricker Conquest, to give him his full name, was of the same age as Bright, having been born in 1789. In a way of his own, not indeed so luminous and brilliant as that of his class-mate, Conquest added to the literature of medicine: in 1820 he published his *Outlines of Midwifery*; ten years later he gave an address on puerperal inflammation to the Hunterian Society; and eighteen years after that event he brought out his widely read work entitled, *Letters to a Mother on the Management of Herself and Her Children in Health and Disease*. He was apparently the typical "man-midwife" of the period, and one cannot successfully combat Dr. Norman Moore's description of the *Letters*, as "written in a sickly style with no scientific or practical merit."[2] Conquest, who settled in London, lectured on midwifery there; at first he gave four courses of lectures in each year in his own house at Aldermanbury Postern, charging three guineas to each student attending; but later (in 1825) he was appointed lecturer on midwifery in the medical school of St. Bartholomew's Hospital and taught there. It was a very different career from that of Richard Bright, but it was spent as Bright's also was, in London, and doubtless the old class-mates met upon occasion in the metropolis and exchanged courtesies, sharing a reminiscence or two possibly of the September morning in Edinburgh when both were "capped." That there would be more than this is doubtful, Bright being a Guy's man, and Conquest firmly attached to Bart's.

Richard Bright was a native of Bristol,[3] where his father (also a Richard) was merchant and banker. At the age of

[1] *Edinburgh Medical and Surgical Journal*, vol. ix, p. 498 1813.
[2] *Dictionary of National Biography*, vol. xii, p. 31.
[3] *Dictionary of National Biography*, vol. vi, p. 334.

19 he began to study in the Faculty of Arts in the University of Edinburgh, and came under the influence of Dugald Stewart (moral philosophy), John Playfair (natural philosophy), and John Leslie (mathematics); and this influence was no slight one, as Bright's after-life was to show. Dugald Stewart was a great force in these days, and Sir Leslie Stephen[4] says that during his life Edinburgh continued to be scarcely inferior to London as a centre of intellectual activity. His class numbered 150 students in the year (1808–9) when Bright attended, and had reached 196 in the previous year. In 1809 young Bright passed into the Medical Faculty to receive instruction from Hope (chemistry), Andrew Duncan (physiology), and Alexander Monro *tertius* (anatomy), and these, too, were names to conjure with.

In 1810 Bright had a temptation put before him which he was unable then, and also later, to resist—we mean the attraction of foreign travel. In the summer of that year he was invited to pay a visit of some months to Iceland in company with Sir George Steuart Mackenzie of Coul, the noted mineralogist, who, some ten years before, had obtained decisive proof of the identity of diamond with carbon, and Richard Bright made one of the three scientists who sailed for that little known part of the world. The third member of the party was Mr. (afterwards Sir) Henry Holland. He was, we may say, the senior medical student of the little expedition as Bright was the junior, and he had no small influence in determining the life and career of the latter. Holland had spent a year (1803) at Bristol, probably getting to know Bright then and there; later he studied first at Glasgow and second at Edinburgh, and he also put in two winters at Guy's and St. Thomas's Hospitals in London; he took his M.D. at Edinburgh in 1811, and then spent a year and a half in Continental travel in south-eastern Europe. Now Richard Bright also went to study at Guy's and St. Thomas's Hospitals before he took his degree at Edinburgh in 1813, and he, too, after graduation spent more than a year travelling on the Continent, especially in Austria and Hungary. There can be little doubt Bright had Holland in his mind when he carried out his programme of studies for the four years following the trip to Iceland. In the long summer days of 1810 spent by the young men cruising in the north there would be full opportunity to talk over and to plan out the future.

On their return to Britain Sir George Mackenzie, Holland, and Bright collaborated to bring out *Travels in Iceland*, published in Edinburgh in 1811; Holland contributed "Diseases of the Icelanders," and Bright wrote on the botany and zoology of the island. Whilst the volume was passing through the press Bright was studying medicine in London, working at anatomy and surgery under Astley Cooper in the united school of Guy's and St. Thomas's; he received, it has been thought, from Cooper that impression of the value of morbid anatomy in the study of disease which was afterwards to prove so potent in leading him to his great accomplishments in medicine, and especially to that one with which his name is indissolubly united.

Again, however, medicine was powerless to hold him fast, and he had another breakaway from the beaten tracks—on this occasion to the study of geology as revealed by the strata near his own town of Bristol. One need not wonder at his interest in geology: it was one of the nascent subjects of scientific inquiry at the time, and Bright's natural curiosity and industry supplied the only other incentives required. He had been studying in Edinburgh, where James Hutton, also a medical man, let it be remembered (M.D.Leyden of 1749), had carried on his epoch-making work on geology, and had published his magnificent "Theory of the Earth." It is easy to criticize Hutton now, and to see that he over-emphasized plutonic in opposition to neptunian agencies; but he was a "prodigious pioneer," and "sole founder of modern dynamical geology"; as a modern writer[5] has said, "from being a static science geology became in his hands a science of change and of process," with "no signs of a beginning," as Hutton himself said, and "no prospect of an end." The great geologist, it is true, had died in 1797; but Bright was a pupil of his exponent, John Playfair, the man who suggested the transportation of isolated boulders by means of moving ice as an explanation of the strange positions on which they are found. Men's minds were in a ferment with the new ideas to which geology was giving birth, and to Bright's intelligence the whole subject must have been intensely fascinating. He was influenced, too, no doubt, by Dr. W. Babington, his teacher in medicine at Guy's Hospital, and a lover of geological studies. At any rate, Bright read a paper on the strata near Bristol to the Geological Society in 1811.

But Bright always returned to medicine, and he was found again at Edinburgh studying under Dr. Gregory, a great man, but very irascible, and too ready, on one occasion at least, with his stick (as the midwifery professor of these combative days was quick to allege). Bright's return was in 1812, and even in these months so soon before his graduation he was studying geology and natural history under Professor Robert Jameson. He graduated, as has been said, in September, 1813, and we emphasize the year, for the *Dictionary of National Biography*, by a printer's error (uncorrected unfortunately in the volume of *Errata*), makes it 1812.

Bright was the author of two dissertations in 1813: one was his inaugural or M.D. thesis, and the other was the paper which he contributed to the *Proceedings* of the Edinburgh Royal Medical Society, and by means of which he became an Extraordinary Member of that body, with all the advantages pertaining thereto (for example, freedom from fines and compulsory attendance). The Royal Medical Society's dissertation was on the subject of "gangrene," and proves very unattractive and uninteresting reading nowadays.[6] Bright, however, marshals his facts in an orderly way, first defining the "extensive signification" in which he would apply the term "gangrene," then discussing its causation under the heads of predisposing, proximate, and exciting causes, and then proceeding to treatment, prognosis, and diagnosis, with a few illustrative cases and with references to the works of Quesnay, Kentish, O'Halloran, La Motte, Dease, Huxham, La Dran, Cullen, Willan, Pott, and Home. In a wilderness of dry and arid speculations on matters which have ceased to have interest, there are one or two green spots where it is evident that Bright's mind was supplying some fertilizing and vitalizing influence. Thus, speaking of the gangrene of hospitals, Bright said:

> The beneficial powers of fresh air are not perhaps even yet [1813] sufficiently appreciated; physicians are becoming every day more and more enlightened upon this point; in certain instances they may even carry their practice beyond the bounds of prudence; but the surgeon should likewise be instructed how little his art can do while he permits Nature to be thwarted in her kindest attempts, and deprived of that assistance [ventilation and cleanliness] to which so much is intrusted whilst the body is unconfined by disease.

After so near an approach to the ideas underlying the asepsis of the present day, Bright went on to state that sores might change from a healthy to an unhealthy state by reason of too tight bandaging, or—and the modern surgeon will say "I consent" to this also—from the use of sponges and fomentation cloths which are not properly washed. Then Bright added a sentence emphasizing the constitutional factor in no half-hearted fashion:

> There are, however, independently of these causes, some circumstances which we cannot prevent; a man whose body has been constantly under the influence of strong drink, or whose advanced period of life has reduced his constitutional energy, may fairly be suspected to repair the injury he has sustained with less facility than one whose powers are unbroken.

Again, dealing with treatment, young Bright has this penetrating sentence:

> As our science has advanced, medical men have learned to apply their remedies, not to the name but to the disease; hence it might occur that bleeding should be necessary in one instance, while bark and stimulants are indispensable in another; and it is the power of distinguishing these that stamps the merit of the practitioner.

This is good and sound advice, not yet obsolescent even in these days when the "torch of science is being brandished and borne about" with so much effect of one kind and another. But, whilst this piece of advice is not by any means obsolete, much that is written in this hundred-years'-old dissertation is of a class of things which have passed clean away from us. How much the

[4] *Dictionary of National Biography*, vol. liv, p. 283.
[5] *Harmsworth's Popular Science*, VII, p. 4608.
[6] *Dissertations by Eminent Members of the Royal Medical Society*, p. 64, Edinburgh, 1892.

phenomena of gangrene were due to micro-organisms grafting themselves on the affected part was, of course, quite unsuspected, and the whole treatment of the disease by amputation was hindered and hampered by the limitations existing in a surgery which was without anaesthesia and asepsis. Gangrene, it is true, still occurs with us, and especially that senile form of it which Bright describes so well as being met with in men advanced in age, especially "the rich and voluptuous, who eat to excess"; but hospital gangrene and other terrors, under whose shadow as of death our surgical forefathers did their work and fainted not, have become so rare that many of us cannot recollect a single instance in thirty or forty years of practice.

In this dissertation, read before and discussed by the members of the Royal Medical Society in 1813, there is a reference to the connexion existing between erysipelas and gangrene which is of some interest, for Richard Bright's M.D. dissertation of the same year was on the subject of *Contagious Erysipelas*. We give here the words of the title-page of the dissertation, but we are not to follow the author through the tangled thickets which surrounded him as he tried to trace the difference between contagion and infection and to understand the spreading of erysipelas without a knowledge of its microbic cause.

DISPUTATIO MEDICA
Inauguralis
de
ERYSIPELATE CONTAGIOSO;
quam,
annuente summo numine,
ex auctoritate reverendi admodum viri,
D. GEORGII BAIRD, SS.T.P.
Academiae Edinburgenae Praefecti:
necnon
Amplissimi Senatus Academici Consensu,
Et Nobilissimae Facultatis Medicae Decreto;
Pro Gradu Doctoris,
Summisque in Medicinae Honoribus ac Privilegiis
Rite et Legitime Consequendis;
Eruditorum Examini Subjicit

RICARDUS BRIGHT,
Anglus,
Societ. Reg. Med. Edin. Soc. Extraord.
et ejusdem
Praeses Annuus.

Foenum habet in cornu; longe fuge;
Hor. Sat. Lib. I. Sat. 4.

Die XIII Septembris horâ locoque solitis

EDINBURGI:
Excudebat Robertus Allan.
MDCCCXIII.

Enough that Dr. Bright successfully defended his thesis and got his degree, and so prepared himself for the great work which was waiting for him in London. But, before quite leaving the dissertation "De erysipelate contagioso," we may pause for a moment to look at the Latin motto from Horace's fourth satire, which stands at the foot of the title-page. A glance over the other dissertations of the year 1813 reveals the fact that all the candidates did not succeed in finding appropriate classical quotations wherewith to adorn their theses; neither, for that matter, did all of them write such good Latin. Some, however, were happy in their choice of tags of verse from Virgil, and Horace, and Seneca, and other writers of antiquity. What, for instance, could be more appropriate than John Symons's quotation for his dissertation on dyspepsia, which was "Multos morbos multa fercula fecerunt" (many meals make much—dyspepsia). William Gairdner could find nothing suitable for his thesis on dysentery, nor could Mr. Urquhart, from Orkney, writing on the same subject; but Archibald Shanks, not without a certain sly humour in him, put down "Morbi non eloquentia sed remediis curantur." Farrell could find no appropriate Latin versicle for croup, but Mignot (on the same subject), with a grave prognosis in mind, quoted Virgil's lines, "Infantumque animae flentes—quos dulcis vitae exsortes—abstulit atra dies, et funere mersit acerbo."[7] Bright, as we have said, quoted from Horace, and showed that he also had humour. "Foenum habet in cornu; longe fuge," he wrote as his motto for a dissertation on a contagious malady; and it is not difficult to get a glimmer of his meaning. "He has hay on his horn, keep aloof," it may be translated, or "take care of the mad bull." "Erysipelas is catching," Bright means us to believe, "so don't put your patient in the next bed to it, but at the far end of the ward."

We have tried to catch a glimpse of Dr. Richard Bright as he was in 1813; but of his residence in Peterhouse at Cambridge, of his Continental travels in 1814–15 and of the book he wrote about them (large, interesting, with plates from his own drawings), of his visit to Brussels a fortnight after the battle of Waterloo, of his work in the London Fever Hospital, and of the nearly fatal attack of fever he there contracted, of his further travels on the Continent, of his appointment to Guy's Hospital, and the amazing amount of work he did there, both in the wards and in the *post-mortem* room, and so on to the end of a well-filled life in 1858, we cannot now speak. Enough, however, has been revealed of his character, as it was already outlined in 1813, to show that he was many-sided and a man of great versatility—passing rapidly from Edinburgh to London and from the latter place to Bristol, going off to Iceland when he should have been sitting in the class rooms, writing on geology when he should have been thinking of medicine, and yet with it all a good linguist, a bit of an artist, a writer of travels, and already a keen, unbiassed, and sagacious observer of medical phenomena and a man of extraordinary industry. It was no raw youth who presented himself on September 13th, 1813, to receive the degree of M.D., but a man who had already made his mark firmly, and who even then exhibited in himself all these qualities which were to lead him unerringly to the solution of many problems in medicine, and particularly to that one whose elucidation, appropriately enough, is summed up in the words "Bright's disease."

IN MEMORIAM J. S. BILLINGS.

We have received a report of a memorial meeting in honour of the late Dr. John Shaw Billings, held at the New York Public Library, of which he was Director from 1896 till his death on March 11th, 1913. Among those who spoke were Dr. Weir Mitchell, Sir William Osler, Dr. William H. Welch, and Mr. Andrew Carnegie.

Dr. WEIR MITCHELL gave some interesting information as to the early struggles of Billings. At 15, out of his small savings he bought a Latin dictionary and grammar, and taught himself the language in order that he might understand the Latin quotations he came upon in his reading, which already was extensive. By acting as a tutor in the summer holidays he passed through Miami University, taking the A.B. degree in 1857. In his last year at college he added to his resources in a somewhat unusual way. A man who was exhibiting pictures on a screen was so evidently embarrassed by his inability to explain them that Billings offered to assist him, and during the summer he went with the showman from place to place lecturing on whatever scenes were exhibited. In this way he gained enough money to carry him through his academic work and to enter the Medical College of Ohio, where he took his degree in 1860. During the period of medical study he paid his way by taking care of the dissecting-rooms and by living in the college. Speaking to Dr. Weir Mitchell of those years of privation, Billings expressed his belief that he never recovered from the effect of one winter in which he lived on 75 cents a week, his food being chiefly milk and eggs. After taking his degree he got a post as demonstrator of anatomy, and held appointments in two hospitals. The Roman Catholic sisters who conducted the nursing used to speak of him as St. John of the Hospital on account of the "gentle gravity, the look of mild melancholy—never quite lost in after days—the lambent blue eyes, and a certain sweetness of expression." He served as an army surgeon during the Civil War with great distinction. At the end of 1864 he was ordered to the Surgeon-General's Office. There he had

[7] Virgil, *Aeneid*, Bk. vi, lines 427–429.

charge of matters pertaining to all contract physicians, the organization of the Veteran Reserve Corps, and the accounts of hospitals; he had also the care of the pathological museum. The want of books for consultation was at once felt by him. Fortunately, at the close of the war in 1865 the hospitals turned into the Surgeon-General's Office something like 85,000 dollars of their savings, and this he was allowed to use for the library which began to grow into the great collection the catalogue of which fills many large volumes. What made him so capable was not only originative genius with the power of applying his many mental resources, but above all the group of qualities connoted by the word "character." Dr. Weir Mitchell recalls a few words said to him by Billings not many weeks before he died. He was asked how many degrees he had received, and when they began to count the LL.D.'s and B.C.L.'s, he laughed and said, "Yes, that is my principal title to be considered a man of letters."

Sir WILLIAM OSLER said that as a medical bibliographer he occupied a unique position. Even as a young man he expressed an aspiration "to establish for the use of American physicians a fairly complete library, and in connexion with this to prepare a comprehensive catalogue and index which should spare medical teachers and writers the drudgery of consulting 10,000 or more different indexes, or turning over the leaves of as many volumes to find a dozen or so references of which they might be in search." The opportunity came when he was assigned to duty in the Surgeon-General's office. Supported in his efforts by successive Surgeons-General and liberal grants from Congress, Billings was able in a few years to collect one of the largest and most complete medical labraries in the world. When he retired in 1895 there were 308,445 volumes and pamphlets and 4,335 portraits. At the present time the library is the largest of its kind in the world, containing upwards of half a million volumes and more than 5,000 portraits. A single-volume catalogue was issued in 1872, a three-volume in 1873–74, and in 1876 Billings's great plan took shape in a specimen fasciculus of a new catalogue. After four years of hard work, in which he was greatly helped by Robert Fletcher, vol. i. of the *Index Catalogue* was issued, and afterwards, year by year, volumes appeared with remarkable regularity, and in 1895 Series I was completed—fifteen great volumes, each of nearly one thousand pages. The second series was now rapidly approaching completion. While the *Catalogue* only represented the contents of the Surgeon-General's Library, it was really an exhaustive index of medical literature. All departments of medicine were represented, and there was not a subject, and scarcely an author of note, ancient or modern, not in the *Catalogue*. Sir William Osler gave a remarkable example of its completeness. A few years ago Dr. Aldis Wright, of Cambridge, asked him if he could help in finding certain references to obscure medical writers mentioned in Burton's *Anatomy of Melancholy*, the references in which he was tracking to their sources. No trace of those he wanted were in British libraries; every one was in the Surgeon-General's Library. "Take any subject you wish," said Sir William Osler, "from dreams to dizziness, from coprolalia to suicide, the literature is given in a full and systematic manner. If you desire to look up the biography of any man in medicine or science, from Hippocrates to Koch, the dates are there, and the necessary information." In the many thousands of references he had made to the volume, Sir William Osler said he had noted not more than one or two mistakes.

In an address by Mr. RICHARD R. BOWKER, Editor of the *Library Journal*, he said that years ago Oliver Wendell Holmes, describing a visit of Dr. Billings to his private library in Cambridge, told how he came into the room, looked round, darted at a book which was the most valuable volume on the shelves, examined it, replaced it, took another survey, and made tracks for a second book which was the second most valuable book in the collection. Holmes with a twinkling eye added: "Why, Sir, Dr. Billings is a bibliophile of such eminence that I regard him as a positive danger to the owner of a library if he is ever let loose in it alone." And his library work by no means exhausted the energies of Billings. He was a recognized authority on hospital construction, the foremost American vital statistician, and a professor of hygiene in two universities. When he had left the army he was called from the chair of hygiene in the University of Pennsylvania to the directorship of the New York Public Library on the Astor, Lenox, and Tilden Foundations. There he changed what had been almost a chaos into a well organized and co-ordinated system. Two years ago his work was crowned by the completion of a magnificent building in which a million volumes are stored, with a staff of nearly 1,000 persons throughout the branches. To understand the man's strength of character it should be said that he had been twice operated on for cancer. In the latter years of his life he was probably seldom without pain, and sleep was to a great extent denied him. Yet all this never seemed to interfere with his work, and he still read a novel or two after the day's work as the "best of soporifics."

It is a wonderful career, beginning as assistant to a travelling showman, and ending as a man held in the highest honour by the profession throughout the world, who had won his way to the foremost place in many different fields of activity.

BRITISH ASSOCIATION.

THE eighty-third annual meeting of the British Association for the Advancement of Science opened on Wednesday, September 10th, at Birmingham. The number of members and associates registered on the first day was 2,506; the total attendance is expected to be about 3,000.

President's Address.

The President (Sir OLIVER LODGE) took for the subject of his address, "Continuity," with the motto *Natura non vincitur nisi parendo*. Naturally the address as coming from a distinguished physicist dealt mostly with what may be called the higher physics. It was, therefore, for the most part highly technical. In the following abstract only such points as may interest our readers are given. He began by asking what, limiting ourselves to a scrutiny on the side of pure science alone, in the main, was the characteristic of the promising though perturbing period in which we lived? The answer he ventured to give was—rapid progress, combined with fundamental scepticism. Rapid progress was not characteristic of the latter half of the nineteenth century—at least not in physics. Fine solid dynamical foundations were laid, and the edifice of knowledge was consolidated; but wholly fresh ground was not being opened up, and totally new buildings were not expected. With the realization of predicted ether waves in 1888, the discovery of x rays in 1895, spontaneous radio-activity in 1896, and the isolation of the electron in 1898, expectation of further achievement became vivid; and novelties—experimental, theoretical, and speculative—have been showered upon us ever since this century began. That is why he spoke of rapid progress. Of the progress he would say little—there must always be some uncertainty as to which particular achievement permanently contributed to it; but he would speak about the fundamental scepticism. He explained that he did not mean the well-worn and almost antique theme of theological scepticism; that controversy was practically in abeyance just now. At any rate, the major conflict was suspended; the forts behind which the enemy had retreated did not invite attack. It was the scientific allies now who were waging a more or less invigorating conflict among themselves, with philosophers joining in. Meanwhile the ancient foe was biding his time and hoping that from the struggle something would emerge of benefit to himself. Some positions, he felt, were too hastily abandoned and might perhaps be retrieved; or, to put it without metaphor, it seemed possible that a few of the things prematurely denied, because asserted on inconclusive evidence, might after all, in some form or other, have really happened. Thus the old theological bitterness is mitigated, and a temporizing policy was either advocated or instinctively adopted. He proceeded to indicate the kind of dominating controversies now extant, employing as far as possible only a single word in each case so as to emphasize the necessary brevity and insufficiency of the reference. In physiology the conflict ranges round *vitalism;* in chemistry the debate concerned *atomic structure;* in biology the dispute was on the laws of *inheritance*. Besides these major controversies, debate was active in other sections: In education, *curricula* generally were being overhauled or fundamentally criticized,

and revolutionary ideas were promulgated concerning the advantages of freedom for infants. In economic and political science, or sociology, what was there that was not under discussion? Not property alone, nor land alone, but everything—back to the garden of Eden and the inter-relations of men and women. Lastly, in the vast group of mathematical and physical sciences, present-day scepticism concerned what, if he had to express it in one word, he would call "continuity." Still more fundamental and deep-rooted than any of these sectional debates, however, a critical examination of scientific foundations generally was going on; and a kind of philosophic scepticism was in the ascendant, resulting in a mistrust of purely intellectual processes and in a recognition of the limited scope of science. The fact was that some of the best things are, by abstraction, excluded from science, though not from literature and poetry; hence perhaps an ancient mistrust or dislike of science, typified by the Promethean legend. Science is systematized and metrical knowledge, and in regions where measurement could not be applied it had small scope.

Emotion and intuition and instinct were immensely older than science, and in a comprehensive survey of existence they could not be ignored. Scientific men might rightly neglect them, in order to do their proper work, but philosophers could not. So philosophers had begun to question some of the larger generalizations of science, and to ask whether in the effort to be universal and comprehensive, scientific investigators had not extended their laboratory inductions too far. The conservation of energy, for instance—was it always and everywhere valid: or might it under some conditions be disobeyed? It would seem as if the second law of thermodynamics must be somewhere disobeyed—at least if the age of the universe was both ways infinite—else the final consummation would have already arrived. Not by philosophers only, but by scientific men also, ancient postulates were being pulled up by the roots. Physicists and mathematicians were beginning to consider whether the long known and well-established laws of mechanics held true everywhere and always, or whether the Newtonian scheme must be replaced by something more modern, something to which Newton's laws of motion are but an approximation. Indeed, a whole system of non-Newtonian mechanics had been devised, having as its foundation the recently discovered changes which must occur in bodies moving at speeds nearly comparable with that of light. It turned out, in fact, that both shape and mass are functions of velocity. As the speed increased the mass increased and the shape was distorted, though under ordinary conditions only to an infinitesimal extent. So far we agreed; we agreed with the statement of fact; but we did not consider it so revolutionary as to overturn Newtonian mechanics. After all, a variation of mass was familiar enough, and it would be a great mistake to say that Newton's second law broke down merely because mass was not constant. That mass was constant was only an approximation. That mass was equal to ratio of force and acceleration was a definition and could be absolutely accurate. It held perfectly even for an electron with a speed near that of light; and it was by means of Newton's second law that the variation of mass with velocity had been experimentally observed and compared with theory. He urged that they should remain with or go back to Newton. He saw no reason against retaining all Newton's laws, discarding nothing, but supplementing them in the light of further knowledge. A still deeper variety of comprehensive scepticism existed, and it was argued that all our laws of Nature, so laboriously ascertained and carefully formulated, were but conventions after all, not truths; that we had no faculty for ascertaining real truth, that our intelligence was not evolved for any such academic purpose; that all we could do was to express things in a form convenient for present purposes and employ that mode of expression as a tentative and pragmatically useful explanation. Even explanation, however, had been discarded as too ambitious by some men of science, who claimed only the power to describe. They not only emphasized the How rather than the Why—as was in some sort inevitable, since explanations were never ultimate—but were satisfied with very abstract propositions, and regarded mathematical equations as preferable to, because safer than, mechanical analogies or models. One thing was very notable—that it was closer and more exact knowledge that had led to the kind of scientific scepticism now referred to; and that the simple laws on which they used to be working were thus simple and discoverable because the full complexity of existence was tempered to their ken by the roughness of their means of observation.

In most parts of physics simplicity had sooner or later to give place to complexity, though certainly he urged that the simple laws were true, and were still true, as far as they went, their inaccuracy being only detected by further real discovery. The reason they were departed from became known to them; the law was not really disobeyed, but was modified through the action of a known additional cause. Hence it was all in the direction of progress. If they had to summarize the main trend of physical controversy at present, he felt inclined to urge that it largely turned on the question as to which way ultimate victory lay in the fight between continuity and discontinuity. The modern tendency was to emphasize the discontinuous or atomic character of everything. Matter had long been atomic, in the same sense as anthropology was atomic; the unit of matter is the atom, as the unit of humanity is the individual. Whether men or women or children, they could be counted as so many "souls." And atoms of matter could be counted too. Certainly, however, there was an illusion of continuity. They recognized it in the case of water. It appeared to be continuous medium, and yet it was certainly molecular. It was made continuous again, in a sense, by the ether postulated in its pores, for the ether was essentially continuous. Electricity itself—that was to say, electric charge—had proved itself to be atomic. Even magnetism had been suspected of being atomic, and its hypothetical unit had been named in advance "the magneton": but he confessed that there he had not been shaken out of the conservative view. Biology might be said to be becoming atomic. It had long had natural units in the shape of cells and nuclei, and some discontinuity represented by body-boundaries and cell-walls; but now, in its laws of heredity as studied by Mendel, number and discontinuity were strikingly apparent among the reproductive cells, and the varieties of offspring admit of numerical specification and prediction to a surprising extent; while modification by continuous variation, which seemed to be of the essence of Darwinism, gave place to, or at least was accompanied by, mutation, with finite and considerable and in appearance discontinuous change. So far from Nature not making jumps, it became doubtful if she did anything else. Her hitherto placid course, more closely examined, seemed to look like a kind of steeplechase. Yet undoubtedly continuity was the backbone of evolution, as taught by all biologists — no artificial boundaries or demarcations between species —a continuous chain of heredity from far below the amoeba up to man. Actual continuity of undying germ-plasm, running through all generations, was taught likewise; though a strange discontinuity between this persistent element and its successive accessory body-plasms—a discontinuity which would convert individual organisms into mere temporary accretions or excretions, with no power of influencing or conveying experience to their generating cells—was advocated by one school. In all the debateable matters of which he had indicated possibilities he wanted to urge a conservative attitude. He accepted the new experimental results on which some of these theories—such as the principle of relativity—were based, and was profoundly interested in them, but he did not feel that they were so revolutionary as their propounders thought. He saw a way to retain the old and yet embrace the new, and he urged moderation in the uprooting and removal of landmarks. Of these the chief was continuity. He could not imagine the exertion of mechanical force across empty space, no matter how minute; a continuous medium seemed to him essential. He could not admit discontinuity in either space or time; nor could he imagine any sort of experiment which would justify such a hypothesis. What about the ether? Was that an abstraction or a mere convention, or was it a concrete physical entity on which they could experiment? It had to be admitted that it was exceedingly difficult to make experiments on the ether. It did not appeal to sense, and they know no means of getting hold of it. The one thing they knew

metrical about it was the velocity with which it could transmit transverse waves. That was clear and definite, and thereby to his judgement it proved itself a physical agent; not, indeed, tangible or sensible, but yet concretely real. But it did elude our laboratory grasp. If they rapidly moved matter through it, hoping to grip it and move it too, they failed: there was no mechanical connexion. Hence arose the idea that motion with respect to ether was meaningless; and the fact that only relative motion of pieces of matter with respect to each other had so far been observed is the foundation of the principle of relativity. Sir Oliver Lodge went on to say that men were now living in an epoch of some very comprehensive generalizations. "The physical discovery of the twentieth century, so far, is the Electrical Theory of Matter." The theory was bound to have curious consequences; and already it had contributed to some of the uprooting and uncertainty he had spoken of. For, if it were true, every material interaction would be electrical—that is, ethereal—and hence arose their difficulty. Every kind of force was transmitted by the ether; and hence, so long as all other apparatus was travelling together at one and the same pace, they had no chance of detecting the motion. That was the strength of the principle of relativity. The changes were not zero, but they cancelled each other out of observation.

It was the extreme omnipresence and uniformity and universal agency of the ether of space that made it so difficult to observe. To observe anything one must have differences. If all actions at a distance were conducted at the same rate through the ether, the travel of none of them could be observed. Find something not conveyed by the ether and there was a chance. But then every physical action was transmitted by the ether, and in every case by means of its transverse or radiation-like activity. Except perhaps gravitation. That might give a clue some day, but at present they had not been able to detect its speed of transmission at all. No plan had been devised for measuring it. Nothing short of the creation or destruction of matter seemed likely to serve; creation or destruction of the gravitational unit, whether it were an atom or an electron or whatever it was. Most likely the unit of weight is an electron, just as the unit of mass was.

Speaking as a physicist he must claim the ether as peculiarly the physicists' domain. The study of molecules they shared with the chemist, and matter in its various forms was investigated by all men of science, but a study of the ether of space belongs to physics only. He was not alone in feeling the fascination of this portentous entity. Its curiously elusive and intangible character, combined with its universal and unifying permeance, its apparently infinite extent, its definite and perfect properties, made the ether the most interesting as it was by far the largest and most fundamental ingredient in the material cosmos. The ether of space was at least the great engine of continuity. It might be much more, for without it there could hardly be a material universe at all. Certainly, however, it was essential to continuity; it was the one all-permeating substance that binds the whole of the particles of matter together. And yet it was possible for people to deny its existence, because it was unrelated to any of their senses except sight, and to that only in an indirect and not easily recognized fashion. He held that science was incompetent to make comprehensive denials, even about the ether, and that it went wrong when it made the attempt. Science should not deal in negations; it was strong in affirmations, but nothing based on abstraction ought to presume to deny outside its own region. It often happened that things abstracted from and ignored by one branch of science might be taken into consideration by another.

Thus, chemists ignored the ether; mathematicians might ignore experimental difficulties; physicists ignored and excluded live things; biologists excluded mind and design; psychologists might ignore human origin and human destiny; folk-lore students and comparative mythologists need not trouble about what modicum of truth there might be in the legends which they are collecting and systematizing; and microscopists might ignore the stars. Yet none of these ignored things should be denied. Denial was no more infallible than assertion. There were cheap and easy kinds of scepticism, just as there were cheap and easy kinds of dogmatism; in fact, scepticism could become viciously dogmatic, and science had to be as much on its guard against personal predilection in the negative as in the positive direction. An attitude of universal denial may be very superficial.

All intellectual processes were based on abstraction. For instance, history must ignore a great multitude of facts in order to treat any intelligently: it selected. So did art; and that was why a drawing was clearer than reality. Science made a diagram of reality, displaying the works, like a skeleton clock. Anatomists dissected out the nervous system, the blood vessels, and the muscles, and depicted them separately—there must be discrimination and intellectual grasp—but in life they were all merged and co-operating together; they did not really work separately, though they might be studied separately. A scalpel discriminated: a dagger or a bullet crashed through everything. That was life—or rather death. The laws of Nature were a diagrammatic framework, analysed or abstracted out of the full comprehensiveness of reality. Hence it was that science has no authority in denials. To deny effectively needed much more comprehensive knowledge than to assert. And abstraction was essentially not comprehensive: one could not have it both ways. Science employed the methods of abstraction and thereby made its discoveries.

The reason why some physiologists insisted so strenuously on the validity and self-sufficiency of the laws of physics and chemistry, and resisted the temptation to appeal to unknown causes—even though the guiding influence and spontaneity of living things were occasionally conspicuous as well as inexplicable—was that they were keen to do their proper work; and their proper work was to pursue the laws of ordinary physical energy into the intricacies of "colloidal electrolytic structures of great chemical complexity" and to study its behaviour there. What must clearly be grasped, on their testimony, was that for all the terrestrial manifestations of life the ordinary physical and chemical processes had to serve. There were not new laws for living matter, and old laws for non-living: the laws were the same; or if ever they differed, the burden of proof rested on him who sustained the difference. The conservation of energy, the laws of chemical combination, the laws of electric currents, of radiation, etc., etc.—all the laws of chemistry and physics—might be applied without hesitation in the organic domain. Whether they were sufficient was open to question, but as far as they went they were necessary; and it is the business of the physiologist to seek out and demonstrate the action of those laws in every vital action.

The President went on to say that by some critics he had been called a vitalist, and in a sense he was; but he was not a vitalist if vitalism meant an appeal to an undefined "vital force" (an objectionable term he had never thought of using) as against the laws of chemistry and physics. Those laws must be supplemented, but need by no means be superseded. The business of science was to trace out their mode of action everywhere as far and as fully as possible; and it was a true instinct which resented the mediaeval practice of freely introducing spiritual and unknown causes into working science. In science an appeal to occult qualities must be illegitimate, and be a barrier to experiment and research generally; as when anything was called an Act of God—and when no more was said. The occurrence was left unexplained. To attribute the rise of sap to vital force would be absurd; it would be giving up the problem and stating nothing at all. The way in which osmosis acted to produce the remarkable and surprising effect was discoverable and has been discovered. So it was always in science, and its progress began when unknown causes were eliminated and treated as non-existent. These causes, so far as they existed, must establish their footing by direct investigation and research; carried on in the first instance apart from the long recognized branches of science, until the time when they too have become sufficiently definite to be entitled to be called scientific.

It was well for people to understand this definite limitation of scope quite clearly, else they wrested the splendid work of biologists to their own confusion, helped, it was true, by a few of the more robust or less responsible theorizers, among those who should be better informed and more carefully critical in their philosophizing utterances.

But, as was well known, there were more than a few biologists who, when taking a broad survey of their subject, clearly perceived and taught that before all the actions of live things were fully explained some hitherto excluded causes must be postulated. Ever since the time of J. R. Mayer it had been becoming more and more certain that, as regards performance of work, a living thing obeyed the laws of physics, like everything else; but undoubtedly it initiated processes and produced results that without it could not have occurred—from a bird's nest to a honeycomb, from a deal box to a warship. The behaviour of a ship firing shot and shell was explicable in terms of energy, but the discrimination which it exercised between friend and foe was not thus explicable. There was plenty of physics and chemistry and mechanics about every vital action, but for a complete understanding of it something beyond physics and chemistry was needed. And life introduced an incalculable element. He would risk the assertion that life introduced something incalculable and purposeful amid the laws of physics: it thus distinctly supplemented those laws, though it left them otherwise precisely as they were and obeyed them all. They saw only its effect, they did not see life itself. Conversion of inorganic into organic was effected always by living organisms. The conversion under those conditions certainly occurred, and the process might be studied. Life appeared necessary to the conversion; which clearly took place under the guidance of life, though in itself it was a physical and chemical process. Many laboratory conversions took place under the guidance of life, and, but for the experimenter, would not have occurred.

Again, putrefaction, and fermentation, and purification of rivers, and disease, were not purely and solely chemical processes. Chemical processes they were, but they were initiated and conducted by living organisms. Just when medicine was becoming biological, and when the hope of making the tropical belt of the earth healthily habitable by energetic races was attracting the attention of people of power, philosophizing biologists should not attempt to give their science away to chemistry and physics. Biology is an independent science, and was served, not dominated, by chemistry and physics.

Scientific men were hostile to superstition, and rightly so, for a great many popular superstitions were both annoying and contemptible; yet occasionally the terms might be wrongly applied to practices of which the theory was unknown. To a superficial observer some of the practices of biologists themselves must appear grossly superstitious. To combat malaria Sir Ronald Ross did not indeed erect an altar; he oiled a pond—making libation to its presiding genii. What could be more ludicrous than the curious and evidently savage ritual, insisted on by United States officers, as that hygienically splendid achievement the Panama Canal—the ritual of punching a hole in every discarded tin, with the object of keeping off disease! What more absurd, again—in superficial appearance—than the practice of burning or poisoning a soil to make it extra fertile!

Biologists in their proper field were splendid, and their work aroused keen interest and enthusiasm in all whom they guided into their domain. Most of them did their work by intense concentration, by narrowing down their scope, not by taking a wide survey or a comprehensive grasp. Suggestions of broader views and outlying fields of knowledge seemed foreign to the intense worker, and he resented them. For his own purpose he wished to ignore them, and practically he might be quite right. The folly of negation was not his, but belonged to those who misinterpreted or misapplied his utterances, and took him as a guide in a region where, for the time at least, he was a stranger. Not by such aid was the universe in its broader aspects to be apprehended. If people in general were better acquainted with science they would not make these mistakes. They would realize both the learning and the limitations—make use of the one and allow for the other, and not take the recipe of a practical worker for a formula wherewith to interpret the universe.

What appeared to be quite certain was that there could be no terrestrial manifestation of life without matter. Hence naturally they say, or they approve such sayings as, "I discern in matter the promise and potency of all forms of life." Of all terrestrial manifestations of life, certainly. How else could it manifest itself save through matter? "I detect nothing in the organism but the laws of Chemistry and Physics," it was said. Naturally enough. That was what they were after; they were studying the physical and chemical aspects or manifestations of life. But life itself—life and mind and consciousness—they were not studying, and they excluded them from their purview. Matter was what appealed to their senses here and now; Materialism was appropriate to the material world; not as a philosophy but as a working creed, as a proximate and immediate formula for guiding research. Everything beyond that belonged to another region, and must be reached by other methods. To explain the psychical in terms of physics and chemistry was simply impossible; hence there was a tendency to deny its existence, save as an epiphenomenon. But all such philosophizing was unjustified, and was really bad metaphysics. But although life and mind might be excluded from physiology, they were not excluded from science. Of course not. It was not reasonable to say that things necessarily eluded investigation merely because they did not knock against them. Yet the mistake was sometimes made. The ether made no appeal to sense, therefore some were beginning to say that it did not exist. Mind was occasionally put into the same predicament. Life was not detected in the laboratory, save in its physical and chemical manifestations; but they might have to admit that it guided processes nevertheless. It might be called a catalytic agent.

To understand the action of life itself, the simplest plan was not to think of a microscopic organism, or any unfamiliar animal, but to make use of their own experience as living beings. Any positive instance served to stem a comprehensive denial; and if the reality of mind and guidance and plan are denied because they made no appeal to sense, then they should think how the world would appear to an observer to whom the existence of men was unknown and undiscoverable, while yet all the laws and activities of Nature went on as they did now. Suppose, then, that *man* made no appeal to the senses of an observer of this planet. Suppose an outside observer could see all the events occurring in the world, save only that he could not see animals or men. He would describe what he saw much as they had to describe the activities initiated by life. If he looked at the Firth of Forth, for instance, he would see piers arising in the water, beginning to sprout, reaching across in strange manner till they actually joined or were joined by pieces attracted up from below to complete the circuit (a solid circuit round the current). He would see a sort of bridge or filament thus constructed, from one shore to the other, and across the bridge insect-like things crawling and returning for no very obvious reason. If told concerning either of these structures that an engineer had anything to do with it, the idea would be preposterous. One conclusive argument was final against such a superstitious hypothesis—he was not there, and a thing plainly could not act where it was not. But although they, with their greater advantages, perceived that the right solution for such an observer would be the recognition of some unknown agency or agent, it must be admitted that an explanation in terms of a vague entity called vital force would be useless, and might be so worded as to be misleading; whereas a statement in terms of mechanics and physics could be clear and definite and true as far as it went, though it must necessarily be incomplete. What they observed in such understood cases, was an interaction of mind and matter; not parallelism nor epiphenomenalism nor anything strained or difficult, but a straightforward utilization of the properties of matter and energy for purposes conceived in the mind, and executed by muscles guided by acts of will. But it would be said that was unfair, for they knew that there was design in the Forth Bridge, they had seen the plans and understood the agencies at work; they knew that it was conceived and guided by life and mind; it was unfair to quote this as though it could simulate an automatic process. Not at all, said the extreme school of biologists whom he was criticizing, or ought to say if they were consistent; there was nothing but chemistry and physics at work anywhere; and the mental activity apparently demonstrated by these structures was only an illusion, an epiphenomenon; the laws of chemistry and physics were supreme, and they were sufficient to account

for everything! These laws did account for things up to a point; they accounted in part for the colour of a sunset, for the majesty of a mountain peak, for the glory of animate existence. But did they account for everything completely? Did they account for our own feeling of joy and exaltation, for our sense of beauty, for the manifest beauty existing throughout Nature? Did not these things suggest something higher and nobler and more joyous, something for the sake of which all the struggle for existence went on?

Surely there must be a deeper meaning involved in natural objects. Orthodox explanations were only partial, though true as far as they go. When they examined each parti-coloured pinnule in a peacock's tail, or hair in a zebra's hide, and realized that the varying shades on each were so placed as to contribute to the general design and pattern, it became exceedingly difficult to explain how this organized co-operation of parts, this harmonious distribution of pigment cells, had come about on merely mechanical principles. It would be as easy to explain the sprouting of the cantilevers of the Forth Bridge from its piers, or the flocking of the stones of the Nile Dam by chemiotaxis. Flowers attracted insects for fertilization; and fruit tempts animals to eat in order to carry seeds. But these explanations could not be final.

They had still to explain the insects. So much beauty could not be necessary merely to attract their attention. They had further to explain this competitive striving towards life. Why did things struggle to exist? Surely the effort must have some significance, the development some aim. They thus reached the problem of existence itself, and the meaning of evolution.

The mechanism whereby existence entrenched itself is manifest, or at least has been to a large extent discovered. Natural Selection was a *vera causa*, so far as it went; but if so much beauty was necessary for insects, what about the beauty of a landscape or of clouds? What utilitarian object did those subserve? Beauty in general was not taken into account by science. That might be all right, but it existed nevertheless. It was not his function to discuss it, but it was his function to remind them and himself that their studies did not exhaust the universe, and that if they dogmatized in a negative direction and said that they could reduce everything to physics and chemistry, they gibbetted themselves as ludicrously narrow pedants, and were falling far short of the richness and fullness of their human birthright.

Superficially and physically they were very limited. Their sense organs were adapted to the observation of matter, and nothing else directly appealed to them. Their nerve-muscle system was adapted to the production of motion in matter in desired ways, and nothing else in the material world could they accomplish. Their brain and nervous systems connected them with the rest of the physical world. Their senses gave them information about the movements and arrangements of matter. Their muscles enabled them to produce changes in those distributions. That was their equipment for human life; and human history was a record of what they had done with these parsimonious privileges.

If they had learnt from science that evolution was real, they had learnt a great deal. Surely evolution was not an illusion; surely the universe progressed in time. Time and space and matter were abstractions, but were none the less real; they were data given by experience; and time was the keystone of evolution. The only way to refute or confuse the theory of evolution was to introduce the subjectivity of time. That theory involved the reality of time, and it was in that sense that Professor Bergson used the great phrase "creative evolution." He saw the whole of material existence as a steady passage from past to future, only the single instant which they called the present being actual. The past was not non-existent, however; it was stored in their memories, there was a record of it in matter, and the present was based upon it; the future was the outcome of the present, and was the product of evolution. Existence was like the output from a loom. The pattern, the design for the weaving, was in some sort "there" already; but, whereas their looms were mere machines, once the guiding cards had been fed into them, the loom of time was complicated by a multitude of free agents who could modify the web, making the product more beautiful or more ugly according as they were in harmony or disharmony with the general scheme. He ventured to maintain that manifest imperfections were thus accounted for, and that freedom could be given on no other terms, nor at any less cost. The ability thus to work for weal or woe was no illusion; it was a reality, a responsible power which conscious agents possess; wherefore the resulting fabric was not something preordained and inexorable, though by wide knowledge of character it might be inferred.

That evolutionary progress was real was a doctrine of profound significance, and their efforts at social betterment are justified because they were a part of the scheme, a part that had become conscious, a part that realized, dimly at any rate, what it was doing and what it was aiming at. Planning and aiming were therefore not absent from the whole, for they were a part of the whole, and we are conscious of them in ourselves. Either they were immortal beings or they were not. They might not know their destiny, but they must have a destiny of some sort. Those who made denials are just as likely to be wrong as those who made assertions; in fact, denials were assertions thrown into negative form. He was one of those who thought that the methods of science were not so limited in their scope as had been thought: that they could be applied much more widely, and that the psychic region could be studied and brought under law too. Let them anyhow be allowed to make the attempt. Let those who preferred the materialistic hypothesis by all means develop their thesis as far as they could; but let them try what they could do in the psychical region, and see which won.

Although he was speaking *ex cathedra*, as one of the representatives of orthodox science, he would not shrink from a personal note summarizing the result on our own mind of thirty years' experience of psychical research, begun without predilection—indeed with the usual hostile prejudice. That was not the place to enter into details or to discuss facts scorned by orthodox science, but he could not help remembering that an utterance from that chair was no ephemeral production, for it remained to be criticized by generations yet unborn.

In justice to himself and his co-workers, he must risk annoying his present hearers, not only by leaving on record their conviction that occurrences now regarded as occult could be examined and reduced to order by the methods of science carefully and persistently applied, but by going further and saying, with the utmost brevity, that already the facts so examined had convinced him that memory and affection were not limited to that association with matter by which alone they could manifest themselves here and now, and that personality persisted beyond bodily death. The evidence to his mind went to prove that discarnate intelligence, under certain conditions, might interact with them on the material side, thus indirectly coming within their scientific ken; and that gradually they might hope to attain some understanding of the nature of a larger, perhaps ethereal, existence, and of the conditions regulating intercourse across the chasm. A body of responsible investigators had even now landed on the treacherous but promising shores of a new continent.

The methods of science were not the only way, though they were their way of arriving at truth. "*Uno itinere non potest perveniri ad tam grande secretum.*" In conclusion the President said: Many scientific men still feel in pugnacious mood towards theology, because of the exaggerated dogmatism which our predecessors encountered and overcame in the past. They had to struggle for freedom to find truth in their own way; but the struggle was a miserable necessity, and has left some evil effects. And one of them is this lack of sympathy, this occasional hostility, to other more spiritual forms of truth. We cannot really and seriously suppose that truth began to arrive on this planet a few centuries ago. The pre-scientific insight of genius—of poets and prophets and saints—was of supreme value, and the access of those inspired seers to the heart of the universe was profound. But the camp followers, the scribes and pharisees, by whatever name they may be called, had no such insight, only a vicious or a foolish obstinacy; and the prophets of a new era were stoned.

Now at last we of the new era have been victorious; we inherit the fruits of the age-long conflict, and the stones

are in our hands. Let us not fall into the old mistake of thinking that ours is the only way of exploring the multifarious depths of the universe, and that all others are worthless and mistaken. The universe is a larger thing than we have any conception of, and no one method of search will exhaust its treasures.

Men and brethren, we are trustees of the truth of the physical universe as scientifically explored: let us be faithful to our trust.

Genuine religion has its roots deep down in the heart of humanity and in the reality of things. It is not surprising that by our methods we fail to grasp it: the actions of the Deity make no appeal to any special sense, only a universal appeal; and our methods are, as we know, incompetent to detect complete uniformity. There is a principle of relativity here, and unless we encounter flaw or jar or change, nothing in us responds; we are deaf and blind, therefore, to the immanent grandeur around us, unless we have insight enough to appreciate the whole, and to recognize in the woven fabric of existence, flowing steadily from the loom in an infinite progress towards perfection, the ever-growing garment of a transcendent God.

ROYAL MEDICAL BENEVOLENT FUND.

AT the August meeting of the Committee 25 cases were considered and grants amounting to £238 made to 23 of the applicants.

1. Widow, aged 57, of M.R.C.S. Quite unprovided for at recent death of husband and dependent on sons who at present cannot entirely support her. Voted £10.

2. Widow, aged 42, of L.S.A. No income; endeavouring to support herself by taking boarders. Three children, the eldest earning about 15s. a week and the two younger dependent. Voted £10.

3. L.R.C.P.Edin., aged 84. Has practised in London for more than fifty years and being too old for panel work has lost the majority of his patients. Voted £12.

4. M.R.C.S., aged 81. Used to have a good practice in London, but lost his sight some years ago and during his enforced retirement has unavoidably exhausted his savings. Children only able to give slight help. Voted £12.

5. Daughter, aged 67, of late M.D.Edin. Only certain income an annuity of £13, and is in such poor health that occupation is impossible. Voted £12.

6. Widow, aged 38, of L.R.C.P. Since husband's death six years ago has supported herself and her daughter, aged 8, by massage; now asks for a little help owing to an unavoidable increase in expenses. Voted £6.

7. Widow, aged 84, of M.R.C.S. Used to be comfortably off but entrusted her money to a relation who died six months ago and was found to be insolvent. Is given a home by a daughter. Voted £5.

8. Son, aged 13, of late L.R.C.P.Edin. Lost his father eighteen months ago from phthisis and his mother quite recently from new growth. Entirely dependent on relations who can ill afford to help. Voted £12.

9. Daughter, aged 49, of late M.R.C.S. No income, and, being a chronic invalid, is dependent on brothers whose earnings are small. Voted £6.

10. Widow, aged 63, of L.R.C.P.Edin. Since husband's death several years ago has supported herself by taking boarders, but now suffers from a grave complaint and is quite unfit for occupation. Slight help from children. Voted £12.

11. Daughter, aged 63, of late M.R.C.S. Lost her capital owing to the failure of a bank several years ago, and is practically dependent on friends whose contributions are precarious and may cease. Is a confirmed invalid and often suffers great pain. Voted £12.

12. Widow, aged 76, of M.R.C.S. Quite unprovided for at recent death of husband, and is applying for an old age pension. Voted £18.

13. Widow, aged 50, of M.B., C.M.Glasg. Income small, and is obliged to ask for a little help towards the heavy expenses consequent upon her husband's death. Voted £5.

14. Wife, aged 45, of M.B., B.Ch.Oxon. Was deserted about ten years ago and supports herself by nursing, but asks for a little assistance towards expenses incurred for her daughter, aged 13, who has been in bad health for the last eighteen months. Voted £10.

15. Widow, aged 56, of M.D. Has supplemented the help given by children, whose earnings are very small, by giving music lessons, but now, being in failing health, is obliged to ask for assistance. Voted £12.

16. Daughter, aged 64, of late M.R.C.S. Maintained herself for many years by dispensing, but is now dependent on precarious earnings from wood carving, etc. Relieved seven times, £70. Voted £10.

17. Daughter, aged 74, of a surgeon who used to be in the Scots Guards. Was left amply provided for, but lost everything through the defalcations of her trustee, and now has only two small annuities, one purchased by friends, the other from a charitable society. Relieved once £10. Voted £10.

18. Widow, aged 34, of L.R.C.P. Is a nurse matron at a good school for girls, but wants help to maintain herself and daughter, aged 10, during the holidays. Relieved once, £10. Voted £10.

19. Daughter, aged 70, of late M.R.C.S. Only income an old age pension of 5s. a week. Relieved five times, £60. Voted £12.

20. Widow, aged 43, of M.B., C.M.Aberd. Lives rent free as a housekeeper, and receives a few shillings a week as salary, but is unable to meet the holiday expenses of her two children, one of whom is at Christ's Hospital. Relieved six times, £58. Voted £10.

21. Widow, aged 56, of L.F.P.S.Glasg. Small earnings by writing, etc., and slight help from friends. Two children, the younger still dependent. Relieved eight times, £82. Voted £10.

22. Daughter, aged 57, of late M.R.C.S. Is a trained nurse, but has been incapacitated for the last eighteen months, and has now exhausted her small savings. Relieved once, £10. Voted £10.

23. Daughter, aged 57, of late M.R.C.S. Used to maintain herself as nurse-companion, but has suffered from a chronic complaint for some years past, and is now practically incapacitated. Relieved eleven times, £109. Voted £12.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 11, Chandos Street, Cavendish Square, London, W.

LITERARY NOTES.

MESSRS. CONSTABLE will publish almost immediately the *Life and Letters of Alexander Agassiz*, edited by his son.

Professor Wilhelm Alexander Freund, sometime Professor of Diseases of Women in the University of Strassburg, celebrated his eightieth birthday on August 26th. An autobiographical work by the famous gynaecologist has just appeared.

Messrs. J. and A. Churchill have issued an illustrated guide to their publications under the title, *The Literature of Medicine and Natural Science*. The list of books serves to give an idea of the wide territory of scientific literature covered by the enterprise.

Among other works announced by Mr. Arnold is *Thirty Years in Kashmir*, by Dr. Arthur Neve, who recounts his experiences since taking charge of the Kashmir Mission Hospital at Srinagar in 1882, with special reference to the exploring and mountaineering expeditions to which he has devoted his spare time.

Messrs. T. C. and E. C. Jack will issue new volumes of their People's Books series in September. Amongst these volumes may be noted *Biology*, by Professor W. D. Henderson, *Goethe*, by Professor C. H. Herford, and *Spiritualism*, by J. Arthur Hill.

In the *Arena* for August there is an illustrated article on St. Alban's, a school of great antiquity and almost unique historical interest. It claims to be the oldest educational foundation in England. The first documentary evidence relating thereto is found in the *Gesta Abbatum Mon. Sancti Albani*, where it is stated that Abbot Richard de Albius, who ruled the monastery from 1097 to 1119, sent to the Continent for a man to take charge of the school. There is an illustrated paper by Saint Nihal Singh on the American College for Girls at Constantinople, which has been in existence for a quarter of a century. At present sixty Moslem girls with a hundred and fifty of other nationalities, are being educated there. The course, which is wide, has as its objective the attainment of the B.A. degree. One of the Turkish students, Miss Zarouhi Kavaldjan, took the M.D. degree at Chicago, and is now practising medicine at Adabazar. Mr. F. G. Aflalo contributes a further instalment of his "Travellers' Tales." It is announced that from October onwards the *Arena* is to be amalgamated with the *World's Work*.

M. Ernest Jovy, who has embodied the fruits of much laborious research in his work, entitled *Pascal inédit*, has found among the papers of Vallant, physician to Madame de Sablé, who was also in close relations with Messieurs de Port-Royal, some notes as to the last illness of the illustrious author of the *Lettres provinciales*. Vallant ministered to the dying man, who combined in himself the highest scientific and literary gifts, and several other doctors, notably Brayer, Guénault, Hommets, and Eusèbe Renaudot, were called in consultation. Brayer was chief physician to the King; Guénault had a practice so large

that Boileau complains that he was to be met with everywhere in Paris, splashing the pedestrian as he rode along:

Guénault, sur son cheval, en passant m'éclabousse.

Hommets was the nephew of Hamon, the saintly physician who lived with the recluses of Port-Royal and treated the poor all around; Eusèbe Renaudot was the son of Théophraste, so bitterly hated by Gui Patin and persecuted by the Faculty. Théophraste Renaudot was a man of great enterprise. He founded the first French newspaper, and among the contributors to his gazette was no less a person than Cardinal Richelieu; he established a clinic on the lines of the modern out-patient department, and thus brought on his head the wrath of the Faculty; he also started a registry office. Pascal was freely bled and was treated with large doses of antimonial wine which, in the opinion of M. Jovy, killed him. His indictment of the doctors is severe:

Many disorders of Pascal's health were caused by the singular methods of treatment to which his feeble constitution was subjected; he was the *anima nobilis* on which many disastrous experiments were made and his economy was unable to resist the effects of a dangerous remedy given at an altogether unfavourable moment without any caution, perhaps too often and in too large a quantity and made still more dangerous by some admixture of arsenical elements.

This is only a hypothesis which may find a place beside that of Dr. Just-Navarre, who held that Pascal died of tuberculosis, and that of Dr. Carry, who attributed his death to lead poisoning. As Dr. Maurice Genty, who discusses the case in the *Progrès Médical* of August 16th, says, in retrospective medicine all diagnoses are possible and none of them matter.

The famous mediaeval feminist, Christine de Pisau, who held advanced views on problems which we are apt to regard as peculiarly modern, is said, amongst other things, to have written in favour of co-education. Her contention was that, from the moral as well as from the intellectual standpoint, it is better for boys and girls to grow up side by side instead of being segregated from each other during the impressionable years of childhood. This fourteenth-century writer seems to have anticipated the favourite theories of some of our modern educationalists, for we find the same opinion expressed in an interesting article by Mr. G. F. Burness which appeared in the August number of *The Child*. Mr. Burness, however, is by no means in favour of boys and girls following the same courses in all subjects of the school curriculum. The co-educational system, he tells us, was designed to prepare children to share in later life the activities of the business world should circumstances demand it; but the co-educational school should never be a place where sex rivalry is fostered by forcing boys and girls to compete with each other on the same lines, and where no attention is paid to the peculiar requirements of either sex. On the contrary, it should form a common meeting ground where each may learn to know and respect the qualities and capacities of the other, and where, whilst "the lessons which they share in common in such subjects as English, history, Latin, etc., bring home to them the joys of a common intellectual life, the work which they do apart from each other in the manual shop and in the cookery room is a reminder to them that there is much work that is best done by men, and much also that is specially reserved for the domain of women." In the opinion of the author this constitutes one of the most valuable lessons to be acquired at the co-educational school, a fact which to many may prove a powerful argument in its favour. There will probably always be parents, however, who prefer old-fashioned methods; and for such the education of boys whose health renders them unfit for the rough and tumble of public school life is oftentimes something of a problem. The August number of *The Child* contains an article on this subject by Mr. Philip J. B. Tillard, who gives an interesting description of the school for delicate boys at Bradley Court, Mitcheldean; whilst the same number of this excellent magazine also contains a short article by Mr. A. S. Blundell Bankart on congenital dislocation of the hip, and an account by Mr. G. F. Daniell of the close relations existing between badly printed school books and defective vision in childhood.

At the International Conference on Post-graduate Instruction held in London on August 7th, a report of which appeared in the JOURNAL of August 23rd (p. 504), Professor Emile von Grosz of Budapest gave a historical sketch of the teaching of medicine in Hungary, which, he said, was placed on a sure foundation when the University of Nagyszombat was reorganized by "the King, Maria-Theresa," in 1769. The use of the title "king" by a woman may appear remarkable but in this particular case it is historic, and there are modern instances. Princess Henry of Battenberg is Governor of the Isle of Wight, and the ladies who preside over municipal councils and over meetings are known as "chairmen." The story of Empress Maria Theresa's title of "king" is told by Carlyle in the *History of Frederick the Great* (Book XIII, chap. v) in two forms, called by him respectively the poetic and the prose form. The former runs as follows:

Presburg, September 21st. This is the date (or chief date, for, alas, there turn out to be two!) of the world-famous *Moriamur pro Rege nostro Mariâ Theresiâ*; of which there are now needed Two Narratives; the generally received (in part mythical) going first, in the following strain:

"The Queen has been in Presburg mainly, where the Hungarian Diet is sitting, ever since her Coronation-ceremony. On the 11th September" (or 11th and 21st together) "the afflicted Lady makes an appearance there, which, for theatrical reality, has become very celebrated. Alas, it is but three months since she galloped to the top of the Königsberg, and cut defiantly with bright sabre towards the Four Points of the Universe; and already it has come to this. Hungarian Magnates in high session, the high Queen enters, beautiful and sad,—and among her Ministers is noticeable a Nurse with the young Archduke, some six months old, a fine thriving child, perhaps too wise for his age, who became Kaiser Joseph II. in after-time.

The Hungarian Session is not on record for me, Hall of meeting, Magyar Parliamentary eloquence unknown; nor is any point conspicuously visible, exact and certain, except these (alas! not even these): That it was the 11th of September; that her Majesty coming forward to speak, took the child in her arms, and there, in a clear and melodiously piercing voice, sorrow and courage on her noble face, beautiful as the moon riding among wet stormy clouds, spake, as the Hungarian Archives still have it, a short Latin Harangue; in substance as follows: "... Hostile invasion of Austria; imminent peril, to this Kingdom of Hungary, to our person, to our children, to our crown. Forsaken by all—*ab omnibus derelicti*" (Britannic Majesty himself standing stock-still—blamably, one thinks, the two swords being only at *his* throat, and a good way off!) "I have no resource but to throw myself on the loyalty and help of Your renowned Body, and invoke the ancient Hungarian virtue to rise swiftly and save me!" Whereat the assembled Hungarian Synod, their wild Magyar hearts touched to the core, start-up in impetuous acclaim, flourish aloft their drawn swords, and shout unanimously in passionate tenor-voice, "*Moriamur* (Let us die) for our Rex Maria Theresa!" Which were not vain words. For a general "Insurrection," which is by no means of rebellious nature; and many noblemen, old Count Palfy himself a chief among them, though past threescore and ten, took the field at their own cost; and the noise of the Hungarian Insurrection spread like a voice of hope over all Pragmatic countries.

This "very beautiful heroic scene," as Carlyle calls it, long went about the world, "circulating triumphantly through all hearts for above a Century past." Like so many other fine things in history it seems to be a myth. Carlyle tones the story down to "the following stingy prose pitch." Maria-Theresa, since her Coronation, has had a mixed time of it with her Hungarian Diet. The people though "most consciously chivalrous" was constitutional withal. After much haggling about privileges, taxes, and so forth, on September 11th, 1741, Maria-Theresa summoned them to her Palace and threw herself upon their nobleness. This melted the Hungarian heart a good deal, and produced cheering, tears, and cries of "Life and Fortune to your Majesty!" In this humour the Diet returned to its Session-House and voted the "Insurrection" or general Arming of Hungary in pursuance of her Majesty's implied desire. On September 20th the Grand Duke Franz was elected Co-regent, and at the ceremonial "homagings and oath" taken next day a baby, "fine mutual product of the Two Co-regents," was produced with great effect, the Diet exclaiming that it would give its life and blood (*vitam et sanguinem*) for their Queen and Kingdom. Carlyle adds that it was "some Vienna Pamphleteer of theatrical imaginative turn, finding the thing apt, a year or two afterwards,—who by kneading different dates and objects into one, boldly annihilating time and space, and adding a little paint,—gave it that seductive mythical form. From whom Voltaire adopted it, with improvements, especially in the little Harangue; and from Voltaire gratefully the rest of mankind."

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SATURDAY, SEPTEMBER 13TH, 1913.

CRIMINAL LUNACY.

IN an address delivered before the Section of Forensic Medicine of the seventeenth International Medical Congress, which is published at p. 641, Dr. Nicolson deals, out of the abundance of knowledge gathered in a long and wide experience, with the medical jurisprudence of criminal lunacy. This covers a field of thought in which there has been more nebulous theorizing than almost any other in the whole range of medicine. Criminology has become a veritable Tom Tiddler's ground of science where scraps from the dust-heap of uncritical unverified hypotheses and doubtful "facts" have been dumped by the *a priori* philosopher, the irresponsible and impracticable reformer, and the doctrinaire socialist. To this dust-heap the lawyer has added his cast-iron formulas as to a knowledge of right and wrong, the medical spinner of metaphysical cobwebs his subtleties for the expression of which barbarous Greek words have to be coined, and the sentimentalist his perverted sympathy that would take the sword from the hand of justice and transfer pity from the victim to the criminal. Into this cloudland of obscurity Dr. Nicolson brings the light of a virile common sense that will do much to dispel the darkness almost to be felt in which the subject is at present wrapped.

Experience is the keystone of medicine, as must necessarily be the case in a branch of knowledge that is still largely empirical. But experience is not merely seeing a large number of cases, but noting and understanding the significance of the peculiarities of each. If a man's mind runs in a groove, and he almost automatically attaches a conventional label to the cases that pass before him, his experience is a mere *hortus siccus* of specimens, all of which have the same value. The really experienced man is he who sees that no two cases of disease are exactly alike, and who discerns behind the symptoms the man in his finite variety of mental and physical complexion. *Non multa sed multum* is a maxim which, properly interpreted, applies to medical observation not less than to reading. When, however, the largest opportunities of cultivating a particular field of observation have been taken advantage of; when the trained mind is so sharpened by constant contact with facts of a similar order, though varying widely in the circumstances in which they present themselves, as to give its operations the swiftness and almost the certainty of intuition, experience is raised to its highest power, and is the most effective means of reaching sound conclusions. History was defined by Bolingbroke as philosophy teaching by example; so it may be said of experience that it is wisdom learnt from practical knowledge. Without this neither books nor laboratory research will enable the unwary to escape the pitfalls of error that lie about the feet of every wayfarer in the realm of thought. It is the stamp of an experience, not merely long but ripe and fruitful, that makes Dr. Nicolson's address so valuable a contribution to the subject of which he treats.

He begins by sweeping aside the heredity of crime as "a mythical and dangerous doctrine," and we agree with him that if what may be called criminal predestination be admitted, the philanthropy which aims at rescuing children from surroundings which inevitably tend to make them criminals, is a mere waste of energy. The success with which waifs and strays who, left to themselves would go to swell the ranks of the criminal classes, are turned into useful citizens by being brought under influences which, in Matthew Arnold's phrase, "make for righteousness" is the best proof that the criminal is made not born. He is made by environment, lack of moral discipline, and unfavourable economic conditions. The question whether what Lombroso calls the *reo nato*, the born criminal, exists need not be discussed here. There have been so-called "noble" families of which it could be said with a considerable measure of truth that no man of the stock was honest and no woman chaste. There have also been unhappy children in whom criminal tendencies seemed to be innate, but in most, if not all of such cases, it is probable that the cause is to be found in inherited insanity. We have always held that there is no criminal type; the attempts to construct such a type are not worthy of serious consideration except in as far as they may mislead people and give rise to serious errors of opinion. There is a story of Socrates which serves to point this moral. An Athenian student of physiognomy declared that his countenance bore the mark of every vice. When the disciples of the philosopher resented this opinion Socrates restrained them, saying simply that, in point of fact, he had tendencies to passion, but his disciplined self-control was able to hold them in check.

Dr. Nicolson also summarily dismisses the doctrine that all murderers are insane, a view which, if generally held, would remove the most powerful safeguard of human life against violence. He holds that habitual crime, unlike insanity, is neither a mental condition nor a neurosis, but a business entered upon as a means of making a living. The choice of this business is determined by social environment, and as Dr. Mercier pointed out in the discussion on Crime and Punishment at the Brighton meeting, by the desire to gratify selfish instincts.

Dr. Nicolson makes the important observation that while the criminal tendency in sane persons is towards theft—or as Dr. Mercier would say, "the determination to obtain gratification for oneself regardless of the cost to others"—in the insane it is towards homicide or personal violence. In his address Dr. Nicolson is mainly concerned with the relation of murder to insanity. The decision of the question whether in a given case a person charged with murder is insane often presents difficulties, and these too often manifest themselves in the courts in a manner which does not impress the lawyers or the public with the value of medical testimony. Fortunately we have not had in this country such exhibitions of conflicting opinion as were seen in a notorious case tried not long ago on the other side of the Atlantic; but in our own courts experts do not always agree, and the ordinary practitioner, unless the case is so clear that the cleverest counsel cannot make the worse appear the better reason, may be made to show the uncertainty of medical science in a disagreeable light. Dr. Nicolson thinks that no medical man is fully equipped for the practice of his profession unless he has had some months' experience in an asylum, either before or after he is medically qualified. This seems to us to be a counsel of perfection, which, at least under existing conditions, is almost beyond hope of fulfilment. But every doctor should know something of practical psychology. By this we mean the play of the various passions and the abnormalities engendered

by what the Elizabethans called the "humours" of the human mind. No doctor should go into the box to testify as to the mental state of an accused person with the light heart with which the late M. Emile Ollivier entered on the war with Prussia. Before he appears as a witness he should carefully refresh his memory and bring his professional experience to bear on the problem after seeking counsel of such acknowledged oracles on insanity as are accessible to him.

A great source of difficulty is found in what are conveniently called "borderland" cases. The line of demarcation between sanity and insanity is often ill defined; a man may be, like Hamlet, only mad north-north-west, and yet in that partial madness may commit a murder. Robert Louis Stevenson said that a sane spot would be found in most of us if properly looked for. It is the business of the doctor who examines a man charged with murder to endeavour to find out whether there is any insanity in the case; he may probably discover in some of the more obscure mental processes the cause that has led to the crime.

Another source of difficulty to the doctor has been in determining how far mental deficiency has led to crime. In regard to this, Dr. Nicolson says that the Mental Deficiency Act when it comes into operation will make the solution of this problem easier for the doctor. While he sees in that measure an effective means of reducing the number of criminal lunatics, he recognizes also that there is a risk that unquestionably certifiable lunatics may be placed in institutions as mere defectives. Mistakes of this kind are almost unavoidable, but the fact that administration of this part of the measure is to be in the hands of the Commissioners in Lunacy affords the best safeguard in the matter.

The doctor who has to give an opinion in a case in which the defence of insanity is set up, will do well to be guided by the two broad principles laid down by Dr. Nicolson. The first is: That no lunatic should be hanged; the second and correlative principle is that no mere criminal should on the plea of insanity be allowed to escape the due punishment for his guilty deed. The principles are clear enough; the difficulty lies in their right application. It is like steering between Scylla and Charybdis, and it is here that common sense, informed and directed by experience, is a surer guide than all the teaching of what is called "criminal anthropology." The responsibility of formulating an opinion which may send a poor mad creature to the gallows is one which a practitioner who is conscious that he does not possess the special knowledge required to form a right judgement may well be tempted to evade, but he must remember that his duty to society comes before any private sentiment.

Dr. Nicolson tersely describes the range and method of the inquiry into the mental state of an accused person, and he rightly lays the greatest stress on the necessity of seeking for the motive which may have led to the perpetration of the crime. This, as he says, is the *focus* upon which the medical investigation must be directed and centred. The motive may be found in some delusion or some grievance, real or imaginary, which, long nursed, has worked like madness in the brain. Some motives lie hidden so deep in a man's heart that they are almost beyond discovery except by accident. Readers of Maupassant may remember his terrible story of a judge who died in the odour of legal sanctity and who left behind a diary in which he had recorded a number of murders he had done from the mere lust of blood. There are people to whom the destruction of life is a sensual pleasure. As an example may be cited the famous poisoner, Madame de Brinvilliers, who watched with a hideous delight the death agony of her victims. It would, we think, be a dangerous mistake to pronounce all murderers of this kind insane. They are abnormal, but that does not make them irresponsible.

On the other hand the routine test, so long and so obstinately adhered to by many judges, by which an accused person's knowledge of right and wrong was made the criterion of his sanity and responsibility, has, we are glad to note, been discarded as insufficient. On this point Dr. Nicolson quotes an instructive case in which the Court of Criminal Appeal set aside a sentence to death on the strength of the medical evidence, which showed that the condemned man was not in such a state of mind as to make him responsible for his act. Many insane women who commit infanticide know that they have done wrong, but the judge does not even put his question as to right and wrong. Sir Henry Hawkins, known to the criminal classes as the hanging judge, went even further. In a case tried before him he relates that in order to avoid the sentence that would have followed an acquittal *on the ground of insanity*, which would have entailed perhaps lifelong imprisonment, he took upon himself to depart from the usual course, and ask the jury whether, without being insane in the ordinary sense, the woman might not have been at the time of committing the deed in so excited a state as not to know what she was doing. "I thus," he adds, "avoided the technical form of question sane or insane, and obtained a verdict of guilty, but that the woman at the time was not answerable for her conduct, together with a strong recommendation to mercy. This verdict, if not according to the strictest legal quibbling, was according to justice." He was obliged to pronounce sentence of death, but he first warned the prisoner to pay no attention to what he was about to say, and then mumbled over the words of the sentence of death so that she did not hear them.

Dr. Nicolson discusses with judicious fairness the many factors that have to be taken into account in forming an estimate of the mental state of an accused person. He shows the part played by mental enfeeblement arising from various causes—drunkenness, epilepsy, delusions of persecution, and so forth. He rejects "homicidal mania" and "homicidal impulse" as being phrases which are neither satisfactory nor explicit. In cases where phrases of this kind are employed, he says prolonged observation will generally reveal the existence of delusions or other symptoms of the insanity of which the murder was the outcome. Professed oblivion of the deed he looks upon with the gravest suspicion, and he advises practitioners to place no reliance on it, if it stands alone, as an indication of insanity. With regard to feigned madness, the possibility of imposture must always be reckoned with. Dr. Nicolson gives a useful hint on this subject when he says that the impostor not infrequently repeats the words of a question put to him that he may have time to think what to answer.

We have here only called attention to a few of the chief points in Dr. Nicolson's paper; the whole of it should be read, marked, and inwardly digested by all medical practitioners. It is the carefully considered deliverance of a man who has had an almost unrivalled experience of crime and lunacy, and who has not allowed his mind to be led away from the observation of fact to the framing of fanciful hypotheses. On this account it is deserving of the most attentive study.

THE HYGIENE OF POLITICIANS.

In 1710 Bernardino Ramazzini, Professor of Physic in the University of Padua, wrote a monograph, entitled *De principum valetudine tuenda*, for the guidance of Raynald, Duke of Modena. He begins by laying down the sound principle that the health of a good ruler is the greatest of all blessings to his people. And, indeed, many of the saddest pages of history may be said to have been written with the blood of unfortunate victims of the savage temper engendered in the bodies of potentates by disease. Ramazzini solemnly says that a prince should allow himself to be reminded by his physicians of the changes of seasons so that his garments and general mode of life may be adapted to them. Temperance and sobriety at table should be enjoined. Princes should not be "fatigued with business" soon after dinner nor at all after supper. Manly exercises should be recommended. "The constitution of the prince should be carefully studied and well understood by his physician; and his diet, exercise, and evacuations ought to be regulated accordingly." It is also the duty of the physician to do his best to regulate the passions and emotions of his illustrious patient. These precepts are excellent in theory, but they might be difficult to carry out in practice. One can scarcely conjecture what would have been the fate of a doctor who should have warned Nero of the evil effect to his own constitution of indulgence in the lust of blood. It would have needed a bold man to preach self-restraint to Henry VIII; even Louis XIV, probably the most doctor-ridden of monarchs, would have dismissed a man who spoke plainly to him of the evils of over-eating. It is difficult to imagine a physician ordering Napoleon not to attend to business after supper! The hardest part of the duty of those who have charge of the health of a king undisciplined to self-restraint, or a masterful Minister, is to persuade them to remember that being mortal they must obey the doctor's orders.

In the May number of *L'Hygiène* the writer, who takes the name of Balzac's famous physician, "Horace Bianchon," discusses the hygiene of the great ones of the earth, by which he means heads of States, Ministers and so on. All such persons, he says, are very much to be pitied from the hygienic point of view. This is especially the case in France. A king may go out riding, hunting, and indulge in sport; the President of the United States may play at tennis or golf, and if he is a Roosevelt may indulge in a boxing match. In France the President is bound by a severer etiquette. He must keep himself acquainted with everything that is going on, and this necessitates a great deal of reading and frequent conversations with those who can instruct him. He must receive a number of visitors. He need not, however, like the American President, shake hands with five or six thousand people at the risk of getting cramp. However little he cares about literature, art, science, or philosophy, he has to keep himself posted in these subjects; in this his lot compares unfavourably with that of a king who like Edward VII was never seen with a book in his hand, and who did not know the name of one of the most graceful writers of his day. If the French President goes out it is in a carriage, to preside at a ceremony, attend a review, visit hospitals or barracks, and his longest walks are those which he takes twice a year when he opens the salon of the Société Nationale des Beaux Arts, or the Société des Artistes Français. On the other hand, he is not called upon to wear a score or so of different suits of clothes, including various uniforms, all more or less uncomfortable, in the course of the day. But he has to play the part of host at receptions where he has to remain standing almost motionless during long hours, and he has to attend innumerable banquets where he must at least make a show of eating and drinking. In this matter President Poincaré, we believe, subjects himself to an ordinance, self-denying indeed, but eminently prudent. He was once asked, "How do you manage to attend so many dinners, M. le Président?" The reply was, "By not eating them."

As for Ministers, their lot is still less happy. Their days are full of work, without counting the innumerable worries which cause a mental strain no sign of which must be allowed to appear. A vast amount of time must be spent in reading dispatches, dictating answers, receiving heads of departments, learning all that has happened, deciding quickly on matters of policy, preparing speeches for Parliament or the platform, attending meetings of the Cabinet, and receiving deputations. When to all this is added the direction of the tortuous and complicated manœuvres of political strife, it will be seen that in order to keep his place a Minister lives in a state of almost unbearable strain of body as well as mind. In this country men in high places are more fortunate. The burden of work is largely taken off the shoulders of the chief by the permanent officials who are the real Government. They draft everything, from budgets to bills for the making of a bridge over a small stream, or a road across a common. This is how our Ministers can spend week-ends playing golf and go on motor excursions. If the responsible Minister were not spoon-fed by the real workers under him he would soon collapse. The Minister is the mouthpiece of his department. "Words, words, words" are the essential part of the assets of a British Minister's equipment, and even these are supplied to him by his subordinates, while intelligent secretaries look up statistics, references, make extracts from former speeches of adversaries to show their inconsistency, and so forth. In fact, it is the special mark of genius of the administrative kind to be able to get other men to do the work. In regard to physical exercise, French statesmen, it is said, only get such as can be obtained in walking up and down a room dictating to a secretary. Nevertheless, they generally have a robust appetite. This, says "Horace Bianchon," would be surprising in men leading so sedentary a life if it were not known that the constant tension of the nervous system and great cerebral activity react by stimulating the working of all the glands of the organism, notably those of the stomach. Thiers, Macmahon, Jules Grévy lived long, and kept their faculties in the plenitude of their functions. Carnot died by an assassin's knife, but we still see M. Loubet and M. Fallières give proofs of a freshness of spirit. Only Casimir-Périer and Felix Faure died comparatively young of diseases in which autointoxication seems to have played a part. It is certain, however, that the effects of toxaemia engendered by gluttony and defective metabolism in rulers have often been seen in wanton misgovernment, wars, cruelty, and oppression. *Quidquid delirant reges plectuntur Achivi.* The mischief done by a gouty autocrat must be incalculable.

If the Presidents who have been mentioned have kept an alert body and a clear mind to an advanced age, this, according to "Horace Bianchon," is due to two things. In the first place, more than one of them, when, so to speak, off the stage, took great care of his health, and was watched over by a devoted wife, who regulated his diet, and allowed him to

drink only mineral water. Again, the high intellectual tension at which they have been obliged to live while in office is said to stimulate the production of the secretions, whose function it is to regulate metabolism. This must powerfully help in the improvement of nutrition and the destruction of toxins. It must be understood that we give this merely as the French writer's theory. His observations on the nutrition of intellectual workers seem to him to confirm the theory, but he admits that the effects of intense cerebral activity on nutrition have not yet been adequately studied. Apart from this theory, the fact, we think, must be taken into account that men who reach high place in the State are naturally of exceptional strength of constitution; hence they offer a greater resistance than the average man to the different forms of fatigue. The rise to eminence in political or professional life is largely a matter of survival. It is not always the fittest in a biological sense who survive, for invalids have often directed the fortunes of nations.

Passing to the rules of physical and intellectual hygiene which must be observed by the great, we should place at the head of them a sufficient amount of refreshing sleep. It will be noted that we lay stress not only on the amount but on the quality of the sweet oblivion that knits up the ravell'd sleeve of care. Rulers are saved from insomnia not only by the healthiness of their constitution but by the very number of things which engage their attention; this leaves no room for the tyranny of a fixed idea. Most great statesmen, even the evening before a great speech on which their career may depend, can throw off the thought of it and go to sleep as soon as their head touches the pillow. After his great speech introducing his first Home Rule Bill, Mr. Gladstone went home and slept quietly, leaving the debate to rage without his presence. On the other hand, there is the melancholy case of a Premier who used to spend night after night walking round the square in which his house was situated, seeking in vain for rest for his weary brain. Napoleon at his best could go to sleep whenever he wished. Towards the end of his career, during the campaign at Waterloo, however, drowsiness overpowered him, and the sight of him with his head on a small table asleep in front of his tent did much to dishearten his troops. The gift of sleep is, we are inclined to think, one of the most important factors of success, but it is extraordinary what a small amount may suffice to carry a man through a time of tension. According to the late Professor E. A. Parkes, Sir George A. Elliot (afterwards Lord Heathfield), who commanded in the great siege of Gibraltar, which lasted nearly four years, never slept more than four hours in twenty-four. For a healthy person with full consciousness of his responsibilities seven hours are generally sufficient to make up for the fatigue of the day.

As for food, no physico-chemical equivalent of intellectual work is yet known. "Horace Bianchon" says that the alimentary ration of sedentary men who do much brain work is the small one of 2,200 calories. A cutlet, two or three spoonfuls of rice or dry vegetables, two pieces of bread, a little butter, and dessert with sugar, are more than is necessary to make a perfectly reparative meal. Many intellectuals drink only water. On the other hand, most of them find in coffee a tonic and a valuable excitant of the cerebral circulation. Balzac, like Voltaire, found inspiration in coffee. The kidney and the liver should be washed out by drinking, when the stomach is empty, some glasses of any hypo-mineral water, such as Contrexéville, Vittel, or others of like kind. A little muscular exercise should be taken every day. The English, says the French writer, who are by instinct and education very good hygienists, know this well, and even when the political atmosphere is disturbed, the Premier, Lord Chancellor, and others who have to bear the burden of the State may be seen to play tennis, golf, and so forth. We beg to assure "Horace Bianchon," however, that the spectacle of a Prime Minister playing what he calls "footing" would probably draw a crowd from the uttermost ends of the kingdom. A French President or Minister, for some reason we do not profess to understand, is not allowed to seek relaxation in games. They may in the evening walk four or five kilometres on the pavement of the Champs Elysées in the company of one of their staff. Fencing is also recommended, with home gymnastics in moderation and under competent direction. Twenty minutes a day suffice for this. Then there is the hygiene of the mind. Politicians, with their multitudinous occupations, have to keep themselves in the highest intellectual training for the arena of the Chamber which makes concentration difficult. Almost all the eminent politicians whom "Horace Bianchon" has had the opportunity of observing at close quarters are men of method who have long been accustomed to regulate their day, to distribute their work, doing the same thing every day at the same hour. That is the secret of their strength. Methodical training of the mind as well as of the muscles is not neglected by them. He has known some who in certain moments of fatigue near to neurasthenic depression, when they found their will become weak, their clearness of mind clouded over, their memory idle, forced themselves to learn by heart and to recite pages of Bossuet, verses of Racine, and struggle to find names which escaped them, and repeat historical dates before their looking-glass. These suggested means of hygiene of the mind seem to us rather feeble. Most English statesmen who have written their names in the national history have been men of wide interests, who could thus vary the intellectual work of the forum with other diversions of the mind. Gladstone wrote on Homer and edited Butler's *Analogy*: Mr. Balfour can address a Church congress, a university, or a scientific conference with equal readiness of oratorical resource. Disraeli found refreshment in novel writing.

On the whole, the conclusion appears to be that there is no special code of health for the politician. His special enemies are nervous strain, insomnia, and gout; against these he can only use the ordinary weapons. His hygienic rule is that common to all who lead the strenuous life—to be sparing in diet, and especially in alcohol; to take what exercise he can get in the form he likes best, and to keep the field of his intellectual interests as wide as possible.

APPOINTMENT OF MEDICAL OFFICERS UNDER NATIONAL HEALTH INSURANCE COMMISSION (ENGLAND).

Numerous inquiries have been received by the Association from members resident in various parts of the country seeking advice as to the propriety or otherwise of their becoming candidates for the appointments recently advertised by the National Insurance Commissioners (England). In many of these instances we understand that practitioners applying to the office of the English Commissioners were informed that no information was available other than that contained in the advertisement itself. The matter came before the Insurance Act Committee at its meeting on September 4th, when instructions were given for an inquiry to be addressed to the Commissioners for

information as to the duties attaching to the appointments in question. A reply was received on September 11th, enclosing a copy of the statement of the duties, conditions of service, etc., which is now being furnished to all candidates inquiring as to these posts, as will be seen from the advertisement which appears in the advertisement columns of this issue. Briefly, the duties appear to be purely of an administrative character. It remains to be seen whether the commencing salary offered, even when the prospective pension is taken into consideration, will prove sufficient to attract the most suitable practitioners.

MEDICAL REFEREES AND LOCAL MEDICAL COMMITTEES.

The constant complaints of excessive sickness claims under the Insurance Act has led us naturally to anticipate that some system of inspection would be devised, and it is evident that, without waiting for the report of the Departmental Committee now inquiring into any special circumstances which may cause such claims, many of the approved societies and Insurance Committees have determined to appoint medical referees for their own protection. This question being one of vital interest to the whole profession, we would direct special attention to the two resolutions (see Supplement, p. 241) adopted by the Insurance Act Committee, which should be a useful guide to those concerned in such appointments. We hope that Local Medical Committees will refuse to recognize any such appointments, whether temporary or permanent, which are not in compliance with the terms and conditions laid down in the resolutions referred to.

BRANCHES AND DIVISIONS.

The attention of members is drawn to the fact that, pursuant to a decision of the Council, dated July, 1913, proposals officially made for alteration of boundaries of Branches or Divisions, including proposals for discontinuance of existing or formation of new Branches or Divisions, will in future be published for the information of the members concerned. Under the by-laws such publication constitutes a notice to all the Branches, Divisions, and members affected. Written communications on the subject will, however, be sent, as heretofore, to the Honorary Secretaries of the Branches or Divisions concerned. A notice of the kind, affecting the South-Eastern, Metropolitan Counties, and Oxford and Reading Branches and Divisions of these Branches, will be found on p. 244 of this week's Supplement.

SURGICAL REJUVENATION AND THE LAW.

It was decided long ago that there was no property in a dead body, and for this reason in the old "resurrection" days the charge under which the bodysnatchers were convicted was stealing the grave clothes or destruction of the coffin. A living person may offer himself for experiment, though this, we imagine, is seldom done for gain. But as far as we know there is nothing to prevent an offer of this kind being made for a consideration. Of course, it must be clearly understood that the experiment shall involve no possibility of death, serious injury, or permanent disablement. A curious case lately came before the Lyons Court of Appeal. The following is a brief summary of the particulars as we find them set forth in the *Province Médicale* of July 5th. In 1908 a Lyons surgeon professed to be able by a new method of cosmetic surgery to restore the appearance of youth to those on whom time was writing his mark. His procedure was the removal of parts of the skin which had become wrinkled or baggy with age. In order to perfect his method, he thought it needful to find a subject on whom he could experiment at leisure. Such a person he found in a poor woman who, for £12, consented to undergo all the operations that might be considered necessary. A formal agreement to that effect was signed, and the doctor began his experiments forthwith, working on the eye, the neck and the breast, and leaving one side for control purposes. These operations were so painful that anaesthesia was required. When the experiments were completed the woman was taken to Paris and exhibited before the Congress of Surgery in October–November, 1908; afterwards she was shown before an assembly of doctors, artists, gentlemen at large, and ladies belonging to what Kipling calls the oldest profession, all of whom were seeking for the *eau de Jouvence*. The experiments, however, failed to carry conviction, and, notwithstanding skilful advertising, the doctor did not get a single patient. Having no longer need of his subject he summarily discharged her. She then proceeded against him for damages. The Tribunal nominated three experts, doctors and professors of the faculty. Their conclusions were that the woman had suffered no damage, material or moral, from these operations. On this report the Tribunal dismissed the case and condemned the plaintiff in costs. She then carried the case to the First Chamber of the Court of Appeal. Compensation was demanded for the material injury experienced and for the moral damage which she had suffered. For the doctor it was contended that the woman was trying to take advantage of a situation which she had accepted and from which she had suffered no harm. The court gave its decision in the following terms: "Whereas this agreement which had solely for its object practices of vivisection on an old and needy woman must be considered illegal and immoral, such an agreement could not be admitted to be compatible with human dignity, since by the hope of a trifling profit the appellant had determined to make traffic of her body and to make it serve for experiments useless if not dangerous to herself and which were undertaken only in view of the profit looked for by the experimenter." The agreement was therefore declared null and void. Dealing with the question of damages, the court went on to say that photographs, the accuracy of which was not disputed, showed that the operations done by the doctor on the woman's right breast, far from giving it the "globe-like form of youth," had had a pitiable result, and that the other operations had only added to the marks of age repulsive-looking scars and ridges. The court condemned the doctor to pay £20 damages, besides the costs of the action. The terms of the judgement strike us as remarkable. The court seems to have gone out of its way to place the transaction in an odious light by using the word "vivisection" and speaking of the immorality of the woman making traffic with her body, thus suggesting a kind of prostitution for experimental purposes. The studiously offensive language of the judgement, together with the sharp conflict of opinion as to a plain matter of fact such as the disfigurement said to have resulted from the operations, almost suggests animus in the higher court. At any rate, it seems strange that, in the face of the expert testimony, it should have held that material injury was done. We think it may safely be assumed that the "immorality" of the experiments consisted in their failure. The case has a practical interest, for if the present methods by which women seek to "express" themselves in dress, find, as seems likely, an ever-expanding field of development, there will be a larger demand for cosmetic surgery.

LISTER AS A STUDENT.

In the Foundation Lecture delivered before the University College Union Society not long ago Sir Rickman Godlee gave an interesting account of Lister as a student. He was, said the orator, one whom his fellow-students recognized as a good man, probably without foreseeing that he would bring on the day of a new surgery. [illegible] saw the first operation performed [illegible] in London under an anaesthetic,

the surgeon being Robert Liston. Sir Rickman Godlee says the operation was performed under chloroform. As a matter of fact ether was used; chloroform was not introduced to the notice of the profession by Simpson till November, 1847. Liston's historic operations—an amputation through the thigh and evulsion of great toe-nails—were done on December 22nd, 1846, under ether, which had been used for the first time in the Massachusetts General Hospital by John C. Warren on October 16th, 1846. Among Lister's fellow-students were William Flower, William Roberts, Henry Thompson (who was house-surgeon when Lister was dresser), Alfred Garrod, and George Buchanan. Lister was highly thought of by his teachers, and Sir Rickman Godlee quotes a letter from Dr. Carpenter almost apologizing for having put him last in the Physiology Honours List at the M.B. Carpenter explains that this was not in consequence of the independence of Lister's opinions, but because as answers to the questions his papers were so defective that if it had not been for the amount of original observation of which they bore evidence, his name would not have appeared in the honours list at all. The examiner goes on to say: "Whether this defect was the result of a want of systematic knowledge, or the consequence of the injudicious employment of your time—much having been spent by you in disquisitions which I did not require—I have no positive means of knowing." Carpenter feared the former must have been partly the case, as Lister showed ignorance on one question "which was answered correctly by every other gentleman." What a curious commentary on examinations as tests of intellectual power is this letter! Lister, as is well known, went on the advice of Sharpey to Edinburgh to see Syme's practice. The visit was intended to be a short one, but he never came back. Only on two occasions did he afterwards come in contact with his old school: once about 1865, when he was an unsuccessful candidate for the chair of surgery then vacant by the resignation of Richard Quain; and again in 1882, when he gave an address to the Medical Society on the application of a knowledge of hydrostatics and hydraulics to practical medicine. But throughout his life he continued to take a kindly interest in his Alma Mater. Sir Rickman Godlee proceeds to pass rapidly in review Lister's work which led to the transformation of surgery. Although it was the researches of Pasteur that gave Lister the inspiration which has been fraught with such incalculable benefits to mankind, there seems to have been no direct correspondence between them till 1874, when Lister was Professor of Clinical Surgery at Edinburgh. Lister sent to the French scientist his paper on the germ theory of putrefactive and other fermentative changes, and the natural history of *Torulae* and *Bacteria*. In acknowledging the communication, Pasteur wrote: "I heard tell of your antiseptic treatment by the same friend whom I mentioned, the chief surgeon at Val-de-Grâce, and Tyndall spoke of the success of your practice; but I confess, to my shame, that I was, and still am, very slightly informed about your labours, in spite of having a strong wish to become acquainted with them. Your paper, and the analysis of it which has been made for me, increases my impatience and regret. I am extremely surprised at the precision of your manipulations, at your perfect understanding of the experimental method, and it is an enigma to me how you can give yourself up to researches which demand so much care, time, and labour throughout their performance, whilst at the same time devoting yourself to the profession of chief surgeon to a large hospital. I do not think you could find an example of such a prodigy amongst us here. . . ." Sir Rickman Godlee gives a graphic description of the old hospital with its smells, its dusty pictures, its scanty arrangements for washing, and "the deft nurse or the clumsy dresser in his dirty old coat spreading a linseed poultice as large as a copy of the *Spectator*." We may say, in parenthesis, that some of the surgeons when on service wore coats that would have disgraced a dirty butcher. Many patients died of very slight injuries and operations, and very few of the surgical feats now done every day were even thought of then. If this was the state of things in University College Hospital, the hospitals of Glasgow and Munich and many other places on the Continent were far worse, being literally pest houses. Now what were known as hospital diseases—pyaemia, erysipelas, and hospital gangrene—formerly so common, are practically unknown, and lockjaw is seen only "once in a blue moon." Sir Rickman Godlee lays stress on the fact that although the elaborate appointments of a modern hospital are the outcome of Lister's work, they are not essential. Lister himself never worked in a palatial hospital, and equally good results can be achieved by any one who has thoroughly grasped the purport of his teaching and is careful to act in accordance with his principles, in old and crowded wards or in poor cottages.

THE HISTORICAL MEDICAL MUSEUM.

THE great interest aroused by the Historical Medical Museum during the recent meeting of the International Congress of Medicine has not abated, and we learn that the daily attendance at the Museum is still large. We recommend all doctors interested in the evolution of their art to visit it before September 30th, when it will be closed, to reopen, we believe, in the spring. Short accounts of the Museum appeared in the JOURNAL of May 10th, p. 1035, and June 28th, p. 1379. Since then considerable additions have been made to the collection; but it is Mr. Wellcome's wish to make it as complete as possible. Many families have relics such as MSS, early printed books, diplomas, prescription books, autograph letters, and other documents and objects associated with, or collected by, their ancestors who were engaged in medicine, surgery, pharmacy, and the allied sciences. Often, on the death of those who cherish such relics, the things are relegated to the garrets, or sent to auction rooms where they are scattered amongst strangers who buy them for a trifle as curios, and so the history and record of associations with the original inventor or user are lost for ever. We venture to suggest that it would be well if these things could be sent to take their place in the Historical Medical Museum, which has now been established in London on a permanent basis by Mr. Wellcome, where they would be preserved, and at the same time form a permanent tribute to the work and memory of those from whom they have been handed down. Many things which are insignificant and of little historical value in themselves if isolated in small private collections become important when brought into association with a series of others arranged chronologically; they often supply the missing links in the chain showing the evolution of such objects. An isolated historical object may be aptly compared to a single mosaic tessera which in itself alone signifies nothing, but when put in its place with others becomes part of a picture, and thus may help to complete a lasting record of a famous deed or a great event.

INFANT AND CHILD MORTALITY.

THE Second Report on Infant and Child Mortality by the Medical Officer of the Local Government Board[1] is a document of great importance. The bulk of the volume is devoted to a detailed account of the conditions prevailing in 241 urban areas. The plan adopted in scheduling these particulars is as follows: In the first place the population, birth-rate, death-rate at ages 1 to 5, and the infant death-rate are entered. If the area is divided into separate wards or boroughs the rate for each subdivision is also recorded. A diagram is then given showing how the

[1] H.M. Stationery Office. [Cd. 6909.] Price 2s.

death-rates at different ages (under 1 year), and with respect to different groups of diseases, compare with the average experience of all the 241 urban areas. Next follow a statement of the position of the area examined in the class of towns to which it belongs, an account of the sanitary conveniences and methods of disposal of excrement employed, and a description of the provisions adopted for the safeguarding of infant life. In the report itself, which extends to some 118 pages, Dr. Newsholme provides an analysis of the data collected, and formulates some provisional conclusions as to their import. Attention is rightly directed to the enormous differences in mortality between towns which in many respects closely resemble one another. A striking example is afforded by the case of Burnley and Nelson. The former has a population of some 106,000, the latter of about 40,000. They are both cotton-weaving towns situated within a few miles of each other. Yet the infant mortality-rate in the former was (in 1911) 210, in the latter 77 per 1,000 births. It appears that neither occupational differences, the employment of mothers, the degree of poverty, nor differences in the sanitary arrangements are sufficient to explain the wide divergence in respect of infant mortality. The birth-rate is higher in Burnley than in Nelson, but low in both towns. Certain differences are, however, apparent. Burnley is an old town, Nelson a modern one. Burnley is low-lying; Nelson situated on a steep slope, its lowest part being 350 and its highest over 1,100 feet above the sea level. The annual rainfall is also greater in the latter town. Dr. Newsholme remarks that the facts "illustrate the difficulty in assessing the relative importance in regard to infantile mortality, of poverty, industrial employment of mothers, sanitary circumstances, density of population, and climatic conditions." This weighty remark needs to be remembered in appraising the various conclusions suggested by the report, for the way in which deleterious conditions might operate in the production of excessive mortality are set out with such lucidity that unsophisticated readers might easily jump to conclusions which the author himself does not consider proven. The report is written generally in language of such studied moderation that the scientific reader will find little to which he can reasonably take exception. Dr. Newsholme's previous utterances on this subject have been criticized with so much acerbity by certain writers, that he would have been more than human if he had entirely resisted the temptation to retort. Nevertheless we are doubtful whether the remarks on p. 48 with reference to an alleged proof of the selective effect of a high infant mortality are entirely well judged. Sufficient is said to provoke an acrimonious reply, but not enough to carry conviction to a statistically trained reader. The point is not whether life tables constructed by different methods are completely comparable, but whether the differences in method are sufficient to render them incomparable for the purposes in view. That the life tables give results different from those yielded by average rates of infant mortality does necessarily indicate that reasoning based on the former data is incorrect. Dr. Newsholme reiterates his conclusion that the relationship between large families and high infant mortality is in the main indirect, and seems to hold that it may be referred to the fact that large families are most common amongst the poorest classes who live under conditions unfavourable to child life. This opinion was not shared by so experienced a statistician as Westergaard,[1] and is not borne out by the valuable Bavarian data collected by Groth and Hahn and analysed by Greenwood and Brown.[2] It is, however, obvious that upon these and many kindred problems differences of opinion must arise, and the severest critic cannot deny that Dr. Newsholme adduces weighty reasons in support of most of the statements he makes. This report reflects much credit both on the writer and his assistants, and almost every page bears ample witness to the zeal and efficiency which characterize our public health administration.

[1] *Die Lehre von der Mortalität und Morbidität.* Jena, 1901, p. 368.
[2] *Journal of Hygiene*, xii, 1912, p. 5.

THE SCHOOL MEDICAL SERVICE.

THE Board of Education has issued new regulations laying down the conditions under which during the year ending March 31st, 1914, it will make grants in respect of the medical inspection and medical treatment of children attending public elementary schools and the medical treatment and care of children attending certain special schools in England and Wales. In settling the rate of grant the Board will have regard to the scope, care, and efficient working of the education authority's provision and arrangements for medical inspection, for following up cases, for securing medical treatment of cases requiring it, for co-ordinating the work of the school medical service with the work of the public health service in the area, and for rendering the school medical service an integral part of the system of elementary education in the area. In a circular letter to local education authorities the Board lays emphasis on the need of an accurate and comprehensive examination of the children submitted for routine medical inspection and of a careful and effective system of recording the results of the examination. It also calls the attention of education authorities to the need under the new conditions as to grant for an accurate, clear, and full statement of the work of the school medical service in each area. The circular also states that the Board considers that the time has come when the work of medical inspection should be consolidated by making provision for the routine inspection of an intermediate age-group in all areas, and gives notice that next year medical inspection of all children between 8 and 9 years of age will be required. The regulations as to final inspection are in future to apply to children between 12 and 13 years of age; this instruction replaces the system hitherto in force which required inspection of all children "expected to leave school in the year." One of the paragraphs in the circular letter deals with the salaries paid to the staff of the school medical service. The scale, it is said, is in a number of areas satisfactory, but in many others the salaries are not adequate, "having regard to the responsible and onerous character of the increasing duties to be performed, and do not offer sufficient inducement to attract and retain the services of capable and experienced officers." The method of paying on the basis of the number of children inspected which obtains in certain areas is condemned as unsuitable, and the Board expresses the opinion that the question of salaries must affect the efficiency in the school medical service, and should be a matter of serious concern to the authorities as well as to the Board. It is satisfactory to find the Board taking a definite line in this matter, and indicating its opinion that adequate remuneration of school medical officers is an essential part of an efficient school medical service, and, as the rate of grant is to depend on the efficiency of the service, this collocation of ideas must be taken to be a delicate way of conveying a hint to niggardly authorities of the possible financial consequences of false economy in this direction.

SPIRITUALISTIC DIAGNOSIS.

WE learn from the *Revue Suisse de Médecine* of May 17th that, giving effect to a resolution passed by the Spiritualist Congress held at Charleroi in 1911, the Belgian Spiritualistic Federation some time ago sent out a circular letter to all doctors in Belgium which, among other things, contained the following statement: "Certain persons are gifted with a kind of sensibility of an ill-defined nature which enables them to describe the state

of the internal organs of the patients presented to them with a precision as great as if their sight penetrated directly into the interior of the cavities examined. Other individuals seem to possess extraordinary therapeutic powers conveyed by emanations from their fingers. Those who may be disposed to open clinics specially intended for the utilization of the therapeutic procedures due to spiritualism may also get into communication with the persons indicated above through the medium of whom the support of the Belgian Spiritualistic Federation will be given them within limits indicated by circumstances." Most doctors at once threw the circular into the wastepaper basket, but a professor who felt some curiosity on the subject asked that two of the best mediums should be sent to him. This was done. Experiments were then made, in the course of which there were presented to the mediums dead animals, animals on whom *post-mortem* examinations had been carried out, and even opened animals with lesions distinctly visible. Then living animals, artificially infected with various diseases, were submitted to them and afterwards examined *post mortem*. Lastly, human subjects, both healthy and diseased, were offered for their inspection. The statements by the mediums did not agree. They were vague and mostly erroneous; indeed, it was only exceptionally that they corresponded with the reality as observed. When the same animal or the same person was presented a second time without notice being given to the mediums, their statements differed from those they had previously made. The professor therefore dismissed the mediums, having satisfied himself that they possessed none of the gifts attributed to them. These experiments, which recall the famous exposure by Thomas Wakley of the pretensions of the mediums on whom Elliotson too easily pinned his faith, will seem absolutely conclusive to persons capable of right reasoning. But no amount of exposure of mediums will open the eyes of those who believe in them. The wish to believe makes them see signs and wonders where to ordinary persons there is nothing but fraud and imposture.

ACCIDENTS DUE TO DEFECTIVE SIGHT.

WHEN discussing the cause of accidents which have occurred on sea and land which may or may not have been caused by the defective form and colour vision of those in charge of ships or trains, there is often some difficulty in establishing the facts. There are various reasons for this. One is the difficulty of getting an impartial and adequate account of the accidents so that the whole of the details may be known. This may be overcome in some instances by laborious research; but there is another factor, and that is the impossibility in most cases of being able to ascertain what was the condition of the sight of the look-out or engine driver who happened to be in charge at the time. Mr. Nettleship has rendered a very real service in writing a small pamphlet, consisting only of 54 pages, in which he gives details of, and references to, many of the cases in which it is fair to assume that defective vision had something to do with causing the accidents. He traces the history of the recognition of the possibility of accidents being caused by defective sight; as the first case of which notice was taken occurred as late as 1873, it is obvious that not much attention had been paid to the subject before this. It was only a little more than a century ago that colour blindness was recognized at all, and the first person to suggest that it might be a cause of accidents was Dr. George Wilson of Edinburgh, who drew attention to it rather less than sixty years ago. Owing to indifference and failure to recognize its importance, so little was thought of it as a cause of collisions, etc., that in official investigations the question of defective sight in the men on duty was scarcely ever raised, and Mr. Nettleship says that "naturally, therefore, no accidents are discovered to have had visual defects for their cause. Continuing to reason in a circle, the conclusion is that defects of sight do not cause accidents." He points out how ludicrous it is that, although precautions are taken to exclude men who have defective sight from entering the sea or railroad service, a precaution which is an admission that such defects are dangerous, yet when an accident happens no trouble is taken to find out whether the man responsible for it actually had efficient sight or not; the question is never even considered. "Over and over again, both at home and abroad, attention has been forcibly drawn to this extraordinary state of things," but still nothing is done. "It ought to be obligatory for those men, and any others who give evidence as to signals, to have their sight tested by expert examiners after every maritime or railroad accident in which the nature of the signals that are in question has to be inquired into." Every one interested in the subject should read the introduction to the pamphlet under consideration. Mr. Nettleship then gives a detailed description of many accidents, both at sea and on land, in which there is either proof, or a very strong probability, that the accident was caused by defective sight. There are not many cases on record, for the reason that, as stated above, no one is ever examined after an accident, but those that are given must surely convince every one except a Board of Trade official. Take such a case as this: A captain of a large Atlantic steamer suddenly heard the officer of the watch give the order "Hard-a-port." He rushed on the bridge to find out what was the matter, and in reply to his inquiry, the officer said, "Red light ahead, sir," but as the captain at once saw it was a green light, he ordered the helm to be put "Hard-a-starboard," and by this means only just averted a collision. Cases like this could be multplied indefinitely, if only it were made a practice to examine the sight in all cases of accident. Railway cases are just as convincing, and many of them are mentioned by Mr. Nettleship.[1] He recalls one case in which an engine driver thought a signal was partly red and partly green, and ran his train past it and caused an accident; that he thoroughly agrees with what we said in the BRITISH MEDICAL JOURNAL of April 4th, 1908, when commenting on this case, that a man suffering from tobacco amblyopia would be likely to make just such mistakes about his signals as this driver actually did make. It is to be hoped that Mr. Nettleship's influence will be used and will perhaps be powerful enough to make the Board of Trade recognize the immense importance of the subject of eyesight in those responsible for ships and trains. Then perhaps the Board will cease to endeavour to cover itself with the cloak of official ignorance, and declare, as it does at present, that it is unaware of any accidents due to defective eyesight having taken place. Mr. Nettleship has done a real service in publishing this small book and in again drawing attention to this lamentable state of affairs.

PLATO AND FREUD.

IF further proof were needed of the truth of the old saying that "There is nothing new under the sun," the contribution of Dr. J. W. Courtney in the *Boston Medical and Surgical Journal*, vol. clxviii, No. 18, on this subject, assuredly provides it. The Greek philosophers appear to have found in nervous phenomena a fascinating and fruitful field for speculation. According to the author, this "pernicious" habit, indulged in by every philosophically-inclined writer, from Plato onwards, is more responsible for the unsatisfactory nature of our understanding of the pathology and treatment of these disorders than any other factor. Dealing with the causation of hysteria, he quotes Plato—from the French translation of Cousin—

[1] *On Cases of Accident to Shipping and on Railways due to Defects of Sight.* By E. Nettleship, F.R.C.S., F.R.S. London: Adlard and Son. 1913. (Demy 8vo, pp. 58. 2s.)

as having expressed himself as follows: "The womb is an animal which desires ardently to engender children. When it remains sterile for a long time after puberty, it endures this state with difficulty; it grows angry, rushes here and there through the body, obstructing the air passages, hindering the respiration, throwing the body into extreme danger and occasioning divers maladies, until desire and love bringing together the man and the woman create a fruit and cull it as from a tree." Courtney wishes particularly to call attention to that part of the theory which deals with the mental and emotional attributes ascribed by Plato to the uterus, these attributes consisting, as indicated, of intense strivings and desires on the one hand, followed by anger and other violent emotions if they are not satisfied. The author's view is that the transition from the Platonian theory to Freudism is simple. Freud, he states, simply shifts the above-mentioned attributes to their real sphere—the mind. According to the terms of the Freudian pathology, the mind of the victim of hysteria is the seat of a violent conflict between two groups of ideas or mental processes which cannot be brought into harmony with one another. In a closely reasoned analysis the author traverses in some detail Freud's views, noting especially the fact that the theory in question locates the patient's trouble entirely within the realm of ideation and emotion, dealing with the actions and emotions of the psychoneurotic individual as a pure abstraction, without any regard whatever for their organic source. It is now generally admitted that the psychoneurotic comes into the world with a soil well prepared by heredity—immediate or remote—for the development of his unhappy malady.

THE EFFECTS OF ASPHYXIATING BOMBS.

IT will be remembered that recently the French police have had more than one man killed while attempting the arrest of dangerous criminals, and in consequence M. Kling, Director of the Paris Municipal Laboratory, has prepared a so-called "asphyxiating bomb"—a little projectile which rapidly diffuses around the person aimed at a product which renders the atmosphere irrespirable in consequence of the irritation produced by this vapour upon the mucous surfaces. This bomb was employed recently in an attempt to rearrest a dangerous lunatic who had escaped from the asylum of St. Anne, and after having frightened away all his domestics by firing at them with a revolver, had barricaded himself in his flat. The Commissary of Police entered the flat accompanied by the *concierge* and by three agents of police provided with "chromated shields" and asphyxiating pistols. After having removed the furniture with which the entrance hall was blocked, they found the lunatic solidly barricaded in a small room which looked upon the courtyard. Looking through a fanlight from the bathroom, they could see him standing by armed with a revolver. Attempts to parley obtained no response whatever, so they broke the glass, to which the lunatic responded by revolver shots. The asphyxiating pistols were then discharged into the room through the broken glass, the door was burst open, and the lunatic seized just as he appeared to be about to throw himself out of the window. The question of medical interest is what effect was produced by the bomb, and was it in any way injurious to the subject of this operation? From an account given by Dr. Briand to the Parisian Clinical Society of Mental Medicine,[1] it appears that the patient, after his return to the asylum, gave an account of his experience. He said that when the cartridge reached him he thought that chloroform had been thrown at him; he felt immediately violent pricking in the eyes, which obliged him to keep them shut, and he rubbed them in a vain attempt to stop an intense flow of tears which prevented his raising his eyelids. At the same time he felt as if he were going to be suffocated, and there was an abundant running from the nose; the whole effect was, he said, instantaneous. He also thought that he had a vague desire to sleep, but, in any case, rubbing his eyes with one hand and holding his nose with the other, he rushed to the window in order to breathe and not for the purpose of throwing himself out as was suspected. There was no loss of consciousness, and he had a perfectly accurate recollection of all the details of his arrest. After his admission he was carefully examined, but the mucous membrane of the nose and eyes showed nothing abnormal in colour or secretion. Examination of the lungs showed no bronchitis. It is somewhat astonishing, says Dr. Briand, that such an irritating gas can produce instantaneously intense lacrymation, nasal discharge, and a sense of suffocation, without leaving the slightest apparent lesion of the ocular or respiratory mucous membrane. Nor had this means of arrest any unfavourable effect upon the patient's mental condition; it was in fact to him merely another form of the persecution of which he believed himself to be a victim. It is probable that but for the use of this means the patient would not have been arrested without injury to himself, and perhaps, too, without more or less dangerous revolver wounds received by the persons charged with this duty. It would therefore seem that these bombs are a useful and humane means of facilitating the arrest of dangerous lunatics or criminals.

[1] *Semaine médical*, 1913, No. 25, p. xcviii.

SIR RICKMAN GODLEE has accepted an invitation, conveyed to him by Dr. Franklin H. Martin (Chicago), Dr. J. B. Murphy (Chicago), Dr. G. E. Brewer (New York), Dr. George W. Crile (Cleveland), and Dr. William J. Mayo (Rochester, Minnesota), to confer the Fellowships of the American College of Surgeons—the foundation of which was mentioned in the JOURNAL of May 31st, p. 1163—at the first convocation of the institution, which is to be held at Chicago on November 13th. On that occasion 1,400 prominent surgeons of the United States and Canada will, it is stated, be created Fellows.

AT the last annual meeting of the Royal Society for the Prevention of Cruelty to Animals the re-election of Lord Cheylesmore as a member of the council was rejected by a majority of five votes, on the ground that he is a vice-president of the Research Defence Society. Considerable dissatisfaction on the subject having been expressed by supporters of the society, the Council decided to take a poll of the members. As a result 2,641 votes were recorded in favour of and 866 against Lord Cheylesmore's re-election—a majority in favour of 1,775.

WE are asked to state that Cardinal Bourne will hold a reception at St. Andrew's Hospital, Dollis Hill, on September 26th, at 2.30 p.m. The Lord Mayor of London, accompanied by the Lady Mayoress and the Sheriffs, will attend in state. St. Andrew's Hospital has recently been opened for paying patients of limited means who, while unsuitable for admission to charitable institutions, are unable to meet the charges necessary to secure adequate medical or surgical attendance in a private nursing home. The institution has been built and furnished to meet all modern requirements, and has also the advantage of its own spacious grounds, and country surroundings, which provide ideal conditions for convalescent patients. A description of the hospital appeared in the BRITISH MEDICAL JOURNAL of November 30th, 1912, p. 1574.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

INSURED PERSONS AT THE EDINBURGH ROYAL INFIRMARY.

Now and again one is reminded that there are still unsettled matters in connexion with the working of the Insurance Act and the hospitals. Thus, at a meeting of the managers of the Edinburgh Royal Infirmary on September 1st it was reported that during the month from July 15th to August 14th the total number of persons admitted to the wards for treatment was 994, and that of these 426, or 42 per cent., were insured persons; whilst of 2,986 new out-patients in the same period 985, or almost 33 per cent., were insured persons. These figures drew from one of the managers the inquiry whether any application for a contribution on account of these persons had been made, and the clerk answered that the superintendent would submit a report on the subject in October before any application was made.

POST-GRADUATE RECEPTION IN EDINBURGH.

On the afternoon of Monday, September 1st, the Executive Committee of the Edinburgh Post-Graduate Courses in Medicine gave a reception in the Students' University Union to the graduates (109 in number) who are attending the September course, or who had been in attendance during August, and to the lecturers, between sixty and seventy in number, who are carrying on the teaching. The guests were received by Professor Harvey Littlejohn, Chairman of the Executive Committee and Dean of the Medical Faculty in the university, by Dr. J. W. Ballantyne, the vice-chairman, and Dr. J. D. Comrie, the honorary secretary, and an agreeable hour was spent by all. Professor Littlejohn, in welcoming the graduates, said it had become an annual event that the teachers should have an opportunity of meeting those who honoured them by coming to Edinburgh for these summer courses. The committee of the union had been kind enough to throw open their rooms for the benefit of the visitors during the entire period of the courses, and he wished to acknowledge their kindness. After some remarks, in which criticism of the arrangements and methods of teaching was invited, he concluded by saying they were going to have a very strenuous month, and he could only hope they would find it satisfactory, and would carry away pleasing recollections of the post-graduate classes this year in Edinburgh. For some time before September 1st all the places in the surgical course, and in the ear, nose, and throat course, had been taken up, as well as those in most of the special classes (vaccine therapy, ophthalmoscopy, *x* rays, etc.). The general medical course and the course in genito-urinary surgery have also attracted a large number of graduates. The teaching begins at 9 a.m., goes on all day till 7 p.m., and there is on three days out of the week a class on ophthalmoscopy at 8 p.m. Certainly the courses do not err on the score of unoccupied intervals of time.

The special five o'clock lectures are again an interesting part of the September programme. These are addresses given generally by the more senior members of the teaching staff on subjects which they have made specially their own. This year Dr. Byrom Bramwell is to lecture upon salvarsan in the treatment of pernicious anaemia, Professor Harvey Littlejohn on medico-legal cases in general practice, Sir Halliday Croom on practical methods of dealing with placenta praevia, Mr. Stiles on the treatment of tuberculous cervical glands, Dr. Harry Rainy on blood pressure, and Professor Alexis Thomson on affections of the spinal column with special reference to *x*-ray diagnosis (with lantern slides). Dr. Berry Hart is to make some remarks on eugenics in medicine and Dr. Woods Hutchinson is to speak of the control of syphilis; and finally Dr. Cunyngham Brown will deal with the modern treatment of inebriety and the law relating to it, Dr. John Keay with mental disorders, and Dr. Allan Jamieson with eczema. The five o'clock lectures, given on Mondays, Wednesdays, and Fridays, are open not only to the graduates attending the courses but also to all medical practitioners. They have drawn large numbers in the past, and the present list seems to possess also real attractive force.

THE ROXBURGHSHIRE NURSING ASSOCIATION.

On September 5th H.R.H. Princess Henry of Battenburg opened a bazaar in aid of the Central Fund of the Roxburghshire Nursing Association; the bazaar was held in the grounds of Springwood, Kelso, by permission of Sir George R. Douglas, Bart., who presided at the opening and explained the work of the association, which was to bring trained nurses within the reach of the less well-to-do who were resident in the rural districts of the county, and had been founded in commemoration of the Diamond Jubilee of the late Queen Victoria. The ladies of the District Red Cross Society formed a guard of honour, and Dr. M'Kellar (Kelso), Commandant, was in charge. There was a large and distinguished company, including the Countess of Minto, Lord and Lady Binning, Sir Richard J. Waldie-Griffith, Bart., and Lady Waldie-Griffith, Captain and the Lady Nina Balfour, Lady Stratheden, Lady Elizabeth Scott, and many others.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

RECEPTION BY PRESIDENT OF ULSTER BRANCH.

On September 6th Dr. and Mrs. Campbell received at an "At Home" the members of the Branch and friends at their residence, Castle Upton, Templepatrick, co. Antrim. The weather was all that could be desired, the grounds were beautiful, and the large trees were thick with foliage, of which only a few had begun to show an autumnal turning.

Dr. Campbell had very thoughtfully prepared a short history of the castle, and of the old Presbyterian meeting house that stands in the demesne, where his father and grandfather had been officiating ministers from 1796 to to 1894. There was an extensive and delightful musical programme, and lavish refreshments were served in the large dining room. Both ladies and members enjoyed to the full the kind hospitality of the hosts, enhanced by the ideal afternoon and the natural beauty of the place.

MEMORIAL TO THE LATE DR. RUTHERFORD.

On August 30th, at Ballinasloe, in the presence of a large gathering of the townspeople, Lord Clancarty unveiled a memorial (a public drinking fountain) which has been erected by public subscription to the memory of the late Dr. William Rutherford, who for thirty-six years practised his profession in the town. Lord Clancarty was accompanied on the platform by Dr. Mills, Honorary Secretary of the Connaught Branch.

Dr. Mills said he had received numerous letters of apology from parties regretting their absence, and mentioned the names of Archdeacon Daly, Mr. Lancaster, and Messrs. Chute and Fowler and Father Pelly. Lord Clancarty said William Rutherford was born at Cookstown, in the county Tyrone, in the year 1846. He entered the profession in 1865 as a pupil under the late Dr. Charles, of Cookstown, and afterwards entered the old Queen's University of Ireland, and he secured many prizes and scholarships in Queen's Colleges of Galway and Belfast. In 1872, having gone through his course at college, he came to practise in Ballinasloe. For three years he remained in Ballinasloe, when he decided to leave; but during those three years he had endeared himself to the people of this district, both by his medical skill and his own personality, and the result was that a deputation went to him; they presented to him an address, also a gold watch and chain and a drawing-room cabinet, as a mark of their esteem. Dr. Rutherford could not but feel touched by the persuasions of the people of Ballinasloe, and, being begged to remain, he consented, and for a further period of thirty-six years he practised and resided in Ballinasloe till he passed away. He was a friend of every one and had no enemies. The inscription on the monument is as follows: "Erected by the people of Ballinasloe and neighbourhood in memory of W. Rutherford, M.D., F.R.C.P.E. He laboured unselfishly in their midst for 40 years. A sincere friend, an eminent physician, a public-spirited and upright citizen. Obiit July 22nd, 1911."

Dr. Mills, in proposing a vote of thanks to Lord Clancarty,

gave a sketch of Dr. Rutherford's career. He was one of the first and strongest advocates of procuring for the town the excellent waterworks they now enjoyed. Therefore this fountain was fittingly erected to commemorate his connexion with it. There were many thousands who could bear witness to the industry, care, and perseverance with which he investigated every case. Whosoever sought his services received unstintedly and unreservedly of his best. The fee or reward did not enter into his conception of the case. His sole idea was to apply such abilities as God had given him in no ungrudging measure to the alleviation of the sufferings of those seeking his aid.

J. Walton Browne, Esq., M.D., D.L.

It was with exceptional pleasure that Mr. J. Walton Browne's innumerable friends heard that he had been made Deputy-Lieutenant of the County of the City of Belfast. Mr. Walton Browne is the senior surgeon of Ulster; he was surgeon to the Royal Victoria Hospital for thirty-seven years, and, since the death of the late Professor Cuming, chairman of the medical staff till his retirement two years ago, when he was appointed consulting surgeon. Both the profession and the public join in heartiest congratulations and best wishes to Mr. and Mrs. Walton Browne.

Fall of Dublin Tenement Houses.

Public attention has been called in a startling manner to the question of the tenement house system in Dublin by the sudden collapse of two houses in the slum area of Dublin recently, causing the death of seven victims, and more or less severe injuries to several others. It would appear from the evidence given at the inquest that the only warning that the inhabitants got of the impending catastrophe was the fall of a mantelpiece in one of the houses, and that a few minutes afterwards both houses fell in a mass of ruins into the streets, burying among the débris a large number of the poor people who lived in them. Owing to the energetic action of the police and the fire brigade and voluntary civilian helpers, many of those who were buried were got out in safety; most of those who were killed were crushed and injured in a shocking manner. As the two houses were inhabited by eleven families of nearly fifty persons, it is fortunate that there were not more killed: this must be attributed to the fact that the accident happened about 9 o'clock at night, before most of the inmates had retired to bed. If it had happened a few hours later, the result would have been an even more appalling loss of life. The Corporation Inspector of Dangerous Buildings stated at the inquest that he had examined these two houses a few months ago, and had ordered certain repairs, and that these had been satisfactorily completed on August 12th last. No fewer than 20,000 families—nearly a third part of the population of the city—live in single room tenements. In the last few years there has been a considerable amount of talk and agitation about the tenement question in Dublin, and a certain amount has been already done towards providing the working-class poor with decent homes. These very two houses are included in an area which has been condemned by the Corporation, and plans have already been approved of for the erection of model workmen's dwellings, involving a cost of nearly £45,000. Last March the Local Government Board made an order confirming the scheme, and it is understood that the usual steps are being taken to acquire the site, and that the valuation and inquiries as to title, etc., are at present proceeding; but in the ordinary course of events, the pulling down of the houses and rebuilding would not be commenced for a couple of years at least. It is to be hoped that the effect of this disaster will be to hasten the action of the Corporation in acquiring the site and providing the new dwellings.

Decline in Vaccination.

From the reports of various boards of guardians throughout Ireland it has been shown from time to time in these columns that there is a serious falling off in the number of children in Ireland who are vaccinated. A letter was published in the Dublin press last week from Sir Charles Cameron, Medical Superintendent Officer of Health for Dublin, calling attention to this decline in vaccination and stating that there is now plenty of inflammatory material to catch fire from, and possibly cause an epidemic of small-pox, should a case of this disease occur in Dublin. In Ireland the law does not recognize the so-called "conscientious objector," and local authorities have full power of vaccination. The decline, therefore, in the number of vaccinated children can only mean that the local authorities are not enforcing their powers, and it is to be hoped that some notice will be taken of the grave warning issued by such an authority.

Donegal Medical Officer Exonerated.

At the last meeting of the Stranorlar Board of Guardians a letter was read from the Local Government Board informing the guardians that having received the report of their medical inspector, Dr. McCarthy, relating to the inquiry on oath held by him into the charges of neglect of duty preferred against Dr. Johnston, Medical Officer of Stranorlar Dispensary District, the Board, on full consideration of the evidence, was of opinion that Dr. Johnston acted strictly in accordance with his duty, and that he was completely exonerated from the charge of neglect.

Crooksling Sanatorium.

At a recent meeting the Dublin County Council considered a letter from the Lord Mayor of Dublin in reference to the joint control of the Crooksling Sanatorium, setting forth the conditions suggested by the Corporation as a basis of agreement. The letter stated that these were the least possible terms that the Corporation could agree to, and that they were prepared to take over entire control of the sanatorium if the Council did not agree to them. The Council considered that the terms were absolutely ridiculous, and stated that if they got the money that was due they could go on and complete the building already commenced. It was decided to ask the Local Government Board to hold an inquiry and adjust matters between the two bodies, as it was clear that no agreement could be come to by them.

Sligo Tuberculosis Dispensary.

At the last quarterly meeting of the Sligo County Council there were three applicants for the post of matron at the proposed County Sligo Tuberculosis Dispensary at a salary of £100 a year, with rations and apartments. Miss Byrne, Ballina, was elected by the chairman's casting vote.

Election of Workhouse Medical Officer.

At last week's meeting of the Balrothery Guardians the election of a medical officer for the workhouse at a salary of £120 a year, in succession to Dr. Hayes, who has been promoted to the Lusk Dispensary district, took place. Dr. May, of Drogheda, was unanimously elected to the post at the full salary.

Special Correspondence.

PARIS.

Tuberculosis in Paris.—Three Years' Military Service Law.—New Operation for Talipes.

The question of obligatory notification of phthisis in France has created a profound interest not only in the medical profession, but also amongst the laity, and the pros and cons are coming up for frequent discussion. Those in favour of the measure have certainly a strong case when they quote the statistics of Paris and of Berlin. In Paris in 1875 the mortality from phthisis was 41 per 10,000; in 1910, 35.30 per 10,000, or a decrease of 14 per cent. In Berlin the corresponding figures are 34 per 10,000 in 1875 and 18.75 in 1910, or a decrease of 45 per cent. against 14 per cent. in Paris. Again, during a shorter and more recent period, the German decrease is also marked. In France during 1910 the mortality was 22.2 per 10,000, and in 1911, 21.6, or a decrease of 2.7 per cent. In Germany the corresponding figures are 17.3 and 15.1, or a decrease of 12.4 per cent. Great Britain shows a similar reduction in mortality, and the French, as a whole, now consider the time has come when like measures should be adopted.

The new military law making it necessary for all able-bodied Frenchmen to serve three years instead of two in

the army, contains a clause by which conscription begins at 20 years of age instead of 21. Major Boigey, speaking at a recent meeting of the Society of Military Medicine, suggested the following conclusions regarding this new clause: (1) About the age of 25 a man is at the height of his physical vigour and fitness. (2) A man of 20 is worth less than a man of 25. (3) Men of 20 to 21 have a somewhat equivalent and equal physique. (4) Forty to fifty per cent. of the German army is composed of men of 20 years of age. (5) In the French army 40 to 45 per cent. of examined applicants pass, whereas in Germany only 27 per cent. are admitted. (6) The medical examination in France must be more strict if younger men (20) are admitted for service.

Dr. Lucas-Championnière reported recently to the Academy of Science the successful results which he had obtained by the operation of ablation of the tarsus for talipes. Some 42 cases have undergone this operation since 1889, and appeared to be cured after removal of all the bones of the tarsus except the posterior portion of the os calcis. By removing the tarsus the foot becomes so pliable that without any section of the tendons, muscles, or nerves, the foot may be moulded into its natural shape, and without any orthopaedic instruments the patient has a useful foot, as the cartilage which is left ossifies and new bone grows. The results are highly satisfactory, and Dr. Lucas-Championnière recommends the operation highly.

Correspondence.

THE CAUSE OF RHEUMATOID ARTHRITIS.

SIR,—So many divergent views were expressed at the London conference as to the cause of rheumatoid arthritis that one hesitates to make confusion worse confounded by advancing yet another theory. It appears to be really due to deficient secretion of the sweat glands.

When acting as medical officer to one of the large metropolitan workhouse infirmaries I was much impressed by the fact that patients crippled by rheumatoid arthritis always showed dry skins and were difficult to get to perspire; on the other hand, rachitic children were always bathed in excessive perspiration. Those whose bones were being enlarged and thickened by too much calcareous deposit had deficient perspiration, and those whose bones were being thinned and weakened by the removal of calcareous salts had excessive perspiration.

Copious sweating appears to favour removal of lime salts from the bones, and deficient sweating leads to the accumulation of these salts. It is, of course, common knowledge that any sudden chill which stops perspiration in rheumatic people is followed by an aggravation of the painful symptoms. The phenomenon that excessive sweating induces thinning of the bones, and deficient sweating induces thickening of the bones and joints with calcareous matter, is somewhat analogous to goitre and myxœdema depending on excessive and deficient action of the thyroid gland respectively. The most efficient treatment of this form of arthritis, as carried out at the most up-to-date establishments, is entirely in harmony with this theory of causation.

Active measures are taken to stimulate the sweat glands by hot-air baths and hot massage douches, and when these measures are accompanied by warm and sheltered climatic conditions such as are found at Aix-les-Bains the best results are obtained. To maintain this improvement it is essential that the skin be kept active, and this is best accomplished by daily doses of sodium bicarbonate. The sweat glands, beside being a water-cooling system, are without doubt very important excretory glands, and any interference with their excretory function is exceedingly dangerous to health and life. This is proved by the classic incident at the enthronement of Pope Leo X when a child was covered with gum and gold leaf to represent an angel, and died in a few hours. In a book, entitled *La Rome des Borgias*, recently published in Paris, it is stated that Cæsar Borgia had three women covered with gilded varnish and exposed as a spectacle, and all three died in a few hours.

It is very difficult to obtain a minute analysis of the sweat secretion in any modern textbook, and there appears to be need of research in this matter.—I am, etc.,

Sunderland, Sept. 1st. THOS. A. WATSON.

SUBCUTANEOUS INJECTIONS OF ADRENALIN.

SIR,—Dr. F. W. Bennett, in the JOURNAL of August 30th, reports a non-fatal case of syncope arising from the injection of adrenalin into the nasal mucous membrane of a patient lightly anaesthetized with chloroform, and he speculates upon the strength of the solution of adrenalin which may be considered safe under such circumstances.

There would appear to have arisen some confusion in regard to the effect of varying the solution strength of the injection; for although this will control the local (that is, ischaemic) reaction, the general and cardiac action cannot be so controlled. Broadly speaking, the submucous injection of adrenalin may be likened to the subcutaneous injection of a dose of morphine, the effect of which is independent of the solution strength at which it is introduced.

Possibly Dr. Bennett intended to convey that he would reduce the actual dose of adrenalin employed in addition to diluting it, although he does not say so; but even in that case, as neither he nor any one else knows what may constitute the minimum lethal dose of adrenalin for the human chlorformed subject, I would strongly dissuade him from trying experiments of this nature.

Your columns, Sir, have recently testified to an abundant clinical confirmation of my original observations upon the toxic action of adrenalin under chloroform, and I am surprised to find that this dangerous combination is still in use. The technical point involved in nasal operations is, I understand, one of convenience only, and the risk of a human life is surely a heavy price to pay for it.—I am, etc.,

London, W., Aug. 28th. A. GOODMAN LEVY.

RESPIRATION AND METABOLISM IN CARDIO-RENAL PATIENTS.

SIR,—The JOURNAL of August 23rd, in reporting the proceedings of the International Congress (Section of Pathological Chemistry, page 465), credits me with the statement that certain cases of cardio-renal disease, in which an acid[s] intoxication has been found, differ from cases of true uraemia. This report is not correct.

In speaking at the Section I laid especial emphasis upon the relation of "cardiac" and "uraemic" asthma, and stated that our results gave distinct support to the view that these forms of breathlessness have exactly the same underlying cause—namely, the same form of acid intoxication. This statement was, in fact, the chief suggestion of our communication.—I am, etc.,

University College Hospital Medical School, Aug. 30th. THOMAS LEWIS.

ASSISTANT MEDICAL OFFICERS IN ASYLUMS.

SIR,—In the interim report of the committee appointed by the Medico-Psychological Association to investigate the conditions of service of asylums medical officers, out of 109 medical superintendents to whom circulars were sent for information it appears that 16 had not the courtesy even to reply regarding their senior A.M.O.'s conditions and 37 regarding the second A.M.O.'s. I do not think further evidence is really necessary to show the unwillingness of many of them to do anything to alter the present evil conditions under which members of their own profession live. Human nature appears to be addicted to a kind of mental anaphylaxis—living an isolated life under derogatory conditions appears to render one increasingly less resistant to "the slings and arrows of outrageous fortune"—and many a promising career has been blighted by the conditions incidental to A.M.O.'s asylum work, for which conditions medical superintendents have in the past been very largely responsible. I recently heard that a certain superintendent gave as his reason for not giving facilities to his senior assistant medical officer for marriage that after some years of work if these officers did not get a superintendency they should leave the service. There are many gentlemen holding the position of superintendents well known to be strongly opposed to the present order of things, but there are others I regret to say.—I am, etc.,

August 26th. COMMON JUSTICE.

Medico-Legal.

THE QUESTION OF CONSENT TO OPERATION.

Wupan writes: In the case of a boy, say, aged 15 to 17, suffering from an ordinary inguinal hernia, his parents having given their consent for operation but he being unwilling, can he be made to undergo the operation?

*** As the boy is over 14 years of age, and has arrived at what at law is called "years of discretion," it would be very unwise of a medical practitioner, except in a case of urgent necessity, to perform an operation without his consent. After the age of 14 an "infant" at law is competent to perform certain legal acts, and his consent should be obtained before performing any operation that is not imperative.

CERTIFICATES FOR INSURANCE COMPANIES AND CLUBS.

M. H. F. writes: What is the usual custom among medical men about certificates asked for by relatives of deceased for insurance companies and the clubs? These certificates are asked for when they come for ordinary death certificate. I refuse them, because by giving them one does the registrar of deaths out of a few shillings. I find the people are quite willing to pay me for these certificates.

*** It is the usual custom among medical men to refer applicants for such certificates to the registrar, as that official only can give certificates that are legally valid. In all cases where insurance money is claimed by the executors of deceased persons, it cannot be legally paid over without a certificate which shall embody therein evidence that the death has been properly registered, and only the local registrar can certify as to this.

The Services.

THE ROYAL NAVY MEDICAL SCHOOL.

This school was established at the Royal Naval College, Greenwich, on the recommendation of the Durnford Committee, it being considered desirable that the Naval Medical Service should, through its school, be in touch with the principal civil medical schools and institutions in London, should have opportunities of making use of the chemical laboratories at the college, and should be in close proximity to the Dreadnought Seamen's Hospital and the London School of Tropical Medicine. It is situated in the Queen Anne block of the college, and was opened on May 1st, 1912. It consists of a lecture theatre, laboratories, research rooms, museums, animal rooms, and all the necessary rooms for the study and teaching of general and naval hygiene, clinical pathology, tropical medicine and microbiology.

In conjunction with the Medical School at the Royal Naval Hospital at Haslar, it serves the same purpose in the Royal Navy as the Royal Army Medical College at Millbank does in the army. There are three distinct courses laid down, and each of these occurs twice a year. The courses are: (*a*) For Acting Surgeons, of two months' duration, the remaining four months being spent at Haslar; (*b*) for Surgeons, prior to examination for promotion to Staff Surgeon, of five months' duration; (*c*) for Senior Medical Officers—namely, Fleet Surgeons and Senior Staff Surgeons—of three months' duration. The average number of officers undergoing these courses is about 80 per annum.

The teaching staff, which will probably be augmented in the near future, is at present as follows: Professor of Micro-Biology, etc., Fleet Surgeon P. R. Bassett-Smith, R.N., C.B., M.R.C.P.Lond., M.R.C.S.Eng., L.S.A., Dipl.Trop.Med. and Hygiene Camb.; Professor of Hygiene, etc., Fleet Surgeon A. Gaskell, R.N., F.R.C.S.Eng., L.R.C.P.Lond., D.P.H.Lond.; Professor of Chemistry, Professor Vivian Lewes, F.I.C., F.C.S.; Instructor of Chemistry, J. S. S. Brame, Esq., F.C.S.; Director of Medical Studies, Fleet Surgeon A. Gaskell, R.N.

ROYAL ARMY MEDICAL CORPS (T.F.).

First London Division.

The annual training of the field units of the Royal Army Medical Corps, First London Division (T.F.), took place on Salisbury Plain in August, under the direction of Colonel J. Harper, M.D., A.D.M.S. The following units attended: First Field Ambulance, Lieutenant-Colonel R. R. Sleman, V.D., M.D.; Second Field Ambulance, Lieutenant-Colonel W. Salisbury Sharp, M.D., F.R.C.S.I.; Third Field Ambulance, Lieutenant-Colonel J. R. Whait, M.D.; and the First Sanitary Company, Major L. T. Bryett, M.D. During the training the units were inspected in field work by Colonel M. W. O'Keeffe, M.D., Inspector of Medical Services (War Office), who expressed himself as pleased.

On Saturday, August 9th, the sports competition took place. Such events as driving, tug of war, operating, and bell-tent pitching, and V.C. races were held. The judging was done by Colonel T. J. O'Donnell, D.S.O., Army Medical Staff, who awarded the challenge cup presented by Major E. Miles, F.R.C.S., to the First Field Ambulance, who won by 110 points. This unit has now won the cup three years in succession.

On Tuesday, August 12th, the three Field Ambulances competed for a handsome challenge vase presented by Major E. Waggett, M.B., which is given for tactical medical training. The scheme arranged by the general staff was that Sidbury Hill and Tidworth Pennings had been occupied by the advanced guard of a Red force, with pickets on Windmill Hill.

The three Field Ambulances formed part of the White force which attacked Sidbury Hill and Tidworth Pennings at dawn. Later on in the morning the Red force retired, and the three field ambulances established dressing stations and tent sections. Commanders of sections were required to hand in at the rendezvous their appreciation of the situation and a copy of all orders issued by them. The work was generally well done and was most interesting, each section turning out just as if mobilized for active service. The judges were Colonels T. J. O'Donnell, D.S.O., and G. S. McLoughlin, D.S.O. When the work had been finished the two examiners met and awarded the vase to the First Field Ambulance and afterwards critized the work.

The winning section was commanded by Major E. W. St. Vincent-Ryan, who had as his officers Captains A. Elliot, M.D., M.R.C.P., and D. C. L. Fitzwilliams, F.R.C.S.

TERRITORIAL FORCE.

The King has conferred the Territorial Decoration upon the following officers of the Territorial Force, R.A.M.C.: Lieutenant-Colonel William S. Sharpe, M.D., Second London (City of London) Field Ambulance; Lieutenant-Colonel Eustace M. Callender, M.D., Second London (City of London) General Hospital; and Captain John Bradford and Captain Hugh Dickie, Retired List, attached to units other than medical units. Surgeon-Major Thomas H. Dickson, M.B., Retired List, Fifteenth (City of London) Battalion, London Regiment (Prince of Wales's Own, Civil Service Rifles) has also received the decoration.

Medical News.

On the occasion of the opening of the winter session in the Faculty of Medicine of the University of Birmingham on October 7th an evening reception will be given by the Dean and other officers of the Faculty, and an address on present-day problems relating to the antiquity of man will be delivered by Professor Arthur Keith, F.R.S.

The annual dinner of the old students of St. Bartholomew's will take place on Wednesday, October 1st, in the Great Hall of the Hospital, Dr. Howard Tooth being the chairman. The corresponding events at St. George's, at St. Thomas's, and the Middlesex will also take place on October 1st, the respective chairmen being Mr. Adams Frost, Dr. H. P. Hawkins, and Sir J. Kingston Fowler.

A short course of training lectures on tuberculosis for women sanitary inspectors and health visitors and those whose duties include the visiting of cases of phthisis will be delivered at the Royal Sanitary Institute on Wednesdays during October by Dr. J. E. Squire. The fee for the course is 5s., and further particulars can be obtained from the Secretary of the Institute at 90, Buckingham Palace Road, London, S.W.

The eighty-fifth meeting of German Naturalists and Medical Practitioners will be held, as already stated in the Journal, at Vienna in September (21st to 28th). The chief medical feature of the meeting will be a general address on the prophylaxis of diphtheria by Professor von Behring of Marburg. Among other important communications promised are the development of the light and colour senses in the animal kingdom by Professor von Hess of Munich; vision by Professor O. Lummer of Breslau; and the problem of race crossing in man by Professor E. Fischer of Marburg.

Sir James Whitney, Prime Minister of Ontario, at the opening ceremonies of the new Toronto General Hospital on June 19th, stated that it had been decided to appoint a commission to investigate the whole subject of medical education and the practice of medicine in Ontario, the object being to acquire information upon which to base legislation for every imaginable application, in order to regulate and control all the interests of the province. The term "medicine" will include all places and means of alleviating or curing human defects, disorders, diseases, or wounds. The investigation will include osteopathy, dental schools, nurses, training schools, as well as opticians and their training. It will also include the practice of any branch of medicine by Christian Scientists or by any other class or sect.

Obituary.

ANDREW CLARK, F.R.C.S., D.Sc.,

HONORARY SURGEON TO THE KING; CONSULTING SURGEON, MIDDLESEX HOSPITAL.

MR. ANDREW CLARK, whose death was announced in the JOURNAL of September 6th, was born in Gloucester Terrace, Hyde Park, on June 1st, 1847, the only child of Benjamin Clark, F.R.C.S. Both his parents dying when he was a very young boy, he was sent to live with his grandfather, Andrew Clark, at Greenford Place, near Harrow. From there he was sent to school, first to Brighton College and later on to University College School. At the age of 17 he determined on the medical profession for his career, and migrated to the neighbouring University Hospital School. He obtained the L.S.A. in 1868 and his M.R.C.S. in 1869, and commenced his long association with the Middlesex Hospital as house-surgeon in April, 1870. Six months later he was appointed to the office of resident physician's assistant—a post corresponding to the house-physician of nowadays. His work was so good that in the following year he was promoted, at the early age of 24, to the general staff as assistant surgeon—a post that had become vacant consequent on the appointment of Mr. George Lawson to be fourth surgeon to the hospital. In those days the fellowship of the college was not a *sine quâ non* for candidates for appointments on the surgical staff, and, as a matter of fact, Clark did not obtain this distinction until he had been assistant surgeon for about two years. His early years as assistant surgeon were very busy ones, for, in addition to his duties in the out-patient room, he acted as surgical registrar for two years, and, after relinquishing this post, he became, jointly with Dr. Sydney Coupland, tutor to the medical school. In 1875 he was appointed surgeon to the ear and throat department, then instituted for the first time as a special department, and the following year he became Dean of the medical school.

Clark's appointment as Dean was, perhaps, the most important step in the whole of his professional career, and probably largely influenced his subsequent work. As Dean he came into intimate association with the students, and therefrom came the friendships which in a very large number of cases persisted after the tutorial days of studentship were over, and, indeed, followed Clark through the whole of his life. He was, in fact, a very successful Dean, not only from an official point of view, but because he had a touch of personal magnetism which was essentially human in character. The boys liked him, and from that not a few of them learnt to admire his character and to try and earn for themselves his appreciation. This meant that the school began to flourish and the numbers to creep up, so that when Clark relinquished his Deanship in 1887 the school occupied a foremost position among the other great London schools of medicine.

Relinquishing the charge of the ear and throat department in 1880, Clark was appointed, in conjunction with Mr. (now Sir) Henry Morris, to be lecturer on practical surgery, and two years later he also took over the operative surgery classes. On Morris giving up the lectureship in practical surgery in 1885, Clark assumed sole charge of the work, a post which he continued to hold till 1894, when he succeeded to the lectureship on surgery.

He was the author of the *Middlesex Hospital Surgical Reports*, 1872–3; *Ambulance Lectures* (1888); and he was editor of the fourth edition of *Fairlie Clarke's Manual of Surgery*.

Though fortune favoured Clark in the matter of his appointment on the general staff when very young, he in the long run gained little, for he had to serve an apprenticeship on the junior staff for sixteen years before he was appointed fourth surgeon in 1887. This appointment did not carry with it so many beds as were allotted to each of the three senior surgeons, and it was not until 1895 that he obtained the full rank of surgeon and all its attendant privileges. This was hard luck, but Clark was never one to grumble or try to snatch favours for himself by creating disturbances with his colleagues, a not unusual method of "getting on" with some men. Even after his appointment to be fourth surgeon he did not entirely sever his connexion with the out-patient department, for in 1887 he took charge of the special cancer department, which he managed for nine more years.

His work at the hospital pursued the even tenour of its way until 1906, when he had the misfortune to cut his hand badly when operating on a septic case. Severe cellulitis of the hand and arm were the result, and from this he ultimately made what seemed to be a complete recovery. The appearance was fallacious, for not long afterwards he began to develop a train of nervous symptoms which gave his friends great anxiety, and which very gradually converted the hale and hearty surgeon into a chronic invalid. The symptoms from the first assumed the character of a rheumatoid arthritis, accompanied by severe wasting of certain groups of muscles, notably the deltoids and the muscles of the forearms and hands. From there the wasting spread downwards along the muscles of the back to the glutei and leg muscles, so that his upright carriage slowly altered to a pronounced stoop and a rather shuffling limp.

Clark, always optimistic and cheery, was ever sanguine of improvement, and pluckily held on to his work, though with ever-increasing difficulty, until December, 1907, when the loss of power in his hands was too great to permit him any longer efficiently to carry out his duties as surgeon. He then placed his resignation before the Weekly Board of the hospital, and in February, 1908, was appointed consulting surgeon to the hospital. He was 61 years of age when he severed his connexion with the active staff after a continuous service of thirty-five years carried out without a single break from ill health until the misfortune which occurred two years before his retirement.

Clark's work at the hospital was always extremely conscientious and thorough. He was an enthusiast in his profession, and though he had many interests apart from the hospital, they were nearly all of them in some way associated with surgery and medicine. He loved his work, and worked as one that loves, and his example was infectious to those with whom his work brought him in touch. He was an excellent diagnostician, an excellent clinician, and was, moreover, very successful as an operator. Trained during the transitional times between sepsis, antisepsis, and asepsis, when exact pathology was in its infancy and laudable pus dominated the surgical horizon, Clark was always more interested in the practical rather than in the theoretical side of his art, and his teaching was essentially of this character. He taught men to observe signs and symptoms, and to apply to them the rules of good surgical common sense, and was a most popular and successful teacher of students on this account.

His personality had, too, no small a share in winning him the love and esteem of both students and colleagues. For there was something about the man which endeared him to those with whom he worked. That something was the manly, straightforward uprightness of his character. Clark was essentially a simple-minded man. Scrupulously honest himself, he was curiously unsuspicious of dishonesty in others. This trait led him always to speak directly as he thought and to think exactly as he said. There was never anything behind Clark, and you could be sure that what he said to your face was exactly what he would say behind your back.

Everybody who knew Clark very speedily found out the true meaning of the word "gentleman," and thus he made friends innumerable among those with whom he worked. His nature, prone to see all that was best in a man, unfortunately too often prevented him from discerning the other side, and thus he not infrequently was deceived by those he trusted, and too late on more than one occasion he had cause to regret his confidence. There was, however, no sort of weakmindedness or lack of fibre in Clark. The very honesty of his nature made him a vigorous and powerful opponent, and if he made up his mind to a certain course of action he would pursue it with his greatest effort in the face of any opposition. The knowledge that he was actuated by the best motives was usually sufficient to prevent him from exciting the resentment or sacrificing the friendship of those who were most heartily in opposition to him.

Clark's work at the hospital, great though it was, was only one part of his life's work. He was throughout the whole of his medical career an ardent supporter of the medical side of volunteering, and when the Volunteers were displaced by the Territorial system he continued his services, and rose to the highest rank in the Territorial Service that any man could attain. Of this part of his



Andrew Clark

A. M. S. (T.)

work others with greater knowledge than the present writer will speak, but it may be mentioned in this connexion that in 1895 he was made an Honorary Associate of the Order of St. John of Jerusalem, and in 1906 the honour of a Knight of Grace of the same Order was conferred upon him.

Another aspect of his life was his work with the British Medical Association, which took an immense amount of his time. As in the case of all his work, Clark threw himself whole-heartedly into promoting and widening the cause of the Association, and probably no man has ever worked harder and more disinterestedly than he did for its welfare. Of this, again, there are others closely united with him in this work who will speak with intimate knowledge, and its record can best be left to their labour of love.

Any one who reads this outline of Clark's career will at once appreciate the enormous amount of work that he did without any monetary interest or, as the world would put it, "for nothing." Indeed, it is one of the outstanding features of his life that he was particularly attracted by work which offered no reward but the satisfaction of benefiting his profession, his country, or both. Not that Clark was indifferent to money more than most people in so far as personal comfort was concerned, but he was blessed with a certain competence of his own which placed him beyond the absolute necessity of earning bread-and-butter, and he was absolutely free from the desire to amass wealth. His private income placed him in the position of being able to neglect the sordid side of work, and he was delighted thus to be able to spend his energy in work for the general good. And spend it he did. Until the beginning of his last and only illness in 1906 there was never a man who worked harder and got less for it than Andrew Clark, and the profession owes him a deep sense of gratitude for his unsparing, unselfish, untiring devotion. Somewhat late in life Clark did obtain some public recognition of his services, for in 1904 the honorary degree of D.Sc. was conferred upon him by the University of Oxford, and in 1910 he was made Honorary Surgeon to His Majesty King George V.

To complete the summary of his work without mention of the Middlesex Hospital Club, which Clark founded and practically ran for over thirty years, would be to neglect a work in which he took the greatest interest, and which has done not a little for the good of the Middlesex Hospital School. The club was founded to bring together old Middlesex men at an annual dinner where old friends could once more meet and discuss memories of a delightful past, and renew acquaintance with the doings of their Alma Mater. On these lines the club has flourished and will now continue to flourish, but it is all due to Andrew Clark, and is one more link in the chain of his unselfish life's work.

Outside his work Clark was essentially a family man. In 1876 he married Mary Helen, eldest daughter of Joseph Hargreaves, of Wellesley House, Princes Park, Liverpool, by whom he had one son and five daughters. Clark rejoiced in his family, and spent his life when away from his work in their midst. His wife, his children, and his garden were his pleasures, and the latter was more than a passing interest in flowers. He was a keen practical gardener, with a special and rather strange liking for hideous uncanny cacti, of which he collected an unholy quantity, which he was wont to display with pride to the surprised and ignorant visitor. He had a beautiful garden at Cowley Grove in which he took the greatest delight until failing health deprived him of the power, and he would spend an afternoon in chasing the green fly or squashing the red spider with the same enthusiasm and zest that he displayed in hunting for an intestinal obstruction or disintegrating a urinary calculus.

The last phases of his life were rapid in their progress. About the beginning of the present year he began to show obvious signs of cardiac weakness. An attack of influenza in the early spring accentuated the heart trouble, and not long afterwards commencing anasarca of his feet and legs deprived him of much power of moving about. Five weeks before his death he took to his couch, rarely leaving it except for meals, and he rapidly grew more feeble. He took his illness in the same matter-of-fact way that he did everything in his life, and up to the last he displayed keen interest in all that was going on around him. His mind was clear right to the end, and he passed away peacefully in his sleep on the afternoon of Friday, August 29th.

Truly a good man, and the good that he has done will surely live. R.I.P. A. L.

Some time ago it was proposed to present Mr. Clark with a testimonial in recognition of the great services rendered for many years to the Middlesex Hospital Club. At the club dinner, held on June 6th, Dr. Bernard F. Hartzhorne brought the subject to the notice of the members present, all of whom signified that they would be very pleased to subscribe for some token of esteem to be presented to Mr. Clark. We are informed by Dr. Hartzhorne, who is honorary treasurer of the fund, that 119 members of the Middlesex Hospital Club have subscribed a sum of over £50 in subscriptions limited to half a guinea, for the purpose of making a presentation to Mr. Clark on his retirement from the position of secretary and treasurer of the club. This position he had held for thirty years. Had circumstances allowed, this presentation would have been made in the autumn.

TRIBUTE FROM A COLLEAGUE.

Sir ALFRED PEARCE GOULD writes:

Although Andrew Clark and I were fellow students at University College Medical School for two years in the late Sixties he was so much my senior that we were never class-mates, and I have no recollection of him as a student. Passing to Middlesex Hospital almost immediately after qualification he was thirty-seven years an active member of its staff, and his professional life was very intimately associated with it and its medical school. We were colleagues on the active staff for twenty-five years and friends for over thirty years, and as I now look back upon his completed life-work the characteristics that loom largest are his singleness and purity of aim and the strenuous devotion with which he served. His life was a very full one, and he took a more active share in the work of the hospital and of the school than falls to the lot of most of us. In the hospital he was not only successively assistant surgeon and surgeon, but he organized the department for diseases of the ear and throat and was surgeon to it for five years. Similarly, he was the first surgeon to the children's department, and for seven years was surgeon to the cancer out-patient department. In the school he not only took his full share in teaching—being a lecturer in all for twenty-nine years—but for ten years he filled the office of Dean, and in this capacity gave ungrudgingly of his time and ability, and was rewarded not only by the loyal confidence of his colleagues and of the students, but by the growing prosperity of the school. In addition to all this he took a leading part in the extra-academical interests of present and past students. He rendered most efficient help to the Students' Medical Society; later on he was treasurer of the Amalgamated Students' Club. But his best work of this kind was in connexion with the Middlesex Hospital Club, which is a union of past students partly to foster friendship with one another and loyal service to the hospital, and partly for philanthropic ends. Andrew Clark was largely instrumental in founding this club; he was its treasurer and secretary for over thirty years, and only resigned a few weeks ago when his health failed. He served this club with unstinted labour and the most loyal devotion, and its success is almost entirely due to him. At its last meeting his resignation was most regretfully accepted, and this was accompanied by the strongest expressions of affection for him personally and of gratitude for the successful way in which he had watched over the interests of the club from its foundation.

When one remembers that Andrew Clark's public work extended far beyond his hospital and school—to the British Medical Association, the Volunteer movement, the medical department of the Territorial Force, St. John Ambulance Association—it is impossible not to admire the way in which he worked and filled his days with unselfish service. His singleness of aim must have impressed all who knew him; no one can ever have associated with him any selfish aim or unrevealed purpose, and with this there was blended a most loyal devotion to colleagues and institutions with which he was connected. And so all who knew him held him in the highest regard; and it is pleasant to recall

that this unselfish, hard-working man not only won the affection of his associates, but also received such outstanding honours as the appointment of Honorary Surgeon to H.M. King Edward VII, the degree of D.Sc. of the University of Oxford, the Gold Medal "for Distinguished Merit" of the British Medical Association, and that he was made a Knight of Grace of St. John of Jerusalem. To very many who worked with him through long years Middlesex Hospital will not be the same now that Andrew Clark has gone: the sense of loss is real and deep.

MR. CLARK AND THE ASSOCIATION.

Mr. Clark's connexion with the British Medical Association was long and intimate, and the service he gave it was unstinted and most valuable. At one time or another he was on almost every committee, and he held all the highest offices. He was an excellent example of the kind of man whom the Romans described as *vir pietate gravis*—a man who at a committee or meeting of any kind, even when he remained silent through its debates, stood for sound sense and absolute straightforwardness. He kept steadily in view the honour of the profession and the prosperity and efficiency of the Association. The mere list of his offices serves to show the implicit trust he inspired among his fellow members. In 1892 he was elected to the Central Council as a representative of the Metropolitan Counties Branch; this position he continued to hold till June, 1899. In July, 1899, he was elected treasurer, and that office he held till 1902, when he was elected Chairman of Council. On the expiry of his term of office in 1905 he again sat on the Council as representative of the Metropolitan Counties Branch. In 1906 and again in 1907, 1908, and 1909 he was co-opted a member of the Council. In 1910–1911 he was elected to the Council by the Representative Meeting; in 1912, owing to failing health, he resigned office. Much of his work was done as a member of the various committees on which he sat. He was a member of the Arrangements Committee before the Montreal meeting in 1898 and the Edinburgh meeting in 1897. In connexion with the Annual Meeting held in London in 1910 Mr. Clark was Chairman of the Dinner and Luncheon Committee, and also of the Executive Committee. He was on several occasions a member of the Journal and Finance, the Premises and Library, the Scientific Grants, the Trust Funds, and the Organization Committees. He was elected a member of the first Journal Committee in 1910 and of the first Finance Committee in the following year. As Treasurer and Chairman of Council he was an *ex officio* member of all committees, and thus his services extended over a period of twenty years. Mr. Clark took a special interest in the organization of the Volunteer Medical Service; the active part he took in this important work is fully described further on by some of those who were most intimately associated with him in it. Here it need only be said that in 1909 he was chairman of the Territorial Forces Committee, on which he also served in 1910. In recognition of his great and self-sacrificing labours on behalf of the profession, Mr. Clark was elected a Vice-President of the Association, a post which he held at the time of his death. At the Annual Meeting held at Cheltenham in 1901 he was Vice-President of the Section of Navy, Army, and Ambulance, and at the Annual Meeting held in London in 1910 he presided over the same Section. He was President of the Metropolitan Counties Branch in 1905–6; in the address which he delivered from the chair on that occasion he gave a striking account of the influence exerted by the British Medical Association on the advancement of science. In 1905 Mr. Clark's services were recognized by the award of the Gold Medal of the Association. The following resolution was passed by the Council at a meeting on July 5th of that year:

> That the Gold Medal of the Association be awarded to Andrew Clark, D.Sc., F.R.C.S., on account of special services rendered by him to the British Medical Association.

The late Sir Constantine Holman was awarded the medal at the same time. On that occasion we said in a leading article,[1] referring to the honour done to Mr. Clark: "Upon Mr. Clark's work for the Association it is unnecessary to dwell. He has held with signal success the most responsible official positions during a period of transition when statesmanlike breadth of view, clearness of insight, and mingled firmness and tact were especially needed. How conspicuously the late Chairman of Council has displayed these qualities is known to all whose privilege it has been to work in any capacity with him."

[1] BRITISH MEDICAL JOURNAL, August 5th, 1905, p. 290.

Mr. T. JENNER VERRALL (Chairman of Representative Meetings) writes:

As one whose work in the Association brought him into continual contact with Mr. Andrew Clark I should like to add a few words of personal appreciation.

If I select one quality as specially characteristic of Andrew Clark, I would say his "lovableness." We spoke of him as Andrew Clark, rarely in any other way, and I think that it is men of his type, who bring into their public life something of the affection of the domestic circle, for whom the Christian name prefix is generally used.

His quiet manner, soft voice, and charming smile were equally effective in ordinary conversation and in a large meeting. These, when joined to a keen zeal for work, sufficiently explain the very marked influence he possessed, both in the Council of the Association and over the members generally. In the long period upon which this influence acted we passed through many difficulties, arising sometimes from external causes, sometimes from crises within our own boundaries. In all these the value of Clark's "sweet reasonableness" was great. This, more particularly, in that his softness of nature produced no weakness in action.

He could wax indignant over some general professional grievance or some lapse from professional propriety, showing at the same time an almost tender regret that there should be such things or such men.

No man has more worthily held the important posts wherein Andrew Clark served us. Failing health withdrew him from active work some time before the shadow of recent troubles fell on us. Had it been otherwise, how ready would have been his help and sympathy, how wise his counsel!

In talk with him not long ago I found that, as was to be expected, he had watched most anxiously every phase of our campaign, sympathized with our protests, and appreciated our difficulties.

The Association acknowledged in the clearest fashion its sense of gratitude to him, and I know it was a joy to Clark that, in giving up his work among us, he left none behind but friends.

Dr. ROBERTS THOMSON, President of the Association in 1891, formerly President of Council (1899–1901), writes:

By the death of Mr. Andrew Clark the British Medical Association has lost one of its most devoted members. For many years administrative work in connexion with the Association formed the chief interest of his life, and he gave up much time and laboured unwearingly to promote what he considered would tend best to advance the welfare of the profession and the prosperity of the Association.

The posts he held, and the numberless committees of which he was a member, gave him opportunities of which he fully availed himself, and that the Council appreciated the labour he had so freely given and the energy with which he had thrown himself into the work he was called upon to do, is shown by their bestowal of the Gold Medal, the highest honour in their power to offer to any member. I know how highly he valued this mark of the Council's goodwill, and how greatly he prized it.

During the time it was my privilege to preside over the deliberations of the Council Mr. Andrew Clark was treasurer, and I had, therefore, full opportunity of knowing how devoted he was to the best interests of the Association, and how anxious he was that no effort on his part should be spared to advance whatever would tend to that end.

It was a difficult and a trying time in the history of the Association. While some might think that Mr. Clark did not form his opinions quickly, nevertheless he had a very calm judgement, and his influence in moderating the views of those whose enthusiasm was leading them to go at too fast a pace had much value.

This generation has some difficulty in setting a proper value upon the influence of such men as Mr. Clark at

a time when the whole constitution of the Association was in the melting-pot. But the influence he exerted was great. His views were always calmly urged, and he could keep his head when there was something of a storm. Such men are all too few. He has left his mark for good in many a direction in the history of the Association, and he is one of those whom we can ill spare.

Others can speak of his devotion to his military duties. I know how much he did in connexion with this most important work. But while he gave up much time and bestowed much labour upon these duties also, I am sure I am right in saying that the Association came first, and its affairs occupied the most important place in his thoughts.

Mr. Clark and the Territorial Force.

Lieutenant-Colonel E. M. Wilson, C.B., R.A.M.C. (Ret.), writes:

The Territorial branch of the Royal Army Medical Corps has sustained a severe loss in the sad death of Colonel Andrew Clark. He joined the Volunteer Medical Service as Surgeon to the then 4th West London Volunteer Battalion of the Middlesex Regiment, and, passing through the intermediate ranks, was appointed Senior Medical Officer of the 3rd London Volunteer Infantry Brigade in December, 1889. Promoted Honorary Surgeon-Colonel in 1905, he was selected for the position of Assistant Director of Medical Services of the 2nd London Division, Territorial Forces, in 1908, with the rank of Colonel in the Territorial Forces. He was one of the first medical officers in this position to receive the distinction of King's Honorary Surgeon, which was conferred on him in 1910. At the termination of his appointment as A.D.M.S. he retired in 1912.

Throughout his long association with the Volunteer and Territorial Medical Services Colonel Clark's efforts were consistently devoted towards greater efficiency and uniformity in the branch to which he belonged. In 1906 he was appointed chairman of a special committee of the British Medical Association to consider and report upon the various conditions under which medical officers were then serving in the Territorial Forces and Army Medical Reserve. The recommendations of that committee might be briefly summed up as advising that there should be one corps—the R.A.M.C.(T.)—one uniform, one badge, one title, and that the then existing bearer companies and field hospitals should be converted into field ambulances to bring them into agreement with the organization of the regular army. These recommendations, submitted by the Council of the British Medical Association, were accepted in principle by the Secretary of State in 1907.

In a subsequent committee on the medical branch of the Territorial Forces, which sat in 1909–10 under his chairmanship, important recommendations were made, both to the county associations and War Office, relating to the general hospitals and field ambulances of the Territorial Divisions, and in most instances these suggestions have since been adopted.

Colonel Clark's interest in matters connected with ambulance work was not confined solely to the Volunteer (now Territorial) Medical Service. Although an exceptionally busy man, he found time to instruct classes in ambulance duties, and a volume of ambulance lectures was published in 1888. He was appointed an Honorary Associate of the Order of St. John of Jerusalem in 1895, and advanced to the grade of Knight of Grace in 1906. He was also a member of the committee of the British Ophthalmic Hospital in Jerusalem from 1909, and was a constant attendant at meetings of the committee until shortly before his death.

I think all who have been connected with him in any of these important services must have appreciated his sound practical knowledge of the various subjects, his kindly nature, his patience, and the tact he displayed in dealing with men, and matters which often involved conflicting interests, and I am sure his loss will be deeply regretted by a very wide circle of friends in many branches of public life.

Colonel George S. Elliston, C.B., writes:

Andrew Clark was one of the early pioneers of the ambulance movement, and worked hard to familiarize the public with its usefulness by giving courses of lectures on "First Aid" and "Home Nursing" at the London Polytechnic Institution. These classes were carried on in his leisure time for some years, and the Order of St. John of Jerusalem recognized his services by enrolling him as an Honorary Associate of the Order.

Colonel Andrew Clark will long be remembered in the history of the Volunteer movement by the active interest he took in developing and improving its medical organization. On the formation of the force into infantry brigades in the years 1890–91, he was appointed Brigade-Surgeon-Lieutenant-Colonel to the West London Infantry Brigade, and in the early days of the Volunteer Ambulance School of Instruction became one of its vice-presidents. It is difficult to estimate the value of the work carried on by this school for many years with little or no official help or recognition, but there is no doubt that it had a very far-reaching effect not only on the Volunteer medical department but on the Regular Army Medical Service. For years it enabled Volunteer medical officers to obtain certificates of proficiency, and helped the training of officers, non-commissioned officers and men in the various branches of military medical work. This Volunteer Ambulance School may be said to be the forerunner of the present R.A.M.C. Schools of Instruction which have proved such a marked success in Sir Alfred Keogh's great scheme for organizing the medical service of the Territorial Force.

At the time Colonel Clark was Chairman of Council of the British Medical Association the Naval and Military Committee was formed, and much good work was carried out in helping to redress grievances of medical officers in the navy, army, and Indian Medical Service. It was about the year 1906 that it became apparent that the Volunteer force must undergo complete reorganization, and the British Medical Association called together a committee of Volunteer medical officers to discuss the medical aspect of the force. The committee consisted of the leading Volunteer medical officers representing the principal centres of England and Scotland, and Andrew Clark presided over it as its chairman. As a result of the deliberations of this committee, representations were made to the Secretary of State for War that the existing bearer companies and field hospitals of the Royal Army Medical Corps (Volunteers) should be consolidated into field ambulances for cavalry and infantry. The report of the Volunteer Medical Service Committee was made on June 19th, 1906, and it was a great compliment to the British Medical Association when, in the following year, Sir Alfred Keogh brought out his admirable scheme, which gave effect to the special representations made by this Committee.

When the new organization of the Territorial Force came into existence in March, 1908, Colonel Andrew Clark was one of the few distinguished medical officers that Sir Alfred Keogh gathered round him to make a start, and he received the important appointment of Administrative Medical Officer to the 2nd London Division. The able and efficient manner in which Colonel Clark carried out the duties during his four years of office is well known to all medical officers who served in the two London divisions. Having partly retired from active practice, he was able to devote the necessary time required for office work, which, although onerous, was to him a labour of love.

Substantial recognition of his services was made in the Birthday Honours list of 1910, when he was appointed an Honorary Surgeon to the King. Colonel Clark was very proud of this recognition, as he was the first Territorial medical officer to receive this honour. Amongst other honours he much valued was the promotion to a Knight of Grace in the Order of St. John of Jerusalem, and the degree of D.Sc. conferred on him by the University of Oxford.

Colonel P. Broome Giles, C.B., writes:

I have known Andrew Clark since 1867, when we were students together at University College Hospital. Others, no doubt, can tell better than I of his strictly medical career, but I do not think any one can speak more than I of his association with the Volunteer and Territorial Forces. Clark began his Volunteer career in the old Victorias as a private, and late in 1873 obtained a commission as assistant surgeon to the 4th Middlesex, in which regiment he went through the usual ranks until 1889. He was selected as

a brigade surgeon, and had under his supervision the 2nd London Volunteer Brigade Bearer Company. On April 1st, 1908, he was created a substantive colonel and appointed A.M.O. to the 2nd London (County of London) Territorial Division. Previous to that, from October, 1907, he and I had been working hard to organize the R.A.M.C. of both City and County Divisions, neither knowing to which we should be appointed.

Between 1890 and 1908 Clark was chairman of the Volunteer Medical Association, and I am certain his quiet conciliatory manner did much for the medical department.

At the meetings of the Association of Senior Volunteer Officers, and of the Volunteer Ambulance School of Instruction, of which I was chairman, I always had a loyal colleague. Both at the Committee of the British Medical Association, appointed to consider the Medical Service of the Territorial Force, and on the Association Committee he did sound and good work; he gave evidence before the Duke of Norfolk Committee; and as a member of the Committee of the Junior Army and Navy Club did sterling service. Accidentally taking a house in Folkestone, I saw a good deal of him this year, and though it was evident he was not his former self, still no one thought the end was so near; and now I and hundreds of Territorial medical officers can only bear testimony to the courtesies of one whom we have known for years as a gentleman and a friend.

Surgeon-Colonel Atwood Thorne, R.A.M.C.(T.), writes:

Andrew Clark joined the 1st Middlesex Volunteer Rifle Corps as a private in 1867, and in August, 1873, he joined the 4th Middlesex Volunteer Rifle Corps as assistant surgeon, and thirty-five years later, at the passing of the Volunteer Force, he was, as Brigade-Surgeon-Lieutenant-Colonel and Honorary Colonel, still a member of that unit, though seconded as Senior Medical Officer of the 2nd London Brigade. The 4th Middlesex became part of a unit (13th County of London Battalion) of the 2nd London Division of the Territorial Force on its formation in April, 1908, and Andrew Clark, as the senior of all the medical officers, was naturally selected as Principal Medical Officer of the Division, with the rank of Colonel in the Army Medical Staff (T.F.); as such there fell to him the very onerous duty of forming and controlling all the medical details of the division. In the Woolwich companies of the R.A.M.C.(Vols.) and the 3rd London Bearer Company he found the nuclei of the three field ambulances required, but the two general hospitals and the sanitary company of the division had to be created *de novo*. It was here that Colonel Clark's administrative capacity, tact, and geniality were of so much use, as the only officers he had available were the Volunteer regimental medical officers, few of whom had any experience of administration; as for non-commissioned officers and men, it is difficult to know how they were obtained, but the units were gradually formed, and under Colonel Andrew Clark's direction they worked well. In addition, medical officers had to be obtained for the infantry battalions, artillery brigades, and departmental corps, many of which were freshly raised; it was in this work especially that he found his connexion with the British Medical Association so useful.

He was naturally an original member of the Territorial Force Association for the County of London, and worked hard on various subcommittees, chiefly those concerned in the provision of buildings and equipments for the units under his command.

In 1912, at the termination of the allotted period of four years, he retired from the Territorial Force, being succeeded by Colonel Harrison, C.V.O., formerly of the Brigade of Guards and in command of Millbank Hospital.

In 1892 he was given the Volunteer Decoration, and in 1910 he was appointed Honorary Surgeon to the King, a post which till then had been reserved to officers of the Regulars.

He was a Knight of Grace of the Order of St. John of Jerusalem, and did much to assist in the formation of Voluntary Aid Detachments, not only in the county of London, but in the county of Middlesex, where he resided.

In 1906 he was chairman of a committee of the British Medical Association to suggest improvements in the medical arrangements of the Volunteer Force; in 1908, at the inauguration of the Territorial Force, nearly all the suggestions of this Committee were adopted.

The following letter is from Major-General Vesey Dawson, C.V.O., formerly of the Coldstream and Irish Guards, the first General Officer Commanding the 2nd London Division:

Glydernscroft,
Marlow, Bucks.
September 9th, 1913.

Dear Colonel Atwood Thorne,

I was indeed sorry to hear of Colonel Clark's death, and I willingly comply with your request to send you some notes on my association with him in the Territorial Force.

Colonel Clark served on the staff of the 2nd London Division during the time (four years) that I had the honour to command the division, and voluntarily gave an enormous amount of his time and energy to forming and organizing the medical units of the division. His unfailing tact and good temper, and conciliatory manner of dealing with those with whom he was brought in contact, together with his great knowledge of the Volunteer Force, made him a very valuable staff officer, and the success that has attended the formation of the medical units of the 2nd London Division is, in my opinion, largely due to him.

I am deeply grieved at the death of one who was a charming companion, a staunch colleague, and a valuable adviser, and I feel sure that I am voicing the opinion of all ranks of the 2nd London Division when I say that we mourn the loss of a true friend.

Yours very sincerely,
V. Dawson.

Colonel Atwood Thorne, V.D.

Colonel C. H. Hartt, R.A.M.C., T.F., late Commanding 5th Field Ambulance (2nd London Division) writes:

As one who served under the late Colonel Andrew Clark, R.A.M.C., T.F. (2nd London Division), I desire to bear testimony to his many good qualities, and to express the feeling of myself and others in the Territorial Force that his loss will be much felt among his old comrades and friends.

Before the passing of the Territorial Forces Act Colonel Clark held the rank of Brigade-Surgeon-Lieutenant-Colonel to the Volunteers. He had done much good work in connexion with stretcher bearers, and also St. John Ambulance, and was rewarded by being gazetted the first Administrative Medical Officer to the 2nd London Division at the same time that Colonel Giles, C.B., was gazetted to a similar position in the 1st London Division.

Having plenty of spare time he threw himself wholeheartedly into the work, and at his office in Craig's Court, Whitehall (with the assistance of his staff officer, Colonel Magill, C.B.), he directed the medical affairs of the 2nd London Division. He was a regular attendant at camp, and I had the pleasure of seeing him in his official capacity at Shorncliffe, Salisbury Plain (twice), and Whitstable. He served as administrative medical officer for four years, and upon expiration of his term did not seek reappointment. It was during his period of office that he was appointed Honorary Surgeon to the King.

His health was not good, suffering from rheumatoid arthritis, believed by him to have been of an infective character, contracted as the result of a wound during an operation at the Middlesex Hospital. He benefited by treatment at Aix, but never really recovered the proper use of his joints.

He was a kind-hearted man, of a genial nature, and beloved by all who came in contact with him.

Dr. John Ramsay Bishop, of Stalybridge, who died on August 25th, after an illness of some months, at the age of 44, received his professional education at Owens College, Manchester, and was admitted a Member of the Royal College of Surgeons of England and a Licentiate of the Royal College of Physicians of London in 1903. In his younger days he saw a good deal of the medical life in Edinburgh, and the splendid work, medical and surgical, done there, owing to the fact that his uncle, the late John Bishop, M.D., F.R.C.S., was assistant surgeon to the Edinburgh Royal Infirmary, and the friend and associate of Syme, Lister, Grainger

Stewart, and others who added to the glory of that famous school. Dr. Bishop commenced practice at Davenport House, Stalybridge, about fifteen years ago. For many years he acted as honorary secretary of the Ashton Branch of the British Medical Association, and his self-sacrificing devotion to the interests of his profession led him to throw himself heart and soul into the struggle over the Insurance Bill while it was before Parliament. Illness compelled him to resign his secretarial work early this year. The loss of his only child, a little daughter, was a great blow to him, and probably had a serious influence upon his own health. This and his resolution in performing his professional work when long rest and change of climate were urgently called for doubtless hastened his end. His loss is greatly mourned by his patients, who found in him not only a skilful doctor but a sympathetic friend. The funeral, which took place on August 28th, was largely attended. In Dr. Ramsay Bishop, absolutely straightforward and gentle as he was, but firm when duty called for the exercise of that quality, the profession has lost a man of a type that can ill be spared.

We regret to announce the death of Dr. SEVERIN LACHAPELLE of Montreal, which occurred suddenly a short time ago at Montreal in the 64th year of his age. He was born in 1850, and while studying at the Montreal College he joined the Canadian band of volunteers which was sent to Italy to join the forces gathered against Garibaldi. After two years of service he returned to Canada to complete his studies at the Victoria College of Medicine. In 1874 he began to practise at St. Constant, Quebec; two years later he removed to St. Henri, where the remainder of his life was spent. He took special interest in diseases of children, and gave much attention to the prevention of infant mortality. He was professor of medicine at Laval University, and superintendent of the Montreal Crèche. He was for a time Mayor of St. Henri, and from 1892 to 1896 was Conservative member of Parliament for Hochelaga.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Professor Bernhard Bardenheuer, the distinguished surgeon of Cologne; Dr. Borne, representative of the Doubs in the French Senate; Dr. L. Bourget, professor of therapeutics and pharmacology in the University of Lausanne, and joint author with Dr. S. Rabow of a work in German, *Lehrbuch der Arzneimittellehre* (Berlin, 1897), aged 57; Professor Victor Fossel, Emeritus professor of the District Lunatic Asylum of Graz; Professor Max Kassowitz of Vienna, one of the leading authorities in children's diseases, a prominent advocate of temperance in Austria, and a stalwart champion of vaccination, aged 71; Professor Naecke, a distinguished psychiatrist, director of the Royal District Asylum of Colditz (Saxony); Professor Rieder Pásha, formerly director of the Galhane Hospital, Constantinople, aged 52; and Dr. Preiser, the well-known orthopaedist of Hamburg, aged 36.

Public Health.

ENTERITIS AND DUST REFUSE.

THE Southwark Board of Guardians has been dealing with a serious outbreak of enteritis amongst the children at its infirmary. There have been 28 cases and 6 deaths, and Dr. H. W. Bruce, the medical superintendent, attributes the outbreak to refuse poisoning. In close proximity to the infirmary the Camberwell Borough Council has a refuse shoot on a railway siding, and the dust from this is blown into the institution. In addition the infirmary has been infested with flies, which have invaded the kitchen and stores, as well as the wards. Three years ago an unsuccessful attempt was made to induce the Camberwell Borough Council to abate the nuisance, and again an endeavour is being made to secure the abatement of the nuisance and the removal of the refuse tip. A month ago the facts were laid before the Local Government Board, and on August 25th Dr. Fletcher, one of their medical officers, visited the infirmary and inspected the dust heap. His report has not been presented to the guardians, who are desirous that the nuisance and cause of the outbreak shall be immediately removed. At their meeting on September 4th the clerk was instructed to communicate by special messenger with the Local Government Board, with a view to getting an early reply, which will be referred to the Infirmary Committee, which has received power to deal with the matter at once.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

"NICOTINE" asks for any facts in support or contradiction of the prevalent idea that cigarette smoking is more harmful than other forms, and in what the special harm consists.

C. E. L. would be glad to hear of an open-air school or sanatorium, moderate fees, suitable to an intelligent boy of 9 with asthma, where education can be carried on with due regard to health.

I. Z. I. writes: I would be obliged if any one could tell me of a better solvent for hard wax than warm oil. I mean the sort that has got so hard it can only be got away in small bits by prolonged syringing, and upon which oil seems to have no solvent power.

G. V. P. writes: Would any of your readers enlighten me on the following points: (1) Is salvarsan advisable in a case of inherited interstitial keratitis in a young man aged 18? Has it become a routine treatment in ophthalmic practice, and, if not, what are its drawbacks? (2) Chopped garlic, rubbed into the axillae, has a great reputation amongst malingerers for producing a considerable rise in temperature, and thus soldiers and others using it in this way are enabled to avoid service and to be placed on the sick list. Is there anything published on the subject?

A. J. writes: I should be much obliged for some hints how to treat the following case: Mrs. D. about nine weeks ago had her hat set on fire. She had a burn of the third degree, about the size of the hand. In due time I skin-grafted, and the wound covered completely over. Unfortunately she scratched a piece of the new skin off, and the wound spread rapidly until I put on boric compresses. Now the skin thickens in patches and comes off, leaving a raw surface, which takes some time to heal up. The itching is intolerable. I have tried boric compresses, boric ointment, scarlet ointment; but nothing seems to prevent the skin from coming off. I may state that otherwise she is perfectly healthy.

CITRATED MILK FOR INFANTS.

W. M. S. writes: I should be obliged if you will send me a good paper on "Citrated Milk for Infants." I do not want a paper describing how to give it, but one giving the reasons for its use.

*** The use of sodium citrate in infant feeding was first suggested by Sir Almroth Wright, who believed that its use would lead to the formation of a casein clot of less density within the stomach. Certainly the addition of three or more grains of sodium citrate to each ounce of milk in the test tube prevents the formation of the usual dense calcium-casein clot. The chemistry of this process has not yet, we believe, been thoroughly explained, and we know of no paper which deals at all fully with this aspect of the question. Numerous papers have appeared from time to time proclaiming the successful results of its use. The first was that read at a meeting of the British Medical Association in July, 1905, by Dr. F. J. Poynton. As a rule, the use of sodium citrate has been combined with the prescription of undiluted milk and the abandonment of the practice of enriching the mixture with large amounts of sugar. It is difficult to avoid the conclusion that some of the good effects of the change is due to the adoption of the whole-milk feeding. For the good effects of undiluted milk reference should be made to Professor Budin's famous book, *The Nursling*, which has been translated into English. Moreover, at the present day, the opinion is becoming generally held, especially in Germany and America, that the digestion of protein is comparatively seldom at fault in infants, and that the disturbing factors are mainly the fatty acids formed in excess by the fermentation of fats and sugar. The pharmacological action of sodium citrate is that of a mild antacid and saline cathartic.

ANSWERS.

PURCHASE OF MEDICAL PRACTICE.

SENEX.—1. The purchase price of a medical practice will vary with the class of practice. The average purchase price would be from one to two years' purchase. 2. A twelve months' introduction would be better than a six months' introduction, but would not necessarily raise the price of the practice. 3. The purchase price is usually based on a three years' average of the gross receipts. 4. The purchase price of many practices has been greatly affected by the Insurance Act, which in some cases has made them practicably unsaleable. 5. Either the purchaser buys them at a valuation,

or they remain the property of the vendor, and the proceeds of the debts are paid to him as collected. 6. During the period of introduction the profits are either (1) shared equally between vendor and purchaser, or (2) for the first half of the time the vendor takes all the receipts, and pays all expenses, and for the last half the purchaser, or (3) one of them takes all the profits, paying all the expenses, and making an allowance to the other.

INQUIRER would be glad to know whether it is usual to purchase a practice on the gross or net receipts. Also how many years' purchase would be considered fair for a partnership extending over many years.

*** In estimating the value of a medical practice the gross receipts are always taken. With regard to the value of a partnership, that will depend a good deal on the class of practice. In a large number of cases a two years' purchase would be a fair estimation.

LETTERS, NOTES, ETC.

LICENCES IN DENTAL SURGERY.

THE Royal Faculty of Physicians and Surgeons of Glasgow should be added to the list of bodies which were mentioned in our issue of last week as granting a licence in dental surgery.

PSYCHOLOGICAL MEDICINE.

FROM a letter received from Dr. Hayes Newington, Treasurer of the Medico-Psychological Association of Great Britain and Ireland, we gather that the value of the Gaskell Prize awarded by this body is £45, not £30 as stated in our issue for last week. It is awarded as the result of a competitive examination in psychological medicine, open to all asylum medical officers, and carries with it a gold medal. The sum raised to commemorate the work of the late Dr. Hack Tuke has been devoted to the advancement of the association's library.

A POSSIBLE CASE OF PELLAGRA.

DR. J. FREDERICK SELKIRK (Shipley) writes: In the case described by Dr. Pilcher in the JOURNAL of August 30th I do not consider it is even a possible case of pellagra, as the patient has none of the classical signs practically. I think there is no doubt that it is a case of tuberculosis of the suprarenal bodies causing the discoloration of the skin.

HERPES AND VARICELLA.

DR. EDWARD HARRISON (Hull) writes: I have been interested in reading the letters on this subject in your JOURNAL, as three weeks ago I was called to see a mother who was suffering from shingles, and a fortnight later her baby, aged 3 months, developed varicella. We tried to account for it but failed to find any source of infection, so I think it desirable that I should record this case.

DR. HENRY OAKES (Rogate) writes: I have seen two children of one household to-day; one was a case of typical shingles and the other of typical chicken-pox. I do not know of any other case of chicken pox in the neighbourhood. I merely mention the fact in view of the correspondence in the BRITISH MEDICAL JOURNAL at the present time.

DR. W. H. COATES (Patrington) writes: Following up Dr. Bruce and Dr. Roberts's experiences on August 10th, I was called to a gentleman farmer. He had exaggerated herpes on the abdomen of a close type, very painful, severe, and extensive. On August 24th his married daughter, who was staying with him, developed severe varicella of a large type, also extensive; she was 28 years of age. The eruption was so bad as to suggest small-pox. Her rash, however, rapidly died away, and no further developments took place. The father is only now convalescent. I was much puzzled with the varicella as there is none within twenty miles. This is the second time I have seen herpes followed by varicella in the same household. With the experience of your correspondents it would seem to be a suitable subject for bacteriological inquiry.

DR. HOWARD S. WILLSON (Weybridge) writes: On May 19th I visited a girl at a boarding school, and found she had typical herpes zoster. On June 1st another girl at the school developed varicella. On July 1st Mrs. P. called to see me. She had just returned from the seaside, and I found she had well-marked herpes zoster, which had commenced about three days before I saw her. On July 16th I was called in by Mrs. P. to see her only child, a girl of 5 years. The child was developing a characteristic varicella eruption. In neither instance could I trace any exposure to infection from a previous case of varicella. Mrs. P.'s child might have contracted the disease while travelling home with her mother on June 30th, but there was no evidence to make this anything more than mere supposition.

DR. W. W. WILLIAMS (St. Davids) writes: The correspondence in the JOURNAL reminds me of three curious cases that occurred in my practice years ago. I have no knowledge of any connexion between herpes and varicella, but the cases that I quote suggest to my mind that there is something in the pathology of herpes that is ill understood.

Case 1.—A mason, aged 70, previously very healthy, is seized rather suddenly with vertigo, aphasia, and complete loss of co-ordination. He was in such a condition that I came to the conclusion he had some serious lesion in the cerebellum. On the eighth or ninth day a severe herpetic eruption appeared over the left side of his neck, and *all the other symptoms disappeared immediately*. The herpes seemed to correspond to the distribution of a cutaneous branch of spinal accessory. His recovery was uneventful, and he lived till 83.

Case 2.—A strong farmer, aged 45, of a somewhat neurotic type. His symptoms were so multifarious that I will not attempt to enumerate them, but they suggested to me that he was hypochondriacal. On the fifth or sixth day he developed herpes zoster, and the other subjective symptoms vanished.

Case 3.—A midwife, aged 70, sent for me to see a rash on her side. While she was so arranging her clothing that I might see it she was seized with a violent epileptic attack—the first and only one that she has ever had. She is alive now, aged 84. The rash was herpes zoster.

These cases suggest to me that there were in these three cases some lesion of the central nervous system, higher up than the cord.

BRUSHING THE TEETH.

DR. F. TALBOT (London, N.) writes: In reply to Dr. Dobell's interesting inquiry, my experience would lead me to reply that he is undoubtedly right in supposing that a rough and unintelligent use of the toothbrush, especially when assisted by a coarse or highly abrasive powder, is capable of injuring and causing the absorption of the slender gum margin. Such cases occur fairly frequently in dental practice, and caries occasionally attacks the cementum where it has been thus deprived of its protection. But the number of such cases bears no comparison at all with the vast number of those which show the terribly destructive effects of unsuitable diet and the neglect of the toothbrush combined. By unsuitable diet is meant in this connexion soft non-fibrous food composed largely of highly fermentable carbohydrates, a diet which fails to keep the masticatory muscles, including the tongue, in good tone: fails to afford the necessary stimulus to the salivary glands which a crisp diet supplies, and leaves the teeth after a meal coated, especially in their crevices and about their necks, with foul tartar and acid-fermenting food débris. These horrors can be mitigated by the systematic use of the toothbrush and rinsing (shall I venture to add a recommendation of the use of chewing gum?); and, until we have mastered the secret of the art of being able to rise from the table with a "physiological mouth," I am sure we shall be well advised not to discard our humble and comparatively innocent friend the domestic toothbrush; least of all can this be done with impunity in childhood, when diet is, as a rule, so prevailingly carbohydrate and immunity so seldom established.

ANTELOPE FLESH AS A CURE FOR SYPHILIS.

DR. GEORGE PERNET writes: In the *Mercure de France* for August 16th (p. 708) some remarks are quoted by M. A. Van Gennep in the course of an article, "En Algérie," which are perhaps worth referring to in the JOURNAL. They relate to antelope flesh as a "cure" for syphilis, and are as follows: "C'est sûrement un dur métier (celui de chasseur de gazelle et d'antilope), et fort peu rémunérateur. Mon guide, en dix-huit jours de marche éreintante a réussi une fois à gagner environ cinquante sous (c'est un maximum!) que lui rapporte la viande des antilopes qu'il avait abattues à bien des centaines de kilomètres de là. Ce n'est pas pour la manger qu'on achète la chair de l'antilope, c'est comme un remède contre la syphilis. Quant à la viande de gazelle, on ne la vend ni ne l'achète; elle n'a aucune valeur marchande. Le chasseur la donne à qui bon lui semble, et ce n'est que quand il a de la viande d'antilope à vendre à des syphilitiques ou de la viande de gazelle à donner à ses apparentés ou aux nobles et sheikhs de sa tribu, friands de nourritures carnées, qu'on lui fait bon visage." Among the curious alleged cures for syphilis this one is not generally known.

SECTION OF CLIMATOLOGY AND BALNEOLOGY.

IN the discussion on sea bathing in the Section of Climatology and Balneology at Brighton, a report of which was published in the JOURNAL of August 30th, Dr. Clippingdale is made to say (p. 541, right hand column, line 5 from bottom) that the ancients occasionally mixed sea water with their *urine*. This is obviously a trick of that frolic sprite, the printer's devil. The word should have been *wine*.

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An Address
ON
THE DYNAMIC SIDE OF BIOCHEMISTRY.

DELIVERED TO THE PHYSIOLOGICAL SECTION OF THE BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

BY F. GOWLAND HOPKINS, M.A., M.B., D.Sc., F.R.S.,
READER IN CHEMICAL PHYSIOLOGY, UNIVERSITY OF CAMBRIDGE; PRESIDENT.

[AFTER giving a history of the growth of organic chemistry in relation to physiology, which he traced back to Justus Liebig, Dr. Hopkins continued as follows:

We know first of all that the raw material of metabolism is so prepared as to secure that it shall be in the form of substances of small molecular weight; that the chief significance of digestion, indeed, lies in the fact that it protects the body from complexes foreign to itself. Abderhalden has ably summarized the evidence for this and has shown us also that, so far as the known constituents of our dietaries are concerned, the body is able to maintain itself when these are supplied to it wholly broken down into simple *Bausteine*, any one of which could be artificially synthesized with the aid of our present knowledge. Dealing especially with the proteins, we have good reason to believe that the individual constituent amino-acids, and not elaborate complexes of these, leave the digestive tract, while Folin, Van Slyke, and Abel have recently supplied us with suggestive evidence for the fact that the individual amino-acids reach the tissues as such and there undergo change. But still more important, when things are viewed from my present standpoint, is the fact that recent work gives clear promise that we shall ultimately be able to follow, on definite chemical lines, the fate in metabolism of each amino-acid individually; to trace each phase in the series of reactions which are concerned in the gradual breakdown and oxidation of its molecule. Apart from the success to which it has already attained, the mere fact that the effort to do this has been made is significant. To those at least who are familiar with the average physiological thought of thirty years ago it will appear significant enough. So long as there were any remains of the instinctive belief that the carbonic acid and urea which leave the body originate from oxidations occurring wholly in the vague complex of protoplasm, or at least that any intermediate products between the complex and the final excreta could only be looked for in the few substances that accumulate in considerable amount in the tissues (for instance, the creatin of muscle), the idea of seriously trying to trace within the body a series of processes which *begin* with such simple substances as tryosin or leucin was as foreign to thought as was any conception that such processes could be of fundamental importance in metabolism. However vaguely held, such beliefs lasted long after there was justification for them; their belated survival was due, it seems to me, to a certain laziness exhibited by physiological thought when it trenched on matters chemical; they disappeared only when those accustomed to think in terms of molecular structure turned their attention to the subject. But it should be clearly understood that the progress made in these matters could only have come through the work and thought of those who combined with chemical knowledge trained instinct and feeling for biological possibilities. Our present knowledge of the fate of amino-acids, as of that of other substances in the body, has only been arrived at by the combination of many ingenious methods of study. It is easy in the animal, as in the laboratory, to determine the end-products of change; but, when the end result is reached in stages, it is by no means easy to determine what are the stages, since the intermediate products may elude us. And yet the whole significance of the processes concerned is to be sought in the succession of these stages. In animal experiments directed to the end under consideration, investigators have relied first of all upon the fact that the body, though the seat of a myriad reactions and capable perhaps of learning, to a limited extent and under stress of circumstances, new chemical accomplishments, is in general able to deal only with what is customary to it. This circumstance has yielded two methods of determining the nature of intermediate products in metabolism. Considerations of molecular structure will, for instance, suggest several possible lines along which a given physiological substance may be expected to undergo change. We may test these possibilities by administering various derivatives of the substance in question. Only those which prove on experiment to be fully metabolized, or to yield derivatives in the body identical with those yielded by the parent substance, can be the normal intermediate products of its metabolism. All others may be rejected as not physiological. In a second method dependent upon this eclecticism of the body substances are administered which so far differ from the normal that, instead of suffering a complete breakdown, they yield some residual derivative which can be identified in the excreta, and the nature of which will throw light upon the chemical mechanism which has produced it. For instance, a substance with a resistant (because abnormal) ring structure, but possessing a normal side chain, may be used to demonstrate how the side chain breaks down. Again, we may sometimes obtain useful information by administering a normal substance in excessive amounts, when certain intermediate products may appear in the excreta. Another most profitable method of experiment is that in which the substance to be studied is submitted to the influence of isolated organs, instead of to that of the whole animal. Under these conditions a series of normal reactions may go on, but with altered relative velocities, so that intermediate products accumulate; or again when, as may happen, the successive changes wrought upon a substance by metabolism occur in different organs of the body, this use of isolated organs enables us to dissect, as it were, the chain of events. Extraordinarily profitable have been the observations made upon individuals suffering from those errors of metabolism which Dr. Garrod calls "metabolic sports, the chemical analogues of structural malformations." In these individuals Nature has taken the first essential step in an experiment by omitting from their chemical structure a special catalyst which at one point in the procession of metabolic chemical events is essential to its continuance. At this point there is arrest, and intermediate products come to light.

As you know, most ingenious use of this ready-made experimental material has added greatly to our knowledge of intermediate metabolism. Admirable use, too, has been made of the somewhat similar conditions presented by diabetes, clinical and experimental. Every day our knowledge of the dynamics of the body grows upon these lines.

I know that the history of all these efforts is familiar to you, but I am concerned to advertise the fact that our problems call for ingenuity of a special sort, and to point out that an equipment in chemical technique alone would not have sufficed for the successful attack which has been made upon them. But I am even more concerned to point out that the direct method of attack has been too much neglected, or has been in the hands of too few—I mean the endeavour to separate from the tissues further examples of the simpler products of metabolic change, no matter how small the amount in which they may be present; an endeavour which ought not to stop at the separation and identification of such substances, but to continue till it has related each one of them to the dynamic series of reactions in which each one is surely playing a part. The earliest attempts at tracing the intermediate processes of metabolism looked for information to the products which accumulate in the tissues, but it seemed to be always tacitly assumed that only those few which are quantitatively prominent could be of importance to the main issues of metabolism. It is obvious, however, upon consideration that the degree to which a substance accummulates is by itself no measure of its metabolic importance; no proof as to whether it is on some main line of change, or a stage in a quantitatively unimportant chemical by-path. For, if one substance be changing into another through a series of intermediate products, then, as soon as dynamical equilibrium has been established in the series, and to such equilibrium tissue processes always tend, the rate of production of any one intermediate product must

be equal to the rate at which it changes into the next, and so throughout the series. Else individual intermediate products would accummulate or disappear, and the equilibrium be upset. Now the rate of chemical change in a substance is the product of its efficient concentration and the velocity constant of the particular reaction it is undergoing. Thus the relative concentration of each intermediate substance sharing in the dynamic equilibrium, or, in other words, the amount in which we shall find it at any moment in the tissue, will be inversely proportional to the velocity of the reaction which alters it. But the successive velocity constants in a series of reactions may vary greatly, and the relative accumulation of the different intermediate products must vary in the same degree. It is certain that in the tissues very few of such products accumulate in any save very small amount, but the amount of a product found is only really of significance if we are concerned with any function which it may possibly possess. It is of no significance as a measure of the quantitative importance of the dynamical events which give rise to it.

To take an instance. The substance creatin has always asserted itself in our conceptions concerning nitrogenous metabolism because of the large amount in which it is found in the muscle. It may be of importance *per se*, and abnormalities in its fate are certainly important as an indication of abnormalities in metabolism, but we must remember that the work of Gulewitsch, Krimberg, Kutscher, and others has shown us that a great number of nitrogenous basic bodies exist in muscle in minute amounts. Maybe we shall need to know about each of these all that we now know, or are laboriously trying to know, about creatin, before the dynamics of basic nitrogen in muscle become clear. Fortunately for the experimenter, most of the raw materials required for tissue analysis are easily obtainable; there is no reason save that of the labour involved why we should not work upon a ton of muscle or a ton of gland tissue.

I am certain that the search for tissue products of simple constitution has important rewards awaiting it in the future, so long as physiologists are alive to the dynamical significence of all of them. Such work is laborious and calls for special instincts in the choice of analytical method, but, as I mentioned in an earlier part of this address, I am sure that high qualifications as an analyst should be part of the equipment of a biological chemist.

Modern Work upon Intermediate Metabolism: the Amino-Acids.

We know that the first change suffered by an α-amino-acid when it enters the metabolic laboratories is the loss of its amino group; and, thanks to the labours of Knoop, Neubauer, Embden, Dakin, and others, we have substantial information concerning the mechanism of this change. The process involved in the removal of the amino group is not a simple reduction, which would yield a fatty acid, or substituted fatty acid, nor a hydrolytic removal which would leave an α-hydroxy-acid; but the much less to be expected process of an oxidative removal, which results in the production of a keto-acid. If the direct evidence for this chemically most interesting primary change were to be held insufficient (though there is no insufficiency about it) its physiological reality is strongly supported by the proof given us by Knoop and Embden that the liver can resynthesize the original amino-acid from ammonia and the corresponding keto-acid. This profoundly significant observation is part of the evidence which is continually accumulating to show that all normal chemical processes of the body can suffer reversal. The next step in the breakdown involves the oxidation of the keto-acid, with the production of a fatty acid containing one carbon less than the original amino-acid. This in turn is oxidized to its final products along the lines of the β-oxidation of Knoop, two carbon atoms being removed at each stage of the breakdown. All this is true of the aliphatic α-amino-acids, and, with limitations, of the side chains of their aromatic congeners. In the case of certain amino-acids the course of breakdown passes through the stage of aceto-acetic acid. This happens to those of which the molecule contains the benzene ring, and Dakin has enabled us to picture clearly the path of change which involves the opening of the ring. This particular stage does not seem to occur in the breakdown of the aliphatic amino-acids, save in the case of leucin; the rule and the exception here being alike easy of explanation by considerations of molecular structure.

But direct breakdown on the lines mentioned is far from being the only fate of individual amino-acids in the body. The work of Lusk, completed by that of Dakin, has shown us that of seventeen amino-acids derived from protein no less than nine may individually yield glucose in the diabetic organism, and there are excellent grounds for believing (indeed, there is no doubt) that they do the same to a duly regulated extent in the normal organism. The remainder have been shown not to yield sugar, and there is therefore a most interesting contrast in the fate of two groups of the protein *Bausteine*. Those which yield sugar do not yield aceto-acetic acid, and those which yield the latter are not glycogenic. One set, after undergoing significant preliminary changes, seems to join the carbohydrate path of metabolism, the other set ultimately joins a penultimate stage in the path which is traversed by fats.

I will here venture to leave for one moment the firm ground of facts experimentally ascertained. Unexplored experimentally, but quite certain so far as their existence is concerned, are yet other metabolic paths of prime importance, along which individual amino-acids must travel and suffer change. We know now from the results of prolonged feeding experiments upon young growing animals, which I myself, as well as many others, have carried out, that all the nitrogenous tissue complexes, as well as the tissue proteins, can be duly constructed when the diet contains no other source of nitrogen beside the amino-acids of protein. The purin and pyrimidin bases, for instance, present in the nuclear material of cells certainly take origin from particular amino-acids, though we have no right to assume that groups derived from carbohydrates or fats play no part in the necessary syntheses. While recent years have given us a wonderfully clear picture as to how the nucleic acids and the purin bases contained in them break down during metabolism, we have as yet no knowledge of stages in their synthesis. But it is clear that to discover these is a task fully open to modern experimental methods, and, though a difficult problem, it is one ready to hand. Again, in specialized organs substances are made which are of great importance, not to the structure, but to the dynamics of the body. These have become familiar to us under the name of hormones. We know the constitution of one of these only—adrenalin. The molecule of this exemplar has a simple structure of a kind which makes it almost certain to be derived from one of the aromatic amino-acids. It is clearly open to us to discover on what lines it takes origin. Facts of this kind, we may be sure, will form a special chapter of biochemistry in the future. I would like to make a point here quite important to my main contention that metabolism deals with simple molecules. As a pure assumption it is often taught, explicitly or implicitly, that, although the bowel prepares free amino-acids for metabolism, only those which are individually in excess of the contemporary needs of the body for protein are directly diverted to specialized paths of metabolism, and these to the paths of destructive change. All others—all those which are to play a part in the intimacies of metabolism—are supposed to be first reconstructed into protein, and must therefore again be liberated from a complex before entering upon their special paths of change. But there is much more reason (and some experimental grounds) for the belief that the special paths (of which only one leads to the repair or formation of tissue protein) may be entered upon straightway. Mrs. Stanley Gardiner (then Miss Willcock) carried out some feeding experiments a few years ago, and in discussing these I pointed out that they offered evidence of the direct employment for special purposes of individual amino-acids derived as such from the bowel. It seemed at the time that the argument was misunderstood or felt to carry little weight, but later Professor Kossel[1] quoted my remarks with approval and expressed agreement with the view that the *Bausteine* of the food protein must, in certain cases, be used individually and directly.

The chief thing to realize is that as a result of modern research the conception of metabolism in block is, as Garrod puts it, giving place to that of metabolism in

compartments. It is from the behaviour of simple molecules we are learning our most significant lessons.

Now interest in the chemical events such as those we have been dealing with may still be damped by the feeling that, after all, when we go to the centre of things, to the bioplasm, where these processes are initiated and controlled, we shall find a *milieu* so complex that the happenings there, although they comprise the most significant links in the chain of events, must be wholly obscure, when viewed from the standpoint of structural organic chemistry. I would like you to consider how far this is necessarily the case.

The highly complex substances which form the most obvious part of the material of the living cell are relatively stable. Their special characters, and in particular the colloidal condition in which they exist, determine, of course, many of the most fundamental characteristics of the cell; its definite yet mobile structure, its mechanical qualities, including the contractility of the protoplasm, and those other colloidal characters which the modern physical chemist is studying so closely. For the dynamic chemical events which happen within the cell, these colloid complexes yield a special *milieu*, providing, as it were, special apparatus, and an organized laboratory. But in the cell itself, I believe, simple molecules undergo reactions of the kind we have been considering. These reactions, being catalysed by colloidal enzymes, do not occur in a strictly homogeneous medium, but they occur, I would argue, in the aqueous fluids of the cell under just such conditions of solution as obtain when they progress under the influence of enzymes *in vitro*.

There is, I know, a view which, if old, is in one modification or another still current in many quarters. This conceives of the unit of living matter as a definite, if very large and very labile molecule, and conceives of a mass of living matter as consisting of a congregation of such molecules in that definite sense in which a mass of, say, sugar is a congregation of molecules, all like to one another. In my opinion, such a view is as inhibitory to productive thought as it is lacking in basis. It matters little whether in this connexion we speak of a "molecule" or, in order to avoid the fairly obvious misuse of a word, we use the term "biogen," or any similar expression with the same connotation. Especially, I believe, is such a view unfortunate when, as sometimes, it is made to carry the corollary that simple molecules, such as those provided by foodstuffs, only suffer change after they have become in a vague sense a part of such a giant molecule or biogen. Such assumptions became unnecessary as soon as we learnt that a stable substance may exhibit instability after it enters the living cell, not because it loses its chemical identity, and the chemical properties inherent in its own molecular structure, by being built into an unstable complex, but because in the cell it meets with agents (the intracellular enzymes) which catalyse certain reactions of which its molecule is normally capable.

Exactly what sort of material might, in the course of cosmic evolution, have first come to exhibit the elementary characters of living stuff, a question raised in the Presidential Address which so stirred us last year, we do not, of course, know. But it is clear that the living cell as we now know it is not a mass of matter composed of a congregation of like molecules, but a highly differentiated system; the cell, in the modern phraseology of physical chemistry, is a system of co-existing phases of different constitutions. Corresponding to the difference in their constitution, different chemical events may go on contemporaneously in the different phases, though every change in any phase affects the chemical and physico-chemical equilibrium of the whole system. Among these phases are to be reckoned not only the differentiated parts of the bioplasm strictly defined (if we can define it strictly) the macro-nuclei and micro-nuclei, nerve fibres, muscle fibres, etc., but the material which supports the cell structure, and what have been termed the "metaplasmic" constituents of the cell. These last comprise not only the fat droplets, glycogen, starch grains, aleurone grains, and the like, but other deposits not to be demonstrated histologically. They must be held, too—a point which has not been sufficiently insisted upon—to comprise the diverse substances of smaller molecular weight and greater solubility, which are present in the more fluid phases of the system—namely, in the cell juices. It is important to remember that changes in any one of these constituent phases, including the metaplasmic phases, must affect the equilibrium of the whole cell system, and because of this necessary equilibrium-relation it is difficult to say that any one of the constituent phases, such as we find *permanently* present in a living cell, even a metaplasmic phase, is less essential than any other to the "life" of the cell, at least when we view it from the standpoint of metabolism. It is extremely difficult and probably impossible by any treatment of the animal to completely deprive the liver of its glycogen deposits, so long as the liver cells remain alive. Even an extreme variation in the quantity is in the present connexion without significance because, as we know, the equilibrium of a polyphasic system is independent of the mass of any one of the phases; but I am inclined to the bold statement that the integrity of metabolic life of a liver cell is as much dependent on the coexistence of metaplasmic glycogen, however small in amount, as upon the coexistence of the nuclear material itself; so in other cells, if not upon glycogen, at least upon other metaplasmic constituents.

Now we should refuse to speak of the membrane of a cell, or of its glycogen store, as living material. We should not apply the term to the substances dissolved in the cell juice, and, indeed, would hardly apply it to the highly differentiated parts of the bioplasm if we thought of each detail separately. We are probably no more justified in applying it, when we consider it by itself, to what, as the result of microscopic studies, we recognize as "undifferentiated" bioplasm. On ultimate analysis we can hardly speak at all of living matter in the cell; at any rate, we cannot, without gross misuse of terms, speak of the cell life as being associated with any one particular type of molecule. Its life is the expression of a particular dynamic equilibrium which obtains in a polyphasic system. Certain of the phases may be separated, mechanically or otherwise, as when we squeeze out the cell juices, and find that chemical processes still go on in them; but "life," as we instinctively define it, is a property of the cell as a whole, because it depends upon the organization of processes, upon the equilibrium displayed by the totality of the coexisting phases.

I return to my main point. The view I wish to impress upon you is that some of the most important phenomena in the cell, those involving simple reactions of the type which we have been discussing, occur in ordinary crystalloid solution. We are entitled to distinguish fluid (or more fluid) phases in the cell. I always think it helpful in this connexion to think of the least differentiated of animals' cells—to consider, for instance, the amoeba. In this creature a fluid phase comes definitely into view with the appearance of the food vacuole. In this vacuole digestion goes on, and there can be no doubt, from the suggestive experimental evidence available, that a digestive enzyme, and possibly two successive enzymes (a pepsin followed by a trypsin), appear in it. It is now generally admitted that digestion in the amoeba, though intracellular, is metaplasmic. The digestion products appear first of all in simple aqueous solution. Is it not unjustifiable to assume that the next step is a total "assimilation" of the products, a direct building up of all that is produced in the vacuole into the complexes of the cell? If there be any basis for our views concerning the specificity of, say, the tissue proteins, they must apply to the amoeba no less than to the higher animal, and we must picture the building-up of its specific complexes as a selective process. The mixture of amino-acids derived from the proteins of the bacteria or other food eaten by it may be inharmonious with their balance in the amoeba. Some have to be more directly dealt with, by oxidation or otherwise. If the digestive hydrolysis occur outside the complexes, we may most justifiably assume that other preparative processes also occur outside them. We need not think of a visible vacuole as the only seat of such changes. Similar fluid phases in the cell may elude the microscope, and the phenomena would be just as significant if reactions occur in the water imbibed by the colloids of the cell or present in the intramicellar spaces of the bioplasm. It is always important to remember that 75 per cent. of the cell substance consists of water.

All of these considerations we may apply to the tissue cells of the higher animal. To my mind, at least, the

following considerations appeal. It is noteworthy that all the known complexes of the cell—the proteins, the phosphorous complexes, the nucleic acids, etc.—are susceptible to hydrolysis by catalytic agents, which are always present, or potentially present. If the available experimental evidence be honestly appraised, it points to the conclusion that only to hydrolytic processes are the complexes unstable. Under the conditions of the body they are, while intact, resistant to other types of change, their hydrolytic products being much more susceptible. Since hydroclastic agents are present in the cell we must suppose that there is, at any moment, equilibrium between the complexes and their water-soluble hydrolytic products, though the amount of the latter present at any moment may be very small. Now, I think we are entitled to look upon assimilation and dissimilation, when very strictly defined, as being dependent upon changes in this equilibrium alone. They are processes of condensation and hydrolysis respectively. Substances which are foreign to the normal constitution of the complexes—and these comprise not only strictly extraneous substances, but material for assimilation not yet ready for direct condensation, or metabolites which are no longer simple hydrolytic products—do not enter or re-enter the complexes. They suffer change within the cell, but not as part of the complexes. When, for instance, a supply of amino-acids transferred from the gut reaches the tissue cell, they may be in excess of the contemporary limits of assimilation; or, once more, individual acids may not be present in the harmonious proportion required to form the specific proteins in the cell. Are we to suppose that all nevertheless become an integral part of the complexes before the harmony is by some mysterious means adjusted? I think rather that the normality of the cell proteins is maintained by processes which precede actual condensation or assimilation. Conversely, when the cell balance sets towards dissimilation, the amino-acids liberated by hydrolysis suffer further change outside the complexes. So when a foreign substance, say benzoic acid, enters the cell, we have no evidence, experimental or other, to suggest that such a body ever becomes an integral part of the complexes. Rather does it suffer its conjugation with glycine in the fluids of the cell. So also with cases of specific chemical manufacture in organs. When, for instance, adrenalin—a simple, definite crystalline body—appears in the cells of the gland which prepares it, are we to suppose that its molecule emerges in some way ready-made from the protein complexes of the gland, rather than that a precursor derived from a normal hydrolytic product of these proteins or from the food supply is converted into adrenalin by reactions of a comprehensible kind, occurring in aqueous solution, and involving simple molecules throughout? While referring to adrenalin, I may comment upon the fact that the extraordinarily wide influence now attributed to that substance is a striking illustration of the importance of simple molecules in the dynamics of the body.

It should be, of course, understood—though the consideration does not affect the essential significance of the views I am advancing—that the isolation of reactions in particular phases of the cell is only relative. I have before emphasized the point that the equilibrium of the whole system must, to a greater or less degree, be affected by a change in any one phase. A happening of any kind in the fluid phases must affect the chemical equilibrium and, no less, the physico-chemical equilibrium, between them and the complexes or less fluid phases. A drug may have an "action" on a cell, even though it remain in solution, and it may have a specific action because its molecular constitution leads it to intrude into, and modify the course of, some one, rather than any other, of the numerous simple chemical reactions proceeding in the cells of different tissues.

Specific Catalysts.

But I must now turn from consideration of the reactions themselves to that of their direction and control. It is clear that a special feature of the living cell is the organization of chemical events within it. So long as we are content to conceive of all happenings as occurring within a biogen or living molecule all directive power can be attributed in some vague sense to its quite special properties.

But the last fifteen years have seen grow up a doctrine of a quite different sort, which, while it has difficulties of its own, has the supreme merit of possessing an experimental basis and of encouraging by its very nature further experimental work. I mean the conception that each chemical reaction within the cell is directed and controlled by a specific catalyst.

Considering the preparation made for it by the early teaching of individual biologists, prominent among whom was Moritz Traube, it is remarkable that belief in the endo-enzyme as a universal agent of the cell was so slow to establish itself, though in the absence of abundant experimental proof scepticism was doubtless justified. So long as the ferments demonstrated as being normally attached to the cell were only those with hydroclastic properties, such as were already familiar in the case of secreted digestive ferments, the imagination was not stirred. Only with Buchner's discovery of zymase and cell-free alcoholic fermentation did the faith begin to grow.

Remembering, however, the great multiplicity of the reactions which occur in the animal body, and remembering the narrow specificity in the range of action of an individual enzyme, we may be tempted to pause on contemplating the myriad nature of the army of enzymes that seems called for. But before judging upon the matter the mind should be prepared by a full perusal of the experimental evidence. We must call to mind the phenomena of autolysis and all the details into which they have been followed; the specificity of the proteolytic ferments concerned, and especially the evidence obtained by Abderhalden and others, that tissues contain numerous enzymes, of which some act upon only one type of polypeptide, and some specifically on other polypeptides. We must remember the intracellular enzymes that split the phosphorous complexes of the cell; the lipases, the amylases, and the highly specific invert ferments, each adjusted to the hydrolysis of a particular sugar. We have also to think of a large group of enzymes acting specifically upon other substances of simple constitution, such as the arginase of Kossel and Dakin, the enzyme recently described by Dakin, which acts with great potency in converting pyruvic aldehyde into lactic acid, and many others. Nothing could produce a firmer belief in the reality and importance of the specialized enzymes of the tissues than a personal repetition of the experiments of Walter Jones, Schittenhelm, Wiechowski, and others, upon the agents involved in the breakdown of nucleic acids; each step in the elaborate process involves a separate catalyst. In this region of metabolism alone a small army of independent enzymes is known to play a part, each individual being of proven specificity. The final stages of the process involve oxidations which stop short at the stage of uric acid in man, but proceed to that of allantoin in most animals. It is very instructive to observe the clean, complete oxidation of uric acid to allantoin, which can be induced *in vitro* under the influence of Wiechowski's preparations of the uric acid oxidase, especially if one recalls at the same time, in proof of its physiological significance, that this oxidase, though always present in the tissues of animals, which excrete allantoin, is absent from those of man, who does not.

I will not trouble you with further examples. We have arrived, indeed, at a stage when, with a huge array of examples before us, it is logical to conclude that all metabolic tissue reactions are catalysed by enzymes, and, knowing the general properties of these, we have every right to conclude that all reactions may be so catalysed in the synthetic as well as in the opposite sense. If we are astonished at the vast array of specific catalysts which must be present in the tissues, there are other facts which increase the complexity of things. Evidence continues to accumulate from the biological side to show that, as a matter of fact, the living cell can acquire *de novo*, as the result of special stimulation, new catalytic agents previously foreign to its organization.

It is certain, from very numerous studies made upon the lower organisms, and especially upon bacteria, that the cell may acquire new chemical powers when made to depend upon an unaccustomed nutritive medium. I must be content to quote a single instance out of many. Twort has shown that certain bacteria of the *coli-typhosus* group can be trained to split sugars and alcohols which originally they could not split at all. A strain of

B. typhosus which after being grown upon a medium containing dulcite had acquired the power of splitting this substance, retained it permanently, even after passage through the body of the guinea-pig, and cultivation upon a dulcite-free medium. Similar observations have been made upon the Continent by Massini and Burri; the latter showed by ingenious experiments that all the individuals of a race which acquires such a new property have the same potency for acquiring it. No one, at the present time, will deny that the appearance of a new enzyme is involved in this adjustment of the cell to a new nutritive medium.

We have not, it is true, so much evidence for similar phenomena in the case of the higher animals. The milk-sugar splitting ferment may be absent from the gut epithelium before birth, and in some animals may disappear again after the period of suckling, but here we probably have to do with some simple alternation of latency and activization. But among the "protective" ferments studied by Abderhalden we have, perhaps, cases in which specific individuals appear *de novo* as the result of injecting foreign proteins, etc., into the circulation. Consider, moreover, the case of the reactions called out by simpler substances. We have seen that an enzyme separable from the kidney tissue can catalyse the synthesis no less than the breakdown of hippuric acid. Now the cells of the mammalian kidney have always had to deal with benzoic acid or chemical precursors of benzoic acid, and the presence of a specific enzyme related to it is not surprising. But living cells are not likely to have ever been in contact with, say, bromo-benzol, until the substance was administered to animals experimentally. Yet a definite reaction at once proceeds when that substance is introduced into the body. It is linked up, as we have seen, with cystein. Now, this reaction is not one which would proceed in the body uncatalysed; if it be catalysed by an enzyme, all that we know about the specificity of such agents would suggest that a new one must appear for the purpose. I have allowed myself to go beyond ascertained facts in dealing with this last point. But once we have granted that specific enzymes are real agents in the cell, controlling a great number of reactions, I can see no logical reason for supposing that a different class of mechanism can be concerned with any particular reaction.

If we are entitled to conceive of so large a part of the chemical dynamics of the cell as comprising simple metaplasmic reactions catalysed by independent specific enzymes, it is certain that our pure chemical studies of the happenings in tissue extracts, expressed cell juices, and the like, gain enormously in meaning and significance. We make a real step forward when we escape from the vagueness which attaches to the "bioplasmic molecule" considered as the seat of all change. But I am not so foolish as to urge that the step is one towards obvious simplicity in our views concerning the cell. For what, indeed, are we to think of a chemical system in which so great an array of distinct catalysing agents is present or potentially present; a system, I would add, which when disturbed by the entry of a foreign substance regains its equilibrium through the agency of new-born catalysts adjusted to entirely new reactions? Here seems justification enough for the vitalistic view that events in the living cell are determined by final as well as by proximate causes, that its constitution has reference to the future as well as the past. But how can we conceive that any event called forth in any system by the entry of a simple molecule, an event related qualitatively to the structure of that molecule, can be of other than a chemical nature? The very complexity, therefore, which is apparent in the catalytic phenomena of the cell to my mind indicates that we must have here a case of what Henri Poincaré has called *la simplicité cachée*.

It must not be supposed that I am blind to the fact that the phenomena of the cell present a side to which the considerations I have put before you do not apply. Paul Ehrlich, in his recent illuminating address to the International Congress of Medicine, remarked that if, in chemistry, it be true that *Corpora non agunt nisi liquida*, then, in chemiotherapy, it is no less true that *Corpora non agunt nisi fixata*. Whatever precisely may be involved in the important principle of "fixation" as applied to drug actions, it remains, I think, true that the older adage applies to the dynamic *reactions* which occur in the living cell. But there are doubtless dynamic phenomena in which the cell complexes play a prominent part. The whole of our doctrine concerning the reaction of the body to the toxins of disease is based upon the fact that when the cell is invaded by complexes other than those normal to it, its own complexes become involved. I must not attempt to deal with these phenomena, but rather proceed to my closing remarks. I would like, however, just to express the hope that the chemist will recognize their theoretical importance. He will not, indeed, be surprised at the oligo-dynamic aspects of the phenomena, startling as they are. When physico-chemical factors enter into a phenomenon the influence of an infinitely small amount of material may always be expected. It is a fact, for instance, as Dr. W. H. Mills reminds me, that when a substance crystallizes in more than one form it may be quite impossible to obtain the less stable forms of its crystals in any laboratory which has been "infected" with the more stable form, even though this infection has been produced by quite ordinary manipulations dealing with the latter. Here, certainly, is a case in which the influence of the infinitesimal is before us. But what I feel should arrest the interest of the chemist is the remarkable mingling of the general with the particular which phenomena like those of immunity display. In the relations which obtain between toxin and antitoxin, for example, we find that physico-chemical factors predominate, and yet they are associated to a high degree with the character of specificity. The colloid state of matter, as such, and the properties of surface determine many of the characteristics of such reactions, yet the chemical aspect is always to the front. Combinations are observed which do not seem to be chemical compounds, but rather associations by adsorption; yet the mutual relations between the interacting complexes are in the highest degree discriminative and specific. The chemical factor in adsorption phenomena has, of course, been recognized elsewhere; but in biology it is particularly striking. Theoretical chemistry must hasten to take account of it. The modern developments in the study of valency probably constitute a step in this direction.

It is clear to every one that the physical chemist is playing, and will continue to play, a most important part in the investigation of biological phenomena. We need, I think, have no doubt that in this country he will turn to our problems, for the kind of work he has to do seems to suit our national tastes and talents, and the biologist just now is much alive to the value of his results. But I rather feel that the organic chemist needs more wooing and gets less, though I am sure that his aid is equally necessary. In connexion with most biological problems physical and organic chemists have clearly defined tasks. To take one instance: In muscle phenomena it is becoming every day clearer that the mechanico-motor properties of the tissue, its changes of tension, its contraction and relaxation, depend upon physico-chemical phenomena associated with its colloidal complexes and its intimate structure. Changes in hydrogen-ion concentration and in the concentration of electrolytes generally, by acting upon surfaces or by upsetting osmotic equilibria, seem to be the determining causes of muscular movement. Yet the energy of the muscle is continuously supplied by the progress of organic reactions, and for a full understanding of events we need to know every detail of their course. Here, then, as everywhere else, is the need for the organic chemist.

But I would urge upon any young chemist who thinks of occupying himself with biological problems the necessity for submitting for a year or two to a second discipline. If he merely migrate to a biological institute, prepared to determine the constitution of new products from the animal and study their reactions *in vitro*, he will be a very useful and acceptable person, but he will not become a biochemist. We want to learn how reactions run in the organism, and there is abundant evidence to show how little a mere knowledge of the constitution of substances, and a consideration of laboratory possibilities, can help on such knowledge. The animal body usually does the unexpected.

REFERENCE.

[1] *Johns Hopkins Hospital Bulletin*, March, 1912.

Presidential Addresses

TO THE

BRANCHES OF THE BRITISH MEDICAL ASSOCIATION.

STAFFORDSHIRE BRANCH.

ABDOMINAL SURGERY.

By W. F. CHOLMELEY, F.R.C.S.,

Honorary Surgeon and Gynaecologist to the Wolverhampton General Hospital.

Gentlemen,—I think no one will deny that during the past twenty years more progress has been made in abdominal surgery than in any other branch of the surgeon's art. The names of those to whom this is due I will not attempt to give, as I should be unable to remember all, and gaps would be left which you all would be longing to fill.

I well remember the condition of abdominal surgery when I first came to Wolverhampton as Senior House-Surgeon to the General Hospital, a few months short of twenty years ago. To open an abdomen then was considered an operation of the greatest severity, entailing the utmost risk to the patient, and not to be done if by any means it could be avoided.

The number of abdominal operations the year I came was 24; only 9 of them were for acute disease. The number of abdominal operations last year at the hospital was 300, one-third of these for acute diseases. I do not include in these numbers any operation for hernia; they would add another 250.

We know now that the peritoneum is a part of the body most able to resist the action of pathogenic organisms, and that the mere opening and closing of the abdomen is almost one of the safest operations, and can be done with impunity by any surgeon who thoroughly understands and practises the technique of surgical cleanliness.

But (and this is a very important but) fortunately for some patients, and unfortunately for others, and luckily, perhaps, for the abdominal surgeon, these operations rarely end in simply opening and closing, for even with our increased knowledge of abdominal diseases and improved methods of diagnosis, it must be acknowledged that in a large number of cases, more especially acute ones, we are unable to diagnose the condition until the abdomen is opened, and not always then. So that there must be a great risk in any surgeon beginning one of this class of operations, unless he is prepared and feels able to tackle anything that may have to be done.

It is in these cases that the operator may suddenly be faced by a condition that will call upon him to use all his resources to bring the operation to a successful termination, not only as far as the operation itself is concerned, but, what is more important, with due regard to the future welfare of the patient.

The uncertainty of what you are likely to find is, I think, one of the chief fascinations of abdominal surgery. Operations in which you know practically to a certainty what you will find, and can map out beforehand at your leisure what you will have to do, tend to become monotonous. The unexpected is always happening in the class of cases to which I am referring. They often develop into a contest between the operator and the diseased condition. What satisfaction one feels in winning after a hard struggle, and how hard it is sometimes to have to admit even only a partial defeat. This seems to me to make abdominal operations so fascinating. The abdomen also supplies, of course, an enormous field for the exercise of the operator's skill.

These operations require the surgeon to possess many important qualities, the chief of which are, I think: The knowledge of when to operate; rapidity of operating; deftness and delicacy of touch; coolness; quick decision; the knowledge of when to stop and when to continue.

When to Operate.

This can only be learnt by experience, and is a subject which would supply enough material for a very long address. But in some abdominal cases, generally acute ones, there often seems to be a something besides the classical signs and symptoms, something of an indefinite character, that cannot be put into words, which decides one to operate at once on a case that at first sight does not appear to be seriously ill, or requiring an immediate operation, but turns out to be very much worse than was expected.

Take, for instance, the following case: A man had a history of appendicitis lasting for four days. He had some slight pain in the lower part of the abdomen, equal on both sides, no lump could be felt abdominally or per rectum, and there was no definite rigidity. Temperature and pulse were normal, his tongue was dry and dirty. I operated, and found a large appendix hanging down into the pelvis, hardly any adhesions round it, and gangrenous in its entire length, the sloughing spreading into its mesentery. The man did not appear at all ill, but in another twelve hours that appendix would have ruptured into the general peritoneal cavity. One operates sometimes because one somehow does not like the look of the patient.

Rapidity.

This is of more importance in acute cases. In these the patients, as a rule, are suffering already from considerable shock, and a prolonged abdominal operation of itself is liable to cause a good deal of collapse, especially if there is much handling or exposure of the abdominal contents. The latter is also true of non-acute cases.

Deftness and Delicacy of Touch.

This is of more importance than the last. The peritoneum, though able to resist to an extraordinary extent the attacks of pathogenic organisms, is a very delicate membrane, and is very easily bruised. Manipulation of the abdominal contents is a prolific cause of shock, which will of course be deeper, and appear sooner, the more rough is the handling of them. Owing to this easy bruising, an operation may appear to have been carried to a most successful conclusion, but the after-results are far from satisfactory. The reason for this is that the surgeon had bruised the peritoneum by his manipulations, and so caused extensive adhesions. What surgeon has not seen such adhesions form after an exploratory operation which has entailed considerable amount of manipulation, but has not been followed by any septic trouble, while quite insignificant ones form (or none at all) after such a thing as a perforating gastric ulcer. Within the last few weeks I have seen a case which had had two attacks of perforating gastric ulcer, and on operating again for a recurrence of the symptoms of gastric ulceration, I found only a few small adhesions hardly worthy of the name, while in a case explored for symptoms like biliary colic, no stones being found, but a considerable amount of manipulation done to find the cause of the symptoms, on exploring again for a recurrence of the symptoms, I found the upper part of the abdomen a mass of very tough adhesions. These were caused, I have not the slightest doubt, by the handling of the abdominal contents at the first operation.

The abdominal operator must cultivate to the highest degree his sense of touch, as so many diagnoses have to be made, and many manipulations are required to be carried out without the aid of vision. Extensive adhesions in awkward places have to be separated by the fingers alone, without any help from sight, and it is only by cultivating his sense of touch that the operator can tell that he is not tearing some important viscus, such as bowel. I have often wished most fervently that I had a spare eye at the tip of my finger. Deftness and delicacy of touch is also of course necessary when the suturing of any of the abdominal contents is required.

Coolness.

The abdominal surgeon, to be successful, must be devoid of operating nerves and never flurried. During his operations he may at any time be suddenly confronted by some startling occurrence which needs immediate treatment; this must be carried out with the utmost rapidity to save the patient's life, and with extreme gentleness so as not to injure some important parts. Such an occurrence as severe haemorrhage from the region of the portal vein, or deep in the pelvis, such as one may meet with in cases of extrauterine fetation. To the surgeon with (shall I say)

a temperament these would be occurrences liable to make him lose his head—a fatal complication in abdominal surgery.

Quick Decision.

More necessary in acute cases, when a delay of a few minutes may mean a fatal issue or indecision entail a considerable amount of unnecessary handling of abdominal contents, causing extra shock.

When to Stop and When to Continue.

The school of experience is the only place where this knowledge can be obtained. There is so much fascination about a difficult abdominal operation that it is sometimes very hard to have to stop and acknowledge even a partial defeat and be content with what may seem a very incomplete operation. It is also sometimes difficult to stop at what is only absolutely necessary for the immediate occasion, and refrain from putting on the finishing touches, occasionally finishing in a way we had not bargained for. A brilliant operation, but the patient died almost immediately after. In some abdominal operations a little longer search might discover the origin of the trouble and permit of its removal. (See Case 16.) These remarks, very incomplete, have suggested themselves to me on looking through the notes of abdominal cases under my care during the last three or four years. I have come across a few which I hope will be of interest, some of them illustrating the uncertainty of what one may find and some of the difficulties one is liable to get into. I have classified these under three heads:

Cases with Acute Symptoms, Operated on After Trial of Peaceful Means.

Case 1.

Male, aged 32. Two days before admission, at midday, patient felt a sudden pain below the ribs on the left side. He left work, went home to bed, and vomited three times. The next day the pain was better, but he vomited several times. The morning of admission into the hospital the bowels acted frequently, but the pain became worse. He complained on admission of general abdominal pain, chiefly below the ribs on the left side. Tongue dry and furred, no dullness, slight distension, no lump to be felt abdominally or per rectum; urine and chest normal. The patient got worse, the abdomen began to get very distended, and the umbilicus to be stretched, so I explored. Nothing definite was found; there were no signs of any inflammatory condition of the intestines or peritoneum, and no definite cause of obstruction. It was noticed that in many places along the coils of small intestine there would suddenly appear narrow constrictions, as if a cord had been tied tightly round. This constriction did not move along the gut as an ordinary peristalsis, but remained at the one spot for a short time and then disappeared. The patient's progress was not very satisfactory for a few days; the abdomen remained somewhat distended, the tongue furred and dry, and the skin of the face had an earthy appearance. This passed off eventually, and the man went out quite recovered.

Case 2.

Male, aged 34. Was transferred from the medical wards. He had had a distended abdomen for four months, with occasional attacks of diarrhoea. No vomiting, no melaena, no pain, tenderness, or increased peristalsis, no tumour to be felt. The abdomen was very enlarged and tympanitic. Everything possible had been tried in the medical wards to reduce the distension, but without any result. During the administration of the anaesthetic it was noticed that the distension disappeared to a large extent, and on opening the abdomen nothing abnormal was found. The distension recurred once or twice after the operation while still in the wards, but on the whole he was improved, the abdomen being nearly the normal size when discharged from the hospital. While attending as an out-patient the distension recurred.

Case 3.

Male, aged 33. During the last two years the patient had had alternating attacks of diarrhoea and constipation. During the last six weeks he has not been able to work, has lost weight, and has no appetite. The man was slightly jaundiced, and looked ill. Abdomen distended and tympanitic all over. He complained of pain all over the abdomen, but chiefly in the lower part. The vomit was described by his doctor as faecal. On opening the abdomen nothing was found to account for his symptoms, except some scybalous masses in the colon. No more vomiting occurred after the operation, and his bowels opened quite regularly. The patient improved considerably and went out of the hospital apparently quite well.

Case 4.

Female, aged 6 years. Had had a long attack of acute abdominal pain with vomiting. The symptoms had been much worse for the last two days. Bowels opened after an enema, but the vomiting continued. The child looked very ill, face thin and pinched, tongue dry and furred, abdomen retracted, no free fluid, nothing abnormal palpable, some dullness below the umbilicus, general abdominal tenderness. Bladder empty, nothing abnormal felt per rectum. Pulse 158, temperature 101°. The child had the look of a bad peritonitis from such a thing as a perforating appendix. On operating nothing abnormal was found. The child slowly improved after the operation, and in about a month was perfectly well.

Case 5.

Male, aged 19, came under my care with symptoms of intestinal obstruction. The attack had begun with acute pain in the epigastrium, vomiting, and absolute constipation. The abdomen was only slightly distended, no lump could be felt, and there was not much tenderness. As it was impossible to get the bowels to act and the patient seemed to be getting worse, I decided to explore, although I was doubtful of finding anything. I opened the abdomen and found nothing to account for his symptoms. The next day the bowels opened quite naturally and continued to do so. After some days the epigastrium began to swell and the case developed into one of a pancreatic cyst. The acute attack had evidently been caused by the cyst rupturing into the lesser sac of the peritoneum. The full notes of this case were published in the *Lancet* for February 22nd, 1913.

Cases Proving to be Quite Different from what was Expected.

Case 6.

Female, aged 36. Was admitted into the medical wards as one of appendicitis. A fortnight before admission there had been an attack of acute abdominal pain in the epigastrium, which was thought to be biliary colic. The attack recurred, but the pain was nearer the region of the appendix. I saw the case while in the medical wards, and beyond some very slight tenderness in the right iliac fossa and marked distension of the caecum, nothing abnormal could be found. I suggested that the case was one of constipation, and, as she had mitral disease, advised waiting. Within a few days she had an attack of scarlet fever, and I did not see her again for about four weeks. She then had a definite tumour in the right iliac region, and had further attacks of pain. I suggested waiting, if possible, until she was free from the scarlet fever. Three weeks later I opened the abdomen, expecting to find a diseased appendix. It was quite normal, but a large tumour filled the pelvis, quite unconnected with the appendix. On examination, the tumour was found to be an extrauterine fetation, the fetus being about a three-months' size, and, from the amount of bleeding, did not appear to have been long dead. The correct diagnosis might have been made, but the patient was a single woman, a domestic servant of supposed unimpeachable character, and she persisted in stating that her menstruation had all along been quite regular. This we afterwards found was not a fact.

Case 7.

Female, aged 20. Six weeks before I saw this case she had been operated on at Manchester for an appendix abscess which was still discharging. She complained of very little besides soreness in the region of the appendix wound. The next time she was seen was a fortnight later, when she complained of a good deal of abdominal pain. The sinus had healed, and there was some distension of the lower part of the abdomen, which was rather rigid and tender. I looked upon it as a case of appendix abscess which was not draining properly, and expected to find a collection of pus at the bottom of the old sinus. Much to my surprise I found that the sinus only went in a very little way, and not in the direction of the pelvis. I then opened in the middle line, and found the lower abdomen a mass of tough adhesions. On carefully separating these I came on small collections of clear fluid and one of pus among the intestines. The pelvis was filled by two collections of fetid pus, which, from the way the abscess walls peeled out, and from their position, I

had no doubt were two suppurating broad ligament cysts. Her convalescence was rather prolonged, the old appendix wound refusing to heal up.

This was an apparently very simple case proving to be very complicated and difficult.

Case 8.

Male, aged 73. During the past four months he had had troublesome diarrhoea, no constipation or vomiting, but a considerable amount of abdominal pain and rectal tenderness. Has become much thinner: for three weeks there has been some dysuria; no blood or mucus per rectum. The man was wasted, tongue dry and furred, abdomen distended, no visible peristalsis, some pain in left iliac fossa, where an indefinite lump could be felt; rectum ballooned; no blood or mucus on finger. By the sigmoidoscope ulceration of the sigmoid was seen. Considered to be a case of malignant sigmoid.

An incision was made in the left iliac fossa over the indefinite lump. A piece of enormously distended gut presented, and in attempting to bring it outside to examine the gut gave way, a large hole being torn. I decided to remove this, but I discovered that the whole sigmoid and descending colon was strictured, and the mass was an enormously distended pouch of the sigmoid. The gut below this pouch was ulcerated and the ulceration extended into the beginning of the transverse colon, the gut being very rotten. There was nothing to do but to excise the sigmoid and descending colon and part of the transverse colon. A Paul's tube was fastened into the upper end, which was also partially attached to the upper end of the rectum. The patient stood the operation well, but suddenly collapsed later, and died the day after the operation. This was a case in which one was forced to do more than one wanted, with the expected result in a patient of his age.

Case 9.

Male, aged 38. This case was sent to me as one of acute intestinal obstruction. There was a week's history of acute abdominal pain and severe vomiting. The patient was very collapsed, sweating profusely, exceedingly tender in the epigastrium, which was rather distended. Pulse rapid and temperature raised. I thought that it might be a case of subphrenic abcess. On opening the abdomen, a good deal of free fluid was found, the gall bladder was not distended, and no gall stones could be felt, but the wall of the gall bladder was very thickened and oedematous, quite a quarter of an inch thick. Thinking that it might after all be a case of cholecystitis I drained the gall bladder. The patient got gradually weaker, the epigastric pain continued, and he died about forty-eight hours after the operation. The *post-mortem* examination showed cirrhosis of the liver and very cirrhotic kidneys.

Case 10.

Male, aged 2¾ years. There was history of abdominal pain for some time and gradual enlargement. The pain became more acute two days before I saw the case, and was attended by vomiting. Sent to me as intestinal obstruction; when I saw the case it did not appear to be a case of that sort. The abdomen was very distended and tympanitic; some free fluid; nothing abnormal felt; temperature 101.8.

In a day or two, the distension partially subsiding, some lumps could be felt in different parts of the abdomen, and the case was thought to be one of tuberculous mesenteric glands. The child did not improve, so I decided to explore. On opening the abdomen I found the whole peritoneum, visceral as well as parietal, except the great omentum, very oedematous, while the entire mesentery felt as if it was the seat of solid oedema, being in some places nearly an inch thick. There was no tubercle. Gut generally not thickened. The patient got gradually weaker and the abdomen more distended, and died a month after the operation. *Post mortem* there was still the enormous thickening of the whole mesentery, together with a mass in the walls of one part of the ileum. There were new growths in the capsule of the kidneys, in the portal fissure, and spleen, also on the thoracic surface of the diaphragm. No growths were found in the lungs.

Report.—Sarcoma of small intestine with secondary deposits in mesentery and other places.

INTERESTING CASES IN WHICH THE DIAGNOSIS WAS CORRECT, OR NEARLY SO.

Case 12.

Female, aged 16. Was quite well until two days ago, when she was seized with acute pain in the abdomen, accompanied by vomiting. The vomiting continued all day, and when I saw her the vomiting was distinctly faecal. Her bowels had opened two days before, and slightly after an enema the next day. No history of previous abdominal trouble could be obtained. She looked very ill. Tongue dry and furred, pulse 108, temperature 99°. The abdomen was slightly distended, moved on respiration, not very tender, dullness in both flanks, and impaired note over pubes. No tumour felt. Per rectum, an ill-defined mass in Douglas's pouch.

I operated at once, found a good deal of free fluid, and the intestine acutely inflamed and covered with tubercles, as also was the parietal peritoneum. The gut appeared to be covered with velvety granulations, which bled so profusely at the slightest touch that much could not be done. There were several adhesions in the pelvis, causing the gut to be kinked in many places. As many of these as possible were broken down, profuse haemorrhage preventing me doing much. The abdomen was closed and a gauze drain inserted. The patient made an uninterrupted recovery.

Case 13.

Male, aged 28. Ten days before was operated on for supposed appendix trouble. A large mass of tubercle was found involving the appendix and caecum. General tuberculous peritonitis. Operation seemed to very much improve the patient.

The present attack began with sudden acute pain in the abdomen, with vomiting and collapse. On opening the abdomen peritonitis was found with the contents of intestine in the cavity. A perforation of the ileum was found and sutured. The patient did not rally. *Post mortem* the perforation found to be at the base of a tuberculous ulcer. A perforating tuberculous ulcer of intestine, causing general peritonitis, is not at all common.

Case 14.

Male, aged 4. For four days before admission he had had abdominal pain, with vomiting, which became gradually worse. Constipation, but not obstruction. The child had general abdominal pain and tenderness, more at the umbilicus; no rigidity or distension. The child looked very ill indeed, very much like a general peritonitis from a perforation. Temperature 97°, pulse 180. Although the child was so very bad, I was not satisfied that there was any abdominal condition that operation could improve, so I waited. The condition remained about the same, with an occasional improvement; but he got gradually worse, and died four days after I saw him. *Post mortem* there was no evidence of peritonitis or enteritis, except a few red patches at the lower end of the ileum. Liver large and fatty, kidneys pale and fatty, spleen normal, pancreas firm and gritty; urine collected from the bladder contained acetone, no sugar.

Case 15.

Female, age 39. She gave a four days' history of an ordinary appendicitis. A mass was found in the right iliac fossa, where there was rigidity and tenderness. I made an incision over the swelling, found the appendix normal, and that the mass was situated at the junction of the caecum and ascending colon. It was very hard, and seemed to be spreading into the mesocolon, and was thought malignant. I excised the caecum, joining the gut by two end-to-end continuous sutures.

On examining the apparent growth, the first thing that appeared was a concretion like those found in the appendix, so I thought that I had been mistaken after all, especially as I could pass a probe from the situation of the concretion into the caecum, and on opening the caecum the mucous membrane appeared to be normal. I was afraid that I had unjustifiably removed the caecum. On closer examination I was much relieved to find that the appendix was normal, and that the concretion lay in a long, narrow canal in connexion with the inside of the caecum. It lay, as a matter of fact, in the mesentery of the caecum, and had nearly made its way into the peritoneal cavity. There was a small ulcer in the caecum to mark where the narrow canal began. The patient made a perfect recovery. This was evidently a case of diverticulum of the caecum.

Case 16.

A male, aged 28, gave a history of two days' illness with vomiting. When I saw him he evidently had general peritonitis—most probably purulent—from an appendix. Immediate operation was done, and on opening the abdomen a quantity of foul pus came out, and the appendix was found to be normal. I was certain that there must be some cause in the abdomen for the condition, and that it was not a case of far advanced pneumococcal peritonitis. The pus was not like one, so I examined the pelvic contents, and there found a gangrenous perforated Meckel's

diverticulum. The patient did very well. The chief point of interest is the fact that the opening from the diverticulum into the bowel was large enough for one's little finger to pass through, so that it must have been simple stasis of the contents that started the inflammation; there was no kinking. The patient made an excellent recovery.

Case 17.

Female, aged 35. She gave a long history of attacks of abdominal colic accompanied by vomiting. When I first saw her it was for a strangulated right femoral hernia. She had had a lump there some time, and I hoped that that had been the cause of her frequent attacks of colic. She was much better for a fortnight after the operation, but she then began to get pain in her abdomen, followed in a few days by a very bad attack of colic and signs of intestinal obstruction. I saw her again, and there was no doubt about the obstruction. It was not complete, as I could feel the intestinal contents being squeezed through the constriction. I advised operation, but as she felt better that day it was refused. She got worse, however, and I opened the abdomen and found a very tight stricture of the small intestine. It was very difficult to get at, as it was fixed so firmly to the abdominal wall that the adhesions had to be cut with scissors. They were like cartilage. I excised the stricture, and did an end-to-end anastomosis. She got quite well, and never had any more attacks of colic. The stricture would only allow the passage of a No. 9 catheter.

Case 18.

Male, aged 75. He had not been well for a week; he had had an irreducible hernia on the right side for some years. About a week ago he had pain in abdomen and vomiting. This forced something more down into his hernia, and made it painful. Bowels opened well until I saw him. Has vomited off and on since the attack began. On the right side he had a large irreducible hernia, not tense, and only tender at the top. I operated at once. The hernia sac was a very large one, contained a quantity of fluid, a large amount of small intestine very adherent to the sac, and at the upper part some thickened and matted omentum adherent to the sac and to intestine. On further examination of this, one part of it was found to be wrapped round an inflamed appendix, a few drops of pus escaping while exposing it. The wound had to be extended, so as to open the general peritoneal cavity in order to get at the caecum for the purpose of removing the appendix. Patient made perfect recovery.

Case 19.

Male, aged 10. Four days before I saw him he was taken with acute pain in the abdomen and vomiting. Two days later a lump was noticed in the right side of the scrotum. This swelling increased and became very painful. Bowels acted the day before I saw him. The boy looked extremely ill. There was a right-sided scrotal swelling, tender, red. There was pain and tenderness just above internal ring; nothing felt there. Was diagnosed as a probable torsion of the cord. An incision was made over the swelling, and on opening what was taken to be the tunica, a quantity of very foul pus was evacuated. As the pus was coming from above, the incision was extended up to expose the general peritoneal cavity. At the mouth of the hernia sac was found a perforated appendix, surrounded by an abscess which had evidently burst into the hernia sac. There was also a necrotic area on the caecum. The boy did not recover from the shock of the operation, and died the next day.

SUGGESTIONS FOR THE TECHNIQUE AND PERFORMANCE BY A NEW METHOD OF WERTHEIM'S ABDOMINAL PANHYSTERECTOMY.*

By CHARLES P. CHILDE, F.R.C.S.,
SENIOR SURGEON, ROYAL PORTSMOUTH HOSPITAL.

Two dangers are conspicuous in the performance of Wertheim's abdominal panhysterectomy for cancer—shock and sepsis—shock because the operation under the most favourable conditions is a severe and prolonged one; sepsis because in addition to circumstances conducive to infection being present, a septic stage is introduced of necessity into the operation itself. It will be understood that I am omitting the normal risk of infection which attends the performance of every operation, and which can be practically eliminated by a careful operative technique.

The following are the special circumstances favourable to infection in Wertheim's operation:

1. Patients suffering from the disease for which the operation is performed are usually below the average standard of health, their resistance power against infection is diminished, and they respond, therefore, readily to it.

2. In addition to the peritoneal cavity, two extensive wounds are exposed to infection during the operation—one in the abdominal wall, the other in the pelvis. The former, moreover, is one whose surfaces have been a good deal pulled upon and contused in the retraction necessary for the performance of the operation, and wound surfaces injured in this manner offer a poor resistance to infection.

3. The pelvic wound is open to the external surface by way of the vaginal canal.

4. Retzius's space is freely opened, and this dead space offers a favourable nidus for the accumulation of wound discharges and their subsequent infection.

Furthermore the patient may be actually infected at the time of operation from a foul ulcerating growth, though in operable cases there is as a rule no evidence of this as judged by the pulse and temperature.

When it is considered that in the presence of the above mentioned favourable conditions for infection we of necessity introduce a septic stage as part of the operation, it is not surprising that infection should readily occur. Most of the conditions favouring infection are inherent in the operation itself and cannot be avoided. An important exception in this connexion, and one which Wertheim has insisted upon, is the method of retraction of the abdominal wound. Gloved fingers alone should be employed in this manœuvre, as they are the least harmful retractors, and bruise the wound surfaces much less than heavy metal ones. The matters over which we possess chief control in lessening the risk of infection are the diseased and septic uterine cavity and the pelvic wound left after removal of the uterus, and according to the manner in which these are managed will depend mainly the results obtained. In the management of the septic uterine cavity the following is my own practice. To begin with, I do not think that preliminary treatment is efficacious. Various preliminary measures, such as antiseptic vaginal douching, etc., may be adopted according to the fancy of the operator, but disinfection to be efficacious must be done as part of the operation itself and after the patient has been anaesthetized. Formerly, after thoroughly curetting away the soft growth a few days before operation, and applying carbolic acid or iodized phenol to the surface, I used to employ in the interval copious antiseptic vaginal douching followed by a thorough cleansing of the vagina by the house-surgeon, with the patient in the lithotomy position, just before she was brought to the theatre. This was in order to lessen the time the patient was under the anaesthetic. I was never, however, satisfied with the results obtained even under the most careful régime. Frequently a little discharge was seen on dividing the vagina; frequently infection of the abdominal or pelvic wound occurred. I have consequently for some time past abandoned this method in favour of the following, notwithstanding the extra ten minutes or quarter of an hour it adds to the operation, and it has yielded far more satisfactory results. In fact, infection has disappeared, though formerly it was as high as 30 per cent. The patient, anaesthetized for the operation and just previous to it, is placed in the lithotomy position. All the soft growth is removed with scissors and sharp spoon. The raw surface left is very thoroughly cauterized with Paquelin's cautery. The vagina is then scrupulously dried and painted with 2 per cent. iodine in spirit. Finally, the raw surface and the vagina are closely packed with dry sterile gauze, one end of which is left hanging out of the vagina. When the vagina is about to be divided the gauze is withdrawn by an assistant not taking part in the operation. If the above procedure is efficiently carried out, the vagina on division is, as it should be, perfectly dry. Wertheim

* A paper read before the Gynaecological Section of the Royal Society of Medicine, July 3rd, 1913.

himself dries the vagina out immediately before its division with sterile swabs on long-handled forceps. This not only necessitates the surgeon desisting from the operation for a few valuable minutes, but it is not so certain of securing an absolutely dry vagina, and is objectionable owing to the operator taking part in an unnecessary septic procedure during the performance of the operation. The area about the uterus is surrounded with two large gauze packs soaked in salt solution just previous to division of the vagina, and immediately after its division these are folded round so as to enclose the uterus while it is lifted out of the pelvis.

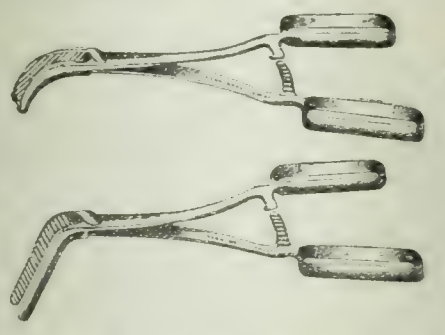
An equally important consideration is the technique to be adopted for the pelvic wound; the most important points here are:

1. Securing perfect haemostasis if possible.
2. Leaving no foreign bodies, such as ligatures, in the wound, of which I shall speak directly.
3. Discarding of gauze for drainage purposes.

Where I have secured perfect haemostasis—that is, in nearly all cases—I employ no drainage whatever. The only cases in which gauze is employed are the quite exceptional ones in which venous oozing is impossible to arrest, at all events without much loss of time. Such cases have occurred to me. In these I have employed gauze for haemostatic but not for drainage purposes, and it is removed in twenty-four hours. Formerly following the practice recommended by Wertheim, and, I believe, still adopted by him and others, I used to leave gauze packing in the pelvic wound for five or six days. On withdrawal it was invariably exceedingly foul, and I cannot believe, notwithstanding Wertheim's high authority for it, that it is a sound practice to follow.

The second conspicuous danger in Wertheim's operation is shock or exhaustion. For this, again, there are favouring conditions—for example, the low state of nutrition owing to loss of appetite, wearing pain, and frequent losses of blood and discharge from the ulcerating growth. These we have to take generally as we find them. We are not dealing with a disease in which we can afford to spend much time in building the patient up. At the same time in inoperable cases patients will improve so strikingly for a short time from the simple operation of curetting away the soft growth, and so arresting the discharges, that in some operable cases, where the general condition is unfavourable owing to constant losses, and in which it is doubtful whether the patient will stand the operation, this step should, I think, be resorted to as a preliminary measure, and the operation may with advantage be postponed for two or three weeks, when the patient will frequently be found to be in a much better condition to go through it. Usually, however, the operation is performed without any delay, and inasmuch as even in the easiest cases it is a severe and prolonged one, any steps are desirable which facilitate it and make for the saving of time, provided that they are surgically sound. Formerly finding a ureter, especially the left ureter in a fat subject, was sometimes a difficulty to me and a cause of delay, but, if the ureters are not exposed at once on opening up the broad ligament, they can always be readily felt between the forefinger and thumb, and no time need therefore be wasted over this step.

In my experience the most prolonged part of the operation is dealing with the parametrium and vagina—that is, applying the ligatures to the sections of parametrium in a fat subject, or one with a deep pelvis, or where the uterus is fixed and cannot be drawn up, and stitching round the vaginal wall after it has been divided. Now, there is a quicker, and, I believe, a better, way of dealing with these steps of the operation, and latterly I have only employed four ligatures in the operation—one for each ovarian and one for each uterine artery (of silk). The round ligament contains no large vessel, and is crushed and divided without ligature. The parametrium, after the uterine arteries have been tied, contains no large vessel. It is clamped in sections with strong crushing clamps, divided, and the divided surfaces are seared with Paquelin's cautery before the clamps are removed. Haemorrhage from the vaginal wall is easily arrested by applying Wertheim's vaginal forceps, furnished with augmented crushing power, to the portion of the vagina to be divided for a moment before division. This, after division, is also seared with Paquelin's cautery. By these measures perfect haemostasis is secured, and the pelvic wound is perfectly dry. Additional advantages of this method are that the cauterizing of the parametrium will destroy any cancer cells which may be present in the seared portion, and that no ligatures which may act as sources of irritation or infection are left in the pelvic wound. Wertheim's forceps, which are only intended for securing these structures preparatory to ligaturing them, have little crushing power, and are unsuitable. The instruments, which I have



had made for me by Down Bros., possess sufficient crushing power for the purpose. They are also made with shorter handles, which, while quite long enough for any case, render them much more handy to apply. The peritoneum is finally sewn over, and the abdominal wound is closed in layers. If any bleeding occurs, it is from veins opened in separating off the bladder at the side of the cervix, and a ligature or two may be required here; if it takes the form of general oozing, with no vessel to ligature, adrenalin will sometimes arrest it; otherwise some gauze packed into the bleeding area, with an end thrust through the vagina, suffices. This, as I have said, is removed in twenty-four hours. I have adopted the method above described in 10 consecutive cases. In none has there been any bleeding. I submit it as an easier, quicker, and better way of performing this part of the operation.

A CASE OF CARCINOMA OF THE PELVIC COLON, OVARIAN TUMOUR, AND APPENDICITIS, NECESSITATING REPEATED ABDOMINAL SECTION.

By LAWRIE McGAVIN, F.R.C.S.Eng.,

SURGEON TO THE DREADNOUGHT HOSPITAL AND TO THE HOSPITAL FOR WOMEN; LECTURER ON CLINICAL SURGERY IN THE LONDON (POST-GRADUATE) SCHOOL OF CLINICAL MEDICINE.

THE case here recorded is, I think, of interest from several points of view. First, the patient has survived the removal of an intestinal cancer for a period of over four and a half years without recurrence: secondly, she has undergone successfully the operations of oöphorectomy (twice), colectomy, lateral implantation, appendicectomy, and the reposition of a colostomy combined with a proctoplasty—in all five laparotomies, besides having had a naevoid growth of her bladder cauterized; thirdly, although completely thrown out of action for so long a period, the rectum and sphincters took on their work at once on being again called into play.

History of the Case.

B. C., a married woman of the age of 38, was admitted to hospital for pain in the left side of the abdomen, in September, 1908. The pain was especially bad at her periods, and there was tenderness at a point just internal to the anterior iliac spine, and in the left vaginal fornix. She suffered from gradually increasing constipation. Her condition appears to have been diagnosed as chronic ovaritis, and her abdomen was opened by a well-known gynaecologist. The left ovary and tube were found adherent to a mass in the lower part of the pelvic colon, but were not in themselves diseased. They were, however, removed, and the mass in the sigmoid was either ignored, overlooked, or considered inoperable, and the

patient was discharged in much the same condition as on admission, although her pain was, of course, less.

At this time she came under my care through the interest of the house-surgeon, who had been present at the first operation, and who informed me of the circumstances of the case. I accordingly took her into the Hospital for Women. The abdomen was opened (for the second time) internal to the iliac spine, and the growth found to be situated in the lower third of the pelvic colon, no glands being felt. The whole of the sigmoid with the meso-sigmoid was eventrated after the latter had been detached, the wound being closed behind it, thus leaving the emerging and re-entering portions of the bowel fixed in the upper and lower angles of the incision respectively. More than fourteen inches of bowel was thus fixed outside the abdominal wall. On the fourth day the bowel at the upper angle was opened, and on the tenth the whole mass was cut away, leaving the patient with an iliac colostomy. She made an uneventful recovery and was discharged with a belt and plug. The growth was found to be a ring carcinoma of the columnar type, with ulcerated base and everted edges.

Exactly a year later she returned to me with symptoms of acute appendicitis, but as she did not appear to be in an urgent condition operation was deferred till the bowels could be fully controlled by opiates, the discharge from her colostomy opening being fairly active. The stoma being now temporarily sealed off, the abdomen was opened (for the third time) along the margin of the rectus muscle, and the appendix was removed. It was inflamed, swollen, and adherent, and contained some soft cretaceous matter. The right ovary was examined at this time and found to be perfectly normal. Her recovery was again uneventful, and the wound remained aseptic.

Shortly after this the patient began to have frequency of micturition with the passage of blood in her water. A cystoscopy revealed a small naevoid growth just internal to the vesical orifice of the urethra; this was cauterized through a Kelly's tube, and the trouble ceased.

About eighteen months later (July, 1912) she, being then in Glasgow, wrote to me saying she was suffering agonizing pain in the right side of the abdomen, with some discharge of pus and blood from the lower opening of her colostomy and also from the vagina; her periods had been very irregular and extremely painful, and she feared a return of the growth. On my advice she consulted Sir William Macewen, who gave it as his opinion that she had recurrence, and advised against operation in view of the presence of the colostomy wound. She remained in this condition for some time, but, as her pain became much worse, she again wrote to me, and I therefore advised her to see Mr. Harold Stiles in Edinburgh. This she did, and Mr. Stiles, having kindly examined her for me, also gave it as his opinion that no operation should be done. Three months later, however, the patient came to me in London, and I examined her in company with my colleague Dr. T. G. Stevens. We found in the pelvis a very tender mass to the right of the uterus, but, in view of the absence of loss of weight and of the generally healthy appearance of the patient, we concluded it was not the result of recurrence. I therefore yielded to her request for operation after explaining the risk to her, and opened the abdomen again (for the fourth time). The right ovary and tube were found to be adherent to the floor of the pelvis and to the right broad ligament, as well as to several coils of small bowel, and, being freed, the mass turned out to be a fibro-adenoma of the ovary and non-malignant, and its removal was carried out. During the operation it occurred to me, seeing that there was no sign of recurrence, to attempt the reconstitution of the bowel; and although the risk was very considerable, her condition was so good and she had stood her previous operations so well that I determined to attempt it. The rectum was found to be very much narrowed, being of about the thickness of the forefinger and very tightly stretched. Having detached it from the abdominal wall, I succeeded with some difficulty, owing to the depth of the pelvis, in implanting it into the lowest portion of the transverse colon (Fig. 1). The colostomy opening was not interfered with lest the anastomosis should give way or become stenosed. The operation was a long and tedious one, owing to the extensive adhesions in the pelvis, but, as before, the patient made an excellent recovery, and was discharged at the end of a month, the anastomosis working perfectly and all motions being passed per rectum.

For three months her condition remained satisfactory, and then she gradually began to have difficulty with her bowels, any effort at evacuation resulting in the passage of faeces by the colostomy opening, although she had the natural sensation of motion presenting in the rectum. Although this condition was not constant, it so disappointed and disheartened her that she returned to me, and begged that the colostomy opening might be closed, as she was "sure that that would compel the motion to pass the right way."

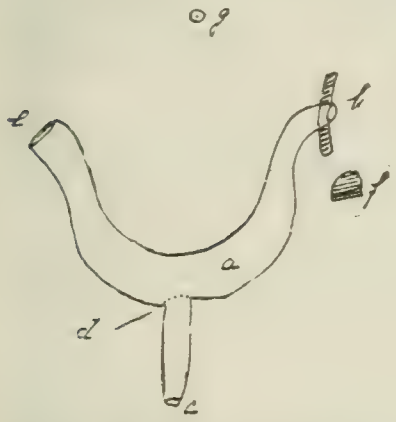


Fig. 1.—*a*, Transverse colon; *b*, colostomy opening; *c*, anus; *d*, site of anastomosis; *e*, from hepatic flexure; *f*, anterior superior iliac spine; *g*, umbilicus.

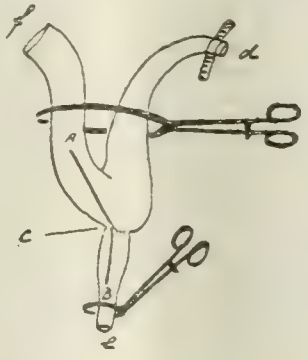


Fig. 2.—*a-b*, Incision in colon and rectum; *c*, site of old anastomosis; *d*, colostomy opening; *e*, anus; *f*, from hepatic flexure.

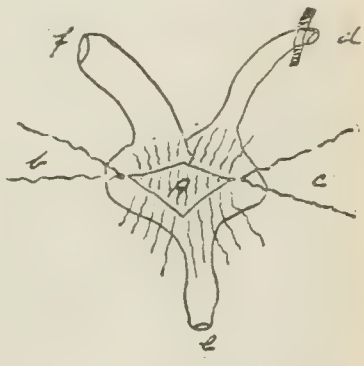


Fig. 3.—*a*, Incision rendered trapezoid by *b* and *c*, tension sutures; *d*, colostomy opening; *e*, anus; *f*, from hepatic flexure.

Before consenting to this, I examined the site of the anastomosis by means of the sigmoidoscope and found the opening patent but with inelastic edges and of about the same size as at the time of its formation; a hard faecal mass was presenting through it. It was clear that if any good was to come of a closure operation it must be combined with some method of enlarging the anastomotic opening. The very serious risk was again explained to the patient, but she was determined to see the matter through to the end, and accordingly entered the Hospital for Women once more (March, 1913).

On opening the abdomen (for the fifth time) the difficulty of finding the site of the anastomosis was so great, owing to the diffuse nature of the adhesions now present, that I feared that I should be compelled to abandon the operation; at the end of half an hour, however, with the help of a bougie in the rectum as a guide, the part was isolated and packed off from the abdomen above and the pelvis below. The rectum was now clamped very low down, and the proximal and distal limbs of the transverse colon being emptied, were similarly clamped 5 in. above the anastomosis, and an incision was carried along the antimesocolic border of the colon and along the front of the rectum, 4 in. in length, and having the anastomosis as its central point (Fig. 2); the cord-like ring was thus

divided. The incision was then treated after the manner of dealing with the pylorus in a pyloroplasty; the central point of each lip being drawn out by traction sutures so as to convert the wound into a trapezium, the edges were approximated by a continuous through-and-through suture transversely to the long axis of the bowel, a continuous Lembert suture completing the closure. This suture is shown interrupted in the diagram (Fig. 3) for the sake of simplicity.

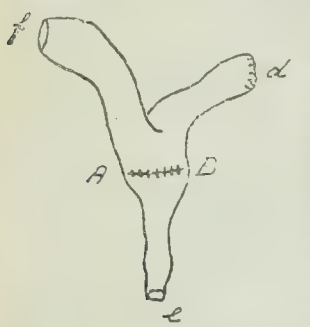


Fig. 4.—*a-b*, Incision sutured transversely; *d*, colostomy closed; *e*, anus; *f*, from hepatic flexure.

Finally, the colostomy opening was closed by detaching the colon from the abdominal wall, oversewing the edges, and inverting the stump with one layer of Lembert and one purse-string suture. The deficiency in the abdominal wall was drained by a rubber tube, and the edges of the abdominal wound, being mopped with a 2 per cent. solution of iodine, were closed throughout. A tube was placed in the rectum as high as the anastomosis, and the patient was placed in the Fowler position. In spite of a prolonged operation and much manipulation of the bowels, the patient again made an excellent recovery. On the eighth day, however, there was some foul watery discharge from the site of the old colostomy opening, and two days later she had an obvious faecal fistula, her temperature rising to 102°. This condition rapidly cleared up, the motion passing freely per rectum, and the discharge from the fistula steadily decreasing. At five weeks from the date of operation she was soundly healed, save for a tiny pin-hole at the site of the colostomy, through which flatus passed occasionally in very small quantities.

Her condition at the present time (five months from the date of operation) is excellent; the rectum acts freely and without discomfort; there is no sign of hernia of any of her abdominal wounds; there is no sign of recurrence of her growth; she eats and sleeps well, and, in a word, her health is as good as it has ever been.

Remarks.

The question arising in one's mind to-day is, Could not all this operative interference have been avoided from the first by means of a direct end-to-end anastomosis at the time of the original colectomy? The reasons which seemed to me to contraindicate this were, first, the tension on the rectum, which even at the time of the implantation operation was so marked that as soon as the bowel was released from the abdominal wall it retracted deeply into the pelvis; secondly, I had recently had experience of the giving way of an end-to-end anastomosis of the sigmoid in the case of a patient of one of my colleagues; thirdly, with the exception of the transverse colon, the large intestine does not lend itself to such an operation with the same degree of safety as does the small intestine; and, lastly, the growth involved the bowel so low down that even an ileo-sigmoidostomy, or rather an ileo-proctostomy, seemed out of the question, to say nothing of the probability of a subsequent colliquative diarrhoea in the event of success.

That the patient has been able to weather so many operations involving the extensive opening of bowel is, I think, due, not so much to any particular skill in operative technique or to rapidity in manipulation as to the fact that in course of time much of the natural sensitiveness of the peritoneum was modified by the formation of plastic adhesions. These, while making the later operations infinitely more difficult, have, I am sure, conduced to the safety of the patient. Finally, the ultimate result is in great measure due to the splendid pluck and persistent optimism of the patient herself.

THE sectional work of the Royal Society of Medicine will be resumed in the week beginning October 6th; the Section of Obstetrics and Gynaecology will meet on October 9th, and the Clinical Section on October 10th. The first ballot for Fellows will take place on October 21st.

THREE SUCCESSFUL OPERATIONS FOR PERFORATIVE TYPHOID ULCER.*

BY

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The following cases I think it desirable to place on record as they illustrate some points in the treatment of perforative peritonitis. They are the only cases of typhoid perforation on which I have operated, and I am fully aware that I have been unusually fortunate in the result:

CASE I.

R. L., a girl aged 15 years, was admitted to Purdysburn Fever Hospital on the thirty-second day of her illness. The perforation occurred on April 17th, 1911, that is, the forty-third day of the disease. Dr. Robb at once recognized the condition, and I had the opportunity of operating five hours after perforation.

Operation.—A median incision was made below the umbilicus; a piece of adherent omentum guided us at once to the site of the perforation, which was situated about twelve inches above the ileo-caecal valve. It was rapidly closed by double row of catgut suture. Examination of the bowel in the immediate neighbourhood revealed *three* other ulcers apparently about to perforate. They were so deep that the centre of the ulcer was only separated from the general peritoneal cavity by a thin layer of peritoneum. They were each unfolded by a continuous Lembert suture transverse to the long axis of the ileum, so as to avoid the risk of stricture. All these ulcers were in the lower 2 ft. of ileum, and no more than 2½ ft. of intestine was withdrawn from the abdominal cavity during the operation. A pelvic drain was inserted. The operation lasted thirty minutes, and the anaesthetic (C.E. mixture) was well borne.

After History.—She was nursed from the first in the Fowler position, and continuous saline administered by rectum in the usual way. It was well retained. Recovery was complicated by an attack of coliuria, which yielded to alkalis and vaccine treatment. The patient was shown at the annual meeting of the Ulster Branch in June, 1911.

When we consider that operation was here undertaken on a patient whose temperature for six weeks had ranged about 103°, and whose intestines were the seat of several deep ulcers, her recovery is a striking tribute to the vitality of youth.

CASE II.

W. M., aged 27, a ship's steward, was admitted to Purdysburn on April 21st, 1913. On April 29th, which, as far as could be made out, was the twenty-first day of the disease, perforation occurred at 7.30 a.m.

Operation.—The operation was undertaken at 11.45 a.m.—that is, four and a quarter hours after perforation. On opening the abdomen we went straight for the ileo-caecal valve, and, tracing the ileum upwards, quickly found the perforation 6 in. above the lower end of the ileum. It was closed by a double row of iodized catgut. The next few inches of ileum showed no signs of deep ulceration. A pelvic drain was introduced; the wound closed. The operation lasted thirty minutes.

After-History.—He was nursed in the Fowler position. Continuous saline administered by rectum was well borne for thirty-six hours, after which it had to be stopped. After operation he was given sodium citrate gr.x every four hours so as to prevent the *coli* infection which had been so troublesome in the first case. Whether this was responsible or not it is impossible to say, but we had no coliuria, and his recovery was uneventful.

CASE III.

Mrs. E. B., aged 37, was admitted to Purdysburn on April 23rd, 1913, on the twenty-first day of the disease. The temperature on admission was 103.6°; it fell gradually till the morning of May 1st (twenty-ninth day), when she had sudden abdominal pain, temperature shot up to 104°, and she complained of tenderness in the right iliac fossa. I saw her with Dr. Robb at 1.30 a.m. on May 2nd, fourteen hours after the onset of these symptoms. The rise of temperature and tenderness in the right iliac fossa suggested the possibility of an acute typhoid appendix. Dr. Robb, however, was convinced that perforation had occurred.

Operation.—A small perforation was quickly found 12 in. above the ileo-caecal valve, and closed by catgut suture. A further 12 in. of ileum was inspected, but no deep ulcer detected. A pelvic drain was inserted.

After-History.—She was nursed in the Fowler position, and continuous saline injections of sodium citrate gr. xx were given every four hours. She made a slow but satisfactory recovery, and on June 10th, six weeks after operation, was practically well.

The cases are too few in number to justify any authoritative inferences. I think, however, I may fairly emphasize the following points:

1. The modern system of treating typhoid in well-

* Read at the annual meeting of the Ulster Branch of the British Medical Association, June 19th, 1913.

equipped hospitals, where such a complication as perforation is likely to be recognized at the earliest possible moment, and immediate arrangements made for operation is eminently favourable to surgical success.

2. It is very desirable to operate as rapidly as possible, and to avoid all unnecessary handling and exposure of intestine. These patients are totally unable to bear much manipulation.

3. The quickest way to find the perforation is to go straight for the ileo-caecal valve and trace the ileum upwards. It will rarely be necessary to handle more than 2 to 3 ft. of bowel.

4. All sutures should be of catgut, as silk or linen is almost certain to become infected and give rise to a troublesome sinus. The catgut I use is prepared by boiling in absolute alcohol for thirty minutes, and stored in tincture of iodine one part, proof spirit ten parts.

5. These patients bear the Fowler position and continuous rectal saline quite well.

6. Coliuria being a very likely complication, it appears wise to put these patients at once on alkaline treatment. Whether as a result of this procedure or not, my last two cases showed no sign of this troublesome ailment.

Success in the cases here recorded was chiefly due to the promptness with which Dr. Gardner Robb recognized the complication and made arrangements for operation; and in a very large measure also to the care and attention bestowed on the patients by the resident officers, Drs. Kevin, Glass, and Millar.

OPERATION FOR INTUSSUSCEPTION COMPLICATED BY MEASLES AND BRONCHOPNEUMONIA.

By S. T. IRWIN, M.Ch.Belf., F.R.C.S.Edin.,

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ABOUT 2 a.m. on February 22nd, 1913, I was asked by Dr. Robert Boyd to operate on an infant which he had just seen.

The patient was a bottle-fed male infant, aged 3 months, previously healthy, living in a small kitchen house in the east end of Belfast. At 3 p.m. on the previous day the child appeared suddenly in pain, vomited, and passed a normal motion. Some time later a little blood-stained mucus came away by the rectum. When Dr. Boyd saw the child just before midnight he found it breathing 40 to the minute, the temperature 101.2° F., the pulse 120, an intermittent cough, and a profuse eruption indicative of measles covering the body. On examination of the chest numerous patches of bronchopneumonia were detected on both sides, but especially on the right. An elongated tumour, easily palpable, lay on the left side of the abdomen opposite the umbilicus. The rash had appeared the previous morning.

The diagnosis was obvious, and the normal course for a purely surgical affection would have been to send the child to the Ulster Hospital. This, however, was precluded by the infective fever; the pneumonia added additional risk to any exposure to night air in view of a general anaesthetic. On the other hand, without operation death must follow. Therefore, though the surroundings were anything but promising either for the operation itself or for the subsequent nursing, it was decided to operate in the house.

Operation.

About an hour later I opened the abdomen, Dr. Boyd administering chloroform. I had taken the precaution to bring all my instruments ready sterilized, in addition to the usual dressings, towels, etc. Disinfection of the skin was carried out by washing with soap and water, spirit, and drying with ether. Tincture of iodine (*B.P.*) was then twice painted over the front of the abdomen. Rubber gloves were worn. The incision was through the right rectus. An ileo-caecal intussusception of large size was found. Reduction was fairly easy, but the last portion could only be extruded after withdrawal of the tumour outside the abdominal wound. The appendix was removed for two reasons: (1) It was very much swollen, even for such a case, where some swelling is characteristic, and it was kinked in two places at an acute angle; and (2) it was the last part to be reduced, therefore probably the first to enter, and therefore may have had something to do with the causation of the invagination. The abdomen was closed in layers. Van Horn No. 2 thirty-day catgut was used for the buried, and silkworm gut for the musculo-cutaneous and cutaneous sutures. The child was back in bed in forty-five minutes, and did not seem to have suffered much from the surgical intervention. Ten minims of compound tincture of camphor were given after recovery from the anaesthetic.

After-History.

For three days the temperature remained at 101° F., and there was distressing cough which threatened to tear the wound open, more especially as some suppuration as the result of the rash might have been expected. Neither of these untoward results occurred and the further progress of the case was uneventful. The nursing from first to last was carried out by the mother, and when the silkworm stitches were removed on the eighth day healing was perfect.

The case illustrates one or two important points—namely: (1) That measles, even with a profuse rash at the operation site, need not deter the surgeon from an otherwise urgent or desirable operation; (2) the value of iodine as an efficient and convenient method of skin disinfection; (3) that successful nursing of cases as serious as abdominal section can be carried out in mean surroundings and without the aid of specially acquired skill—a point lately emphasized by Mr. Andrew Fullerton and others in connexion with operations in the out-patient departments of general and more especially of children's hospitals.

TRUE TOTAL ENUCLEATION OF TWO HYDATID CYSTS FROM THE SAME LIVER.*

BY

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THE following are some notes on a case upon which I operated at the Salford Royal Hospital at the beginning of March, 1912, and which is, I think, of some interest.

I saw A. M., a girl aged 13 years, in the out-patient department. She was complaining of a swelling in the epigastrium, which caused her no discomfort except a slight tenderness over the most prominent part of the swelling, where it came into closest contact with her clothing. She would not have sought medical advice when she did had it not been that the swelling had become evident to casual inspection. On abdominal examination a swelling could be seen and felt in the epigastrium, its most prominent part being situated slightly to the left of the mid-line. The tumour moved slightly with respiration, and could be displaced by the hand for a distance of about three inches from the costal margin, leaving a tympanitic area between tumour and costal margin, and could be retained there quite easily during inspiration and expiration. The tumour was rounded, fluctuant, and intra-abdominal. Careful and systematic abdominal palpation revealed a second tumour, corresponding exactly to the position of the right kidney.

The tumours seemed obviously to be cysts, but one was not quite satisfied as to their exact situation before the operation, since the left was more mobile than one would expect a tumour of the liver to be, and the right one could be so definitely palpated bimanually in the region of the right kidney.

Operation.

The girl was admitted subsequently to the hospital. Under chloroform anaesthesia, after a cystoscopic examination had been made, in order to ascertain whether there was any information to be obtained regarding the nature of the right tumour by a view of the orifice of the right ureter, with negative result, the abdomen was opened by an incision through the left rectus muscle. The left tumour presented in the wound, and was at once seen to be a cyst in the left lobe of the liver, a portion of the fibrous cyst wall being visible, uncovered by liver tissue for an area about the size of a shilling. The left lobe of the liver was much more movable than normal, and this accounted for the somewhat free mobility of the tumour found before opening the abdomen. Passing the hand to the right kidney region, the second tumour was felt, and was found lying directly on the right kidney and embedded in the right lobe of the liver, near its lower free sharp margin. The epigastric tumour was the larger, and after removal was found to be somewhat larger than a tennis ball, while the right tumour was somewhat smaller than a tennis ball. Seeing the moderate size and accessibility of these cysts, I was much tempted to attempt a total enucleation—that is to say, a removal of the fibrous ectocyst as well as of the germinal layer. I decided to make the attempt on the smaller of the two cysts first.

I made a second incision on the right side of the abdomen from the costal margin at the tip of the tenth rib downwards for about three inches. My assistant then passed his hand from the epigastric incision towards the right, and caused the right tumour by pressure to present into the wound on the right side. In the same way as in the case of the left tumour, a portion of the fibrous ectocyst was visible, uncovered by liver substance and showing as a white area about the size of a sixpence. Working with the sharp edge of a scalpel from the uncovered area concentrically, I separated the liver substance from the fibrous cyst wall for a distance of about half an inch

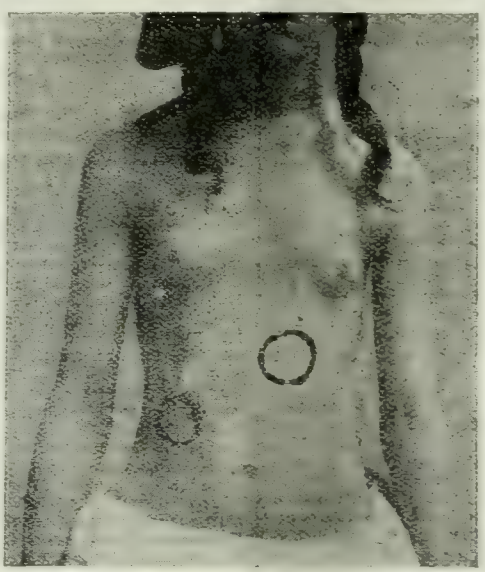
* A paper read before the Manchester Clinical Society.

all round. I then by blunt dissection completed the enucleation of the cyst from the right lobe without opening the cyst. About three fibrous strands were found running from fibrous cyst wall to liver substance. These I ligatured before cutting. A cavity was left lined by apparently unaltered liver substance, which slightly oozed blood. This cavity I lightly packed with gauze whilst I turned my attention to the larger cyst in the left lobe. This I enucleated in an exactly similar manner, with the exception that just as I was completing the enucleation the pressure necessary to enucleate the deepest part of the cyst caused a rupture of the fibrous coat, and the fluid contents of the cyst, together with the germinal endocyst, were expelled through the rent in the ectocyst. There was practically no oozing of blood from this the left cavity. As the abdominal cavity had been previously protected by gauze packing, I have reason to believe that none of the cyst contents reached the abdominal cavity. Having no previous knowledge from practical experience of enucleation of the whole cyst, having learnt by reading only that dangerous haemorrhage was likely to occur on removal of the ectocyst, and taking into consideration the fact that the cavity left by enucleation of the smaller cyst was still oozing slightly, and that bile diminishes the coagulability of the blood, I considered it advisable to adopt the following course. I packed the cavity in the right lobe with gauze, closing the right abdominal wound sufficiently to just leave room to allow the end of the gauze packing to protrude externally. I closed the cavity in the left lobe as completely as possible with catgut sutures, and left a small-bore rubber drainage tube extending from the small cavity, which was left, to the outside, in order that, should any recurrent haemorrhage take place, it would be at once visible on the dressings, instead of being allowed to discharge itself into the abdominal cavity.

After-History.

I dressed the case the following day, and as no drainage had taken place except a small quantity of bile-stained serum, I removed the drainage tube. On the next day following I removed the gauze packing from the right cavity under ethylchloride anaesthesia. The packing was slightly blood-stained, such as would occur from slight oozing. Beyond a post-anaesthetic vomiting rather longer than usual, namely, for about forty-eight hours, and a temperature up to 99.5° C. for the first two days, nothing of any note occurred, and the patient was discharged from hospital in twenty-five days, the abdominal wounds being soundly healed and the patient feeling perfectly well. Since the vomiting had ceased synchronously with the removal of the gauze packing from the right cavity, I think that the resistance of this packing probably caused greater pressure on the adjacent duodenum than the more resilient cyst had done, and that this, coupled with the anaesthetic, accounted for the somewhat prolonged period of vomiting.

At the time of writing, some thirteen months after the date of operation, the child is in perfectly good health.



A photograph of A. M., taken a year after the operation, showing position of cysts: the scars of the abdominal incisions can be seen.

As I have said, the right and left cysts were respectively somewhat smaller and somewhat larger than a tennis ball. They contained no daughter cysts. The inner surface of the endocyst was irregularly covered by a granular film of red material, resembling small quantities of extravasated blood. On microscopical examination, these patches were found to consist of blood corpuscles, among which were large quantities of scolices. In a specimen of the hydatid fluid which I drew from the unopened cyst after the operation I was unable to find any scolices or booklets: this fact serves to show that the absence of booklets in fluid drawn for diagnostic purposes from a cyst is by no means a conclusive proof that the cyst in question is not a hydatid cyst.

The ectocyst had a smooth external surface, and, except where it was connected by the few fibrous strands previously mentioned with the liver substance, was very easily separable from the liver.

It is essential, in speaking of a total enucleation of a hydatid cyst, to come in one's own mind to some definite conclusion as to whether the ectocyst is derived from the hydatid embryo as originally deposited in an organ or whether it is derived from a fibrous degeneration of the special cells of the organ in which it has been deposited. From a consideration of the operation which I have described, and from an examination of the cysts obtained, I have formed the opinion that the ectocyst is in its first stages of development purely an essential part of the hydatid cyst; that as the cyst grows larger this fibrous coat grows more definite; that at the same time a fibrous degeneration begins to take place in the cells of the organ most adjacent to the cyst; and that gradually a fusion takes place between the original ectocyst and the accessory fibrous coat subsequently developed from the cells of the containing organ. It seems only natural that when the body which develops into the cyst is deposited by the blood stream in the liver, it should already have a fibrous protective outer coat. It also seems natural that as the cyst enlarges this coat should also increase in ratio. We know that when a foreign body of any kind is deposited in a tissue an enclosing fibrous sheath is developed at the expense of the surrounding tissues. This process will naturally take place in the case of a hydatid cyst. It is only to be expected that when two fibrous layers are in contact they should become more and more intimately united. If definite intracystic or pericystic inflammation has taken place, the development of the accessory ectocyst will be more pronounced and the fusion between accessory or false and essential or true ectocyst will be more definite. I look upon the few fibrous strands which I had to cut in the removal of these cysts as demonstrating an early stage of this fusion of essential ectocyst with the fibrous material derived from altered true liver substance. The ectocyst which I removed in my case I look upon as being entirely essential ectocyst, since it was so easily separable from the liver substance, while the adventitious ectocyst was practically absent, since the walls of the cavities left in the liver after removal of the cysts appeared to consist of unaltered liver tissue.

I mention this question regarding the origin and development of the ectocyst because, although in works on pure pathology the ectocyst is usually recognized as having a dual origin, yet in surgical treatises there seems to be a tendency to look upon the ectocyst as being derived solely from the organ in which the hydatid has been deposited. To take an example, I find in Binnie's *Operative Surgery*[1] the following statement: "Echinococcic cysts are composed of a structureless true capsule or wall. . . . The whole cyst is surrounded by a firm connective tissue capsule developed from the liver itself." Again, in his work *Abdominal Operations*,[2] Sir Berkeley G. A. Moynihan describes an operation which he calls an "enucleation of the entire cyst," and which consists of opening the cyst, removal of the germinal or endocyst entirely, closure by suture of the gap and wound in the liver, followed by closure without drainage of the abdominal wound. This operation, as he states, was first performed by Knowsley Thornton in 1883; secondly, by Bond in 1891; and thirdly, by Delbet in 1896; although, as he says, Bond's case was not one of hydatid of the liver, but a small cyst, about the size of a Tangerine orange, found in a reflection of peritoneum in the right iliac fossa. If the opinion is correct that the ectocyst is first essentially part of the hydatid, and later consists of essential ectocyst fused more or less intimately with fibrous tissue derived from altered liver substance, then an operation in which only endocyst is removed cannot correctly be described as an enucleation of the entire cyst.

Posadas, the professor of operative medicine at Buenos Aires, who has had a considerable experience in operations upon hydatid cyst in various parts of the body and has contributed an interesting paper on the subject,[3] classes enucleations into two groups—"l'extirpation totale," which includes both ectocyst and endocyst, and

"l'extirpation de la membrane germinative et la suture de la périkystique." The only case, however, in which he mentions that "l'extirpation totale" was practised was that of a cyst the size of a duck's egg, which he removed from the left orbit. In the 23 cases of liver hydatid where enucleation was performed, the enucleation was in every case of the endocyst only.

As to the origin of the ectocyst, Posadas states that the hydatid "has developed a fibrous limiting sac, named the pericystic layer, the origin of which is due to the inflammatory reaction and to the process of encystment determined in the tissues by the foreign body." He further states that the fibrous coat is intimately fused with the organ in which the neoplasm rests, since its constitution is due to the proliferation of part of its elements. This intimate fusion certainly was not present in my case.

In reading the article by Posadas I was struck by the fact that, out of the 23 cases in which extirpation of the germinal membrane was practised, 20 were 13 years of age or under, the age of the youngest child being 3 years. In 18 of these cases the cyst was single and located in the right lobe, while in the remaining 5 cases two cysts were present—one in the right lobe and one in the left lobe. In the textbook by Ashby and Wright on *Diseases of Children*[4] it is stated that "Hydatid cysts are not uncommon in later childhood." My patient was a child of 13 years; but the few cases of hydatid cyst which I have previously seen have all been in adults. The child does indeed seem more likely to be infected than the adult, owing to the want of care of the child in selecting its vegetable food, its indifference as to the absolute cleanliness of the food which it eats, and, more important still, owing to the readiness with which children allow dogs to lick their faces.

In publishing this case I have no wish to appear to be advocating the wholesale total enucleation (as I have described it) of hydatids of the liver. Here let me again emphasize the opinion that no operation should be technically described as total enucleation or enucleation of the entire cyst if the ectocyst is left behind, putting quite out of the question for the moment whether it is ever advisable to attempt the removal of the ectocyst. My primary object is simply to describe a case where the ectocyst was successfully and easily removed and without any "grave haemorrhage"[5] occurring. I think I may look upon these cysts as being cysts in a normal condition at a certain stage of development, and therefore may claim that any other similar cysts could have been in a similar manner enucleated.

At the annual meeting of the British Medical Association in 1910, Mr. C. MacLaurin, Honorary Surgeon to the Royal Prince Alfred Hospital, Sydney, read a paper on Hydatid Disease of the Liver.[6] Having expressed his opinion that marsupialization is the operation of choice, he criticizes Delbet's operation—namely, opening the cyst, removing the endocyst and obliteration of the cavity left by sutures, in that it is "excessively difficult—in my experience, usually practically impossible without a large incision," and that "there is the danger of implantation of live scolices into the adjacent liver tissue." Applying this second criticism to the operation which I have described, I may say that if the ideal result is obtained—namely, the removal of the cyst unopened, then all chance of infecting the peritoneal cavity or liver tissue with scolices is absolutely avoided, and thus I should say that, in picked cases, it is superior to Delbet's operation, which would be more correctly described as Knowsley Thornton's operation, or to any other operation, as far as the question of infection is concerned. In my case, as I have said, the second cyst ruptured just as I was completing the enucleation, and thus the ideal result was not obtained. With a little more delicacy in the later stages of the operation, I feel confident that I could have obtained a pair of unopened cysts. I was putting too much reliance on the strength of the ectocyst while I was completing the enucleation, and did not allow for the presence of a weak spot.

If I were asked to formulate rules as to when it is justifiable to attempt this total enucleation, I should say: The cyst should be of moderate size—it is impossible to make dogmatic statements as to its exact size; it should be a cyst in which no obviously active intracystic or pericystic inflammatory changes have taken place; it should be a cyst whose wall at some part comes very near the liver surface. Regarding this latter point, in the case of a cyst lying deeply in the liver substance the operation would be rendered difficult and the view would be obscured by the haemorrhage from the liver substance incised to approach the cyst. Again, a moderate sized cyst, lying deeply in the right lobe of the liver, which has given rise to no signs or symptoms beyond some slight enlargement of the lobe, is not likely to be diagnosed as a cyst while it remains of moderate size. The cysts which I met with in my case were cysts typically suitable for enucleation. It seems to me that hydatid cysts met with in children are more likely to be suitable for treatment by the method described in this paper than the larger cysts met with in adults, since the cysts in children are usually smaller, younger, and less frequently altered by acute or chronic inflammatory changes.

MacLaurin, in his paper referred to above, does not mention this method of treatment, and yet among the many cases of hydatid cyst dealt with in Australia one would expect to find occasionally cases similar to mine in which it would be justifiable to practise the true total enucleation. Although textbooks emphasize that "grave haemorrhage" will occur if the ectocyst be removed, and although such haemorrhage would occur frequently if cases were taken at random, yet I do not remember having read of a case where the removal of the ectocyst has been attempted, successfully or unsuccessfully, in a case of hydatid cyst of the liver. I should be very much obliged if any one who may read this paper would be kind enough to give me information on this point.

I showed this case for diagnosis before operation at a post-graduate demonstration at the hospital, and some weeks later I showed the case, with the macroscopic and microscopic specimens obtained, at a clinical meeting of this society.

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A METHOD OF OPERATING FOR RADICAL CURE OF INGUINAL HERNIA.*

BY

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In describing this method of operating for radical cure of hernia, I do not suppose I am inventing a method which has not been followed before, but I am not aware that it is a recognized procedure, and as in my opinion it is easier and in some ways more efficient than some of those generally followed, it may be worth while putting before you.

It is believed by many surgeons that the predisposition to the first occurrence of hernia is due to the fact that there is a slight pouch or dimple of the peritoneum, left at the internal ring at the time of the occlusion of the infundibuliform process, and that a recurrence after operation for radical cure is due to the incomplete occlusion of the sac at the neck, so that a similar pocket or dimple remains.

In order to overcome this, all sorts of different methods have been advocated to deal with this sac and its neck, such as simply pulling it down and tying it, tying the sac and twisting it and turning it up under the aponeurosis, and so on, all of which in many cases may be quite successful in attaining the object aimed at, but are all done without the operator having the opportunity of actually *seeing* the neck of the sac, and being able to know for certain that he has succeeded in his attempt.

There are many cases, however, in which a condition exists, to those who look for it, which make it obvious that none of these methods will do away with the trouble at the internal ring. In long-standing herniae the ring of peritoneum at the neck of the sac (or at the internal ring) has become thickened and densely adherent to the structures round it, forming quite a firm ring of tissue,

* A paper read before the Witwatersrand Branch of the British Medical Association.

and no amount of pulling down or twisting will separate it from these structures. If this is not successfully done the dimple remains, and the predisposing cause remains, no matter how carefully the abdominal walls and external ring may be repaired.

Another difficulty met with in the ordinary methods of operating is to find the sac and separate it, embedded as it is among the tissues surrounding the cord, a process often causing much tearing and separation of structures.

I suggest, therefore, the following method, which will obviate all these difficulties:

The skin incision begins just internal to and above the spine of the pubis, and runs upwards parallel to the fibres of the aponeurosis of the external oblique from which the skin and subcutaneous tissue is raised. The pillars of the ring having been clearly defined, the external oblique is split up far enough to give sufficient room. The cord and structures covering the sac is seen lying in its place and must not be touched. The lower margin of the internal oblique is now seen and is retracted upwards. The peritoneum (not the sac) is now opened *from the internal ring upwards*. In almost all the cases operated upon the internal ring is very much approximated to the external by the dragging of the herniated gut, so that there is plenty of room above it, but if there is not enough the incision of peritoneum may be carried down on the outer side of the ring. When the abdominal cavity is opened the neck of the sac can now be seen from the inside. If omentum or other structures are adherent they can easily be separated or drawn out of the sac. The lower end of the incision through peritoneum is now carried down to the neck of the sac and round it, so that the abdominal peritoneum is now entirely separated from the sac, just as the hand of a glove would be separated from a finger if the latter were cut off at its junction to the palm. The abdominal peritoneum is now closed with continuous suture as in any other abdominal operation.

The sac has now to be dealt with, and the neck may have to be carefully dissected off the fibrous ring I spoke of. The left finger is passed down into the sac, which is drawn up round it with forceps by the assistant and can easily be dissected or swabbed out of its bed with very little disturbance of surrounding tissues. The position of the deep epigastric artery must not be forgotten in dealing with the neck. I usually suture the edge of the internal oblique down into the groove of Poupart's ligament as far as I am able. Whether this is much real use I am not prepared to say. The edges of the external oblique are drawn together with a continuous mattress suture and overlapped or not according to the fancy of the operator. I think, where the muscles are very lax, overlapping is certainly useful in making a thicker and stronger wall.

As I have said, I do not claim that this method has never been used before, but I have been adopting it for some time, and I like it better than any other I have tried. It is much more rational, I think, as one is able to see all the time what one is doing instead of working in the dark. This is especially useful in those cases where the fibrous ring is present of which I have spoken, and which I do not think it is possible to obliterate otherwise.

THE annual report of the Surgeon-General of Trinidad and Tobago for the year 1911–12 states that the total population at the last census (1911) of the colony was 333,552, as compared with 273,899 at the census of 1901. The Indian community accounts for nearly one-third of the total population, and increases apparently at a relatively greater rate than the general population. The birth-rate was 34.65, and the Indian birth-rate exceeded that of the general population by 2.31. The gross death-rate recorded was 23.36, and there was a difference here of 4.03 in favour of the general population as compared with the Indian section. From the reports furnished by the medical officers, and from those of the wardens on the health of their several districts, the medical year appears to have been uneventful, epidemic disease was absent, and there were no features of special interest recorded. The total number of patients treated in the medical institutions of the colony was 16,934, as against 15,896 during the previous year, and there was a daily average of 2,121 patients under treatment in them. The Colonial Hospital has accommodation for 320 beds, and a small isolation hospital in two sections has been provided. During the period under review 6,539 cases were treated, 5,511 were discharged, and 718 died.

EIGHTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

A. J. HUTCHISON, M.A., M.B., Brighton, President.

PRESIDENT'S INTRODUCTORY REMARKS.

AFTER a few initial observations the President said: The first duty of your Committee was to draw up a programme for the three days of meetings of the Section and to fix on subjects for discussion. After careful consideration we chose for to-day's discussion the technique and after-treatment of the radical mastoid operation. This is a subject which, although of the greatest interest to us, has, curiously enough, not been set down for formal discussion at this Section of the British Medical Association for many years. Modifications of the technique are frequently being introduced, varying methods of dressing suggested, new drugs brought forward to hasten the healing by stimulating the growth of epithelium and so on; we therefore thought that a discussion on all such points could not fail to be most interesting and instructive.

With regard to the subject for Thursday, there seems to be in the minds of several members of the Section some misgiving or doubt as to whether it is of sufficiently wide scope or sufficiently great interest and importance to be worth a formal discussion. I have been asked the question, "What is there in 'The Care of Patients after Nasal Operations' to discuss?" I am quite willing to take upon myself the responsibility of having suggested the subject to your Committee, and I should like briefly to touch on some of our reasons for selecting it.

In the first place, we all know from bitter experience that after a slight operation on the nose undertaken to relieve a comparatively trivial discomfort, slight interference with nasal respiration, etc., the patient does not always make an uneventful and uninterrupted progress to recovery, but that unfortunately some of these trivial operations have very serious consequences. For example, Miss H. T., aged 25, on whom I had operated for tonsils and adenoids, began to complain of headache and of pains in the feet on the second day, then followed pain and swelling in the ankles, knees, wrists, elbows, and so on, and pericardial effusion. The patient was in bed for two months, and more or less an invalid for long after her return to her home in the country.

Again, Miss A., aged about 30, had suffered from nasal obstruction as long as she could remember. I removed the anterior and posterior ends of both inferior turbinals, and guillotined the tonsils. For a few days things went perfectly smoothly, then pain was complained of in the back, temperature rose, and soon an abscess in the left lung developed. And again, a child on whom I had operated for adenoids was, in spite of my orders, allowed out on the third day after operation, got a chill, and developed a most alarming and painful illness, temperature reaching 107° F. on one occasion.

I have cited these three cases because they illustrate the gravity of the conditions that may follow comparatively trivial nasal and naso-pharyngeal operations, and also because they illustrate the fact that the error may be made before, during, or after the operation.

Thus, in the first case one may say that the error was made before the operation, and consisted in not obtaining accurate enough information as to the patient's constitution, history, and state at the time. Had I known then what was afterwards told me by the patient and her doctor, I should either have refused operation altogether

or at least should have postponed it to a more favourable period. In the second case, although the operation appeared to go quite smoothly without any hitch, still one is bound to conclude that either a piece of tissue or at least some blood clot was inhaled and lodged in the lung, probably during the operation. The third case was operated on in hospital, kept in hospital overnight, and sent home next day—apparently going on well—with instructions to be kept in bed four days. The weather at the time was bright and sunny, with a cold north-east wind. The parents thought the child would be better out in the sunshine than in a stuffy little room and took it out, with the result already stated. Now, it is to cases similar to my third that I wish specially to draw your attention.

In Brighton we see many patients who have had their noses operated on elsewhere. Their general health is good at the time of the operation; the operation is performed with the greatest skill, and progress after the operation is perfectly satisfactory; then after three or four days patients are sent down here to recuperate in the fresh air. They arrive in Brighton feeling not very well, tired and a little feverish, have a headache, and so on. Next day they are more feverish, the headache is worse, and they complain of sore throat or earache. In some cases these symptoms pass off, and nothing further happens. In others, however, something further does happen—acute tonsillitis, peritonsillitis, acute otitis media, acute empyema of the frontal sinus of the antrum, a general septic condition of the nasal cavities, severe epistaxis, suppuration of glands in the neck; these are some of the conditions I have seen myself. From others I have heard of cases of meningitis (two fatal), of pericarditis (one fatal), etc. Now, as I have already said, I am quite well aware of the fact that some cases go wrong in spite of all our care, but the point I wish to make is this—that these patients were all doing well, and in all probability would have continued to do well had they not been allowed too soon to go out and travel in motors, trains, and cabs.

It is the comparatively large number of such cases seen by us here that led me to suggest the care of patients after operations on the nose and naso-pharynx as a very appropriate subject for discussion in our meeting at Brighton.

DISCUSSION ON THE TECHNIQUE AND AFTER-TREATMENT OF THE RADICAL MASTOID OPERATION.

OPENING PAPER.

By WILLIAM MILLIGAN, M.D.,

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PROBABLY most of us here have one or other form of pet treatment of chronic mastoid disease which in our own hands has given satisfaction and secured the desired result—namely, the arrest of suppuration and the complete epidermization of the walls of the antro-tympanic cavity. To clarify our individual experiences and to endeavour to lay down a generally acceptable plan of operation and after-treatment is, I take it, the object of this morning's exchange of ideas. With a view to promote discussion and to help this much-to-be-desired consummation it seems to me that I can best fulfil my duty as opener of the discussion by stating briefly my own particular experiences, difficulties, and causes of failure, and if each one here present will do the same the discussion cannot, I feel sure, fail to be of value.

Before embarking upon the performance of any radical mastoid operation it should be a routine practice to test the functions of the labyrinth to assure ourselves whether it is in a normal condition or whether a circumscribed, a diffuse latent, or a healed labyrinthitis is present.

In the event of such tests as the rotation or the caloric showing that the functions of the static segments of the internal ear are in abeyance, it is advisable either to open and drain the labyrinth at the same time as the radical mastoid operation is performed or to perform no operation at all. The risk of lighting up a latent labyrinthitis or of converting it into an acute diffuse labyrinthitis is no mere theoretical quibble. Operative interference under such circumstances has in the past been responsible for a number of fatal results from purulent meningitis, plastic barriers within the internal ear having apparently been broken down, thus permitting infective organisms to spread to the basal meninges. To differentiate between a latent diffuse labyrinthitis and a healed labyrinthitis is by no means, however, always easy. In both the rotation and caloric tests are negative, and there is, as a rule, no hearing power left.

Ruttin has, however, shown that in cases of healed labyrinthitis the "after-nystagmus" towards the diseased side is of as long duration as that towards the sound side, but that both phases are of shorter duration than normal. This "compensation" symptom is important, as when it exists in conjunction with a functionless labyrinth a diagnosis of healed labyrinthitis may be made, and therefore a radical mastoid operation may be performed with safety.

Attention should at the same time be paid to the condition of the nasal passages, the naso-pharynx, and the teeth. If adenoids are present they should be removed, if possible, some ten days or so prior to the major operation. Carious teeth should be extracted, and an antiseptic mouth-wash used regularly. The night before the operation the head should be washed and the skin rubbed with ether to free the scalp from grease.

For disinfection of the external ear and its immediate neighbourhood a 5 per cent. solution of iodine in rectified spirits or chloroform is useful, the first application being made the night before operation, the second when the patient is upon the operating table and anaesthetized. In males the hair for about 2 in. round the ear should be shaved off, but in females the scissors and razor should be used as sparingly as possible, the hair being plastered down to the scalp with collodion paint. The auditory meatus should then be thoroughly cleansed with hydrogen peroxide, followed by an alcoholic solution of mercury biniodide, and packed with a strip of gauze. Following the disinfection of the external ear and auditory meatus, several sheets of double cyanide gauze should be placed over the ear and a bandage applied, the whole head being completely enveloped. When the patient has been anaesthetized a window large enough to expose the necessary operation area should be cut out, and a towel wrung out of carbolic lotion (1 in 40) fixed round the head.

The Eustachian tube should now be washed out through a catheter passed well up its lumen, and steps taken to ensure its permanent closure, as after the performance of a radical operation it no longer subserves any useful function, there being no tympanic cavity to ventilate or to drain. If allowed to remain patent it acts as a channel of possible reinfection, the naso-pharynx in all cases of chronic suppurative otitis media being a septic cavity. To effect its closure many plans are in vogue, such as curetting, the application of caustics, or the folding down of any remnant of the membrana tympani over its tympanic orifice.

A plan which I have adopted with considerable success is as follows: An ordinary Yankauer's speculum is passed and a good view of the tubal orifice secured. A fine galvano-cautery point is now passed upwards along the tube for a distance of half an inch, the circuit completed, and the mucosa thoroughly cauterized. The resulting reaction induces the formation of a healthy cicatrix, which will be found to effectively and permanently seal the tube.

The skin incision should be made either a quarter of an inch behind and parallel to the attachment of the auricle or further back in the hair line, my own preference being in favour of the former. In making the incision care should be taken to avoid opening the temporal sheath, otherwise troublesome oozing is sure to result. In the event of the operator deciding to make use of a periosteal flap (Hugh Jones, Watson-Williams, Leland) to cover a portion of the bone excavation, the first incision is made through skin and subcutaneous tissue only, and not down to the bone.

Opinion is, however, divided as to the utility or otherwise of periosteal flaps. While it is true that they can be made to cover a considerable area of the bony walls of the cavity, my own experience has been that the growth of

granulation tissue from the periosteum is no more rapid than from the bone itself; in fact, in some cases I have found it to be actually slower. The risk of the periosteal flap sloughing is, moreover, a possibility not to be lost sight of.

In reflecting the periosteum care should be taken to preserve it and to reflect it, so far as is possible, in a sheet. To open the antrum, the main geographical landmark, the gouge and mallet, the gouge without the mallet, or one or other form of hand or electrically driven burr may be employed. The objection urged against the gouge-and-mallet method, that it induces shock, and might even, as the result of concussion, cause the rupture of an unsuspected intracranial abscess, is to my mind a merely theoretical objection. I am unable to recall a single case out of several thousands now operated upon where injury was known to have been done, and certainly not one where an intracranial abscess was ruptured. The *tactus eruditus* obtained by constantly using the gouge and mallet is extraordinary, and has always appealed to me as being a more exact method than using the gouge without the mallet, especially in temporal bones with dense cortices, or in those of the infantile type. The burr, either hand or electrically driven, is a slow method of opening the antrum, but is a most useful instrument to smooth down rugosities after the initial spadework has been accomplished. It has been objected that the use of the burr increases discharge, promotes exuberant granulation tissue, tends to induce superficial necrosis, and scatters small spicules of bone dust, which ultimately play the part of minute sequestra about the operation area.

That judicious use of the burr neither promotes exuberant granulations nor leads to an increase of post-operative discharge is my experience both clinically and experimentally, while to avoid the production of superficial necrosis merely necessitates that over-heating should be kept in abeyance by occasional douching with sterile salt solution. In addition, if the antro-tympanic cavity be thoroughly syringed after the operation has been completed, I see no reason why all bone dust should not be got rid of. I have not myself found that smooth walls are a disadvantage, nor that they are the means of retarding the growth of granulation tissue to any appreciable extent, but what I have found is that the carpet of granulation tissue growing from smooth walls is more even and more regular than when the gouge alone is used, and that epidermization is more quickly effected along the plain than when mountains have to be scaled and valleys crossed by the advancing epidermal cells. There is no doubt a tendency among some operators to make unnecessarily large bone wounds. In general, the bone wound should be no larger than is absolutely required for the purpose of getting rid of all disease. A free removal, however, of the posterior meatal wall and of the bony wall of the "attic" is essential; in the former case to provide free inspection of and drainage from the posterior wall of the exenterated mastoid, and in the latter of the epitympanic space and antro-tympanic roof. To secure a sloping surface—an inclined plane—from the floor of the antrum to the floor of the meatus is, to my mind, a *sine qua non*. In order to obtain an uninterrupted view of the cavity of the middle ear it is at this stage advisable to cut whichever flap may have been decided upon and to stitch it into position. The flap which I am in the habit of making is fashioned as follows: A long, thin-bladed knife is introduced into the meatus and an incision made at the junction of its superior and posterior walls from within outwards and well into the concha. The knife is then swept downwards to the floor of the meatus parallel to the curve of the concha, so securing a fairly large surface of soft tissue to cover the floor of the bone wound. After removal of all redundant tissue the flap is fixed in position as follows: A curved needle threaded with silkworm gut is passed through the skin behind the lobule and then through the flap. The needle is then brought back to the surface by passing it through the flap and then through the skin, its point of exit being about a quarter of an inch away from its point of entrance. If the flap is a large one, two or even three mattress sutures are inserted. To prevent sloughing of the skin the silkworm gut threads are tied over a rubber tube, or are threaded through a small lead plate and then tied. When the auricle is replaced after the completion of the operation the flap will be found to cover a considerable portion of the floor of the bone excavation.

The toilet of the inner tympanic wall is a matter of great consequence, because upon its successful accomplishment the future hearing power of the patient largely depends. All remnants of the membrana tympani and all exuberant granulation tissue should be carefully removed with sharp curette or Hartmann's forceps, but the actual mucous membrane should, I believe, be left intact. To scrape it away, and very probably at the same time to injure the attachments of the foot-plate of the stapes, is, to my mind, a mistake, and often spells disaster so far as future audition is concerned, as the tissue which takes its place must necessarily be largely cicatricial in character.

On the other hand, where all hearing power has practically disappeared, there is no object in preserving the mucosa over the pars promontoria. Under such circumstances it may with advantage be scraped away, care being taken not to disturb the stapedio-vestibular articulation. In other words, the inner tympanic wall should be treated with great respect. Given removal of surrounding bone disease and the establishment of free drainage, it is wonderful how the mucosa recovers and returns to a normal condition. In my experience the best results, so far as hearing is concerned, are obtained in those cases where the inner tympanic wall remains moist, and where it does not become covered with dry and more or less rigid epidermis. The fact that the mucosa covering the inner wall continues to secrete a little mucus is, to my mind, an advantage rather than otherwise.

To disinfect the operation area the following plan, advocated by Holmes, is useful: Syringe with a warm solution of hydrogen peroxide (20 vols.) and then fill the cavity with the same solution. Allow the solution to remain *in situ* for one minute. Repeat this three times. Then syringe with a 50 per cent. solution of rectified spirits. Soak the cavity with this alcoholic solution for three minutes, and then neutralize by syringing with a 5 per cent. sterilized solution of sodium bicarbonate. Finally, dry carefully with pledgets of sterile wool.

Whether to suture the post-auricular incision or not requires judgement. In the great majority of cases I am in the habit of sewing it up completely, but where the operation has necessitated a free exposure either of the dura mater or of the walls of the lateral sinus my practice is not to put in stitches, but to leave the cavity open for inspection and free drainage.

How most expeditiously and at the same time effectively to secure epidermization of the walls of the antro-tympanic cavity is still a moot-point, the practice of different operators varying considerably. Treatment by means of packing, while certainly attaining the desired result, is tedious and painful. In addition, repeated packing appears to me to keep the walls of the cavity moist and succulent, and to be the actual cause of the production of much exuberant granulation tissue. My practice is to lightly pack the cavity after the completion of the operation, and, if the general condition of the patient remains satisfactory, to leave the packing *in situ* for four days. The dressings are then removed, the packing, after softening with H_2O_2, gently withdrawn and the cavity syringed with sterile salt solution or weak carbolic lotion. By this time the flap or flaps will have become adherent, and the necessity for further packing appears to me to be done away with.

If the cavity is kept practically sterile (and this should not be difficult provided that all disease has been removed and that the Eustachian tube has been effectively closed), there will be little, if any, tendency to the production of exuberant granulations, and consequently the epidermis from the edges of the flap or flaps will have every opportunity of spreading over the carpet of healthy granulation tissue growing from its bony walls. Every second day the packing should be repeated, care being taken to lightly distend the whole of the cavity, so as to prevent the formation of adhesions or of a web of tissue from one wall to the other. Under the most favourable circumstances it is rare, when packing is used, to secure complete epidermization under from two and a half to three months. In a series of 25 hospital cases the average duration of treatment was 9.5 weeks; in a series of 25 private patients 8.7 weeks.

The main objections to packing are the pain it almost invariably causes and the length of time the patient has

to be kept under continuous observation. The most useful gauzes for the purpose are vioform, bismuth, iodoform, and double cyanide, with or without a selvedge.

Specially dirty and septic cases should, I believe, be dressed *every* day, the first dressing being carried out twenty-four hours after operation. My experience is that under such conditions these cases do much better than if left for four or five days before the first dressing is undertaken.

Instead of gauze packing one or other (antiseptic) powder—for example, boracic acid, borochloretone, dermatol, europhen—may be employed, the granulating surfaces being lightly dusted and the meatus plugged with boracic wool, a roll of gauze, or kept distended with a rubber tube.

The daily instillation of alcohol drops after previous syringing with warm normal salt solution is a method much used in some clinics, and has the merit of simplicity. Beginning with a 50 per cent. solution of rectified spirits, the strength is gradually increased until pure rectified spirits can be borne with impunity. In addition to keeping the cavity aseptic the alcohol tends to retard any exuberance of granulation tissue.* Instead of employing rectified spirits a saturated alcoholic solution of boracic acid may be made use of. This method is more particularly useful in out-patient practice.

To encourage epidermization of the walls of the cavity certain "cell proliferants" are of service—for example, scarlet red, amidoazotoluol, pellidol, azodolen, and allantoin.

Scarlet Red.

With a view to stimulate the growth of epithelium, scarlet red was first used as a surgical dressing by Schmieden in 1908.[1] Upon microscopic examination it was found that after its application the various layers of normal epithelium were reproduced in the new skin covering. It may be applied to the walls of the antro-tympanic cavity in the form of an ointment or paint immediately after the first dressing has taken place—that is, four to five days after the radical operation—and even before they have become covered with granulations; or its application may be delayed until they have become lined with a layer of sturdy granulations as the outcome of packing or some other form of treatment. As a rule strips of sterile gauze, smeared with a 4 to 8 per cent. ointment, and left *in situ* for from twenty-four to forty-eight hours, are employed, after which the cavity is lightly packed with bismuth gauze for twenty-four hours, or it may be applied daily as a 4 to 8 per cent. paint in sterilized olive oil. My own practice is to wait until practically the whole of the cavity is carpeted with a smooth and firm layer of granulation tissue, and then to make daily applications of a 4 per cent. paint. So far the results have been encouraging, epidermization taking place fairly rapidly, the walls of the cavity being completely covered with firm epithelium in from seven to eight weeks. Moreover, the newly formed epithelial cells do not appear to desquamate so readily as the superficial cells of an implanted graft.

In twenty hospital cases treated as above described the average duration of treatment before epidermization was complete was just eight weeks; in twenty private cases it was 7.1 weeks. In a paper by T. W. Ross[2] the following statement occurs: "The result of treatment in this series of cases (15 cases) seems to show that with the use of scarlet red complete epithelialization is to be expected within six weeks. In the majority of cases the period may be within five weeks, and a few specially responsive cases may be completely healed in four weeks, or even in a day or two less." While my own results are not quite so favourable, the difference may be accounted for by the details of after-treatment not being exactly similar.

Instead of using scarlet red, its active principle, amidoazotoluol, a reddish-brown powder, insoluble in water but readily soluble in alcohol, may be applied as an 8 per cent. ointment, and is said to give even better results than scarlet red itself. Or pellidol, a diacetyl derivative of amidoazotoluol, may be used as a 2 per cent. ointment. Pellidol, which is a yellowish-red powder, is also insoluble in water but readily soluble in alcohol, ether, chloroform, oils, and vaseline fats. My own experience of pellidol is that it is no more effective than scarlet red, but that it has the advantage of not staining the dressings and bed linen to anything like the extent that scarlet red does.

Another cell proliferant of considerable value is azodolen, a mixture of equal parts of pellidol and iodolen, which contains 30 per cent. of iodine. It is applied as a 3 per cent. ointment, and combines the advantages of a cell stimulant with those of a disinfectant.

Allantoin ($C_4H_6N_4O_3$), introduced into surgical practice by C. J. Macalister* and obtained by the alkaline oxidation of uric acid in the cold, is a pure white crystalline substance readily soluble in hot water and fairly soluble in cold alcohol, and is a cell proliferant of considerable value. So soon as the walls of the cavity have become covered with a healthy layer of granulations, daily applications of a 0.5 per cent. alcoholic solution of allantoin are made with a cotton-tipped probe and the cavity subsequently lightly packed with dry cyanide or vioform gauze. In a series of 10 hospital cases so treated complete epidermization took place in an average of 8.6 weeks, while in 10 private cases similarly treated the period worked out as just 7 weeks.

Skin Grafting.

Instead of waiting for the gradual, and at times it must be confessed slow, growth of epithelium over the walls of the mastoid cavity, large skin grafts (Thiersch) cut from the thigh or arm are placed *in situ* and, provided that there is no suppuration, adhere within a few days. This method, elaborated and perfected by C. A. Ballance, has been largely employed in this country and, to a certain extent, upon the Continent and in America. Skin grafts may be applied at the time of operation (primary skin grafting), or after an interval of from eight to ten days (secondary grafting), the period varying with the age of the patient and the density of the temporal bone. My own experience has been almost entirely limited to secondary grafting, and at one time I grafted practically every radical operation case.

Latterly, however, I have performed comparatively few grafting operations, partly on account of the objection of certain patients to a second anaesthetic, and partly because employment of cell proliferants appeared to secure practically the same results so far, at any rate, as the time required for complete epidermization was concerned. That skin grafting interferes with the patient's power of hearing, as has so frequently been stated, has not been my experience. Of 100 cases in which the complete post-aural operation was performed, and in which careful notes of the hearing power were made prior to operation and months afterwards, in 64 per cent. it was improved, in 24 per cent. it remained practically as it was before operation, while in 12 per cent. it was made worse. When grafting my practice now is *not* to graft the inner tympanic wall, in order to obviate any interference with the stapedio-vestibular articulation from subsequent contraction of the graft.

In certain cases it is true complete healing took place in from four to five weeks after the performance of the primary operation, but this was the exception rather than the rule. In 75 private cases of which I have accurate notes the average time taken to secure complete healing was just under seven weeks. In addition, my experience of watching these cases now over a period of from five to eight years has been that there has been more trouble from desquamation than in cases treated by other methods.

Where, however, the hearing power has been practically destroyed before operation, and has consequently no longer to be considered, the method is, I consider, an excellent one. My best results with grafting, so far as the preservation of hearing is concerned, have been when the graft has been applied everywhere except over the inner wall of the tympanum, which has been allowed to remain moist.

Blood-clot Dressing.

The blood-clot dressing, originally introduced for the treatment of surgical wounds by Professor Schede, and first employed in mastoid surgery by Clarence J. Blake, of Boston, to be successful implies the most minute attention to detail during the performance of the radical operation, and the securing of a practically aseptic cavity. As a large

*In a series of 20 hospital cases the average time taken to secure complete epidermization was 8.6 weeks; in 20 private cases 8 weeks.

percentage of radical operations are performed during what may for practical purposes be regarded as the quiescent period of otitis media, there is a greater chance of a good result following than when the blood-clot method is employed in the treatment of acute mastoiditis when bacteria are more virulent, and when the tympanum over which we have, at the time of operation at any rate, comparatively little control, acts as a possible and probable focus of reinfection. After the completion of the operation the cavity is very thoroughly disinfected, and blood allowed to collect (if necessary by opening a branch of the posterior auricular artery) until it is quite full. The edges of the post-auricular incision are then brought together with sutures, or preferably with metal clips, and the auricle covered with a sheet of gauze soaked in petrolatum. The usual dressings are then applied, the patient put back to bed, and encouraged to lie upon the non-operated side. At the end of every forty-eight hours the dressings are removed and any serous fluid which may have exuded through the clot mopped up with sterile swabs. In from twelve to twenty days the clot will have melted away, and the cavity will be seen to be lined with a pale pinkish membrane, over which epithelium from the edges of the flaps rapidly grows.

Should the clot break down, however, and suppuration take place, all that is necessary is to remove it by syringing, disinfect the cavity, and institute some other line of treatment. It has been noted by Bondy that in those cases in which the *Streptococcus mucosus* is the predominant organism in the pus from the middle ear treatment by means of the blood-clot method is unsuitable. In 20 cases in which the blood-clot treatment was employed the average time for complete healing—that is, complete epidermization of the walls of the cavity—was 6.2 weeks.

My personal experience of the blood-clot method in both private and hospital practice has been satisfactory. It combines the merit of simplicity with the advantages of rapidity of healing. Subjoined is an analysis of the duration of the after-treatment by the methods already detailed.

An Analysis of the Duration of the After-Treatment of the Radical Mastoid Operation by Various Methods.

I. *Packing.*—Series of 25 hospital cases, 9.5 weeks; 25 private cases, 8.7 weeks.

II. *Spirit Drops.*—Series of 20 hospital cases, 8.6 weeks; 20 private cases, 8 weeks.

III. *Scarlet Red.*—Series of 20 hospital cases, 8 weeks; 20 private cases, 7.1 weeks.

IV. *Allantoin.*—Series of 10 hospital cases, 8.6 weeks; 10 private cases, 7 weeks.

V. *Skin Grafting.*—Series of 100 hospital cases, 7.8 weeks; 75 private cases, 7 weeks.

VI. *Blood Clot.*—Series of 20 hospital cases, 6.2 weeks.

A modified form of blood-clot dressing—namely, serum dressing—introduced into practice by Stuart Low, is said to have the advantage of encouraging leucocytosis and of supplying opsonins and antibodies, but of this particular method I have had so little experience that I am unable to speak with any authority.

Other methods of after-treatment—for example, with strips of gauze soaked in sterile liquid vaseline (Roy), soap emulsion dressings, bismuth paste dressings (Beck), picric acid dressings (Bondy)—I merely mention as having been advocated from time to time.

Comparing, therefore, these various methods of treatment, by packing, alcoholic drops, antiseptic powders, cell proliferants, skin grafting, and the use of a blood-clot dressing, my experience has been that the last-named form of after-treatment when it succeeds succeeds the best, and that the second most effective plan is the application to the granulating surface of one or other cell proliferant in combination with light packing. It will be noted, however, that the various methods subjected to analysis compare very favourably with one another, so far, at any rate, as the time required for complete epidermization is concerned, but that, from the point of view of ease of application and comfort to the patient, there are wide differences—differences well worthy of our most careful consideration and study.

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DISCUSSION.

Dr. DUNDAS GRANT said that various methods were good as long as they were supervised by oneself or a skilful assistant. Therefore, new remedies were very efficient as long as the stimulus to personal supervision lasted. Consequently the remedies were all good for a time. A frequent undesirable result was the formation of a web or diaphragm over the gutter formed by the attic and antrum. Sometimes suppuration continued under this diaphragm, which could be removed by means of Hartmann's punch-forceps. Excessive granulation was apt to occur on the bare surface of the facial ridge in the deepest part, which curetting sometimes seemed to stimulate. Nitrate of silver on a probe was apt to lead to cicatricial contraction, and mitigated nitrate was of little effect. The best effect followed the discreet use of a fine galvano-cautery point. Stenosis of the cavity seemed at times to be due to increased growth of bone, as shown by subsequent operation. In cases showing a strong tendency to narrowing a second operation, with further removal of bone and the employment of Ballance's skin-graft operation, was sometimes necessary; injection of weak solution of zinc chloride into the Eustachian tube by means of the catheter was sometimes valuable. He then asked for information as to the relative frequency of post-operative meningitis. In former years large numbers of radical mastoid operations were performed without a thought as to the possible presence of latent labyrinthitis; and post-operative meningitis was practically unknown. Dr. Percy Jakins's list of operations was particularly extensive. The operations were carried out with great deliberation and care, the inner wall being scrupulously respected. There were, of course, no labyrinthine tests carried out in those years, and the question arose as to whether some danger did not attend the use of the "caloric" labyrinth tests. Possibly the use of cold air instead of water obviated this. He expressed his indebtedness to Dr. Milligan for the instructive information conveyed in his frank and scientific paper.

Dr. WILLIAM HILL had employed most of the methods tabulated by Dr. Milligan, but not in such extensive series. He had tried "scarlet red" (after reading Dr. Logan Turner's report) in only two cases, but had not continued its use, as it was not easily manipulated. For some years in the Nineties he used either iodoform gauze or else gauze dipped in iodoform emulsion with satisfactory results, but in recent years he had got just as good results from a mere light packing with plain gauze. He did not often syringe at the operation, and thought it was better to avoid strong antiseptics, which only irritated and tended to necrosis of granulation cells and of leucocytes during the first few days after operation. It seemed to him better to allow the leucocytes to do the work unhampered as long as possible. If and when the discharge became profuse and suppurative, he syringed with peroxide solution. He had come to the conclusion that the simplest possible technique which merely aimed at drainage was all that was necessary at first—at all events, in acute cases, and often in chronic ones. The undisturbed blood-clot method was more suitable for a Schwartze or for a true Küster type of operation than for a complete antro-tympanic exenteration where there had been long-standing septic infection, and where it was, of course, impossible to render the field of operation anything approaching sterile. Perhaps, for want of time, Dr. Milligan had not emphasized the toilet of the lower part of the tympanum and tympanic end of the Eustachian tube in the same way that he had that of the attic and antrum. It was most important, from the point of view of audition alone, to carefully remove any granulations from the region of the round window, and all would probably agree that the thorough removal of granulations from the tympanic portion of the Eustachian tube was one of the most essential procedures in the operation to avoid recurrence. If this were thoroughly done, Dr. Milligan's special plan of applying the electric cautery wire up the pharyngeal end of the tube would rarely be required. Where very extensive exenteration of the mastoid region had to be carried out—as, for instance, when the lateral sinus had to be expressed—he (Dr. Hill) had resorted to Küster's original method of leaving the

membranous meatus intact—that is, no flap was made, though it was, of course, necessarily detached from the "bridge" and external attic wall; the posterior incision was then only partially closed and the cavity allowed to heal up by granulation, as in a Schwartze operation. This cut short the time of healing, as the granulating soon filled the excavated cavity, and there was no problem of getting a new meatus to cicatrize up by grafting or by packing. In the few cases in which he had employed this method there was no great collapse of the membrane meatus, but he took the precaution of using a tube as a support. The President would remember a case of a gentleman of 86 with an extradural sinus abscess in which this procedure had been most successfully carried out, the wound having almost healed at the end of a fortnight, and there was no discharge at the end of three weeks, although a very extensive exenteration had been done, as the tegmen antri had also been perforated. The most striking thing about Dr. Milligan's remarkable statistics was the fact that there did not appear to be much to choose between the average results in the various methods. The skill and the attention to detail in the after-treatment were probably more important in attaining these results than the medication and method employed. Plain gauze as a light packing and saline solution for syringing when the stage of excessive discharge arrived would probably prove all-sufficient, except in very septic cases. Latterly, however, painting with iodine of the new meatus immediately after operation had been employed as a routine measure at St. Mary's Hospital at the suggestion of Mr. Graham, and this had appeared to render the change of dressings less frequent—a most important consideration in hospital practice.

Sir ROBERT WOODS (Dublin) said that for some months past it had been his practice not to shave the heads of his patients, but to depend entirely on iodine tincture to disinfect the hair and scalp. He had tried periosteal flaps in a few cases, but while they did very well, it did not seem to him that the device possessed much, if any, advantage over ordinary methods. He considered that the most important way of shortening treatment was by immediate grafting. Even if the graft for any reason should fail to take to the bone, the position was no worse, and secondary grafting could be performed at the usual time. He did not think the objection which had been made to grafting—that it interfered with hearing—would bear examination. If the mucosa of the inner wall were left intact, the graft would not adhere to the region of the fenestrae, and therefore could not interfere in any way with the hearing. He regarded silver nitrate as an ideal way of suppressing undesirable granulations; but it should be applied by fusing a small bead into the point of a fine probe. This rendered it easy to apply with accuracy. He did not entirely approve of the application of hydrogen peroxide to septic wounds, as there was a real risk of spreading infection through the tissues on account of the liberation of oxygen forming a local emphysema.

Dr. JOBSON HORNE (London) urged simplicity in the technique of the operation and simplicity in the after-treatment. There was a tendency to dress these cases too frequently and to do too much at each dressing, and thereby to increase the risk of subsequent infection. If the operation were done deliberately and thoroughly less would be required in the way of after-treatment, and the parts could be left more to Nature. The speaker had got good results from simple technique, and so long as he got similar results he was not disposed to give up well tried remedies for others of a momentary fashion. He inquired of Dr. Milligan in what percentage of cases prior to performing the radical mastoid operation he had found clinical evidence of labyrinthine complication.

Dr. NEIL MACLAY (Newcastle-on-Tyne) considered that the result of the radical operation depended mainly upon dealing with the tympanic end of the Eustachian orifice and the facial ridge. He did not like the idea of any moistness after the radical operation.

Dr. WATSON-WILLIAMS (Bristol) said that one of the most important of all the numerous points of value and interest touched on by Dr. Milligan was what he would term the conservative treatment of the inner tympanic wall in cases where there was sufficient hearing to make it worth while saving. For several years it had been his routine practice under such circumstances, and in cases otherwise suitable to aim at the preservation of the whole of the inner tympanic wall mucosa, so that as far as the hearing power was concerned the patient was in the same condition as after an ossiculectomy, with the additional advantage of having the infected mastoid antrum and cells obliterated and the attic cleared and cleansed. In this case one might often have exceedingly useful hearing continuing after a radical operation. To his mind the chief advantage in curetting the Eustachian orifice was the clearing away of infected granulations, and if this brought about a healthy condition it mattered little whether the tube were actually closed or not, provided there was no nasal suppuration. After having removed infective granulations from the hypotympanic space it was safer to leave the mucosa of the oval and round windows alone and to trust to cutting off the source of continuous infection from the attic and antrum. This took longer, but the ultimate result to hearing was more satisfactory. With reference to the double skin flap described by him at the Royal Society of Medicine, his experience was not extensive, but it did well in some cases. He made a conchal flap for the floor, and the periosteomoatal flap started epidermization in the upper part of the mastoid bone cavity.

Dr. WYLIE (London) thought all agreed that the after-treatment of a mastoid operation should be performed by oneself or by a capable assistant, and he himself considered that mastoid operation cases should be carefully dressed every day, as the cavity was filled with pus, due to the patient lying on the sound side. Several methods had been devised to get patients to lie on the operation side, but with no great result. The next important fact was to have a large opening into the cavity and to keep it open, for in his opinion the opening could not be too large, and he usually inserted a large india-rubber tube for five or six days, so as not to let the meatus close. This tube must not be kept in too long, as it caused granulations, and was a source of great discomfort. He then used gauze strips, not tightly inserted but loosely packed, and soaked in the old-fashioned emulsion of iodoform and glycerine (1 in 10), and he thought better results were got by this old emulsion than any of the new remedies mentioned by Dr. Milligan. He noted that Dr. Grant did not mention leaving the lining membrane in cholesteatomatous cases to hasten the covering of the mastoid cavity, which often became torpid, quiescent, and not granulating. This condition needed a stimulant, and the best was a solution of iodine (1 in 200). This was applied, like the emulsion, on strips of gauze. Mastoid cases should not be syringed, especially if the dura mater or the lateral sinus were exposed. The danger in syringing was in driving the pus and infection along the dura or wall of the lateral sinus. Granulations in the meatus could usually be treated by the cautery or by trichloracetic acid. Dr. Hill had mentioned that he left an opening at the lower border of the mastoid wound; by doing so he would overcome certain difficulties in the after-dressing of mastoid operations, but he would not have the aesthetic effect. He always used Michell's clips, and the mastoid incision was never seen in fourteen to twenty-one days. Surgeons should consider such details, and lately he had, like Sir Robert Woods, shaved the head very little or none at all, and that was why skin grafting would never become universal, owing to the difficulty in getting patients to undergo a second operation.

Dr. W. S. SYME (Glasgow) thought the important point was the treatment of the Eustachian tube. The naso-pharynx was often in a septic state and reinfected the wound, and it should be cut off from it, which he did by curetting the tympanic end of the tube and applying carbolic acid. He also thought that, in addition, the tube should be treated at its pharyngeal orifice. The floor of the meatus should be levelled to that of the hypotympanum. With reference to cicatricial bands, he cut them across after they had become organized, and then used packing for a day or two. He had found alcohol drops most useful in after-treatment.

Mr. E. D. D. DAVIS (London) stated that the treatment of the Eustachian tube was not satisfactory. Disappointment to the patient and surgeon occasionally occurred, when the patient had a muco-purulent discharge from the ear with each cold after a radical mastoid operation had been performed. Curetting of the tympanic orifice of the tube and application of caustics were not always successful. With Yankauer's speculum the naso-pharyngeal orifice of the tube was not easily seen in every case, and the speculum slipped into the lateral recess at the pharynx. It was early at the present to give one's experience of the curetting of the isthmus of the tube from the pharyngeal orifice, but the application of a fine galvano-cautery point was certainly worth trying. With reference to meningitis which occurred from infection of the labyrinth, he could recall two cases: (1) A girl aged 17 was admitted under Dr. Mott and diagnosed as meningitis. She had chronic otorrhoea, headache, vomiting, nystagmus, and turbid cerebro-spinal fluid. A radical mastoid operation was performed; the tympanum and mastoid antrum contained pus and sloughing mucosa. A careful examination of the labyrinth revealed no lesion. A few days later a second operation was necessary, and an abscess was found in the posterior fossa, in the region of the internal auditory meatus. She died after a long illness, and at the *post-mortem* examination suppuration of the labyrinth and an extracerebellar abscess was discovered. (2) A lady developed otitis media after influenza; subsequently acute mastoiditis demanded a Schwartze operation; forty-eight hours later diffuse meningitis developed, resulting in death. A *post-mortem* examination was disallowed, but it was probable that infection occurred through the labyrinth. These two cases emphasized the practical importance of an examination of the labyrinth before doing the mastoid operation.

The PRESIDENT considered that care in after-dressing was of the utmost importance. His technique was to cut a flap on the floor of the meatus and to turn it up, swab out the cavity with iodine, and introduce a tube into the antrum for a week for purposes of drainage; he syringed with hydrogen peroxide through this. He had experienced good results from the use of allantoin in a case which proved stubborn to other treatment.

Dr. MILLIGAN, in reply, said it seemed to him imperative, if any progress was to be made in the after-treatment of radical mastoid operation cases, that new methods, if of a scientific nature, should be given a fair trial. He was therefore disappointed that in the course of the discussion so little information had been forthcoming from others as to the merits or demerits of the alternative lines of after-treatment he had detailed. He was sorry for those who still rigidly adhered to old and stereotyped plans of technique without at any rate trying some of the alternative methods advocated during recent years. The points which appeared to have created most discussion were the advisability or otherwise of closing the Eustachian tube and the methods of so doing, and the question as to whether the mucosa should be removed from the inner tympanic wall or not. He strongly advocated closure of the Eustachian tube at its naso-pharyngeal end, first, because attempts at closing it at its tympanic orifice were dangerous on account of the uncertain proximity of the internal carotid artery; secondly, because the curettement, which was necessary if the tube was to have a chance of cicatrizing, destroyed the mucous glands of the part whose presence he considered it essential to retain if the best results, so far as hearing was concerned, were to be secured; and, thirdly, because almost all attempts at effecting permanent closure of its tympanic orifice were admittedly failures. He believed that the mucosa of the inner tympanic wall should be treated with great respect, and that it should be retained if not irretrievably degenerated, in order to secure the greatest amount of post-operative hearing power. Where the hearing power, however, had been entirely destroyed prior to operation, there was little, if any, objection to its removal. His experience of "cell proliferants" had, on the whole, been favourable, and he considered that they were well worthy of a more extended trial than they apparently had had at the hands of those present. He had for years deprecated prolonged and constant "packing" as being painful to the patient and productive of succulent granulation tissue. He had never seen any untoward results from the employment of hydrogen peroxide, and considered it to be a most useful drug for softening dressings. He held that it was very necessary that the static and dynamic functions of the internal ear should be investigated before the performance of the radical operation, as post-operative meningitis from the lighting-up of an unsuspected labyrinthitis was by no means unknown.

DISCUSSION ON THE CARE OF PATIENTS AFTER OPERATIONS ON THE NOSE AND NASO-PHARYNX, AND THE COMPLICATIONS OF THESE OPERATIONS.

OPENING PAPERS.

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It may be truly said that the care which a patient will need after an operation on the nose or naso-pharynx will largely depend on that which is accorded him before the operation; and, if this discussion is to prove useful, I am afraid we shall have to refer to, even if we do not dwell in detail upon, those preparations which minimize the chances of complications, or render them less serious if they should occur.

I purpose to pass in review most of the common operations performed on the nose and naso-pharynx, and only to discuss the subject in so far as my own experiences have guided me.

I. THE APPLICATION OF THE GALVANO-CAUTERY.

It is probable that this is still the simplest and one of the most frequent minor operations practised on the nasal mucosa, and before I began the study of our speciality I had a very unfortunate personal experience of one of its most painful complications. To relieve the symptoms of hypertrophic rhinitis, the galvano-cautery was applied to the anterior end of my left inferior turbinal. No preliminary cleansing of the nasal passages was carried out, and after the application of cocaine the cautery was applied and I was allowed to depart from the house of my friend. Later in the day considerable throbbing pain was experienced in the left side of the nose and cheek; next morning I felt unwell, and during the succeeding days all the symptoms of a quinsy appeared, and about the fifth day, after high pyrexia and much suffering, the peritonsillar abscess burst.

In order to avoid such experiences, it has been my custom to cleanse the nasal passages with an alkaline spray, and after cauterization to apply a little pure carbolic acid to the eschar, so that for a few hours after the operation infective micro-organisms cannot gain entry to the damaged tissues. If such a precaution be taken little, if any, after-treatment will be necessary; but the patient should be seen again after an interval of five or six days in order to remove the crust or to reapply the cautery if that be necessary. It is scarcely worth while discussing the after-care of such cases from the point of view of adhesions, because the galvano-cautery should never be used in a nasal cavity which is so narrow that adhesions might occur.

If it be so narrow that such a sequel might be possible, that fact alone is enough to warrant one in doing a submucous resection or in removing a portion of the turbinal by scissors and snare.

II. ANTERIOR TURBINECTOMY.

For whatever reason this operation is performed, our preparations and details of operation should have regard to (1) the avoidance of subsequent septic contamination; (2) measures to minimize free or troublesome post-operative bleeding.

To avoid sepsis, I am in the habit of (*a*) having the vestibule painted with iodine tincture an hour before and immediately previous to operation; (*b*) spraying out the nasal cavity with a warm alkaline antiseptic just before

the general or local anaesthetic is administered. Post-operative bleeding can only be securely guarded against by efficient packing, and for this purpose I use a strip of rubber sponge. This can easily be removed after twenty-four hours without causing much pain or more than a slight oozing of blood. These advantages are conspicuously absent when strips of gauze are used. Unless the bleeding is excessive the plug should not be replaced, for its place will be taken by a covering of fresh blood clot, which dries into a hard, black protective, and can be easily removed, five or six days after the operation, after the application to it of a little wool soaked in a weak solution of hydrogen peroxide. No further treatment of the raw end of the turbinal will, as a rule, be necessary, but it will tend to keep the nasal cavity clean if the patient is provided with a coarse alkaline spray which should be used at least every morning and evening.

III. Removal of the Posterior End of the Inferior Turbinal.

If no post-operative bleeding occurs, the only after-care needed in these cases is the use of the simple alkaline spray, but severe bleeding is more probable in this operation than when the anterior end of the turbinal is removed. To minimize the chances of this I believe in the use of a cold wire snare slowly tightened up and at least forty-eight hours' rest in bed or on a couch after the operation, and the avoidance of all severe efforts or straining for at least a week. In my experience the removal of a large moriform hypertrophy from the posterior end of an inferior turbinal is an operation which is more likely to be followed by severe and alarming haemorrhage than any nasal operation which is commonly performed, and I have never yet been able to get rid of some sense of anxiety until at least a week has elapsed since the operation. If bleeding occurs the patient should be encouraged to sit up in bed, any clots in the nose should be removed, and a strip of sterilized gauze moistened with adrenalin solution and cocaine (10 per cent.) packed between the septum and the posterior end of the turbinal. This should be removed not later than twelve hours afterwards, for a plug in this region quickly becomes septic. When the oozing is only slight, and especially if the patient is nervous and restless, a hypodermic of morphine is an excellent method of quieting the circulation and stopping the haemorrhage. Complete turbinectomy is, I suppose, never practised to-day, and possibly that is one reason why severe haemorrhages are less common than they used to be. On a few occasions I have used air tampons (such as Cooper Rose's epistaxis tampon) with success, but as a rule they are less useful in haemorrhage from the posterior than in the anterior region of the nose.

IV. Submucous Resection of the Septum.

When this operation is skilfully performed and no septic infection occurs, there is surprisingly little need for any after-treatment, but not a few accidents may occur.

(*a*) *Haemorrhage.*—This usually occurs during the first twenty-four hours following the operation, when the artificial ischaemia induced by cocaine and adrenalin wears off, and it may have its origin between the flaps of the septal mucous membrane or from the anterior edge of the posterior portion of the inferior turbinal if anterior turbinectomy has been performed. Should the latter be the case, it may be dealt with in the manner already described.

When bleeding occurs between the septal flaps a haematoma is quickly produced and may assist in checking the haemorrhage, but if this persists, the flaps should be separated and the clots washed away with a solution of warm normal saline with some added hydrogen peroxide solution. Sometimes the bleeding spot can be seen and the haemorrhage checked by firm application of a small swab soaked in adrenalin chloride solution. The flaps should then be replaced and pressure applied in each nasal cavity by suitable sterile strips of sponge.

(*b*) *Sepsis.*—When infection takes place the temperature usually rises within forty-eight hours of the operation, and the constitutional symptoms will vary with the type and virulence of the infecting organism. Possibly the three most common clinical types of septic infection are:

1. Suppuration between the flaps.
2. Acute tonsillitis.
3. Acute inflammation of the middle ear.

The first named must be treated by frequent irrigation of the cavity between the flaps and free drainage must be provided for. Acute inflammation of the tonsils or of the middle ear must be dealt with by methods which are well known to all of us. Before leaving these complications of this operation, I should like to say that the risks of post-operative haemorrhage are, in my experience, minimized by the use of hydrogen peroxide during the operation and careful packing on each side of the septum after the removal of the hard parts of the deviation. Sepsis may be minimized, if not with certainty obviated, by careful sterilization of the vestibule with iodide tincture before the operation and the cleansing of the nasal cavities with a warm alkaline antiseptic spray before the anaesthetic is administered. Of course one presumes that every care will be taken in sterilizing instruments.

V. Laxity of the Septum following Operation.

When an extensive and well-marked deviation has been removed, it not infrequently happens that the septum, now composed very largely of mucous membrane, remains loose, and vibrates when the patient breathes forcibly, or even deviates so much into one or the other side that some obstruction to nasal respiration results. This condition may be present long after complete healing has taken place, and in such circumstances I have had no hesitation in cutting a large hole in the septum and thus making a permanent perforation. The edges of the hole heal, crust formation soon ceases, and much permanent relief is given to the patient. During the process of healing the nasal cavities may be cleansed with a warm alkaline spray to which a little peroxide solution is added.

It may have been already noted that I have many times referred to a "spray" as the best means of cleansing the nasal cavities before or after nasal operations. The use of nasal douches or syringes is fraught with great danger to the ears, and I could relate several sad stories of acute inflammation of the middle ear and its adnexa necessitating the opening of the mastoid antrum, and the disappointment and prolonged convalescence which this means, all due solely to the unskilful use of nasal douches. That they may be used by the surgeon, and occasionally by the patient, without risk I have no doubt, but I have no hesitation in saying that a coarse spray should always be used when possible. If the occasion demands a douche, I am in the habit of using a small douche with a separable glass end-piece, which was made for me by Rogers, of Oxford Street. The nozzle is so narrow that even in a narrow nose there is always room for the forward and return current of lotion.

VI. Nasal Polypi.

When these are removed by a snare, it will be the object of the surgeon to get as close to the base of the growth as possible, and even to remove a little of the rarefied inflamed bone from which the polypus springs. Beyond cleansing the nasal cavity twice or thrice daily for two or three weeks, little after-treatment will be necessary. Some local reaction often follows this little operation; and the inexperienced man, if he examines the nose within two or three days, may think his operation was unsuccessful, or that another polypus has appeared in place of the ones he removed, and he may be tempted to operate again. This is a mistake, for the appearances referred to are often due to a little local oedema, which is in the nature of inflammatory reaction. No second operation should be undertaken until the lapse of a week or ten days from the first.

It is many years since I have applied the galvano-cautery to the stump or site of a (removed) polypus; it seems to me that what we need is thorough removal, the establishment of free drainage, and the prevention of septic complications. None of these desiderata are secured by the galvano-cautery or chromic acid, and possibly their action may be to encourage the very conditions we wish to avoid. When multiple polypi are present and curettement is undertaken, the patient should remain in bed for forty-eight hours at least, and in the house for another forty-eight hours. On the third day the nasal cavity may be sprayed with a 5 per cent. solution of cocaine, cleansed with a coarse alkaline spray with peroxide solution, and the mucus and inflammatory products expelled by the patient blowing downwards through a free nostril, and not

into a handkerchief. This method of blowing the nose should be strictly adhered to for at least three weeks, in order not to risk infecting the corresponding middle ear. If the progress is a normal one, the patient can go out about five days after operation, provided that he agrees to wear a plug of sterilized wool in the nostril for at least a week from the day of operation.

On the other hand, should curettement be followed by fever, the patient will have to be kept in bed till the temperature is normal. As a matter of experience there will be little likelihood of more than a slight reactionary pyrexia if the nasal cavity is not packed after the operation. Should troublesome bleeding occur, the nose must be gently packed with sterilized strips of sponge, which must be removed not later than twenty-four hours after their insertion. Haemorrhage into the orbit is an occasional complication of curettement of the ethmoid; it may show itself as extravasation under the conjunctiva or a "black eye." I have never seen it cause any real harm. Twice in my earlier cases of ethmoidal curettement the operation was followed by acute inflammation in the orbit with abscess formation; the pus tended to point in the lower eyelid, and in this situation it was evacuated. If the incision is made in the natural fold of skin between the lower lid and the cheek, no visible scar will remain.

VII. Operations on the Maxillary Antrum for Acute and Chronic Suppuration.

The vast majority of acute cases may be divided into those of dental origin and those caused by intranasal infections, such as are met with in influenza and other acute specific infections.

When a diseased tooth is the cause of the infection it will only be necessary to remove the tooth and practise irrigation through the alveolus with some simple warm antiseptic lotion for ten days or a fortnight. While this is being done the alveolar perforation should be kept patent by a solid vulcanite or metal plug. When the suppuration ceases the plugs should be removed overnight, and it will be found that by the following morning the alveolar tract is so shrunken that it may be difficult to insert the nozzle of the syringe. Irrigation should be practised after each meal until the alveolar perforation no longer permits the passage of any fluid.

For the chronic empyemata I never employ the alveolar method, but always operate by way of the nose or through the canine fossa—the so-called Caldwell-Luc method. If free drainage be secured by either of these methods, the only after-treatment necessary will be two or three days' rest in bed, followed by three or four days' confinement to the house. Forty-eight hours after the operation I usually irrigate the antrum by way of the nose with warm normal saline solution to which a little peroxide solution is added. The patient then blows down the free nostril and expels blood crusts, mucus, and secretions which result from the operative traumatism.

In a case uncomplicated by ethmoidal or other sinus trouble the operation for chronic empyema of a maxillary antrum is one of the least dangerous and freest from complications of any operation in our speciality. For the last two years it has been my custom to irrigate the antrum immediately before the anaesthetic is administered, so that one has a comparatively clean surface to operate on. If this precaution be adopted it will be found that there is often no pyrexia after the operation, no swelling of the cheek, and convalescence is rapid. The after-treatment of these cases will generally resolve itself into the use of a cleansing nasal alkaline spray for three or five or six weeks following the operation.

Complications.—The one complication which I always fear in an antral operation is the formation of a crust or "cast" of a shape resembling a small limpet shell, which tends to form in the cavity of the antrum, and may prove an annoyance to the patient for weeks or months after the operation. The crust is usually expelled by the patient every second or third day; it is foul smelling, and its concavity or free surface is wrinkled, dry, and glazed, its convexity being purulent and moist. I am not sure what is the true explanation of this formation, but I have seen them much less frequently the last year or two, during which time I have been content to provide free drainage of the antrum and to interfere as little as possible with the lining of the cavity, even though it be in an extreme state of chronic inflammation and degeneration. It is surprising how free, permanent, and spontaneous drainage, coupled with daily cleansing, will improve the condition of an apparently hopelessly diseased mucous membrane. When this complication (crust formation) has occurred the only treatment I have found effectual is the application of strong silver nitrate, 60 to 80 grains ad ʒ j.

I hope some one here may have some suggestion to offer as to the cause and prevention of this complication, which, although in no sense serious, is a very grave inconvenience to the patient.

VIII. Frontal Sinus Operations.

The after-treatment of operations for acute suppuration is a fairly simple one. When intranasal treatment is adopted and the middle turbinal has been removed and possibly some anterior ethmoidal cells, the sinus must be irrigated daily with a warm alkaline wash until suppuration ceases. When only an excess of mucus is being secreted a visit to the seaside will complete the cure, especially if an occasional irrigation of the sinus can be carried out. If the infection be monococcal it may be possible to hasten cure by the use of an autogenous vaccine, but we must bear in mind that the acute cases tend to get well very quickly if free drainage of the sinus is secured, and as a matter of fact the majority recover without any treatment at all.

In the chronic empyemata the after-care of the patient will depend on what form of operation has been adopted. I presume that to-day we are all in favour of giving every chance to intranasal measures before resorting to external operation. The intranasal operation consists of removal of the middle turbinal and any ethmoidal cells which prevent free drainage from the frontal sinus. Then our after-treatment will consist of daily irrigation with any mildly antiseptic, cleansing lotion, followed by the blowing out or injection of warm air into the cavity, so as to dry the mucous membrane as far as possible, and finally the injection of some antiseptic or caustic which will destroy the microbial infective elements as well as the villous portions of the degenerate mucous membrane.

Speaking only from my own experience, I may say that for the last year or two I have obtained many gratifying successes in chronic empyemata of the frontal sinus by freeing the lower end of the fronto-nasal duct by intranasal operation; then, when all reaction has passed off, irrigating the sinus with warm normal saline and peroxide, blowing out the cavity with warm air until one imagines it is reasonably dry, and finally injecting and leaving in the sinus the following drops: R Pulv. acidi borici gr. x, sp. vin. rect. aq. destill. āā ʒij. Ft. guttae.

If the secretion does not quickly cease, I proceed in the following manner: After cleansing and drying the sinus, I inject a solution of silver nitrate, gr. 60 ad ʒj. In forty-eight hours the débris is washed out and the above drops instilled. When an external operation is performed I always use Killian's method, or some modification of it, and the after-treatment may be summed up by saying that we must, by careful cleansing and light packing, encourage obliteration of the sinus by healthy granulation tissue.

The complication which we all fear is septic osteomyelitis of the frontal bone, and I do not propose to deal with this to-day, because Dr. Dan McKenzie has recently written a very excellent monograph on the subject in the *Journal of Laryngology*. I would only say here that the prevention of this terrible calamity seems to me to depend on (1) the very gentle and complete removal of the diseased lining of the sinus—it should be wiped away rather than curetted, and (2) the establishment of free permanent intranasal drainage, with at least a fortnight of external drainage through the wound in the eyebrow.

The diplopia resulting from interference with the trochlea of the superior oblique nearly always passes off, but I have one patient who suffers from it still, seven years after operation. He has consulted many ophthalmic surgeons, but none of them seem able to explain the real cause of the double vision—at any rate, they are sure it is not due to defective action of the superior oblique. There is no need for any treatment of the formication or numbness due to division of the supraorbital nerve in the external frontal sinus operation. It nearly always ceases spontaneously.

IX. Sphenoidal Sinus Suppuration.

As a rule, we are concerned only with chronic suppuration, and often it is combined with similar trouble in the other sinuses, especially the ethmoidal labyrinth. If a large opening be made at the time of operation, I know of no operation on the sinuses which gives such satisfactory results and needs so little after-care. When the opening is not large it has a very great tendency to become closed by granulations, and suppuration is liable to recur. To check this cocaine should be applied and the granulations rubbed with strong silver nitrate, or even with the solid salt fused on a probe. The galvano-cautery may also be used with good effect, provided we can see exactly what we are doing. For the removal of the granulations round the orifice of the sphenoidal sinus, I have an instrument which has rendered me excellent service. When complications of a septic nature set in outside the walls of the sphenoidal sinus—that is, in the cavernous sinus—I am afraid little can be done but to secure euthanasia.

X. Operations on the Naso-pharynx.

Of course the one operation which is commonly performed in the naso-pharynx is for the removal of adenoid vegetations, and it is a matter of surprise, and even congratulation, that so very few complications arise, when we consider the enormous number of operations performed, and bear in mind that in each case we have provided a raw, absorbent surface, which is freely exposed to infection by inspired air which itself is often derived from unhygienic surroundings, and may in addition pass through unhealthy nasal cavities. I suppose that most of us will agree that very little after-care is necessary when the operation has been performed skilfully and thoroughly in a healthy patient. My own practice is to recommend two days in bed, followed by three days in the house, and to go out if the weather is fine and warm on the sixth or seventh day.

Complications.—Post-operative haemorrhage may sometimes be seen, and in young children loss of blood is generally ill borne. As a general rule such bleeding is due to a tag or shred of adenoid tissue having been left behind. Its removal will frequently be followed by immediate cessation of the bleeding.

Ear Affections.—Some temporary deafness may occur in a case which otherwise is doing well. This is caused by closure of the Eustachian tube, and may be relieved by inflation of the drum by the air-bag, or even by the catheter.

Inflammation of the middle ear is a complication which many of us must have met with, especially in hospital cases which return to their often insanitary homes within two or three hours of the operation. When this complication does arise, it must be dealt with by methods well known to you all. My own practice has been to order drops of carbolized glycerine to be warmed and poured in the ear every three or four hours directly any pain commences. If no relief follows in twenty-four hours, and the membrane is bulging, it will save pain, and possibly the hearing, to incise the membrane and evacuate the inflammatory fluid at once. The case must then be treated as one of ordinary acute otorrhoea.

General Septic Infection.—We must all have heard of cases where shortly after the operation the temperature has risen and signs of general septic infection have soon declared themselves. Some fatal cases have been published, and possibly many more have occurred and not been recorded.

I know of one case in the practice of a colleague—a most able and careful surgeon—where two children, operated on in the same room on the same day, both became septic. One died, the second only just escaped with his life. The surgeon insisted, at his own expense, that the drainage of the house should be examined, and a leakage from a neighbouring watercloset was found under the flooring of the patient's room.

I do not see how such an accident can be avoided—we can scarcely ask or expect all parents to have drains overhauled before we perform an operation in their house, for we assume that the house is a healthy one when we arrange to operate there.

When the complication occurs, little can be done beyond local cleansing of the post-nasal space and support of the patient's general resistance. A child with a raw absorptive surface in his post-nasal space is very liable to infection from the micro-organisms of acute specific fevers, especially scarlet fever, and it would be unwise to operate for adenoids in a district where scarlet fever, measles, or influenza was prevalent at the time. When the adenoids have caused marked or defective development or deformity of the chest, one important element in the after-care is the institution of simple gymnastics or breathing exercises.

II.—Sir Robert Woods, M.B., M.Ch. (Hon. Caus.), F.R.C.S.I.,

Surgeon for the Throat, Nose, and Ear to Sir Patrick Dun's Hospital, Dublin.

Since the care necessary after operations on the nose depends more on whether complications occur rather than their non-occurrence depends on post-operative care, I have taken the liberty of paraphrasing the subject of discussion as follows: "The avoidance of complications during and after operations on the nose, and their treatment when they occur."

The scope of this subject is so wide that in the short space allowed to the openers of this discussion it is hopeless to attempt anything like its exhaustive consideration. I have therefore selected some of its more salient points, as I think it better to deal, with something approaching detail, with a few of them, rather than by attempting a full list to treat none effectively.

In considering the complications of operations on the nose, the first in point of time, and certainly not the least in order of importance, are those in connexion with the anaesthetic.

Cocaine now plays a rôle of the highest importance in this region, and, in spite of many hard things that have been said of it, is, in my opinion, an almost ideal anaesthetic. It is true that it is a depressor of the heart, but since the introduction of adrenalin the quantity absorbed into the general circulation is so much less that its safety has been greatly enhanced. It is, however, open to this criticism: that there are few drugs towards whose toxicity patients exhibit such variations in susceptibility. With regard to its danger, however, a good deal depends on the way in which it is administered. In my opinion, the safest and most satisfactory way of applying it is by small pledgets of cotton-wool on the end of a probe, a fresh piece of wool being used for each successive application. By this means the necessary quantity is introduced gradually, and fair notice is always given to the operator if any special susceptibility to its general toxic influence exists in the patient. If perspiration, pallor, or sense of uneasiness show themselves, the process can be stopped and the patient put lying down. If necessary a little alcohol may be given or a little ether vapour inhaled, and when recovery takes place and it is found that the upright posture does not cause a return of the symptoms, the work may be proceeded with. For convenience in such cases there is nothing to equal the dental chair. The ease and rapidity with which the patient's posture may be changed, as well as the control of the operator over the field of operation, leave nothing to be desired.

It is paradoxical, but true, that a strong solution of cocaine is safer than a weak one. We must bear in mind that in order to produce local anaesthesia a certain quantity of the drug must be made to soak into the tissues. Now, if a weak solution be used, the bulk of the fluid being greater, we are more likely to have it distributed over places where it is not needed, and by the time anaesthesia is induced at the field of operation the total quantity of the drug introduced will be needlessly large, and from the general toxic point of view it is this total quantity that matters, and not the strength. Therefore, let the solution be strong and the size of the pledgets by which it is applied proportionately small.

Patients should be warned to take a full meal before getting cocaine. This is very necessary nowadays, for the public have become so accustomed to fasting before operations where general anaesthetics are administered, that if not instructed beforehand they often avoid taking food, and an empty stomach is conducive to syncope.

Cocaine, when administered in this way, is, in my opinion, perfectly safe—safer than ether, and immeasurably safer than chloroform. For many operations on the nose—

of which submucous resection of the septum may be taken as a type—ether, quite apart from the difficulties in the way of its administration, is unsuitable, and we are obliged to choose between cocaine and chloroform. And with so safe and satisfactory an anaesthetic as cocaine at our disposal the question is forced upon us, Why is chloroform ever used for such an operation? Personally I think the free choice of chloroform is indefensible, and nothing short of a flat refusal by the patient to submit to it would induce me to use any but the local anaesthetic. But if chloroform is necessary in this or any similar operation it should be preceded by ether. The danger of chloroform is thus greatly mitigated, especially if the patient is at all apprehensive. We all know that the emotion of fear is a profound depressant of the heart, and is of itself quite enough to cause syncope, and chloroform is in such cases especially dangerous. If, however, the patient is once asleep with ether, the emotional element is counteracted and eliminated. In general, then, it may be said: If possible use cocaine; if a general anaesthetic is necessary use ether if you can, but, if you must use chloroform, give ether first.

The next complication is haemorrhage. Bleeding is almost as unavoidable in operations as the breaking of eggs for the proverbial omelette. But bleeding derives its importance from its amount, and can only properly be called a complication when a certain indefinite point has been reached and passed. Up to this point we may call it bleeding, reserving the word "haemorrhage" to connote excess. Since the introduction of adrenalin haemorrhage is far from being as troublesome as before. I think we are all agreed, too, that it (adrenalin) has outlived the slander that in any given case the bleeding was worse after its effects had passed away than if it had never been used.

The question is not infrequently asked, if there is any region in the nose more liable to bleed than another after operation. It is probable that, so far as arterial haemorrhage is concerned, the local tendency to bleed is entirely a matter of the size of the vessel. But there is no doubt that the inferior turbinal, and particularly its posterior end, bleeds more readily than other places. Excessive bleeding from the turbinal may, however, with certainty be avoided, if in amputating any of its parts the electric snare be employed, adrenalin then applied, and the patient directed to avoid stooping and exertion for twenty-four hours.

Haemorrhage may usually be controlled, especially if its situation is known, by light plugging with ribbon gauze soaked in weak adrenalin solution, but it is very important that the force used should be minimal. It may be laid down as an excellent general rule in nasal surgery—the less plugging after operation the better, and never to plug in anticipation of bleeding.

If bleeding appears at all too persistent, especially if the blood does not clot rapidly in the tray, some general pathological condition influencing the clotting power of the blood may be suspected. I usually administer 20 grains of calcium chloride or lactate there and then, to be repeated once or several times if necessary, and I believe it is of service. Plugging of the anterior and posterior nares, though useful enough in emergency, has very properly fallen into disrepute on account of the complications that may follow it, particularly if roughly done. But plugs, of whatever kind, should be removed within twenty-four or at most forty-eight hours. It is better to risk having to replace the plug than to allow it to become septic. People are sometimes greatly exercised by the question whether they should sit up or lie down with a bleeding nose. My prejudice is, for hydrostatic reasons, in favour of the upright position, unless there is evidence of syncope. The bleeding of venous engorgement from a bad circulation is sometimes relieved as if by magic by a dose or two of digitalis.

In submucous resection of the septum, the cut surface of the vomer and other parts ooze for a little while after the adrenalin effect wears off, and though the quantity of blood may be trivial, it derives importance from its liability to form a haematoma between the flaps. This liability is especially present in those cases where a theoretically perfect operation has been done and the flap neatly raised and replaced without tearing. In such cases I have found it a useful expedient to nip away with a conchotome a piece of the lower margin of the flap, thus providing a way of escape for any blood that may happen to be shed after the stitches are in place. This plan renders tight plugging unnecessary, and is therefore conducive to the patient's comfort, to say nothing of the vitality of the flaps. If, in spite of precautions, a haematoma does form, the wound should be opened next day and the clot removed with a spoon or curette, otherwise a considerable and valuable part of the sectional area of the nose may be lost for respiratory purposes through organization of the clot.

Except in cases of haemophilia, dangerous haemorrhage is only seen in one condition—namely, naso-pharyngeal fibroma. If such a tumour has a small base, the hot snare makes avoidance of haemorrhage a matter of simplicity; but when its attachments are broad and an attempt is made to remove it with sharp elevators, the only possibility of avoiding alarming haemorrhage is to get the elevator as near to normal tissue as possible. If the path of the instrument goes through normal tissue the bleeding arrests itself, for then the vessels can retract; but every possible wound to the tumour itself should be avoided. After operation normal saline solution should be freely injected subcutaneously or intravenously and the foot of the bed raised.

With a view to avoiding sepsis after nasal operation, it is of prime importance that the patient should be purged beforehand, particularly if there is oral sepsis, for a foul mouth means a fouler intestine. Then, in addition to the ordinary technique regarding instruments, etc.—it is hardly necessary, I hope, to insist that every instrument introduced into the nose, even for an ordinary examination, should be fresh from the boiler—iodine tincture should be applied to the outside of the nose, vestibule, upper lip, and moustache if present, and any part of the operator's hands that can come in contact with the "business end" of the instruments, particularly the thumb and forefinger of the left hand, with which cotton-wool is fixed on the end of the probe for applying cocaine solution. For moist surfaces on the inside of the nose tincture of iodine is, I think, not quite so suitable as the old iod-glycerine of the Vienna pharmacopoeia.

The hot snare as a means of amputating portions of the turbinals is not open to the objection that can fairly be urged against the cautery—that it leaves necrotic tissue in its wake, to form a possible focus of infection. I have long regarded the cautery for the purpose of reducing enlargements as a most unsurgical weapon. If a portion of the turbinal, not large enough to be snared, is to be removed, it should be done with a conchotome. A clean surface is thus left, and I have never seen trouble follow its use in this way. If an irritative effect is desired—an effect extremely useful in certain chronic infections characterized by watery discharge on small provocation—it is better to obtain it by chemicals, such as phenol or trichloracetic acid. For such purposes the cautery, where it does anything, does too much, and the area treated is much too small.

Pharyngitis sicca often occurs after removal of the turbinals, but it is doubtful if it should be spoken of as a complication of that operation. It is rather the natural result. At any rate, the easiest and the best method of avoiding it is not to perform the operation. It is difficult to see why it was ever devised. I can only compare it to amputating the leg for a sore toe, without the advantage of being able to provide a wooden substitute. I would not think it necessary to say this much were it not that instruments for the purpose still figure in instrument makers' catalogues, and, as I am informed, are still purchased.

For post-operative treatment, douching the nose with cleansing solutions and spraying it with antiseptics are frequently practised, but for my part I carefully avoid them in all cases with one exception. After radical operation on the antrum douching is generally desirable, and, if fetor is present, indispensable. But even in that case nothing stronger than normal saline solution is called for, and it should be injected directly into the antral cavity.

If the nasal douche must needs be used, there is one point that should invariably be observed. The nozzle should be introduced into the narrower side of the nose if any difference exists. The object of this is that the outflow should be as free as possible and the pressure of

the fluid in the naso-pharynx as low as may be. The tendency of acute otitis media to result from nasal douching is entirely connected with the entry of fluid up the Eustachian tube.

After all minor operations it is my practice to put a light plug of cotton-wool in the nostril in order to keep dust and cold air out, pending the passing of the adrenalin reaction; for an artificially blanched mucosa must be regarded as being in a condition especially susceptible of infection. I consider this as of great practical importance. As to the question of rest in bed after operation, when once the patient has recovered from the effects of the anaesthetic, I see little to be gained by it unless some constitutional symptom is present. As a rule, I leave it very much in the patient's own discretion, and, if he is neither sick nor sore, there does not seem to be much reason why I should compel him to be sorry by keeping him in bed against his inclination.

In all operations on the nose the danger of blood or pus entering the lower air passages is present in greater or less degree, and, if subsequent respiratory complications are to be avoided, must be prevented with all care. If local anaesthesia is employed the patient should be encouraged to cough and clear the throat from time to time during the progress of the operation, for even a trace of cocaine in the throat may have a sufficient dulling effect on the sensibility of the larynx to throw it off its guard. Under general anaesthesia, if the site of the operation is in front of the naso-pharynx, a gauze plug should be drawn upwards through the mouth by a string reeved through that side of the nose on which the disease lies. If the seat of operation is the naso-pharynx, and its duration short—as, for example, the adenoid operation—it will be sufficient, directly the manipulation is over, to turn the patient on his left side face downwards, keeping the mouth open. A very convenient way of doing this is to stand behind the patient, and, while supporting the head with the left hand, the operator inserts the tip of his right forefinger behind the last molars on the left side. Blood can then flow without risk of its inhalation or of injury to the finger until the swallowing reflex returns. With ether, bleeding is certainly somewhat freer while it lasts than with chloroform anaesthesia, and may be described as a defect of its quality, but to avoid a little haemorrhage by depressing the action of the heart is, to my mind, purchasing a very small advantage at a very high price. I may even go so far as to express a doubt whether the extra tendency to bleed is any real disadvantage, for it can at once be controlled by sitting the patient upright, a perfectly safe procedure with ether.

Where a prolonged operation is necessary, and the naso-pharynx cannot be plugged, the greatest comfort and advantage is obtainable by performing a preliminary tracheotomy. This procedure is of the simplest and safest kind. When the tube is in place and the pharynx plugged, any nasal operation may be undertaken, even with the patient's head raised, without fear of fluids entering the windpipe. The tube may usually be removed at the end of the operation, and the wound is best left unstitched, so as to avoid risk of surgical emphysema.

Since operations on the nose include, for purposes of this discussion, those on the accessory sinuses, a word must be said on that very terrible variety of septic complication, osteomyelitis. I hardly know whether to call myself fitted or unfitted to speak on this subject, for, though I have operated on many frontal sinuses, it so happens that I have never seen the complication. Before I had ever operated on such cases, I had learnt from McEwen's great book, even to-day the best on the subject, *Pyogenic Infective Diseases of the Brain and Spinal Cord*, the danger of septic scratches in the flat bones of the skull, and, if my good luck is not entirely accidental, I attribute it largely to his teaching.

Osteomyelitis does not occur spontaneously in frontal sinusitis. Why? Because between the pus and the bone there is a living membrane, and it is obviously in the removal of that membrane that infection occurs. My procedure in the matter is as follows: The site of operation in the outer table being exposed, I remove a small disc of bone, taking every precaution not to open the membranous sinus. I regard the appearance of pus at this stage as a calamity. The membranous sinus is then pushed back from behind the anterior table and the bone nibbled away as far as may be necessary to expose the sinus well in every direction.

When a reasonable area of bone has been removed pressure is exercised on the front of the membranous sinus by a gauze sponge, so as to squeeze any pus it may contain downwards into the nose. When an area of bone has been removed sufficient to make it clear that all portions of the membranous sinus are accessible, the raw surfaces are swabbed with an antiseptic. I have at various times used various drugs—carbolic acid (1 in 20), mercurial biniodide in water and also in spirit, while nowadays I use iodine tincture, which is, I think, the most suitable of all. The removal of the mucous membrane is then proceeded with, care being taken to do this gently with gauze wipes, and not to employ any spoon or other sharp instrument that might scratch the bone. Finally, when the membrane has all been removed, the antiseptic is again applied before closing the wound. Further details would be out of place here, but it is my belief that operations performed in this way should not be followed by osteomyelitis.

DISCUSSION.

Dr. W. H. KELSON said that the cases might be divided into two groups: (1) Simple cases in which the patient only required rest and quiet, and the less the surgeon interfered the better. Under these conditions the parts would heal as under a scab, without rise of temperature and with practically no discharge. (2) Complicated cases, including those in which packing had been used either to check haemorrhage, keep parts in position, or for some other reason. Packing in the nose must be looked upon as an evil always to be avoided if possible, since it (1) damaged the delicate ciliated epithelium, (2) interfered with drainage, (3) facilitated septic changes, and (4) produced very often irritation, restlessness, sleeplessness, and rise of temperature. It was possible generally in operating for deflected septum to keep the flap in position without packing by passing a suture through the anterior inferior angle of the flap, then through the septum, and tying it outside the nose round the columella; this was removed after from twenty-four to forty-eight hours, and never produced perforation, and was much less disturbing to the patient than a plug. If the nose had unavoidably been plugged the latter should be removed as soon as possible, though the exact length of time it should be left *in situ* must depend on the idiosyncrasies of the patient and the cause of its having been introduced. Its removal should never be a hurried procedure; often considerable patience and prolonged soaking with normal saline solution was necessary. For cleansing purposes the douche was, as a rule, to be carefully avoided; a coarse spray of alkaline lotion and gentle swabbing were much better. After operations on the nose, particularly where the patient was exposed to impure air, such as that in a ward containing bad cases, he had found that a piece of cotton-wool kept in the vestibule, acting as a filter, was a great protection. If the urine were systematically examined in all patients of middle age before nasal and post-nasal operations, the surgeon would often be forewarned as regards excessive haemorrhage and septic changes.

Dr. JOBSON HORNE (London) congratulated the Council of the Section upon its choice of this subject for discussion. The fact that the subject had suggested itself for discussion indicated that the results of operations on the nose and the naso-pharynx were, perhaps, not always so gratifying as some would have them believe. The unsatisfactory results might be partly attributed to a lack of ceremony in the performance of these minor operations and partly to over-eagerness in those desirous of doing everything possible for their patients. There was a tendency to create in the minds of the patients an impression that these operations were of such a trifling nature they could go about their business immediately afterwards. This gave rise to prolonged healing, "trimming up," and repeated operations and unsatisfactory results. Dr. Jobson Horne preferred to keep the patients in bed, or in their rooms, for a few days after the operation, as thereby the movements of the patients were under control, the after-treatment was shortened, and the results were more satisfactory. Oral sepsis and impairment of the patient's general condition were also contributors,

often overlooked, to unsatisfactory results, and should receive as much attention as the nasal condition itself.

Dr. SOMERVILLE HASTINGS (London) advocated the use of sodium salicylate or aspirin, and the use of potassium chlorate. He preferred ether for anaesthesia rather than cocaine.

Dr. WATSON-WILLIAMS (Bristol) said that intranasal lavage of frontal sinus cases was usually sufficient, if not to cure, at least to so far relieve the patient as to render external operation unnecessary, and if instead of removing the anterior end of the middle turbinate and trying to enter the fronto-nasal duct from below upwards, one resorted to the method he had demonstrated—namely, the clipping away of the anterior end of the attachment of the middle turbinate and of the fronto-ethmoidal cells lying above this point—one entered the fronto-nasal duct much more anteriorly and nearer the frontal sinus. Then lavage with simple saline solution, or if it proved necessary with a weak or even strong solution of iodine, would prove very helpful. If an external operation was absolutely essential after all other means were found inefficacious, then the operation should be thorough, and he preferred his method to that of Killian because it laid open the whole operative area, and it made it so easy to open every aberrant suppurating ethmoidal cell, and it was probably the failure to open up some such infected cell which caused osteomyelitis. Another point of some value was the washing out and disinfecting of the sinus as soon as it was opened, so as to avoid infection of the bone and tissues around. It should be remembered that an osteomyelitis did sometimes occur spontaneously in cases in which no frontal sinus operation had been performed. For many years he had avoided chloroform, and had invariably operated with ether anaesthesia when a general anaesthetic was necessary, and if plenty of air were allowed, the bleeding under ether anaesthesia was hardly greater than with chloroform. If cocaine were used it should be a strong solution, and with 20 per cent., which he habitually employed, he got less trouble than with weaker solutions. He thought the disinfection of the vestibule prior to operations in the nasal passages was an important point which was too often omitted, whilst the teeth should also be inspected, as pyorrhoea alveolaris might reinfect an operated nasal area, and prove a source of danger to the lungs in anaesthesia. He avoided all nasal douching if possible, and used a coarse spray to wash out the nose. Of course in antral and other sinus cases it was usually essential that a douche be used, but if there were only a local ethmoid cell infection the use of a douche might cause the other still healthy cells and sinuses to become infected. If a nasal douche must be used, it should have a small, long nozzle, which could not block the escape of the injected fluid.

Mr. MAYO COLLIER (London) said that, after an experience of thirty years in nasal surgery, he felt justified in making a few remarks. Whilst they were glad to hear of the personal experiences and practices of such able exponents as Mr. Tilley and Sir Robert Woods, he fancied the aim and scope of that meeting went beyond recording the opinions and practices of individual members, however able and distinguished. They should formulate cardinal principles of the after-treatment of nasal operations, so that the practising members of the profession who were not specialists might have a safe and sure guide to follow. He felt sure they could record principles that were axiomatic and irrefutable. Looking at the anatomy of the nose, its physiology and surroundings, they could define the principles ruling their after-treatment and their general conduct towards this cavity. The nose-box was the most important part of the body. It sheltered the function of taste, hearing, and smell. It was the portal of respiration, and contained certain recesses which acted as accessory lungs and had all to do with high notes in singing what was known as the head register. Therefore one should exercise extreme care and circumspection in all procedures for fear of damaging one or more of these important functions. The nose was naturally free from the common chances of infection after operation, and, being practically aseptic, little or no treatment in the way of medication was desirable. The nose would resent anything but the simplest and most negative applications, and these should never be used except for a distinct purpose to remove offending secretions, and then only in the form of a coarse spray or mop. Packing after operations need seldom be resorted to. After the most severe operations no packing was requisite if the anterior nares were kept open with the help of a little wool placed between the septum and the ala of the nose. The stream of air passing down 20,000 times a day was the best antiseptic and styptic one could employ. Unfortunately, the nose had become to a large extent the bowling-green of surgery, and it was their duty as teachers to point out the dangers and pitfalls of any reckless procedure here to their less informed brother practitioners.

Mr. W. S. SYME (Glasgow) said that with reference to operations on the maxillary antrum he washed it out before operation, dried it by blowing in air, and sprayed through the cannula a little 10 per cent. cocaine solution combined with one-third the quantity of adrenalin chloride (1 in 1,000), whether he used local or general anaesthesia. It diminished bleeding. He avoided packing, especially towards the roof of the nose. The after-treatment of ethmoidal and sphenoidal disease was often very prolonged. He mopped out the latter cavity with 60 grains to the ounce silver nitrate solution and insufflated some antiseptic powder, as boracic acid or aristol. This dry method tended to diminish growth of granulation tissue.

Professor WHEELOCK (Indiana) said he had been fortunate in never having had any suppuration following intranasal interference. He considered preliminary treatment an important factor. His method had been, after a preliminary spraying with weak cocaine and adrenalin chloride solution, to pack with gauze moistened with the following: Cocaine hydrochloride and antipyrin, each gr. 20, sodium chloride gr. 4, adrenalin chloride (1 in 1,000) ℥ss, aq. dest. ad ℥j. After half an hour he painted the operation area with 50 per cent. argyrol solution. He used layers of gauze as a splint well smeared with 2 per cent. sterilized mentholated vaseline, which he left *in situ* for twenty-four to thirty-six hours.

Dr. BIRKETT (Montreal) said that there were similar difficulties on his side of the Atlantic, notwithstanding all treatment. They also had crusting of the operation area, and usually treated it with a solution of argyrol of 1 drachm to an ounce of water.

Dr. CHILD (Exeter) referred to the faintness and sickness sometimes following the use of cocaine, and said that he had had practical experience of its effects in this direction.

Dr. JACKSON (Plymouth) said that he had used novocain, and thought it better than cocaine.

Dr. KILLEN (Belfast) said that local anaesthesia was generally better. He used injections of novocain for septal operations, and applications of cocaine for the ethmoid and sphenoid. He used a loose plug at the posterior end of the inferior meatus to absorb any excess of cocaine, and thereby prevent its being swallowed. The President referred to cases which seemed to be progressing satisfactorily, and which, after a railway journey or a taxicab journey or otherwise, developed acute symptoms. He thought more care should be taken after operation.

In reply to the discussion, Mr. HERBERT TILLEY said he had very few experiences of the toxic action of cocaine, possibly because he never injected it, but only painted it on mucous membranes. In its passage through the epithelium cells possibly some of its toxic properties were destroyed. He maintained that it was a great advantage to pack the nasal cavities for twenty-four hours after a submucous resection, and with soft rubber sponge, because effusion of blood between the flaps was thus prevented, and free drainage would be secured if no stitches were placed in the cut mucous membrane. He reiterated his condemnation of nasal douches because of the many accidents to the ear which he had seen from their use;

all necessary cleansing could be attained by the use of a warm, coarse, alkaline spray, with an admixture of hydrogen peroxide.

Sir Robert Woods, in reply, said that when he objected to keeping the patient in bed as a routine treatment after operation, he did not mean that he allowed him to go about as usual, but that he did not insist on his occupying the recumbent position. There was some little advantage in putting ribbon gauze into the antrum after a radical operation, as when withdrawn twenty-four hours later it brought with it any blood that might have oozed into the cavity.

RHINOSCLEROMA.

By Owen Richards, M.Ch.Oxon., F.R.C.S.Eng.,
Surgeon to Kasr el Ainy Hospital and Professor of Clinical Surgery in the Egyptian Government School of Medicine.

[With Special Plate.]

Rhinoscleroma, apparently, is very rare in England, for the English textbooks devote very little attention to it; while of five volumes on tropical medicine which I have been able to consult, only one has three lines on the subject, so that it is clearly not a tropical disease. In Egypt, however, it is by no means uncommon, and though it is not directly dangerous to life, yet it causes so much disfigurement and discomfort that in an advanced case it makes the victim's life hardly worth living.

The disease begins as a localized hard papule in some part of the nose, and in the course of a year or two this induration spreads till it involves practically the whole nose, and frequently the upper lip and palate as well. One of the most striking features about it is that it infiltrates the whole nose more or less symmetrically without destroying its essential form; the nose may be many times its natural size, and owing to secondary ulceration may resemble a malignant growth of the face. But nevertheless, even in such advanced cases, its alae and septum can be distinguished, and it is evident that we are dealing with a diseased nose and not with a growth replacing it. This distinguishes it at once from any form of malignant disease.

The actual growth seems to be a granuloma of the submucous and subcutaneous tissues, and the skin and mucous membrane are for a long time unaffected. Later, as the mass increases in size, they become fixed to the deep tissues, and develop a shiny surface followed by an eczematous reddening, which progresses ultimately to ulceration. But long after the nose has become quite deformed it continues to be covered with apparently normal skin outside, and with a pale grey intact mucosa inside. The narrowing of the nasal passages, except where the septum is first and severely affected, is usually concentric, in accordance with the symmetrical development of the swelling mentioned above.

The growth is hard, but of the hardness of cartilage rather than that of wood; it is fairly vascular, and seems never to soften and break down. Extension commonly takes place into the upper lip, and not infrequently into the palate. The lacrymal ducts also become blocked, and from the occurrence of deafness one may assume that the Eustachian tubes are also obstructed.

Further than this it does not seem to go: the jaws and face appear to be able to resist attack, even when the nasal mass becomes very large indeed. The bone of the palate and the alveolus, near the central upper incisors, may become absorbed to some extent, but probably rather from pressure than actual invasion. Any moderately advanced case is quite easy to diagnose, and the characteristic bacillus has been found in the deeper layers in all cases in which it has been looked for.

It is evident that when once the disease has become established surgery of any ordinary kind is useless. A temporary nasal passage of a sort could no doubt be carved out of the mass, but this is hardly worth doing; while the total removal of the affected tissues is a procedure which few surgeons would care to undertake, and fewer patients would submit to. The only prospect of cure seems to lie in attacking the active cause of the disease, and trusting to Nature to absorb the mass.

In all probability the cause is a living parasite. Granulomatous masses under the skin or mucous membrane occur very commonly in this country from infection with Leishmania and bilharzia. Since rhinoscleroma is clearly not malignant, it is probably one of these parasitic granulomata. The fact that a specific bacillus is constantly present in the deeper layers suggests, though it does not prove, that this is the real cause of the disease, and vaccine treatment was undertaken on this hypothesis.

Dr. Ferguson, Professor of Pathology, and Dr. Anis Onsy, his assistant, have kindly furnished me with the following notes on the isolation of this organism and the preparation of a vaccine from it:

As a rule, the isolation of the characteristic bacillus offers no difficulty. The surface of the mass is first rigorously treated to remove superficial bacteria, chiefly staphylococci and diplococci. If a platinum loop be introduced within the edges of a minute incision 3 or 4 mm. deep in the infiltration, and the blood which fills the loop be stroked over the surface of several agar tubes, a glutinous growth of the bacillus of rhinoscleroma will, as a rule, be obtained in one or more of the tubes. The more certain method, however, is to remove a small piece of the tissue after having made its surface sterile, and smear the fresh-cut surfaces over one or two ordinary agar plates. The hemispherical, moist, sticky, greyish colonies of the rhinoscleroma organism are easily picked out after twenty-four hours' incubation from among other growths of pneumococcus, *Diplococcus catarrhalis*, and "diphtheroid" organisms. Sloped agar cultures of the rhinoscleroma colonies were then made, the purity of the colonies and the morphological characters of the organism being confirmed by stained preparations. Vigorous superficial growths were obtained after twenty-four hours' incubation; 5 c.cm. of sterile normal saline were placed on each culture, and an emulsion as homogeneous as possible was made by means of a fine glass rod. This bacterial emulsion was transferred to a sterile test tube containing glass beads. The tube was drawn out and sealed in the flame, and the emulsion thoroughly agitated for forty-five minutes. This prolonged agitation was found necessary owing to the well-known viscid nature of the rhinoscleroma growth. When a satisfactory emulsion had been obtained, the drawn-out end of the tube was filed and broken, a few drops of the emulsion withdrawn, and the bacteria contained in 1 c.mm. estimated by Wright's method by comparison with the observer's known red corpuscles. Suitable dilutions of the vaccine were then made and delivered for administration.

The vaccine thus prepared from this bacillus was injected in doses varying from 1 to 20,000 million into a series of four patients. In the first case the vaccine was prepared from organisms isolated from the patient herself. The other three cases who were in hospital together were treated with vaccine prepared from one of them (Case III). In addition to these injections an attempt was made by exposing the nose to the sun and by hot applications to increase the circulation in it. None of the cases showed any local reaction, or more than a slight rise of temperature. Two of them were seen at intervals after discharge, and they were in no way improved.

Details of cases are appended. They indicate that vaccine treatment with the bacillus in question is useless, either because the body does not respond to the vaccine or because the bacillus is not the real cause. Surgery is equally useless, except possibly in the very earliest cases, and unless some help is forthcoming from the pathological or chemical side, the disease must be considered as incapable of either cure or alleviation.

Case I.

Shalabieh Hassan, admitted October 10th, 1911. A woman, aged about 50, with a large tumour of the nose, which has gradually appeared in the last two years. The history is that it began as a papule on the left side of the nose, which gradually reached the size of a lime; it then began on the right side, and is now symmetrical. Her mouth, tongue, palate, etc., are normal. The whole of the nose and upper lip are converted into a dense mass of growth, which expands, instead of destroying, the natural shape of the nose. The form of the alae nasi and columella remains clearly marked. There is a good deal of ulceration on the more exposed surfaces, but much of the growth is covered with skin.

Examination of the tissue showed the characteristic bacillus.

A vaccine was prepared from this and administered as follows: November 13th, 1 million; November 18th, 2 million; November 20th, 4 million; November 27th, 10 million. No reaction, local or general, was obtained, and the patient took her discharge unrelieved.

Case II.

Ibrahim Shihatah, aged 30; admitted March 15th, 1913. Six months' history of swelling and hardness of the nose, followed by lacrymation and deafness. The nose is nearly double its natural breadth, the alae are thickened, with the skin over

them adherent, but otherwise normal. The columella is increased in length and thickness, and is continuous with a hard mass in the upper lip. Both nostrils are filled with ulcerated masses, and the septum is perforated. The hard palate is normal. There is marked deafness on both sides; watch heard at 1 inch. Both lacrymal ducts are blocked, and there is a discharge of pus from the puncta.

Vaccine Treatment.—March 19th, 50 million; March 24th, 400 million; March 30th, 1,000 million. No reaction or effect of any kind.

CASE III.

Hassan Ahmed, aged 20; admitted March 5th, 1913. Two years ago he developed a small papule on the lower part of the nasal septum, which itched, and, in consequence of scratching, ulcerated. Since then the nose has gradually increased in size. The upper half of the nose is externally normal, the lower half is swollen to twice its natural size in breadth and depth. The swelling is most marked in the columella and septum, and extends into the lip below. The alae themselves are free. Both nostrils are completely blocked by a hard fleshy mass arising from their inferior and median walls; this mass has an eczematous appearance on the surface, and is covered with serous crusts inside the nostrils, outside it is covered by normal skin which is firmly adherent to it. In the hard palate, just in front of its junction with the soft, is an ulcerated surface about an inch square, covered with firm, clean, even granulations. This surface is level with the surrounding mucosa, and is free from inflammation or visible discharge. There is a slightly projecting mass of a similar character which appears on the gums in the incisor region, and extends through the alveolar process backwards for about two inches on to the hard palate. The throat is normal.

An organism with the characters of *B. rhinoscleromatis* was isolated from the mass, and a vaccine prepared from it. It was injected as follows: March 16th, 25 million; March 19th, 100 million; March 25th, 600 million; March 29th, 2,000 million; April 5th, 6,000 million; April 10th, 20,000 million. No reaction was observed, and no improvement then or later.

CASE IV.

Essawi Mohamed, aged 21, milkseller, Cairo; admitted March 5th, 1913. Complains of pain and obstruction in the nose, and deafness. The swelling began one and a half years ago in the upper part of the nose. The whole nose is broadened, and at its junction with the forehead this broadening has caused the skin to overlap the inner canthus on each side in a crescentic fold. On the surface of the left nasal bone is a hard bony swelling, ⅜ in. square and ¼ in. thick. The whole of the alae, the septum, and ⅜ in. of the upper lip are involved in a firm, cool, painless swelling covered by skin, which is normal in appearance but firmly adherent. Inside the nostrils are entirely blocked by a swelling which surrounds their lumen; some of the surface of this is superficially ulcerated and covered with dry yellow crusts. The palate, which has a very high arch, is unaffected. There is slight deafness on both sides, and the patient complains of swishing sounds. A finger in the naso-pharynx could detect nothing abnormal except an apparent hardness and prominence of the posterior ends of the inferior turbinals.

The patient received injections of vaccine as follows: March 16th, 25 million; March 22nd, 200 million; March 27th, 1,000 million; April 1st, 4,000 million; April 9th, 20,000 million. No improvement was obtained, either at the time or when the patient was seen some weeks later. During his course of vaccine the patient was successfully operated on for hernia.

CASE V.

A woman admitted March, 1911. The interior of the nose was blocked by a submucous swelling arising from all the circumference of the nares. Externally the nose was increased in size, but the skin was not adherent. Below the right nostril was a raised, sharply limited, hard, ulcerated plaque, continuous with the mass inside the nose and covered with a dry yellow crust. A portion removed was found to contain the bacillus of rhinoscleroma. A course of potassium iodide produced no improvement.

CASE VI.

A woman admitted October, 1910. This patient was sent up by a doctor as a case of dacryocystitis. There was blockage of the lacrymal ducts. Both nostrils were blocked by a firm pale mass, not ulcerated. Nose hard and broad, skin not affected. Soft palate eaten away at the back. No history of syphilis. A piece removed was found to contain "an encapsulated bacillus resembling that of rhinoscleroma." Discharged unrelieved.

DISCUSSION.

Dr. WILLIAM HILL (London) inquired if gamma radiation had been tried in this condition. It was now quite clearly established that the rays emitted by screened radium not only inhibited cell reproduction in many neoplastic growths, but in some instances led to very marked atrophy; *x* rays sometimes had a similar action. The employment of these measures seemed to him to be well worth trying in this hitherto intractable disease, more especially in these more malignant Egyptian cases, which appeared to differ from the slow-growing cases which he (the speaker) had seen exhibited at medical societies in London.

Mr. TILLEY (London) referred to the rarity of such cases in Europe and their absence in this country.

SUGGESTIVE POINTS OF ANALOGY BETWEEN OTO-SCLEROSIS AND ARTHRITIS DEFORMANS.

By JOHN F. O'MALLEY, F.R.C.S.,
Aural Surgeon, Evelina Hospital for Sick Children; Assistant Surgeon, Royal Ear Hospital.

(*Abstract.*)

In this paper Mr. O'Malley first stated the resemblance between oto-sclerosis and arthritis deformans in regard to morbid anatomy. In both the soft tissues were practically unaffected, ossification of ligaments might take place, cartilages proliferate, hypertrophy and ossify, bone atrophy, osteophytes form, and ankylosis through bony union or osteophytic locking occur.

The commonest age of incidence in both affections was between 20 and 40 years of age. Both were commoner in white than in negro races. Both occurred more frequently in females than in males. In regard to heredity, a family history of the disease was found by Siebenmann in 35 per cent., by Denker in 40 per cent., and by Bezold in 52 per cent. of cases of oto-sclerosis. Osler found in 33 per cent., and Garrod in 43 per cent. of cases of arthritis deformans, a family history of joint troubles. Oto-sclerosis was usually progressive, but might be stationary for years and be arrested while a fair degree of hearing still remained. Both affections were bilateral, though one side might be more advanced in the slowly progressive forms.

Climate and climatic conditions had no influence over the course of either disease. Finally, he summed up his conclusions as follows:

1. That chronic adhesive processes of the ear, or, as Kerrison calls it, chronic hyperplastic otitis media, is rheumatoid arthritis affecting the organ of hearing.

2. That oto-sclerosis is osteo-arthritis of the stapedio-vestibular articulation and of the bony labyrinthine capsule.

3. That the morbid changes of chronic hyperplastic otitis media and rheumatoid arthritis are practically identical, and those found in typical oto-sclerosis are similar to those found in osteo-arthritis and in spondylitis deformans.

4. That as all the affected structures are developmentally, anatomically, and physiologically alike, and when in these structures identical types of destructive and reparative changes occur, the natural inference to be drawn is that these processes are the result of a common pathogenesis.

5. That when in addition to the identity of morbid anatomy, we find a striking analogy between the two diseases in the points of age, sex, race, hereditary incidence, symmetry of lesion, trophic changes, courses, associated disease and conditions which are said to influence onset and exacerbations, pathogeny and lines of treatment, the above seems to be the only conclusion to which an unbiassed observer can come.

6. That in all the morbid changes there are two outstanding features—namely, atrophy and hypertrophy, running side by side or alternating, the atrophy being an active process as well as the hypertrophy.

7. That in the case of chronic hyperplastic otitis media and rheumatoid arthritis one finds the most marked activity of the disease in the soft or clothing tissues, which first undergo thickening, to be frequently followed by atrophy, the latter ultimately involving the supporting structures.

8. That in the case of oto-sclerosis and osteo-arthritis, the most marked activity of the pathological changes is in the firm or supporting tissues, the cartilage undergoing proliferation and ossification with the formation of osteophytic overgrowths.

9. That the essential pathogenic factor underlying an active atrophy and hypertrophy can be only one—namely, nutritional, although the conditions which may cause nutritive disturbances are manifold.



CASE I.



CASE I.



CASE II.



CASE IV.



CASE III.



CASE VI.



CASE V.

10. That as nutritional disturbances in tissues can be brought about by infective, vascular, nervous, traumatic, and metabolic influences, either or all of which may be acting in any given case, it is therefore impossible to fit oto-sclerosis or osteo-arthritis into one air-tight pathogenic compartment. I am, however, of the opinion that the essential factor underlying the morbid changes is a chemical one, affecting the nutritive stability of developing and fully developed bone and cartilage, comparable to the rachitic phenomena which occur in developing osseous tissues, but as to how these chemical disturbances are actually initiated it is at present not possible to explain.

THE ANATOMY AND COMPARATIVE ANATOMY OF THE PALATINE TONSIL AND ITS RÔLE IN THE ECONOMY OF MAN.

By Seccombe Hett, M.B.Lond., F.R.C.S.

I have been specially interested in the tonsil since I began working at its comparative anatomy in 1905. My first research consisted in dissecting the tonsils of as large a series of mammals as possible. I was able to obtain a very large series, including most of the common and many rare species, while working in the Prosectorium at the Zoological Society, Regent's Park. I also examined more than a thousand tonsils at the clinic of University College Hospital and from the *post-mortem* room.

The comparative anatomy and histology, together with observations on the anatomy of the human tonsil, were published in the *Journal of Anatomy and Physiology* in 1908 by Dr. Butterfield and myself. Our conclusions were briefly:

1. In mammals tonsils are generally present, and apparently functionate throughout life. In some old animals there were signs of atrophy, notably in the case of a white-tailed gnu. In a small proportion diseased conditions were found, such as actinomycosis in a kangaroo, a large cyst in a hyaena's tonsil, and tuberculous disease in a few monkeys.

2. In certain mammals, such as the rat, no tonsils could be found. This was confirmed by cutting serial sections through the pharynx. This had been previously noted. We also found other animals, such as the bat, porcupine, beaver, etc., without any traces of them, and confirmed their absence by the same method.

3. That the primitive form of tonsil is a tube-shaped diverticulum from the pharynx, lined more or less completely with lymphoid tissue—for example, the leopard and tiger.

4. That on this primitive ground-plan more complex tonsils are evolved, and these tend to diverge in two main directions—that is, towards the embedded herbivorous type, such as cattle, antelopes, giraffe, sheep, ibex, etc.; and the projecting tonsil of the carnivorous type, such as the wolf, wild cat, and lynx.

5. That intermediate forms can be found between these types, as the opossums, bandicoots, the echidna, the ant-eater, and the monkeys.

6. That the tonsils of the mammals formed a continuous evolutionary series.

7. That the human tonsil is of a complex type, combining elements of the carnivorous and herbivorous types.

This survey of the mammalian tonsils brought out many additional facts, elucidated many points, and added to my knowledge of the evolution of the tonsil which Hammar's excellent work had already initiated.

I hold that the human tonsil is a complex type combining elements showing its evolution from types such as the leopard, the lynxes, hyaena, and sheep. Hammar, on the other hand, held that the development of the human tonsil followed the purely herbivorous type—that is, where the lymphoid tissue is laid down in the outer wall of the tonsillar sinus. We pointed out that the early condition of the tonsil has its counterpart in the leopard, and also that there is a further change by which the outer wall of the tonsil is divided into two tonsillar sacs, as in the sheep. Later, the development of the pars triangularis is often well marked.

Our researches tend to show that this corresponds to the projecting portion in cats and lynxes, and hence to be developed from the tuberculum tonsillare. The plica triangularis admittedly has this origin and may develop lymphoid tissue, so that the parts derived from the tuberculum tonsillare (the plica and pars triangularis) then form part of the tonsil. Tourtal in 1846 described a recess above the tonsil. Sappey in 1873 called it the supratonsillar fossa. His in 1885 described it as corresponding to the second branchial cleft. Patterson in 1898 followed His and regarded it as being above the tonsil.

We found that in man the so-called supratonsillar fossa is always within the very definite capsule of the tonsil, and around it the tonsil is developed. It would be more accurately described as the tonsillar fossa. If a leopard's tonsil be examined the sinus is found to form the central canal of the organ and is much like the cavity of the appendix. If a leopard or a human tonsil is dissected out with capsule complete the tonsillar fossa is in both cases found complete within the organ. In man, owing to the development of the tissue at the outlet of the sinus, the tonsillar fossa lies towards the upper part of the tonsil, and into it drain the crypts of the embedded portions of the tonsil (the pars palatina).

In a previous paper I pointed out that the plica triangularis formed part of the tonsil, and I have often noticed how necessary it was in dissecting out a tonsil to make an incision external to the plica, as the capsule of the former is incorporated with it. Fetterholf has emphasized this point, and shown both the prolongation of the capsule and the development of lymphoid tissue in the plica triangularis when a section is cut across the latter. A study of the embryology of the glands developed in the dorsal and ventral diverticula of the branchial clefts is instructive and worth briefly recapitulating. In teleostean fishes there are six gill slits, and in the dorsal diverticula of the lower five, glands called thymuses are developed. In the selachian fishes the same arrangement obtains, but, in addition, a temporary thymus develops in the dorsal diverticulum of the first, and below the sixth cleft a post-branchial body develops as an additional diverticulum. In the urodeles, a post-branchial body is also found below the fifth cleft, the sixth cleft being suppressed. Thymuses develop as before in the dorsal diverticula, but those of the first and second clefts are only temporary. In addition, from the ventral diverticula of the second, third, and fourth, glands known as epibranchial bodies develop, of which that from the second is temporary. In the anura, thymuses develop from the dorsal diverticula of the first and second clefts, of which that from the first disappears.

In the ventral diverticula of the second, third, and fourth clefts, epibranchial bodies develop, of which that from the second becomes the carotic gland. In the third, fourth, and fifth diverticula are found the remains of the inner gills. The post-branchial body develops as before below the fifth cleft. It is noteworthy that the only representative of the thymuses of the selachians in the frog is that growing in the dorsal diverticulum of the second cleft, thereby corresponding with the tonsil in man.

It is further noteworthy that Aberlors and Bellard in 1906 found that death followed in from three to fourteen days after removal of this gland in the frog. Ver Ecker in 1899 found that no fatal result followed if precautions were taken to keep the water clean in which the frog lived.

Hammar, and subsequently Swale Vincent, found that no fatal or bad effects followed extirpation.

In the lacerta, glands are formed on the dorsal diverticula of the first, second, and third clefts. Of these, that in the first cleft is temporary, the second is well developed and corresponds with the tonsil thymus of the frog, the third combines with an element of the ventral diverticulum to form something in the nature of a primitive thyroid. An epibranchial body or carotic gland is also formed from the ventral diverticulum of the third. The fourth cleft is reduced to an epibranchial body. The fifth cleft is suppressed and a post-branchial body is formed below the fourth cleft.

Butterfield and myself have been able to confirm Hammar's description of the tonsil arising from the second dorsal diverticula, by means of serial sections of the pharynx of a human fetus. The thymus is seen arising from the ventral diverticula of the third and fourth clefts—parathyroids from the dorsal diverticula of the same clefts; the carotic gland from the ventral diverticulum of

the second; the fifth cleft is suppressed, and the lateral thyroid arises from below the fourth in the position of the post-branchial bodies of more primitive forms.

In the mammals in which tonsils occur the organs are constant, definite in their anatomy, and are apparently healthy and functionate throughout the life of the individual. In the marmosets they are constant and very healthy. One Rhesus monkey and a young gorilla which I examined had tonsils very like a child's unhealthy tonsils. Some of the monkeys showed signs of tuberculous disease in the tonsils. This was not unexpected, as monkeys are prone to the latter, and frequently die of it in captivity.

Let us now try to determine how far anatomical considerations help one to form an idea as to the use or otherwise of the palatine tonsils in man. Up to the age of 4 or 5 years sections through the tonsils show the tissues to be functionating histological cells. The embedded portion of the tonsil is well developed up to this age, and although infection has often occurred, the tonsils are not usually grossly pathological. After this age the pars palatina normally begins to diminish, so that there is a smaller portion of the tonsil embedded. The tonsillar tissue at the outlet of the tonsillar sinus next proceeds to atrophy, so that the tonsil becomes quite inconspicuous between the pillars of the fauces. It is now reduced to a plica triangularis, a supratonsillar fossa, the remains of a few crypts, and the capsule surrounding these.

By middle age these structures disappear, so that there is a flat or hollow space between the pillars consisting mainly of fibrous tissue, and usually, although not invariably, there remain a few crypts and some remnant of the supratonsillar fossa.

Instead of slowly atrophying, the tonsil may remain a globular structure throughout childhood and youth and adult life. Where this occurs, although keeping the outward semblance of a normal or slightly enlarged organ, we have never been able to find one which would be at all likely to exercise a physiological function. In examining the throats of healthy children it is striking in many cases how early in life tonsils have undergone the above changes, so that, unless the plica and supratonsillar fossa were specially looked for, the child would be said to have no tonsils.

The anatomy, then, shows two points in the rôle of the tonsil:

1. It normally atrophies before adult life and so cannot have a function in adults.

2. That in the healthiest children's throats the tonsils have begun to atrophy at or soon after 5 years, and, if they remain, are either functionless, owing to their preponderance of fibrous tissue, or else are so grossly pathological as to be a source of danger rather than protection.

Mr. Butterfield has here a series of lantern slides and microscopic sections of *post-mortem* specimens as well as tonsils removed surgically, and, if you will allow him to do so, he will demonstrate the points in their histology and pathology. I am commencing some experiments in order to investigate the physiology of the mammalian tonsil, but have not yet any results for publication.

A very extensive research, however, has been done for many years, and one which I think demonstrates conclusively that the tonsil in man has no essential function after the first few years of life. The large series of physiological experiments to which I refer, which has been fully justified by its results, is the operation of removal of the tonsils; this despite the fact that the operation has not been always complete. Where trouble has occurred after the operation, in my experience it has been from the portion left behind, which, far from serving any useful function, has, unless it has subsequently atrophied, been the cause and not the prevention of further symptoms. So much so has this been the case that on cutting sections of tonsils which had been enucleated after previous operations had been performed, Butterfield and I have been struck by the absence of anything but purely and often grossly pathological tissue in them. I have removed the tonsil and its capsule complete in nearly all my private cases, and in hospital cases where possible, for the last six years, and have been at some pains to try to discover what the results have been with regard to the general health and immunity to infection.

As far as I can determine, there has not only been the improvement in general health which would be accounted for by the removal of a septic focus, but resistance to infection has certainly not been lowered; in fact, I think the reverse has happened after complete removal of the organ.

Other observers have obtained the same results.

Attempts to restore the "physiological function of the tonsil" after the first few years of life are, I think, based upon a fallacy. It should be allowed to undergo its normal process of atrophy, or, should symptoms suggest the need of interference, there should be no hesitation in removing the tonsil.

Mr. H. G. BUTTERFIELD (London) then showed a series of slides, and, after pointing out the special features of each of them, continued as follows: All these specimens were taken from a large number which have been collected in the endeavour to find a tonsil which could be described as normal, and I think you will agree that they form a very fair basis for the assumption that the use of the tonsil is over at an early stage of adult life, if not actually before puberty. At any rate it would be difficult on general grounds to ascribe any function to a tonsil with so much fully formed tissue as that shown in the third slide, and this at an age (39) when one would expect all the bodily functions to be in a state of full activity.

Now we have to consider whether the pathological processes to which the tonsil is subject are likely to play any part in the abolition of its activity. Mr. Hett spoke of the difficulty encountered in the search for a normal tonsil, and the series of pathological slides represent very fairly the conditions we have met with. The cases were taken haphazard and the pathology written up independently of the clinical findings.

In 80 per cent. of these cases the structure of the tonsil is such as to preclude the possibility of their performing any other function than that performed by ordinary connective tissue in any part of the body. A tonsil which is composed of a solid mass of endothelial connective tissue cannot very well perform the functions of the ordinary lymphoid tissue tonsil, whatever those functions may be.

The three photomicrographs in the second series gives a fair idea of the gradations of this connective tissue overgrowth. The first shows the structure of a tonsil removed from a girl aged 9 years. There are very few lymphocytes, and nine-tenths of the tonsil is made up of connective tissue.

The second photograph shows a more advanced stage of the condition, where the endothelium has grown into a very thick meshwork, and the only sign of the section having come from a tonsil is the presence of a few lymphocytes here and there in the interstices.

The third of these photographs shows a tissue which is utterly unrecognizable as coming from a tonsil at all. It is composed of a solid mass of badly staining endothelial cells, and shows no lymphocytes anywhere throughout the whole tonsil.

Again, it is hardly possible to imagine tonsils such as these performing the function of lymphoid tissue, since their structure approximates to that of the elderly tonsil, in that it consists almost entirely of connective tissue. The only difference between the two is that the one is composed of young connective tissue while the other is composed of old connective tissue which has reached the final stage of collagenous fibrous tissue.

As to that type of tonsil which is not necessarily enlarged but is associated with cervical adenitis, one feels bound to come to the conclusion that the tonsil is a source of danger to its owner, and any one who takes the trouble to examine the hilum of such a tonsil will find the perivascular lymphatics of that region filled with micro-organisms—a state of things which requires no comment. In one's own experience as a pathologist such tonsils have usually, though not invariably, been those with a loose fibrous structure rather than of a solid nature.

I think, on the whole, it will be granted that we have made out at least a *prima facie* case in support of the theory that the function of the tonsil is over at an early age, and that the pathological processes to which it is subject tend to hasten its involution in a large proportion of cases, and also that where this involution has not taken

place there is a good deal of evidence to show that it is a source of danger to its owner by presenting a channel of infection to pathogenic organisms.

DISCUSSION.

Mr. E. D. D. DAVIS (London) expressed his appreciation of Mr. Hett's and Mr. Butterfield's work. The physiology and pathology of the tonsil were of great practical importance. It frequently happened that one was asked to remove tonsils for slight enlargement, and when there were no symptoms of any kind. Occasionally an adenoid growth required removal, and the tonsils were small and appeared to be normal. One used to remove the adenoids and leave the tonsils untouched, but, unfortunately, some time later it was necessary to remove the tonsils. At the present time he enucleated the tonsils at the same operation, even if they appeared to be normal. The function of the tonsil was that of a lymphatic gland, which drained the oral cavity and other areas. It was analogous to the vermiform appendix or intestinal tonsil. It was common knowledge that oral sepsis was associated with enlargement of the tonsil, and he believed he was correct in saying that Mr. Hett stated that when the tonsils were completely removed in an amphibian dirty water impaired their health. Clinical facts indicated that the tonsil had a defensive function, and in collecting the results of tonsil operations for the International Congress he had observed two cases of diphtheria which occurred some months after tonsillectomy, and in one of these cases the mother stated that the child had had two attacks of diphtheria at long intervals. This fact, though insufficient evidence, made one think of the defensive action of the tonsils. Some physiologists had spoken of the internal secretion of the tonsil and compared it to that of the thymus, but the literature on the subject was vague and small in amount. Another well-worn question was asked by singers, who anxiously inquired if the removal of the tonsils affected the voice. In his experience enucleation of the tonsils improved the voice, and he should like to hear Mr. Hett's experience. In conclusion, it had been suggested that tonsils were massacred wholesale, and it was valuable work, such as that of Mr. Hett and Dr. Butterfield, which would enable them to refute such a suggestion.

Dr. SPICER said that he hoped that it would not go forth as the opinion of the Section that tonsillectomy was unscientific. He from his experience now considered that enucleation was the better treatment of the two.

Dr. JOBSON HORNE (London) regarded the enucleation of the tonsils as an excellent operation, which some of them had been performing for years in suitable cases with excellent results, but it was not suitable or even necessary in every case of enlargement of the tonsils. On the contrary, he was of the opinion that the tonsils had a definite function as the first line of defence in preventing systemic infection, and that enlargement might indicate that they were discharging that function. On the other hand, when the tonsils became enlarged as the result of disease, they became a source of danger to the individual and their removal was indicated. At the present time there was a danger of enucleation falling into disfavour with the general public.

Dr. SCOTT agreed with complete enucleation rather than with the partial removal.

Mr. O'MALLEY was much interested in Mr. Hett's excellent description of the anatomy and pathology of the tonsil, and regretted that he was unable at present to give them something definite on its function, as this was a point with which they were frequently confronted when deciding to operate. He would like to ask Dr. Butterfield what change he had found in tonsils of patients under 8 or 10. Was it to be assumed that every tonsil had failed as a first line of defence when the cervical glands were enlarged? Clinically he had found, when examining cases with a view to operation on tonsils, that 95 per cent. of those who came under observation at hospital had enlarged cervical glands. He would like to ask Mr. Hett if he had found cervical gland enlargement after enucleation of tonsils.

DEMONSTRATION.

Tracheal Administration of Anaesthetics.

Dr. WILLIAM HILL demonstrated an oro-tracheal catheter for administering anaesthetics and at the same time preventing the admission of blood to the air passages, and in connexion with it made the following observations:

A gum-elastic catheter passed through the mouth and larynx into the trachea has occasionally been employed in the past by a few anaesthetists, not only for the purpose of administering anaesthetics in cases of laryngeal obstruction from spasm or otherwise, but also for the giving of oxygen as a substitute for artificial respiration. During the last three or four years in America, and more recently in this country, the same method has been employed for anaesthesia under pressure in thoracolomic operations to prevent pulmonary collapse according to the method of Metzler and Auer. The practice in America has been to introduce the tracheal catheter with the aid of Chevalier Jackson's direct laryngoscopic tube: while, in this country, Shipway, Barton, and others have employed my direct laryngoscope with a lateral slot. I have found it a great convenience in oesophagoscopic work under anaesthesia, when there was spasm in cases with abductor paralysis, to have the anaesthetic—usually chloroform—administered through a tracheal catheter; and it recently occurred to me that the apparatus might be modified so as to prevent blood entering the air passages in sanguinary operations on the mouth, jaws, nasal sinuses, etc., to avoid resorting to laryngotomy or tracheotomy, or the employment of Kuhn's complicated and cumbersome apparatus, which is inserted by touch and not under vision. It was evident to me that this could easily be accomplished by adding a rubber shoulder 3 in. from the distal end of the gum-elastic catheter, which would rest on the ventricular bands and block the glottic region. The apparatus, on the few occasions I have used it, has effectually prevented blood entering the larynx without resorting to packing with gauze, but this can be done as an additional safeguard if desired. Although the catheter is flexible, it is sufficiently rigid not to double up, and can be easily retained in position in ordinary circumstances by the anaesthetist's hand resting on the cheek. I have, however, had made a bendable pewter style, with a ring at the distal end, to rest on the rubber shoulder, which will keep the latter in position, so that it cannot be displaced by violent coughing or vomiting if the proximal end is clamped to the teeth or to the gum, as in Kuhn's instrument.

The catheter, with its umbrella-like attachment, is too large to be inserted through Jackson's laryngoscope, but can be easily passed by the aid of my slotted instrument, which has the additional advantage of permitting of binocular vision. The use of the direct laryngoscope is soon learnt by an anaesthetist, as it need not be inserted until the patient is under the influence of an anaesthetic, which renders the procedure easier. Dr. Shipway, Dr. Barton, and others, have stated that they found no difficulty in manipulating the direct laryngoscope under general anaesthesia. It is, however, an advantage to cocainize the larynx as well.

I recently put the method to a specially severe test during a very sanguinary operation on the maxillary antrum, when no blood entered the air passages, in spite of the mouth and pharynx being full of blood for many minutes; in fact, I did not take the trouble to swab until the operation was over, and Mr. Vesselefsky, who gave the anaesthetic on that occasion, and who has had experience with Kuhn's apparatus, volunteered the statement that in his opinion the method left nothing to be desired on the score of ease, safety, and efficiency. The apparatus is so cheap that there should be no hesitation in burning it after use in very septic cases, should any doubt be felt as to the reliability of the ordinary methods of sterilization of gum-elastic catheters—for example, by formalin vapour.

DISCUSSION.

Dr. G. A. H. BARTON (London), after a brief reference to the work of others in the intratracheal ether insufflation method, said that Dr. Hill had in the tube given the anaethetist who desired to give chloroform an instrument which afforded an equal protection against sphyxia by a very simple device. The rubber "umbrella"

might allow the escape of a certain amount of air expired between the tube and rima glottidis, but would not permit of the entrance of anything into the larynx, acting to a certain extent as a valve. He had used the tube on a few occasions and been extremely pleased with it. He also desired to thank Dr. Hill for having given the anaesthetist a very convenient and portable direct laryngoscope, provided with small battery complete which enabled him to be independent of others if he wished at any time to pass the intratracheal tube. He had used this method with success, and another anaesthetist had told him that having originally in some forty or fifty cases passed the tube by touch, he had after one or two experiences of the direct-vision method decided to always adopt it in future as being easier and less likely to injure the patient. Dr. Hill had advocated the use of this tube as a deliberate manœuvre previous to operations on the upper air passages associated with much bleeding or laryngeal spasm; but the operator thought that it would be useful as an alternative in any operation when, owing to sudden asphyxial conditions arising, tracheotomy and artificial respiration were indicated. He remembered a case in his practice some years ago in which asphyxia occurred, rapidly followed by heart failure; tracheotomy and artificial respiration were promptly resorted to, but, unfortunately, the chest walls were rigid and practically no air entered. Had this tube then been available it could have been rapidly passed and the lungs insufflated with oxygen under pressure, and the patient's life probably saved.

Mr. E. D. D. DAVIS (London) said that Dr. Hill very kindly gave him one of his pro-tracheal catheters, but he had only had one opportunity of seeing it used. Dr. Phillips, anaesthetist to Charing Cross Hospital, had had considerable experience in the different methods of intratracheal administration of anaesthetics, and he had asked him to try Dr. Hill's catheter. The case was removal of half the tongue for epithelioma, and Dr. Phillips found it difficult to introduce it, because the thin rubber umbrella was too large and obscured the view, and the catheter was also too rigid, so he finally used a soft catheter passed through the nose and administered ether under pressure (Eisenfeldt's method) with great success. Dr. Phillips introduced the catheter into the trachea with considerable skill and dexterity. He used a direct laryngoscope tube, and when the light failed used a hook to direct the catheter into the larynx.

Dr. HASTINGS suggested the use of an india-rubber tube as being more pliable.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE TUBERCLE BACILLUS AND THE PHAGOCYTE.

IT is always the case that a brilliant discovery is apt, for a time, to put all previous discoveries and hypotheses out of court, although they may have been the result of long and honourable work. This is exactly what happened with regard to Koch's striking discovery of the tubercle bacillus; and since that event nothing but tuberculin has held the field in attempts at cure. The time has come when it is beginning to dawn upon our minds that, after all, the phagocyte is Nature's hero in the fight. I must confess that the discovery of the bacillus came as a great shock to me, and I felt that, after my long, careful clinical and scientific observations and conclusions, "my wicket was down and I was honestly bowled out." But after a while, when the glamour of the bacillus had somewhat faded and I had been able to go over some of the ground again, it occurred to me that possibly my work might be brought into line with the new discovery; for all my therapeutical experiments had resulted in the conclusion that the administration of pancreatized fats to tuberculous patients increased the number of phagocytes in the blood, although the meaning of their presence there had been misapprehended. Then I wrote my book on *Bacillary Consumption* to endeavour to bring the increase of phagocytes and their destruction of the bacilli into line, and to account, therefore, for the improved condition of consumptive patients, which I had recorded as the result of the free administration of pancreatized fats. I fear that the tuberculin craze prevented my work from attracting much attention. Now, however, after many years of comparative oblivion, the phagocyte holds the palm as Nature's champion in the fight with the bacillus. The object of this note, therefore, is to suggest to those who are working so creditably on the therapeutics of tuberculosis whether it is not worth while to repeat my experiments with pancreatized fats, and to test the validity of my conclusions as to their power to increase the number of phagocytes in the blood.

HORACE DOBELL, M.D.,
Consulting Physician to the Royal Hospital for Diseases of the Chest, etc.

Parkstone Heights.

A CASE OF POISONING BY PENNYROYAL.

IT is generally considered that *Hedeoma* or pennyroyal, especially in the form of essence, is quite harmless, it is regarded as a substance allied to peppermint; but the following case will show, I think, that it is by no means always harmless, and that its action is more nearly allied to camphor than to any other body.

A lady in excellent health was advised by a friend to take four drachms of essence of pennyroyal. About half an hour later she commenced to feel confused; she grew fidgety, passed into a dreamy state, and became delirious; her face was pinched and pale, the pupils slightly dilated and sluggish; she yawned incessantly and complained of a hot camphor taste, her breath gave off a strong peppermint-like odour, which permeated the whole house. There was great restlessness, with frequent twitchings of the limbs; the pulse was 90, soft, small, and inclined to be irregular. Her memory was very feeble, the same question being repeated by her over and over again; and she was haunted by dreams of falling down precipices and the like. Presently she vomited about half a cupful of pale, yellow, glairy mucus, smelling strongly of pennyroyal, after which the restlessness and twitchings became less frequent. She was given hot strong tea, which caused her to vomit profusely, the vomit containing some blood, due probably to gastric irritation; and the delirium and twitching then gradually passed off, though she still complained of the hot camphor taste.

She remembered nothing of what took place after taking the drug; she was delirious for nearly four hours. She had no pains, and the effect of the drug on the uterus appeared to be *nil*. Next day, except for some nausea and the disagreeable odour given off in the breath, she was well again.

The toxic effect is produced by the volatile oil or some by-product, which is fortunately very slowly absorbed by the stomach. The alcohol used as solvent is quickly removed, and the undiluted oil acting as an irritant causes emesis, and consequent removal of the poison.

The treatment is an emetic and the withholding of any alcohol, which would dissolve the oil and cause more to be absorbed.

C. O. JONES, M.D., M.Sc., M.R.C.S.

New Brighton.

LEAD NITRATE FOR INGROWING TOENAIL.

FOR many years I have been in the habit of using lead nitrate for ingrowing toenail with satisfactory results. The procedure has been to cleanse the affected parts and dust on a little of the powder. This forms a white scab, which must be carefully removed the next day, as otherwise pus is liable to collect under it. Having removed the scab I apply some more powder as long as is necessary. I saw a medical friend to-day who told me that one application had in his case got rid of some exuberant granulations on his great toe which he failed to remove with the usual remedies.

I may add that I have also found it very useful in the case of exuberant granulations at the umbilicus in infants.

C. E. LIESCHING,
Consulting Surgeon to the Tiverton Hospital.

Reviews.

DISEASES OF CHILDREN.

A SECOND edition of the *Treatment of Disease in Children*,[1] by Dr. G. A. SUTHERLAND, has just been published. The work has been considerably enlarged since the first edition, and now contains additional chapters on the acute specific fevers and diseases of the skin. In his preface Dr. Sutherland deplores that the leading feature of the first edition has gone—its brevity. We are inclined, however, to consider that any enlargement is a distinct improvement. A work of this sort entirely devoted to treatment, if it is to be of real value and not a mere recital of prescriptions which have been sanctioned by custom, must be of considerable length. It must contain in its own field more than is found in the usual textbooks, and must comprise not only prescriptions of drugs but also descriptions, full enough to leave no room for mistake, of a great variety of other therapeutic procedures and devices. From this point of view we would welcome a still further expansion of the matter of the book. To take an example at random, the young practitioner who consults the work may very well know that syringing the vagina with an antiseptic solution is good treatment for a persistent vaginal discharge in a child, yet his efforts to accomplish his purpose will not be very successful unless some one has taught him the correct posture in which to place the child. Certainly he will get no help from the mother if, as often happens, the manipulation is left to her. Again, in the chapter on a disease so important at the present time as infantile paralysis (anterior poliomyelitis), the author contents himself with the statement that the most important part of the treatment is the use of massage. We should have liked to see room found for a description of these simple movements, which ought to be carried out in such a way as to support the weakened muscles and prevent stretching. The matter of the book is excellent. Dr. Sutherland writes clearly and simply of the generally accepted treatment by drugs of the medical ailments of children.

For several years past, throughout Germany, in the United States and elsewhere, the books and articles in which is recorded the work of Professor Finkelstein and his assistant, Dr. LUDWIG MEYER, have received very special attention and excited the greatest interest. The present work, on the hospitalization of infants,[2] by Dr. Ludwig Meyer, although it deals in a highly interesting fashion with a problem which has escaped solution for over one hundred years, can hardly compare in importance with its predecessors, *Über alimentäre Intoxication im Säuglingsalter* by Professor Finkelstein, and *Über Eiweissmilch*, by Professor Finkelstein and the present author—works of which it is hardly too much to say that they have caused something like a revolution in the generally accepted opinions upon the nature of infantile diarrhoea and wonderfully increased our control over the various symptoms of alimentary disorders in infancy. Nor does the present work contain quite the same wealth of carefully recorded observations which made its predecessors of such supreme value. It would appear from some expressions in the text that the task of writing the present book has been undertaken by the author during the press of other work, and that it represents, not the principal output, but something in the nature of a by-product from this famous school. The book is divided into three parts. The first treats historically of the whole question. Until quite recent times all statistics tell the same sad tale—that it is almost impossible within the walls of an institution to keep infants under 6 months of age in health and even in life. Twenty-five years ago Henoch, Parrot, and other distinguished paediatricians were forced to estimate the mortality of such infants at no less than 80 per cent. In the Charité Hospital in Berlin, between 1874 and 1884, of 4,109 children under 6 months, there died no less than 3,209, or 78 per cent. In less well-conducted institutions, according to Epstein, the mortality reached nearly to 100 per cent. The evil influence of even a short retention in an institute is shown in the following figures. In Berlin between the years 1876 and 1899, at a time when all the orphans were boarded out and only four cots were available for the reception of infants, the mortality of these infants under 1 year was about 30 per cent. In 1899 a ward of 24 beds was opened, and it then became possible to retain some infants for a longer time in the institution. The mortality rose by leaps and bounds. In 1899 42.5 per cent. died, in 1900 47.8 per cent., and in one year, in the small number of 24 cots, there died no fewer than 345 infants. Only with the opening of the new orphanage and the reorganization of the arrangements for the nursing and care of the infants did the percentage fall. In the second part the nature of this so-called hospitalization is discussed. Of the disorders accidentally contracted in hospital the most frequent are slight catarrhs of the air passages, spreading from cot to cot, and capable of causing the most serious condition in weakly artificially fed infants. Alimentary infection and infection by way of the bowel, though it also exacts its toll, is less common, and complete cleanliness and asepsis in the management of the food does not avail to prevent the high mortality. Unsuitable diet and the absence of breast milk also play a part, but "hospitalizing" occurs, though to a much less extent, even in those institutions in which wet nursing is the rule. Finally the part played by the want of individual attention to the infant is discussed. The child demands almost the whole attention of its mother. At the slightest cry the mother is beside it, comforting it, altering its position, tempting it to food or to play. All this results in a strong psychical stimulus to the child, which is apt to be completely wanting in an institution where the child lies for hours in the same position, unnoticed and unnoticing—"eine herabsetzung der gesamten Lebensenergie," its whole vigour of life set aside. In the third part are recorded numerous observations and experiments carried out by the author which throw light on these and other matters. The book is written in a fascinating style and is illustrated by numerous curves and diagrams.

CIRCULATORY DISEASES.

THE first edition of Dr. HIRSCHFELDER'S admirable monograph on diseases of the heart and aorta was published three years ago. The second edition,[3] revised and enlarged by more than 100 pages, has been brought up to date, and owes its increase in size mainly to fuller accounts of the electrocardiograph, arterio-sclerosis, blood pressure, and other features of cardiac disease in general. The arrangement of the book in four sections remains the same; the first deals with general considerations and methods of diagnosis, the second with the cardiac diseases due to diffuse pathological processes, the third with the diseased conditions due to localized lesions, the fourth and shortest with functional diseases unassociated with anatomical lesions. A good account of the setting up and employment of that most complicated instrument the electrocardiograph is given; in the lettering and interpretation of the photographed curves obtained from it Dr. Hirschfelder follows Einthoven rather than Nicolai or Kraus, whose views, he thinks, are often too arbitrary and dogmatic. The electrocardiograph is particularly useful in the analysis of alterations and irregularities in the rhythm of the heart; these consist of three separate groups—namely, the cardiac arrhythmias in which there is no discernible order in the occurrence of beats, the allorhythmias or altered rhythms with regularly recurring irregularities, and the pararrhythmias in which two separate rhythms are going on simultaneously either in the same chamber or in different chambers. Most cases of irregular action of the heart fall into one or other of the many subdivisions of the second group, the allorhythmias, considered by Dr. Hirschfelder under

[1] *The Treatment of Disease in Children.* By G. A. Sutherland, M.D., F.R.C.P. Second edition. London: Henry Frowde, Hodder and Stoughton. 1913. (Demy 8vo, pp. 400. 10s. 6d. net.)

[2] *Über den Hospitalismus der Säuglinge, Eine klinische Studie.* Von Dr. Ludwig F. Meyer. Berlin: S. Karger, 1913. (Sup. roy 8vo, pp. 78; 31 figures. Mk. 4.)

[3] *Diseases of the Heart and Aorta.* By A. D. Hirschfelder, M.D. With an introductory note by L. F. Barker. Second edition. Philadelphia and London: J. B. Lippincott Company. 1913. (Cr. 4to, pp. 766; 344 figures. 25s.)

some fifteen different heads. But the general practitioner and the mere physician may both take comfort from one of Dr. Hirschfelder's sentences: "In spite of the elaborate apparatus necessary for exact functional analysis of the arrhythmias, a very fair idea of their nature in any given case can be obtained by the ordinary methods of physical examination"; the electrocardiograph is not indispensable for the practical man. A special word of praise must be given to many of the numerous illustrations with which the text is lightened and the utility of the book increased; they exhibit in graphic form the time relations of the successive events that constitute the cardiac cycle in the various forms of morbus cordis, and put clearly before the eye connexions and phenomena that would have to be correlated mentally but for Dr. Hirschfelder's cleverly constructed pictures. Full references to the literature are given; the index is the weakest part of the book, and a few misprints in it (for example, inotrophic, bathmotrophic, p. 107) seem to have persisted from the first edition. We believe that "Joy Mackenzie" (p. 120) is to be identified with Dr. Ivy Mackenzie, of Glasgow.

PHYSIOLOGY.

MISS WELBY has completed the translation of the second out of the four volumes of LUCIANI'S *Physiology*,[4] a labour of love for which we are greatly indebted to her. Luciani is especially valuable in giving the student admirable summaries of the history of the science, and he writes with a philosophic grace and literary style such as Michael Foster possessed, and which Miss Welby renders into English very well indeed. The second volume deals with internal secretion, digestion, excretion, and the skin. At the end of each chapter a bibliography is added to which Miss Welby contributes a list of recent English literature. We cordially recommend the perusal of this volume to those who are studying physiology with other aims than the passing of examination papers.

On page 142 are cited experiments which showed that the bile in the guinea-pig may be secreted against a pressure rising up to 184 to 212 mm. of water. These figures are contrasted with readings of pressure obtained in the portal veins of dogs, which averaged 191 to 208 mm. of water. Luciani concludes that the secretory pressure of the bile is always more or less higher than the pressure at which the blood circulates in the portal system. Such figures obtained on different animals and under different conditions cannot be justly compared. If the secretory pressure rise in the liver the capillary pressure must rise *pari passu*, for otherwise the capillary circulation would be obstructed. In the salivary gland there are membranae propriae which limit the expansion of the alveoli and allow the secretory pressure to rise to heights greater than the pressure in the carotid artery without obstruction of the capillaries. In the liver there do not appear to be any membranes confining the liver cells and bile ducts which permit the secretory pressure to rise above the capillary pressure.

To turn to another subject—we all know the difficulty of making water soon after having done so, especially when under medical examination in an insurance office. Luciani has convinced himself that "micturition without desire is preceded by an obscure sense of slow relaxation of the internal sphincter, followed by a long pause before the flow of urine commences, during which a not unpleasant sensation of titillation is felt near the orifice and upper part of the urethra. By the cerebral motor centres we voluntarily inhibit the action of a spinal centre which exerts a tonic action upon the internal sphincter of the bladder; the relaxation or expansion of this muscle permits a few drops of urine to trickle into the first part of the urethra, which act on the sensory endings of the mucosa urethrae, and arouse the sense of titillation; this sensation then produces reflex contraction of the detrusor, which is followed by evacuation. The natural philosopher studying the titillation of his urethra calls up a mental picture of another pair of learned men who spent much time in investigating the protopathic sense of the glans penis.

[4] *Human Physiology*. By Professor Luciani. Translated by Frances Welby. Edited by Dr. M. Camis. In four volumes. Vol. ii. London: Macmillan and Co. 1913. (Medium 8vo, pp. 556; 141 figures. 18s. net.)

Nutritional Physiology[5] is the title of a small book written in popular style by Professor P. G. STILES of Boston. A certain preliminary knowledge of elementary science is assumed, and the key-word of the book is "energy." "The success of the reader in gaining clear conceptions of what is presented will depend upon his familiarity with the meaning of that term. It is essential that he shall understand that energy is latent or potential in those chemical compounds which are susceptible of oxidation. He must have learnt to recognize the possibility of its unending transformation." Turning over the leaves of the book we realize the freshness and vigour of the author's powers of exposition and his rare good sense in the application of physiology to daily life, and can recommend others to thus refresh their knowledge of the broad generalizations of the science. Dealing with the metabolism of fats and carbohydrates, the author says:

> Glycogen is like a checking account which a man uses to pay his routine expenses, drawing upon it often, and recruiting it at longer intervals. Such an account is sometimes nearly wiped out and then at one stroke largely increased. The fat of the body is like a savings banks deposit, gathered slowly, drawn upon only in emergencies, and, it may be added, gaining by compound interest in many cases.

Two facts are suggested to explain the limitation of glycogen storage—its physical properties which probably make a high percentage undesirable, and the greater economy of fat as a storer of energy. If a man carried 20 lb. of fat, and this were replaced by an equivalent of carbohydrates, he would bear a load of 45 lb.! In discussing alcoholic beverages, Professor Stiles says:

> A perfectly dispassionate estimate of its values and its drawbacks, is arrived at with difficulty. Most discussions of the subject are frankly partisan, and therefore, partial. . . . No better physiological distinction has ever been drawn than in the verse which places "wine which maketh glad the heart of man" in comparison with "bread which strengtheneth man's heart." . . . We cannot point to many great men in the history of nations who have entirely avoided the use of alcohol. . . . The Puritans with all their restrictions of recreations and self-indulgence, were singlarly tolerant of hard cider and Jamaica rum.

A hundred years ago immoderate drinking was a feature of an ordination to the ministry in a Connecticut parsonage. In 1830, when the Franklin medals were annually awarded to Boston schoolboys, an entertainment and banquet was provided from which the youths departed in a tipsy condition. Things have changed for the better since then. While frankly admitting that the finer alcoholic drinks may be promoters of digestion, the employment of such means to spur the appetite may lead readily to overeating. Professor Stiles puts forward Atwaters's experiments as demonstrating the food value of alcohol:

> There seems to be a general agreement that from 50 to 75 grams of alcohol in twenty-four hours is about as much as can be allowed to an adult without untoward reaction; 75 grams is equivalent to ½ pint of whiskey, 1 pint of sherry or port; 1 quart of champagne, 2 quarts of beer.

Meltzer has said that "alcohol in health is mostly a curse and in sickness mostly a blessing," on the ground that it may be tolerated and absorbed when most foods would remain undigested. "Alcohol in small quantities leads to inconsequence of thinking, and is a handicap to any steady pursuit."

> In its cerebral effects it acts not as a stimulant, but as a narcotic lessening the highest function of the brain—inhibitory power. It removes the consciousness of fatigue and the feeling of care. The attention is limited to the present moment and immediate interests. The faculty of discriminating is dulled, and with the consequent lowering of aesthetic and intellectual ideals there comes a bland self-satisfaction and a naive admiration of one's fellows.
>
> Men do not often see the sinister suggestion in the high spirits of one who has forgotten his cares for an evening by the most moderate indulgence; they fail to see that the banishment of the sense of pressing duties is the very characteristic of the drunkard when, developed to a logical extreme, it makes him indifferent to every obligation of conscience and of love.

[5] *Nutritional Physiology*. By Professor Percy Goldthwaite Stiles. Philadelphia and London: W. B. Saunders and Co. 1912. (Post 8vo, pp. 271; 22 figures. 6s. net.)

Professor TIGERSTEDT shows extraordinary industry in the compilation of excellent textbooks and reference works on physiology. His latest production is a book on practical physiological exercises and demonstrations for students,[6] and a very well arranged and illustrated book has he produced. The first part of the book deals with the methods of narcotizing and preparing animals for experiments; the anaesthetics or narcotics suitable for each of the common laboratory animals are mentioned, and the dosage and method of administration stated. A box, electrically heated, is illustrated, in which the observed animals may be placed, so as to protect them from cooling during the course of an experiment. Methods are given for stopping haemorrhage, for tracheotomy, for putting cannulae into vessels, for preparing and stimulating nerves, for antisepsis and asepsis. Owing to the Vivisection Act the British student is only able to operate on the pithed frog or on the mammal in which the greater brain has been destroyed by the demonstrator. The difficulty of so preparing mammals for the most part prevents their use for class work. In several of the universities of the United States not only courses of physiological experiment but of operative surgery are performed on animals by the students divided into groups of four, from which they learn how to anaesthetize, and perform with coolness and decision operations on living tissues, such as an enterostomy, and see the fruit or failure of their aseptic precautions. They study, too—first hand—the fundamental experiments on the blood pressure, the beat of the heart and the action of the cardiac nerves, the respiration, the movement of the alimentary canal, cerebral localization, the function of the semicircular canals, etc. Operative surgery on the dead body is almost wholly a farce—an academic rattling of dead bones. Professor Harvey Cushing at Baltimore and Professor E. Macallum at Johns Hopkins University have arranged admirable courses of surgery on the living animal, and in their schools medical education has reached an excellent pitch of development.

A CLINICAL LABORATORY HANDBOOK.

THE authors of *A Manual of Clinical Chemistry, Microscopy, and Bateriology*,[7] which is a very practical guide to clinical pathology, conduct an "Institut für medizinische Diagnostic" in Berlin, and they have endeavoured to put before the reader short clear accounts of the various investigations which are in use to complete bedside diagnosis. With one or two exceptions they have succeeded completely. The book will prove of considerable value to English workers, as representing the lengths to which laboratory diagnosis is carried in Germany. It is with considerable satisfaction that the reader will find that we are, on the whole, not behindhand in this country in our efforts to keep pace with our Continental brethren, though we may not go to the length of excising a fragment of conjunctiva which is supposed to be the seat of tuberculosis for the purposes of animal inoculation. It is interesting to hear that cryoscopy has come into "comparatively widespread use, especially in the diagnosis of functional kidney disease," for, so far as published accounts are a guide to what is the practice with us, cryoscopy does not seem to be regarded as an important means of diagnosis here. The section on the examination of the urine is particularly good, as the various reactions given are explained sufficiently to make the reader feel that it is a guide to the science of medicine as opposed to the mere art of it. Four chapters are devoted to the bacteriological examination of the mouth, the nose, the conjunctiva, and the sputum; one each to the examination of the stomach contents, of the faeces, urine, blood, and fluids obtained by puncture, and of the bacteria of the skin. A final chapter on formulae for stains, etc., closes one of the most useful practical guides we have perused.

[6] *Physiologische übungen und Demonstrationen für Studierende.* Von Dr. Robert Tigerstedt. Liepzig: S. Hirzel. 1913. (Roy. 8vo, pp. 418; 327 figures. Mk.12.)

[7] *A Manual of Clinical Chemistry, Microscopy, and Bacteriology.* By Dr. M. Klopstock and Dr. A. Kowarsky. Only authorized translation from the last German edition, thoroughly revised and enlarged. London: Rebman, Limited. 1912. (Post 8vo, pp. 364; 16 coloured plates, 43 figures. 12s. 6d. net.)

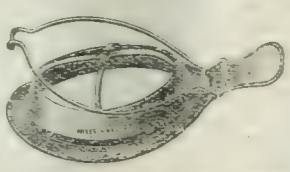
HERNIA.

THE short book on hernias and their treatment, by Dr. BORCHGREVINK of Christiania,[8] is in its second edition. He makes an appeal to a wider audience by publishing this edition in German, encouraged to do so by its cordial reception in his own country. This little monograph does not claim to be written with the purpose of urging the claims of one theory or another, but simply to give a straightforward comprehensible statement of present knowledge and practice. The author appears to be an adherent of the saccular theory of inguinal hernia, as he says that the operator must spare no pains to obliterate the orifice of the hernial sac and to close the neck of the sac in solid fashion. He recognizes that there are many ways of closing the inguinal rings and canal, though his preference is, like most Continental writers, for the Bassini operation. The chapter on the complications of hernia is well built up, and is so wide in its range as almost to trespass on the field of intestinal surgery. This portion contains statistics of most of the accidents that are met with. It seems to us that the chapter on rare hernias is too limited in its scope, the epigastric and the obturator varieties comprising the whole series, which ought to include others, such as the hernia into the triangle of Petit. The illustrations are generally good; their value would be greater if their number were increased. An interesting addendum on hernia and accident insurance finishes the book. Here the author gives expression to his own views, and offers a number of criteria which must be satisfied before a decision that a particular trauma has produced or contributed to a hernia is reached.

MEDICAL AND SURGICAL APPLIANCES.

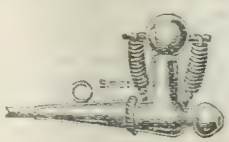
A Mask for the Administration of Ether by the Open Method.

DR. L. ERNEST ACOMB (Honorary Anaesthetist, Royal Gwent Hospital, Newport, Monmouthshire) writes: This inhaler, which is of the Schimmelbusch pattern, with a raised inner wall, has been devised by me as an improvement, inasmuch as it obviates any danger of ether being dropped upon the face of the patient; and, as the respiratory air space is to a certain extent limited, saturation with ether can be more readily obtained. Thus anaesthesia can be more rapidly produced and the state of anaesthesia more easily controlled. I am indebted to Messrs. Meyer and Meltzer for carrying out my suggestions.



Catheter Mount for Eustachian Medication.

Dr. SOMERVILLE HASTINGS (London) writes: The instrument here illustrated is used for the injection of various fluids into the Eustachian tube. It is attached to the Eustachian catheter with the ball uppermost. The catheter is then passed and the tube inflated in the ordinary way, while the operator listens with the auscultatory tube. When quite certain, from the sound heard, that the end of the catheter is in the pharyngeal opening of the tube, the ball is pushed to one side without moving the instrument, and a few drops of the preparation used are dropped, with a fountain-pen filler, into the opening previously covered by the ball. By a touch of the finger the ball is then replaced and the inflation continued. This appliance was made for me by the Surgical Manufacturing Company, London, W.



[8] *Die Hernien und Ihre Behandlung.* Von O. Borchgrevink, Oberarzt des Diakonenspitals in Christiania. Jena: Gustav Fischer. 1911. (Demy 8vo, pp. 319; 40 figures.)

THE Ontario Government Marriage Bill provides that mentally defective persons shall not secure licences, and imposes a fine of £100 or imprisonment on clergymen and issuers of licences who evade the law. Where neither of the contracting parties is a resident of the locality, the licence cannot be issued until an advertisement of the proposed marriage has appeared in the public press for three weeks.

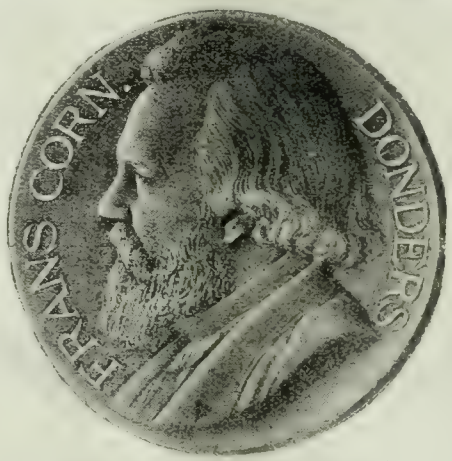
THE INTERNATIONAL CONGRESS OF PHYSIOLOGISTS.

THE ninth International Congress of Physiologists was held in Groningen during the week beginning September 1st, under the presidency of Professor H. J. Hamburger, who occupies the Chair of Physiology in the university of that city.

THE UNIVERSITY OF GRONINGEN.

Groningen is a prosperous and wealthy town of some 80,000 inhabitants. The country around supplies it with potatoes for the manufacture of starch and with rapeseed for oil and feeding stuffs. It is traversed in all directions by canals which open into the Rietdiep, a broad and deep channel navigable by large vessels to the North Sea.

The old fortifications have been levelled. In part they have been converted into well-planted public gardens, while in other parts they have afforded ample sites for the new institutes with which the university has recently been provided. The old Institutes of Physiology and Anatomy have been replaced by new buildings, spacious, well lighted, admirably designed, and very completely equipped under the supervision of the present occupants of the Chairs of these subjects. Next door to the Institute of Anatomy is the Pathological Laboratory, and beyond it is the newly-erected hospital, which possesses an extensive series of clinical laboratories. A short distance away, in the opposite direction, is a new chemical laboratory as yet barely complete, which will be devoted chiefly to physiological chemistry. The general chemical laboratory is not far distant, and adjoining it is the botanical laboratory. Further on are the Physical and Mineralogical Laboratories, separate buildings on a single site. The whole of the northern semi-circumference of the town is, in fact, dotted with university laboratories, no one of which is more than a few hundred yards from the other, while the general university building—the Academy—occupies a central position.



(From the medallion by Pier Pander.)

Groningen is the second in order of seniority of the three State universities of Holland. Leyden was founded in 1575 and Utrecht in 1636; Groningen, the university of north Holland, dates from 1614. It was supplied with new central university buildings—the Academie—in 1850. They were almost entirely destroyed by fire in 1906. The State immediately undertook the task of erecting a new Academie, and the work was so rapidly pushed on that the existing fine building, designed in the North German modern renaissance style, was opened in June, 1909. It contains offices, senate room, faculty rooms, and a very fine hall (aula), in which at the second and concluding general meeting of the Congress, on Friday, September 5th, Dr. Pawlow, Professor of Physiology at St. Petersburg, delivered an address on the investigation of the higher nervous functions. It is in this building that the university will celebrate next year the tercentenary of its foundation.

PREVIOUS CONGRESSES.

The Congress in Groningen was the ninth. The suggestion to hold an International Congress of Physiology periodically was made by the British physiologists in March, 1888, when a circular letter was issued by the Physiological Society. It was signed by Burdon-Sanderson (Oxford), Michael Foster (Cambridge), W. Rutherford (Edinburgh), J. C. McKendrick (Glasgow), J. M. Purser (Dublin), E. A. Schäfer (London), and by the Treasurer (W. H. Gaskell), and the Secretary (Gerald Yeo) of the Physiological Society. A preliminary meeting was held in the autumn of 1888 in Berne, when representative physiologists from England, Germany, France, Italy, and Switzerland met under the chairmanship of Professor Kronecker, and drew up a few simple rules designed to ensure that the meetings should be as informal and as practical as possible. If it was not found feasible to emulate the Physiological Society, which has no president, it was agreed that there should be no official delegates, that no transactions should be published, that any member might use his own language, and that the communications made should be as far as possible of the nature of demonstrations or experiments. The main object of the Congress was declared to be the promotion of the progress of physiology by the interchange of ideas and mutual friendly criticism and by affording to workers in the science opportunities of knowing each other personally.

THE OPENING CEREMONY.

As the Congress in Groningen took place twenty-five years after the proposal to hold such congresses was made, the President, Professor Hamburger, was naturally moved in his inaugural address, delivered on the morning of September 2nd, to review the history of the eight congresses previously held. The first took place at Bâle in September, 1889, under the presidency of Holmgren of Upsala, and was extremely successful, the number of members attending being 129; among them were many who were also present at Groningen. The second Congress was held at Liége in the laboratory of Leon Fredericq, the third at Berne, the fourth at Cambridge, the fifth at Turin, the sixth at Brussels, the seventh at Heidelberg, and the eighth at Vienna. At the meeting at Turin in 1901 Sir Michael Foster, who may justly be called the father of the Congress, was elected permanent honorary president, and was presented by the President, Professor Mosso, with a commemorative medal bearing a Latin inscription, testifying that the Congress owed not only its existence to his initiative but its prosperity to his continued and energetic interest. Professor Hamburger was moved to ask to what extent the subjects dealt with at the congresses had faithfully reflected the physiology of the last five and twenty years. As an answer to this question he presented to the Congress copies of a special number or *Festchrift* of the *Zentralblatt für Physiologie*. This contained a copy of his address followed by a systematic review of the work done by the eight congresses already held. This analysis, which he said had been prepared with the assistance of Dr. Laqueur, Privat-docent in physiology at Groningen, was classified under twenty-four heads, according to subjects, and provided with an index of names, so that it will have a permanent value and interest. The object was further served by the presentation to members of the Congress of a special number of the *Nederlandsch Tijdschrift voor Geneeskunde*, which contained an introduction by G. van Rijnberk, editor of that journal, and professor of physiology in the University of Amsterdam. Professor Rijnberk also contributed an extremely interesting sketch of the development of physiology in Holland, illustrated by portraits of Sylvius, Leeuwenhoek, de Graaf, Boerhaave, Schroeder van der Kolk, Mulder, Moleschott, Heynsius, Place, and Stokvis.

The analytical article in the *Zentralblatt* undoubtedly gave the impression that the congresses had achieved a good deal, but Professor Hamburger indulged in certain criticisms. He said, for instance, that it had not always happened that new facts had been demonstrated to the congresses by their discoverers, and that often several congresses passed before such facts were brought forward by others. A second criticism was that physiological chemistry had not taken its proper place at the congresses, owing, as he thought, to the insistence upon the rule that all communications should be of the nature of demonstrations, a method to which the processes of physiological chemistry did not readily lend themselves. A third criticism was that pathological physiology had been very poorly represented at the congresses, although a good example had been set by French workers at the congress at Bâle. Finally, he said that it was desirable

that vegetable physiology should be better represented at future congresses, and that the example of Brussels should be followed in this respect, although he made reference to the demonstration at the congress at Turin by Dr. Waller of the resemblance between electric phenomena in plants and in animals, while evidence of the influence of fatigue, of anaesthesia, and even of shock were not wanting. In spite of these grounds for criticism, he considered that a careful study of the work of the various congresses showed that they did on the whole fairly reflect the progress of physiology, and, more than that, that the opportunity of seeing set up the apparatus used by physiologists of other countries and other schools was not only advantageous in itself, but often suggested methods for overcoming difficulties in allied researches. This kind of information could not be obtained, he said, through the most diligent study of scientific journals, and for this reason the congresses would be indispensable elements in the development of physiology.

In the course of his address the President referred to the medal presented to foreign members of the Congress by the *Nederlandsch Tijdschrift voor Geneeskunde*, a large bronze medal showing on the obverse a portrait of the great Dutch physiologist and ophthalmologist Donders, which we reproduce. At the beginning of his speech Professor Hamburger addressed the French, German, English, and Italian members, each in their own language, and expressed his thanks to the Government of the Netherlands, to the municipality of Groningen, and to the Rector of the University, for their cordial co-operation in making the arrangements for the Congress. He then called in succession upon the Governor of the Province, the Burgomaster of Groningen, the Rector of the University, and Dr. Reddingius, Professor of Pathology, and Dean of the Medical Faculty of the University, who severally welcomed the members. Thereupon followed tributes to deceased physiologists. At the invitation of the President, Professor Starling paid a tribute to Mosso of Turin, Professor Heger of Brussels to Bowditch of Boston, and Professor Hamburger himself made a brief sympathetic reference to Lord Lister.

Papers and Demonstrations.

The opening meeting then terminated, and the regular work of the Congress began immediately after lunch. The meetings were held in the Physiological Laboratory, but overflowed across the road into the Anatomical Laboratory. There were two large lecture rooms in the Physiological Laboratory and one in the Anatomical Laboratory, where papers, usually illustrated by lantern slides or cinematograph films, were read, and the practical histology room was also used for the same purpose. In addition there were a dozen other rooms, large or small, available for demonstrations; while in the Anatomical Laboratory there was an exhibition of instruments by various well-known German, English, and American firms, and by some Dutch firms, whose work was highly praised by many of the foreign physiologists attending the Congress. As papers were being read and demonstrations given in all the rooms at the same time, it was necessary for a member to study the programme carefully, and choose the subject in which he was most interested. This had the advantage of providing an expert and critical audience for each speaker, thus fulfilling one of the objects of these congresses—to promote the progress of physiology by mutual friendly criticism. On the other hand, it had the complementary drawback that it must have rather tended to limit "the interchange of ideas"—another object of the Congress—to specialists in each of the departments into which physiology is becoming more or less clearly divided. As a rule, the readers of communications were kept fairly closely to the time limit of fifteen minutes, and when any discussion followed it was almost always very brief, being directed usually to questions designed to clear up points which had not been made quite clear. In this way an immense amount was got through in the four full working days for which the Congress lasted.

Judging, it must be confessed, very superficially—for so much was done, and so many things were being done on each day at the same time—the impression might be formed that the attention of physiologists is being especially directed at the present time to the study of the functions of the heart, and the analysis of the mode of action of the nervous centres, cerebral and spinal, but a large number of valuable communications on physiological chemistry, using that term in its widest sense, were made by Abderhalden, Roaf, Schwarz, Röhmann, Maignon, Funk, Ringer, Serono, Schryver, and many others.

Professor Sahli explained and demonstrated his sphygmobolometer, and indicated the uses to which it might be put; Professor Starling gave a demonstration of an improved heart-lung preparation, and Professor Abel, of Johns Hopkins University, with the assistance of Drs. Rowntree and Turner, showed his method for the removal of diffusible substances from the circulating blood by means of the diffusion apparatus which has been called an "artificial glomerulus." Both these demonstrations excited much interest, and many hopes appear to be built on Professor Abel's apparatus, which, it is thought, may be of great service in yielding larger quantities of material to the physiological chemist than have hitherto been available. Kaiser of Amsterdam showed a new mechanical cardiograph, and Wiersma of Groningen followed this by a demonstration of a simple apparatus for obtaining plethysmograms and sphygmograms. Dr. Edridge-Green gave two demonstrations—the one on an after-image of white on coloured surfaces, and the other on the constancy of hue of spectral yellow of varying luminosity.

The Cinematograph.

A good deal of use was made of the cinematograph for purposes of demonstration. It was used to illustrate two communications made by Dr. T. Graham Brown, on behalf of Professor Sherrington and himself. The one dealt with recent observations of rhythmic movements in the mammal, in continuation of the remarkable researches in which Professor Sherrington has been for some years engaged. He had given a demonstration of some of his results on the previous day. Dr. Graham Brown's communication afforded a connected account of the research, which was made much more easy of comprehension by the cinematograph film. A most effective example of the value of the method for demonstration was afforded by a second film, showing recovery after lesions of the motor cortex. The cortical arm area had been destroyed in an anthropoid ape, first on one side and then on the other; the recovery of function in the forelimb was shown in a most convincing manner in the film, the animal being seen to take bits of apple with one hand and pass them into the other until the supply was exhausted, when it turned round and began to put the pieces of apple into its mouth; it was also seen to hold a cup of water and drink from it, and to use its upper limbs for various purposes in a most natural manner, the whole set of movements being so easily and accurately performed that it would never have been suspected that the animal had undergone any operation.

The value of the cinematograph was exemplified also by a film shown by Mr. G. R. Mines, of the Cambridge Physiological Laboratory, during the course of a communication on the functional analysis of cardiac muscle, in which he also illustrated the value of a phonograph for making verbal notes during an experiment without looking away from the phenomena under observation. Mr. Mines's work seems likely to yield important results, for he is introducing into the study of the various phases of the cardiac cycle methods of precision in measurement which it may be confidently expected will contribute very much to the elucidation of this complicated subject.

A third cinematograph display was that of a series of remarkable films taken by Dr. L. Bull of Paris and explained by Professor Richet. They were examples of a new method of using the cinematograph for the analysis of movements. The films are run at such a pace that the movements thrown on the screen seem to have been very slowly performed; the method must involve the taking of a very large number of photographs on very sensitive films. The first showed the act of walking, and the subject being a spare, muscular man, the orderly contraction of the muscles and the movements of tendons and joints could be very clearly observed. Others showed running, jumping, and putting the shot. The last two overcame the gravity of the physiologists, and there was indeed something irresistibly absurd in seeing a man slowly preparing to jump over a bar, slowly rising in the air, and

slowly descending on the other side, and still more, perhaps, in seeing the shot very deliberately sailing away like a toy balloon. Other slowed films exhibited showed the action of the heart and the flight of a pigeon which laboured across the field of vision as though it carried the weight of the world on its back. The demonstration was so much appreciated that Professor Richet consented to repeat it on the following day.

The cinematograph was used also by Professor Hemmeter of Johns Hopkins University to illustrate a communication on the relation of vagus inhibition to the inorganic salts of the heart; by Dr. Laqueur, Professor Hamburger's assistant, during a paper on the rate of movement of the intestines in various animals; by Dr. Stigler of Vienna to illustrate some physiological observations on the peoples of Uganda; by Fauré-Fremiet of Paris to show the processes of fecundation and segmentation in *Ascaris megalocephala;* and by Magnus of Utrecht to illustrate a communication on the influence of the position of the head on reflexes.

Relaxation.

The State has been liberal in its support of the university and in providing it with university buildings and laboratories. It is the chief public institution of Groningen, whose citizens take a legitimate pride in its welfare. The Congress worked hard from 9 a.m. to noon, and from 2 to 4 p.m. on Tuesday, Wednesday, and Thursday, and until midday on Friday. After these hours the hospitable intentions of the hosts found scope. On Tuesday evening a reception was given in the Academy by the Governor of the Province on behalf of the Netherlands Government, and on Wednesday evening the Municipality of Groningen gave an entertainment in the Sterrebosch Park, to which the brilliant and tasteful illuminations brought great crowds of the uninvited to gaze across the barriers. On Thursday afternoon many members of the Congress made the short journey to the country house of M. J. E. Scholten, and took part in a water party on the lake of Paterswolde. In the evening the local members of the Congress gave a *soirée artistique* in the theatre, made remarkable by the "express sketches" of a gentleman anonymous on the programme, but revealed to be Professor Huizinga, son of Professor Hamburger's predecessor, and himself the occupant of the chair of History. The sketches, made in chalk on two blackboards, and explained by running comments in English, professed to give the story of the dream of a physiologist departing from the Congress and of his encounter with Boerhaave, who found himself a little incredulous as to the great progress made by physiology since his day.

However this may be, the ninth International Congress of Physiologists, which was attended by over 400 members from all parts of the world, worked very hard and carried away from Groningen pleasant memories of the town and its university and of the genial hospitality of its citizens, and not least of that of the distinguished President and his wife.

THE METROPOLITAN ASYLUMS BOARD.

When the Metropolitan Asylums Board was established in 1867 it was essentially a Poor Law authority, but although the majority of its members are still elected by metropolitan boards of guardians, it now undertakes duties quite outside the Poor Law. The institutional treatment of infectious diseases among all classes in the metropolis, the care of the mentally defective and of certain classes of Poor Law children, and the care of the casual poor are now among the duties carried out by the Board, and during 1912[1] an arrangement was entered into with the London County Council, under which the Board provides the sanatorium accommodation for tuberculous patients in the County of London required by the Insurance Committee for the county. The Board is also empowered by the Public Health (London) Act 1891 to provide ambulances, ships, and landing places for the use of persons suffering from infectious diseases.

[1] Metropolitan Asylums Board: Annual Report for the Year 1912 (fifteenth year of issue). London: Ben Johnson and Co., Limited. 1913. (Pp. 298. 5s.)

Tuberculosis Sanatoriums.

The Board, after some consideration, arrived at the conclusion that sanatorium accommodation for tuberculous patients could be provided in its existing institutions without incurring any large expenditure. After conferring in the first instance with the Local Government Board, and subsequently with the County Council and the Insurance Committee, it was decided to allocate temporarily the Downs School, Sutton, for the reception and treatment of persons suffering from tuberculosis, upon the understanding that while the managers should engage the staff and assume the general management of the institution, the County Council should have complete control as regards selection of patients and the length of their stay in the institution, and that the Insurance Committee should have the right to visit and inspect it at any time. It was also agreed that the financial control should be exercised by the London County Council, in so far as the Council would reimburse the Board the entire cost, preferably by payment of a definite charge a head of the patients actually maintained, with a periodical adjustment according to the ascertained actual cost, or on a scale of charges according to the numbers maintained. The Downs School, where there is accommodation for 350 patients, was altered, equipped, staffed, and ready for use by the beginning of February, 1913, and subsequently a portion of the Northern Hospital, Winchmore Hill, was opened, with accommodation for 200 patients.

Infectious Diseases.

There were admitted during 1912 for treatment in the Board's hospitals 21,378 patients, or about 240 more than was the case in 1911. The scarlet fever patients numbered 9,883, the diphtheria 5,219, and the small-pox 20. The mortality per cent. of scarlet fever was 1.6, diphtheria 6.2, typhoid fever 17.8, small-pox 20.0, measles 10.5, and whooping-cough 8.5. In each case this rate was lower than that recorded in 1911, with the exception of typhoid fever, when the mortality-rate was 14.3. In the quinquennial period 1887-1891 the mortality rate of diphtheria was 33.6. In July, 1912, the Board was authorized to receive into its hospitals poor persons suffering from puerperal fever, and arrangements were made for the treatment of these cases in such of the hospitals as might have vacant beds in the female typhoid wards. Later in the year an order of the Local Government Board permitted non-pauper cases of the disease to be treated. At the Brook Hospital four of the ward pavilions have been altered in order to provide balcony accommodation for open-air treatment, thus affording the patients the benefit of the curative effect of open air and sunshine while still confined to bed. It was decided during the year to appoint a research bacteriologist or pathologist whose duty it would be to inquire into the causation, infectivity, prevention and treatment of zymotic diseases. It is hoped that both the incidence and mortality of the diseases treated in the Board's hospitals may be reduced by the appointment.

Mental Defectives.

The Board has provided accommodation for about 8,000 mental defectives who are defined as "harmless persons of the chronic or imbecile class." The number of such persons placed under the care of the Board during 1912 was 993, or about the average number recorded in the previous years. There died during the year 714 patients, and 204 were discharged. As a result of the classification of all the mentally defectives in 1911, the unimprovable imbeciles were transferred to the Fountain temporary hospital, and the Darenth institution was kept exclusively as an industrial colony. After visiting the colony in November, 1912, the Lunacy Commissioners expressed satisfaction with all they had seen, and recorded their opinion that the work was being carried out on well-planned lines and with much skill and thoughtfulness in organization, and that the object in view—namely, the adequate training and occupation of the imbecile class—was being attained in a most satisfactory and gratifying manner. It is of interest to note that there is still being continued the practice of applying the Widal test to asylum patients of dirty habits, followed by further examinations where a positive reaction occurs. Up to

the end of 1912, 10 carrier cases had been detected by this means.

CHILDREN.

Since 1875 the Board has been empowered to provide a training ship for the training of boys for sea service. At the end of 1912 there were 702 boys on the training ship *Exmouth*, of whom 394 had been admitted during the year. Of the boys discharged during the year, 109 entered the navy, 179 the mercantile marine service, and ten entered the army as musicians. The number of boys sent from the metropolitan unions is still much below that from the provinces, and nearly one-half of those who do come from London are sent by three unions. A new sea-going vessel, with accommodation for 70 boys, has been constructed for the Board, and is now in use.

In addition to the mentally defective children already referred to, the Board has under its care sick, debilitated, and convalescent children, those suffering from contagious diseases of the skin or scalp, and those suffering from ophthalmia or other contagious diseases of the eye. There are for these children three seaside homes, two hospitals (in one of which a section is reserved for ringworm cases), and two ophthalmia schools. Arrangements have been made by the Board for one year experimentally with the Invalid Children's Aid Association to keep under observation certain children on their discharge from the Board's hospitals. Such cases are those in which a child may be discharged from hospital on its parents leaving the workhouse or union to which it is chargeable. Other cases are those of children wearing some surgical appliance, or suffering from chronic heart disease, and infants whose feeding needs supervision, and there is also the large class of children who return to their own homes on discharge, and who do not remain under the supervision of the guardians' medical staff.

THE CASUAL POOR.

Since April 1st, 1912, the administration of the casual wards in London has been in the hands of the Board. This transfer from the boards of guardians was decided upon on account of the lack of uniformity which had hitherto been apparent in this special department of Poor Law work. The resulting uniform administration was followed by a large diminution in the number of casuals applying for admission to the wards. Instead of about 1,000 nightly inmates, there were as a rule only about 500. In consequence it has been found possible to reduce the wards in constant use from twenty-eight to seventeen. It is satisfactory to learn that this reduction of casual paupers in London has not been accompanied by an increase in those in the unions outside the metropolitan area. In connexion with these casual wards there is kept a register of those who habitually frequent them, and of beggars and vagrants, of whom particulars are supplied by the agencies to which such persons are well known.

MEDICAL SUPPLEMENT.

The Medical Supplement, edited by Dr. E. W. Goodall and Dr. F. M. Turner, contains important statistical tables showing the incidence of complications amongst cases received for treatment in the hospitals and relating to the operations of tracheotomy and intubation. A report by Dr. J. D. Rolleston on the treatment of carriers of the diphtheria bacillus with bouillon cultures of *Staphylococcus pyogenes aureus* should be of interest to those public health officers who are often in despair at the persistency of this class of case. Eight chronic carriers were treated by Dr. Rolleston with the bouillon culture by spraying and swabbing. In 6 faucial cases the findings became negative within two to seven days after starting the treatment. In 2 nasal cases the treatment was ineffective. In almost every case a mild form of sore throat was produced, but no complication ensued. Dr. A. Anderson reports on the treatment by autogenous vaccines of 37 cases of otorrhoea in which the ear discharges had proved intractable to local treatment. His conclusions are that the proportion of successful results and the time taken show practically no improvement on the average of other cases of chronic otorrhoea which had not been under vaccine therapy. He admits that the difficulty of determining the predominant organism may account for the failure of vaccine treatment in otorrhoea as compared with its success in other diseases in which such an organism can be isolated.

BRITISH ASSOCIATION.

ANNUAL MEETING IN BIRMINGHAM, 1913.

THE work of the sections of the annual meeting of the British Association in Birmingham began on Thursday morning, September 11th, the day following the evening on which the President gave the address noticed in our issue for last week.

HONORARY DEGREES.

On September 11th a special honorary degree convocation was held at the university buildings. The recipients were presented to the Vice-Chancellor, Mr. Gilbert Barling, by the Principal, Sir OLIVER LODGE, who briefly mentioned the scientific work done by each recipient.

In presenting Professor Arrhenius, Director of the Physical Department of the Nobel Institute, Stockholm, the Principal said that the courageous way in which he had applied the theory of electrolytic dissociation to a quantitative study of chemical reactions had profoundly modified the trend of chemical science during the past thirty years; he was one of the founders of modern physical chemistry, and had applied its principles with singular success to some of the most subtle phenomena of organic life.

The Principal presented Madame Curie, as the discoverer of radium and the greatest woman of science, who, in 1896, inspired by the discovery of spontaneous radio-activity by Becquerel, began an examination of the radio-activity of all kinds of minerals; a uranium residue having shown a value larger than could have been expected from its uranium content, she worked down some tons of material and obtained evidence of a new element which she christened polonium, and eventually isolated a few grains of the other and more permanent substance, radium, which not only exhibited physical energy in a new form, but was likely to be of service to suffering humanity.

Of Professor Franz Keibel, Professor of Anatomy in the University of Freiburg, the Principal said that he was a leading authority on the embryology of vertebrates, including man, and had originated the international standard used in estimating embryological data.

The Principal next presented Professor H. A. Lorenz, who, he said, was a great authority on the electron theory. His name would for ever be associated with the electrical theory of matter, and English mathematical physicists recognized in the professor of physics in the University of Leyden a colleague and a co-worker worthy to rank with their greatest.

Of Professor R. W. Wood, who fills the chair of experimental physics in the Johns Hopkins University, Baltimore, Sir Oliver Lodge said that he was one of the most brilliant experimental physicists of the world, whose researches in physical optics had laid science under deep obligations. By the ingenious use of little known properties of light he had explored the structure of the molecules and had applied the principle of resonance to determine their natural electronic period of vibration. He had, in fact, discovered a new type of spectra in the fluorescent resonance of metallic vapours.

COMMITTEE ON ANAESTHETICS.

At the meeting of the Section of Physiology on September 11th Dr. A. D. WALLER presented the annual report of the committee which had been appointed "to acquire further knowledge, clinical and experimental, concerning anaesthetics—especially chloroform, ether, and alcohol—with special reference to deaths by or during anaesthesia, and their possible diminution."

It is (the report states) highly important to remember that the risk attendant upon the injection of cocaine and similar analgesics is quite as great from the septic as from the purely toxic side. Hence it happens that apart from the numerous cases of cocaine poisoning which occur, a few of which terminate in inquests, there are a large number of others which escape attention, the victims either suffering from prolonged impairment of health or dying from sequelae rarely traced to their true causes. The injection of cocaine or its derivatives may lead to dangerous or fatal symptoms by (*a*) direct toxicity; (*b*) the introduction of septic organisms into the circulation through improper sterilization of injecting appliances;

(*c*) lacerating and reducing the vitality and power of recovery of inflamed tissues into which the analgesic solution may have been forced, with the result that sloughing or necrosis follows; and (*d*), the injected fluid, not only driving out the blood and lymph, but also dispersing pathogenic organisms into the tissues, and even into the general circulation.

Dr. Waller said that the consideration which had led to the appointment of the committee was that preventable and unnecessary deaths were taking place year by year. It had presented four reports, two dealing with the scientific and two with the public aspects of the matter. The essential feature of the present report was an appendix by Sir Frederic Hewitt, which dealt with three coroners' inquests upon members of the working classes who, during the first five months of the present year, had died as the result of cocaine injections administered by unregistered dentists. The cases were very similar in many respects. At one of the inquests the jury asked the coroner to censure the operator severely. At one of the others the jury added to the verdict a recommendation "that the law should be so amended as to prohibit the use of anaesthetics except by fully qualified practitioners," and this recommendation was communicated to the Home Office. The Committee of the Section would be asked to recommend the Council of the British Association to make representations to the Government in favour of legislation to protect the public against the risks associated with the use of anaesthetics by unregistered practitioners. This resolution should endorse and strengthen that passed at the meeting two years ago at Sheffield, representing to the Home Office and the Privy Council the urgent need of legislation to protect the public against unnecessary risks incurred through the administration of anaesthetics by unqualified persons.

Sir FREDERIC HEWITT thanked the Section of Physiology, on behalf of all those who were interested in the reform movement under consideration, for allowing such ample facilities for the discussion of this important question. Thanks were also due to Dr. Waller not only for the great help which he as a physiologist had been able to render to the committee, but for the interest he had for many years displayed in all matters connected with anaesthesia. The questions before the committee had a scientific side, a professional side, and a public side, and the present report dealt principally with the last named. One of the objects of the British Association was "the removal of any disadvantage of a public kind," and it must be clear to all who had read the report that the association would be conferring a lasting benefit upon the public if it could in any way help to alter the present state of the law by which any unqualified person was allowed to administer any anaesthetic to his fellow beings. It was a curious fact that the great majority of people were under the impression that the public were already protected against this particular danger. But this was not so. It was to be feared, indeed, that the present highly unsatisfactory state of the law, which permitted any ignorant and untrained person to administer any drug so as to produce general or local insensibility to pain during a surgical operation, would continue to exist unless some strong and united protest were made. Was there any organization or institution more fitted than the British Association to urge the Government to action? And was there any section of that association which was more fitted than the Physiological Section to take upon itself the responsibility of advising the Council of the association as to the necessity for this action? After a considerable amount of spadework on the part of those who had this reform at heart, they were in a position to state that every official and professional body which had been consulted as to the desirability of legally protecting the public against unqualified practice in anaesthetics had agreed in supporting the movement. The present state of the law almost verged upon the ludicrous. To find a parallel in other spheres of human activity it would be necessary to imagine railway companies permitting their porters or cloakroom attendants to drive express trains or work the signals. Would such a state of things be tolerated by the public for one instant? Certainly not. And yet the risks connected with anaesthetics—when both general and local were included—were certainly greater than those of railway travelling. Their endeavour should be to make the risks about equal. Was it to be counted a trifling matter that during the first five months of the present year there were no fewer than three inquests upon poor ignorant women who, from lack of protective legislation in regard to anaesthetics, had lost their lives? To argue that the public, before obtaining medical or dental advice, should consult registers in order to ascertain the fitness or qualification of the doctor or dentist seemed to him to betray a lamentable absence of common sense. Whilst a member of a West End club might consult a medical or dental register before obtaining professional aid, how was the working man or woman to distinguish between the regular and the irregular practitioner? It was for the Government to protect the public—not for the public to protect the Government. When it was remembered that the Home Office Departmental Committee had strongly urged the need for this legislation, and that, in addition to the British Association, the General Medical Council, the British Medical Association, the Royal College of Surgeons, the British Dental Association, and the Medico-Legal Society, had one and all agreed as to the main provisions which should be embodied in an Anaesthetics Act, it was surely high time for the Government to take action in the matter and to introduce legislation forthwith. The only opposition to such legislation would come, as might be expected, from the large number of unregistered dentists who now, without let or hindrance, exploited the lower classes of the community. The occasion was not one upon which to draw attention to the numerous and cunningly-devised means by which money was extracted from the pockets of the poorer classes for dental treatment which proved to be utterly valueless. The point now was that by permitting untrained and ignorant persons to inject such powerful drugs as cocaine and allied analgesics prior to tooth extraction, a very grave public danger was incurred, and one that should be remedied by prompt and decisive Government action, irrespective of all party considerations. The one criticism which was formerly levelled at all attempts to place dental anaesthetics in the hands of registered dentists—namely, that the latter would be, by reason of their comparatively small number, insufficient for the needs of the population—might, fortunately, now be met, for it had recently been demonstrated that by means of so-called "Public Dental Services," such as that now in operation in and around Reading, the poorer classes might obtain adequate dental treatment by registered practitioners at fees easily within their reach.

Professor BARLING said he was entirely in favour of the resolution which it was proposed to send to the Council of the association, and hoped it might have some effect. It was deplorable that in this country a great deal of time was devoted to the discussion of matters which did not touch life, while there was very little time devoted to important matters which touched life very closely and for passing legislation upon them. He protested against the way in which ignorant persons took upon themselves the responsibility of giving drugs of which they knew nothing.

Dr. BLUMFELD said it was sufficiently terrible even if a few lives were sacrificed annually from causes that should and ought to be easily prevented. The science and art of anaesthesia were still largely in the making; but by drawing public attention to the question there would be a rise in educational standards, and consequent improvement in the position of the whole subject, both within the ranks of the medical profession and also outside that body.

Dr. MCCARDIE said he had made inquiries as to the quantities of dangerous drugs used by unregistered practitioners, and had found that while chloroform was employed very little, nitrous oxide and cocaine were purchased from the manufacturers upon a high scale. Cocaine injections were used very frequently in cases in which injection was inadvisable or even dangerous. Dangerous drugs were sold by qualified chemists, yet their administration, which was a more serious matter, could be undertaken by unqualified persons. One result of this was that many men were being tempted to leave their professional studies in the dental curriculum to become irregular practitioners. He read a letter from Professor Saundby (who was unable to be present) strongly supporting the

movement in favour of immediate legislation, which should include in its scope the prohibition of the injection of cocaine and similar analgesics by unregistered persons. Professor Saundby added that the General Medical Council, the British Medical Association, and the Royal Colleges of Physicians and Surgeons were strongly in favour of legislation.

Mr. F. J. PEARCE, speaking on behalf of the British Dental Association, insisted that the movement in favour of legislation was being promoted without there being any wish to deprive the public of their right to the alleviation of pain, but with a desire to warn them against the administration of drugs by unqualified persons. Their use had enormously increased, and the only practical safeguard was to make their administration impossible save by qualified medical or dental practitioners. When deaths occurred at the hands of unqualified persons nothing happened beyond the utterance of a pious remark by a judge or a coroner. The three chief reasons why such regulations were necessary were: (1) That expert knowledge was required in order to ascertain the patient's fitness for an anaesthetic; (2) that the operation required surgical cleanliness and a knowledge of anatomy; and (3) that a knowledge of drugs was essential if catastrophes were to be avoided. He thought it was a mistake to make light of tooth extraction.

Mr. H. P. JOCELYNE, Honorary Secretary of the Midland Counties Branch of the British Dental Association, said that the deaths which came to light were only a drop in the ocean compared with the various forms of damage caused by unqualified persons. It was their duty to warn the public. There were about 20,000 unregistered dentists and their number was increasing, whereas the number of qualified dentists remained where it was forty years ago, at 5,000. In consequence of this, only the richer members of the public were treated by properly qualified men.

Professor LEONARD HILL said that the newspapers were greatly to blame in not more regularly reporting the cases in which death was due to the administration of an anaesthetic by an unqualified man, and Parliament took no action because it only cared for the matters which the newspapers brought before the people.

A resolution was unanimously adopted by the Section appealing to the Council of the association to represent to the Home Office and to the Privy Council the urgent need of legislation.

PHYSIOLOGY OF REPRODUCTION.

At a joint meeting of the Sections of Physiology and Agriculture Mr. K. J. J. MACKENZIE, Reader in Agriculture in the University of Cambridge, introduced a discussion on the physiology of reproduction and sex determination. He gave particular attention to the question of the fecundity of cows, which he said was of great importance, owing to the fact that the price of good milking cows was so high as to threaten the plentiful supply of milk for the poorer inhabitants of large cities. If young cows failed to get in calf when being milked in the sheds of suburban farmers, they were commonly turned out on pastures to fatten for slaughter; there was a belief that if a bull were turned out along with them they would fatten better, and it frequently happened that when they were slaughtered they were found to be pregnant. While it was true that disease probably accounted for many of them not breeding in the confinement of the cowsheds, he thought it probable that in many cases it was the feeding in the cowsheds which led to temporary sterility.

Dr. L. DONCASTER, Superintendent of the Museum of Zoology, Cambridge, in discussing the physiology of sex determination, stated that breeding experiments with insects and vertebrates had apparently shown that the determination of sex was due to an inherited factor present in one sex and absent in the other. At the same time he said there was a good deal of evidence that the environment had an influence on the embryo and even in later life. He suggested that all individuals, both animals and plants, contained potentially the factors for the characters of both sexes, but that each individual either received or did not receive a sex-determining factor upon which depended the set of sexual character which would appear. He held, in fact, that the type of metabolism determined the sex, and not the sex the type of metabolism.

Sir OLIVER LODGE pointed out the difficulty due to the fact that some trees bore on some branches male and on others female blossoms, though the sap was the same for both.

In the Section of Zoology Mr. C. J. BOND showed a case of unilateral development of secondary male characters in a pheasant. The plumage on the left side was roughly that of the male adult; there was a well-developed oviduct on that side, but microscopical examination of the sex organ showed that it was an ovi-testis, consisting of ovarian elements undergoing pigmentary degeneration, and of testicular elements which showed active growth. Mr. Bond drew attention to the following facts: (*a*) That the gradual destruction of ovarian tissue by disease or new growth in young individuals of the human species and birds is more frequently associated with the assumption of secondary male characters than the removal of the ovaries by castration. (*b*) That islands of actively growing male elements can frequently be found in the degenerating ovaries of female individual birds which have assumed male characters. (*c*) That secondary (male) sex characters can be arranged in groups which vary in the extent to which they are dependent on the internal secretion of the corresponding sex gland. (*d*) The occurrence of hermaphrodite individuals in which the (somatic) secondary sex characters correspond with the constitution of the primary sex gland on the same side of the body. These facts suggested that two factors at least were concerned in the origin and development of secondary sex characters: one, a gametic factor—the primary sex gland, and the other a somatic factor. These two factors might vary independently of each other under certain conditions of abnormal hereditary transmission. An analogy was pointed out between the "hormonic" theory of the origin of secondary sex characters, and the "gametic factor" theory of the origin of "unit" characters in the zygote.

THE ORIGIN OF LIFE.

At a joint meeting of the Sections of Physiology, Zoology, and Botany a discussion on the origin of life was opened by Professor BENJAMIN MOORE, who said that as the result of about eighteen months' experimental work he and his colleagues had obtained evidence of what he regarded as the first organic step in the evolution of life. When dilute solutions of colloidal ferric hydroxide, or the corresponding uranium compound, were exposed to strong sunlight or the light of a mercury arc, there were synthesized the same organic compounds which were at present formed as the first stage in the process of organic synthesis by the green plant—namely, formaldehyde and formic acid. If a planet exposed to the proper conditions of temperature and sunlight were considered, that chain of events could be followed, which not only could but must occur. At first, as the planet cooled down, only elements would be present, at a lower temperature binary compounds would form, and next simple crystalloidal salts would arise. Then, by the union of single molecules into groups of fifty or sixty, colloidal aggregates would appear. As these colloidal aggregates increased in complexity they would become more delicately balanced in structure, and metastable or labile—that was to say, they would be easily destroyed by sudden changes in environment, and, within certain limits, peculiarly sensitive to energy changes, and could take up energy in one form and transform it into another. This was the stage at which the investigation had been begun. These labile colloids took up water and carbon dioxide, and, utilizing the sunlight streaming upon the plant, produced the simplest organic structures. Next these simpler organic structures, reacting with themselves, and with nitrogenous inorganic matter, continued the process and built up more and more complex, and also more labile, organic colloids, until finally these acquired the property of transforming light energy into chemical energy. It was clear, he thought, that by the continued action of this "law of molecular complexity" life must originate, that forms of life were now originating, that the origin of life was no fortuitous accident, and that the same processes were guiding life onwards to higher evolution in a progressive creation.

Sir OLIVER LODGE said that by taking a molecule sufficiently complex and sufficiently unstable, and by supplying it with energy, which was done by sunlight, the physical and chemical substratum for the operations of life was apparently obtained—that was to say, potential living matter would come into existence. He had no

doubt that, though it had not been done, it was possible of accomplishment, but that was not equivalent to the origin of life; even when the potential living matter had been obtained, it would be no more than a physical and chemical vehicle to be made use of by life.

Professor ARMSTRONG said that he thought Sir Edward Schäfer had, from the chemist's point of view, underrated the difficulties of the problem in his address at Dundee last year. Personally he did not believe that the discussion was helped by appeal to the colloids. In the beginning there must have been formaldehyde, but the difficulty was to account for the factor that the material on which living structure was built was not ordinary chemical material but a selected simpler material.

Dr. HOPKINS agreed that there was a tendency to make too much of the supposed special properties of colloids in relation to life.

Professor LEONARD HILL said that even though the potential substances found in living matter or obtained from living matter—such as sugars, fats, and proteins—could be made in laboratories and arranged under certain conditions so that life sprang into being, yet life would not have been made. The living principle or energy that came into the material would come from outside, and the inquirer would be no nearer ascertaining what the energy or living principle was.

Professor HARTOG followed in the same sense, and denied that there was any consensus of opinion among biologists that life was only one form of chemical and physical actions which could be reproduced in the laboratory.

In his reply, Professor MOORE said that he thought he had demonstrated a method by which the first step of the evolution of life might be produced. The changes from inorganic or organic matter could be brought about much more rapidly where a colloid was present to convert the energy of sunlight. He objected that the element of mysticism existed from the beginning, and should not be introduced at the level of life. If the chemist could explain why water was produced from the union of hydrogen and oxygen, a greater mystery than the origin of life would have been solved. He thought it would be absurd to contend that if, working with colloids, the approximate conditions of life were obtained and the whole became imbued with life, that life had not originated. His main thesis was that from the simplest form of matter to the most complex, up to and including life, there was a law determining that matter under proper conditions tended to assume more and more complex forms.

RADIUM RAYS IN HYPERSECRETION OF THE THYROID GLAND.

Dr. DAWSON TURNER (Edinburgh), in a paper on this subject read in the Section of Physiology, said that many favourable reports as to the action of the *x* rays in Graves's disease had been published, but in his own opinion, based not only theoretically upon the similarity of physical radiations but also practically upon an experience of four clinical cases, the laudatory remarks as to the action of *x* rays could quite as justly be applied to the action of radium. In addition radium had two distinct clinical advantages over the *x* rays: (1) a perfectly definite dose of it could be given and repeated as often as might be desired; (2) the radium could be applied without noise or excitement while the patient was in bed. This important advantage had led Dr. Turner to replace the *x* rays by radium rays in the treatment of the following cases:

CASE I.—A lady, aged 69, had suffered from Graves's disease for two years. Her chief symptoms were tachycardia (up to and above 170), nervousness, weakness, exophthalmos, and breathlessness. The thyroid was scarcely enlarged. In December, 1912, an application of the *x* rays was given, but the excitement and fatigue of having to come to the author's house for the application, combined with the noise and spluttering of the *x*-ray apparatus, appeared likely in the patient's nervous condition, to do more harm than good. It then occurred to him to suggest the employment of radium instead of the *x* rays. He was unaware of any previous use of radium for this condition, but it seemed reasonable to suppose that, owing to its action in diminishing vascularity (as in naevi) by the obliteration of various small blood vessels and by the induction of fibrosis, some benefit would accrue. Applications of radium were accordingly made over the thyroid on each side of the neck. To begin with an intensive form of treatment was adopted, several applications of 45 mg. hours screened by silver being given in the first ten days; afterwards the applications were given at longer intervals; altogether the patient received in the course of two or three months a dose of 350 mg. hours. Improvement began very quickly and had been maintained; the patient's doctor and her husband agree as to the benefit she had received. "The exophthalmos is less, the tachycardia is less frequent and marked, the pulse used to go to above 170, now it keeps at about 80, and if it goes above 100 we think it abnormal; the patient is stronger and less nervous and the respiration is normal."

This result was sufficiently encouraging to induce the author to employ the same treatment in other cases.

CASE II.—A female, aged 25, had suffered from Graves's disease for four years. She complained of nervousness, palpitation and weakness; right exophthalmos was marked. Treatment was begun on December 18th, 1912, by two applications weekly of the *x* rays. On January 16th, 1913, the *x* rays were replaced by radium screened on all but one occasion by silver, 0.5 mm. thick. By the beginning of May a dose of 205 mg. hours had been given. The patient's doctor said in July, 1913, that she was much improved, especially in the exophthalmos.

CASE III.—A female, aged 50, ill for more than seven years with Graves's disease. Exophthalmos was marked; she complained principally of being awakened at night by attacks of breathlessness and could not walk at all for the same reason; the thyroid was enlarged. Radium treatment was begun on July, 1913, as a rule screened by silver. In one month she received 350 mg. hours. In six weeks the patient showed considerable improvement: she could walk slowly for some distance (down to the shore and back, a distance of a mile altogether), whereas she had previously been confined to bed, but her principal relief was that she had quite lost the distressing night attacks of breathlessness.

CASE IV.—A male, aged 53, had suffered from Graves's disease for four years with intermissions. He was very ill, with a week irregular heart, dropsy of the legs, marked exophthalmos and enlargement of the thyroid. Digitalis was prescribed, and he was given a dose of 180 mg. hours of radium in one week (August, 1913). After the treatment the patient went into the country, but was being kept under observation, and his son had written recently to say that he was improving.

The case for radium, Dr. Turner continued, would be more complete if sections of a thyroid which had been exposed to radium rays could be examined, as had been done by Dr. G. Murray in the case of the *x* rays. There was, however, plenty of evidence as to its general action on normal and pathological tissues. Thus in naevi the effect was to obliterate the small blood vessels, and in malignant growths to induce fibrosis. Professor Oscar Hertwig of Berlin, in a paper contributed to the recent International Congress, said that radio-active bodies had a powerful influence on vital processes in plants and animals. It was probable, then, that the effect of radium rays on the thyroid gland was to diminish the vascularity of the gland, to cause a diminution in the leucocytes, and an overgrowth in the connective tissue. By these processes the functional activity was lessened, the hypersecretion checked, and the morbid phenomena consequent thereon diminished.

SLEEPING SICKNESS.

In the Section of Zoology, Professor E. A. MINCHIN gave an address on some aspects of the sleeping sickness problem. When dealing with the question of fly destruction, he said that unfortunately the trypanosomes of sleeping sickness were not strictly specific to human beings, and it had recently been found that both *T. gambiense* and *T. rhodesiense* could live in various species of antelopes without producing disease in them. It had therefore been proposed to exterminate the wild game on a large scale in order to get rid of this reservoir of the disease, but he doubted whether the plan would prove successful. In the first place, not only the antelopes but the ruminants generally, including domestic stock, could harbour the parasite. No information had been obtained as to how far the destruction of the game might affect the habits of the flies: it was possible that the removal of their natural food might make them move closer to human habitation. If the experiment of destroying game was to be undertaken, it should therefore be carried out in limited areas at first. The greatest enemies of the fly were gallinaceous birds—the common fowl, the wild guinea-fowl, and the francolin—which scratched up the ground and destroyed the pupae, the most vulnerable stage in the life-history of the flies. *G. palpalis* dropped its pupae on the ground, but it had not been explained why this tsetse fly was found only in the vicinity of water; possibly the reason was that its enemies the gallinaceous birds were scarce or absent in such localities. *G. morsitans*, which was not found in the vicinity of water, protected its pupae against the wild guinea-fowl and francolin by depositing them in holes in trees and other sheltered

places. He suggested that experiments should be made to ascertain whether a reduction of the tsetse flies could be effected (1) by protecting the wild and gallinaceous birds, and also by introducing other species such as the Indian jungle fowl, and encouraging the natives to keep domestic fowls around their villages; and (2) in areas infected by *G. morsitans* by tarring or in some other way stopping up all holes in trees near villages or human habitations.

MOTOR CARS FOR MEDICAL MEN.

THE AUTOMOBILE ASSOCIATION AND MOTOR UNION.

THE Automobile Association and Motor Union has sent us a copy of a small illustrated pamphlet recently issued explaining the advantages which it offers to members. As to the first of these, the direction and warning posts, the work is of use to everybody who uses the roads, but for the rest the advantages are more or less completely confined to members. The system of road patrols is of use to members in very many ways. The patrols, as is indicated, warn the driver of bad roads and of awkward turnings. They assist with first aid to the car or the motorist, and they are supplied with maps. In addition, the association has a system of telephone boxes at convenient points for the use of members, and undertakes to give free legal advice upon all matters appertaining to the use and ownership of motor cars. The association has a touring department, and supplies routes both at home and abroad, and for foreign travel has a system under which the tourist going abroad deposits with the association the amounts of the customs charges, which are refunded on return. By the use of this "triptyque" system the tourist avoids trouble and delay at the frontier. Lastly, the association, through its patrols, is able to trace a stolen car; and of the rapidity of its action in this respect an instance was afforded by a kind of practical joke recently played by members of the staff of *Sporting Life*. The car, supposed to be stolen in London at about 1.30 p.m., was stopped in the neighbourhood of Guildford in the course of the afternoon. The offices of the association and union are at Farum House, Whitcomb Street, Coventry Street, London. The annual subscription is £2 2s., and for the use of the badge 5s. Owners of motor cycles and cycle cars pay 10s. 6d. and 3s., but have no voting power.

COUPÉ CARS.

The managing director of De Dion Bouton (1907) Ltd. (10, Great Marlborough Street, N.) writes to traverse "Verdant Green's" suggestion that a coupé car requires an expensive driver. Mr. Stocks says: Of the thousand-odd medical owners of the De Dion Bouton, I doubt if you could discover one who would tell you that he finds it necessary to keep an "expensive" man. There are dozens of De Dion Bouton medical owners who themselves drive, lubricate and adjust cars of all sizes, fitted with all kinds of carriage bodies, with the assistance only of a boy to do the washing—a boy who also does boots, knives, gardening and odd jobs generally about the house. I should be very pleased to send "Verdant Green," or any other of your readers, a copy of our booklet *The Doctor and the Car*, if they would favour me with their addresses.

THE BAYARD CAR.

The Bayard Cars Limited (98, High Street, Marylebone, London, W.) make a 10 h.p. car with a four-seater body which is sold, with hood, screen, and lamps complete, for £270. The company sends us a copy of a letter received from a purchaser who had recently made a tour of a week on such a car. On the last day he ran 207 miles in 8¼ hours and the petrol consumption of the run worked out at 26½ miles to the gallon.

STEAM CARS.

L. desires to obtain information respecting steam cars from medical owners. He has recently used a Stanley, and finds it runs much more smoothly and pleasantly than a petrol car. As these cars are stated also to be much more economical, he would like to learn why they are not more generally used.

SMALL CARS.

CORNUBIENSIS asks for the experience of those who have tried small cars in their work. He wants not a motor cycle or three-wheeler, but a thoroughly reliable hooded "car-ette," which will do its work at a moment's notice in a hilly country with bad roads. He has been advised not to purchase any small car provided with air-cooled engines, or belt transmission, or a two-cylinder engine, unless this be set at an angle.

GOGGLES.

DR. HAROLD SNAPE (Salford) writes: I wear a pair of large size euphos meniscus lenses mounted as rimless spectacles, and find them very efficient in keeping out dust, wind, and glare. The lenses are very slightly tinted, and the scenery looks quite natural instead of the horrible gloomy view one gets through smoked glass. The makers were Messrs. Hamblin and Wingate, Limited, 9, Peter Street, Manchester. If I may, I will give a formula for getting a clear view through a wet wind screen:

℞	Glycerin	℥ij
	Water	℥j
	Common salt	ʒj

Put a little of the solution on some gauze and wipe all over the wind screen, in a very thin layer, but always being sure to do so in a downward direction, and a perfectly clear view will be obtained in the wettest weather. This is a boon on a wet night on a dark road.

LITERARY NOTES.

MESSRS. T. C. AND E. C. JACK, of Edinburgh, announce the publication of the *New Encyclopaedia*. It is stated by the publishers that the work will be entirely original throughout, and that owing to the way in which the matter is condensed and the illustrations treated, the 1,600 pages will contain as much information as is usually got into six large volumes. Science is said to be a strong feature of the work. The work is issued in one good-sized volume, an innovation which, it is thought, will be convenient to readers who have not time to seek the information they may want through a number of volumes.

The *American Journal of Tropical Diseases and Preventive Medicine* is the title of the official journal of the American Society of Tropical Medicine, the first number of which appeared in July. The new journal is published at New Orleans in connexion with the School of Tropical Medicine, Tulane University, and is printed at the University Press.

Owing to the success of the *Girl's Own Paper and Women's Magazine*, the proprietors have asked Miss Flora Klickman to bring out another illustrated monthly of general interest but making a special appeal to men. The new magazine will be called *Everyone's*. The first number is to be published on October 28th.

Dr. Jacques Loeb, head of the Department of Experimental Biology in the Rockefeller Institute for Medical Research, has written a companion work to his *Mechanistic Conception of Life*, published last year. The new book, entitled *Artificial Parthenogenesis and Fertilization*, will be issued during the autumn by the Cambridge University Press, as British agents for the University of Chicago Press. The subject of the book is an analysis of the mechanism by which the male sex cell—the spermatozoon—causes the animal egg to develop. The author has gained a world-wide reputation for his achievements in artificial fertilization, and this work shows how, according to his observations, the action of well-known chemical and physical agencies may be substituted for that of the living spermatozoon.

Reference has already been made in this column to *The Story of Bethlehem Hospital from its Foundation in 1247*, by the Chaplain, the Rev. E. G. O'Donoghue, which originally appeared in the hospital magazine. The following table of contents will give an idea of the extent of the ground covered and the variety and interest of the subjects dealt with:

(1) The Bishop of Bethlehem; (2) The basilica and brothers of Bethlehem; (3) The foundation; (4) The founder; (5) The century of silence and disaster; (6) The citizens; (7) The ring; (8) Trafalgar Square; (9) Peter in the pillory; (10) An appreciation of Peter; (11) Foes and friends; (12) The confraternity; (13) Re-founded; (14) Our sister, Bridewell; (15) "Tom o' Bedlam"; (16) Cinderella and the prince; (17) Visitors and neighbours; (18) Dr. Crooke; (19) Dr. Crooke—and after; (20) The leaven of puritanism; (21) Last years in the old home; (22) The palace beautiful; (23) President, peer, and patient; (24) A devoted physician; (25) Visiting days; (26) Hogarth; (27) Whitefield, Wesley, and an earthquake; (28) "The Betsy Prig School of Nursing"; (29) "When George III was King"; (30) Night and morning; (31) St. George's Fields; (32) The present hospital; (33) The criminal establishment; (34) Transformation.

The book has been revised and enlarged, a chronology, bibliography, notes, and extracts from original documents have also been added. The author hopes to publish it in the early part of 1914, and would be glad to receive at once the names and addresses of any one who would care to receive a final prospectus. The pages of the "Story" are, partly, based on the minute books, leases, and other documents preserved at Bridewell from the reign of Elizabeth, and are illustrated by more than a hundred reproductions from rare prints and drawings.

British Medical Journal.

SATURDAY, SEPTEMBER 20TH, 1913.

THE CAUSES OF DEATH IN EPILEPSY.

THE records of epileptic colonies during the last twenty years have shown that, contrary to the older beliefs, confirmed epileptics are for the most part short-lived. A very large number show, on autopsy, evidence of tuberculosis or various cardio-vascular lesions; the more careful and thorough the microscopical examination of the tissues has been, the more often have slight lesions of heart, vessels, or viscera been found. Apart from the well-known smothering by pillows or bedclothes in nocturnal attacks, it has long been known that death may occur as a result of certain accidents during seizures; thus, an epileptic may fall into the fire or water, off a ladder, down a flight of stairs, or from the edge of a cliff; others have had seizures whilst swimming, and have either been drowned or have died from syncope presumably and have sunk at once.

Munson examined the records of more than 2,700 epileptics at the Sonyea Colony; 582 of these died at the colony. He divides the causes of death in epilepsy into: (1) Pulmonary conditions, and (2) conditions of purely epileptic character. He states that the former usually have at their foundation the pulmonary oedema so often associated with seizures, and adds that exposure whilst in a helpless or post-epileptic automatic state may be responsible. The importance of acute pulmonary oedema as a terminal event in some forms of epilepsy has been insisted on by Ohlmacher; he described five cases of sudden or rapid death in epileptics in association with pulmonary oedema and status lymphaticus. At the end of the convulsive stage it may be noticed that the patient is not breathing properly; sometimes the post-convulsive comatose period is characterized by attempts at coughing; a thin pink frothy fluid escapes from nose and mouth. If the patient be turned on his side, a large escape of fluid may result; such a passive movement, however, may increase the difficulty of breathing. Loud râles are heard by the stethoscope and even at a good distance from the patient; breathing becomes feeble and gasping, the pulse very rapid and small, and death occurs in the course of a few minutes, or may be postponed for a few hours. The acute pulmonary oedema occurs in four distinct forms: (1) It may accompany a major fit and prove quickly fatal; (2) it may follow a single attack with coma; (3) it may occur in serial epilepsy; (4) it may hasten status epilepticus to a lethal termination. He suggests that some of the epileptics "found dead in bed" in institutions are really instances of acute pulmonary oedema occurring after one or more epileptic attacks rather than of smothering by bedclothes as commonly believed. In these rapidly fatal cases the necropsy shows a large, fleshy, sometimes reddish thymus which may contain haemorrhages; the lymph nodes may be moderately enlarged, soft, and pinkish; the solitary follicles of the stomach and intestines and Peyer's patches prominent; the spleen large; the thyroid large, soft, and pale; the tonsils may be greatly enlarged; the lungs are very oedematous throughout, and the pleurae may be adherent. Ohlmacher gives records of 203 deaths in the Ohio Hospital for Epileptics over a period of three years: in 41 cases death was rapid or sudden—that is, nocturnal fatalities in which the patient was found dead in bed; in these 41 cases oedema of the lungs was noted clinically as a terminal event, or was verified at autopsy in 13 cases. Out of 41 patients who died in status epilepticus, oedema of the lungs occurred in 15 instances. A case of fatal oedema of the glottis in an epileptic patient at the Sonyea Colony has been recorded recently by G. Kirby Collier. The patient was a boy of 12 years, whose first epileptic seizures were said to have occurred at the age of 11; at first they were mild, and then became severer. He was a poorly developed boy. In November, 1912, he had typhoid fever for seven weeks, with intestinal haemorrhages, but he recovered; after this he had occasional epileptic seizures and periods of mild irritability. On the evening before his death he snored very loudly; examination of chest and throat revealed nothing wrong. On the morning of his death he had two major attacks, followed by great difficulty in breathing and congestion of the face and neck. Expiratory efforts were easy, but entry of air was very small. Intubation failed owing to the severe oedema, and death occurred before tracheotomy could be performed. The necropsy revealed oedema of the glottis. Another case of rapid death from pulmonary oedema after an epileptic attack has been recorded by Legrain and Marmier—a man of 31, mentally feeble, had epileptic attacks about every three months. One day he had a single attack; he did not recover as usual, but remained oppressed, with slight cyanosis of the face. This increased, with dyspnoea and mucous expectoration; auscultation revealed signs of generalized pulmonary oedema; in spite of bleedings and revulsants he died the same evening, about fifteen hours after the single seizure. The necropsy confirmed the clinical diagnosis of acute pulmonary oedema. The same two observers recorded in 1910 the case of a man of 31 who died during an epileptic attack in whom the necropsy showed numerous haemorrhages: (1) Subcutaneous; (2) visceral—subpleural, subendocardial, gastric, perirenal, and vesical; (3) one large one occupying almost the whole extent of the pons Varolii, communicating with the fourth ventricle.

One of the most important communications of recent years to the subject of the deaths of epileptics is that of Marchand, who collected records of 13 cases of deaths in epileptic attacks, followed by autopsy; to these he added 2 personal cases. These comprised 2 cases of rupture of the aorta, 2 of obstruction of the respiratory tract by food, 3 of rupture of the ventricles of the heart; and cases of cerebral congestion and various haemorrhages (ventricular, meningeal, bulbar, cerebral, and subpial). One of his own cases of bulbar haemorrhage was of special interest. The patient, 25 years old, had convulsions when 3 years old, and epileptic attacks after the age of 11. One day he had a series of three attacks at intervals of several hours. During the tonic phase of the third attack the face became purple, respiration ceased, and he was dead. The necropsy revealed numerous slight lesions, but microscopical examination showed, in addition to chronic diffuse meningo-cortical lesions, a marked congestion of meninges and brain. Sections of the medulla showed enormous dilatation of the meningeal and intrabulbar blood vessels. On the floor of the fourth ventricle there was a blood

extravasation round the small vessels; these capillary haemorrhages predominated in the vagus and hypoglossal nuclei; the walls of the ruptured vessels appeared normal. Marchand compares this case with that of Vigouroux and Colin of sudden death in an epileptic attack, in which the necropsy showed two foci of bulbar haemorrhages — one at the level of the left hypoglossal nucleus, the other at that of the vagus nuclei. Marchand insists that the causes of death during epileptic attacks cannot be correctly interpreted except after a minute examination of all the organs, including a histological examination of the nerve centres. He says that the causes of death, though they may seem to be various, depend on augmentation of arterial pressure, which leads sometimes to rupture of the heart or a large blood vessel, sometimes to rupture of cerebral vessels: there may or may not be antecedent changes in the vessel walls. He cites a statement made in the year 1902 by Spratling to the effect that from 3 to 5 per cent. of epileptics die in the course of a single fulminating epileptic attack. In addition to these causes of death in epilepsy, there are some very rare ones, such as rupture of the diaphragm. The seriousness of status epilepticus is generally well recognized; but here, as in so many other points concerning epileptics, authors are divided in their opinions, some holding that it is very dangerous to life, while others have not found it usually fatal, though they regard it as a grave phenomenon which they do their best to prevent.

PREGNANCY AND ANTENATAL HYGIENE.

DR. AMAND ROUTH was happy in his choice of subjects in both his addresses to the Section of Obstetrics of the Royal Society of Medicine, for in each he has put into words what many obstetricians have been feeling, and has shown that there is a stream of tendency evidently flowing with gathering volume in a definite direction.

In his inaugural address given in 1911 and commented on in these pages,[1] Dr. Routh drew attention to the high importance of chemical and bio-chemical studies in the elucidation of the physiological and pathological problems of pregnancy, and at the Liverpool meeting of the British Medical Association in 1912 the proceedings of the Section of Obstetrics and Gynaecology showed that the value of such studies was appreciated. Dr. J. W. Ballantyne, indeed, in opening the discussion on the etiology of eclampsia, practically admitted that further progress in the understanding of this dangerous malady could hardly be looked for till the physiology, and especially the physiological chemistry, of normal pregnancy was more fully investigated. There is not yet agreement even on the fundamental question of the nature of pregnancy: some holding that it is a harmonious and helpful symbiosis, others that it is a sort of prejudicial parasitism, and others that it has characters which place it with the toxaemias. There is therefore room for research.

Again, in the valedictory address reported in the JOURNAL on July 5th (p. 17), Dr. Routh has touched upon matters which are rapidly assuming great importance but were little thought of prior to the fall in the birth-rate and the consequent appreciation of the value of antenatal life. This means, of course, that the health of the expectant mother must be guarded with greater solicitude than in the past, and that everything which is capable of protecting pregnancy from disaster takes on enhanced worth. Among such things must be reckoned the more assiduous care of pregnant patients by the general practitioner, the provision of prematernity wards or hospitals, the registration of stillbirths, and the financial endowment of motherhood. All these things are, so to say, in the atmosphere of the time we live in, and Dr. Routh has done well to draw attention to them. There are difficulties in the way, but they are not insuperable. The supervision of pregnancies by the medical profession only needs to be tried to be continued, for as soon as patients realize that their medical attendant can relieve the frequent distresses of the pregnant state and prevent its occasional disasters they will be swift to place themselves definitely under his care at much earlier periods than now. The practitioner, too, will soon find that it is easier and every way better for him to test the urine eight or ten times in the course of a pregnancy than to deal with eclampsia at the end of it; he will also discover that it is more satisfactory to prevent this complication of labour than to treat it after it has declared itself. There are none but financial difficulties in the way to prevent the adding of pregnancy or prematernity wards to all maternity hospitals; their advantages are so obvious that it is not outside reason to expect a Government grant for their establishment. The framing of a Stillbirths' Registration Bill would require care, of course, and any political party proposing to bring in such a measure would do well to consult the medical profession freely in the first place; but so far, at any rate, as miscarriages after the fourth month and premature labours are concerned, it is a practicable thing. A beginning has already been made with the endowment of motherhood, and maternity benefit is a very real advantage, although it has proved a troublesome matter to fit into and reconcile with existing circumstances in the practice and teaching of obstetrics.

Another indication that the importance of the study of pregnancy and the value of prenatal hygiene are being more fully apprehended at the present time is afforded by the conference held by the National Association for the prevention of Infant Mortality and for the Welfare of Infancy in London last month. There were two sections, the Administrative and the Medical, and the second sitting of the latter was given up entirely to antenatal hygiene. This is a great forward movement. Dr. J. W. Ballantyne of Edinburgh dealt with the subject of antenatal hygiene in general; Mrs. Fowles of Birmingham spoke on practical work among expectant mothers, and Dr. A. K. Chalmers of Glasgow on the working of the maternity benefit under the Insurance Act; two American medical men, Dr. Huntington of Boston and Dr. P. van Ingen of New York, discussed the maternity hospital and antenatal hygiene and a campaign in favour of prenatal hygiene in New York City respectively; whilst Dr. Munro Kerr of Glasgow had a paper on the toxaemias of pregnancy, and Dr. F. W. Mott of London another on congenital syphilis. There are signs of progress here and of progress in the right direction, for the above-named subjects are all immediately practical, and have not the theoretical and often hypothetical environment of much that has been proposed and discussed under the name of Eugenics. Wise mating in marriage is undoubtedly important, but the preservation of the infant from harm in the nine months of his antenatal existence *in utero* is both possible and practicable in a

[1] BRITISH MEDICAL JOURNAL, October 28th, 1911, p. 1113.

sense that has scarcely been fully realized by the medical profession or accepted by the public conscience.

MANSLAUGHTER BY ANAESTHESIA.

SIR FREDERIC HEWITT found an analogy of poignant opportuneness when, in addressing the Section of Physiology of the British Association on the report of Dr. Waller's Committee on Anaesthetics, he said that to let untrained and unqualified persons administer powerful anaesthetic drugs was as though a railway company were to permit its porters or cloakroom attendants to drive express trains or to work the signals. There are no statistics available, but the small proportion of cases that come before coroners or into the law courts are sufficient to make it practically certain that more people are killed or maimed for life by the reckless administration of anaesthetics, chiefly for dental operations, than similarly suffer owing to accidents on the railways. To those who are acquainted with the risks run it seems almost incredible that the educated classes who still largely determine the course of legislation should be so callously indifferent to the victimization of the poorer members of the community. Here we have a set of traders who, from mere greed of money, are ready to put any number of impecunious folk in danger of their lives. If a milkman purveys polluted milk, or a grocer a poisonous pork pie, the public are, very rightly, indignant and demand condign punishment. But if death is caused by gross incompetence in handling dangerous drugs, neither does public opinion appear to take any serious interest, nor do the administrators of the law show themselves disposed to mark the gravity of the offence against the public welfare by any adequate penalty. The particular set of men who constitute the coroner's jury are shocked and adopt a rider, but the public keeps on taking no notice. We should like to see a charge of manslaughter made in such cases: we have no doubt that an indictment could be framed at common law, quite apart from the medical, dental, or pharmaceutical Acts. If such a case were taken to assize on its broad features, the issue would not be in doubt either with judge or jury. But it would be very much more statesmanlike to prevent these catastrophes, and if Parliament were in the least disposed to enact useful, life-saving, non-sensational measures, the bill promoted by the British Medical Association and supported by the Royal Colleges, the General Medical Council, and the British Association, would be on the statute book before this time next year.

MEDICAL ADVISERS.

IN the SUPPLEMENT for this week is published a further letter from Dr. Bertram Rogers of Bristol, Medical Adviser to the Insurance Committee of that city, whose duty it is to examine insured persons referred to him for an opinion as to whether they are fit to return to work. It will be observed that the general result of his experience is that one-third of the cases so referred to him were found to be unfit for work, and that considerably over one-third were found fit to work. Apparently rather over one-quarter, before or immediately after reference to him, had spontaneously realized that they were fit to go back to work, and accordingly did not visit him. The duties of the office are responsible, and it will be observed that the Insurance Act Committee of the Association has recommended that where whole-time appointments are made the commencing salary should not be less than £750 per annum, and that the appointment should be pensionable. Dr. Rogers would add to this that there should be some guarantee of security of tenure, and this is also the opinion of the Council, which has recommended that referees should be appointed by the Commissioners. The recommendation of the Insurance Act Committee apparently applies only to those instances in which the appointment of medical adviser or referee is made by an insurance authority, and this is what we understand to be contemplated by the Insurance Commissioners, although we observe from other communications which reach us that certain of the large insurance companies are seeking to appoint referees of their own. The Insurance Act Committee also advises that when a medical referee does not devote his whole time to the work he should, when called upon by a lay body to express an opinion as to the capacity of an insured person, receive a fee of not less than half a guinea. The appointment of medical adviser or referee is, of course, quite distinct from the appointment of medical officer now offered by the Insurance Commissioners by advertisement published in the JOURNAL and elsewhere. The duties of the medical officers will be purely administrative, and will have nothing to do with clinical matters. The salary offered is £500, rising gradually to £800 per annum, and the office will be pensionable, the incumbent having the right to retire on attaining the age of 60, and being compulsorily retired at the age of 65. The pension will only be payable to officers who have held the appointment for ten years, and will then be calculated at the rate of one-eightieth in the case of men, and one-sixtieth in the case of women, on their retirement for each year of approved service, with in the case of men an added gratuity. If an officer has not served for ten years he will not be entitled to a pension, but will be granted a gratuity not exceeding one month's pay for each year of approved service. In the case of the death of a male officer while still employed, a gratuity equal to his annual salary at death may, if he has served for at least five years, be granted to his legal personal representatives. Power is also taken to give special pensions.

CANCER AND THE MANUFACTURE OF PATENT FUEL.

A FEW months ago the first report upon the manufacture of patent fuels was reviewed in this JOURNAL. Although it cannot be said that the industry is, generally speaking, an unhealthy one, yet some of the men engaged in it have suffered from affections of the eyes due to pitch dust, while others, after having developed warts upon their skin, have died from cancer of an epitheliomatous nature. A second report[1] by Mr. A. H. Lush, barrister, has now been issued, and takes the form of an introduction to a set of draft regulations proposed to be made for the manufacture of patent fuel briquettes, with the addition of pitch. The draft regulations propose that disintegrating machinery and elevators shall be encased, with the object of preventing the dispersion of dust. The wearing of overalls and goggles has been tried, but has not met with general acceptance, as no convenient appliances have been invented. In the previous report warm baths were recommended, and this recommendation is again made. The workmen have raised objections to it, especially those who live some distance from the works. The men complain of the exposure to cold and of the pains in the face being aggravated thereby. Reading between the lines of the report, it would appear as if the men's statement was exaggerated, but whether this be so or not if the taking of baths is to be compulsorily enforced upon briquette makers the bathing accommodation must be made attractive by the employers, and there must be no questions raised as to the provision of soap and towels. These must be ample and provided by the employers. It is believed that since the adoption of means for the prevention of dust and the use of baths the health of the men has improved. Allusion is made to the experimental work by Ross and Cropper in regard to the origin of pitch

[1] Second Report to His Majesty's Secretary of State for the Home Department on the Draft Regulations proposed to be made for the Manufacture of Patent Fuel (Briquettes) with the addition of Pitch. By Alfred Herbert Lush, Barrister-at-Law. London: Wyman and Sons, Limited. (Cd. 7051.) Price 2d.

cancer. The inclusion of at least one of those gentlemen by the Home Office on a small committee would have made the inquiry much more valuable. The opinion has been advanced by these research workers that without the co-operation of auxetics which are liberated by decomposition of the dead cells of the injured tissues, and of kinetics which are evolved from injured tissues as the result of the operation of micro-organisms, there can be no pitch cancer. They found, further, that certain samples of coal and coal products, such as tar pitch and the oils given off in the distillation of tar, contain substances of the same nature. The general conclusion of the investigators is that the mischievous ingredient is not pure anthracene oil itself, but some member of the amidine group, which comes off in distillation at about the same temperature as the anthracene oil, and is present as an impurity in the rough anthracene cake. The presence of this substance in the coal itself is believed to be due to the products of decomposition of some vegetable organism of the carboniferous period in the coal. Washing of the pitch was recommended, since both auxetics and kinetics are thus removable, but their removal leaves a pitch which is not suitable for briquette making, while washing of the tar raises commercial objections from the tar distillers. Formaldehyde added before distillation has the effect of neutralizing the auxetics and kinetics contained in the tar without injury to it as a commercial product. The draft regulations deal mostly with the use of baths, personal hygiene, encasing of machinery, and the wearing of goggles in dusty processes. In concluding his report Mr. Lush states that there is a prospect that a commercially practical method of eliminating the mischievous agents may shortly be available, in which case the whole scheme of the draft regulations would be rendered obsolete. The researches of Ross and Cropper have been carried out for the research fund maintained by Mr. John Howard McFadden, who has recently received a letter conveying the Home Secretary's warm thanks for Mr. McFadden's public spirited offer to hand over the patent rights in any discoveries which may be made at the laboratory of the fund to His Majesty's Government. It is Mr. McFadden's intention that the patent rights in any discoveries hereafter to be made at the laboratory of the research fund shall be given to the world for the benefit of humanity and the advance of science. As the matter of the patenting of scientific processes and appliances, not for the pecuniary advantage of the inventor or discoverer but to prevent piracy, is of some general interest, it seems worth while to quote the concluding passages of the Home Office letter, which are as follows: "The Secretary of State has consulted the Controller-General of the Patent Office in regard to the best method of giving effect to your wishes, and the Controller-General has suggested that the simplest way in which to effect the object you have in view would be for application to be made for a patent and a complete specification of the invention to be sent on to the Patent Office. The specification could then be examined at the Patent Office and, if approved, would be accepted and published. No further steps need then be taken, for the complete specification would be cited against any other application for a patent in respect of the discovery. The Secretary of State understands that this course has been taken by other inventors who desired to give the world the benefit of their inventions, and to prevent their being exploited for private gain, and he would suggest that this course should be adopted by you in respect of any further discoveries that may be made at the laboratory."

IN PRAISE OF PORRIDGE AND BLACK BREAD.

AT the Congress of the Incorporated Sanitary Association of Scotland in Glasgow last week, Dr. T. W. Drinkwater, Lecturer on Chemistry at the Edinburgh School of Medicine, gave a popular lecture on food and its preparation, in which something was said which may possibly stay the waning popularity of porridge in Scotland. He referred to the national cookery methods as bad and wasteful, and said that the cookery books were to blame for this, for they were most unscientific instruction books, and bad cookery was the cause of a good deal of drunkenness. In a sentence which was received with applause, Dr. Drinkwater said he was not decrying the higher education of women at all. There were many women as capable of higher education as men, but there were many more who were qualified for as high a calling—that of motherhood and the management of a home—and a sound knowledge of cookery and household management was more likely to render a home happy than a knowledge of algebra and Greek classics. Milk came nearer to the ideal food than any other, and a combination of milk and oatmeal was as nearly perfect as could be wished; yet porridge, he said, was reported to be going out of fashion. It was freely said that the unhealthy condition of the poorer children in towns was due to adulterated milk or to milk from tuberculous cows, but from inquiries he had made he thought this was doubtful. The cause, he believed, was to be found in lack of fat in the food. Skim milk was preferred to sweet for it was cheaper; butter also was dear, and there was a prejudice, wholly unfounded, against margarine. These things should be added to the diet, taking the place of jelly or jam. Porridge, if well boiled, was more digestible than bread. For the cooking of meat he recommended steaming. Tinned meat was very tender to all appearance, but the tenderness was really fictitious, for the fibres, although easily separated, were hardened and indigestible, and it was far from economical. During a discussion on prices and the cost of living, in the Section of Economic Science and Statistics last Monday at the meeting of the British Association at Birmingham, Dr. Leonard Hill, after pointing out the importance of the retention of vitamines in a diet and stating that they were absent from ordinary white bread, owing to modern methods of sterilization and milling, went on to praise black bread. If, he said, the importance of vitamines had been understood a few years ago, when the political world was disturbed by the suggestion that the British working classes, like the German, might be invited to take to black bread, the invitation would have been accepted. This may, perhaps, be doubted, because, as other speakers pointed out, fashion and custom have a great influence in the selection of food among all classes, and not least among the weekly wage earners. But what fashion can do fashion can undo. It is an interesting circumstance that within the last ten or twelve years it has become the almost universal custom in first-class hotels in England to put porridge on the list of breakfast dishes, and that in most first-class hotels in Germany, Switzerland, and Holland black bread—pumpernickel—is either served at breakfast or can be obtained on asking for it. It is true that as regards vitamines the importance of porridge or black bread to the visitors at such hotels is of the smallest, yet it is possible that as the existence of the custom becomes more widely known the knowledge may help to break down existing prejudices in the classes in which, among women especially, white bread washed down with coarse tea forms a large part of the ordinary diet.

THE HISTORY OF MEDICINE IN SCANDINAVIA.

THE publication of a series of essays on the history of medicine has recently been undertaken by Dr. V. Maar of Copenhagen. The first contribution by Professor Finnur Jonsson[1] deals with the history of medicine in Scandinavia in general, and in Norway and Iceland in particular. There does not appear to have been any systematic study or record of disease, or any published treatise on the subject apart from Henrik Harpestraeng's two textbooks

[1] *Medicinsk-Historiske Smaaskrifter.* Ved Vilhelm Maar. København: Vilhelm Trydes Forlag. 1912.

on treatment with herbs. Even these contain much information which must evidently have been culled from other than Scandinavian sources, and the writer who died in 1244 A.D. has apparently been credited with other works than his own. But the "Sagas," both historical and fabulous, abound in tales of many diseases and wondrous cures. The latter were commonly effected by the miraculous skill of saints, or by the aid of women, who practised medicine more often than men. While venereal disease was apparently unknown, and diseases of the reproductive organs were rare, the tale of disease, infectious and otherwise, is long, and it is little wonder that the Vikings seldom survived the age of 50. At this age the bard Eyvind, who lived about 961, complained of the sorrows of declining years. Epilepsy is often mentioned, and was included among the diseases which warranted the breaking off of an engagement. For this reason a maid of Trondhjem concealed her attacks from her betrothed, who was awakened one night by her laboured and choking respiration, cramps, and unconsciousness. She subsequently confessed that these attacks recurred every month, and had not yielded to doctors, medicine, or witchcraft. Accounts of many kinds of insanity are numerous, and the hereditary nature of mental diseases was recognized. The fate of the lunatic must indeed have been sad, for vigorous flogging was prescribed to drive out the devil which possessed him. He was also bound and kept locked up. The great chieftain and physician, Hrafn Sveinbjörnsson, who died in 1213, treated lunatics by burning their heads in several places, a procedure which doubtless reduced the incidence of insanity in his neighbourhood. Temporary insanity was also fairly common, and no less a personage than King Sigurd Jorsalfar, who died in 1130, was subject to attacks, presumably the outcome of chronic intoxication. During his first seizure he thought he saw a fish swimming in his bath water. Violent laughter and great restlessness were provoked on this occasion, and at a later date he flung a costly book, printed in letters of gold, into the fire, boxed the Queen's ears, and assured her that goats' horns were sprouting out of her forehead. His attacks did not last long at a time, and were troublesome only in the later years of his reign. The term "Bersaerker" was originally applied to fighting men clothed only in a bear-skin, but it was soon given to any warrior seized with wild rage. The primitive, uneducated Viking seems to have been subjected to fits of passion, when he rushed out roaring like a bear, biting the edge of his shield, foaming at the mouth, and hewing down every object that opposed him, whether it were man, beast, trees or stone. When the attack was over, he would collapse completely. These "Bersaerkers" sometimes formed bands which raided the neighbouring districts and were a much dreaded scourge. It has been suggested that "Bersaerker" fury was due to the consumption of a certain fungus: and this view was evidently accepted by Kingsley in *Hereward the Wake*. Professor Jonsson is sceptical on this point, and interprets the condition as a result of contradiction on the minds of primitive savages: for the attacks were apparently always started by some external factor such as unexpected opposition. The induction of abortion must have been practised occasionally, judging by the laws against this offence in the fourteenth century. But it is not likely to have been common, for easy virtue on the part of the Viking ladies was not of necessity censured strictly, and the prolific mother was held in high esteem.

THE PILTDOWN SKULL.

THE proper restoration of the Piltdown skull and the date of *Eoanthropus* continue to afford material for controversy. At a demonstration given during the International Medical Congress Professor Keith argued that the cranial capacity was almost one half as large again as that estimated by Dr. Smith Woodward, and from the markings of the insertion of the muscles of mastication contended that the dentition was more human than simian. At the meeting of the British Association this week Dr. Smith Woodward brought forward some fresh evidence. He recalled the fact that in his original description and reconstruction for the British Museum he had stated that the skull found at Piltdown though typically human was as low in brain capacity as that of the lowest existing savages, and that Professor Elliot Smith had recognized from a cast of the cavity that the brain itself must have been of a more primitive kind than any human brain he had previously seen. Dr. Woodward had concluded that as the lower jaw exhibited so many ape-like characters it must have been furnished in front with ape-like teeth, including large interlocking canines. Mr. Dawson, the discoverer of the skull, continued his digging during this summer, and on August 30th Father P. Teilhard, who was working with him, picked up a canine tooth, which Dr. Woodward believes belonged to the half of the mandible originally discovered. The tooth corresponded, he said, in shape exactly with that of an ape, and its worn face showed that it worked upon the upper canine in the true ape fashion. It differed from his own restoration in being slightly smaller, more pointed, and a little more upright in the mouth. As to the question whether the ape-like mandible belonged to the skull, it could only be said that its molar teeth were typically human, its muscle markings such as might be expected, and that it was found in the gravel near the skull. If the association were accepted as proved, it was reasonable to assume that the skull was that of a very lowly kind of man. The creature to whom the skull belonged, *Eoanthropus*, must therefore be regarded as one of the links hitherto missing in the chain of evolution of the human race, and the discovery confirmed the opinion expressed by Professor Boyd Dawkins and the late Professor Gaudry many years ago, when they said that knowledge of the evolution of the tertiary mammals precluded any expectation of finding fully developed man in geological formations earlier than Pleistocene. Dr. Woodward, though he allows that the total brain capacity of the Piltdown skull is larger than he at first estimated, adheres to the opinion that it is well within the range of the smallest human brains of the present day. The capacity, however, was great enough to prove that a large development of the brain preceded in evolution the abandonment of the front teeth as grasping organs and weapons. It also confirmed the opinion that the later fossil man of the Neanderthal type, with strong brow ridges like the existing apes, was a degenerate race which had become extinct. The Piltdown man might, he thought, well have been the direct ancestor of modern man, connecting him with the undiscovered tertiary apes, whose rounded skulls must have resembled those of the immature young of existing apes.

RELAPSES IN MALARIAL INFECTIONS.

DR. W. M. JAMES, in an interesting study of the etiology of relapse in malarial infections,[1] states that if the hypothesis be accepted that the asexual cycle alone is the cause of relapse, and that under certain conditions there is a relative immunity to quinine, an explanation is offered of all the factors concerned in the etiology of relapse. There is, he thinks, no other hypothesis which will explain satisfactorily the correlation between the factors and the data hitherto collected. He summarizes these factors in relation to the asexual cycle as follows: (1) Relapse is one of the most common factors in malarial infection: and certainly the asexual cycle is that phase of the malarial parasites found most frequently associated with the primary infection and relapse, and with one relapse and the succeeding one. (2) Relapse follows

[1] Reprinted from *The Journal of Infectious Diseases*, vol. xii, No. 3, May, 1913.

frequently the so called spontaneous cure of malaria, because the asexual cycle in such a case often persists, in numbers that can be detected by the "thick film" method, or slightly below this limit, in the intervals of apyrexia. (3) Infections treated insufficiently with small doses of quinine will in all probability relapse, because the parasites of the asexual cycle in the spleen and marrow are very slightly, if at all, affected thereby. (4) Relapse is less likely to occur when the infection is promptly and vigorously treated, because the older the asexual cycle the more resistant to quinine it becomes, as shown by numerous clinical observations. (5) When a relapse occurs, with manifestation of parasites in the peripheral blood, during the administration of quinine by mouth in sufficient doses, faulty absorption of the drug is sure to exist, and the method of medication should be changed. (6) The potential of vitality of the asexual generation is not unlimited, and for this reason if death does not supervene in the course of a malarial infection the infection itself will in time die out, but often not until it has done irreparable damage. (7) It is easier to eradicate an infection in persons in good health, because in these the natural protective forces of the body aid the action of quinine. The hypothesis also concurs with the two factors in the life-cycle of the parasites, which are intimately connected with the etiology of relapse, because (*a*) quinine given by the mouth very often does not eradicate the asexual cycle in the marrow and spleen and the residual parasites become immune, and (*b*) the longer the asexual cycle persists the more easily does it acquire immunity against the drug. The practical importance of the hypothesis lies in its value as a guide to the treatment of malaria. Small doses of quinine, even in the mildest infections, serve only to render the asexual cycle relatively immune, so that larger doses, which if they had been given early in the attack might have eradicated the parasites, are later without effect. The importance of this is evident.

RADICAL SURGERY FOR CANCER OF THE VAGINA.

THROUGH Wertheim, his followers and his opponents, we hear much about the radical treatment of cancer of the uterus. Wide extirpation gives the best chances against recurrence, yet the surgeon must not overlook the fact that it is apt to involve not only deadly injuries but also irreparable damage to adjacent organs, which, though not mortal, make the patient's life miserable. Cancer of the vagina is fortunately a rare disease, still it is of sufficient frequency to allow certain rules for treatment to be laid down. The conclusions of experts as recently published do not surprise the pathologist and general surgeon. Dr. Virenque, in a recent paper,[1] maintains that a cancerous growth of the lower third of the vagina requires the same operative treatment as a carcinoma of the vulva, but much of the vaginal wall must be dissected away above the level of the cancer. It is advisable to remove the inguinal glands on both sides unless the growth be absolutely limited to the right or the left part of the vagina without approaching the middle line. Cancer developed higher up is a grave problem for the operator. Radical measures, extirpation of the vagina, have been undertaken during the last twenty years. Pozzi and Olshausen advocated a transverse incision into the perineum, allowing a complete dissection of the vaginal wall off the rectum to be made; the detachment of the anterior part of the vagina from its connexions could then be effected with relative ease. Dührssen, finding that recurrence was not rare, devised a more systematic dissection, by which the vaginal canal and the cervix uteri were taken away in one piece. Yet even this method, and subsequent modifications, have proved insufficient. Schauta undertook the total extirpation of the uterus with the vagina. But since Wertheim's practice has come into vogue, the advantages of operating from above have proved so great that many experts seem to hold that cancer of the vagina should be extirpated by his method. Yet even under ordinary conditions, when the operation is undertaken for cancer limited to the cervix, the dissecting away of the upper part of the vagina is not easy. When the whole of the wall of that canal is to be removed it is almost impossible to dissect its lower portion away from its attachments. Hence Bérard considered that the uterus should first be removed through an abdominal wound and the vagina afterwards completely extirpated from below upwards. Dr. Virenque considers that Professor Faure's method is the most satisfactory when the middle or upper third of the vagina is the seat of cancer. The vagina is dissected up well below the level of the new growth to the extent of about one inch. The detached portion is then sutured in the purse-string fashion and pushed upwards. The uterus and vagina are afterwards extirpated by the abdominal method. Faure, in order to economize time and avoid haemorrhage, ligatures the hypogastric arteries after tying the pedicles of the appendages and securing the round ligaments.

[1] *Archives mensuelles d'obst. et de gynéc.*, February, 1913, p. 175.

FRIEDMANN'S TREATMENT OF TUBERCULOSIS.

AT a general meeting of the Canadian Medical Association held at London, Ontario, on June 25th, a report was presented which stated that in order to allay public excitement and to afford to the medical profession and people of Canada an authoritative statement regarding the value of Dr. Friedmann's treatment, the Canadian Association for the Prevention of Tuberculosis nominated a committee of five members to study and report upon the cases inoculated by Dr. Friedmann at Montreal, Ottawa, Toronto, and London. The committee co-opted those physicians who had under observation the cases treated in these cities. The committee carefully studied the case histories of the patients inoculated by Dr. Friedmann. These numbered altogether 161—namely, for Montreal 55, for Ottawa 10, for Toronto 81, for London 15. As a result of their observations made from March 11th to the date of the Congress (June 24th, 25th, 26th, and 27th) the committee came to the following conclusions: "(1) The inoculations have neither constantly, nor frequently, been followed by any marked change in the clinical course of the disease. (2) The cure or progress towards cure claimed by Dr. Friedmann for his treatment has neither constantly, nor even frequently, taken place in the time during which these cases have been under observation. (3) Thus upon investigation the committee finds that the results have been disappointing, that the claims made for this remedy have not been proved, and that nothing has been found to justify any confidence in the remedy." The report is signed by Professor J. Geo. Adami, and Drs. J. J. MacKenzie, A. H. Caulfeild, F. S. Harding, John W. S. McCullough, Wm. H. Ross, J. H. Elliott, and Geo. D. Porter. Dr. Chas. A. Hodgetts, a member of the committee, being averse to making any report whatever, did not sign the document.

WE are informed that the statement that the Hungary Prize of the International Medical Congress awarded to Sir A. E. Wright was given in recognition of his work on anaphylaxis is due to an error in wording. The commission, in deciding to award the prize to Sir Almroth Wright, had in mind his splendid researches on immunity and vaccine therapeutics, especially those in connexion with typhoid fever, staphylococcus infection and tuberculosis.

Scotland.

[From our special correspondents.]

Tuberculosis Arrangements in Edinburgh and Glasgow.

A great deal has yet to be arranged both in Edinburgh and Glasgow before the tuberculosis schemes can be regarded as complete. In the former city, a letter was communicated to the Public Health Committee of the town council from the Local Government Board on September 9th regarding the inclusion of pauper patients in the town's tuberculosis scheme. The Committee approved the general principle of treating pauper patients, and remitted to the town clerk and medical officer of health to report as to the effect which it would have on the scheme financially and otherwise. In Glasgow the Corporation Subcommittee on Prevention of Tuberculosis also received a letter from the Local Government Board for Scotland stating that the Board had under consideration the scheme for the treatment of tuberculosis in the city, and asking for an undertaking that it would be proceeded with within a reasonable time. The town clerk was authorized to give the undertaking requested. A letter from the Glasgow Parish Council was also read, dealing with the cost of maintenance of an insured person suffering from tuberculosis in Stobhill Hospital; but it was agreed that the Corporation should be recommended to deny liability.

Sanitary Association of Scotland.

The thirty-ninth annual congress of the Incorporated Sanitary Association of Scotland took place in Glasgow on September 10th, 11th, and 12th, and Dr. William Robertson, Medical Officer of Health for Leith, the new President, occupied the chair. Two subjects specially occupied the attention of the congress—the housing problem and the milk supply—and the President devoted his address to the problem of tuberculosis. Dr. Robertson said that prevention should be the aim rather than cure, and what it had proved to do in the case of other infectious diseases should be done for tuberculosis. It was not notification, elaborately equipped sanatoriums, dispensaries, or disinfection, but the social elevation of the citizens of the country, that would bring the community within measurable distance of ultimate victory. The city dweller was less liable to attack from pulmonary tuberculosis than his fellow in the country district; the mortality from phthisis was less in towns than in the country, and the country people died from the disease at an earlier age. This was attributable to the bad housing conditions in many parts of the country. By all means let notification and the other plans be persevered with, but prevention was the main thing, and its watchword was fresh air and sunshine; but that dictum availed nothing when the house was so fashioned that it baffled every effort of these agencies to enter it. Defects in the housing of the people must be remedied. It might not be possible to provide every citizen with a house containing several rooms and a kitchen, but every house should be well lighted and ventilated. The food supply, too, was of great importance. The section of the population furnishing the heaviest incidence of tuberculosis supplied itself with food badly chosen, badly cooked, and of inferior nutritive value. Poor wages could not be always blamed, for there was money available for amusement, drink, and even betting. It was a deplorable fact, which Dr. Robertson himself had verified, that many a worker among the labouring classes spent at least one-sixth of his weekly wages upon alcoholic beverages.

Papers on various subjects were read at the congress. Thus the safeguarding of the milk supply was dealt with by Mr. David Stenhouse (Glasgow) in a paper on the Milk and Dairies (Scotland) Bill and the powers of inspection. Councillor A. R. Turner (Glasgow) maintained that municipalization was the remedy for the problem of a pure milk supply. Mr. James G. Reynard, veterinary surgeon, Perth, opened a discussion on the Tuberculosis Order (1913), welcoming it as a step in the right direction, but insufficient to check tuberculosis to any appreciable extent. Tuberculosis was so insidious that except by the use of tuberculin it was one of the most difficult of diseases to diagnose; many animals, therefore, that were free would be sacrificed, and many that were very, very bad would be missed.

Baillie Edward M'Connell (convener of the Glasgow Public Health Committee) introduced the housing question in a paper entitled "What are the best means of providing houses in a burgh for those dispossessed under the Housing Acts?" While admitting that other problems were involved—such as poverty, character, and the land problem—he thought only two courses were open in the matter of rehousing dishoused people economically: either sites must be purchased and modern sanitary dwellings erected, or substantial tenement property must be bought, and, after removal of the old woodwork and plaster, reconstructed on sanitary lines. Both systems were open to criticism on purely economic lines. Dr. A. Campbell Munro (County Medical Officer, Renfrewshire) dealt with the question, Should houses for the poorest classes be publicly provided and let at uneconomic rents? He answered it in the affirmative, as matters stood socially at the present time, and gave it as his opinion that the problem would never be solved until the principle of a minimum wage was adopted. But, assuming a "living wage," there ought to be a "compulsitor" on every man to provide a decent home for his family. In the discussion which followed, Judge Macpherson (Edinburgh) said that he thought, considering the ideals with which it started, that the Edinburgh scheme had been a failure; it caused a loss of 3 per cent., 13 per cent. of the houses were empty, and the class for which the houses were provided had not been reached. Papers on the housing of the agricultural labourer and seasonal worker, and on the personal equation in the problem, were read by Dr. C. R. Macdonald (County Medical Officer, Ayrshire) and Mr. John Mann, jun., respectively.

On the evening of September 12th the delegates to the congress were given a reception by the Corporation in the City Chambers, and on September 13th they enjoyed a sail down the Clyde.

Wassermann Reaction.

The Corporation of Glasgow, on April 17th last, adopted a resolution to the effect that facilities should be afforded to practitioners of medicine for obtaining, free of charge, in such cases as they think desirable, a blood examination by the Wassermann or other method having a similar object. Provision has now been made in the Public Health Laboratory of the city for carrying out the tests mentioned in the resolution. When this examination is desired application is to be made to the medical officer of health for the requisite equipment for collecting the sample to be examined. The name of the patient will not be demanded, but the age, sex, and occupation, together with the leading symptoms which are present, and the name of the ward of the city in which the patient resides, must be stated on a form supplied by the Corporation. It is not thought necessary at the moment that the test should be used to confirm obvious symptoms, but that it should be had recourse to only where external manifestations of specific disease are absent, and the nature of the symptoms otherwise are obscure. A fee of 2s. 6d. will be paid for each sample of blood forwarded for examination.

Inebriates in Scotland.

The ninth report of the Inspector for Scotland under the Inebriates Act, for the period ending December, 1912, has recently been issued. The institutions in occupation during the year numbered seven, three being licensed retreats, three certified reformatories, and one the State Inebriate Reformatory. The admissions to these institutions during the year numbered 158, 123 being to retreats, 12 to certified inebriate reformatories, and 23 to the State Reformatory. The total number dealt with during the year was 252, 167 being patients in retreats and 85 being reformatory inmates. These numbers show a slight decrease on admissions, which numbered 166 in 1911. Admissions to retreats have shown a gradual rise since these institutions came into existence; in 1901 they numbered 23, while they amounted to 123 in 1912. The total number of admissions to all the institutions since these were opened was 1,314. At the commencement of the year 1912 inebriates under treat-

ment in these institutions numbered 85, 44 being retreat patients, 22 certified reformatory inmates, and 19 State Reformatory inmates.

Dealing with the percentage of cures, Dr. Dunlop states that in the retreats it was high. The Greenock Inebriate Reformatory gives the inmates a good chance of reformation, while it removes from the streets some of the worst of the local female drunkards. Dr. Dunlop says the same thing as to the Aberdeen Inebriate Reformatory. Dealing with the State Inebriate Reformatory, he states that during the year the two outstanding facts connected with this reformatory are a relatively large increase in the number of inmates, and the removal of female inmates of the reformatory from the section of the prison buildings at Perth previously set apart for their treatment to more suitable accommodation in another part of the buildings. There has, he says, during the last few years been a very marked change for the better in the conduct of the inmates, a change no doubt due to the efficiency of the staff, but also partly due to the fact that now the great majority of the inmates are direct committals, while in the early years of the reformatory a larger proportion of the inmates were the unrulies removed from the certified reformatories. The licensing of inmates to live under approved guardianship during the latter part of their sentences has been comparatively freely used, and has met with very considerable success, several inmates succeeding in living sober and respectable lives in the comparative freedom of guardianship, than which there can be no better preparation for the complete freedom that follows the expiry of sentences.

Duff House as a Private Hospital.

Duff House, Banff, which was presented by the late Duke of Fife to the citizens of Banff and Macduff several years ago, was utilized for some time as a hotel. Lately, however, a company acquired the property with the intention of converting it into an establishment for the treatment of the diseases of nutrition. Although the work of reconstruction has necessitated extensive internal alterations, the external features of the building remain unchanged, with the exception of two balconies which have been erected on the east side. The institution has been designed chiefly for the treatment on the most scientific lines of persons suffering from diseases of metabolism, and in order to effect a combination of chemical and scientific work, the building has been equipped with chemical laboratories and with radiographic and other apparatus. The services of an experienced staff have been secured for carrying out the work of the institution. The senior physician is Dr. Spriggs, formerly of St. George's Hospital. The assistant physician is Dr. Richard Cromperts, while Mr. J. A. Leigh, B.Sc., has been appointed analytical chemist. A fully qualified matron and staff of nurses complete the arrangements for skilled treatment.

Resistance to the Insurance Act in Turriff.

Turriff, away up in north-west Aberdeenshire, has a past reputation for resistance, even to fighting. It was the scene in February, 1639, of a meeting between the Marquis of Huntly and his men, who were for the King, and the Earl of Montrose and the Covenanters under him—a bloodless affair known as the First Raid of Turray. Three months later the Gordons made a night march, with four field pieces, from Strathbogie, and surprised a body of 2,000 Covenanters who were in Turriff; the Gordons were only 800 strong, but the surprise and the field pieces carried the day, and the "Trott of Turray" was more decisive if not so bloodless as the First Raid. Dr. Hill Burton, in his *History of Scotland*, says: "The skirmish known as the Trott of Turray has some claim to commemoration since in this distant village the first blood was spilt in the great Civil War." Now to come with a bound to the twentieth century, even before the Insurance Act came into force, a protest association was formed in Turriff and that soon afterwards became a resistance association. Both farmers and farm servants are apparently resisting vigorously, for a mass meeting was held on Saturday, August 23rd, when Miss Sutherland (London), honorary secretary of the Insurance Tax Resisters' Association, spoke describing the Act as an inroad on the liberty of the people. Mr. Sutherland, of Perth, also addressed the meeting. He told of a young lad who cycled three and a half miles to Perth to see his panel doctor about his eyes; he called between 9 and 10, but although the doctor was in he would not look at his eyes till his consulting hour, from 2 to 3; the lad went to a chemist, and had never gone to the medical man again. There is evidently to be stout resistance in the north; may it be as bloodless as the First Raid.

"Scrapie," a Contagious Disease of Sheep.

In an interesting letter to the *Scotsman* (September 12th), Sir Stewart Stockman answers the question of a Border farmer—Is "scrapie" a contagious disease?—in the affirmative. Sir Stewart Stockman's answer has a double importance; it is the official reply from the Laboratory of the Board of Agriculture and Fisheries, which has been making inquiries and carrying on experiments on the disease for some time; and in it he is able to show that the common view among farmers, that it is a hereditary malady, is unfounded. He gives in detail the account of the happenings on several farms, in which it was clearly shown that infected sheep were introduced from without, that the ewes which had the disease and their lambs were all fed off for slaughter, and that yet, notwithstanding this action, other sheep having no ancestral connexion with the infected stock began to go down with "scrapie." Since there was no mixing of blood between the original stock and the sheep which brought the disease to the farm, heredity could not be blamed. The slow development of the disease (eighteen months) makes the hereditary theory of origin more plausible, but Sir Stewart Stockman appeals to farmers to abandon that view, for until "scrapie" is recognized as contagious very little progress is likely to be made in checking its spread. It would seem to be a good suggestion that this new and little understood disease of sheep should be made the subject of discussion at a conference at some central town, say St. Boswells, in the south of Scotland, where Sir Stewart Stockman and leading farmers could meet.

Medical Missionary for Southern Nigeria.

The medical staff working under the United Free Church of Scotland in Calabar, Southern Nigeria, is being strengthened by the addition of a third medical man, John Wood, M.B., Ch.B.Aberd., who has been holding an appointment in the Worcester General Infirmary, and goes out to carry on extension work at Itu. The other two medical men in Calabar are Dr. David Robertson at Itu and Dr. J. W. Hitchcock at Uburu. Dr. Wood is going out as the representative of the Braid United Free Church congregation, Edinburgh.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

The New Abattoir, Belfast.

The new public abattoir was opened by the Lord Mayor (Councillor R. J. McMordie, M.A., M.P.) on September 10th. Councillor Dr. Henry O'Neill, J.P., Chairman of the Markets Committee, received the Lord Mayor, members of the Corporation, and a large number of visitors, and conducted them over the building; he explained the various points of interest, and pointed out the advance in the use of machinery and mechanical device to expedite all processes. Subsequently Dr. O'Neill gave a luncheon in the banqueting room of the City Hall to over 150 guests, including the members and leading officials of the Corporation. In proposing the toast of "The New Abattoir and Dr. O'Neill," the Lord Mayor said he believed the new abattoir was one of the finest in the three kingdoms. The delay in its completion was an advantage, as it had made it possible to adopt the very latest improvements and several valuable new details. The name of Dr. O'Neill would be long connected with that building, and he was to be congratulated on his energy and perseverance, and on the accomplishment of a lifelong object. Dr. O'Neill, in replying, said that for very many years he had held that the three chief necessities for the public health were the cleanness and wholesomeness of the meat, the purity of the milk, and the hygiene of the dwelling. His first inspiration as regards meat dated from a visit to Berlin, where new cattle

markets, abattoir, and meat markets had been erected under the guiding influence of Virchow, and had served as a model to all Europe. Since then he had never ceased to urge the necessity of such an abattoir for Belfast as had that day been opened. All animals intended for human food had to be slaughtered and inspected in it, and he exhorted every one to see that the meat they bought had the official stamp of the Inspection Department of the city impressed on it. Dr. O'Neill gave to the visitors a neatly prepared account of the abattoir and its history, with full illustrations of the up-to-date equipment and all the countless devices to save labour, economize time, and ensure cleanliness.

The Dublin Hospitals and the Coal Strike.

As the result of the labour unrest in Dublin, which began with the tram strike over a fortnight ago, the large majority of the coal companies have become involved. In spite of the experience gained in the coal strike in Dublin last year, the majority of the hospitals have no reserve store of coal and are unable to obtain fresh supplies. At this time of year the hospitals are reopening beds closed during the summer months for cleaning and other purposes, and one of the large city hospitals at least is, owing to the want of coal, unable to reopen the beds, and indeed contemplates closing further beds. If the strike should last any length of time, the question will indeed become very serious, as most, if not all, of the hospitals will find themselves compelled to adopt the same action. There is, however, one important difference between the strike this year and last: whereas last year there was no coal reaching Dublin, and consequently the stores in Dublin ran very low, this time it is the carriers who are involved in the strike, and there is no lack of supplies in the coal yards. The hospital authorities may therefore find it necessary to take matters into their own hands and organize a means of conveying the required coal from the yards to the hospitals.

Royal Hospital for Incurables.

Last week the Lord-Lieutenant, who was accompanied by the Countess of Aberdeen, laid the foundation-stone of the proposed extension of the Royal Hospital for Incurables. It is intended to erect two new wings, and when the hospital is completed it will provide beds for 248 patients; at present there is only room for 213. The nurses' home will be so extended as to accommodate twelve additional nurses, and provision is also being made for the seating accommodation of 300 persons in the meeting room of the Board of Governors. A new dispensary is amongst the other alterations in contemplation. His Excellency was presented with a trowel and mallet made of silver and Irish bog oak, with old Irish design taken from the Book of Kells, and with an address containing a brief history of the institution, which was founded in 1743, upwards of a century before any other buildings of such a kind. In replying, the Lord-Lieutenant spoke sympathetically of the excellent work done in the institution and the home-like manner in which the patients were treated.

Overcrowding in Mayo Asylum.

The overcrowded state of Mayo Asylum has led Dr. Ellison, the resident medical superintendent, to suggest that the workhouses of the county should be used for the housing of the harmless lunatics as an alternative to the proposal to enlarge the main building. The committee of management is of the opinion that portions of the workhouses, set aside as auxiliary asylums for the reception of harmless cases, might be used to meet the case, but the suggestion, generally speaking, is not accepted in that light by the Poor Law boards. As the tendency of late years has been to remove lunatics from the workhouses to asylums, it is to be hoped that a step which seems to be retrograde will not be taken without the most serious consideration.

Workhouse Medical Officer's Salary.

At the last meeting of the Loughrea Board of Guardians, an application from Dr. J. F. Ryan, medical officer of the workhouse, that a graded scale of salary should be fixed, was under consideration. By 32 votes against 19, Dr. Ryan was granted an increase of £20 a year, bringing his salary up to £120 per annum.

Increasing Lunacy.

Dr. Nolan, Resident Medical Superintendent of the Down Asylum, reported to the last meeting of the Committee that there was an apparent increase in the admission of patients in the current year. The total patients admitted since January 1st last was 91, against 68 for the corresponding period of 1912. In respect of these numbers, Dr. Nolan stated that he understood that a similar increase prevails in other districts, so that it cannot be assigned to any "local cause."

The Health of Belfast.

Medical Superintendent's Annual Report for 1912.

The report of Dr. Bailie, Medical Superintendent Officer of Health, for the year 1912 has lately been presented. It occupies 108 pages, and gives the usual tables of statistics and charts. The estimate of population of the Registrar-General (391,974) is accepted; the birth-rate is 27.8 per 1,000 and the death-rate 18.1 per 1,000; this death-rate is 0.9 higher than in the preceding year, but 1.5 below the average for the preceding ten years. Dr. Bailie says that generally speaking the sanitary conditions have been greatly improved and are good, but that yet there are hundreds of back passages which require to be paved, drained, and completed. A few cases of typhus fever occurred, but any serious outbreak was prevented. There were 51 cases of typhoid fever notified; this is the lowest number since the adoption of the Infectious Disease (Notification) Act in 1897; if the inquiry into the health of Belfast some six or seven years ago had no other effect, this reduction from the many hundreds which were formerly notified annually would be quite sufficient to justify its appointment. The city's milk supply is receiving constant attention; but once more Dr. Bailie draws attention to the fact that the sanitary authorities have no control over the source of production in two-thirds of the city supply; he is strongly of opinion that a sanitary authority should have power to inspect all dairy premises and the staffs of those dairies from which milk is sent into the district in question; this expressed conviction, in the light of the recent revelations about typhoid carriers, not to mention other matters, seems to be both logical, scientific, and common sense.

Nine hundred and sixteen cases of scarlatina were notified, with a mortality of 5.2 per cent.; with a large number of very mild cases, which frequently were not discovered till afterwards, there were also a large number of a virulent nature. Dr. Bailie urges early and complete isolation, no matter how mild the case; it is as a source of danger to others that preventive steps must be taken. Diphtheria was also present, but numbers are apt to be misleading. In former years only the severe cases were included; now, when the habit of taking swabs is becoming nearly universal in all throat cases, a large number of mild sore throats in which a diphtheroid bacillus is found are notified and isolated. Whooping-cough and measles raised the mortality. They were both very prevalent; 217 deaths were attributed to the former disease and 171 to the latter, as compared with 2 in the preceding year. Dr. Bailie again tries to impress upon parents and guardians the necessity for isolation and after-care in both these diseases; "they are dangerous and preventable diseases, and ought to be treated as such."

Four hundred and fifty-one cases of tuberculosis of the lung were notified in pursuance of the Act and 126 notified voluntarily, making a total of 577; the number of deaths registered was 802, which is, curiously, precisely the same number as in the preceding year; the rate is now 2 per 1,000 of population; the inadequacy of the provision made for sanatorium treatment is a great disadvantage to the working classes. The names and addresses of 350 patients who were discharged from the Poor Law Sanatorium at Whiteabbey were furnished to the Health Department for supervision; of these, 68 were improving in health but still unfit for work, 61 had returned to work, 10 had left the city, 27 were found to be in an advanced stage of the disease, 15 had returned to hospital, whilst 70 had died. All known cases are visited periodically, personal advice is given and literature distributed, and disinfection is also carried out.

Infantile mortality, although lower than the previous

five years, stands at the same rate as last year—129 per 1,000.

There are 185 cowsheds within the county borough in which 3,198 cows are housed; large dairies are much more satisfactory than small; the premises are better kept, the animals are of a better class and in better conditions. No mention of the number of tuberculous cattle is made.

For the purpose of primary education there are in the city 288 schools under the Commissioners of National Education, which provide accommodation for 56,321 pupils, allowing 10 square feet floor space for each pupil; the average number of pupils on the roll was 65,576, but the average attendance was 48,471; the distribution of schools and school children do not coincide; in some the accommodation is very insufficient and unsatisfactory; these schools are regularly visited by the sanitary officers, but it has been found impossible to prevent overcrowding: 135 schools were found to be overcrowded, some to a small, others to a large extent. One very large school was found to have 143 pupils in excess, and another 126. It must be admitted that, on the whole, the conditions under which primary education is carried on are not satisfactory: some of the schools have no playground, and in 106 schools, out of the 288, the playgrounds and shelters are such as would meet with severe condemnation at the hands of advanced practical educationalists and hygienists.

On the whole, the report is very much more pleasant and hopeful reading than those of some years ago, but, as Dr. Bailie points out, there are many directions in which further reform is demanded.

England and Wales.

(FROM OUR SPECIAL CORRESPONDENTS.)

BIRMINGHAM.

Report of Medical Officer of Health.

The report of the Medical Officer of Health (Dr. Robertson) for 1912 has just been issued. The population of the city is estimated at 850,947, and there has been 10.7 percentage increase in the population during the intercensal period 1901–11. This rate of increase has only been maintained by reason of the great reduction in the rate of mortality, as the decline in the birth-rate is continuing. This rapid reduction in mortality is not likely to go on, so that there must soon arrive a period when the population will be stationary or declining. The births registered during the year numbered 22,168, and of those 11,300 were males and 10,868 were females. These numbers do not include still-births, so that the children born alive represent a birth-rate of 26.1 per 1,000. The birth-rates varied considerably in the different wards of the city, being 17.0 in Edgbaston, 17.8 in Moseley and King's Heath, and 18.9 in Handsworth to 36.0 in Duddeston and Nechells, 33.6 in St. Mary's, and 33.4 in St. Bartholomew's. The health visitors visited 13,686 babies, or 63 per cent. of the total number notified. The number of deaths was 12,005, and of these 6,187 were those of males and 5,818 those of females. The death-rate was 14.1 per 1,000, which is the lowest for any year except 1910, when there was a death-rate 13.2. In some of the wards the death-rate was very high, being 26.0 in St. Mary's, 22.0 in Duddeston and Nechells, 20.2 in St. Bartholomew's, 20.2 in St. Paul's, and 18.2 in St. Martin's and Deritend. The deaths of infants under 1 year numbered 2,471, equal to a rate of 111 per 1,000 births. This is the lowest infantile mortality as yet obtained in the city. In some wards the mortality among infants was very great, being highest in St. Mary's Ward—194 per 1,000. Among the causes of death the following were the most numerous: Bronchitis 1,073, broncho-pneumonia 505, pneumonia 512, measles 571, whooping-cough 331, pulmonary tuberculosis 1,088, cancer 747, heart disease 969, diarrhœa and enteritis 346, premature birth 491, infantile debility 450, Bright's disease 272, scarlet fever 153, diphtheria 100.

Reduction of Infantile Mortality.

Dr. MacCallum's report on the special work done in connexion with the reduction of the high infantile mortality in certain selected areas is very instructive. There are four special infant visitors, who visit the children about the end of the first week of life, when advice is given as to the care and feeding of the child. For the first month these visits are paid weekly, and then monthly till the end of the first year. Infant consultations are held weekly, and if the case requires medical advice the mother is urged to bring the child. The children are weighed and the mothers are advised as to the care and feeding of their infants, and the importance of breast-feeding is emphasized. Advice is given to the mothers as to the care of their own health. In St. George's and St. Stephen's area the children born in 1911 were kept under observation, and the infantile mortality was as follows:

	Births.	Deaths.	Infant Mortality.
Mother employed in a factory ...	483	84	194
Employed at home or elsewhere	199	37	186
Total employed	631	121	191
Not employed	311	98	192
Grand total	1142	219	191

The mothers who were employed in a factory had 64 per cent. of their children in good health, whilst those who were employed at home had 71 per cent. Of the 1,132 mothers, 592 were employed during pregnancy and 540 were not so employed, while 308 were industrially employed after their confinement and during the life of the baby. The women who were not employed had larger families than the women who were employed. The infant mortality-rate amongst the babies previously born to the women who had babies in 1911 was as follows: Mothers employed in a factory, 300; employed at home and elsewhere, 260; employed industrially, 278; not employed industrially, 251; total, 263. On an examination of the mortality of the children according to the mother's age, it was found that it was highest amongst the children of mothers under 25 years of age, and amongst those the death-rate was higher when the mother was not industrially employed. The death-rate was lowest when the mother was between 25 and 35 years of age. The infant mortality amongst the children of poor families was much greater than amongst those who were better off, being 232 in the former and 168 in the latter—an excess of 64 per 1,000. The mortality amongst breast-fed children in poor families was 55 per 1,000 in excess of the mortality amongst children in better-off families. The mortality amongst breast-fed children was much lower than the mortality amongst those fed by hand, whether in poor or in better-off families. Amongst artificially-fed children the rate was 275 in the poorer homes and 218 in the better homes. In homes where the father earned £1 a week or more the percentage of children in good health at the end of the year was 11 per cent. higher than the percentage in the homes where the father earned less than £1 per week. The percentage of non-working women who breast-fed their infants till they were 6 months old was 85 per cent. Where the mother worked in a factory the percentage who breast-fed their infants decreased from 94 per cent. in the first month to 45 per cent. in the second month; whereas amongst the women employed at home or at charing, etc., the figures were 90 per cent. in the first month and 80 per cent. in the second. Only 10 per cent. of the women employed in a factory breast-fed their children at 6 months old, while 68 per cent. of the women employed at home did so feed them. The total number of babies weighed at the end of twelve months was 285, and those who weighed on an average 19 lb. were classed as good, those weighing 16½ lb. as fair, and those weighing 14 lb. as unsatisfactory.

Infectious Diseases.

The deaths from the infectious diseases during 1912 were as follows: Enteric fever 30, measles 571, scarlet fever 153, whooping-cough 331, diphtheria 100, diarrhœa and enteritis 346, erysipelas 23, pulmonary tuberculosis 1,088, and other forms of tuberculosis 204. The deaths from enteric fever have progressively and rapidly decreased since 1901, when there were 842 deaths caused by

this disease. Precautions have been taken against the disease being imported by the sale of mussels from well-known sewage-infected beds. It was estimated that probably 33 cases were caused by infected mussels during last year.

Birmingham has had very little small-pox since 1894. A very severe epidemic of measles occurred, causing 571 deaths, and the number of cases reported by the elementary school teachers was 7,693. The greatest number of deaths occurred between the ages of 1 and 3 years. There were 5,505 cases of scarlet fever, and of the 153 deaths from this disease nearly two-thirds were amongst children under 5 years of age, although only about a quarter of the total cases occurred at that age period. The number of cases of diphtheria was 507, with 100 deaths; this is the smallest number recorded since 1901. During the year 2,791 swabs from the throat were examined by the Pathology Department of the University, and of these 761 showed the presence of the diphtheria bacillus.

Tuberculosis.

The deaths from pulmonary tuberculosis numbered 1,088. This is a higher mortality than has occurred during the past six or seven years. It is probable that there may be a tendency for the deaths assigned to tuberculosis to increase in number during the next few years, mainly as a result of the greater attention paid to this disease, but also because for many years past it has been a common practise to avoid mentioning tuberculosis on a death certificate if possible, as the relatives thought this a slur upon their family, while in many other cases the disease was not noted in the certificate to avoid trouble with insurance companies. There were 4,394 cases of phthisis reported during 1912, and this number represents new cases reported for the first time. Of this number, 3,245 were between the ages of 20 and 55 years, while there were over 500 cases reported at school age. The figures show that the actual occurrence among males and females is about equal, but that the mortality among males is nearly 50 per cent. greater than among females. There were 833 patients admitted for treatment at one or other of the Birmingham sanatoriums. At the tuberculosis centre 1,305 persons were examined with a view to treatment, and at the same place there were 19,221 attendances for treatment and advice. Of 612 out-patients entered on the register at the tuberculosis centre, 108 had completed a course of treatment by the end of the year, 172 had discontinued their treatment and ceased to attend, whilst of the remaining 335 undergoing treatment 149 were classified as having completed less than one half, and the remaining 186 as having completed more than a half of their treatment. Many patients discontinue their work when told that they are consumptive, and this is to their disadvantage, as in many instances their food supply is in consequence impoverished, which does more harm than the continuance of their employment. Great efforts have been made to minimize tubercle infection in the milk supply, and the work has been carried out by the detecting of infected milk, and by the eradication of tuberculosis from dairy herds; 1,009 cows were tested during the year, and of these 817 passed, 184 failed, and 8 were doubtful; while 138 mixed samples of milk were examined, and of these 111 were free and 27 were found infected.

Cancer.

Under this heading are included carcinoma, scirrhus, epithelioma, rodent ulcer, and sarcoma. This disease shows a progressive increase in deaths, numbering 552 in 1901 and 791 in 1912. The mortality was higher among women than men, the deaths being 442 among females and 349 among men.

BRISTOL.

HOSPITALS AND THE INSURANCE ACT.

AT the half-yearly meeting of the Governors of the General Hospital some interesting figures were given to show how the institution had been affected by the working of the Insurance Act. The Chairman said there had been a falling-off by 3,000 in casualties, notes, and emergencies in the out-patient department. Up to June 30th there had been no alteration in the procedure in that department, but after that date certain rules respecting insured persons had been carried out. There had been 487 persons attending, and of these 52 had been referred to their panel doctor. Of 580 casualties, 333 had been treated in a like manner. He believed the working of the Act had been smoothly carried out, and he had heard of no friction. Of the in-patients, which were 970 since last March to June 30th, 358 were insured and 612 uninsured.

India.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

MEDICO-LEGAL WORK AT THE CALCUTTA MORGUE.

MAJOR ST. JOHN MOSES, I.M.S., has published in the *Indian Medical Gazette* (June, 1913) a record of a year's medico-legal work at the Calcutta Morgue. The year dealt with is 1912, but comparative figures for the triennium 1910–12 are given. During 1912, 252 cases were sent up by the police for *post-mortem* examination as cases in which death appeared to occur under more or less suspicious circumstances. This number was 104 fewer than in the previous year. Poison was found in 55 of the cases, 31 being due to opium, giving a percentage of 56.3 of all cases in which poison was detected. Referring to the subject of poisoning generally and the examination of viscera, Major St. John Moses draws attention to the importance of examining the urine taken from the bladder whenever this is available. In 37.3 per cent. of the cases brought up for *post-mortem* examination and inquest death was due to natural causes. Suicide accounted for 36.0 per cent. of the violent deaths and homicide for 14.5. Opium is the favourite means of effecting suicide, hanging comes next. The cases of suicidal violent deaths classified according to race showed that 46 were Hindus and 5 Europeans. Homicidal violent deaths numbered 23 in 1912, as against 14 in 1911; here stabbing appeared to be the favourite method of committing homicide.

THE INDIAN CENTRAL RESEARCH INSTITUTE.

Major Harvey, I.M.S., is confirmed as the head of the Central Research Institute at Kasauli, in succession to Sir David Semple, who has retired, and Captain McCoy joins the Bacteriological Department, in the vacancy caused by the promotion of Major Harvey.

THE INSPECTOR-GENERAL OF CIVIL HOSPITALS, ASSAM.

Colonel Neil Campbell, Inspector-General of Hospitals, Assam, who is about to take six months' leave preparatory to retirement, will be succeeded by Lieutenant-Colonel Hormusjee Eduljee Banatvala, at present officiating for Colonel Dennys in the Central Provinces. This will be the first occasion on which an Indian member of the Indian Medical Service has risen to the permanent post of inspector-general.

NEW DISPENSARY IN A NATIVE STATE.

Raja Partab Bahadur Singh, C.I.E., of Partabgarh, has opened a dispensary at Raniganj, about five miles from his head quarters. This dispensary will meet a great public want, and will give medical relief to his tenants and the public alike. The expenses will be borne by the founder. This is the third institution of the kind that the Raja has established.

HOSPITAL ACCOMMODATION AT SIMLA.

It is understood that the scheme for the improvement and enlargement of the Walker Hospital, Simla, which was recently submitted by the committee appointed to consider the subject, has been accepted both by the Punjab Government and the Government of India. The total expenditure involved amounts to rather over 1 lakh of rupees, which sum, subject to the sanction of the Secretary of State, will be found by the above two Governments. The changes recommended by the committee will, when carried out, do much to improve the accommodation of the hospital and to remove the defects which have been pointed out in its construction and arrangements. It is proposed to convert the present nurses' quarters into an enteric ward, and to build new nurses' quarters on the adjoining ridge, and, by rearranging the verandahs, the kitchens, and the children's ward, to make the hospital

generally quieter, and to increase the privacy of the existing patients' room.

THE EMETINE TREATMENT OF DYSENTERY.

All Government hospitals throughout Ceylon have now been supplied with emetine for the treatment of dysentery, and it would be interesting to know when similar steps will be taken with regard to Indian hospitals.

OVERCROWDING IN BURMESE GAOLS.

According to the Prison Administration Report for Burma for last year, though the number of convicts admitted showed a comparatively slight increase over the corresponding number for 1911, the total number of prisoners of all classes admitted rose by 1,432, and the number of those discharged decreased by 815. The result was that the daily average strength of all classes increased by 56, and the overcrowding in certain gaols became serious. The fact that the admissions and the daily average strength were the highest recorded since 1900 is an indication of the increased prevalence of crime in many parts of the province.

PROPRIETARY MEDICINES IN INDIA.

The *Pioneer*, in a note on this subject, states that the popularity of proprietary medicines among the town populations of India is amazing. Vernacular and other newspapers are flooded with advertisements containing wonderful testimonials. Many of the quack remedies thus thrust upon public notice are harmless enough, but there are some that are positively poisonous. In the annual report of Major Windsor, Chemical Examiner to the Bengal Government, attention is drawn to a case of sulphuric acid poisoning in Calcutta. An adult Bengali who was suffering from dyspepsia took a small quantity of an "extract" and became so ill immediately afterwards that he had to be removed to hospital, where fortunately he recovered under treatment. The "extract" was sent to the chemical examiner, and was found to consist of strong commercial sulphuric acid. The report notices four instances of cocaine poisoning, and it is to be feared that these cases will become more numerous, as the drug is now smuggled so extensively into India.

THE ENTERIC FEVER RESEARCH COMMITTEE.

A short report by Major E. D. W. Greig, I.M.S., has been issued on the results obtained from the practical working of the recommendations of the Enteric Fever Research Committee of the Government of India (1906-8). He states that one of the main conclusions of the research work was that a patient convalescent from enteric fever should be segregated and carefully examined bacteriologically, and not allowed to return to his home or regiment until he had been shown to be free from the *B. typhosus*. The Government of India had given effect to this recommendation, as far as the troops in India were concerned, and had established two dépôts for the segregation and investigation of enteric convalescents—one at Naini Tal and the other at Wellington. Major Greig quotes from a report by Grattan and Wood, in which they state that the factors at work in connexion with the diminution in the number of cases of enteric fever in India were segregation of the convalescent patient until he is free from infection, the elimination of the "chronic carrier," inoculation, and improvement in sanitary details. The death-rate from enteric fever in the army in India has fallen from 5.62 per 1,000 in 1895-1904 to 0.62 per 1,000 in 1910. Another important result of the investigation was to demonstrate the existence of *B. paratyphosus* A and *B. paratyphosus* B. In 1897, 2,050 cases of enteric and paratyphoid fever occurred in the army, with 358 deaths; in 1911 the figures were 274, with 24 deaths. In 1910 systematic blood cultures were begun amongst the British troops as a means of differentiating *B. paratyphosus* A.

SANITATION.

The Sanitary Conference at Simla.—The inclusion of the Hon. Mr. Godfley, Director of Public Instruction, and of two inspectors of schools in the Sanitary Conference which is to be held in Simla in the last week of August, indicates that the conference is to take up the all-important question of school hygiene. The Government of India has already commended to the consideration of local governments the question of holding a thorough inquiry by a small committee of experts, medical and educational, into the condition of school-houses, hostels, and other places where pupils reside, and the introduction of a simple and more practical course of hygiene into the school course. Though in some provinces such a course is already prescribed, the lessons, it is to be feared, are often of too formal a type to be popular, and are not connected with the life of a pupil, so that they fail to form his habits or to enlist his intelligence in after-life in the struggle against disease. Another point worthy of detailed investigation is the length of the school day and the pupil's home studies, as it is doubtful if medical advice has always been sought in the framing of the curricula and such matters. Requirements must necessarily vary in different parts of India, and it is most desirable that the climate and other conditions of the Punjab should be considered by a committee able to formulate recommendations which, while they follow the general views of the Government of India, will yet fit in with the local requirements of this province.

Bengal.—In the Government resolution on the sanitary and vaccination reports of Bengal for 1912, it is stated that with a birth-rate of 35.30 per mille and a death-rate of 29.77, the Presidency, as now constituted, does not compare unfavourably with other provinces. Despite the measures taken to prevent the spread of malaria there was a rise in mortality from the disease. Of deaths in the Presidency, as many as 959,193 were attributable to fever. The increased expenditure on conservancy execution or the preparation of schemes of water supply, sewerage, and drainage, all indicate greater activity on the part of municipalities and greater realization of their responsibilities in this important work; but progress is far from rapid. Much time is lost by municipalities in the consideration of projects, while applications for loans from Government to finance the schemes are, as a rule, so imperfectly prepared in the first instance that considerable delay ensues. Government is ready to contribute liberally towards these sanitary schemes, but full advantage was not taken of the amount that was available during the year 1912-13.

Special Correspondence.

VIENNA.

The International Congress on First Aid and Ambulance.

THE week beginning September 5th was a real Congress week for Vienna. No less than four different congresses took place here simultaneously, and of these, two have much interest for medical men—the Statistical Congress and that dealing with first aid and ambulance work. The latter was opened on September 9th, and much excellent work was done in the sections. Over 1,200 members inscribed their names, and there were 200 reports and papers, so that each speaker could not be allotted more than fifteen minutes. There were ten sections, including first aid (medical) in accidents, instruction of non-medical persons in first aid, first aid in towns and in the country, first aid in travelling (railways, automobiles, aeronautics), first aid on the seashore and on the high sea, first aid in mines and allied industries, first aid in fire, first aid in mountaineering and in sport, prevention of accidents.

Apart from the papers, a practical demonstration of the methods of first aid by a street ambulance was given on the third day by the Vienna *Rettungsgesellschaft* (Ambulance Corps). The supposition was that an accident had happened during the races, a wooden stage having given way, and some forty or fifty persons being more or less seriously injured by the fall and by horses riding over them. A few minutes after the alarm had been given, an ambulance consisting of twenty doctors and twenty male nurses, on twenty cars, arrived at the scene, where boy scouts acted the part of the injured. The organization of this first aid was much admired by the foreign visitors, especially the small boards with the diagnosis on them, enabling the patient to be handled in a rapid and time-saving way in the hospital to which they were carried. The methods of bandaging used were also very instructive. A similar demonstration of life-saving in the water was given in the afternoon, when the practical methods of

first aid to persons unable to swim were shown, as well as the methods of resuscitation of the apparently drowned. It so happened that a stranger did actually jump or fall into the water during the demonstration, so that a genuine piece of live-saving work was witnessed. It is the intention of the authorities here to establish, after the model of the British Royal Humane Society, an institution for first aid in accidents on the water, shipwreck, floods, suicidal attempts, and the like. Among the papers read at the Congress were some of great interest. One of the subjects discussed was the relation of explosions in mines to the composition of the explosives used for blasting; whilst in some countries a variety of explosives may be had which produce harmless by-products, in Austria the Government does not allow any of the newer preparations to be used, dynamite and gun-cotton only being at the disposal of the industry. A collection of life-saving apparatus for mines, consisting of a fire-proof suit of clothes (asbestos-linen), with an airtight headpiece, an apparatus for generation of oxygen and removal of CO_2, fitted with electric searchlights, was exhibited by the Austrian State Mines Administration in connexion with this paper. A similar exhibit of the Vienna Fire Brigade was also shown, together with some electric machines and ladders used to climb into smoke-filled or burning buildings.

The danger of transmission of Asiatic epidemics into European countries was well illustrated in the paper by Dr. Kobler, the head of the sanitary department of Bosnia and Herzegovina. The prevention of such epidemics has become a much more difficult task since the completion of the Hedjas railway between the holy places and Damascus. Formerly the pilgrims had to spend many weeks on the road, so that a natural quarantine was obtained. Now the journey lasts a few days. The sanitary conditions of the country are most rudimentary, and all European States with Mohammedan population have erected special pilgrim stations on the frontiers, where suspicious cases can be kept under observation.

The prevention of loss of life in aeronautics was discussed in a paper by M. Hinterstoisses. He maintained that smoking should be absolutely prohibited in all localities pertaining to airships; that no spectators should come near an airship or aeroplane intending to descend; that a doctor should always be present at the "air port" or on the airship; and that a transportable first-aid outfit with medicines and splints, as well as an apparatus for extinguishing a fire, should always be at hand there.

Much interest was evoked by the paper on first aid in mountaineering, which has been organized by the German and Austrian Alpine Society at considerable outlay. A network of ambulance stations has been established all over the mountains in the two countries. Over 200 first-aid outfits have been distributed amongst these stations; the services of a large number of voluntary or paid helpers have been secured for cases of emergency, for the saving of living persons, or for search parties to recover the bodies of climbers killed in the mountains. Each station is fitted out with one box for first aid with splints and medicines, one pair of stretchers or a hammock, several packets of bandages, several small first-aid outfits for the authorized mountain guides (who have to carry them on every trip), probes for searching avalanches (these have proved exceedingly useful), and rope-ladders and ropes. A knowledge of first-aid work is spreading rapidly, and the international Alpine danger signal has been adopted by many societies and clubs. It should be added that the society defrays for its members all costs arising out of an accident or an expedition for help. Much good has been done by the instruction (in special first-aid classes) of the guides in all matters pertaining to mountain accidents. They are taught how to treat injuries, insect bites, snow blindness, glacier disease, how to apply a splint, to conduct artificial respiration, and how to prepare stretchers.

The prevention of loss of life in the large ships of modern times was discussed by Professor Flamm. He advised the formation of watertight compartments in the long axis as well as in the transverse diameter, with due respect to the stability of the ship. The number of the life boats and their capacity ought to depend on the number of persons on board not on the tonnage of the ship, and need not be brought into relation with the watertight compartments. Wireless telegraphy, as well as careful consideration of the ballast and fuel, and the fireproof storage of the latter, were, he said, indispensable in a modern ship. Medical help should be available on every ship, one doctor at least being provided for each five hundred persons on board.

(To be continued.)

Correspondence.

GREAT TENACITY OF LIFE.

SIR,—This week I read in the JOURNAL of June 21st, 1913, p. 1320, the case illustrating great tenacity of life, by Dr. Turnbull. But the day before yesterday the following appeared in the Sydney *Morning Herald* (July 24th), and it is sufficiently noteworthy to induce me to send it to you:

Wellington (N.Z.), Wednesday.

J. Millar, an employee of the electrical works at Timaru, fell from the top of a lighting pole in February, striking his head on the concrete kerb footpath and fracturing his skull. His other injuries were a pelvis broken in three places, five ribs broken, one piercing the kidney, breast bone broken, left arm broken in three places, and shock. He lay in the hospital for five days unconscious, and the case was deemed hopeless. Yet Millar has now resumed work, and says he feels as well as ever.

Comparing the two cases, then, we have:

Dr. Turnbull's Case.	*This Case.*
1. A fractured skull.	1. Fractured skull.
2. Extensive fracture of the ribs.	2. Five ribs fractured.
3. Pulping of the spleen.	3. One kidney pierced.
4. Pulping of the kidney and lesions in the vicinity of the solar plexus.	4. Pelvis broken in three places.
5. Result—Death.	5. Breast bone broken.
	6. Left arm broken in three places.
	7. Shock.
	8. Has resumed work, and says he feels as well as ever!

—I am, etc.,

ANDERSON STUART.

Department of Physiology, Medical School,
University of Sydney,
July 26th, 1915.

IDIOPATHIC ANASARCA.

SIR,—I have read carefully, and with much interest, the report in our JOURNAL of the proceedings at the International Medical Congress, but was disappointed in not finding any reference to the discovery of a new disease by a Russian physician, called by him "idiopathic anasarca," which discovery was noticed in the Epitome of Current Medical Literature, and the importance of which discovery I endeavoured to emphasize in a letter to the JOURNAL. No one seems to have appreciated the value of the discovery except the writer of the notice of it in the Epitome, and, seeing that it was not noticed at the International Medical Congress, I should like once more to call the attention of your readers to the symptoms, which, I believe, will be found to be associated with the cause of what are called sudden deaths, which are becoming so common even in our own profession. It is a symptom which I have recognized for years in my own person, and I am gratified to know that another has recognized it. In my former letter I pointed out that "idiopathic" was a term used as a cloak for ignorance.

In a medical vocabulary published in 1836, "idiopathic" is said to be "A disease not consequent on another, but originating by itself," and "anasarca" as "Dropsy in the integuments of the body; a genus of the Ord. Intumescentiae; Cl. Cachexiae, of Cullen's Nosology." Not having been taught (when a student at Edinburgh University) the views current as to the dropsy now associated with the name of Dr. Bright, I turned up Craigie's *Practice of Physic*, of which I happened to have a copy. Writing on inflammation of the kidney, he says: "The acute form of the disorder has been usually distinguished into two varieties, according to the supposed nature of the exciting cause—the idiopathic, or that originating spontaneously, and without the presence of any mechanical irritation; and the symptomatic, or that which is induced more or less immediately by the irritation of one or more urinary concretions or sandy particles in the pelvis, or in any of the infundibula of the gland. The first variety is supposed to be rare, the second greatly more common."

The supposed rarity of the idiopathic form need not astonish us, seeing that "idiopathic anasarca"-of the Russian physician is not yet recognized by the profession, or noticed at even an "International Medical Congress."

Under "Granular degeneration of the kidneys," Craigie says: "These circumstances (finding an inflammatory state of some serous membranes) led Dr. Blackall to regard the human frame as in an inflammatory state while the urine is albuminous, and to regard all those cases of dropsy in which this state of urine is observed as originating in, or connected with, inflammation, and hence to have recourse to antiphlogistic remedies." And again, he says, "Although the general result of the researches of Dr. Blackall was to establish a clear and evident distinction, both in pathology and treatment, between dropsies with inflammatory symptoms and those without such symptoms, yet no connexion was established between the serous state of the urine and any morbid condition of the kidney. This was accomplished, however, in 1827, by Dr. Bright.

"It was partially known to Morgagni that the kidneys were liable, in anasarca, to a certain change in structure, in which their two component parts, the cortical or secreting and the tubular or excreting, became, as it were, blended or confused together, and often contained small serous cysts or vessels."

Here it will be observed that the word "anasarca" is used as synonymous with "dropsy," but I hope to prove that the anasarca is entirely different from dropsy. Dr. Craigie says:

> The general correctness of the inference regarding the connexion between serous urine and more or less disease of the kidney was speedily confirmed by Dr. Christison, Dr. James C. Gregory in this country, by Dr. Osborne in Ireland, and by Solon and Rayer in France.
>
> The facts ascertained by these observers must be allowed, not only to have established the fact of the connexion between albuminous urine and different degrees and stages of disease of the kidney, but to have thrown a considerable degree of light upon the disease in general, and to have shown that dropsy, as well as the several inflammatory and congestive states of the disorder, are mere secondary or symptomatic effects of the change in the structure of the kidneys and the corresponding change in the function of these glands.

Professor Grainger Stewart was a pupil of Christison, and wrote a big book on Bright's disease. When he was pathologist to the infirmary in Edinburgh I was his assistant, and from the symptoms in any case of Bright's disease it was easy to tell what the kidney would be like, but all our pathology did not help us to cure or even prevent that disease, to which Grainger Stewart himself fell a victim.

The profession now recognizes the fact that a pulse of high tension is associated with Bright's disease and precedes the actual appearance of albumin in the urine, but the cause of the increased tension is still unrecognized. Professor Laycock, a contemporary of Christison and Grainger Stewart, taught us that the dropsy in Bright's disease was a neurosis, but Laycock lived long before his day, and his views on this, as on other subjects, are still little known, and seem to have made no impression on those who have since written on Bright's disease. In this connexion another paragraph from Craigie may be quoted. He says: "A singular effect of renal inflammation and suppuration is to induce *paraplegia* and symptoms of diseased spine. It has been long known that injuries and diseases, chiefly of an inflammatory character, in the spine or spinal cord were liable to be followed by various morbid states of the urinary secretion, which was generally rendered alkalescent or ammoniacal, sometimes deposited the ammoniaco-magnesian phosphate, sometimes the ammonia carbonate. Belingeri had observed that in animals, after experiments on the spinal cord, inflammation was liable to attack the kidneys and the *peritoneum*, and render the former red and vascular, and cover them with lymph. Mr. Stanley has shown, by a judicious selection of cases, that when the spinal cord is supposed to be diseased or injured either directly or in consequence of disease, or injury of the vertebrae, causing pain in the back and *paraplegia*, the symptoms so produced did not originate from disease either of the vertebrae, the cord, or the membranes, all of which were sound, but from inflammation or suppuration of the kidneys, in which, in general, were found collections of purulent matter. From such cases it must be inferred, as Mr. Stanley has done, that disease originating in the kidneys simulates and may give rise to disease in the spinal cord, probably by a reflected influence from the diseased gland through its nerves to those concerned with the spinal cord. *It may conversely be inferred that in any morbid state of the spinal cord the impaired influence of the nerves over the renal action, allowing the urine to be secreted in the kidney in an alkaline state, gives rise to a new train of evils by the irritation necessarily induced in the tubular part of the kidney and in the calycine membrane.* The ammoniacal urine then irritates, perhaps, both the cortical and tubular part of the glands, and must certainly irritate the calycine membrane, *and is the cause of the inflammatory states which it often presents.*" The italics are mine. Early investigators are apt to put the cart before the horse. Hitherto the profession has had its eye on the kidney, and regard it as a cause of dropsy; but the suggestion made in that quotation that it is the central nervous system that is the primary cause, taken in connexion with the contention of Laycock that the dropsy in kidney disease was a neurosis, should direct the attention of pathologists, and physicians as well, to the neurotic theory of all forms of dropsy. In my efforts to spot the primary cause of my many symptoms I am not satisfied when I can merely cure them, I must be able to cause them as well, before I feel absolutely certain that I have reached the true cause, and so far as I have got I feel pretty certain that ere long Laycock's views will be proved to be very near if not the absolute truth. I have discovered that the very ideas we have depend upon the food we eat, and if our physiologists, leaving meantime the study of metabolism which so puzzles them, would direct their attention to the physiological action of our common foods, a much easier subject, they would arm the physician with a weapon which no devil of disease could withstand. Dietetics would then be studied and taught as it ought to be, disease would disappear, and modern men might live as long as Methuselah is said to have done—I am, etc.,

Hawick, Sept. 7th. JOHN HADDON, M.D.

MODERN METHODS IN THE DIAGNOSIS OF PHTHISIS.

SIR,—The excellent digest of the above subject Dr. Clive Riviere gives might be bettered in one respect. Refinements in percussion such as Krönig's topographical method, although making pretty demonstrations upon occasion, seldom—do they?—cause any one to make up his mind about a case, unless he be an exceptional person—a Potain or an Ewart. But the author quoted gives two other wrinkles which, with the number of experts of very junior standing we now have, may be of widespread use. The one, described on p. 665 of the eleventh volume of the twentieth century *Deutsche Klinik*, Krönig (making the plea "*sit venia verbo*," for a mongrel word) calls "apicalgia." It is simply tenderness in the apical region to direct, or for the matter of that, indirect percussion. For some time I have thought this a very reliable sign-symptom. The other has to do with auscultation. If you suspect the apex, give a good dose of codeine overnight, and examine for post-tussive râles early next morning, before the secretion is coughed up.—I am, etc.,

Northumberland Sanatorium, Barrasford, Sept. 2nd. W. C. RIVERS.

ASSISTANT MEDICAL OFFICERS IN ASYLUMS.

SIR,—In a recent issue of the JOURNAL I see that the asylum medical officer is referred to as a "professional pariah," and that his life is "not a happy one." I have during the past few years had considerable insight into asylum life both as locum and as guest of the medical officers, and in that time have seen and heard sufficient to make me wonder that "An A.M.O.'s" letter was not of a more vituperative and indignant nature. I was surprised and horrified to find that the condition of the medical officers was in a state of such hopeless stagnation.

I learnt that men of eight and nine years' service were earning a pittance of £250 a year, this being only £50 more than the starting salary advertised to-day. It makes one wonder how much men with less ability would be earning in general practice after the same period. But that is not all. Promotion, as "An A.M.O." states mildly,

is a mere gamble. I have one instance in my mind out of many in which an assistant medical officer of very long service was superseded by another medical officer of one-third the service drafted in from a neighbouring asylum. Needless to say his juniors, who naturally expected a step up, were also condemned to the unambitious and heart-breaking wait for the next vacancy. This serves to demonstrate the short-sightedness, to say nothing of gross unfairness, of some asylum superintendents, who shrink to shield themselves behind their committees. Juniors thus have no guarantee that such will not happen at future vacancies, and that they may not in the end be mere "automata and failures."

In every case the impression I received from my conversation with long-service assistant medical officers was that they would be delighted to be shown a way out, if it were possible to earn a living in any other branch of medicine, after having spent so many fruitless years in lunacy.

I am not engaged in asylum service, so have written this letter without prejudice, and merely as a warning to the fledglings who are tempted by the apparent allurements of asylum life.—I am, etc.,

September 9th. NOT AN A.M.O.

THE CONTROL OF THE MILK SUPPLY.

SIR,—Mr. Harold J. Stiles's article and Sir John Byers's letter are most interesting and instructive. I would like to push the crusade a step further.

When we blame milk for tuberculosis in childhood, are we justified in equally blaming the cow?

For many years now I have preached and practised the treating of all tuberculosis cases in their own homes, save those that need operation, and these should be few. My reasons for so doing are many, but only one bears on the present subject—that is, the practical training of the public in what a well-ventilated and clean house has to be if they wish to keep tuberculosis under.

How much benefit will be gained from sterilized and sealed milk delivered to a home where ventilation and cleanliness of the person and cooking utensils are unknown?

Sanatoriums improve patients and then discharge them to their homes, from which it was necessary in many cases to move them owing to the unsuitable conditions existing there.

The present state of things, then, is: (1) Patients are taken away from their homes because the rooms are unsuitable; (2) patients are improved in sanatoriums; (3) homes are supplied with sterile milk and "improved patients"; (4) homes remain unaltered, for no amount of literature nor district visiting, nor anything save practical demonstration, will make the public understand that tuberculosis is a domestic disease.

My opinion is that the home, be it of man or cattle, is the breeding ground of tuberculosis, and till this is attacked we will not achieve success.

No matter what it costs us, as medical men, as municipal guardians, or as landlords, we should meet the bill. Let us have sanatoriums and a controlled milk supply by all means, but let us also have healthy homes in which to use the milk and carry out the good work begun in sanatorium or hospital.—I am, etc.,

Lisburn, Aug. 24th. J. L. RENTOUL, M.B.

THE CAUSE OF RHEUMATOID ARTHRITIS.

SIR,—Dr. Watson, in the BRITISH MEDICAL JOURNAL of September 13th (p. 704), speaks of lack of perspiration as the main cause of rheumatoid arthritis. Personally I regard it as merely a symptom. As to the treatment at Aix being in any way specific, or even highly efficacious, I have strong doubts. In many instances it has proved positively harmful, owing to the debilitating effect of the vigorous efforts to produce perspiration.

The outstanding cause of chronic arthritis is now widely acknowledged to be microbic infection. The symptoms are very numerous. In my opinion, treatment, to be efficacious, must be prolonged and continuous, and many of the most successful methods can be carried out in London or elsewhere. The sending of enfeebled, pain-racked patients out of this country is often rank cruelty.—I am, etc.,

Bournemouth, Sept. 15th. W. J. MIDELTON.

SPECIAL HOSPITALS.

SIR,—The excellent letter from Mr. Hugh E. Jones so thoroughly expresses, though perhaps in too temperate language, the views of his colleagues that any criticism or comment from me is quite unnecessary. But there is one point about this article in the *Daily Post* which makes all the more incomprehensible its action in attacking an institution which only last year it was praising for the amount of good work it is doing for its numerous patients.

The point is that Mr. Bickerton, in his address, never mentioned the Liverpool Eye and Ear Infirmary, nor anything about incompatibles, nor the physiological connexions of the great toe, nor, in fact, anything at all connected with the main substance of the article in the *Daily Post*.

It seems difficult to believe, however, that the editor of the *Daily Post* could have evolved this article out of his imagination, and my colleagues and myself are really very much interested in the mystery. There must be some explanation of it, and as the *Daily Post* refuses to discuss the matter further I suppose we must look elsewhere for it. Perhaps Mr. Bickerton will let us know what he thinks of a newspaper article which accuses him of an act of bad taste which he never committed.—I am, etc.,

Liverpool, Aug. 27th. EDGAR STEVENSON.

TRANSPARENT ANATOMICAL PREPARATIONS.

SIR,—The beautiful anatomical transparent preparations of Professor W. Spalteholz of Leipzig have been referred to in the BRITISH MEDICAL JOURNAL, and doubtless many readers have received the prospectus of a firm now marketing objects prepared by this method for study. Similar and effective methods, however, date pretty far back. In the late Dr. Lionel Beale's *Microscope in Medicine*, London, MDCCCLVIII. (Churchill's), pp. 54, 55, 56, his method of rendering transparent animal tissues by 10 drops of NaOH strong solution to the ounce of alcohol is fully set forth, and two woodcuts of the fetus demonstrate the ossific centres well. Some years ago I prepared a number of specimens by Dr. Beale's method, and found it simple and effective for earlier fetal naked-eye anatomical and forensic study as regards the centres. I understand Dr. Beale did not patent his method.—I am, etc.,

Edinburgh, Sept. 3rd. JAMES CAMERON.

SCLERO-CORNEAL TREPHINING IN GLAUCOMA.

SIR,—In your review of my book on *Sclero-Corneal Trephining in the Treatment of Glaucoma*, in the JOURNAL of August 30th, you draw attention to my omission to mention the Freeland Fergus trephine. As it is possible, in view of the emphasis you lay upon it, that this omission may be misinterpreted, I hasten to state that it was entirely due to the fact that I had nowhere seen the instrument described, and was unaware of its existence. This shall be rectified in a future issue of the book.—I am, etc.,

R. H. ELLIOT, M.D., etc.,

London, S.W., Aug. 30th. Lieutenant-Colonel, I.M.S.

Medico-Legal.

CHARGE UNDER THE LUNACY ACT.

AT the Central Criminal Court on September 8th was commenced the trial of an indictment against Dr. H. T. Hamilton, of Essex House, Barnes, in connexion with two persons under his control at a house maintained both for the reception of ordinary cases of ill health and also of patients suffering from mental disease. The trial lasted three and a half days, of which approximately three were occupied by evidence for the prosecution, and the following account of the case is derived from the reports in the *Times*. The indictment included a charge of receiving for payment a certifiable lunatic without permission of the Lunacy Commissioners at a time when the defendant already had another lunatic in his authorized charge; also of ill-treating two persons who were lunatics within the meaning of the Lunacy Act of 1890; and, finally, a charge of common assault in regard to one of these persons. A point involved in the indictment was the question whether one of the patients in question—a person who at a date subsequent to her passing out of the defendant's control was certified to be insane—had been insane at any time during the period she was in residence at his house.

On conclusion of the case for the prosecution, Dr. Hamilton gave evidence on his own behalf, and several witnesses testified

concerning the state of the patient whose mental condition was in question, and as to the general character of the home maintained by the defendant and his relations with his patients, including those whom he was accused of ill-treating. A large number of other witnesses were waiting to be called, but at this point the Recorder, intervening, said that the question for him and the jury was whether the truth of the indictment had been proved beyond any reasonable doubt, and that the calling of evidence such as that already given on behalf of the defendant made it appear as if the issue before the court was whether certain witnesses for the prosecution had been guilty of wilful and corrupt perjury. On this the foreman of the jury stated that he and his fellows did not consider that the case for the Crown had been proved, and then returned a verdict of not guilty. Their declaration was followed by a remarkable scene of enthusiasm on the part of spectators, and eventually a large crowd awaited Dr. Hamilton in the central hall of the building and carried him out of it shoulder high.

The case originated in the inquiries which the Lunacy Commissioners caused to be made as to the previous history of the patient whose mental condition was in question when the papers connected with her certification came into their hands, and the chief evidence for the prosecution was given by certain nurses, all of whom had left the defendant's institution in what was described by counsel for the defence as "curious circumstances." The allegations of these witnesses were to the effect that the defendant had beaten one patient, a certified lunatic who had been six years in his charge, and had caused a second patient to be stripped, and had then beaten her on one occasion with a razor strop and on another with an india-rubber shoe. The defendant admitted that on one occasion he had given this patient two taps with a soft bedroom slipper because she was fighting her nurse and refusing to allow her outdoor coat to be taken off; but she was fully dressed at the time, and it would have been cruel to regard her then or at any time while she was under his control as an insane person. She had lost her temper, and in giving her these taps with the felt slipper he had merely treated her as he would one of his own children. She was put in his charge originally as a girl who had had a severe nervous shock, and required change of air, feeding up, and society. In appearance and ways she was just a schoolgirl of 15 or 16, although her real age was 19. A little nervous at being with strangers when she first arrived, she rapidly improved in health, and, besides playing croquet and other games with visitors at the house, used to accompany the defendant when he was paying professional visits and take charge of his carriage while he was in his patients' houses. She seemed like a child who had never been controlled, and always wanted her own way; when she could not get it she lost her temper. Evidence was also given to the effect that the defendant had a large practice, and for some fifteen or sixteen years had been in the habit of receiving patients in his house, where he maintained a domestic and nursing staff of between fourteen and eighteen persons. By way of providing his patients with cheerful surroundings he kept open house, and his establishment was always open to visits from the Lunacy Commissioners, as he had authority to receive three certified lunatics. Visits were also paid by the private medical attendants of his various patients, and his house, though very large, had only two floors.

Medical News.

Dr. Ernest MacBride, F.R.S., has been appointed Professor of Zoology in the Imperial College of Science at South Kensington, in succession to the late Professor Adam Sedgwick. Professor MacBride has been for the last four years assistant professor; he is a graduate of Cambridge and London, and for twelve years was Strathcona Professor of Zoology at McGill University, Montreal. He is known especially for his researches in embryology.

The French Minister of Marine has issued a circular inviting the officers of the navy to call attention to the efficacy and the harmlessness of the prophylactic vaccination against typhoid fever. The men belonging to the service who had been vaccinated since April, 1912, numbered 3,652, and in no case did the local or general reaction exceed the normal, and none of the men had since suffered from typhoid fever.

Herr Eduard Woermann of Hamburg has placed the sum of £300 at the disposal of the professors of the Colonial Institute in Hamburg as a prize for the best study of the means of increasing the birth-rate and diminishing the infantile death-rate in German colonies. The writer is to take account, not only of medical, but also of religious and ethnographical, considerations. Essays in competition must be received, addressed to the Professorenrat des Kolonialinstituts, Hamburg, not later than December 31st, 1914.

At the concluding meeting of the British Association on September 17th a vote of thanks to the Corporation of Birmingham, moved by the President, was acknowledged by the Lord Mayor, and another by Principal Griffiths of Cardiff to the University of Birmingham by the Vice-Chancellor, Mr. Gilbert Barling, who expressed the hope that the meeting would prove to have stimulated the promotion of higher education, so that the efficient buildings and staff provided for research might be fully utilized and appreciated by a population permeated with the desire to take advantage of them. Principal Griffiths, in the course of his speech, said that he hoped the visits of the British Association to Manchester in 1915 and to Newcastle in 1916 might be followed by a visit to Cardiff.

The first congress of the Franco-British Travel Union will be held in London, September 23rd–27th. The object of the congress is the discussion of means of encouraging Franco-British travel and questions connected therewith. Among the questions to be discussed are the Channel tunnel and Franco-British relations, the possibilities of encouraging popular travel between France and England, and of improvement in passengers' Custom House formalities. Among the members of the honorary committee are the President of the French Republic, the Right Hon. H. H. Asquith, Sir Edward Grey, Lord Crewe, and M. Paul Cambon, the French Ambassador at the Court of St. James. Lord Montagu of Beaulieu is the President of the Council.

Dr. J. Breward Neal, who has recently retired from the position of medical superintendent of St. John's Hill Infirmary, Wandsworth, was last week the recipient of a most gratifying testimonial from those who had worked with him. It consisted of a silver tea-service, rose bowl and cake basket, a settee, and a reading stand. The rose bowl bore the following inscription: "Presented to Dr. J. Breward Neal, medical superintendent of the St. John's Hill Infirmary, on his retirement, after thirty-four years' service, by his fellow officers of the Wandsworth Union, June 30, 1913." The presentation was made by Mr. F. W. Piper, chairman of the board of guardians, who said that the excellence of Dr. Neal's work was universally appreciated. Dr. Atkinson, Mr. Hickmott (master of Tooting Home and the senior officer of the union), Dr. Maccormac (medical superintendent of St. James's Infirmary), and Mr. Mark Mantle (senior relieving officer) all bore testimony to the same effect, the latter observing that when Dr. Neal joined the infirmary it was passing through a stage of transition, and he had had for many years to contend with lack of space and insufficient staff. Dr. Neal, in response, spoke of the pleasant relations which had existed between himself and other officers of the Poor Law service, and mentioned that he had during his thirty-four years' service admitted 103,000 patients, including upwards of 10,000 mental cases. He had witnessed a vast change in the Poor Law infirmaries, which had improved in design, structure, and equipment; he also bore strong testimony to the vast improvement that had come over the nursing arrangements. In the presentation Mrs. Neal was associated with her husband.

The fifty-eighth annual exhibition of the Royal Photographic Society, which is being held at the Gallery of the Royal Society of British Artists, Suffolk Street, Haymarket, from August 25th to October 4th, contains an unusually large collection of pictorial, colour, natural history, and scientific photographs. There are in all nearly 800 exhibits on view contributed by home, foreign, and colonial workers, some of the most interesting being samples of Roentgen-ray work in its latest forms of development. Dr. Bela Alexander, for instance, has contributed a series of photographs in which the bones of the hand, the tissues of flowers, and other objects are shown in solid form, whilst another scientist has produced microradiographic representations of extremely minute foraminifera which show every detail of the structure with absolute fidelity. Some remarkable results in the way of tracing injuries and diseases in the human body are also to be seen in this section. Another section contains a number of photomicrographs showing impurities in jams; and three of the rooms in the gallery are entirely given up to pictorial photography, of which some extremely beautiful examples are shown. A large number of colour transparencies, arranged over a looking-glass in desks, forms an interesting illustration of the progress made of recent years in the art of photography; whilst the secret process shown at last year's exhibition, by means of which facsimile reproductions of monetary documents can be multiplied, is also exhibited, visitors being invited to distinguish between the genuine and forged specimens of postage stamps, which are displayed together in the same case. Lantern lectures by well-known photographers are given on three evenings a week throughout the course of the exhibition, which should be of interest not only to the professional but to every amateur who indulges in one of the most delightful of all hobbies.

Obituary.

INSPECT.-GEN. SIR DUNCAN McCORMICK HILSTON, K.C.B., M.D., R.N.,

HONORARY PHYSICIAN TO THE KING.

AT Edinburgh, on August 27th last, a distinguished naval medical officer, Sir Duncan Hilston, passed away, at the age of 76. According to the annual practice of his later years, he was on a visit to the south of Scotland, and, at the time of his death, was returning to his home at Highcliffe, Christchurch, when he had an attack of influenza, followed by pneumonia, to which he succumbed.

He was educated at Lanark Grammar School and the University of Glasgow. He obtained the diploma of L.R.C.S. Edin. in 1858 and the degree of M.D.St.And. in the same year.

Entering the navy as surgeon in May, 1860, from 1863 till 1865 he was on active service in New Zealand, gaining repeated mention in dispatches for his conduct in various actions with the Maories—(1) "Present on every occasion of the men being under fire in engagements on the Waikato"; (2) "At the attack on the Rangariri by the 40th Regiment and the gunboats, dressing the wounded under fire, and indefatigable in his attention to them"; (3) "The wounded at Orakan received the greatest possible attention from him on the field."



SIR DUNCAN MCCORMICK HILSTON.
(Photograph by Debenham and Gould, Bournemouth.)

Having been reported on in the highest possible terms for gallantry and devotion to duty in the field by both the naval and military authorities, the Admiralty rewarded him by special promotion to the rank of staff surgeon on the conclusion of hostilities, and at the exceptionally early age of 28. Three years later the Abyssinian campaign was added to his war services.

During his last twenty years on the active list of the navy, from 1877 to 1897, Sir Duncan was successively in charge of a series of the most important service medical establishments—namely, the Royal Naval Hospitals at Great Yarmouth, Chatham, Bermuda, and Haslar, gaining on several occasions the official thanks of the Admiralty for remarkably efficient administration. In 1902 he received the C.B. (civil), in 1904 he became Honorary Physician to the King, and in 1913 he was created K.C.B. (military)—the highest reward obtainable by a medical officer. On retirement Sir Duncan acquired his delightful Hampshire home, Chewton Lodge, where he finally spent the eventide of his gentle life engaged in benevolent works and surrounded by his beautiful gardens, which he loved so well.

Possessed of an exceptionally agreeable personality, the deceased officer was a physician of profound knowledge, ripe experience, and rare attainments. Self-effacement, shrinking modesty, and unselfishness, even to his own personal disadvantage, were ever characteristic of him. In the establishments he so successfully ruled over, hating all bickerings, he loved peace and ensued it. Amongst his old brother officers Sir Duncan will ever be remembered as "ane perfect knight." He is survived by Lady Hilston, with whom for over forty years he had led a life of rare domestic happiness. He had no children.

FRANK BUSZARD, M.D., F.R.C.P., F.R.C.S.,

SENIOR PHYSICIAN TO THE NORTHAMPTON GENERAL INFIRMARY.

NORTHAMPTON is very much the poorer for the death, in his 74th year, of Dr. Frank Buszard, which occurred at his residence at Dallington early on Sunday morning, September 14th. He was the younger son of Dr. Marston Buszard, of Lutterworth, and commenced his connexion with the Northampton General Hospital in 1862, when after a hotly contested election he became house-surgeon.

For the next fifty years until last year, when he retired from the acting staff and became consulting physician, he devoted his time and great abilities to his work at the hospital and to the large consulting practice he acquired in Northamptonshire and the neighbouring counties. He was a student of Guy's Hospital, and took the diploma of M.R.C.S.Eng. in 1860; he graduated M.B.Lond. in 1861, and took the degree of M.D. in the same university in 1865. He took the diploma of F.R.C.S.Eng. in 1864, and in 1876 became surgeon to the hospital in succession to Mr. Mash.

On the death, however, of Dr. Francis, he relinquished surgery, and in 1878 was elected physician to the hospital, and occupied that post until his retirement in 1912. He became a Member of the Royal College of Physicians, London, in 1877, and a Fellow in 1887. He was also consulting physician to the Market Harborough Dispensary.

In 1912, on his retirement after fifty years' service to the hospital, he was made the subject of a presentation, and two portraits of him, painted by Mr. Harris Brown, were given by his admirers—one to his family and one to the hospital. On that occasion Dr. Buszard took the opportunity of making a very interesting and eloquent speech, reviewing the changes and improvements he had seen made in hospital management during his career. He might have added that the changes and improvements which he had witnessed at the Northampton Infirmary were in a great measure due to his own instrumentality.

Dr. Buszard was held in high esteem by the medical men of his town and neighbourhood, not only for the abilities he showed in diagnosis and treatment, but also for the bold stand he was always ready to take for what he considered to be the just rights and interests of his profession. He had held the office of President of the South Midland Branch of the British Medical Association and was the first Chairman of the Northants Division. He was elected Chairman of the Northampton Medical Committee which was formed in connexion with the Insurance Act. He read many valuable medical papers locally,

though he was not a frequent contributor to the medical press.

Dr. Buszard's activities were not, however, confined to the pursuit of his profession. He had to a remarkable degree the gift of public speaking, and as a strong and lifelong Conservative his gifts enabled him to become a leader of the Conservative party in Northampton. He was for many years a town councillor and alderman, and in conjunction with Mr. Mills was the oldest justice of the peace on the Northampton Bench. He was also a strong Churchman, and was for many years churchwarden of Dallington.

Dr. Buszard was of a tall and commanding presence, and inspired the greatest confidence in his patients, both rich and poor. He was for many years the undisputed leader of his profession in Northampton and the neighbourhood. His public gifts and power of debate were of such a nature that had he adopted the profession of the law or a parliamentary career those who knew him well feel little doubt that he would have risen to great eminence in either.

In his leisure hours he was a great devotee of games, and was an excellent cricketer and lawn-tennis player.

His general health had been failing for some years, and he had gradually become much crippled by rheumatoid arthritis, which caused him much suffering, but he struggled on with great determination, and only retired from his professional career some two months ago. His mind retained its powers to the last, and he was carried off by an intercurrent affection after a very brief illness.

He is survived by his widow, one son, and two daughters, and by his elder brother, Mr. Marston Buszard, K.C., Recorder of Leicester.

PEVERELL S. HICHENS.

THE LATE MR. ANDREW CLARK.

DR. HENRY BARNES, who was President of the British Medical Association in 1896, when the annual meeting was held in Carlisle, writes: Will you kindly allow me to add a few words of appreciation of the valuable services rendered to the Association by the late Mr. Andrew Clark, and I am more anxious to do this as there is a rather important omission in the record of these services which appears in the JOURNAL of September 13th? In conjunction with Dr. (now Sir) Isambard Owen, he was Secretary for the great meeting of the Association which was held in London in 1895, and by general consent much of the success of that meeting was due to his great energy and power of organization. So great was the success of the meeting—the largest which had ever been held up to that time—that there was some hesitation in the large centres of population in sending an invitation for the 1896 meeting. Greatly daring, the Border Counties Branch decided to invite the Association to hold its sixty-fourth annual meeting in Carlisle. As soon as the invitation was accepted, I asked our late excellent Secretary, Mr. Fowke, what steps we should take in order to organize the meeting. His reply was very emphatic: "See Andrew Clark, and he will tell you all details." I put myself in correspondence with Clark; he invited me to his house, where I spent a night with Mr. Fowke and Dr. Isambard Owen, and the valuable hints there gleaned were very material elements in contributing to the success of our meeting. I thoroughly agree with Mr. Verrall in saying that his "lovableness" was his strongest characteristic. His influence was magnetic, and the services which he rendered to the profession as well as to the public will long be held in grateful remembrance. He has left us the record of a well-spent, blameless life. *O! si sic omnes.*

THE death is announced of Mr. JOHN BROADBENT, of Manchester, at the ripe age of 81. Mr. Broadbent was born in the West Riding of Yorkshire, and apprenticed at Dobeross, near Saddleworth. In due course he became a student at the old Manchester School of Medicine, under Turner, Southam, and other well-known men. He took the diplomas of M.R.C.S.Eng. and L.S.A. in 1857, and after a short time spent in the neighbourhood of Liverpool became resident medical officer in sole charge of the old workhouse where the Victoria Station, Manchester, now stands. There were at that time no visiting medical officers, and the young resident had to depend for help, in major operations, on friends in practice in the neighbourhood, while the dispenser acted as anaesthetist, and there were no nurses worthy of the name. Mr. Broadbent's results showed how much could be done under conditions which would now be considered appalling. On leaving this appointment he became district medical officer for Ancoats, and held that position through the dark days of the cotton famine. A severe attack of enteric fever laid the foundation of the ill health from which he suffered in later years, and in 1876 he removed to the neighbourhood of Alexandra Park, where he continued to practise until an empyema necessitated his retirement in 1887. Mr. Broadbent was a well-known member of the Manchester Medical Society, and an enthusiastic worker with the microscope in years gone by, whilst he had been President and Secretary of the Medico-Ethical Society. He was a member of several other medical societies, and retained his interest in them to the last. A skilful and careful practitioner, of a gentle, kindly disposition, and the very soul of professional honour, Mr. Broadbent was held in high esteem by those who were privileged with his friendship. His remains were interred at the Manchester Southern Cemetery on September 8th.

THE death took place on September 11th of Dr. J. H. FERGUSSON, Superintendent Medical Officer of Health, Londonderry. Dr. Fergusson, who was a native of County Donegal, practised in Killygordon, and had specialized in public health questions; he held the Public Health diploma. Twelve years ago he was appointed to the post in Londonderry which he held to the day of his death. During these twelve years he was successful in effecting a large reduction in infant mortality, and it was at his instigation that the corporation inaugurated a war on accumulations of vegetable refuse in yard bins. Dr. Fergusson was at one time an examiner of the Royal College of Surgeons in Ireland.

Public Health.

FOOT AND MOUTH DISEASE IN 1912.

THE annual report[1] for 1912 of the Assistant Secretary (Animals Division) of the Board of Agriculture and Fisheries is largely concerned with an account of the extensive outbreak of foot and mouth disease which occurred during the second half of the year, and with the measures taken by the Board for its suppression. Beginning in Cumberland during the last week of June, by July 14th no fewer than 45 outbreaks of the disease had been confirmed, principally in Lancashire, Cheshire, and Yorkshire. From the investigations made it was evident that most, if not all, had originated in Ireland and from a consignment of cattle to Liverpool. Immediately upon the confirmation of an outbreak of the disease an Order was made by the Board prohibiting the movement of animals within a prescribed area, which was usually a radius of fifteen miles from the infected premises. These restrictions were speedily modified when necessary in order to provide for the meat supply of large towns within the area. It is interesting to note that the cases in Liverpool were first brought to the notice of the Board by the meat inspectors of the Liverpool Corporation, who, in the course of their duties, had found feet and tongues of animals that had been slaughtered which showed lesions believed to be those of foot and mouth disease. This diagnosis was confirmed on the following day by Sir Stewart Stockman, the Chief Veterinary Officer of the Board of Agriculture.

NOTIFICATION OF SCARLET FEVER.

A. B. R. asks two questions as to his duty with regard to the notification of a case of scarlet fever in a child. The child apparently had a very mild attack of the disease and was seen by our correspondent after the disappearance of the rash. The diagnosis was made a fortnight later owing to the presence of desquamation, and the medical officer of health telephoned to our correspondent that he regarded the case as one of scarlet fever, but A. B. R. was not again consulted by the parents.

*** (1) It is entirely within the discretion of the medical practitioner whether, in the circumstance narrated, he felt justified in notifying the case. If he had notified he would have been entitled to the fee. (2) He was not bound to notify merely after a conversation with the mother, but only if he felt justified in doing so.

[1] Board of Agriculture and Fisheries. Annual Report by the Assistant Secretary (Animals Division) of Proceedings under the Diseases of Animals Act, the Markets and Fairs (Weighing of Cattle) Acts, etc., for the year 1912. London: Darling and Son, Limited. Price 1s. (Cd. 6737).

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

INQUIRER wishes to be informed as to the best exercises to advise in the treatment of scoliosis in a girl of 17 years.

DR. F. HONE MOORE (Somersham, Hunts) desires to hear of a home for an old lady able to pay five or six shillings a week.

B. E. L. asks whether pituitary gland has been used for defective growth of the long bones in children, and to be referred to literature on the subject.

SENEX asks for advice in the treatment of a patient, aged 59, who wears artificial teeth and suffers from repeated attacks of stomatitis, with small pimples on different parts of the lower jaw, making the wearing of the denture painful; she has also had several attacks of diarrhœa. Her mother died from scirrhus of the rectum, and our correspondent asks whether any connexion between the two diseases is likely.

WESTMORLAND writes: I shall be glad if any member will give me a hint as to the treatment of eczema of the glans penis of about two years' duration, on and off, in a gentleman of about 70, subject to attacks of gout in the feet, and who had syphilis fifty years ago. If he does not cleanse between the glans and prepuce, in three days a balanitis with phimosis results. There are a few papules, with a slight blush on the glans, which once assumed a pustular form. Thinking it might be a remnant of his old complaint, I gave him the usual treatment, but without benefit, as also was that for gout. Local applications of lot. nigra or liq. plumbi arrest the inflammation, especially the latter, but they do not produce a cure, nor does ung. Hebrae with a few drops of liq. picis carb. added.

THE PROPHYLAXIS OF ACUTE NASAL CATARRH.

"PUZZLED" has a patient, a man of about 30 years of age, who suffers from constantly recurring attacks of acute nasal catarrh. These attacks come on about every six weeks, quite irrespective of weather conditions. They are accompanied by a feeling of malaise, and vague pains are complained of, such as one finds associated with a slight febrile condition. The catarrhal condition commences in the nasal mucous membrane, and in the course of twenty-four to forty-eight hours usually spreads to the naso-pharynx and larynx. In about a week or ten days the patient feels quite normal, but can nearly always count on having the same repeated in the course of a few weeks. Between the attacks the mucous membranes appear healthy, and there is no intranasal deformity to account for these oft-repeated attacks. The patient leads an outdoor life, and keeps himself in good condition by suitable exercise. Anti-rheumatic treatment has been tried, and the nasal cavities have been subjected to daily flushings with antiseptic alkaline lotions; but no success has resulted. Vaccine treatment has not yet been attempted. Perhaps some of our readers can offer suggestions.

ANSWERS.

SOLVENT FOR HARD WAX.

THE following answers have been received to the query of "I. Z. I." with regard to a solvent for hard wax:

DR. J. WESTALL ANDERTON (Arnside) recommends equal parts of liq. hydrogen peroxidi and glycerine. Application morning and evening for three days will enable the wax to be removed with gentle syringing.

MR. ADAIR DIGHTON, F.R.C.S. (Liverpool), recommends an instillation of hydrogen peroxide (10 vols.) left in the ear for about ten minutes before syringing.

G. A. F. writes: For some time past I have been in the habit of using glycerine ʒ j with saturated (or nearly saturated) solution of sodium bicarbonate ʒ vij dropped in the ear six to ten times a day for two days. It is also a good plan to place a piece of absorbent cotton-wool wet with the above solution in the meatus to retain the drops. A very ancient plug may need a second course of treatment after the removal of the outer part by the first syringing, for which I use a hot solution of sodium bicarbonate.

PATER writes: I find a mixture of aether. sulph. 1 part, and olive oil 3 parts invariably efficient in softening wax, however hard, in the ear, sufficiently to allow of its being easily syringed out by soapy water if the latter is used as hot as the ear can bear. The temperature is important. The etherized oil should be dropped in the night before and also on the morning that the syringing is done.

DR. HARRY GREY (Bristol) writes to state that a saturated solution of sodium bicarbonate mixed with equal part of glycerine is a much better solvent than oil. Hydrogen peroxide is also very effective, and may be used freely at the time of syringing.

M. suggests hot water, since ear wax melts, or at any rate becomes soft, at 100° F.; syringing with water at 105° F., which the external ear can bear comfortably, or thereabouts, will materially hasten the removal of all natural plugs. It is necessary to use a thermometer.

MR. MACLEOD YEARSLEY (London) writes that there are at least two better solvents for hard wax than warm oil. The first is hydrogen peroxide, which will generally, if instilled for ten minutes, be sufficient to break up a moderately hard plug. Should this fail, two or three drops of ether, instilled for two minutes, will usually have the desired effect. In using ether, however, it must first be ascertained that the plug fills the meatus, as, should the drug reach the membrana tympani, it causes great pain.

LETTERS, NOTES, ETC.

THE MEDICAL DIRECTORY FOR 1914.

I.M.S. writes: I was glad to see "F.R.C.S.'s" letter in the BRITISH MEDICAL JOURNAL of August 9th. To my mind the leaving out of past medical appointments takes away more than half the value of the *Medical Directory*. I think, if it is necessary to curtail the entries, the list of literary contributions might well be cut down, but all past medical appointments should most certainly be inserted, as they enable one to judge of a man's position and ability better than anything else in the book. I wrote to the editors on the subject, and received a most courteous reply in which they promised to give the matter their careful consideration; and I trust that now attention has been called to the subject in the BRITISH MEDICAL JOURNAL others may be induced to write to the editors of the *Directory* asking them to re-insert all past appointments, as I do not doubt that if a sufficient number did so the matter would be remedied.

DOSAGE OF STRYCHNINE SALTS.

IN a short article in the *Pharmaceutical Journal* of August 23rd, Mr. G. Lunan draws attention to the varying amounts of strychnine contained in different salts of this alkaloid, according to the molecular weight of the acid with which it is combined and the presence or absence of water of crystallization. Of the salts enumerated, the formate contains most strychnine (88 per cent.) and the arsenate least (69 per cent.); thus to obtain, for example, $\frac{1}{3}$ grain of strychnine, $\frac{1}{5}$ grain of the arsenate, $\frac{1}{3}$ grain of hydrochloride, $\frac{1}{3}$ grain of formate, etc., must be taken. The point raised is not without importance in calculating the dosage of these compounds, and the tables which are given show at a glance the equivalent quantities of the various salts of the alkaloid in common use.

WARNINGS.

A CORRESPONDENT who resides near Lowestoft recommends medical men, before giving assistance to a person describing herself as a nurse, of Lyndhurst, Sittingbourne, Kent, to make inquiries as to the genuineness of her story.

DR. BERNARD E. POTTER, of Park Street, Park Lane, W., desires it to be known that some person unknown to him, having apparently obtained possession of some of his visiting cards, has used one at least of them by writing on it a supposed message from Dr. Potter, and signing it with his initials. The card was left at the house of a medical man. The handwriting, though not the wording, suggests that the writer must have been educated abroad.

ERRATUM.

IN the JOURNAL for September 13th, p. 699, col. i, line 58, for "does necessarily" read "does not necessarily."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
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A whole column	3	10	0
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An average line contains six words.

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Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

A Lecture
ON
THE OPERATIVE TREATMENT OF INOPERABLE CANCER.

DELIVERED AT THE CANCER HOSPITAL, BROMPTON,
BY
CECIL ROWNTREE, F.R.C.S.,
ASSISTANT SURGEON TO THE CANCER HOSPITAL, AND ASSISTANT SURGEON TO THE SEAMEN'S HOSPITAL, GREENWICH.

THE treatment of inoperable cancer is too vast a subject to permit me even to touch upon many aspects of the question. For example, I have no time to refer to any of those innumerable methods suggested for the cure of cancer that we have submitted to us at this hospital nearly every day. Those of you who are interested in the "cancer enthusiast" will find on this table, in the shape of pamphlets, books, letters, etc., unmistakable evidence of the energy and abandon with which the search for a cancer cure is prosecuted. In each of them is claimed the relief or cure of cancer, whatever its nature or position, whether operable or inoperable.

What is inoperable cancer? What does the word "inoperable" signify? It is generally applied to those cases in which the growth is so large or so fixed, or in which metastases are so widespread that no operation that is compatible with life offers any promise at all of eradicating the disease.

It follows that the application of the terms "operable" or "inoperable" must be largely dependent upon the personal equation of the surgeon—and he is often wrong: indeed, roughly speaking, he is wrong in about 50 per cent. of his cases. For that, taking all types of cancer, is about the proportion in which recurrence takes place after a radical operation has been performed.

Conversely, a case condemned as inoperable by one surgeon may be operated upon with complete success by another who is more enterprising or more lucky.

However, I am not now concerned with cases about the operability of which there can be any difference of opinion. Only too often one meets with cases where there can be no question of the possibility of carrying out any operation of a radical nature.

We have at our disposal two methods of treating cancer when it has reached this stage: first, by the application of one or several of those experimental cures for cancer to which I have already alluded. But we should be neglecting our patients did we not at the same time undertake one or other of the well-recognized palliative methods of treatment which are directed to the relief of symptoms rather than to the actual cure of the disease. These methods are, of course, very numerous, and include such procedures as the administration of drugs or the destruction of nerves to control pain, the use of belladonna to diminish mucous discharge, the application of *x* rays, radium, or diathermy to control ulceration, and so on. But what I want specially to draw your attention to to-day is the operative treatment of inoperable cancer, which perhaps sounds paradoxical. But there is no paradox, for it is our application of the word "inoperable" that is unfortunate when what we really mean is "incurable." It is a pity that the word has ever been permitted to be used in its usual application, for it inclines us to take it too literally and say, "I am afraid the case is inoperable—I can do nothing," and this in spite of the fact that such measures as gastrostomy, gastro-enterostomy, cystostomy, and so on, are perfectly familiar to all of us as palliative operations frequently carried out in so-called inoperable cancer. But these operations are life-saving measures performed merely for the purpose of dealing with one or more of the effects of cancer. They do not encroach upon, indeed they do not influence the disease itself. The kind of operation for which I want to plead is one deliberately undertaken with the sole object of removing the growth itself or as much of it as possible, in the hope of relieving much of the patient's discomfort, but with no expectation at all of permanently curing the disease. I believe that we are not active enough in the treatment of inoperable cancer, and I am convinced that such operations have a far wider application than is generally accorded to them.

Cancer of the Tongue.

Ordinarily speaking, the life-history of a case of cancer of the tongue resolves itself into the history of the tongue itself—a history of ever-increasing pain and discomfort. So long as the growth is confined to the intrinsic muscles the discomfort is not great. There is some pain, a little difficulty with speech, some salivation: but so soon as the extrinsic muscles become involved—and in the majority of cases this is only a matter of weeks—the real suffering begins. Speech is more difficult, salivation is more profuse, and pain is aggravated by each attempt at speech or mastication or even swallowing. There is by this time a horribly offensive ulcer which is impossible to keep clean; and finally, worn out by pain and loss of sleep, and exhausted by septic poisoning, the patient falls an easy victim to bronchopneumonia, gangrene of the lung, or some similar affection. That is to say, some condition directly resulting from the offensive condition of the mouth.

Of 182 cases in which I ascertained the cause of death, in no less than 128 it was one of the above conditions. This teaches us, I think, that in cancer of the tongue, when not operated upon, most of the suffering and death itself are directly attributable to the local condition and to its septic concomitants.

Cancer of the Breast.

Dependent upon the position and nature of the growth and the size and shape of the breast, cases not operated upon ultimately reach a stage in which ulceration of the growth occurs, and the patient suffers first from the mechanical discomfort of the mass, and secondly is troubled by a copious discharge, usually most offensive. Finally, haemorrhage and septic absorption complete the picture and terminate life, death resulting in large part from septic processes.

Cancer of the Uterus.

In cancer of the uterus we have the same story—sloughing and disintegration of the growth, with haemorrhage, discharge, and septic absorption as the chief symptoms—symptoms almost entirely referable to secondary changes in the growth. And in a large percentage of the cases septic peritonitis, pelvic abscess, or ascending suppurative nephritis are the cause of death, rather than any considerable extension of the primary growth or multiplication of secondary deposits.

Duration of Life.

I need not multiply examples of types of cancer in which much of the suffering and many of the deaths largely or in part result from septic processes arising from the primary growth, but would compare with these such cases as periosteal sarcoma of bone, where ulceration is rare and the patients die of secondary growth. Or cases of carcinoma of the liver, where, although wasting may be extreme, the patient never gets into the dreadful condition found in uterine cancer, for example; because here there is no sloughing, and therefore none of the awful fetor and sepsis that accompany it.

In the former cases the patients have suffered and have died from sepsis and its concomitants rather than from cancer, and I am convinced that this is wrong and a reproach to modern surgery. Surely with all the methods now at our disposal such clinical histories and such deaths should not be possible. Few patients should be permitted to die of the primary growth alone; the number of secondary deposits ought to be in direct proportion to the excellence of our treatment, as they certainly are to the duration of the disease. I collected some figures which are of interest in this connexion; they are rough averages, but they serve to illustrate my point.

The average life of cases of cancer of th tongue, from first to last, when no surgical treatment is attempted, is fourteen months; the number of these cases in which metastases are found in internal organs is only 6 per cent.

The average total duration of cancer of the cervix uteri is twenty-one months. The percentage of secondary deposits in distant glands or internal organs is 15 to 20 per cent.

The total duration of cancer of the lip is twenty-four months, and the percentage of deposits in the lungs and elsewhere rises to 25 per cent.

While in cancer of the breast, with a total average life of three and a half years, the number of deposits is no less than 50 to 60 per cent.

It is very clear that with the increase in the average duration of life there is a corresponding rise in the number and complexity of the metastases; and this, I think, shows that a patient suffering from incurable cancer who dies with no secondary deposits, dies too soon by several months. I believe that life should and can be prolonged in many cases by palliative operations on the primary growth.

Cases are too few to enable me to give statistical results of palliative operations, but it is fair to draw deductions from cases in which ordinary operations have been carried out for disease which has recurred and ultimately killed the patient—that is to say, cases which, strictly speaking, were inoperable at the time of operation.

In cancer of the tongue, as already mentioned, the average life was fourteen months in cases not operated upon. In cases in which operation had been carried out, but where recurrence had killed the patient, it was seventeen months. A small gain, it may be said. But a far greater gain than is at first sight apparent, for no less than 44 per cent. of these cases remained absolutely free from any sign of recurrence within the month. Think what this means. Not only was life prolonged three months, but what a difference in that life—on the one hand, the intolerable misery of primary cancer within the mouth; on the other, the comparative comfort of secondary cancer in the glands or elsewhere.

In the case of the breast a much greater difference is found: Non-operated fatal cases, three and a half years; operated fatal cases, six years.

But mere prolongation of life is not my plea; it is increased comfort, or rather some diminution of the dreadful misery of inoperable cancer, that should be aimed at; and there are many types of cancer in addition to those already referred to that lend themselves to palliative operation. I may mention the excision of a large and painful sarcomatous testicle, even in face of irremovable abdominal metastases; the amputation of a limb rendered useless and unwieldy by inoperable periosteal sarcoma; the excision of a portion or the whole of the stomach in spite of the presence of infiltrated portal glands; the removal of the upper extremity when affected with the "brawny oedema" of breast cancer, or the performance of ovariotomy for cancer of the ovary even when wide abdominal metastasis indicates not far distant death.

Objections to Palliative Operations.

One of the criticisms levelled against these operations undertaken in cases in which death from the condition for which we operate must finally be inevitable, is the rather selfish one—that they are likely to lower the prestige of the art of surgery and of the surgeon who undertakes them.

This argument loses much of its force when it is remembered that the opinion of the general public as regards the surgical treatment of cancer could scarcely be less favourable. There is hardly a layman of my acquaintance who does not or who did not believe that "cancer always comes back after operation."

Even the most intelligent members of the general public will not realize that, generally speaking, it is only the unsuccessful cases that they hear about. Patients do not reveal the fact that they are suffering from or have been operated upon for cancer until concealment is no longer possible, with the result that the public hear little or nothing of the considerable proportion of cases—a proportion daily increasing and probably not less than 40 to 50 per cent.—in which early operation is followed by apparent cure. For this lack of knowledge—for which we ourselves are no doubt in part to blame—the public have to suffer. When they realize that every chronic ulcer and every painless swelling arising anywhere in the body of a person over the age of 35 years is much more likely to be cancer than anything else, and when they realize that in early and complete operation lies their only chance of cure, then the operative surgery of malignant disease will be able to show far better results than a proportion of 40 per cent. of cures.

Another matter for consideration is the surgeon himself. No surgeon cares to be associated with unsuccessful cases, but, none the less, we all have to be. But these cases are not unsuccessful. We set out to do a certain thing, after explaining its exact objects and limitations to the patient or the patient's friends, and we do it. We offer relief from the most distressing of the symptoms during the last remaining months of life, and we obtain it. This is success, not failure; and it is rare, indeed, that the patient is not grateful for what has been done.

What other arguments are adduced against these incomplete operations? What are their disadvantages?

It has long been held—every textbook teaches—that incomplete operations are dangerous and should never be performed; yet, in dealing with so-called operable cases, we pay no attention to this belief, although we know full well that a large percentage of our cases will recur locally. That is to say, our operations will turn out to have been incomplete.

It is true that operation occasionally seems to cause widespread diffusion of cancer, possibly from mechanical interference with the tissues, just as generalized infection is sometimes met with after operations for surgical tuberculosis. But there is no clear evidence that this rapid diffusion of growth is more frequent after operation in so-called inoperable cases than it is after operation in the early cases, and I therefore think that it is not a matter of importance. It is also said that local recurrence takes place quickly after these partial operations, and that the last state of the patient is worse than if nothing had been done at all. Local recurrence takes place in a certain proportion of cases after any kind of operation; but even in these cases, when recurrence takes place comparatively early, I do not believe that the condition of the patient is as bad as it would have been by that time, supposing no operation had taken place at all; and no one can deny that in many cases local recurrence never takes place at all—the patient dying a merciful death from visceral deposits after several or even many months of comparative comfort.

Advantages of Palliative Operations.

The advantages to be gained by these procedures can best be illustrated by showing you some cases in which they have been carried out.

CASE I.

When I first saw this patient there was a large ulcerated growth in the lower and inner quadrant of the breast, and extensive involvement of the axillary glands. The growth, which is well shown in the photograph (see p. 779), was fixed to the sternum, and the case was obviously one in which radical operation could not be attempted, particularly as Dr. Knox was able to demonstrate the presence of a mass of secondary growth within the mediastinum. The patient was quite unable to carry out her duties, and I accordingly performed a limited operation six weeks ago. The patient looks and feels comparatively well, and she is, of course, very pleased with the result. Even should local recurrence take place to-morrow, I believe she would still think that the comfort of the last few weeks had been well worth the pain and discomfort of the operation. The advantages gained in this case, which may be taken as a type, are obvious. The patient is freed from the mechanical discomforts occasioned by the mere mass of the growth; she is relieved of the necessity of constantly dressing the ulcerated surface; she is free from offensive odour; she is no longer being poisoned by septic absorption; and, for a little while at any rate, she will be able to continue her occupation as a machinist. In this case we demonstrated a deposit in the mediastinum, probably arising in the mediastinal glands. Such deposits extend rather slowly, I believe, and therefore, although the duration of this patient's life is very definitely limited, yet I think that she has several months to live, and it seems possible that during those months she will have no local recurrence.

CASE II.

The next patient came to me over two and a half years ago from another hospital where an operation was thought to be inadvisable owing to the extent of the disease. There was a very large tumour which had broken down on the surface, and was adherent to the pectoral muscle and to the ribs. The ulcerated mass completely prevented the patient from following her occupation as a monthly nurse, and I accordingly operated upon her. The wound quickly healed, and she returned to her work, which she has done ever since without much difficulty. Five months ago I found evidence of recurrence in the ribs and sternum; but the skin is still intact, although

there is a considerable mass in the chest wall. This patient has had two years at least of complete relief, and considering the condition she was in before I operated upon her, I think the result is highly satisfactory.

CASE III.

This patient was admitted to the hospital last May with a pelvic tumour, and much free fluid in the abdomen, which was much distended. When I opened the peritoneum several quarts of slightly blood-stained fluid escaped, and I found a solid malignant tumour of each ovary with numerous secondary nodules scattered throughout the peritoneum, including one the size of a fist in the mesocolon. In spite of these secondary deposits I determined to relieve the woman of the two large ovarian masses. She made a good recovery, and even now—nine months afterwards—she gets about quite well, whereas she was previously completely incapacitated. There is no actual evidence of any recurrence of the ascites, but the patient states that she thinks her abdomen has been getting a little bigger lately.

CASE IV.

The next patient was admitted to the hospital for a recurrence in the axilla, following upon amputation of the breast many years ago. The arm was in the condition of brawny oedema, and the poor woman suffered such acute pain that my colleague Mr. Swan performed interscapulo-thoracic amputation—removal of the limb with the scapula and the outer half of the clavicle. She is now quite free from pain and very grateful for the relief that she has obtained, although she bitterly complains that she can still feel the fingers of the amputated limb. It is not often that cases present themselves in which this operation is feasible, but when they do I think there should be no hesitation in performing it, for although the mutilation is great, the relief conferred is worth it.



CASE I.

CASE V.

(Mr. Rowntree next showed a specimen of sarcoma of the uterus, in which he had performed a very incomplete operation with considerable benefit.) The patient was admitted under the care of Mr. Ryall with intestinal obstruction and a large fixed pelvic tumour. In Mr. Ryall's absence I opened the abdomen and found a huge malignant growth of the body of the uterus, which had become cystic and was suppurating. The mass was adherent to and was obstructing the pelvic colon, and during manipulation the suppurating cavity burst and free bleeding took place. There seemed to be nothing to do but to attempt to remove the tumour as far as possible, and this I did, but had to leave large masses of growth which were infiltrating the pelvic cellular tissues. The patient was very ill for two or three weeks, but ultimately left the hospital soundly healed, with the prospect of some weeks at least of comparative comfort. I have not been able to ascertain the ultimate fate of this patient.

The tumour is very interesting, for it proved to be a small spindle-cell sarcoma. A good deal of it has been cut away in order to display the curious lobulated arrangement of the growth within the uterine cavity. Slender outrunners of the tumour have penetrated the large veins in the manner so typical of this form of sarcoma.

Palliative Operations on Secondary Deposits.

It does not always happen that it is the primary growth that causes the most suffering, and very occasionally the removal of secondary deposits gives much relief although the primary growth cannot be interfered with.

Last summer a patient was admitted to the chronic wards, under the care of Mr. W. Ernest Miles, with a diagnosis of inoperable abdominal carcinoma. It was found that there was a large pelvic tumour with much free fluid. As Mr. Miles was away, I opened the abdomen, and discovered a large solid tumour springing from each ovary. I recognized that they were probably of metastatic origin, and, after removing them, explored the abdomen for the primary growth. Rather to my surprise—for there had been no gastric symptoms—I found a large mass involving the greater curvature of the stomach, and so extensive as to be quite irremovable.

The patient made a good recovery and left the hospital very much relieved, to die three months later of the stomach condition.

Selection of Cases for Palliative Operations.

It must not be supposed from what has gone before that such operations as I have described are to be recommended in each and every case, irrespective of the extent and nature of the disease. Far from it; for each case requires most careful consideration in the light of a full knowledge of the natural history of the particular type of cancer concerned.

Such knowledge is not at present to be got from text-books. It is only to be obtained, I believe, by constant observation of the disease in all its stages in some institution such as this, and by constant attendance in the *post-mortem* room. Experience so gained is of the greatest possible value when attempting to form an estimate of the probable routes of extension of the disease, and of the probable duration of life.

Mr. Rowntree showed a patient with two large cutaneous masses in the axilla following upon amputation of both breasts some two years ago. It might be thought that such a condition was suitable for a palliative operation, but experience proved that deposits of this particular kind grew very slowly, and took a long time to break down. Moreover, when ulceration occurred it was superficial, and occasions no especial suffering. But there was more than this. Dr. Knox's beautiful instantaneous radiogram showed that there was an irregularity in the outline of the liver pointing to a deposit there, and distinct evidence of a mass of secondary growth at the root of each lung.

These thoracic deposits would terminate the story long before the axillary masses had commenced to give very much trouble; and there was, therefore, no indication or justification for an operation of any kind.

A skiagram was shown of a patient who came with a large inoperable growth on the face which was about to ulcerate. The question of palliative operation was considered in order to relieve the patient of some of the discomfort that the inevitable breaking down of the growth would occasion. Dr. Knox took a skiagram, in which it was seen that each lung was studded with nodules of secondary growth, which must cause death within so short a time that an operation would serve no useful purpose.

These skiagrams, so far as I am aware, are among the first in which secondary deposits within the chest have been demonstrated, and the information that Dr. Knox is able to obtain for us is of the very greatest assistance in our work.

This is the evidence in favour of the performance of limited operations for the alleviation of incurable cases of cancer. I am aware that it is very fragmentary, and I believe that any one with larger experience would have been able to put a very much more convincing set of facts before you; but, so far as it goes, I think it shows, first of all the kind of cases in which a limited operation is desirable, and secondly, what benefit can be obtained by such an operation.

I hold the opinion very strongly indeed that at present we do not do enough for our cases of advanced cancer, and I am convinced that the immediate future holds out a good deal of promise as regards the palliation of this miserable condition. An important preliminary to this should, I think, consist in the banishment of the dreadful sense of hopelessness and finality that the present usage of the word "inoperable" creates.

It is perhaps hardly necessary to refer to the question of diagnosis; but it is important to make quite certain first of all that the case is cancer, and secondly, that it is

inoperable. Every method of examination and every means of diagnosis must be exhausted.

Soon after I began to be specially interested in cancer I made a necropsy upon a case that had been diagnosed and treated and allowed to die as inoperable cancer of the uterus. At the *post-mortem* examination I found the vagina greatly distended by a huge growth which was attached to the cervix uteri by the narrowest possible pedicle. If the patient had been examined under an anaesthetic the condition of affairs would have at once been obvious, and she could have been completely cured by the most simple operation.

Technique.

In connexion with the technique of these operations, there are several points of importance. First and foremost, it must be remembered that a radical operation is not being attempted, and that methods that would be adapted to a radical operation are quite out of place. In the case of the breast, for instance, there is no necessity for wide sacrifice of skin, no reason for extensive undermining of the flaps, and often no indication for removal of the pectoral muscles.

It suffices to remove the breast with all obvious growth as far as possible. The wound is then covered in with thick, healthy flaps, which will not be penetrated easily by any growth that may have been left behind in the chest wall. Difficulties with the flaps may, of course, arise when the growth is very large or when it is in an unusual position, but this is exceptional. In breast cases I lay great stress upon thickness of the flaps, as I am convinced it is a safeguard against efflorescence of the growth later in the disease.

The same rule holds good, where possible, in dealing with other sites. For instance, in amputating a leg for inoperable sarcoma of the tibia or lower end of the femur, the line of section should be just above the growth, not necessarily at the hip-joint, for obviously it would be absurd to perform such a serious and such a crippling operation as amputation at the hip-joint for a condition in which cure is absolutely out of the question. Again, in cancer of the tongue, a simple Whitehead operation—the mortality of which is very low—is all that is indicated in those cases where radical measures are not possible. I might multiply examples; but there is no object in doing so, so long as the main principle is remembered: that what one is aiming at is the removal of a maximum amount of disease with a minimum disturbance of healthy tissues.

In all these operations there are two dangers that must be carefully guarded against. One is septic infection of the wound, and the other infection of the wound with cancer cells. The danger of septic infection arises from the fact that ulceration is usually present. Organisms permeate not only the tissues of the growth itself, but are also present in the lymphatics draining the area. It therefore follows that even if infection from the surface be avoided, it may yet arise from the organisms in the deeper tissues. When the ulceration is of small extent the application of tincture of iodine, followed by a layer of collodion, will efficiently guard against any danger arising from this source. When the ulcer is more extensive it is perhaps wiser to go over the surface with the actual cautery immediately prior to the operation. In the later stages of the operation it is well, I think, to flush very thoroughly with warm saline solution, which mechanically removes any organisms lying in the wound. Antiseptics I never use for this purpose, because I believe that they do more harm than good by lowering the vitality of the tissues. The wound should be carefully dried before it is closed, and ample drainage should be provided for.

The danger of cancer infection is more difficult to guard against, for, as my senior colleague, Mr. Charles Ryall, has pointed out, cancer cells may easily be disseminated in a wound and give rise to little deposits of secondary growth, even in stitch holes or the openings for drainage tubes. Copious flushing of the wound and the avoidance of too much handling of the tissues are probably the best means we have of reducing this danger to a minimum.

THE opening of the winter session at the Leeds School of Medicine on October 1st will be marked by the delivery of an address by Professor Sherrington, F.R.S., Holt Professor of Physiology at the University of Liverpool.

THE REACTION OF THE BLOOD SERUM AS AN AID TO THE DIAGNOSIS OF CANCER.

BY

W. D. STURROCK, M.A., M.D.(OXON.),

A PAPER published by Moore and Wilson[6] in 1906 gives the results of their estimations of the alkalinity of the blood serum of cancer patients, as compared with that of healthy persons and of patients with other diseases.

The estimations determined the reactions (1) of the serum to phenolphthalein, (2) of the serum to dimethyl,* (3) of the inorganic salts of the serum to dimethyl. The phenolphthalein results were negative, but the dimethyl results indicated a definite increase in the alkalinity of the serum of cancer patients.

Moore and Wilson were led to this research by the hypothesis which Moore and his collaborators[7,8] had suggested to explain results obtained in previous research on the amount of free HCl in the gastric juice of patients with cancer of any part of the body. They had found that the free HCl was as definitely reduced in cancer of other parts of the body as in cancer of the stomach,† and therefore concluded that the well-known reduction in this latter condition could not be due to local causes, but might, in common with the reduction in other cases be due to "a change in the concentration in hydrogen ions in the plasma and lymph."

It is at once evident that if a definite increase in the alkalinity of the serum can be detected in persons with cancer a valuable aid to diagnosis is secured, and the present paper represents an attempt to determine whether the reaction will lend itself to clinical work. West Watson[12] has published the results of a similar attempt, and his work certainly appears to justify the hope that diagnosis may be helped. I have, however, seen no further records of work on the subject. Moore and Wilson only touched incidentally on the possible clinical value of their work.

Moore and Wilson's second method—estimation of the reaction of the whole serum to dimethyl—appeared the most simple, and therefore, if applicable, the most desirable; the third method—estimation of the reaction of the inorganic salts of the serum—involves processes of evaporation and incineration, and is therefore, *caeteris paribus*, less well adapted to clinical purposes. It still remained, however, if the selected method proved inapplicable, and it must be mentioned that Moore and Wilson had themselves noted it as, perhaps, the more accurate.

It must be remembered that physical methods are at present of little value in determining the comparative reactions of complex physiological fluids such as the serums of different persons; serum is neither measurably alkaline nor measurably acid to such methods. Methods of colour titration, at the same time, have two noticeable drawbacks: (1) The estimations are purely comparative, and no attempt can be made to determine absolute values. The turning points of the different indicators have very different relations to true neutrality, and they are even more widely separated with physiological fluids than with solutions containing free acid or alkali; blood serum is acid to phenolphthalein and alkaline to dimethyl. (2) The colour changes (with blood serum) are so gradual that it is impossible to determine any definite point of change in an ordinary titration; all that appears possible is to mix samples of serum with samples of acid or alkali of different strengths, and determine what strength of acid or alkali is needed to turn the indicator employed.

The results given in this paper make no attempt to show the absolute reactions of the given serums, but merely to show that some serums are *more alkaline to dimethyl* than others.

Technique.—Any improvement in technique is obviously of definite value; the method here described is based on that of Moore and Wilson, but contains several modifications which, I believe, increase its clinical value. I examined many cases by Moore and Wilson's method, but found definite results so difficult to obtain that I was driven to try and alter the technique.

* Dimethyl-amido-azo-benzene.

† This work has been criticized by several writers, notably by Copeman and Hake,[4] to whom Moore[7] has replied. The latter's work has also been supported by Morton Palmer,[9] and others.

Collection of Blood.—The veins of the forearm are engorged, a suitable vein is chosen, and the overlying skin purified; the vein is then punctured with the needle of an antitoxin syringe, and the issuing blood collected in a small test tube of capacity about 3 c.cm. The tube is rather more than half filled and the mouth closed with a plug of cotton-wool.* It is then left in a vertical position for twenty-four hours, and afterwards centrifugalized to obtain clear serum. To avoid excessive evaporation the tubes are left in well-fitting tin boxes in a cupboard; this has been found quite sufficient, but it might be well to use close-fitting rubber stoppers.

Preparation of Acid Solutions.—A series of dilutions of normal sulphuric acid is prepared and kept in well-stoppered bottles; the dilutions run in series as follows: $\frac{N}{4}$, $\frac{N}{4.5}$, $\frac{N}{5}$, etc., to $\frac{N}{7}$, and are thus seven in number. They must be tested from time to time against sodium carbonate of known strength, and should be found to remain constant for a considerable time. When required for use, a small quantity of acid is, after shaking, poured into a watch-glass or, preferably, a small glass staining dish.

Titration.—Two drops of a 1 per cent. alcoholic solution of dimethyl are dropped on a filter paper. A small quantity of distilled water is then drawn into a capillary pipette, a bubble of air allowed to follow, and, after this, serum drawn as far as a mark about 3 cm. up the pipette; a second bubble of air is then admitted, and, finally, the particular acid solution required is drawn up to the same mark. The pipette now contains equal quantities of serum and acid and a trace of distilled water. The contents are blown out on to a porcelain slab, thoroughly mixed by aspiration, and finally blown out on to the centre of the dimethyl drop. If no pink colour appears† in the centre of the yellow drop, the process is carried out with stronger acid solution till the pink change first occurs. If, on the other hand, pink appears at the first attempt, weaker acids are used until the change is no longer obtained. The dilution which gives the first pink reaction is taken as the index; if, for instance, pink appears with $\frac{N}{5}$ acid, but not with $\frac{N}{5.5}$, the alkalinity to dimethyl of the serum is reckoned as equivalent to $\frac{N}{5}$ or 0.200 N.

To prevent absorption of alkali from glass, all the glass materials used are subjected to immersion in strong HCl, are afterwards thoroughly washed in distilled water, and finally dried in an oven at 110° C.

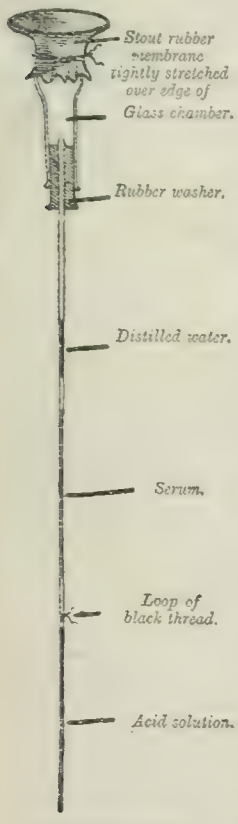


Diagram of pipette.

Only two of my departures from Moore and Wilson's technique need any notice.

(1) *Collection of Blood.*—Moore and Wilson collected their blood in Wright's capsules, the ends of which were afterwards sealed in a Bunsen flame. Loss by evaporation is thus prevented, as also is any slow action of the air, and controls were therefore necessary before adopting the method described above. In 6 cases the blood was collected by both methods, and in all 6 cases the readings for the two methods were precisely the same. Drawing blood from a vein is, I think, slightly simpler for the operator and less painful to the patient than the use of Wright's capsules.

(2) *Titration.* — Moore and Wilson added a fixed quantity of indicator to each of their acid bottles, and obtained their results by inspection of the mixture of serum and acid and indicator blown out on a white slab, and at first I followed this technique. Preliminary experiments with solutions of sodium carbonate of known strength in place of serum gave extremely clear readings, but with the serum itself I found accurate readings even more difficult than I had expected, and after many attempts I concluded the reactions were not sufficiently definite to justify their use in clinical work.

I therefore tried the filter paper method, using solutions of dimethyl of strengths varying from 0.001 per cent. to 2 per cent., and I finally used the strength of 1 per cent. It is clear that the use of so much indicator violates the laws of good titration, and that nothing but results can justify it. It must be borne in mind that in the present instance the results aimed at are purely *comparative*, and that nothing in the way of absolute determination of reaction is desired; that the 1 per cent. solution was only adopted after proper trials of other strengths (and, I may add, of other indicators); and that for present purposes a working clinical method is the main object of consideration. With these facts remembered, I believe that the results obtained by the 1 per cent. solution will justify its use, for a clear reading can nearly always be obtained.

The pipette figured in the diagram deserves a short mention; the improvements are of minor importance, but I believe that they conduce to accuracy. The diagram explains itself, and it is only necessary to say that the rubber membrane must be fairly stout; a fresh capillary tube can be slipped into the washer for each series of titrations, and a small loop of black thread affords a clearer mark than the traditional blue chalk. With this pipette the most inexpert person can control his solutions with complete ease and accuracy.

The following tables give the results so far obtained:

It will be seen that the average alkalinity of the cancer series is 0.190N, and is, therefore, appreciably higher than that of the non-malignant—that is, 0.175N. Averages, however, are of little value in attempts to diagnose individual cases.

It appears that a reading of 0.200N or over affords some presumption of the presence of cancer: and it is, in my opinion, sufficient to justify an exploratory operation in doubtful cases. It must be particularly noted that the high reading is most likely to be obtained in early cases

TABLE I.—*Reaction of Blood Serum in 24 Cases of Cancer.*

No.	Sex.	Age.	Diagnosis.	Alkalinity to Dimethyl.	Remarks.
1	M.	59	Cancer of axilla	0.200N	Recurrent.
2	M.	65	Cancer of larynx	0.222N	No microscope.
3	F.	50	Cancer of breast	0.200N	—
4	F.	50	Cancer of breast	0.182N	—
5	F.	43	Cancer of breast	0.200N	—
6	F.	67	Cancer of uterus (cervix)	0.200N	—
7	F.	56	Cancer of breast	0.200N	—
8	F.	30	Cancer of both breasts	0.182N	Very early.
9	F.	51	Cancer of uterus	0.182N	—
10	M.	46	Cancer of stomach	0.182N	Free HCl present in gastric juice.
11	M.	55	Cancer of jaw	0.200N	Spheroidal celled, undergoing colloid degeneration.
12	M.	67	Cancer of cervical glands	0.182N	Secondary to cancer of lip removed 12 months before.
13	F.	37	Cancer of uterus (body)	0.200N	—
14	F.	56	Cancer of stomach	0.200N	—
15	M.	70	Cancer of lip	0.200N	—
16	F.	48	Cancer of axillary glands	0.182N	Right breast 11 years previous; left breast 5 years previous.
17	M.	46	Cancer of neck	0.182N	Sarcoma.
18	F.	43	Cancer of left ovary	0.166N	Anaemic.
19	F.	47	Cancer of uterus (cervix)	0.200N	Very early.
20	F.	52	Cancer of breast (duct cancer)	0.166N	Anaemic.
21	M.	72	Cancer of lip	0.166N	Anaemic.
22	F.	48	Cancer of breast	0.166N	—
23	M.	48	Cancer of stomach	0.200N	No free HCl; no microscope.
24	M.	66	Cancer of rectum	0.182N	Colotomy; no microscope.
			Average	0.190N	

* To avoid the influence of the alkaline tides of digestion I made all my collections between the hours of 11.30 and 12.15 in the morning, the last meal having been finished about 9 o'clock.

† In order that the time relations of the various titrations may be the same, the *immediate* colour effect is alone considered.

TABLE II.—*Reaction of Blood Serum in 21 Non-Malignant Cases.*

No.	Sex.	Age.	Diagnosis.	Alkalinity to Dimethyl	Remarks.
1	M.	35	Healthy	0.165N	—
2	M.	31	Healthy	0.182N	—
3	M.	17	Varicocele	0.182N	—
4	M.	29	Varicocele	0.165N	6 days after operation, 0.165N.
5	M.	20	Varicose veins	0.182N	8 days after operation, 0.182N.
6	M.	20	Varicocele	0.165N	9 days after operation, 0.165N.
7	F.	50	Dyspepsia	0.165N	—
8	F.	47	Dyspepsia	0.182N	—
9	F.	48	Gall stones	0.182N	—
10	F.	63	Pernicious anaemia	0.165N	Haemoglobin, 25 per cent.
11	M.	50	Tuberculous hip	0.165N	—
12	M.	55	Gall stones	0.165N	—
13	M.	42	Varicose veins	0.182N	6 days after operation, 0.182N.
14	M.	27	Inguinal hernia	0.182N	—
15	F.	18	Diabetes	0.166N	Urine contains di-acetic acid and acetone.
16	F.	45	Phlebitis	0.166N	—
17	M.	40	Malaria and dysentery	0.153N	—
18	M.	36	Lipoma of back	0.182N	—
19	M.	33	Colitis	0.166N	—
20	M.	28	Appendicitis	0.182N	—
21	F.	32	Endometritis	0.18 N	—
			Average	0.173N	

TABLE III.—*Six Doubtful Cases.*

No.	Sex.	Age.	Diagnosis.	Alkalinity to Dimethyl.	Remarks.
1	M.	52	? Cancer of oesophagus	0.182N	—
2	M.	48	? Cancer of stomach	0.200N	—
3	M.	55	Cancer of tongue and cervical glands, removed 18 months previously. No signs of recurrence	0.166N	—
4	F.	37	? Cancer of uterus	0.200N	—
5	M.	51	? Cancer of oesophagus	0.182N	—
6	M.	33	? Cancer of pancreas	0.182N	No free HCl in gastric juice

in which the general metabolism is not seriously disordered—that is to say, in precisely those cases in which the diagnosis is most likely to be obscure, and in which early operation is most likely to benefit the patient. The reaction is obviously of little value in the superficial cancers—as of the tongue and cervix uteri—when tissue can be obtained for microscopical examination. There still remains, however, the large group of deep cancers, notably of the breast, stomach, and body of the uterus.

The figures 0.200N or 0.222N appear twelve times out of twenty-four in the first table, but not once in the 21 cases of the second. It can scarcely be hoped that they will never appear in records of non-malignant cases; but I have not yet obtained them, except possibly in the two cases in the third table which give the figure 0.200N. It must be noted that the word "doubtful" signifies "*still* doubtful." Many of the other readings were obtained before the clinical diagnosis was certain.

The clinical evidence points to both of the two above-mentioned cases being malignant, but it would obviously be incorrect to consider them as such till the diagnosis is clear; their subsequent histories will be of some importance, and I regret that I cannot yet speak with certainty of them.

While the high figures afford some presumption of the presence of cancer, it is quite clear that low figures do nothing whatever in the opposite direction; I believe that further work may bring a much larger proportion of cancer cases into line, but for the present any suggestion whatever of a negative diagnosis would be unjustifiable.

A careful study of Moore and Wilson's and West Watson's figures will show that they suggest similar deductions. West Watson makes a distinction between "advanced" and "inoperable" cases; such a distinction is very arbitrary and must be extremely difficult to draw, but I believe, nevertheless, that his point—that in advanced cases the increasing anaemia masks the altered reaction to dimethyl—is important. It is possible that a classification based on haemoglobin estimations may be useful: such a classification would still be very arbitrary, but it would at least be easily made.

I have purposely discussed my results very shortly, because it is clear that they are at present far too incomplete to justify definite conclusions. I hope later to have the opportunity to extend them. If the presence of a change in reaction of cancer serums to dimethyl or other indicators is confirmed, it opens up two very wide questions: (1) What is the chemical nature of the change? and (2) What is the cause—whether antecedent to, or produced by, the development of the cancer? It is impossible to do any work on the subject without considering these questions; but here, again, my views are at present too nebulous to merit quoting. For those interested in the subject it is necessary to read in full the extremely lucid and interesting papers of Professor Moore and his collaborators; suggestive facts will also be found in the writings of Grawitz,[3] Mottram,[8] and Royle.[10,11] The fullest bibliography that I know on the subject of estimation of the reaction of the blood on blood serum will be found in the article by Dr. Mercier Gamble[2] in the *Journal of Pathology* for 1906.

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SARCOMA OF THE UTERUS.

BY

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SARCOMA of the body of the uterus being a rare disease, the following notes may be of interest:

A married lady, aged 46, consulted me about excessive menstruation. She had been quite regular until about twelve months earlier, when the periods became irregular and there was an excessive loss of blood. There was no intermenstrual leucorrhoea. She appeared markedly anaemic, with a peculiar yellowish tinge, almost suggestive of pernicious anaemia. Although married for twenty years she had never been pregnant. There was no loss of flesh, and a thick layer of abdominal fat prevented detailed palpation.

Vaginal examination revealed an enlarged uterus, not, however, reaching above the pelvic brim, but feeling broader and harder than normal.

As the patient seemed so anaemic, and there were anaemic bruits over the mitral and pulmonary areas, and as she suffered agonizing pain every few weeks when semi-solid masses of material like blood clots were expelled from the uterus, hysterectomy was advised. I found that the temperature at night varied from 99° to 100° F. A diagnosis was made of sloughing fibroid, infecting the peritoneum and causing pain and rise of temperature.

Although the patient was in a poor state of health, removal of the uterus seemed her only chance, and she entered our nursing home, where, with the valuable help of my colleague, Dr. J. B. Hughes, I did a supravaginal amputation of the uterus. The operation proved difficult. The omentum was adherent to the fundus of the uterus and to the ovaries and Fallopian tubes.

Both tubes were inflamed and much enlarged. The uterus was about 4 in. long and 3 in. to 4 in. in width. It felt of stony hardness, and on its peritoneal surface were three hard masses as big as large peas. It extended well into the pelvic peritoneum on either side. After separating all adhesions, I first removed both tubes and ovaries, and then by strong traction on the fundus with a broad volsellum tied off the broad ligaments and uterine arteries and excised the supravaginal portion of the

uterus. The peritoneal flaps were stitched together, the cavity carefully dried, and the abdominal wound closed.

She made an uninterrupted recovery and went home at the end of a fortnight. On slitting the uterus up a mass of sloughing tissue was seen half embedded in the wall, and half projecting into the uterine cavity. It was about the size of a small Tangerine orange. The half of the uterus containing the sloughing tumour was sent to the Clinical Research Association, and the following report was furnished: "This is a malignant growth arising in the endometrium and having the characters of a round-celled sarcoma. It is made up of rather large cells enclosed in a delicate stroma with thin-walled vessels, and is infiltrating the muscle. It is not in the least like a fibromyoma."

Hart and Barbour state that sarcoma of the uterus is extremely rare. Gessner in his article on sarcoma uteri, in Veit's *Handbuch d. Gyn.*, states that he found only 18 sarcomata in 9,133 cases. Roger Williams found only 2 sarcomata in 2,649 uterine tumours.

The diagnosis of the condition is not easy. In this case pain at intervals was a marked feature, and was of the character described by Gusserow as "intense and rending." Clay and A. R. Simpson, however, state that the absence of pain is a marked feature of sarcoma as opposed to carcinoma.

The absence of the "free rice-water discharge" was noteworthy, though during the later stages the blood-clot-like masses which were expelled would probably have shown sarcoma cells if they had been microscopically examined. The peculiar cachexia certainly suggested malignant disease, but the excessive loss of blood and severe attacks of pain appeared to account for that condition. Had I suspected malignancy at the time of operation I would certainly have done total hysterectomy.

THE AUTOPLASTIC OVARIAN GRAFT AND ITS CLINICAL VALUE.*

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A YEAR ago I showed before the Birmingham Branch of the British Medical Association a patient upon whom I had performed heteroplastic ovarian grafting—that is, the transplantation of the ovary from one patient to another. Shortly after reading this paper an opportunity occurred of trying the effect of an autoplastic graft; in other words, the transference of ovarian tissue from its normal position in the pelvis to a site elsewhere in the same subject. The result of this experiment has so far been entirely successful.

The details of the case are as follows:

The patient, aged 29, was sent into the General Hospital, Birmingham, by Dr. Branday of Handsworth on April 3rd, 1912, with a history of repeated attacks of pelvic inflammation. The woman had been confined to bed for one or two months with severe pain during each year for the three years previous to admission. Dysmenorrhoea had been severe for the last two years, following the birth of her last child. During this time the catamenia had been regular.

On admission the patient looked anaemic and ill and was considerably wasted. Bimanual examination showed that the uterus was fixed by adhesions, and that a very tender rounded swelling was present in the region of each uterine appendage, occupying the corresponding posterior quadrant of the pelvis.

Operation.

On April 4th, 1912, I performed laparotomy through a vertical 4 in. incision over the right rectus muscle, and found both uterine appendages in a condition of severe chronic inflammation; in fact, far too advanced for any conservative measures to be employed. The right ovary was the seat of a suppurating lutein cyst, the size of a small orange and was firmly adherent to the corresponding Fallopian tube. The left ovary was strongly bound down to the left tube and had to be removed with the latter, which was also chronically inflamed. The uterus, although presenting numerous adhesions on the peritoneal aspect, appeared normal, and was left *in situ*. Both uterine appendages were removed, but before the abdominal wall was closed, a portion of the left ovary was grafted into it. The healthy half of the organ was cut into minute fragments, and these were scattered into the sub-peritoneal connective tissue and within the rectus muscle and rectus sheath. Care was taken never to remove the grafted material from the body fluids. Until it was required, it was allowed to remain in Douglas's pouch. The abdominal incision was closed in layers and no antiseptics were applied to the wound.

The patient made an uninterrupted recovery and the incision healed by first intention. No undue tenderness has been noticed by the patient in the line of the incision either during convalescence or since.

After-History.

The after-history of the patient is quite satisfactory, and it appears certain that some of the ovarian grafts have established themselves and are functioning. I heard no more of her until the end of January, 1913, when I communicated with Dr. Branday, and he very kindly made arrangements for me to examine her. The patient told me that she had not suffered from any "flushing," palpitation, or nervous phenomena usually associated with the artificial menopause. The most important evidence, however, consists in the menstrual history since operation. The first period occurred from April 6th to 16th, 1912, commencing two days after the operation, when it was normally due. The next period began two months after leaving the hospital and lasted ten days. The following period occurred three months later, lasting six days. On January 12th, 1913, a normal period occurred, and on February 13th uterine haemorrhage again commenced. The last three periods have occurred at monthly intervals, and it appears, therefore, that regularity is established. During the catamenia rather severe headache has been present, but this has not been noted at other times. No dysmenorrhoea has occurred, and there has been no tenderness in the abdominal scar during the periods.

Inquiries as to the sexual life since operation showed that no dyspareunia is present, and that the sexual functions are exercised in a perfectly normal manner.

The case has not been recorded until almost a year after the operation in order that a fair estimate might be made of the result. So far this is as satisfactory as could be desired. Various criticisms may, of course, be urged against the acceptance of the graft as the cause of success. It is well known, for example, that even after double oöphorectomy menstruation may continue for a few months. It rarely continues, however, as long as ten months after the operation, and furthermore, the periods progressively decrease in duration. In the present case there is certainly no diminution, and, if anything, the flow is excessive. Again, it may be asked whether the uterine haemorrhage is really of the nature of menstruation. The periodicity and the association of molimina in the form of headaches certainly strongly favour this view. The point may be settled by an examination of the menstrual fluid, and the demonstration in the same of an excess of calcium salts and absence of fibrin. This investigation will shortly be undertaken. Another criticism may be offered in the suggestion that all ovarian tissue was not removed from the pelvis, and that it is particularly easy to leave a portion or an accessory ovary when numerous adhesions are present. In the case here recorded I am inclined to think that this fact need not be entertained. The uterine appendages were removed without difficulty, the right ovary was replaced entirely by an abscess cavity, and the left organ was adherent to the corresponding Fallopian tube only and not to the neighbouring viscera. At the time a careful search was made for any displaced ovarian tissue or accessory ovary, and none was seen as far as macroscopical appearances were concerned.

Literature.

The subject of ovarian grafting is a fascinating one, and I am convinced that it can take a very definite and important place in gynaecological surgery. The literature upon the subject is scattered, but is yearly increasing in amount, and a sufficient number of authentic cases are now recorded to prove that autoplastic grafts can be successfully made, and that for a time at least they will functionate. The work of Scott Carmichael of Edinburgh,[1] Higuchi of Tokyo,[2] Nattrass of Melbourne,[3] and others, has proved that in animals, especially in the dog and rabbit, it is possible to transplant ovarian tissue, and that the grafts are usually successful in producing the specific internal secretion. Nattrass's[3] experiments are extremely important in this respect. He was able in the case of the rabbit to transplant ovarian tissue into the subcutaneous tissues, and on to the peritoneum, kidney, spleen, and periosteum. At first, fatty degeneration of the stroma cells takes place, and it appears that this occurs in inverse ratio to the vascularity of the tissues into which the graft is made. When the tissue is examined at a later period, absorption and repair of the pathological products has occurred, and the production and maturation of Graafian follicles takes place. That the transplanted organ exerts its influence

* A paper read before the Birmingham Branch of the British Medical Association.

over the sexual function has been proved by the same author in the case of a fox-terrier bitch, in which oestrum was observed several times, and the ovary was found to contain large Graafian follicles 370 days after the grafting had been performed.

Evidence is not lacking, moreover, that grafting may be successfully accomplished in the human subject. Franklin H. Martin[4] has published the histories of six patients who continued to menstruate after transplantation of the ovaries; and Davidson[5] has recently recorded before the Edinburgh Obstetrical Society the case of a patient who began to menstruate three months after the operation and has continued to do so since without either local or pelvic pain. To those interested in the subject the valuable monograph of Sauvé,[6] published in 1909, may be recommended as containing a full account of the history and earlier experiments in this field of investigation.

"Seedling" Grafts.

In almost all cases recorded in the literature, with the exception of those of Scott Carmichael, the graft has consisted of the whole or a very large portion of the ovary. I am inclined to think that much greater success will attend the use of small portions of tissue, as is done in the case of the thyroid and other glandular tissues. Because the ovary is a small gland, it does not necessarily follow that it can be lifted bodily and placed in a new position. The vitality of the tissue is much more likely to be maintained if "seedling" grafts are made. Furthermore, the chances of success are proportionately increased by the number of grafts made.

Site of Implantation.

As regards the site of implantation, my own preference is for the rectus muscle and subperitoneal tissue. The reasons for this are as follows: In the first place, a good vascular supply is assured; secondly, the grafting may be most easily accomplished in this position, and involves very little increase in the time of the operation; lastly, should the graft require removal at any time, either from late suppuration or the development of a neoplasm, it may be reached easily and without the risk of opening the peritoneum. Further observation, of course, must show in what proportion of cases it is necessary to interfere at a later period for morbid changes occurring in the graft. So far as published records point, this eventuality is extremely slight.

Indications.

The indications for ovarian grafting will naturally be limited. One of the most important uses for the operation is indicated in the case recorded earlier in this paper—namely, as a conservative measure when it is necessary in a young woman to remove both uterine appendages for old-standing inflammatory disease without having to sacrifice the uterus.

Opinions will undoubtedly differ as to the proportion of cases in which this is possible. Undoubtedly a large number of cases occur where the uterus has to be removed with the appendages. Nevertheless, it is remarkable sometimes how rapidly and completely adhesions disappear when the inflammatory foci in the tubes and ovaries are removed. Furthermore, observations that I have recently made upon the bacteriology of the uterus in cases of chronic pyosalpinx have led me to believe that the endometrium is, as a rule, sterile, and therefore I have no compunction in leaving the uterus in such cases, especially when it may be possible to graft ovarian tissue into the abdominal wall. Another indication which I put forward as a suggestion is the possibility of transplanting fragments of ovarian tissue in cases of severe dysmenorrhoea. Instances of most intense menstrual pain undoubtedly occur where the source of discomfort lies, not in the uterus, but in the ovaries. Curetting and drugs rarely cure such patients, and if an examination is conducted during the height of the attack the ovaries can frequently be palpated as extremely tender bodies occupying the posterior quadrants of the pelvis. In more than one case oöphorectomy has been and is still practised for this condition, and I know of instances where panhysterectomy has been performed. A cure is undoubtedly effected thus, but may not it be possible to bring about the same result without unsexing the patient, by substituting ovarian grafting? Many of these patients are young women, and it appears more rational to attempt a cure by conservative measures rather than acknowledge the failure of our art by subjecting the patient to a radical operation in which she loses those very organs which produce the hormones characteristic of her sex.

Conclusions.

In conclusion may be summarized those points which I regard as essential to the success of a grafting operation:

1. Absolute asepticity and the avoidance of strong antiseptics which would destroy the vitality of the tissues. The apparent contradiction to this maxim in the case of chronic pyosalpinx and salpingo-oöphoritis is met by the fact that the pus in such cases is usually sterile, and the tissues may be treated as surgically "clean."
2. The employment of minute or "seedling" grafts.
3. The presence of a good vascular supply in the tissue used as the bed for the graft. Muscle is entirely satisfactory for the purpose.
4. The ovarian tissue should be left in contact with the body fluids within the peritoneal cavity until it is required for the purposes of the grafts. In the case recorded in this paper the ovary was placed in Douglas's pouch until the time arrived for closure of the abdominal wound.

The object of this communication will have been attained if it serves to draw attention to the investigations of the various workers in this field throughout the world, and to the possibilities that underlie the wider adoption of the principle. Laboratory researches have already demonstrated the success that may be obtained, and it now remains for the gynaecological surgeon to apply these results, to glean fresh details from the after-results of his operations, and to formulate indications for the future employment of this branch of our art.

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NOTES OF A SUPPOSED CASE OF PELLAGRA.

BY

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THE patient, James K., is a farmer, aged 66, residing some five or six miles from Belfast. He has generally been healthy, but has been liable all his life to frontal headaches, lasting one to two days, with relief after vomiting. For the past three or four years he has consulted Dr. Reid during spring and autumn for a dermatitis resembling eczema on the back of his hands and on the chin and parts about the mouth. This spring and summer the condition became much worse, especially on the hands; the back of the hand down to the finger-tips became brawny and much darker in colour; they had, he said, been black since May, and the discoloration had been most marked during the fortnight before he came under observation; the palms were free; there was desquamation at intervals of the skin of the nose and chest, and Dr. Reid suspected pellagra. The patient was seen by Dr. Calwell on July 15th, 1913, and subsequently in hospital in his skin clinic.

The patient's intelligence is good, but his memory had recently failed and he was apt to worry unduly about trifles; he was rather feeble in bodily health; although always spare, he had recently become thinner and was somewhat nervous; his gait was shuffling, his steps short, and his movements stiff; the right pupil was smaller than the left, and both reacted to light; there was no rigidity; the knee-jerk was feebly marked in the right leg and absent in the left. The back of the hands was darkish brown, as if stained with walnut-juice, and where

the superficial cuticle was peeling the skin was red and irritable; there was some slight darkish discoloration on the red eczematous parts of the cheeks, forehead, and front of the chest. His lips smarted, and he complained of soreness at the angles of the mouth; he said his sight was failing, and that during the last month or so there had been occasional diplopia; lately there had been some tingling in his feet and slight staggering; slight irregularity of the heart (extrasystoles) and a faint mitral systolic murmur without hypertrophy were noted.

He stated that a stream of water from some marshy ground had been piped into his yard and had been continually used for farming purposes. No other member of the family has been affected in the same way.

The affection is certainly peculiar, and does not tally with any of the common forms of skin or nervous affections. The resemblance to the verbal description and to the illustrations of pellagra in the JOURNAL is close.

EIGHTY-FIRST ANNUAL MEETING
OF THE
British Medical Association.

Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF DISEASES OF CHILDREN, INCLUDING ORTHOPAEDICS.

G. F. STILL, M.D., F.R.C.P., President.

DISCUSSION ON AFFECTIONS OF THE HEART IN CHILDHOOD.

OPENING PAPERS.

I.—F. J. POYNTON, M.D., F.R.C.P.,

Senior Physician to Out-patients, University College Hospital, and the Great Ormond Street Hospital for Sick Children.

IN order to avoid drifting in this many-sided subject I have taken as the central thread of my remarks the prevention of heart disease in the young.

Such an undertaking as the prevention of heart disease requires a wide appreciation of the many factors that combine to make heart affections in the young a very serious problem in this country, and this leaves an open field for the many speakers who will, I hope, join in the discussion to cover ground I cannot reach, to add their valuable experiences, and to make suggestions which will be of real service to the children with whom we are concerned.

Now, it is clear that this question of prevention must be largely influenced by the views that each of us may hold upon the chief cause of heart disease in the young. Convinced as I am that rheumatism is an infective process, it follows that for me the great factor in the causation of heart disease in childhood is an infective process of some kind or another, and the most frequent of these the rheumatic.

Then we come to a point upon which an expression of opinion will be of value, and that is upon the extent to which agencies of a non-infective nature—such, for example, as overstrain and nervous disorders—take a part in the production of heart disease in the young.

This, if we are to be practical, is not a simple problem, for though we may readily admit that it may be most difficult to overstrain a young and sound heart, we have to meet the question under a somewhat different aspect. How frequently, I would put it, do you believe from your experiences does overstrain of the heart become a prominent factor by determining bad symptoms in children who are thought to be healthy, but who have either recently suffered from some illness, such as, for example, a mild influenza, or have inherited, as I believe some do inherit, a heart of deficient reserve power?

I agree with the view that pure cardiac overstrain is unusual, but when we consider the large schools it would seem quite possible that a boy may strain his heart when he has been attacked by some infection of so slight an apparent gravity as scarcely to have attracted attention. Then, again, there are boys of a nervous temperament who probably by virtue of this very temperament may excel in games of skill over their larger and duller rivals, and also are sometimes the victims of a condition termed by some "neurasthenia," which, whatever we call it, shows itself in cardiac palpitation, nervousness, shortness of breath, and other signs of a breakdown.

In the consideration of heart-strain it appears to me that a good deal too much stress has been laid upon the muscle of the heart as opposed to the cardiac nerves, for in diseases of the heart this nervous element is of great importance, and I always think of the cardiac muscle and cardiac nerves as merging insensibly into one another.

The point I am wishing to make here is this: Granted that pure overstrain of a sound young heart is very rare, to what extent does this Section think that physical and mental overstrain takes part in producing cardiac dilatation and functional symptoms in children as we meet with them in everyday life.

Among conditions clearly not infective in nature I would mention the association of remarkable disturbances of rhythm with the occurrence of convulsions. The disturbances have lasted in some instances for months and even for two years after the last recorded fit. An electrocardiogram from an infant of 2 years, kindly taken for me by Dr. T. Lewis, shows an irregularity due to auricular extrasystole which had, to my personal knowledge, been present for eighteen months. The infant at 3 months had suffered from convulsions, but since that time had never had an attack. During the first six months of my observations the irregularity had been much more striking than at the time the tracing was taken, and no remedies, whether for the digestion or for the heart, appeared to me to have any influence upon it. About eight months after I first saw the child a systolic mitral murmur became audible, but at no time could I find any symptoms pointing to cardiac weakness. Up to the present the irregularity continued, and the case remains to me a problem.

I am not prepared to say that the convulsions have any real connexion with these irregularities of the heart, but put these cases before you in the hope of gaining further information upon them.

Anaemia, as we know, often owns an infective cause; and it is an element, I think, of considerable importance in aggravating the course and symptoms of organic heart disease. Hyperthyroidism at and about puberty is another condition of interest, but when the whole field is surveyed it seems to me that the chief factor in the heart disease of childhood is an infection of some kind or another. With congenital heart disease I cannot deal in this introduction.

A study of the morbid anatomy and microscopy of organic heart disease, coupled with experimental studies, although they involve details ill suited for occasions such as these, are valuable methods for obtaining a clear picture of the actual processes; and, if we wish to prevent heart disease, it is essential that we pay close attention to such studies, in order to realize what is preventable and what can only be palliated.

A vegetation may form on the cardiac valve of a rabbit in three days, and definite myocardial changes appear in the same short time. In five weeks a pericardium may become generally adherent in a rabbit, and in three months in a child about the same degree of resolution may be obtained.

The focal lesions in the myocardium that result from rheumatism form the basis of new investigations with the polygraph and electrocardiograph, and we hope that in the future these may bring during life additional evidence upon the relative importance of myocardial affections in rheumatism, just as the experimental studies and pathological studies add an accuracy to our knowledge of the character of these myocardial lesions. The bearing of these latter studies upon prevention is very clear, for they show that when infective processes are highly destructive or very persistent, scar tissue must form if there is to be recovery, and then we are unable to undo the harm, and can at best only attempt at preventing greater damage or palliate the harm that has been already done.

Our clinical knowledge tells us plainly that when a certain degree of damage has been done the child must be

at best a permanent invalid. Morbid anatomy and microscopy explain the reasons. Experiment warns us of the rapidity of some of these infective processes, and the combination of these methods of inquiry prepares us to realize that the problem of prevention is a difficult one, and one to be only partially realized.

The symptomatology of cardiac disease in childhood is of the greatest importance from the view of prevention, and upon it experiment has also thrown considerable light. I have already touched upon the rapid development of organic lesions, and would add now that strepto-diplococci obtained from the inflamed tonsils of the rheumatic will produce carditis on intravenous inoculation into animals. In this, rightly or wrongly, I see the explanation of a very important group of cases—namely, those in which a child after a sore throat develops heart disease without any articular symptoms, muscular pains, or other evidences of rheumatism. For our purpose it matters little what we call these micro-organisms—the great point is that in animals also a carditis may arise with or without articular symptoms. This group is one that is going to baffle us very much in the matter of prevention, because, as we all know, the early signs of cardiac disease are often so slight that the medical man is not even consulted until the lesion is established. Nevertheless, it is essential that we realize that one site of infection is the tonsils, and to this in the future we can give increasing attention. The great importance of sore throat in the history of children's heart disease is undoubted, for we recognize that in addition to rheumatism, diphtheria and scarlet fever are causes of heart affections.

Among the symptoms of heart disease we naturally must pay particular attention to those which point to injury of the myocardium, for this is the mainspring of the heart. I need not insist upon this point, for Dr. James Mackenzie, in his well known writings, has done so in a far abler fashion than I can, though perhaps, if I may not be thought ungracious, he has somewhat underrated the intelligence of us London physicians, for, speaking for myself, as a pupil of Sir William Broadbent, I have been fully alive to the importance of the myocardium.

I think, too, in childhood, as in adult life, we must not forget that the valvular lesion may be the prominent one, and I would choose three examples — in malignant endocarditis, in the combined mitral and aortic regurgitation when it is severe, and in mitral stenosis. I have seen many cases of mitral stenosis in which, if we could only dilate the orifice, I am convinced the cardiac muscle would prove sound enough to carry on the circulation. It is a lesion which in the child may cause no symptoms until the increasing obstruction begins to overweight the power of a muscle, which not infrequently after death is found to be almost sound.

Whether the new graphic methods will help us greatly in estimating the strength of the myocardium, or even in enabling us to detect that it has been damaged, must be awaited patiently, for the interpretation of the tracings and the significance of such interpretations must require prolonged investigation. Breathlessness and wasting, and, in acute myocardial disease, general muscular listlessness and syncopal attacks, are important signs of a weakened cardiac muscle, and to that must be added nervousness and marked variations in the pulse-rate on slight exertion. Chorea is an extremely important warning of the possibility of heart disease, and I would particularly emphasize that the origin of mitral stenosis is repeatedly associated with recurrent chorea in female children. I have many times now traced the development of this lesion under these circumstances.

I am struck, when I look back over my experience of rheumatic heart disease, with the great dependence of the ultimate result upon the character of the infection. Few facts are more convincing of the infective nature of the complaint than this. A virulent attack may in a few weeks damage a heart irretrievably by profound myocardial poisoning, while, on the other hand, a sharp attack with pericarditis, in which pallor, prostration, and nodule formation are not prominent, may result in a very fair recovery. There is much to be done in this country, I think, in the way of prevention of this virulent rheumatism. Parents are not sufficiently alive to the dangers that delicate, fragile children with a family tendency, run in being insufficiently clothed about their extremities, or careful enough in protecting them from cold winds—and especially cold damp—or in paying attention to their sore throats and "growing pains." Lack of knowledge is, I think, at the bottom of a good deal of this incautiousness, but I should welcome the experience of other speakers upon these points, and their opinions as to the good that is to be expected from simple precautions in these directions.

The routine school life of the child in a council school has some grave disadvantages. We may easily overrate these, but I think in the future the disadvantages will meet with much more attention. I feel that I am in danger of dwelling overmuch upon rheumatic heart disease, and I shall not detain you with any more remarks upon the symptomatology further than to add that the great cause of a cardiac breakdown in these children is a fresh infection, although there is no doubt that overstrain of an organically damaged heart will also, though much less frequently, I think, produce disaster.

The treatment of rheumatic heart disease furnishes the strongest evidence that I can bring in favour of continued attempts at prevention. I think it is most unsatisfactory, and though prepared to hear that others may feel more encouraged, I must confess that I do not think we are making much headway. I have expressed my opinion upon the salicylates too often to need to repeat it here. I am well aware that many advocate the use of large doses, but I have convinced myself that delicate rheumatic children do not do well under such treatment, and I am not persuaded that strong ones show any decisive proof that these drugs are specific. With regard to vaccine treatment, I look with dismay at the giving of large doses of streptococcal vaccines in acute carditis, for I have seen pericarditis follow immediately upon their use and light up again when apparently quiescent. Not that for one moment I am a blind opponent of vaccine therapy: on the contrary, I believe there is some precious germ of truth hidden in the mysteries of these specific immunity reactions, but to risk hazardous doses of these vaccines in the present state of our knowledge seems to me wrong. As regards the diet, I look upon it as I would in any other cardiac infection—as a matter for regulation in accordance with the digestion and complications, and have entirely abandoned any mysterious dread of meat for rheumatic children.

It may be asked, do I suppose enucleation of the tonsils will prevent acute rheumatism? My answer must be that I know it does not, but if they are diseased it removes a focus of infection and improves the general health, in proof of which I have seen striking examples. When we remember the size of the rheumatic diplococcus, 0.5 μ, we can realize that there is ample opportunity for it to get a foothold in the throat or naso-pharynx after enucleation of the tonsils. Tonsillotomy in acute tonsillitis may precipitate an attack of rheumatism, and under the scarred stumps foci of infection may remain, as I have also seen on more than one occasion. It seems to me an imperfect operation for the rheumatic.

To what extent bad teeth and unhealthy gums are responsible for heart disease in childhood is a point upon which I should like to hear opinions. My own clinical experience has not impressed me with the association of rheumatic heart disease and pyorrhoea, but I feel that I am open to conviction upon this point, which undoubtedly requires most careful consideration. I may add that the establishment of special convalescent homes I look upon as an important aid in the prevention of rheumatic heart disease.

At this point I would like to make some remarks upon certain cases of rheumatic carditis treated by vaccines which were obtained either from cultures from the pericardium of a fatal case of rheumatism or from the stock of a reliable firm of chemists. My object is not to attempt to settle the value or uselessness of such treatment, but to put into prominence the difficulties that there are in arriving at any conclusion, and the caution with which we must accept sanguine generalities upon these points.

Only a few illustrative cases are chosen here:

CASE I.

The first case was a tentative one made with the intention of studying the possibility of reactions, and the vaccine was combined with the use of the sodium salicylate. It was thought that the salicylate might kill the active poisons and the vaccines strengthen the resistance of the natural forces.

The child was a girl aged 9 years, who fourteen days after tonsillotomy developed chorea, morbus cordis, nodules, and purpura. At first salicylate and sodium bicarbonate were given, 10 grains of the salicylate three times a day, increased later to 15 grains every four hours; then 25 million of the diplococcus vaccine were given on October 19th, then 50 million on October 28th, 50 million on November 4th, and 50 million on November 11th.

No reaction of any kind was noted, and this treatment was not persisted in. Eventually a fair recovery resulted in which no remedy apparently seemed to take any active part.

CASE II.

The next case, one of rheumatic chorea, was given six doses, rising from 1 to 32 million, and then, no reaction occurring and the condition improving, it was discontinued. Four weeks later, during convalescence, an attack of acute pericarditis occurred.

CASE III.

The third was a delicate girl of 6½ years with a four weeks' history, and was one of those unsatisfactory cases in which there was no pyrexia, but endocarditis with a rapid and irregular heart and with subcutaneous nodules. By the cautious use of a vaccine it seemed reasonable to suppose that an increased resistance might be obtained, but I am of opinion now that in the present state of our knowledge too large a dose was given; 10 million of a stock vaccine were given on August 24th and 10 million on the 29th. No reaction occurring, 25 million were given on September 4th. The following day the temperature rose for the first time, pericarditis was detected, and death occurred fourteen days later.

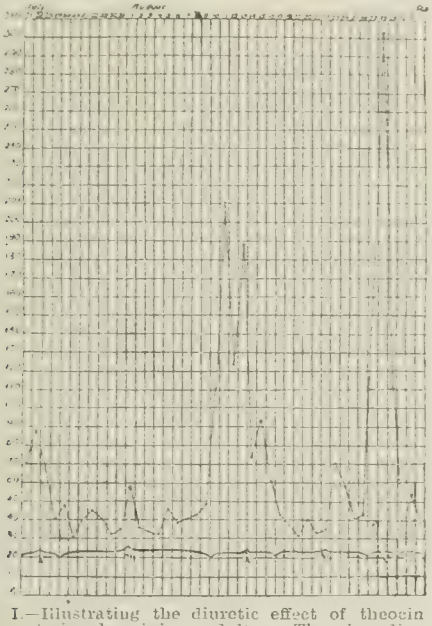


CHART I.—Illustrating the diuretic effect of theocin, sodium acetate in arterio-sclerosis in an adult. A, Theocin sodium acetate, gr. x; B, tincture of digitalis gr. vi; C, theocin gr. x & inf. digitalis gr. v.

The necropsy showed general carditis; three of the cardiac valves were involved, and there was much pericarditis. I do not suppose the vaccine caused the pericarditis, for I believed that to be present from the first, on account of the persistently rapid and irregular heart. The only deduction I would draw is that this treatment, if not actually harmful, was certainly of no curative value in the case, which illustrates one of our great difficulties in the determination of whether or not rheumatic heart disease is in an active or passive stage.

CASE IV.

The next case was in reality one of an earlier date, and, whereas in the preceding one possible harm seemed to result from the treatment, so here it seemed clear that good was derived.

A child of 8 years had been suffering for four weeks from her first attack of rheumatism, and was admitted with arthritis, fever, endocarditis, and nodules. Ten grains of sodium salicylate were given every four hours, and increased later to 20 grains. In spite of this, more nodules appeared, and four weeks later pericarditis developed. After eight weeks of irregular fever, reaching to 101° F. at the maximum, all salicylates were discontinued, and 10 c.cm. of antirheumatic serum was given with 1 million of a vaccine. The vaccine was repeated three days later, and then five days later the temperature fell to normal for the first time, and remained normal for the rest of the illness. The nodules disappeared. One more dose of vaccine was given three weeks later, and eventually a fair recovery followed, the child leaving after a stay of four months in the hospital.

It appeared here that the fever and other bad symptoms which had baffled us for so many weeks had been affected favourably, just as in the preceding case the fever and pericarditis seemed to light up as a direct sequence of the treatment.

CASE V.

The last case illustrates the difficulties there must be in interpreting our results.

A girl, aged 12 years, on March 23rd suffered from dyspnoea and pain in the chest, on April 3 from pain in the joints, and on the 6th from chorea. She was admitted with pericarditis, endocarditis, and chorea. There had been recurrent sore throats and two previous attacks of chorea and one of rheumatic fever. She was a delicate child, and very ill, and although at first the symptoms quieted down, the temperature after a while began to rise again.

Then in this case a vaccine called "rheumatic phylacogen" was given in 1 c.cm. doses for eight days in succession, but signs of pericarditis reappearing, and the child not seeming so well, it was stopped, and cod-liver oil and malt substituted. The temperature then fell and there was general improvement. The impression I gained was that the vaccine had aroused fresh activity, or at least was not suiting the case, as the child appeared more ill. The temperature, however, now kept down and remained down for five weeks, although the heart was always excited. At the end of five weeks, without any obvious reason, the temperature rose again and pericarditis reappeared, this time more decidedly than in the first relapse. Sodium salicylate brought the temperature down again, and there was once more improvement, but still an excited action of the heart which made one chary of believing that the disease was really under control. This case is still under observation.

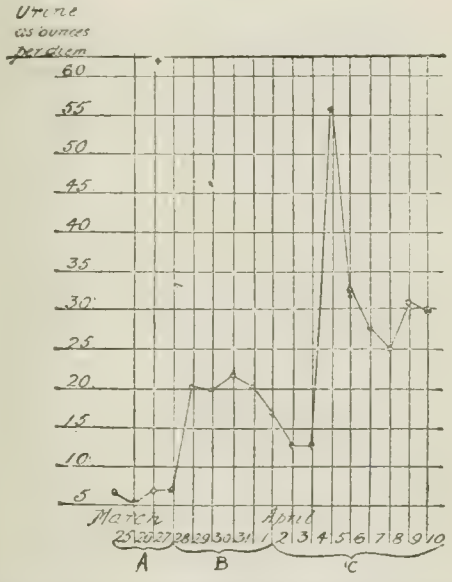


CHART. II—Illustrating the diuretic effect of theocin in a case of severe morbus cordis in a child aged 12 years. A, Digitalis mv every four hours; B, digitalis mlv intramuscularly; C, theocin gr. ii every four hours.

It has been said, I believe, that this vaccine is contra indicated in active heart disease, but is of value in arthritis. I need hardly say that with the views I hold upon rheumatism I cannot believe, if there is any specific action in such a vaccine at all, that it can be without effect in rheumatic heart disease, and if there are dangers in its use, these must be possible to avoid by a careful study of dosage. For my part, if brilliant results are going to be reported of its value in rheumatic arthritis, and if its contraindication in rheumatic heart disease is maintained, I shall be very slow in accepting their interpretation.

Let me repeat once more that I have touched upon these cases with the sole intent of emphasizing the difficulty there is in investigations of this nature and the need for patient and careful observation. I am not expressing any opinion upon the value or otherwise of such methods, because I believe we are not yet in a position to express such an opinion.

Pneumococcal heart disease in childhood is a very different condition from the rheumatic; at least I believe I am correct in so saying, although here again it is open to question as to whether we may not underrate its occurrence and possibly mistake such cases sometimes for acute rheumatic carditis. Pyopericardium, the most important lesion the pneumococcus produces in the heart, is most frequent under 4 years of age, and is, owing to the rarity of pericardial friction, most difficult of diagnosis, and at

this early age almost always fatal. Later in childhood surgical measures have proved successful, but there seems but little opening for preventive measures in this condition, which is usually associated with empyema or pneumonia, although we all recognize the importance of draining the empyema as a step in prevention. Are tuberculous heart affections more frequent than we believe? is another point of interest. The most remarkable group of these cases in childhood are those in which an adherent pericardium, strangling the heart, and associated with recurrent pleurisy and sometimes peritonitis, produces the syndrome known as multiple serositis, a condition which necessitates repeated paracentesis of the abdomen, and which has, in my experience, always ended in a tuberculous meningitis. The chief point that I would emphasize about the heart affections in diphtheria is the encouraging results we obtain if we take extreme care of children in the convalescent stage. It is the overlooked cases of this disease that develop paralytic symptoms, which are not promptly recognized, and as a result may end in disaster. Paralysis of the diaphragm is the final development in most of these cases. The enormous epidemic of measles that has spread over the country during the last year will, I hope, enable some of the speakers to add to our knowledge of its effect upon the heart.

Turning now to chronic heart disease, I will only mention three drugs, not perhaps so commonly used as some, of which I have had some personal experience.

The first is theocin sodium acetate. I have had some almost remarkable results with this in cases of obstinate and severe cardiac oedema. I am aware that it is uncertain and that it should be given with great discretion, because of its irritating effects on the digestion. In a child of 10 years I use a small dose, 2 to 4 grains in tablet form or in solution, after meals, repeated twice or even three times a day. Generally I intermit the drug in a week or ten days, and I do not now, as a rule, give it with digitalis. Given in a routine fashion and pushed, I have only had failure and trouble with vomiting, but when other drugs have been ineffectual on more than one occasion, great relief has been obtained, and a remarkable disappearance of the dropsy has occurred. I illustrate a case of this kind by the chart shown on page 787.

The child of 12 years, a chart from whose case I show, illustrating the diuretic action of theocin, was exceedingly ill, and might well be called a desperate case—highly nervous, with old-standing heart disease, and recent pericarditis with purpura, general anasarca, pleural and peritoneal effusion, and albuminuria. She was, in addition intolerant of practically all cardiac tonics, which produced vomiting and intense nausea. In addition to this, thrombosis of the right internal jugular vein and probably the right subclavian occurred while she was in the hospital. In spite of these difficulties profuse diuresis occurred with theocin, and with it a rapid disappearance of the dropsy. From that date improvement occurred, and although I do not pretend that she was anything more than a cardiac invalid, she became bright and happy, and as a result of medical treatment, with all its human limitations, I have no hesitation in saying it was a most brilliant one. This is not the only grave case in which I have had good results where other methods have failed, and I look upon this drug—for the use of which I am indebted to a paper by Dr. Harry Campbell—as an addition to our resources in chronic heart disease with dropsy and diminished renal output, both in childhood and adult life.

Anasarcin, a mixture of *Oxydendron arboreum*, *Sambucus canadinensis*, and *Urginea scilla*, has not been so effective in my hands, although in one case of severe cardiac dropsy it certainly suited the child well and gave assistance. I have used the tablet form, giving one three times a day, and have not had ill effects from them, but have had disappointment in the really difficult cases.

Camphor I have used in ½-grain doses in sterilized olive oil for intramuscular injection in acute heart failure, but I still prefer strychnine for this purpose.

Others will doubtless give us their experience upon these and other drugs in the treatment of heart disease, and I will now conclude by recapitulating the chief points of my remarks upon the prevention of heart disease.

1. The great frequency and importance of rheumatic heart disease, and its establishment as a cardiac infection, encourage us to make serious efforts for the prevention of rheumatism.

2. The greater frequency of the disease among the poor leads us to think that preventive measures will meet with some degree of success.

3. A valuable though simple precaution would be the printing by our important hospitals of a small leaflet with hints to the parents of rheumatic children as to the special dangers to be avoided and precautions to be taken.

4. A similar process of elementary education of school masters and mistresses of the large schools in the dangers of rheumatism would be an additional help.

5. The removal of diseased tonsils by enucleation in the rheumatic, and a more thorough study of the influence of unhealthy conditions of the throat and naso-pharynx—a procedure which would include also attention to the teeth—suggest themselves as further indications.

6. Modification of some of our convalescent homes, which could be associated primarily with the large hospitals, for special care of children recovering from acute rheumatic carditis and chorea. Such modification would include skilled nurses and medical supervision.

7. Lastly, for my own part, I think the time has now come when the house-incidence and local incidence of acute rheumatism might be once more investigated, for up to the present this has not been undertaken on a large scale from the standpoint of an infective disease.

II.—CAREY COOMBS, M.D., M.R.C.P.Lond.,
Assistant Physician, Bristol General Hospital.

THE area of the subject being wide, I go at once to the two points with which I propose to deal. First, there is the question of diagnosis. Much harm is no doubt done by failure to discover the heart disease that is there; but almost so much may result from mistaken diagnosis of heart disease not there. Doubtful murmurs and irregularities of the pulse are two chief rocks of offence. Three common types of exocardiac bruits may be mentioned. First, there is the usual cardio-respiratory murmur, particularly associated with states of nervous excitement and tuberculosis of the lungs, and therefore perhaps heard more often in adults than in children; it is late systolic in time, puffing in character, loudest at or just external to the apex beat, diminished or lost during expiration, and less pronounced when the patient is lying down. This bruit may closely imitate that of mitral regurgitation, especially as it is often heard not only in front but also beneath the lower angle of the left scapula. Another common exocardiac bruit is that heard at the pulmonic area in children with collapse of the anterior border of the left lung; it is systolic in time and varies widely with posture and respiration. I have more than once known this murmur suggest the existence of a developmental fault of the pulmonary artery. A third class of exocardiac murmur deserving of special mention is the systolic-diastolic venous hum heard in young children, normal and ill-nourished alike, immediately below the sterno-clavicular joints. When this sound is so loud as to be audible as far down as the aortic and pulmonic cartilages it may imitate the diastolic bruit of aortic regurgitation; the difficulty is, however, cleared up when it is found that the murmur is loudest at the root of the neck, continuous as a rule from systole into diastole, increased by retraction of the head, and diminished when the patient lies down.

As for the irregular pulse of childhood, it is so extraordinarily common that this alone should raise suspicions as to its importance. Friberger, indeed, says that the pulse was not absolutely regular in a single one of over 300 children between 5 and 14 examined with the polygraph. The irregularity was very marked in 12 per cent. In a few there were auricular extrasystoles; apart from these there were no examples of arrhythmia that might own an organic origin.

Compare this with a series of children with organic heart disease. For some years I have been looking out for organic forms of arrhythmia in connexion with rheumatic carditis, a search which has included the application of the polygraph or electrocardiograph to nearly 200 such cases, about half of them children, and a general review of a good many more. The pickings of this quest, so far as childhood is concerned, may be

summed up as follows: Two cases of transitory heart-block, one of which my friend Dr. C. E. K. Herapath kindly brought to my notice, two or three cases of total irregularity, and less than half a dozen examples of extra-systolic arrhythmia.

On the one hand, then, arrhythmia is very often met with even in normal children: on the other, organic heart disease rarely causes irregularities of the pulse. This discrepancy is readily enough explained; it is arrhythmia of the sinus or supracardiac type, which has nothing whatever to do with cardiac disease, that is so common in children. The milder degrees of this irregularity are easy enough to recognize; sometimes, however, the pulse becomes so disorderly that a polygraphic tracing is necessary to reveal its meaning. In one instance the sinus arrhythmia was complicated by rather frequent extra-systoles, and it was impossible without a tracing to be sure that one was not dealing with an example of total irregularity. With the help of the polygraph, however, it is always possible to make sure. It may therefore be stated as an axiom that irregularity of the pulse in a child furnishes no support to a diagnosis of organic heart disease, except where graphic analysis has proved the irregularity to conform to one of the types commonly associated with organic disease.

The other matter on which I should like to provoke discussion is the outlook in rheumatic heart disease, especially in relation to our future plan of campaign. Dr. Poynton has already given a lead in this direction, so that it will, perhaps, suffice if I indicate briefly what appear to me to be the fundamental facts in the pathology of the disease.

First, rheumatism is a streptococcal infection. There are some who still doubt this; but recent work is bringing more and more evidence to its support.

Secondly, the infective agent enters the body in many cases, if not in all, by the lymphoid tissues of the nose and throat. I hope we are to hear more of this from Dr. Branson, so I will add no more to the bare statement.

Thirdly, its attack upon the heart is executed through arterial channels, and is delivered simultaneously upon all parts of the heart wall. The myocardium is injured in every case, and the mitral valves in practically all cases; the aortic and tricuspid valves suffer sometimes, and the pericardium is infected in the majority of instances. The microscopic character of the inflammatory foci found in the myocardium as well as in other tissues attacked by rheumatic infection shows that the organisms enter through the arterioles: for it is these structures, with the capillaries and lymph channels, that suffer primarily, and furnish a first and highly important line of defence in the shape of endothelial reaction. Experimental rheumatic infection, to the value of which Dr. Poynton has alluded, supports both these contentions—the simultaneous infection of all parts of the heart, and the endovascular beginning of the lesions.

Fourthly, the progress of the infection is not steady; judging from clinical and histological data, it consists of a series of active phases separated by periods of absolute quiescence. Each "active phase" is a complete attack in itself; the lesions arising in its course have the same predominantly vascular character, however slight the symptoms may have been. In other words, the histological picture of a mild recurrence differs only in degree and not in kind from that of a severe attack; and in each the conclusion that it is impossible to escape is that the micro-organisms have been borne into the cardiac wall through its coronary supply. It appears, then, that each attack and recurrence of active carditis bears marks of its arrival in the heart from without through the arterial channels.

Fifthly, these active phases occur so close together, at any rate in childhood, that it is difficult to suppose that each attack represents reinfection of the body from without. It seems far more probable that the streptococci are resident within the body for long periods, though only entering the circulation at intervals. For many reasons I believe that this extracirculatory resting-place is to be found, in many cases at any rate, in the naso-pharyngeal wall, and particularly in the tonsils.

Sixthly, it is in its tenacity rather than in its virulence that the chief danger of the rheumatic infection lies. Clinically the great majority of attacks display a definite leaning towards recovery. Histologically, also, the mildness of the infection is apparent in two ways: such degenerative changes as are to be seen in the myocardial and other specialized cells are rarely intense, while the inflammatory reaction is predominantly endothelial and fibroblastic, with only a moderate importation of leucocytes, showing that the first and second lines of defence are adequate to suppress the infection in most instances. The fact that the organisms barely persist in the infected tissues points in the same direction.

Seventhly, the heart is a muscle, and it is only by crippling its muscular functions that disease can overcome it. Rheumatic infection delivers its attack on the myocardium in a double way: there is its direct and immediate onslaught by which it attempts to poison the myocardium, and there is its less direct but more insidious device of eventually overworking the muscle by injuring the valves. Now, while the muscular effects of acute carditis are for the most part transitory and disposed towards recovery, its valvular results are permanent. Almost as soon as organisms enter the depths of the valve, a fibroblastic reaction occurs which inflicts irreparable injury. As for the pericardial lesions, their intrinsic importance seems to me to have been exaggerated; effusion scarcely ever occurs in rheumatic carditis, and adhesions, however widespread and dense, would have little influence on the myocardial functions were the muscular cells themselves healthy. Obliteration of the pericardial sac does, of course, coincide with the severest grades of post-rheumatic disablement of the heart; and in like manner acute carditis, with signs of general inflammation of the pericardium, does as a rule prove more threatening to life than in the absence of such signs. But in both cases I believe we should regard these evidences of general pericarditis merely as proof of an unusual saturation of the cardiac tissues with the rheumatic streptococci, and not as conveying in themselves any great menace to the efficient work of the heart.

Both in relation to forecast and control, then, there are two aspects of the disease, the immediate and the remote. First, what risk of direct defeat of the cardiac muscle is involved in the present attack, and how may it be limited and controlled? We shall, I hope, hear from Dr. Reginald Miller some account of his valuable investigations into the scope of the salicylate treatment, and my only remark is this, that it is improbable that anything of more specific value than salicylate will be discovered. The *Streptococcus rheumaticus* is so far akin to the common streptococci of the alimentary tract that it does not seem likely to set up any very characteristic biochemical reactions in the body, such as can be taken advantage of in the development of an absolutely specific plan of treatment.

The second aspect of the disease—the probability of permanent crippling of the heart by sclerosis of its valves—is perhaps the more important of the two; the majority of hearts escape immediate annihilation by the attack itself, but a much smaller proportion remains immune from the later valvular lesions. I should very much like to hear an estimate, founded on actual figures, of the percentage of cases of cardiac rheumatism surviving beyond childhood in whom valvular sclerosis fails to develop.

What can be done to prevent its development? As we have seen, recurrent infections of the valvular tissues, beginning deep and spreading towards the endothelial surface, are responsible for sclerosis of the valves; these infections occur during childhood at intervals of weeks or months, the periods of quiescence lengthening as the patient passes into adolescence and adult life; and it is probable that even during the quiet intervals the organisms are still within the body, though outside the circulation, most likely lying latent in the tonsils. At what step in this process can we expect our attack to be successful?

First, it is of no use to expect much from the treatment of the valve after organisms have entered it; the damage is, so to speak, instantaneous and irreparable. Cicatricial tissue cannot be unmade; its formation must be prevented. Neither can the infection be wholly annihilated during its transit from the point of entrance to the cardiac tissues; the available evidence suggests that this journey is accomplished too quickly to offer much hope of so successful an attack. More may be expected, however, from attempts to eradicate the disease by removal of

tonsils and adenoids. This is a matter that must be further investigated. My own experience of tonsillotomy by guillotine in rheumatic children has not been encouraging; but probably the newer methods of enucleation will be more profitable, and it would be very interesting to watch the fate of such patients for several years after this operation has been performed.

Last of all, the possibility of raising the patient's resistance has to be considered. For reasons already stated, it is unlikely that this will be accomplished by specific means. The factors predisposing to rheumatic infection have scarcely been studied as yet. Such inquiries as have been made lend support to the belief that climatic and economic agencies play a part, and if this is so, means must be found for counteracting these influences. We come, therefore, to the conclusion that rheumatic infection of the heart must be prevented. Before this can become possible further research is needed, and it is surely not too much to ask a nation which spends money on the investigation of tuberculosis to spare a little for acquiring a better understanding of a disease so widespread and calamitous in its results as is cardiac rheumatism.

DISCUSSION.

Dr. W. C. CHAFFEY (Brighton) put forward "Some Records of Heart Disease, with special reference to a Family History of Phthisis or Rheumatism." The principal reason for doing so, he said, was to point out the large proportion of instances in which phthisis occurred in near relatives, the degree of frequency being the same as for acute rheumatism. It might be rather difficult to explain the fact offhand, but he felt special interest in it himself, as he had surmised that the solution was to be found in the association of valvular disease with changes of an obstructive nature in the lymph glandular system related thereto. Many years ago he had endeavoured to point out that the distribution of tubercle in an organ was dependent on some retardation of the lymph current from some cause. If any such conditions should subsist in the heart or great vessels, it might be inferred that these were subjected to predisposing influences which might be quite as important, from an etiological point of view, as the factor which appeared last in the series of events, and which was usually designated the cause. The speaker shared the belief that disease, generally speaking, was the result of many antecedent circumstances, though there might be one in particular which was habitually associated with this or that disease. Those who had made an intimate study of acute rheumatic manifestations would probably agree that the specific microbe alone would not invariably produce rheumatic phenomena in the human subject. In his *System of Logic* John Stuart Mill wrote: "The cause may not be simple, it may consist of an assemblage of conditions." And, again, George Eliot, an associate of scientists, grasped the same principle which was expressed in the following passage from one of her works: "In natural science I have understood there is nothing petty to the mind that has a large vision of relations and to which every single object suggests a vast sum of conditions." Signs of heart trouble often followed closely on attacks of one or more of the infectious diseases, such as measles, whooping-cough, or scarlatina. In particular it would be found that a large proportion had suffered from severe attacks of whooping-cough. In this connexion it might be remarked that whooping-cough occurring in early infancy and previous to measles was usually severe in type. In such circumstances the lymph glands in the chest enlarged very considerably, and if the patient became infected with tubercle, it would be found that this developed first in the glands themselves or in the lymph channels in their immediate vicinity. The suggestion that the speaker had to make was that the same condition predisposed the patient to the specific microbe of acute rheumatism, especially in those subjects who possessed an inherited tendency to phthisis or acute rheumatism, both of which occurred in near relatives in 40 per cent. of the instances quoted below. He agreed that overstrain was often an important factor in the production of organic heart disease, especially when accompanied by much dilatation or by aortic trouble. With regard to the treatment of such cases, he had usually

An Analysis of 37 Cases of Heart Disease in Children, with special reference to a Family History of Phthisis or Rheumatism.

Ms. = Measles; P. = Phthisis; R. = Rheumatism; R.F. = Rheumatic fever; S.F. = Scarlet fever; Wh.C. = Whooping-cough.

No. of Case.	Age.	Sex.	Complaint.	No. of Years since Contracted—			No. of Months Suffered from R.	Family History of Phthisis and Rheumatism.
				Ms.	Wh.C.	S.F.		
1	9¾	F.	Mitral disease and pericarditis	5	4½	—	9	F. strong, no R., no P.; m. strong, no P.; her f. and sister had R.F.
2	11	M.	Mitral disease	7	10	—	10	F. died with P.; m. strong, no R., no P.
3	6½	F.	Mitral disease and pericarditis	—	4½	3	12	F. and m. strong, no R. and no P., but f.'s f. had R.F.
4	11	F.	Mitral disease and pneumonia	7	7	7	24	F. no R. and no P.; m. has chr. R., and her two sisters had R.F. several times.
5	11	F.	Mitral and aortic disease	10½	10	5½	6	F. no R. and no P.; m. ? has P., and her two sisters died young with P.
6	12	F.	Mitral disease	10	10	10	3	F. had R.F.; m. no R., no P.
7	5½	F.	Mitral disease and pericarditis	2	5	—	1	F. and m. strong, no R. and no P.
8	6½	M.	Mitral disease	6	—	—	3	F. strong; m. ? has P., and her sister.
9	10	F.	Mitral disease	5	—	—	24	F. and m. strong, no R.
10	9¼	F.	Mitral disease	5	—	—	7	F.'s two brothers and one sister died with P.; m. had R.F. 18 years ago.
11	11	F.	Mitral disease	6	4	2½	18	F. died with P., no R.; m. and her m. had R.F.
12	9½	F.	Mitral disease	7½	7½	6	1 wk.	F. and m. strong, no P.
13	11½	M.	Mitral disease	—	—	—	1 wk.	F. died of bronchitis, ? P.; m. died of R. ht. disease, no P.
14	7	M.	Mitral disease	2	1	—	36	F. strong, no P.; m. strong, her f. died with P., and her f. and m. had R.F.
15	7½	M.	Mitral and aortic disease and pericarditis	3½	7	—	3	F. strong, no R., no P.; m. weakly, had R.F., no P.
16	11	F.	Mitral disease and pericarditis	4½	—	—	—	F. strong, no P.; m. died with P. 10 years ago, no R.
17	11	F.	Mitral disease	4	10	—	2	F. strong, no R., no P.; m. not strong, no R.
18	6	M.	Mitral disease and pericarditis	2	1½	—	2	F. strong, no R., no P.; m. not strong, no R., no P.
19	8	F.	Mitral disease	2	7½	—	3 days	F. not strong, ? P., no R.; m. not strong, no P., no R.
20	9	M.	Mitral disease	4	2	—	—	F. strong, no R. no P.; m. not strong, no R., no P.
21	8½	F.	Mitral disease	6½	6	—	—	F. strong, no R., no P.; m. not strong, no R., no P.
22	10	F.	Mitral disease	3	—	—	1 wk.	F. has P.; and his f. and m. died with P., no R.; m. strong, no R., no P.
23	8	M.	Mitral disease and chorea	6½	—	—	2	F. and m. strong; f.'s m. has chorea; f.'s sister had R.F.; and f.'s m. and one sister died with P.
24	7½	F.	Mitral disease	3½	3	—	1	F. and m. strong, no R., no P.
25	9	M.	Mitral disease	—	—	—	14 days	F. and m. strong, no R., no P.
26	7	F.	Mitral disease and chorea	3½	—	—	24	F. and m. strong, no P.; m.'s m. had R.F.
27	7	M.	Mitral disease	2	6½	—	2	F. and m. strong, no P.
28	11	F.	Mitral disease	9	8½	6	—	F. and m. not strong; f.'s f. and m.'s brother died with P.
29	9	F.	Mitral disease	—	—	—	8	F. and m. strong, no R., no P.
30	11	M.	Mitral disease	8	10½	—	8	F. strong, no P.; m. not strong; her m.'s sisters and brothers died with P.
31	8	M.	Mitral disease	4	2	—	6	F. strong, no R. no P.; m. not strong; her m. had R.F.

No. of Case.	Age.	Sex.	Complaint.	No. of Years since Contracted— Ms.	Wh.C.	S.F.	No. of Months Suffered from R.	Family History of Phthisis and Rheumatism.
32	7½	M.	Mitral and aortic disease	—	—	4	48	F. and m. not strong, R.; m.'s f. and some other members of her family died with P.
33	9½	F.	Mitral disease and pericarditis	5½	5	—	24	F. had R.F. twice; m. had R.F.
34	8	F.	Mitral disease	4	4	—	2	F. and m. strong, no R.; m.'s f. and m. and two sisters died with P.
35	10	F.	Mitral disease	6	—	—	72	F. strong, no R. or P.; m.'s brother died with R. heart disease.
36	4	M.	Mitral disease	—	—	—	2	F. died with P., no R.; m. has had P., no R.
37	12½	F.	Mitral disease	11	—	8	2	F. has R., no P.; m. had R.F.; her brother has P.; and her sister died with P.

Summary.—Phthisis occurred in near relatives in 40 per cent. of these cases; and acute rheumatism occurred in them with the same degree of frequency.

found quite satisfactory results follow the use of salicylates and alkalis combined with tincture of strophanthus, together with frequent blistering in the precordia and complete bodily and mental rest.

Dr. Mary C. MURDOCH (Hull) remarked on the subject of pericarditis that it was much more frequent in children than in adults, and very often it went unrecognized. It could be detected by watching the edges of the pericardium and noting the earliest roughening. It rarely went on to effusion, and should be treated early and vigorously by putting five or six leeches along the left border of the sternum and the intercostal spaces over the precordium. Blisters ought not to be used on account of the difficulty of auscultation and detecting the cardiac condition during the course of the disease. In endocarditis, children were generally cheerful and hopeful, but in pericarditis there was a look of fear and extreme anxiety rarely seen on a child's face in other conditions. Just as pleural effusions might be loculated, so might pericardial. In a case of pyopericardium, a boy 10 years old, under her care ten years ago, after resection of 2 in. of the third, fourth, and fifth ribs, and removal of 8 oz. of pus, the temperature still kept up, and a few days later about 1 pint of pus poured from the wound after an adhesion was broken down. The boy recovered and was well two years ago. A case of arterio-sclerosis in a boy 11 years old was mentioned; the arteries were large and thickened, like cords, with high tension, forcible pulse, frontal headache, and albuminuria. The father was alcoholic, tuberculous, and syphilitic, the mother gouty. The boy had had a severe attack of nephritis, followed by typhoid fever, six years before admission. This boy had several attacks of tonsillitis when in hospital, from which *Streptococcus rheumaticus* was obtained. As the speaker had found vaccine treatment useful in adult cases of rheumatism, she had recently used it in children in small doses, beginning with 1, 2, or 3 million streptococci, and going up to 25 million, but the cases were too recent to give results. The tonsils seemed to be so often the seat of entry of the streptococci, that it was advisable in every case of rheumatic carditis to enucleate the tonsils in the quiescent state, but never while the disease was still active. In her experience, aortic disease was rare in childhood. In seventeen years, out of many thousands of children, she had seen only about 12 cases of aortic disease.

Dr. REGINALD MILLER (London), alluding first to Dr. Chaffey's remarks on the double family history on rheumatism and tuberculosis in rheumatic cases, asked if, on examination of the brothers and sisters of his patients, he had noted any seeming antagonism between the two diseases in the same patient. To the speaker it seemed that in families rheumatism sometimes attacked some members and tuberculosis others; but very seldom was there evidence of active double infection. Similarly in *post-mortem* examinations on rheumatic children tuberculous lesions were often found, but they usually seemed to be small and completely healed, again suggesting an antagonism between the two infections. To turn to Dr. Poynton's and Dr. Coombs's papers, he only wished to deal with one point—namely, what principle might guide them in the use of salicylate in active rheumatic carditis. He did not want to deal with the question of dosage; he was not in agreement with much that had been written on the subject of large doses, but, setting this altogether aside, it seemed to him vital that they must get some principle and some explanation of the use of salicylate in carditis. In the first place, one considered the action of salicylate in rheumatic arthritis and could hardly account for the effect, one of the most certain in the whole field of therapeutics, except by supposing the drug to have a bactericidal effect, direct or indirect, upon the organism. Need they deny this in the case of rheumatic carditis? On the heart rheumatism produced three sets of changes: (1) Inflammatory changes, which, if salicylate were bactericidal in action, should be controlled by the drug; (2) toxic parenchymatous myocardial changes, which salicylate could only affect by cutting off the source of the toxin; (3) fibrotic healing changes, which salicylate would not touch at all. If this were understood it would seem that with salicylate they could not do a great deal to produce an immediate effect. If it were allowed that salicylate exercised a bactericidal action in rheumatic carditis it would have two limitations: First, that the symptoms of the carditis—symptoms and signs of dilatation—were due to toxic changes rather than to the inflammatory changes which were also present; they would therefore require the lapse of time before they improved, and salicylate could not set them immediately right. Secondly, it was in cases of severe heart disease that salicylate was particularly prone to produce troublesome vomiting. Within these limitations he submitted that salicylate diminished the activity of the rheumatic infection, whether the infection were in the heart or in the joint.

Dr. W. P. S. BRANSON (London) gave reasons for believing that the infection of rheumatism gains access to the blood stream as a rule by way of the upper air passages. He pointed out that though experimentally a pathogenic microbe might be found capable of traversing an intact mucous membrane, and of subsequently exciting a constitutional infection without causing a local lesion at the site of entry, still in practice this process must be very rare, since organisms destined to produce a constitutional infection must gain access to the circulation in considerable numbers before they could become established in that hostile fluid. He believed that a local focus or base of operations was a necessary prelude to the advent of a generalized infection; it was well recognized in most of the infections with which they were intimately acquainted—for instance, syphilis, typhoid fever, and septic infections—and might reasonably be assumed in the case of rheumatic fever. Where was this focus to be looked for in the case of rheumatic fever? It was a commonplace that tonsillitis was perhaps the commonest prelude of rheumatism, as it was of scarlet fever, the only other disease at all commonly attended by lesions indistinguishable from those of rheumatic fever. He thought they were entititled *a priori* to suspect the tonsils as the point of entry. He had made investigation in a series of 75 cases of Sydenham's chorea, and found that 21 per cent. of them had already been operated upon for tonsils and adenoids, 65 per cent. of them had enlarged tonsils or enlarged tonsillar glands, and some 88 per cent. of them had obvious disease of nose, pharynx, or naso-pharynx. He believed that enucleation of the tonsils in the case of rheumatic children was a rational procedure, and hopeful as regards prevention of recurrent rheumatism and its heart affections.

Dr. A. E. NAISH (Sheffield), referring to Dr. Poynton's case of auricular extrasystole following convulsions, noted the possible connexion of this with the experimental work of Dr. Goodman Levy, in which stimulation of nerves under low chloroform percentages produced multiple tachycardias due to extrasystoles. He pointed out the need for further heart examination of infants with convulsions. He laid great stress on the importance of keeping rheumatic children warm. Relapse in cases of carditis

when sent to cold convalescent homes had been noticed in several of his cases. He commented on the fact that in Dr. Poynton's most successful case of vaccine treatment antirheumatic serum was used with the vaccine, and asked if this suggested that there might be a field for treatment with Besredka's sensitized vaccine.

The PRESIDENT spoke of the importance of house-contagion and contact-contagion in rheumatic infection and its transference, a matter of great importance in the prophylaxis of rheumatism. He pointed out that the poor were much more liable to rheumatism than the rich, although enlargement of the tonsils and adenoids were seen quite as commonly among the rich as among the poor. This difference he attributed to the greater exposure of the poor to chills and damp. Tonsillotomy he thought a most disappointing operation. Tonsillectomy, though more dangerous, certainly gave better immediate results. Irregular action of the heart he believed to be very generally negligible in children, and he commented on the rarity with which rheumatic pericarditis was complicated with pericardial effusion.

Dr. CAREY COOMBS, in reply to Dr. Chaffey, said that a history of tuberculosis would seem probable in rheumatic children if they considered how important a fact poverty played in predisposing to both infections. Whether there was any more direct connexion would have to be worked out, for it seemed likely to be a very profitable line of investigation. In reply to Dr. Murdoch, he said that in a series of autopsies on cases of rheumatic carditis, pericarditis was discovered in about two-thirds. Collections of fluid exceeding 4 oz. in quantity were very few—not more than half a dozen. He regarded rheumatic pericarditis as a feature of rheumatic carditis, and not as a disease in itself. Viewing it in this light, he looked upon clinical evidences of present or past pericarditis as proof that the heart was or had been visited by a large dose of the infective agent. He had been struck by the much greater incidence of aortic valvular disease in boys than in girls; of boys with rheumatic carditis, about twice as large a percentage exhibited evidences of aortic disease as in girls. In his experience the diastolic bruit was often heard only over a very small area low down on the left margin of the sternum; the fact that it was aortic in origin was in many cases corroborated only by the discovery of capillary pulsation. Dr. Miller had insisted upon the primary importance of parenchymatous as contrasted with interstitial lesions in the myocardium in acute cardiac rheumatism. This was borne out by an examination of physical signs; dilatation, referable to parenchymatous injuries, was practically constant, whereas evidences of focal damage, such as heart-block and extrasystoles, were comparatively infrequent. He must confess himself a believer in the reasonable use of salicylate; as Dr. Millier had said, their disappointments had been largely due to their over-sanguine expectations. Dr. Branson's advocacy of tonsillar enucleation was very encouraging, and he felt that they ought to have, as soon as possible, some account of a series of cases in which this had been practised, with details as to subsequent rheumatic histories. The President had pointed out the influence of poverty as a predisposing agent, and with this he cordially agreed. He thought enucleation of tonsils likely to be of value if by this means they might hope to remove from the body streptococci lying latent there.

THE SURGERY OF CHILDHOOD:

A PLEA FOR THE MORE EXTENSIVE USE OF THE OUT-PATIENT DEPARTMENT FOR OPERATIONS IN CHILDREN.

By JAMES H. NICOLL, M.B.,

Extra Honorary Surgeon, Children's Hospital; Surgeon, Western Infirmary, Glasgow, etc.

IN a paper read at the Annual Meeting of the British Medical Association in Belfast,[1] founded on an experience of some 9,000 operations performed during the preceding ten years in the out-patient department of the Royal Hospital for Sick Children, Glasgow, I advocated the relegating to the out-patient operating theatre of a much larger proportion of the surgical cases than is customarily sent there, and, in particular, pleaded that "in children under 2 years of age there are few operations indeed which cannot be as advantageously carried out in the out-patient department as in the wards," with great resulting gain to the hospital's accommodation and efficiency.

Notwithstanding much adverse criticism, my opinion has been only strengthened by further experience; and that experience leads me to express, in the present paper, the view that the age limit as stated above is too low. The age limit for out-patient operating is largely fixed by one factor in the case—namely, the portability of the patient. That will necessarily, in any given case, depend on the distance of the patient's home, the strength of the parent or guardian, and the size of the patient for his age. Children up to the age of 5 or 6 can be, as a rule, easily carried.

Up to the present date I have performed, in the Children's Hospital, in the Western Infirmary, and in private practice, considerably over 20,000 operations in out-patient children. In a city such as Glasgow these have naturally included a considerable proportion of cases of tuberculosis of bones, joints, and glands. The list, however, includes, in greater or lesser number, a wide range of affections. The paper above referred to gives the actual comparative numbers of certain of them for a decade (1899 to 1908 inclusive), and, as that decade is a fairly representative one, no useful purpose would be served by burdening this paper with a very lengthy statistical analysis. My present purpose will be served by indicating that the list includes operations for hernia, hydrocele, talipes, spina bifida and cephalocele, harelip and cleft palate, mastoid disease, hypospadias, epispadias and extroversion of bladder, imperforate rectum, pyloric stenosis, vesical calculus, birth-fracture of skull, undescended testicle, ganglion, prolapsus recti, web-fingers, dermoids, cicatricial deformities, intestinal obstruction, ununited and malunited fracture, and numerous less common affections. Certain series of the cases have been at different times published as bearing on special subjects, and, in connexion with spina bifida, hydrocephalus, hernia of the ovary, pyloric stenosis, ligature of the jugular, birth-fracture of skull, harelip and cleft palate, etc., will be found in the BRITISH MEDICAL JOURNAL, *Annals of Surgery*, *Glasgow Medical Journal*, *Edinburgh Medical Journal*, and the transactions of various societies.

In infants and young children I have found the results of surgical operations quite as good in the out-patient department as in the wards, and in the case of young infants—and I say it deliberately—considerably better; and my main object in presenting this paper is to put forward a plea for the reorganization of our children's hospitals.

A modern hospital for children properly organized should give a considerably larger return of work done per guinea charitably subscribed than can be obtained in a hospital for adults. Further, it should give a larger return than is being furnished by any of our children's hospitals at present. To attain the maximum of work a children's hospital should, on its surgical side, comprise the three following departments:

1. The in-patient department of theatre and wards. This should be reserved for (*a*) children beyond the portable age. Under the working conditions which I am outlining there would remain in this category many of the osteotomies for genu valgum and varum, many of the excisions and erasions of joints, fractures of the lower limb, and many of the operations for appendicitis, peritonitis, intestinal obstruction, empyema, etc.; but there would largely disappear from it operations for hernia, hydrocele, cleft palate, congenital talipes, and other affections, which would be treated, as I treat them now, in the out-patient department in infancy or early childhood. (*b*) Children whose homes are at a distance. (*c*) Cases in which extended diagnostic observation is necessary; and (*d*) cases in which special after-treatment, such as saline infusion for shock or the care of a tracheotomy tube or colostomy opening, is necessary.

2. A hostel for sucklings and nursing mothers, either in the hospital or hard by. For years I have had such accommodation near the Glasgow Children's Hospital, and speak not without experience when I say that the lack of it in our hospitals in general results in the loss of many infantile lives annually. The new Children's Hospital nearing completion in Glasgow contains such accommodation, and one can only attribute its absence in children's hospitals generally to the absence, or comparative fewness, of women on the governing boards. No woman requires

to be told that to add sudden weaning to the ordeal of a surgical illness necessitating operation is heavily to weight the scales against recovery.

3. The out-patient department. This should consist of the operating theatre, undressing room, recovery room, and room for changing dressings.

In Glasgow there is in the out-patient department a staff of nurses under the direction of a sister, with, in addition, a house-surgeon. The members of this staff visit patients at their homes. Very rarely, however, is an operation case visited. The patients are brought back by their parents or guardians for inspection, and ultimately for dressing, on the date given them. In any specially serious case three addressed post-cards are given the parent on the day of operation, with instructions to report daily and to return on the fourth day, and with the intimation that in the event of any emergency arising a message will bring one of the staff at once. Our nursing staff visits are almost exclusively to cases of morbus coxae and spinal caries lying at home on extension, to cases of psoas abscess and of extensive burns. The immunity from accident which we have enjoyed is largely due, there can be little doubt, to the thoroughness in detail which the exigencies of out-patient operating engender. In such a triviality as a circumcision even, a carelessly tied vessel may produce alarm and even danger miles from hospital, while in hospital it means merely the summoning of the house-surgeon from his room.

The class of cases treated in the out-patient department is indicated in the list given above, and my experience leaves me no alternative to the opinion that in children under 5 or 6 years of age there are few operations which cannot be carried out as advantageously to the child in the out-patient department as in the wards, and at a tithe of the cost to the hospital. Under such a system as I indicate a hospital's financial resources are not wasted, its turnover of work is largely increased, its beds are reserved for cases proper to them—that is, cases which cannot be dealt with outside hospitals—the waiting list is kept down, and many young children are cured of their ailments within a couple of weeks of their first attendance, instead of having to wait months or even years for admission.

To get the best results in out-patient work, each surgeon should have at his disposal, in the wards or in the out-patient department, one emergency bed or cot, the term of occupancy being strictly limited to four days, a date which covers that of the surgeon's next day on duty. After that, if the patient is still not in a condition to go home with safety, his case should be transferred to the in-patient service.

Emergencies *will* arise in operations, and in the case, for example, of a torn jugular in the peri-adenitic confines of a mass of caseating cervical glands, to send the patient to a distant home is not fair to the patient, while to send him into the wards is equally unfair to him, to the out-patient surgeon, and to the in-patient surgeon who is ignorant of the position of matters in the operation area.

Working both in a general hospital for adults and in a children's hospital, I have long been conscious of three effects which experience in the latter is increasingly producing in the work in the former:

(*a*) The routine operative treatment of surgical affections in infants in the out-patient department is largely removing these affections, not only from the wards of the children's hospitals, but also from the lists of the general hospitals. The elimination of all hernias present in infancy from the total number of those at present treated in adolescence and adult life is an instance in point.

(*b*) The practice of not preparing the part for operation until the patient is under anaesthetics on the table receives full support from the results of operations in a children's out-patient clinic where preliminary preparation is impracticable. Further, the experience of operating through skin merely washed with soap and water, followed by methylated spirit in young children, tends to the attempt to simplify the process of preparation in adults.

(*c*) Experience of abdominal section and herniotomy in out-patient children, who are, of course, not kept recumbent or only partially and intermittently so, will speedily convince any surgeon that many of our adult patients are still kept needlessly long in bed after similar operations.

REFERENCE.

[1] The Surgery of Infancy, BRITISH MEDICAL JOURNAL, September 13th, 1913.

CARDIAC EFFICIENCY FROM THE SCHOOL POINT OF VIEW.

By ALFRED A. MUMFORD, M.D.Lond.,
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Need for Practical Standards of Cardiac Efficiency during School Life.

THE increasing demand for individual strenuousness, not only in school studies but also in school games, exercises, and athletics, brings out clearly the fact that a considerable proportion of adolescent boys and girls are, by reason of circulatory inefficiency, not capable of working to the standards that are usually set, however moderate these standards may appear to be. In part this failure is due to the fact that the natural physiological variation to be found in all organs is to be found in the circulatory system, and in part to the fact that several forms of disease occurring during infancy and early childhood set a severe handicap upon the circulatory system, and therefore impair the power of sustaining prolonged strain or supporting prolonged attention in any direction at a later period of life. The compulsory medical examination of children attending public elementary schools brings out certain facts in regard to the prevalence of both mild and severe disorders of circulation, though the problems of the circulation that occur during primary education are comparatively simple compared with the problems of the circulation that occur during secondary education, for this involves a much higher level of effort, and takes place during adolescence.

The standards of cardiac deficiency based on cardiac abnormality are quite inadequate and often misleading. The established methods of physical examination of the chest give us, it is true, certain limited information to the existence of previous disabling disease. This information is often misleading, and standards based solely upon it are often deceptive. They do not sufficiently put us on our guard against the temporary cardiac and circulatory debility following acute febrile conditions, such as influenza, tonsillitis; they do not tell us of damage done to the vasomotor apparatus by such diseases as diphtheria and severe scarlatina; nor do they guide us much in deciding upon the degrees of efficiency of the heart muscle to withstand strenuous exertion.

As for the rough and ready standards current in school practice, the general method of admission to school life, at least in day schools, allows all boys to enter school games and sports unless certified as physically unfit. The finding out of weaklings is left to the chance course of events. The same applies to compulsory gymnasium drill or attendance at swimming baths. Dr. Clement Dukes long ago (Second International Congress on School Hygiene) wrote: "No physician can certify that the boy can run, although he may sometimes be able to say that he cannot."

The only sufficient school test is the response of the heart and circulation to increased activity. The real test of cardiac efficiency is capacity to respond to effort demanded. It is to be measured by control over pulse-rate and vascular tension. Bodily muscular effort, particularly when sustained, involves the attainment and the maintenance of a certain degree of arterial tension and a certain pulse-rate in harmony with respiration. The rapidly increasing bodily power that takes place during adolescence is characterized by a fall in the pulse-rate and a rise in arterial tension. The following summary of a paper by Dr. James H. MacPurdy, though only based on 27 cases, clearly shows this[1]:

The Rise of the Blood Pressure during Adolescence.

No. of Cases.	Age.	Heart-rate.		Systolic.		Diastolic.		Height.	Weight.
		Horizontal.	Standing.	Horizontal.	Standing.	Horizontal.	Standing.		
2	10–11	73.25	82.1	103.1	105.0	63.1	64.15	139.8	35.8
3	11–12	80.6	84.0	103.2	102.9	67.0	66.5	143.0	35.3
9	12–13	73.4	81.9	101.2	102.9	64.3	67.4	144.9	34.6
6	13–14	76.0	84 8	106.0	104.0	64.9	65.3	147.1	37.3
7	14	77.7	87 5	102.4	106.0	64.4	68.0	150.4	38.7

The very irregularity of these results is suggestive. For the numbers are so limited that the exceptional cases divert the average in the direction of showing that early maturity and good growth seem to be associated with early rise of vascular tension, while delayed growth, especially of weight, seems to be associated with delayed rise of vascular tension—in fact, the onset of adolescence is largely a matter of the onset of rise of vascular tension.

There may be feeble circulation apart from recognizable heart weakness. Many children suffer from blueness, and even cyanosis of cheeks, ear-tips, and extremities generally, which is greatly aggravated by the effect of cold, but is not caused by it. When this condition is due to congenital pulmonary valve inefficiency the children are often very well nourished. In other cases the condition seems to be due to some vasomotor irregularity. There is a lack of arterial tension, and therefore prolonged effort is often impossible. The condition is slightly noticeable early in childhood, and has been remarked[2] during school medical inspection at the age of 5. It becomes much more common during adolescence when the pulse tension is normally rising.

All observers concur in the opinion that the effect of previous physical training on cardiac efficiency is of enormous importance, but it is only those in actual contact with school athletics, etc., who realize that there is also great danger that many delicate children may be prevented from reaching the full degree of strength possible for them because they are forbidden, often by medical certificate, from participating in any form of school activity whatever, without any reference to the severity or mildness of that school activity.

The principal school activities which call for cardiac efficiency are: (1) Swedish exercises, apparatus work in gymnasium; (2) running, jumping, and general school games, cricket, lacrosse, football, etc.; (3) swimming.

1. *Swedish Exercises.*

These, as generally practised in schools, involve very little strain on the circulation, and, though they are capable of being carried to a considerable degree of severity under special conditions, such excess is not a general rule. The exercises centre round respiratory and free limb movements. It may be said that almost any boy who is fit to attend school is also fit to attend the usual Swedish exercises, and yet medical certificates are constantly sent to school debarring boys "from all gymnastic work," which includes, or is mainly composed of, Swedish drill, to the great detriment of many who would be benefited by moderate exercise.

The principal reason for which boys really need excusing from Swedish exercise are recent acute febrile diseases, recent mild appendicitis, rupture, recent fracture, and I have seen several cases of mild Graves's disease among adolescent boys. Boys suffering from nervous irregularities of the heart, and from most forms of ordinary valvular disease, are often greatly benefited by moderate Swedish drill.

Apparatus work is of all grades, starting from the very mild exercises of inclined ladder or backboard with handle bars, the ribstall or wall-bars which involves brief momentary body suspension, knotted rope or plain rope for climbing, the rows of rings for musceling up on one arm and throwing the suspended body from one rope ring to another, work of horse-vaulting, leaping, etc., and extending to the severe exercise of "chinning," or slowly raising the body on the horizontal bar till the chin is on a level with the hands, and also to circling the bar in its various forms.

2. *Running, Jumping, etc.*

Any healthy child of 9 to 10 should be able to run or scamper for 100 yards, yet there are quite a large number who cannot run this distance. No harm can be done, except in the case of recent cardiac illness, but any failure should be noted for further observation. Boys under 13 should run 100 yards in about 14 seconds without serious strain.

Delicate Children.—As for the effect of unregulated exercise on delicate children, some interesting illustrations of the importance of watching it were given in the London County Council Report of Medical Officer for Schools, 1908. "In the case of the excursions to the Isle of Wight, 51 boys were examined by Dr. Rivière, 2 being excluded on account of well-marked mitral disease of the heart. In addition 7 boys showed some cardiac dilatation. This was slight, except in one case, A., a boy of nervous, restless type, whose heart was considerably dilated. He was advised not to go, but on his own doctor's permission he was sent, with restrictions. Another boy, B., appeared to have some chronic kidney trouble with hypertrophy in addition to dilatation. A third, C., showed some incoordination of movement, suggesting the early onset of chorea; his heart was of poor tone, but hardly dilated; he was sent, with restrictions. The others had just sufficient dilatation to be noteworthy. Two days after the boys returned from their journey; great improvement in health appeared in all who had been previously noted as sound, and no cardiac dilatation appeared in any of the 7 noted with dilatation; previously 3 showed a distinct increase. Their general health was either worse or not improved. The average sound boys, then, got much benefit from their expedition and no heart dilatation resulted, where 5 of the 7 boys with weak and somewhat overdone hearts 3 were distinctly worse, 1 was not improved, and 1 was probably saved by having been restricted; the only 2 who were not worse were boys who had been very anaemic. It is evident that with boys at these ages prolonged exercise must be avoided if they show any signs of being fagged, and that a considerable period of rest must be allowed in each period of twelve hours."

Standards at Present in Use.—The following standards of excellence are set at the Manchester Grammar School athletics, and boys receive special credit for their performance if they reach them. It is not advisable to have time limit for longer than 220 yards for boys under 14, as strain under this age is inadvisable. Half a mile sprinting under 16 is allowed, with a time limit of 2 min. 40 sec. It is a high level, and involves strain, though a trot at a lower speed involves little strain, and may be quite beneficial for most boys. The school time limit for one mile race (open) is 5 min. 35 sec. The length of time it takes for the pulse-rate to regain normal speed after any exercise should be noted in any doubtful case.

The following standards of physical efficiency for jumping now in use at this school for commendation are fairly good levels for city boys:

High jump, under 12 ...	... 3 ft. 3 in.
14 ...	... 3 ft. 9 in.
16 ...	... 4 ft. 3 in.
Over 16 ...	... 4 ft. 7 in.
Broad jump, under 15 ...	... 13 ft. 6 in.
Between 15 and 16...	... 15 ft.

3. *Swimming.*

The strain that swimming exerts on the circulation is somewhat different, for there are here three factors to be considered:

1. The effort put forth by a good swimmer is much less acute than the effort put forth in ordinary racing and sports. This is owing to the buoyancy of the water, though in the case of a poor swimmer there is such excessive and useless expenditure of energy that the exercise may be violently acute.

2. There is a much greater demand upon heat production, owing to the rapid radiation and conduction of heat from the body that occurs in the liquid as distinguished from the atmospheric medium.

3. The natural reflex contraction of the calibre of the arteries and capillaries in response to the lowered temperature of the water causes the arterial blood pressure to rise, and in many persons causes the fingers to go white and numb. There is no real disadvantage if the immersion is only short, and if the vascular constriction gives way rapidly on leaving the water when vigorous bodily movement is encouraged. If it does not give way speedily, bathing should be prohibited. Under any circumstances, where it occurs, the use of the cold bath should be very much restricted.

Temperature of the Cold Swimming Bath.—Swimmers who remain for some time in fresh water generally ask for a temperature of 70 to 74° F. In the case of public baths, especially in poor-class districts, it is often advisable to have it even warmer than this. It is a current saying among bath attendants, the poorer the district the warmer must be the water of the public bath if children are to

be encouraged to attend. It is inadvisable for the temperature of an ordinary swimming bath for boys to be below 70°, for this causes the use of the bath to be greatly restricted to the most robust, and causes a large number of abstentions among those specially needing to learn swimming. Open-air fresh-water swimming is much more fatiguing, and requires very close supervision, particularly in the case of competitive racing. The water is much colder. The standard set for commendation is the swimming along a course of about 800 yards in 18 min. 30 sec. No boys under 15 and no boys who are excused gymnasium for medical reasons are allowed to enter except by express medical permission. Boats should be available for ready help in the case of any boys getting fatigued, when full knowledge of each individual boy is not obtainable.

REFERENCES.
[1] *American Physical Education Review.* [2] See Dr. Priestly's Reports to the Staffordshire Educational Authorities, 1902-10-11.

DISCUSSION ON THE CHOICE OF METHODS IN DEALING WITH PARALYTIC DEFORMITIES IN CHILDREN.

OPENING PAPERS.

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THE subject is an exceedingly large one, but is of increasing interest for surgeons. I may begin by reminding you that deformity in paralysed patients may be due: (1) To the weight of the body acting upon joints which give way, because the power of the muscles which support them has been weakened or is absent, as in infantile paralysis, spina bifida, or compression paraplegia; (2) to contraction and contracture of unopposed healthy muscles; or (3) to spasm in certain muscles, as in spastic paraplegia.

The greatest amount of deformity is produced where there is complete paralysis of one group of muscles only, the opposing group being perfectly healthy. The more paralysis there is in a limb, the less deformity there often is. The more universally distributed the paralysis, the less deformity there will be. In compression paraplegia deformity is often slight. Here it is necessary to cure the paralysis, and I venture to assert that prolonged recumbency in a double Thomas's splint with head and feet extensions will cure every case of compression paraplegia.

Spastic paraplegia typically illustrates the extravagant deformity which may result from muscular spasm. It has been my custom to divide the tendo Achillis, cut out a piece of the hamstrings and of the adductor muscles, provide the patient with a walking instrument and a long night-shoe extending above the knee, and give him massage and exercises. This treatment I have found as a rule to be quite efficient. The child is enabled to walk with the joints of the limb in a normal position. The spasm in the muscles has a tendency to subside and the act of walking to become more natural and more automatic. The gait improves, more control is gained over the leg muscles, and instrumental support is ultimately discarded. This treatment, it is true, may extend over a long period of time, but we must remember that the disease is nearly always accompanied by more or less maldevelopment of the frontal lobes, and that the after-treatment of these children must of necessity be prolonged.

We shall no doubt learn much from the paper to be read by Professor Foerster, the inventor of the operation or section of the posterior nerve roots; but it will, I think, always be necessary to divide the tendons of those muscles which, owing to long-continued contraction, have become shrunken and shortened. Unless these shortened muscles are divided, the deformity cannot be overcome. It follows, therefore, in my opinion, that nerve section must in the majority of cases be supplemented by tenotomy or excision of the shortened contracted muscles, and that better results are likely to be obtained by posterior nerve root section when the cases are operated upon before the muscles have become cicatricially shortened.

Another group in any deformity is that which results from an injury to a motor nerve, whether by division, laceration, or compression. In these cases the nerve must be exposed, and, if found, divided; its ends must be freshened and reunited. The nerve may be paralysed by compression. I have several times in cases of ulnar paralysis found the ulnar nerve compressed by thickening of the bone filling up the ulnar groove as the result of an injury (separation of the epiphysis) to the lower end of the humerus. This new bone should be chiselled out and the groove re-established, and the pressure on the nerve removed. The ulnar nerve may also be compressed by a thickening on the inner side of the ulna as the result of a fracture. This thickening must also be chiselled away. I have several times performed both these operations, with complete recovery of the nerve, both as regards sensation and motion. In injuries about the knee, the external popliteal nerve may be so stretched by displacement backwards of the lower epiphysis of the femur as to cause paralysis of the extensor muscles of the foot, with consequent talipes equinus. I have several times chiselled off a portion of the posterior surface of the external condyle, and removed this source of pressure.

It is, however, as the result of infantile paralysis that the vast majority of paralytic deformities in children occur, and our remedies take the form of massage, exercises, fasciotomy, shortening tendons, lengthening tendons, transplanting tendons, fixing tendons (fasciadesis), and nerve grafting. I will briefly review some of these deformities, and briefly state the treatment which I have been accustomed to adopt.

In simple paralytic talipes equinus the tendo Achillis only is contracted. This must be divided. I always divide it subcutaneously. An extreme degree of contraction and shortening can thus be overcome. Open lengthening of the tendo Achillis is very rarely necessary. The deformity should only be partially corrected at the time of the operation. There is a danger that the equinus may be converted into a talipes calcaneus; therefore the section of the tendon should be an oblique one, the knife being entered at the side, passed through the tendon, and slid up, dividing the tendon into two flaps, the anterior half of the tendon being severed above, and the posterior half below. This ensures a much larger raw surface, and the danger of non-union and subsequent calcaneus is decreased. About a fortnight should be allowed to elapse before the tendon is fully stretched (the foot meanwhile resting in a Scarpa's shoe), and the position of the foot fully corrected. A right-angle tin night-shoe, with quadrant movement, should be applied every night. A walking instrument, with an uplifting toe-spring, should be worn by day. When the paralysis of the extensors is severe, and the contraction of the tendo Achillis very likely to relapse, tendon transplantation is called for. The tendon of the tibialis posticus or a portion of the tendo Achillis should be sutured to the extensor longus digitorum muscle.

In talipes equino-cavo-varus it is well to begin by curing the cavus and varus. The plantar fascia should be divided subcutaneously, each tight band of the fascia being divided separately, at several sittings if necessary. If the fascia is tight and thickened, it should be excised after elevating a triangular flap of skin and subcutaneous tissue whose base is towards the outside of the foot. The flap should be replaced and sutured at its apex. Where the foot is fat, and the circulation exceedingly feeble, excision of the plantar fascia by open operation is not advisable.

For the cure of the varus, subcutaneous division of the tibialis anticus and tibialis posticus and the internal lateral ligament sometimes suffices. In many cases, however, there is overgrowth of the head of the astragalus, owing to prolonged retention of the foot in the varus position. This overgrown head and neck of the astragalus should be removed by chisel through a vertical incision 1 in. in length over its head. Should the position of the foot not be perfectly corrigible at this stage of the proceedings, the anterior extremity of the os calcis should be removed by means of a cut directly over the dorsal surface of the calcaneo-cuboid joint. Should the varus be very extreme and the foot not yet perfectly replaceable, an incision may be made along the outer border of the foot, and, if necessary, a wedge of considerable size may be removed from the cuboid and the os calcis. In my opinion, no operation other than the above is ever necessary for the full correction of even the most severe paralytic equino-cavo-varus. I never excise the whole astragalus when the varus is corrected; then the tendo Achillis should be divided.

For the permanent cure of paralytic equino-cavo-varus during the period of growth and until the tendency to recurrence of the deformity has disappeared, it is absolutely essential that a night-shoe should be worn and that a walking instrument should be worn by day, with T-straps so adjusted as to correct either valgus or varus, and uplifting or depressing toe-springs adjusted to correct any tendency there may be in the tendo Achillis to contract or lengthen.

The peroneus longus should be divided and its distal end transplanted into the peroneus brevis, and the proximal end of the peroneus longus into the peroneus tertius. The peroneal tendons may be detached from their place behind the external condyle and dislocated forwards, so as to act as extensors, or half the tendon of the tendo Achillis may be passed round the outer border of the fibula and attached to the extensor longus digitorum tendon.

Neuroplasty may be performed; a flap from the anterior surface of the internal popliteal nerve should be dissected up and transplanted into the external popliteal nerve. Neuroplasty labours under the disadvantage that the results are often not manifested for twenty months. But it is the ideal operation; it acts on the disease at the site of the lesion; it brings about restoration of function. It is not always possible to be sure that power would not in due course have been restored by natural means alone; hence one hesitates to credit all the improvement to the operation of neuroplasty. The exact anatomy and distribution of the various bundles composing the main trunk of the various nerves have been worked out by the researches of Stoeffel, and the operation of neuroplasty thereby placed upon a much more certain foundation, so that the results obtained should show improvement in future. Stoeffel recommends that where only the peronei are paralysed the flap of the external popliteal nerve should be transplanted into the popliteal surface of the internal popliteal nerve.

For the treatment of paralytic talipes calcaneus the wearing of an obtuse angled tin night-shoe is essential, so as thoroughly to relax the tendo Achillis by night. A walking instrument by day, with a depressing toe-spring, is also essential for the same reason. Tenotomy of the extensors may be necessary. For mild cases this treatment is sufficient, but for more severe cases the peronei, if intact, should be transplanted into the tendo Achillis. The tendo Achillis may, by pleating or section, be shortened by the open operation if the nutrition of the leg is fairly good.

In extravagant degrees of talipes calcaneo-cavus the whole plantar fascia may be excised with advantage. A quadrilateral flap of skin and subcutaneous tissue should be turned back towards the heel, the fascia excised, and the quadrilateral flap replaced and sutured on each side. After excision of the fascia the foot should be stretched and the sole elongated. The flap of skin, therefore, when it is replaced, will not entirely cover the wound. The front part of the wound should be skin grafted. Nerve grafting of the distal portion of the popliteal nerve into the external popliteal nerve is indicated where the whole group of deep muscles of the calf is paralysed.

In cases of paralytic talipes valgus, the tibiales anticus and posticus are most frequently at fault, and the peronei tight. For very slight cases exercises and a boot with the heel prolonged and a valgus pad are sufficient. In more severe cases, an instrument with double irons to the knee, a valgus T-strap and a surgical boot, with a valgus spring night-shoe for night wear, are necessary. In more severe cases still, tendon transplantation must be performed. Into the paralysed tibialis anticus the peroneus brevis should be transplanted. Where the tibialis posticus is also paralysed the peroneus longus should be transplanted into the tibialis posticus, and the tibialis anticus should be attached to the tendon of the extensor longus digitorum. If the tibialis posticus alone is affected, the peroneus longus should be transplanted into it. Where the tendo Achillis is contracted the outer part of this tendon should be implanted into the tibialis posticus. There is no tendon grafting in the body which gives such good results as the implantation of the peronei into the tibiales posticus or anticus. Not only are the contracting peronei transferred from the outer side where they are deforming the foot, but even should volitional power not be restored, they at least act as tendons, drawing the tibialis posticus muscle tight and inverting the foot. In a few instances I have definitely seen inversion of the foot produced by voluntary contraction of the peronei muscles. After transplantation it seems curious that one peroneus which normally everts the foot should be made to act as an inverter. For this result re-education of the cortical centres is essential, but clinical experience has clearly demonstrated the fact that it is possible. I much prefer to transplant one tendon into another, rather than to stitch the tendon to the periosteum at certain parts of the foot, as advocated by Lange.

When the muscles of the front and the back of the leg are completely paralysed a flail ankle is the result. The patient has no power at all of moving the foot at the ankle-joint. With instrumental support such a patient can be made to walk, and the ankle can be kept in good position. It is astonishing how well in after-life a patient who has worn instruments, with the foot in good position, is able to walk even when he has no power in any muscle of the foot. Indeed, I have known a man who had no power in any single muscle below the pelvis yet walk quite well without support of any kind.

It is not until the walking instrument has been worn for some time, often for years, that one is enabled to say whether or no power is going to return to the paralysed muscles. When, however, it is deemed unlikely that power will return, and the foot remains flail at the ankle, arthrodesis should be performed. There are several incisions for this operation. The method of performing arthrodesis by means of a transverse incision has the objection that the anterior tibial artery is divided. I generally perform this operation by means of an incision along the anterior border of the tibia extending along the inner side of the foot. This incision cuts nothing except ligaments and subcutaneous tissue. It enables both the ankle and the astragalo-scaphoid joint to be opened and arthrodesed, and it also enables the paralytic extensor tendons to be sutured to the deep fascia of the front of the leg if thought advisable (fasciadesis).

It must be remembered that the astragalo-scaphoid joint is a ball-and-socket joint, and may allow excessive mobility of the foot, even after fixing the ankle joint. Arthrodesis of the ankle gives exceedingly good results. It is important that the whole of the cartilage should be removed and the bony surfaces exposed and apposed. It is not necessary to wire the bones together. It is important that the foot should be kept immobilized in good position in plaster-of-Paris for at least four months. Bony ankylosis frequently results, and, so far as function is concerned, the result is usually perfect. In every case of flail ankle, therefore, arthrodesis is the operation to perform.

I now pass to the knee. The most common paralytic deformity met with at the knee-joint is one of flexion and valgus, owing to the frequency with which the biceps muscle remains sound, whilst the quadriceps and other hamstrings are weakened. Division of the biceps and the ilio-tibial band enables the knee to be straightened by means of splints. In paralytic cases the biceps should be divided, as a rule, by the subcutaneous method, although some care is essential in order not to divide the external popliteal nerve.

In other cases where the quadriceps is paralysed, and all the hamstrings have become contracted, it will be found impossible to extend the leg fully. The hamstrings must be divided and the knee gradually straightened by splinting. It is safer and more satisfactory to divide these muscles by the open method. When the leg is straight, a walking instrument with a cap over the knee and a ring catch at the knee should be given. When the patient has become accustomed to walking with a straight knee the ring catch should be loosened daily for an increasing length of time, or a Hessings splint case appliance with elastic traction at the knee should be fitted. As I have already stated regarding the foot, so with regard to the quadriceps; it is impossible to say when power will return to the quadriceps. I have many patients who had no power at all of extending the knee when they were first put into instruments, and who now can fully extend and hold the leg fully extended and horizontal. I have one patient who was in instruments for twelve years before he began to show the least signs of returning power in the quadriceps. During the past six years he has gradually developed a quadriceps which is as large as that on the sound leg, and he has discarded his

instruments. When, however, it is deemed hopeless to expect return of power in the quadriceps, and the hamstrings are cut, the biceps and the sartorius muscles should be transplanted into the quadriceps. The incision should be long enough to enable these muscles to act vertically, and their tendons should be long enough to be attached to the top of the patella. The muscles should be united by catgut, and no other material. I never bury silk. I once had to remove five pieces of thick silk which had been placed in a boy's leg nine months before, each piece resting in a circular ulcer which had been discharging for that length of time.

When there seems little prospect of returning power in the quadriceps, the anterior crural nerve may be cut high up, its end passed through to the back of the thigh, and inserted into the sciatic nerve.

Should the deformity at the knee-joint take the form of genu recurvatum, in slight cases an instrument with a back stop at the knee is all that is necessary. In severe cases the hamstrings should be shortened, and the knee should be kept continually flexed at night. It is important that genu recurvatum should at once be controlled. It tends rapidly to increase. Ten degrees of hyperextension are normal and enable a patient to stand without muscular effort at the knee. Where the knee is flail it should be arthrodesed. The knee should be put up absolutely straight, not flexed in the least degree. The cartilage should be freely removed so as to expose the bone. The bones need not be wired together. The patella should not be removed. The limb should be fixed in plaster-of-Paris for at least six months.

Paralysis about the hip-joint does not, as a rule, call for more active treatment than tenotomy and instrumental appliances. The muscle which is least often paralysed is the tensor vaginae femoris; it is, therefore, the one most often contracted, causing the limb to be abducted. Subcutaneous tenotomy enables this deformity to be corrected. The adductors sometimes give great trouble, and these should be divided subcutaneously. In cases where they persistently contract and are unopposed by the glutei and other abductors their excision is advisable, but is rarely called for in infantile paralysis. Dislocation of the hip-joint from paralysis is a rare condition. Sometimes the head of the femur can be replaced and redislocated at the will of the patient. A leather splint case, moulded to fit the pelvis and thigh, and worn for some months, will prevent the involuntary dislocation of the hip. Should the paralysis be so extensive that no weight can be borne on the hip, and the hip easily dislocates, arthrodesis of the hip should be performed through an anterior incision. The leg should be put up in a position of slight abduction, and a plaster-of-Paris casing should be applied for at least three months.

When the infantile paralysis affects not only the leg but the trunk muscles, the spine becomes scoliotic. If a large portion of the flank muscles is affected the scoliosis is often extreme; it presents one long curve, usually convex towards the sound side. I know no operation which will remedy this defect. One has to rely upon corsets made of various materials, such as leather, celluloid, or poroplastic felt, or on instrumental spinal supports. A leather corset, with a dorso-lumbar flap cut out, will support the back, enable the patient to sit up, and walk with the trunk erect, and will prevent the deformity from getting worse. If expense is not an object, a plaster-of-Paris bed moulded accurately to the back should be given. In this appliance the patient can lie flat on his back whenever recumbent, whilst a band is so arranged that pressure on the convex lower ribs is exerted. The tendency in even extravagant cases is for a considerable degree of power to be regained in the abdominal and spinal muscles. Treatment by exercises and the above appliances gives encouraging results.

Let me now pass to the subject of paralysis of the upper extremity. Many of the more severe cases are hemiplegic in origin, due to instrumental delivery or prolonged labour. In severe cases of paralysis of the upper extremity, which is due to hemiplegia, there is more or less tendency to adduction of the arm, flexion of the elbow, pronation of the forearm, and flexion of the wrist. The flexion of the wrist, if extreme and of long standing, results in shortening of the flexors, which should be tenotomized subcutaneously. A splint case appliance, with elastic traction at the back of the wrist, should be applied to the forearm, in order to aid the wrist extensors. If there is complete paralysis of the posterior interosseous nerve, tendon transplantation must be resorted to, as follows:

The extensor carpi radialis longior tendon should be fixed to the extensor communis digitorum, and part of the tendon of the extensor carpi radialis brevior to the extensor longus pollicis. If these muscles are also paralysed, then the extensor tendons should be shortened by pleating, and the flexor carpi ulnaris and flexor carpi radialis tendons should be sutured to the extensors.

A portion of the median nerve just above the elbow may be elevated and united to the posterior interosseous nerve. The pronated position of the forearm is rendered constant owing to the fact that the pronator radii teres has become shortened. When the forearm is supinated, the pronator stands out as a firm, strong band. Until this is divided thoroughly by the open method even passive supination is impossible. After its division, however, the patient slowly regains or increases the power of supination. In many cases of hemiplegia the elbow has been so long retained in a flexed position that the biceps muscle has shortened. This should be subcutaneously divided. Should this contraction of the biceps be secondary to paralysis of the triceps, which has persisted, nerve grafting should be performed as follows:

At the shoulder the pectoralis major is often very much hypertrophied and shortened. At the back of the arm there is often a fascial or muscular band, passing across the posterior border of the axilla, which prevents a weakened deltoid muscle from elevating the shoulder. These should be divided by the open method. In many cases rotation of the humerus outwards is also prevented, owing to the fact that the arm has been rotated in and adducted for so long a time that the subscapularis muscle has become cicatricially shortened. This muscle can be distinctly felt in the axilla to stand out as a short thick band. The inability to rotate the arm externally prevents many movements from being performed. The hand cannot be passed to the back of the head; the hand cannot reach the mouth without the elbow being elevated, and so on.

The subscapularis muscle, where tight, should be divided through an anterior incision, as for ligature of the third part of the axillary artery.

In cases of extreme paralysis of the shoulder, due either to a wrench of the brachial plexus at birth, or infantile paralysis of all the muscles of the shoulder girdle, resulting in a paralytic dislocation or an extremely loose shoulder-joint, where there is very little prospect of recovery, there is no operation which gives such excellent results as that of arthrodesis of the shoulder-joint. I have usually performed this operation through an incision along the posterior part of the acromion, just below the spinal portion of the deltoid. An incision at this point enables the shoulder-joint to be opened with ease, and the cartilage of the head of the bone and the glenoid fossa thoroughly removed without damage either to the circumflex nerve or to other structures. It is difficult, in my experience, to obtain a bony ankylosis of the shoulder-joint. Though the ankylosis be not bony, yet the head of the humerus is firmly held in place by close fibrous adhesions, and no longer dislocates. I have many cases where, after this operation, the biceps, which was completely paralysed, has recovered power.

In a few instances the paralysis seems to affect the deltoid muscle only, with consequent loss of power of abduction of the arm, or of drawing the arm backwards or forwards. For the remedy of this condition I have on two occasions attempted to unite the trapezius to the deltoid muscle, removing the attachment of both of them to the spine of the scapula, but in both cases without a satisfactory result. The clavicular fibres of the pectoralis major muscle, if acting, may be detached from the clavicle and attached to the outer edge of the acromion. If the muscle becomes attached it will act as an abductor of the arm.

It is in cases of this class, however, that nerve grafting should be energetically tried. The circumflex nerve can be easily isolated, and the particular portion which goes to the deltoid easily demonstrated. A portion of the median, the musculo-spiral, or the subscapularis nerve may be transferred into the circumflex nerve; the best operation.

in my opinion, is to transplant the fibres of the musculo-spiral nerve which go to the middle head of the triceps. This part of the musculo-spiral nerve can easily be attached to the circumflex nerve.

Paralysis of the elbow is often associated with loss of power about the shoulder. After arthrodesis of the shoulder it is usual for power in the biceps to return. Should the biceps remain paralysed, and the muscles of the forearm be sound, a portion of the median nerve should be transplanted into the musculo-spiral. Should the triceps be sound, a portion of the triceps can be transplanted into the biceps. If the triceps only is paralysed, a portion of the median nerve may be transplanted into the ulnar side of the musculo-spiral nerve. In complete paralysis of the elbow and forearm, arthrodesis of the elbow should be performed, and the arm fixed at a right angle.

In conclusion, I wish to say a few words about deformity from shortening. It is unusual for a paralytic leg to be more than three inches shorter than the sound leg. The older the patient, the longer the paralysis has existed, the more extreme the paralysis on one side only, the more shortening there will be. It is the result partly of disuse and partly of atrophic disturbance, leading to maldevelopment. Up to the amount of two inches I think it is best counteracted by shortening the opposite heel, by lengthening the heel of the boot of the bad leg, and by a certain amount of cork within the boot of the bad leg. In larger amounts than two inches, and where the wearing of a cork boot is objected to, the advisability of dividing the sound femur obliquely and allowing it to shorten should be entertained. I do not approve of allowing the foot to acquire a talipes equinus, because when the patient grows up all sorts of troubles take place about the toes as the result of this position.

II.—Professor O. FOERSTER,

Breslau.

AMONG the paralytic deformities in children spastic paralysis plays a considerable rôle. One of the methods of treating this motor disturbance is the resection of the posterior spinal nerve roots. The danger attending this operation is not so great as generally supposed. I count up to the present 237 cases thus treated, with 20 deaths—that is to say, a mortality of 8.4 per cent. Among these, 200 were children, with 15 deaths, or a mortality of 7.5 per cent., and 138 of these children were cases of Little's disease, with 8 deaths, or a percentage of only 5. The more familiar we have become with this operation, the lower the rate of mortality. We have also met with some contraindications to the operation—for instance, the presence of epilepsy. As to the practical results: First of all we must bear in mind that root resection is not a curative operation, removing the disease itself, but a palliative operation directed against one symptom, the spasticity. Thus it is only justified in stationary or very slowly progressing diseases, such as Little's disease, spastic paraplegia or hemiplegia consequent on an acute encephalitis, some cases of hydrocephalus. On the other hand, a spastic paraplegia in tuberous or lobar sclerosis, infantile disseminated sclerosis, hereditary syphilis, many cases of hydrocephalus, Pott's disease, ought not to be subjected to the operation, for in these the disease tends to progress.

The operation I am here to describe to you is based upon the fact that in spastic paralysis the spastic symptoms are caused by the unimpeded afflux of sensory stimuli to the spinal grey matter consequent on the deficiency of the inhibitory fibres of the pyramidal tract. As you see, the resection of the posterior roots carrying these sensory stimuli removes the spastic symptoms. But there exists in every spastic paralysis besides the spasticity the paralysis proper, which is not ameliorated by the operation. This spasticity is due to a lesion of the pyramidal fibres that innervate the spastic muscles. A practical result can only be obtained if a certain amount of voluntary muscular activity is conserved, which fortunately happens in the majority of the cases of Little's disease; less so in many cases of encephalitis, hydrocephalus, and spastic paraplegia consequent on a disease of the spinal cord. Also in hemiplegia, the innervating fibres of the arm are more or less paralysed. Good results can only be obtained in the rare cases in which the spasticity is considerable, the paralysis proper slight. Among the 8 cases of spastic arm paralysis operated upon with my collaboration, I count only two satisfactory results (Professor Foerster illustrated this point with a series of lantern slides). Resection of the posterior roots is only applicable to the genuine spastic contractures consequent on a lesion of the pyramidal tract, since the spasticity is produced by the unimpeded sensory afflux to the spinal grey matter. All other muscular spasms, particularly mobile spasm, athetosis, etc., have no direct connexion with the posterior roots; they correspond to a motor stream, coming from the middle brain and carried by motor paths to the anterior horn of the spinal cord. In the fifteen cases of athetosis operated by resection of posterior roots the results have been discouraging, as was to be foreseen. I lay stress upon this fact, since, especially in infantile cerebral diseases, mobile spasm and genuine spasticity are not always distinctly differentiated. Often, indeed, they are intermixed with each other, and in such cases the root resection does some good. The root resection is to be made only in cases where, more or less, all muscles of the extremity are spastic—namely, in all severer cases of Little's disease, and other cerebral and spinal spastic paraplegias. In slighter cases the spasticity is restricted to single muscle groups—for example, to the plantar flexors of the foot, the flexors of the knee, the adductors of the hip. In such instances other methods are preferable because they are simpler, especially the operations on the muscles and tendons, or the partial resection of the motor nerves of the spastic muscle inaugurated by Spitzy. Also in infantile hemiplegia both the leg and the arm often show localized spasticity, the latter especially in the pronators, the flexors of the wrist, and the flexors of the elbow, in which cases operations upon the tendons and motor nerves suffice.

Turning now to the operation itself, I should like to deal especially with the question how many and which roots are to be excised. The main point is that as many roots as possible be resected, lest through the remaining roots the spinal grey matter be gradually recharged, and the spasticity return. For spastic paraplegia I therefore recommend resecting at least five roots. I have prepared a list showing the effect of the electric stimulation of each single root. The second sacral supplies the spastic plantar flexors of the foot, and must therefore be resected. The first sacral and fifth lumbar supply the spastic flexors of the knee, and must also be resected. The fourth, third, and second lumbar supply the extensors of the knee. One of these roots, the fourth lumbar, must be left unresected, in order that the extensor reflex, which is essential for the upright standing posture, be partially conserved; the third and second lumbar are resected, thereby relieving also the spasticity of the adductors supplied by those roots. Sometimes the electric stimulation of the fourth lumbar produces no knee extension, but knee flexion, and then extension of the knee is only produced by the third and second lumbar nerves. In such a case it would be wrong to resect these two roots, for this would completely destroy the extensor reflex and abolish the knee-jerk too. In such cases we resect the fourth and second lumbar posterior roots, and conserve the third. The after-treatment is of the greatest importance. Root resection removes only the genuine spastic contractures, but not the secondary shrivelling of the muscles and tendons. This must be eventually treated by tendoplastic operations, especially on the Achilles tendon, on the adductors or the knee flexors. Besides this, for some muscular groups the resection of the peripheral motor nerves according to the method of Spitzy and Stoeffel is advisable—for instance, for the flexors of the toes, the pronator of the hand, the adductor of the thumb, and others. In walking the toes have the tendency to grasp the ground, which is very disturbing. Resection of the motor branch of the tibial nerve, corresponding to the flexor digitorum, completely removes this disturbance. After all this a particularly careful orthopaedic and gymnastic treatment must follow. The root resection is, so to say, only the preliminary; the main point is the exercise treatment, which again is utterly impossible without the root resection. By the operation the flexor reflex of the legs is not completely abolished.

This reflex, by which the legs are carried again and again into flexion, is terribly disturbing in every case of spastic paralysis. It even appears again in an increased form through any irritation of the limbs, such as forced movements, stretching of the sinews and muscles; and, lastly, operations upon the same. I show you a lantern slide that proves how, even after root resection, the legs are held in flexion. At the beginning the flexors are not spastic, but if the legs are left in this position for a longer time a certain spasticity of the flexors again ensues. The legs must be therefore carefully extended by means of removable casings. To effect the greatest possible degree of extension of the hip-joint I sometimes put the pelvis in a raised posture. The same point of view is applicable also to the adductors, inward rotators, and the plantar extensors of the foot. The legs must consequently be kept in abduction, outward rotation, and the feet in dorsal flexion by means of these supports, as the figure shows, and only be taken out for exercises. The exercises which are first to be taken into consideration are the movements of each leg singly and of each segment of the leg in the recumbent position.

Then follow the standing and walking exercises. The majority of the cases subjected to the root resection have never been able to stand or walk. Immediately after the root resection, too, the legs give way. First of all, the extension of the knee must be practised, often passively assisted by the hands of the teacher or by a special apparatus, a strip holding back the knees. Very often there exists a lateral deviation in the hip-joints: the projecting hip must be forced into position, which is obtained by a spur on the standing apparatus pressing against the hip. In the first standing exercises the patient is held up with both hands; later on two crutches are used, then two sticks, later on one stick, then the patient must stand alone with the legs apart, and at last he must stand with the feet close together.

In walking exercises we must consider first the supporting leg, and indeed, just as in standing, first the knee, easily giving way, must be extended, secondly the hip-joint must be straightened, thirdly the lateral deviation of the hip-joint; the leaning of the pelvis towards the moving leg must be prevented at the beginning by passive help, *later on without help*. As to the swinging leg it is sufficient at first to place it forward without any particular flexion of the leg, in wide abduction. By degrees, however, the flexion of the leg has to take place, at first by simply drawing it up. Gradually all details characteristic of the human gait must be carried out. Proceeding from the basis in which both legs touch the ground, first the heel of the hinder foot must be raised by plantar flexion, removing the weight of the body to the foremost leg. Then the flexion of the hind leg, the swinging leg, begins with a flexion of the lower part of the thigh backward towards the upper thigh. This movement must at the beginning always be passively assisted, later on it has to become free. Then all three joints of the leg must be bent at a maximum, with special regard to the drawing up of the front part of the foot and toes. Then the lower part of the thigh is extended forward, and lastly the leg is put on the ground in abduction and outward rotation. Walking is practised, as standing is, first with the help of the trainer's two hands, then with one hand and one stick, then with two sticks, next with one stick, finally alone. Also going upstairs must be practised in the same analytical way.

In applying the method I have just demonstrated, in which both operation and the analytical exercise treatment are equally important, I believe I have proved to you that several beneficial results are to be obtained. This brings me to the end of my paper, and I thank you, Mr. President and gentlemen, for your kind interest and attention.

[Professor Foerster's paper was illustrated by a series of sixty lantern slides, and by a great number of photographs, which were handed round to his audience.]

DISCUSSION.

Mr. ROBERT JONES (Liverpool) congratulated Professor Foerster on his excellent results, which he thought were enhanced by the great care in after-treatment which he practised. Mr. Jones thought the operation had only a limited field, and that equally excellent results could be obtained in most cases by simpler methods, such as exsection of the adductor origins or moving of the Achilles tendons, and a few weeks' wide abduction of the limbs. In more extreme cases, transplantation of the biceps into the patella and division of the tensor fasciae and anterior fibres of the gluteus medius, followed by prolonged education of muscles and in correct walking, resulted in very gratifying progress.

In regard to poliomyelitis it was necessary again to emphasize fundamental principles, otherwise operative and mechanical results would fail. It was necessary to make a distinction between muscles paralysed as a result of the destruction of nerve cells and muscles apparently paralysed from overstretching. The cord lesion having been recovered from, a muscle, if stretched for a sufficiently long period, would fail to act, while an overstretched muscle would regain its power if relieved from strain. To relieve this strain and to afford rest for paralysed muscles, it might be necessary to remove areas of skin and stitch the wound with the foot over-corrected. Before any transplantation was performed the stretched muscle should be relaxed for many months and the deformity corrected, so that the transplanted tendon was not overworked. Before transplanting it was necessary to compare carefully the strength of the tendon with the work required of it. It should rest where possible in a matrix of fat, should travel in as straight a line as possible, and be not handled by hand or forceps, excepting at its point of insertion, otherwise adhesions would occur. It should be inserted into bone, and should be protected mechanically for some time after its apparent recovery from erroneous deflection of body weight. Mr. Jones never arthrodesed the knee-joint in the young, and confined this operation to the ankle, mid-tarsal, and shoulder joints. He thought neuroplasty had so far failed to give the surgeon confidence.

Mr. LAMING EVANS (London) referred to four cases of spastic paraplegia, or Little's disease, for the relief of which he had performed the operation of posterior root section. These cases had been treated in conjunction with Dr. E. D. Macnamara at the Welbeck Street Hospital for Nervous Diseases. The dates of the operations were April and October, 1911, June, 1912, and June, 1913. In three cases the diminution of spasm was marked; in one case no permanent improvement had taken place. The operation he had performed consisted in the exposure of the conus medullaris and cauda equina by the removal of the laminae of the eleventh and twelfth dorsal and first lumbar vertebrae. In one case the lamina of the second lumbar vertebra was also removed. The dura mater was opened, and alternate roots on either side were divided, commencing with the second sacral; thus the second sacral and fifth and third lumbar were divided on one side, and the first sacral and fourth and second lumbar on the other. The dura mater was then closed with a continuous catgut suture, the muscles approximated with buried sutures, and the operation completed in one stage. In one case there was considerable leakage of cerebro-spinal fluid for several days after the operation. No permanent weakness of the spinal cord had to be recorded. From his experience of these cases he was satisfied that the operation of the division of posterior roots alone was insufficient for the cure of spastic paraplegia, and that the operation would always have to be accompanied by the most careful after-treatment directed to educate muscles and to prevent contractures. Further, in those cases where contractures had already occurred, the operations of tendon lengthening or tendon transference would be required in addition to the posterior root sections. Referring to Mr. Openshaw's paper, he said his experience led him to condemn the transplantation of the peronei tendons into the tendo Achillis in talipes calcaneus due to anterior poliomyelitis, as they lacked the necessary power to assume the function of their stronger neighbour. He had performed, for paralysis of the deltoid, both arthrodesis at the shoulder-joint and plaiting of the capsule, together with the insertion of artificial silk ligaments between the scapula and humerus, and

he thought that the latter operation gave better functional results.

Dr. W. J. MIDDLETON (Bournemouth) said he had listened with great interest to the remarks of former speakers, who had treated the subject from the surgical point of view. Personally he had employed a method which might be considered medical. This was a form of counter-irritation. An instrument containing thirty-three needles was used for making light punctures in the skin; these were painted over with a mixture of croton oil and cantharides in almond oil. By a persevering use of this method a good deal of power could be restored to muscles without splints or special exercises, and apparently it would form a valuable preliminary to more radical measures. It assisted in greatly improving the general health. He mentioned the case of a boy who for six years had been regarded as hopelessly incurable from infantile paralysis, chiefly affecting the lower limbs. He crawled about on all fours, and was quite unable to use crutches. Now he could use crutches well, and many muscles had regained a considerable amount of power that previously were useless. He had gained weight and had greatly improved in general health. The muscles of the lower limbs had been carefully tested by the condenser method by Dr. Cumberbatch, and many showed the reaction of degeneration.

Miss HULTMAN (Bournemouth) described a simple method in dealing with poliomyelitis: (1) Consider each affected muscle as a separate entity, and deal with one at a time, be it contracted or hyperextended. (2) In working a muscle the limb is put in such a position as to allow the muscle to act in as far as possible a direct line, and then move the joint forward and backward. In the case of a contracted muscle begin by increasing the contracture, then use the rebound to stretch it, and by this means slowly increasing the range without forcing. The same method acts with a hyperextended muscle.

Mr. R. C. ELMSLIE (London) stated that certain principles must be adopted in the treatment of infantile paralysis. (1) The limb must be splinted from the first, usually in a standard position, varied occasionally in accordance with the distribution of the paralysis. (2) The limb must be put into use for its normal purpose as soon as possible; walking apparatus is for this purpose. (3) No operation should be carried out for two years. (4) Tendon transplantation is an operation for paralysis of limited extent; only certain transplantations are useful, these are gradually being defined. (5) Arthrodesis is an operation for extensive paralysis. Practically only arthrodesis of the ankle, tarsal joints, and shoulder are useful and advisable. Mr. Elmslie asked Professor Foerster if he could give any experience of the results of neuroplasty in infantile paralysis.

Professor FOERSTER, in reply, said that only those cases of spastic paralysis were to be subject to root resection in which other methods of treating spastic paralysis had been tried without any good result, which had been the case in the majority of cases he had recounted. Cases of athetosis must not be subjected to root resection. After the lapse of weeks and months the athetosis always returned. He was afraid it would be also in the case quoted by Mr. Laming Evans. Coming to details of his operation, he said that he picked up the roots when they perforated the dura mater, not when they issued from the spinal cord; at the latter point the single roots could not be differentiated from each other, which was so necessary, since in every case the extent of the spasticity varied. Neuroplastic operations had given him bad results in poliomyelitis.

Mr. OPENSHAW replied briefly to a few of the points raised by the discussion. In particular he commended Miss Hultman's method of gentle movement of paralytic muscles; he believed that the premature electric stimulation of such muscles not infrequently did harm by increasing the spasm.

DISCUSSION ON
THE DIAGNOSIS AND TREATMENT OF ACUTE ABDOMINAL INFLAMMATION IN CHILDREN.

OPENING PAPER.

By C. B. LOCKWOOD, F.R.C.S.Eng.,
Consulting Surgeon to St. Bartholomew's Hospital, etc.

THE diagnosis of acute abdominal inflammation in infants and children has difficulties of its own.* It has often to be based on clinical observations made in perplexing circumstances. Methods of scientific investigations are of little avail. Special clinical training and experience are called for in arriving at the judgement, which is so difficult: and in seizing the opportunity, which is so fleeting. In those of tender age an acute abdominal inflammation runs its course with startling swiftness. Its march is measured by hours, not by days.

In the acutest cases there are no premonitory symptoms. The attack begins suddenly and in the midst of health. The following are not unusual instances:

Acute Onset in the Midst of Health.

CASE I.

A girl of 5 years went to bed apparently well. At 8 p.m. she vomited, and the abdomen became distended with prominent coils of intestine and complete obstruction. The whole abdomen seemed to be free from pain and not tender. In thirty-six hours the peritonitis was widespread, with much purulent fluid and flakes of lymph, and in forty hours the end came. The cause was never ascertained, but the vermiform appendix is said to have been normal.

The chances of recovery depended upon a prompt operation. No one who appreciated the significance of the intestinal obstruction would have waited. In such circumstances obstruction which cannot be overcome by test enemata is an indication for operation. Perhaps the absence of pain and tenderness might have helped to mislead.

On another occasion the significance of inflammatory obstruction was certainly overlooked for five days.

CASE II.

A boy, aged 9 years, was taken suddenly ill on November 7th with abdominal pain, distension, vomiting, and obstruction. On November 12th laparotomy was performed for diffuse septic peritonitis, caused by a perforated and gangrenous appendix. Although nearly moribund when operated upon, the boy did not succumb for nearly forty-eight hours.

It betokens great tenacity of life for a boy of 9 to have resisted an acute septic abdominal inflammation for a week. Clearly, even if the cause of the obstruction had not been understood, nevertheless the mere presence of the obstruction should have told the urgent need for laparotomy; a test enema would have shown whether obstruction existed or not. Whatever its cause an intestinal obstruction is fatal.

Here is another example of sudden onset with additional signs of danger.

CASE III.

A boy, aged 13, had been perfectly well until one evening, when he became violently sick, with pain in the right side of the abdomen. At this time the pulse was 92, and the temperature 101° F. Then a rigor occurred, and the temperature rose to 103° F. Fifteen hours after the first vomiting the area of acute peritonitis was considerable, and the abdomen had in it a quantity of turbid serum. The distal third of a long appendix was gangrenous.

The constitutional signs indicated an inflammation. The pain felt in the right side of the abdomen pointed to its site, and tenderness and rigidity were confirmatory. But the rigor was a danger signal of profound significance, and told the intensity and danger of the absorption from the inflamed and septic focus.

Rigors are not usual in children, but when they occur they point to a most dangerous, and probably streptococcic, infection.

CASE IV.

A girl, aged 11 years, with an acutely inflamed appendix of the fetal type, had—at the beginning of the attack—severe rigors, vomiting and diarrhœa. The right colon and caecum, together with the intensely inflamed appendix, had retracted in a curious way towards the liver, and this made the operation somewhat difficult.

* The term "child" is hard to define. I have included only one boy aged 14; all the others are under that age.

When an acute abdominal inflammation begins with vomiting and diarrhœa the symptoms are sometimes attributed to ptomaine poisoning. This may lead to delay which might be avoided if the focus of acute inflammation were sought for. A focus of acute inflammation in the pelvis is apt to be overlooked.

Case v.

The onset of an acute abdominal inflammation was sudden and violent in a boy aged 9. On March 29th the illness began with sudden and violent abdominal pains, a high temperature, and accelerated pulse. On the 31st all the symptoms subsided—the period of repose. Six days later an abscess with gas in it was opened in the right flank, and a perforated appendix removed from the outer side of the cæcum and colon. This patient recovered, but with an extra long scar, but fortunately in a place where ventral hernias do not usually occur.

The sudden and violent onset clearly indicated the dangerous character of the attack. It is not unlikely that a non-appreciation of the meaning of "the period of repose" led to the delay. The abscess, too, was situated in the flank, a place where it might easily have been overlooked. It is probable that an earlier operation would have resulted in a shorter and better incision. In another instance the course of events was almost exactly the same.

Case vi.

A boy, aged 4, had a sudden and acute attack of appendicitis, with a temperature of 102° F., and a rapid pulse. Then there was a period of repose, after which the constitutional symptoms were again severe, the pulse having reached 136. The abdomen became much distended, with almost complete obstruction. A week after the onset there was a hard and very tender spot above and behind the anterior superior spine of the ilium. This abscess contained much foul-smelling pus, and a concretion. The vermiform appendix was not removed, but after many years has not given further trouble.

The abscess began at the time of the sudden and acute attack, but, being favourably situated, became localized, and, for a time, the constitutional symptoms subsided. Being in a somewhat unusual place, the existence of the abscess had not been suspected, hence the delay.

The usual history when the perforated appendix is to the outer side of the cæcum and colon is illustrated by the foregoing and also by such cases as this:

Case vii.

A delicate boy, aged 7, had a sudden and violent abdominal pain whilst out for a drive. He continued very ill, with a rapid pulse and high temperature, until at last a swelling was observed in the right flank where hitherto there had been tenderness and rigidity. This was an abscess, full of foul-smelling pus, and with a concretion in it. The child recovered, and has not had further trouble.

It is difficult to believe that the presence of this abscess would not have been detected before it began to bulge if the meaning of the tenderness and muscular rigidity, together with the constitutional symptoms, had been appreciated.

When the abscess forms in the flank, the consequences of delay may be of the gravest kind, although that situation is such a favourable one.

Case viii.

A girl, aged 5 years, had an attack of appendicitis, similar to those which have been described. It was clear that an abscess had formed in the right flank, but owing to the repugnance of the friends to operative procedure it was not opened for several days. After it had been opened, extensive sloughing and gangrene of the abdominal wall set in, and death ensued from septic absorption.

Absence of Premonitory Symptoms.

Infants and children are, of course, unable to give an account of their premonitory symptoms, but it is to be noted that sometimes they may behave in the most misleading way.

Case ix.

An infant of 2½ years old ran about the nursery and played with the other children, until it suddenly collapsed. By that time the abdomen was the seat of extensive septic peritonitis, and had much pus in it. The infant died a few hours after it had ceased to run about and play.

It is difficult to say how such a calamity could have been averted. I have seen many instances of acute septic peritonitis in which the patient did not look at all ill.

The following is another instance in which the child behaved in a misleading way:

Case x.

A girl, aged 6 years, did not seem well, but complained of no particular pain, and walked about the garden. Twenty-four hours later an acute retro-colic appendicular abscess of considerable size was opened and drained.

The child must have had this abscess whilst she was walking about the garden with her mother, who naturally could not have imagined how ill the child was. However, there was no delay after she had been seen by Dr. Hope Murray.

The attack of acute abdominal inflammation may have been preceded by premonitory symptoms which had been concealed by the child, for the minds of children move in mysterious ways.

Case xi.

A little boy had an acute attack of appendicitis, but which subsided, so that appendicectomy was performed during quiescence. When interrogated after he had got well he confessed that he had had bad pains in his abdomen, which caused him to roll about the floor, but which had been concealed, he said, lest he should have been sent into the sick bay, and not allowed to play games.

Premonitory Symptoms not Recognized.

Premonitory symptoms may have occurred but their significance not been appreciated.

Case xii.

A boy, aged 13, had had two attacks of appendicitis at intervals of six months. There had been some shivering during the last attack, which was said to have been a "bilious attack followed by gastro-enteritis." After this he was placed under observation, and his evening temperature ran up to about 100° F. An acutely inflamed appendix distended with pus was removed from the pelvis.

The relatives of the child were prepared to accept the diagnosis of "bilious attacks followed by gastro-enteritis," and did not, until warned, consider the illness to be dangerous. Had the abdomen been properly examined during the so-called "bilious attack," it is not to be doubted but that acute rectal tenderness would have been found. Inasmuch as the boy had been allowed to bathe with his schoolfellows he must have been in peril.

On the whole, a history of previous attacks is rather favourable than otherwise. An inflammation which has subsided is not of the most dangerous kind.

That the diagnosis of "bilious attacks" is to be received with extreme suspicion is shown by what happened to the only son of a medical friend.

Case xiii.

The boy, aged 11½ years, was at school, and at 2 p.m., after dinner, vomited thrice, with moderate abdominal pain. After castor oil the bowels acted well, but he had further vomiting. The father, having heard his son had had a "bilious attack," at once fetched him home. Twenty-five and a half hours after the onset the boy's temperature was 100.3° F., and his pulse 90 to 120 and irregular. There was no tenderness in front of the abdomen except a very slight degree at McBurney's point. But there was great tenderness per rectum in the recto-vesical pouch. An acutely inflamed appendix was diagnosed, and inferred to be situated in the recto-vesical pouch. An appendix of the fetal type was pulled up out of the pelvis. It was intensely inflamed, with a swollen and gangrenous extremity. Recovery was speedy and uneventful.

Here, again, is a sudden onset without premonitory symptoms, and pointing to an acute and dangerous form of inflammation. The pulse was never known to have been irregular before the attack, and therefore its irregularity was a danger signal of great significance, for it indicated the absorption of a considerable dose of poison. An acutely inflamed appendix deep down in the pelvis does not reveal its presence by causing tenderness or rigidity in front of the abdomen. The tender spot is felt per rectum.

Case xiv.

A rectal examination is known to have been omitted in the case of a boy, aged 10, who suffered from occasional attacks of abdominal pain. The recto-vesical pouch contained an inflamed appendix of the fetal type, with its extremity distended and its walls thinned out by a huge concretion.

Clearly a disaster was impending, and would have occurred had not a rectal examination been made.

The Pelvic Appendix and its Dangers.

The fetal type of appendix is common in children. I met with it eleven times in 25 consecutive cases. An appendix of the fetal type, and hanging down into the pelvis, is common in children with appendicitis. It is easy

to understand that when the caecum gradually merges into the appendix, like the junction of an elephant's trunk with its head, and when such an appendix hangs into the pelvis, the conditions are ideal for the accumulation of faeces in the appendix. Should the appendix fail to empty itself, the usual sequence of events ensues; concretions form; ulceration of the mucosa, similar to the stercoral ulcers of the large intestine, takes place; and, finally, bacterial invasion of the coats of the appendix, with all its evil consequences.

Since I have watched for the pelvic appendix of the fetal type when operating upon children, I have met with it so often that I have come to the conclusion that it is one of the chief anatomical predisposing causes of appendicitis.

In very young infants there is but a small chance of an acute pelvic inflammation becoming localized, and there is no deceptive period of repose.

Significance of Pain during Micturition and of Pus in the Urine.

Pain during micturition, or retention of urine, is of deep significance.

CASE XV.

A female, aged 6 years, began one day to have acute pain on micturition. The temperature and the pulse ran up and an inflammatory swelling was felt per rectum. In about twenty-four hours Douglas's pouch contained a perforated appendix and a collection of pus with a concretion in it. The septic inflammation continued to spread and an acute toxaemia supervened, and was fatal within thirty-six hours.

Here there was no preventable delay. The significance of the pain during micturition was fully appreciated, and led at once to discovery of the pelvic inflammation, but the infection and the toxaemia were of the severest type. Thus, in the acute abdominal inflammations of children, pain during micturition, or retention of urine, is highly significant, and suggests a pelvic examination.

Acute pelvic inflammation may cause pus to appear in the urine.

CASE XVI.

Another little girl, with an acute inflammation in Douglas's pouch caused by an inflamed pelvic appendix, had much pus in the urine. The pelvic position of the inflamed appendix had been diagnosed and she was put up in the Trendelenburg position for its removal, after which she recovered.

Here is another example of the danger of the pelvic appendix and of the rapid and continuous progress of an acute abdominal inflammation in one of tender years, and of the dangers of delay.

CASE XVII.

In a female aged 7 the attack began with vomiting and constipation and pain in the right iliac region. On the third day the temperature was 102° F. and the pulse 130. A gangrenous appendix hung into the pelvis, and there was much pus throughout the lower part of the abdomen. The right ovary and Fallopian tube were much inflamed.

Whatever else might have been observed, the sudden and violent onset of this acute inflammation clearly indicated the intensity of it and the necessity for an operation long before the third day. In an almost identical case, which was under the care of my friend Ernest Bridges,[1] the dangers were recognized and an appendix with commencing gangrene was removed within seventeen hours of the beginning of the attack.

Dangers of the Period of Repose.

In older children an acute septic inflammation has a tendency to localize itself for a time, and this may be very deceptive.

CASE XVIII.

A boy, aged 9, began with an acute abdominal inflammation, which on the second and third day was thought to be subsiding. On the fourth vomiting occurred, the bowels ceased to act, the abdomen became distended, and the pulse ran up from 94 to 120. There was also retention of urine. Much thin, odourless pus was found throughout the lower part of the abdomen, and the pelvis had in it a gangrenous appendix. He died next day—the fifth after the onset—of a profound toxaemia.

After its onset, the acute pelvic inflammation had for a few hours localized itself in the recto-vesical pouch, with the accompanying brief period of repose. This had led to the belief that the attack was stationary or subsiding.

Constitutional Symptoms.

In estimating the severity of the abdominal inflammation, the pulse, the temperature, the respirations, and the blood count, are taken into consideration.

The Pulse.

The value of accurate and systematic observations of the pulse is shown by the following:

CASE XIX.

At 10 a.m. a boy, aged 11, was seen with acute tenderness at the right iliac fossa. He had gone to bed well the night before. The temperature was not raised, but Dr. J. W. Nunn found that the pulse-rate was 100. At 6 p.m. the pulse-rate was 110, and at 10 p.m. it was 125. He was excited, with flushed cheeks. There was still no elevation of temperature taken in the mouth. The vermiform appendix was intensely inflamed and wrapped up in omentum. The area of peritonitis was small, but had some purulent fluid about it. Recovery was quick and uneventful.

Taken with the acute localized abdominal tenderness, the progressive and rapid increase in the pulse-rate proved a reliable guide to the intensity of the infective inflammation.

It is not at all unusual to find the omentum adherent to an inflamed appendix, but the protection which this affords is exaggerated.

CASE XX.

A boy, aged about 10, was suddenly seized with violent abdominal pain and vomiting; the temperature speedily rose to 101° F., and the pulse-rate became 140. The abdomen was rigid, and under the anaesthetic a tumour was felt. Twelve hours after the onset a quantity of odourless pus was removed from the pelvis and right side of the abdomen. The appendix was wrapped in inflamed omentum, and a concretion slipped out of a hole in it. After a perilous illness this boy got well.

Clearly the omentum is no protection when the infection is of a virulent type.

Here is another instance illustrating the significance of progressive increase in the pulse-rate:

CASE XXI.

A boy, aged 12½ years, also a patient of Dr. Nunn's, went to bed with an abdominal pain. Next morning the temperature was 100° F. and the pulse-rate 97. At 5 p.m. the pulse was 108, and at 11 p.m., whilst sleeping quietly, it was 120. The temperature had, I believe, fallen somewhat. There was a little tenderness at McBurney's point and a little per rectum. A long appendix was pulled up from the pelvis, and its distal end was gangrenous. A rapid recovery ensued.

It is probable that the inflammation had been in progress about thirty hours. The boy was seen in the evening by Dr. Still. The meaning of the acceleration of the pulse was fully appreciated; it indicated a progressive poisoning from an inflamed and septic focus. The abdominal pain and the slight tenderness pointed to its situation.

The Rhythm of the Pulse.

Not only the rapidity of the pulse but also the rhythm of the pulse are to be taken into consideration.

I have already mentioned a case (CASE XIII) in which the pulse besides being rapid—120—had also become very irregular. That child must have been absorbing a highly dangerous poison from the area of abdominal inflammation.

I have notes of many instances in which, with moderate degrees of abdominal inflammation, the pulse was intermittent. This has always occurred in little boys. As my friend Dr. Alexander Morison taught me, this kind of intermittency is of little importance, because it ceases as soon as the child exerts himself by sitting up in bed or walking about the room.

The Quality of the Pulse.

The quality of the pulse is also to be considered.

CASE XXII.

On December 16th, a girl, aged 13½ years, was seized with vomiting and abdominal pain. On December 18th the vomiting continued. The temperature was 99° F., and the pulse-rate 95 and exceedingly full in volume. The abdomen was slightly tender in front. Inquiry elicited that micturition was painful. Per rectum the pelvic peritoneum was exceedingly tender. The pelvis contained an acutely inflamed appendix of the fetal type.

The pain on micturition and the tenderness per rectum indicated an acute pelvic inflammation, and the pulse of 96, but of exceptionally full volume, showed that it was of an acute and serious type. Here again the significance of pain during micturition had not been appreciated and no rectal examination carried out.

The Temperature.

The temperature, taken in conjunction with the other clinical signs, may help to confirm the diagnosis of an acute abdominal inflammation. I have, however, mentioned a case in which a very acute and dangerous abdominal inflammation was in progress but had not caused a rise of temperature (Case XIX). Thus it is unsafe at the beginning of the attack to draw favourable inferences from a normal temperature.

A simultaneous rise in the temperature and in the pulse-rate is a guide to the intensity of the inflammation and to the virulence of the infection.

CASE XXIII.

A boy, somewhere about 10 years of age, and who did not seem particularly ill, was admitted into St. Bartholomew's Hospital with much abdominal tenderness and a temperature of 102° F. and a pulse-rate of 120. Within a few hours the temperature rose to 103° F. and the pulse-rate to 130. The peritoneum was inflamed, with some amount of purulent fluid. The appendix was gangrenous and had a large concretion in it. It was wrapped up in the omentum, and lay upon the bladder. This child died of septic peritonitis five days after the operation. The omentum had not been much of a protection.

The duration of the acute abdominal inflammation is unknown, but had evidently been many hours. The case is to be contrasted with that in which the observation of a progressive increase in the pulse-rate led to the early removal of an inflamed appendix also wrapped in the omentum (vide Case XIX).

Leucocytosis.

When there is time and opportunity for a blood examination the diagnosis of an acute abdominal inflammation may be strengthened. An ascending leucocytosis has the same significance as an ascending pulse-rate. But when each hour is of importance, it is not right to wait for a blood examination if the means for making it at once are not at hand. But in saying this I do not wish to depreciate the importance of the blood count.

After Pneumonia.

It is well known that an acute pleuropneumonia may cause symptoms closely resembling those of an acute abdominal inflammation. But I question whether the diagnosis would be difficult if, in every case of supposed abdominal inflammation, the respirations were invariably recorded along with the pulse-rate and the temperature. When an acute abdominal inflammation is in progress there is always a moderate increase in the number of respirations, which may be more rapid as the abdomen becomes distended. But when the respirations reach 35 or 40 per minute, it is time to look for a cause within the thorax.

But even when pneumonia has been diagnosed, the possibility of a simultaneous acute abdominal inflammation is not to be dismissed.

CASE XXIV.

A schoolboy, aged 9 years, became ill with a cough and acute constitutional symptoms. The temperature rose to 102° F., the pulse to 120, and the respirations to 40 per minute. The sputum contained numerous pneumococci. Dr. G. F. Still was of opinion that the child was suffering from pneumonia. But at the same time there seemed to be abdominal pain, and the abdomen was a little distended. At first hardly anything could be inferred from the tenderness, because it seemed to be almost universal. The abdomen was so tender as to suggest an acute and general inflammation, but this was certainly not so, because a stethoscopic examination showed that active vermicular movements were going on.

Forty-eight hours afterwards the abdominal condition had become predominant. The temperature was still 102° F., and the pulse 112, but the respirations had fallen to 22. There was now marked tenderness at McBurney's point, and a leucocytosis of 14,500. The vermiform appendix was long and acutely inflamed at its distal end, which was withdrawn from somewhere about the right flank. Although I had expected to find some suppuration, no pus appeared, and therefore drainage was not considered necessary. The removal of the appendix caused a temporary amelioration, but five days later much fetid pus was let out, and ultimately the boy got well.

As the lymph on the appendicular peritoneum had in it cocci with a close morphological resemblance to encapsuled pneumococci, it may be that the appendicitis followed upon the pneumonia. Once started, it ran its course as an ordinary acute appendicitis, with a mixed infection.*

* I have once before seen an acute abdominal inflammation with appendicitis follow an attack of pneumonia, but the patient was 16 years old.—*Appendicitis*, second edition, Case 89, page 241.

During Acute Bronchitis.

An acute abdominal inflammation may occur during the course of other chest affections.

CASE XXV.

During the course of a severe attack of acute bronchitis a boy aged 14 years had sudden severe abdominal pain and vomiting which at last became almost continuous. Three days after the vomiting began the temperature was 100.8°, pulse 120, and the abdomen had much thin pus in it, caused by gangrene of the appendix. In spite of this the abdomen moved well, and was only slightly tender. After a desperate illness, and after more pus had been removed from the abdomen by a second operation, this boy got well.

It is difficult to infer the relationship between the acute bronchitis and the appendicitis; but there would not have been such a long delay if the significance of the persistent vomiting had been appreciated. Apart from that, the heightened temperature and the rapid pulse might easily have been attributed to the acute bronchitis.

Following Scarlet Fever.

I have elsewhere[2] described a perplexing case of a girl, aged 5 years, and in which, after scarlet fever, an attack of acute appendicitis came on, and ended in a localized abscess in the right iliac fossa. At first the symptoms were attributed to an acute suppurative arthritis of the hip, because that joint was kept flexed and immobile. But an examination under anaesthesia revealed the abscess, which was opened, and the child got well.

Following an Operation.

An acute abdominal inflammation occurring after an operation is to be dreaded, for in children the abdominal pain may not be particularly noteworthy, and the constitutional disturbances may easily be considered the results of the operation.

CASE XXVI.

A girl, aged 8, was operated upon for the removal of enlarged tonsils and adenoids. This was done upon a Monday. The following Thursday abdominal pain took place, with vomiting. On the Friday a period began; on the Saturday the temperature, which had been high, fell below normal, and the pulse-rate rose to 140. There had been pain during micturition. The distended abdomen was moderately tender, and likewise the pelvic peritoneum.

The abdomen had much septic fluid in it, and especially in Douglas's pouch, which contained a gangrenous appendix of the fetal type. Forty-eight hours afterwards death ensued, owing to general septic peritonitis.

The morbid anatomy and pathology were the same in character, but greater in degree, as in the other cases which were operated upon at once (Cases XIII, XXI, and XXII), and which recovered. The onset of the period may have introduced an element of uncertainty.

CASE XXVII.

The onset of the period in another girl, aged 13, five days after appendicectomy caused alarm, because the temperature was 103° F., and the pulse over 100; but the child seemed well, and nothing could be found to account for the constitutional symptoms, except some tenderness when the uterus was pressed upon.

Perforation of Intestines.

So far, with one exception (Case I), the foregoing cases of acute abdominal inflammation began with an appendicitis. But other causes are to be reckoned with. In my successful operation for diffuse septic peritonitis[3] the first patient was a boy aged 7 years, and the peritonitis had been caused by a perforation of the small intestine by the husk of an almond nut. In another case, acute localized septic peritonitis occurring in a boy, the intestine had been perforated by a bristle. I have not seen the intestine of a child perforated by a typhoid ulcer.

Tuberculous Inflammation.

In infants and children an acute abdominal inflammation is sometimes tuberculous. These cases have usually come under my care because of an acute abdominal crisis which seemed likely to require an operation. But I cannot help thinking that before the crisis there should have been premonitory signs. Doubtless physicians meet with these tuberculous cases in their earlier stages, and by suitable treatment ward off the abdominal crisis.

I have described elsewhere[4] the case of an infant, aged 3 years, who was admitted with acute intestinal obstruction. On admission the pulse was 130; the temperature then was only 97° F., but had been higher. The abdomen was not

very tight or tender, and under an anaesthetic the house-surgeon felt a tumour, which was thought to be an intussusception. It was, in fact, a huge bunch of tuberculous mesenteric glands with a good deal of acute peritonitis. These glands could not be removed. Distended coils of intestine were emptied by two incisions. The child recovered from the operation, but a year and four months later was admitted with a fresh abdominal crisis, from which she died, the abdomen being full of pus. It is to be supposed that some of the tuberculous glands which I had seen had softened or burst into the abdomen.

The intestinal obstruction was partly mechanical and partly inflammatory. It is probable that in the early stages it would have yielded to enemata. In a similar case the tuberculous glands which could be felt in the abdomen were also taken for an intussusception, because there were constipation, vomiting, and abdominal distension. But enemata were given with success, and the urgent symptoms passed away. Had the enemata failed laparotomy would have been performed. I have notes of two cases in which abdominal tumours which were obviously acutely inflamed were supposed to be tuberculous, but proved to be intussusceptions on the point of gangrene. The difficulties in diagnosis are less when in a child an acute tuberculous peritonitis has caused an effusion of fluid. The prognosis, too, is better, and recovery is aided by the removal of the fluid.

CASE XXVIII.

An acute abdominal inflammation in a boy, aged 14, and which was thought to be a second attack of acute appendicitis, proved to be tubercle of the omentum, caecum, right colon, ileum, mesentery and mesenteric glands, and perhaps of the appendix. During the attack the temperature was 101° F., and the pulse over 100. An acutely tender and painful swelling could be felt beneath the right linea semilunaris. The operation relieved the abdominal symptoms for some months, but ultimately the boy died of general tuberculosis.

The foregoing shows that whilst in infants and children an acute abdominal inflammation usually begins in the vermiform appendix, that nevertheless other causes have always to be taken into consideration.

Danger Signals.

As an operating surgeon I am usually summoned to cases in which an acute abdominal inflammation has been diagnosed and considered to be of the dangerous type which requires an operation.

But other cases are seen by physicians and by those in practice which in their judgement are likely to recover without an operation. This side of the question has not had the attention it deserves, and which I trust it will have in this debate. Even when I have come to the conclusion that the local and general symptoms are subsiding, I have the patient watched almost hour by hour, and surgical help at hand, until it is certain that the attack has subsided. If an acute appendicitis has been diagnosed, it is undoubtedly safer for an experienced surgeon to remove the appendix than to leave the patient. I never cease regretting a case in which I left a patient only to be summoned days afterwards to open an extensive abscess.

The organization of operations is so complete that an emergency operation can be carried out as well as any other, and I question whether the risks are greater. The risks are the risks of the disease, and not the risks of the operation. How often has there not been delay, although the appendix has been perforated or gangrenous?

In the acute abdominal inflammations of children the first twenty-four hours are all-important. Within twenty-four hours the clinical signs which point to the severity and danger of the attack are sure to have manifested themselves.

The clinical signs are never the same, but there is always at least one danger signal:

(1) A sudden acute onset in the midst of health, followed by an elevation of the pulse and temperature. (2) A progressive increase in the pulse-rate. (3) A rapid pulse which intermits. (4) A simultaneous and progressive increase in the pulse and temperature. (5) A rigor. (6) A leucocytosis. (7) Acute abdominal pain. (8) Abdominal tenderness, especially when its extent is known to be increasing. (9) Abdominal rigidity. (10) Pain during micturition or defaecation. (11) Retention of urine. (12) Abdominal distension and intestinal obstruction.

An acute inflammation beginning in the pelvis or in the right flank is oftenest overlooked.

The Surgical Treatment.

The surgical treatment of acute abdominal inflammations in infants and children obviously depends upon the diagnosis. In the majority of instances an accurate diagnosis can be made at an early stage, and is followed by an early operation which is successful in its results. Judging from what one hears and reads, there is a craving for a rule by which to recognize the cases which require an immediate operation and discriminate them from those which do not.

To my mind the whole matter depends upon a correct diagnosis and a proper appreciation of the meaning of the clinical symptoms, especially of those danger-signals to which I have referred. The accuracy of the diagnosis depends upon the clinical acumen, clinical training, and clinical experience of him who makes it.

The site of the incision and the steps of the operation depend upon the diagnosis. An abscess at the outer side of the caecum and colon is opened by an incision towards the right flank. Only the abscess cavity is dealt with, and the general peritoneal cavity is not, if possible, opened. The cause of the abscess—invariably the vermiform appendix—is investigated with extreme caution. The appendix is best removed if, in the judgement formed at the time, it can be extracted without undue disturbance or damage.

When the focus of septic inflammation is pelvic, an incision at the outer edge of the right rectus abdominis is usually preferred, or occasionally an incision at the inner edge of that muscle.

When a retro-colic abscess has been diagnosed, the abdomen is opened by the oblique incision and packed with gauze. After that has been done the abscess is opened and the appendix excised. In children it is very unusual to meet with an abscess in the iliac fossa or in the front of the abdomen which can be opened without encountering the general peritoneal cavity.

Sometimes the laparotomy is exploratory with an incision in the middle line. This exploration may reveal a perforation of the intestine, an intussusception inflamed and becoming gangrenous, or an acute tuberculous inflammation. A case has been mentioned (Case XXIV) in which a pneumococcic infection may have started an acute abdominal inflammation. Except in cases of traumatism, I have not met with infections of the peritoneum with the other pyogenic organisms. I do not propose to refer to the surgical treatment of the conditions met with at exploratory operations. Obviously the surgical treatment has to be guided by the conditions met with after the abdomen has been opened.

Nor do I propose to discuss the after-treatment. An early operation is followed by a quick and uneventful recovery, and but little after-treatment is required. The operations which have to be done in the later stages are followed by complications which have to be met in a variety of ways. Instead of discussing these, I suggest that our time would be more profitably spent in discussing the diagnosis, and more especially those elusive clinical signs which point to danger. If these were recognized and understood, we should have few operations in the later stages of the acute abdominal inflammations of infants and children, and there would seldom be any necessity for elaborate methods of after-treatment.

REFERENCES.

[1] *Appendicitis*, second edition, Case 65, p. 191. [2] *Appendicitis*, second edition, Case 75, p. 223. [3] The Surgical Treatment of Diffuse Septic Peritonitis, *Medico-Chirurgical Transactions*, vol. lxviii. [4] Tuberculous Disease of the Mesenteric Glands and its Surgical Treatment, *St. Bartholomew's Hospital Reports*, vol. xlv. p. 123 et seq.

DISCUSSION.

Mr. R. H. ANGLIN WHITELOCKE (Oxford) said the chief difficulty of the subject was the diagnosis. In many respects inflammatory conditions in children presented phenomena different from those obtaining in the adult. Amongst these might be enumerated the rapid onset and spread of the inflammation without any previous history; the frequent absence of pain, rigidity, or distension and constipation; there instead often was diarrhoea, the difficulty sometimes when central symptoms were present; and again in cases of pulmonary inflammation they had not infrequently abdominal tenderness and rigidity. In making a diagnosis the clinician should never fail to examine the

pelvis through the rectum, and to inquire into the action of micturition; a blood count should be made when there was time or opportunity; while the quickening pulse, with or without fever, was of the greatest importance. In female children the pain often (in the speaker's experience, in one-third of the cases) began on the left side, and had more than once turned the medical attendant from a diagnosis of appendicitis. In young male infants retraction of the right thigh was often seen, even before definite abdominal tenderness or rigidity was palpable. In cases of pneumococcus and streptococcus infection the prognosis was always grave, for in those there was almost no tendency to localization, and a diffuse and rapidly extending purulent peritonitis was the rule. Unless those cases were treated surgically early there was little or no hope of recovery. He illustrated the rapid onset and absence of symptoms in the case of a small child, aged 3½, who had been perfectly well until 11.30 one day, when, after running about in the garden during the morning, he vomited. The family doctor, happening to be in the house, was asked to see the child, and observed as the only symptom the drawing up of the child's right leg. An hour later Mr. Whitelocke saw the child, and thought, in addition, that there was slight abdominal rigidity. Laparotomy was performed at 6.30 p.m. on the same day, when a completely gangrenous appendix with a concretion was found and removed. The child suppurated violently, had a fight for life, but eventually got quite well. Exactly one week later this child's cousin had a similar attack; an eminent London surgeon saw him, and operated thirty-six hours after the onset. This patient unfortunately died, probably because it had not been seen so soon as its cousin. It was interesting from the family relationship, and that the children had been previously for some days playing together. As to treatment, as soon as the diagnosis was made of an obstruction due to peritonitis or acute abdominal symptoms, a laparotomy should be made, and he agreed with most that Mr. Lockwood advocated. In children too much tenderness could not be advocated as to surgical manipulations in dealing with them; they bore operations badly, and no more should be done at the time than was absolutely necessary. The appendix should be removed only if it was easily found. The Fowler position was not necessary, but proctoclysis, or, if this were not well borne, intravenous saline infusion should be utilized for the first forty-eight or sixty hours. Enveloping the whole abdomen, or even lower thorax, with warm applications for the first two or three days, was of great assistance in supporting the strength of the child and of assisting it the better to develop its immunity. Secondary operations should not be used, if possible, until the child had sufficiently recuperated from the illness.

Dr. W. J. TYSON (Folkestone) said: One can hardly imagine anything more important than the quick and accurate diagnosis of acute peritonitis in children. There are cases that we practically at once dismiss from our consideration—namely, all acute diseases of the ovaries, although, of course, these occur in adults, and tuberculous peritonitis; for in children these are seldom acute, and if so the diagnosis need not give us much anxiety. If, then, there is sudden perforation in tuberculosis of the bowel, then one gets all the marked symptoms and signs associated with this state. But there is a condition of intestinal toxaemia coming on suddenly in children which for the first twelve hours may cause much difficulty in diagnosis, but the case soon discloses itself. Really what acute peritonitis in children comes to in the end is appendicitis, for cases of Meckel's diverticulum disease are somewhat rare, and the treatment of these will not differ from the above. The alarming increase of appendicitis and the mental unbalance excited thereby give great cause for alertness in diagnosis. Personally I am in favour of early operation, and I have come reluctantly to this opinion. I think that every child, considering the great chance of getting appendicitis and the fatality of delay, should be within reach of an operating surgeon.

Mr. C. FIRMIN CUTHBERT (Gloucester) said: I regard a rectal examination as of importance in all abdominal cases in children. It seems that children do not at all mind this examination, and yet doctors often do not often utilize this method in young children for fear of hurting them. Some years ago my paper on a plea for early operation in appendix cases seemed to do good in my neighbourhood. With regard to matters of diagnosis—right-sided pneumonia and other such like—a surgeon should protect himself with a stethoscope, in the same way as he would in adult cases. Endeavour should be made to exclude the gastric crises of locomotor ataxy. Another illness which must never be overlooked is typhoid fever. A surgeon is liable to be asked to operate upon an abdomen which may be an ordinary case of typhoid. Another important matter is intussusception, which may be very difficult to differentiate from an acute appendix. This especially occurred in a child only a few weeks old and which began to be ill a few day previously, and then the period of repose came, and then acute symptoms, with swelling in the right lateral region. The occurrence at this very early age was exceptional for appendicitis, and one would have been more on the look-out for intussusception, and especially did the period of repose, followed by the acute symptoms with a lump in the abdomen, tend to mislead one into this actually definite diagnosis before operation, although this is not very important, considering the urgent necessity of laparotomy in any case.

Mr. S. MORGAN (Brighton) mentioned the case of a girl, aged 9, in the Children's Hospital, who was sent from the country as a case of appendicitis, but on operation was found to be suffering from a perforation of the ileum 3 in. above the caecum by a large pin. Also a case to show how very sudden and serious acute tuberculous peritonitis might be. A girl of 13 was very hot from a cycle ride when she drank milk from a tuberculous cow. In a few days she became very ill, and died in less than a fortnight from acute tuberculous peritonitis. A third case he recorded was that of a boy of 9 admitted to the hospital for acute inflammatory symptoms. On operation a flow of ammoniacal urine occurred, and it was found that a dilated urachus had been opened. The boy eventually got well.

Dr. L. A. PARRY (Brighton) remarked that every year's experience proved more positively and clearly that in acute inflammatory abdominal conditions in children, early operation was essential. One should not wait till an absolutely accurate diagnosis as to causation or exact condition of organs, or even of the particular organ affected, could be made. He was absolutely convinced that in acute appendicitis operation should be undertaken at once, in whatever condition the organ might be. It gave the best chance of recovery, for no one could possibly foretell how rapid and severe might be the progress of what at first appeared to be quite a mild case. This rule of immediate operation was one to which there were very few exceptions indeed. There were one or two points in connexion with another acute abdominal condition—namely, intussception. It was often said in textbooks that a point in the diagnosis of this condition from acute ileo-colitis was that in the former the temperature was not raised, whilst it was in the latter. Now that was not a fact; the temperature might certainly be raised in intussception, and, therefore, this point must not be relied on too much. It was also said that if a rectal examination were made in a case of intussusception no faecal matter would come away on the finger, but in the early stages this was not accurate—there might be a little faecal matter on the finger. The speaker knew that there were many difficulties in the differential diagnosis of these two conditions, and believed that if after a careful study of the history of the case and a very thorough examination one was still in doubt, it was better to do a laparotomy. Even if no intussusception were found, the risk had been slight; if the case were left and intussusception were present, disaster was almost inevitable. Like Mr. Lockwood, the speaker had seen acute appendicitis a day or two after the operation for removal of tonsils and adenoids. Sometimes abdominal pain after this operation, especially if there had been much blood swallowed, might be due to a collection of blood clot in the bowel, giving rise to a fairly definite feeling of resistance on examination. He agreed with Dr. Tyson as to the great frequency of appendicitis, and thought a committee of the Association might well be formed to investigate.

Dr. G. L. CRIMP (Walton-on-Thames) said he had one day seen a girl, aged 8, with abdominal pain in the left hypochondrium; temperature 99.6°, pulse 100, bowels open. The child was not very ill. Next day the child had less pain; temperature 98.8°, pulse 110, bowels open. He advised a more liberal diet. At mid-day on the third day the mother gave beef, potatoes, and greens, which the child only picked over, but it seemed pretty well. That evening, at 9.45, he found the child in acute pain, with tenderness in the left hypochondrium and umbilical region; temperature 100°, pulse 120, respirations 30. There was irritability of the bladder; the rectal examination was negative. He observed an inverted respiratory rhythm. The breath sounds at the right base were somewhat rougher than at the left base. He was disinclined, from the child's appearance, to believe the cause to be thoracic, so opened the abdomen, taking the route of the right iliac region, with an oblique incision, and came down on a mass of sticky, stinking pus, not very fluid, and glueing the coils of intestine together. The appendix was twined upwards, but not easily separable, so he put a tube in and closed up. The pus contained a lanceolate diplococcus, which he took to be pneumococcus. The immediate result was good. The temperature gradually subsided, and the patient seemed to be on the right road, when ten days afterwards respiration became hurried, the right base became dull, the breath sounds diminished. The child (who had for want of hospital room been operated on and nursed at home) was taken to hospital. The right pleura was explored, and pneumococcal pus let out and drained. It, however, gradually went downhill and died. While this case was in progress another child, aged 9, had been ill (supposed bilious), and he was asked to see her when very ill; he took her into hospital virtually moribund, operated, and found general peritonitis. She died next morning. These two children had been sitting next to one another at school, and were close friends.

Dr. H. BRAMWELL (Nunney) said that he thoroughly agreed with Mr. Lockwood that severe symptoms were often hidden by children for one reason or another, and it was very surprising how very severe a lesion might be borne by a child and the child go about without complaining. This was most important in appendix cases. Appendicitis with the appendix full of pus and about to burst was hardly complained of until the perforation or peritonitis commenced. He thought there was some relation between the prevalence of appendicitis and the prevalence of gastric influenza. The influenza germs attacked adenoid tissue, and appendicitis followed tonsillitis. In gastric or intestinal influenza the colon soon recovered, but the narrow appendix often did not clear itself; obstruction occurred, and appendicitis started.

Dr. C. W. HUTT (Brighton) observed that he desired to ask for information on the subject of acute intestinal ulceration not coming under the usual headings. He remembered especially two cases where investigations by competent pathologists failed to give an adequate explanation. In the first case a girl 8 years of age was sent into hospital with the diagnosis of intussusception, where the child was considered to be suffering from "acute diarrhoea," whatever that may be. No operation was performed; the child died within twenty-four hours of the onset of the symptoms. *Post mortem*, two ulcers were found in the ascending colon; a complete pathological investigation, including bacteriological examination, failed to discover the cause of the disease. The second case was that of a child 6 years of age, who was admitted into hospital for a minor operation. The child was suddenly taken ill, and as examination of the abdomen revealed signs of acute inflammation an operation was performed, but the child died within a few hours. *Post mortem*, several ulcers were found in the small intestine, but no obvious explanation presented itself. He would like to say how much he, for one, appreciated the discussion.

Dr. CHAFFEY (Hove) asked Mr. Lockwood to give his estimate of the importance of meteorism in the acute abdominal affections of children, quoting a case in which its presence had proved very confusing.

Dr. A. E. NAISH (Sheffield) emphasized the frequency of the concealment of even severe pain by children who were looking forward to some treat, and the importance to the physician of estimating the mother's powers of observation. He considered that significant should be differentiated from insignificant irregularities of the pulse in these acute cases by means of the polygraph, as otherwise there was no certainty on this point. He called attention to the slightness or absence of abnormal physical signs in the early cases of pneumonia which were liable to be confused with appendicitis. He thought that the respiration-rate not infrequently rose very high—even to 60 or over—when no pulmonary disease was present. He called attention to the acute abdominal distension which sometimes occurred late in the course of pneumonia, and which was sometimes mistaken for obstruction.

The PRESIDENT congratulated Mr. Lockwood and the Section on the excellence of the discussion that had taken place, and referred to the very difficult cases of appendicitis in infancy, so rapid in their course, so urgently calling for immediate operative interference. He quoted cases of acute pancreatitis occurring as a sequel of mumps, very difficult to diagnose, and tending to recover without operation. He could not agree with Mr. Lockwood in the belief that rapidity of the respiration in children would serve to distinguish pneumonia from appendicitis, and he commented on the absence of physical signs that so often characterized these doubtful cases of pneumonia that simulated appendicitis. He also spoke of the rare epidemics of appendicitis sometimes seen in schools, adding that the not infrequent association of tonsillitis with appendicitis was worthy of further investigation.

Mr. LOCKWOOD, in reply, answered briefly a few of the questions put to him by the various speakers.

THE NECESSITY FOR SELECTION AND FOR SKILLED SUPERVISION IN THE TREATMENT OF SPINAL DEFORMITIES BY EXERCISE.

By J. S. KELLETT SMITH, F.R.C.S.Eng.

SOME twenty-five years ago the treatment of lateral curvature of the spine presented a big problem. Cases were undoubtedly becoming more numerous owing to the drift of population to large centres, the increase of casual labour and consequent low standard of living amongst certain classes, and to the physical effects of school work upon the not too sturdy children of the towns.

Mechanical treatment of the deformity by means of a supporting apparatus was certainly uppermost in the minds of most practitioners—the very name of lateral curvature seemed to be associated with some form or other of spinal scaffolding—and yet a doubt and a dissatisfaction were present. The instrument makers' spinal support was apt to be a cumbersome affair, heavy and ill-fitting, and quite capable of increasing the deformity it was intended to cure. There were few who had the skill to produce an efficient and comfortable apparatus, and their fees were naturally beyond the reach of a large proportion of patients. The Lewis Sayre design of plaster jacket was cheap, and promised a high ideal. It was tried all over the country, but the germ of truth it contained was ineffective by reason of the neglect of certain important points in the mechanics of the spine itself; the results were disappointing. It was also disagreeable to apply and burdensome to the patient, and its abandonment was a matter of a comparatively little time. A very temperate and reasonable account of the state of affairs about this date is given in the eighth edition of *Erichsen's Surgery*:

> There are three principles of treatment that require to be carried out in the management of these cases. The first is the improvement of the general health—unless this be effected nothing can be done; the second is to strengthen the muscles of the spine; and the third to take away as much as possible the weight of the head, neck, and upper extremities.

The first and second principles are taken together. Iron, aloetics, animal food, and exercise in the open air

are recommended; together with sponging the back each morning with salt or vinegar in cold water, followed by friction of the erector spinae muscles and their prolongations either with the naked hand, or with some slightly stimulating embrocation.

> At the same time . . . the use of the hand-swing may be allowed, or callisthenic exercises practised and swimming learnt; by it the back is strengthened, and its muscles braced more effectually than in any other exercise. . . . By these means, assiduously continued for some length of time, the muscles of the back may be strengthened, and increase of the deformity prevented; and in this way the slighter cases of lateral curvature . . . may be cured.

Under the third heading there is given a warning to avoid the unnecessary employment of cumbersome machinery in slight cases.

> The heavy apparatus that is often applied to growing girls overpowers and compresses, rather than supports and directs, the imperfectly developed and still yielding skeleton. By the use of complicated machines the muscles of the back become weakened and atrophied from disuse; the pelvis is compressed and contracted; and those very evils are produced by the mechanism which it is the object of the surgeon to avert or correct.

Then follows a description of a good spinal support of the pelvic band and axillary crutch type, but again with a recommendation that even when this is employed attention must be given to keeping up the general strength, and that of the muscles of the back especially, by cold bathing and frictions.

The only allusion to Sayre's plaster jacket in the whole article is that it

> has been used for lateral curvature, but is now generally condemned, as it prevents movement completely, and thus increases the weakness of the muscles.

There is a gleam of promise in all this—a promise that the early case might be delivered from the tyranny of steel and leather harness, and cured by the employment of attention to general health and by exercises. And the value of muscle training in cases of all grades is recognized and emphasized. The pity of it is that the directions for exercise are so nebulous:

> Exercise in the open air . . . use of the hand-swing, callisthenics, swimming, sponging, and friction.

Exercise in the open air at that time meant the monotonous procession, two by two, or a languid game of lawn croquet—both unsuited to the spinal curvature case. Swimming demands great physical energy, and is not a serious training measure for a weakling with a low-grade musculature. There remained the callisthenic mistress and the gymnasium master, as often as not an ex-army instructor, who ran all pupils through the same mill, and who, from their ignorance of anatomy, were entirely unsuited to have the charge of deformed children. Their results were largely a matter of chance, and therefore did not inspire the practitioner with confidence.

The history of a lady who had the misfortune to be treated at this period is given by herself as follows:

> At 13 I outgrew my strength, and at 15 my spine was found to be curved. I had great pain and weakness in my back. A local doctor advised a felt case, which was put on hot at a place in Birmingham. At 16 the back was worse, and I went to a specialist in Birmingham, who put on a plaster-of-Paris case, which was taken off at night. He also gave me three exercises (hanging on a trapeze, pulling a rope through a pulley, and trunk raising from the prone position) to do three times a day. My days were monotonously spent in sitting in an invalid chair after my meals, doing my exercises, or lying on my face on a sloping board. It was impossible to develop in any way, and I was in misery with this 10 lb. case on my back. After six months I left off the case with my father's consent, and lay out in the open air as much as possible, but I got weaker, and my spine not any better. Finally, I went to an "all-round" doctor in London, who said I ought not to have had these cases, and that it had become a nervous disease. He told me I must throw it off and forget I had a spine, and live my life like other people. . . ."

This lady ended up with a spine so deformed and the source of such distress that it threatened at one time to cut short her professional career. The whole history reflects the great want at that time—the want of some definite and set course of treatment. Things were ripe for a strong lead, especially in the matter of curative exercise, and the strongest lead came in the form of what we may call the Swedish invasion. It is true that certain of our own men were working in the same direction, but the British are apt to throw a glamour over anything foreign; their spirit is not the spirit of Naaman; and the Swedes pushed their advantage so astutely that even at the present day a Swedish name may count for more than the finest training and qualifications. Their influence was certainly stimulating; the best of them did excellent work, but their many imitators and those who hurried over here with their nationality as their chief asset, fathered upon Petter Henrik Ling methods sufficient to make his body turn in the grave.

The same thing holds even now. Some of the so-called Swedish training institutes in London, which grant certificates to their pupils after a few weeks' tuition—and the payment of a fee—constitute a veritable scandal. The cure of spinal curvature is always one of their trump cards, and it is quite certain that the practice of these incompetents throws a great amount of discredit upon the application of exercise to disease. It is probably responsible also for some influence upon those modern writers who profess to see no good whatever in other than mechanical treatment. One of these states:

> Gymnastics will no more prevent or cure actual spinal curvature than they will prevent or cure scarlet fever, (and then proceeds): Since 1880 gymnastic exercises have been universally adopted at the primary schools. . . . At the very lowest estimate, over half the present population of the British Isles have passed through the primary schools, and have enjoyed the presumed paramount advantages of physical exercises. That being so, of course one would look for the results promised by the gymnastic practitioner. And one would expect an enormous diminution in the cases of spinal curvature. But is this so? Most certainly not. . . . Hence I think I may be permitted to very forcibly assert that exercises will not even prevent the accidence of spinal curvature, and much less can they pretend to be factors in its cure. They will neither stop nor will they remedy actual curvature.

This argument is quite fallacious. The only true deduction is that the brief periods of physical drill given at the schools are not sufficient to nullify the evil effects of desk work, and another important fact is that the movements are designed for the culture of normal children, and do not pretend to be curative in any sense.

Another author devotes nearly 200 pages to the subject of scoliosis, and dismisses the most intelligent and most effective series of exercises in a footnote quotation. A third describes the same series at greater length, but with an expression of doubt, and his directions are so sketchy that anything like exact working from them is impossible. And yet these men are authorities whose opinions are entitled to every consideration, and their attitude on this question is so opposed to that of the believers in the efficacy of exercises that it calls for careful analysis.

Any therapeutic measure is valuable in proportion to its range of application and its exact adaptation to a particular case. That is to say, that success in practice demands careful selection of cases and skilled supervision of the treatment. And this is just as true of the use of exercises in spinal deformities as it is of the use of a powerful alkaloid, or a vaccine, or the surgeon's knife in other maladies.

A certain amount of bitterness has been introduced in the wordy warfare between the advocates of the mechanical and gymnastic methods. In the beginning each took advantage of a real flaw in his adversary's armour—the cumbersome nature of the spinal supports, on the one hand; the want of an exact definition of which exercises were to be employed in which cases, on the other. Each apparently was more than a little blind to the merits in his opponent's system, and, in his desire to possess the ground between the two extremes, ignored the cases especially suited to each. But things are different now, and there is no longer any excuse for any such sharp division between the two schools of thought. It is easy to obtain spinal supports which are efficient and light. The use of plaster-of-Paris for a corrective jacket is better understood, whilst treatment by exercises has been placed upon a scientific basis, and is entitled to recognition as a definite remedial agent, although, as McKenzie puts it, it is still the Cinderella of the therapeutic family.

The truth is that the territories overlap; a good number of the early cases can be cured by exercise alone, others demand a combination of exercise and mechanical support, and some of the later ones are not suited for the powerful types of corrective exercises at all. It is necessary to

take into account the fact that lateral curvature occurs, as a rule, in what we may call a complex patient, and that surgeon will have the best results who submits each case to the most careful analysis and who gives the strictest personal supervision to whatever method of treatment he may adopt.

The following notes will serve to illustrate how advisable it is to approach the question with an open mind, and not as a partisan; and, as a firm believer in the efficacy of exercises for selected patients, I have chosen cases and instances, for the most part, in which some other factor than the crooked spine made it necessary to combine the exercises with mechanical support or other measures, or to forego them altogether.

I. The young girl passes through a period of rapid growth somewhere between her tenth and fifteenth year, and it is during this period that she is especially prone to develop a spinal curvature. Under ordinary circumstances this causes little trouble in treatment if the patient be otherwise healthy; but occasionally the mental powers seem to undergo an eclipse for the time being, and this fact may alter considerably the aspect of the case. Two types may generally be recognized. In the first the patient is of the "wiry" build, and is intellectually acute beyond the average, but she is incapable of sustained mental effort, and therefore of sustained physical effort; her mental energy, so to speak, is deficient in quantity.

N. E. S., aged 13 years. Has grown tall very rapidly. Menses not started, but mammae prominent and some general acne. Spine presents a total curvature, convex to the left, and there is definite, though slight, evidence of rotation. (Grade II. early.) Has a habit of standing and sitting with the pelvis down on the left side. After five months of exercise treatment the spine was capable of being held in the exact middle line. Exercises were done well and with great intelligence, but when supervision was withdrawn, and in the absence of any stimulus, she becomes, as the parents express it, "vacant," and assumes her vicious attitudes. She was therefore fitted with a light spinal support for wear under her corsets in the daytime. A modified programme of exercises is carried out every day and progress is excellent. There is no doubt that both exercises and spinal support will become unnecessary as adolescence is established.

The patients of the second type are usually well grown and of rather sluggish temperament, having not much mental or physical initiative; big-jointed, with loose ligaments, often presenting over-extension of the elbow joints, weak ankles, flat-foot, etc. They are afflicted in a marked degree with that lack of muscle sense which is so frequently to be noted in spinal curvature subjects.

N. H., aged 16 years. Double curve (D right convex, L left convex). Right ribs and left lumbar muscles prominent (Grade II). Shows good improvement under exercise treatment, but the nurse in charge reports that she is so "stupid" that she cannot remember her exercises from day to day, and at once assumes a vicious attitude when left alone.

L. N., aged 15½ years. Total left convex curve, with evidence of rotation (Grade II), due to asymmetry of the trunk. Very backward mentally, and is in class with girls of average age 10 years. Nurse in charge reports that she does her exercises well, but "never stands straight unless spoken to."

Both these patients are cases for combined treatment—a light spinal support, together with a full period of exercise each day.

II. In some cases the musculature is so feeble and the capital of energy so small that even the most gentle exercises produce injurious fatigue. This state of things occurs generally in older patients, in whom an acute or chronic illness has led to an exacerbation of an already existing curvature; they are often the subjects of abdominal ptosis and chronic digestive troubles. Such cases present a considerable problem. I have employed lately the Bergonié method of exciting muscular contraction, by means of a faradic current of low tension, with excellent results, not only as regards the muscles themselves, but also as regards the abdominal troubles and the patients' general state. They soon reach a condition in which they are able to perform their voluntary exercises with comfort and with benefit.

M. C., aged 43 years. Double curve of long standing, with marked bony deformity (Grade III). She suffered for some time past from dyspepsia, and is now wasted to the point of emaciation. Marked abdominal ptosis. The spinal trouble has recently become acute; the deformity is increasing, and the lower curve (D 10 to L 3) is the seat of great aching pain. Any attempt at exercise produced great exhaustion. This patient was therefore treated by the Bergonié method for several weeks, and is now successfully stopping the fresh spinal symptoms by means of appropriate exercises.

III. Leduc has advocated the employment of electrolytic sclerolysis in certain cases with a history of chest trouble preceding the scoliosis. He diagnoses the presence of pleural adhesions, and softens them down by driving in Cl ions. It is difficult to estimate the exact value of this proceeding, but the following is an instance in which ionic medication was of great value.

Nurse K. had undergone an extensive dissection of the posterior triangle and axilla of the same side for the removal of tuberculous glands. The scars thickened up to an almost keloid character and became painful. The head was inclined to the shoulder and the upward arm movements were limited. This constrained attitude led to the development of a spinal curvature in the upper dorsal region. Exercises were impossible on account of the tenderness of the scars. These were treated by electrolysis, the negative pad applied to them being soaked in hot sea water, which, I think, gives a better result than plain salt solution. In six weeks she was able to commence a full and successful course of curative exercises.

IV. An important group of cases embraces those in which the spinal deformity is dependent upon or is associated with some visceral lesion. These cases have scarcely been given the prominence they deserve; the fact that pain is so frequently referred to the back concentrates attention upon the spinal curvature alone, and if this be treated without reference to the underlying cause no good result is to be expected. An inflamed or tender viscus may act upon the spinal column in two ways: (1) Through the patient assuming an habitual vicious attitude in order to relieve pressure; (2) through localized contraction of muscles provoked by reflex nerve irritation.

Both causes may be in operation at the same time. Head's work upon the second point is too well known to need reiteration.

F. D., aged 35 years. Always had a "weak back" from her fifteenth year, and has been ordered various periods of rest for its relief. Three years ago, however, pain became gradually localized to left iliac region, spreading round to waist line. This led to examination and to the subsequent fixation of the left kidney and removal of the left ovary. Improved for some time, but the spine still aches. Patient has a general curve convex to the right, with elevation of the right ribs and prominence of the erector spinae on the same side. The normal lumbar curve tends to become obliterated after standing for a little time, and there is prominence of 12 D spine in the fatigue attitude. The position of the aching pain is localized D xij to L ij. General musculature rather feeble.

This patient was prescribed a course of suitable exercises, and is showing great improvement both physically and as regards the aching pain. Exercises would not have been correct treatment before her operation.

M. C., aged 30 years. Back became painful about lower D region when 18 years of age. She saw a doctor, who diagnosed "consumption of the spine," and ordered complete rest on her back for six months, and afterwards a spinal support with a headpiece. This was worn for six months, and then discarded by the patient herself. She now presents a curve in the D region convex to the left. She complains of great pain in her right iliac region, and connects this herself with the painful region of the lower D spine. Pain much worse before the menstrual periods.

The patient was referred to hospital, where the appendix was removed and a ventrifixation of the uterus carried out. The spinal condition will be treated in due course by exercises.

One might multiply instances of this sort, but the cases quoted will serve to show the importance of careful analysis and selection before submitting the patient confidently to a course of exercises, and also how associated measures may help to a successful issue.

It would seem superfluous to insist upon the necessity for personal supervision were it not for the great number of incompetents, already alluded to, who are being turned out with certificates of proficiency in "medical gymnastics," etc. A recent number of a paper devoted to nurses contained twenty advertisements of institutions offering courses of instruction extending from three months onwards, and at a cost of £3 3s. upwards! The results may be imagined. And yet not only are cases sent to these people, but are often delivered entirely into their charge. The consequence is failure, and discredit to the whole principle of treatment by exercise.

The ideal method is to place the patient at a school where such cases are understood. The atmosphere of discipline is good, school work and rest can be duly proportioned, and the presence of other pupils undergoing treatment stimulates interest and avoids monotony. A nurse trained in one's own procedure pays daily visits

and superintends each period of exercise. But the surgeon directs the whole conduct of the case; he initiates every new movement and sees that it is carried out properly. Efficient exercises are powerful measures which have to be suited to each individual case, and it is only by strict supervision that one can realize their full value—namely, curative in the great majority of selected early cases, and an invaluable adjunct to those requiring mechanical support or other measures.

THE TREATMENT OF ACUTE POLIOMYELITIS (INFANTILE PARALYSIS).

By A. S. BLUNDELL BANKART, M.C., F.R.C.S.,

Surgeon to the Royal National Orthopaedic Hospital, the Hospital for Epilepsy and Paralysis, Maida Vale; Assistant Surgeon to the Queen's Hospital for Children, etc.

THE treatment of acute poliomyelitis presents five problems for consideration: (1) The treatment of the acute onset; (2) the treatment of recovering paralysis; (3) the prevention of deformity; (4) the correction of deformity; (5) the treatment of residual paralysis.

The Treatment of Recovering Paralysis.

With the treatment of acute illness this paper is not concerned; its chief subject is the treatment of recovering paralysis, because I feel very strongly against the almost universal teaching and practice in regard to it.

Nearly every day some child is brought to the Orthopaedic Hospital with the history that two, three, or more years ago he had an attack of infantile paralysis and lost the use of one or both of his legs. He has been treated assiduously at some hospital by massage, electricity, etc., for eighteen months or two years. At first he seemed to improve, then the condition became stationary, and now he is brought to see if something more cannot be done, at least to enable him to walk.

These cases come in great numbers with almost identical histories, some with paralytic deformities, and some without. Their previous treatment has been massage always, electricity nearly always, exercises and removable splints sometimes. These measures I would condemn absolutely. I hold that it is quite unjustifiable to massage any limb that is recovering from infantile paralysis.

Acute poliomyelitis is a disease which produces paralysis of three grades: (1) Transient paralysis, which recovers rapidly in spite of any treatment: (2) a degree of paralysis which recovers slowly if it is properly treated; (3) permanent atrophic paralysis, for which no curative treatment is of any avail. It is almost characteristic of the disease that part of the paralysis recovers rapidly. It is the slowly recovering paralysis which requires treatment on account of the changes which occur in the affected muscles.

Now, during the time that a muscle is deprived of its nerve supply, being powerless to act or to resist action, it is easily affected by comparatively trivial circumstances. Such a muscle, for instance, is easily damaged by slight violence, and I believe that many paralysed muscles are so damaged by massage.

Much more important than this is the passive stretching to which paralysed muscles are subjected. Constantly it happens that a limb, or part of a limb, falls by its own weight, or is drawn by muscular action, away from the paralysed side, thus putting the paralysed muscles on the stretch. Now, a paralysed muscle that is stretched cannot recover until it is relaxed. So, to enable recovery to take place, the part must be fixed in such a position that the paralysed muscles are relieved of tension. Stretching does not merely delay the recovery of a paralysed muscle, but it inflicts upon it an injury which may undo whatever progress has already been made towards recovery. Thus, in a case of anterior tibial paralysis, if splints are applied intermittently, every time they are taken off and the foot is allowed to drop, a step back in the treatment is taken, and the recovery has to begin again. The fixation of a paralysed part must be continuous, and here it is that massage, electricity, exercises, and removable splints find their strongest contraindication.

As I have already said, these earlier cases of poliomyelitis come to the orthopaedic surgeon in considerable numbers, and nearly always after a more or less prolonged course of active treatment. For a long time past it has been my practice to put all such cases at once into plaster-of-Paris. The plaster is left on continuously for months at a time, and when it is necessary to change it the greatest care is taken to avoid any stretching of the paralysed muscles. In this way I have been able to obtain almost complete recovery in many cases, while in the majority of others there has been great improvement, even after they have been treated, sometimes for years, by massage, electricity, etc.

There may be hesitation in adopting this treatment for fear that extreme atrophy might occur under the plaster: but atrophy from mere fixation is absolutely negligible. As often as not, on cutting off a plaster after many months, a limb appears more plump than it was before, because the muscles have recovered their tone.

Some time ago I saw a child in whom a surgeon had transplanted tendons into the os calcis for paralytic talipes calcaneus. She was then able to raise herself upon her toes, and it seemed that the operation had been a great success. But on examination I found that, when she raised her heels from the ground, the calf muscles contracted strongly. Of course, the surgeon had kept the foot fixed for months for fear of straining the transplanted tendons. If only he had carried out his after-treatment without doing any operation at all he would have got just as good a result.

It has happened more than once that a surgeon has fixed a joint for so-called incurable paralysis—the knee, for example, has been fixed by excision or arthrodesis—and the muscles have recovered. In such cases, of course, the nerve cells in the spinal cord have recovered long ago, only the muscles have been unable to respond, because they have never been given a chance to recover. When the joint was fixed the muscles had their opportunity, and they took it, only to find that the joint had been needlessly destroyed.

About eighteen months ago there was under my care in the Royal National Orthopaedic Hospital a boy, aged 3½ years, with typical obstetric paralysis. This, of course, is not poliomyelitis, but the case is strictly analogous. He had atrophy of the deltoid and scapular muscles, fixed internal rotation of the arm, and no power of abduction at the shoulder-joint. The deltoid gave no reaction at all to either the galvanic or the faradic current. He was admitted for operation on the brachial plexus, but it was obvious that no operation on the nerves would be of any use unless the contraction at the shoulder could be overcome. So, under an anaesthetic, I stretched the arm out and put the boy's hand on the top of his head, and I fixed the arm there for something like six months. At the end of that time, rather to my surprise, the deltoid was able to contract, and it reacted both to galvanism and faradism. To be quite fair, I must say that the boy was not much better off, for though I divided the capsule and many of the tendons around the shoulder-joint, the internal rotation persisted. But, viewed in the light of an experiment on the deltoid, the result shows that recovery of a paralysed muscle is possible after three and a half years, if only it is kept continuously relaxed. Incidentally, I believe that to be the correct treatment, in the first instance, of every case of obstetric paralysis.

As a clinical experiment, nothing could be simpler than the putting on of a plaster-of-Paris splint, and I am convinced that if this method of treatment is given a fair trial it will be adopted as the routine in acute poliomyelitis in place of massage, electricity, exercises, and removable splints. If recovery is possible, it will occur to its fullest extent when the part is completely and continuously immobilized in a correct position; on the other hand, recovery may be indefinitely delayed, if not entirely prevented, by unnecessary interference.

Prevention of Deformities.

It is satisfactory to note that some physicians are now advocating the routine use of splints for this purpose. It should be taught in every medical school and clinic that, with few exceptions, a deformity in infantile paralysis is the result of neglect on the part of those who have been looking after the child. If a paralysed part is constantly allowed to drop into a faulty position, a deformity will result; if it is not allowed so to drop, no deformity will result. The prevention of paralytic deformities is, as a rule, so easy that there is no excuse for its neglect.

With regard to the splints themselves, there is only one fault to find—they can be taken off, and they are taken off, for massage, etc. For fixing a paralysed limb there is nothing like plaster-of-Paris, and, because it cannot be easily taken off, it not only prevents deformity, but it really helps to bring about recovery.

Correction of Deformities.

I only want to say here that an appalling number of cases come to orthopaedic hospitals having had tenotomies and other operations done, and these have to be done again, because the deformities have recurred. To do a tenotomy and not to follow it by proper after-treatment is like slapping a child in the face—it is a useless, needless injury.

The Treatment of Residual Paralysis.

This is a subject which really deserves some consideration by physicians and neurologists. When a group of muscles in the lower extremity remains permanently paralysed a support of some kind will almost certainly be needed, or a deformity will result from the part falling constantly into a faulty position. If a child is able to walk the weight of his body will surely aggravate the deformity; if he is unable to walk the treatment cannot possibly be considered complete until, at all costs, he has been set upon his feet.

There is need for co-operation between those who are responsible for the treatment of acute poliomyelitis in its early stages and those who have to deal with it later. These cases usually come under the care of the physician and neurologist first and under that of the orthopaedic surgeon later. Unfortunately, this sequence is not generally recognized; many physicians and neurologists frankly disapprove of orthopaedic treatment, being apparently quite unaware that the vast majority of cases of persistent infantile paralysis eventually drift into the hands of the orthopaedic surgeon. These cases come in a constant stream to orthopaedic hospitals after having been treated elsewhere. Unfortunately, most of them come in roundabout ways from entirely independent sources and nearly always after a period of neglect; their treatment is then begun all over again. It would be greatly to their advantage if the need for orthopaedic treatment were recognized early, so that it might follow at once on the cessation of medical treatment. Let the physician do what he can for them, then let him recognize that it is time for orthopaedic treatment.

The use of celluloid splints has been strongly advocated by some physicians and surgeons during the last year or two. These splints have been used simultaneously to prevent deformity and to take the place of walking instruments, and it has been held to be a great advantage that the child can walk about while the paralysis is recovering.

I believe this to be a great mistake. The very last thing that one wants is for a child to walk about during the early stages of poliomyelitis. The essential thing is complete rest for the paralysed muscles, and, however perfectly a splint fits, complete rest cannot be obtained while the child is walking about. Again, as I have said, these splints can easily be taken off, and they are invariably taken off, for active treatment of which I most strongly disapprove. A good thick plaster ensures complete immobility and non-interference in a way that nothing else does. A few months' inactivity does a child no harm, and to gain useful recovery of a paralysed muscle is well worth the temporary restraint.

When recovery is as complete as it can be, and not before, the question arises of a support to supplement the residual paralysis. And, inasmuch as it will probably have to be worn for many years, if not for the rest of the patient's life, it is best at once to give the child a support which can be adjusted as he grows, and which is strong enough to stand the wear and tear of daily use. Experience of the strain to which such instruments are subjected by these children makes it difficult to believe that a celluloid splint is a suitable appliance for this purpose. And, lastly, as celluloid splints are not adjustable, constant relays of new splints must be supplied if the child is to be kept properly fitted.

I have heard pitiful tales of poor little children weighed down by the burden of cumbrous steel instruments. Half an hour in the out-patient department of an orthopaedic hospital will dispose of that myth. A properly-made and fitted instrument should not be a burden to a child, and I have never yet seen a paralysed child who could be made to walk in a celluloid splint but who could not be made to walk equally well or better in an orthopaedic instrument.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

PELLAGRA.

The following case came under my notice whilst acting as locumtenent at Llanidloes (Glamorgan):

A woman, aged 32, married seven years, with no children, had lived in a small cottage in the hills, five miles from Llanidloes, all her married life. She was never very robust, but had no illness till the summer of 1909. The first attack began with a "heat" rash, mainly on the forehead, under the eyes, over the nose and cheeks, slightly below and behind the ears, on the upper part of the neck, and on the back of the hands and wrists. The rash, at first very red and itchy, was followed by blebs, and finally peeling occurred. She felt ill after the rash was out, had vomiting and diarrhoea, and suffered from mental symptoms, for which she was treated in an asylum for six months (from October, 1909).

There has been a recurrence of the rash each summer, the time of its appearance varying with the amount of heat and sun. The distribution and course have always been the same, but she had experienced no mental symptoms since the first attack, and she had been getting progressively weaker, and for the last year had only been able to walk with a stick a short distance, owing to general weakness and her legs being "jerky." This year the rash appeared in the first week of July; vomiting and diarrhoea began about two weeks later. I first saw her on August 10th. She looked very ill and was much emaciated. The skin of the face was deeply pigmented and peeling, especially on the forehead, under the eyes, over the bridge of the nose, on the malar bones, and at the side of the neck. The lower part of the face and chin were quite clear; there was also very marked pigmentation and free desquamation on the backs of the hands and fingers and the wrists; the front of the wrists was also involved, but not the palms; the line between the pigmented area and clear skin was sharply defined and extended higher up on the radial side. The nails were not affected. The temperature was 98°, and the pulse 140. The tongue was quite clean, like raw beef. The abdomen was rather tense, very tender—indeed, hyperaesthetic all over. There was frequent retching and diarrhoea, but neither mucus nor blood was passed. She had severe cramps in the feet. The knee-jerks were very active, and ankle clonus well marked. The Babinski reflex was of the extensor type. There was no rigidity. There was some very slight lumbar spinal tenderness, but no muscular paralysis; the left pupil was rather larger than the right, though both reacted to light accommodation. She told me she had a very small "swallow." Articulation was slow and deliberate, but her mind seemed clear, though she was very querulous and exhausted, and so weak that she could not move herself in bed. She slowly but steadily improved in health, treatment being symptomatic; buttermilk agreed with her better than anything else. At the end of three weeks she could sit up in bed, and was fairly cheerful, and had evidently put on a good deal of flesh. Desquamation had then practically ceased, and the pigmentation was only faint, though still in marked contrast to the rest of the skin, which was naturally fair.

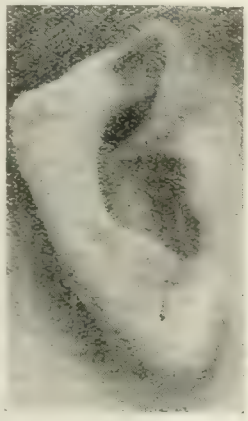
The case seems to be a typical one of pellagra. The rash recurring every summer, its evolution and symmetrical distribution and pigmentation, associated with acute gastro-intestinal symptoms, one attack of (stuporous) dementia, and affection of the nervous system, as shown in the reflexes, etc., can hardly point to anything else.

There is a small stream running down the hillside a short distance away; she has lived there for seven years, and always in this part of the country. I could hear of no other similar case in the district, but information was very difficult to obtain.

Hertford. L. R. Lempriere, M.B.

TREATMENT OF KELOID.

KELOID, growing from the jewel holes in the tip of the ear in Indian ladies, is very common and disfiguring. All attempts to remove it by the knife make matters worse, for larger and more numerous growths are sure to follow. Some years ago I began treating these tumours by injections of formalin (40 per cent. paraldehyde) with uniform success. An Indian lady has just sent me the accompanying photograph of her right ear, on which was once a keloid the size of a large plum, which disfigured her very much. It will be seen that there is no sign of a recurrence, though it is four years since the operation. The treatment is very simple. Either induce local anaesthesia or give chloroform, as the injection process is painful. About twenty injections of about five minims each of formalin were made in this case at one sitting. The tumour was wrapped up in lint soaked in boracic lotion. In a week or so it had assumed the appearance and consistency of a piece of coke. It separated in about a fortnight. The dressing was changed daily. There was no odour at any time, nor any pain to speak of. Care must be taken never to inject the formalin subcutaneously, but always into the substance of the tumour only.



Portrush. JOHN SMYTH, Colonel, I.M.S.

PNEUMOCOCCAL INFECTION OF THE LUNG TREATED WITH AN AUTOGENOUS VACCINE.

JAMES D., aged 33, warehouseman, was admitted to Victoria Park Hospital on August 21st, 1912, when I was acting as house-physician to Dr. Colbeck. He stated that he had been well until three months earlier, when he apparently had an acute illness, the symptoms of which were cough, sharp pains in the right side and back of chest on coughing and breathing, fever, malaise, etc. He was in bed for three months, after which he got about his work for a little time; his cough, however, remained very troublesome, and was accompanied by copious expectoration of thick, offensive muco-pus, occasionally streaked with blood. Anorexia, loss of weight, insomnia, and heavy night sweats added to his discomfort. He was a well developed man, coughing frequently, with copious muco-purulent expectation, and experiencing some moderate dyspnoea. The temperature was 103°, the pulse 124, and the respirations 44; the tongue was covered with a thick yellow fur, and the breath was very offensive. Movement of the chest was poor, especially on the right side, the base of which scarcely moved at all. On measurement slight contraction of the right side was found, and the percussion note was impaired over the upper half of the right chest, back and front, with marked dullness below the seventh rib. Distant tubular breathing was heard over whole front of the right chest. It was very much diminished behind and practically absent at the base. There was a small patch of cavernous breathing at the angle of the right scapula, and scattered crepitations at base behind and in front. Vocal fremitus and vocal resonance were much diminished over the right side, and there was egophony and whispering pectoriloquy at the angle of the right scapula. The edge of the liver was felt about 1 in. below the costal margin in the right nipple line. Exploration of the right chest upon two occasions gave negative results. The sputum was examined on nine occasions. No tubercle bacilli were found, but a Gram-negative coccus—probably *Micrococcus catarrhalis*—and *Staphylococcus aureus* were present, while pneumococci were very abundant.

The patient was in the hospital for seven months and two weeks, and his subsequent history is as follows: Twelve weeks' treatment with creosote given: (1) On Yeo's mask, worn night and day; (2) inhalation in creosote chamber; (3) in a mixture containing creosote increasing to mxx dose, strychnine, iron, potassium iodide. Other inhalations, containing carbolic acid, iodine and pini sylvestris, were tried. During this time the temperature constantly fluctuated between 97° and 101°, being on one occasion 103.6°; the pulse-rate was equivalently raised, and the expectoration in twenty-four hours averaged 12 oz. (on one occasion 22 oz.), and was repulsively offensive; it was blood-stained on occasions, and there was once haemoptysis of 1 oz.

The patient suffered from profuse night sweats, loss of appetite, and progressive emaciation, his complexion becoming more and more cachectic and his spirits more and more depressed. His condition during the ninth week was one of extreme gravity, the expectoration being very profuse and the temperature rising one night to 104.2°, the patient being then in a state of profound collapse. The rises in temperature seemed to coincide with partial retention of the expectoration, for on several occasions the patient would cough up a small plug of solid mucus, after which the expectoration would become more profuse and the temperature fall. There was, however, no obvious change in physical signs.

At this stage it was decided to give him a course of autogenous pneumococcic vaccine treatment. The initial dose was 2½ million, and the dosage was continued thus:

First dose	... ...	2½ million.
In 3 days' time	... ...	5 ,,
In 3 ,,	... ...	10 ,,
In 3 ,,	... ...	20 ,,
In 6 ,,	... ...	40 ,,
In 6 ,,	... ...	60 ,,
In 6 ,,	... ...	50 ,,
In 7 ,,	... ...	100 ,,
In 7 ,,	... ...	100 ,,
In 7 ,,	... ...	100 ,,
In 7 ,,	... ...	200 ,,
In 7 ,,	... ...	200 ,,
In 7 ,,	... ...	300 ,,
In 7 ,,	... ...	350 ,,
In 7 ,,	... ...	400 ,,
In 7 ,,	... ...	300 ,,

After the third dose, and within ten days of the initial dose, the temperature ceased to fluctuate and remained perfectly steady and normal. Within fourteen days the patient began to get up; appetite improved; weight was put on, and the amount of expectoration became steadily less and averaged about 4 oz. until his discharge. The temperature remained perfectly steady and normal, and the patient felt slight effects from the vaccine on one occasion only—namely, slight headache, malaise, rise of temperature, and staining of sputum.

The air entry into the right lung improved in an extraordinary manner, and the patient was discharged on August 18th, 1912, fifteen weeks after the commencement of the vaccine treatment, very greatly improved in all respects.

I hear from the patient that his condition up to now has remained as good as when he left the hospital.

London, N. C. G. WHORLOW.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

PRESTON ROYAL INFIRMARY.

A CASE OF HIRSCHSPRUNG'S DISEASE.

(Reported by W. A. H. McKERROW, M.B., Ch.B. Aberdeen, Resident Surgical Officer.)

THE patient in the following case, a boy aged 16, was admitted suffering from enormous tympanitic distension of abdomen. His history was to the effect that ever since the age of 9 months he had been more or less troubled with constipation. Sometimes he would go for two or three weeks without a proper motion, and at such times his abdomen would get distended. At one time, about ten months before admission, he had been as bad as at present; on that occasion the distension suddenly disappeared, with much passage of stools and wind per anum, within the short period of half an hour. So long as his bowels were kept open with medicine and injections (administered by his mother), his abdomen was not much bigger than normal.

The present attack came on about a week before admission, and for the last few days patient had vomited frequently.

Condition on Admission.—The patient, an intelligent but somewhat undeveloped lad, complained of pain across his abdomen. The temperature was 98° F., the pulse 116, and respirations 24 per minute. The tongue was clean, the lips cyanosed, and expression pained and anxious. There was marked oedema of the legs and lower part of the abdominal wall.

The abdomen was enormously distended and resonant to percussion. The superficial veins were prominent; no visible peristalsis was seen; liver dullness was not found.

The apex beat was in the second intercostal space, 2½ in. from the middle line, and a presystolic murmur was heard on auscultation.

The urine was deeply bile-stained, and gave a marked indigogen reaction; it contained no albumin nor sugar.

Per rectum, hardened faeces were felt anteriorly, covered by a fold of mucous membrane, forming a hard transverse ridge. No obstruction was felt apart from this.

Treatment.—Enemata of turpentine and of olive oil were administered, but without result. A rectal tube was passed, but failed to relieve. An exploring needle was passed into the ascending colon posteriorly, but no gas came away; on withdrawal the needle was found to be blocked with soft faecal matter. Some hardened faeces of putty-like consistence were removed digitally from the rectum; this procedure gave the patient so much distress that it was not continued.

Progress and Result.—On the second day after admission an incision was made, under local anaesthesia, at the right iliac region, with a view to appendicostomy or caecostomy. Small intestine presented at the wound, however, and it was found impossible to proceed further with the operation. A Paul's tube was inserted into a loop of small intestine, but no relief followed. Later on more faeces were removed digitally from the rectum, and after a while the patient began to pass soft motions. He gradually sank from exhaustion, however, and died on the fifth day after admission.

Post-mortem Examination.—On opening the abdomen in the middle line a loop of sigmoid was found occupying a median vertical position, enormously dilated and thickened in proportion. On withdrawing this loop the appearances presented in the photograph were noted. The dark patch seen on the sigmoid was a bile stain, and serves to indicate that portion of the sigmoid which was in contact with the gall bladder before the relations of the viscera were disturbed.



The dilatation was greatest at the sigmoid flexure, which measured 21 in. in circumference at its widest part. The transverse colon was markedly enlarged; the ascending colon was almost normal below, and gradually became dilated towards the hepatic flexure. The rectum was dilated to about the same degree as the transverse colon. There was no peritoneal congestion nor inflammation, and no free fluid.

No obstruction was found. The small intestines appeared to be normal. The diaphragm reached as high as the second intercostal space on the left side. The liver was adherent to the diaphragm over the surface of its right lobe.

On opening the dilated colon it was found to be full of soft, porous, dark-brown faeces. There was very little accumulation of gas. At one part of the mucous surface of the sigmoid there was a stercoral ulcer of oval shape, 2 in. by 1 in., surrounded by minute haemorrhages into the mucosa. On dissection, the muscular layers of the colon were found to be enormously hypertrophied.

A more complete *post-mortem* examination was not performed in deference to the wishes of the relatives.

REMARKS.

The case appears to be a fairly typical one of the rare condition commonly known as Hirschsprung's disease. Mummery found, in a study of 100 collected cases, that the disease was commoner in males than in females—in the proportion of three to one; that in the great majority the symptoms dated either from birth or from a few months after birth; that in over 75 per cent. no obstruction was to be found *post mortem*; and that in 80 per cent. the sigmoid flexure was the part chiefly involved.

Non-operative treatment relieves the condition, but does not cure. Some cures have followed resection of the affected portion of colon, and appendicostomy has had a good result in at least one case. In a case subjected to resection by an American surgeon recurrence followed; resection was again performed, with good result.

When the faecal accumulation is very great and obstructive symptoms are present, as in the case described above, it may be a matter of the greatest difficulty to relieve the patient, either by operative or non-operative treatment. The latter appears to be, if anything, the more hopeful. The ultimate prognosis is bad.

I am indebted to Dr. F. W. Collinson, honorary surgeon to the infirmary, for permission to publish this account of the case.

Reviews.

CUNNINGHAM'S "ANATOMY."

THE fourth edition of *Cunningham's Textbook of Anatomy*[1] has been guided through the press by Professor ARTHUR ROBINSON, and although changes in authorship of several of the articles have become necessary, a high standard of excellence has uniformly been maintained. In some cases, indeed, articles have been improved, with the result that the work stands unrivalled as a textbook of anatomy, both as a work of reference and for general reading.

Since the appearance of the third edition, in 1909, two of the original contributors, Professor Cunningham and Professor A. H. Young, have died, and although every section in the book has been revised, it is in the articles originally contributed by them, and in the article originally written by the late Professor Birmingham, that the more important changes are noticeable. The new contributors include Professor G. Elliot Smith, Professor R. J. Berry (Melbourne), Professor A. C. Geddes (now of Montreal University), and Professor D. Waterston (London).

We notice with pleasure the changes in the article on embryology, contributed by the editor himself. As it stands, it is, on the whole, a most finished account of the general phenomena of the pre-natal period of development. We should, however, have liked to see some reference to the work which has been done by Wilson, Guyer, and others on "sex chromosomes." Guyer, indeed, claims to have found two types of spermatozoa in the human subject, which, if confirmed, must have a profound influence on our ideas concerning the causation of sex.

Professor Elliot Smith, as one would expect, has in a masterly way brought the article on the nervous system thoroughly up to date. Whilst preserving unaltered the general character of the late Professor Cunningham's article, he has made considerable alterations necessitated by the rapid progress in knowledge of the brain. The new figures which he has introduced, particularly those illustrating the cortical areas, the association bundles, and the development of the corpus callosum, will be much appreciated by students.

Professor Waterston has greatly added to the usefulness of the article on the digestive system by some fine illustrations, many of them in colour. We are pleased to notice also four drawings of the form of the stomach (empty and filled) as seen by the *x* rays, and we are convinced that students, if they are to obtain a satisfactory knowledge of the form of the stomach, should be taught, during their anatomy course, the form of the organ as seen in the dissecting room and as seen in the living subject by means of *x* rays.

There are very many other improvements in the book which need not be referred to in detail, such as the account of the lymphatics by Professor Robinson, the gradually increasing use of skiagrams, and the description of the chromaffin organs by Professor Geddes. The book is a mine of information on the anatomy and the development of the human body, and we warmly congratulate Professor Robinson on the great success he has achieved on assuming direction of this well-known work.

[1] *Cunningham's Textbook of Anatomy.* Edited by Arthur Robinson. Fourth edition. London: H. Frowde, and Hodder and Stoughton. 1913. (Sup. roy. 8vo, pp. 1,621; 1,124 figures, 2 plates. 31s. 6d. net.)

KEEN'S "SURGERY."

THE title on the back of Volume VI of Keen's *Surgery*[2] is "The Newest Surgery." Here in three words we have the key to the contents of the book. In the preface we are told that the five volumes originally contemplated in this System of Surgery were published between 1906 and 1909. Although the length of time from the first of these dates to the present year is not long, yet it is long enough to render much of the material of that date obsolete, or at least the better for revision, and to demand the inclusion of all that is new. The chapters in this volume are to be regarded as supplementary, and are intended to bring the work quite up to date. They are written mostly by the authors of the original volumes. New material is contributed by the workers most fitted to deal with it; for instance, "Anoci-association" is by Crile, "Intratracheal Insufflation" is by Meltzer, "Parathyroids" is by C. H. Mayo. Opinion may differ as to the wisdom of including in a work which purports to be a "system" much that still is experimental, that cannot yet be regarded as belonging to surgical practice. The editor acknowledges that he has recognized the difficulty, and he has solved it boldly enough by incorporating some experimental work which has not yet been tried on man. In a short paper from his own pen, entitled "Note on the Treatment of Mouse Cancer by Eosin and Selenium," he shows that he believes that the work of Wassermann and others, following the lead of Ehrlich, in endeavouring to destroy cancerous tumours in the mouse by injection into the blood stream of a compound of eosin and selenium, may lead to results of importance in the treatment of human cancer, though nothing so far has been achieved.

Similarly much of the newer work on thoracic surgery may still be looked upon as experimental, or at all events conviction as to methods has not been established. Great advances in thoracic surgery have been seen during the last five years. Sauerbruch's enthusiasm for the negative pressure cabinet in operations requiring opening of the pleural cavity has resulted in the adoption of the negative pressure method all over the Continent of Europe and the building of expensive apparatus, and in his hands exploratory thoracotomy has become as safe and as easy as exploratory laparotomy. But we now hear Meltzer and Auer and Elsberg say that by intratracheal insufflation of ether and air they can dispense with these expensive positive and negative pressure apparatus; and Macewen holds that these apparatus are not necessary, because molecular cohesion and not atmospheric pressure is the force that prevents collapse of the lung. So that in this department of surgery settled convictions do not prevail, though it is right that a volume dealing with the "Newest Surgery" should tell of everything that helps progress.

It is inevitable that inequalities and great differences in style should be found in such a book as this. Each writer has a style and method of his own, subject to the watchfulness of the editor. But there is practically no overlapping. Some subjects receive too much space—the appendix occupies 40 pages—and some too little; the surgery of the brain has been omitted altogether. The versatile J. B. Murphy writes the chapter on the appendix, and makes the subject as interesting as if it were all new. Tuberculosis and actinomycosis of the appendix are fully described and illustrated. Pictures of Murphy's four methods of diagnosis are introduced: Fist percussion of kidney, hammer stroke percussion of gall bladder, deep grip palpation of gall bladder, and piano percussion for small quantities of exudate in the peritoneal cavity. Rovsing's sign for appendicitis is now held by many surgeons not to be reliable. The value of Sondern's polymorph percentage method in the diagnosis and prognosis of appendicitis is extolled on the ground that the percentage of polynuclear cells represents the efficiency of the systemic defence against virulent infections rather than an indication of the virulence of the infection. W. B. Coley writes on hernia, and says that the Bassini operation is that universally practised. Mayo Robson's chapter on gastric surgery brings up to date a rapidly changing subject. It is extremely valuable for the introduction of an illustrated section on the lymphatic system of the stomach and its bearing on gastrectomy.

We have indicated, we hope with sufficient clearness, that the title, "The Newest Surgery," is amply justified, and we think that this volume will receive the same warm welcome accorded to its predecessors. Incorporated with it is a general index to the complete work, itself a volume of 120 pages, and an index to the present volume as well. The whole book is fully illustrated, without superfluity, and beautifully printed. The bibliography attached to each chapter is a feature which investigators and writers of papers will gratefully accept for their own use.

We are glad to offer the editor our warmest congratulations on the successful completion of a great task, which though not entirely by American surgeons, is really a magnificent monument to American surgery.

[2] *Surgery: its Principles and Practice.* By various authors. Edited by Wm. Williams Keen, M.D., LL.D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia. Volume VI. Philadelphia and London: W. B. Saunders Co. 1913. (Roy. 8vo, pp. 1177; 519 illustrations, some coloured. 30s. net; half morocco 34s. net.)

CLINICAL PATHOLOGY AND BACTERIOLOGY.

DR. BERNSTEIN'S book on *Applied Pathology*[3] is not a technical treatise for the pathologist, but is intended to equip the general practitioner with an appreciative knowledge of the nature, purpose, and utility of the work of a clinical laboratory. It is, he informs us, a reproduction of the lectures on clinical pathology which he has delivered to the students of the West London Post-Graduate College. His book gives the impression that he possesses the art of stimulating the interest of his students and inspiring their confidence, and we cordially approve of his endeavour to bridge the gap between the practitioner and the pathologist. It is much to the advantage of the former that he should be versed in the technique of the simpler laboratory operations, and should also possess a good general knowledge of the methods and meaning of the more complicated procedures which he has not the time, facilities, or training for carrying out himself. It is equally desirable that the pathologist should be required to justify the opinions which he forms as an expert to the physician or surgeon who is prepared both to demand and to appreciate the why and wherefore. But this implies that the clinician must take pathology seriously. He must not imagine that attendance at a course of lectures, or their perusal when published in a book, is the completion of his education; he must always be prepared to learn, and must not fancy that his preliminary enlightenment places himself in the superior position of critic over the pathologists whom he may consult. We have no doubt that Dr. Bernstein shares this view, but we think he is injudicious, for the purpose of his present book, in his free indulgence in caustic criticisms of schools and methods of clinical pathology which meet with his disapproval. He describes "that new product, the vaccinist," as "a man often young and lacking experience, trained for a few months at the fountain head, and treating disease about which, owing to his inexperience, he can know but little, with a few chosen bacteria with which he has familiarized himself." He refers to the growing fashion "of consulting Wassermannites, men who will have every blood tested for syphilis; vaccinists who will have every disease and condition, from boils to abortion, treated with vaccine," and so forth. He complains that "trained medical graduates" are compelled "to wear themselves out daily cutting sections of tissues and enumerating blood corpuscles, so that in time we feel they must degenerate into 'hewers of paraffin and drawers of blood.'" We confess it is refreshing to find a man who holds strong opinions and expresses them vigorously, but when he thirsts to do battle as an iconoclast he might perhaps find a more appropriate arena. Dr. Bernstein should deliver these stalwart criticisms before a meeting of one of our pathological societies; then there would be excellent sport, with plenty of hard hitting on both sides, and our applause would be reserved for him who hit most effectively. But apart from this the book is one which may be strongly commended as a guide to the newer applications of pathological methods to the elucidation of clinical problems.

It frequently happens that guide-books such as *Clinical Bacteriology and Haematology for Practitioners* belie

[3] *Applied Pathology: Being a Guide to the Application of Modern Pathological Methods of Diagnosis and Treatment.* By Julius M. Bernstein, M.B.Lond., D.P.H.Camb., M.R.C.P. London: H. Frowde, and Hodder and Stoughton. 1913. (Demy 8vo, pp. 410; 5 plates, 46 figures. 10s. 6d. net.)

their titles; they are said to be written for students or for practitioners, and yet it is soon evident that no student and, in ordinary circumstances, no practitioner could ever carry out the investigations described within their covers. This certainly need not be said of Dr. EMERY'S book.[4] We have never read a book which more faithfully fulfils its purpose. Not only are the facts correct, but there is an individuality about the book which stamps the author as a master of his subject and a most practical teacher. Nor is the book a mere compendium of laboratory methods, for Dr. Emery never loses an opportunity to place before the worker the bearing of this or that investigation on problems of clinical moment. Not only does the author provide instruction on clinical bacteriology and on haematology, but a section will be found dealing with the examination by cyto-diagnosis, and a section is given on p. 95 containing an admirable description of Wassermann's reaction and its interpretation. Herein it may be felt that the author has strayed from his intention to describe only what is possible at the hands of a practitioner, but he may be excused on the ground that the reaction is of such importance that no practitioner can afford to be ignorant of its mechanism and its interpretation.

The plan of Professor BLUMENTHAL'S work on the special pathology of the urine[5] differs from most books on this subject by being a description of the alterations met with in the urine in various diseases and other conditions, as, for example, in infections, in hunger, in metabolic disorders, in malignant growths, in blood diseases, diseases of the stomach and intestines, liver, nervous system, organs of the circulation and respiration, female pelvic organs and the kidneys. It is a complement to his book on the general pathology of the urine which was published ten years ago. It is not a textbook but a work of reference, and is undoubtedly a storehouse of information containing a collection of notes gathered from medical publications. Professor Blumenthal seems to have relied mainly upon books published in German, such as various yearbooks, for his knowledge of foreign contributions, and in this respect his volume is somewhat deficient. Moreover, such material accumulates rapidly, so that all that can be said of the book is that at the time of publication it was a valuable attempt to gather together in one volume a vast mass of scattered material.

The Bakteriologisches Taschenbuch[6] of Dr. RUDOLF ABEL is a very comprehensive practical short handbook for the bacteriological laboratory. After discussion of the microscope and of methods of sterilization and disinfection there are articles on nutrient material and cultivation methods and on staining methods. Then follows the longest section in the book, giving instructions for the recognition of the bacteria most commonly met with in pathology. This is followed by an article on the method of obtaining material, such as blood, pus, cerebro-spinal fluid, and various excretions, and a note upon the experimental injection of animals. There are sections on bacterial examination of water, air, and soil, and of methods of preservation. The volume is interleaved, and has a good index; it is likely to be extremely useful to those who read German. It was first published in 1889, and the new edition is the seventeenth.

THE STATE PROVISION OF SANATORIUMS.

THE practical value of sanatoriums is not universally recognized, but it must be admitted that much of the adverse criticism has proceeded from those who cannot claim to have had practical experience of their working.

The reports and opinions emanating from medical officers of these institutions go to prove that their influence is far-reaching, and that it works for the general good of the community as well as for the present benefit of the individual. It has very often been hinted, and sometimes freely stated, that much of the apparent success of sanatorium treatment may be attributed to imperfect diagnosis, and that the cured cases are, for the most part, those who are not suffering from tuberculous disease at all. But it is now generally admitted that the vast majority of civilized persons, and especially of town dwellers, become the hosts of the tubercle bacillus during the first few years of life, and that its subsequent development depends very largely upon preventable causes. It is upon these outside influences, rather than upon the virus itself, that attention should be concentrated, and it is thus of the first importance that every one concerned should become practically acquainted with the recognized means of avoidance of such conditions.

The treatment of the potential tuberculous subject in a sanatorium cannot fail to be of service in his later surroundings, if only by the educational advantages which it supplies. Not less necessary is it that the average practitioner, who must be constantly called upon to undertake the care of the tuberculous patient, should have something more than a theoretical acquaintance with sanatorium methods. So important is this regarded in one foreign country, at least—Norway—that in the county of Bergen a system has already taken shape whereby the expenses of general practitioners are paid for a definite period while they acquire a first-hand knowledge of sanatorium treatment in some recognized institutions.

The present position of the State sanatorium question and the difficulties which surround its administration are well set forth in a recent work[7] by Dr. S. V. PEARSON, who brings the results of extensive experience to bear upon the problem. To the man in the street the State provision of sanatoriums and their association with hospitals, would no doubt appear a simple matter—only a question of money. But to those who have made a study of the subject the obstacles to smooth working are many, and are only to be overcome by consensus of good feeling and unselfish co-operation between the many interests which must of necessity be affected. The family doctor, the medical officer of health, the tuberculosis officer, and, lastly, the sanatorium or hospital official, are all concerned sooner or later. It falls to the lot of the medical officer of health to trace out the exact causes that may have contributed to light up the latent disease, and the information so obtained by him should be at the disposal of all the other co-workers, and each in his respective sphere should be adequately paid for the public work which he does. Dr. Pearson in his book, which we can commend to the notice of all administrators of tuberculosis schemes, does not favour the system, in vogue in most hospitals, by which the honorary officer works in association with paid assistants. His ideal sanatorium should contain not more than seventy-five beds and be managed by a head doctor with two assistants, all sufficiently well paid to command the services of well skilled men. High salaries to reward the best quality of service will, he believes, in time to come, be regarded as money well spent. The manager of a sanatorium should be allowed to exercise autocratic powers, subject only to the advice of a medical advisory board. He must superintend the educational side of sanatorium life and encourage the attendance of general practitioners who may be required to carry out home treatment on special lines. The temporary admission of patients who may be about to undergo such home treatment is also highly desirable, but it can only be carried out by the hearty co-operation of the head officers of sanatoriums, willing to give up beds, time and attention to cases that pass too soon out of their jurisdiction.

ENGINEERING AND HYGIENE.

EVERYONE knows something of the great Assouan Dam; of the smaller but still very remarkable engineering schemes which supply Liverpool and Birmingham with water; of irrigation works in India, and of the Suez and Panama Canals; of the Forth Bridge and the Brooklyn Bridge; the public, when invited to witness the opening of some great engineering work, is not grudging in expressing its admiration for the conception of the scheme and the

[4] *Clinical Bacteriology and Haematology for Practitioners.* By W. D'Este Emery, M.D., B.Sc.Lond., Director of the Laboratories and Lecturer on Pathology and Bacteriology, King's College Hospital; formerly Hunterian Professor, Royal College of Surgeons. Fourth edition. London: H. K. Lewis. 1912. (Demy 8vo, pp. 289; 10 plates, 50 figures. 7s. 6d. net.)

[5] *Handbuch der Speziellen Pathologie des Harns.* Von Dr. Med. Ferdinand Blumenthal. Berlin und Wien: Urban und Schwarzenberg. 1913. (Sup. roy., pp. 500. Paper, Mk. 15; bound, Mk. 17.)

[6] *Bakteriologisches Taschenbuch.* Von Dr. Rudolf Abel. 17 Auflage. Würzburg: Curt Kabitzsch. 1913. (Pott 8vo, pp. 144. Mk. 2.)

[7] *The State Provision of Sanatoriums.* By S. V. Pearson, M.D. Cantab., M.R.C.P.Lond., Cambridge: The University Press. 1913. (Med. 8vo, pp. 88; plans for sanatorium for 250 patients. 3s. net.)

efficiency with which the completed construction works. But it has few opportunities of watching the process of construction or of appreciating the difficulties which the engineers and contractors have had to overcome. When details are given we are told of cubic yards excavated, or millions of gallons of water held up: of steam dredgers or steam shovels, but very little about the workers. It is the particular merit of the book, *All About Engineering*,[8] which Mr. GORDON D. KNOX has written, that the human side is put in proper perspective. To carry through a big engineering work demands of the engineers and contractors not only skill in design and in construction, and wide knowledge of the materials used, but very high powers of organization: to build a skyscraper against pressure of time, or the Assouan Dam, which had to reach a certain stage before the Nile flood came down, or to complete a bridge in spite of storm and cold, means the employment of a very highly organized body of workmen. The contractor has to establish a village or a small town, as the case may be, and everything must be managed to go like clock-work. The keynote of the book is the need for organization, and the most striking illustration of the principle is afforded by the Panama Canal, where the engineers had to devise a scheme not only to meet the gigantic scale of the work, but the special obstacles created by the prevalence in the country of diseases the causes of which were unknown to de Lesseps. The success of the American enterprise is due primarily to the advance in knowledge of tropical medicine and hygiene, the thoroughness with which the engineers assimilated their lessons, and the strictness with which the regulations founded on them were enforced.

An instance from a different aspect of the relation of engineering to hygiene is afforded by the account Mr. Knox gives, in a chapter on the breaking up of virgin soil, of the use of huge steam ploughs for draining a pestilential swamp in Algiers. The plough turned over a huge slice of muddy, weed-matted soil, and the furrow remained as a drain. In a year or two the marsh was growing oats. The book contains chapters on the testing work of the National Physical Laboratory, on gyrostats, on lighthouses, on railways, including aerial and mountain, and on many other subjects. It is addressed to boys, but it contains a great deal which their elders will find interesting.

SURGERY.

WE have received the following letter from Mr. Ernest Maylard, a review of whose book was published on September 13th, p. 675:

Maylard's "Practice and Problem in Abdominal Surgery."

SIR,

It is not usual and, as a rule, not expedient to call in question the criticisms of one's reviewer, and I should not have considered it worth while to do so on the present occasion except for one remark which occurs in the notice you give of my book in last week's issue. It is, I think, usually considered a breach of privilege on the part of an unnamed critic to cast any aspersions upon the work under review without justifying the same by giving adequate quotations. If, as my reviewer states in his concluding remarks, "parts of the work may be described as old-fashioned," I should have deemed it courteous, if not merely fair, to have stated specifically what these parts were. To those who know my work such information will go for what it is worth; to those who do not the casting of such an unsupported slur is liable not only to condemn the book—for who, nowadays, wants "old-fashioned" surgery?—but to reflect adversely upon the ability and reputation of the writer. The citation of concrete examples would have allowed the reader to judge whether what the reviewer considered "old-fashioned" might not, after all, be preferable to some of the more recently introduced and expressed methods and opinions.

In view of the fact that my publishers two months ago informed me that more than half of the present edition is already sold, I should have deemed it particularly felicitous on the part of my reviewer had he kindly enlightened me on the delinquencies of my "old-fashioned" work, so that, in the possible event of a second edition being called for, I might—although it is more than likely I should not have considered it advisable—correct some of my antiquated methods in accordance with the more modern and up-to-date practices and opinions of my reviewer.—I am, etc.,

A. ERNEST MAYLARD.

This letter was referred to the reviewer, who sent the following note in reply:

Mr. Maylard, from his letter, concludes that what is old-fashioned is necessarily bad; this of course, does not always follow. He complains that these parts have not been specifically indicated, and thus a breach of privilege committed; but if Mr. Maylard will read the review again he will find mention of the non-use of gloves, that his clean cases are kept in bed for four weeks, that he has had no experience of the use of wire filigree, etc.; thus in the review examples are quoted which lead up to the statement objected to by Mr. Maylard, though whether these methods are preferable to those more commonly practised by abdominal surgeons is left entirely to the reader.

Mr. Maylard wrote as follows on September 20th, 1913:

I am obliged to you for submitting to me the reply of my reviewer to my letter to you of the 13th inst. It is quite a relief to me to ascertain upon what a slender basis his adverse criticisms rested. "Gloves," "four weeks' rest in bed," "wire filigree," and the unfortunately unexplained "etc." are all questions—with the exception of the unknown quantity—which will be found impartially considered in my book. I would ask any who might deem it worth their while to do so to refer to pages 50, 52, and 69, to learn how unfair are the inferences drawn by my reviewer regarding my practices and opinions.

On reference to the pages indicated by Mr. Maylard we find with regard to gloves the following observations:

(P. 69.) The use of rubber gloves for ordinary aseptic abdominal operations brings one on to very debatable ground. It is, however, essentially a question of individuality. If an operator considers he is himself safer to use gloves, and can by their constant employment exercise the necessary dexterity and expeditiousness, he is certainly right so far as he is personally concerned. And if, on the other hand, an operator abjures the use of gloves, it must be because, in the first place, he is satisfied he can efficiently sterilize his hands, and, in the second place, because he feels that his manipulative powers and his sense of tactile impressions are greater than when his hands are covered. As both classes claim equally good results, there is no cause for one to cast reflections or adverse criticisms on the other.

As to four weeks' rest in bed, we find the following under the prevention of herniae of the abdominal parietes:

(P. 51.) My rule is to maintain the patient at rest for four weeks in cases where the wound has healed by first intention; but when healing has been by granulation, the result of some of the causes already mentioned, detention in the recumbent position for six weeks or longer is enforced. This rule, however, is not without its exceptions.

With reference to wire filigree, Mr. Maylard's observation is:

(P. 62.) I have no experience of the use of silver-wire gauze in the treatment of some forms of intractable abdominal hernia, but from the success which seems to have attended its employment in the practice of some surgeons, it is worthy of notice. The gauze is embedded in the tissue of the parietes in such a way as to prevent, by its supposed non-giving character, protrusion through an aperture incapable of occlusion by the natural tissues.

NOTES ON BOOKS.

THE whole of the second part of vol. vii of the *Annals of Tropical Medicine and Parasitology*, issued by the Liverpool School of Tropical Medicine, is occupied by the final report of the Luangwa Sleeping Sickness Commission of the British South Africa Company. The Commission began its work at Nawalia in the Luangwa Valley in 1911 in consequence of the establishment of the fact that sleeping sickness occurred in parts of Rhodesia and Nyasaland where *Glossina palpalis* did not occur. The Commission quickly established the fact that *G. morsitans* was the vector of the human trypanosome, and that a considerable percentage of game and of "wild" *G. morsitans* are infected with the parasite. The results of the Commission have already been published from time to time, but they are brought together in this number of the *Annals*, and convenient summaries are appended to its several sections. One of the conclusions is that *T. rhodesiense* is widely distributed throughout South Central Africa, and that there is no essential difference between the clinical manifestations of the disease

[8] *All About Engineering*. By G. D. Knox. A book for boys on the great civil and mechanical engineering wonders of the world. London: Cassell and Co., Ltd. 1913. (Demy 8vo, pp. 382; 53 illustrations. 6s.)

in man caused by *T. rhodesiense* or *T. gambiense*, except that the former possibly possesses greater virulence. *G. morsitans* in nature has been found to transmit the human trypanosome, and the antelope is the chief reservoir; examination for the human trypanosome of the blood of a large number of monkeys, wild rats, and mice, was negative. It was clearly established that the developmental cycle of *T. rhodesiense* in *G. morsitans* was influenced by the temperature; temperatures below 70 F. being unfavourable. On the other hand, the parasites may persist in the fly at an incomplete stage of their development for at least sixty days. The fly is only infective when the salivary glands are invaded, and this invasion is secondary to that of the intestine. The first portion of the developmental cycle takes place in the gut of the insect, and it is believed that invasion of the salivary glands only occurs when there is a high mean temperature of 75 to 85 F. These earlier sections of the report are written by Drs. Allan Kinghorn and Warrington Yorke; the concluding section, which is written by the entomologist Mr. Llewellyn Wood, contains an illustrated record of the observations of the breeding places of *G. morsitans*. The pupae were found chiefly in hollows in trees or under decayed branches and also in holes in the earth, and were usually hidden under a slight covering of earth or dead leaves. None was found at the bases of healthy trees or under bushes. Mr. Lloyd concurs with the opinion previously expressed by Jack that the pupae are deposited in such positions that they are not likely to be scratched up by game birds. Of the 54 living pupae found, 45 (90 per cent.) were so placed that they would be daily warmed by the sun. These observations were made in the coldest part of the year, and indicate that in shady positions the periods of pupation would be prolonged even if the pupae survived.

The well known publishing firm of Baillière et Fils of Paris are at present engaged in bringing out, under the supervision of Drs. Gilbert and Carnot, a series of twenty-eight volumes dealing with therapeutic agents and methods, and written by the highest authorities. The volume on the therapeutics of the infectious diseases, by Drs. GARNIER, NOBÉCOURT, NOC, and LEREBOULLET,[1] is the eighteenth of the series. Some idea of the book will be given when we say that it consists of upwards of 600 somewhat closely-printed pages, and that it is divided into five main parts. Of these the first deals with the treatment of infectious diseases, considered from a general point of view, and gives an excellent account of the principles upon which the modern treatment of these diseases is based. Then follows a section on the treatment of infectious diseases in children; in this section acute rheumatism and syphilis are included. The third division is concerned with exotic diseases, and in its scope are comprised not only the strictly infectious diseases, but also those which are caused by filariae and fungi and by intoxicants—for example, beri-beri and snake-bites. In the fourth portion the treatment of tuberculosis is discussed, while in the fifth and last part is set forth an account of the treatment of infectious diseases (excluding venereal diseases) as they are met with in adults. This arrangement of the work almost unavoidably leads to a certain amount of overlapping; it is, however, slight. The methods of treatment are explained very concisely and clearly, but yet in some detail. Nothing of importance has been omitted. On the other hand, the reader's time is not wasted by accounts of methods which are only speculative and not based on ripe experience. Altogether the book can be thoroughly recommended as a full and trustworthy guide to the treatment, prophylactic as well as remedial, of the infectious diseases.

Alimentary Enzymes in Theory and Application, with Special Reference to their Use in Treatment and Dietetics,[2] in spite of its rather pretentious title, is a very good and unpretending practical guide. It is published by the Benger's Food Company, Limited, and is, of course, largely designed to impress upon readers the value of the preparations of that company. At the same time the subjects are dealt with in a reasonable and practical spirit, and there is an absence of excessive claims. It is very largely concerned with infant feeding, and is well worthy of attention.

[1] *Thérapeutique des maladies infectieuses.* Par les Drs. M. Garnier, Nobécourt, Noc, Lereboullet. Paris: Baillière et Fils. 1913. (Post 8vo, pp. 694; 19 figures. Fr. 12.)

[2] *Alimentary Enzymes in Theory and Application, with Special Reference to their Use in Treatment and Dietetics.* Published by Benger's Food Limited, Otter Works, Manchester, England. 1912. (Med. 8vo, pp. 123: 10 plates, 2 figures.)

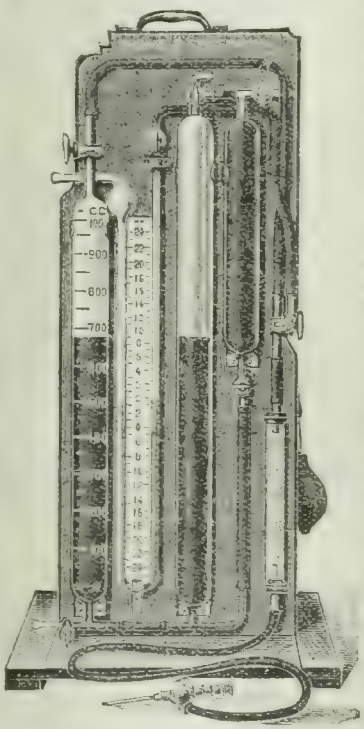
The latest volume issued of the series, *Questions Biologiques Actuelles*, edited by Professor DASTRE, is one on *La Sécrétion Pancréatique*,[3] by Dr. TERROINE. The author, after discussing the evidence for and against the existence of a reflex nervous mechanism controlling the pancreas, concludes that the humoral method of excitation—by secretion—is undoubtedly proved, while no trustworthy positive evidence of the other is to hand. While secretin acts directly on the pancreatic cells, the nature of this action is still wholly unexplained, and so, too, is the nature of secretin itself. The methods of obtaining the juice and the historical evolution of these methods are described, together with the relation of the secretin to the food eaten—Pawlow's work and that of his school—the discovery of secretin by Bayliss and Starling, and the modes of its formation and action. An excellent bibliography is added to this monograph.

[3] *La Sécrétion Pancréatique.* Par Emile F. Terroine. Paris: Hermann et Fils. 1913. (Roy. 8vo, pp. 133. Fr. 5.)

MEDICAL AND SURGICAL APPLIANCES.

Apparatus for Introducing Gases into the Pleural Cavity.

MR. H. MORRISTON DAVIES (London, W.) writes: Hitherto, when injecting gases into the pleural cavity (either nitrogen in order to collapse the lung in cases of phthisis, or oxygen to allow of the complete removal of an effusion) I have used Dr. Kornmann's apparatus with my own needle. This apparatus I have found to be very convenient and satisfactory so long as the amount of gas required does not exceed 500 c.cm. If, however, more gas is required it is necessary either to refill the cylinder or to displace the remaining gas by pumping. Now, the only method of allowing a slow and perfectly steady stream of gas to enter the pleural cavity is to displace that gas by the weight of a column of liquid; I have therefore made certain modifications in Dr. Kornmann's apparatus so as to be able to displace by the weight of water alone 1,000 c.cm. of gas at one sitting. This apparatus, which has been made for me by Messrs. Krohne and Sesemann, is shown in the accompanying illustration. The left-hand cylinder is graduated, and when ready for use is full of nitrogen or oxygen, while the two other cylinders contain water. The water in the larger of these cylinders will displace nearly 700 c.cm. of gas, while that from the smaller cylinder will displace the remainder. The mercury manometer in Dr. Kornmann's apparatus has been done away with, as the water manometer shows the respiratory variations in pressure with much greater clearness.



An Antiseptic Instrument Case.

Dr. H. SIMMONS (Bournemouth) writes: The need of a sterile instrument for immediate use in ordinary home and visiting practice is often felt by practitioners. The Holborn Surgical Instrument Company has recently made for me a dressing-case in which the instruments are constantly immersed in an antiseptic solution, and can be washed or boiled after use and returned to the case and kept there ready for future need. The case, as made for me, contains fine knife for incision of abscesses, scalpel, dressing forceps, two pairs of artery forceps, scissors, probe, needles, and sutures; the top is held on firmly by thumb screws, and there is no fear of leakage in whatever position it is carried, and I find it very useful in my work.

Nova et Vetera.

PROVERBIAL MEDICINE.

PROVERBS ON ARTICLES OF FOOD—BUTTER AND EGGS AND A POUND OF TEA.

BREAD and cheese are, as we have seen (see vol. i for 1913, pp. 1120–1122), the chief theme of many proverbs; the "staff of life" and the "peevish elf" enter into many sayings, and suggest not a few interesting speculations of a medical or semi-medical nature. Butter, too, has so intimate a relationship with bread that we expect to find it also figuring in proverbic lore; and we are not altogether disappointed, although the number of butter-adages is comparatively small, perhaps because the nutrimental qualities of this substance are unaccompanied by the elfish tendencies of cheese or the binding properties of bread. There may be another reason: the Greeks, it is said, were acquainted with butter, but never ate it; so perhaps the making of proverbs on it was checked at its very source (for Europe at least), and never got fairly started.

Literature, however, is not quite destitute of butter-proverbs of a somewhat medical kind. Indeed, butter has been used as a medicine itself. There is—or at least there was—an unguent called May butter, Butyrum Majale, formed by melting in the sun fresh butter which had been made up without any salt; John Quincy,[1] however, in his *Compleat English Dispensatory* (1718), has no high praise for its therapeutic powers. "This is a very trifling medicine," he says, "and of no use but as any simple Unguent, or plain Lard may be." Dr. Thomas Moffet,[2] to whom we had occasion to refer in the proverbiology of bread and cheese, gives a much higher place to butter than Quincy. He wrote:

"The *Dutchmen* have a By-verse among them to this Effect:

> Eat Butter first, and eat it last,
> And live till a hundred Years be past.

And *Paracelsus*, in his Book *de Tartaro*, thinketh the *Netherlanders* be more free of the Stone than other Nations, because their chiefest Food is Butter; wherein the silly Alchymist was not a little mistaken, for no People in the World are more subject to that Disease, as the Number and Excellency of Stone-cutters in that Country may plainly prove." Still, whilst Moffet will not admit the lithodialytic powers of butter, he says "it were tedious and impertinent to show how many and necessary Uses it hath in Surgery and Physic." He brings it into another proverb too—one which we have seen already, but with a different foodstuff as its burden—when he tells us that it is best at breakfast, tolerable in the beginning of dinner, but at supper no way good, according to the old adage, "Butter is Gold in the Morning, Silver at Noon, and Lead at Night." It is also best for children when they are growing, and for old men when they are declining, in their second childhood, as we may say; but it is very unwholesome between these ages, "because through the Heat of young Stomachs it is forthwith converted into Choler," a dangerous happening, it was thought, in Moffet's times. The old doctor has a little joke to crack, too, about butter and the Netherlanders, as he calls them: after reminding his readers how English people, when the bride comes from church, throw wheat upon her head, he informs them that the Dutch give brides and bridegrooms under like circumstances a pot of butter as presaging plenty and abundance; "which they esteem a Foundation, tho' a slippery Foundation, of their Lives." This little pleasantry we can well imagine Dr. Thomas setting down with some demureness of expression, looking, in fact, as if "butter wouldn't melt in his mouth."

Burton[3] has no high opinion of butter in melancholy. "Milk, and all that comes of milk, as butter, cheese, curds, etc., increase melancholy (whey only excepted, which is most wholesome): some except asses' milk." It is interesting to take note of the exception made in favour of whey, an exception which is quite in keeping with modern views on the value of that which Johnson defines, somewhat pompously, as "the thin or serous part of milk, from which the oleose or grumous part has been separated." Neither must we forget the wonderful life-lengthening properties which have of recent years been ascribed to buttermilk. On the other hand, Phillips, the poet, has a line or two which run thus: "He that quaffs Such wheyish liquors, oft with cholic pangs He'll roar." Ellis, too, in his *Modern Husbandman*,[4] has a mysterious verse about whey and buttermilk (the "soor doock" of Scotland), and their differentiating effects (so to say) upon hogs and dogs:

> Whey will fat a hog
> And starve a dog:
> Buttermilk will fat a dog,
> And starve a hog.

To return, however, to butter, which, as Howell's proverb has it, is "good for anything but to stop an oven or seal a letter," there are some sayings which verge upon medical matters. The allusion to the cow's annual reproductive necessities is put with exceptional delicacy in the proverb which says "butter is once a year in the cow's horn," meaning, of course, that before she calves she gives no milk. The startling announcement that "butter is mad twice a year" is very simply explained, for in summer heat it is too thin and fluid, and in winter time it is made too hard by the cold to be spread on bread. Falstaff[5] knew this well when he said, "I am as subject to heat as butter." It is mad, therefore, in the modified sense that it does not look like itself! It calls for no asylum treatment. Perhaps this also has something to do with the proverbial phrase, "as mad as May butter," although June or July, but for the lack of alliteration with mad, would be a more suitable month to name.

Butter in a dog's mouth is the theme of several proverbs. "You can't get butter out of a dog's mouth" is one of these; allied to this is "The dog has got the butter to keep"; another is "It is as easy to get butter out of a dog's mouth as money out of a lawyer"; and when a thing is past all recovery we say, "It is like butter in the black dog's hause" (that is, throat). A very simple explanation suggests itself, the fact, not to be denied, that butter melts easily and proceeds with rapidity down the oesophagus of the "dear, dumb soul that thrills at man's caress"; but there is a more subtle meaning perhaps underlying this piece of proverbial philosophy. Animals are either poltophagous or psomophagous; the former chew their food for a long time before swallowing it, and the horse is a good instance of poltophagy; the latter bolt it without mastication, and to this group belongs the dog. So, both on account of its liquescent character when placed in contact with a mucous membrane, and also by reason of the psomophagous nature of the dog, butter put in the canine buccal cavity is beyond recovery. What, then, asks another proverb, "is a pound of butter among a kennel of hounds"? meaning that, as a supply, it will not last long. Perhaps, however, these are too intricate explanations; possibly "you can't get butter out of a dog's mouth" is simply to say because it is not there, as "the breeks are not to be got from a Highlandman."

"Hunger is a good sauce" is a well known saying, and akin to it is "They that have no other meat, bread-and-butter are glad to eat"; and resistance to the inevitable in life often gives illustration to the adage, "That which will not be butter must be made into cheese."[6]

Yet another truth is contained in the proverb that words (even soft or fair words) will butter no parsnips, and so, too, hard words break no bones; but it is a modified truth, for, after all, the wheels of life do move more smoothly when oiled, even the most unapproachable of us being mollified by a little "butter" not too thickly applied, and "Give a dog a bad name and hang him" shows that words have an effect. By the way, the buttered parsnips proverb has its Latin equivalent in "Verba non alunt familiam" (Words won't support a family).

Now let us pass from butter to eggs; they may be in the same basket. There are two medical aspects in which the egg proverbs may be looked at; there are some of the sayings in which the nutritional view-point is emphasized, and there are others in which heredity comes prominently into sight; for it must not be forgotten that whilst eggs are important foodstuffs, an egg is also the symbol of the contact which exists between one generation and

[1] Quincy, J., *Compleat English Dispensatory*, III, xi, 476, 1718.
[2] Moffet, T., *Health's Improvement*, p. 218, 1746.
[3] Burton, R., *Anatomy of Melancholy*, Pt. I, Sect. ii, Mem. 1, subsect. 4.
[4] Ellis, quoted by Lean, in his *Collectanea*, i, p. 437.
[5] Shakespeare, *Merry Wives of Windsor*, Act iii, sc. 5, line 117.
[6] Ray, J., *Complete Collection of English Proverbs*, p. 58, 1818.

another, embryological adages being usually expressed in terms of ova or eggs. Arbuthnot, in his *Essay concerning the Nature of Aliments*, described eggs as "perhaps the highest, most nourishing, and exalted of animal food, and most indigestible," and modern opinion[7] places an egg "next to milk as one of the most valuable articles of an invalid's diet." Proverbs had recognized that much nourishment was stored up in very small space in eggs before the days of chemical analysis and the knowledge of proteins. Thus, when it is desired to say that a man (or it may be a woman) has a very high opinion of himself we announce that he is as "full of conceit as an egg's full of meat"; another proverb[8] is to the effect that "an egg is a mouthful of meat and a townful of shame," to which Lean adds the explanatory clause, "if it be stolen." The high nutritious qualities of the egg are doubtless hinted at, too, in the adage, "an egg and to bed," which reminds us of the cheese saying, "after cheese comes nothing." It is idle to speculate about the origin or even the meaning of customs, but possibly the good luck which is supposed to attach itself to the giving of an egg to a baby on its first visit to any one's house[9] may have to do with the value of the offering from the food point of view; on the other hand, it may have an embryological significance, what has come from the egg being presented with an egg. It ought to be added that the good luck goes if the egg is not a new-laid one. Mungo Park[10] tells of a curious restriction as to the eating of eggs in the interior of Africa. The medical explorer found that in Teesee "no woman is allowed to eat an egg; this prohibition, whether arising from ancient superstition, or from the craftiness of some old Bushreen (Mussalman priest) who loved eggs himself, is rigidly adhered to, and nothing will more affront a woman of Teesee than to offer her an egg; the custom is the more singular, as the men eat eggs without scruple in the presence of their wives." Such is the despotism of custom. With other customs, or superstitions rather, such as the setting of eggs, the marking of them with a +, and the prohibition against letting them go out of a house or come into it after sunset, we have nothing to do here; neither is it any interest to us to know how maidens may get a sight of their future husbands by egg-divination; but it is a matter of some medical concern that there is a belief that eating eggs makes the face freckled. Lean[11] quotes this notion from Buttes's *Dyet's Dry Dinner* (a curious work published in London in 1599), and one thinks in this relation not so much of the hen's egg as of the speckled one of some other bird; possibly all that is meant is that if one eats many speckled eggs one's face will get freckled too. But there is another possible explanation. Lean,[11] quoting from Hardwicke's *Science Gossip*, says that these freckles on the skin are called "fawn freckles," and come at the same time as the building of birds' nests. Now it is interesting to know that *fawn* sometimes means to bring forth young and that *in fawn* is pregnant; one of the best known of the older signs of pregnancy in woman is that she has freckles on her face, and so it is just possible that fawn freckles may have some connexion with the facial marks in pregnancy, and that although not due to eating eggs they are very really due to the development which is going on from an egg.

Two other dietetic references to eggs may be touched upon. One of them is, "You must drink as much after an egg as after an ox," and this moves Ray,[12] who quotes it, to righteous anger: "This is a fond and ungrounded old saying." Of course, Ray is exciting himself quite unnecessarily, for, as no one is likely to perform the feat of "eating an ox," the comparison breaks down; the saying is like that other which declares that "he that will steal an egg will steal an ox," meaning, to use another proverb, that "he that will steal a pin will steal a better thing." All that is signified is that the fluid part of a meal is necessary. The other reference is contained in the familiar allusion to the insipidity of the white of the egg found in the Bible (Job vi, 6): "Is there any taste in the white of an egg?" This, by the way, is not the reading in the Vulgate version, or in the Douay, which comes from it; and in the Revised Version there is the marginal alternative, "The juice of purslain," purslain, or purslane, being a somewhat tasteless succulent herb. It will, however, be a pity if we have to bid farewell to so well-known a Bible proverb.

Notwithstanding its high food value, an egg is only an egg after all, and a Scots proverb[13] puts this thought into words, saying, "They hae need o' a canny cook that hae but ae egg to their dinner"; still, "better have a new-laid egg at Christmas than a calf at Easter," an adage which reminds us of the well-known "bird in the hand," and of that other, "Count not your chickens before they are hatched."

Speaking of hatching brings us to the egg as the emblem of heredity. A little-known proverb bridges over the gulf between the egg in embryology and the egg in diet: "An egg will be in three bellies in twenty-four hours." The hen's is one and the eater's is another, but who will guess the third? There is a Greek proverb, *κακοῦ κόρακος κακὸν ὠόν*, which may be rendered, "A bad crow lays a bad egg"; it represents the popular idea of morbid heredity, but neither eugenics nor Mendelism bears it out altogether, for an apparently good crow sometimes lays a bad egg, and an undoubtedly bad crow occasionally lays a good one. Heredity is not so simple a business as the crow proverb seems to suggest, but Mendel has done much to elucidate its complexity by showing the existence of the law of percentages among the dominant and recessive characters of plants and animals. The saying that "a black hen lays a white egg" may seem at first sight to be a mere statement of fact and not a proverb at all; but Ray[14] sees much more in it. He says: "This is a French proverb, *noire geline pond blanc oeuf*; I conceive the meaning of it is that a black woman may bear a fair child." Ray may, of course, be right, but to most minds the introduction of the mysteries of superfecundation and superfetation into the interpretation of this piece of homely wisdom will seem to savour of subtlety.

There is, however, here as in so many other cases, a proverb which seems to offer only a qualified approval of the statement that a bad crow lays a bad egg. It is this: "Many a good cow hath but a bad calf." So it often is with proverbs, and the reason is not far to seek, the proverb-maker wishing to give the proverb-user something to suit all contingencies. The Latin equivalent is *heroum filii noxae*, and the Greek, *Ἀνδρῶν ἡρώων τέκνα πήματα*: and Ray has so interesting a reflection on this matter[15] that I copy it here: "Aelius Sparitanus," he says, "in the life of *Severus* shows, by many examples, that men famous for learning, virtue, valour, or success, have, for the most part, either left behind them no children, or such as that it had been more for their honour and the interest of human affairs that they had died childless. We might add unto those which he produceth, many more out of our own history. So *Edward* the first, a wise and valiant prince, left us *Edward* the second; *Edward* the black prince, *Richard* the second; *Henry* the fifth, a valiant and successful king, *Henry* the sixth, a very unfortunate prince, though otherwise a good man. And yet there want not in history instances to the contrary, as, among the *French*, *Charles Martel*, *Pipin*, and *Charlemain* in continual succession, so *Joseph Scaliger* the son was, in point of scholarship, no whit inferior to *Julius* the father. Fortes creantur fortibus et bonis, etc."

Yes, indeed, there are many contradictions in the matter of heredity, and some of the greatest men would never have been in the world at all if their parents had been successfully segregated or skilfully asexualized on modern principles. It is a tangle of tangles, and one is tempted to put Mendelian results into a new and up-to-date proverb to the effect that "it is hard to tell who a man's father was till you see what his son is going to be," or, perhaps, "you know not the hen till you have the chick's egg." Yet there is a long-lasting truth, and it is well that it be so, in the saying that "the crow thinks her own bird fairest"; there is sober fact, too, in the proverb that "that which comes of a cat will catch mice," and in that other (an Italian one) that "that which is bred of a hen will scrape." Also, "Every bird must hatch her own egg" is a great rule, which the hedge sparrow breaks, in the case of the intrusive cuckoo, to the sad loss of her own

[7] *Green's Encyclopedia and Dictionary of Medicine*, v, p. 8, 1912.
[8] Lean's *Collectanea*, iii, p. 417, 1905.
[9] Lean's *Collectanea*, ii, p. 101, 1903.
[10] *Mungo Park's Travels*, c. vi, 1816.
[11] Lean's *Collectanea*, ii, p. 214; iii, p. 109, 1903.
[12] *Ray's Proverbs*, p. 22, 1818.
[13] Cheviot, A., *Proverbs of Scotland*, p. 362, 1896.
[14] *Ray's Proverbs*, p. 56, 1818.
[15] Ray, J., *Proverbs*, p. 64, 1818.

young ones, pitched forth so ignominiously from the maternal nest, as "sure as eggs is eggs."

Sir James M. Barrie's *Sentimental Tommy*, when masquerading as the Young Pretender, was greeted by Corp of that Ilk with "Welcome, my prince, once more to bonny Scotland," and received from the same faithful adherent the even more gratifying tidings, "there's an egg to your tea." Let us reverse the order, and have some tea to our eggs. There are not many tea proverbs, unless, indeed, the libraries of the Chinese Republic contain treasures little known to the Western world: and those that we have are very slightly medical. But before we begin our repast, at the risk of "coming in with five eggs," as the saying is, I should remind my readers that as "there are twenty vulgarities a man may commit in the eating of an egg," so we must take care how we sip our tea. A proverb instructs us that "good tea cannot be too hot, nor good beer too cold," and another says, "unless the kettle boiling be, filling the teapot spoils the tea"; and these are warnings which the pharmacological pharmacist, knowing the difference between an infusion and a decoction, and having a profound acquaintance with theine and tannin, will doubtless subscribe to. "Old coffees, young teas," is a planter's maxim which Lean discovered in the *St. James's Gazette* for June 30th, 1884 [16]; the reason, of course, is that the coffee may be kept (before roasting) to mature, whilst the tea should not be so kept. There is truth in the adage that "so long as there's water there's tea." But there is refreshment as well when the hostess tells the late comer that she is sending for a newly infused supply. The "cup which cheers" does so the more potently when it is freshly made, volatile oil or some other mysterious component part being then perhaps in a nascent state, so to speak. "Tea, thou soft, thou sober, sage and venerable liquid," said Colley Cibber in the *Lady's Last Stake*, and Henry Fielding thought "love and scandal were the best sweeteners of it" (*Love in Several Masques*). Many things have been "given away with a pound of tea," but the true tea devotee would give away much to retain the pound of tea. The medical profession still remembers with gratitude Anthony Trollope's kindly picture of Dr. Thorne, self-sacrificing almost to quixotism but with a touch of the human weakness coming in upon him in his overmastering love for tea, and tea in quantity too. Samuel Johnson [17] likewise described himself as "a hardened and shameless tea drinker"; and in his *Dictionary* he quotes, evidently with appreciation, Waller's lines, "The muses' friend, tea, does our fancy aid, Repress those vapours which the head invade." With this semi-medical and poetical permission to drink tea the present ramble among the flowers of proverbial philosophy must find an end. But the writer has a word of warning first: Tea is not for infants!

He will further illustrate his warning by an example. Once when working in that tea-drinking neighbourhood, the Cowgate of Edinburgh—would that it were only tea that was drunk there!—he was engaged in prescribing for a miserable atrophic infant of some two months or thereby. Wishing to bring some feeling of shame into the bosom of the mother whose the child was, and shrewdly suspecting that she was comforting herself with the reflection (a favourite one in the Cowgate) that the infant was "getting what they took themselves," he remarked, with fine irony, that he presumed the baby was being fed upon tea. With neither a smile of satisfaction nor with any look of abasement, but in the clear, calm tones of slight regret, the mother replied that "he" (the tender child of 2 months) "was not a great tea-drinker"!

INTERNATIONAL CONGRESS OF NEUROLOGY AND PSYCHIATRY.

The third International Congress of Neurology and Psychiatry was held in the Congress Hall of the exhibition at Ghent from August 20th to 26th, under the presidency of Dr. Crocq, Professor at the University of Brussels, and of Dr. Glorieux, Inspector-General of Belgian Asylums and Colonies for the Insane. About 150 members, representing various nationalities, attended, but the British contingent was small, owing probably to the recent occurrence in London of the great International Congress of Medicine. Among those who attended were Dr. Aldren Turner, representing the Royal College of Physicians and the Government; Dr. Hubert Bond, one of the Commissioners in Lunacy; Dr. L. R. Oswald, Physician-Superintendent of the Glasgow Royal Asylum, representing the University of Glasgow; Dr. Mary Booth, of Sydney, Australia, and Dr. G. E. Shuttleworth, delegated by the Medico-Psychological Association of Great Britain and Ireland.

The Congress was officially opened on behalf of the Belgian Government by the Minister of Justice, M. Henry Carton de Wiart, and an interesting inaugural address was delivered by Dr. Crocq on muscular tonus, reflexes, and contracture. Papers followed, on successive days, on the colloidal structure of the nerve cells and their variations in normal and pathological conditions, by Professor Marinesco of Bucharest; on syphilitic spondylitis and allied conditions, by Professor Sachs of New York; and on the mechanism of regeneration in the nervous system, by Professor Dustin of Brussels. Other neurological papers of interest were contributed by Professor Mendelssohn of Paris, Professor Morselli of Genoa, and Professor Donaggio of Modena.

There were several interesting discussions, including those on the treatment of progressive paralysis, introduced by Dr. Pilcz of Vienna; on the influence of internal secretory glands in relation to psychology and mental pathology, by Professor Parhon of Bucharest; on the electric treatment of exophthalmic goitre, by Dr. Pfeiffer of Levernois; on the treatment of nervous hyperexcitability by organic bromides, by Dr. Berry of Paris; and on hypnotism and suggestion in mental disorders, by Dr. Van de Lanoitte of Verviers.

Of more purely psychiatric interest were papers by Professor Moreira of Rio de Janeiro on the mental and nervous maladies of Brazil; by Dr. Bérillon of Paris on the syphilitic neurasthenias; and on states of regression of the personality, by Dr. Sollier of Paris. A study of madness in the Old Testament was contributed by Dr. Rouby of Algiers.

The treatment of abnormal children, and of adult defectives in colonies, has attracted much attention in Belgium, and papers relating thereto were contributed by Professor Ferrari of Bologna, by Dr. Decroly of Brussels, and Professor Weygandt of Hamburg. An interesting morning was spent by the Congress in a visit to the St. Joseph Institution for Abnormal Boys at Ghent, where ingenious methods of education and training were demonstrated. The communal lunatic asylum, Le Strop, was also inspected; and as interludes to the more serious work of the Congress visits and excursions were organized to see the picturesque edifices and other objects of interest in the old-world cities of Ghent and Bruges.

The Honorary Secretaries, Dr. D'Hollander of Mons, and Dr. Boulenger of Brussels, deserve much credit for their satisfactory arrangements.

[16] Lean's *Collectanea* i, p. 495, 1902.
[17] Johnson's *Works*, vi, p. 21.

A GAS CONGRESS AND EXHIBITION.

It is rather more than a hundred years since Byron classed together "Cow-pox and tractors, galvanism and gas." Tractors have gone the way of other quackeries, but cow-pox as a preventive of small-pox is appreciated, at any rate in Australia, and what the poet would have included under the head of "galvanism" is competing with gas for the privilege of lighting and warming the homes of all sorts and conditions of men and providing power to the manufacturer. The leaders of the gas industry, holding that it entered on its second century last year, have combined with the Institution of Gas Engineers, which celebrated its jubilee this year, to organize a national gas congress and exhibition in the International Exhibition Halls, Shepherd's Bush, London, during next month.

The purpose is to demonstrate the numerous ways in which the combined efforts of the gas industry can aid in solving efficiently and economically many urgent problems relating to national health and physique, personal hygiene, the housing and better feeding of the working classes, the purification of the air of cities by the abatement of the smoke nuisance, the hygienic and economic aspects of good and bad illumination, the ventilation of buildings,

the conservation of the national coal supply, domestic service questions, and other aspects of household and industrial science, art, and finance.

The scheme of the exhibition will, in addition to general exhibits relating to the manufacture, testing, and distribution of gas, comprise suites of model furnished rooms—living rooms, halls, bedrooms, nurseries, bathrooms, kitchens, pantries, and so on, to suit a variety of purses and tastes—schoolrooms, hospital wards, hotel and institution kitchens, laboratories, and other rooms for special purposes, fitted up with the efficient and economical gas appliances for lighting, heating, cooking, hot-water supply and power purposes; there will also be model workshops, which will afford opportunities for showing the many applications of gas to industrial purposes. There will be a cookery demonstration room, in which experts will give lectures and demonstrations, and space will be devoted to special exhibits related to hygienic and scientific lighting, cooking, hot-water supply, heating of premises, industrial heating, and motive power; to the raw materials used in gas manufacture, to the preparation and uses of residual products, to the application of scientific apparatus, and to engineering in relation to gas manufacture, gas distribution, and gas measurement.

It has been arranged to hold conferences during the Congress month from October 1st to November 1st between the administrators of gas undertakings and educational, medical, and sanitary authorities, employers of labour, and social economists. The conferences include one on smoke abatement, to discuss the use of gas for fuel; one on food and cookery, to consider means for increasing knowledge of economical and correct methods of preparing and cooking food, especially in relation to cooking in the working man's home; a conference of persons interested in social and economic questions on the economics of the home, to discuss the use of gas in relation to (*a*) the artisan's weekly budget; (*b*) the economics of housekeeping for the middle classes; (*c*) the dearth of domestic servants; (*d*) the furnishing and equipment of the home. There will also be a conference to discuss the hygienic aspect of gas for lighting, heating, cooking, and ventilation; a conference of educational authorities, to discuss the lighting, heating, and ventilation of schools, the teaching of cooking in schools, and the arrangement and equipment of cookery and housewifery centres. A conference of manufacturers will discuss the lighting, heating, and ventilation of factories and workshops, offices, and other places of business, the economic value of adequate illumination, the use of gas as a fuel for industrial purposes, the use of gas for power and cooking for employees. At a conference on the science of illumination, the principles of scientific illumination in their relation to the use of gas for lighting will be discussed. Amongst the speakers who have promised to read papers or to open discussions are Sir William Bennett, Sir Alfred Keogh, Dr. Leonard Hill, and Sir William Richmond.

MOTOR CARS FOR MEDICAL MEN.

THE AUTOMOBILE ASSOCIATION AND MOTOR UNION.

DR. A. ADAMS (Liverpool Sanatorium, Kingswood, Frodsham) writes, with reference to the paragraph under this heading published last week, to say that on a recent occasion when he sought legal advice from the Automobile Association with respect to the putting of cars in a public garage he was informed that the advice given free only referred to the Motor Cars Act.

SMALL CARS.

THE following replies have been received to the question from "Cornubiensis" published in the JOURNAL of September 20th:

B. writes: Having recently driven a 7-h.p. Austin 6,000 miles, with practically no trouble due to the car, I can recommend it to him. Apparently the De Dion and Rover sixes and eights are also as good as can be. All these makes of small cars have to be obtained second-hand. Amongst new cars it seems as if the G. W. K. would suit him; but it has two cylinders, and he has been warned against them. The others have only one. I have no interest in any motor firm.

RUSTYCUSS writes: I have had a "Cyclecar" for six months, and have used it constantly, and found it in every way very satisfactory. This is open country, with poor to moderate roads and some stiff hills. I get anything, according to roads and load, from forty to fifty miles a gallon of benzol, which I use. I average twenty miles an hour, and could, if I wished, do more. Any mechanical trouble—and it has been very little—has been due to my own ignorance of motors. I have never been stopped once, except to change wheels for a puncture. I cannot advise any one who wants a small economical single or two-seater to do better than get the paper *The Cyclecar* and study it, back numbers too, and then see the various cyclecars and try them at the show. There are quite a dozen reliable and well-tried makers to choose from, and though mine is a four-cylinder 10-h.p. model, following car-practice in every detail, still I do not feel at all sure that some of the lighter models, with air-cooling and double-belt drive, are not just as sound an investment. I shall be happy to write to "Cornubiensis" in detail of my experiences if he cares to know them.

DR. GEO. WILLETT (Keynsham, Bristol) advises the 10-h.p. Singer Light Car. I have, he continues, done my country practice with one for the last three months in a hilly district, and with some very rough and bumpy roads, with the greatest satisfaction. It has a four-cylinder water-coated engine, the induction pipe being warmed, and thus giving an easy start-up in the morning. I use Shell No. 2 spirit, and on ordinary roads can do 44½ miles to the gallon. No hill is too steep for me, and one quart of lubricating oil a week is ample. One pint of distilled water a week suffices for the radiator. It is quite an exception to meet a hill one cannot get up on top gear. I reckon that 1d. a mile run covers all costs, including tyres and depreciation. The front tyres should be kept pumped to 60 lb., and back tyres to 65 lb. These figures may seem somewhat startling for a novice, as I am, but a Stewart distance meter will prove their accuracy. With much hill climbing or driving in traffic my mileage comes down to forty miles a gallon.

STEAM CARS.

WE have received a reply from a medical correspondent stating that while he found a steam car excellent for pace and smooth running when once working, his experience was that breakdowns were frequent, the expense of repairs considerable, and the running expenses high.

COUPÉ CARS.

OWNER DRIVER writes to recommend to "Verdant Green" a Hurtu car, particulars of which can be obtained from the Ariel Repairing Company, Camberwell Road, London, S.E. Our correspondent states that he has run a 10-h.p. car of this make successfully and economically. He drives himself, and the probable cost of upkeep is about £30 a year.

LITERARY NOTES.

A FIFTH edition of Dr. Burney Yeo's *Manual of Medical Treatment* is announced by Messrs. Cassell and Co. The revision has been carried out by Dr. Raymond Crawfurd and Dr. E. Farquhar Buzzard, who collaborated with the author in the fourth edition.

Admiral Penrose Fitzgerald in his *Memories of the Sea* (London, Edward Arnold, 1913) gives a remarkable picture of the provision for the needs of sick or wounded sailors sixty years ago. Describing a convoy starting for service in the China waters (*circa* 1856), he says:

> Their radius of action under steam was very small, so that the voyage was made almost entirely under sail. They did not carry a doctor, but the lieutenant in command was supplied with a medicine chest and a small book of medical and simple surgical instructions, telling him how to act in case any of his men were taken ill or met with an accident. The story was told afterwards that one of these young officers, after reading his book of instructions from cover to cover, got so puzzled with the contents that he gave it up as a bad job; so he called all hands aft on the quarter-deck, and having ordered the medical chest to be brought up from below, he thus addressed his crew: "Here are your medical stores for the voyage. I cannot make head or tail of the instructions for their use, so I am going to serve them all out to the messes in equal parts, to do what you like with them; and don't use them all at once, as they have got to last you until the ship arrives at Hongkong."
>
> "The ship," adds the admiral dryly, "did arrive at Hong Kong, with all hands in the best of health, but it is not stated what became of the medical stores." As, in his own words, one chestnut suggests another, he goes on to tell the following story:
>
> When the great fleet sailed for the Baltic in 1854, to fight the Russians, it was naturally expected that there would be some wounded men; so it was decided to give the officers brief medical instruction in rendering first aid until one of the doctors could attend to the case. Among these instructions was the use of the tourniquet, to arrest haemorrhage. So one fine night, in the middle watch, the sentry at the admiral's cabin door on board the *Neptune* cut his own throat, which gave the officer of the watch (Lieutenant ——) an opportunity of putting in practice the first-aid instructions he had so lately received. He therefore whipped out his pocket-handkerchief, knotted it round the sentry's throat below the wound, and hove it up taut, with a bayonet scabbard for a lever. He then sent for the doctor, but before that officer arrived the gallant marine had breathed his last. In fact, he had not breathed at all since the tourniquet was applied.

A story of misdirected zeal not, perhaps, without a moral even at the present day.

We have received the first number of the *American Journal of Tropical Diseases and Preventive Medicine*, the official organ of the American Society of Tropical Medicine. The editor is Dr. Creighton Wellman. The new journal, which is intended to be a medium through which American workers may express themselves, is published at New Orleans. It contains a large amount of valuable matter. Among other papers are: The acclimatization of the white race in Cuba, by Dr. Juan Guiteras of Havana; the etiology of ulcerating granuloma, by Dr. Richard P. Strong of Boston; and one on vaccines and serums in the treatment of Malta fever, by Dr. A. Parker Hitchens. The editor and Dr. C. C. Bass of New Orleans give an account of recent researches on the etiology of beri-beri; Dr. W. P. Chamberlain of Plattsburg, Pennsylvania, writes on the character of the rice which prevents beri-beri; and Dr. Victor G. Heisner describes further experiences with beri-beri in the Philippine Islands. Dr. K. H. Beall contributes some etiological data relative to pellagra. The new periodical is well printed, and in an editorial sense well "groomed." The second number fully maintains the high standard of the first.

Dr. Arthur M. Corwin, of Chicago, has sent us a poem contributed by him to the *Illinois Medical Journal* for August, in celebration of the opening of the new West Side Hospital. It is too long to quote in full. The following description of a sick man will give an idea of its purport:

> To sick men here we rear a monument—
> No shaft of granite, gray, or slab of white
> To mark the doleful spot where love's lament
> Is sung in requiem to gath'ring night.
> Memorial is this of nobler brand
> Than tombs, within which lifeless dust endures;
> For to the living here its walls shall stand
> A monumental hall of famous cures.
> The sick man! Who more worthy of our song?
> In robust health, disdaining sympathy:
> When ill, with vital functions acting wrong,
> No infant more dependent then than he.
> Squandered his revenue of mental power,
> Bankrupt in energy of body worse,
> His neurons weak, his disposition sour,
> His days a bore, his nights a living curse;
> What wonder that the victim of disease
> Should need some balm more practical than prayers
> From racking pain to give him lasting ease;
> More potent, too, than patent drugs and wares
> Of advertising quacks, and passes made
> By smooth magnetic fakes who fortunes tell
> From skiagraphs of pocket-books, X-rayed,
> And guarantees to make their patients well?

Dr. Corwin's muse, though excellent in intention, is pedestrian in style. One would like to know more of the "balm" which works such wonders.

Dr. William L. Storey (Belfast) writes: To express "the faculty of making happy and unexpected discoveries by accident" the word "Serendipity" (from Serendip, an old name for Ceylon) was coined by Horace Walpole, and it has now been introduced with that sense into the *New English Dictionary*. This I found out casually the other day when consulting *Notes and Queries* on some particular subject, so my discovery is itself—to use the words of Horace Walpole *infra*—"of the kind which I call Serendipity." *Notes and Queries* gives some interesting information as to the coinage of this term. Its appearance on a shop in Westbourne Grove was the subject of a query addressed to that paper some ten years ago, and elicited an instructive reply from a correspondent as follows: "Writing about the discovery he had made in connexion with his picture of Bianca Capello he [Walpole] says:

> "This discovery I made by a talisman which Mr. Chute calls the *Sortes Walpolianae*, by which I find everything I want *à point nommé* wherever I dip for it. This discovery, indeed, is almost of the kind which I call *Serendipity*, a very expressive word, which, as I have nothing better to tell you, I shall endeavour to explain to you; you will understand it better by the derivation than by the definition. I once read a silly fairy tale called *The Three Princes of Serendip*: as their Highnesses travelled they were always making discoveries, by accidents and sagacity, of things which they were not in quest of: for instance, one of them discovered that a mule blind of the right eye had travelled the same road lately, because the grass was eaten only on the left side, where it was worse than on the right—now do you understand Serendipity? One of the most remarkable instances of this *accidental sagacity* (for you must observe that *no* discovery of the thing you are looking for comes under this description) was of my Lord Shaftesbury who happening to dine at Lord Chancellor Clarendon's found out the marriage of the Duke of York and Mrs. Hyde by the respect with which her mother treated her at table."

For illustrations of serendipity mention might be made *inter alia* of an address entitled "After the Method of Zadig" in Huxley's *Science and Culture*, General Baden-Powell's admirable little treatise on scouting, and, of course, the Sherlock Holmes adventures. Of the many discoveries by accidents and sagacity made by medical men "the time would fail me to tell," but perhaps space will be found for one made by Dr. Byrom Bramwell (see his clinical lecture on "The Treatment of Pernicious Anaemia" in the JOURNAL of May 24th):

> In the first case of myxoedema which I treated by thyroid I gave too large doses, and produced acute thyroidism; it was attended with profuse desquamation of the skin. I argued that if thyroid tissue . . . could produce this extraordinary desquamation in myxoedema, it would probably be of use in psoriasis and other skin diseases. In the first three cases of psoriasis in which I tried it the result was remarkable. The extraordinary success in these first cases led me to think that I had made a remarkable discovery. There is no doubt that it was a discovery and advance, for many cases of psoriasis and certain other skin diseases are very greatly benefited by thyroid treatment, but the remedy is an uncertain one.

But even though the remedy be uncertain the happy and unexpected discovery was made by accident and sagacity, and can therefore be given as an illustration "of the kind which I call Serendipity."

In France, as elsewhere, formerly barbers and surgeons were for centuries joined together. In the *Progrès Médical* of June 14th a writer who signs himself M. G. gives an account of the community of surgeons of Rouen based on a history by Dr. François Hue recently published. Little is known about the early period of this community, but their first statutes were inserted in the *Livre des Médecins* of Etienne Boileau, Provost of Paris in 1260. The administration of the community was then in the hands of a committee of six sworn members. Their function was to examine persons who practised surgery, and on their report the provost authorized or forbade the practice of those persons. In these statutes there is nothing to show that surgeons practised barbery, nor in the statutes of the barbers of 1371 is there any allusion to surgery. In 1500 the surgeons and barbers of Paris were reunited into one community by the efforts of the Faculty of Medicine, which wished to bring the surgeons under its authority. After innumerable lawsuits Charles the Ninth in 1567 decided that no barber should be admitted master in his craft unless he had passed an examination in surgery. The union lasted till the foundation of the College of Surgery in 1763. In 1648 a branch of the community was detached under the name of barbers, wig dressers, and bath men, which for a long time was under the dominion of the barber-surgeons, and was erected into a community only in 1673. This was, speaking broadly, the history of the community of surgeons of Rouen. In the sixteenth and seventeenth centuries it was composed of a lieutenant, of the first surgeon of the king, of three sworn wardens, of sworn masters, *aspirants*, and apprentices. The lieutenant paid a tax to the first barber of the king. The masters had the right to keep open shop and to hang out boxes and basins. Their number was from 30 to 35. They were recruited by the procedure of the "great masterpiece," a long and minute examination consisting of fourteen different parts and extending over several months. A man could become an *aspirant* only after an apprenticeship of three years under a master. Gradually he came to be able to take the master's place, and then either remained all his life assistant to a surgeon or looked after the business of a surgeon's widow, or passed the great examination if he could pay the fees, which were high. Sons of masters had certain privileges. They paid only half fees and could remain with their fathers. Barber-surgeons practising in Rouen, in the suburbs, or within certain areas had an easier examination, which lasted only three days. Once admitted they were assigned a definite post with limited rights, somewhat similar to those of the later *officier de santé*. The community also admitted midwives and examined dentists and cutters for rupture. It managed its own affairs under the supervision of the Bailli and the *parlement*, which was the chief local authority of the province. All questions affecting the community were dealt with in meetings, which were held at least once a week. For a long time the surgeons remained united to the barbers. Then there came a period of drifting apart, till the severance was completed by the promulgation of the decree of Versailles in 1756.

British Medical Journal.

SATURDAY, SEPTEMBER 27th, 1913.

SURGERY OF THE BLOOD VESSELS.

Only a few years ago the surgery of the blood vessels consisted of ligation of arteries and veins, of some more or less experimental methods of dealing with aneurysms and of little else. Now, though the experimental stage is by no means over, we must regard operations on arteries and veins as quite within the practical sphere. Great interest in this branch of surgery was shown in the discussion on the Surgery of the Arterial System, in the Surgical Section of the International Medical Congress. And British surgeons greatly admired, and perhaps envied a little, the work recorded by Matas of New Orleans, Jeger of Berlin, Soresi of New York, and others who took part in the debate. We have been prompted by the keenness exhibited in that discussion, and through the perusal of two recent volumes on blood-vessel surgery, to present briefly the present state of our knowledge of the subject.

The first permanent union of two blood vessels was accomplished experimentally in a dog in 1879 by Eck, a Russian surgeon, who made a lateral anastomosis between the vena cava and the portal vein, and established what is now called Eck's fistula. Progress was hindered by the fear of thrombosis, if the intima were involved in the suture, but in 1899 Dörfler showed in twelve successful experiments out of sixteen that all the coats of arteries should be included in the suture, if fine enough needles and silk were employed. Many workers tried many plans to simplify and perfect technique. Mechanical appliances of great interest were invented: perhaps the most notable of these were the absorbable magnesium ring employed by Payr as a supporting scaffold over which one cut end of the vessel was folded and invaginated into the other before suturing, and Murphy's clamps, removed after suturing was completed, in his invagination method.

In 1905 Carrel, to whose ingenuity and patient resourcefulness we owe great advances in blood-vessel surgery, introduced a quite simple but perfectly efficient technique which has not been departed from since. Briefly, Carrel's method for, let us say, end-to-end arterial anastomosis (the usual strict asepsis of all surgery being presumed) consists in provisional haemostasis with suitable clamps or tapes held by forceps, thorough cleansing away of blood and blood clot, the introduction of three tension sutures of the finest silk, impregnated with vaseline or soaked in oil, equidistant in the circumference of the vessel, and passing through the whole thickness of the vessel walls. Then, as these sutures are made taut, the ends of the vessel are approximated and a continuous suture of the same material on a very fine needle is run round the vessel. The edges meet accurately, they are not everted—the interrupted mattress suture advocated by Dorrance and the continuous mattress suture of Briau and Jaboulay evert the edges, but that manœuvre is not necessary. It appears that the simple expedient of lubricating the thread makes all the difference between success and failure. Suture material of fine enough quality is only obtained by teasing out the finest silk thread and using one strand. Guthrie,[1] whose admirable volume on blood-vessel surgery should be known to all surgeons, finds that human hair makes admirable suture material: it is always at hand, and is stronger than the fine silk strand. Manipulations with such exquisite materials are not so difficult as may be supposed; when sterilized in oil these tiny threads are fairly easy to handle, and ordinary dexterity finds little trouble, we are assured, even in a first attempt. The temporary clamps are removed, and the blood stream continues its course uninterruptedly. Practically no bleeding occurs at the sutured edges: any weak spot may be strengthened with a single stitch. Conditions favourable to coagulation within the sutured vessel are now present—roughened endothelium, minute needle punctures, small portions of silk thread—but only very limited thrombosis does take place. When the sutured vessel is removed, at intervals of days or weeks after the operation, it is found that fibrinous deposits are laid down on the raw surfaces and on the threads, but these deposits are slight, and they very soon undergo absorptive changes and become protected with a covering of cells like those of the intima (Guthrie and Carrel). There is apparently no fear of the formation of an occluding thrombus or of a thrombus big enough to limit the circulation.

This technique may be applied in all sorts of ways: end-to-end anastomosis of artery and vein, as in the introduction of a segment of internal saphena vein to take the place of popliteal aneurysm excised with a portion of artery; lateral anastomosis, as in the formation of Eck's fistula between vena cava and portal vein; end-to-side anastomosis, and "patching" of large torn vessels. The histological changes in the vessel wall in the simplest of these procedures—reunion of divided arteries or veins—appear to be of no moment except for the traumatic effects in the suture line. But notable changes are found in a segment of vein introduced into the course of an artery and in veins in which the circulation is reversed by joining vein to artery, and vice versa. Guthrie finds thickening of the vessel wall and narrowing of the lumen, diminution of muscular tissue, and increase in fibrous. Similarly in hetero-transplantation—for example, in the interposition of a segment of vena cava of a dog (preserved in formalin for sixty days) between the ends of a divided common carotid artery of another, or in transplanting hetero-grafts (segments of dogs' vessels) into cats—the walls of the segment become thickened, muscular tissue disappears, the intima remains practically normal, and there is great increase in fibrous tissue in the outer coat. Physiologically these changes are explained more or less completely by consideration of the suggestions made by Mott that the vasa vasorum supplying "nutritional blood" are obliterated or obstructed, but the intima and adventitia are still nourished by "functional blood" circulating in the vessel and in the surrounding tissues. Guthrie believes that the changes observed are of passive rather than active origin, and there is no evidence of true functional hypertrophy in engrafted segments.

Now, it may be said at once that the experimental work of suture, repair, and anastomosis of blood vessels has been surgically a success. The immediate results have satisfied clinical requirements—good pulse, warmth of the part, maintenance of function. Permanency has also been demonstrated. One of

[1] *Blood Vessel Surgery and its Applications.* By C. C. Guthrie, M.D., Ph.D., Professor of Physiology and Pharmacology, University of Pittsburgh. London: Edward Arnold. 1912.

Guthrie's dogs had reversed circulation of arterial blood in one of the external jugular veins for more than five years; another dog was living in good condition with active circulation through a carotid artery into which a segment of formaldehyde-fixed vena cava of another dog had been engrafted three years before.

Experimental investigation has proceeded also in another direction—in the artificial production of anaemia and hyperaemia. In the operation of ligature of thyroid arteries in goitre the principle of the establishment of artificial anaemia is already applied in surgery. Then partial or complete occlusion of arteries has been accomplished quite readily by suture and by means of aluminium bands devised by Halsted. Metallic bands have been applied fourteen times at least to various large arteries in the human subject, in the treatment of aneurysm, and as a preliminary step to removal of malignant tumours. They may be applied under local anaesthesia and can be tightened or loosened according to the effects produced. The study of hyperaemia has been carried out by Guthrie and Ryan in noting the marked anatomical changes which occur in enlarged thyroid glands of dogs after alteration of the circulation. The results in this instance have been on the whole indefinite and not easy to explain, but it did seem as if tying the thyroid veins brought about amelioration or disappearance of general symptoms of thyroid disease. Tuholske and Werelius performed the operation on the human subject with good results.

Perhaps the most startling developments of blood-vessel surgery are to be found in consideration of transplantation of tissues. Both Guthrie and Jeger[2] give full details of the technique of various transplantation operations. The new methods of suture of blood vessels permits the moving about of organs in a way hitherto undreamed of. Guthrie confesses that the results of transplantation actually achieved are by no means so satisfactory as might be anticipated, considering the great activity of the last five or six years in this direction of investigation. But it is reasonable to hope that results of great moment, from both the experimental and the practical standpoints, will be achieved, and that it will be possible to accomplish permanent combinations of animal tissues ranging from parabiosis, or the engrafting of two animals together, to small graftings of structures of the adult body isolated from other tissues. By this method physiological phenomena may be explained and light thrown on many of the problems of relationships of organs, growth, decay, heredity, and in the end definite surgical laws may be laid down.

The kidney lends itself well to transplantation. Ullmann was the first to remove and transplant a dog's kidney into the cervical region, uniting the renal to the carotid artery and the renal vein to the external jugular vein; the kidney secreted for a time after the operation. Carrel and Guthrie have perfected this operation, and have actually transplanted both kidneys by removing and engrafting segments of the aorta and vena cava bearing the renal vessels, and have succeeded in keeping dogs and cats alive for weeks after transplantation *en masse* of the whole renal apparatus from one animal to another of the same species. An animal has been kept alive for months with its own renal tissue after it had been removed and replanted. In another instance one kidney was removed from a cat, a kidney from another cat introduced, and vascular and ureteral connexions established; the animal did well, but a year later its remaining kidney was taken away, with the result that death from renal insufficiency took place in a few days. At the autopsy it was found that in the engrafted kidney only traces of normal structure remained. Transplantation of ovaries, of thyroids and parathyroids, of legs, even of the heart, has been performed. Reimplantation of amputated limbs of dogs has given astonishing results; the circulation has been thoroughly restored, so that in one case the limb was warm twenty-four hours after operation, but fifty hours after, gangrene seemed inevitable, and the dog was killed with chloroform; and in another experiment ten days elapsed before it was determined that the reimplanted limb could not be saved.

Definite conclusions may not be drawn from these achievements, except to say that not yet can amputated limbs be reimplanted and live usefully, nor healthy kidneys from one subject be put in place of others unhealthy. But ten years ago people would not have believed that motor cars could cover 100 miles in an hour, or that men would fly from London to Paris or over the Alps, and yet these feats are no longer wonderful. No one will attempt to prophesy what surgery may be able to do in another decade.

[2] *Die Chirurgie der Blutgefässe und des Herzens.* Von Dr. Ernst Jeger. Berlin: August Hirschwald. 1913.

OLD EXPERIMENTS AND MODERN MORALS.

In the notice of the International Congress of Physiologists and of the publications presented to its members we omitted to mention a very interesting fasciculus issued by that admirable historical publication *Janus*, edited by Professors Nieuwenhuis and van Leersum of Leiden. It would be the more ungrateful to leave it unmentioned because it is written in English and is largely concerned with the work of Englishmen. It is entitled *Old Physiological Experiments*, and the experimenters are Galen, Harvey, Stephen Hales, Robert Hooke, Leonardo da Vinci, Malpighi, and Leeuwenhoek.

Professor van Leersum, who holds the chair of the history of medicine as well as that of pharmacology in the University of Leiden, is the author of this bundle of short essays, which all touch on the history of the doctrine of the circulation of the blood. He has illustrated them by reproductions of original drawings, and by a photograph of the portrait of Harvey in the possession of Mr. D'Arcy Power. Of Stephen Hales, the parson of Teddington, dear to Pope who always loved to see him—"he is so worthy and good a man"—Professor van Leersum says that he was a born experimenter, and, moreover, possessed the laudable tendency to express everything he observed in measure, number, and weight. "The most likely way," Hales wrote, "to get any insight into the nature of those parts of the creation which come within our observation must in all reason be to number, weigh, and measure. And we have much encouragement to pursue this method of searching into the nature of things from the great success that has attended any attempts of this kind." His own great success was in determining the blood pressure, and he only failed to make a satisfactory estimate of the number of capillaries in the body owing, as Professor van Leersum shows, to an error in his arithmetic, for the principle on which his calculation was based was correct.

The next experiments to which Professor van Leersum refers are those of Robert Hooke on respiration. Hooke, who was born in the Isle of Wight

in 1635, and died in 1703 at Gresham College, where he had long been professor of geometry, was a man who diffused his energies over a multitude of subjects, but, it is said, would have anticipated Newton in establishing the theory of gravitation had he possessed the necessary mathematical skill. He made many physiological experiments, the most remarkable being one demonstrated to the Royal Society, when he showed that a dog could be "kept alive by the reciprocal blowing up of his lungs with bellows, and they suffered to subside, for the space of an hour or more, after his thorax had been so displayed (by cutting away the ribs and diaphragm), and his aspera arteria (trachea) cut off just below the epiglottis, and bound on upon the nose of the bellows." The demonstration showed also that the dog fell "into convulsive motions by ceasing to blow the bellows and permitting the lungs to subside and lie still," and could be suddenly revived "by renewing the blast, and consequently the motion of the lungs." All this seems nowadays very obvious, but Hooke, in seeking to convince his contemporaries, had not a clean slate to write on. They were obsessed with the theory that "the motion of the lungs was necessary to life upon the account of promoting the circulation of the blood." Hooke ended his demonstration by showing that the dog could be kept alive by a continuous current of air distending the lungs, provided that it was allowed to escape through punctures made at their surface. By this demonstration Hooke not only exploded an erroneous theory, but laid the foundation for the practice of artificial respiration.

The slowness with which even the most brilliant observers appreciate phenomena passing under their eyes is illustrated by Professor van Leersum's conclusion that Malpighi, though he saw the capillary circulation in the frog's lung and concluded that the arterial system passed into the venous by means of a still finer network, and that the blood does not leave its channels anywhere, nevertheless did not fully appreciate the significance of what he saw. This honour Professor Leersum claims, and the claim used to be generally admitted, for his countryman, van Leeuwenhoek, whose most conclusive experiments were made on the tail fin of the eel, the animal being dropped head first into a narrow tube. "When I fixed these small eels before the glass," he wrote in his letter to the Royal Society (1696), "and fixed my eye upon the fin near the tail, I saw with greater admiration than ever I did in my life before the circulation of the blood, and that in so many sundry places; so that if I should delineate the little space composed thereof it would not seem credible to most men." The observation is so striking that Professor van Leersum recommends it to be shown to students, for, "better than a long discourse, it will contribute to their admiration of the great ingenuity, the inexhaustible patience, and the keen eye of the simple illiterate and unlearned janitor of the alderman at Delft."

Professor van Leersum's essays have more than an archaeological interest. They contain at least two lessons for the present day. One is that experimenters of to-day should be careful to start where their predecessors left off—that is to say, they should take care to make themselves acquainted with the historical literature of the subject, and the author quotes with approval a recent dictum of an eminent physiologist, who said: "A man has a right not to be a great discoverer and to fail to make great discoveries, but he has not the right to be ignorant of what has been said by his predecessors." The essays afford some curious instances of time and energy spent in doing what has been done before in ignorance of the previous work, and when this happens there is a great temptation to the modern discoverer to ignore his forerunner, a temptation, it would appear, not always resisted.

The second lesson is that neglect of the experimental method in biology, including physiology and pathology, has always meant stagnation; dogma replaces beliefs founded on the solid basis of experimental observation, and we find not only that progress is stopped, but that dogma becomes an obstacle even to correct observation, so that men do not see what is going on under their eyes, and that even when a genius arises who goes back to Nature, his contemporaries do not at first understand his demonstrations owing to the obsession of the preconceived idea. Medicine has frequently suffered from this cause, and the author quotes a passage from the address given by Virchow to the International Medical Congress in London in 1881 on the value of pathological experiments. The great pathologist said that "for a thousand years the sick and the healthy were observed with diligent assiduity, and most valuable material was with much discernment gathered together; but in this way no advance beyond 'symptoms' was made. What was perceived was the sign of an internal happening, but that was not perceived, and at the outset it was supposed was incapable of being perceived."

When speculation has replaced the experimental method, progress has again and again come to a dead stop, and it has not been until resort has once more been made to the experimental method that medicine has been given an impetus in the right direction. The following passage, quoted from the introduction to these essays, is all the more striking because it comes from one who has devoted so much attention to the study of medical history: "However useful the study of the dogmas and systems, which side by side and one after the other have prevailed on medical thought, may be for the history of medicine and especially for the history of culture, the real progress of medicine can practically only be learnt from following the long series of experiments, which have brought to light so many secrets of nature. For this task he, who may call himself 'minister' of that science which is beyond others experimental, namely Physiology, is preeminently qualified. More than anybody else he can appreciate the great measure of genius and sagacity, which has been devoted to the problems of Life, and admire the firm perseverance, with which our predecessors, often under very unfavourable circumstances and with only extremely insufficient appliances, have pursued this distant aim."

MEDICAL ASPECTS OF THE CENSUS PAPER.

It is a far cry to 1921, the year in which the next census will be taken, but preparations for such a gigantic undertaking must be made well in advance. The attention of the Council of the Association has been called to what is considered to be a defect in the last and previous census papers. Previous to 1911, in the column headed "Infirmity," the following request is made, "If any person included in this Schedule is: (1) 'Totally deaf' or 'deaf and dumb'; (2) 'totally blind'; (3) 'lunatic'; (4) 'imbecile' or 'feeble-minded,' state the infirmity opposite that person's name, and the age at which he or she became afflicted." In previous census papers the description in (2) was "blind" without any adjective. It has

been suggested to the Council that the addition of the adjective "totally" has considerably lessened the value of the return as regards the blind, both by unduly limiting the inquiry, and by making it more difficult for the person filling up the paper to answer correctly. The arguments in support of this opinion were very fully set out by Mr. Bishop Harman in a paper printed in the British Medical Journal of November 4th, 1911, p. 1174. It is held that whereas information as to the number of totally blind is mainly of an academic value, information as to the partially blind, that is, blind for practical purposes, would be of considerable economic value, and it is therefore suggested that the Association should ask the Government to make the future census paper read (2) (*a*) Partly blind, (*b*) totally blind. The point is under the consideration of a committee of the Association, but it has been thought that members of the profession might have other suggestions to make as regards the contents of the column headed "Infirmity," which could be considered at the same time, with a view of making, if found necessary, practical suggestions to the Government for their consideration in the drafting of the next census paper. Any practitioner having views on this question is asked, therefore, to send them to the Medical Secretary of the Association, and may be assured that they will receive careful attention. It is necessary, however, that any suggestions for additions to or alterations of this column in the census paper should be capable of being stated very briefly and of being answered by the average man with no technical knowledge, otherwise they stand little chance of acceptance.

TUBERCULIN ON ITS TRIAL.

The discussion on the therapeutic value of tuberculin at the recent Conference on Consumption has served to record the considered opinions of experts, many of whom have had large practical experience of its use. The outcome of this valuable pronouncement should be to put tuberculin into its proper place as a useful weapon in the armoury of the physician and to deprive it for ever of any pretensions to curative powers of its own. As an adjunct to rational hygienic treatment it has been shown to be associated with remarkable improvement in certain cases, and to have thus justified the faith reposed in it both by doctor and patient. It is probable, however, that many physicians would be prepared to echo a remark let fall at the conference by Dr. E. Rist of Paris, that he never saw a patient doing well with tuberculin without remaining in doubt whether he would not have done as well without it. As an adjunct, used with care and discretion, tuberculin has undoubtedly found favour with many of its users, and an important contribution to the general stock of experience is contained in a statement read to the conference by Dr. John Rennie, Medical Superintendent of the Sheffield Tuberculosis Dispensary, with regard to tuberculin treatment in Sheffield. At that institution the system has been adopted of postponing the use of tuberculin until a period of sanatorium treatment has been tried for several months. By this means each case is fully studied, each patient is educated in the essentials of hygienic life and brought to as sound a condition of health as such means will allow. He is then kept under observation for many successive months, receiving tuberculin treatment at the Tuberculosis Dispensary, but living his ordinary round of life and following his usual occupation. A large number of cases are already on record, and great care has been exercised to eliminate sources of error in forming conclusions. Reference is made in the report to the general results observed in several hundreds of cases, and a tabular statement of the details of 52 typical cases is presented for analysis. Many interesting facts may be deduced from these tables, but the broad conclusion is, that after treatment of twelve months on the average, a large proportion of the patients whose capacity for work was previously impaired, were able to regain it, while the physical evidences of their disease were diminished or even abolished. Similar conclusions have been arrived at by analysis of statistics of chest hospitals, sanatoriums, and other tuberculin dispensaries, and it is not possible to give a decisive verdict as to the relative merits of any of them. The opinions, therefore, of those who have had long personal experience are entitled to more than ordinary consideration. The voice of the English medical officer of health does not appear to have been adequately heard at the late conference. It can speak with a wealth of accumulated experience at the present time, and would probably give powerful support to the statement put forward by Dr. Rennie, and agree that "the results have been so far encouraging that we have felt justified in giving the treatment a greatly extended trial." But it would probably be no less generally admitted that tuberculin is no cure for tuberculosis, either in man or in animals; that when used with due caution it may be followed by clinical evidence of general improvement in health and of local quiescence of disease, and that these results may in some instances be much more marked than could reasonably be expected under hygienic treatment alone. The Sheffield system, whereby the patient is placed in the best possible conditions for subsequent treatment by tuberculin, is worthy of thoughtful consideration, but it must obviously depend for success upon the co-operation of the patient himself. A course of tuberculin entered into with faith and enthusiasm is little likely to influence the course of incipient disease for anything but good. Where the mischief is firmly established these influences may also be potent, and the optimism of the patient may sometimes render him blind to the fact that his disease is progressing as rapidly as before. There is abundant evidence to show that the action of tuberculin increases in uncertainty, and may even become dangerous, in proportion to the degree of tuberculosis that is present. A period of preliminary hygienic life in a sanatorium, as practised at Sheffield, enables the tuberculin treatment to be applied intelligently. The same cannot always be said of the immediate treatment of incipient and other consumptives.

EXTENSION OF THE PREMATERNITY SYSTEM.

As is well known, the Royal Maternity Hospital in Edinburgh has been provided since November, 1901, with accommodation for cases of pregnancy showing one or other of the maladies of gestation: at first a single bed was available, but of late years there has been a ward with four beds in it, called the prematernity ward, ready for the reception of such patients. The success of this part of the work, which may be named the indoor department of the prematernity system, has been so great that within the past few weeks a corresponding work complementary to it has been commenced in the outdoor practice of the hospital. A trained nurse is now ready to visit any pregnant patient in the "district," give advice as to the preparations for confinement, the accouchement outfit, the baby clothes, position of the bed, etc.; make inquiries respecting the health of the expectant mother and take notice of any of the danger signals of the pregnant state (such as headache, oedema of face and fingers, rickety deformities, excessive vomiting, intractable constipation, red or white discharges, etc.). She reports on these matters to the medical staff of the hospital. In cases of grave trouble the patient can be brought for treatment into the prematernity ward; in less serious cases she is seen by one of the resident surgeons and watched over by the nurse in her own home. It may be said that the new departure affects almost wholly married women, who constitute about 98 per cent. of the extern work of the hospital. The hospital gets into touch quite

simply with the pregnant women; nurses attending extern confinements let the patients know that in their next pregnancy they can have one or more visits from the pregnancy—or prematernity—nurse if they wish it. Already there have been instances in which the prodromata of eclampsia have been observed and the urine tested for albumen, obstinate constipation relieved, and troublesome vomiting treated. It will probably be found useful to supply the prematernity nurse with cards containing some simple rules of hygiene in pregnancy and the like. The system is not dissimilar from that which was established in Boston some four years ago. There the Women's Municipal League, working through its prenatal committee, have appointed a specially trained nurse—the prenatal nurse—to visit and supervise pregnant patients. At first she attended women whose names had been given her through the two large maternity hospitals in Boston, but in time women began to apply to her directly, and were by her recommended (when necessary) to go into hospital or have attendance from it. Mrs. Lowell Putnam, who has had much to do with the starting of this scheme of social service, states that since the prenatal nurse began her work eclampsias have been averted, premature labours have diminished in number, and the average weight of the babies at birth has risen; these improvements have been progressive during the four years for which the nurse has been at work. The difference in the Edinburgh system is that the nurse is a member of the staff of the Maternity Hospital itself.

GUY'S MEDICAL SCHOOL.

THE vital energy displayed by the London schools of medicine, in spite of many discouraging circumstances, is of the best augury for the future of medical education in London. We hope to publish in an early number some account of the interesting developments in connexion with the Charing Cross Hospital Medical School, and we have before us the remarkable report of the Dean of Guy's Hospital Medical and Dental Schools. The medical school of Guy's began to reconstruct itself some seventeen years ago, when the department of physiology was built; it was extended in 1910, and meanwhile the anatomical department had been rebuilt, the biological department had been extended, and the Gordon Museum, the department of chemistry, and the department of physics had been built. In 1912 the dental school was rebuilt and extended, and in the same year the department of pathology was built. Last June Mr. Arthur Balfour formally announced the completion of the scheme, and declared the new buildings open. The department of pathology is entirely devoted to teaching and research. Through the generosity of Mr. Robert Gordon, Dr. James Douglas of New York, Sir Cameron Gull, and Mr. Otto Beit, it is provided with endowments for scientific investigation in pathology, and the school is thus able to profit by the constant stimulus afforded by the presence of numerous workers whose whole time is devoted to research. Simultaneously new departments of chemical pathology and of morbid histology have been instituted by the hospital, and as in the case of the department of bacteriology, whose director is lecturer in bacteriology in the medical school, it is intended that the directors of the new departments shall be lecturers in chemical pathology (Mr. J. H. Ryffel) and clinical microscopy (Dr. G. W. Nicholson) in the school. The department of morbid histology has two laboratories, one adjoining the new suite of operating rooms in the surgical building and the other close to the *post-mortem* room. A department of pharmacology has been established and provided with laboratories upon the second floor of the new pathological building; through the continued generosity of the Hon. Mrs. Ronald Greville, the school has been able to provide for the services of a Greville lecturer in pharmacology, Mr. A. J. Clark, M.B., whose whole time will be devoted to teaching and research. Coincidently, a new lectureship in therapeutics has been instituted, and will be held by a member of the visiting staff of the hospital. A new departure in the direction of one of those recommended by the Royal Commission on University Education in London has been made by converting the old operating theatre, which had become unsuitable for that purpose, into a theatre for clinical class teaching. It is provided with an epidiascope, and will greatly facilitate systematic clinical instruction. A related change is the increase in the number of medical registrars, who now number four. In addition to acting in the wards, the clinical laboratory, and the *post-mortem* room, they will have duties in the medical *x* ray room. The division of the clinical period of study into three terms has been abandoned; clinical lectures in medicine and surgery will be given continuously throughout the year, and a revision of the compulsory ward appointments has been made so as to include some work in the special departments. Important changes have also been made in the dental school. The lecture and laboratory courses have been rearranged and special courses have been instituted. Of a total of approximately £100,000 spent upon the work carried out since 1897 the generosity of the governors and other friends had provided over £77,000. An anonymous benefactor has erected and equipped the new department of pathology at a cost of over £13,000, and an additional sum of £12,000 has been raised during the year by the governors and other friends of the school. On the advice of the Royal College of Physicians and in accordance with the policy of the London County Council to associate the prevention and treatment of tuberculosis with the teaching schools of the metropolis, the governors propose to utilize a convenient site in Newcomen Street, adjoining the hospital, for the purpose of a tuberculosis dispensary, where, under the instruction of the out-patient physicians and surgeons and of the dispensary physician, students will continue to have the widest opportunity of studying pulmonary and other forms of tuberculosis and their prevention and treatment. A scheme has been approved for the scientific treatment of milk and the closer study of diseases of infant nutrition, and a proposal is under consideration to provide an institute in which modern remedial exercises, massage, and Swedish gymnastics will be provided, under the advice of the orthopaedic surgeon, for the correction of deformities.

THE UMBILICUS AS A POINT FOR MEASUREMENTS.

BROCA and other anthropological authorities have laid great stress on the umbilicus as a point from which to make measurement, as it is one of the surest non-bony landmarks of the human body, and lies in a position of high importance for estimating rate of growth and for indicating the site of the viscera behind, above, and below it. Hence the physician has to consider it very often in the course of his clinical work, and to the obstetrician it is of even higher interest. With the above quoted observations Dr. Kakuschkin begins an important article on the topography of the umbilicus in women and newborn children.[1] He considers that with care it is possible to make relative estimates, at least, even in multiparae. In the newborn child the difficulties are less, and without great risk of fallacy the position of the navel as influenced by growth can be estimated, by careful measurements, month after month and year after year. He made several long series of measurements grouped in series, comprising adult women, uniparae, multiparae, with parturient and puerperal patients, and lastly newborn children. He finds that individual variations in the distance from the umbilicus to the ensiform cartilage, to the symphysis pubis, and to the anterior superior iliac spine are very marked, the variation amounting to as much as 14 cm., or nearly 5½ in. All these diameters were

[1] *Monatsschr. f. Geb. u. Gyn.*, September, 1912, p. 278.

higher in old multiparae than the average diameter in an adult woman. Previous pregnancies do not influence these diameters. During pregnancy the lower part of the abdominal wall undergoes the greatest degree of stretching, and in multiparae all the diameters increase much more than in primiparae. The diameter which he found to be increased to the greatest extent in pregnancy was that between the umbilicus and iliac spine, more especially on the left side. The umbilico-pubic diameter increases with the height of the body. The puerperium seems to have a greater influence on the position of the navel than is generally suspected; in the first days after birth the distance from the ensiform cartilage to the pubes falls till it remains rather under the average measurement in the adult woman. In the newborn child the greater its weight the higher will be the relative position of the umbilicus, and in female children it is higher than in males. Kakuschkin makes out that in the fetus at term presenting by the breech the umbilicus lies higher than in a mature fetus which presents by the head.

"SIGNE DU SOU" IN PLEURAL EFFUSION.

NEW physical signs tend to multiply like the lower organisms, and are almost as objectionable when they require great technical skill, and when their significance is ambiguous. A sign, however, which can boast an uninterrupted existence of a decade and more deserves study, especially when two recent and independent publications show that it is easy to elicit and interpret. This sign, called *signe du sou* by Professor Pitres in 1898, has been tested in many cases by Slatowerchownikow,[1] who adopts the following procedure: An assistant presses firmly on the chest with a copper coin, on which he taps with a second coin; the physician applies one ear to the opposite side of the chest, and stops his other ear with one of his fingers. The percussion note is dull and non-metallic when spongy or alveolar tissue occupies the space between the points of percussion and auscultation, and it is loud and metallic when between these points there is a gas-containing cavity. It is also metallic when a homogeneous substance, either solid or liquid, is interposed. On the other hand, it is dull and non-metallic when heterogeneous substances, such as a fluid and alveolar tissue, are interposed. The sign is termed positive when the note is metallic. When a dull area of the chest is detected by percussion, and fluid is suspected, an assistant percusses with coins over this area, while the physician auscultates on the opposite side, his ear travelling downwards till, if fluid be present, he detects a metallic sound at the upper level of the fluid. Slatowerchownikow has tested this sign in 28 cases of pleurisy with effusion, in 11 cases of pneumonia, in 2 cases of dry pleurisy, and in 1 each of pneumothorax, apical phthisis, miliary tuberculosis, and peritoneal tuberculosis. The sign was positive in all the cases of pleurisy with effusion and in the case of pneumothorax; it was negative in the rest. It indicated the upper level of fluid as higher by one to one and a half fingerbreadths than percussion or vocal fremitus, and exploratory puncture confirmed the accuracy of the new sign. It is said to be particularly useful in children when, as often happens, vocal fremitus cannot be tested; and inspection, percussion, and auscultation leave the diagnosis uncertain. Slatowerchownikow describes two cases in which the observations made by percussion, auscultation, and vocal fremitus were identical, but the *signe du sou* was positive in the one, negative in the other. Here again exploratory puncture confirmed the accuracy of the sign. It is therefore not only more accurate than others, but gives definite information when all other tests save exploratory puncture are ambiguous. Its utility is, however, confined to the chest, for the abdominal cavity contains too many heterogeneous media for the presence of fluid in the peritoneal cavity to be thus demonstrated. The reliability of the sign is also extolled by Geza von Hainiss,[2] who has tested it for five years in several hundreds of cases. He describes two forms of metallic sound: the one being heard in hydrothorax, the other in hydropneumothorax; in the latter the sound is vibratory, as when a bell has been lightly struck and then held firmly. In healthy lungs he found that the percussion note was most dull when much lung was interposed between the coins and the ear, and that it became metallic, but never ringing, when only a thin layer of lung, such as exists at the apex, was interposed between the two points. In one of his cases, the ordinary physical signs were not indicative of fluid, which was, however, demonstrated both by the *signe du sou* and exploratory puncture. The presence of only a few cubic centimetres of fluid in the chest is sufficient to make the sign positive; in one case the sign was limited to so small an area that its significance was questioned, but an exploratory puncture yielded a few cubic centimetres of serous fluid. The note now became only faintly metallic, and next day it was dull. When another exploratory puncture was made five days later, no fluid was found. Hainiss also emphasizes the value of this sign in children.

[1] *Deut. med. Woch.*, No. 27, 1912.

TUBERCULOSIS IN DOGS.

TUBERCULOSIS is a comparatively rare disease in the dog, and when it occurs is, according to Cadiot, almost invariably due to infection from a human source. In most recorded instances the animal has belonged to a person suffering from tuberculosis, and, remembering the dog's inquiring mind and his peculiar taste, it is not difficult to understand how infection may be conveyed to him where there is carelessness in expectoration or the disposal of sputum. It should be added that among the cases in which Cadiot could not thus account for infection a considerable proportion occurred among animals belonging to the proprietors of cafés or wine-shops, and were due, he thought, to the contamination of the floors by tuberculous customers. Tuberculosis when it occurs in the cat is also usually of human origin. In tuberculosis in the dog the lungs are affected in about three-fourths of the cases, the tracheo-bronchial and mediastinal glands in about half, the pleura nearly as frequently, the pericardium and the peritoneum more rarely. The intestines sometimes become the seat of granulations, and the liver, spleen, and bladder may be affected. Tuberculous ulceration of the skin, when it occurs, is usually secondary to the infection and breaking down of glands. The most constant symptoms are emaciation and loss of strength, but in the later stages cough, which may be attended with the expulsion of matter, and enlargement of the liver and spleen may be observed. The tumours of the abdominal organs, superficial adenitis, and ulcers of the skin, may be mistaken for cancer. Cadiot, however, asserts that cancer is very rare in the dog, and that nine times out of ten, or more often, wasting and the appearances attributed to it are, in fact, due to tubercle. He does not believe that the tuberculous dog is often a danger to man. The safest course is to destroy the animal, but even when the owner will not consent the observance of simple precautions ought to obviate all risk.

LIMITED PAYMENT LIFE POLICIES.

THE earned income of a professional man is directly dependent on his personal exertions, and when these cease that income ceases also. A merchant may retire from participation in the work of his office, and yet draw a continuing income from the firm's profits, but a doctor, when the time comes to retire from active work, cannot look forward to further fees. In selecting a life policy, therefore, it seems that the medical man should arrange to be

[2] *Wien. med. Woch.*, No. 1, 1913.

relieved from payment of further premiums at a definite age, somewhere in the period between 60 and 65. This result can be attained by an endowment assurance, where the capital sum itself becomes payable at a fixed age, but for this a proportionately heavier premium has to be borne than if a whole-life policy with premiums limited, and ceasing at the selected period, were substituted for it. If the capital sum is taken, the money has probably to be reinvested, and in these days may readily suffer some capital loss, while a carefully-chosen limited payment participating policy goes on increasing by steady bonus additions, although no further premiums are being paid. A liberal cash value can also be obtained should circumstances arise to call for it, and the policy in this way fulfils the three desiderata of (1) low premium, (2) cessation of the premium at a fixed age, (3) cash payment if required. Such a policy seems well adapted to meet the conditions and circumstances of a doctor's life and future outlook, when he is considering the most advantageous way to arrange his life assurance. The Medical Insurance Committee, 429, Strand, London, will be pleased to furnish full information as to the scheme outlined.

UNQUALIFIED PRACTICE AND THE LAW.

A CURIOUS exemplification of the state of the law with regard to the practice of medicine and the tenderness with which its administrators handle unqualified practitioners is afforded by the history of such a one brought out during the course of an inquest and subsequent proceedings before the magistrates at Croydon, reported elsewhere in this issue. The main facts of the case were perfectly clear, and were, indeed, admitted by the defendant. He lived in a house bearing a brass plate inscribed with the name "Dr. Sparling," and adorned with a red lamp bearing the word "Surgery," a notice of hours of attendance, and the representation of a pair of spectacles. The only attempt at defence was that the defendant claimed to be an optician and to have certain relations with a qualified medical man, which he described as a partnership, but which the medical man himself defined as friendship, asserting that anything of the nature of a partnership had ceased. He declared that Mr. Sparling acted as his dispenser and surgery attendant, but the evidence seemed to show that Sparling did at any rate a certain amount of practice independently. The medical practitioner stated that the arrangement was made to enable Mr. Sparling to get a qualification, but it appeared to be admitted by the defendant that, though he had attended Polytechnic classes, he had made no attempt to fulfil the requirements of the medical curriculum. Mr. Hempson, who represented the Medical Defence Union before the magistrate, pressed for the maximum penalty, and the Bench recognized that it was a very serious case. Nevertheless, they let the defendant off by imposing a fine of 5 guineas and £4 14s. 6d. costs. Yet there seems to be no doubt that the persons in the neighbourhood who consulted Sparling believed him to be a qualified practitioner, a conclusion to which they might have been partly led by the use of the title of "Dr." on his house. The story as it stands is very unsatisfactory, and there are some points about it which still require to be cleared up.

MESOTHORIUM BURNS.

IN connexion with the account given by our Berlin correspondent[1] of the discussion at the Berlin Medical Society, and the results of the use of *x*-rays and mesothorium in the treatment of malignant disease of the uterus, and in connexion also with the report published on August 23rd, 1913, p. 451, of the discussion at the joint meeting of the Sections of Radiology and Gynaecology of the International Congress of Medicine, it may be interesting to call attention to a report recently published of a demonstration given by Professor Bumm at a meeting of the Obstetrical Society of Berlin.[2] He exhibited some cases of burns caused by mesothorium employed therapeutically. Bumm used three silver tubes 0.06 mm. thick, each containing from 20 to 60 mg. of mesothorium. They were introduced into the posterior vaginal fornix or into the canal of the cervix either bare or covered by an adrenalin tampon. The application lasted from three to over twenty-four hours. In four instances small superficial necroses about the size of peas developed in the vaginal vault, and did not heal speedily. In one case, after 20 mg. of mesothorium had been applied twice for twenty-four hours, at each application an abscess developed; it contained pus absolutely free from germs, but there was slight fever, and a hard deposit developed as the abscess healed. In other patients Bumm had used similar amounts of mesothorium for as long a period with no bad effects, and women under his care with cancer of the cervix had tolerated 20 to 50 mg. for 130 hours or over, indeed for 314 hours, without any local or general reaction except superficial necrosis of the cancerous portion. Bumm concludes that mesothorium is tolerated very well by some women and very badly by others. The warnings of Professor Wilhelm Nagel at the Congress as to the soundness of the principles on which the treatment rests, and the experience of Professor Bumm recorded above, are clearly of practical importance.

THE LANE LECTURES.

THE Lane Medical Lectures, delivered by Sir Edward Schäfer at the beginning of this month in the medical department of the Leland Stanford University, San Francisco, consisted of five lectures dealing respectively with internal secretions generally, with the thyro-parathyroid glands, the adrenal glandular apparatus, the pituitary body, and the influence of internal on other secretions. In 1896 the late Dr. Levi Cooper Lane founded this course of free lectures on medical subjects to be given "by men distinguished at home or abroad for their work in either medicine or surgery." They are intended for medical students and the medical profession at large. The course just given is the fourteenth. Previous courses have been given by Sir William Macewen (Glasgow), the late Mr. Christopher Heath (London), Sir T. Clifford Allbutt (Cambridge), the late Dr. Nicholas Senn (Chicago), the late Sir Michael Foster (Cambridge), Sir Malcolm Morris (London), Sir Charles Ball (Dublin), Dr. Oscar H. Ellis, Dr. William H. Welch (Baltimore), Sir Patrick Manson, Dr. J. C. McVail (Glasgow), Dr. Reginald H. Fitz (Boston), and Dr. Ernest Fuchs (Vienna).

THE Section of the Royal Society of Medicine for the History of Medicine, of which Sir William Osler is President, has arranged three lectures, open to all members of the profession and to medical students, to be given before Christmas. The first will be delivered on Friday, October 10th, by Professor Morris Jastrow, Librarian of the University of Pennsylvania, on Babylonian medicine; the second on Thursday, October 30th, by Professor Elliot Smith, of Manchester, on the contributions of ancient Egypt to the history of medicine; and the third on Wednesday, December 17th, by Professor Richard Caton, of Liverpool, on the health temples of ancient Greece and the work carried on in them. The lectures will be given at 5 p.m. on each day, and will be illustrated by means of the epidiascope.

[1] BRITISH MEDICAL JOURNAL, June 21st, 1913, p. 1347.

[2] Ueber Mesothoriumverbrennungen, *Zentralbl. Gynäk.*, August 16th, p. 1235.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Glasgow Sanatorium.

The Health Committee of the Corporation of Glasgow has recommended the Corporation to purchase the Bellefield Sanatorium, which was opened in 1904 by the Glasgow and District Branch of the National Association for the Prevention of Consumption, and has since been carried on by it. This step has been rendered necessary by the regulations of the Local Government Board declaring tuberculosis to be a notifiable disease, and the obligation thus laid upon the local authorities to provide accommodation for patients suffering therefrom. The terms proposed for the transfer are as follows:

The Corporation offers the sum of £7,500 for the sanatorium and grounds attached, and all furniture and fittings, on the understanding that the directors may devote the purchase price to such purposes as they are authorized and think fit, and that an alternative offer of £10,000 be made, on condition that the directors oblige themselves and their successors to devote the whole sum, and the revenue accruing therefrom, for behoof of persons residing in the city suffering from tuberculosis, and that by way of monetary grants or otherwise, to such persons as require such assistance over and above the treatment provided for them by the Corporation under their statutory powers, and further, that it be made a condition of the offers that the Corporation obtain the necessary consent of the Local Government Board for Scotland, and that the directors obtain, at their own expense, the sanction of the Court of Session, if required, to the sale.

The recommendation of the Health Committee will be considered by the Corporation at its regular meeting this week.

Bellefield Sanatorium is a well-equipped building, or rather set of buildings, situated in Lanark, and providing accommodation for 52 patients. The grounds extend to twenty-three acres, and close upon 1,000 patients have received treatment since it was opened. If ratified by the Corporation, this will be the second purchase by the city of Glasgow for the purpose of treating tuberculosis. The estate of Southfield, near Mearns, was recently acquired at a cost of £17,000; it extends to 321 acres, and comprises three farms and a large mansion house. The mansion house is at present being converted into a sanatorium. The isolation hospitals at Ruchill and Robroyston will also be used for cases of phthisis.

Housing and Public Health in Glasgow.

In the annual report submitted to Glasgow Corporation by Mr. Peter Fyfe, the chief sanitary inspector of the city, the problems presented by the density of the population and its bearing on public health are dealt with. The population of Glasgow is estimated at 1,015,165. The city extends nine miles from east to west, and seven miles from north to south, and despite the recent extension is still a closely compacted city with a population of nearly 53 persons to each acre. Compared with other large towns Glasgow is unfavourably situated in this respect; Liverpool has only 45 persons to the acre; Manchester, 33; Birmingham, 19; Leeds, 21; Sheffield, 19; Edinburgh, 29; Dundee, 35, and Aberdeen, 26. The central congestion of the city cannot be relieved by any system of town planning, and decentralization schemes are barred because of the lack of suitable free areas within the city boundaries. Over 3,000 cases of overcrowding in houses were dealt with during the past year, 840 being of such a nature as to require police-court proceedings. The suggestion is made that the solution of the problem is to be found in a policy of wise purchase of old properties with a view to internal reconstruction on modern lines. The report also deals with the question of unwholesome food, the cleanliness of dairies, and the progress which has been made during the year in the crusade against smoke with a view to air purification. A step in the march towards the ideal of a smokeless city is due to a large engineering company in the city, which by a recent reconstruction of its works and the adoption of up-to-date appliances, has shown that industrial activity and smoke production do not necessarily go hand in hand.

Scarlet Fever at Arbroath.

A difficulty has arisen in connexion with the outbreak of scarlet fever which began at Arbroath a few weeks ago. The Town Council, at a special meeting on September 17th, considered the attitude of Dr. Arthur D. Yule, the Medical Officer of Health for Arbroath, on the resolution of the Council that the Milne or domiciliary treatment should be adopted with scarlet fever patients, in view of the fact that the epidemic hospital was at present overcrowded. Dr. Yule, who was in attendance, declined to organize and supervise the carrying out of that treatment: and the clerk was instructed to intimate to the Local Government Board the resolution of the Council to adopt the Milne treatment (daily injunction of oil of eucalyptus, etc.).

Perth Infirmary.

A bazaar was held in the City Hall, Perth, on September 18th, 19th, and 20th, in aid of the furnishing of the new infirmary buildings at present in course of erection. Mr. C. A. Murray, of Taymount, Chairman of the Board of Directors, presided at the opening ceremony, and the Marchioness of Tullibardine declared the bazaar open. There was a large and distinguished gathering. The bazaar was organized by the Perth Royal Infirmary Ladies' Auxiliary. On the second day Mr. A. F. Whyte, M.P., presided, and the Countess of Ancaster opened the bazaar.

Resistance to the Insurance Act in Turriff.

The resistance to the Insurance Act in Turriff has, according to the *Aberdeen Evening Gazette*, come to an end by the conviction of a farmer described as the ringleader and the imposition of a fine of £15 and a decree for £3 19s. 10d., being the amount of unpaid contributions. An obliging correspondent informs us that we were incorrect in describing Turriff as in north-west Aberdeenshire: it is in the north-eastern part of the county, about ten miles south-east of Banff. Moreover, there is, he says, no authority for the form "Turray"; the Scottish spelling is "Turra," and the town, which is the possessor of an eleventh-century church, has been known under that name since 1272.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

The Housing Question in Dublin.

Further light has been thrown on the condition of the housing of the poor in Dublin tenements by evidence given in the Dublin police-courts last week that ten people were living in one room; they consisted of a man and his wife, his brother, and seven children, ranging in age from 13 years to 12 months, one of the latter being in the last stages of consumption. As mentioned recently, there are 20,000 families in Dublin who occupy single-room tenements. A special Housing Committee of the Corporation, appointed at the beginning of this year, has prepared estimates for the erection of three-roomed two-story cottages and two-roomed flats to be let at rents of from 5s. to 3s. a week. A certain amount of work has already been done; some areas have been acquired, and on one 45 three-roomed two-story dwellings have already been completed at a cost of approximately £10,000. The committee has schemes for dealing with eight more areas under consideration. If all these schemes are carried out over 1,500 new homes will be provided, at an estimated cost of nearly £400,000. According to a statement made by the Lord Mayor, under present conditions it would take about fifty years and cost over £4,000,000 to obliterate the tenement houses and substitute for them self-contained sanitary houses.

Death under Chloroform Administered by a Nurse.

An inquest was held in the Lisnaskea Workhouse on a man, a labourer aged 35, who died while undergoing an operation on the previous day. It appeared that the patient was suffering from fistula in ano, and had been in the workhouse hospital for some time; he was placed on the operating table, and a nurse administered chloroform; after a few deep inhalations the patient went into a convulsive fit, and in spite of the doctor's efforts died on the table. The jury attached no blame to anybody. At a subsequent meeting of the guardians an acrimonious discussion arose, and the nurses were blamed for not having the patient seen by a clergyman before the operation; a

motion censuring the nurses was proposed, but was afterwards withdrawn. If any vote of censure was required it was for the practice of allowing a nurse to administer the anaesthetic, a custom which is due entirely to the desire to avoid paying a fee to a qualified anaesthetist. This practice is far too common in Ireland; even if a certain amount of extra expense is thereby entailed on the guardians, no unqualified person should be allowed to give an anaesthetic unless in a case of emergency or absolute necessity.

LOCAL GOVERNMENT BOARD AND DOCTOR'S FEES.

A curious dispute has arisen in the Granard Union about a fee claimed by the dispensary doctor. Some time ago Dr. O'Dwyer, Medical Officer of the Granard Dispensary District, was granted his usual holidays, and while on leave his assistance was requisitioned on an urgent operation in a dispensary case. The guardians granted a fee of two guineas, but the Local Government Board refused to sanction it because they said that as Dr. O'Dwyer was on leave at the time payment would be contrary to the regulations. It was stated at the last meeting of the guardians that if Dr. O'Dwyer proceeded against the guardians they would have to pay the fee with costs. They therefore decided to again ask the Local Government Board to sanction the payment of the fee.

POOR LAW GUARDIANS AND DOCTOR'S FEES.

At a recent meeting of the Callan Guardians a letter was read from Dr. Marnell requesting that the balance of a fee of £2 for a lunacy fee should be paid him. It appears that the magistrates made an order for a fee of £2, but by a resolution of the guardians the fee is limited to one guinea, and this sum was sent to the doctor. The guardians decided to refuse the application, though it was stated that as the magistrates had made an order for a fee of £2 the guardians were bound by law to pay it.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LONDON.

RADIUM FOR POOR LAW INFIRMARIES.

THE Wandsworth Board of Guardians has resolved to ask the Local Government Board to authorize the establishment of a special radium department, under the control of the Metropolitan Asylums Board, for the treatment of persons in the Poor Law infirmaries of the unions.

TUBERCULOSIS SCHEME IN LAMBETH.

Dr. Priestley has reported to the Lambeth Borough Council that the Central Tuberculosis Dispensary, Effra Road, Brixton, is in working order, and since July 23rd has dealt with 122 new and 165 old patients. At the dispensary connected with the out-patients' department of St. Thomas's Hospital 261 new cases from Lambeth have been entered for treatment. Of the 383 new patients, 183 were insured persons, and it was decided to apply to the Insurance Committee for the County of London for a grant in respect of their treatment.

WALES.

THE ALEXANDRA HOSPITAL AND CONVALESCENT HOME, RHYL.

WE received a little time ago copies of correspondence exchanged recently between the Managing Committee of the Royal Alexandra Hospital at Rhyl and one of its honorary medical staff, and also have in our possession a copy of the last annual report of the institution in question. These various documents tell a story which, summed up, is as follows: The institution, which was rebuilt in 1900, has 60 beds for ordinary cases and 100 for convalescents. The beds are intended primarily for children, but there is a small accident ward for men, while women when suffering from acute diseases or accidents are also admitted. Apart from the honorary medical officers, the staff consists of a lady superintendent, 4 sisters, 12 nurses and 10 probationers; a private nursing institute with a staff of 20 nurses is attached. Nearly half the work is surgical, and there is no other hospital in the neighbourhood. To this institution the medical officer in question endeavoured one evening to obtain admission for a child suffering from appendicitis. An immediate operation he considered was imperative, and finding it impossible to carry out the procedure at the child's own home, wanted to have it admitted to the hospital and operate on it therein forthwith. Hence he telephoned to the matron to this effect; but though seemingly she did not actually refuse admission to the child she refused to entertain the idea of an immediate operation, on the ground that no nurse was available at that hour of the night, that the electric light in the operating room was bad, and there were no facilities for getting hot water. This was about 11 p.m.; the child died next day. On the medical officer bringing the matter to the notice of the managing committee in a letter, this body held a special meeting and unanimously adopted a reply in which it justified the matron's action on much the same grounds as those given by herself, and further supported it by stating that at the time application for admission of the child was made the hospital engineer had banked up his fires and gone home to bed; "consequently the steam required to supply the heat necessary for a serious operation under proper surgical conditions" was not available. It also endeavoured to turn the tables on the medical officer by suggesting that he ought to have seen the need for operation much earlier. On this correspondence the medical officer, whose letters were written in exceedingly temperate language, makes practically no comment beyond pointing out that on a previous occasion much the same thing occurred. In view of the fact that each of the parties of this story has, so to speak, told his own tale, and that therefore we are not dealing with a mere *ex parte* statement, the story may be written down as constituting, on the whole, one of the most remarkable incidents in connexion with hospital administration that we have ever encountered. The attack of the committee on the medical officer may be passed over as irrelevant, but the remainder of the story suggests a number of questions to which we can find no answers. Rhyl is a town of some 9,000 or 10,000 inhabitants, and the Alexandra Hospital appears to be the only hospital in it. It seems clear that, whatever else it may be, the Alexandra Hospital is certainly a general hospital so far as children are concerned; it ought therefore to be in a position to undertake an operation on a child at any time of the day or night when it may be required, and when the services of one of its medical officers are available. What right has it to ask for additional public support, as it did at its last annual meeting, if its affairs are administered on such lines that its managing committee has to admit that neither hot water nor proper lighting can be obtained during certain hours of the twenty-four? Should it be concluded that Rhyl possesses neither electric light, nor gas, nor oil heating appliances, and is still in the tallow-candle stage of civilization?

India.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

SANITATION.

Agra and Oudh.—The amount available for the special grants which the Government of India places at the disposal of the United Provinces Government for expenditure on urban sanitary works has just been announced. This year it is 15 lakhs (in addition to the recurring grant of 5 lakhs). Of this sum 12½ lakhs is to be distributed, the balance being kept in reserve for general purposes or as initial grants to the improvement trusts for Cawnpore and Allahabad, which it is hoped will shortly be established. Lucknow receives Rs.1,50,000 for sullage farms; Allahabad a similar amount for the drainage pumping station, the Daraganj drainage scheme, and the unfiltered water supply project; Benares Rs.2,35,000, for various purposes; Cawnpore Rs.1,22,000, mainly for drainage works; Fyzabad and Ajedbya Rs.1,50,000, and Hardwar a lakh; Agra, Mussoorie, and other towns also come in for a share.

Rangoon.—The Municipal Committee has resolved to take power to give effect to an improvement scheme in certain quarters of Rangoon. The city is fairly well laid

out at the centre, where it has broad streets running parallel and at right angles to each other. But in some of the outlying parts the areas are congested and the owners obstructive.

Assam.—The recorded birth-rate of Assam during 1912, excluding the hill districts in which registration is imperfect, was 32.16 per mille, this representing a slight improvement over that of the previous year and the quinquennial average. The death-rate rose from 23.61 to 25.04 per mille, but was 2.64 less than the quinquennial average. The death-rate from cholera was lower than the average of the previous decade, but severe outbreaks were reported from Darrang and Nowgong. The high mortality in Nowgong is attributed to contamination of the Kallang River, along the banks of which the bulk of the population is to be found. The Chief Commissioner intends to promote immediately the water supply of the Kallang River area, and to give a considerable grant this year and in future till the water supply of the Nowgong district is improved. The improvement of the water supply in a portion of the Darrang district has been taken in hand. In connexion with a cholera epidemic at Dhubri a scheme for the improvement of the water supply of the town by improving the existing wells, adding new ones and providing for the protection from contamination at a cost of a little over Rs.28,000, is now under consideration: the necessary funds have been placed by the Local Administration at the disposal of the municipality. Small-pox claimed a rather larger number of victims than in the immediately preceding years. The mortality from dysentery and diarrhœa showed no marked departure from the average of recent years, and the greatest incidence of these diseases occurred, as usual, amongst the population of the tea estates. A reference will be made to the Tea Association with a view to bringing the sanitary department into more direct relationship with the tea industry. The Chief Commissioner has taken steps for the appointment of a malarial research officer. At present malarial fever and kala-azar are very often confused. Under the orders of the Government of India, Captain Mackie, I.M.S., is now conducting researches into the etiology of kala-azar, and a provincial survey of the disease is being carried out by two assistant surgeons and fourteen sub-assistant surgeons under the supervision of the Deputy Sanitary Commissioner; on its completion it is hoped that it will be possible to formulate a plan of campaign. The most encouraging feature in connexion with this disease is the success which has attended the measures of control in the Golaghat subdivision. Towards the improvement of the rural water supply the local boards spent Rs.96,508. As a result of the conference on water supply and sanitation lately held at Shillong it has been decided, as an immediate measure, to allot 2 lakhs of rupees to local boards for expenditure on rural water supply during the current year 1913–14, and to require every board to prepare a comprehensive programme of the work of this nature which it can undertake to complete, with the financial assistance of the Government, within the five years commencing from 1914–15. The experiment of making grants to village committees for expenditure on rural sanitation has been successful, and the Chief Commissioner has decided to continue it on a larger scale.

Special Correspondence.

VIENNA.

Refusal of Foreign Scientists to accept Appointments at the University of Vienna.—Appearance of Cholera in Austria-Hungary.—Increase in the Number of Medical Students at the Austrian Universities.

The events of the past year have at length forced the Senate of the University of Vienna to the unwelcome conclusion that the university no longer occupies the position it once held in the esteem of foreign scientists. This has been proved by the fact that the well known physiological chemist, Professor Abderhalden, refused the directorship of the Chemical Institute left vacant by the departure of Professor Ludwig, whilst the post of director of the Medical Clinic, formerly held by Professor von Noorden, has likewise been declined by Professor His of Berlin. These refusals, which were totally unexpected and caused very great surprise, are in themselves sufficient to prove that the university is to blame for this loss of prestige; whilst the resignation of two such eminent German scientists as Professor von Strümpell and von Noorden, both men in the prime of life, seems to point to the existence of some grave cause for dissatisfaction on the part of foreign professors. Needless to say, the matter has provoked much comment amongst the medical profession in Austria, which is beginning to express its disapproval of a régime that has had the lamentable effect of driving strangers away from Vienna, instead of attracting them to it. It is evident that some reformation of the existing conditions is needed, and it rests with the profession to see that this is properly carried out. In the meantime, temporary substitutes have been appointed to the vacant posts in the persons of Professor Nauthner to the Chemical Institute and Professor Salomon to von Noorden's clinic. Public opinion, at present, seems to be in favour of the reservation of these posts in future for Austrian scientists, and there should be no difficulty in obtaining properly qualified candidates, were it not that religion, race, and politics play as important a part in their selection as their scientific attainments.

The inevitable outcome of the war in the Balkans, as was foreseen from the beginning, has been an epidemic of cholera and other infectious diseases, several cases of which have already been notified in Bosnia and Hungary. Their appearance is no doubt due to the commercial relations existing between Austria-Hungary and the Balkan States, and also to the continual immigration into the borderland districts of the former country of large numbers of fugitives (principally Turks and Albanians) from the fighting provinces, most of which have a very low standard of health and personal cleanliness. All traffic from the infected districts, therefore, is now under the strictest supervision, and, thanks to the prompt action of the Board of Health, every precaution is taken to prevent a further spread of infection. Fortunately, the summer months have hitherto proved both wet and cold, and the danger of the dissemination of disease by flies has consequently been easily overcome.

In spite of the repeated warnings issued by the university authorities, the increase in the number of medical students at the Austrian universities still shows no sign of abating. Only a year ago the number of medical students working at the seven universities of Austria amounted to 5,021, of whom 257, including 10 women, graduated. During this last summer term the numbers have risen to 5,768; of that number 410 are women; the number of graduates reached 360, of whom 16 were women. A still further increase is predicted for the coming session.

Correspondence.

STANDARD MEAL FOR RADIOGRAPHIC EXAMINATION.

Sir,—In the Section of Electro-Therapeutics at the annual meeting of the British Medical Association recently held at Brighton, the following resolution was passed:

> That this meeting expresses the opinion that it is advisable that one definite type of standard meal for radiographic examination should be adopted by general consent, and asks the Electro-Therapeutic Section of the Royal Society of Medicine to appoint a committee to obtain evidence with a view of suggesting this official standard meal.

This resolution was formally handed to me as President of the Section referred to, and I have undertaken to give this matter my personal care and see that it is acted upon.

I therefore invite all radiologists and others who are interested in this subject, both here and abroad, to write to me stating as concisely as possible the composition, quantity, and consistency of the bismuth or barium meal they use as a general rule, and the reasons why they prefer such a meal.

The sooner this evidence is obtained, the better it will be for all concerned, and it will facilitate matters very considerably if the bulk of it is ready to lay before the

committee soon after it is appointed—probably during the month of October. As it is intended to give this question an international character, it is hoped that evidence will be given by radiologists in Europe, America, and elsewhere. Provided the communications are sent promptly, they will be in time to be fully considered along with the rest. Communications should be sent to me at 66, Harley Street, London, W.—I am, etc.,

REGINALD MORTON.
President, Section of Electro-Therapeutics, Royal Society of Medicine.

London, W., Sept. 24th.

THE RADICAL MASTOID OPERATION.

SIR,—According to your account of the proceedings of the Otological Section at Brighton, Dr. Milligan, in opening the discussion on the radical mastoid operation, drew attention to the importance of deciding whether an infected labyrinth be present or not, before committing oneself to any operative procedure. All aural surgeons must cordially acquiesce.

It is to be regretted, however, that such remarks are necessary in this country. One feels that the labyrinth has not received, and is not receiving, the attention due to its importance in aural surgery. Contrast the Vienna system. Before every operation of any magnitude on the middle ear, the patient is examined, both by a careful inquiry into the history, and by means of all applicable tests, for signs of old or recent labyrinthine mischief. This is done in every case as a pure matter of routine, and the results of such testing carefully recorded. An aural surgeon in Vienna would no more think of performing a radical mastoid operation without knowing the condition of the labyrinth beforehand than he would of operating without being sure as to the diseased side.

During the last fourteen months spent in the study of nose, throat, and ear surgery in Vienna, I neither saw nor heard of any case of post-operative meningitis following the radical mastoid operation due to the presence of a previously infected labyrinth. One fears, however, that such cases do occur in this country, due, I believe, to ignorance of the testing and recognition of labyrinthine disease. If Dr. Milligan's paper only succeeds in drawing attention to this one particular point, it will have done great good.—I am, etc.,

DAVID RANKEN, M.S.Lond., F.R.C.S.Eng.

Newcastle-on-Tyne, Sept. 20th.

THE CAUSE OF RHEUMATOID ARTHRITIS.

SIR,—My friend Dr. W. J. Midelton, in his communication on the above subject, closes his remarks with the statement that "the sending of enfeebled, pain-racked patients out of this country is often rank cruelty." I presume that Dr. Midelton must have some considerable exceptions to make in his mind to this statement, which, as it stands, might include patients sent to Egypt or Biskra, and, if so, it would have been well to express the same, as I feel sure Dr. Midelton, with his special knowledge of this subject, must be aware that a very large proportion of these "enfeebled, pain-racked patients" who have spent an entire winter in the driest resorts of Egypt do not return to England in this condition. I think I should be well within the mark if I state that three out of four subacute and acute rheumatoid arthritis cases are well on the way to recovery at the end of the first winter, and I ought also to state that most of the cases sent out to Egypt are cases in which almost every form of treatment has been tried previously in England. Many of these methods of treatment are, of course, quite useful in some cases, but every physician who has had experience of rheumatoid arthritis will, I think, agree that there are cases in which it is difficult to obtain any good results even on the most likely lines of modern treatment. In Egypt these cases have the climatic advantages to turn the scale, and the results can be demonstrated and are so noteworthy that it is much to be regretted that we have at present no means of enabling the poorer sufferers from these affections to obtain the results I have now seen for many years past obtained by those in more favoured circumstances.—I am, etc.,

LEIGH CANNEY.

London and Assouan, Egypt, September 22nd.

A VOLUNTARY SCHEME FOR SANATORIUM TREATMENT.

SIR,—As an example of the value of a voluntary scheme to secure sanatorium treatment, the figures of the south London district of the Foresters possess some interest. The scheme was adopted at the close of 1904 on the suggestion of the then secretary, Mr. A. Chapman, who has since been succeeded in office by his son.

This district, it appears, makes no charge for sanatorium treatment in its members' contributions. It is maintained out of interest earned on the investments. The rules of the society provide that the valuation of its assets and liabilities shall be at the rate of 4 per cent., whereas they earn 5 per cent.; all over 4 per cent. is used for various purposes and additional benefits, sanatorium treatment being one of them.

Mortality of Consumptive Members as Affected by Sanatorium Treatment.

Year	Total Deaths from All Causes.		Of which Numbers there were Deaths from Consumption.		Percentage who Died of Consumption per Annum.	Percentage who Died of Consumption Each Period.
	In Year.	In Period.	In Year.	In Period.		
1900	110		16		14.54	
1901	94		10		10.63	
1902	124	521	20	69	16.12	13.24
1903	90		11		12.22	
1904	103		12		11.65	
1905	89		10		11.23	
1906	110		11		10.00	
1907	91	509	6	38	6.59	7.46
1908	124		7		5.64	
1909	95		4		4.21	
1910	104		3		2.88	
1911	107	320	1	9	0.93	2.81
1912	109		5		4.58	

The table has been supplied by Mr. C. Chapman, the present secretary.—I am, etc.,

THOMAS D. LISTER.

London, W., Sept. 20th.

MEDICAL AID ASSOCIATIONS.

SIR,—There is, I have reason to know, a considerable body of medical men who desire to see some steps taken to meet the growth of medical aid associations and kindred institutions. I have not met with any sign that the local opposition manifested in various parts is being centrally directed or co-ordinated. Whether this is due to my blindness or not I cannot say, but, if it is as I imagine, surely we have here a serious defect in the activities of the Association.

I write this letter after having obtained a good deal of information from various parts, and in the hope that it may be read by some of those who have to deal with these institutions. If they, in turn, would offer suggestions and criticisms it might lead to some settled plan of action. As we are to have a Representative Meeting this autumn, at which I assume many details of policy could be discussed, it might be well if definite proposals came up from some Division. I do not chance to reside in a Division that is affected, and so cannot propose them myself, much less arouse interest in them amongst those who have no personal knowledge of the facts or of institutional competition of this sort. I claim, therefore, to speak without reference to any particular medical aid association.

I suggest that no action can be successful without (1) centralization of information, (2) co-ordination of local opposition, and (3) central opposition. These may be briefly elaborated.

To properly centralize information it would be essential to send an official to affected Divisions who would get into touch with the profession locally. He should compile from the information so procured a register of medical aid associations, and another of their officials. It is not illegal to keep a register, and one is kept at the head office of the whole of the profession, I believe. At the meeting of Secretaries at Brighton I asked the Medical Secretary whether this register contained any details of the careers of those who worked in open opposition to the profession. He gave me to understand—as indeed I anticipated—that

a register kept at a central office, and open to inspection by several persons, was a dangerous depository for information such as ought to be in possession of the profession. It might, therefore, be well that the register of medical aid practitioners should be kept in the private house of the official dealing with such matters. May I give an instance of what use might be made of such a register? A medical man who had been crossed off the rolls by the General Medical Council was recently found to be acting for an institution, and a case came into the courts, in which this was made plain. Now that same man was not so long ago appointed to a similar post in another part of the country. The local profession were made aware of his disqualification by a society with which I was then connected. He only stayed at that post for one day. This makes one think that the dissemination of such information with proper safeguards would be very useful. Many other matters would engage the attention of the British Medical Association official who did this work. Thus he would ascertain whether the staff of the local hospital would assist, and endeavour to consolidate the position of the local practitioners by drawing them into a local Public Medical Service. The latter is a practical method of opposing these institutions, and moreover, on the inclusion of women and children in State insurance schemes, will form a far better basis than that afforded by the medical aid associations. Local politics also vary a great deal. Some medical men seem actually to like these institutions, on the ground that they only procure the worst class of case; others are indifferent, and suppose that they will die a natural death. Again, where there are large club-practices in the hands of the few, more difficulty is experienced in forming a plan of campaign than where all are equally affected by fluctuations in terms, etc. With the experience gained in this way the official would be able to take a wide view of the situation.

To co-ordinate local opposition the official would have to disseminate some of the information he gained—a successful attack in one place is at least an encouragement to others, but at present others do not get to know of it because it is no one's business to tell them. He should also have a plan to offer, and this must not be of the cut-and-dried order. It has been wisely pointed out that it is no use the Association laying down the terms which are to be accepted for various classes of work if the Divisions will not accept them. This is true, and therefore the Association had better cease doing so; but there is no sort of reason why it should not support the Divisions in claiming such terms as seem best or most attainable to them. He would also ascertain whether the medical officer employed constituted a weak point in the armour of the institution attacked. Very often this is the case, and the matter can be dealt with without libel actions or any undue excitement.

Central opposition would of course, take other forms. There are two facts about these institutions which severely handicap members of the Association in competition with them. In the first place, they employ agents to procure patients on commission, and in the second they do their own dispensing. The first is illegal, but it is done in various ways which make it very difficult to apply the law. The second is a great advantage over the practitioner who lives some miles from a chemist and whose patients in consequence have to make two journeys instead of one. Central opposition might concern itself with these matters; it might also seek to convince the General Medical Council that advertising is not being adequately dealt with by means of the recent notice.

Such, Sir, is a lightly filled in plan of campaign. I have not given reasons for thinking that these institutions are almost entirely undesirable. The South Wales situation should be known to all, and the recent incident at Chesterfield, where a medical aid institution obtained concessions from the Government by the threat of running a candidate against the Labour-Liberal nominee, is but an advance proof of what is in store for us if we do not get to work soon.

I cannot imagine that a great deal of money need be expended in this way, and even if that were the case the certainty that the subscription will be raised should prevent delay. These institutions are suffering from great difficulty in getting officers: this will not last for ever. It would be no hardship for the medical agencies to refuse help to them. Could not this form part of our campaign? But if we are going to delay until next spring we lose many valuable months, and may possibly be faced with a General Election in which united medical aid associations will be following the excellent example set them by Chesterfield. Are we to be unprepared to state our case at that time in the light of full information?—I am, etc.,

London, W., Sept. 9th. GORDON R. WARD.

*** Some of the information Dr. Ward suggests should be obtained is already in the hands of the Central Office, and the Association has long had an arrangement with the medical agencies in regard to medical aid associations such as is suggested in the last paragraph of Dr. Ward's letter.

MEETING OF SCHOOL MEDICAL OFFICERS.

SIR,—It is proposed to hold a meeting of assistant school medical officers and school medical officers at the offices of the Society of Medical Officers of Health, 1, Upper Montague Street, Russell Square, London, W.C., on Friday, October 10th, at 4 p.m., in order that some of the grievances of those actually engaged in the medical inspection of school children may be ventilated.

The present time is opportune on account of the matter of the grants from the Board of Education to local authorities in respect of money spent on medical inspection and treatment.

The meeting will consider the advisability or otherwise of suggesting the formation of a committee of the Society of Medical Officers of Health to inquire into the matter.

It is particularly desired that the meeting should be representative of all medical practitioners engaged practically in the work, irrespective of their being members of the Society of Medical Officers of Health.

If those intending to be present would kindly communicate with me, arrangements for the meeting would be facilitated.—I am, etc.,

C. W. HUTT, M.D.,
Senior School Doctor.

7, Gloucester Place, Brighton, Sept. 22nd.

REX v. HAMILTON.

SIR,—No doubt the majority of medical men have, like myself, followed this case in the papers from its initial stages to the time when the jury stopped it at the beginning of the evidence for the defendant, and noted how Dr. Hamilton was acquitted of the cruel charges brought against him.

Dr. Hamilton is personally unknown to me, yet I feel that we, who belong to his profession, should give him a helping hand to defray the huge expenses incurred in defending his good name.

Will some one in his district take this matter up, and give his medical well-wishers an opportunity to show their sympathy with him and his family in a practical way?—I am, etc.,

Lincoln, Sept. 22nd. S. R. DEANE.

Medico-Legal.

THE HISTORY OF AN UNQUALIFIED PRACTITIONER.

AT an inquest on a baby, held by the Croydon Coroner on August 25th, and in the proceedings which followed in the Croydon Police Court on September 5th, the following story was revealed, according to reports in the *Daily Telegraph*, the *Croydon Advertiser*, and other papers. The baby, whose death was attributed by the coroner's jury to convulsions, was attended by a "Dr." Sparling. The latter, on being informed subsequently that the child was *in extremis*, said he was unable to come to the house because he had a train to catch, and referred the parent to a medical man named Dr. Morrison Orr, who attended, and found the child was in fact dead. The child's father was already being attended by "Dr." Sparling, the medicine that he was taking being given him by "Dr." Sparling, and for the child he received a prescription which was made up by a chemist. "Dr." Sparling lived in a house bearing a brass plate with that name inscribed, and also a red lamp, on which was the word "Surgery," the hours of attendance, and a representation of a pair of spectacles.

This individual admitted at the coroner's inquest that he had treated the baby and the baby's father, and that he was not a qualified medical man, but he claimed to be an optician, and to be in partnership with the medical man whom he had caused

to be summoned. The facts mentioned about the house in which he lived were due to it having been occupied formerly by a fully qualified medical practitioner, who was in fact his partner. The partnership between himself and Dr. Orr was not in writing, but there was, he said, a verbal agreement that all profits should be shared equally. On a previous occasion a child whom he had attended under the supervision of his partner died, and this child's father had put in his shop window a notice warning people against him. He had acted as Dr. Orr's assistant, but not as his paid assistant, and had told the father of the child whose death was now under consideration that he did eye work principally.

Dr. Morrison Orr, who gave evidence at the inquest, said that on finding the child dead he reported the case to the coroner, and denied that there was now any partnership between himself and Sparling. The former relation was more a matter of friendship than of actual partnership. He had the use of the surgery for his practice, and Mr. Sparling was to dispense there under supervision and act as surgery attendant. The arrangement was with the object of enabling Mr. Sparling to make an effort to get a qualification. Perhaps Mr. Sparling saw a good many patients, but he never asked him to do so. He had had no personal or intimate connexion with Mr. Sparling since he put up the ophthalmic business two years ago. He thought that the prescription given for the child by Mr. Sparling was a suitable one, and on examining the child's body *post mortem* came to the conclusion that the cause of death was convulsions.

Subsequently the case came before the magistrates on a charge brought by the Medical Defence Union against Sparling for falsely implying that he was registered under the Medical Acts.

The defendant admitted the charge, and after the facts had been outlined by Mr. Hempson on behalf of the Union, the defendant's solicitor made an appeal for a light penalty by giving a long account of the defendant's career. This was to the effect that on leaving school he at first helped a medical officer of health in his laboratory and obtained ambulance certificates. He then went to sea as an officer's servant, but drifted into the ship's dispensary and made three or four voyages to Australia. Next he tried to get into the navy as a sick-berth attendant, but was refused on account of an impediment in his speech. He then went to New Zealand as dispenser and general assistant to a doctor, but returned to England in 1910, when he was between 22 and 23. It was at this time that the idea of entering into a partnership with a medical man was suggested to him. Throughout his ambition had been to become a qualified man, and he had attended the Polytechnic, taking subjects which would be necessary for him when he saw his way to beginning a regular medical career. There was no doubt that he had taken the prefix "Dr.," but he was led away by ambition, and every one must sympathize with a young fellow who was striving to walk up the ladder.

This plea was so far successful that despite the fact that Mr. Hempson, solicitor for the prosecution, had previously described the defendant's conduct as one of great impudence, constituting a danger to the public, and had asked for the imposition of the maximum penalty, the Bench, whilst characterizing it as a "very serious case," nevertheless contented itself with ordering the defendant to pay the modified fine of 5 guineas and £4 14s. 6d. costs.

Obituary.

THE LATE DR. BUSZARD.

A COLLEAGUE writes: Dr. Buszard was in his time one of the most distinguished students at Guy's Hospital, and it was probably only owing to the fact that he and Dr. Hilton Fagge entered in the same year that he did not get on the staff at Guy's, when Northampton would have lost his inestimable services. At their various London University examinations the two ran each other very closely, but Dr. Fagge's record was almost phenomenal. Thus, at the first M.B. examination Dr. Fagge took the exhibition and gold medals in three subjects and the gold medal in the fourth, whilst Dr. Buszard took third place in three subjects. At the second M.B. Dr. Fagge took three gold medals and was second in midwifery, whilst Dr. Buszard was placed third in surgery and was placed in honours in medicine, physiology, and midwifery. On this occasion, also, Mr. James Bankart, a great friend of Dr. Buszard, took the gold medal and scholarship in surgery, just beating Dr. Hilton Fagge, besides taking high places in the other subjects, so that practically in this year Guy's Hospital swept the board. After holding the post of house-surgeon at Guy's Hospital, Dr. Buszard was elected house-surgeon to the Northampton Infirmary, as it was then named, and, as he has recorded, it was no easy task to obtain this appointment in those days when every governor had a vote, and the whole county had to be canvassed; fortunately for the present generation the election is now vested in the Board of Management. He speedily obtained a reputation for good sound work and management, and in those days his bent was apparently towards surgery. At this time there was only one house-surgeon, but there were generally two or more pupils, and the zeal with which Dr. Buszard coached his pupils through the preliminary doctrines of anatomy, physiology, and materia medica, besides instructing them most carefully in the practical part of their profession, was most valuable to them when they entered on their London work. It is hardly necessary to say that he was almost worshipped by his pupils, who always found in him during their after-career a firm friend and valuable adviser in all their difficulties. He held the post of house-surgeon for seven years, which did much to endear him to his old patients, and at the same time built up for him a great local reputation. He then resigned and set up in practice in the town, but it was eight years before a vacancy occurred on the hospital staff, when on the resignation of Mr. Mash he was appointed honorary surgeon. Two years later, on the resignation of Dr. Francis, to the surprise of many people, he gave up surgery, and was appointed honorary physician. Dr. Francis had a very great local reputation, and at first people doubted whether a practitioner who was beginning to be noted for his surgery would succeed in the department of medicine, but the question was soon set at rest, and Dr. Buszard in the end was even more sought after than his predecessor has been. His fame locally was very great, and in his time he must have been called into consultation to almost every county family, whilst he always kept himself well abreast of all fresh ideas in diagnosis and treatment that came out. His professional brethren for years recognized him as their leader, and called him in for all cases of doubt or difficulty, and in him they found not only a wise consultant, but a firm friend, for he was always ready to help them with his advice in any of their troubles and perplexities. It was a great source of regret to them when last year, after fifty years' service at the hospital, he resigned his appointment and was made honorary physician, more especially as his resignation was greatly prompted by his physical infirmities, for at this time he had become very crippled by rheumatoid arthritis, and it was impossible for him to get about except with great difficulty and pain. He has not been long spared to his friends after his retirement, but the large number who followed his remains to the cemetery last week testify to the great respect and love which was universally felt for him, and it will be a difficult matter to supply his place.

THE death is announced of Dr. F. W. FORBES ROSS, who had been in bad health for some time, and had recently undergone an operation. He was born in Jamaica in 1857, the eldest son of Sir David Palmer Ross, afterwards Surgeon-General of British Guiana. He entered Dover College at the age of 13, and received his medical education at the University of Edinburgh and University College, London. He graduated M.B., C.M.Edin. in 1889, and M.D. in 1893, his thesis being on the bacteriology of infantile diarrhœa and its treatment. This subject continued to interest him, and his first publication was a volume on intestinal intoxication in infants, published in 1897, which was marked by much careful clinical and experimental work. In 1903 he became a Fellow of the Royal College of Surgeons of England, and devoted himself to operative surgery. He had acted as civil surgeon to the Guards' Hospital, London, and clinical assistant at the Samaritan Hospital. He subsequently became surgeon to the Kensington General Hospital, an appointment which he retained for some time, during which he recorded several cases in medical periodicals. Subsequently he occupied himself a good deal with literary work, and contributed to the public press. A friend in the course of an appreciation writes: His communications to the medical and other journals on professional subjects covered a very wide field, and included researches in tuberculosis, curvature of the spine in girls, and general and abdominal surgery, as well as the all-important subject of cancer, on which he published a valuable book in the last few months of his life. Other works of his were on the intestinal diseases of

infants, and a translation of Brück's book on diseases and treatment of the nose, mouth, throat and larynx. Besides these, his inventive genius showed itself in devising or improving various surgical instruments and appliances, including one for use in cases of abnormal delivery.

Public Health AND POOR LAW MEDICAL SERVICES.

BACTERIAL FOOD POISONING.

SUDDEN outbreaks of illness among comparatively healthy people are occasionally reported in which they have all partaken of made-up meat in the form of brawn, sausages, etc. They are usually referred to as cases of ptomaine poisoning; but, as Dr. Newsholme points out in the preface to a report[1] on the subject recently issued by the Local Government Board, it is more correct to describe them as cases of bacterial food poisoning, for it is now generally recognized that they result from the presence in the food materials consumed of certain pathogenic organisms, which are either living or capable of active multiplication, or which, although killed in the cooking, are nevertheless poisonous by means of the toxins contained in them. The report, which was entrusted to Dr. W. G. Savage, states very concisely the existing knowledge of the subject which has been obtained from outbreaks that have been investigated in this and other countries. After referring to the historical aspect of the question and to certain special forms of food poisoning, such as that from mussels, cheese, potatoes, or ice-cream, he deals with the clinical and general features of recorded outbreaks of bacterial poisoning, and then discusses the different bacteria concerned in the outbreaks. A special section is devoted to the Gaertner group of bacilli to which the majority of recorded outbreaks have been known to be due. In regard to those outbreaks in which these bacilli have gained access from sources outside the meat or food itself, Dr. Savage expresses the opinion that it is an extremely difficult matter accurately to trace their origin, and he discusses three distinct views which have been put forward. The first is that the Gaertner group bacilli, which are the cause of the food-poisoning outbreak, are of human origin, the meat being infected with pathogenic Gaertner bacilli from a human source—for example, a case of disease (paratyphoid fever) or a carrier case. While admitting the possibility of this view being correct, he points out that in this country, at any rate, there is no recorded case of food poisoning in which *B. paratyphosus* B has been proved to be the cause. He considers that the available data are strongly against the correctness of the second explanation, which is that the Gaertner group bacilli which set up the food-poisoning outbreaks are derived from ordinary faecal infection of the food. The view which he considers best explains all or most of the phenomena of food poisoning is that the outbreaks are due to infection of the food with virulent Gaertner group organisms (or other special bacilli) derived from animals which are either at the time suffering from disease due to Gaertner group bacilli or acting as carriers of these bacilli. In an addendum to the report is a list of seventy-nine British outbreaks of food poisoning which have been recorded since 1878, together with many details of them. A similar list of forty-four Continental outbreaks is given, and a very complete bibliography of the subject is appended.

Medical News.

THE Harveian oration before the Royal College of Physicians of London will be delivered by Dr. J. Mitchell Bruce at the College at 4 p.m. on Saturday, October 18th.

AT the Royal Dental Hospital on Tuesday, October 7th, the prizes awarded during the year to the students of the London School of Dental Surgery will be distributed by Prince Alexander of Teck.

AN examination for not less than twelve commissions in the Royal Army Medical Corps will be held on January 28th, 1914, and the presence of candidates will be required in London from January 26th. Applications to compete should be made to the Secretary, War Office, not later than January 19th, 1914.

THE ninety-first session of the Birkbeck College, Chancery Lane, will be opened on September 29th, when Sir Francis Darwin, F.R.S., will give the opening address. The college is conducted in relation with the University of London, and provides courses of study for degrees in faculties of arts, sciences, laws, and economics. Last year 42 students took degrees in arts or science, 18 with honours, and two gained university scholarships.

[1] Reports to the Local Government Board on Public Health and Medical Subjects (New Series No. 77). Report to the Local Government Board on Bacterial Food Poisoning and Food Infections. By Dr. W. G. Savage. (Food Reports No. 18). London: Darling and Son. (6d.)

THE subject of the address to be delivered by Sir Charles Lukis, Director-General of the Indian Medical Service, at the opening of the winter session at the London (Royal Free Hospital) School of Medicine for Women, Hunter Street, Brunswick Square, on October 1st at 4 p.m., is the Medical Needs of India. Mrs. Garrett Anderson will be in the chair.

DR. B. L. BECKER, of New York, who we learn from the *Boston Medical and Surgical Journal* began life as a poor east-side boy and has risen to a position of distinction, has offered through the Board of Education of New York to provide 3,000 pairs of spectacles for school children with defective eyesight. The children are to be sent to his office with a proper order from principals, teachers, or visiting school nurses.

A COURSE of twelve lectures for teachers on biology and social problems has been arranged by the Eugenics Education Society, and will be given by Professor J. Arthur Thomson, of Aberdeen, and Mr. Major Greenwood, jun., Statistician to the Lister Institute of Preventive Medicine, on Friday evenings at 8.30, beginning on September 26th. Full particulars can be obtained on application to the secretary of the society, Kingsway House, Kingsway, W.C.

IN his address at the opening of the winter session at the medical school of Charing Cross Hospital on October 1st, Dr. William Hunter, in dealing with the subject of university medical education, will record certain conclusions derivable from the school's two years' experience of the plan of sending its junior students to pursue their preliminary studies at King's College. On the same occasion the prizes won by the students during the past year will be distributed by the Lady Wantage. At the school dinner at Gatti's Restaurant in the evening Mr. H. F. Waterhouse will take the chair.

A DINNER of past and present students of Guy's Hospital, at which evening dress will be optional, will take place in the Students' Club at 7.30 on October 1st. Various members of the staff are expected to attend, and the dean of the school, Dr. Cameron, will read his annual report. A further feature will be a distribution of certificates to students who won prizes during the past year. The prize distribution usually takes place during the summer session, but this year was deferred owing to the ceremony connected with the opening of the new school buildings by Mr. Arthur Balfour. Mr. Cosmo Bonsor, the treasurer of the hospital, will be in the chair.

RUMOURS appear to have gone the round of the Italian press to the effect that the Italian language was not recognized as an official language at the recent International Medical Congress, and, in fact, barely tolerated. As this is not the case Professor La Torre writes to the *Corriere della Sera* giving a correct statement of the facts. He shows that the fourth circular of the London congress reprinted in January, 1913, Art. II, declares that "the official languages are English, German, French, and Italian." This effectually disposes of the rumour that the Italian Government had asked some months before the Congress whether Italian was to be reckoned an official language and had received an ambiguous reply. There is nothing ambiguous about Art. II; moreover, this particular regulation had been printed and definitely approved as long ago as April, 1912, and again in August, 1912.

THE Brighton and Sussex Medico-Chirurgical Society commenced its work for the academic year 1913–14 at a meeting on September 4th, when Dr. Walter Broadbent, in a presidential address, discussed the remote effects of disorders of the stomach. Two conditions were specially prone to give rise to them. In one of these, though the stomach was in a state of spasm, it was nevertheless blown out owing to hyperacidity causing the pylorus to remain contracted. There was a tympanic percussion note, the resonance extending as high as the fifth rib and towards the axillary region. It was a dangerous condition in pneumonia and other fevers, and in ordinary cases might give rise to reflex and pressure disturbance either of the lungs or of the heart; asthma or stomach cough sometimes occurred, and at others palpitations, paroxysmal tachycardia, irregularity of the pulse, and even sudden death should the heart muscle be diseased. The second condition was one not of spasm, but of atonic dilatation, brought about by deficient acidity favouring fermentative processes. A splash could be obtained by succussion, and fluid heard to gurgle out of the stomach when the hips were raised on pillows above the level of the pylorus. This condition often led to mental depression or to insomnia, characterized by the patient waking between 2 and 3 a.m., and being unable to get to sleep again for a long time.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London*. The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London*.

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

CHOLELITHIASIS asks for information as to the treatment of a sinus continuing to discharge bile for six months after operation on an elderly patient; stones were removed from the common bile duct, and a probe passed through the ducts into the duodenum, gall bladder, and hepatic duct. The gall bladder was not removed, but a sixth part cut away, and a drainage tube inserted. The tube was removed about six days after the operation, and it appears to be this opening in the gall bladder which has not closed.

INCOME TAX.

H. B. C. has succeeded to a practice in which the receipts have recently been falling off, and has been informed by the income tax surveyor that duty will be accepted on the basis of the past year's receipts, but that "nothing further for the current year can be done."

*** The rule known as the 4th Rule of Cases I and II, Sch. D, provides that in such a case the assessment shall be computed on the average of the past three years' profits, notwithstanding the succession, but also provides for an adjustment if the successor's profits fall short of the assessed amount. "H. B. C." has no right to insist on an assessment for 1913–14 smaller in amount than the average of the practice profits for 1910, 1911, and 1912, but if at the end of his first year he should find that his profits have fallen below that figure he can claim an adjustment by way of repayment. Also, if he should find that this adjustment of the Sch. D. assessment affects the calculation of his total income to a sufficient extent to entitle him to a larger abatement than was originally allowed him, he may make a claim on that account at the same time.

ANSWERS.

PURCHASE OF MEDICAL PRACTICE.

BRANCH SECRETARY writes: In the interests of probable buyers permit me to question your statement (BRITISH MEDICAL JOURNAL, September 13th, p. 712): "In a large number of cases a two years' purchase would be a fair estimation." I think it would be too much.

SOLVENT FOR HARD WAX.

DR. S. DANZIGER (Manchester) recommends a 1 per cent. solution of solid caustic potash (KOH) in glycerine. It should be warmed (not too hot) and poured into the external auditory meatus. In twenty-four to thirty-six hours the ear should be syringed with warm water, and this should be repeated two or three times if necessary.

DR. C. E. HARRIS (Halifax) agrees with Mr. Macleod Yearsley in recommending a few drops of ether purus, but advises that the instillation should only last half a minute. He further says that care must be taken to see that the tympanum is entirely coated with wax, otherwise the contact of the ether with the drum will cause pain; the patient should only feel a tingling and bubbling sensation.

ECZEMA OF THE GLANS PENIS.

DR. H. OPPENHEIMER (London, N.W.) writes in reply to "Westmorland": I beg to say that I have found the following treatment very efficacious in cases analogous to his own. Let the patient wash the affected areas night and morning with a lotion containing half a drachm of ichthyol to the ounce of rectified spirits of wine, and then dust them freely with a powder of the following formula: Acid. boric; dermatol., āā gr. 3); zinci oxyd.; amyli, āā drs. 3ss. The strong alcoholic lotion may cause some burning sensation at first, but I find it far superior to any watery lotion or ointment.

DR. H. F. THORP (Ipswich) writes: The glans and prepuce must be kept scrupulously clean by daily ablution and bathed with a saturated solution of boric acid; internally ½ gr. of calomel once or twice a week, followed next morning with 2 or 3 drachms of sodium sulphate.

DR. LEONARD J. KIDD (London) writes that the study of a recent paper by Léopold-Lévi suggests that testicular extract might benefit the eczema and thyroid extract the attacks of gout. The extracts can be combined if desired. Soap and warm water must be used once a day, and six or seven times daily the patient should immerse the glans and retracted prepuce for two minutes in a sherry-glass filled with hot boric acid lotion (gr. v ad ℥j, not stronger), and then carefully dry with a soft handkerchief.

PROPHYLAXIS OF ACUTE NASAL CATARRH.

DR. GEORGE WILLETT (Keynsham, Bristol) recommends "Puzzled" (JOURNAL of September 20th) to try the effect of an autogenous vaccine, pushing the doses until some definite reaction is produced. In the acute attacks he recommends aspirin in 20-grain doses three times a day. In his personal experience this treatment has been perfectly magical.

RELIEVED writes: I would suggest the reduction as far as possible of all liquids in the patient's dietary and the application of pure glycerine to the nasal mucous membrane every night as a habit. The statement that the attacks come on about every six weeks irrespective of the weather conditions is, I think, fairly open to question unless "Puzzled" keeps a continuous accurate record of meteorological observations.

DR. WILLIAM WILSON (Manchester) writes: Granted there is no suspicion of intranasal lesion, I think these frequent "feverish colds" are simply local manifestations of a disturbed metabolism (probably to some extent the sudden absorption of thyroid internal secretion causing feverishness without corresponding rise of temperature; tachycardia; general venous stasis with fluid exudation in the nasal mucous tracts; nervousness and sweating). The following treatment has worked well in my hands: Small doses of calomel at night, a mild saline in the morning, just sufficient to remove the calomel without diarrhoea. A light, non-meat diet without alcohol and tobacco. The nose should not be syringed with antiseptics at any time, except when choked with secretion. During the acute feverish stage the morphine treatment gives rapid relief: Morphine gr. ⅓ to ¼ at night, with calomel gr. v.

LETTERS, NOTES, ETC.

THE USE AND ABUSE OF HYPNOTICS.

DR. WM. HARDMAN (Bispham, near Blackpool) writes: Such discussions as that upon hypnotics, so ably initiated by Dr. Willcox in the Section of Pharmacology and Therapeutics (p. 661), are deeply interesting to the vast majority of our members who are men engaged in the practical application of medical knowledge, and who live by it. Too much space is occupied by long wearisome details of experimental work the results of which are too often negative, and when positive the conclusions of any importance could be compressed into a short paragraph easily memorizable, whereas these long disquisitions are forgotten as soon as read, except by a few specialists in the same line as the writers. I wonder if Dr. Willcox's conclusions are the result of his own experiences on men or of experiments on animals. I noticed there was considerable want of unanimity amongst those who took part in the discussion. Dr. Willcox emphasized the depressing effect of chloral on the heart. This is a very old belief or myth, and I noticed one gentleman energetically controverted it and gave some experiments supporting his views. Whilst I would not attribute much importance to his experiments, my experience, obtained on very many others and on myself, has convinced me that chloral has no depressing action on the heart, and I have both given and taken large doses—as much as 40 grains. Similarly with regard to veronal. Dr. Willcox condemned it strongly, but Professor Bradbury said he had used it largely with excellent results, and that he had not met with the bad effects against which Dr. Willcox warned us. Similarly, Dr. Willcox said trional was like veronal in its effects, but worse. Now trional has been for very many years, perhaps, my most favoured hypnotic, and I must have prescribed it in dozens of cases, usually in a 7-grain dose, and I have always found it act admirably, nor have I ever seen any bad effects from it. One must not push too far conclusions derived from experiments on normal animals when one comes to the treatment of abnormal humans.

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Inaugural Address

ON

THE MEDICAL NEEDS OF INDIA.

Delivered at the London School of Medicine for Women on October 1st, 1913,

BY

SURG.-GEN. SIR CHARLES PARDEY LUKIS, K.C.S.I.,

DIRECTOR-GENERAL, INDIAN MEDICAL SERVICE.

The problems connected with the preservation of the public health in India are extremely complex, especially as regards the remedying of sanitary defects, the education of the people in personal and domestic hygiene, the saving of infant life, and the protection of women from the dangers incidental to childbirth.

The time at my disposal being limited, I do not propose to-day to deal with the larger sanitary questions, neither is it necessary that I should do so. Under present conditions such questions are outside the scope of the work of the medical woman in India. I must, however, say a few words on the subject of the education of the Indian public in personal and domestic hygiene, because it is the prejudices of the vast majority of the populace, their conservatism, and their suspicion of any innovation or change, which constitutes such a formidable obstacle to rapid progress in medical or sanitary matters. In order to illustrate my point, let us consider briefly some of the conditions influencing the spread in India of those three deadly diseases—malaria, plague, and tuberculosis. Malaria, as you know, is conveyed from man to man by certain species of Anopheline mosquitos. For a long time it was thought that all malaria arose from swamps, but recent observations have shown that this is not the case. Thus the researches of Liston and Bentley have proved that the severe epidemic of malaria from which Bombay city has suffered of recent years does not arise from the surrounding swamps, but is conveyed by a species of domestic mosquito which breeds in the wells attached to private houses. Similarly much of the malaria which occurs in up-country stations is due to the breeding of mosquitos in collections of stagnant water in and around habitations. It is obvious, therefore, that the attempts of Government to stamp out malaria are apt to be nullified if householders refuse to close down private wells, which are a danger to the community, or persist in allowing broken earthen pots, old kerosene oil tins, etc., to accumulate in their yards, and thus furnish breeding-grounds for mosquitos.

Then again as regards epidemic plague, the history of which as it occurs amongst human beings is as follows: Plague occurs amongst the rats in a house. So soon as the rats begin to die the remainder at once migrate from the infected spot, but they leave behind them their nests, and in these nests are a large number of rat fleas which contain plague bacilli, owing to their having sucked the blood of infected rats. Presently these fleas become hungry, and, finding no rats, they sally forth and bite human beings, thus infecting them with plague. The question of the prevention of plague is, therefore, chiefly one of domestic hygiene, and it is essential that the public should realize the danger of permitting collections of rubbish in and about their houses behind which rats can build their nests. They should be taught also not to throw about in the vicinity of their houses remnants of food which will attract rats, and in fact every precaution should be taken to prevent the rat from becoming a domestic animal. The rat is not a domestic animal in the houses of Europeans in India, but it is a domestic animal in the houses of a large number of Indians, and this I believe to be the explanation of the difference in the plague incidence on the two races.

I now come to the subject of tuberculosis. Nowadays there is a great boom in tropical diseases, and it is right that there should be; but one ill effect of this is that it is apt to distract attention from diseases which, although not strictly speaking tropical in origin, nevertheless create enormous havoc in tropical countries. The chief of these is tuberculosis, the mortality from which in some of our larger native cities exceeds that of either Birmingham or Glasgow. Tuberculosis in India, however, differs from that disease in England in one striking particular—it is invariably of human and not of bovine origin. For this there are two explanations; the first is that Indian cattle are practically free from tuberculosis. When I made this statement at the recent Conference on Infant Mortality it was received with a certain amount of scepticism, but I am glad to learn from competent observers that similar conditions prevail both in Ceylon and in the Malay Peninsula. The second explanation is that Indians never drink unboiled milk, consequently milk may be regarded as a negligible factor in the spread of tuberculosis in India, and the disease is always conveyed by human agency as the result of defective ventilation, over-crowding, and indiscriminate spitting. The Government and the local authorities are doing all in their power in the matter of town planning and the provision of sufficient light and air in tenements, and by the prohibition of expectoration in public places, but their efforts will be of little or no avail until the Indian public learn the danger of sleeping in closed rooms and of permitting indiscriminate spitting within house limits.

Hitherto the teaching of personal and domestic hygiene in India has been very unsatisfactory. It has been regarded merely as a school lesson to be learnt by rote, and I doubt very much whether the scholars attach any importance to it or regulate their lives by its precepts. You may, for instance, hear a boy state in school, "I must eat clean food, I must drink pure water," and then as soon as school is over he will scamper off and eat sweetmeats from a fly-infected open stall in the bazaar, assuaging his thirst with a draught of water from the village tank, which is indiscriminately used for drinking purposes, for bathing, and for the washing of clothes.

Efforts are now being made both by Government and by the St. John Ambulance Association to render instruction in hygiene more practical by means of lantern demonstrations, popular lectures, and the distribution of illustrated leaflets, but even if these efforts are as successful as it is hoped they may be, they will not reach the root of the evil, for they will only instruct the men of the community. This is my reason and excuse for bringing the matter to your notice to-day. Ladies who have spent all their lives in England are apt to regard their Indian sisters as being very down-trodden and oppressed. This is a grave mistake. Out of doors the man is lord of creation, but once he is inside the house he is absolutely controlled by his wife and mother in all matters concerning domestic economy and the family life. Indeed I know of no country where the woman is more absolutely the mistress of the house than she is in India, and I am convinced that we shall never make any real headway in promoting the knowledge of domestic and personal hygiene until we have convinced the women of India as to its necessity and they have thrown their powerful influence into the scale. Here the medical man is powerless—the *purdah* bars the way, and it is to the medical woman that we must look for educational propaganda inside the zenana.

I have dealt with this subject at some length because I wish to lay stress upon the fact that the work of the medical woman in India should not be confined merely to the care of women and children. They may do admirable pioneer work by disseminating knowledge of the laws of health and the value of preventive measures, thus conferring an incalculable boon upon the populace as a whole, both by showing them how to prevent the spread of communicable disease and by teaching them how to increase the natural powers of resistance against pathogenic germs.

The subject of infant mortality in India has of recent years attracted considerable attention. That it is a subject imperatively demanding such attention cannot be denied. In 1911 4,752,152 male children and 4,457,551 females were born in India, and in the same year the actual number of deaths of children under 1 year of age was 1,016,823 males and 873,677 females—that is to say, roughly speaking, about one-fifth of the children born died within the first year of their life. It is very difficult to arrive at the actual causes of this high rate of mortality. The figures at our disposal are often of doubtful accuracy,

and the comparison of figures from different localities is most fallacious. A relatively high reported death-rate frequently means merely that the registration of vital statistics in this particular locality is carried out more satisfactorily than in some other place with a more enviable, but totally undeserved, reputation, and one of the greatest of our present necessities is an improvement in our methods of collecting vital statistics. In most of the large cities and towns of India the number of births and deaths reported probably approximates to the truth, but with regard to the causes of death even approximate accuracy is rarely attained. This is inevitable when the diagnosis of the cause of death is in the vast majority of instances made by persons with no medical training. Moreover, when death is due to infectious disease, wilful concealment frequently occurs.

As the result of inquiries made in four large towns in India, Major Robertson, the Sanitary Commissioner with the Government of India, is of opinion that the causes of infant mortality, taken in the order of their importance, may be classified under four headings:

1. Malaria, operating both directly on the infant and indirectly through the mother.
2. Diseases due to insanitary surroundings.
3. Diseases due to ignorance on the part of the mother with regard to the feeding and care of the infant.
4. Accidents of childbirth and diseases attendant thereon.

As regards the last two groups, I believe that early marriage is very largely responsible for the high rate of infant mortality in India, where marriage is almost universal and at the earliest practicable age; and there can be no doubt that much of this mortality is due to the ignorance and immaturity of the mothers. The instruction of these young mothers, therefore, in all matters connected with ante-natal and post-natal hygiene is a point deserving of consideration by all medical women practising in India.

Another adverse factor, vying in importance with that of early marriage in determining the excessive mortality, is to be found in the primitive methods of midwifery almost universally in vogue. Not only do such methods lead directly to the death of the infant from tetanus and other infections, but they also indirectly increase the infant mortality by depriving the children of their natural nourishment; for it must be remembered that the unsatisfactory substitutes given as food to children deprived of their mothers' milk, the death of the mother, or even the drying up of her milk as the result of sepsis, in the majority of cases practically seals the fate of the child, I need not dilate upon the suffering and loss of life which result from these primitive methods of midwifery. As you probably are aware, in India the deaths in childbirth are about three times as numerous as they are in England: the only remedy for this deplorable state of affairs is that medical women, by their precepts and practice, should create confidence in modern midwifery and devote themselves to the systematic instruction of the native midwives.

I think I have said enough to bear out my statement that one of the most urgent needs of India at the present time is an adequate supply of suitable and fully-trained medical women, and I now pass on to the consideration of the manner in which it is proposed to supply this need.

The work of supplying female medical aid to the women of India is chiefly performed by two voluntary agencies—that of the missionaries and what is generally known as the Lady Dufferin Association. Of late years the work of the latter association has been subjected to much criticism, and there can be no doubt that the conditions of service have not been such as are calculated to attract the right stamp of medical woman. Various complaints have been made, especially as regards subordination to men, liability to sudden dismissal, absence of incremental rates of pay or provision for retirement, or any definite rules as regards furlough and study leave. I do not propose to enter here into the controversy that has raged round this subject, but I shall merely state for your information the manner in which it is now proposed to redress the legitimate grievances and improve the position of medical women serving under the Dufferin Association.

In the first place, it may be as well to mention that the Government of India has decided definitely against the creation of a State service of medical women; it has, however, approved of a grant of £10,000 per annum for a service of medical women under the Central Committee of the Dufferin Association. This service will be called "The Women's Medical Service for India," and I have received the permission of the Central Committee to sketch in outline the conditions of service, which received final sanction at the meeting held in Simla early last month.

The service in the first instance will not exceed twenty-five first-class medical women, one-fifth of whom will constitute a leave reserve. Its members, subject to certain provisions, which I will mention later on, will be under the direction and control of the Central Committee of the Dufferin Association. I may mention here that there is already one medical woman serving on this committee, and that the question of adding a second is now under consideration.

Recruitment for the service will be made in two ways:

(*a*) *In India*—by a medical subcommittee of the Central Committee, which shall include the Director-General of the Indian Medical Service, the Surgeon to His Excellency the Viceroy (who is also the Honorary Secretary to the Central Committee), and a first-class medical woman.

(*b*) *In England*—by a subcommittee consisting of a medical man and two medical women conversant with Indian conditions, to be nominated by the Home Committee of the Dufferin Association.

Such subcommittees will perform the duties of a medical board, examine candidates for physical fitness, and give permission to return to duty after invaliding, and in India the subcommittee will have power to appoint temporary local boards in cases of emergency.

The Central Committee will decide what proportion of the members of this service shall be recruited in England and in India respectively. In the original constitution of the service duly qualified medical women who are already in the service of, or who have rendered approved service to the Dufferin Association, will have first claim to appointment, and thereafter special consideration will be paid to the claims of candidates who have qualified in local institutions, and of those who are natives of India.

All newly-appointed members of the service must be British subjects. They must be not less than 24 or more than 30 years of age at the time of recruitment, and they will, except under special circumstances, be retired on attaining the age of 48. They must possess a medical qualification registrable in the United Kingdom under the Medical Act, or an Indian or Colonial qualification higher than the L.M.S., and they must produce certificates of health and character. They will engage for general service anywhere in India or Burma, and they will then be appointed by the Central Committee to serve in different provinces. On first appointment they will serve a period of probation in one of the larger hospitals, extending in the case of those recruited in England to six months, and in the case of those recruited in India to three months. At the end of such period of probation their appointment will be confirmed or terminated, as the case may be, by order of the Central Committee, and after confirmation service will be terminable at any time by three months' notice on either side.

Members of the service will receive a salary of Rs. 350 per mensem during their period of probation, and thereafter a salary of Rs. 400 from the first to the fourth year inclusive, Rs. 450 from the fifth to the seventh year, Rs. 500 from the eighth to the tenth year, and Rs. 550 after the tenth year, but no member will be confirmed in the Rs. 400 grade unless she passes her examination in the vernacular within one year of her appointment. In addition, suitable quarters will be provided free of rent, or house rent will be given in lieu thereof. There will also be a provident fund as a provision for retirement.

Members of the service will draw travelling allowance at the usual rates, and they will be entitled, in addition to the usual privilege leave, to eight months' furlough after four years' service and to study leave up to nine months. Whilst on furlough they will draw half pay, and two-thirds whilst on study leave. They will be permitted to engage in private practice provided that such private practice does not interfere with the performance of their official duties.

When members of the service are appointed to provinces they will forthwith become subordinate to the Provincial Committee, which shall have powers of punishment, including suspension, but the power of removal from the service or dismissal for inefficiency, misconduct, or other valid cause, will be vested absolutely in the Central Committee.

Any member of the service who has been recruited in England, in the event of non-confirmation at the end of the period of probation or on removal or dismissal, will receive a sum sufficient to cover her return journey to England.

Every hospital will be in charge of a local committee, and the medical woman in independent charge of such hospital will be entitled to attend all meetings of the local committee. She will have full professional control of her hospital, and such powers of administrative control as may be determined by the authorities financially concerned. She will not be under the civil surgeon in any way, but should she wish to do so she can always call him in for professional assistance or consultation.

As regards the inspection of women's hospitals, it is proposed to associate with the Inspector-General of Civil Hospitals one of the senior medical women in each province, who will receive extra pay and travelling allowance for this purpose, but she will not be a full-time officer. She will make her visits of inspection in addition to any which the Inspector-General of Civil Hospitals may think fit to make himself, due regard being paid to *purdah*. She will also be expected to give sympathetic judgement, opinion, and advice to the younger women in charge of hospitals. It is proposed also that the inspection of the minor female branch dispensaries shall be entrusted to the medical woman in charge of the large hospital at the head quarters of the district concerned.

Lastly, the Central Committee, who will now be mainly responsible for the salaries of the medical women of this service, hope that the Provincial Committees will devote the funds they will thus save to increase their staff of female assistant surgeons, who will work as assistants to the medical women in charge of the larger hospitals.

This, ladies, is the scheme, which I think you will agree remedies all legitimate grievances and gives the medical woman in India an assured and definite position. It requires no further explanation on my part; but I should like, with your permission, to reply to one criticism that has been made on it, and also to offer a word of advice to any candidate who may think of entering the new service.

The criticism to which I refer is to the effect that the rate of pay on first joining is inadequate, and that it will not attract the right type of woman. In reply to that I would point out that, when you take into consideration the free house, the terms are better than those offered to young officers of the Indian Medical Service. Moreover, from the very beginning the medical woman has the opportunity of private practice; whereas the young officer of the Indian Medical Service spends his first five or six years in military employ, where he can have little or no private practice, whilst he has in addition all the expenses incidental to regimental life.

My word of advice refers to this same question of private practice. If you wish to be of real service to your poorer patients and also to be a successful practitioner amongst the better classes, I recommend you to devote your six months of probation not merely to the study of tropical diseases, but also to learning the language and to making yourself acquainted with the customs and prejudices of the country. Learn to speak Hindustani as it is spoken by educated Indians; be not content with the horrible jargon that the average European uses in conversation with his servants. Study, moreover, Indian prejudices, especially as regards rules of diet in connexion with illness. If you fail to do so much trouble awaits you. When you are called in to see an Indian patient, after the diagnosis, prognosis, and treatment have been discussed, the last question that will be put to you is, "What about diet?" If then you order an article of diet which according to Indian ideas is contraindicated in the class of disease with which you are dealing; if, for instance, you commit the horrible blunder of ordering milk in a case of bronchial catarrh or rice for a patient suffering from malarial fever, the chances are that so soon as your back is turned your prescription will be torn up, and you will never be called in again by that family. Above all, do not fall into the grievous error of regarding these prejudices as nonsensical. The longer you live in India and the more intimate your connexion with Indians the greater will be your appreciation of the wisdom of the ancients, and the more completely will you realize that the West still has much to learn from the East.

It is obvious from what you know of the size of India, and from what I have told you as regards the medical needs of that vast continent, that these needs cannot be supplied merely by European agency, whether it be that of medical men or medical women. If, therefore, female medical aid to the women of India is ever to become a reality, it will be necessary to utilize indigenous talent, and one of the most important duties of the new service of medical women will be to train Indian women and domiciled Europeans and Anglo-Indians for the profession of medicine. Hitherto, owing to the absence of a medical school exclusively for women, it has been practically impossible to obtain Indian women of a suitable class, but this difficulty has now been overcome. Her Excellency Lady Hardinge has collected a very large sum of money which will suffice for the construction and equipment of a thoroughly up-to-date medical college for women, attached to which will be a female hospital of about 150 beds and a training school for nurses. The Government of India has given an excellent site on the new Imperial Enclave at Delhi, within half a mile of the railway station. We hope also to obtain a grant sufficient to cover the annual up-keep. This college will be entirely staffed by women, and it will offer to the new service of medical women opportunities for professorial, tutorial, and research work which they could not obtain in private practice. The construction of the college will commence very shortly, and the committee of management will consist of three women and two men. Meanwhile medical women are being, and will be, largely consulted as to its organization, and it is proposed to appoint the lady principal a year before the college is opened in order that she may supervise the construction and superintend the arrangement of the fittings, equipment, and furniture.

I have said enough to show not only that India is in urgent need of the services of medical women, but that under the improved conditions it offers a splendid career to medical women of the right stamp.

I will not detain you, therefore, any longer, except to express the great pleasure it gives me that this scheme has materialized during my term of office as Director-General of the Indian Medical Service. Believe me, ladies, the members of the service which I represent are not hostile to the interests of medical women; on the contrary, we are your sincere well-wishers, and I feel very strongly that we have not deserved many of the bitter attacks which have been made upon us in recent years. India affords ample scope for physicians and surgeons of both sexes, whether they be officials or independent practitioners, and I trust that in the future the medical woman, now that all irksome restrictions are about to be removed, will cease to regard the civil surgeon as her natural enemy, and will learn to look upon him as an esteemed friend and colleague, and that in the days to come medical men and medical women practising in India will work in complete harmony to their mutual advantage and that of suffering humanity.

Owing to what is regarded as speculative prices now prevailing in the radium market, the magistrates at Munich have resolved to postpone the purchase of radium and mesothorium for which they had voted the sum of £10,000.

The course arranged by the Association d'Enseignement Médical des Hôpitaux de Paris will commence on Wednesday, October 15th, when Dr. Lucas-Championnière will give an address on ancient and modern operations for cerebral decompression. The course will continue until Friday, October 31st, and will include medical, surgical, and special subjects. Among those who are taking part in the course are Professor Broca, who will deliver two lectures on hereditary syphilis of bones and joints; Dr. Béclère, who will deal with radiology: Dr. Lesné, who will speak on alimentary anaphylaxis in children; Dr. Roubinovitch, who will give two lectures on epilepsy; Dr. Savariaud, who will deal with orthopaedics; and Dr. Thibierge, who will give several lectures on skin diseases.

THE PROBLEMS OF UNIVERSITY MEDICAL EDUCATION IN LONDON:

*TWO YEARS' EXPERIENCE OF CONCENTRATION.**

BY

WILLIAM HUNTER, M.D., F.R.C.P.,

DEAN OF THE CHARING CROSS HOSPITAL MEDICAL COLLEGE.

Two years ago the Charing Cross school adopted the policy of concentration of its earlier medical studies, transferring its students for this purpose to the King's College Laboratories of the University of London, immediately adjacent to the school. The time now elapsed has enabled one to form an opinion of the effect of this change on the character and work of the school and of the university laboratories.

ADVANTAGES.

It has had advantages to the students, to the school, and to the university laboratories. To the students in giving them access to the best scientific education which the University of London can at present give: to the school in freeing its laboratories (hitherto devoted to chemistry, physics and biology, physiology, and anatomy), its energies, and its finance, for the final portion of studies more immediately and legitimately connected with hospital work; and to the university laboratories in providing them, in our case, with a very considerable number of students, with corresponding increase of income, and a greater stimulus to their laboratory work and to their scientific teachers. The effect of the change in these three respects may be considered separately.

Number of Students.

As regards the number of students, there has been no falling off in the number either of earlier or final students. On the contrary, there has been a marked increase—from a total of 109 in the school in the year 1910–11 to an average of 150 for the past two years.

The total number of new students who have become connected with the school for the earlier and final studies, and for special studies connected with the final studies, has been no fewer than 140. The interesting feature is that 133 of these have taken the medical course, 23 of whom joined for the earlier studies, 41 for the final, and 69 for the special courses.

These students, like all other students of London, fall into two classes—full-time and part-time students. The net result has been a gratifying increase of full-time medical students now connected with the school, and a very striking increase in the number of part-time medical students, which rose from an average of 4 or 5 previously to 48 in the first year after the change, similar numbers have been retained during the past year.

Quality of Students.

As regards the quality of students, there has also been an interesting change. Instead of being half medical and half dental, the school is now practically entirely medical, only a few dental students remaining. Further, nearly one half of the full-time students entering the primary and final school are studying for the degree of the University of London; the standard of work has been good, with perhaps the highest record of honours which any school has probably ever shown in the same period of time. During the past two years the distinctions of the Gold Medal M.D. of the University of London, the Gold Medal M.B. of the University of London, the Murchison Scholarship in Clinical Medicine (open to young graduates of all schools of London and the University of Edinburgh), the gold medal with prize of £45 awarded by the Medico-Psychological Association, and, finally, the Rabbeth Scholarship of King's College Laboratories for the earlier studies for medical degrees of the University of London, have all been gained by students of the school.

The good spirit animating the school has also been evidenced even in the field of sports, where they have been able to fight through into the semi-final in spite of the handicap of their relative small numbers.

CHANGES IN THE SCHOOL.

The changes effected have been of a very extensive and radical character. The school has been able during the past two years to greatly increase its accommodation for general pathology, bacteriology, public health, and sanitary science work. The large departments formerly devoted to earlier studies of chemistry, physics, biology, physiology, and anatomy have now been completely reorganized and adapted for the above final studies.

University Laboratories of Public Health and Bacteriology.

The increase in the number of students transferred into the university laboratories—in connexion with which two of the members of the Charing Cross staff (lecturers in anatomy and physiology) were taken over by the University of London, King's College—necessitated further room for the various classes for the physiological and other departments in the university laboratories. Later in the same year negotiations were therefore opened, and finally completed, by King's College with Charing Cross school with a view to transferring the bacteriological and public health departments of the college to the premises rendered vacant in the school by the transference of these earlier studies to King's College. These departments were eminently suitable by their character, proximity to King's College, central situation in London, and detachment from the hospital for university studies, affording greatly improved accommodation as well as space for considerable expansion. The cost of the structural alterations and fittings was met by the school, and under an agreement with the University of London, on behalf of its King's College, the transference of the bacteriological and public health departments of King's College was finally effected in October, 1912.

In order to assist the university laboratories the school, in addition to carrying out extensive alterations, has undertaken to make (out of the rent received for the use of these laboratories) a contribution of £250 a year towards its upkeep and maintenance, and in respect of the instruction in public health given to its students.

The laboratories were formally opened and handed over to the university authorities on behalf of the school by Professor Simon Flexner, the Director of the Rockefeller Institute, New York, on the occasion of his delivery of the biennial Huxley Lecture in October, 1912.

The accommodation provided comprises a large class laboratory, research laboratories, professors' laboratories and lecturers' laboratories, for each department of bacteriology and public health respectively, with a photomicrographic laboratory, preparation rooms, large theatre, and library for the joint use of the two departments.

ADVANTAGES OF CONCENTRATION.

These arrangements have proved of mutual advantage alike to the University of London, King's College, and to the school. To the college it has proved of great service in not only providing greatly improved accommodation for its bacteriological and public health work, but also in setting free the laboratories vacated at King's College for the greatly needed increased accommodation of their physiology, psychology, and zoological departments.

To the university the change has also been recognized as being of great importance in connexion with the teaching of hygiene and public health, and forms the subject of a specially approving comment in the final report of the Royal Commission:

> We think all the university medical students might receive their instruction in these subjects of hygiene and public health wherever it is most convenient to provide for it. King's College has recently taken over the laboratories formerly used by Charing Cross Hospital Medical School, and has thus greatly improved its accommodation for research. We are not prepared to say that the subject of public health is adequately provided for at present in London, but we think adequate provision may be made by developing what now exists. The department should not be confined to the instruction necessary in the ordinary course of the medical curriculum. Instruction must be provided for the degree of M.D. in State Medicine, and, moreover, the subject is one in which there is great room for research in many directions.

To the school the advantages of the change have been that the whole school is now entirely adapted to final laboratory studies and research.

The pathological and bacteriological departments of the school are now provided with excellent laboratories—the laboratory of general pathology being capable of accommodating 100 to 150 workers. A reorganization of the department has been carried out, under which the work

* This report was presented at the opening of the winter session.

and duty of co-ordinating, of stimulating, and promoting research therein has been placed upon the Senior Lecturer as Director of Pathology. A new appointment of Research Fellow and Assistant Lecturer in Pathology in immediate charge of the pathological laboratory has been instituted, the first holder of this post being a former recent Carnegie Research Fellow in Pathology of the University of Glasgow, and arrangements have been made—when means shall permit—for two additional full-time appointments of demonstrators and research scholars.

The result of the concentration above described and of the developments connected therewith has been that it has been possible to expend a total of £1,500 on laboratory teaching, equipment, and research, and other final studies, as compared with the quite inadequate, almost negligible, amount which, owing to the cost of the earlier scientific studies, it was previously possible to expend.

The advantages, alike to the university, to King's College, and to the school, of the policy of concentration have thus been of an interesting and even striking character.

The question may be asked—as it has been asked—What have been its attendant disadvantages, either to the university, King's College, or to the school? I know of none.

The university and its King's College have, in my judgement, adopted a wide policy, capable of extension to other schools, of utilizing laboratories convenient for its purpose in its own schools wherever they can be found; and concentrating the professorial and teaching staff of individual departments of its scientific work wherever the situation of the laboratories is most convenient to its workers and students.

In the present case, as I understand, the effect on the University Public Health Departments which have been transferred, both as regards numbers and workers, prosperity and facilities for research, has been good. This has recently been recognized by the promotion to the rank of assistant professor and lecturer in the university of two of the teachers in these departments. The numbers attending the laboratories have increased from 69 in the year preceding the transference to 101 workers during the past year.

As regards the school, the fear often expressed that concentration of studies would interfere with the social life of the hospital and school—a matter to which so much importance has always been, and still is, rightly attached—has proved in our case to be quite groundless. The social life of the students, their interest in their Students' Union and its many spheres of activity, has never in the whole history of the school been greater or more intense. It has been shared equally by the earlier students as by our final students. As a matter of fact both secretaries of the Students' Union for the past two years have been students taking their earlier studies. At no time has the spirit of the school—in connexion with the functions of the students' union and the activity of its branches of athletics—been so well shown.

One fact connected with the recent changes, already noted, has been the reduction in the number of dental students. As already seen, this has been compensated by a still larger increase in the number of medical students. But, on the other hand, any disadvantage connected with this change is, in my opinion, compensated for by the increased number of students available for the two or three schools in London who are specially interested in dental education, and by the prosperity which the increased number of students has brought to them. In other words, the policy of concentration adopted in this school with many advantages, has thus produced a corresponding concentration of dental students in at least two other schools, with increased prosperity to them.

The principle of concentration is sound, but the principle of *local* concentration, of getting everything into one building, or in the case of clinical studies into one hospital, is not sound, because it would require such a total alteration of everything connected with hospital traditions, management, and work that it would not be received. The hospital system is not a difficulty if it can be utilized in accordance with the English traditions of clinical medicine.

As regards the provision of laboratories and facilities necessary to supplement the hospital clinical teaching in the case of the London schools, the laboratories are there, the equipment is partly there, and all that is wanted is for the university to come and take hold of them, to equip them, and place professors, assistants, and research workers in them wherever these laboratories are suitable for the individual departments of studies. University students, if given access to university departments in the different schools as they should be given, will always concentrate for work in these individual departments, irrespective of any feeling that they are going to the individual schools in which these laboratories may be situated.

The Problems of University Medical Education in London.

Medical education has been a welcome guest, and has had a free run in all the school hospitals from the very first. This is in striking contrast to the experience of medical teachers elsewhere—for example, in Berlin, the capital of Germany, where all the hospitals refused to allow students to make use of them, and early in its career (twenty-five to thirty years ago) the Government was, in consequence, compelled to build—at first for its own war purposes, but now maintained for university purposes—the great Charité Hospital of Berlin.

Still more in America up to the present time, the greatest difficulties have been put in the way of medical schools by the governors of hospitals refusing or limiting their permission for students to attend.

In return for their free use by the university, the hospital governors in London have never asked or received any material or other recognition from the university.

Comparison between English and German Systems.

This freedom of the hospitals throughout the whole history of English medicine forms the basis of the chief English clinical traditions of medical education. They were thus described before the Commission by Mr. Flexner:

> The conditions are much more favourable here from the point of view of the undergraduate student than anywhere on the Continent. The entrance to the wards is much easier. In Germany the student gets *almost altogether demonstrative teaching* during his undergraduate period. It is not till the close of his formal education that he is compelled to serve a clinical year in the hospital. (He is taught in a large lecture theatre every morning for an hour or an hour and a half, and then in batches of fifty or sixty he is taken round the wards for an hour twice a week.)
>
> In England, on the other hand, he spends on an average four to six hours daily in the wards for a period of three years *before* he qualifies.
>
> The opportunities for seeing sickness in the wards which you give the ordinary boy are so good—are so much better than he gets at most places—that that has itself become an obstruction to anything better. The clinical training is immensely better than it is in the ordinary medical school in America, and I think in some respects the conditions are *immensely more favourable* to the student than they are in Germany. The student in England can really use his material; he has almost as easy access to his patients as the physician has.

There seems to be nothing here materially wrong with English methods, and more particularly with the relations of hospitals to medical education. On the contrary, the relations between the university and the hospitals have been as friendly, elastic, and mutually helpful as they have always been between the hospitals and their medical schools. Moreover, these relations have been all-important in medical education in England—for without them medical education in England would never have been started in the first instance, and would even now be largely non-existent.

The Great Task of the London Schools in Medical Education.

How great the task of London medical education has been, and still is, is shown by figures and statistics which I placed before the Royal Commission. The medical schools of London, up to as recently as twenty years ago, were responsible for the entire medical education of no fewer than 70 per cent. of the total students of England, and for the part-time education of another 10 to 20 per cent.—that is to say, of no less than 80 to 90 per cent. of the students in England, this number constituting no less than 42 per cent. of the entire students of England and Scotland. Despite the formation of seven provincial universities during the past ten to fifteen years, it still has to educate, in whole or in part, over 70 per cent. of the total students in England, and over 40 per cent. of the total students of England and Scotland.

The medical schools of London have thus discharged in the past, and still continue to discharge, a big task for English medical education—and they have done this under great and increasing difficulties without endowment and without the slightest pecuniary support from the university whose students they educate.

Even if great difficulties exist—as they undoubtedly do in an almost overwhelming degree—as regards the working of the schools and the prosperity of the university which they so laboriously serve, it might be thought these difficulties did not extend to the relationships of the hospitals to the university or their willingness to serve the university.

What, then, is the chief problem presented by university medical education in London? It is represented to be the hospitals of London—their number, their intense interest in education, their multiple energies, the difficulty of reconciling their existence and their energies with the grafting on to them of another system of education and hospital control necessary, it is alleged, for the establishment of an ideal system of university medical education.

Educationalist View.

Mr. Abraham Flexner put the matter from the educationalist point of view as follows:

1. To put the teaching of medicine on a university basis, it is absolutely essential that the university should be in complete control of its own hospital. The purpose of the change is to elevate the general level and to make England a contributing factor to the progress of medicine, which now, except by individual accident, it is not.

2. The mistake is that the English schools have so long produced a good working type of physician that they have not stopped to ask: "Have we improved our clinical teaching to keep pace with the improvements the laboratories have placed at our disposal?" That, of course, they have signally failed to do.

3. I think, if you will ask the productive London physicians whether their productivity is in consequence of the English system of medical education or despite of it, they will tell you that it is quite in its despite—it does nothing for them. What is wanted is to make more prominent the educational aspect of the training.

4. Not only are the London hospitals disorganized when looked at as a whole, but they lack each of them internal reorganization.

You will at once have to begin to reorganize the hospital service, but that would be very easy, if you reorganized your Faculty. The reorganized Faculty will very soon reorganize your wards.

Here, then, is the picture of English medical education as it is drawn by a distinguished American educationalist (not a doctor). It is sharply outlined, and if the shadows are too deep in places and wrongly placed, his object is the highly laudable one, beneficial to education, of directing attention to the existence of the picture at all—not necessarily to its completeness or absolute technical accuracy. Personally, I feel that no one interested in the future of medical education and medical science can fail to be grateful for having had this picture of our English system of medical education put so clearly before us—not only in its higher lights of the special clinical advantages which our students enjoy, but also in its deeper darks of the incompleteness of the provision we make for laboratory work.

The problems facing university medical education in London, as here presented, are thus the following formidable ones:

1. To create, in the first place, a university which will be concerned and *financially able* to give any education at all to its students in their final hospital and school studies. For this the University of London has, so far, never done.

2. To create a *new Senate*, limited in number to ten or fifteen men, with the fullest financial, administrative, and executive control, over the whole affairs of the university.

3. To create a new *Faculty of Medicine*—small, compact, and sufficiently business-like in its methods to be able to draw up a scheme, after negotiations with one or more hospitals, and induce them to hand their hospitals over for university purposes.

4. As regards the hospital governors—the problem placed before them by the newly organized Senate will be to allow this university Faculty to modify their entire existing arrangements in some radical manner to suit university requirements—in short, to control the hospital—the hospital managers to continue, as before, to devise schemes for obtaining from the public all the money necessary to keep the hospital going.

5. There is a fourth problem—most clearly presented by Sir William Osler in his evidence before the Commission. He was asked:

> Supposing the hospital governors refuse to hand their hospital and its control over in the way suggested, what influence of a compulsory character could you bring to bear upon them? and the reply was: I do not know, sir.

National Characteristics in Medical Science.

National characteristics play an important part in medical science as they do in all other spheres of human activity. They have played an all-important part in the development of English medical education and medical observation.

In the case of English medicine that characteristic has been *individualism*, shown in connexion with the foundation alike of hospitals and schools, and no less manifested by the individual philanthropy which originally created and still underlies and supports the English hospital system.

In the case of Germany the national characteristic has, on the contrary, been essentially governmental and bureaucratic, all hospitals and medical faculties being supplied and maintained by combined State and municipal aid.

In America there has been exhibited individualism—rampant to a degree quite unknown in the history of any country—condoned, connived at, and even legalized by a degree of recognition and support on the part of individual States and municipalities totally unknown in the history of medicine in this or in any other country. No greater service has ever been rendered to American medicine than the full, clear, and remarkable exposure recently given by Mr. Abraham Flexner of the proprietary nature of scores of the medical colleges, "institutes," quasi-universities, "national medical universities," "colleges of physicians and surgeons," etc., which for many years have given their M.D. in a frankly commercial spirit. One of the offers made by one of these institutions having an attendance of 150 students is "free transportation from Chicago to Vienna by way of New York, London, Paris, to any graduate who has for three years or more paid regular fees in cash." This school, apparently owned by the "dean" and bearing the title of "National Medical University," has "no equipment of any sort, and a dirty, unused, and almost inaccessible room as its dissecting-room; and its 'hospital' consists of a top floor, containing two lonely patients." Despite these limitations it enjoyed the happy and considerable (estimated) annual income of £4,500.

The Carnegie Foundation for the Advancement of Teaching.

These conditions set out in Mr. Abraham Flexner's report (1910) in many of the 148 "medical schools" of the American States must have been, if possible, even worse some thirty years ago, when the Johns Hopkins Hospital and University were first conceived and founded.

It is a great biological fact, and new pathological law, that every "toxin" has the power of producing its own "antitoxin," powerful and effective in proportion to the virulence of the original infection. The history of medical education in the United States during the past twenty-five years has afforded a single proof of the correctness of this law in the realm of medical education. Great evils produce great antidotes.

The evil of medical education in America—namely, individualism and individual "schools" and "colleges" run rampant—has been signally checked, and is in process of being in due course effectively arrested by a still greater individualism originally created by the munificent foresight of one philanthropist, Johns Hopkins, and given effect to by the brilliant imagination and practical genius of a young pathologist, Professor Welch, to whom at the early age of 28 was entrusted the unique task of formulating the conditions and selecting the professors for the first Faculty of Medicine to govern the new "Johns Hopkins Hospital and University" of Baltimore. His first selection was a young Canadian physician professor, educated in the McGill University of Montreal and in London in the best clinical traditions of English medicine, transferred to the

University of Pennsylvania in Philadelphia, thence transferred to the Johns Hopkins University in Baltimore, and finally finding his present home in the ancient University of Oxford—Sir William Osler.

No more interesting chapter in the history of medical education—its aims, objects, and needs—has ever been written than that written by these two men during the past twenty-five years. Both of them are happily known personally to the students of the school—Professor Welch in the capacity of Huxley Memorial Lecturer to the school in 1902, and Sir William Osler when last year he fittingly occupied the chair when the Huxley Lecturer was one of his most distinguished pupils—Professor Simon Flexner, the Director of the Rockefeller Institute, New York.

I have recently elsewhere, in the opening address of the McGill University, Montreal, in 1910, paid my tribute to the influence of these two great teachers on the science of medical education. I said:

> Under their aspiring spirit and guiding hand, supported by their enthusiastic colleagues and pupils, Anglo-Saxon medicine on the American-Canadian Continent has shown itself capable of combining in a degree unknown to English medicine the scientific spirit underlying German work and methods with the more great clinical practical outlook which throughout its whole history has specially characterized English medicine.

That tribute paid three years ago, without any reference to the problem of medical education in London, has an interesting significance at the present time. For it practically embodies the *Leitmotiv*—the note of "fate and gloomy sorrow" which runs through the whole of the evidence of the Royal Commission on the University of London with regard to medical education—the *motif* which has eventually determined their final recommendations. That *motif* is the excellence of English clinical traditions in hospital work; and the extraordinary defectiveness, insufficiency, inadequacy, absence of organized support, whether from Governmental and public services, or by public opinion, or by private generosity, for the provision for laboratory work and research necessary for the promotion of medical education or the advancement of medical knowledge.

What, then, was the antidote which these pioneer workers introduced into medical education in the United States as they found it in the eighties, and as it still exists to a degree quite unknown in English medicine? It was the following: that Sir William Osler introduced the clinical traditions of clinical teaching—by the system of clerks and dressers in the wards and continuous relations with and observation of patients; while Professor Welch grafted on to that system the all-essential, supporting, educational, and progressive system of great laboratory institutes created on the lines of German methods and example. This was possible in their case, for they had a clean slate to write upon—a free hand both as regarded money for their hospital and school and as regarded the organization which they saw fit to adopt.

The proposals now submitted in evidence before the Royal Commission on University Medical Education in London and ultimately adopted and recommended by the Commission are shortly that similar organization is necessary to create the proper conditions for placing hospital education in London on a university basis.

Inasmuch as the chief basis of the whole system is the English clinical traditions of hospital education—the system of clerks and dressers and facilities for hospital work, and assistance always freely granted by hospital authorities in this country—is admitted by all to be immensely superior to the system obtaining in any other country, it might be thought to be perfectly easy and practicable to graft on to this system for university purposes the laboratories necessary to supplement and complete the system.

I think myself that that is perfectly practicable, and, the matter having now been referred to a strong Departmental Committee of the Board of Education to draft a bill to carry this into effect, so far as this portion of university education is concerned, I am quite prepared, in common with every one interested in placing university education on a sound basis in London, to afford them every help in my power. The character of the Departmental Committee is to my mind a sufficient guarantee that due weight will be attached to the distinctive national characteristics and honourable traditions of English medicine, which have been far more fruitful in advancing medical knowledge than some of the sweeping generalizations submitted by witnesses before the Commission realize.

Still more, I am satisfied that the widely different conditions of hospital management and support peculiar to this country and to institutions like the Johns Hopkins Hospital and a few other American hospitals and quite unknown to Germany—to wit, the voluntary public charitable support and government of the hospitals in this country, as contrasted with the Governmental or municipal autocratic and endowed support and government of the German and American hospitals and universities—will be better known to that Committee than they could possibly be to witnesses unacquainted by practical experience with their working, and more fully weighed by it.

To pour new wine into old bottles is proverbially a risky business which it is said no wise man would attempt. To pour a German full-bodied wine compounded of full control of the Minister of Education, exchequer control in connexion with insurance money, municipal control and autocratic directing control of one professor over the whole of a hospital and of all the laboratories connected with his subject, would certainly burst the old bottles (quite decent and useful ones) of the entire voluntary system of hospital support and government existing in this country.

To change the metaphor, as one witness, a physician and teacher—himself eagerly in favour of reform—graphically put it, it would undoubtedly "upset the whole apple-cart" of reform of university clinical medical education in London.

The problem is one of the greatest difficulty. So far from subjecting the Commission's report to criticism, with regard to the individual recommendations, my own opinion is, after the closest perusal of the whole volumes of evidence submitted, that a satisfactory solution of the problem of university reform in London, including that of medical education, is to be found in connexion with its fundamental recommendations, in my judgement admirable in character, relating to:

1. Government by the university court.
2. Financial administration and executive control by a compact and limited Senate of 17 business men (instead of an unworkable Senate of nearly 100 men representing independent and, in many cases, opposing interests).
3. The creation of a small, compact Faculty of Medicine, not merely advisory, but made responsible for the educational arrangements and provisions subject only to the control of the Senate so far as its regulations affect the finances of the university.

Financial Needs of Medical Education.

The needs of a school are determined by the requirements of full-time students, who are engaged in work in the school and hospital all day. Part-time students, who come for shorter periods of time, share in the arrangements thus provided to their own great advantage, and contribute to the support of the school.

To place medical education on a sound basis, the fees thus earned, *plus* any educational grants given by the Board of Education, should be entirely available for the education of the students, and for payment of lecturers and demonstrators.

1. On the basis of what is being done in German universities and a few of the schools in America, to which so much attention has been drawn as examples of what the standard of university education should be, these ought to constitute about one-third of the total annual cost of a student's medical education.

2. But this alone is quite inadequate. In addition there is required money for the provision, equipment, and support of the laboratories required for instruction, and for payment of the salaries of the professors in charge of the various departments. The amount required for this is about the same as that earned in fees.

3. And lastly, over and above these requirements there should be a third quotient connected with medical education, available for the promotion of research in the various departments.

I estimate, on the basis of practical experience, that the current annual expenditure for university medical education in London should work out to at least £70 to £80 a year per degree student, or approximately £80,000 to £100,000 a year. No provision approaching this is avail-

able in any of the medical schools of London. It means that two-thirds of the cost of education should come from sources other than fees. Owing to the absence of any adequate support from the State, university, or municipal, or any public sources no such funds are available.

The requirements here stated may seem to be large and costly even for a rich country like England. Nevertheless, they fall below the actual expenditure on medical education in the universities of Germany. According to official figures supplied by the German Government, the actual expenditure in ten universities in Germany amounts to no less than £95 per student, and a total sum of over £500,000 per annum.

For purposes of inquiry, I have thought it interesting to compare the expenditure in one of these universities—Königsberg (with 370 medical students)—with that of one of the largest London schools, taking 353 full-time students—in addition to 170 part-time students—a total of 523. The total expenditure in the German university is £34,000, as compared with £14,000 in the English medical school, and £92 per student, as compared with £40 in the English medical school. The amount of this total contributed by the State in the German university was £23,500—£63 per student—whereas in the English school the amount received from Board of Education grant was £4,600—£13 per student. The amount contributed out of the university chest is £29 out of £92 per student in the German university, whereas in the London school this source is non-existent.

The result thus is that in the German university more than two-thirds of the total cost (£92) is contributed by the State, whereas in the English school only one-third of the total (£40) is received from education grants.

I have also worked out the comparison in relation to departmental expenditure on corresponding subjects in the different class of studies. In the German university this amounts to £24,500, £14,000 of this being for clinical salaries, teaching, and work, and the English school is £6,000, of which £1,500 was available for clinical teaching. In other words, the departmental expenditure of a moderate-sized school in Germany is four times greater than the expenditure in one of the largest and most prosperous London schools educating 150 more students.

There is not much comforting in this contrast either to the English Government or English public opinion. In my opinion, the financial conditions of medical education in this country are a discredit to all parties concerned, except only the medical schools and their devoted band of teachers who support the whole cause of medical education in London on behalf of 70 per cent. of the total students of England, under the greatest difficulties, without financial support, without recognition, and without even sympathy.

If I might venture to make any criticism on the final report of the Royal Commission, which I am loth to do, having regard to the extraordinary labour which it has devoted to its great and difficult task, it would be that this financial aspect of medical education in London has not been brought out in connexion with the comparisons of a startling and invidious character between English and German medical education to which so much weight has been attached in the evidence placed before it and in its own final report.

The prosperity of university medical education in London would be enormously promoted by providing three to nine professors in certain selected schools of London, each of them with £4,000 at its disposal for the development of medical and surgical science and teaching in the university, as proposed by the Royal Commission.

The total sum of £36,000 a year thus provided for salaries and working expenses would not, however, solve the problem which it is sought to solve—salaries to full-time professors and their assistants, and the providing and maintaining and paying adequate scientific and final laboratories connected with the schools selected. It is little more than that referred to in the expenditure on one moderate-sized German university. And this is apart from any capital outlay necessary for the provision of new laboratories.

The current expenses of the Medical Faculty of the University of Berlin with Charité Hospital with 2,000 students is £183,000 a year, £98,000 of which is defrayed by the State, equal to £49 per student.

In addition, the capital expenditure on the Faculty during the twenty-five years 1887–1911 inclusive has amounted to £1,500,000.

The current expenses of ten medical schools in London with 1,122 full-time students, *plus* 765 part-time students, during the year 1911–12, was £52,500, of which £12,700 was defrayed by grants from the Board of Education, equal to £11 per full-time student. Allowing a similar grant per student for the 261 full-time students in the Medical Faculties of University and King's College (*plus* 252 part-time students), we get an additional figure of £2,870, or a total grant of about £16,000 for 1,383 full-time students (*plus* about 1,000 part-time students).

This represents a State contribution of about £12 per full-time student as compared with £49 in the Berlin University.

An Address

ON

THE PROVINCIAL SCHOOL OF MEDICINE AND THE PROVINCIAL UNIVERSITY.

DELIVERED AT THE PRIZE DISTRIBUTION IN THE SCHOOL OF MEDICINE, UNIVERSITY OF LEEDS.

BY

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MR. VICE-CHANCELLOR, MR. DEAN, LADIES, AND GENTLEMEN,—The time-honoured custom that a guest on this annual occasion should address a few remarks to you deserves to be maintained. This it is which forms the chief justification for venturing to occupy your time for half an hour with words of mine. And as one stands in this fine room, well fitted for its purpose as a place where by dissection the fabric of the human frame can be thoroughly studied, one's thoughts turn naturally to the provision made and the opportunities given in such centres as Leeds for the student of medicine. Many of those now present in this room are students of medicine. They typify a class which I am glad to say has become larger than formerly in our country—the provincial student studying in the provincial university.

It is not always that the student, and especially the young student, plunged in the immediate occupation of his opening career, realizes the general bearings of the current of which he forms a part. Perhaps he will forgive me if, as a visitor from a distance, I attempt to put before him some of those features of his position which appear to me to be particularly interesting, and indeed important for him to bear in mind.

To do so I would recall—though this audience knows it in detail better than I do—the fact that the School of Medicine here is an old one, and a good deal older than the university itself. The student here is, therefore, a member of two corporations—of the School of Medicine and of the University of Leeds; and these two things are, happily, but one thing, this School of Medicine and the university being, in so far, one—a conjunction once a consummation devoutly to be wished, and now a consummation heartily to be congratulated on. And I would remind you that it is a consummation which was not reached without some trouble, without some of that toil, and self-sacrifice, and devotion, and enthusiastic service which all educational advances inevitably demand.

The young student may ask what to him is the actual advantage of this combination with the university and the enrolment of his school of medicine under the banner of the university. And some older student may reply, "You can be examined here and take your degree in medicine here without going to some distant and alien centre and wholly alien laboratories and wards, to face wholly strange wild beasts at Ephesus, and elsewhere, calling themselves examiners for external students." (Gentlemen, I can call them names for I have been one of them myself. I have seen "the sad face of Ruth amid the alien corn!") Now that reply of the friend to our young student questioner is quite cogent, yet it expresses but a small part of the whole advantage which the student reaps from his provincial university. Let me say here—though it is not really necessary—that in applying the term "provincial" to a university I find that it implies in

no degree any quality of inferiority, that though different from, it is in no sense less worthy than, "national" or "imperial." To me and to you provincial school and provincial university mean simply this, that the university and school are of their province and are proud to be of their province, and are proudest when they feel that they worthily represent their province. It is good both for the province and the country that features which characterize the province should be retained, that the seed sown in the province should flower and bear fruit characteristic of its soil. In that way we diversify and enrich the product of the country as a whole. I use the word "provincial," therefore, in no equivocal sense.

But to return to that question asked by the student as to his own gain from the association of his school with the university. To answer him duly I would turn for a minute to glance at the nature and history of medicine itself.

Two Aspects to Medicine.

I need not extol medicine to this assembly. Many of her votaries are here: I venture to count myself as one. At this moment it is upon her aspect as a system of knowledge to be taught and to be learnt that I would ask you to look. Am I wrong if in regard to this it rises saliently to me that from the educational standpoint medicine, like Janus of old, in a good sense, bears a double face? On the one hand she is an empiric. She learnt to cure by what the comparative psychologist calls the "method of trial and error"—conquests over sickness reached purely as the result of experience without help either from *a priori* or from inductive reasoning. And great and glorious is the record of her achievement on these lines. Of her humanitarian triumphs, certainly until a generation ago, the greater share was assignable to this part of her. The use of quinine in malaria, the remedial effects of various salts and metals, the discovery of chloroform and ether as anaesthetics—these and the names of a long line of famous physicians from the Renaissance down to some as justly famous and with us still to-day. These certify to the inestimable gifts that Medicine as empiric has given to suffering mankind. This face of Medicine well may wear a garland.

In her other aspect Medicine is not an empiric but a scientific intelligence. Bismarck, when a learned professor of history spoke in his presence of the science of State diplomacy, cut him short with the remark that State diplomacy is not a science at all but an art. But who shall refute the statement that medicine is both a science and an art? It has been written that woman is the last thing that man will ever civilize. So the scientific aspect, the male face of two-visaged Medicine, thinks sometimes of that female face, the empiric, with whom his lot is coupled. He feels sometimes that his other half is the last thing science will ever render wholly rational. By dint of patient toil he improves her practice, showing her a reason now and then. No sooner that than she is off on a fresh flight into the inexplicable, and he must cudgel his brains anew to find her a fresh logical position.

But even so, he feels that to step forward, though stumblingly, may have more philosophy of comfort in it than actually to arrive. Did not Stevenson write, "It is better to travel than to arrive"?

The feminine ever-youthful trait in medicine has for the student an undying charm. But on the whole the countenance of medicine has of recent years for the student become masculinely severe. The masculine head of medicine has indeed become the larger. Hydrocephalic even in appearance yet it is filled not with water but with reasoned facts. This development proceeds in the main from certain data acquired in the century just past. It has been the rise of chemistry and physics which have given new powers to medicine and sustained her in new flights. The chemistry of living matter has been brought fundamentally into line with the chemistry of the inanimate world. The chemical and physical machinery of the healthy body and of the sick body are beginning to be understood in principle and in detail. The knowledge so won is placing in the hands of the physician methods of diagnosis, and of prevention of disease and means remedial of disease undreamed of even a generation ago. Botany and zoology also are contributing facts of capital importance for counteracting disease.

Medicine and the Adjuvant Sciences.

Hence it has become indispensable for the student of medicine to preface his purely medical studies with work in the chemical, physical, and biological laboratories. Where can he do that so well as in the university laboratories fitted for those subjects on a scale which a school of medicine, apart from a university, can hardly at any time or anywhere hope to provide?

And beside these studies prefatory, as we may term them, to medicine, there are others which may be called intermediary, since intermediate between the former and medicine itself. These intermediary studies are also of the sisterhood of the Natural Sciences. Their needs and mode of teaching are also of the laboratory type. Historically, they may almost be said to have grown out of medicine, and they are still strongly linked to her.

If we follow the history of medicine onward from the Renaissance, we find her drawing help first from one, later from another, and later still from another of these sciences adjacent to her yet not wholly ancillary. The earliest and the most stable of these is anatomy. We are appropriately gathered together to-day in this the dissecting room. I mean that it is appropriate that we should be assembled in what is the laboratory of anatomy. Anatomy enables the physician to locate with his mind's eye diseases hidden in the depths of the body, and to locate is not rarely the first step towards alleviating. The surgeon is enabled by anatomy to direct his instrument, including the finest of all his instruments—his finger, through the living fabric, reaching the seat of mischief surely and economically of damage. Moreover anatomy, inasmuch as it studies the shape and form of organs, tells in many cases significantly of the purposes of those organs. This is especially the case where, as with muscles and bones and joints, the functions happen to be mainly mechanical. Hence it was that largely by anatomical study there was reached the first great biological discovery of the Renaissance—William Harvey's discovery of the circulation of the blood and of the meaning of the heart.

A later discovery, perhaps even greater in its consequences than that of the circulation of the blood, was also at its outset preponderantly anatomical, this time in the domain of microscopic anatomy. The discrimination of the cellular structure of all living things, a discovery revealing the living stones of which is built the house of life.

And before the advent of the cell theory biochemistry had begun. So intimately is chemistry bound up with all study of functional biology that the young physician, John Mayow, in his physiological experiments had so to say perforce discovered oxygen more than a century before its rediscovery by Priestley and Lavoisier. But in his day other knowledge was not yet ripe to take advantage of the observations which his early death cut short. It had not ripened until the stupendous work of Lavoisier had founded chemistry on the lines we know to-day. It was the coming of chemistry which made physiology in our sense possible. Thus it was that when the cell theory rose its doctrine was from the first both anatomical and physiological. It meant, among other meanings, that the chemistry of the body and of each one of the body's organs is a chemistry resultant from a hundred thousand tiny individual lives, partly dependent and partly independent seats of oxidation, reduction, polymerization, hydrolysis, and what not.

I will not dwell on physiology. I would only remark that its position among the sciences contributory and essential to medicine may be well indicated by briefly stating its scope. Its aim is to study the working of the living body from approximately the same standpoint as is taken by the engineer in studying his machines made by hands. It takes the organism as a material mechanism, and it traces in and through this animal machinery the flux of energy and material. The engineer studies his machines with a view to knowing not only how to use them to the best advantage but to repairing them when they break down, to devising new ones that shall be improvements on the construction of the old. The physiologist, in reverent study of the living machine, knows—no one so well as he—that he cannot construct another, still less improve on the construction of the old. He studies that he may, by knowing how the living machine runs, safeguard the body for its strenuous living purposes

and help it to be active and yet healthy. He hopes if it suffer damage or derangement to offer it conditions and opportunity to restore itself. For among the marvels of this living machinery are self-repair and growth. And physiology by long labour has reached a proficiency which enables her to demonstrate that the great principles of conservation and equivalence of energy shown valid for non-vital reactions, are confirmed also in the material machinery of life. Physiology has now in her technique reached a stage of analysis in which she successfully isolates in their full living activity main organs, even the beating heart of the mammal, and can so unravel their individual needs and powers from the complexity of the organism as a whole, and thus better understand the harmony of the organism as a whole. And another great problem before her is the relation of sense and motion to the nervous system, indeed, of mind in the widest sense. You may reply, "That last belongs to psychology." Yet how can physiology, with the nervous system a corporeal system before it, eschew its relations to sense and mind. To do so would be to leave part of her work untouched, and a highly practical part.

Our brief survey brings us to a third science, linked, if possible, even more closely still to medicine—pathology—so bound up with medicine as to be in many ways a part of it. A sister who keeps step with medicine up every ascent. What wonder that in recent years the progress and growth of pathology is as rapid and eventful as that of medicine herself? The methods of pathology are becoming every year more refined and delicate. In practice and in theory it is to-day one of the most rigorous of the biological sciences. Besides of course elaborating its own technique, it compels to its service technical methods from a host of studies contemporary with or older than itself. It enlists means from histology, physiology, chemistry, physical chemistry, physics, with a completeness and success that certify the vigour and earnestness of its own discipline. It has borrowed much from botany and zoology, but it is not too much to say that it is contributing to those two sciences even more than it has borrowed. Pathology is opening out to these sciences almost as much as to physiology and medicine itself whole new fields of inquiry and purview. The laboratory of pathology is become to-day probably more than at any past time a nodal point within the medical school. Anatomy and physiology and chemistry lead to it; it itself can less be said to lead to than to lie alongside of medicine, and to be in absolute contact all along with the clinic. A student may—I fear often does—issue through his Second M.B. examination with all the anatomy and physiology he will ever possess; but all his life, so long as he is a conscientious student or practiser of medicine, he must be constantly renewing and extending his study of pathology. In my experience the greater number of all theses in the Faculty of Medicine to-day select some subject from pathology for their theme. The fact indicates that the serious student of medicine not only recognizes the practical importance of this study, but feels its fascination.

And there is yet another science which even the briefest category of studies adjuvant to medicine cannot omit, Pharmacology. A study which, so to say, pits the chemical powers of various agents obtainable from rock and plant and animal against the chemical powers of the living body itself. It analyses the influence of old crude remedies from the material of the world about us. It is tracing the relationship between chemical constitution and physiological and therapeutic action. It has succeeded in synthetizing some of the most useful therapeutic agents which the physician now has at command.

The Cost of Medical Science and its Claim on University Sources.

And it is with means drawn from these great adjuvant studies that the physician to-day visits the bedside. Of course he requires, over and above them, other resources as well, among them pre-eminently experience of the sick, knowledge of human nature and sympathy with it, and tact in the handling of it. But I think enough has been cited to make clear to us here the importance to medicine of its adjuvant sciences. Let us note that they are laboratory studies, involving laboratories suitably equipped, and an adequate allowance of time for each student to spend in them. And that they are expensive, costly both of time and money. Experts have to be found who can devote themselves heart and soul to the particular subject. The laboratories themselves have, in the modern school of medicine, to exist on a scale which as we know makes them a distinct feature of the modern world. The advance of medicine as a science, fruitful of benefit to the community as it is, lays on the community a burden of obligation. The community can hardly have a higher duty than to meet the material cost of such advance.

And the laboratories and their initial equipment are but the factory and the factory plant; both fail in their purpose if they halt for sustenance. And there the likeness to the factory fails. The factory once started can, if it be wanted, expect to pay its way. Not so the laboratory as a place of teaching and research. The instruction it gives must perforce be costly; books and lectures alone will not suffice; it has to be practical, and practical work in scientific biology is always expensive. And it has not only to distribute knowledge, but to manufacture more of it. To be an adequate school of instruction it must be a school of thought. It must deal not only with practice but with theory, and with theory at first hand. Theory, practical men sometimes say, is a goose. If a goose, it is yet the goose of the fairy tale which lays the golden eggs. The laboratory or the school that meets these just requirements cannot be expected unaided to pay back in cash the expenses it demands. It can do so only at the cost of those who come to learn, and that is to put its instruction beyond reach of all but the wealthier few.

How does a professional school gain by being a part of the provincial university—by being, in fact, a university school? The answer is clear. By being a part of the higher educational organization of the whole parent region its appeal for support gains access to a wider field of recognition and sympathy. It stands in a truer light to those generous minds for whom enhanced facilities for learning form an object to which they feel they can devote their influence and their affluence, if they possess that, quite devoid of all misgiving. It prefers appeal for subsidies from the whole public-spirited community itself. It should lose none of its own inner sources of material and spiritual support, and yet gain wider ones outside.

The Student of Medicine and University Life.

I need not stress how important for every student of the school of medicine is such increase of the school's endowment and annual subsidy and capacity as a place of learning. But I do not think that even such advantage is more important to him than yet another benefit that accrues from enrolment in the university. In a school of medicine which stands apart and separate, or virtually so, from the university, the students of the school often exhibit strikingly that admirable feature of associate life which a worthy institution gives—I mean, love of the old school; also that other healthy fraternal trait, *esprit de corps*, as it is termed. Yet in the school of medicine unassociated or associated only in name and not in fact with a university, the student is likely to miss a real and great advantage, a heightening of interest and mental outlook, which a school really incorporated in the university can always yield him. The university offers him, as the isolated school cannot, the great benefit of intercourse and commerce with students not only within but also outside his own particular professional calling or "*Fach*"; commerce on equal terms with men and women of his own age interested in, enthusiastic for, or bored by, other pursuits and other things than those which attract or bore the particular set engaged in his own professional pursuit. His university opens to him a world—a young world—wider than could his school of medicine of itself alone. His student life should be the richer for this opportunity. It forms a less monotone miniature of the world's life—not that I think that to the student of medicine his student life can ever seem wholly monotone or miniature. But it may seem so less than it really may be. I would therefore urge you as students in a university school of medicine to see, each one of you, that you enter thoroughly into the life of your university as a whole. See that your friendly circle embraces fellow-students of arts, of science, of law, of commerce, of technology, of all the faculties and schools your university includes. Let your fraternity embrace all classes gathered within the house of *alma mater*.

TWO UNUSUAL CASES OF LIVER ABSCESS.

BY

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Intrahepatic Suppuration due to Infection, conveyed by Exploratory Puncture, from a Right-sided Empyema.

In the following case intrahepatic suppuration was evidently due to infection, conveyed by means of exploratory puncture, from the empyema:

A groom, aged 25 years, admitted under my care at St. George's Hospital on April 23rd, 1913, had been taken ill fourteen days previously with a rigor and a dry cough, and had remained in bed since. Three days after the onset he began to cough up "phlegm," but had not had any haemoptysis. On April 21st he had acute pleuritic pain on the right side. On admission he presented the signs of a right pleural effusion; the liver did not come below the costal arch in the right nipple line. Under novocain an exploring needle was inserted in the sixth intercostal space in the axillary line and in the eighth intercostal space in the line of the inferior angle of the scapula, but no fluid was withdrawn from these two punctures. Next day the trocar of an aspirator was inserted into the eighth space in the line of the inferior angle of the scapula, and in the sixth space in the posterior axillary line, but only a small quantity of blood and serum was withdrawn. From the fifth space in the anterior axillary line about 1 oz. of thick pus was aspirated with difficulty; it contained a Gram-positive coccus. At 8 p.m. Mr. Fedden resected 1 in. of the eighth rib below the inferior angle of the right scapula, opened the pleura, and found solid lung; the wound was plugged. One inch of the sixth rib in the anterior axillary line was then resected, and about a pint of creamy, odourless pus was evacuated from the fissure between the upper and middle lobes. After this the temperature continued to oscillate between 103° and 97° F.; the pulse varied between 140 and 100, and the respirations between 44 and 24. It was obvious that there was retained pus although the discharge was free, but his condition rendered further operative interference undesirable. Death from sudden collapse occurred on May 6th.

The necropsy was performed by Dr. R. S. Trevor. The right pleural cavity contained two distinct abscess cavities of which one had been drained and the other had not been opened. The liver, which weighed 4 lb. 12 oz., was enlarged, and was adherent to the diaphragm. Over the anterior and diaphragmatic surface of the right lobe there was an area the size of the palm of the hand projecting from the surrounding liver tissue. It was obviously an area of suppuration, and showed a small puncture on a level with the fifth rib. Section revealed a large multilocular abscess, several of the loculi near the puncture being full of blood clot. The puncture opened directly into a space containing blood clot and pus.

It is important to realize the danger of causing intrahepatic suppuration in this way. The risk has not attracted much attention. Bryant[1] thought that a case of suppurative pylephlebitis in which the primary disease was an empyema rupturing into the lung was possibly due to exploratory punctures which had passed through the empyema into the liver, and thus infected the intrahepatic branches of the portal vein.

Small Latent Solitary Hepatic Abscess in an Infant.

In the following case the abscess was quite recent, and possibly formed during the last week of life:

A premature female twin, 10 weeks old, was admitted to the Victoria Hospital for Children, Chelsea, on October 26th, 1912, for wasting. Her weight, which had been 6 lb. two weeks before, was 4 lb. 6 oz. The infant had been breast-fed since birth, but had taken the feeds badly. Three other children, including the twin (who was doing well on borough council milk), were healthy. The infant had not been sick; the faeces were constipated and offensive. The abdomen was somewhat lax and retracted, but nothing abnormal was felt. The skin generally was inelastic. On careful feeding the infant gained weight, until, on March 28th, it scaled 9 lb. 1 oz. For the first two months the temperature was usually subnormal, but later on it was about normal; on a few occasions it ran up temporarily to 99° F. The pulse was usually about 120. There were a few intercurrent attacks of diarrhoea. On March 29th, 1913, the temperature shot up to 101°; the next day it reached 104°, the pulse being 150 and the respirations 42. The temperature remained at 104° until April 3rd, when it fell to 97.4°, going up to 102.8° shortly before death. On March 30th the skin showed a dark mottled rash.

The necropsy by Dr. W. J. Penfold showed 4 oz. of serum in the right pleura without any evidence of pleurisy, and bronchopneumonia of the lower lobe of the right lung. In the right lobe of the liver there was a loculated abscess the size of a pigeon's egg; the abscess abutted on the convexity of the liver, but did not cause any bulging or any marked perihepatitis. Microscopically the abscess was quite recent, and did not show any fibrous capsule. The pus contained streptococci but no tubercle bacilli. The vermiform appendix and all the other organs, except the liver and right lung, were healthy.

It does not appear certain that in this instance there was any direct association between the abscess and the appearances of bronchopneumonia and serous pleural effusion at the base of the right lung. It is said that hepatic abscess is more often latent in children than in adults, and that it may give rise to extra-hepatic manifestations only such as purulent pleurisy or peritonitis (Castaigne et Simon[2]). Legrand[3] collected 112 cases in children, of which 31 were dysenteric, 19 traumatic, 9 of doubtful origin, and 1 influenzal; the remainder were multiple and small. Apart from pylephlebitic abscesses, usually due to appendicitis, intrahepatic suppuration in children is very rare in this country.

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SPLENOMEGALY.

BY

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UNTIL we know more about splenomegaly, I believe that resection of the spleen is the only chance we have to save a patient's life. Hitherto this disease has always been fatal, and no medical treatment has been of any value.

Osler has grouped under this head cases characterized by idiopathic enlargement of the spleen, with anaemia. Whether this is secondary to the splenic condition or otherwise, or both, or secondary to some other cause, is not known. Attention was first called to it in England in 1871: before this, splenic anaemia was regarded as the splenic form of Hodgkin's disease.

To a group of cases of enlarged spleen and cirrhosis of the liver accompanied by ascites the name of "Banti's disease" is given; it is, I believe, the last phase of splenic anaemia. The main symptoms are enlargement of the spleen and anaemia of a secondary type but without leucocytosis, with, in most cases, various haemorrhages and a downward course. The spleen is greatly enlarged; in some cases this enlargement seems to have preceded the anaemia; the lymphatic glands are not usually enlarged, the average of red blood corpuscles is below normal, the haemoglobin is relatively low, the leucocytes are diminished in number, but the differential count shows no special feature. There is often marked pigmentation of the skin, and as the disease advances so does asthenia.

Rolleston has summarized the above symptoms as follows: Anaemia of the type usually spoken of as chlorotic, namely, a diminution of red corpuscles with a diminished corpuscular value of haemoglobin; absence of leucocytosis, usually leucopoenia, considerable splenic enlargement which cannot be correlated with any other known causes such as leukaemia, tuberculosis, malaria, syphilis, and hepatic cirrhosis, the long duration of the disease, and the tendency to gastro-intestinal haemorrhages.

The diagnosis lies between splenic leukaemia, Hodgkin's disease with enlarged spleen, hepatic cirrhosis (alcoholic, syphilitic, or hypertrophic), and old cases of malaria with hypertrophy.

As to the cause of the disease, nothing is certain, and we must remain in doubt until more is found relative to the functions of that organ.

The spleen is classified in our works on physiology as a blood-forming organ, and the most important one. It is known that this function exists only during the prenatal period; at birth it apparently ceases, and other organs—namely, bone marrow and lymph cells—take up that work, or continue to manufacture blood, a function which they may have shared with the spleen during the fetal period. Since when the spleen is removed, in case of rupture or dislocation, no changes occur in the blood, we must admit that the spleen is not essential to life, and that its removal does not interfere with the health of the individual. A prevalent theory is that after birth its function alters, and that it takes a prominent part in consuming the broken-down blood cells.

When the spleen is removed in cases of splenomegaly the blood almost immediately improves in quality, and

this fact makes it appear that the origin of the disease is in the spleen, probably some toxin which destroys or injures the blood cells.

O. H., aged 22, a pale but well-nourished girl, with waxy skin, bloodless lips, had suffered attacks of epistaxis and gastro-enteritis for many years. Her mother stated that two years previous to her daughter's birth she suffered from symptoms due to S. P. infection, followed by two abortions. Up to the age of 9 the girl remained in comparative good health, and then began to suffer from recurrent attacks of vomiting, diarrhoea, and epistaxis. She consulted many medical men in England as well as here, who all found that her liver was enlarged.

I saw her a year ago, she was then complaining of a feeling of weakness and breathlessness, but had no pain; there was an anaemic cardiac murmur; the catamenia were scanty, the liver could be felt protruding for 2 in. below the ribs, extending towards the middle line, joining there with a large mass filling the left flank and side down to ½ in. of the umbilicus; this enlargement was smooth, hard, and fixed. She was given iron and arsenic for some months with much benefit. When seen again, ten months later, during which time she had been working in a dressmaking establishment, her symptoms were much accentuated; she was very pale, exhausted, but had no actual pain beyond a feeling of fullness; there was no pigmentation of the skin, the liver remained much enlarged, the spleen had considerably increased in size, reaching down into the pelvis 3 in. below the navel.

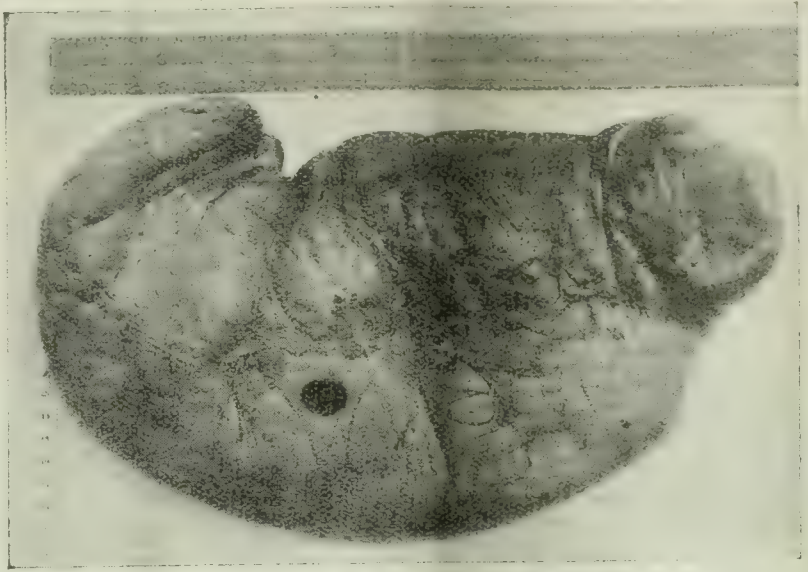


Fig. 1.—Photograph of spleen removed from a woman aged 24. In the fresh condition the spleen was over 15 in. (or 33½ cm.) in length. This photograph was taken after a considerable shrinkage had occurred in the fluid used for preservation. The dimensions at the time of photographing the organ may be observed from the scales. The black spot in the centre shows the position from which a specimen was punched out for microscopical examination. The weight of the spleen was about 6 lb., or 375 grams.

A blood examination by Dr. de Korte on December 13th, 1911, showed: Red corpuscules, 1,500,000 per c.mm.; white, 4,568 per c.mm.; haemoglobin, 85 per cent. Percentage composition of white cells: Polynuclear leucocytes, 61.5 per cent.; lymphocytes (chiefly small), 27 per cent.; Eosinophile leucocytes, 1.5 per cent.

There was a deficiency of about 3 millions of red cells; the leucocytes were diminished to half their number, though the relative percentage was not disturbed. The percentage of haemoglobin was reduced but not so markedly as would be expected from the numerical reduction of the erythrocytes, which raised the suspicion that the oligocythaemia was more apparent than real and due to a watery condition of the blood.

Operation.

An incision was made through the left rectus, from the lower rib down to 2 in. below the umbilicus; no adhesions were found; the spleen, which was covered with a very thin omentum, was enormously enlarged, reaching low down in the pelvis. The lower pole was delivered with difficulty; this allowed a partial tilting of the organ, exposing the lower part of the hilum; to do more than that at this stage seemed risky. The gastro-splenic omentum was very short, leaving little room between the stomach and spleen, so that any attempt at tilting the spleen to enable the suturing of the vessels stretched them in a perilous manner. To clamp them *en masse*, as done sometimes, was an impossibility; they were very large, and, owing to the length of the hilum, were spread out like a fan in close contact to the surface of the spleen. Each vessel, from below upwards, was tied between two forcipressure; two of them slipped their ligature, causing some anxious moments. The gastro-splenic omentum was then carefully divided by sections, taking special care not to wound the fundus of the stomach or interfering with the vasa brevia. When this was done, and only then, the upper pole was drawn down from under the ribs; the last part was folded upon itself to the extent of 2 in. Within a few minutes of its removal the spleen had drained

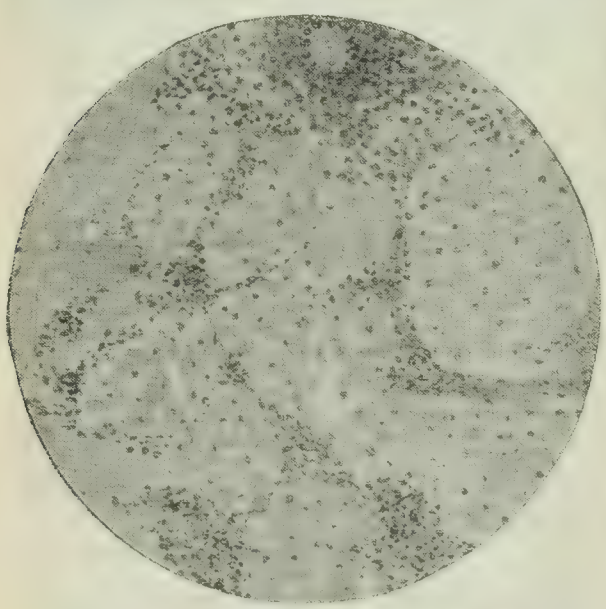


Fig. 2.—Section of spleen showing the capsule and outer ends of two trabeculae to the left. The rest of the field shows the structure of the spleen, with, at the upper margin, a Malpighian corpuscle in process of disintegration with a completely occluded artery in the centre. Magnification 100 diameters. Stained with polychromic methylene blue, and counter-stained with orange tannin and acid fuchsin

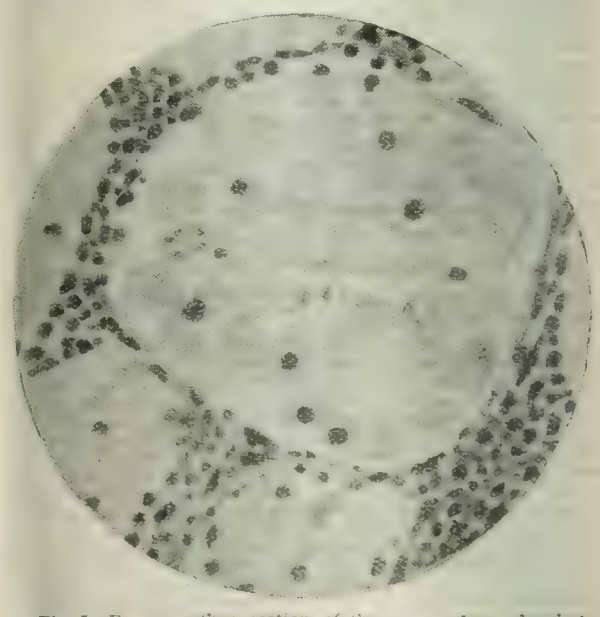


Fig. 3.—From another section of the same spleen, showing lobules with faintly stained cells, the nuclei of which become progressively less capable of staining towards the interior of the spleen. In Fig. 2 it will be noticed that nuclei are visible in nearly all the cells. Magnification 380 diameters. Stained with polychromic methylene blue, and counter-stained with acid fuchsin-tannin.

itself; the vessels which looked like cords appeared now like tags of wet tissue paper, and the size of the organ had dwindled to two-thirds; four days later it had further diminished to half its breadth and length.

After-History.

The patient recovered rapidly from shock. Three days after it was noticed that her appearance had much improved; the face had lost its waxy appearance, the cheeks were less pale, the lips had some colour, and the pulse had improved. On the tenth day the temperature, which had been normal, rose to 100°, and we found that one stitch had suppurated. On the fifteenth day there appeared some pigmentation on the brows, forehead, and round the mouth; 6 min. of adrenalin solution three times a day was given with apparent good results, for the stain lessened in depth.

An examination of the blood analysis twelve days after the operation, by Dr. de Korte, gave the following results: Red corpuscles, 4,400,000 per c.mm.; white, 11,200 per c.mm.; haemoglobin, 83 per cent. Percentage composition of white corpuscles: Polynuclear leucocytes, 83 per cent.; lymphocytes (chiefly transitional), 15.5 per cent.; eosinophile leucocytes, 1.5 per cent.

Dr. de Korte's observations on these results were as follows: The relative increase of polynuclear leucocytes is most probably due to the presence of some stitch abscess. It is as well to remember that the increase of red cells may also be more apparent than real, for a diminution in the serous plethora would account for the increase.

Careful examination showed no sign of micro-organism infection.

I desire to express my gratitude to Mr. W. D. Severn for his beautiful pathological illustrations, and to Dr. de Korte for his report on the condition of the blood.

REPORT ON TWO HUNDRED CASES OF RINGWORM TREATED BY X RAYS.

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During the past five or six years cases of ringworm have been treated at the General Hospital, Birmingham, by means of the *x* rays under the control or supervision of Dr. Hall-Edwards or myself, but it is only during the last three years that the single-dose method has been used. The apparatus used consists of a 12 in. coil with a dipper brake and tachimeter for regulating the number of interruptions. This is in circuit, with an automatic cut-out switch. By this means a definite number of interruptions can be given. There are also arrangements for measuring accurately the voltage and ampèrage passing through the primary, the milliampèrage through the tube, alternative spark gap, and a Sabouraud pastille, which is bleached in the sun and used four or five times, is used for each application.

With this apparatus the average time for treatment of a single patch varies between five and eight minutes. The advantage of the automatic switch is that one can leave the apparatus for a time knowing that there is no danger of an over-exposure. The patients are treated inside a cubicle, the operator being outside. The cubicle is made of two thicknesses of wood, sheet lead $\frac{1}{8}$ in. thick being interposed. The operator can watch the patient through a lead-glass window. As regards tubes, small light anode tubes are used, being contained in a stand fitted with a lead-glass shield, which is movable in any direction.

The statistics of the last two years (August 4th, 1911, to August 4th, 1913) are as follows: The number of patients treated was 200. Of this number 93 were infected over the whole scalp; in the remainder the scalp was only partially infected, and required from one to four applications. I have been careful to find out the number of patients who had to be re-exposed to the rays, the reason for second applications being: (1) Nervousness on the part of the patients, and their inability to keep still; (2) lack of suitable tubes owing to an excess of patients; this, unfortunately, in hospital work is no uncommon thing; (3) small infected areas which have not become epilated owing either to movement on the part of the patient or to the tube not being quite central in the holder, as tubes vary in size, and some do not fit the holder.

From all these causes 26 had to be treated a second time, this being the number out of a total of 630 applications. The majority required one more application to a small area, which was given through a small lead-glass adaptor. In the 93 cases infected over the whole scalp Keinbock's method was almost entirely used, five applications being given—one to the top of the head, one to the vertex, one to the back of the head, and one to each side. The usual practice was to give two or three applications each morning, and the remainder in about a week. The average time in which epilation took place was two weeks and five days. The usual time for the hair to recommence to grow was about seven weeks. In one case the hair was not fully grown for six months. In another, owing to two patients having identical names, one side of one patient's head received practically a double pastille dose. It is interesting to note that the hair returned quite healthy, although a considerable time afterwards.

To the best of my knowledge there has not been a single case of *x*-ray burn or of permanent alopecia, and one must conclude that parents would naturally report to us if such had not been the case.

By far the greater number of patients had been having treatment with ointments and lotions, some even for years. I consider the treatment with *x* rays quite the best, and certainly the quickest, especially for well-established and extensive cases. With proper apparatus, and in expert hands, it is perfectly safe. It is encouraging to note that several school clinics are supplied with *x*-ray apparatus, which is reported to be doing good work.

It is very difficult to work out the exact cost for each patient, but it is not excessive when a large number of patients are dealt with, and, even if it is in excess of ordinary treatment, the great saving in time fully justifies it.

PRELIMINARY NOTE ON BED-BUGS AND LEPROSY.

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Two articles appeared simultaneously, one by Sandes and the other by Long, in the British Medical Journal, 1911, vol. ii, pp. 469 and 470, in which it was stated that a considerable percentage of the bed-bugs experimentally fed on lepers were found to contain the leprosy bacilli. Furthermore, a large percentage of the bed-bugs caught within the dwellings of lepers contained acid-fast bacilli, presumably the bacilli of leprosy, while those caught in the dwellings of healthy people contained none. The presumption was that bed-bugs might play an important part in the transmission of this disease. Since these announcements nothing further, so far as I can ascertain, has been published on this subject. In 1911 I attempted to confirm these observations by feeding a number of bed-bugs on two cases of leprosy in the Royal Southern Hospital, Liverpool, in Sir Ronald Ross's clinic. One was a case of the maculo-anaesthetic type, the other was of the nodular variety. Seventeen bugs were fed directly on the nodules of the latter case, and four on the patches of the former. They were killed and examined from two to ten days afterwards for acid-fast bacilli, but none could be found; numerous control bugs were examined, with similar negative results. I was unable to make any further investigations on the subject until 1912. I spent the last three months of that year in Panama, and had ample material at hand for continuing the work. In the leper asylum at Palo-seco I fed 84 bed-bugs on various cases of leprosy, acute and chronic, but was unable to find any trace of acid-fast bacilli in these insects afterwards. Seventeen bed-bugs were caught in the beds of the patients at Palo-seco, and I obtained eighteen more caught on the mattresses of the beds in the leper asylum at Trinidad. All of these likewise showed no trace of acid-fast bacilli. A total of 105 bugs fed on lepers and 35 caught in the beds of lepers, therefore, gave no evidence that these insects harbour or transmit the disease. A further total of 107 bed-bugs were examined as controls: 21 of these were caught in dwellings in Liverpool, the remainder were caught in the Spanish wards in Ancon Hospital in Panama. The controls also gave negative results. The Ziehl-Neelsen stain was used throughout. Full details of this investigation, in addition to other researches on the transmission of disease by bed-bugs, will be published later in the *Annals of Tropical Medicine and Parasitology*.

EIGHTY-FIRST ANNUAL MEETING

OF THE

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Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICINE.

E. HOBHOUSE, M.A., M.D.Oxon., F.R.C.P.Lond., President.

DISCUSSION ON NON-DIABETIC GLYCOSURIA.

OPENING PAPER.

By A. E. GARROD, M.D., F.R.C.P., F.R.S.,

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No one has yet succeeded in formulating a definition of diabetes which will pass muster, and, failing such a definition, it obviously is impossible to draw any sharp line of demarcation between diabetic and non-diabetic glycosuria.

For most of us the term "diabetes" connotes several distinct ideas: First, persistence of glycosuria throughout the remainder of the lifetime of the patient. Secondly, fatality, for a diagnosis of diabetes is usually held to imply a fatal result sooner or later. Thirdly, the name calls to mind a group of associated symptoms—polyuria, thirst, wasting, and local lesions, such as boils, cataract, and gangrene. This syndrome was recognized and received its familiar name centuries before the excretion of sugar in the urine was known to be one of its component factors. Lastly, when we think of diabetes we picture a profound disturbance of carbohydrate metabolism, for which no underlying cause is apparent, no primary lesion of which it may be regarded as a secondary effect.

Yet no one of these conceptions provides a satisfactory basis for a definition. We have no right to assume that recovery from diabetes cannot occur, and there are good grounds for the belief that some patients, whose malady conforms in all other respects to the clinical picture of diabetes, do actually recover. Again, a diabetic patient may exhibit over a long period none of the associated symptoms which have been mentioned, as witness the so frequent detection of the disease in individuals who apply for life insurance believing themselves to be in perfect health. Nor does the diabetes which has its origin in definite visceral lesions—as, for example, of the pancreas or thyroid gland—differ in any essential respect from that for which no explanation is forthcoming. Lastly, if we take as our criterion failure to dispose of glucose in the normal way, with the result that it accumulates in the blood and is excreted in the urine, we shall find that very few varieties of glycosuria can be excluded from the diabetic group.

Of the various definitions of diabetes hitherto proposed that of Naunyn is, perhaps, least open to objection—namely, that whereas any man will excrete sugar if he take a sufficiently large dose of glucose upon an empty stomach, only a diabetic subject will exhibit glycosuria after any dose of starch which it is possible to administer. Yet even this distinction is quantitative rather than qualitative.

However, we are not met together to-day to discuss definitions or obscure questions of chemical pathology, but as practical medical men who are seeking to arrive at some means of estimating the clinical import of glycosuria as a symptom, and of judging which of the cases in which this symptom occurs have not the sinister outlook which has become associated with the term "diabetes"; in other words, to obtain, by comparison of our several experiences, aid in prognosis and guidance in treatment.

This being so, it will be well to adopt, for the purpose of this discussion, a classification based upon clinical data, and to consider various forms of glycosuria which differ, in one respect or another, from diabetes as we conceive of it. Some will be included in the non-diabetic category because they are transient or intermittent; others because the excretion of sugar occurs as a symptom in the course of some recognized malady; or again because it results from the administration of a drug or toxic substance. Nevertheless it must be granted that although such a classification is justified by its convenience and utility it is of necessity very imperfect, and falls far short of the requirements of exact science.

The testing of urine by boiling it with Fehling's solution has long formed part of the routine of clinical practice, but, as every one knows, the mere fact that reduction occurs when this test is applied affords no proof of the presence of glucose, nor indeed of any member of the group of sugars.

Yet, in the immense majority of instances, conspicuous reduction does indicate glycosuria. In cases in which a green opacity develops, either on boiling or as the liquid cools, sugar may be, and often is, present in small amount, and other tests, such as that with phenylhydrazin or polarimetry, should be applied in confirmation.

There are constituents of normal urine which have some reducing power, such as uric acid and creatinin. Salicyluric acid, too, may mislead. Alkaptonuria, the remarkable metabolic anomaly in which there is excreted in the urine an aromatic acid which far surpasses glucose in reducing power, is readily recognized by other properties of the urine, and is of such rarity that, in all probability, few of us have met with a case.

Glycuronic acid, another powerful reducing agent, is excreted in combination with various drugs and toxic substances. Although it is closely related to glucose its presence has a wholly different significance, indicating, as it does, the calling into play of a chemical protective mechanism.

Even a sugar present in urine is not of necessity glucose. The commonest and most familiar example of a mellituria which is not glycosuria is the excretion of lactose by nursing women, and sometimes by infants who, as the result of a digestive disturbance, are not able to deal adequately with the lactose contained in their food.

Far more rarely laevulose is excreted, either alone or in quantity out of all proportion to that of the glucose which accompanies it. These cases constitute a group, or rather two groups, apart, and stand in no obvious relationship to diabetes.

Lastly, in the condition known as pentosuria, of which a number of cases have been investigated, but none as yet in this country, the reducing agent is a sugar indeed, but a pentose, and not a hexose such as glucose and laevulose are. This sugar, arabinose, is almost always in the optically inactive racemic form, is not fermented by yeast, and may be recognized by special tests, and by the far lower melting point of its osazone.

It is obvious that in every case in which there can be doubt we must make sure that we have to do with glucose before submitting our patient to a régime which is of necessity irksome and, if not called for, actually harmful in the long run. In order to do this we should ascertain that the reducing substance is a dextro-rotatory, fermentable sugar, and yields an osazone which melts at about 200° C.

Leaving on one side all such false glycosurias as have been referred to, let us now turn to the consideration of those varieties of true glycosuria which may, on one ground or another, be classed as non-diabetic.

Of such I will speak first of a kind of glycosuria which has acquired a small literature of its own, almost wholly German, and which has received hardly any attention in this country. It may be that it is not so rare as the scantiness of records would suggest. It is most accurately described as glycosuria without hyperglycaemia, but is usually spoken of, somewhat prematurely, as renal diabetes.

In the cases which conform to this type the quantity of glucose excreted is small—some 3 to 10 grams per diem, the percentage of sugar in the blood is below normal or normal, and is not increased by the administration of glucose by the mouth. The glycosuria is not influenced by diet. I have had a case of this kind under observation for six years past, in which, although there has been little restriction of carbohydrate foods, the daily output of glucose has remained constant at some 3 to 5 grams per

diem, and the blood sugar is below the normal percentage. Save that the effect of glucose administration upon the percentage in the blood has not been investigated, there is quite sufficient evidence for the inclusion of the case in the group under discussion.

It is difficult to suppose that in such cases we have to do with any serious disturbance of carbohydrate metabolism, and it is suggested that, as in phloridzin glycosuria, the power of the kidneys to retain in the blood its normal sugar content is impaired. Hence the name "renal diabetes." The failure to retain sugar might be due to a functional disorder of the kidneys, or equally well to the presence in the circulation of a toxic substance with similar properties to those of phloridzin.

However, there are facts which may give us pause in adopting such an explanation, and, as von Noorden has pointed out, the excretion of sugar may be but little influenced by diet in the early stages of ordinary diabetes.

I have under my care at the present time a girl of 10 years, whose case bears a close resemblance to those of the so-called renal class. The sugar of her blood is of less than normal amount; diet has no obvious effect upon her glycosuria, and glucose to the amount of 25 grams did not increase the output of sugar, which is now no greater than it was two years ago. There is no acetonuria, and the child enjoys excellent health and spirits. The course of the case is wholly unlike that usually followed by diabetes in children, but it is a highly significant fact that her brother, two years her senior, has orthodox diabetes, excretes much more sugar, and has more than twice the normal percentage of glucose in his blood.

Taking all things into consideration, it seems to me that we shall be wise to await an increased knowledge of the clinical course and ultimate outcome of such cases before we commit ourselves too deeply to a non-diabetic view of their pathology. It should be mentioned that in some of the cases classed as examples of renal diabetes there has been obvious disease of the kidneys, but in others there has been no reason to doubt their structural integrity.

The cases in which sugar is excreted in the urine, either during a short period or intermittently, are not very rare, but they differ widely in their nature and significance. Not a few middle-aged persons pass sugar only occasionally, although they practise no restriction of their dietary. Such glycosuria is apt to be regarded too lightly, and to be described as gouty. Nor would one deprecate the use of such euphemistic designations, in view of the evil repute of the name diabetes, and the importance of conveying to the patient the unquestionable truth that the existence of such glycosuria is consistent with many years of active and useful life. Nevertheless, on scientific grounds, many such cases cannot be excluded from the diabetic group. These patients are for the most part individuals with low carbohydrate tolerance, but whose tolerance is such that it is not overtaxed save by a meal exceptionally rich in sweet and starchy foods. If their tolerance be often overstrained, it tends to be still further lowered, but with so slight a restriction of carbohydrate intake as is scarcely irksome they may remain free from glycosuria over long periods. Such individuals conform to Naunyn's definition of diabetic subjects, in that they excrete sugar when they take large doses of starch, and their glycosuria is temporary and intermittent only in so far as the provocation is only occasional.

In cases of truly temporary glycosuria, on the other hand, the recovery of tolerance between the glycosuric periods is complete, as in a case from my wards recently described by Mackenzie Wallis and Roper.

It was that of a youth who was admitted on account of polyuria, which developed after an attack of "Java fever." He excreted sugar on several occasions at short intervals, whereas between times his tolerance of glucose was found to be normal, and 100 grams of glucose caused no increase of the sugar content of his blood. This is a much more rare phenomenon, but occasional finds on isolated days have led me to believe that daily observations on large numbers of cases might reveal the occasional presence of sugar in the urine more often than might be expected.

The whole subject of temporary glycosuria calls for much further investigation.

The question whether recovery from diabetes ever occurs is a very difficult one to answer. Not a few patients tell us that they have suffered from diabetes at some former period but that the tendency to glycosuria has long ceased, although they have abandoned all special restrictions of diet; but we seldom have the opportunity of studying such a case under both its aspects, and when we have such an opportunity the outcome of our observations may still leave us in doubt. I have had under observation for more than three years past a man of whose case I have given an account elsewhere. He was originally admitted to hospital with jaundice and glycosuria, excreting some 40 grams of sugar in the twenty-four hours. The jaundice quickly disappeared, but the glycosuria persisted, although in much diminished degree, in spite of a diet gradually reduced to strictness. Shortly after the man left the ward the sugar disappeared from his urine; he was able to take starch and even sweet foods freely, and even a dose of 100 grams of glucose caused no glycosuria. One was tempted to diagnose the case as one of catarrhal pancreatitis, which Mr. Mayo Robson believes to be a common cause of catarrhal jaundice, and as an example of complete recovery from diabetes. Now after the lapse of three and a half years the patient's general condition remains quite satisfactory. The urine has been examined at intervals ever since, and as a rule is quite free from sugar; but on two occasions, a year apart, traces of sugar, proved to be glucose, were found in specimens passed about two hours after dinner, but not in other specimens passed on the same day. That there is not always sugar in his urine at the time of day referred to has been proved by many examinations of other samples passed at that hour.

This case shows how essential it is that the observations should be extended over a long period before we can safely assert that a diabetic patient has recovered completely, and suggests that just as a damaged heart, of which the compensation has once broken down, is liable to fail again on comparatively slight provocation, so also, when the metabolism of carbohydrates has once been deranged its recovery, although apparently complete, is apt to fall short of absolute completeness.

For lack of sufficiently long after-observation many recorded cases of recovery from diabetes are ruled out of court, and only of recent years has the recovery of glucose tolerance, which is an essential factor in recovery, been adequately tested.

When we search the literature for cases in which adequate observations have been carried out both during the glycosuric and sugar-free periods we find that these are very few in number. I may refer to two cases which are specially important on account of the length of time during which the patients were under observation. Richard Schmidt found no less than 5.8 per cent. of glucose in the urine of a child of a diabetic mother during an attack of "gastric fever." The little girl's urine had been frequently tested, and had contained no sugar a short time before. The glycosuria ceased after seventeen days on strict diet, and never returned during twenty years of observation on an unrestricted diet. It may be objected that this case should be placed in the symptomatic and non-diabetic group, but a case recorded by Teschemacher is not open to this criticism. It is that of a man, past middle life, who for six months at least excreted sugar in his urine, and was regarded as a subject of mild diabetes. After the glycosuria had ceased the patient was under observation for ten years, during which he developed chronic renal disease, but never again excreted sugar.

From a clinical standpoint it appears justifiable to class as non-diabetic those varieties of glycosuria which are sometimes met with as temporary events in the course of acute diseases, such as pneumonia, scarlatina, and secondary syphilis, and in association with phlegmonous inflammations.

It may be that in such conditions the excretion of sugar is due to implication of the pancreas, and, if so, is of the same essential nature as true diabetes. The only disease of the class under discussion in which a pancreatitis is a recognized event is mumps, and in a few recorded instances a transitory glycosuria has accompanied the symptoms of such pancreatitis.

The progress of research is tending to strengthen the belief that an internal secretion of the pancreas, or, to speak more exactly, of the islands of Langerhans, which may be regarded as the component fragments of a ductless gland scattered throughout the tissues of the pancreas,

is the dominant, if not the sole, controller of carbohydrate metabolism, and that, with few exceptions, all varieties of glycosuria are, in a sense, of pancreatic origin. Although in no small proportion of cases of diabetes the tissues of the pancreas show no change visible to the naked eye, nor even to be detected by the aid of the microscope, it is probable that its internal secretion is subject to control by influences working from a distance, and emanating from other glands of internal secretion.

The diagnosis of lesions of the pancreas presents so much difficulty that our clinical knowledge of its diseases is almost confined to such as are grave and usually fatal. Carcinoma of the head of the gland presents features sufficiently characteristic to facilitate a diagnosis, but acute pancreatitis is still unrecognized during the life of the patient in the larger proportion of cases.

That the pancreas is subject to minor ailments, such as affect the more accessible salivary glands, can hardly be doubted, and we may hope that improved diagnostic methods will enable us to trace in such lesions the cause of a transitory glycosuria in many cases such as are nowadays wholly obscure in their origin.

Glycosuria is very far from being a constant symptom of disease of the pancreas. A comparatively slight damage, such as a diffuse fibrosis of a certain type, may give rise to a grave form of diabetes, whereas in a case in which, at the autopsy, the pancreas appears to be wholly converted into a mass of necrosed tissue no sugar may have appeared in the urine during life. We must conclude that in such cases some portion of the insular structures has escaped destruction. Again, a man whose pancreas has been replaced by a mass of fat, as the result of blockage of the duct by calculi, has been known to exhibit steatorrhoea for years, but no glycosuria.

Pancreatic diabetes, as we know it, is persistent and fatal because the damage to the gland upon which it depends is irreparable, but we may well imagine that a passing catarrh which leaves the gland unhurt after its passage may produce a benign and transitory pancreatic glycosuria.

Mr. Mayo Robson has described cases in which a timely surgical operation has been followed by a disappearance of pancreatic glycosuria, and it will be interesting to know, after some years have elapsed, whether the recovery will prove to be permanent.

From a purely clinical standpoint glycosuria due to a lesion of the pancreas may claim a place in the symtomatic class, but one would hardly be justified in calling it non-diabetic, so artificial is any distinction which we may choose to draw.

Evidence is accumulating of an interrelation of the various glands of internal secretion, and it is unquestionable that other such glands besides the pancreas play parts in controlling carbohydrate metabolism. Although it is possible that their action in this respect is a direct one, it is more probable that they act indirectly by inhibiting the internal secretion of the pancreas. However this may be, the varieties of glycosuria which are associated with disease of the ductless glands are of special interest, because the study of them promises to throw important light upon the pathology of diabetes.

The best known and longest known of such glycosurias is that which is occasionally met with in exophthalmic goitre. In some cases of that malady sugar appears in the urine intermittently for a few hours or a few days at a time, whilst in others there is observed a continuous glycosuria which cannot be differentiated from a true diabetes in its clinical aspects. Far more often there is a conspicuous lowering of tolerance of glucose. Sugar is not excreted spontaneously, but a far smaller dose is needed to excite glycosuria than in the case of a normal individual.

The conclusion cannot be avoided that these phenomena are effects of the excessive activity of the thyroid gland which is the essential feature of exophthalmic goitre, for similar effects may be produced by the mere administration of thyroid extract in excess, and far more readily in normal individuals, for whom any dose is in a sense an overdose, than in those in whom it supplies a physiological want. Nevertheless, patients with myxoedema who are taking thyroid extract not infrequently excrete sugar, but usually cease to do so when the drug is stopped. There is evidence that even here the pancreas is concerned in the production of the glycosuria, either by itself becoming damaged, or in consequence of the disturbance of a natural balance of internal secretions.

As might be expected, hypothyroidism has a converse effect, and one of the recognized symptoms of myxoedema is a raising of glucose tolerance. A myxoedematous patient who is not taking thyroid extract can dispose of enormous quantities of that sugar without excreting any.

As with the thyroid, so with the pituitary gland, overactivity tends to induce glycosuria or even diabetes, as is seen in a considerable proportion of cases of acromegaly in the earlier stages of the malady; whereas in cases which exhibit Fröhlich's syndrome, the pituitary analogue of myxoedema, glucose tolerance is greatly raised, a phenomenon which may have a close connexion with the laying on of fat which is a prominent feature both of hypopituitarism and hypothyroidism.

Although adrenalin, the only hormone which has as yet been isolated as a definite chemical individual, has a conspicuous power of exciting glycosuria, and may, perhaps, play a prominent part in some cases of diabetes at least, there is as yet no satisfactory evidence of the occurrence of glycosuria as a symptom of disease of the adrenal gland; but it must be borne in mind, in this connexion, that disease of a gland far more often leads to diminution than to excess of function. In Addison's disease, in which the secretory activity of the adrenals is impaired or abolished, we should expect the tolerance of glucose to be raised rather than depressed.

The glycosuria which occurs in pregnancy resembles the varieties of which I have been speaking in its clinical features. The genital glands are undoubtedly organs of internal secretion, and changes are observed in the thyroid and pituitary during gestation. These facts render it highly probable that the glycosuria of pregnancy is to be regarded as a member of the same group as that of exophthalmic goitre and acromegaly. Many pregnant women exhibit lowering of glucose tolerance, some excrete sugar spontaneously, either at intervals or continuously, and the sugar may disappear from the urine after delivery only to reappear during each subsequent pregnancy. Occasionally a glycosuria which begins during gestation proves to be the starting point of a genuine diabetes, and a glycosuria which ceases after delivery may recur after an interval and thenceforward persist.

The liver has been dethroned from the position which was once assigned to it as the reputed primary seat of disturbance in diabetes. That glycosuria is sometimes associated with diseases of the liver admits of no question, and some authorities, and amongst them Professors Naunyn and Saundby, hold that there is a definite group of cases to which the name hepatic glycosuria may rightly be assigned. On the other hand, the trend of opinion at the present day is towards regarding glycosuria, when associated with hepatic disease, as due, at least in the great majority of instances, to implication of the pancreas in the morbid process. Such concomitant affection of liver and pancreas is seen in cases in which cholelithiasis is the common cause of both, and is specially well seen in the rare cases of so-called bronzed diabetes, in which haemochromatosis of wide distribution accompanies cirrhotic changes in the liver and an extreme degree of fibrosis of the pancreas. On the other hand, in diseases which affect the liver alone there is no obvious lowering of glucose tolerance.

The occurrence of glycosuria in association with diseases of the intestinal tract, and its occasional cessation when the intestine recovers, is attracting attention in Germany at the present time. A considerable number of cases illustrating this association are now on record, and a place must be assigned to this variety among symptomatic glycosurias. It is a tempting hypothesis that in these cases the excretion of sugar is due to the spread of the morbid process to the pancreas, but it must be confessed that there is no satisfactory evidence of such implication. It is certainly important that intestinal symptoms should be looked out for in cases of diabetes, and that if found they should be treated, and there are grounds for hope that such treatment will have good results in some cases. Indeed, the discovery and treatment of the primary causative factor which lies behind the diabetic syndrome should be our aim in every case of diabetes. Therein lies our only chance of more efficient treatment than is as yet within our reach, but it must be confessed that in the great

majority of cases the underlying cause eludes our search, however thorough that search may be.

The importance of the part played by the nervous system in connexion with diabetes and glycosuria admits of no question, but it is probable that its influence is exerted in several different ways.

The classical example of a glycosuria of nervous origin is the puncture glycosuria of Claude Bernard. This is a transient excretion of glucose due to a hyperglycaemia which results from emptying of the glycogen reservoirs; and recent researches have rendered it more than probable that its exciting cause is a gush of adrenalin in response to an impulse conveyed along the splanchnic nerves. To this same class may probably be referred the similar transitory excretion of sugar which may follow a cerebral haemorrhage, an epileptic fit, a surgical operation, or a severe injury. Even the passing glycosuria occasionally observed in association with attacks of gall-stone colic, as distinguished from the more lasting excretion of sugar in some cases of chronic cholelithiasis, may belong to the puncture class.

On the other hand, it is well recognized that persistent glycosuria, and even grave diabetes, may follow disease or injury of the central nervous system, or even a severe psychic shock, but we do not yet know how large or how small a part may be played by the pituitary gland in this connexion.

During the last few days of life of some 30 per cent. of all sufferers from tuberculous meningitis small quantities of sugar appear in the urine. Frew was unable to detect, in a series of cases which he examined, any peculiarity of character or distribution of the meningeal lesions in cases with glycosuria as distinguished from others in which no sugar was found in the urine. It remains an open question whether the terminal glycosuria is due to implication of the floor of the fourth ventricle or of the pituitary gland, or is merely an example of asphyxial glycosuria, which is attributed by B. Moore and his fellow workers to accumulation of carbon dioxide in the tissues and not to lack of oxygen.

Leaving aside certain varieties which are of physiological rather than of clinical interest, we may turn to the consideration of a large group of glycosurias which may be classed together as toxic.

Many toxic substances, among which are some important drugs, have the power of exciting excretion of glucose in the urine. Among the substances referred to are morphine, atropine, strychnine, curare, amyl nitrite, copaiba, phloridzin, acetone, and uranium salts. Inhalation of chloroform, ether, coal gas, or carbon monoxide may produce a like effect. Thyroid extract and adrenalin must be added to the list, and alcohol, especially in the form of champagne, is among the toxic substances which can induce glycosuria.

The members of this very miscellaneous group bring about the result in several different ways. Some, such as phloridzin and the salts of uranium, by lessening the retentive power of the kidneys and allowing the escape of the blood sugar. Others, such as carbon monoxide, and perhaps the anaesthetics, by inducing some degree of asphyxia. Others, again, such as thyroid extract and adrenalin, are hormones which influence carbohydrate metabolism, just as they do when formed within the body and secreted into the blood. Of others, again, the mode of action remains wholly obscure.

When we glance back at the rather long list of varieties of glycosuria which on one ground or another may be included in the non-diabetic category, this much at least is evident—namely, that detection of sugar in the urine does not necessarily imply that the patient who excretes it is to be regarded as a diabetic, in the clinical sense of the term, any more than the presence of albumin indicates with certainty that the kidneys have sustained permanent damage. Yet the fact remains that just as the great majority of albuminurics have renal disease, so also most of those who excrete sugar are diabetics.

The brief remainder of the time at my disposal must be devoted to the consideration of the important practical question, What lines of treatment should be followed in cases of non-diabetic glycosuria?

When the symptom in question is due to the administration of a drug, stoppage of its administration, or even reduction of the dose, will usually suffice to bring about the disappearance of sugar from the urine. Glycosuria due to administration of thyroid indicates overdosage, and in cases of myxoedema or cretinism is a signal for reduction of the dose, but in cases in which there is no hypothyroidism it is better to discontinue the drug.

Some varieties of glycosuria do not call for any treatment, such as the transitory excretion of sugar in cases of cerebral haemorrhage, the many other forms which may be classed with puncture glycosuria, and the terminal event in tuberculous meningitis.

When, on the other hand, a more persistent glycosuria develops in the course of an infective fever, in association with an intestinal disorder, or with exophthalmic goitre or acromegaly, I hold that in addition to treatment of the primary malady, judicious restriction of the carbohydrate intake is called for, with the same precautions as should be observed in ordinary cases of diabetes. More especially is this the case in those kinds of glycosuria in which the disappearance of the sugar from the urine is not accompanied by a conspicuous restoration of glucose tolerance.

The dietetic treatment of diabetes is a symptomatic treatment, directed against the hyperglycaemia which is present, and not against its underlying cause, which, in most instances, eludes our scrutiny. The aggravation of the metabolic disorder which occurs when the diet is not restricted, and the remarkable recovery of carbohydrate tolerance observed, in many cases of diabetes, after a period of strict dietary, alike bear witness to the importance of sparing the damaged mechanism as far as possible, lest by working it in its damaged state we aggravate the mischief.

It is often beyond our power to discriminate, at the outset, between a glycosuria of little gravity and a persistent diabetes, and the possibility cannot be excluded that, by neglect of dietetic measures, a glycosuria which might otherwise be temporary may be rendered permanent.

Judicious restriction of starch and sugar will do no harm for a time, whereas to let the metabolic error run riot unrestrained may entail irreparable damage to the patient. Prudence demands that in the treatment of most cases of so-called non-diabetic glycosuria we should conform to the rules which guide us in the treatment of frank diabetes.

The clinical classification which I have here adopted is far too inadequate to form a basis for discrimination in treatment; and a classification on strictly scientific lines would refuse the epithet non-diabetic to most of the varieties of glycosuria of which I have spoken.

Any form of glycosuria which may have its origin in defective retaining power of the kidneys, whether due to the administration of a drug or to some derangement within the organism, may be styled non-diabetic without reserve. With rather less confidence the same description may be applied to puncture glycosuria and kindred phenomena. On the other hand, I, at least, believe that between a mere lowering of tolerance of glucose and diabetes of the most malignant kind the difference is rather of degree than of essential nature; and that no form of glycosuria which has its origin in an impairment of the power of burning glucose, whether or no it be accompanied by an increased mobilization of sugar within the organism, can on scientific grounds be excluded from the diabetic category.

If this be true it can no longer be maintained that diabetes is of necessity a persistent and fatal malady. It must rather be regarded as a symptom-complex which has its origin in many different causes, and which, according to the nature of the cause at work in its production, may betoken a morbid state of extreme gravity or a comparatively harmless deviation from the standard of health.

DISCUSSION.

Dr. Robert Hutchison (London) said: It is important for purposes of discussion to distinguish between (1) temporary glycosuria and (2) permanent but mild (non-progressive) glycosuria. (1) Every one will admit, even allowing for errors of observation due to the occasional presence in the urine of reducing substances other than dextrose, that the transient occurrence of glycosuria is by

no means very infrequent—probably more frequent than we have any idea of. The important question follows, Is such glycosuria due to a different cause from true diabetes, or is it due to the same cause but acting temporarily instead of permanently? Owing to our ignorance of the real pathogeny of true diabetes it is impossible at present to reply satisfactorily to this question, but clinical observation tends to show that in some, at least, of such cases the glycosuria is due to causes which probably are not adequate to produce genuine diabetic glycosuria. The transient glycosuria which follows shocks or cerebral injuries, examples of which every one must have met with, seems to belong to this group, and is comparable to the "puncture diabetes" of experimental pathology. Other cases appear to be due to over-production of thyroid secretion, for example, the intermittent glycosuria met with in some cases of exophthalmic goitre. It is possible, however, that these also are of nervous origin, as there seems reason to suppose that a functional nervous disturbance underlies the production of Graves's disease. On the other hand, it seems also clear that a good many cases of so-called temporary glycosuria are really very early examples of true diabetes which happen to have been detected before the glycosuria has become permanent. In favour of this view is the fact that prolonged observation of such cases shows that a certain proportion of them pass into true diabetes sooner or later. Statistics published in America by Barringer and Roper, for instance, showed that at least 20 per cent. of patients in whom glycosuria had been discovered accidentally on examination for life insurance had developed true diabetes within five years. It is to be hoped that more observations of this sort will be published from the records of life offices in future. In consulting practice it is very difficult to follow up these cases of casually discovered glycosuria, but family practitioners are in a position to throw a very helpful light on their prognosis, and it is much to be wished that they would give us the benefit of their experience in this discussion. It is too apt to be supposed that if glycosuria disappears after a slight reduction of the carbohydrates in the diet it has been a mere "temporary" event of no importance. That, of course, is a mistake. It is only when the patient is able to return to an *ordinary* diet without sugar reappearing that the glycosuria can fairly be regarded as having been transient. Failure to observe this distinction has led to much confusion. (2) The cases of permanent but mild and, apparently, non-progressive glycosuria are often spoken of as "gouty" or "alimentary" glycosuria to distinguish them from the more malignant type, and, as is well known, such cases are by no means infrequent in elderly persons, especially if they be of "gouty" habit. I should agree with Dr. Garrod that it is impossible to draw any sharp line of distinction between these cases and cases of true diabetes. Clinical observation shows that every intermediate shade of severity of glycosuria occurs between the most fulminating and the most prolonged types. One meets every now and then with surprisingly mild and prolonged cases even in young persons, and conversely with severe and rapid cases in old persons. A case may begin with all the signs usually associated with the severe type, and yet after a time settle down into one of a benign and apparently non-progressive character. On the other hand, though, I think, more rarely, a patient who for many years has passed only a small quantity of sugar, and who has been regarded as having mere "gouty glycosuria" (so-called), may one day start to exhibit all the features of the severe and progressive variety of diabetes. Although, then, there is reason to believe that all permanent glycosurias are diabetic, it may still be true that the mild cases are brought about in a different way from the more severe. It is conceivable, for instance, that the slight permanent glycosuria often met with in elderly and stout persons is due to a failure of the tissues to assimilate sugar, whilst the severer types have a different—possibly pancreatic—origin. This may be, but our means of investigation do not yet enable us to say definitely if it is so or to recognize the underlying cause in any given case. For the present, then, it would seem best to use the term "diabetes" in a purely clinical sense, as including all cases of permanent glycosuria, no matter of what degree of severity, but to remember that the symptom-complex so labelled varies greatly even at the bedside glycosuria being its only constant symptom, and that in its pathogeny it probably varies equally, some cases being due, for example, to a failure of ferment action, others to a disturbed balance of the internal secretions, others, perhaps, to some primary error of assimilation in the tissues, and so on. In future we may learn to discriminate between the different varieties, but meanwhile I am sure it is the part of wisdom to think (even if we do not speak) of all cases of permanent "glycosuria" under the term "diabetes," and to treat them as such.

Dr. W. ALDREN TURNER (London) said: A small quantity of sugar in the urine, varying from "a mere trace" to 6 or 8 grains per ounce, is found occasionally in persons presenting themselves for life assurance. The medical examination may reveal the presence of sugar either on one occasion only (a transitory glycosuria), or its occasional appearance in those who are known to suffer from intermittent glycosuria. Those persons in whom sugar has been found under these circumstances appear to be, and feel themselves, in good health, and many of them are active and energetic in business or profession, and the detection of sugar in the urine comes to them as an unpleasant surprise. The perusal of a number of insurance records has shown that the cases of glycosuria may be grouped into several etiological classes. First, there are those in whom, shortly prior to the medical examination, an influenza or other febrile attack, or a spell of overwork or anxiety, has given rise to a transitory glycosuria (from which recovery may take place, so far as the subsequent history is revealed by the insurance records). Secondly, those whose family or personal history records the occurrence of gout in one or more of its manifestations. In a third class may be placed those in whom an occasional dietary indiscretion, or a habit of eating and drinking in excess of moderation, or an occupation requiring resort to alcoholic excess, accounts for the presence of glycosuria. A fourth class is found in which glycosuria, usually of the intermittent type, is a family feature, or in which there is a definite family history of diabetes. Glycosuria of the intermittent type may persist for many years. In my cases seventeen years was the longest period during which its intermittent presence was observed, but known periods of six to twelve years or more were not infrequent. Some of these cases are well at the present date, up to twenty-five years after the sugar was originally discovered. No complaint is usually made of any symptom—polyuria, thirst, loss of weight, or other indication of diabetes. The body weight is usually maintained at an average and sometimes a stationary level, although a type of case is found in which corpulency is the prominent feature. The specific gravity of the urine is within normal limits, and rarely exceeds 1030. The sugar may be easily kept under control or disappear entirely under a judicious regimen of food and drink.

The cases under consideration give the fourth decade as the period of life at which intermittent glycosuria is most prone to occur; but a considerable number arise during the two previous decades. Its first appearance over fifty years is rare. The age at the first appearance of glycosuria is obviously an important point when estimating the chances of favourable life assurance, as it is commonly believed that sugar in the urine is a more serious symptom in the young than the old. Of the eight cases under thirty years of age in which sugar was found at the medical examination and whose subsequent history is known, all are well at the present time at periods varying from eight to twenty-four years after acceptance. On the other hand, of the 5 cases, in whom sugar was first detected after 50, 2 died within four years, 1 lived for eighteen years, and 2 are still living at 62 and 69, five and six years respectively after the first appearance of glycosuria. It would appear, therefore, as if persons otherwise healthy and under 30 years of age in whom the occurrence of glycosuria can be definitely established on a transitory or intermittent basis, form a more favourable class for life assurance than those in whom the symptom appears after 50 years of age, when other important factors have to be taken into consideration, such as habits of eating and drinking in excess of moderation, corpulency, vascular degeneration, the transition of the glycosuria from an

intermittent to a permanent type, or possibly malignant disease of the pancreas. Cases of non-diabetic glycosuria are not uninsurable, but sugar in the urine will forbid the acceptance of the life so long as it persists. It is therefore customary to have made periodic re-examinations during a course of dietetic treatment. Should the urine remain free from sugar for a period of twelve months, the life may be accepted with a calculated addition. Uncomplicated cases, or cases in which the hereditary history is good, and the sugar of a transitory character, may be accepted with a five or six years addition to the premium, an extra which is regarded by many offices as sufficient to cover the risk. At the outset, however, it is a matter of great difficulty to distinguish the transitory from the intermittent types, some of the latter cases having begun in consequence of a temporary illness or overwork, with an interval of some years elapsing between the first sign of glycosuria and its recurrence. In like fashion the intermittent type may eventually pass into persistent glycosuria or diabetes. Cases of glycosuria complicated with such personal disabilities as obesity, cardiac disease or gall stones, or with a family predisposition to Bright's disease, diabetes or intemperance, should not be accepted at all, or only with a heavy addition to the premium amounting to ten or fifteen years.*

Dr. P. J. Cammidge (London) said: I propose to confine my remarks chiefly to questions of treatment. The conception of glycosuria as a symptom of a disturbance of metabolism, which is essentially the same in the vast majority of cases at least, greatly simplifies the treatment and renders possible the application of general principles, for the difference between mild glycosuria and the severe cases to which the name "diabetes" is generally applied can then be regarded as one of degree rather than kind. It is also obvious that, according to such a view, systematic treatment in the early stages, before secondary disturbances of metabolism have occurred, and, if possible, even before sugar has made its appearance in the urine, will offer the best chance of improvement and cure. Although clinical experience confirms these inferences and shows that the commencement of energetic individualized treatment at the earliest possible stage gives the best results, it is a fact that is not as generally recognized as could be wished, and many practitioners appear to consider that strict individualized dieting is necessary only when the disease is of a severe type. Much valuable time is therefore lost in inadequate half-measures, and the best opportunity for staying the progress of the disorder and effecting permanent benefit is often allowed to slip by. It is the lot of most of us who see many cases of glycosuria to have patients brought up for an opinion and treatment who have developed serious secondary disturbances of metabolism for lack of systematic regulation of the diet in the incipient stages, and the constant repetition of such experiences painfully impresses one with the necessity for a wider appreciation of the potential dangers of apparently mild and simple glycosurias. With the possible exception of the so-called "renal diabetes," the presence of sugar in the urine is an indication of an excess of sugar in the blood, and the aim of our treatment should be to reduce the latter to the normal, and so prevent the onset of those secondary disturbances with which its persistence is likely to be associated sooner or later. In simple cases of glycosuria, that is to say those in which there is as yet no evidence of serious acidosis and nitrogenous equilibrium is well maintained, two or three weeks on a carbohydrate-free diet will often suffice to render the urine sugar-free and reduce the sugar content of the blood to normal. But to do so it is necessary that the diet should be selected with care. It is important to remember that many so-called "diabetic" breads contain 50 per cent. or more of starch, and that many foods which are often regarded as carbohydrate-free contain a considerable quantity of sugar or starch. As an illustration of the latter point I may mention a case that was sent up to me recently. In spite of the fact that the patient was said to have been on a carbohydrate-free diet for nearly a month an analysis of his urine showed 7 per cent. of sugar, with an excretion of 132 grams for the twenty-four hours, but as he had been allowed an unlimited amount of sausage, of which he was particularly fond—and an examination of these showed that they contained nearly 50 per cent. of bread—the persistence of the glycosuria was not surprising. For some obscure reason it is often assumed that toast, or torrified flour, may be taken when bread is not admissible, but this is not the case of course. Having rendered the urine and blood sugar-free, the next step is to determine the patient's tolerance for carbohydrates by ascertaining the amounts of the commoner carbohydrate foods that can be added to the diet without causing a return of the sugar. Most patients can deal with some forms of starch better than with others, but each is a law unto himself in this respect, so that actual experiment is the only way to determine which can be used most advantageously. There is also considerable variation as to the time of day at which carbohydrates are best tolerated, and this should be ascertained also. Only one kind of carbohydrate should be allowed on one day, but the kind given on different days may be changed to give variety to the diet. The amount of carbohydrate eventually allowed should be a little less than has been found to bring about a return of the glycosuria. After a few weeks a short period on a carbohydrate-free diet should be followed by a fresh series of tests, and it will be found that in many instances the tolerance of the patient has been raised and more carbohydrate can be borne without causing glycosuria. Adults doing light work require about 35 to 40 calories per kilogram of their body weight per day; if heavy work is being done, 45 to 50 may be necessary. As the carbohydrate that can be allowed safely usually furnishes only a comparatively small proportion of the necessary energy, the balance has to be made up with protein and fat. Since starchy and sugary foods constitute from two-thirds to three-quarters of an average diet, and most people in this country object to fatty food, a restriction of the carbohydrates generally results in an excessive amount of protein being taken. It is most unwise, however, to allow patients with glycosuria an unlimited quantity of meat as is so often done, for apart from the excessive excretion of waste that it entails, and the fact that in some instances it directly increases the excretion of sugar, we have to remember that the specific dynamic effect of protein is great, metabolism being stimulated some 40 per cent. over the fasting standard by a purely protein diet as compared with 6 per cent. for carbohydrates and 14 per cent. for fats. Even mild cases of glycosuria should not be allowed more than 2 grams per kilo of protein, and this should be reduced occasionally to 1.5 or even 1.0 gram for short periods. Fats in some form or other must therefore be relied upon as the chief source of energy in most cases of glycosuria. To get in the necessary amount in an appetizing form calls for a considerable knowledge of cookery, and requires a comprehensive acquaintance with the composition of food materials. It is well to bear in mind that more than 200 grams of fat a day gives rise to dyspepsia in most people, but that this can be frequently counteracted by the administration of alcohol with the chief meals. Children require more food in proportion to their body weight than adults, for they have to meet not only the current energy requirements of their bodies, but they have also to provide for growth. A failure to recognize these facts, the use of an excess of meat, and the difficulty often encountered in inducing children to take sufficient fat are, I believe, the main reasons why the treatment of glycosuria in children is generally regarded as being unsatisfactory. Most patients who suffer from glycosuria eat, and have been eating for a long time, far more than they actually need, and one of the most important lessons they have to be taught is that they must "eat to live and not live to eat." The old adage that one should rise from the table feeling that one could eat more is particularly applicable to most diabetics. The only really satisfactory way to regulate the diet is quantitatively, and the patient must be taught not only what foods he may take, but also how much of each kind he may, and must, take to keep up his strength and body weight without overtaxing his powers of metabolism in any direction. I dealt with this subject at some length at the Liverpool meeting last year, and have discussed it more fully in my book on *Glycosuria*

* I am indebted to the Manager of the Scottish Equitable Life Assurance Society for the use of the records on which these remarks are based.

and Allied Conditions (Edward Arnold), so that it is not necessary for me to refer to it further. As I have already pointed out, the question of cookery is a most important item in the treatment of glycosuria, and a good cook is almost as essential as a good physician. The food should be thoroughly cooked, it should be appetizing, as much variety as possible should be given, and it should be served in an inviting manner. Failure in these respects is, I find, one of the chief complaints that patients make against the Continental clinics that lay themselves out for the treatment of glycosuria. An open-air life, exercise short of fatigue, the avoidance of mental worry and excitement, and careful regulation of the bowels—the last a most important point—are all contributory factors in the treatment which must not be neglected. Opium, or one of its derivatives, is often useful in the treatment of severe cases of diabetes, and although its administration may possibly lead to the contraction of the drug habit in some cases, one is faced by the choice of two evils, and of these I consider that the opium habit is the least to be dreaded. In simple glycosuria, such as this discussion is chiefly concerned with, all forms of drug treatment are unnecessary, and are only likely to do harm by distracting attention from the careful regulation of the diet that is essential.

Patience and perseverance on the part of both physician and patient are necessary if a satisfactory result is to be obtained. The disease has often been coming on insidiously for months or even years, and it may take months or years before it is brought well under control. By constant care and watchfulness, however, surprising results are often obtained, and not only may cases of simple glycosuria be put into such a position that their span of life is not appreciably shortened by the disease, but complex cases, usually described as "true diabetes," may be converted into simple glycosurias with a correspondingly better chance of recovery. Throughout the treatment the hearty co-operation of the patient is essential, and it is therefore advisable that his exact condition and the basis of the treatment, with the reasons for any subsequent modification, should be carefully explained to him.

To summarize, the four most important points to appreciate in treating all forms of glycosuria are: (1) An adjustment of the diet to the metabolic needs and capacity of the patient at the earliest possible stage; (2) quantitative as well as qualitative regulation of the diet; (3) individualization of the treatment; (4) perseverance. When these points are more fully and generally recognized we shall rarely have to deal with any but cases of "non-diabetic glycosuria," and the prognosis we can give to our patients will be improved correspondingly.

Dr. Gordon Dill (Hove) considered that, although the term "gouty diabetes" had been used very loosely, there was a glycosuria definitely associated with gout, as in those cases where, after cessation of the excretion of free uric-acid glycosuria appeared, or where gravel alternated with sugar, the cause of the glycosuria was probably not merely a general weakness of metabolism but a directly irritative action of the retained uric acid. The excretion of sugar, although at first intermittent, might become permanent, and might also be associated with other disorders caused by the irritative effects of the retained uric acid, such as interstitial nephritis, arterio-sclerosis, etc.; and, further, the subject of this glycosuria was quite as much in danger from the invasion of tubercle, diphtheria, and from the other sequelae of diabetes, as others suffering from this disease. If this variety of glycosuria associated with gout be recognized, the rule should be to treat the gout.

Dr. W. Essex Wynter (London) agreed that on scientific grounds no hard-and-fast line could be drawn between diabetes and glycosuria, but their effects were very different on the patient. General symptoms were not marked in glycosuria. The knee-jerks, usually absent in severe cases of diabetes, were present in glycosuria. No acetone or diacetic acid was present in the urine in the latter. He had seen improvement follow the use of trypsinogen. An important complication associated with mild glycosuria was the occurrence of gangrene, the two conditions being constantly associated.

DISCUSSION ON FIBROSITIS AND MUSCULAR RHEUMATISM.

OPENING PAPER.

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The affections that we are dealing with in this discussion are the more or less chronic affections which are generally labelled "rheumatic," but which undoubtedly are not the sequelae of acute rheumatism.

Pathology.

In the great majority of the cases of so-called muscular rheumatism the pathological change is in the white fibrous tissue in various parts of the body, and to this condition the term "fibrositis" has been very aptly applied. The essential pathological change in fibrositis is an inflammatory hyperplasia of the white fibrous tissue in various parts of the body, associated with exudation and proliferation of the connective tissue elements leading to swelling and thickening of the affected fibrous tissues. This condition may undergo absorption and so completely disappear, or, if not suitably treated, it may pass on to organization with the formation of nodules and patches of thickening.

The articular structures proper—synovial membrane, cartilage, and bone—are not primarily affected, but the parts implicated are the fibrous tissues of the joints, muscles, and bones, especially the aponeuroses and insertions of the muscles, the muscle sheaths in which the muscle spindles lie, the bursae, fasciae, the fibrous ligaments and capsules of the joints, and the periosteum. Such affections cause pain and stiffness in the structures, are especially apt to recur, and are commonly referred to as rheumatic or even gouty in their origin. This inflammatory hyperplasia of the fibrous tissues occurs in patches, and is started by exposure to wet or cold, by injury, or by some irritant, microbic or toxic, conveyed in the blood. The inflamed and swollen fibrous tissue is tender, painful on pressure or on movement, and can frequently be felt on palpation, or is evident by the consequent elevation of the skin. Sudden movement of the affected muscles generally causes excruciating pain, while the local pain on pressure is one of the most diagnostic features of these cases.

The indurations may be widespread, but generally are well defined, and vary in size from an eighth of an inch to one inch in diameter. They may be situated in the subcutaneous tissue, the muscles, tendons, aponeuroses, the capsules and ligaments of the joints, the bursae, the sheaths of the nerves, and periosteum. The pain is especially aggravated by any sudden movement of the muscles which compresses or stretches the affected fibrous tissues and the sensory nerve filaments.

Kenneth W. Goadby considers that a considerable number of cases of fibrositis may be traced to the action of bacteria or their toxins. In favour of the bacterial origin of the malady, he worked on two cases of periarticular arthritis in which the urine was found to be sterile, but after the employment of massage and the application of Bier's bandage to the affected parts an organism was found in the urine resembling the *Bacillus necrodentalis* in one case, and in the other a streptococcus was obtained. An autogenous vaccine prepared in each case did some good. The microbic causation of fibrositis, however, is probably a rare occurrence, but Ware has been able to demonstrate the presence of gonococci in the inflamed muscles of the posterior axillary fold secondary to a gonococcal arthritis of the shoulder-joint. In the great majority of cases the inflammatory hyperplasia is due to a toxaemia, exposure to cold, strains, etc.

Etiology.

Local fibrositis may result from several causes, of which the following are the commonest:

1. *Cold Damp and Wet.*—In a very large number of cases the only assignable cause of the fibrositis is a history of exposure to cold and wet. Sometimes the attack comes on acutely a few hours after the exposure, as in many cases of lumbago, stiff neck, intercostal "rheumatism," and other forms of so-called muscular "rheumatism." At other times stiffness gradually de-

velops after the exposure, and passes on to the condition of chronic fibrositis. The exposure may be due to draughts, remaining in wet clothes, lying or sitting on damp ground or some cold substance, or the simple advent of damp or cold weather.

2. *Extremes of Heat and Cold.*—Sudden and considerable variations in temperature constitute by no means an uncommon cause of a generalized fibrositis which takes the form of so-called "muscular rheumatism," following on the resulting chill.

3. *Local Injuries.*—These are responsible for a large number of cases of local fibrositis. Traumatic fibrositis is a definite form, and is induced by sudden and severe strain on tendinous and ligamentous structures. Such a form may persist for a lengthened period, for whereas the slighter forms of muscular fibrositis, such as "stiff neck" and mild forms of lumbago, are usually of brief duration, that which affects the tendinous and ligamentous structures may persist for weeks, and even months. Golf produces a number of such injuries, the fibrous tissues of the muscles and their attachments to the arms and back being specially affected in this game.

"Tennis elbow" is another instance of rheumatic fibrositis.

4. *Absorption of Irritating Toxins from the Alimentary Tract.*—It has long been recognized that disorders of the alimentary tract may give rise to "rheumatic" pains. Oral sepsis is undoubtedly responsible for the development of some forms of chronic rheumatism, as likewise are flatulent dyspepsia, chronic constipation, colitis, etc. The aching in the joints and the lumbar region that occasionally occurs the day after a lengthy dinner, especially if several wines have been indulged in, is due to irritation of the fibrous tissues by the toxins absorbed from the intestinal tract, and which have been produced there by abnormal fermentation.

5. *Tonsillitis and Pharyngitis.*—The aching pains that occur in various parts of the body in connexion with these affections are well known, and are doubtless due to toxic absorption and consequent irritation of the fibrous tissues.

6. *Influenza.*—Many individuals are personally acquainted with the aches and even severe pains in the muscles, joints, and bones which accompany this disease. These are, in all probability, due to the fibrositis set up by the specific microbe or its toxin. It is not uncommon to find fibrous nodules and thickenings left as sequelae of this disease.

7. *Febricula.*—A "feverish cold" is generally accompanied by aching pains in the muscles, joints, and bones. The attack, which is sometimes described as a "rheumatic cold" or an "influenzal cold," is microbic in its origin, and the pains are no doubt due to irritation of the fibrous tissues by the microbe or its toxin.

Various Forms of Fibrositis.

The white fibrous tissues in practically any part of the body may be affected, but the liability is greater in certain situations, which will now be dealt with.

Muscular Rheumatism.—This affection is always a fibrositis. Any of the muscles may be affected. Affection of the muscles of the lumbar region constitutes one of the forms of lumbago: affection of the muscles of the neck constitutes stiff neck; affection of the deltoid muscle constitutes "deltoid rheumatism"; affection of the intercostal muscles constitutes "intercostal rheumatism." The abdominal muscles may be affected, and such nodular fibrositis in those muscles may cause either continuous pain or severe paroxysmal pain. Undoubtedly such cases have been mistaken for appendicitis, renal or biliary colic, abdominal adhesions, gastric ulcer, etc., and this, I believe, is the explanation of many laparotomies that have been performed with a negative result.

Fibrositis of the occipital and pericranial aponeuroses is a common form of headache, and one which is frequently overlooked. The indurations are most apt to occur in the retrocollic muscles, especially the trapezius, and in the temporal and other cranial aponeuroses. The attacks of headache are always associated with painful stiffness in the affected muscles. This form of fibrositis is especially due to the exposure to draughts through lack of covering to which this part of the body is necessarily subjected. I am frequently meeting with such cases of headache and fibrositis among those motorists who persist in riding in an open car with the front wind screen up, so that the neck and back of the head get the powerful back draught.

Lumbago.—This is a very typical form of fibrositis. It may be an affection of the fibrous elements of the lumbar muscles, but more commonly it starts as a localized affection of the insertions of the muscles in the vicinity of one or both of the sacro-iliac joints, since the fibrous attachments of the muscles to the back of the sacrum are especially liable to overstrain. It spreads by continuity of the fibrous tissue, as is manifested by its affecting the tendinous attachments of the neighbouring muscles, by its affecting the sacro-iliac joint itself, and by its often spreading through the joint and reaching the sheath of the sciatic nerve. This explains the very frequent association of some degree of sciatica with an attack of lumbago.

A violent strain on the spinal ligaments following railway accidents and other injuries may set up a fibrositis with long-continued susceptibility to pain on any tension, a condition which I think is not infrequently ascribed to malingering.

Dupuytren's Contraction.—This is a localized fibrositis caused by habitual postural use of the hand. It is frequently ascribed to gout, but, according to my experience, the condition has no connexion with that disease. Certainly, I have never seen any gouty deposits in the thickened tissues, nor is the affection commoner amongst gouty subjects.

Fibrositis of the Plantar Fascia.—A fairly common form of localized fibrositis is that which affects the plantar fascia. This causes pain in the sole of the foot when the weight of the body is on it, and if not arrested is liable to lead to the development of flat-foot. The fibrositis is sometimes localized to the attachment of the fascia to the inner tubercle of the os calcis, and then constitutes one of the commonest forms of painful heel. If the inflammation persists at this point it is liable to cause a local periostitis and osteitis, resulting in the formation of a bony spur, which, if not removed, constitutes a permanently painful heel.

Fibrositis of Bursae.—A chronic fibrositis of bursae is fairly common, and especially occurs in connexion with the subacromial bursa. This condition, which explains the frequency of stiff and painful shoulders, is very apt to be mistaken for arthritis or fibrous ankylosis of the shoulder-joint, or for brachial neuritis. Severe pain as regards abduction and rotation are the chief symptoms, and the pain may be so severe as to prevent restful sleep. The pain is often felt at the insertion of the deltoid, and I believe that many cases of so-called dislodgement of the biceps tendon from its groove are cases of subacromial bursitis.

Fibrositis of Joints.—Chronic fibrositis of the joints is most frequently met with in the knuckle and finger joints of those engaged in hard manual labour, especially when associated with damp surroundings. Pads upon the finger-joints constitute a chronic form of localized fibrositis.

Fibrositis of the Subcutaneous Tissue.—A form of fibrositis to which Ralph Stockman has recently drawn attention is a chronic subcutaneous fibrosis, which when it occurs in people with a large amount of subcutaneous fat is identical with the disease known as "adiposis dolorosa" (Dercum's disease).

Chronic Villous Synovitis.—This is a purely local condition and not a manifestation of a general disease, and is frequently described as "arthritis sicca." It usually occurs in the knee, and is characterized by crepitus on movement and by pain and tenderness on use. The crepitus during movement of the joint is frequently unpleasantly audible to the patient, and is especially caused by going up or down stairs. The capsule and the ligaments of the joint are more or less relaxed, and the synovial membrane is passively congested and loose. The crepitation on movement is due to the folds of the flabby congested membrane rubbing together; in other words, it is a true creaking and not a bony grating. If further relaxation of the synovial membrane results, hernial-like projections of the synovial fringe may be produced which are apt to cause a catching or locking of the joint when it is moved. In this class of cases the fluid in the joint is generally quite normal, although, if there be great irritation, some excess of it may form. The condition is very frequently mistaken for rheumatoid arthritis, but there is no erosion of

cartilage, and no eburnation of the ends of the bones, consequently bony grating can never be produced in such joints.

A valuable aid to the recognition of this condition, and to its differentiation from rheumatoid arthritis, is the careful auscultation of the joint, to which A. E. Garrod has drawn useful attention. The knee-joint should be slowly flexed and extended during the examination, and in this way the peculiar crackle or crepitus that is produced by the thickened and flabby synovial membrane is easily distinguished from the scrunch or grating sound that occurs in cases of rheumatoid arthritis, and which is due to abrasion or erosion of the cartilages.

Treatment.

If the attack is a severe one confinement to bed may be necessary, and it is important to recognize the beneficial influence of rest in such cases. For severe attacks of lumbago and intercostal rheumatism firm strapping with the brown holland strapping plaster secures the necessary local rest of the affected muscles. In all cases of brachial fibrositis the arm should be carried in a sling and should be moved as little as possible during dressing and undressing.

Drugs.—In the treatment of the different forms of fibrositis salicylates are of little curative value, as they do not exercise the same specific action as in acute rheumatism. Aspirin is of decided use for the relief of pain in severe cases, but it should only be given with that object. It acts better than the sodium salicylate owing to the fact that the introduction of the acetyl radicle increases the analgesic action of the salicylic acid. It probably also exercises a beneficial effect in cases of abnormal intestinal fermentation. Perhaps the best method of administering this drug for the relief of pain consists in giving 10 grains of aspirin with 6 grains of pyramidon in a cachet every four hours. Potassium iodide is, in my opinion, the most valuable drug in the treatment of fibrositis. It seems to exercise a direct effect in removing the hyperplasia and serous exudation in the fibrous tissues. It should always, if possible, be given in full doses of 10 or 12 grains, and should be combined with tonics, such as nux vomica or the compound glycero-phosphate syrup. If the iodide produces severe symptoms of iodism one of the organic iodine compounds may be tried. Of these I have found iodipin, in the form of tablets, extremely useful.

Fibrolysin.—This is a chemical combination of thiosinamin and sodium salicylate, for which the claim has been put forward that it has a softening effect upon all forms of pathological fibrous tissue. I have given this drug an extensive trial in a large number of cases which were kept under careful observation both during treatment and for a long time after it was discontinued. The results were as follows:

No benefit	...	71 per cent.
Some improvement	...	17 ,,
Cured	...	12 ,,

From these results it appears to me that fibrolysin has a very limited use, and I cannot avoid the inference that the claims that have been put forward for this preparation must be considered extravagant.

Local Treatment.

For the complete dispersal of the indurations in most cases of fibrositis, and certainly in the severer cases, local treatment must be adopted. This may best be considered under the following headings: External applications, heat and electrical treatment, massage and exercises.

External Applications.—In the early stages of an acute fibrositis hot fomentations are useful. Afterwards one of the best external applications in my experience is a mixture of equal parts of chloral hydrate, camphor, and menthol. These three substances form a liquid when well rubbed together. This liquid should be painted over the painful area, and then be gently rubbed in with the fingers. Another useful external application is to paint the painful area with tincture of iodine and then to apply a hot linseed poultice or a very hot fomentation. The heat converts the iodine into vapour, which exercises an anodyne effect, and, probably by absorption, directly acts on the affected fibrous tissues. In the later stages the aconite, belladonna, and chloroform liniment applied on lint is frequently most beneficial. In cases of a very localized fibrositis counter-irritation is sometimes of great use, especially in the form of the thermo-cautery. In severe cases of acute fibrositis a few leeches will sometimes give great relief.

Heat and Electrical Treatment.—In localized forms of fibrositis, and especially where fibrous deposits occur, the most effective form of local treatment that I am acquainted with is the employment of heat followed by ionization of the affected part. This treatment has a very remarkable effect in causing the absorption of thickened fibrous tissues. Heat increases the supply of arterial blood, and so causes a state of active congestion, stimulates leucocytosis and metabolism, lowers blood pressure, causes diaphoresis, relieves pain, and enhances the effect of the ionization that is to follow. If heat is to be applied to the entire body, the electric light cabinet bath is the most convenient form, but in the treatment of localized forms of fibrositis it is preferable to concentrate the heat on the affected part only, and I am confident that far better results are obtained from the employment of dry radiant heat than from the employment of heat alone. C. F. Bailey, of Brighton, is rightly recognized as one of the pioneers of this method of treatment, and he has especially obtained brilliant results by the use of the leucodescent radiant heat lamp, followed by ionization with a 2 per cent. solution of lithium iodide.

In cases of chronic villous synovitis of the knees this combined heat and ionization treatment is most effective, and in all cases gives the most satisfactory results.

In cases of lumbago the static wave current may be substituted for ionization. F. H. Humphris records excellent results with this form of treatment. It produces a local vibratory effect and muscular contraction takes place, so that the wave current tends to remove the infiltration by squeezing out the serous exudation from the affected tissues, and thereby relieving the pain. From my experience of a number of cases that I have had successfully treated I can thoroughly recommend the employment of local heat, followed by the use of the static wave current.

Massage and Exercises.—Massage is very useful in the later stages, but it should only be employed when it causes no pain. The manipulations should be very gentle at first, so as to promote removal of exudation and to relieve the tension. Afterwards more vigorous massage is most efficacious in dispersing the indurations and fibrous thickenings, and in removing the stiffness of the affected parts. General massage should not be employed, but the tender and affected areas should be carefully marked out for treatment. Massage should not be used to affected joints, but only around them, so as to improve the circulation in their neighbourhood. I have frequently seen the most disastrous results to joints from their over-zealous manipulation by masseurs and masseuses, as such treatment only increases the inflammation and bruises the synovial fringes. The same remark applies with equal force to acute affections of the bursae and tendon sheaths, and to fibrositis of nerve sheaths until the acute affection has entirely subsided.

Spa Treatment.—This is most useful in protracted cases of fibrositis, especially when the waters are strongly radio-active. Undoubtedly the radio-active emanations of such waters are powerful adjuncts in the dispersion of the thickenings and deposits.

Diet.—Unlike gout, no special dieting is required in these affections. Moderation should be the keynote of all prone to the various forms of fibrositis, and especially should they avoid foods which their experience has taught them to be apt to produce gastro-intestinal fermentation. It has become of late years a fashionable craze to attribute many of these forms of "chronic rheumatism" to uric acid, but I am firmly convinced that that harmless by-product of the human economy plays no part whatever in the development of the various forms of chronic rheumatism or fibrositis.

Underclothing.—With regard to the underclothing that should be worn by rheumatic individuals, I must confess that I am a convert to the view that porous linen underwear is the most suitable. It allows of the free evaporation of perspiration and so prevents a more or less sodden garment from remaining in contact with the skin, which

so frequently happens with those who wear woollen underclothing. I am convinced that in the latter case such sodden garments are a frequent cause of many of the forms of fibrositis. Some individuals find that in winter linen underwear is too cold, and in such cases a thin silk vest may be worn over the linen. This will be found to constitute a thoroughly warm, comfortable, and safe form of underwear.

DISCUSSION.

Dr. F. Howard Humphris (London) said: Dr. Luff has just told us that the essential pathological change in fibrositis is an inflammatory hyperplasia of the white fibrous tissue in various parts of the body, associated with exudation and proliferation of the connective tissue elements leading, if not properly treated, to swelling and thickening of the affected fibrous tissues. This condition may undergo absorption, and so completely disappear, or, if not suitably treated, it may pass on to organization with the formation of nodules and patches of thickening. He further said that the inflamed and swollen fibrous tissue is tender, painful on pressure or on movement, and can frequently be felt on palpation, or is evident by the consequent elevation of the skin. I have, at the risk of repetition, laid emphasis upon the salient points of the pathology of fibrositis, and I propose to show how the treatment, which I shall presently describe, directly relieves this pathological condition; and with the relief of the pressure caused by the exudation, comes the relief of the pain, which tends towards that termination which Dr. Luff foreshadows in successful cases, namely, that the condition undergoes absorption and completely disappears. The treatment, so far as electricity is concerned, should, in my opinion, consist of exposing the affected part to the influence of a powerful incandescent light. This should cause relief within a few minutes. In some cases it will be necessary to follow this treatment with some other form of electricity. Personally I prefer what is known as the "static wave current." This has been far more successful in my hands than any form of ionization. In some mild cases, notably stiff neck, mechanical vibration is of service.

I will now discuss what I may call the "light and wave" treatment in detail. The light is a very simple affair, consisting of 500 candle-power incandescent electric globe, with a carbon filament capable of carrying 12 to 15 amperes of current. I have tried five lamps each of 100 candle-power, but this did not give me the same success as the one lamp of 500 candle-power, and this has been explained to me that owing to the larger amperage necessary to produce the candle-power in a single lamp we get a different spectrum richer in ultra-violet as well as ultra-red rays than is obtainable from a cluster of lamps. The globe carrying the incandescent filament is surrounded by a cone-shaped metal hood, the whole being so balanced that it is easily swung to and fro, and this is the desired method of using the lamp. The distance between the skin and the lamp depends on the toleration of the patient, and this toleration varies with the severity of the pain and other elements of the personal equation. The light must be applied directly to the skin. Its virtue seems to diminish if there is any imposing clothing, however light in texture.

The patient should be instructed to notify the operator on the first sensation of the feeling of the lamp being unbearably hot. Incidentally the lamp should be swung away for a few seconds, so that no rays fall on the part which is being treated; alternatively, the hand may be lightly brushed on the skin, which will also relieve the burning feeling. The number of applications, their frequency, and the duration of the whole treatment depends so much upon the amount of pathological change present in each individual case that no time limit can be laid down. The physician must be guided by the result obtained. In case of pain, if the pain can be relieved and held in check by one daily application until it disappears entirely, then daily applications are indicated. In some cases, however, at the beginning, the applications may have to be twice daily, but in others thrice weekly will sometimes suffice. A case of simple acute lumbago may be expected to clear up in a few days, while a case of years' standing may take several weeks. As a general rule, the longer the duration of the complaint has been, the longer will it be necessary to continue the treatment—that is, the longer it will be before the pathological condition which is causing the trouble will be replaced by the physiological state. There should be no sense of fatigue or depression following an exhibition of the rays.

So much for the details of the light treatment. And now to see the way in which it acts. The first obvious result we notice is the dilatation of the cutaneous vessels. The deeper action may be due partly to this, for with the filling of the capillaries a better circulation is established in the deeper vessels, and also the stasis may be relieved by the heat generated by the resistance of the light energy. It is well known that whenever energy meets resistance at any point, heat is generated at that point, and I suggest that with a better circulation established by the capillary dilatation and the heat generated in the deeper parts the stasis and inflammatory hyperplasia is relieved, and the swelling and thickening of the fibrous tissue diminished: and with the improvement of the circulation absorption will have a tendency to take place, and the risk of organization with the formation of nodules will be lessened. The static wave current (so called because in the completion of its circuit Hertzian waves emanate from the patient's person) is applied for its mechanical action. I will not attempt to describe the mechanism by which this current is produced, nor go into its electrical characteristics. Suffice it to say that a metal plate is placed over the painful area, and an interrupted current is administered at a voltage of about 500,000. The effect is to produce painless contractions, about 120 to 180 per minute. The most important attribute to this current is its mechanical action. It causes not only alternate contraction and relaxation of the muscles which can be seen, but also the contraction of the deeper tissues. It produces contractions which are obvious both to patient and to any observer, and which correspond to each interruption of the current. Turning back once more to the pathology which Dr. Luff has laid down, it is not difficult to understand why the contraction and relaxation caused by the static wave current should improve that condition of faulty metabolism which he has described, and remove the swelling and thickening which we have seen is the essential pathological change; and used with the high candle-power light appears to me the best as far as we know at present—the best electrical treatment of fibrositis and muscular rheumatism.

Dr. George Parker (Clifton) said: If we are here once more splitting off a definite complex of symptoms from the old rheumatic group, we must ask whether this disorder is due to a specific organism, or is it, just like pleurisy, a mechanical change due to a systemic infection by all sorts of bacteria? That has to be cleared up, and also the question whether any metabolic changes precede an attack; more particularly, Can we exclude any variation in the excretion of uric acid? I have been much struck with the enormous number of cases of so-called brachial neuritis of late years in my electrical department. They are all marked with perfectly definite tender spots—one over the insertion of the deltoid, one over the subacromial bursa, two or three on the edges of the scapula, and possibly others over the nerve trunks, or over the pectoralis muscles. After an experience of three attacks myself I have learnt to look for, and recognize, these spots, which, when pressed, feel like a small boil under the skin, though the patient may have previously not noticed them. These cases are true instances of fibrositis; the joint is really unaffected, and they are distinct from, though difficult to separate from, some forms of peripheral neuritis and of writer's cramp. Another curious symptom in many of these patients is inability to sleep from the pain until they have placed the forearm behind the back of the head in an apparently strained position, possibly due to the relief to the strain on the subacromial bursa. It would be of great value if our radiographers would show us how it is possible to render these nodules visible under the *x* rays, for the diagnosis between these cases and various joint and other diseases is all-important. Again, there are, we are told, certain nodules around the finger and other joints due to fibrositis; but, besides true rheumatic nodules, Heberden's nodules and those due to rheumatoid arthritis, there are

occasionally certain absolutely painless, hard, chronic nodules on the interphalangeal joints which may possibly be fibrositic, though of this I am doubtful. As to treatment, I can support what Dr. Luff has said, laying stress on the importance of rest, gentle massage, heat, ionization, and nerve sedatives. A simple application, which gives much relief of pain, is salicylic acid, menthol, and lanoline, with or without belladonna smeared over the painful area and covered with waterproofing. It eases pain, while it has not the penetrating odour of methyl salicylate, and it rarely irritates the skin.

Dr. Crofton (Dublin) said he did not think cold, damp, draughts, etc., would produce fibrositis unless the patient had microbes capable of producing the inflammation in them; he thought that cold, etc., simply acted by reducing the resistance of the body as a whole or of the part affected. He thought many microbes and their toxins produced fibrositis, but that the most common etiology was as follows: A focus of infection capable of infecting the gastro-intestinal tract. This was most commonly situated in the gums, less commonly in the naso-pharynx, tonsils, or bronchial tubes. The microbes got into the circulation either directly from pyorrhoea by means of the lymphatics, etc., or through the intestinal tract. When swallowed the microbes infected the gastro-intestinal tract, lowering its resistance, and in combination with *coli* organisms, which become pathogenic at any lowering of the normal immunity of the tissue cells with which they come in contact, producing abnormal decomposition of the food contents of the intestines. By far the commonest, but by no means the only, microbes concerned in the local infection of the upper alimentary and respiratory tracts were streptococci. He believed this combination was also most commonly the cause of other rheumatic infections, such as rheumatoid arthritis, neuritis, etc. He treated these cases by autogenous vaccines from the local infection, and from the coliform organisms isolated from the faeces. He used symptomatic treatment as well, and referred to the experimentally ascertained antitoxic powers of iodine and sulphur. He thought a combination of iodine and thiosinamin was useful. It was necessary to be sure that the alkalinity of the blood and tissue juices was normal, since antibodies did not act well if there was any acidosis. He used sodium nitrate to correct this if necessary.

Dr. Preston King (Bath) suggested that fibrositis was probably due to an infection. He thought that the fibrositis of the joints could hardly be differentiated from what was known as rheumatoid arthritis by the nature of the creaking or crackling which was heard and felt on examining the joint, as Dr. Luff suggested. He had found both the conditions spoken of by Dr. Luff occurring in the same patient. He had found the application of heat followed by ionization most useful, especially in conjunction with the radio-active waters of Bath. He entirely agreed that massage should never be given when it caused pain, and his experience with iodides and drugs generally quite agreed with that of Dr. Luff.

Dr. Marion Gilchrist (Glasgow) said: There are one or two points to which I would like to refer. I should like to confirm what Dr. Luff said as to fibrositis in the abdominal muscles often leading to a mistaken diagnosis of visceral diseases, such as appendicitis or oöphoritis. I have seen many cases in which such mistakes have been made, and will instance one specially: A patient came into my hands several years ago who had been kept in bed more or less for over twenty years, said to be suffering from ovarian disease. She had been seen by several eminent gynaecologists, who confirmed this diagnosis, but said she would not stand an operation. I found marked fibrositis of the abdominal muscles, and ordered massage. Under this she improved rapidly and her abdominal pains disappeared. Lately this patient died, and *post-mortem* examination revealed perfectly healthy ovaries. The diagnosis in joints is best made, especially in the later stages, by *x*-ray photographs. I agree with Dr. Luff about treatment, except on one or two points. My experience is that massage, to be effective, must in some cases be painful. In many cases I have had massage given which gave the patient no pain and also gave him little or no relief, and later have ordered him hard deep massage, which gave him great pain—and magnificent results. But I consider it of more importance than Dr. Luff does, especially in patients who are at all fat, and in this connexion I also find thyroid administration of great value. With regard to electrical treatment, I find ionization and other methods of great value, and especially the ionization of joints. It also has a great effect in relieving pain, and is of great use in this connexion when massage is painful, but I always get the best results when it is combined with hand massage. I am in entire agreement with Dr. Luff about clothing, and strongly recommend the wearing of linen under-garments. Apart from the advantages of this mentioned by Dr. Luff, linen has the very great merit of standing boiling, and in this way can be thoroughly disinfected constantly.

Dr. O. Heinemann (London) said: It appears that iodine is the drug of preference in the ionic treatment of rheumatic diseases. This method has been very satisfactory in my hands. However, I find that most books on ionic medication recommend salicylates. I also understood that lithium salts are considered specifics for gout, and I would like to have further information from Dr. Luff as regards their use in the cataphoric treatment of fibrositis. I am glad that the possibility of formation of hydroxides has been mentioned by Dr. Humphris. When I first started ionic medication I found wounds on the patient's skin after my applications, which took a long time to heal and were very troublesome. I believe that they are caused by the NaOH or KOH formed by electrolysis. As to Dr. Crofton's remarks, I cannot agree with him regarding the diagnostic value of the amount or percentage of uric acid found in the patient's urine. I have carried out estimations by Hopkin's method for three years, but I could not detect any relation between acidity of the urine and the health of the patient under observation. I am also sorry that I must contradict Dr. Crofton's statement that iodoform is less toxic than potassium iodide, and I do not believe in general conclusions drawn from the results of bacteriological investigations of the intestinal contents, nor would I hope to get a result from vaccines made from numerous bacteria which happen to inhabit the colon at the time of the investigation, but I do believe that sepsis is in many cases responsible for rheumatic diseases, and we are even justified in taking a previous speaker's remark as serious when he hinted that bacterial infection will soon be made responsible even for glycosuria. Recent researches have convinced me that though sepsis is not the cause of diabetes mellitus, it greatly supports the disease. The cure of a septic condition will not do away with either rheumatism or glycosuria, but will help us in our therapeutic efforts.

Lieut.-Colonel W. G. Pridmore, I.M.S., said: The majority of cases which come under treatment are the chronic slighter cases, and these are the most difficult to cure. Most of us after a certain age suffer from fibrositis to a more or less extent. I believe I am right in saying that children do not suffer from these attacks of fibrositis, and therefore I cannot believe that cold can cause an attack. Children sit in draughts, and are exposed to cold as much as adults, and they never get lumbago and stiff necks. It is not fair to say that cold is a cause. There seem to be two sections, one of which holds to the bacterial cause and the second to the non-bacterial. I think we must combine. There must be some form of poison inside the body, either bacterial or dietetic, before fibrositis can be caused by cold, or anything else. Dr. Luff mentioned fibrolysin. I should like to ask if he has found any danger from using this. The other day I heard of a case in which it was used, and which ended fatally.

Dr. Warden (Paris) said that it had not been made clear whether fibrolysis, muscular rheumatism, and allied conditions were due to bacterial infection or to defective metabolism. He asked if, in Dr. Luff's opinion, the term "autointoxication" covered the etiological factors of the disease in question. The principle underlying the various treatments proposed lay surely in their eliminative effect, and he ventured to recommend to members the use of Guelpa's well-known method of disintoxication.

DIFFERENTIATION IN CHRONIC JOINT AFFECTIONS.

By Preston King, B.A., M.D.Camb.,
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The term "chronic arthritis" of course includes all cases where, as a result of disease or injury, there are left changes more or less permanent in the joints. I do not propose to attempt to enter into the differentiation of all such cases, but shall confine myself to that sufficiently large and indefinite group which is at present known as rheumatoid arthritis.

It is very remarkable, after all that has been written and spoken upon this disease, to see the vagueness and uncertainty that still exists about it. In the few remarks that I have to make to-day I hope to be able to throw out some suggestion which, by leading to a discussion, may be of help in putting on a clearer basis what we mean when we speak of rheumatoid arthritis.

The differentiation of this form of chronic arthritis has not been assisted, but has rather been obscured, in the past by "osteo-arthritis" being allowed, in the nomenclature of the Royal College of Physicians, to be used as an alternative title for it.

This being so, and seeing also the vagueness that exists as to what cases should and what should not be included in this disease, it is small wonder if at times we find it hard to follow some writer's meaning and to know to what class of cases he is alluding. It would almost seem, judging from experience in Bath, that the term "rheumatoid arthritis" is used by some as a sort of dust-heap upon which to sweep all chronic joint affections which do not, like true gout, carry their obvious nature with them.

The term "rheumatoid arthritis" is at present applied to the case of some old man whose joints, perhaps as a result of injury, are stiff, and limited in movement by bony outgrowths, but who otherwise is well. It is applied to the case of a woman whose only trouble is some long-standing pain and creaking in the knees; and finally, it is applied to some young girl who is suffering from polyarthritis with fusiform synovial swellings of all her joints, with no bony outgrowths, but marked general debility, and a hectic fever. What have these cases in common that they should be classed together, and described as belonging to the same disease?

I suggest that these cases have no connexion with each other. They are unlike in their cause, their progress, and their every feature. The only thing they have in common is that in each the joints are affected, and even here the affection is different in them all.

Rheumatoid arthritis has been described as more common among women, and chiefly occurring at two periods of life, the one between the ages of 20 and 30, and the other over 40. I think it would be well, and be a help in differentiation, if we could limit the use of the term "rheumatoid arthritis" to the former of these groups, and class the others, those occurring in later life, as "osteo-arthritis." If we could do this it seems to me we should clear away much of the uncertainty and vagueness which must exist while all these cases are described together. What I suggest seems at least to have its reasonableness to recommend it, since in reality these groups are quite distinct, and differ from each other in the following important points.

Rheumatoid arthritis, used then in the way I have suggested for the earlier cases, is far more common among women. It is before all things a polyarticular disease, whose onset is rapid, accompanied frequently with fever, and always with great debility, and rapidly leading on to crippling. The nervous symptoms are marked, the muscular wasting is out of all proportion to disuse, the reaction of degeneration is often present, and the tendon reflexes are increased.

In osteo-arthritis, on the other hand, the onset is slow. Sometimes one joint only is affected; the general health is fair; the crippling is slight, being only due to the bony outgrowths; the muscular wasting is only in proportion to the disuse; the reflexes are normal; and finally, there are Heberden's nodes on the terminal phalanges, which are not present in rheumatoid arthritis. In osteo-arthritis the joint trouble is the most important feature, while in rheumatoid arthritis this often takes quite a secondary place in the clinical picture, being overshadowed by the more important symptoms due to changes in the nervous, the circulatory, and the vasomotor systems.

The peculiar deformity of the hand, with inverted finger and ulnar deflection, belongs chiefly to osteo-arthritis, while a typical case of rheumatoid arthritis shows fusiform elastic synovial enlargement. Of the claw-like appearance of the hand in osteo-arthritis no proper explanation has ever been forthcoming. It has been said to be due to the overaction of the interossei and lumbricales. It is, indeed, the position which the action of these muscles tends to produce; but why in a wasted muscular system these special muscles should make their existence so marked is not explained. I would suggest as being a much more likely cause that the laxness and stretching of the periarticular sheaths and tissues, by allowing the flexor and extensor tendons to pass from their proper line of traction, is accountable for the deformity.

The use of the *x* rays as a means of differentiating among these chronic joint affections is disappointing. In osteo-arthritis the bony outgrowths will certainly be shown, but they can also be seen generally with the eye or felt by the touch. It has been claimed that in rheumatoid arthritis the bones are more translucent, owing to a supposed loss of lime salts, but this is not my experience. I have not found, after taking a considerable number of skiagrams, that there is more bone translucency in rheumatoid arthritis than in other diseases in which wasting occurs. It is hardly necessary, moreover, to point out how many unknown or variable factors there are in the production of an *x*-ray photograph. There is the penetration of the tube, the distance from the plate, the thickness of the object, the exposure, the development, and the printing, and besides all this there is the personal equation of the operator. I think, with a little care, I could show that the bones in rheumatoid arthritis are somewhat denser than is normal.

The points of distinction, then, to which I have drawn attention, between osteo-arthritis and rheumatoid arthritis, seem to justify the differentiation of the one from the other, and to suggest that they should be described under separate headings. It must be remembered, however, that a case of rheumatoid arthritis may progress and pass on till it becomes one of osteo-arthritis, and this in spite of the fact that it may have been treated at Bath, or by the administration of potassium iodide, or even lime salts.

In differentiating between osteo-arthritis and rheumatoid arthritis I do not for a moment wish to suggest that they should be regarded as distinct diseases; indeed I think it is a question whether either of them should be considered a disease at all. A distinct disease should have a distinct and common cause, and the results that this cause produces should be fairly constant. But this cannot be said of either of these forms of chronic arthritis. The various micro-organisms which have been claimed as the one specific cause have none of them stood the test of time. But, while there is no one germ that is accountable for these conditions, we can say for reasonable certainty that in both of them the clinical features are frequently produced, and the symptoms caused, by many and quite different infections. I think, then, with our present knowledge we should regard osteo-arthritis and rheumatoid arthritis not as distinct diseases at all, but rather as conditions in which various causes, some of which are germ infections, produce results which vary according to the nature of the soil, and the special tendencies of those who have inherited a joint diathesis.

Though osteo-arthritis and rheumatoid arthritis may either of them be due to infection, it is usually easier to trace this infection, and certainly easier and more hopeful to treat it by vaccine in the latter than in the former. Among sources of infection pyorrhoea alveolaris and gonorrhoea are the most common, while I have also had successful results from vaccine made from leucorrhoeal discharge. Auto-intoxication from toxins of the alimentary canal is also a potent cause. One of the casts handed round was taken from a case of acute and crippling rheumatoid arthritis. It is typical of an infective case, but it was taken many years ago before attention had been drawn to the infective origin of the disease. The symptom came on quickly during an acute attack of Burmese fever, and whether this was the source of the infection or whether—for the patient

was in the army—the fever woke up some dormant gonococci, I do not know. There was great muscular wasting, and nearly all his joints were affected, including the temporo-maxillary articulation and the spine.

With regard to the affection of the temporo-maxillary joints, it is an interesting point to notice that while it is frequently seen in rheumatoid arthritis, and almost always in the infective cases, and associated with spondylitis deformans, it is seldom seen in osteo-arthritis, in which spondylitis deformans alone is often met with.

In conclusion, then, I would suggest that osteo-arthritis should be differentiated from rheumatoid arthritis; that neither of these conditions should be considered a distinct disease, and seeing that either of them may be due to an infective process, it might be well to form a third group, and speak of it merely as an infective arthritis.

THE HEART AS AFFECTED BY THE STOMACH.

BY

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IT was a frequent saying of my father, Sir William Broadbent, "When a patient comes complaining of heart trouble, never omit to carefully examine the stomach."

Both the heart and the stomach derive their nerve supply from the vagus and the sympathetic. Among the sympathetic fibres supplying the heart are the augmentor nerves, and stimulation of the cervical sympathetic causes marked acceleration of the heart. The vagus fibres going to the heart are inhibitory, slowing the heart if stimulated. They are also in constant action restraining the augmentor fibres, since, if in a dog the vagi be divided, or their nerve endings be paralysed by atropine, the heart beats very rapidly from the normal action of the augmentor fibres.

Anatomically, the heart is also in close relationship to the stomach, the ventricles and the right auricle are in contact with the diaphragm just above the stomach. If the stomach becomes distended and forces the diaphragm upwards, there must be pressure on the heart. It is very difficult for the heart to contend with pressure from without, since that acts by hindering the expansion of diastole, and diastole is largely a passive relaxation of the cardiac muscle fibres with no power behind it. The filling of the right auricle is due to venous pressure, and the right ventricle is mainly dependent for its charge of blood on the systole of the weak-walled auricle. If the heart is affected by cloudy swelling after an illness, by myocarditis, by degeneration (fibroid or fatty), or by adhesion of the pericardium, the effects of pressure will be much greater than on a normal heart. The right ventricle, owing to its thinner wall, will be more disabled than the left, and if a distended stomach presses up the diaphragm, it may easily be impossible for the right ventricle to get its fill of blood to pass on through the lungs to the left side of the heart for the general circulation.

A third way in which the stomach may affect the heart is by faulty digestion allowing of fermentation within it. The products of decomposition of food may be poisonous to the heart muscle, or may act on its nerves in a way similar to atropine.

These three elements—the reflex nervous effects, the pressure, and the poison—may all be in action in the same case, or only one or other of them.

It is probable, as Sir Michael Foster used to teach, that the fainting or sudden death after a severe blow over the stomach is due to vagus reflex inhibition of the heart. It is well known to surgeons that operations on the upper part of the abdomen give rise to far more shock than operations on the lower part, and that the large and small intestines can be extensively removed with much less risk than that incurred by a large resection of the stomach. The Fowler raised position after operations for peritonitis probably owes a great part of its success to the removal of irritating fluids from the region of the peritoneum supplied by the vagus. The unexpected deaths which occur within a few days of the performance of gastrostomy in cases of malignant stricture of the oesophagus are perhaps due to vagus reflex effects on the heart weakened by starvation.

From a medical point of view the most frequent reflex effect is palpitation. Palpitation may arise from many causes, but every writer mentions gastric disorder as one. It is quite usual for a patient to say that, as soon as he or she can bring up some wind, the attack stops. In these cases it will be found that the resonance over the stomach is very tympanitic, and often a bell note can be obtained by striking one coin upon another. It seems probable that the stomach wall is unduly stretched, and a reflex started which inhibits the action of the vagus, or possibly pressure may be irritating the heart, as the gastric resonance is abnormally high. A dose of sal-volatile, by causing the eructation of some flatulence, will frequently cut short an attack.

Another form of palpitation characteristic of stomach disorder is that which comes on in the early hours of the morning, waking the patient from sleep. In these an extensive stomach splash is usually found, and products of fermentation may be acting upon the heart. Massage of the stomach to empty it last thing at night, or lavage, almost invariably will stop this form. Huchard, the great French teacher, says: "Les maladies de l'estomac sont souvent la cause de palpitations, et celles-ci sont d'autant plus rebelles que ces affections sont souvent latentes ou méconnues." In practice, treatment of the stomach and nerves is more successful than treatment of the heart itself.

In sufferers from paroxysmal tachycardia, also, attacks are frequently brought on by distension of the stomach. Mackenzie, a few years ago, was the first to make clear the distinction between palpitation and paroxysmal tachycardia. He pointed out that in palpitation the rhythm of the heart is normal, the auricle contracting before the ventricle, and the auricular wave appearing in the venous pulse tracing; but, in paroxysmal tachycardia, the nodal rhythm occurs, the ventricle contracts first, the auricle contracting, if at all, during the ventricular systole. The pulse is generally irregular, and the venous tracing shows a ventricular wave only. I have at present under my care a lady with a constantly irregular heart, with nodal rhythm, who suffers from paroxysmal tachycardia. Whenever she feels an attack coming on, she can almost invariably quickly stop it by a mixture containing liquor pepsin cum bismuth and nux vomica, which I gave her during one attack in conjunction with Nativelle's digitalin. She now does not take the digitalin, as she says that the medicine alone is effective. Normally her gastric resonance does not rise above the seventh rib, but when seen during an attack it is invariably up to the fifth rib.

Intermittency of the pulse is often associated with stomach disorder, more commonly that due to extra-systoles, which do not send a pulse wave through to the wrist. An elderly gentleman, who passed through a sharp attack of bronchitis last winter without the slightest irregularity of his pulse or any symptom of heart trouble, in May, after an imprudent dinner, suffered from indigestion, which, though only giving rise to slight nausea, caused very marked giddiness. His pulse was quite irregular, and, on listening to his heart, there were very frequent extra-systoles. Gastric resonance was found to be as high as the fifth space. In about a week, on simple diet, and with medicines directed solely to the gastric condition, the pulse steadied down, through a stage of intermittency, to become quite regular again. The giddiness disappeared, and the gastric resonance subsided to the seventh rib level.

Pseudo-angina pectoris is another disorder which is generally attributable to flatulent distension of the stomach. The pain may be as severe as that of true angina, and may spread down the arm, but it comes on an hour or so after meals and in the middle of the night, and not during exertion as a rule. In most cases, also, the heart does not appear sufficiently diseased for there to be true angina. The following case, which I saw several times, is a good illustration:

A middle-aged lady with a thick-walled, high-tension pulse had for some months been subject to "suffocative feelings" in the chest, coming on generally about an hour after meals. Then pain took the place of these feelings, and spread to the left arm. The attacks became more frequent, occurring five or six times a day and once or twice in the night, and had no relation to exercise. On examining the heart the apex beat was an inch outside the nipple line, but was forcible, and the sounds were good; the aortic second sound was accentuated.

There was no complaint of indigestion, but the stomach was very tympanitic, and its resonance up to the fifth rib. Dieting, alkaline carminatives, and blue pill unexpectedly produced no improvement. Trinitrin gave a little relief, but not much. I then put her on milk and junket only, and stopped all medicines. Six hours after commencing the milk diet the attacks of pain ceased, and have never recurred. After a week she was allowed bread and milk, and was gradually got on to ordinary food.

But flatulent distension of the stomach may bring on attacks of true angina. A man walked up to my out-patient department one day a few years ago complaining of attacks of pain in the chest. He had aortic regurgitation, and I noted very high gastric resonance. He was sent up to the wards for admission. While getting ready for bed he suddenly clutched his chest, and, before anything could be done, fell back dead. At the autopsy the condition of the heart did not suggest that he had come to the end of his tether, and the pressure upwards of the stomach was probably the real cause of his death.

In other forms of valvular disease, especially when the right side of the heart is much dilated, any rise in the height of the diaphragm is a source of embarrassment to the heart. Cases with mitral stenosis have, in my experience, been more affected by flatulent distension of the stomach than those with pure regurgitation, possibly because the whole heart is hypertrophied in mitral regurgitation. Sir William Broadbent relates an instance of sudden death in a patient with mitral stenosis and regurgitation, who, after a hearty breakfast in bed, bent forward over a basin to wash his face.

The last disease of the heart that there is time to mention is fatty degeneration. Sufferers from this are peculiarly susceptible to bad effects from gastric distension. Intermittence of the pulse, giddiness, fainting, and attacks of angina pectoris may all be brought on, and many cases of sudden death are attributable to this cause. One of my patients, who for a long time had had an almost inaudible first sound at the apex, died one morning while stooping to pick up his newspaper from the floor soon after breakfast. In these cases management of the digestion is quite as important as treatment of the heart.

DISCUSSION.

Dr. E. Duke (London) said the present subject was one upon which all knew something, and referred to the "tumbling" action of the heart in dyspepsia associated with distension; the simple remedies—namely, potassium bicarbonate before meals, and also small doses of tinct. strophanthus and nux vomica—were useful. For the treatment of the nervous condition associated with these symptoms the cold shower bath was a remedy much neglected. Found in very few houses, its initial cost was not to be considered by those suffering from this condition. A further important matter was to eat "dry," no fluid being taken till the end of the meal.

SOME OBSERVATIONS ON THE ARTERIAL PRESSURE IN THORACIC ANEURYSMS.

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Thoracic aneurysms are sufficiently uncommon among a list of patients one meets in hospital practice that the number of cases one has an opportunity of examining must be very limited. To collect, therefore, a sufficient number so as to form any definite conclusions, observations must necessarily be extended over several years. It is as yet too early to pass any opinion or to form any conclusions as to the effect of the treatment of syphilis by salvarsan on the number of cases of aneurysms that arise as a direct result of infection by the syphilitic virus. It will be interesting, when such observations can be made, to compare the average number of cases that occur annually with the average for a similar period of years before the introduction of salvarsan.

The important part played by syphilis in the causation of aneurysm is well known. Indeed, it is probable that if every case of aneurysm were closely investigated and the Wassermann reaction made, a positive result would be obtained in most, if not in all, cases. Absence of history of infection is always unreliable, and little importance must be attached to that. It is common knowledge that in parasyphilitic affections, such as tabes and general paralysis, patients often deny ever having contracted syphilis, the primary and secondary manifestations in such cases being so slight as to escape notice. In aneurysm, also, one not uncommonly meets with patients who in their own minds are positive no such infection occurred, and even in cases where the presence of a very trifling primary sore is admitted there is no evidence that secondary manifestations ever occurred. It appears, therefore, that these cases in which the primary and secondary manifestations of syphilis are so slight as to almost pass unnoticed are more subject in later years to grave parasyphilitic disorders, including aneurysms. The vigorous treatment to which of late years syphilitic patients have been subjected gave hopes of good results in the diminution of the tertiary and parasyphilitic manifestations; but it is very disappointing to see that not only are aneurysms as common as they were many years ago, but they appear to be even increasing in number.

This to some extent can be accounted for by the greater precision in diagnosis, with the aid of *x* rays and otherwise, of obscure cases of aneurysm with no physical signs. It is partly also due to the fact that in those very cases in which aneurysms occur the primary sore of the syphilitic infection was so slight that little or no treatment was adopted.

At the Seamen's Hospital, Greenwich, aneurysms of the aorta are very commonly met with. From 1889 to 1911 inclusive 154 cases of aneurysm were admitted to the wards, an average of 6.7 per annum. Taking the period of twenty years from 1892 to 1911 inclusive, it is very striking to notice that the total number of cases for the first ten years is 53, but for the last ten years 86.

In this paper I propose to deal more especially with the blood pressure in cases seen and attended to personally for the last three years. For this purpose observations were made on 40 cases while undergoing various forms of treatment, the diagnosis being made from the physical examination of the patient, and in any case of doubt corroborative evidence was supplied by the *x*-ray picture. All were aneurysms of the arch of aorta. The blood pressure was taken in each case just before or soon after admission, and daily observations taken in some of the cases for many weeks to note any change in the blood pressure following rest and treatment. The same sphygmomanometer (Martin's modification of the Riva-Rocci) was used throughout, and as far as possible each estimation of the pressure was taken at the same hour every day, with the patient lying flat on his back and the arms on a level with the body. In taking records of the pressure from both brachial arteries care must be taken that the armlet of the sphygmomanometer is evenly applied, and in exactly similar way to the immediately preceding one, and also that the patient be cautioned against moving to one or other side in the slightest degree while the pressure is being taken on the two sides. In this way difference due to movements of the patient or faulty position are obviated, and the conditions are as far as possible exactly equal on both sides.

It is no less important, for the sake of accurate comparison of daily readings, that the recording of the blood pressure be made by oneself in all cases with the same instrument, if found sufficiently reliable, as different observers and different sphygmomanometers vary in their estimations.

The blood pressure on admission was invariably found to be several millimetres higher than on succeeding days, the sudden fall of pressure being no doubt due to the rest in bed.

The average blood pressure in 32 out of the 40 cases was found to be below 150 mm. of mercury, and in only 2 cases did the pressure exceed 200 mm. Many of these, in addition, had advanced arterio-sclerosis, but in only a comparatively few of these had this any material influence in raising the average height of the blood pressure.

The presence, however, of arterio-sclerosis played a very important part in the variability of the pressure, which was so noticeable a feature in many of the cases, and in not a few was the main cause of the difference in the pressure on the two sides.

Sir Lauder Brunton estimates that in healthy individuals the average tension ranges as follows: In young men, 100–120; in middle-aged, 125–135; above 60 years, 145–150.

The average age of the 40 cases of aneurysm here recorded is slightly under 50 years, and the average blood-pressure in the majority of the cases is under 150 mm. mercury.

Judging from this, therefore, it is obvious that the blood pressure in the vast majority of cases of aneurysms is about normal. It is interesting to notice that the symptoms complained of by the patient, such as dyspnoea, cough, and pain, were much more severe on admission, when, as a rule, the pressure was high, and during the course of treatment, if from any cause the pressure was raised.

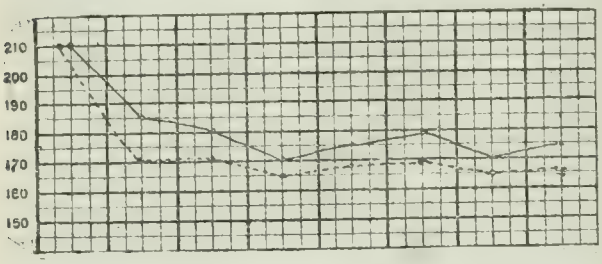


Fig. 1.

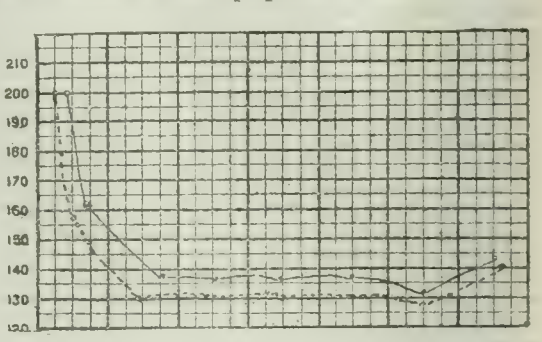


Fig. 2.

Figs. 1 and 2 are tracings from two cases of fusiform aneurysms of the arch of the aorta. Dyspnoea and cyanosis on admission much relieved by the reduction of the blood pressure following absolute rest.

In such cases the lowering of the blood pressure, whether by means of drugs or by venesection, gave instant relief to the patient; apart, therefore, from any influence it may have in promoting coagulation in the aneurysm, the lowering of the blood pressure in itself is of great value in the relief of the symptoms. It is unnecessary and often injurious to reduce the pressure too much, for then the rate of the heart-beat tends to increase and the condition becomes less favourable for the deposition of clot to occur. Sir John Rose Bradford, speaking of aneurysm, says:

> The essential thing to aim at is the lowering of the patient's tension, not because it is particularly high, but because the vessel which is the seat of the disease is giving way, and you naturally want to decrease the distending force, and your treatment must be directed to that end.

Daily variations of the pressure is a constant feature, especially in the cases with well-marked arterio-sclerosis, and I have seen the pressure varying from hour to hour, even in the space of a few minutes, while the pressure is being taken, the reading varied. Many examples of this could be given, but the following three cases are sufficient to show that the variation does occur.

CASE I.—E. W. Arterio-sclerosis; dilatation of aorta; aortic regurgitation. Pressure readings, taken at fifteen minutes' interval: Right arm, 190, 185, 180, 185, 184, 184; left arm, 185, 180, 185, 182, 172, 172.

CASE II.—W. E. Arterio-sclerosis; aortic regurgitation. Pressure readings: Right arm, 190, 160, 150, 155; left arm, 188, 155, 150, 155.

CASE III.—F. M. Marked arterio-sclerosis; double aortic murmur. Pressure readings: Right arm, 154, 154, 150, 160; left arm, 154, 150, 144, 155.

When comparing the pressure in the two arms, then, a difference of pressure of 5 or even 10 mm. mercury is of no practical importance apart from its etiological significance. I have no doubt that the cause of the variation in many cases is nervousness and excitement. On several occasions when taking the blood pressure for the first time in a nervous and excitable patient who is uncertain whether the application of a band round his arm is meant to bleed or electrify him, I have found that the pressure in the first arm examined is higher by several millimetres of mercury than that in the other arm taken a few moments later. Taking another reading of both arms in succession some little time after, when the patient is assured of the innocence of the procedure, the readings are the same on both sides.

In other cases, however, a difference in the two sides of 5 to 10 mm. mercury persists and is not uncommon in aortic regurgitation with dilatation of the aorta and arterio-sclerosis. The greater this difference, the more likely is the case to be one of aneurysm.

O. K. Williamson, in an excellent paper on this subject, says:

> A distinct difference (at least 5 mm.) between the arterial blood pressure in the two arms is the rule in the majority of cases, and in about the same proportion of cases, on the one hand, of both aneurysms of the arch or ascending aorta and aneurysms of the innominate, and, on the other, of dilatation of the aorta, and a marked difference (at least 10 mm.) is equally common in both. Such differences, therefore, are of no value in the differential diagnosis between the two conditions. A great difference of at least 20 mm. seems to be likewise equally common in the two classes of cases, while a difference of upwards of 30 mm. speaks strongly in favour of aneurysm as against mere dilatation of the aorta

Such difference in the pressure in the two arms certainly does occur in dilatation of the aorta, but my experience is that it only rarely amounts to 20 mm. and does not persist: one day the difference may be very great, while next day it is practically the same on both sides. On the other hand, I have found that a difference of 15 or more millimetres, which is constantly present, is strong evidence in favour of aneurysm. The history and *post-mortem* examination of the following case will serve to explain why the difference should occur:

A. H., seaman, aged 49, admitted to the hospital complaining of pain in the back and chest and huskiness of voice for four months.

The patient felt in very good health until five months ago, when he caught a severe chill, which developed into a cough, with some bronchitis; together with this he had an occasional stabbing pain in the side, which was at first intermittent in character, but latterly continuous. His cough got very troublesome, and his voice hoarse. He denied syphilis. On admission the voice was very husky, and he had a dry, brassy cough, but no expectoration.

In the chest a small round pulsating swelling is seen, occupying the space between the second and third costal cartilages on the left side, at the junction of the sternum. The swelling is about 2 in. in diameter. On percussion the right border of the heart is slightly outside the right border of the sternum, and there is a dull note over the manubrium, and continuing with the swelling on the left side, which is dull and convex, upwards and outwards towards the clavicle. The heart itself is not hypertrophied, the apex beat being in the fifth space in the normal position. No murmur. Second aortic sound loud and accentuated. Pulse, low tension, especially left radial. Right pulse weaker and slower than left. Pupils unequal; right dilated.

Progress.—The patient continued in this state, complaining a good deal of discomfort and pain in the back. Two days before he died the right pulse could hardly be felt. He died suddenly one day while sitting up in bed.

Autopsy.—Pericardium firmly adherent to pleura. Left pleural cavity filled with clear serous fluid. Parietal and visceral pleura adherent to apex and base of lung, and also firmly adherent to diaphragm. The right pleural cavity contained a large quantity of blood.

Heart.—Small, soft, and dilated. Left ventricle empty; right auricle full of *ante-mortem* clot.

Aorta.—Just above the valves of the aorta was a sacculated aneurysm of the ascending part of arch and a fusiform aneurysm of the transverse part of the arch. The aneurysm was lined with a thick fibrinous clot, blocking up almost completely the orifice of the innominate artery. The walls of the aneurysm were extremely friable and calcareous. It was closely adherent to the trachea and bronchi. Just above the bifurcation of the trachea there was a direct communication

between the posterior wall of the aneurysm and the trachea, the opening into the trachea being about ½ in. long. A tracing of the blood pressure is given below (Fig. 3), and shows the difference in the pressure on the two sides.

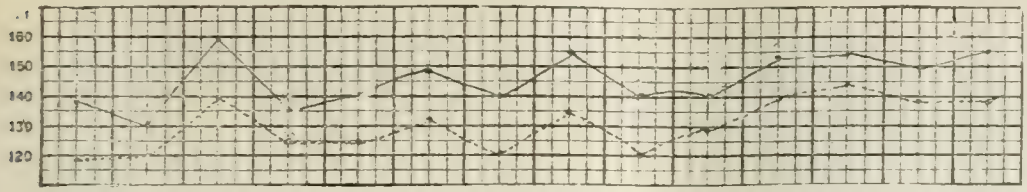


Fig. 3.—Sacculated aneurysm of ascending arch and fusiform aneurysm of transverse arch. Dotted line represents pressure in right arm.

From the *post-mortem* findings in the above case it can easily be seen how the pressure on both sides might differ.

In the case of aneurysms which do not show any difference of pressure there was no formation of clot or tendency to heal in the aneurysm. Difference in pressure, therefore, in the two cases is in itself an indication that the aneurysm is being filled with clot and tending to heal.

From the foregoing it is at once apparent that equality of the pressure on the two sides does not exclude aneurysm, but the presence of a constant marked difference of from 15 to 20 or more millimetres is a very strong evidence in favour of aneurysm.

The importance to be laid on digital examination of the pulse for any difference in pressure is extremely doubtful. On many occasions I have noticed that the pulses were found to be unequal by digital examination when by the sphygmomanometer no such difference was shown, and in other cases where well marked difference in the pressure on the two sides was shown by the sphygmomanometer, none was apparent to the finger.

From the 40 cases on which observations were made, it was found that 26 (65 per cent.) showed a distinct difference of pressure in both arms, while 14 had equal pressure.

Of the 26 cases, 12 had a difference of 15 or more millimetres mercury, the smaller pressure being on the aneurysmal side; 6 had a difference of 5 to 10 mm., and the other 8 had unequal pressure, but not more than 5 mm. Of the 26 cases which showed a difference of pressure on both sides, 16 only were noted as having difference in the pulses by digital examination, and in several of the 14 cases, where the sphygmomanometer showed the pressure to be the same on both sides, inequality of the pulse was recorded in the notes.

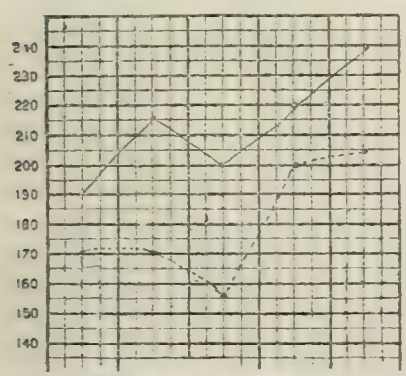


Fig. 5.—Fusiform aneurysm of whole arch of aorta, with marked calcareous degeneration. Right blood pressure much smaller than left. Died on the fifth day after admission.

A further point of diagnostic importance is that in cases with unequal pressures on the two sides the pupil on the side of the lower pressure was in the majority of instances dilated. This seems to be in accordance with the researches of Drs. Wall and Walker, who found that inequality of the pupils in aneurysms is due to inequality of the pressure in the ophthalmic arteries. They conclude that there are strong anatomical and physiological objections to the view that the inequality of the pupils which is often observed in cases of aneurysms is caused by some direct interference with the sympathetic nerve by the sac of the aneurysm. Evidence is as follows:

High arterial tension is associated with small pupils.
Low arterial tension is associated with large pupils.
Enlargement of the pupils is frequently associated with diminution of the temporal and radial pulses on the same side of the body.

In the treatment of aneurysms it is an unfortunate fact that the utmost we can expect in the majority of cases is a temporary improvement in the general condition of the patient and a relief of his symptoms for the time being.

Having at the same time in view the factors which promote coagulation in the aneurysmal sac, we aim at producing those which are favourable to the natural process of cure, and hope for the ultimate occlusion of the aneurysm. The means employed are absolute rest in bed for a prolonged period, restricting the absorption of liquid as much as possible, and the administration of drugs for the reduction of the blood pressure. It is very striking how quickly after rest in bed, and before the employment of any medicinal remedies, the patient's symptoms, such as

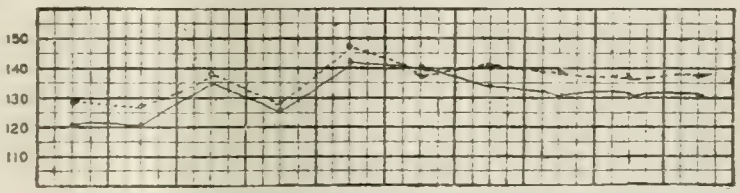


Fig. 4.—Fusiform aneurysm of arch. Under treatment with large doses of potassium iodide. No reduction of blood pressure.

pain, dyspnoea, and even cyanosis, are relieved concurrently with the fall of blood pressure.

In addition to rest in bed, which is one of the best means of relieving the patient's distress, it appears to be an invariable practice to administer potassium iodide in gradually increasing doses. Opinions differ as to the mode of action or even the therapeutic value of this drug in the treatment of aneurysms, but whatever way it operates, there is general agreement that it does relieve pain and gives the patient a feeling of comfort and ease.

In the great majority of cases potassium iodide is given with the object of inducing coagulation in the sac of the aneurysm by lowering the blood pressure. Professor Osler, speaking of the treatment of aneurysms, says: "Potassium iodide exerts a powerful influence on mesoaortitis, the primary lesion in the large majority of cases; and although it cannot, of course, heal a rent of the intima, and probably has very little effect in the sac itself, it relieves pain, promotes cicatrization of the aortitis, and favours coagulation in the sac by lowering the blood pressure."

Dr. Balfour, writing of aneurysm, says that "the curative effects of potassium iodide are mainly in its power of reducing the blood pressure."

This drug was given in every case of aneurysm admitted to the hospital, in doses varying from 10 to 60 grams three times a day, but in none of the 40 cases examined could any decrease in the blood pressure be attributed to iodide. Indeed, the reduction of blood pressure that was noticed occurred on the second day of admission in most cases, before any drugs were administered, and, as already remarked, this drop in the pressure was certainly due to the rest in bed. The tracings of the blood pressure subsequent to the primary fall show a steady pressure, with a daily variation of from 2 to 5 mm. mercury. In Figs. 3 and 4 the pressure, which was taken for many weeks while the patients were under treatment with large doses of potassium iodide, remains practically the same.

In a few instances potassium iodide had a depressing influence on the patient and produced irritability and restlessness, on account of which the administration had to be discontinued.

Stockman and Charteris, in a valuable series of experi-

No. and Initials.	Age.	Position of Aneurysm.	Average Blood Pressure.	Difference in both Arms.	Pulse.	Pupils.
1. M. S.	58	Transverse arch of aorta	135 mm.	None	Equal	Equal.
2. W. B.	51	Ascending arch	120-160 mm.	10-20 mm.	Right weak	Right dilated.
3. J. B.	48	Transverse arch and auxiliary artery	120-140 ,,	5 ,,	Equal	Right dilated.
4. J. A.	48	Arch	130-150 ,,	2-5 ,,	Left weak	Left dilated.
5. H. P.	56	Transverse arch	140 ,,	None	Equal	Equal.
6. H. H.	58	Ascending arch	120-140 ,,	5-8 mm.	Equal	Equal.
7. W. A.	49	Arch	150-160 ,,	5-10 ,,	Left weaker	Equal.
8. F. B.	54	Arch	120-130 ,,	3 ,,	Equal	Equal.
9. E. H.	59	Arch	110-140 ,,	None	Left weaker	Equal.
10. W. B.	52	Arch	110-120 ,,	None	Right weak	Equal.
11. R. G.	67	Ascending arch	140-150 ,,	5 mm.	Equal	Equal.
12. H. H.	38	Arch	170-175 ,,	5 ,,	Equal	Equal.
13. F. N.	42	Arch	80-100 ,,	5-20 ,,	Left weak	Equal.
Readmitted twelve months later	—	—	80-100 ,,	5-20 ,,	R. much smaller than left	Right dilated.
14. J. H.	38	Arch	170-190 ,,	5-15 ,,	Equal	Equal.
15. E. H.	41	Arch	120-125 ,,	None	Right weak	Equal.
16. W. A.	40	Transverse and descending arch	150-155 ,,	None	Equal	Equal.
17. E. C.	68	Transverse arch	170-240 ,,	20-50 mm.	Equal	Right dilated.
18. A. H.	66	Transverse arch	140-230 ,,	50-70 ,,	Right much smaller	Equal.
19. E. L.	63	Transverse arch	194-210 ,,	2-4 ,,	Equal	Equal.
20. G. H.	61	Right innominate	178-190 ,,	10-20 ,,	Right weaker	Right dilated.
21. T. A.	41	Ascending arch	84-154 ,,	50-60 ,,	Right very weak	Equal.
22. A. G.	40	Ascending arch	135-173 ,,	10-20 ,,	Equal	Right dilated.
23. J. B.	45	Transverse and descending arch	120-130 ,,	5 ,,	Left weaker	Equal.
24. R. S.	47	Transverse arch	86-146 ,,	30-50 ,,	Left hardly felt	Equal.
25. J. F.	55	Transverse arch	120-140 ,,	None	Equal	Equal.
26. W. J.	52	Descending arch	140 ,,	None	Equal	Equal.
27. M. W.	47	Ascending and transverse arch	120-130 ,,	None	Equal	Equal.
28. E. P.	44	Transverse arch	100 ,,	None	Equal	Equal.
29. E. F.	41	Transverse arch	80-100 ,,	None	Equal	Equal.
30. F. G.	41	Ascending arch	120-180 ,,	None	Equal	Equal.
31. E. B.	49	Ascending arch	120-150 ,,	2-10 mm.	Equal	Right dilated.
32. H. P.	62	Arch	130-140 ,,	None	Equal	Equal.
33. W. S.	35	Arch	130-150 ,,	10-12 mm.	Equal	Right dilated.
34. A. W.	57	Arch	150-200 ,,	30 ,,	Right smaller	Right dilated.
35. G. A.	62	Arch	120-140 ,,	10-15 ,,	Left weak	Equal.
36. A. H.	49	Ascending arch	120-140 ,,	15-20 ,,	Right very weak	Right pupil dilated.
37. E. W.	36	Transverse arch	120-130 ,,	5-10 ,,	Right weaker	Right dilated.
38. M. S.	60	Transverse arch	140-150 ,,	2-5 ,,	? Equal	Left pupil dilated.
39. R. M.	36	Descending arch	130-145 ,,	8-10 ,,	Equal	Right dilated.
40. B. B.	36	Ascending arch	130 ,,	None	Equal	Equal.

ments on the effect of potassium iodide on the blood tension and pulse-rate, administered for a prolonged period in doses varying from 15 to 180 grains per day, found that

potassium iodide, given to men by the mouth in therapeutic doses, does not modify the physical condition of the circulation, and that, therefore, it neither directly weakens the heart or dilates the arterioles.

From the result of their careful observations they concluded that

potassium or sodium iodide, when given by the stomach in ordinary doses, has no depressing effect on the action of the heart or on the blood pressure in the arteries.

The results of my observations on cases of aneurysm treated with potassium iodide are entirely in accord with this, for in none of the cases here recorded did any reduction of the pressure occur under its influence. Any curative virtue it may have, therefore, must operate in some other direction, and is most likely due to its anti-syphilitic properties. Dr. de Haviland Hall says "the excellent effect which commonly attends the administration of potassium iodide would seem to point to the possibility of a syphilitic element in the case, and to indicate the desirability of the Wassermann reaction being tried in every case of aneurysm."

From the result of treatment of the 40 cases here recorded, I am convinced that potassium iodide does not reduce the blood pressure in aneurysm, but that it relieves pain in many cases there is no question. Relief of pain can also be induced by other means, notably by the injection of sterilized solution of gelatine, a method of treatment first introduced by Lancereaux in 1904. Dr. Rankin, of the Seamen's Hospital, has used this method in many cases, and I had the privilege of examining the blood pressure in these cases while undergoing treatment. In no single instance, however, had the gelatine any effect

in reducing the blood pressure, as may be noticed from the accompanying chart (Fig. 6), but there was very

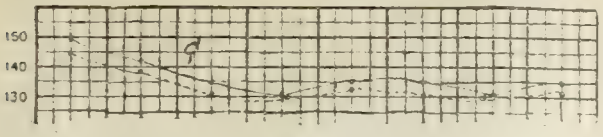


Fig. 6.

marked relief of pain in almost every instance where such symptom was a prominent feature at the commencement of the treatment.

Conclusions.

1. The blood pressure in aneurysm is usually about normal.
2. In about 65 per cent. of cases there is a difference in the pressure in both arms. In 30 per cent. of cases this difference is very marked, and is a valuable aid to diagnosis.
3. Reduction of the blood pressure is a great relief to the patient and helps towards the cure.
4. Potassium iodide does not reduce the blood pressure in aneurysms, but it is of great value in the relief of the pain.
5. The lower the pressure, providing the pulse is regular and of normal rate, the better the prognosis.

For the opportunity of studying these cases I have to express my best thanks to the medical staff of the Seamen's and St. Mary's Hospitals, and also to Drs. Joscelyne, Thackeray, and H. P. Potter, for seeing cases under their charge

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF METAL BURNS.

The following method of treating small metallic burns offers a simple and at the same time a satisfactory means of dealing with what often turn out to be very tedious sores.

A burn produced by a piece of hot metal is generally very slow to heal on account of the fact that in its passage to the skin the metal passes through dirty clothes, the infectiveness of which it is not able to destroy because it becomes rapidly cooled; its effect on the skin also is only partially destructive, leaving a large area of semi-destroyed cells and enzymes, which offer suitable pabulum for the micro-organisms transferred from the clothes by the passage of the hot metal, for while it may destroy some of these micro-organisms, it acts on the others as a stimulant, with the result that we invariably find an infected wound.

Any method which will at once interfere with and terminate the existence of the partially destroyed cells and enzymes on the one hand, and also make the conditions of life for the organisms too irksome on the other, must result in the production of a surgically clean aseptic wound.

At my suggestion one or two of the local works have adopted the following plan whenever a slight metallic burn occurs: As soon as the wound has been cleared of all macroscopic dirt a small quantity of petrol is sprayed on to the wound, which is eventually dressed with a dry dressing of iodoform gauze or a gauze with iodoform powder.

The idea underlying this method of treatment is that the petrol so alters the surface tension as to prevent the freed enzymes acting on the exposed cells and thereby giving rise to autotoxaemia; in addition, the petrol acts on the micro-organisms and so interferes with their surface tension as to prevent movement, subdivision and multiplication—in other words, growth.

Such conditions make for a clean, healthy healing surface, which is likely to heal up quickly, in contradistinction to the usually dirty septic ulcers that heal slowly.

Swansea. G. Arbour Stephens, M.D.Lond.

TEST FOR SACCHARINE SUBSTANCES IN URINE.

This test is performed on 5 c.cm. of urine containing sugar, with 25 c.cm. of sodium hypobromite in Gerrard's ureameter. The latter was so modified that a known quantity of urine could be added by means of a burette, the nozzle of which was passed through a second hole in the rubber cork of the bottle holding the hypobromite solution.[1] A thermometer is also inserted through a third hole in the rubber stopper. (1) In the absence of sugar the bottle just gets sensibly warm to the hand. (2) In the presence of sugar the bottle gets perceptibly hot. (3) The colour of the mixture in the bottle remains yellow in the case of non-diabetic urines, but in the presence of sugar its colour becomes distinctly paler or even quite white.[2] (4) In the absence of sugar the rise of temperature varies between 7° to 24° F., while in the presence of sugar the temperature may go up to 72° F. (5) In the presence of sugar to an amount of 0.25 per cent. and upwards a white crystalline precipitate is obtained after the liquid in the bottle has cooled to room temperature. The precipitate obtained is proportional to the amount of sugar present in the urine up to about 7 per cent. Under the microscope the crystals appeared in the form of needles about half an inch long, either separate or arranged in clusters in the form of double sheaves, single sheaves, brushes, stars, fans, etc. In quantities smaller than 0.25 per cent. no precipitate was obtained until the solution had stood for twelve hours or so, and then the form taken is that of opaque irregular masses, most of them round or triangular, with an internal striation commencing at the centre and radiating to the periphery, or even beyond the same at times. The precipitate obtained in such cases is very scanty, and in the form of isolated white minute points; it consists of an oxalate of soda, produced by oxidation of sugar by the hypobromite. (6) Similar results are also obtained in urine containing glycerine from 0.25 per cent. and upwards. This test has the great advantage of not requiring any additional apparatus or chemicals, and it can be performed at the same time as the routine method for the estimation of urea as at present carried out, with practically no extra trouble.

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Second Assistant Chemical Analyser to Government, Government Laboratory, Byculla, Bombay.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET, LONDON.

APPENDICITIS CAUSING PELVIC CELLULITIS IN A CHILD.

(Under the care of Mr. Tyrrell Gray.)

[Reported by Thomas T. Higgins, M.B., Ch.B.Vict., F.R.C.S.Eng., House-Surgeon.]

A male child aged 3½ years was admitted on July 27th, 1912, complaining of abdominal pain and the passage of blood and "matter" from the rectum.

The history given was as follows: Six months previously the patient had passed by the rectum a large quantity of blood and slime; since that time his general condition had been unsatisfactory. He had lost weight; had no appetite, and the bowels had become increasingly constipated. On July 24th he became worse, complaining of abdominal pain. Following the administration of a purgative, the bowels moved, and immediately afterwards a large quantity of blood and "matter" was passed. There had been no vomiting at any time, and no definite attacks of the ordinary appendicular type, though he had complained of "stomach-ache" at times.

His general condition on admission was fairly good; the temperature 103.6° F., and the pulse 160. The tongue

[1] The solution of hypobromite is made by adding 2.2 c.cm. of bromine to 23 c.cm. of a solution of soda made by mixing 100 grams of NaHO with 250 c.cm. of H_2O.

[2] The colour of the hypobromite is completely discharged when urine contains about 7 per cent. of sugar.

was coated with white fur, but moist. The abdomen was not distended, but movement of its lower half was limited. There was some rigidity and tenderness of the hypogastric area. A rectal examination was made, during which the presence of a very well marked post-anal dimple was noted. The rectum was found to be surrounded and tightly constricted by a firm nodular swelling. Under an anaesthetic an ill-defined hard mass could be felt in the infra-umbilical region of the abdomen, to the right of the middle line, apparently in connexion with the posterior abdominal wall about the level of the sacral promontory. Further examination of the rectum under anaesthesia showed the lumen to be constricted by a firm, nodular, extra-rectal swelling. No softened area was detected anywhere, and as high as the finger could reach the rectal mucous membrane appeared to be quite smooth, and not adherent at any place. The heart and lungs were normal.

Operation and After-History.

Mr. Tyrrell Gray operated on July 28th.

Anaesthesia having been induced by the injection of stovaine-dextrin solution, 1½ c.cm. into the spinal theca, the abdomen was opened through the right rectus. The terminal coil of the ileum was found firmly fixed in the pelvis and distended. Its peritoneal aspect was quite smooth and not adherent. The segment of mesentery attached to this coil was fully 1½ in. thick, and studded with enlarged lymphatic glands. The appendix was found adherent in the pelvis with its distal part firmly embedded in the retro-peritoneal tissue at the base of this thickened segment of small gut mesentery, near the middle line and at the brim of the pelvis. The pelvic cellular tissue surrounding the rectum was inflamed and greatly thickened, evidently constituting the extra-rectal swelling noted before operation. The case resembled a typical pelvic cellulitis as seen in women following parturition, and the retro-peritoneal swelling was so great that the finger could hardly be introduced into the pelvis through the abdominal wound. The lymphatic glands throughout the mesentery of the small intestine were enlarged. The remainder of the abdominal viscera were normal. Appendicectomy was performed with some difficulty, free oozing occurring from the acutely inflamed bed in which the appendix was lying. No pus was encountered at any stage of the operation. The appendix was about 2½ in. long, acutely congested, but not perforated. A small tube and gauze "wick" drain were inserted to the raw area, and the abdomen closed.

The tube and gauze were removed on July 31st, and the sutures on August 6th. No further passage of blood or pus from the rectum occurred, and recovery was uninterrupted. The child was discharged to the convalescent hospital at Beaconsfield on August 13th. The abdominal wound was quite healed, the bowels were acting regularly. On digital examination of the rectum the perirectal swelling was found to have greatly diminished, the rectal lumen approaching normal. The child was again seen on return from the convalescent hospital on October 3rd. His general condition was excellent. The bowels were moved daily without difficulty. The operation wound was sound, and nothing abnormal could be detected on examination of the abdomen. On rectal examination the main mass of thickening was found to have entirely disappeared, only a small narrowing remaining high up in the rectum.

REMARKS.

This case derives its interest from the remarkable degree of cellulitic inflammation present at the time of operation. It would appear that an initial attack of inflammation in the appendix, which had passed unnoticed, had served to fix it to the ileal mesentery in the position in which it was subsequently found. Infection of the mesenteric and later of the pelvic cellular tissue ensued. No doubt in the acute stage this was associated with actual suppuration, the resulting abscess discharging into the bowel, and so accounting for the passage of pus by the rectum.

The fixation of the terminal segment of the ileum in the pelvis was producing some degree of obstruction, as evidenced by the distended condition of this portion of the gut. The perirectal exudate further aided in disturbing the intestinal mechanics, and the result was expressed in the increasing constipation. The acute symptoms for which he was admitted to hospital probably represented a further flare-up in the appendix. The rapid subsidence of the condition following removal of the appendix indicates that this organ acted as the primary focus serving to maintain the inflammatory thickening of the neighbouring cellular tissue.

Infection of adjacent cellular tissue in association with appendicular inflammation is, of course, not unusual, but it must be rare to meet with it of such a nature as in this instance, where it was the predominant feature. I have been unable to find any similar cases recorded in the literature. Most writers only go so far as to say that such infection may occur.

Reviews.

FRACTURES AND DISLOCATIONS.

IF the popularity of a book can be measured by the rapidity in appearance of successive editions, Dr. STIMSON'S *Treatise on Fractures and Dislocations*[1] must rank high in the esteem of its readers. It is less than three years since we noticed the sixth edition, and now we have pleasure in calling attention to the seventh. Not many material changes have been made. The chief additions arise in connexion with treatment, especially of old dislocations and of recent fractures by operative means. In the former the work of Professor Dollinger of Budapest, which we enjoyed hearing of at the recent International Congress in London, receives a proper appreciation. He advocates reposition by open operation even after long intervals, and holds that this method surpasses conservatism in its results. In the latter the work of Sir W. Arbuthnot Lane is, of course, described and commented upon, and the author's views are interesting. It is obvious that he is by no means favourable to plating of simple fractures. The open operation should, he thinks, in fractures of the shaft of bones, be reserved for cases of marked and otherwise irreducible displacement, and that for the maintenance of reduction reliance should be placed upon external support without metallic sutures or pins placed in the bone; at the most a temporary silk or an absorbable suture may be used. He further suggests that all mechanical aids like wire or plates should be temporary only, and should not be used without the additional support of external splints. Direct fixation, however, is very rarely necessary. His great objection to internal fixation apparatus is that the presence of a foreign body, even if sterile, in bone at or near the line of fracture increases and prolongs the preliminary rarefaction of the bone. He has observed this in many instances, and exhibits skiagrams to show loosening of wires and of Lane's plates, and non-union of the fragments supposed to be held together by these mechanical aids. He is aware of Lane's reply to this contention, and admits that possibly in Lane's hands the operative treatment of fractures is perfectly satisfactory. But he argues that the practice ought not to be generally adopted simply because the manual dexterity and experience are lacking, and the rigid restriction of unnecessary exposure and damage to the tissues and the still more rigid adherence to aseptic detail would break down in the presence of difficulty in the operation, or "in the frequent absence of an equally strong conviction of their necessity."

Over one hundred new illustrations appear in this edition. Many of them are very good, but in a general view of the book we are disappointed with the crudity of many of the diagrams of apparatus and the haziness of many of the *x*-ray pictures, which look as though they belonged to the very early days of Roentgenology.

We venture to think that much more might have been made of fractures of the skull. The whole of that important section is dismissed in twenty pages. The author evidently has little belief in operative treatment,

[1] *A Practical Treatise on Fractures and Dislocations.* By Lewis A. Stimson, B.A., M.D., LL.D. (Yale); Professor of Surgery in Cornell University Medical College, New York; Consulting Surgeon to New York, Bellevue, St. John's and Christ Hospitals. Seventh edition, revised and enlarged. London: J. and A. Churchill. 1913. (Roy. 8vo, pp. 950, figs. 439, plates 39. 24s. net.)

though decompression is recommended in a half-hearted way. He does not appear to inculcate with sufficient emphasis the importance, in regard to operation, of temperature changes and blood pressure alterations in fracture of the base. He dismisses the subject somewhat airily by saying that it is the injury to the brain, and not to the bones of the cranium, that is of importance. We feel assured that readers will expect to find information on this variety of fractures commensurate with its importance, or at all events proportionate to the space given in the book to fractures in the limbs.

The second half of the volume is devoted to dislocations, and so far as we have searched, every conceivable form of dislocation is dealt with most fully. Not only are the commoner forms described, but references are given to every recorded instance of the rare lesions. And in that we find evidence of a vast amount of research; almost every page bristles with references. The great value of this work will be found to lie in this, that in addition to being a practical treatise it is a very complete work of reference.

GOUT.

Dr. James Lindsay's short book, *Gout, its Etiology, Pathology, and Treatment*,[2] is one of the Oxford Medical Publications, and is based upon the author's experience as Resident Medical Officer and Pathologist at the Royal Mineral Water Hospital, Bath. The book hardly aims at an authoritative position amongst standard works on this subject, but it gives an interesting analysis of the 600 cases that came under Dr. Lindsay's personal observation. His account of the very difficult problems of metabolism is scarcely satisfactory as Sir William Roberts's ingenious views are a little out of date. The author tells us that uric acid exists in the blood in the form of quadriurates, but a recent textbook states that "the existence of quadriurates is entirely a blackboard proposition," while Magnus Levy does not even mention these theories. Later on Dr. Lindsay gives the modern view of the origin of uric acid, yet he does not seem to recognize his inconsistency; it must, however, be admitted that the result of modern research has been to compel us to say for the present that the answers to the principal questions are unknown.

The theory of gout which apparently has most attraction for Dr. Lindsay is one of alimentary toxaemia in which the toxins are derived from some pathological modification of *B. coli*. The clinical descriptions are good, and are illustrated by some excellent skiagrams and photographs, for some of which the author expresses his indebtedness to Mr. Strangeways of Cambridge.

We are glad to see that Dr. Lindsay gives a much needed table of analyses showing the purin contents of most ordinary articles of diet taken from Walker Hall. He also provides a list of spas and bathing places, but his account of these is summary and hardly sufficiently eclectic to be much of a guide. He might have emphasized the value of purgative mineral waters, pointing out the types of gouty patients for which they are most useful, and also he would have been perfectly justified in showing in what way Bath offers advantages which give it a unique position amongst European watering places for the treatment of gout.

We should not have thought that either veronal or trional would be of value in relieving the sleeplessness caused by pain, and we think the author's condemnation of morphine far too absolute, as it is quite easy to ascertain the state of the kidneys if this complication is feared. In the treatment of gouty eczema where the itching is troublesome the remedies suggested are not such as would always afford relief. We look in vain for any preparation containing carbolic acid or tar.

Another inconsistency of the author is his constant prohibition of "red meat," although on page 174 he quotes, apparently with approval, Professor Walker Hall as pointing out that "white flesh contains as large a percentage of extractives as red meats." These inconsistencies and the alteration in the style of the latter part of the book, where the editorial "we" is substituted for "I" of the earlier chapters, suggest that it has been put together from papers written at different times, and has not been sufficiently revised to remove these divergences. Moreover, the proof reading might have been performed more carefully.

[2] *Gout, its Etiology, Pathology, and Treatment.* By James Lindsay. Oxford Medical Publications. London: Henry Frowde, and Hodder and Stoughton. 1913. (Cr. 8vo, pp. 224; 12 plates. 5s. net.)

LONDON PUBLIC HEALTH ADMINISTRATION.

The local government of London is a very complex subject, and Dr. Wanklyn, in publishing this summary of *London Public Health Administration*,[3] has done a service, not only to foreign visitors, but to all who take an interest in the health of London. The first chapter of the book, in which the author gives a list of the principal public health authorities with an account of their origin, is very interesting, more especially the passages in which he traces the evolution of those authorities. Against outside dangers there is the Port of London Sanitary Authority, a department of the City Corporation, which jealously guards the port of London from invasion by disease. The county of London itself is divided into twenty-nine districts, two of which are cities—London and Westminster—and twenty-seven boroughs, each independent of one another and practically of the central authority, the London County Council. Then come the thirty-one boards of Poor Law guardians, whose primary duty is to relieve the destitute, with a central authority, the Metropolitan Asylums Board, which cares for the fever hospitals and other institutions. The Metropolitan Water Board succeded the eight private water companies, and supplies not only London but a much bigger area with an adequate supply of good water. To show how up to date this book is Dr. Wanklyn includes the London Insurance Committee among the London public health authorities. The departments of the Imperial Government which are common to London and the rest of the country are also dealt with. In the second chapter we have in tabular form particulars of the services, principal legislation and authorities engaged in London government, and it is easy to see at a glance what each does. After this there is a chronological list of some of the Acts of Parliament connected with London public health administration. Their name is legion. To increase the usefulness of this small volume there is a good index. Altogether Dr. Wanklyn has crowded into sixty pages a large amount of valuable information in a very accessible form. In the introduction we are told that foreign visitors are apt to be confused by the complexities of this intricate subject, and we quite believe it; foreign visitors, however, have no monopoly of the confusion caused by the tangled web of the London government, part of which our author has successfully unravelled and placed before us in a handy and simple form. The Londoner himself is generally confused as to how, and by whom he is governed, and no wonder, considering the complexity of the subject. This complexity is to some extent the result of antiquity. All the confusion has grown up with us. The building was started without any plan, and on this delightful system it has been added to year by year, and the Londoner is bewildered. It must, however, be admitted that amid all the changes and confusion, slow but steady progress is being made, especially in the improvement of the health of London. By and by, when the people take more interest in their own well-being than in party politics, and will demand that health matters and simplicity of municipal administration shall be shelved no longer, the Government will be forced to give to a unified London better and healthier conditions of life.

TWO INDIAN TEXTBOOKS.

A fifth edition of R. Ghosh's admirable *Treatise on Materia Medica and Therapeutics*[4] has recently been published. The work has undergone thorough revision, and, while the original excellent plan of dealing with the various subjects included in the most extended signification of its title has been preserved, such modifications and additions as the most recent researches concerning drugs and other remedial substances and preparations render

[3] *London Public Health Administration: A Summary.* By W. McC. Wanklyn, B.A.Cantab., M.R.C.S., L.R.C.P., D.P.H. London: Longmans, Green, and Co. 1913. (Fcap. 8vo, pp. 60. 2s. 6d.)

[4] *A Treatise on Materia Medica and Therapeutics, including Pharmacy, Dispensing, Pharmacology, and Administration of Drugs.* By Rakhaldas Ghosh, L.M.S.Cal. Univ., Lecturer on Materia Medica, Calcutta Medical School. Edited by B. H. Deare, Lieutenant-Colonel, Indian Medical Service, Professor of Materia Medica, Medical College of Bengal. Fifth edition. Calcutta: Hilton and Co. 1913. (Crown 8vo, pp. 754. Rs. 5, or 7s. 6d. net.)

necessary have been made. For example, the subjects of serum therapeutics and organo-therapy have been fully and clearly presented in systematic and summary form. In reviewing previous editions of this book attention has been directed to the masterly manner in which the science of drugs—their source, composition, preparation, and action—has been set forth with such order, clearness, and conciseness as to commend its use by students and practitioners for purposes of study and reference. The task of preparing this edition has been ably performed by Lieutenant-Colonel DEARE, and it is interesting to observe that in this work of revision he has been assisted by the son of the author, Dr. B. N. GHOSH, who occupies the same appointment in the Calcutta Medical School as was held by his father. Dr. B. N. Ghosh has evidently inherited the parental power of assimilation and presentation as evidenced by the excellent *Treatise on Hygiene and Public Health*,[2] which in conjunction with Dr. JAHAR LAL DAS he has recently composed and published. There are so many excellent volumes dealing with this subject that a doubt as to the need of any fresh addition thereto might well arise. But nowhere is sanitation an old science, and in India it is perhaps the youngest branch of medicine to attempt to gain a hearing. Moreover, the application of its principles, which is everywhere somewhat unpopular with the world at large, is a matter of special difficulty in India, owing to the existence of innumerable ancient customs and habits of a kind different to those prevailing in Europe. Hence every facility and encouragement should be placed in the way of such medical men as desire to study the subject in its Indian as well as general aspects, and to endeavour to spread a belief in the value of sanitation in that country. On this ground alone the publication of a new volume dealing with hygiene from the Indian standpoint should probably be well justified, and the work under consideration has a still better claim. Its authors, after dedicating their book to the officers of the Indian Medical Service in recognition of their valuable work in the cause of sanitation, make ample acknowledgement to all previous writers on the general subject of hygiene, and finally state that they have endeavoured to make their own treatise concise, thoroughly reliable, and up to date. In this endeavour they seem to have been very largely successful. They do not discuss a good many by-issues to which space is commonly devoted in such books, but they cover the ground with considerable completeness, and, when necessary, deal with any special considerations arising out of the nature and habits of the country. Furthermore, they afford clear evidence that they are thoroughly versed in the most recent ideas on the subject, and expound both principles and their application in clear terms. The book therefore seems thoroughly to deserve the encomiums which Colonel KENNETH MACLEOD pays to it in the course of a very interesting introductory chapter.

MEDICAL ELECTRICITY.

THE appearance of yet another edition of Dr. H. LEWIS JONES'S *Medical Electricity*[1] must be gratifying not only to the author but, in a minor sense, to the reviewer. It is gratifying to the reviewer because, faced with the eloquent testimony of a sixth edition, he can safely suspend such critical faculty as he possesses, and congratulate the author upon the continued success of what was already known to be the best book on electro-diagnosis and therapeutics in the English language. The fifth edition was published in 1906, and an author less resolute than Dr. Lewis Jones might well have quailed before the task of extracting from the periodical literature of the last seven years whatever has relevance to his subject and is of permanent value. That he has accomplished it thoroughly is shown by the fact that nearly half the references are of a more recent date than that of the previous edition. A few pages have been added to the total number, and in the second part of the book two or three extra chapters, notably one on the affections of the joints, have been included amongst those which deal with the practical treatment of disease by electrical methods. The resources of electro-therapeutics for the treatment of joint injuries have lately been greatly strengthened by the use of ionization, upon which Dr. Jones speaks out of the fullness of his own experience. The first part of the book concerned with principles and apparatus—but here the reviewer must remount his pedestal, and express a regret, tinged, perhaps, with wounded vanity, that the few blemishes to which attention was drawn when the previous edition was noticed in this JOURNAL are unerased. A large number of illustrations remain, the necessity of which is not very evident, and, as before, many of the figures lose their value owing to the absence of any indication of scale.

The book is recognized as a standard work, and on the broad question of electro-therapeutics the new edition affords significant evidence, not only of wider applications, but of a more closely knit theory. On the foundation of a better understanding as to the mode of action of electrical currents, the reader is taken with a more confident step than was possible seven years ago to the therapeutic considerations which chiefly give to the work its great practical value.

[2] *A Treatise on Hygiene and Public Health.* By Drs. B. N. Ghosh and J. L. Das. With an introduction by Colonel Kenneth Macleod, M.D. Calcutta: Hilton and Co. 1912. (Crown 8vo, pp. 400. 5s.)

[1] *Medical Electricity: a Practical Handbook for Students and Practitioners.* By H. Lewis Jones, M.A., M.D. Sixth edition. London: H. K. Lewis. 1913. (Med. 8vo, pp. 567; 175 figures, 14 plates. 12s. 6d. net.)

NOTES ON BOOKS.

THE senior as also the least costly publication of a reference book order regarding philanthropic enterprise in London is *Low's Handbook to the London Charities*,[7] which makes its annual appearance in the third quarter of the year. Thanks to this fact, the information that it supplies is more up to date than that of its congeners, and on the present occasion relates to over 1,200 institutions. These in the text are arranged in alphabetic order, but in the index are conveniently classified according to their more special aims. A preface gives an interesting account of the Homes for Working Boys—seven admirable institutions, the first of which came into existence some forty years ago.

The first five of the ten volumes which form the annual issue of the *Practical Medicine Series*[8] deal respectively with general medicine, general surgery, the surgery of the eye, ear, nose, and throat, orthopaedic surgery, and gynaecology. The editors in chief are Professors GUSTAVUS HEAD and C. L. MIX, both of Chicago; each separate volume is written by a specialist in the subject with which it deals. The general aim of the series is to give a comprehensive account of all advances or work of importance done in various departments of medicine during the previous year. The reading of all the authors is not equally wide, but, taking the volumes as a whole, they constitute a not unsatisfactory epitome of the more important papers appearing during the period in question. Though published as a series the volumes may be obtained separately at varying prices.

LEOPOLD-LEVI AND H. DE ROTHSCHILD describe in their treatise, entitled, *La petite insuffisance thyroïdienne*,[9] a great variety of constitutional and local changes, which they attribute to inadequate action of the thyroid. The symptoms thus produced are for the most part such as are commonly observed in connexion with myxoedema, and differ only in degree. They do not, however, constitute a definite clinical picture for these reasons—that they are never simultaneously present in the same individual, and are, moreover, frequently complicated, as the result of hypothyrosis by the peculiar manifestations of either this group or by those of a perverted action of other glands of internal secretion, such as the hypophysis, the thymus, the suprarenals, the testicles, the ovaries, etc. The nature of the primary affection may be, it is said, inferred partly from the stigmata which hypothyrosis impresses upon the entire habit of the body, partly from appreciable lesions of the thyroid itself, though the proof of the correctness of that inference comes only from the success of thyroid medication. There is, of course, a good deal of hypothesis in all this; but if it be substantiated by critical observations, the authors will have rendered valuable service in calling attention to the diagnosis and proper treatment of many obscure clinical phenomena.

[7] *Low's Handbook to the Charities of London.* Seventy-eighth year of publication. London: Charles H. Sell. 1913. (Crown 8vo, pp. 250. Price 1s.)

[8] *The Practical Medicine Series.* Issue for 1913. Vols. i to v. Chicago: The Year Book Publishers. (Cr. 8vo. Price for the whole series, 10 dols.)

[9] *La petite insuffisance thyroïdienne et son traitement.* Par Leopold Levi et H. de Rothschild. Paris: Doin et fils. 1913. (Cr. 8vo, pp. 309 Fr. 5.)

THE LATE PROFESSOR EDWIN GOLDMANN'S INVESTIGATIONS ON THE CENTRAL NERVOUS SYSTEM BY VITAL STAINING.

Professor Goldmann contributed an important and original paper on "The Process of Digestion illustrated by the Action of Stains on the Living Tissues" in the *Lancet* of July 12th. Had his valuable life been spared a little longer he might have given to the English medical profession an account of his equally important Investigations on the Central Nervous System by Vital Staining. As he was kind enough to send me a copy of his paper[1] presented to the Prussian Academy of Sciences, 1913, I have carefully studied it, and, being of opinion that this work has a very important bearing upon the pathology and treatment of nervous diseases, and especially of such protozoal affections of the nervous system as sleeping sickness and syphilis, tabes and general paralysis, the so-called parasyphilis, I thought it would interest the readers of the Journal to have a full abstract of this important contribution to medical science. The abstract has been made for me by Dr. Laura Forster.

F. W. Mott.

Dr. E. Goldmann was induced to follow up his results in vital staining by another series of experiments owing to the observation that in all cases in which the injections were made subcutaneously, intra-abdominally, or with intravenous methods, the whole of the central nervous system, with the exception of the choroid plexus, remained absolutely unstained. In continuing his experiments he took into consideration the following questions:

1. Has the choroid plexus a specific function during fetal life, and what is it?

2. How does the epithelium behave towards vital stains?

3. A further problem was to determine the behaviour of the vital stains, and their pharmaco-dynamic effects according as they were applied through the circulation or by lumbar injection.

The experiments on the fetal plexus were carried out entirely in rats and mice, as the author's previous histochemical experiments had been most extensive in these animals in all stages of their development under normal and pathological conditions. Moreover, the small size of the animals made it possible to examine in one series of sections the whole fetus, together with the wall of the uterus.

As is well known, it has recently been shown that glycogen is a very important building material, and that, in spite of the fact that it is always found in the fetus, the central nervous system, except the choroid plexus, remains free from it. It is present, according to the author, in great abundance in the plexus epithelium.

Professor Goldmann used the carmine method in searching for glycogen, and found that as soon as development had advanced sufficiently for the differentiation of the choroid plexus glycogen could be detected. The plexus villi stood out as bright red places in contradistinction to their surroundings. Floating in the spaces of the fourth, third and lateral ventricles were detected bright red drops, a large number of which formed a continuous chain with the plexus epithelium. The cells of the latter showed their protoplasm full of red particles, drops and droplets, which sometimes covered the blue stained nucleus. Often the epithelial surfaces of adjacent villi lying close to each other were linked together by solid glycogen bridges. The plexus epithelium was marked off sharply from the adjacent ventricle epithelium. In addition to free drops of glycogen cast-off epithelial cells with their nuclei faintly stained were also found. Mitosis was also observed in the cells containing glycogen, which was a proof that the presence of glycogen was not a sign of degeneration. When the *Grosshirnbläschen* was fully developed, the amount of glycogen in the plexus of the lateral ventricles appeared to be greater than in that of the third and fourth.

The presence of glycogen in the plexus epithelium could be detected two or three days after the birth of the rats and mice. There would seem no doubt that glycogen is a most important building material for the central nervous system, and it should therefore cause no surprise that it has a position in the plexus epithelium. In the newborn and in animals up to fourteen days old it was always detected. On the other hand, in full-grown animals it was absent almost without exception. Yoshimura has found glycogen in the plexus epithelium of the human being at various ages, but he does not state whether his material was taken from healthy or diseased individuals.

It is of interest to recall that Claude Bernard, by means of Fehling's reaction, found in the cerebro-spinal fluid a substance which he took for grape sugar, and recently Mott's researches have shown that glucose is present in the human cerebro-spinal fluid under normal conditions in quantities varying from 1.2 to 2.5 in 1.000, and that these amounts are diminished in certain diseases of the nervous system—for instance, dementia praecox. These facts give increased importance to the presence of glycogen in the choroid plexus with regard on the one hand to the secreting activity of the plexus, and on the other to the glycogen content of the central nervous system.

In studying further the behaviour of the plexus epithelium towards the vital stains, Goldmann used the technique described in his earlier monographs.

After complete fixation and hardening of the brain in a 10 per cent. formol solution, frozen sections were made, and alum-carmine used as a nuclear stain. The animals examined were the frog, mouse, rat, guinea-pig, rabbit, dog, and monkey. In all these animals when the stain was introduced by means of intravenous, subcutaneous, or intra-abdominal injection, the same appearances were found—namely, vital staining of the plexus, and absence of stain in the rest of the central nervous system. If the animal had died in consequence of a toxic dose, or if the fluid was not examined till some time after death, it was often found to be slightly stained. In the plexus of the lateral ventricles and of the third and fourth ventricles, two different elements took up the stain—(1) the cells of the plexus itself, and (2) cells which belong to connective tissue of the plexus villi. These last resemble in form and size the large mononuclear lymphocytes.

Subarachnoidal injections of the vital stains were made into the lumbar sac or into the cranium. Any injury of the brain was carefully avoided. With the cord this was a more difficult matter, but could be best avoided in young animals in which ossification had not begun at the ligamenta interspinalia and intervertebralia.

It was found that a subarachnoidal injection of 0.5 c.cm. of a 0.5 per cent. solution was sufficient to cause the death of the animal (rabbit). In the dog it was found that 1 c.cm. of a 0.5 solution of trypan-blue injected under the dura caused severe spasms of the face muscles, but the animal was able to recover itself; in some cases where the injection was made several times during the course of a week no permanent injury was apparent. Serious disturbances arose only when the strength of the injections were increased to 2 to 2.5 c.cm. of a 1 per cent. solution; the animal died seventeen hours afterwards.

In one experiment on a rabbit 0.5 c.cm. of 0.5 per cent. and 1 per cent. solution of trypan-blue were injected into the lumbar sac. Immediately after death the brain and cord, together with the nerve roots and spinal ganglion, were taken out and fixed in a 10 per cent. formalin solution. Macroscopically the cord was dark blue in its whole extent. The nerve roots and spinal ganglia were somewhat paler than the body of the cord. The *Hirnstamm* was likewise dark blue. The stain was particularly deep at the base of the brain. The hemispheres of the cerebellum were paler in comparison.

In the rabbits in which an injection was made into the cranium the picture was the same, except that in this case the cerebral hemispheres were also deeply stained. The hardened specimens were cut with a freezing microtome, and gave the following picture of a transverse section of the cord. The leptomeninx was diffusely

[1] *Vitalfaerbung am Zentralnervensystem: Beitrag zur Physiopathologie des Plexus choroideus und der Hirnhäute.* Berlin. 1913.

stained blue. In the commissure, at the entrance of the blood vessels, and also at all places where lamellae of the pia enter the substance of the cord, the processes (or continuations) of the soft coats were recognizable by their blue stain. In many cases there was also vital staining of the glia network enclosing the nerve fibres. In the grey substance the staining appeared more complicated than in the white. The diffusely blue-stained ganglion cells of the anterior and posterior cornua were marked off distinctly from the paler ground substance. The nuclei of the ganglion cells were also stained. The protoplasma of the cell was so deeply stained as to make the structure unrecognizable.

In the brain sections also the blue staining of the soft coats and their processes into the brain substance was found. In parts of the cortex where the stain was intense vital staining of the glia fibres and cells was present, and the large pyramidals with their processes and deeply stained nuclei stood out very distinctly. In the cerebellum the cells of Purkinje were deeply stained.

In the dog, when the dose was large enough to kill the animal, the picture was similar, except that there was a much less extensive staining of the ganglion cells.

The dogs that received smaller doses and lived on were killed after several days. The macroscopic examination after the application of 0.5 to 0.8 of a 1 per cent. solution showed only one hemisphere stained, and sometimes just the convexity of that hemisphere. Only after the application of large quantities were both hemispheres stained. Microscopically, the pia with its processes into the brain substance were deeply stained. Everywhere the vessels were accompanied by vitally stained cells. Between the nerve substance and the vessel wall there was a wide lacuna, limited by cells containing the vital stain. These cells appeared to lie directly on the vessel wall. Their protoplasma contained peculiar vacuoles, which gave them a blown-out appearance. The cell membrane was blue, but the nucleus unstained. In these last experiments with the dog the staining of the ganglion cells was very limited, unless there was a lesion of the nervous system.

There was a great change in the picture under pathological conditions, such as inflammation, or such lesions as led to intracerebral haemorrhages. In such a case where the animal died spontaneously the coats were found considerably thickened, and, together with unstained polynuclear cells, numerous large mononuclear cells were found in which vitally stained granules and larger blue particles were present. These cells were in every respect similar to the pyrrhol cells described by Goldmann in his studies on the peritoneum, spleen, and lymph glands. From the above it would seem as if the distribution of the vital staining solution were similar to that described by Bruno and Lewandowsky for ferrocyanide and methylene-blue.

The vital stains reach the ganglion cells directly, penetrate them, and cause symptoms of irritation and then paralysis; this means the death of the cell; the stain penetrates the protoplasma, and causes that coloration which is an undoubted sign of the death of the cell.

As to the method of distribution of the stains, Goldmann stated that after lumbar injection the whole cord and brain stem, together with the optic and olfactory nerves, are deeply stained, while the cerebral hemispheres presented a very partial staining or remain unstained. When very small doses were given the stain was limited to the one hemisphere; the base, ventricle, or central canal were not stained. These appearances are in accord with Key and Retzius's description of the subarachnoid space as cisterns which surround the dorsal surface of the medulla and mid-brain. "From the large basal cisterns injected substances reach the surface of the cerebral hemispheres. First these substances are carried in the depth of the furrows (grooves), preferably in the neighbourhood of the blood vessels—that is, in the subarachnoid canals of the same, then they rise with the vessels to the surface, gradually filling the neighbouring places."

For these facts, as for the continuation of the subarachnoidal spaces into the lymph canals of the higher sensory nerves and peripheral nerves, "vital injections" have afforded strong confirmatory evidence. Goldmann's microscopic examinations confirmed without doubt the connexion (as shown by Key and Retzius) of the perivascular spaces of the brain and cord with the subarachnoid spaces. The staining of the cells of the perivascular spaces affords an important histological means of following up the continuation of these spaces into the perigangliar spaces. It is well known that the idea hitherto accepted has been that those intracerebral and intraspinal processes (*Ausläufer*) of the subarachnoid space which present themselves as perivascular lymph spaces have a blind ending at the point where the smallest veins and arteries pass into the territory of capillaries. Mott has shown already (particularly with regard to the tying of the large vessels of the neck) that in the brains of such animals there are perigangliar spaces which communicate directly with the perivascular spaces of the capillaries. According to Goldmann's results, there can be no doubt that when vital staining of the ganglion cells is produced by a subarachnoid injection, the stain reaches the cells directly by means of the perivascular spaces and by the paths described by Mott. This is a fact of great importance in its bearing on the question how far the cerebro-spinal fluid represents the lymph.

From the above Goldmann drew the following conclusions: Vital stains possess an affinity for the nervous system, and specially for the ganglion cells. If they are introduced by means of subcutaneous or intravenous injections, they are kept back by the plexus. If they are introduced into the cerebro-spinal fluid, they can spread through the whole of the nervous system, and show their toxic effect by the destruction of numerous ganglion cells, which they reach by way of the perivascular continuations of the subarachnoid space through the cerebro-spinal fluid.

Two questions arise: If absorption of the stains occurs, do they reach the lymph or blood vessels first? Does this absorption take place quickly or slowly?

Goldmann's experiments have solved these questions only in part, for the simple reason that, owing to the serious toxic effects of the stains, they could only be used in small quantities. The small quantities are distributed rapidly in the nervous system, and remain there for the most part, and only very minute particles, hardly to be recognized by the usual methods, leave the subarachnoid space. Only in those dogs which received an injection of 2 to 2.5 c.cm. into the cranium was the stain found in the deep lymph glands of the neck. This is in accord with the results of Mott and other authors. The latest investigations of Hill, Cushing, Reiner, Schmitzler, and others tend to prove that the cerebro-spinal fluid flows directly into the circulation by way of the longitudinal sinus to the vena jugularis. Goldmann formed the impression that in the experiments of these authors large quantities of fluid under pressure were used which do not give a parallel to the natural way. In using such injections into delicate tissues, it is very easy to cause ruptures of the vessels, which may lead to false conclusions. In Goldmann's experiments, the conducting of the stained solution was a vital process, and therefore some physiological importance should be attached to it. Vital staining offers a wide field for discovering the communication channels for the cerebro-spinal fluid.

Quincke and Sicard have pointed out the great differences that exist in the subarachnoidal space with regard to the absorption of true solutions and emulsions. Even the finest suspended matter is distributed gradually through the stream of liquid in the nervous system. But the interesting phenomenon is observed that freely suspended bodies very soon disappear from the liquid, as they are taken up by the phagocytes, and reach the brain coats to be deposited in the form of granules. Such minute foreign bodies are not, as a rule, drained off in the general lymphatic channels. When Sicard injected into the subarachnoidal space of the dog very fine emulsions of oil with Chinese ink, he could detect drops of oil four or even nine months later in the lateral ventricle or in the tissues of the pia.

Goldmann doubted whether leucocytes alone act as phagocytes of undissolved products in the cerebro-spinal fluid. His experiments led him to suppose that the "pyrrhol" cells play an important part in this, as he found them in great numbers in pathological conditions of the brain and its coats. Mott and Spielmeyer, in discussing their histological researches on the perivascular changes, especially in chronic meningo-encephalitis, have called

attention to special cell elements which appear to correspond very closely to the "pyrrhol" cells of Goldmann.

Everyone who compares Spielmeyer's illustration (Plate 5, fig. 5) with Goldmann's picture of the "pyrrhol" cell will not doubt the identity, and Goldmann had no doubt as to their origin. He considered them to be normal constituents of the brain coats and their intracerebral, intraspinal, and intraneural continuations. By the demonstration of this fact he considered that the "anatomical and physiological" relation of the leptomeninx with the serous coats, more especially the peritoneum, was proved. Thus the leptomeninx possesses a phagocytic action *par excellence* with an extraordinary chemiotactic irritability (*Erregbarkeit*). It is distinguished histologically by its capacity of storing up vital stains.

The experiments of Quincke, Sicard, and others on the fate of minute foreign bodies in the subarachnoidal space have a further practical importance. We know that the prognosis in trypanosomiasis ugandensis is made more serious by the detection of trypanosomes in the cerebro-spinal fluid. Sicard has pointed out how the action of the cerebro-spinal fluid differs according as it acts on parasites *in vitro* or *in vivo*. ("Peut-on conclure de ces propriétés bactéricides constatées—*in vitro*—à l'action de ces mêmes propriétés—*in vivo*? Nous ne le pensons pas, les expériences faites sur les animaux démontrent le contraire. Nous verrons, par exemple, avec quel rapidité meurent les chiens inoculés par la voie sous-arachnoidienne avec du pneumocoque, du charbon ou du bacille tétanique.")

So it is with sleeping sickness. If the parasite reaches the subarachnoidal space it can carry on its toxic activity leading to chronic meningo-encephalitis. Dr. Mott even holds the opinion that a reinfection of the blood can start again from those trypanosomes which remain protected in the cerebro-spinal fluid; and he says that "the only case of trypanosomiasis ugandensis which to his knowledge was cured concerned a patient in whom, three years after the infection, no parasites could be detected in the cerebro-spinal fluid. He never showed a sign of sleepiness." Five years after the infection he died of pneumonia, and the autopsy revealed no signs of a meningo-encephalitis.

In conclusion, Goldmann wrote that he would not enter into the question as to whether the cerebro-spinal fluid was lymph fluid or not, as this had been discussed very thoroughly by Mott, Lewandowsky, Blumenthal, and others. Goldmann's experiments have taught us two things. From the plexus choroideus the cerebro-spinal fluid receives important metabolic products, which are carried to the nerve substance by the fluid. Further, the plexus possesses the power of protecting the fluid, and in this way the nerve substance, from the penetration of toxic substances. We thus arrive at a correct understanding of the peculiar composition of the fluid as compared with the other fluids of the body, which enables it in such a perfect manner to bring nourishing products to the nerve substance, and at the same time to keep out harmful ones.

It is, therefore, not surprising that in the lowest and highest animals the choroid plexus begins its function at an early stage.

ONE HUNDRED YEARS AGO.

The Royal College of Physicians and its Presidents in 1813.

On the sixth day of October, 1813, Sir Francis Milman, M.D., resigned the presidentship of the Royal College of Physicians, and was succeeded in the presidential chair by Dr. John Latham. No doubt there were the customary regrets expressed and the usual congratulations offered in connexion with the two events; and then the work of the College went on again as before, save, of course, that the new president's individuality, invisible in the big decisions of the chair by reason of the stereotypism inseparable from that office, showed itself in the personal mannerisms and tricks of speech which every man has, but which few men suspect themselves to possess. Let us see whether we can, in some degree, look into the medical life of the time and form some mental pictures of the men of these days and the manners, for, as the Latin proverb has it, "ubi homines sunt, modi sunt" (where there are men there are manners).

But, first, let us fix the *venue*. The Royal College of Physicians in 1813 was not yet in Sir Robert Smirke's fine building in the space between Cockspur Street and Pall Mall East, looking into the latter and in the North-West corner of Trafalgar Square—indeed Trafalgar Square itself was not, until 1830; the physicians were still in Warwick Lane, in the edifice erected by Wren (begun in 1671 and opened in 1679), into which the Fellows of the College, driven out of Amen Corner by the ravages of the Great Fire (1666), had moved. In Warwick Lane they had been for a hundred and forty years or so, and there they were to remain for some ten or eleven years more. It was a great building, capacious, convenient, handsome, even imposing; its dome had looked down on many notable physicians pacing along the lane which joined Paternoster Row with Newgate Street; and within its walls there had been enacted great events. Some of the events had been regretted afterwards, such as that trouble with the apothecaries when the profession split up into dispensarians and anti-dispensarians; and even the dome had been written of by Garth with hardly the respect and honour it merited. Sir Samuel Garth, in his poem, *The Dispensary*, whilst satirizing the apothecaries, and after a passing allusion to the Old Bailey (not far away), thus described the "octagonal domed entrance-porch, forty feet in diameter":

> Not far from that most celebrated place
> Where angry Justice shows her awful face,
> Where little villians must submit to fate,
> That great ones may enjoy the world in state,
> There stands a dome, majestic to the sight,
> And sumptuous arches bear its oval height;
> A golden globe, plac'd high with artful skill,
> Seems to the distant sight—a gilded pill.

But, take it all in all, the College was a great building, and the Fellows had a long and honourable past to look back upon when, in October, 1813, they gathered to bid farewell (officially) to Sir Francis Milman and to welcome Dr. John Latham.

They were still meeting in Warwick Lane, but they were beginning to be restless there, for whilst the College was all that could be desired, its situation was not. Munk[1] says that since its erection great changes had taken place in London, and especially in the City. "The immediate neighbourhood of the College had greatly deteriorated; the population and fashion had gone westward, and the situation of the College—always bad, and the only approach to it through Warwick Lane, narrow and difficult—became year by year more inconvenient." The desirability of the removal of the College to a more convenient situation was in 1813 very evident to all; indeed, several attempts had already been made to get on the move, but thus far with no result. It was during Dr. Latham's presidentship that the first definite step was taken in the direction of Pall Mall, although it was not till the coming of his successor, Sir Henry Halford, that the site there was actually secured. The matter, at any rate, was exciting interest among the Fellows at the close of 1813, and in 1814 the College "petitioned for and succeeded in obtaining from Parliament an Act to enable it to hold its corporate meetings and exercise its powers within the city of Westminster and its liberties." Little more was done during Dr. Latham's occupation of the chair (1813–1820), but Sir Henry Halford immediately began to make progress, and soon after his election as president got from the Crown a grant of the ground in Pall Mall East on which the College now stands for a lease of 99½ years. Had no alteration in these terms been made, the Fellows would now be facing the termination of their lease within a few years; but in 1864 an Act of Parliament was passed to enable Her Majesty Queen Victoria to grant a lease of the building and site for 999 years. The College authorities of to-day, therefore, need not yet begin to fret about their habitation for the future. This security of tenure, however, was not dreamed of, far less within sight, in 1813, and Dr. Latham and his treasurer, Dr. Richard Budd, and Dr. Budd's successor, Dr. George William Maton, had no clear vision of how they were going to get out of narrow, twisting Warwick Lane or of what more spacious situation they were to reach.

The new president was a Cheshire man, and was

[1] Munk, W., *The Roll of the Royal College of Physicians of London*, vol. iii, p. 333, 1878.

approaching the close of his 52nd year; his predecessor, Sir Francis Milman, Bart., was a Devonshire man, and fifteen years his senior; both had a clergyman for father, and were therefore "sons of the manse," as they say in Scotland. Both were Oxford graduates, the former a member at Brasenose and the latter of Exeter College.

Sir Francis Milman was admitted a Fellow of the Royal College of Physicians in 1778; but apparently just about that time he was nearly lost to medicine and gained by the Church, for he took the degree of bachelor of divinity at Oxford on November 10th of that year, and soon thereafter resigned his appointment as physician to the Middlesex Hospital. The intention, however, was abandoned, and he is found to be, in 1785, physician extraordinary to the King's household; and then, having, so to say, put his foot on the ladder, he is seen mounting steadily—physician to the household, physician extraordinary to the King, physician in ordinary to the Queen, and, in 1806, physician in ordinary to the King. He was created a baronet in 1800. If Sir Francis at any time regretted that he did not leave medicine for divinity he must have been consoled to some extent by the fact that he lived to see his third son (Henry Hart Milman) take orders (1816); in that year also a grandson was born (Robert Milman), who was in time to come (1867) to be bishop of Calcutta. Henry Hart Milman, also, rose high in the Church, being made dean of St. Paul's by Lord John Russell in 1849; he was known as "the great dean," and he is now remembered for many of his literary undertakings. He wrote a *History of Christianity under the Empire*, which was ignored by the clergy; edited *Gibbon*, an almost impossible task, published the *Life of E. Gibbon, Esq.;* and composed his *History of Latin Christianity;* but his earliest historical work, the *History of the Jews* (1830), is his most memorable achievement, for through it he has entered that modern temple of honour in literature, the Everyman Library of a thousand volumes. Of these happenings, however, Sir Francis Milman had no foreknowledge in October, 1813, as he gave way to Dr. Latham, his successor to the presidential chair; but we may fancy, if we choose, that we can trace some hereditary foreshadowing of his son's coming historical fame in the fact that in Sir Francis's work, *An Enquiry into the Source from which the Symptoms of the Scurvy and of Putrid Fevers arise*, "almost the only original passage," to quote Dr. Norman Moore,[2] "is one in which he comments on a passage of Strabo, and shows that the disease from which the army of Aelius Gallus suffered in Arabia in the reign of Augustus was a form of scurvy." Soon afterwards the baronet retired to his seat, Pinner Grove, Middlesex, where he died in 1821, in his seventy-fifth year. "He was a courtly person, of no great medical attainments," says Dr. Norman Moore.

Let us turn to Dr. John Latham, the incoming president, under the octagonal dome in Warwick Lane. To many of the Fellows, and especially to such as delighted in the classics and indulged, as was the custom, in allusions to mythological matters, the new president must have seemed a very phoenix, in the second cycle of his life, emerging from ashes with renewed youth. There was reason for their thought and a basis for the comparison. After a short time in practice in Manchester and Oxford, Dr. Latham had gone to London in 1788; he was soon physician at the Middlesex Hospital, and at the Magdalen; and in a few years he was physician to St. Bartholomew's (1793). He was admitted a Fellow of the College of Physicians in September, 1789; was Censor in 1790, 1794, 1801, 1803, 1807; was Gulstonian Lecturer in 1793, Harveian Orator in 1794, and Croonian Lecturer in 1795; and he was Elect from July 4th, 1806, till August 11th, 1829. His growth in the respect and confidence of the Fellows had been rapid, but he had done even more than has been enumerated, for in 1792 he undertook the arrangement of the library, which had been suffered to fall into disorder, and, as we shall see, had contributed numerous papers to the *Medical Transactions* published by the College. But Dr. Latham was no bookworm; he had a large and lucrative practice, had been appointed physician extraordinary to the Prince of Wales in 1795, and carried on his numerous activities in Bedford Row.

Between 1802 and 1807 there were signs that Dr. Latham's immense labours were telling upon him. Here is the story as it was told by his second son, Peter Mere Latham[3] (in 1843). "Half a century ago there were three physicians of St. Bartholomew's Hospital, who, each in succession and each early in life, and unaided except by their own strenuous industry and talent, ran a rapid career of success. These were Dr. David Pitcairn, Dr. Austin, and Dr. Latham. The fortunes of all three were peculiar and instructive. Dr. Austin, in the midst of great business and the brightest prospects, was cut off by a fever at the age of 40. Dr. Pitcairn, between 40 and 50, had his prosperity arrested by haemoptysis, and retired to Lisbon in search of health. He returned to a less practice but an undiminished reputation, and died about his 60th year from acute inflammation of the larynx. Dr. Latham, at the age of 46 (1807), was worn out by the hard labour of his early success. He was believed to be consumptive, and retired into the country (it was thought) to die. But he recovered, and returned to town, and resumed the exercise of his profession." He had resigned his hospital physiciancy in 1802, and it can readily be imagined how, in 1807, when he began to spit blood, the household in Bedford Row was thrown into consternation, and with what expressions of regret Dr. Latham's breakdown was received by his friends in the College; and so he went off to his country estate at Sandbach, "it was thought, to die."

Then came the phoenix-like rebirth and rejuvenation. In two years he was recovered, and was back in town once more, not now indeed in Bedford Row, but in Harley Street; his old patients gathered round him, "and here for twenty years he enjoyed with a more moderate practice a larger share of health than he had known during the days of his greater labour and greater success." Finally, in 1829, he left London, but even then fourteen years of life were still before him. "For two thirds of this period," as his son wrote, "he enjoyed the comforts which are still within the reach of vigorous old age; for the last third was reserved the sharpest of all bodily afflictions, the formation and gradual increase of stone in the bladder." Under this he died in 1843, at Bradwall Hall, in his native county of Cheshire, to which he had gone in 1829. It was, however a wonderful rejuvenation, and we can think of some of the Fellows in the College who knew the whole story saying to each other in October, 1813, "See our phoenix-bird president," and quoting perhaps with a fine ring Dryden's lines:

> All these receive their Birth from other Things;
> But from himself the Phoenix only springs:
> Self-born, begotten by the Parent Flame
> In which he burn'd, Another and the Same.

Reference has been made to Dr. Latham's rearrangement of the books in the library of the Royal College of Physicians in Warwick Lane, but he was a writer of books as well as a custodian of them. His work on *Diabetes* was published in 1811: in it he supported a dietetic treatment, and supplied long extracts on the disease from the Greek authors and from Willis. Two earlier works were *A Plan of a Charitable Institution to be Established on the Sea Coast* (1791), and *On Rheumatism and Gout* (1796). The last-named work was in the form of a letter to Sir George Baker, Bart., who had been nine times President of the College between 1785 and 1795, and who made the discovery that Devonshire colic and colica pictonum were forms of lead poisoning (with much loss of local favour in his native county of Devon). As an example of Dr. Latham's literary style the opening sentences of his letter to Sir George may be quoted:

> Dear Sir,
>
> The liberty which I take of addressing you on the present occasion, very naturally arises from that indulgence which you have always shewn to me, and from the opportunity which, both as President of the College of Physicians and as a private gentleman, you have constantly granted for freedom of communication. Easy access very often invites intrusion; and, therefore, if your doors have been open and I have not denied myself the satisfaction of walking in, you must lay to that account the visits which I have sometimes made you, and blame yourself alone for the interruption. I know not, however, whether at this time I ought to presume to consider myself as a welcome visitor, since the subject which I shall propose for your examination (and on which I shall ultimately hope for your approbation) will be an attack upon old opinions—in which, perhaps, I shall find you fortified by numbers

[2] *Dict. Nat. Biogr.*, xxxviii, p. 1, 1894.

[3] *London Medical Gazette*, n.s. ii, p. 212, 1843.

against me; but which I conceive to have been defended by a supposed impracticability of the approach, rather than by any real strength of the fortress.

One feels inclined to say "gracefully put and well rounded," and to feel that Sir George Baker would have been inaccessible if he had not responded to so delicately expressed and so courteous an invitation to "candid discussion and calm investigation." Dr. Latham's views were, indeed, rather revolutionary: he thought that neither acute rheumatism nor gout should be placed with the inflammations; the seat of these diseases was "established in the minuter series of lymphatic vessels." Gout was not hereditary, and an attack of it was never beneficial.

The eighty pages of the work on rheumatism and gout do not form very interesting reading, and one turns with greater hopefulness to Dr. Latham's shorter contributions to the *Medical Transactions* of the College. These *Transactions* had begun to appear in 1768, when the first volume was published; during the ensuing seventeen years two more volumes were produced; a period of silence of twenty-four years followed, and then, in 1813, another volume came out. In this fourth instalment Dr. Latham took the most prominent place with five contributions, and it is not unlikely that it was largely through his exertions that the issue not only of the fourth but also of the fifth and sixth volumes was made practicable; at any rate, no more appeared after the close of his presidentship. The subjects dealt with by him in the fourth volume included tetanus (Dr. Latham recommending relaxant medicines, especially pulvis ipecacuanhae compositus in large and repeated doses), tumours which have been mistaken for disease of the liver (for example, "schirrous pancreas" and enlargement of the ovarium), certain symptoms usually but not always denoting angina pectoris (symptoms which in reality were occasioned by disease seated in the abdomen), and abdominal tumour originating in lumbar abscess. All these contributions were read at the College before the date of Dr. Latham's elevation to the chair. Just before and immediately after his election as president he contributed three papers, and these appeared in the fifth volume; another was published in 1815, and one each in 1818 and 1819 (in the sixth and last volume). The subject dealt with just before Latham's election was "leucorrhoea," and in this article, better, perhaps, than in any other, one sees the long distance medicine, and particularly gynaecology, has travelled in the last hundred years: of diagnosis there is almost none, the writer deploring the frequent omission of vaginal examination; for treatment, mention is made of "mild diluent injections of tepid water," and the cure is to be confirmed by mixing with the water "some slight astringent either of the vinous, the vegetable, or the metallic kind." The president was more happy in his communication the "medicines usually given in worm cases, with remarks upon the collateral advantages sometimes derived from them in cases of epilepsy"; this was read at the College on November 15th, 1813. A favourite application in the hands of Dr. Latham seems to have been the liquor plumbi acetatis dilutus, for he gave it in leucorrhoea (apparently in cases of cancer of the cervix uteri) and in the condition called cachexia aphthosa; he used the superacetate of lead in consumption. To the modern mind one of the most striking features of Latham's contributions, and indeed of all the papers in these *Transactions*, is the slenderness of the clinical materials upon which far-reaching conclusions were based. If one reads them over and then turns to any week's issue of this Journal, for instance, one cannot fail to be impressed with the progress, in this respect at least, accomplished in one hundred years.

The president was fond of books, there can be no doubt of that, both before and after his phoenix-like rejuvenation: and it is a matter of more than passing interest that all his three sons drove the pen. His second son, Peter Mere Latham—Mere was the maiden name of Dr. Latham's wife—followed in his father's steps in medical practice, but he also gained the Chancellor's prize at Oxford for Latin verse on Corinth, and there are preserved in the library at St. Bartholomew's Hospital sixty folio volumes of his notes of cases. His eldest son, John, a friend of Reginald Heber, was the writer of poems which have been described as graceful and reminiscent of Cowper; and his third son, Henry, who was first a barrister and afterwards entered the Church, had a lifelong taste for classical studies, and published in 1863 Latin translations from Shakespeare.

One thinks of Dr. Latham as a man giving all his spare time to the Royal College of Physicians—a familiar figure, therefore, in Warwick Lane a hundred years ago, with not a little literary grace in his writing; not very brilliant, perhaps, in his management of his medical cases, but courtly, kind, sympathetic, giving confidence and encouragement, and calling forth esteem and even affection. "More, therefore," said his son, writing in the year of his death, "need not be said of Dr. Latham, except that he was singularly temperate, when temperance was hardly yet thought to be a virtue; he was pure in life and conversation, when to have been otherwise would have provoked no censure; and he was not ashamed to be religious when religion had yet no recommendation or countenance from the world." So we bid him farewell as he was in 1813, enjoying that second cycle of full years of life, looking forward to many happy and useful days yet "beneath the stars—and above them."

THE OPENING OF THE WINTER SESSION.

Of late years the first of October has lost some of its importance as a date in the medical year. It is no longer almost solely at this date that students commence their medical career; considerable numbers join the schools at the beginning of the summer term. Besides this, the number of recognized special departments of medicine has increased, and the organization of these, as also of general ward work for teaching purposes, has been vastly elaborated, with the result that a very much larger proportion of students remain up during some part of the long vacation than was formerly the case. This is no doubt one reason why first of October ceremonies have fallen largely into desuetude. With rare exceptions the provincial, Scottish and Irish schools now commence their work without any fanfare at all, most of them marking the commencement of the winter session simply by opening the doors of their anatomy rooms during the first week of October, and commencing formal lectures at varying dates thereafter. This has been the case this year, and the present week has witnessed a more or less definite commencement of winter work not only in London but throughout the United Kingdom.

There have, however, been certain exceptions to the absence of inaugural ceremony, and addresses given by Professor Sherrington at Leeds and by the Director-General of the Indian Medical Service at the London School of Medicine for Women will be found elsewhere in this issue. At Birmingham the dean and the faculty of medicine gave a conversazione, whereat Professor Arthur Keith reviewed the present state of knowledge regarding the antiquity of man and the problems that remain to be solved. At St. George's Hospital there was a prize-giving ceremony, at which Sir William Osler played the leading part. At Charing Cross Hospital there was a corresponding event, the prizes being distributed by the Lady Wantage, and an important address on the subject of university medical education in London, delivered by Dr. William Hunter. This too will be found in full in the earlier pages of this issue. The other schools for the most part contented themselves with the holding of old students' dinners; but at St. Mary's and the Middlesex Hospitals there were in addition prize-giving ceremonies, of which addresses formed a part.

Medicine as a Liberal Education.

In an address at the Middlesex Hospital Mr. Sampson Handley, after a reference to the presence of a number of new students, drew attention to the careers of some distinguished men who after commencing life as doctors had adopted another profession. His object, he said, was to show that medicine was not a mere technical training, but afforded one of the best means of developing a man's powers in whatever direction those powers were later to be applied. In other words, a medical training was in itself a liberal education, though it was true that lifelong exercise of the art of medicine might ultimately tend to narrow a man's outlook.

Among those whose names he quoted in this connexion was that of Canon Arnott, who has now for a considerable number of years been rector of Beckenham; before that he was on the staff of the Middlesex Hospital as assistant surgeon, in addition to being a Fellow of the Royal College of Surgeons and a pathologist of some distinction. Canon Arnott rigidly abstained from any exercise of his old craft of surgery, whether by way of advice or practice, and this, Mr. Handley remarked, appeared to be the safe general rule for those who left the profession. Canon Arnott had informed him that though medicine had no direct value in his present field of work, yet his old scientific training, and the hours he had spent in microscope work, the power of sympathy with suffering, the realization of the inexhaustible study and experience needed for anything like dogmatism in the ways and byways of Nature, the humility necessary before the baffling problems of life, disease, and death—all this was of incalculable value in his present profession. Medicine, too, provided a knowledge of man and affairs and an unlimited acquaintance with the seamy side of life which were of advantage in his work.

Keats, Goldsmith, and the present Poet Laureate, Dr. Bridges, were also mentioned; and in regard to the latter he suggested that it was not difficult to see how Dr. Bridges's poetry must have gained in directness and humanity from his years of service to the London poor. It balanced and harmonized the complex elements of his intellectual training, and prevented that atrophy on the volitional side which was the bane of a purely literary career. Among politicians who had started their careers as medical men he mentioned the late Lord Ilkeston, Dr. Jameson of South Africa, Sir George Robertson, who after spending ten years in the Indian Medical Service proved himself an unrivalled manager of men by his fighting and diplomacy among the wild tribes of the Indian frontier; Mr. G. E. Morrison, an M.D. of Edinburgh, now official political adviser of the President of the Chinese Republic, Dr. Sun Yat Sen—the first student of the English medical school established at Hong Kong by Mr. Cantlie—who had organized the movement which led to the downfall of the Manchus; and Sir Robert Finlay, whose brilliant career as Attorney-General proved that a medical education at any rate offered no insuperable obstacle to subsequent legal success.

The name of Sir Seymour Haden, founder and President of the Royal Society of Painter Etchers, was also recalled. He continued to practise as a surgeon until the age of 52, regarding his etching as a recreation rather than an occupation. Perhaps he had given too much of his life to medicine; if his art had been the single passion of his life he might have been an English Rembrandt. Another instance brought forward of a doctor turned artist was Mr. Henry Tonks, now assistant professor at the Slade School of Fine Art, and a man for whom many generations of Middlesex students had felt affection not unmingled with a wholesome dread. Among actors who were originally medical men was Sir Charles Wyndham, now one of the acknowledged heads of the dramatic profession, and doubtless one of the lost leaders of medicine.

Sir Joseph Hooker, like Huxley, began his career as a naval surgeon. It was medicine which introduced him to botany, and the careers of both men illustrated one great direct advantage of a medical training, namely, that it unlocked for medical men the pageant of the world. The law and even the Church had to stay at home when poles were to be reached or unknown territory crossed, but the doctor could not be spared. The steamship companies would show him the gorgeous East and provide him with pocket money if he cared to take a voyage as a ship's surgeon. If he did so his training in observation would prepare him to use his privileges to the greatest advantage; a man could hardly have a medical training without being able to say with one of Mr. Morley Roberts's characters: "I sees what I looks at." As explorers doctors had been very successful, as witness the careers of Livingstone and Mungo Park.

Other names were those of Mr. Stephen Paget, who had solved the problem of serving two masters in a unique way by becoming the literary protagonist of science, and Sir Arthur Conan Doyle, whose debt to a medical training was both large and direct, since it led him to discover Sherlock Holmes in the person of one of his surgical teachers at Edinburgh.

These examples, Mr. Handley continued, sufficed to show that the renegades of medicine included a large proportion of men who had subsequently reached eminence in other spheres of activity, and as the total number of renegades was comparatively small it was a fair inference that the study of medicine provided a liberal education, and one which so developed the individual that it fitted him for any of the varied calls that life in its other departments might make upon him. The renegade doctor was likely to be found near the top of whatever tree he selected. He would not maintain that science was more than a necessary complement to literary and linguistic training; indeed, attempts to make science the main ingredient of school education were predestined to failure; they flew in the face of the great biological generalization that the development of the individual was an epitome of the development of the race. The human embryo, beginning as a unicellular organism, passed through a stage in which it possessed gill-slits like a fish before it assumed its final mammalian form. This principle supplied the key of the educational problems. The attention of a boy was rightly directed, in the first instance, to the childhood of the human race, to language, classics, and history. A scientific man if denied the power of expression which only a literary training could give would be deprived of most of his power to influence his fellows; but given an adequate literary foundation, an acquaintance with rational science—the most recent achievement of the race—would naturally fall in the university or post-university stage of education, and was necessary to complete the edifice.

For the general purposes of life, medicine—which blended with and merged into pure science in every direction—was the best way of getting a broad general acquaintance with scientific thought; as compared with pure science it had the advantage that it did not exclude the human interest, and that it broke down that morbid dread of plebeian contact—that want of recognition of the dignity of service—which was not infrequently seen in the educated Englishman. Goethe, who had studied medicine and acknowledged its charm, said:

> My disgust at the patients gradually decreased as I learnt to forget their physical condition in the ideas suggested by it, which rendered possible the restoration of human form and human life.

The personal service which a medical student cheerfully gave to the more unfortunate of his fellow citizens, the intimate knowledge he acquired of their miseries and heroisms, their virtues and vices, must tend to broaden his outlook on life. He who washed the beggar's feet might find his own hands whiter than before. As a training in resourcefulness and presence of mind medicine was as good as the fighting services, for the demands that it made for such qualities were of daily occurrence. Like the middy on a torpedo boat the medical man acquired his responsibilities early. The house-surgeon just qualified must be prepared at any moment to perform, for instance, tracheotomy—a delicate operation, in which death would call an immediate checkmate to any false move.

No one method of research would exhaust the treasures of the universe, and for this reason those who had leisure for full self-development should complete it through science. In its leaders collectively, if not individually, the nation had a right to expect that combination of literary and scientific training which was the source of Goethe's strength. It was not sufficient that a man of science should be at hand to consult, but the scientific habit of mind should be directly represented in the national councils. Mr. Handley then supported this thesis by reference to facts in the history of various nations, and concluded his address in the following words: "You will see now why I believe that one of the most urgent needs of the day is the presence among our leaders—who at present receive almost exclusively a classical, literary, or a legal education—of a larger number of men who have had a scientific training. To those ambitious young men who aspire to mould the destinies of their country I would say: Leave the past when you have attained your degree in Arts and come where knowledge is alive and growing. Come among us and spend a strenuous five years in

securing the scientific knowledge and the mental discipline medicine is capable of giving. In your subsequent career of politics or public service of whatever kind you will find that the time has been well spent, and that the practice you have acquired in applying precise knowledge of many kinds to the service of humanity has vastly increased your vision and usefulness in the wider spheres to which you may subsequently be called."

The Value of Experiments on Animals.

The address at St. Mary's Hospital was delivered by Sir John Prescott Hewett, Lieutenant-Governor of the United Provinces, India, who, after giving a general account of the progress in sanitation and public health in India during recent years, said that as an administrator he had been associated with medical men in combating certain diseases in India. The experience thus gained had afforded him the clearest proof that the attempts of the Government to deal with the more grievous afflictions of the human race in India would have been far less successful if they had not had the advantage of knowledge acquired by means of experiments on animals. He had no initial prejudice in favour of experimental medicine, but had had opportunities of estimating first hand the value of certain methods of treatment which depended on animal experiments. Speaking, first, of small-pox—a disease which prevailed in India to an extent unknown in modern Europe—he said that thirty years ago it gave rise to a death-rate of nearly 1 in 1,000 of a population numbering many millions; since vaccination had been actively employed the rate had steadily declined. Moreover, the proportion of wholly or partly blind young people, which used to be very high in districts where small-pox was chiefly prevalent, had decreased in general accordance with the spread of vaccination. No fair-minded person who examined the facts could avoid the conclusion that these results were due to vaccination. In the circumstances it was surely calamitous that the opponents of vaccination in England should have set themselves to make the people of India hostile to a process which had been of so much benefit.

Turning next to the consideration of plague, he said that it had long been recognized that, except in extraordinary circumstances, compulsory measures aiming at the reduction of its prevalence were impracticable, and the great obstacle with which the Government had been confronted was the difficulty of convincing the people of the utility of particular methods of prevention or cure. It was not easy to appreciate the mental attitude of persons who, without having made a serious study of the facts and figures, had increased the difficulties of those who were doing their best to contend with this terrible scourge by asserting that the vaccine discovered by Mr. Haffkine had encouraged the spread of plague in India. There had been instances in which evil results had been caused by particular doses of it having been unfit for use, but these were rare, and the use of the vaccine, speaking generally, had been of enormous benefit. As the head of the Government of two provinces in succession, one containing 47 million inhabitants and the other 14 million, he had had continually to deal with outbreaks of plague, and the experience thus gained had convinced him that Haffkine's vaccine was of the greatest service as a protection. As a specific instance he quoted an incident at Nagpur. There a Parsi friend of the speaker endeavoured during the progress of a serious epidemic to induce the whole of the workpeople in his mills to be inoculated. Out of some 6,000 or 7,000 mill hands, 5,046 consented to be inoculated, and among them only 9 fatal cases of plague occurred, 6 of which were the result of an attack within ten days of inoculation; among the comparatively small number of uninoculated there were as many as 118 deaths.

Enteric fever for many years was chief among the fatal diseases prevalent in the British army in India; the mortality due to it in 1898 was over 10 per 1,000 of strength; five years later Sir Almroth Wright's anti-typhoid vaccine, which had already been used in a spasmodic fashion, came into general use. The result was that the death-rate among the British soldiers had fallen in 1911 to only 0.33 per 1,000. In that year 61,822 men were protected by vaccine and 9,552 were not protected. Among the latter there were subsequently 6.7 cases and 1.15 deaths per 1,000, while among the protected men the corresponding rates were only 1.7 and 0.17. At one particular military station which was under the speaker's personal observation and where outbreaks of enteric were of very frequent occurrence, 687 out of 693 men serving in four battalions of artillery were protected by vaccination, and only 1 case occurred among them, while there were 2 cases among the 6 non-protected men. When the speaker first went out to India, and up to the time that the use of Sir Almroth Wright's vaccine became established, the cemeteries in the cantonments of the United Provinces were strewn with the graves of young men who had gone out to serve their country in India, only to be carried off by enteric fever within a year or two of their leaving home. Now the conditions were so completely changed that the death-rate even in a newly arrived regiment had fallen to about what it might be expected to be in England.

Some 22,000 deaths were annually reported in India as due to snake-bite; possibly the figure included a certain number of deaths due really to other causes, but a large residue were certainly due to snake-bite. The antivenins which, if promptly administered, would prevent death following the bite of the cobra and of Russell's viper respectively—these two being among the most poisonous snakes met with in India—had been discovered by means of experiments on animals, and it was to be hoped that further discoveries would result in making similar treatment of other poisonous snakes feasible.

An even more terrible scourge in India was hydrophobia; it was vain to hope that rabies could be exterminated in a country where pariah dogs, jackals, and wolves alike conveyed the disease, by the same means as those adopted in Great Britain. Until some twelve years ago a person in India bitten by a mad dog had no remedy; only the well-to-do could afford to journey to the Pasteur Institute in Paris, and owing to the length of the voyage this might often be in vain. Poorer persons could only suffer and die in silence. But in 1900 a Pasteur Institute was established at Kasauli, and since then 13,540 patients, drawn from every rank of life, had been admitted. Among them there occurred 225 deaths in cases in which the treatment could not be applied in time, and 81 in which the patients died within fifteen days after the completion of the course, but the treatment as a whole showed splendid results. The long distances which had to be travelled in India made it evident, however, that one institute was inadequate. In one pathetic case, a young English woman while expecting her first child was bitten by a mad dog during the hot weather in the south of India; she had to undertake a terribly hot railway journey of nearly a week's duration, and her case when she arrived was too advanced for hope, and she died. Since then a second institute had been established in the south of India, and a third was to be erected in Burma. When these arrangements had been completed, one or other Pasteur institution would be fairly accessible from every point in the territories under the Government of India, and provision would have been made to prevent an enormous amount of misery. In conclusion, Sir John Prescott Hewett expressed a hope that what he had attempted to tell his audience would convince it that Indian experience, like that acquired elsewhere, proved conclusively that operations on animals afforded untold benefit to the human race. These operations were represented as acts of cruelty, but if that were so what term could be applied to the acts which daily imposed limitless suffering on beasts of burden and other animals on whose aid mankind depended, not only in India but elsewhere? In India residents every day witnessed horrors in the treatment of animals which were perhaps inconceivable to those in Great Britain who were accustomed only to see the pampered pets and well-fed cattle owned by themselves and their neighbours. In India there was at present only one institution which made efforts—crippled by lack of funds—to promote the well-being of animals. For lovers of animal life, for those whose earnest wish it was to save the beasts of the field from unnecessary cruelty, and to ensure for them the minimum of harshness and pain involved in their use in the service of man, there was in India a splendid field for benevolent work, which would be twice

blessed in bringing a relief to animals who now suffered, and honour for those who undertook it. The speaker pointed out, however, that it was not solely in India that there was room for the exhibition of well-balanced energy in this direction, and quoted instances of cruelty in the treatment of domestic and other animals by ordinary laymen in Great Britain itself. He then concluded his address in the following words: "But the last people in the world who deserve to be attacked on the ground that they are cruel or even unsympathetic towards animals are those devoted seekers after benefit to the human race who are in this country in pursuance of the objects of the Research Society, conducting experiments on animals subject to strict rules and regulations, and imbued with the righteous desire to cause them the least possible misery and pain."

THE RADIUM INSTITUTE.

Owing to the wide prevalence of malignant disease of various forms, it is but natural that any method of treatment which offers, or seems likely to offer, cure, or even amelioration, should raise the hopes of such sufferers, who will do anything to come within its beneficent influence. Among these promising methods an important place must be assigned to radium, and quite recently there has been in the press an unwonted amount of comment on treatment by radium, and many references to the Radium Institute, established in Ridinghouse Street, Langham Place, by the munificent gifts of Lord Iveagh and Sir Ernest Cassel. As some seriously inaccurate statements have been made, it may be well again to state the facts, and incidentally to give some account of the plans for increasing the usefulness of the institution which are now ripe.

The Clinical Work and Staff of the Institute.

The Radium Institute was opened on August 14th, 1911, and from that date to the present the work has steadily progressed in volume. At first the institute was open from 8 a.m. until 6 p.m. for the purpose of seeing and treating patients: but so numerous did the applications from poor patients become, that it was decided to add a night clinic, and that has been in full operation ever since. It was inaugurated sixteen months ago, and goes on until about 11.30 p.m., sometimes until midnight. A glance at the case-sheets indicates what a great boon this must be. Though paying patients are not seen during the evening, poor patients are sometimes treated in the daytime, especially—a point which is always inquired about—if they have come from the provinces by excursion train. Between 700 and 800 new cases a year have been seen, and the majority have been treated gratuitously, the average yearly number of treatments being 3,000 for paying and 4,300 for necessitous patients. There is no difference of any kind in the treatment of these two classes; they all use the same rooms, the same cubicles, the same members of the staff attend to them, and the same apparatus is employed.

There is no such thing at the institute as a crowded waiting-room; every patient is sent by a medical man—an inviolable rule—and comes to a time appointment.

Every application for treatment is numbered, and the cases are treated in strict order of priority. Between 70 and 80 per cent. of the cases seen and treated are examples of inoperable cancer. There have been many efforts to secure precedence, but no variation has been permitted.

The staff consists of the Superintendent (Mr. Hayward Pinch, F.R.C.S.), two qualified medical assistants (Dr. J. E. A. Lynham and Dr. A. Burrows), five female nurses, three male nurses, the director of the laboratory (Mr. W. L. S. Alton, F.I.C.) and two assistants (Mr. C. F. Hogley, B.Sc., and Mr. J. F. Holding), besides the usual porters, clerks, and messengers.

A point which has been a good deal discussed is the practice of burying radium tubes in the midst of the growth. In cases of superficial sarcomata, recurrent breast nodules, surface tumours of the face, and growths in other easily accessible situations, tubes have been inserted into the growth at the institute, but chiefly in the case of those whose means did not enable them to bear the expense of a nursing home. In one case of periosteal sarcoma of the clavicle the superintendent incised the growth, embedded a radium tube in it for twelve hours—there are no beds in the institute—then sewed up the wound, and the patient went to rest outside; she returned next morning and had a similar course, which sufficed to cause the disappearance of the growth.

Emanations.

The value of radium emanation, to which some reference was made in Mr. Hayward Pinch's report on the first year's work of the institute, published in the British Medical Journal of January 25th of this year, has been confirmed by more recent experience. Mr. Alton stated that the preparation of a continual supply of radioactive water had then gone beyond the experimental stage, and Mr. Hayward Pinch reported that emanation solution of a strength of 1 to 2 millicuries per litre had been used with benefit in a series of cases of arthritis deformans. An important part of the work of the institute now consists in sending out the emanation solutions to medical men in various parts of the country. We are informed that during one recent period of ten days emanation to the value of £17,000 was thus sent out.

Equipment.

Some wild statements have been published with regard to the equipment of the institution. The establishment possesses certainly not less than £80,000 worth of radium, taking the price of radium at £20 a milligram, probably the largest holding of radium for therapeutic purposes in the world. There are forty-two separate pieces of apparatus, all of which are constantly in use. The strength of the applicators varies from 5 mg. to 150 mg. There are 400 mg. in tubes alone. As much as 1 gram, and even 1½ gram, has been used at one time in an extraordinarily extensive case. When our representative visited the institute the first of the patients was being treated with 500 mg. (£10,000 worth) at once, another with 390 mg., and a third with 375.

All the plates belonging to the institute are mounted with radium. Whatever kind of varnish is used, radium rays exert a disintegrating effect upon it, so that the varnish cracks and falls off. The revarnishing and remounting cannot be, we are informed, satisfactorily accomplished in less than a month. The preparation of radium plates and emanation tubes, of which a large and increasing number are now demanded, proceeds continuously under the supervision of Mr. W. L. S. Alton, Director of the Chemico-Physical Laboratory of the institute. It is easy to see that the misstatements, which are apt to be very mischievous, arise from inadequate knowledge. All the nurses employed in this work have to be specially trained, owing to the specific nature of the requirements and the close attention to minutiae; and it must be remembered that the place is open sixteen hours out of the twenty-four. It is, of course, necessary to give the staff a holiday.

It has been stated in one of the newspapers that the institute was closed during the whole month of August, and upon this was based the grievance that £80,000 worth of radium was held up and the hospitals starved. The fact is that only the treatment by varnished plates was suspended for a time to permit of their renovation. The superintendent was himself on duty until August 14th and his senior assistant resumed on August 25th, while the laboratory director was at his post during the whole month. There was no interruption in the making of radium emanation solution, plates, and tubes, and in the treatment of cases with apparatus, and the supply of radium water went on without cessation.

The institute has mounted apparatus for similar establishments in Denmark and America, and for one in Germany, and during the International Congress of Medicine the medical superintendent gave at the institute fourteen demonstrations, and one lantern lecture before the Section of Dermatology. During the Congress, and for some weeks prior to it, a considerable number of medical men were conducted over the establishment, and all its apparatus and its *modus operandi* explained.

Future Developments.

The managing committee, of which Sir Frederick Treves is chairman, has in contemplation important extensions of the work of the institute in several directions. Additional ground has been purchased, and upon it a large extension of the present building will shortly be erected. The new buildings will include special laboratories for research, which will be under the direction of a medical officer who will prosecute clinical researches in relation to the action of radium. It is also proposed to establish clinical courses of instruction for medical men who wish to study the methods of using radium and its therapeutic effects. The success which has attended the work of the institute and the appreciation shown of it by the medical profession have encouraged the managing committee to extend its operations in the manner above indicated, but it is not proposed to make any alterations in the general principles upon which the institute is conducted.

LITERARY NOTES.

We are informed by Messrs. Baillière, Tindall and Cox that Dr. E. G. Younger's book on *Insanity in Every-day Practice* has been translated into Chinese by Drs. Maison J. Chu and Philip B. Cousland, and has been published at Shanghai by the China Medical Missionary Society. The same firm notify that Dr. Langdon Brown's book on *Physiological Principles of Treatment* had been rendered into Italian by Dr. Corletto Francesco, and published at Padua by Fratelli Drucker.

Amongst a number of other strange revivals of bygone beliefs and customs a curious superstition relating to snake-bites is mentioned in the July number of the *Old-Lore Miscellany of Orkney, Shetland, Caithness, and Sutherland*, Part III. vol. vi. as still existing in certain parts of the Scottish Highlands. In a brief summary of a recent meeting of the Philalethetic Union in Edinburgh we are told that one of the speakers who took part in a discussion on Highland superstitions said that "he had sometimes seen in Sutherland a serpent lying on the road cut in three. He was told if any one was stung he ran to the water, the head also ran, and if the head got there first the person stung would die." Another ancient belief is recorded in the Thurso Kirk-Session Records, of which an extract is quoted in the same number of the *Old-Lore Miscellany*. From this we learn that it was once considered almost as unlucky for a bridal party to meet a woman as for a member of the St. Clair family to cross the Ord on a Monday. The record states that on August 30th, 1710, "William Robson charged, called, compeared, as also Mary Coghil, who delated him and declared that as she was coming to town one day she met a marriage and that the sd. William Robsone left the company and came to her to force her out of the way that she might (not) meet the married pair, it being a superstitious persuasion among the vulgar that women's feet are unlikely." The Thurso authorities of that day were evidently more enlightened men than many of their contemporaries, for further on we read that the credulous Robson "was reproved for his practice and admonished to shun the like in time coming wh. certification of a severer censure." The table of contents for the July number of the *Old-Lore Miscellany* includes several interesting articles, amongst which may be mentioned Mr. George W. Stout's account of bird life in Fair Isle, and the second instalment of a series of articles by the Rev. A. Beaton on the early Christian monuments of Caithness; whilst Mr. A. Francis Steuart has given some interesting extracts from the postbag of an Orkney family in the middle of the eighteenth century. Some sketches have also been contributed to this number, which fully maintains the high standard of antiquarian interest reached by its predecessors.

The *France médicale* quotes the following passage from a rare work by Dulaure, entitled *Etrait des singularités historiques*. The book, which was published in London and Paris in 1788, has only the initials "T. A. D." on the title-page. Whilst Henry IV was busy subduing the League, the Duke of Angoulème, natural son of Charles IX, who was with the army, fell ill, and was obliged to remain at Meulon. His physician expressed his anxiety to a professional brother in the words, *Non vacat periculo*, and as the patient knew Latin he at once asked for a confessor. After the Duke had settled his spiritual affairs the doctor said to his servants that there was only one method of saving their master—that was to make him laugh. To work this cure the Duke's secretary and his agent, each aged 60, with the captain of his guards—an old soldier of very solemn aspect—agreed to present themselves before their sick master clothed wholly in white. The captain, who was in the middle, alternately slapped the cheeks of his neighbours, who each had on his head a red cap with cock's feathers, while they on their side tried one after the other to knock off the captain's hat, which was of a ridiculous shape. At the sight of this pantomime the Duke burst out laughing; this gave rise to abundant bleeding at the nose, which was soon followed by great relief. The fever, which had lasted twenty-two days, sensibly diminished, and six days later the patient was in a fit state to be transported in a litter to the country, where he completed his cure. This incident recalls the case of a cardinal who, being at the point of death, caught sight of his monkey putting on his red hat. The laughter caused by this sight produced such an effect that he was cured. A cure almost as remarkable was wrought at Chateaudun on Father Victor Bernard, ex-Guardian of the Convent of the Recollects. In 1786 he was looked upon as dead by every one but his physician, who, thinking there was still a spark of life, rubbed his temples with scented waters, and made him swallow a little Spanish wine. To the great astonishment of the beholders, the friar moved and made some sign, though still remaining in a condition approaching to coma. In the afternoon of the same day the physician introduced into the infirmary where the patient was two persons who played various airs on the violin. An inhabitant of the town and one of the friars, each aged 72 years, danced to the music before the patient's bed. The doctor's dog took part in the dance. The sight of this remarkable ballet aroused the dying man and made him laugh. From that moment he began to improve, and soon afterwards he was able himself to announce to the public his complete recovery. One rather envies the facility with which these patients were amused, but every one knows that the physical act of laughter may have a beneficial effect. We have ourselves heard of a case in which a patient in imminent danger of suffocation by a suppurating tonsil was saved by a fit of laughter which burst the abscess. In the *Golden Bough*, J. G. Frazer mentions the case of a King of Corea who suffered terribly from an abscess in the lip till his physician called in a jester whose antics made the monarch laugh heartily, with the result that the abscess burst.

MOTOR CARS FOR MEDICAL MEN.

L. asks for experience of the Lagonda 11-h.p. light car, its suitability for medical men, reliability and cost of upkeep, and also for advice as to second-hand two-seated cars at about the same price.

Motor Cyclist writes: The experience of owners of Ford cars would be interesting to prospective medical motorists just now because they are cheap cars and apparently not expensive to keep up. As their initial cost is no greater than that of the more reliable cycle cars, as they are more powerful, and give greater accommodation and comfort, unless their running cost is greater than that of the more powerful of the cycle cars, it would seem better policy for a doctor to buy a Ford than a cycle car. The belt-driven air-cooled cars referred to by one of your correspondents in the Journal of September 20th do not seem satisfactory.

Ziegel of New York has recorded (*Journal of Cutaneous Diseases*, August, 1913) a case in which rapid regression of a gumma of the tongue followed the intravenous administration of salvarsan. The patient was a general practitioner infected on the hand four year earlier in the course of his obstetric work. He had undergone a systematic course of mercurial treatment, begun as soon as the nature of the primary lesion was diagnosed. In another case reported by Ziegel a scaly syphilide of the palms, which had appeared three years after the primary infection and had not been permanently cured by mercury by intramuscular injection, disappeared after injection of salvarsan, though the Wassermann reaction had not certainly disappeared.

British Medical Journal.

SATURDAY, OCTOBER 4TH, 1913.

RESIGNATIONS IN SOUTH LONDON.

The efforts of some of the newspapers to make political capital out of what has been called a "split in the Association" will, it is hoped, be seen in their proper perspective when members read—as we hope they will—the official report, forwarded for publication by the Honorary Secretary, of the special meeting of the Wandsworth Division on September 23rd. The Division on April 30th, when the lists were made up, had a membership of some 260; at this special meeting, which was attended by 46 members, a resolution was passed by 21 to 14 (11 not voting), expressing the opinion that the present attitude of the Association, which it described as "pro-panel," is detrimental to the interests of members of the profession in general and the non-panel practitioners in particular, and approving the action of all such members in resigning from the Association. A perusal of the report will show that no attempt was made to discuss the relations of the Association to the profession in general, but that a line was taken which, if generally followed, would definitely make a split between those members of the profession who are working the Insurance Act and those who are not. We take leave to say that such a policy, if persisted in, must be damaging to both.

It is true that there has long been a more or less well marked line of distinction between practice among the industrial classes, often to a greater or less extent conducted on a contract basis, and that carried on mainly among the middle and upper classes. The Insurance Act has made the line of cleavage sharper in some districts. But the Association has never held the view that the interests of the practitioners engaged in these two classes of practice, though they may differ in some respects, are antagonistic, and it has never had any difficulty in defending the common interests of both classes. All sections of the profession have many interests in common. All are interested in its scientific advancement. All are concerned in watching and resisting encroachments by the State and by various public bodies on medical traditions, privileges, and rights. All are agreed in maintaining medical remuneration at a rate which will ensure the highest practical efficiency. Thus all have been glad to find in the Association a common meeting ground for scientific, social, and political purposes. Neither the Insurance Act nor any other Act can destroy these common interests, and the profession must not allow any natural irritation and vexation of spirit caused by recent events to obscure these fundamentals. We are well aware, and have frequently stated, that many doctors who refrained from going on panels have good reason for feeling sore with their colleagues who, by their action and votes previous to last January, gave grounds for the belief that they were ready to maintain a determined attitude. Their failure so to do has led many of those who did not join the panels not only into financial loss, but into what is in many ways much worse—distrust of their fellows and black pessimism as to the future. But these feelings, natural as they are, must not make us forget that the profession has some very serious difficulties looming in the near future which will be aggravated considerably if the short-sighted policy adopted by some South London members is followed on any large scale.

What, it may fairly be asked, is the object of these gentlemen? If it be their opinion that the Association and its policy, according to their interpretation thereof, are so abhorrent to them that they are determined to stand apart from it and to damage it as much as possible then there is no more to be said. If not, what do they stand to gain by their action? Is it conceivable that even were a considerable number of members to follow their lead a body so formed would have as much power to further the policy desired by the profession as a united association? Does not the old fable of the bundle of sticks apply? Is it not, on the other hand, true that the defection of even a small number of members must tend to weaken the power and influence of the Association not only in dealing with insurance matters, but in carrying on all the other political and social work it is doing for the profession.

When it is asserted, as in the Wandsworth resolution, that the policy of the Association is "reacting detrimentally to the interests of members of the profession in general" what is meant? Those who object to the acceptance on any terms of the Insurance Act, if they had thought it necessary to resign in order to emphasize their view, might have done so in June, 1911, when the Association accepted the principle of compulsory State insurance for medical benefit, and declared its policy to be to seek the amendment of the bill in certain fundamental respects, the most important of which were embodied in the six cardinal principles. This policy was generally endorsed by the profession, and that those who objected to the scheme altogether did not then resign was no doubt due to a realization of this fact coupled with a feeling of loyalty, and a desire not to weaken the solidarity of the profession in its appeal to the Government, to Parliament, and to public opinion, to remedy the serious defects which the Association had pointed out.

There are those, we know, who say that the Association did nothing for the profession, and gained nothing for it from the Government or from Parliament. It is perhaps true that no history is so little known as recent history, but such statements as have been quoted really argue a lack of memory beyond any reasonable limit of forgetfulness. The Association was insistent and persistent in its efforts to place the true state of the matter before the country, and its action was eventually attended with a large measure of success. The bill as introduced contained no provision for the representation of the medical profession on administrative bodies under the Act; it did not propose to institute Local Medical Committees; it made no provision for free choice of doctor by patient, or patient by doctor; it perpetuated the old friendly society control of contract practice so hateful to the profession, and in the speech in which he introduced his measure, Mr. Lloyd George spoke of "raising" the remuneration of medical men to a capitation fee of 4s. 6d. It is true that the Association did not gain all that it asked. It would be difficult to name any organization which ever got all it asked for in a struggle of this kind, but it may be pointed out

that in nearly every respect the position of the British profession in regard to State insurance, at its inauguration in this country, is superior to that of the German profession after over thirty years of organized struggle.

But among the critics of the Association there are, in addition to those who object to the insurance scheme altogether, others who find grave fault with the way in which it is being administered. They find fault especially with the policy pursued by the London Insurance Committee in refusing to permit insured persons to make their own arrangements—to "contract out," as it has been called. There is no doubt that the panel system is less adapted to the needs and the customs of London, where contract systems of practice had never made much headway, than to some other parts of the country. The objections felt to the panel system are not the same in all parts of London, but they are very real, and the London Insurance Committee is now, we believe, aware that it would have been politic to have responded more readily to requests from insured persons to make their own arrangements. But the cry arose that it was all an attempt "to break down the Act," and the heart of Pharaoh was hardened. More impartially considered, it would have been perceived to be an attempt to give to the principle of the free choice by both patient and doctor, won for the profession by the British Medical Association and heartily endorsed by the House of Commons, the widest extension compatible with the terms of the Act itself as interpreted by those who were most active in promoting this policy. The policy has not hitherto met with the success deserved, but it is not easy to understand the logic of those who on that account resign from the Association.

Its recent efforts to amend the Act so as to secure the effective free choice of doctor on or off the panel and the income limit, have apparently been forgotten by some of the extremists. Why were these efforts not successful? Because with comparatively few exceptions members of Parliament would not even consider the amendments and all the influence of the Government was exerted against them. Do the seceders think that Parliament is more likely to listen to a smaller body committed to a particular view than to a body which put forward its amendments after careful consideration and conference between all sections of the profession? To entertain such an idea seems to argue a certain blindness to political realities.

It will be noted that a good deal was made at the Wandsworth meeting of the so-called "pro-panel" attitude of the Journal. We believe that the great majority of members will support us in our contention that it is the duty of this Journal to defend members of the profession, of whatever class, against unjust aspersions and calumnies from whatever quarter they come. Some of those who have now resigned took umbrage because charges freely made against panel practitioners as a class by certain politicians, newspapers, and friendly society leaders were challenged by the Journal. There are members of the profession whose conduct cannot always be defended, but when charges of neglect, incompetence, cruelty, and dishonesty are brought against panel doctors in a wholesale way, have they not the right to expect that their cause should be championed in these columns? We demanded that these general charges should be substantiated by proper evidence, and, pending its production, we declined to accept them. We do not believe that it is impossible to protect one class of the profession, and that a very large one, without doing detriment to another section of the profession. Yet that is apparently the theory held by some.

The Association stands for the honour and interests of the whole profession, and it cannot be diverted from this course by any outcry, or by any extremists on one side or the other. No clear statement has been made of the particular way in which the Association has failed to try to protect the interests of the doctors not on the panel. We have shown that to bring about the object on which they lay greatest stress—the absolute free choice of doctor—the Association spent a great deal of time and money in placing amendments before Parliament. It was not successful, and it rests with those who do not accept service under the Act to bring before the Association in constitutional ways the methods by which they believe the disadvantages under which they labour can be removed or ameliorated. If they do so it is certain that every attempt consistent with justice to other sections of the profession will be made to meet them.

The struggle to maintain the independence and the rights of the profession, many would say, is only just begun; it is certain that it is very far from being over. We are likely to have amending insurance acts for many years to come, and the price of freedom is constant vigilance. It is pretty certain that legislation to extend medical benefit to the dependants of insured persons will be introduced sooner or later, the exact date depending probably on political or party exigencies. Were the insurance scheme so extended, the effect must be still further loss to those members who have not joined the panel, and when that struggle comes the non-panel men will require the goodwill of the panel men to carry it to a successful issue. Is it, then, wise to emphasize the distinction between those who have and those who have not joined the panels? Must not any distinction lessen the chance of gaining the object in view by diminishing the right of the Association to speak in the name of a united profession? Is resignation from the Association at this time calculated to further the goodwill which has hitherto existed?

Nothing can be done with Governments or with the House of Commons except through the effect on public opinion of a solid unity of the profession in claiming just and fair conditions. This union can only be achieved through the British Medical Association, which has already done so much to vindicate the rights of the profession. If it is to continue to champion the medical cause with success, it must have the full support of the profession as a whole, and must not be handicapped by resignations or threats of resignations every time it fails at once to attain everything that every member desires. When a rebuff is received the wise and courageous course is, surely, to seek to strengthen our organization and not to weaken it by resigning "as a protest."

DISCARDED WARSHIPS AS NATIONAL SANATORIUMS.

The life of a modern cruiser or battleship as an active engine of warfare is comparatively short; the vessel ceases to be effective as a first-class fighting machine long before it has decayed as a sea-going ship. Travellers passing through the Kyles of Bute in former days used to gaze with wonder at the grim array of grey hulks, healthy veterans all, but hopelessly out of date, which lay for so many years degenerating from sheer disuse in that lovely waterway. "Could they not be put to some use?" was

the daily remark made by hundreds of holiday tourists, and it may be that the oft-repeated question led to their ultimate removal to some less frequented roadstead. Being out of sight, they soon passed out of the public mind, but with each succeeding year the older types of warship are discarded, and a brief epitaph in the daily papers proclaims that their career of usefulness has ignominiously ended by a sale to shipbreakers. Many of these large vessels, however, if unfit to cope with modern navies, are still fit to keep afloat for many years if some useful purpose could be found for them. A practical suggestion for utilizing them has recently found favour in America. This suggestion is that the discarded ships of the American navy should be used to provide the much-needed sanatorium accommodation for consumptives, and as open-air schools for the vast numbers of potentially tuberculous children in the United States.

The idea of using floating hospitals or sanatoriums for children is not a new one in America. A good many years ago both Boston and New York used old ferry boats, simply fitted up, for sending infants and young children out of the hot and dusty lanes of the city into the cool clean air of the sea during the hottest summer months. Boston Harbour is an ideal place for such a scheme, and it has, we believe, worked well, and the tuberculosis service of New York has had most excellent results, we are told, from a boat service. Opinion in America was therefore well prepared to receive the discarded battleship proposal, but it seems to have originated, or at all events to have been first carried out, in Italy. The secretary of the Italian navy recently decided that three old warships should be converted into sanatoriums for tuberculous children. There has long been a society in Italy which, under the impulsion of Dr. Concetti, professor of pediatrics in the University of Rome and director of the clinic for diseases of children in that city, has maintained a large number of seaside homes to which tuberculous or debilitated children are sent. We may see in the recent decision of the secretary of the Italian navy a continuation and extension of this system. Dr. Arthur Jacobson, who is examining physician for applicants for admission to the "preventorium" sanatoriums and hospitals for the tuberculous of Brooklyn, was moved by this example to make an appeal to the American public, and, with the concurrence of Dr. A. Jacobi, the matter was taken up by Dr. S. A. Knopf of New York, whose name is well known as an authority on phthisiotherapy, and by him brought to the notice[1] of the fourth International Congress on School Hygiene held in Buffalo last August.

Why spend money, Dr. Knopf asked, upon expensive buildings on shore while these great Government vessels are lying idle or are being sold to shipbreakers at scrap-iron prices? To equip one of them for the reception of consumptives would cost much less than a building adapted for the same number of patients on shore, and such floating sanatoriums could be moved into appropriate summer or winter quarters at will. One great advantage of a ship over a shore sanatorium would be the facility of utilizing open-air during bad weather. A great flush deck, cleared of its usual impedimenta and protected by thick awnings, would form an ideal area for exercises or even for prescribed rest, in ever-changing air. Moored in sheltered situations in some of our home estuaries and bays, these old ships might afford much of the sanatorium benefit to which such numbers of British sufferers are now by law entitled.

We would commend Dr. Knopf's suggestion to our own Admiralty authorities. The First Lord, in the course of his energetic official and unofficial inspections of every detail of the navy afloat, must be aware of the capabilities of many of our discarded cruisers to aid thus in the peaceful warfare against the raids and invasions of the tubercle bacillus. By careful selection of appropriate positions for such floating sanatoriums—as, for instance, in the mouth of the Clyde for the consumptives of the city of Glasgow, the Forth estuary for those of Edinburgh, the Medway for London, Dover for the southern counties, Dartmouth for the west, and other like positions round the coast—provision might be made which would bring the advantages of sanatorium treatment within the reach of a far larger number of persons who would be benefited by it than are ever likely to obtain it under present conditions.

Particularly useful would such vessels prove in the treatment of tuberculous joint disease in children. Sea air, which does not suit all forms of tuberculosis, would seem to be beneficial to the great majority of children. The establishment of sanatoriums afloat would render the inland institutions available for a larger number of those who have no liking for the sea.

[1] *New York Medical Journal*, September 13th, 1913.

THE UNIVERSITY IN MEDICAL EDUCATION.

ANY ONE who will be at the pains to read consecutively the concluding part of Dr. Hunter's report as Dean of the Charing Cross Hospital Medical School and Professor Sherrington's address to the students of the School of Medicine of the University of Leeds can hardly fail to be struck by a difference in tone. In the latter there is a note of serenity and confidence in the future which make an agreeable harmony. Professor Sherrington sees the University of Liverpool fulfilling, or beginning to fulfil, its main functions towards medicine and science, and towards the community by which it has been called into existence and in the life of which it plays an important part. It has been recognized in Liverpool, to use his happy phrase, that a university department "to be an adequate school of instruction must be a school of thought." Dr. Hunter is hopeful but not confident; he is in the thick of the fray, and cannot be certain how the contest may go. He recognizes the justice of some of the criticisms of the Royal Commission on existing arrangements for medical education in London, but he does not think the remedy suggested is applicable, at any rate in all its details. He fears, as we all fear, that by a too close imitation of German methods in clinical instruction London may lose more than it can hope to gain.

The University of Liverpool has been in the fortunate position of an architect who has had a clear site, and the development of the medical school, which was the first element of the university, has not been hampered by the necessity of remodelling an existing structure. It has been necessary only to watch over its orderly growth until it has covered the whole of the ground. The University of London has the more difficult task of creating what is practically a new structure while retaining all that is good in the old.

Some years ago there was a real danger of a divorce between laboratory work on the one hand

and practical medicine and clinical teaching on the other. This danger was primarily due to the uncertainties of physiology and the necessary complexity of its methods; it was aggravated by the tendency of some physiologists to specialize too soon, to approach physiology direct, and not through the gateway of a full education in medicine. That this danger is, as we believe, passing away must be attributed, as Professor Sherrington hints, to the growth of pathology, which by its outlook and methods forms a connecting link between physiology and medicine. It has caused the physiologist to see that no hard-and-fast line can be drawn between the study, especially the experimental study, of normal and deranged processes; to quote another happy phrase from Professor Sherrington's address, the laboratory of pathology has become a "nodal point" within the medical school. It sends out one filament of communication to physiology and the other to clinical medicine. The first has been connected up, but there is a difficulty about the other. It will be overcome, and the recent experience of the Charing Cross school will, directly and indirectly, contribute to its solution. Dr. Hunter is able to give a very encouraging account of the result of the policy adopted by the Charing Cross Hospital school two years ago. The first point in this policy was the transfer of its students for their early medical studies to the King's College laboratories of the University of London. This presented two main advantages: it set free the laboratories in the Charing Cross school building in Chandos Street previously devoted to chemistry, physics and biology, and physiology and anatomy, and it enabled the school to place at the disposal of the university laboratories for the bacteriological and public health departments of King's College. Accommodation was provided for a large class-laboratory, research laboratories, and laboratories for professors and lecturers in each of the departments of bacteriology and public health, with a microphotographic laboratory, preparation rooms, a large theatre and a library for the joint use of the two departments. To King's College the change has proved advantageous, not only by providing better accommodation for its bacteriological and public health work, but also by setting free the laboratories vacated by these departments at King's College for the increased accommodation needed by the departments of physiology, psychology, and zoology of the college. To the school the advantage has been that the whole building in Chandos Street retained by it is now entirely devoted to final laboratory study and research, and that it has been possible to expend a total of £1,500 on laboratory teaching, equipment, and research. The effect on the number of students at the Charing Cross school and at King's College has been very remarkable, as Dr. Hunter's statistics show. The conclusion to which the recent experience of the Charing Cross school is held to lead is that a modified policy of concentration is feasible and will be advantageous, and that the existing hospital system will not prove an insuperable difficulty if utilized in accordance with the English traditions of clinical medicine. Students of the university, if given a free choice in the selection of university departments to attend, will, it is held, always concentrate for work in those departments. There remains, of course, the financial difficulty, which Dr. Hunter discusses at considerable length. He gives a comparison of the expenditure of a German university with the expenditure of a London medical school having a comparable number of students: this appears to show that in the German university more than two-thirds of the total cost of the education of each student is contributed by the State, whereas in the English school only one-third of the total is received in the shape of education grants.

THE ASSOCIATION'S NON-PANEL MEMBERS.

From a statement furnished to the *Times* by Dr. Charles Buttar, one of the Representatives of the Metropolitan Counties Branch on the Central Council of the British Medical Association, we learn that a Non-Panel Medical League has been formed and is engaged in federating non-panel associations. The statement of the origin and objects of the Non-Panel Medical League put out by Dr. Buttar contains the following passage: "In the meantime the British Medical Association, in its endeavour to consider the interests of all its members, has not hitherto found either the time or the energy to develop strong action on behalf of its non-panel members, while its future action is bound to be limited largely to attempts at ameliorating details in panel conditions." This paragraph contains two propositions, neither of which can, we think, be maintained. The complaint of non-panel practitioners against the British Medical Association, as we understand, and we are very anxious not to misinterpret their position, is mainly that the Association has failed to support them in their demand that Insurance Committees should sanction on a large scale applications of insured persons to be allowed to "contract out," that is to say, to make their own arrangements in accordance with the provisions of the Act to that effect. It may be well, therefore, to again review the history of this matter. The Act of 1911 gave power to the Insurance Committee of any district to allow insured persons to make their own arrangements for medical attendance and treatment. But the power was purely permissive, and experience showed that Insurance Committees were very indisposed to make use of it. In not exercising this power of allowing insured persons to make their own arrangements, we are of opinion that the Insurance Committees made a great mistake in tactics. Had they exercised the power on the lines desired by the non-panel practitioners, at the same time guarding against such abuse of it as has been attempted in some districts—as, for example, South Wales—they would have removed a serious cause of friction. As, however, Insurance Committees generally failed to exercise their power in this respect, it was suggested by members of the Association who did not wish to join panels, that it should be made compulsory on Insurance Committees to grant permission, on the demand of the insured person properly made. The State Sickness Insurance Committee and the Council went very thoroughly into the question, which had to be regarded from more than one point of view, for it was apparent that an unlimited extension of contracting out, though it might be useful and advantageous in certain districts, such as South London, might prove very injurious in other districts, especially in those in which schemes were already on foot to extend the operations of existing medical aid associations, and to bring new ones into existence. Eventually a clause was drafted, and approved both by panel and by non-panel members, for insertion into the amending bill of last session. It proposed to require Insurance Committees to grant the right to contract out under suitable conditions, and was introduced into the House of Commons by Sir Philip Magnus and Sir Henry Craik. It was opposed by the Government, and received no serious support from any part of the House. Nothing more could be done in this way, and as a matter of practical politics it seems clear that no help in this direction is to be expected

from any political party. If the object aimed at is to be attained it must be by some other method, yet the present time, when this question of an alternative policy has to be considered, is selected by a number of non-panel members to sever their connexion with the Association, and to make a demonstration which, so far as it has any effect, must tend to diminish its sources of information and its influence with Parliament and on public opinion. It seems rather a short-sighted course of action, more likely to retard than to advance the policy of those non-panel members who have adopted it. The lesson of the past is that only through the unity of the profession can anything be won or retained. We had supposed this to have been accepted as axiomatic, and the suggestion to form a medical trade union, which had the active support of some of those who are now forming a Non-Panel Medical League, seemed to prove that the lesson had been learnt, for a trade union could only be an effective piece of machinery if it succeeded in enlisting at least 85 or 90 per cent. Dr. Eustar's second proposition, that the future action of the British Medical Association is bound to be limited largely to attempts at ameliorating details in panel conditions, is a pure assumption on his part and is not borne out by the facts. Incidentally it may be pointed out that the Insurance Act Committee has appointed all its non-panel members to be a sub-committee to watch the interests of non-panel practitioners. But the Committee has kept constantly before it also the need for united action to resist further encroachments, and it is on this ground that the expression "won or retained" has been used above. It must be remembered that dissatisfaction with the terms and administration of medical benefit is not limited to the medical profession or any section of it. The friendly societies are dissatisfied for quite other reasons, and at their National Conference the other day decided to continue to take action "to secure the transference to approved societies of the administration of medical benefits under the National Insurance Act." In addition we have to take account of those, both within and without the profession, whose ideal is a whole-time State service, and who, perhaps, see in the extension of medical aid institutes a long step in the direction they desire to take. This scheme, it may safely be assumed, would be as distasteful to non-panel as to panel practitioners; it is a matter on which they can act together, and must act together, if the support of public opinion is to be obtained in resisting the scheme, for the propaganda in its favour is active and persistent.

THE MEDICAL REGISTER.

THE Registrar of the General Medical Council makes his annual appeal to all members of the medical profession to take care that their names and addresses are correctly recorded in the *Medical Register*. As he points out the *Medical Register* is the only official publication, and legal qualification is not complete unless a practitioner entitled to registration takes care to see that his name is maintained on the *Register*. The Registrar is required to address his official communications to the address registered with the Council, but he makes use of any other source of information to get into touch with a practitioner who may have changed his address. Whatever pains may be taken—and we are confident that great trouble is taken—the results of casual information must be haphazard, and if the Registrar does not receive a reply he is bound by statute to remove the name from the *Register*. He therefore appeals to any practitioner who may have a doubt as to the accuracy of his address in the *Register* to communicate with the Registrar of the General Medical Council, 299, Oxford Street, London, W., without delay. This request is made primarily in the interests of individual practitioners, but it is also of importance to the profession as a whole that the *Medical Register* should be accurate and complete.

The letter from the Registrar deals also with another matter to which we have frequently called attention: he reproduces the resolution adopted by the General Medical Council on November 30th, 1911, calling the attention of all registered practitioners to the importance of exercising the utmost care in signing certificates in their professional capacity for subsequent use either in courts of justice or for administration purposes. The resolution of the Council contains a list of certificates, but its warning extends to all certificates granted by medical men. Cases occur from time to time which show that medical men in the pressure of practice have not always considered all the circumstances before giving certificates, and a recent case in which a medical man was placed in a position of great peril in giving without due inquiry a certificate in relation to a Foreign Office passport will probably be fresh in the memory of readers.

THE BOARD OF TRADE COLOUR VISION TESTS.

SINCE the report of the Departmental Committee on sight tests for seamen was issued, in May, 1912, the methods recommended and adopted by the Board have been adversely criticized, and unanimous resolutions condemning them have been passed by more than one congress of ophthalmic surgeons, and in addition many of the members of the Ophthalmological Society of the United Kingdom signed a memorial declaring the methods to be unsatisfactory. During the past year Holmgren's wool has been declared to be utterly inadequate and unsatisfactory by Freeland Fergus, of Glasgow, by Professor Stargardt and Dr. Olaff, of Kiel, and by Dr. Horniker, of Triest. Professor Stargardt and Dr. Olaff, who have had large experience in testing men for the German navy and railway service, in a paper which appeared last year in the *Zeitschrift für Augenheilkunde* and was translated in the *Ophthalmoscope* (vol. xi. No. 2), say that the test must be "utterly discarded." Horniker, writing in the *Zeitschrift für Augenheilkunde*, August-September, 1913, states that Holmgren's test cannot unmask all cases of colour blindness, and must therefore be discarded as untrustworthy. Freeland Fergus, in *Eyesight and Navigation* (Sherratt and Hughes, 1913), condemns the test because it rejects candidates with normal sight, thus between 1894 and 1909 out of 82,212 seamen 813 failed to pass the colour-vision tests, and of these 87 on appeal passed the more stringent tests applied in London! He explains at length in his short pamphlet of thirty pages why this must be so. The class of man examined is not accustomed to matching colours, and there is the personal view of the examiner as to what constitutes a match. An instance which occurred recently illustrates the matter. A boy was asked to match a blue-purple skein; he selected a magenta as a match. When asked the difference between the two, he at once said the purple contained more blue, the magenta more red; both were in a sense purple, and yet many examiners would have rejected him. Fergus does not think that there is much evidence that a dangerously colour-blind man would be able to pass the test, but many surgeons who have studied the question would not agree with him in this. He adds that many of the Board of Trade examiners consider the wool test unsatisfactory. The Committee, it will be remembered, advised the addition of a lantern test, and suggested a lantern test which is now in use. It is a crude apparatus, with no modifying neutral glasses. In consequence, it cannot detect those very dangerous individuals who have a spectrum shortened at the red end. The boy alluded to above had been rejected by the Royal Navy examiners, and was brought for the purpose of proving if he were really colour blind. He named every colour in the Edridge-Green lantern, and the question arose whether the navy had made a mistake; but at last he was shown a red with the deepest neutral glass. He said: "I see no light at all"; but after some seconds he said, "It's red." The test was repeated

with an identical result. The boy matched colours well, except that he put some greys in with pink. He named them all correctly. He would have passed the Board of Trade lantern easily, and yet he obviously had a shortened spectrum at the red end, and would be exceedingly apt to miss a red light in foggy weather. Freeland Fergus considers the Board of Trade form test too stringent. He himself has astigmatism which reduces his visual acuity to $\frac{6}{12}$ in each eye, and yet he is able to navigate his yacht perfectly and to pick up buoys and lights easily. Another surgeon known to us who has a dioptre of myopia which reduces his acuity to $\frac{6}{36}$ barely, yet navigates small yachts, and hitherto with security. But the navigation in summer of a small yacht which rarely exceeds the speed of six knots, is a very different thing from navigating a twenty or even fifteen knot steamer, and the Board of Trade has been wise to raise the standard of form vision. The German authorities recommend the use of Stilling's cards used in conjunction with Nagel's and Cohn's tests. Doubtful cases are referred to a central station to be examined with Nagel's anomaloscope, which utilizes the Rayleigh equation. But Horniker points out that colour-blind persons have passed the anomaloscope test and some normal persons have failed. He very sensibly adds that no single test can be regarded as sufficient for all cases. Stilling's test is probably the best pigment test, but it should always be supplemented by the Edridge-Green lantern. British railways are still more conservative than the Board of Trade, and many ophthalmic surgeons know of cases of colour-blind engine drivers who regularly pass their antiquated tests.

THE COPENHAGEN COMMUNAL HOSPITAL.

The history of the Communal Hospital in Copenhagen has been published by the Town Council, in connexion with its fiftieth anniversary. This publication, which forms the basis of an interesting paper in the journal of the Danish Medical Association,[1] gives a bird's-eye view of remarkable developments during the last half-century in the organization of a large hospital. The broad outlines of this development are common to the whole civilized world; and the history of this hospital is also the history of medicine in Europe since the antiseptic era began. The first impulse towards the foundation of a large communal hospital was given in 1853 by an epidemic of cholera which exposed the alarming shortage of hospital accommodation, not to mention the insanitary state of the town in general, and of the hospitals in particular. These can scarcely have given satisfaction to any living thing save the vermin which infested them; and it is little wonder that "hospital" diseases were so prevalent. A commission appointed in 1853 decided in favour of a new hospital with 600 beds, and a site was chosen adjoining the town's fortifications, on the condition that sufficient space should be reserved for their extension. The mounting of guns within the precincts of the hospital was, however, never realized, and the neighbouring fortifications were not kept up. Ultimately, accommodation for 300 patients was decided on, and when the hospital was opened, in 1863, the total cost had mounted to about three million kroner. Admission was free to all except prostitutes under observation, incurable paupers, and the subjects of such diseases as scabies. Even after the lapse of fifty years, the buildings satisfy modern requirements; no radical alteration has been necessary, and the minor changes introduced have not affected the main structure of the hospital. The credit for this achievement, at a time when the architecture of hospitals was no acknowledged science, is due to H. C. Hansen. At first there were two medical departments—one surgical, and one for venereal and skin diseases. A fifth, a combined medical and surgical department, was instituted in 1870 under the impression that the distribution of patients should rather be based on the nature of their diseases than on the treatment prescribed. Five years of this experiment demonstrated its unwisdom, and the fifth department became purely surgical. In 1905 the number of beds had risen to 1,003, and there were separate departments for diseases of the nervous system, and for diseases of the ear, nose, throat, and eyes. The hospital was the first in Denmark to carry Lister's teaching into practice. Dr. Holmer's report in 1868 on the use of carbolic acid in the treatment of wounds at the hospital was decidedly favourable, and the new teaching of surgical cleanliness revolutionized the entire conduct of the wards. Until 1876 nursing was carried out by a no doubt worthy, but a certainly uneducated, class of women, employed by the week. The women who attended the sick by night were paid by the night—an arrangement which must have attracted only an inferior type of Mrs. Gamp. These crones were doubtless in keeping with their surroundings, but with the passing of the old order their position became somewhat anomalous, and they gradually left the service of the hospital. The introduction of highly trained lady nurses was for a long time tentative and confined to the female wards; and it was not till 1888 that the sphere of lady nurses' activity was extended to the male wards, where their beneficial influence soon made itself felt. The fact that while the number of patients has increased by 40 per cent., the nursing staff has increased during the same period by 80 per cent., is a further index to the improvement which nursing has undergone. Another great change is the increased cost of living, the daily cost of maintenance for each patient having risen from 1 krone 27 öre to 4 krone 41 öre. Since the hospital was opened the average number of days in hospital for each patient has risen from twenty-seven to thirty-five. This apparent retrogression is at first sight no flattering comment on modern therapy; but the increase in the days of invalidity partly coincides with the prolonged, systematic treatment of tuberculosis; and the first year in which the number of days in hospital rose to thirty coincides with the opening of the communal sanatorium in 1901. Again, many patients now undergo a tardy convalescence who, in the "good" old days of the septic era, would speedily have quitted the hospital—feet foremost.

[1] *Ugeskrift for Laeger*, September 18th, 1913.

THE VALUE OF THE PEPTIC INDEX.

Some months ago we referred in these columns to a paper by Drs. Schryver and Singer in the *Quarterly Journal of Medicine* on the results of gastric analysis, and in a recent communication published in the *Deutschen Archiv für klinische Medizin*, Bd. III, Dr. Singer has further explained the conclusions to which they have been led. The peptic index, as determined by their modification of Fuld's edestin method, is in their opinion a valuable addition to our means of clinical diagnosis, which presents no practical difficulty, except the need for keeping the edestin solution in a cold place. Edestin is a crystallized albuminous substance derived from vegetable seeds. Dr. Singer describes the method of employing the test as follows: Edestin is purified by recrystallization from warm salt solution, and the purified preparation is dissolved in the proportion of 0.1 per cent. in 0.12 per cent. hydrochloric acid. Of this solution, 2.5 c.cm. are poured into each of 10 test tubes, and allowed to stand at the ordinary temperature of the room; 1 c.cm. of filtered stomach contents is diluted to 10 c.cm., and then 0.1, 0.2, 0.3, and so on, in a gradually increasing series up to 1, of diluted stomach contents are added to the solution in the tubes, which are shaken and allowed to stand for half an hour; at the end of this time 0.5 c.cm. of a saturated solution of common salt are added to each tube and the tubes again shaken; at a certain degree

of concentration the solution remains clear, but with less digestion a white precipitate forms. The number of decimal parts present in the first clear tube must be divided into the number 100, and the result is the "peptic index," which is always expressed by one of the following numbers: 100, 50, 33, 25, 20, 17, 14, 12, 11, and 10. For greater accuracy intermediate quantities of the stomach contents may be added, strongly acting juice may be more diluted and feebly acting may be less diluted, but for ordinary practice these ten tubes are sufficient as with a little experience it is possible to read between the figures; in those cases where all the tubes remain clear the index is over 100. This method has been used in more than 300 cases of stomach diseases of all kinds, and the following conclusions have been arrived at: (1) That the estimation of the peptic index by the edestin method affords a useful help in the diagnosis of organic disease of the stomach and duodenum. (2) That peptic index and the chloride secretion vary ordinarily in the same direction when the wall of the stomach is the seat of organic disease, and when there is an exception to this rule it generally occurs in the form of a relative lowering of the peptic index. (3) In the early stages of duodenal ulcer the peptic index is ordinarily high (over 60) and the secreted chloride also high (over 6); in the experience of the authors this is almost pathognomonic of duodenal or pyloric ulcer. (4) In advanced and developed cases of duodenal ulcer the peptic index may be low; in very chronic cases the chloride secretion may also fall. (5) Cases of pyloric ulcer follow the same rule as cases of duodenal ulcer, but in the former the peptic index is ordinarily somewhat lower. (6) Gastric ulcers not seated at the pylorus show no definite alteration of the index, but it is ordinarily somewhat low. (7) Cancer of the pylorus generally leads to slight lowering of the peptic index and the chloride secretion, but in the early stages the chloride secretion may even be raised. (8) Cancer of the stomach which has spread to the small curvature from the pylorus causes always marked lowering of the peptic index and nearly always that of the chloride secretion. (9) Chronic appendicitis with gastric symptoms may be accompanied by organic changes in the stomach, but these may also be absent. A definite relative raising of the peptic index over the chloride secretion is met with chiefly in those organic diseases which are combined with appendicitis.

QUADRUPLETS AND THEIR MOTHERS.

A QUADRUPLET pregnancy and labour has recently been reported in the *Muenchener medizinische Wochenschrift* (No. 515, 1913) by Dr. Hans Hauser, who adds instructive statistics about the maternity of triplets and quadruplets. His quadruplets were two males, each a little over 17 in. long, and one about 3 lb. 3 oz., and the other 2 lb. 3 oz. in weight; and two females, one over 16½ in. and the other over 17 in. in length, weighing 2 lb. 3 oz. and 2 lb. 4 oz. respectively. All four children died within a few days. The placental condition was remarkable; there was one pair of one-yolk twins, whilst each of the other twins had a placenta and amniotic cavity to itself. Injections proved that the vessels of the two separate placentae had no communication with those in the placenta of the one-yolk twins. This kind of coincidence, of course, explains many cases of the kind. One-yolk twins associated with a solitary child having its separate placenta are seen in triplet pregnancies, but the chance of a second child with distinct placenta, as in this case, is highly improbable. Hauser shows that, according to statistics, the average age of mothers of quadruplets is higher than that of the mothers of triplets, whilst the latter are on an average older than women who bear twins. The more multiple the children in one pregnancy, the more rarely are the mothers primiparae. An overwhelming proportion of the mothers who bear quadruplets are multiparae—parents of six or more children—whilst among the bearers of twins and triplets the majority has borne from two to five children.

RUBBER DERMATITIS.

C. VIGNOLO-LUTATI[1] describes two cases of professional or occupational dermatitis occurring in the interdigital clefts of the hands of two young men working in a rubber factory. Both had their hands constantly wetted with a solution of india-rubber in benzine; the only parts affected were the second, third, and fourth interdigital clefts, over areas corresponding to the contact of one finger with another. Both were at work for about a month before the dermatitis arose, and had found difficulty in cleaning away the last traces of the sticky mixture from between their fingers when the day's work was done. The lesion began with redness and itching, and progressed rapidly, with swelling and pain: the first patient was cured by Hebra's ointment in a fortnight. The second showed small miliary, reddened vesicles, some intact, others broken and displaying a macerated floor with a few shallow cracks in it; this eczematous lesion ended abruptly as the palm or dorsum of the fingers was approached, so that the hand looked normal when the fingers were held in apposition. The first patient had never had any skin disease before; the second, aged 19, had had eczema of the crutch and thighs nine years previously, which might be taken as evidence of a special vulnerability of the skin. Inquiry made at the factory showed that a number of workmen had been obliged to give up similar work on account of similar eczematous dermatitis.

SMALL-POX IN AUSTRALIA.

WE have received from a correspondent a copy of a Tasmanian paper containing information down to August 17th of the epidemic of small-pox to which our correspondent in Sydney made reference in a letter written on July 15th (JOURNAL, August 30th, p. 572). It is stated that twenty-one cases were notified between August 15th and 17th; all, it is added, occurred in suburban areas where scanty use had been made of the free public vaccination stations. One of the patients was the wife of the coachman of the Governor of the State, the coachman and his child had been vaccinated, but his wife had refused. Another case occurred in a ticket collector on the railway, and Dr. Paton, the President of the Board of Health, has pointed out that neglect of vaccination by railway employees was particularly regrettable. On August 17th there were 68 small-pox patients and 107 convalescents at the quarantine station at North Head, where since the beginning of the epidemic 500 persons had been isolated. Although the number of persons resorting to public vaccination stations had declined, 1,216 were vaccinated on August 15th and 16th.

DR. HIDEYO NOGUCHI will give a demonstration at a meeting of the Royal Society of Medicine to be held on Monday, October 13th, at 5.30 p.m., of the results of his recent investigations, most of them carried out at the Rockefeller Institute for Medical Research, of which he is an Associate. He will show pure cultures of various pathogenic and saprophytic spirochaetes, will demonstrate the presence of *Treponema pallidum* in the brain in cases of general paralysis, and will show experimental general paralysis in rabbits. He will also make a statement and give a demonstration of his recent cultural studies of the virus of rabies.

[1] *Il Morgagni*, 1913, lv, Part 1, 271.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Tuberculosis Treatment in Edinburgh.

At a meeting of the Burgh of Edinburgh Insurance Committee held on September 25th, when Mrs. Leslie Mackenzie presided, a question was asked by Lady Carlaw Martin concerning the opposition of the Medical Benefit Subcommittee to the proposal that the maximum penalty for offences in the case of deposit contributors should be lower than that passed on offenders who were members of approved societies; she moved that a distinction should be made between the two classes. Mr. J. Simpson, Convener of the Medical Benefit Subcommittee, explained that it did not necessarily follow that the Committee would fine deposit contributors the maximum penalty, but it was needful that the Committee should have some discretion in the matter. There was no seconder for the motion, and it was accordingly dropped. Lady Carlaw Martin also asked whether the Committee would be liable for any part of the extra £100 which the town council had decided to add to the £500 previously mutually agreed upon in the case of the appointment of Dr. Guy, the new tuberculosis officer (vide JOURNAL for August 2nd, p. 279, and for August 9th, p. 345); the answer was that the Committee could not be held responsible. A discussion then took place upon the domiciliary treatment of tuberculosis, Mr. Simpson asking what rules and regulations existed in regard to people who were admitted to the sanatoriums and then discharged; were these cases being followed up, was every case seen, was domiciliary treatment given, and of what did it consist? A case was cited in which the need for some such treatment seemed great. Mrs. Leslie Mackenzie stated that the same question had been discussed at the meeting of the Sanatorium Subcommittee, where it had been agreed that the making of rules should be delayed until the new medical officer took up his duties on October 1st. After further remarks by Lady Carlaw Martin, Dr. Robertson, and Mr. Guthrie, the matter was allowed to drop.

Termination of the Edinburgh Annual Post-Graduate Courses.

The Edinburgh Post-Graduate Courses in Medicine for 1913 closed on Saturday, September 27th. The courses have been the most successful yet held during the eight years that have elapsed since the restarting of systematized post-graduate teaching; 111 doctors have taken out the classes, and of these 9 attended more than one course and two attended all the three courses; last year the total number was 99, and the highest number in any previous year was 109. Of the 111 graduates, 32 came from England, 3 from Wales, 16 from Scotland, and 7 from Ireland; 21 came from the United States of America, 6 from Canada, 6 from India, 5 from Australia, 3 from New Zealand, 2 from Ceylon, 2 from South Africa, and 2 from Trinidad; and there was 1 from each of the following countries: China, Russia, France, Italy, Channel Islands, and Persia. The five o'clock afternoon lectures were again well attended not only by those taking out the courses, but also by members of the profession in Edinburgh. One of the most interesting of the series was that on the "Control of Syphilis," by Dr. Woods Hutchinson, of New York, who gave important information regarding the results of the notification of the disease in New York.

Health Matters in Fife.

Dr. G. Pratt Yule, the medical officer for Fife, in his annual report for 1912, states that the number of deaths registered during the year was 1,314, and that there was a marked diminution in the mortality-rate of the county as a whole. There would be a further decrease as the housing conditions improved, but unfortunately there was a large class of tenants of two- and three-roomed houses who, irrespective of the size of the family, would not avail themselves of any accommodation other than that of the kitchen. It seemed to be almost the rule for the tenant to sublet the room or rooms to separate families, so that a house of three apartments became three one-roomed houses. The total deaths from tuberculosis numbered 125; of these 64 were from phthisis and 61 from other tuberculous diseases. The phthisical death-rate was 0.6 per 1,000, and was lower than that of 1911, which was 0.7. There had been 96 deaths from malignant disease during the year. This was 4 more than in 1911, and was equivalent to a rate of 0.90 per 1,000. It was satisfactory that the deaths from phthisis were decreasing notwithstanding the steady increase in the number of the population.

The Edinburgh Parish Council and the Royal Infirmary.

At a meeting of the Edinburgh Parish Council on September 22nd, a letter was read from the treasurer and clerk of the Royal Infirmary, requesting the usual contribution of £150 to the funds. Mr. Smith moved, and Mr. Given seconded, that the whole question be reconsidered, and that therefore it be remitted to the chairman's committee for report. Mr. Smith gave as reasons for his motion the altered circumstances in the infirmary management in connexion with the Insurance Act, and the fact that the council would not require any beds in the infirmary for mental cases, and it was putting up a mental hospital. The chairman pointed out that the council's mental hospital could not be ready within twelve months, and expressed the hope that the council would not interfere this year with the contribution, remarking that the matter might be taken up and discussed on its merits before another contribution fell due. Mr. Foster moved in terms of the chairman's suggestion, and Mr. Forbes, in seconding, said that the infirmary managers were not the only people who were in difficulties regarding the Act. Mr. Smith withdrew his motion, on the understanding that a report on the subject would be submitted during the year, and Mr. Foster's motion was unanimously agreed to.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

The Fear of Infection in Tuberculosis.

It would appear that the general public in Ireland and in the neighbourhood of Dublin especially have become obsessed with an exaggerated idea of the danger of infection in various forms of tuberculous disease, and it is only necessary for a suggestion to be made to build a sanatorium in any district, no matter how remote from the city, for an outcry to be raised that the seeds of tuberculosis are being sown broadcast over the neighbourhood. It may be remembered that such an outcry was raised about eighteen months ago, when the Peamount Sanatorium some fifteen miles from Dublin was first started. A similar outcry arose when a scheme was mooted for adding a special wing for tuberculous cases to the Royal Hospital for Incurables situated on the outskirts of Dublin; this scheme has since fallen through, but quite recently another scare has arisen over a scheme to build a sanatorium, for surgical cases only, at the foot of the Dublin mountains over five miles from the city and in a sparsely inhabited neighbourhood; and the following resolution was adopted by the Dublin Insurance Committee arising out of recent complaints:

> That the Dublin Joint Hospital Board be approached with regard to the question of keeping occupants of the Crooksling Sanatorium confined as far as possible to the grounds of the institution, or at least off the public roadway.

An Irish Garden City.

An interesting experiment in the provision of suitable dwellings for labourers is fast approaching practical shape in Gorey, co. Wexford. This garden city site of 36 acres immediately adjoining the town of Gorey, has been bought by the Rural District Council for £2,000, and sixty-five cottages each with a plot of ½ acre are to be erected at a cost of £10,000.

The place is already equipped with a village hall. The streets will be laid out as avenues, bordered by trees and shrubs. The cottage and plot will be rented for about 1s. 6d. a week. There will be no difficulty in finding willing occupiers, as the applications to the Council far exceed the number of cottages to be built. The cost, it may be seen, is not more than the average, and the great benefit in the health, comfort, and happiness of the

labourers, who will have a community of their own, instead of the usual isolated existence of lonely wayside dwellings, may warrant other districts in providing similar schemes.

MONAGHAN ASYLUM.

The Monaghan Board of Guardians has unanimously adopted a resolution requesting the Monaghan representatives on the Joint Committee of the Monaghan and Cavan Asylum Board to oppose strongly the adoption of the Local Government Board's report on the recent inquiry deciding that Cootehill Workhouse should be converted into an auxiliary asylum.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

WALES.

THE RHYL ROYAL ALEXANDRA CHILDREN'S HOSPITAL AND CONVALESCENT HOME.

WE have received the following letter, dated September 29th, from the Bishop of St. Asaph, Vice-President of the Hospital:

With reference to your comments upon the above institution, I beg to state, on behalf of the Committee of Management, that it is in no sense a general hospital. It was founded in 1872, under the above title, as "a convalescent hospital or home for the reception and treatment of such sickly children and others as are likely to benefit in health by residence at the seaside." It was thus intended, like the men's and women's convalescent homes in Rhyl, to receive patients from the large towns and inland places, and not from Rhyl itself.

It depends for its maintenance upon the support of some 683 annual subscribers, of whom only 38 reside in Rhyl, who are entitled to nominate the patients to occupy its beds. Suitable cases thus nominated are admitted in order of application on Mondays and Thursdays, and throughout the summer there are always many more applications than there are beds. Last year 724 patients came from England and 269 from Wales. These facts clearly indicate the character and purpose of the institution.

But in the absence of any local hospital in Rhyl, the committee have endeavoured from time to time in various ways to meet the needs of the town and its immediate neighbourhood, and cases of urgency have been admitted for treatment. The hospital also undertakes the nursing of the sick poor in their own homes. It has a free cot, established in 1897, for the use of Rhyl children, and in 1900 a men's accident ward was added for cases of accident to men in Rhyl.

But these concessions in the interests of the locality in which the hospital happens to be placed cannot be allowed to alter its fundamental character.

It must be clearly understood that urgent acute cases, outside the scope and intention of the foundation, can only be received by special arrangement, and then only when they can be admitted without detriment to the other patients, or interference with the regular work of the institution.

There is no resident house-surgeon, and therefore in all emergency cases requiring immediate attention arrangements must be made with one of the medical staff, who would then take charge of the case, and inquiry must be made at the hospital whether under existing circumstances as to accommodation, etc., the case can be received.

You were evidently not aware of these facts when you published your article last week, although they are well known to every medical man in Rhyl.

In the case to which we directed attention a member of the institution's own professional staff pleaded for the admission of a child, and was himself ready to undertake the operation urgently required. In view of this circumstance and of the evolution which the institution has, according to our correspondent's own statement, undergone since the date of its foundation, his objection to our describing it as a general hospital so far as children are concerned seems rather strained. Even if the institution never admitted any but convalescent or purely chronic cases its affairs could not be regarded as judiciously administered so long as its managing body had to admit that even in a grave emergency hot water and adequate light could not be obtained at night time.

India.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE FUTURE OF THE INDIAN MEDICAL SERVICE.

THE following is the text of the letter on the restriction of the private practice of officers of the Indian Medical Service addressed to Provincial Governments by the Government of India on May 23rd, 1913:

The Government of India have under consideration the question of placing further restrictions in the matter of general private practice upon Government medical officers holding professorial appointments. Neither the Government of India nor Local Governments have been unmindful of the objections to allowing these officers unrestricted liberty in the matter; but although private practice has been denied altogether to certain professors, and others have been restricted to consulting practice, there have been practical difficulties in the way of introducing any uniform arrangements. The result has not been entirely satisfactory; and, in view of the altered conditions resulting from the recent growth of a considerable independent medical profession, the Government of India desire that the question should now be further examined. They propose at present to limit the scope of the present inquiry to the Presidency towns of Madras, Bombay, and Calcutta and to Lahore and Lucknow; and they have no intention to interfere with the privilege enjoyed by officers who may happen to hold as collateral charges the principalships of medical schools at outstations.

2. The objection to unrestricted private practice may be regarded from two points of view: the professional and the administrative. It is on the latter ground that certain medical officers holding principalships of colleges or in administrative charge of large hospitals have been restricted to consulting practice; but with such considerations, however important, the general public are only remotely concerned. But the Government of India discern a growing body of criticisms directed against the liberty still allowed to medical officers who hold professorial appointments, particularly in the Presidency towns, to take up annual contracts as family doctors upon terms with which the private practitioner finds it difficult to compete. They feel that there is force in these objections, and they are inclined to the view that all officers holding professorial chairs in medicine, surgery, gynaecology, or ophthalmology in Government medical colleges should be strictly debarred except as consultants from general private practice, though they may be permitted to practise unfettered that branch of their profession in which they are accredited specialists, unless their administrative duties as principals of colleges or superintendents of hospitals render some further restriction necessary. The recognition of professors in medical colleges as specialists would, in the opinion of the Government of India, not only add to the dignity of the medical service and provide a number of officers with the additional leisure for scientific work, but would also tend to allay any jealousy which may at present affect the relations between the Indian Medical Service and the independent medical practitioner in this country.

3. The Government of India would be glad if the Governor in Council will take the foregoing observations into consideration and will furnish them with the information as to the extent to which the classes of officers referred to at present enjoy the privilege of private practice, and how far, in the opinion of the local Government, it is expedient to impose restrictions suggested.

LADY MINTO NURSES IN ASSAM.

An attempt is being made in Assam and the Surma Valley to enlarge the scope of the Lady Minto's Nursing Association. The Branch Nursing Association was remodelled when the province reverted to a Chief Commissionership, and financial support is now needed to prevent the branch from becoming injuriously affected. It is rightly urged that it is to the interest of every planter to subscribe towards the upkeep of the branch, and every effort is being made to set its finances on a sound basis.

Lady Grover's Hospital Fund.

Institutions such as Lady Grover's Hospital Fund for Officers' Families depend for their success on the support from the public, and on their popularity with the class for whose assistance they are designed. We are glad to learn that there has been a considerable increase recently in the number of subscribers to the above fund, largely attributable to a change in the rules which allows a grant in aid of £2 10s. a week being made to ladies who prefer to be treated in any home they may select in the United Kingdom, and permits regimental units to obtain the benefits of the fund by paying two subscriptions for three ladies, four subscriptions for six ladies, and so on in proportion. Since this modification of the rules twenty regiments have joined the fund.

Gifts for Education.

The Senate of the Calcutta University has accepted Dr. Rash Bahari Ghosh's gift of 10 lakhs of rupees for the promotion of scientific technical knowledge. The Maharaja of Jaipur has sent Her Excellency Lady Hardinge a munificent gift of 3 lakhs of rupees as a contribution towards the establishment of a women's medical college at Lahore.

Floods in Bengal and Bihar.

The disastrous floods in parts of Bengal and Bihar have caused great distress among the people; though the loss of life has been trifling. Epidemic malaria usually follows upon the inundation of large areas, and it is feared that fever will set in with more than usual severity during the autumn. The two local governments concerned will doubtless recognize the danger that has to be faced, and send to the districts likely to be affected ample supplies of quinine, but special arrangements should be made to provide a medical staff equal to grappling with an epidemic of malaria, and the services of the malarial officers, experts at their work, should be utilized at an early date.

Calcutta Open Spaces.

The provision of open spaces in Calcutta is one of the many topics dealt with in the annual report of the retiring chairman of the corporation. Every class in the community has an interest in the subject, which may be usefully discussed at a time when the Improvement Trust is on the threshold of its work. The redeeming feature of Calcutta in this respect is the Maidan, with its fine expanse of over 1,000 acres. The Maidan, however, does not meet the needs of the whole city, nor do the thirty-six squares which are under the charge of the corporation.

The Health of Indian Gaols.

In the report for the year 1912 on the gaols of the Bengal Presidency, Colonel Buchanan, the local Inspector-General of Prisons, has some instructive remarks on healthy and unhealthy gaols. In seven of the former there were no deaths at all, and in three other the rate was under 10 per cent. In the large central gaols, too, the standard was as good as that of any gaols in Europe. It is in the unhealthy districts that the mortality is highest, and five gaols are mentioned as having a very high death-rate. A typical case is said to be that of Barisal, of which Colonel Buchanan writes:

> This has been for years a notoriously unhealthy gaol, and one of the last things I did before the partition of Bengal of 1905 was to submit a special report on the gaol. Very little, however, has since been done; new buildings have been erected, but have only served to overcrowd a radically bad site area. The water supply is as bad as it was eight years ago, and the new supply from the municipal waterworks, supposed to have been opened in March, 1912, has not reached the gaol, though applications for payment of a water tax has been made.

The prisoners have still to drink the water taken from an open tank in front of the gaol, subject to "every pollution that a bazaar tank can receive," and, though the water is boiled before being used, its quality is of the worst. Rangpur and Faridpur Gaols, with death-rates of 57 and 47 per 1,000, respectively, are very unhealthy, just as are the districts in which they are situated, but sanitary and other improvements are being carried out which should lessen the mortality.

Special Correspondence.

VIENNA.

The International Congress on First Aid and Ambulance.

(Concluded from page 770.)

Much interest was evoked by a paper on the dangers of sponge-fishing by Dr. Flégel (Crete). He stated that the number of persons directly interested in this industry was about 100,000, and that they worked either with a trident or a search-rope, or by diving with the body naked. Recently the sponge firms had employed divers in special diving apparatus with the result that a large loss of life occurred owing to the considerable depth of the water in which these divers worked. The older methods were much less dangerous owing to the shallowness of the water in which the work could be done. Action had been taken to prohibit the use of diving apparatus in sponge fishing by Austria-Hungary and Egypt, but in Greece, Tunis, and Turkey, though certain regulations existed, they were easily evaded by the firms. Since the firms had been made to pay damages for accidents to the fishermen, however, things had improved, and prophylaxis was more effective.

The old problem of resuscitation of persons apparently dead from asphyxia was discussed by Dr. Kuhn (Berlin). He pointed out that first aid should be applied to such persons more extensively, for experimental researches proved that a successful result might more frequently be obtained, and the human heart more frequently brought again into action than had been supposed, especially in cases of apparent death from suffocation (CO_2 or CO), of drowning, of lightning stroke, or electric shock. Cases in the two latter categories should be regarded as promising, even after hours. Hering had succeeding in causing three hearts out of twelve removed in the necropsy room to beat eight to eleven hours after death. Kulabko succeeded in making two out of ten infants' hearts pulsate, and in general anaesthesia similar results had been observed. The chief point was to remove from the heart the substance causing asphyxia.

Prophylaxis in relation to aeronautics at high altitudes was discussed by Dr. von Schrötter. He maintained that up to 9,000 feet no special precautions were necessary. At higher altitudes it was important to provide against the fall of temperature and of barometric pressure. Sufficient high-grade food (carbohydrates, tea, kola) must be on board the vessel. The body should be protected against the action of the actinic (ultra-violet) rays, by fat, and the eyes by green-yellow glasses (euphos glass). Electric light should be available, as well as an outfit for first-aid, and life belts in case of a trip across the sea. The aeronauts should be perfectly healthy; the functions of the eye, ear, and heart and lungs should always be tested. The outlet of the motor should not contaminate the air used for breathing.

First aid in alcoholic intoxication was discussed in a long paper by Mr. Windt, who complained that at present little had been done. As a rule, the police dealt with these "patients," for such they were, and there was a deplorable lack of arrangements for the transport and detention of alcoholics. They should at once be examined by a medical man, for in about 50 per cent. the intoxication was severe enough to cause more or less complete loss of consciousness. The after-treatment was even more important; it should be psychical, to prevent a recurrence of drunkenness. Homes for inebriates were most urgently required, and anti-alcoholic societies and movements should be favoured by the State.

The organization of first aid on the Austrian State railways was explained by Dr. Bogdan. Special hospital cars and ambulance cars had recently been placed at the disposal of each district railway office; to them was attached a corps of male nurses and a staff of surgeons. First-aid boxes were now part of the equipment of every express train, and first-aid instruction is offered to the servants of the State railways. As a rule, the relative number of railway accidents in Austria-Hungary was very small; in fact, the rate was one of the smallest in

large European countries. Special cars were provided for the transport of infectious patients. The same requirement, as Dr. Hofmokl pointed out, existed in regard to transport from and to hospitals. Each car used for the conveyance of an infectious patient was disinfected as soon as its task was over. The importance of securing a bed for the patient in the charitable institute or hospital before he was taken there was pointed out. In large towns the decentralization of the transport of sick persons should be aimed at, and should be placed under medical supervision.

"The First Dressing of Injuries" was the title of a paper by Dr. Rosner, of the Vienna Ambulance Corps. Wounds, he said, should not be touched or washed, nor probed, prolapsed organs should not be replaced but carefully supported and a simple dressing applied to them. The best was a soft, fine, pliable, aseptic, absorbent substance. Haemorrhage should be checked by applying the dressing with a certain pressure, and in fractures immobilization should be obtained. The first dressing should only be sufficient to enable the patient to be removed to a surgical ward or to his home. Fractures and dislocations should, if possible, be reduced or replaced before dressing, but it should be recognized that the first dressing was of utmost importance for the ultimate fate of the injured person. Professor Schnitzler read a paper on life-saving interference in first aid. The chief dangers threatening life were, he said, interruption of circulation and respiration. The latter could be guaranteed by tracheotomy; in some instances it was necessary to trephine the skull (decompression). In intoxications (morphine, nephritis), venesection might prove most useful in restoring the respiratory equilibrium. Paralysis of the heart must be treated by massage or injection of adrenalin into the cardiac muscle. He considered also the methods of stopping haemorrhage which can be used by non-medical persons.

The "prevention of panic in public buildings" was the subject of a paper by Mr. Greil. He recommended the enforcement of regulations on the following lines in theatres, circuses, and similar buildings where large assemblies habitually gathered; they should be fireproof; the stage should be absolutely separated from the audience by a fireproof (iron) curtain; no one should live in the house; electric light only should be used and should be obtained from two sources; heating should be by hot air or steam from a central point; no smoking should be allowed, and at each performance a detachment of firemen should be present ready for service. No more than three persons per square metre of the area should be admitted, and there should be one exit for each 100 visitors, consisting of one broad door. A sufficient supply of drinking water, of pure air, and of water-closets were necessary.

In a paper read by M. Wortmann (Vienna) on suicides and attempts at self-destruction it was stated that the number of suicides was constantly and rapidly increasing in Vienna; in 1912 the ambulance corps was called to no fewer than 1,387 cases. Various reasons had been assigned for this increase by different observers; psychical depression was most often responsible for such an attempt, and the anti-suicide society (Salvation Army, London) had done much good in this respect. M. Wortmann advised the collection of international statistics in regard to the reasons of suicide. Present time education, with its predominance of individualism and egotistic sentiments, did not, as a rule, harden characters, and brought on early nervous breakdown.

Some other papers: on teaching of nurses; on fire and first aid to save life in conflagrations (a linen tube, a jumping cloth); on coal-dust explosions; on nervous disturbances in mountain climbing, need only be mentioned.

An international committee for first aid has been elected, and this is the most important outcome of the Congress. This committee is to devise means of bringing help rapidly in extensive disasters (earthquakes, epidemics, floods), in the same way as the International Red Cross in war. The exhibitions of first-aid apparatus, as well as the working methods of various first-aid corps, exhibited during the Congress, show what good could be obtained by uniform and systematic work.

A large percentage of those present remained in Vienna after the Congress had been closed, in order to take part in the proceedings of the "Congress of German Scientists and Doctors," which was opened here four days later. This congress, of which some account will be given in my next letter, was on such a large scale that it nearly killed itself by its hugeness.

Correspondence.

ON THE ACCURACY OF THE "MEDICAL REGISTER," WITH A NOTE ON MEDICAL CERTIFICATES.

SIR,—May I once more ask you for your valuable assistance in reminding members of the profession that, unless their names appear in the *Medical Register*, they are not "legally qualified medical practitioners" (Medical Act, 1858, Section 34), and that the duty of notifying changes of address rests with them.

No person can "hold any appointment as a physician, surgeon, or other medical officer either in the military or naval service or in emigrant or other vessels, or in any hospital, infirmary, dispensary, or lying-in hospital, not supported wholly by voluntary contributions, or in any lunatic asylum, gaol, penitentiary, house of correction, house of industry, parochial or union workhouse or poor-house, parish union, or other public establishment, body, or institution, or to any friendly or other society for affording mutual relief in sickness, infirmity, or old age, or as a medical officer of health, unless he be registered" (Section 36); and "no certificate required by any Act now in force, or that may hereafter be passed, from any physician, surgeon, licentiate in medicine and surgery, or other medical practitioner, shall be valid unless the person signing the same be registered" (Section 37).

The *Medical Register* is the only official publication, and it should not be confused with any of the various directories which issue circulars annually.

No one who is not familiar with the work of this office would believe the amount of trouble which is taken to keep in touch with practitioners, and to find them when touch has been lost, but, unless we are assisted by members of the profession themselves, our efforts are often fruitless.

In consequence of cases which have recently occurred, it becomes increasingly important every year that the Registrar should carry out the duty laid upon him under Section 14 of removing from the *Register* the names of practitioners with whom he cannot communicate. It is done with reluctance, but only by this means can the public and the profession be protected against impostors. No doubt cases of hardship do sometimes arise in consequence of this removal of names, but every possible source of information is made use of to save practitioners from the results of their own forgetfulness, and if they are inconvenienced by finding that their names are off the *Register*, the blame does not rest with this office. The duty of notifying changes of address rests with practitioners; the Registrar is obliged to send communications to registered addresses only, but the practice is to make use of every available source of information.

I therefore hope that all practitioners who have any doubt as to the accuracy of their addresses in the *Register* will communicate with this office without delay, and, if they will give their full names and qualifications in legible writing, it will be of great assistance to us. All communications will be duly acknowledged.

Perhaps I may add that, by a recent regulation, practitioners possessing medical and dental qualifications, if already on the *Medical Register*, may register in the *Dentists' Register*, or vice versa, for a reduced fee of £2 1s., instead of £5 1s.

I should like to take the opportunity of drawing attention to the following resolution adopted by the Council on November 30th, 1911; it cannot be urged too strongly upon practitioners that, in giving certificates, they are recognized by law as members of a trusted profession, and that it behoves them to exercise the greatest possible care in the matter:

> Whereas registered medical practitioners are in certain cases bound by law to give, or may be from time to time called upon or requested to give, certificates signed by them in their professional capacity, for subsequent use either in

courts of justice or for administrative purposes: And whereas such certificates include, *amongst others*:

(*a*) Under any Statute relating to births, deaths, or disposal of the dead;
(*b*) Under the Lunacy Acts;
(*c*) Under the Vaccination Acts;
(*d*) Under the Factory Acts;
(*e*) In relation to children or to excusing school attendance;
(*f*) In connexion with sick, benefit, insurance, and friendly societies;
(*g*) In connexion with workmen's compensation;
(*h*) In connexion with naval or merchant shipping;
(*i*) For procuring the issue of Foreign Office passports;
(*j*) For excusing attendance in courts of justice, in the public services, in public offices, or at ordinary employments;

And whereas it has been made to appear to the General Council from time to time that some registered medical practitioners have given and signed untrue, misleading, or improper certificates of the above specified or other descriptions:

Now, therefore, the General Medical Council hereby give notice that any registered medical practitioner who shall be shown to have given any untrue, misleading or improper certificate, *whether relating to the several matters above specified or otherwise*, is liable to be adjudged by them to be guilty of "infamous conduct in a professional respect," and to have his name erased from the *Medical Register* under Section 29 of the Medical Act, 1858.

—I am, etc.,

NORMAN C. KING,
Registrar.

299, Oxford Street, London, W.,
Sept. 26th.

THE TECHNIQUE AND AFTER-TREATMENT OF THE RADICAL MASTOID OPERATION.

SIR,—I have been expecting for some time the publication of Mr. Milligan's paper, read to the Section of Laryngology, Rhinology and Otology at the recent meeting of the British Medical Association, and I read it with great interest and much profit in the issue of the JOURNAL of September 20th, as I am sure a great many others have.

With a good many of Mr. Milligan's opinions and methods I was already familiar, having had the favour and the great pleasure of watching him at work at the Ear Hospital and the Royal Infirmary in Manchester. The points to which Mr. Milligan directs particular attention are the treatment of the inner tympanic wall at operation, and the various methods practised to obtain the most rapid epidermization of the antro-tympanic cavity resulting from the operation.

Surgeons who have practised this class of work will readily accept Mr. Milligan's advice as to the respect due to the inner tympanic wall, and especially so when the wall is covered with diseased granulation tissue and must be curetted, because it is just in this class of case that there are likely to be fistulae of the facial canal, etc.

As regards the after-treatment, it is probably true that no one method much excels another in securing more rapid epithelialization of the cavity, and that each of the various methods Mr. Milligan describes would give equally good results in the hands of any surgeon who personally attends to the after-treatment.

Possibly some of the delay and interference with audition afterwards, when the inner wall has been curetted, arise from the fact that we are dealing with a cavity the natural lining of which is mucous membrane and not modified skin, and this is especially true of the inner antro-tympanic wall, where generally no bone is removed at operation.

Some delay, too, is often due to the delicate epithelium not being protected at its spreading edge—a practice which is always employed in healing sores on the surface of the body at other parts. Unless the epithelial edge is protected the gauze gets entangled with the young epithelium, which is therefore pulled away at every dressing, whether or not the gauze is moistened before being withdrawn. The complete epithelialization of the cavity is thus greatly retarded. When this occurs the granulations are apt to become unhealthy, oedematous, and uneven, in spite of every precaution, and the epidermization of the cavity is thus further hindered.

In a series of ten cases in the Dumfries and Galloway Royal Infirmary during the past few months I have obtained fairly rapid complete epithelialization of the cavity. I sometimes form a posterior flap, and when the flap has become adherent—generally four to five days—and when granulations have formed and the epithelium is commencing to spread from the margins of the flap, etc., I protect the spreading edge with strips of sterilized, perforated, oiled silk protective, and then pack with gauze. When I have made the flap after Mr. Milligan's method—so that it lies on the floor of the cavity—I use a soft, thin rubber tube cut spirally, with a piece of gauze in its lumen, as recommended by Ballinger, or I pass broad strips of oiled silk protective into the cavity and beyond the spreading edges, and then pack with gauze. I mop the cavity clean of all discharges at each dressing, cleanse the cavity with hydrogen peroxide, mop it dry again, and then instil compound benzoin tincture, which I leave in the cavity for a few minutes only. This medicine, by its dehydrating influence, prevents any succulency and unevenness of granulations which the recurring use of hydrogen peroxide alone tends to cause. The medicine, too, is antiseptic and unirritating on account of several of its ingredients. The cavity is thus kept sweet and dry, and healing is promoted. The use of the silk protective does away to a large extent with any objection to the use of gauze, which I consider is necessary for two weeks in cases with much discharge.

Bandaging, I think, should be discarded as soon as possible, as it tends to keep the cavity warm and moist, and thus to induce oedema of the granulation tissue, and to intensify and prolong sepsis. I have found that in nearly all my cases, notwithstanding careful, thorough curetting and pure carbolic medication at operation, the tympanic end of the Eustachian tube and the area surrounding it are the last to heal, and often give considerable trouble. If healing be delayed for some time the area comes to be bounded by a raised, whitish, somewhat indurated little ring, and a condition now obtains comparable in some respects to the callous ulcer so often associated with varicose veins of the leg. Whenever this condition presents itself I cauterize the ring, the area around the tube, and as much as possible of the tubal orifice with bluestone. The condition gradually comes to resemble a healing ulcer, and I then treat it as such.

I have faithfully tried some of the methods described by Mr. Milligan, but none has given me so much satisfaction as that which I have described.—I am, etc.,

ROBERT M. GLOVER, M.B., F.R.C.S.Edin.

Dumfries, Sept. 26th.

TURBINECTOMY.

SIR,—My attention has been drawn by a practitioner to the exceedingly drastic condemnation of turbinectomy by Sir Robert Woods in the BRITISH MEDICAL JOURNAL of September 20th, p. 738. The reason of his interest was that I had performed the operation upon a patient of his, and he feared the after-effects painted in such dark colours by the author. I was able to assure him that such bad effects were exceedingly uncommon if common sense was employed in the selection of cases, and that I had been induced to perform this operation more frequently since I had observed such good results, immediate and remote, in more experienced hands than mine. The patient mentioned had suffered several operations (septal resection, adenoidectomy, and several cauterizations) without any benefit. A carefully graduated turbinectomy relieved him completely; for the first time he can now clear his nose in a natural manner.

The only patient in whom I have observed any distinct atrophic changes showed complete recovery after mercury and iodide; by a coincidence she had also had conservative treatment at the same hands; the other day she volunteered the statement that until she had this operation with the spokeshave there had been no improvement.

When I read remarks that atrophy is a necessary consequence of this operation and not a complication, when surprise is expressed that the instruments are still manufactured and supposedly bought, I think it necessary to combat these views, which are curiously at variance with the opinions of those who have done a good number of these operations. A study of the tissues in an advanced condition of chronic hypertrophy will show that the affected tissues are quite incapable of fulfilling any function except mechanically causing mouth breathing. Remove them and nasal respiration can be resumed. The tissues of the nose become educated up to the new

conditions. It must be remembered that the main inspiratory tract is upwards into the middle and superior meatal regions, and that the passage of air through the inferior meatus is secondary to this upward flow.

Moreover, it appears that the true function of the cavernous tissue of the inferior turbinal is not yet understood. It is certain that the dry air from some forms of artificial heating installations causes the nose to swell and become dry, whereas theoretically it should collapse and secrete much mucus at the same time; whilst exercise, which should cause hyperaemia and increased secretion to warm and moisten the great increase of inspired air, causes almost entire collapse and dryness of the turbinal tissue.

Another practical point is that it will be found most easy to gauge the amount of hypertrophy requiring removal by having a strengthened pair of forceps made on the pattern of Prince's turbinectomy forceps.—I am, etc.,

Manchester, Sept. 26th. WILLIAM WILSON, M.D., B.Sc.

REX v. HAMILTON.

SIR,—You do a service to the public by giving prominence in the columns of your last issue to a letter signed "S. R. Deane" concerning the above lawsuit. The writer suggests that members of the medical profession should help the defendant to meet the very heavy costs. May I add an amendment to the proposal, namely, that outsiders like myself, who have been struck by the gross injustice of the result of such an action, should also be allowed to offer a helping hand? Any one of us in any career in life may find himself at any moment in a like strait. One and all, we are liable—as justice is now interpreted—to be accused without a particle of foundation of a flagrant breach of the law. The Crown itself may proceed against us, and, after a wholesale expenditure on both sides of time, trouble, brains, and hard cash, the jury may fling aside the evidence for the prosecution and declare there is no case, thus putting a stop to further proceedings and saving our honour and credit. But there remain the huge bills to be paid, bills which in this particular instance cannot have meant much under £1,000 to each side. Since the days of Confucius we have been taught by our highest exemplars to "do unto others as we would that they should do unto us," and I, for one, shall be only too glad to add a practical proof of my sympathy with Dr. Hamilton to any list of subscribers presented to me.—I am, etc.,

London, W., Sept. 27th. F. M. GALLAHER.

SIR,—May I ask your indulgence in placing before our members a petition to help Dr. Hamilton to defray the heavy legal expenses (that is, about £800) incurred in his defence. I think to all who followed the evidence and read the remarks of the judge, the case appears to be one that should never have been brought against him. It clearly shows that none of us are ever safe. Many, both lay and medical, have written expressing their sympathy, and suggesting that a fund should be started. The following would be pleased to act on a committee:

Peter Daniel, Esq., F.R.C.S., 1A, Upper Wimpole Street.
Mrs. Moran, Mill Hill House, Barnes.
Dr. S. R. Deane, Lincoln.
Dr. Poole, Wandsworth.
Dr. Gimblett, 86, Sutherland Avenue.

Thanking you in anticipation.—I am, etc.,

London, W., Sept. 30th. W. H. GIMBLETT, M.D.

THE WORK AT THE MADRAS OPHTHALMIC HOSPITAL.

SIR,—During the recent meetings of the Oxford Ophthalmological Society, of the British Medical Association, and of the International Congress, a number of medical men asked if they might visit Madras for the purpose of seeing the work at the Government Ophthalmic Hospital there. I had at that time every intention of returning to Madras at the end of this year, and I told them that I should be glad to welcome them at my clinic. In the meantime my plans have been changed, and I am not returning to India, for the present at least. Unfortunately, I have not got the names or addresses of a number of those who thus approached me, and am therefore unable to communicate with them direct. I should be extremely sorry if, owing to my inadvertence in not taking the names of all such, any inconvenience or disappointment arose to a visitor after so long a journey as that to Madras. I shall, therefore, be greatly obliged if you will give me this opportunity of letting the matter be known. As a number of those who wished to visit Madras came from India, America, and the Continent, I shall be greatly obliged if foreign papers would reproduce this letter. The officer who is acting for me in the Madras hospital will extend a hearty welcome to any who still care to go there. I can only again express my regret if my own unavoidable change of plans has caused inconvenience to others, and my hope that by giving as early notice as possible I have been able to minimize such inconvenience.—I am, etc.,

R. H. ELLIOT, Lieut.-Col., I.M.S.,
Superintendent of the Government Ophthalmic
London, W., Sept. 35th. Hospital, Madras.

SPECIAL HOSPITALS.

SIR,—Holidays and pressure of work on return have interfered with reply to criticism as to the above. The delay has been advantageous in that it has afforded three of the honorary staff of the Liverpool Eye and Ear Infirmary time to express themselves. I shall hope to let you have my reply at an early date.—I am, etc.,

Liverpool, Sept. 29th. THOMAS H. BICKERTON.

Public Health AND POOR LAW MEDICAL SERVICES.

THE ADDITION OF SUGAR TO BUTTER.

A CORK butter exporter last week appeared before the Liverpool stipendiary magistrate as defendant in respect of a summons for having sold butter containing cane or beet sugar. The analyst had found 1.2 per cent. of cane or beet sugar, which he regarded as a foreign ingredient. In cross-examination he said that unless enough sugar were used it was not a preservative at all, that he was not aware that it had been used in curing Irish butter for two hundred years, and that the Act did not forbid the use of sucrose (cane or beet sugar). In reply to the stipendiary magistrate he said that the sample of butter he had examined contained from 4 to 5 per cent. of salt, which was sufficient as a preservative. Mr. White, an inspector of the Irish Board of Agriculture, said that sugar was not used for the curing of butter in Ireland, nor was it used for the preservation of Danish butter. The defendant said that he had used sugar in butter for thirty-five years, that it was used by others, and that it was added to suit public taste, which wanted a mild salted butter; salt without sugar was not sufficient as a preservative unless 6 or 7 per cent. of salt were used. He knew that French butter was cured with sugar, and believed that it was also used with Danish butter. The stipendiary, in dismissing the summons, said that he thought the Act of 1887 contemplated the presence of other preservatives beside salt. It had been proved that sugar was a preservative, and that its presence with salt was not an infringement of the Act; he offered to state a case if the prosecution desired.

THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, W.C., on September 19th, Dr. F. J. Allan in the chair. It was reported that, contrary to expectation, the summer months had shown very little falling off in the claims; new business was well up to the average, and the steady growth of proposals for additional benefits received indicated the satisfaction of members with the society. The half-yearly balance sheet considered at this meeting showed that the reserves now amount to nearly £260,000, and each fund shows an increase. A letter was read from the widow of a member expressing her thanks for the grant made, through the society's recommendation, by the Royal Medical Benevolent Fund, and asking for support for her son's election for Epsom College next June. The society subscribes largely to these two institutions, and has been instrumental in obtaining many foundation scholarships for the sons of deceased members and grants of money for their widows. Prospectuses and all information can be obtained on application to Mr. Bertram Sutton, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

Universities and Colleges.

UNIVERSITY OF LONDON.

Matriculation.

The Senate recently adopted two resolutions with regard to the acceptance of examinations as exempting from the London matriculation examination. On and after September 1st, 1914, the senior grade certificate of the Intermediate Education Board for Ireland will not be recognized. In and after this year the regulations for the acceptance of the Oxford senior local certificate have been altered, and require that the student must have passed at one and the same examination in English composition, including essay, general literature, and grammar, and must have obtained or reached the standard of honours in the first or second class at that examination.

Advanced Lectures in Medicine.

The following courses of lectures have been arranged at the institutions indicated for the session 1913-14:

Royal Army Medical College.—Major S. Lyle Cummins, M.B., B.S.: Three lectures during the first term on enteric fever.

Hospital for Sick Children, Great Ormond Street.—Dr. S. A. K. Wilson: One lecture during the second term on apraxia, its clinical and localizing values.

Middlesex Hospital.—Dr. H. Beckton: One lecture during the second term on the action of radium upon animal cells.

London Hospital.—Dr. H. L. Tidy: Two lectures during the second term on the pathological excretion of nitrogen by the skin and the resulting changes in the urine.

University College.—Dr. Charles Bolton: One lecture during the third term on recent observations on ulcers of the stomach.

St. Thomas's Hospital.—Dr. H. MacLean: Three lectures during the third term on carbohydrate metabolism in health and diabetes.

The lectures, to which admission is free, are addressed to advanced students of the University and to others interested in the subjects dealt with.

Advanced Lectures in Physiology.

The following lectures will be delivered during the first term of the session 1913-14:

Guy's Hospital.—Eight lectures on the physiological significance of acidosis, by Drs. E. L. Kennaway and E. P. Poulton, on Thursdays, at 4 p.m., beginning on October 9th.

King's College.—Four lectures on the cerebro-spinal fluid, by Professor W. D. Halliburton, F.R.S., and Professor W. E. Dixon, F.R.S., on Mondays, at 4.30 p.m., commencing on November 3rd.

Lectures on Protozoology.

A course of from twelve to fifteen lectures on the protozoa parasitic in man will be given by Professor Minchin, F.R.S., at the Lister Institute of Preventive Medicine, at 5 p.m. on Tuesdays and Fridays during the second term. The lectures, which are free by ticket, will be addressed to Honours B.Sc. students and to medical men, and will be followed by exhibits of preparations as occasion requires.

Chadwick Lectures in Hygiene.

A course of three lectures under the Chadwick Trust, illustrated by diagrams and lantern slides, on the place of the open-air school in preventive medicine will be given by Sir George Newman at the University, at 5 p.m., on November 4th, 11th, and 18th. The lectures are free and are addressed to advanced students of the University and to others interested in the subject.

University College.

Dr. W. C. McC. Lewis having been appointed to the chair of physical chemistry in the University of Liverpool, is succeeded by Dr. R. E. Slade as assistant to the Department of Chemistry.

Dr. A. J. Clark, assistant in the Department of Pharmacology at University College, has been appointed lecturer on pharmacology at Guy's Hospital Medical School.

St. Mary's Hospital.

The entrance scholarships at the medical school have been awarded as follows: The two *University Scholarships* (value 50 guineas each), Mr. S. C. Dyke, B.A., Exeter College, Oxford, and Mr. W. H. Thomas, University College, Cardiff; the two *Open Scholarships* in natural science (value £75 each), Mr. A. J. Cokkinia, International College, Smyrna, and Mr. G. W. Davies, Epsom College; the *Palmer Scholarship* (value 25 guineas), Mr. G. MacAlaway, Mount St. Mary's College, Chesterfield; the *Epsom College Scholarship*, Mr. B. Thomas.

St. Bartholomew's Hospital.

The competitions for entrance scholarships at the Medical School have resulted in the following awards: The two Senior Scholarships in Natural Science (value £75 each) to Mr. G. K. Bowes, Christ Church, Oxford, and Mr. R. A. Mansell, Emmanuel College, Cambridge; the Junior Scholarship in the same subject (value £150) to Mr. J. P. Ross, of the Preliminary Science Department of the School; and the Jeaffresson Exhibition in Arts to Mr. R. J. Perkins of the Bedford Modern School. The second scholarship in Arts (value £100) was divided between Mr. J. Dick, of Epsom College, and Mr. L. D. Porteous, of Huddersfield College, whose papers were adjudged of equal merit.

VICTORIA UNIVERSITY OF MANCHESTER.

The following candidates have been approved at the examination indicated:

First M.B. (*Part I. Inorganic Chemistry and Physics*).—J. C. T. Fiddes. (*Part II. Elementary Biology*).—J. Charnley, J. C. T. Fiddes, T. E. Forshaw, J. B. Higgins, J. Yates.

CONJOINT BOARD IN ENGLAND.

The following candidates have been approved at the examinations indicated:

First College (*Part I, Chemistry; and Part II, Physics*).—*W. B. S. Andrew, †H. C. Apperly, E. R. Batho, *J. R. S. Bowker, †G. W. Coombes, *A. Faiq, *N. E. Fasken, T. C. Higgins, *J. Hollings, †M. Ibrahim, S. L. Izpinger, B. L. Laver, A. M. Mishad, W. P. Nelson, C. B. Phillips, C. G. J. Rayner, J. S. L. Roberts, †C. W. Tomkinson, *F. F. Wheeler, G. Winter, S. Yahilevitz. (*Part III, Elementary Biology.*)—E. H. Bryant, R. Calvo, J. Hellings, C. H. Macklin, W. P. Nelson, M. A. Tewfick, C. W. Tomkinson, H. P. Warren, E. M. Webster, S. B. Winnick, S. Yahilevitz.

* Passed in Part I only. † Passed in Part II only.

Obituary.

E. E. GOLDMANN, M.D.,

EXTRAORDINARY PROFESSOR OF SURGERY IN FREIBURG.

Dr. Edwin E. Goldmann, of whose researches on the vital staining of the central nervous system Dr. Mott has enabled us to give some account on another page, was the son of Mr. B. N. Goldmann, and was born at Burgersdorp, South Africa, on November 12th, 1862. He received his early education at the Albert Academy at that place, but at the age of 14 returned with his parents to Europe and was put to school at Breslau, where he showed special capabilities, especially in music and mathematics. His medical education was received at the University of Freiburg, and he afterwards worked at microscopic anatomy under Professor Weigert at Frankfurt-on-Main. Later he became assistant in the surgical clinic at Freiburg, and in 1891 qualified as privat-docent. In 1895 he was appointed extraordinary professor and became surgeon to the Deaconess's Hospital in Freiburg.

Goldmann gave himself up at an early stage of his career to biological chemistry, and worked under Professor Ehrlich in the Institute for Experimental Therapeutics at Frankfort, of which he was named an associate. He was attracted by the possibility of staining the tissues during life, and made many investigations to ascertain what stains might best be used for this purpose. Eventually he discovered that animals injected with pyrrhol blue and isamine blue retained their health, although the dyes had been taken up by certain granular cells in various organs. He found that the behaviour of the cells to the stains was a guide to the determination of their functions in reference both to the normal products of metabolism and to their reaction to pathogenic substances. Cells which took up the stain were found also to take up fat, glycogen, and iron. He showed also that in the placenta certain granular cells have the power of taking up neutral material from the maternal blood and storing them for a time before they are passed on to the fetal circulation. He described his results in memoirs published in the *Beiträge zur klinischen Chirurgie* and in separate publications issued in 1911 and 1912. With regard to this work, Professor Ehrlich said in an article published in the *Times* on the day following Goldmann's death: "He reached the summit of his work in the last few years, during which he prosecuted his studies, which must be regarded as classical, in the staining of living tissues. Goldmann recognized clearly that if we desire to know and study the functions of the living cell the staining of living tissues offers the most profitable means. There were previously only a few works dating from an older generation, such as those on methylene blue, but they, corresponding to their own time, followed an incomplete technique. Here came in Goldmann's work. He succeeded in discovering a method of carrying out an exact pursuit of *intra vitam* staining in microscopic sections. The staining material, pyrrhol blue, possesses the peculiarity of colouring a very special kind of cells which are found in the connective tissue and of making them visible to the eye, while the dye allows certain

round granules contained in these cells to show up distinctly, and in an intensive blue. Now Goldmann was able with the help of his method completely to clear up the great significance of the function of these cells, and to show that both in normal functions, as for example in digestion, and also in the majority of disease derangements, as in the case of tuberculosis and carcinoma, they play a very important part. His last important work also, *Über die Vitalfärbung am Centralnervensystem*, dealt with that method and arrived at important conclusions concerning the nutrition of the central nervous system and the circulation of the cerebro-spinal fluid." It is of this research that an account is given by Dr. Mott in the article published at page 871.

Goldmann was actually engaged in this fruitful line of work and had formed projects for extending it in various directions when he became the victim of cancer. He accepted his fate with resignation and bore his physical sufferings with fortitude. But the sacrifice of the hopes he had formed of carrying on his investigations to the solution of various problems which had presented themselves to him was a bitter disappointment. He went on with his work as long as his strength permitted him. His death at the age of 51 is a great loss to science.

Professor Goldmann married, in 1906, the daughter of Mr. Bosworth-Smith, of Bingham's Melcombe, Dorset, and is survived by his widow and two children. Professor Goldmann spent some time in study in London, and was a Fellow of the Royal Society of Medicine. He was a brother of Mr. C. S. Goldmann, M.P. for Penryn and Falmouth, and had many friends in England.

GAVIN PATERSON TENNENT, M.D., F.R.F.P.S.G.,

CONSULTING PHYSICIAN, WESTERN INFIRMARY, GLASGOW.

DR. GAVIN P. TENNENT died at his Glasgow residence on September 13th, at the age of 67. He was the son of Mr. James Tennent, of Strathaven, and received his early education at Crosshill School, in that parish. He graduated M.B., C.M. in the University of Glasgow with high commendation before he was 21 years of age, and took the degree of M.D. in 1870. After studying in Berlin, he was appointed resident assistant surgeon to the Royal Infirmary, Glasgow, and there came under the influence of Lister and Gairdner. He was afterwards resident physician to Glasgow City Fever Hospital, where he worked with the late Dr. J. B. Russell.

In 1872 he commenced private practice, and acted as assistant to the late Professor Leishman; from 1868 to 1880 he assisted the late Professor Cowan in the materia medica department of the university. When the Western Infirmary was opened he became physician to the outdoor department, and in 1881 was elected a full physician in charge of wards, on the opening of the Freeland wing. He resigned in 1896 after twenty-two years' service, and was appointed the first honorary consulting physician—an honour of which he was justly proud. Dr. Tennent was unmarried, and was the last survivor of his own immediate family. He was in practice as a consulting physician until the beginning of the present year, when the death of his only remaining sister proved a shock from which he never recovered. He was a popular teacher during his period of work at the Western Infirmary, and relinquished general practice when appointed to the staff. His lectures were always very carefully prepared, and as a clinical teacher at the bedside he was held in high esteem by his students. His name will always be revered by those who had the privilege of listening to his teaching.

By his will Dr. Tennent bequeathed £25,000 to the University of Glasgow, to be applied for such objects or object in connexion with the Faculty of Medicine as the trustees may determine. He bequeathed the residue of his estate to the Western Infirmary, the Royal Infirmary, the Victoria Infirmary, and the Royal Hospital for Sick Children, Glasgow.

A FAMILIAR figure will be missed in the south-side of Glasgow by the death of Dr. JAMES PROVAN, who became a Licentiate of the Royal College of Surgeons, Edinburgh, in 1864, and took the M.D. of Glasgow the same year. He was for many years an officer of the First Lanark Artillery Volunteers, and retired ten years ago with the rank of Surgeon-Colonel. He was an enthusiastic collector of pictures and curios, his house being a veritable museum. He is survived by his wife.

DR. ARCHIBALD PEARSON, another south-side practitioner in Glasgow, died within a few days of Dr. Provan. Dr. Pearson had been in practice for fifty years, and was a student under the late Lord Lister, being one of his dressers at the Glasgow Royal Infirmary. He began his professional career in the Scottish Highlands, but settled in Glasgow more than forty years ago. He was J.P. for the County of Inverness, but took no other part in public life. He is survived by a widow and grown-up family, one of his sons, a medical man, having been associated with his father in practice.

AT Cromarty on September 21st the prolonged illness of ROBERT CRERAR, M.B., came to an end. He had been ailing for some considerable time from chronic cardiac affection, and in spite of several periods of complete rest from work he became gradually weaker and lost ground. Dr. Crerar was a native of Perthshire and a graduate of Edinburgh University (1879). His early professional life was spent on the west coast of Scotland, and during his arduous work there he was the victim of an accident to his right ankle, which caused him permanent stiffness and was a hindrance to free locomotion. He was a man of marked ability, was well read in general literature, and was a keen angler. He was a delightful companion, full of a quiet humour, kind-hearted, and withal shrewd. He will be greatly missed in the circle in which he has worked for so many years. Dr. Crerar was unmarried, and is survived by his sisters.

Medical News.

MR. W. D. CARÖE has been elected Master of the Plumbers' Company in succession to Sir T. Vezey Strong, and Dr. F. J. Waldo and Mr. Edmond Knight have been elected Wardens.

THE United Services Medical Society will hold its first meeting for the session 1913–14 on October 9th, when the presidential address will be delivered by Colonel B. M. Skinner, M.V.O., A.M.S.

THE annual dinner of past and present students of the London School of Tropical Medicine will be held at Prince's Restaurant, Piccadilly, on Friday, October 24th, when the chair will be taken by Dr. F. M. Sandwith.

A PRACTICAL course on growth in children will be given at the Institut J. J. Rousseau, Geneva, by Dr. Paul Godin, from October 6th to 16th. The subscription to the course is 40 francs. Particulars can be obtained from the Director of the Institute, 5 Place de la Taconnerie, Geneva.

THE late Mr. Lancelot Foster bequeathed £1,000 to the York Charity Commissioners, with instructions that they should make gifts to aged women who were unsuccessful applicants for the benefits of hospitals in York. He also bequeathed £1,000 to the York Lunatic Asylum, and a further £1,000 to the York County Hospital for the maintenance of two children's cots.

THE honorary secretaries of the Section of Odontology of the Royal Society of Medicine have issued a notice with regard to grants in aid of scientific research in connexion with dentistry which the committee of that Section is enabled to make. Particulars can be obtained on application to the honorary secretaries of the Section at the house of the Royal Society of Medicine, 1, Wimpole Street, London, W.

WE are asked to state that in response to numerous requests it has been decided to defer the closing of the Historical Medical Museum at 54A, Wigmore Street, until October 31st. During October it will remain open from 10 a.m. to 6 p.m. daily, and from 10 a.m. to 1 p.m. on Saturdays. After this date it will be closed for a few months for rearrangement as a permanent museum. It is proposed to reopen the museum in its permanent form in the spring of next year.

A provincial sessional meeting of the Royal Sanitary Institute will be held at Newcastle-upon-Tyne on October 17th, when two discussions will take place. The first, on some points in the relationship of human to bovine tuberculosis, will be opened by Professor H. J. Hutchens, bacteriologist to the Corporation of Newcastle, and the other, on housing problems in a northern industrial town, by Dr. S. J. Clegg, Assistant M.O.H., and Mr. William Hudspeth, Chief Inspector of Nuisances, Newcastle-upon-Tyne.

St. Andrew's Hospital, Dollis Hill, which was opened by the Lord Mayor and Sheriffs on September 26th, at present provides accommodation for 50 patients, but the number of beds will eventually be raised to 100. A French Roman Catholic lady placed a sum of money at the disposal of Cardinal Bourne for the erection of the hospital, but there is at present a debt of £10,000 upon it. An inclusive charge of 2½ guineas a week will be made. The hospital was described in the Journal of November 30th, 1912, p. 1574.

An evening performance for the joint benefit of Charing Cross and the French hospitals is to take place at the Coliseum on Saturday, October 11th, in the presence of the King and Queen. The large number of distinguished artists who have agreed to contribute items to the programme includes Madame Sarah Bernhardt and Miss Ellen Terry. Sir Alexander Mackenzie will conduct his overture, "Britannia," and Sir Henry Wood the "Marseillaise," with which the performance will conclude.

The clinical lectures and demonstrations for the winter term at the National Hospital for the Paralysed and Epileptic, Queen Square, W.C., will begin on Tuesday next, October 7th, when Dr. Gordon Holmes will give the first of two lectures on regional diagnosis. Other lectures of the course, which will continue at 3.30 p.m. on Tuesdays and Fridays until December 12th, will be given by Drs. James Collier, Frederick Batten, Aldren Turner, James Taylor, Farquhar Buzzard, Risien Russell, Howard Tooth, Hinds Howell, Grainger Stewart, Kinneir Wilson, and Mr. Percy Sargent.

The ninth quinquennial festival of the Royal Albert Institution, Lancaster, will be celebrated on October 21st. After the annual general meeting the Countess of Derby will open the new building of the farm colony, when an address will be delivered by Mr. Arthur Hill Trevor, Commissioner in Lunacy. In the afternoon a public meeting will be held under the presidency of the Earl of Derby, and after speeches by him and Lord Richard Cavendish, Chairman of the Central Committee, addresses will be given by Sir T. Clifford Allbutt on the feeble-minded (an historical retrospect), by Sir James Crichton-Browne on the future of the Royal Albert Institution, and by Dr. C. Hubert Bond, Commissioner in Lunacy, on the after-care of the feeble-minded.

At the first meeting of the session of the Medical Society of London, at 8.30 p.m. on Monday, October 13th, the incoming President (Sir David Ferrier) will deliver an opening address, and Dr. Farquhar Buzzard will read a paper on varieties of facial spasm and their treatment. At 8 p.m. on the same day a general meeting will be held for the transaction of business. A discussion on visceral complications met with in hysterectomy for fibroids and the best method of dealing with them will be introduced by Sir John Bland-Sutton on October 27th, and on November 10th Dr. J. S. Risien Russell will open a discussion on the treatment of neurasthenia. The Lettsomian lectures will be delivered in February and March by Dr. F. M. Sandwith, who has chosen dysentery as the subject for the course. The anniversary dinner of the Society will take place at the Whitehall Rooms, Hôtel Métropole, on March 4th, 1914.

As many as eighteen Chadwick lectures are in view this autumn; the first three, which dealt with the practical problems of housing reform, were delivered this week in Glasgow by Mr. W. E. Riley, the superintending architect of the London County Council. The three lectures at Bristol will be delivered by Dr. Leonard Hill, who will deal in turn with the quality of expired air and air in crowded and confined places, radiant and convected heat, and the influence of open air and exercise on health. In London Sir George Newman, as announced elsewhere, will discuss the place of the open air school in preventive medicine in three lectures; while Dr. Killick Millard, whose lectures will not be delivered until January, will consider vaccination in the light of modern experience. Military hygiene and the history of physical efficiency in the army is the general subject of the three lectures to be delivered in November at Southampton by Surgeon-General Evatt.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* British Medical Journal *alone unless the contrary be stated.*

Correspondents who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

Authors desiring reprints of their articles published in the British Medical Journal are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

Telegraphic Address.—The telegraphic address of the EDITOR of the British Medical Journal is *Aitiology, Westrand, London.* The telegraphic address of the British Medical Journal is *Articulate, Westrand, London.*

Telephone (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

E. asks for advice in the treatment of a case in which vomiting has persisted for four months after gastro-enterostomy. The patient, who brings up large quantities of bile, has been treated by soda, washing out the stomach, and sleeping propped up, but to no purpose. There is no other symptom beyond vomiting.

Floors of Operating Theatres.

A Hospital Committeeman inquires as to the best material for the construction of the floor of a hospital operating theatre. He finds mentioned in a current encyclopaedia various materials consisting of finely ground sawdust and magnesium chloride with or without an admixture of asbestos. He desires to know whether these are satisfactory, and whether they can be laid and repaired without employing highly skilled special workmen.

* The question raises an important point, and we are glad to be able to publish the following notes by a hospital superintendent of large experience. He writes: Dolomite (and other similar patent floors) costs something like 5s. a square yard. I have tried several, but none of them, in my opinion, are suitable for hospital floors. Both the laying and repairing of these materials require the employment of highly skilled workmen, and they cannot be compared with terrazzo, which costs 8s. a square yard. This is probably the best material, when properly laid, for an operating theatre; and for wards nothing can be compared with a teak floor, either laid in 3 in. boards or as parquetry.

Income Tax.

B. and G. have equal shares in the receipts of a practice, each paying certain expenses, such as motor upkeep expenses. It is asked whether the surveyor of taxes is correct in assessing them to the income tax as a firm, and, if so, how the total duty payable is to be apportioned between the partners.

*** B. and G. appear to be carrying on the practice "in common with a view to profit," and therefore must be regarded as being in partnership. The Finance Act of 1907 abolished the former right of separate assessment of partners' shares in a firm's profits, but Section 20 of that Act provides that the income of an individual partner may be "treated separately for the purpose of exemption, relief, or abatement." Accordingly it appears that the surveyor of taxes is correct in assessing the profits of the firm in one sum, but that this method of assessment must not be allowed to affect the partners' claim to relief, etc. The notice of assessment which is usually issued shortly after the assessments are made would show the total amount of abatements, children's allowances, etc., made from the firm's assessment, and Messrs. B. and G. could doubtless calculate their respective shares from that information, but the surveyor of taxes would probably furnish the full details at once if requested.

ANSWERS.

H. J. T. writes to recommend "Senex" to cleanse the mouth with Barff's boro-glyceride, as much as will lie on a sixpence, dissolved in a quarter of a tumbler of water, several times a day, and take ⅕ grain of calomel three times a day.

Scoliosis.

Dr. J. P. Bolton (Nottingham) writes: "Inquirer" will find an excellent paper on this subject in the British Medical Journal of August 30th, p. 536, by A. Mackenzie Forbes.

LETTERS, NOTES, ETC.

HARVEIAN SOCIETY MINUTE BOOKS.

DR. G. DE B. TURTLE, Secretary of the Harveian Society of London, 81, Cambridge Terrace, Hyde Park, W., writes that he is endeavouring to trace the minute books of the council of the society from 1852 to 1878 and the minute books of proceedings from 1873 to 1889. He will be glad to receive any information from any past officer or member of the society as to the whereabouts of the volumes.

HERPES AND VARICELLA.

DR. AGNES SAVILL (London) writes: Dr. Mina Dobbie has brought to my notice the case of a boy, aged 2½, who had varicella in May of this year; then in September, after a severe nervous shock, he developed a herpetic eruption, which appeared on successive days, on the right buttock and groin, the left shoulder (suprascapular and clavicular regions), the right occipital area, and slightly on the left forearm. The time elapsing between the varicella and the appearance of the herpes is, perhaps, longer than any mentioned by your previous correspondents, but is worth record.

DR. JAMES A. MILNE (Stepney) writes: I should like to add another case to those in the correspondence in the BRITISH MEDICAL JOURNAL of September 13th, 1913, suggestive of some connexion between herpes zoster and varicella. A lad, J. K., aged 20 years, was admitted to Her Majesty's Hospital (in connexion with Dr. Barnardo's Homes) with severe herpes zoster of the face and neck. On August 1st (that is, sixteen days later) a boy, P. T., aged 5 years, in an adjoining bed, showed typical varicella. He had been in the ward for six weeks, and there had been no other case of either disease. In the cases recorded in the JOURNAL of September 13th, with the exception of one case where the two diseases were apparently contemporary, the intervals between them were fourteen days, fourteen days, thirteen days, and fifteen days. This fairly definite interval seems to suggest still further some connexion, and it, of course, corresponds with the average incubation period of varicella.

ANAPHYLAXIS AND COCAINE.

DR. H. B. BLACKBURN (London) writes: So much highly interesting matter has been written within the last year or two on the subject of anaphylaxis that the system of what is called "anti-anaphylaxis" by Professor A. Besredka may be possibly applied in the case of drugs other than the animal serums. Many years ago the drug cocaine and its hypodermic use was introduced, and—like many a new remedy—was hailed with delight by the profession, but soon it was found that it produced much heart depression and other unpleasant or dangerous symptoms, and then—again like many new remedies—it was more or less discarded. Now, to a few of my medical and dental friends I have related my experience in the hypodermic use of this drug—an opinion which I think of sufficient interest to publish. I had been troubled with ingrowing toenail from ever since I could remember. One day, about twenty years ago, when it had been for some days giving me much pain through kicking against something, I set myself thinking what could be done to bring about a permanent cure. Having finished my day's work, I got a good light, lighted my pipe, and injected cocaine; I soon became faint. I lay down until the faintness had passed off, injected more cocaine until the toe was perfectly insensible, *with not the least return of faintness*. I then cut down through the middle of the nail, and again about a quarter of an inch from its edge, making each incision well beyond the matrix, then dissected off the nail from the tissues under it, and above it at the root, dissected out the matrix and sutured with horsehair, having to renew the injection. Next day I was walking and cycling as usual, and the cure is permanent. I have done the same operation for others several times since, and always with success. But my point is chiefly this—that I reasoned on the action of cocaine, and, having reasoned, experimented on myself, and, for operative purposes, on others, and I have found that many times the ordinary dose may be injected if only a small one be given at first. If, as often happens, the patient becomes faint, lay him down to recover, and then you may go on injecting as often as necessary, and this without fear. I gave myself one evening 4 grains in two hours, feeling just as usual after the first faintness, except for an unpleasant flow of saliva. Now cocaine and other more or less similar drugs, and, I believe, a synthetic cocaine, are employed. Personally I have no experience of them, being satisfied with cocaine, which I regard as quite safe if used as indicated. I have so used it many hundreds of times without seeing more than the first faintness, which is common. I formerly explained this phenomenon by assuming that cocaine is a heart-depressant only at first. Now I ask, can this be "drug anti-anaphylaxis"?

BRUSHING THE TEETH.

MR. HORACE E. H. TRACY (Bury St. Edmunds) writes: The question of the advisability of giving children toothbrushes raised by Dr. Dobell in the JOURNAL of August 30th, is one of very great importance to the future health of the individual, and one on which authorities are apt to differ. But very few will agree with the assumption that caries, as a general rule, commences in those parts not shielded with enamel. The commonest type, particularly in children, is the interstitial, beginning at the spots where adjacent teeth, in billiard parlance, "kiss." Nature has, as a matter of fact, increased the thickness of enamel at this vulnerable spot. The problem of what to do for the best in children is complicated by the presence of the wonderful acid-resisting membrane which surrounds the newly erupted tooth, and is obviously, I think, intended to shield the teeth through the milk era. Now I quite agree with Dr. Dobell that tooth brushing as carried out by the usual individual never does anything to check this interstitial caries. But so long as we persist in our various errors of diet so long will we depend upon this valuable adjunct, properly used, to ward off caries. The brush should be used with a nearly circular movement, so that the hairs will run up one interdental space, sweep round the neck of the tooth parallel to the semicircular margin of the gum and return down the next interdental space. My own belief is that, as long as we continue to consume sticky biscuits, sweets, and meats cooked to rags in boilerettes, etc., we should teach all children about the age of 2½ to 3 years, according to their intelligence, to use a dense yet soft toothbrush according to the foregoing principles. At the same time one must remember that one sees many mouths that have never known a toothbrush in a perfectly healthy condition through the "antiquated" dietary habits of the owner.

DENS writes: I would venture to suggest that Nature intended the forefinger to be used as a toothbrush. No brush with a rigid handle can possibly reach parts which can be reached with the finger. Even if the handle were jointed it would lack the adaptive mechanism of the digital muscles. With the finger not only the outside but the inside of the teeth and the gums, the sulci between the jaws and the cheeks, the roof and the floor of the mouth can all be reached and rubbed with ease and without harm, the rugae of the digital skin providing sufficient abrasion but no scratching.

COINCIDENCE OR TELEPATHY?

DR. FRED. PHILLIPS (House-Surgeon, Durham County Hospital) writes: The following instance of telepathy, or, as some may regard it, extraordinary coincidence, may be deemed of sufficient interest to merit publication. A married woman, Mrs. D., aged 35, was admitted to the Durham County Hospital on July 24th, 1913, suffering from tuberculous peritonitis. She was perfectly at ease, both mentally and physically, for the first four days after her admission, but on the afternoon of the fifth day, July 29th, about 4 p.m., she was noticed to be weeping. When questioned as to the cause of her sudden mental depression, she merely stated that she wished to home, and, in fact, was bent on going home, as she "felt something had gone wrong." At 5 p.m. her husband, a miner, was admitted moribund to this institution, having been buried beneath a quantity of stone and coal; he died about 9.30 p.m. At the time of his admission it was thought advisable, having regard to his wife's serious condition, to withhold the news from her for the time being, and as death ensued so late in the evening, it was decided, in order not to disturb her night's rest, not to inform her till the morrow morning, July 30th. The nursing staff was strictly enjoined to this effect, and I can vouch for their having faithfully observed the injunction. At 10 p.m., her husband being by this time a corpse, she was still depressed and disinclined to sleep; there being nothing more in her mind to account for this depression than this ill-defined "feeling of something having gone wrong." Thinking that she might, despite precautions, have got news of her husband's accident and death, I asked her whether she had received any bad news or whether anything had happened during the day to disturb her peace of mind; to this she replied in the negative, and shortly afterwards fell to sleep and had a good night's rest. A further detail of the case is not, perhaps, without interest. On the following morning, July 30th, the sad news was gently broken to her, and on July 31st, in deference to her oft-repeated and urgent entreaties to see her husband's body before its removal, permission was granted. She was wheeled down to the mortuary, and within an hour and a half of her return to the ward she developed hemiplegia, with which she died comatose three days later; necropsy showed this to be due to an extensive cerebral haemorrhage.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

The Science Committee

OF THE

British Medical Association.

THE ACTION OF STROPHANTHIN UPON THE CARDIAC TISSUE.

By A. J. CLARK, M.B.Cantab., M.R.C.P.Lond.,
RESEARCH SCHOLAR.
(From the Pharmacological Laboratory, University College, London.)

Strophanthin has a very markedly specific action upon cardiac tissue, and this is shown by the drug, when injected into an intact frog, stopping the heart in systole, before any other organs are affected. The same specific action can be demonstrated upon the isolated tissues of the frog, the heart being killed by concentrations that are too low to produce any effect upon other tissues.[3]

This selective action might be due to strophanthin entering into chemical combination with some constituent of heart muscle. The isolated hearts of frogs and mammals, therefore, were perfused to see if the heart tissue retained the drug; but in no case was there any certain evidence of the drug being either retained or destroyed by the heart; in particular it was shown that the frog's heart retained less than 0.0008 mg. of strophanthin.[5] Straub had previously obtained a very similar result.[12] No strophanthin ever could be recovered from the isolated hearts of frogs or mammals after perfusion, but small quantities were demonstrated in the snake's heart after perfusion with high concentrations of strophanthin, but in all cases the concentration of strophanthin in the heart was much lower than that in the perfusion fluid.[5] There is therefore no evidence of any specific absorption of strophanthin by cardiac tissue; moreover, the quantity of strophanthin retained in the heart is so small that it appears probable, as Straub suggests, that strophanthin exerts its action upon the surface of the heart cells.

Tolerance to Strophanthin.

Certain animals show a well-marked tolerance to strophanthin, and the isolated organs of these animals were investigated to determine the cause of this tolerance. Comparative experiments made with atropine confirmed the conclusions of earlier workers, that tolerance to this drug was due to the power of the liver to absorb and destroy it,[3 4] and the same cause has been shown to account for the tolerance of certain animals to nicotine (Dixon) and morphine (Faust). The rat and the grass snake were found to show a natural tolerance to strophanthin, but the organs of these animals had no power either to absorb or to destroy the drug.[5] Hatcher[9] also showed that the intact rat, when given strophanthin, excreted the bulk of it unaltered. Gunn[8] found that the isolated heart of the rat showed a well-marked tolerance to strophanthin, and the writer found the same with the isolated heart of the grass snake.[6] The tolerance to strophanthin appears therefore to be of the nature of a tissue immunity, for the tissues upon which the drug acts are, in tolerant animals, less susceptible to the action of the drug. This variety of tolerance is rare, for in most cases tolerance is due to defensive mechanisms, which prevent the drug from reaching the tissues upon which it acts, and in such cases these tissues upon which the drug acts are equally susceptible in tolerant and non-tolerant animals.

The action of strophanthin, therefore, is extremely specific, for it acts only on cardiac tissue, and the intensity of its action upon this tissue varies greatly in different animals. It has also been shown that little, if any, of the drug enters the heart cells, and that therefore it probably acts upon the surface of the cells.

The Relation between the Action of Strophanthin and the Action of Certain Ions upon the Heart.

The action of strophanthin was found to show a resemblance to the action of alkalis upon the heart.

The snake's heart was more tolerant than the frog's heart to strophanthin, and also to the action of acids and alkalis,[6] but both hearts were affected equally by other systole-producing agencies (barium and saponin). Moreover, the action of strophanthin upon the frog's heart was found to resemble that of alkali in many respects. Therefore the effect of alterations in the ionic content of Ringer's fluid upon the frog's heart was investigated in order to compare these with the effect produced by strophanthin.

Action of Ions upon the Frog's Heart.

The following summary is based upon the work of Mines,[11] and on certain unpublished results obtained by the writer. The heart's activities can be considered most conveniently under the two aspects—the conduction of excitation and the contractile process; and both of these processes are nearly at an optimum in a fresh heart perfused with normal Ringer. Both the rate of conduction and the rate and force of contraction are reduced by the following changes—namely, an increase in the acidity, or in the potassium or the sodium content of Ringer, or by a decrease in the calcium content; and these may be termed depressant changes. The reverse changes—namely, increase in the alkalinity, or a decrease in the potassium or sodium content, or an increase in the calcium content of Ringer—may be termed stimulant changes; they produce, however, little beneficial effect either upon the rate of conduction or the force of contraction in the fresh heart.

When a heart was exhausted by prolonged perfusion with Ringer (hypodynamic heart), then stimulant changes produced a well-marked increase in the force of contraction, but did not improve the rate of conduction, although this was greatly below the normal in the hypodynamic heart. The depressant changes impaired both the rate of conduction and the force of contraction more markedly in the hypodynamic than in the fresh heart. The difference in the action of ions upon conduction and contraction is of interest, and Mines has shown that a lack of calcium diminishes the force of contraction of the heart much more rapidly than the rate of conduction of the electrical wave of excitation; he concludes that the two processes may vary independently, and that the function of calcium is much more intimately associated with the contractile process than with the process of conduction.

The cause of the hypodynamic state next was investigated, and it was found that the heart during perfusion lost a lipoid-like substance, and that the addition of lipoids, or soaps of the higher fatty acids, produced a very marked beneficial effect upon both the rate of conduction and the force of contraction in the hypodynamic heart. From these facts it was concluded that the hypodynamic state was due to a loss of lipoids, and that the activity of the heart was dependent upon the presence of calcium and lipoid, probably in the form of an insoluble compound, at the surface of the heart cells.

Action of Strophanthin.

The action of strophanthin upon the heart is represented by Figs. 1 and 2 (p. 898). The action can be divided into two stages—a first or therapeutic stage, in which the force of contraction of the auricle, and to a less extent that of the ventricle, are increased, and a second or toxic stage, in which the force of contraction is diminished, the rate of conduction is impaired, and the diastolic relaxation is imperfect. The action of strophanthin upon the hypodynamic heart is shown in Fig. 3, and it will be seen that the increase in the force of the ventricular contraction is much greater than in the fresh heart; this difference suggests a possible parallel to the difference in the action of cardiac glucosides upon the healthy heart and the diseased heart in mammals.

The Action of Strophanthin when the Ionic Content of Ringer is Altered.

The effect of various alterations in the ionic content of Ringer upon the action of strophanthin upon the frog's heart was investigated, and it was found that the systolic effect was opposed by the presence of acid, or by the

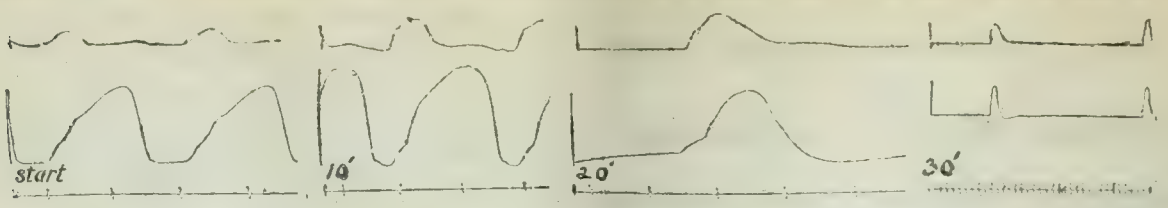


Fig. 1.—Action of strophanthin upon the recently excised frog's heart. The upper tracing shows the auricular and the lower the ventricular movements. Read from left to right. Upstroke systole. Time in seconds. (See Table I.)

TABLE I.

Time.	Rate.		Output per Beat in c.cm.	Length of a–v Interval in secs.
	Sinus.	Ventricle.		
Start ...	28	28	0.080	0.3
1 min.*				
10 ,, ...	30	30	0.090	0.33
20 ,, ...	26	13	0.077	0.4
30 ,, ...	22	8	—	—

* Strophanthin 0.0001 per cent. perfused.

hypodynamic condition, and also that systole could not occur in the absence of calcium. The writer also agrees with Straub's conclusion—that the concentration of strophanthin that will produce an impairment of conduction is lower than that required to produce a well-marked systolic action. These results will explain the so-called diastolic action of strophanthin upon the frog's

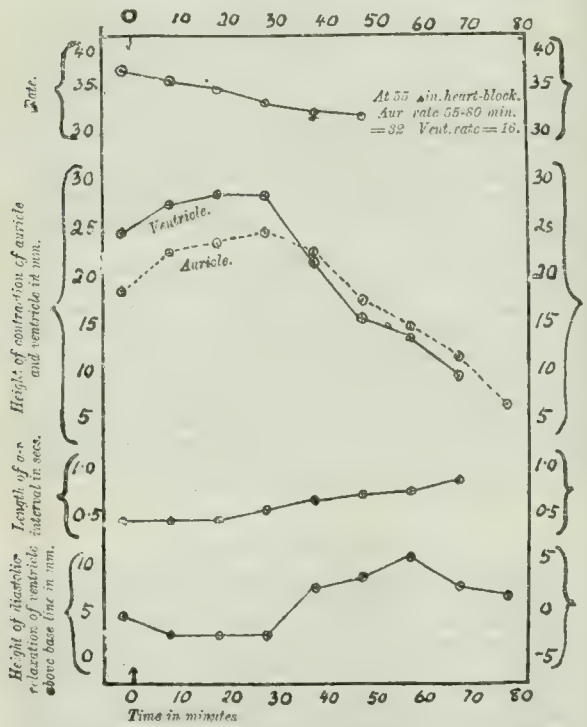


Fig. 2.—Action of strophanthin upon the freshly excised frog's heart. Strophanthin 0.0005 per cent. perfused at 1 minute.

heart described by certain writers. The writer found that the action of strophanthin in improving the force of the heart's contraction, and also in producing systole, showed a very close resemblance to the action of alkalis upon the heart.

The action of strophanthin in diminishing the rate of conduction shows no such resemblance. The experiments of H. Straub,[12] who obtained records with the electro-cardiogram of frogs' hearts poisoned with strophanthin, show that the rate of conduction of the electric wave of excitation is decreased by strophanthin, and therefore that the delay in the occurrence of the ventricular contraction is due to interference with conduction, and not to an increase in the latent period of the ventricle.

The action of strophanthin upon conduction appears to be of a different nature to its systolic action, for it occurs

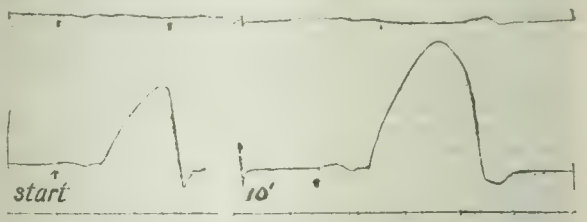


Fig. 3.—Action of strophanthin upon the hypodynamic heart of the frog. The heart has been perfused for 6 hours with Ringer's fluid. The upper tracing shows the auricular and the lower the ventricular movements. Read from left to right. Upstroke systole. Time in seconds. (See Table II.)

TABLE II.

Time.	Rate.		Output per Beat in c.cm.	Length of a–v Interval in secs.
	Auricle.	Ventricle.		
Start ...	32	16	0.10	0.8
1 min.*				
10 ,, ...	24	12	0.14	0.9

* Strophanthin 0.0001 per cent. introduced.

with lower concentrations of the drug than does the latter, and also is not antagonized by alterations in the ionic content of the Ringer.

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THE eleventh congress on medicine as a profession was recently held by Belgian doctors at Ghent under the presidency of Professor Van Duyse of Ghent and of Dr. Herman, President of the Belgian Medical Federation. A resolution was passed vehemently repudiating the notion of the socialization of medicine in the name of the independence of the medical body, of the interests of science, and of the public interest. It was further resolved that there never has been opposition between the material interests of the doctor and preventive medicine, the profession having hitherto taken all the initiative in the developing of public hygiene. The congress called on all doctors concerned with the administration of public benevolence, to mutual aid societies, and to collective organizations of all kinds, as well as on isolated practitioners, to take an active part in the work of preventive medicine by making themselves the sanitary counsellors of administrations and societies. The view was expressed that in places where several doctors reside it would be convenient to create groups for the purpose of dealing with questions of general and local hygiene. These groups should keep themselves in direct and constant touch with the authorities in regard to all public questions relating to medicine—school inspection, prophylactic measures, the creation of dispensaries, and so forth. It was urged that all doctors should avoid isolated action in matters affecting the interests of the profession.

A Clinical Lecture

ON

MAXIMAL AND MINIMAL BLOOD PRESSURES AND THEIR SIGNIFICANCE.

Delivered at the Medical Graduates' College and Polyclinic,

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Within recent years and in many countries considerable interest has been taken in blood pressure. Much has been written and many sphygmomanometric instruments have been devised. For general purposes, these instruments, as I have shown in a previous paper,[1] may be grouped into two divisions, according to the main principles of their construction, the first division comprising those forms of apparatus founded upon the method of estimation of the pulse wave below the level of compression, whilst the second includes those based upon estimation of movements or oscillations of the arterial wall at the level of the compressed portion of the limb. As an example of the first group I will take an instrument of the Riva-Rocci type; as an example of the second group, the sphygmo-oscillometer of Pachon.

In any branch of experimental science not only is it advisable, but indeed essential, every now and again to call a halt in order that we may review our progress and position in the light of recent knowledge, while at the same time we assess and reassess as carefully as possible both the accuracy and extent of the groundwork upon which our superstructure rests. And it is for this very reason that I speak on this subject to-day, for, in my judgement, the greater part of the clinical work on arterial pressures hitherto attempted is founded on a basis, true so far as it goes, but which represents only a part of the whole truth.

First of all, what do people generally mean when they speak of blood pressure? In this country, when blood pressure is referred to, the radial systolic pressure registered by some or other modification of the Riva-Rocci sphygmomanometer is usually meant. Indeed, from the way in which many speak of "blood pressure," it would appear that a certain blood pressure is as characteristic of an individual as the colour of his hair or the shape of his nose. But this is not so, for although the blood pressure of a healthy individual may in general be confined within limits which possibly differ but little from those of his next-door neighbour, yet such pressure is not constant from month to month or from day to day, but from respiratory, psychical, or other causes may vary even during the time of investigation. In some subjects blood pressure is far more stable than in others, and observations over long intervals of time may approximate to an equal series, characteristic for each under like conditions. But this approximation is never absolute, for in reality blood pressure is a quantity capable of variation with each heart beat, with each change in tonus of vessel wall, with the peripheral resistance, and with the total volume of circulating blood. For an individual, in short, arterial pressure has no fixed value. It is always fluctuating and never isodynamic. Hence the maximal and minimal pressures between which arterial pressure normally varies are the important criteria which in every case we must definitely determine.

In a physiological laboratory the pressures within an opened artery form the usual subject of investigation, and, in any comparison between laboratory and clinical methods, it is necessary to bear in mind this fact, for the reason that, while such physiological methods usually record only the mean blood pressure, our clinical methods never measure the mean pressure, but either the maximum pressure (systolic), or the minimum pressure (diastolic), or both, according to the kind of instrument employed.

Those who are accustomed to work only with sphygmomanometers of the Riva-Rocci type urge that registration of the diastolic pressure is a needless refinement, and that for all practical purposes a record of the systolic pressure suffices. Further, it has even been stated that the "diastolic" pressure can have no true significance, since the pressure during diastole is continuously falling. In like manner, would it not be just as reasonable to ignore the "systolic" pressure, since during systole there is a rising pressure? In fact, such statement appears to show an entire lack of appreciation of the terms involved in practical sphygmometry, for, according to the accepted terminology, the pressure called "systolic" is that pressure which is recorded at the highest point of the systolic crest—in other words, the *maximal* pressure—while the "diastolic" is that pressure which is taken at the lowest point of the diastolic curve—in other words, the *minimal* pressure; and to intervening pressures, including the mean pressure, the terms "systolic" and "diastolic" are not without qualification applied. Pressures between the height of systole and the depth of diastole should properly be termed "interpressures," and although a knowledge of these is desirable, yet, at the same time, they should not be taken as criteria in blood pressure observations.

From the evidence which I now proceed to lay before you I think that you will agree that the above objections are mistaken ones, and that to record the maximum pressure whilst despising the minimum not only affords no indication of what the mean pressure is likely to be, but resembles attempting to solve a complicated problem of which one factor only is given. "No fact," says Janeway,[2] "regarding the blood pressure is better established than its wide range of variation in any individual. It is therefore impossible to speak of a normal value for blood pressure, but only of certain normal upper and lower limits."

Once we have succeeded in establishing the truth of this proposition, self-evident indeed but till of late unrecognized, we are confronted with another point, equally clear and direct, the importance of which in this country is only now becoming recognized, namely, the diastolic pressure. Marey[3] was the first to demonstrate as the criterion of the true diastolic pressure the external pressure at which maximum amplitude of the arterial wall becomes manifest, and the truth of this great and fundamental observation has since been verified by numerous workers. At the Annual Meeting of the British Medical Association in 1911, in reference to the use of Pachon's oscillometer, I said, "Now that we are in a position to institute a comparison between the maximal and minimal pressures, it will probably be found that of the two the *diastolic* is the more important."[4] Additional experience during the past two years has served to confirm the belief that I then expressed. And why do I say this? Chiefly for the reason that the diastolic pressure is a charge which the arteries must constantly bear, and from which they cannot escape. There is no point below which the *minimal* pressure can fall. The diastolic pressure, therefore, is a constant charge, whilst the systolic pressure represents only an intermittent supercharge.

Now let us examine in greater detail what is meant by the kind of statement so frequently made that a given blood pressure is found to be, say, 120 mm. Hg. This is usually taken to indicate that a distensile bag with outer non-elastic cuff has been placed around the arm above the elbow, and that air has been pumped into the bag until the pressure within it has been raised to height sufficient to obliterate the pulse at the wrist. The pressure in the bag is given either by a mercurial or aneroid manometer, and, in the example just given, the observer assumes that the pulse becomes extinguished when the manometer reading is 120 mm. Hg.

What has actually been recorded is simply the fact that in a given individual at a particular moment a pressure of 120 mm. had to be applied around the arm in order to cause the pulse at the wrist to disappear. From other evidence, the nature of which I need not now enter upon, it is assumed that this pressure is equal to the systolic pressure in the radial artery. Were the arteries rigid tubes like gas or water pipes, and were the blood a stationary fluid whose pressure was not constantly fluctuating on account of the beat of the heart between a systolic maximum and a diastolic minimum, by the ordinary laws of hydrostatics the pressure would undoubtedly be the same at every point. But the blood has dynamic energy,

it is in constant movement, and the arteries are not rigid tubes which serve merely as conduits, but being themselves extremely distensile and elastic tubes exert a powerful influence upon the blood flow. We all know that in the arteries the pressure is high and intermittent, while in the veins the pressure is low and continuous. The intermittent flow in the arteries when passing through the capillaries is broken down into a continuous flow in the veins. Where does this breaking down occur? Are we to assume that the systolic pressure is the same from the aorta through the brachial into the radial artery, and that it is not until the blood stream arrives at the capillary area or just before the capillary area that the intermittent pressure is broken down into a continuous one in the veins? Or, alternatively, is the pressure being continuously broken down by the arteries throughout the whole of the course from aorta to capillaries? If the latter be the true explanation, the systolic pressure should be higher in the aorta than in the brachial, higher in the brachial than in the radial, and so on. Accordingly we should speak, not of *the* systolic pressure, but of the brachial, radial, femoral, etc., systolic pressure, as the case may be. What really happens with the Riva-Rocci type of instrument is that the observer compresses one artery, the brachial in the arm, whilst he takes as the systolic pressure the disappearance (or return) of the pulse in another artery, the radial in the forearm. Quite apart from disadvantages due to personal differences in tactile sensibility, inertia of the mercury column, etc., the fact is that the compression is exercised, not at a point which coincides with that at which the pulse is felt to disappear (or return), but at a different level altogether, and I can easily show you that when the pulse has already disappeared in the radial artery the brachial artery still shows ample pulsations.

Leaving this point for a moment, from another aspect I wish to direct your attention to the inadequacy of considering the systolic reading alone. Supposing the interval between the top of the systolic crest of the pressure wave and the bottom of the diastolic notch were always the same, it would not matter which reading we took, and we might then safely rely on systolic pressures alone. As it is, however, merely to state this assumption is sufficient to show its falsity. We all know that the size of the pulse—the amplitude of the pulse curve—varies enormously in different individuals, and indeed in the same individual at different times. In other words, the relation between the systolic maximum and the diastolic minimum varies. Let me give you a suppositious illustration: In one man the systolic pressure in the radial artery is 140 and the diastolic pressure is 80; in another the systolic is 120 and the diastolic is 100. Which of the two has the higher blood pressure? In which is the artery undergoing the greater strain? If we are content to record systolic pressures alone, unquestionably we should say that the man with a systolic pressure of 140 ran the graver risk. If we regard the diastolic alone, we should say that the artery of the second individual was exposed to the greater strain, but if we take the arithmetical mean, assuming for the sake of argument that the mean figure between the two extremes represents the mean pressure, we see that the strain is equal in the two cases. Now, as a result of investigations extending over some considerable time, I have found in many cases, and especially in aortic regurgitation which affords some of the best and most striking examples, that an abnormally high systolic pressure is accompanied by an abnormally low diastolic pressure. Hence to record systolic pressures alone is fallacious and misleading.

Let me give you as illustrations two actual cases:

A certain patient of mine suffering from aortic regurgitation gave as his systolic pressure 210 mm. Hg. Another man—a case of granular kidney—gave a systolic pressure of 180. Had I regarded the systolic pressures alone I should have said that the aortic case had the higher blood pressure, and that his arteries were in a condition of greater stress than those of the man with granular kidney. But a record of the diastolic pressure in each case put an entirely different construction on the matter. The diastolic pressure of the aortic case was 70 mm. Hg, whilst that of the renal case was 140—that is to say, the renal case had his arteries constantly kept on the stretch by a minimal pressure of 140, which during systole rose to 180; whilst in the aortic case the diastolic pressure was only half this amount, and it was solely during the brief interval of time represented by the upper part of the sharp systolic peak that the pressure reached a notable elevation. During diastole the arteries were far less stretched than normal. Various other considerations have convinced me of the futility of taking only the systolic pressure, which I do not propose to enter into here, as I think enough has been said to show that any argument based upon systolic readings alone must be received with the very greatest caution.

If under pathological conditions the interval between the systolic maximum and the diastolic minimum can vary to degrees even more extreme than shown by the cases I have just cited, the question naturally arises, May there not be from time to time physiological variations in the same individual? Is it not possible, for instance, that the systolic pressure may rise and the diastolic fall, so that while the mean pressure remains constant, either a systolic or diastolic reading, if considered separately, would show a variation in pressure? What I regard as an extremely important contribution to our knowledge of the subject has recently been made in a paper read before the Royal Society by Dr. Russell Wells and Professor Leonard Hill[5] on the influence of the resilience of the arterial wall on blood pressure and on the pulse curve. It is possible that I am attaching more importance to this than it deserves, since I am partly responsible for the work on which it is based, and shall shortly, in conjunction with others, publish this evidence in full, so that it can be criticized and confirmed or refuted. Nevertheless, as I personally believe it to be true, I feel it only right in discussing this subject to give you the outlines of the view in question.

Up to the present time it has been assumed that arterial elasticity is a fixed quantity for each artery, and does not vary. The suggestion is now made that the arteries have the power of becoming more or less rigid, less or more resilient from time to time under the influence of the nervous system, or from other causes. In order to be clear, perhaps it would be well to explain my meaning at greater length, and if I seem to some of you to be talking rather elementary physiology, I trust that you will forgive me, as I find it rather difficult adequately to explain this idea without some simple illustrations. The word "resilience" is used to express the ease with which an elastic tube distends with a rise and recoils with a fall in pressure of the contained fluid. In this sense a glass tube possesses no resilience. A rubber tube with a wall 0.2 mm. thick is more resilient than one with a wall 0.4 mm. thick. The thinner, more resilient tube yields with a rise and recoils with a fall of pressure to a greater extent than does the harder and thicker-walled one. If the arteries were rigid tubes, and if the systolic pressure generated at each beat of the heart were, say, 140 mm. Hg in the aorta and the diastolic 60, both systolic and diastolic pressures would be constant throughout the arterial system and at the threshold of the capillary area. But the arteries are not rigid tubes; they are resilient, and consequently their walls become distended during systole and recoil during diastole. Hence, further down the arterial tree we shall find the systolic pressure lowered, say, to 130 mm. Hg, and the diastolic raised, say, to 70. Were the resilience of the different arteries a fixed quantity for each, the amount by which the systolic pressure would have fallen and to which the diastolic would have been raised would be always the same for the same pressure differences at the heart. But the vasomotor tonus is constantly changing in various portions of the arterial system so as to meet the local requirements, and if for any reason a particular artery becomes more resilient, the systolic pressure within that artery will be further reduced and the diastolic more raised.

Even this assumption, however, is not unchallenged, for Russell[6] of Edinburgh declares that some of the pressure in the sphygmomanometer bag is used up in overcoming the resistance of the vessel wall. According to him, therefore, the systolic pressure in the radial artery in our example would be 120 minus x mm., x being the amount required to cause the vessel wall to collapse. Others, again, have maintained that x is a negligible quantity, and that 120 would really represent the radial systolic pressure. I am not at present concerned in discussing this

point or the other assumptions that underlie the statement that the method I have outlined gives the true systolic pressure in the radial artery. I do, however, wish to point out that all that can be asserted is that the systolic pressure was 120 mm. in the artery observed at the moment of observation.

From the fact that in healthy young adults in the recumbent posture the systolic pressure in the posterior tibial artery is found to be about the same as in the radial when similarly measured, there seems to have arisen a supposition, tacit perhaps rather than avowed, that the systolic pressure in all the arteries of the body would be much the same. This is a very large supposition, and, as I believe, an erroneous one.

Having already demonstrated that a record of systolic pressure is of slight value in the absence of a simultaneous record of diastolic pressure, we next have to ask, What are the instruments which afford the information that we seek? Instruments recording both pressures are few in number, and of these the best are the sphygmomanometer of Erlanger and the sphygmo-oscillometer of Pachon. For graphic records of physiological blood pressure in suitable cases Erlanger's apparatus has considerable utility. In clinical medicine, nevertheless, its employment is contra-indicated, since it is too complicated, cumbersome, and expensive for purposes other than those of the laboratory.

No such objections apply to Pachon's sphygmo-oscillometer, which is less expensive, easily portable, and simple in application. Moreover, if properly used, it eliminates the personal equation, so that, having now used this instrument for upwards of three years, and having tested it against a large number of other apparatus, I am able to say that with it I have obtained very useful clinical results. By this I do not mean to say that I consider it a perfect instrument, but it is certainly quite a good one, and both in private work and in hospital I use it in preference to any other. One minute only is required for an observation, which, however, I always repeat for the sake of accuracy, and at the end of this short time one has a complete record of maximal pressure, minimal pressure, and amplitude of pulse wave.

In stating that the Pachon sphygmo-oscillometer gives a record of maximal and minimal pressures, I do not say that even these figures represent the real blood pressures of the case under observation. More investigation on this point is required than I have yet been able to make. The salient fact is that both pressures are obtained simultaneously by the use of the *same* method, and that these are relative one to the other, thus affording exceedingly valuable clinical comparisons over large numbers of cases. It is of no avail to measure one pressure by a mercurial manometer, for example, and another by the method of oscillations, for readings of the systolic pressure by one method and of the diastolic by another method totally different in principle fail to give results which are sufficiently accurate to be comparable with advantage. In fine, my opinion is that an absolutely satisfactory means of recording at the bedside the various blood pressure data has yet to be discovered.

To a future occasion I must leave the remarks which I had hoped to make on readings taken in the manner I have described as guides to prognosis and treatment. It has been denied that blood pressure records can give any useful indications in these respects; but, again, this pronouncement has been made from consideration of systolic apart from diastolic pressures. Personally, I may say that I often find readings taken at frequent intervals of considerable assistance when considered in conjunction with the other available physical signs and symptoms. For instance, if in a case of arterio-sclerosis both pressures are rising in spite of treatment, the import of this is unfavourable. In a patient of mine, a lady aged 65, the subject of hypertrophy of the left ventricle, generalized arterio-sclerosis, and some chronic interstitial nephritis, the arterial blood pressures, systolic and diastolic, have been throughout the past two years very high. Some nine months ago the pressures rose, and I considered her to be in danger of cerebral apoplexy. This event speedily happened, being associated with paresis of face, arm, and leg on the same side, from which now the patient has made very fair recovery, and the blood pressure has become slightly lower than the original figures. As regards treatment, the case of a schoolboy, aged 14, with well-marked double aortic disease, is of interest. On his first visit the readings were 20—2—8, the first being the systolic pressure in centimetres Hg, the last the diastolic, and the intermediate figure the amplitude of pulse wave. Three weeks later the readings were 14—0.5—7, the general condition and state of the circulatory system having correspondingly improved.

It would be easy to multiply examples of general diseases as well as of circulatory affections, but, since I hope to deal with these in a later paper, I will conclude with the recommendation that, as opportunities present themselves, you will test for yourselves the importance of registering diastolic as well as systolic pressures.

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THE IDIO-VENTRICULAR RHYTHM.

A CLINICAL CASE WITH POLYGRAPHIC RECORDS.

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The term "bradycardia" is applied correctly to those cases of infrequent heart action in which the auricles participate in the infrequency. It may be either normal or of the so-called nodal type.

In the normal bradycardia the auricular contractions bear the normal time relationship to those of the ventricular. The term "nodal bradycardia" is applied to that form in which the auricular contractions occur simultaneously with, or very slightly before or after the ventricular contractions. The case on which this paper is based may be regarded as one primarily of bradycardia, and it has some features in common with nodal bradycardia as defined. It differs, however, in this, that the polygraphic records show a regularly-recurring auricular contraction to which the ventricle fails to respond.

In cases in which the conduction of impulses is not interfered with, the idio-ventricular rhythm asserts itself, provided the period of time occupied by the rhythmic formation of impulses is less in the ventricles than in the auricles. So that a lengthening of the time of stimulus formation at the sinus, or a lessening of the time in the ventricles, or a combination of these, will produce the assumption of the idio-ventricular rhythm.

In the case of bradycardia we have, then, an essential element for the production of the idio-ventricular rhythm, provided the bradycardia is sufficiently pronounced, and the period of time occupied by stimulus formation in the ventricle is not also lengthened sufficiently to prevent the ventricular rhythm from coming into action.

A Case Illustrating Idio-ventricular Rhythm.

On December 5th, 1912, a patient came to me complaining that he was unable to continue his work because of pains in the chest, arms, and legs, and some breathlessness. He is a blacksmith by trade, aged 32 years. He has been at this trade for the last ten years, but previously to that from the age of 16 years had been employed in a coal mine. He is a small man and not of good muscular development.

There is no history of illness or injury likely to cause affection of the heart. He denies having had syphilis. He has had no attacks of fainting.

He has a troublesome cough, with some expectoration.

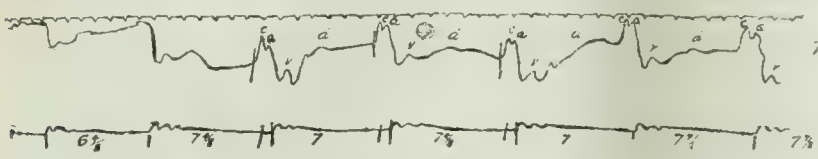
The pulse is small and at the rate of 40 per minute, and is almost regular in rhythm. There is no evidence of atheroma. The heart sounds are clear but faint, and they correspond to the beats of the radial pulse.

The lungs are emphysematous, which prevents the size of the heart being determined. There are no signs in the lungs to account for the cough. There is some tenderness and increased muscular resistance in the region of the liver.

There is no oedema of the extremities or other signs of heart failure other than those mentioned.

The urine does not contain albumin.

On December 5th, 10th, and 16th tracings similar to that shown in the figure were taken. In the venous curve of the figure the *a* and *c* waves occur almost simultaneously, resulting in a rise with two peaks. Measurement shows that the first of the two peaks is due to systole of the ventricle, and it is probable that the second is due to auricular contraction, though it must not be lost sight of that it may be due to instrumental error. The whole wave is, however, too broad to be entirely due to ventricular contraction. The combined wave causes a large excursion of the recording pen, especially when compared with the radial pulse wave. This is usual in cases when the *a* and *c* waves fall together. It was



difficult to obtain a record of the radial pulse wave at all, as the wave was so feeble. These larger elevations due to the *a* and *c* waves follow at regular intervals, and are succeeded by smaller waves, *v*, which measurement shows are due to filling of the auricle, the fall of the wave being coincident in time with the opening of the auriculo-ventricular valves. Following the *v* waves is in many instances a sharp though small rise in the tracing, followed by a very small fall. This small wave is most likely due to the closing of the auriculo-ventricular valves, due to the inrush of blood into the ventricle (the *b* wave of Gibson). After this wave comes another (marked *a'*) not very pronounced, but which is nevertheless distinct and frequently present.

A great deal of the interest of these tracings centres upon the interpretation of this wave. It recurs with sufficient constancy and distinctness to render it unlikely that it is due to instrumental error or manipulation.

It occurs at a point on the tracing subsequent to the time when the pressure in the veins having risen on account of the auricle filling, giving rise to the wave marked *v*, and the pressure having fallen due to the opening of the auriculo-ventricular valves in consequence of the ventricular diastole having begun, the pressure in the auricles again rises on account of the continued inflow of blood into them. It occurs, in fact, when the ventricle is in diastole, and is filling with blood. This raises the presumption that it is due to auricular contraction.

If it were due to the continued passive filling of the ventricle, auricle, and veins, the rise in the wave might be expected to continue to occur until the occurrence of the sudden rise of the curve due to the following ventricular contraction. There is, however, a very definite fall of pressure, as indicated by the descent of the wave, which seems to indicate the relaxation of the auricle after its contraction.

It bears a very constant relation to the preceding ventricular and auricular contractions; moreover, the period from *a* to *a'* is about three-fifths of a second, and that from *a'* to the succeeding *c* is about four-fifths of a second. The former period is very constant; the latter varies somewhat. Now, whether *a* (in the wave *c a*) is due to an auricular contraction from a normally produced stimulus or to a retrograde stimulus from ventricular contraction causing an auricular contraction, which at the same time abolishes the normally produced stimulus material at the sinus, *a'* should follow it after a period a little longer than from *a'* to *c*, because *c* occurs before the normally produced stimulus can produce the auricular contraction causing *a*, unless there is a sinus arrhythmia of alternately long and short periods of a very regular character—that is to say, an auricular bigeminy—the second auricular contraction of the bigeminy not being followed by a ventricular contraction. Another explanation of the bigeminy is that the wave *a'* is due to a heterogenetic auricular contraction or extrasystole, its constant time relationship to the preceding contractions of ventricle and auricle being due to there being some causal connexion between them. The question, then, arises, Is the bigeminy of the auricle due to a sinus arrhythmia, or is it due to auricular extrasystole? The auricular contraction producing *a* in *a c* is due to retrograde stimulation, and is not due to sinus stimulation, and the reason for this is the constant time relation between *a* and *c*. If *a* and *c* were due to stimuli arising quite independently—namely, *c* from an idio-ventricular stimulus formation and *a* from a stimulus arising at the sinus—it is not likely that they would bear such a constant time relationship to one another as they do, over a period of days at least.

If, then, *a* in *c a* is not due to sinus stimulation, it is unlikely that *a'* will be either, and for a like reason—namely, that if it arose from a cause entirely separated from that of *a* in *c a*, it would not be likely to bear such a constant time relation to it over so long a time. On the other hand, if it is due to an extrasystole of the auricle, its constant time relation to *a* in *c a* is reasonable. The possibility of the wave *a'* being due to variations of pressure in the auricle due to passive movements of the ventricle and auriculo-ventricular valves caused by the onflow of blood from the veins, cannot be altogether dismissed, the length of time occupied by ventricular diastole accounting for the fact that the waves due to the variations of pressure are so noticeable. If this is so, the sequence of events is as follows: At *v* the pressure falls due to the opening of the auriculo-ventricular valves, after which there is a sudden rise in pressure in the ventricle causing a closure of the valves producing the short wave occasionally distinctly seen just before *a'*; *a'* is produced by the continuance of the filling of the auricle, and the fall represented by its descending limb is due to a second opening of the valves. On the whole, I think it must be admitted that the wave *a'* is not due to variations of pressure due to passive movements of the ventricle and auriculo-ventricular valves. The pressure needed to open the valves under these conditions must be very slight, and could not be sufficient to cause a wave such as *a'* represents in the venous pulse. The assumption that it is due to an auricular contraction offers an explanation of the constant time relationship which the wave *a'* bears to the previous *c a* wave, if the mechanism of a bigeminal action due to premature or extrasystolic contraction of the auricle be accepted.

The outstanding feature of the polygraphic tracing is the infrequency of the radial pulse.

What is the explanation of this infrequent pulse-rate? The commonest cause of a pulse beating at the rate of 40 to the minute, or thereabouts, is the occurrence of an extrasystole succeeding each normal beat, the ventricular contractions of the extrasystole being too feeble to send the pulse-wave to the wrist, or that the extrasystole arises in the auricle and the passage of the impulse to the ventricle is blocked.

Another explanation to be offered is that the case is one of heart-block, either complete, or in which every other impulse is blocked at the auriculo-ventricular junction. It may be advanced as an explanation that a stimulus normally produced, and giving rise to the wave at *a'*, is so long delayed by impaired conduction that the ventricular contraction resulting from it does not take place until a very short interval of time before the succeeding auricular contraction. If this is so the *a–c* interval is an extraordinarily long one, namely, about $\frac{3}{5}$ to $\frac{4}{5}$ of a second. The normal *a–c* interval is from $\frac{1}{10}$ to $\frac{2}{10}$, and pathologically the longest recorded is about $\frac{3}{5}$ (Lewis). Complete heart-block is unlikely, though by no means impossible, with a pulse frequency of 40 to the minute. It is also unlikely on account of the general condition of the patient, and the fact that there have been no fainting attacks. To suppose that it is due to complete heart-block is to assume that, although the auricle and ventricle are beating independently, the ventricular contraction happens to fall every time at an alternate auricular contraction, which is to assume the occurrence of a too great coincidence. That the case is not one of true bigeminy, as defined by Professor Wenckebach, is obvious from the fact that the effective contraction does not originate at the sinus.

There may, however, be a bigeminal contraction of the auricle which is not followed by a ventricular systole.

The case may be classed as one of nodal bradycardia, being one of those uncommon ones in which the pulse beat is regular. If we assume that the wave a' is due to auricular contraction, and in the light of that interpretation we look for an explanation of the tracings taken on December 5th, 10th, and 16th, we see that a wave due to auricular systole, whether resulting from an impulse normally produced at the region of the sinus or in the nature of a bigeminy due to auricular extrasystole, appears in a position intermediate between those due to the ventricular contractions. But because conduction is impaired this fails to produce a ventricular contraction.

The failure of the ventricle to contract can be explained as due partly to the refractory state of the ventricle from its previous contraction, the period between the end of the ventricular systole which has occurred and the beginning of the next a' wave being 1½ fifths only. The ventricle is, however, at the time of the arrival of the impulse from the auricle in a state of diastole, and should therefore be in a condition capable of contraction. The fact that it does not occur, therefore, shows some degree of impairment of conduction or excitability of the musculature. The difficulty arises that a' is not followed by a wave due to ventricular systole on account of block, but the ventricular systole is able to produce an auricular contraction by retrograde stimulation.

At the same time it is difficult to conceive that the ventricular systole should always bear the same time relationship to auricular systole that it does, over so long a time, unless there is some direct connexion between them. What the connexion is, unless it is retrograde stimulation from ventricle to auricle, it is difficult to say. If there were such pathological changes in the junctional tissues that no stimulus could pass from auricle to ventricle, there would be complete dissociation of auricular and ventricular rhythms, and they would not bear a constant time relation to one another.

Although, however, the power of conduction is so far reduced by organic changes, or by nerve influence, as to prevent a' being followed by ventricular systole, on account of the proximity of the previous ventricular contraction, by the time the next ventricular systole occurs it may have sufficiently recovered to permit a retrograde stimulus to cause an auricular systole.

However this may be, this contraction of the auricle, not having been responded to, a spontaneous contraction of the ventricle takes place before a normally produced auricular contraction is due. As a result the wave due to the ventricular occurs before that due to the auricular contraction.

During the period following the previous ventricular contraction stimulus material has been formed in it, and the ventricular muscle has been recovering from its refractive state, the two conditions approaching a state suitable for producing a homogenetic idio-ventricular contraction. The time taken for the process to be completed normally in the ventricle is at least 7½ fifths of a second. In the present case the period between the end of the ventricular contraction and the beginning of the next is about 5½ fifths. The explanation of the fact that the sinus rhythm controls the ventricular in the normal mechanism is that the formation of stimulus material at the sinus takes place at a greater rate in it than it does elsewhere in the heart. If for any reason the idio-ventricular rhythm is not dormant, and the periods of time between the formation of stimuli in it are shorter than in the sinus, the ventricular rhythm will predominate.

In the present case the idio-ventricular rhythm is not dormant, and the rate of stimulus formation in the ventricle being more rapid than is usual, combined with the fact that no effective stimulus has reached the ventricle for so long a time, the ventricle escapes every cardiac cycle, as seen on the tracings of December 5th, 10th, and 16th.

This ventricular systole due to the escape of the ventricle causes a retrograde stimulation of the auricle to contract. The conclusion is irresistible that it is not mere chance or coincidence that the ventricular contraction should take place at about the time of the normally-produced stimulus of the auricle with such great regularity.

For this reason I conclude that a retrograde stimulation of the auricle has occurred. In this way the regularity of the rhythm is maintained and the condition is produced of the ventricular contraction, which is effective in maintaining the circulation, arising in an abnormal situation.

Tracings taken on several occasions subsequently have shown a perfectly regular pulse, though somewhat infrequent, and in all other respects normal both in regard to the venous and radial curves.

It follows, therefore, that if the degree of heart-block which resulted in the second of the bigeminal auricular contractions not being followed by a ventricular reponse was due to organic lesions in the tissues of the heart responsible for the conduction of impulses, those lesions have been removed.

Cases of heart-block have been recorded in which the block has been due to a haemorrhage from traumatism or spontaneous rupture of an atheromatous artery in the neighbourhood of the auriculo-ventricular bundle. It is conceivable that such a lesion could clear up sufficiently to allow the subsequent passage of impulses. The case discussed may have been due to haemorrhage in the bundle caused by such a condition. But this is unlikely in the absence of any history of injury, and in consideration of the patient's age and the absence of evidence of atheromatous arteries elsewhere.

The conclusions arrived at from a study of the polygraphic tracings are that the infrequency of the pulse-rate is due primarily to a relative delay in the rate of stimulus formation at the sinus. This, together with an extrasystolic contraction of the auricle not followed by a ventricular response, causes the period before effective stimulation of the ventricle coming from the normal situation to be so long that the ventricle escapes, and in turn produces auricular contraction by a retrograde stimulation, thus producing the establishment of the idio-ventricular rhythm.

FATAL PURPURA FOLLOWING SCARLET FEVER.

BY

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Relatively rarer than the mild purpura chiefly affecting the lower extremities which occurs after scarlet fever is a malignant form with extensive superficial lesions in various parts of the body. The case here reported belongs to the latter type, but is unique in the writers' experience in that the purpuric areas showed a definite inflammatory element. The inflammation was revealed not only by an undue degree of tenderness, but by marked swelling of the loose tissues, and a certain amount of induration. Early in the attack it seemed likely that the lesions would become gangrenous, but the patient died before any breaking down had occurred; also it was noticed before death that at points on the right leg and left arm the purpura was beginning to retrogress.

The patient was a boy aged 6 years, who was admitted to Plaistow Hospital with scarlet fever. There was a history of measles, chicken-pox, and whooping-cough within the two previous years; as a result, it was stated that he became anaemic, but that otherwise his health was good. There was nothing noteworthy in his family history.

At the time of admission the attack of scarlet fever was declining. The case ran the usual course, without complications, and by the end of the fifth week the patient was up, and seemed in ordinary health save for the persisting anaemia. Iron and cod-liver oil were prescribed. In the seventh week moderate tonsillitis set in. The boy's temperature rose to 100° F. He was kept in bed, and in two days the pyrexia disappeared. The tonsillitis, streptococcic in origin, also rapidly subsided. The patient, however, was not allowed up as the anaemia had slightly

increased. His blood was examined and showed merely a fall in the red cells with slight hyperleucocytosis. No enlargement of the lymphatic glands could be found, and the spleen was not palpable.

At the beginning of the eighth week, when he was about to be allowed up, a purpuric patch, 4 in. square, suddenly appeared on the outer side of the right ankle. It was dark purple, painless, but rather tender. There was no evidence of trauma. In the evening the temperature rose to 100° F., and by the following day the patch was slightly larger. Towards night similar areas developed on the extensor surfaces of both elbows. The boy moved his arms easily although not willingly. During this night and throughout the following day the blotches on the arms spread rapidly, and a fresh one was found over the inner malleolus of the left foot. The boy now became restless, but did not complain of pain except when the affected parts were touched. He refused to move himself, but often asked the nurse to change his position.

On the morning following the next day the left ear was affected. It was deep purple in colour, and very swollen and tense. From the ear the lesion extended within twenty-four hours over the whole of the left side of the face, scalp, and neck. This, the largest area, was sharply margined. During the same period a patch was noticed on the outer side of the left thigh, and in twelve hours had a diameter of 6 in.

On the morning of death the following was the patient's condition: He was markedly anaemic but, mentally clear. There was great disfigurement of the face, more particularly in the region of the orbit and mouth, the lesion being here still unilateral. Small black blebs had formed on the ear, the face, and one extremity. The contained fluid proved sterile under ordinary cultural tests. In continuity with the lips the left buccal surface was discoloured. An area about three inches in diameter was present on the extensor surface of the right elbow. Another covered the whole posterior surface of the right hand. The palm of the hand was unaffected except for a purple tingeing of the flexor lines. A fading greenish patch occupied the back of the left elbow. Another was present on the dorsal surface of the hand and first two fingers. An area on the outer side of the right ankle presented the greenish and yellowish tints of a fading bruise. This was the earliest lesion. There was a purpuric spot near the nail of the great toe. A large circular patch, 6 in. in diameter and with a very definite margin, covered the middle of the thigh on its outer side. Over the front and inside of the left foot there was an irregular reddish-purple patch with a few dark vesicles on it; a similar patch was over the patella. The skin on the trunk and abdomen was unaffected.

During the three days before death the temperature varied irregularly between 100° and 103° F., and the pulse steadily weakened. A blood count taken on the day of death gave 3,600,000 red cells and 50,000 leucocytes. A differential count yielded the following percentages: Polymorphonuclears 88 per cent., small lymphocytes 4 per cent., large lymphocytes 6 per cent., eosinophiles 2 per cent. No nucleated red cells or myelocytes were found in the films. At no time during the illness was there haemorrhage from the mucous surfaces. Unfortunately an autopsy could not be obtained.

Under the will of the late Miss Hannah Elizabeth Gartside, of Holmfirth, Yorkshire, King Edward's Hospital Fund for London, the Brompton Hospital for Consumption, St. Thomas's Hospital, and Guy's Hospital each receives a sum of £1,000.

We learn from the *Journal of the American Medical Association* that in a recent case the eighth circuit of the United States Circuit Court of Appeal affirmed the conviction of one Ackley who had sent a letter through the mails recommending a lady's syringe and sanitary powder for the purpose of preventing conception. The statute declares unlawful every article or thing . . . described in manner calculated to lead another to use it for preventing conception. The article might be of legitimate use and might not prevent conception, but would nevertheless be unlawful if calculated to lead another to use it for such purpose. British law is, we believe, silent on this subject.

ACUTE FACIAL DERMATITIS PRODUCED BY A HAIR DYE.

BY

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The use of dyes for the hair is admittedly common, but there are so few records in medical literature of accidents resulting from their application that the publication of the following illustrative case may serve a useful purpose, both as a guide to diagnosis and possibly as drawing attention to the dangerous nature of the most commonly employed chemical substances in this connexion.

A married lady, aged 48, engaged in a profession in which public platform appearances play an occasional part, came for the treatment of an acute blotchy erythema limited to the face and scalp, and associated with very acute subjective sensations of burning and itching, severe enough to interfere with sleep and prevent completely the carrying on of her daily routine. These symptoms had been present for forty-eight hours, and had gradually increased in severity. There was considerable mental excitement. The severity of the inflammation had produced oedema of the eyelids, but no vesicles or papules were evident. Although she complained of attacks of shivering and felt thoroughly ill, the temperature and pulse were both normal and the tongue only slightly furred. There was a history of three such attacks (each lasting four to five days) in the preceding eighteen months; she had never previously had any skin trouble. Her scalp, however, had been irritable for two years, and the various lotions prescribed for this and for the acute attacks appear to have relieved without permanently curing the condition. She was quite convinced that every attack had had its origin in the scalp. An examination of this revealed only hyperaemia and a few scales, which on microscopic investigation with methylene blue proved to be sterile. The idea of a seborrhoeic basis for her complaint was therefore abandoned. The colour of the hair, a sort of matt gold, known to ladies as *blond cendré*, had not excited the suspicion of artificial tinting at first, but on the following day a cautious inquiry elicited the important admission that a "harmless" vegetable preparation had been in frequent use for the past three years. Two solutions were employed to obtain the desired tint—the first of an opaque dark brown colour, the other clear and smelling strongly of sulphuretted hydrogen. The former, on analysis, was proved to contain small quantities of a silver salt and traces of pyrogallic acid as pyrogallate; the second was a weak solution of sodium sulphate.

It is not my present purpose to discuss the nature or *rationale* of the chemical staining powers of these substances or of their interaction; but it cannot be too strongly emphasized that pyrogallic acid is an irritant to the skin of susceptible individuals. It may also produce a toxic nephritis by absorption, and its local caustic action in strong solution is often made use of for the destruction of nodules in ulcerating lupus. In weaker solutions it may initiate an irritation akin to that produced by chrysarobin, for which it was originally introduced as a substitute. The effects are most commonly seen on the hands of photographers, many of whom employ it or one of its derivatives (hydroquinone, metol, etc.) in the development of negatives. In these patients also the complaint usually is that they have been using the substance for years without any ill effects, and that they cannot understand why the dermatitis should have appeared only recently. The explanation of this fact is not clear, but may depend on the gradual production in the patient by repeated small doses of the noxious drug of the anaphylactic state, in which the very smallest quantities of it, if rubbed into a small area of the patient's skin, will produce in a few hours (twelve to twenty-four) a very marked reaction (Judassohn's test). Hair dyes may, for purposes of classification, be divided into those which produce their effects by simple staining—for example, walnut juice—and those which depend on a chemical action. To the latter and more dangerous class most of the advertised preparations belong, partly because the

general effect obtained is more striking, and partly because it is cleaner and more permanent, requiring renewal about once every three months only, as the hair grows. A member of this class is paraphenylenediamin, which produces a reddish tint and is very poisonous. Many other preparations are in vogue, the compositions of which are trade secrets, and emanate mainly from France. The great majority are chemical combinations of silver, lead, or mercury with pyrogallic and nitric acids. Potassium permanganate and hydrogen peroxide are also used, but are apparently less often the cause of acute inflammation. Their main effect is to bleach the hair.

The treatment of a "hair-dye" dermatitis is usually a simple matter, and a dilute solution of lead or aluminium acetate in water (1 in 100), frequently applied on a mask of lint with the patient reclining, is all that is required in the early stages. Zinc creams with a trace of ichthyol (mx ad ʒx) will be found soothing for the face after two or three days, when exfoliation will have begun, but they are usually not tolerated at first.

Alcohol and stimulants of all kinds are, of course, contraindicated. Aspirin is very useful. It is needless to emphasize the importance of warning the patient never to use the offending substance again, for each succeeding attack is more severe and less amenable to treatment than the last.

ON THE GENESIS OF CANCER.

BY

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Preliminary Communication.

Why does a piece of tissue transform into a fungoid mass? Such is the problem that has hitherto baffled investigation.

The only fact of any real importance established is that there exists a relation between strain on the one hand and cancer on the other. To give five examples:

Antecedent Factor.	Tissue.	Result.
1. Friction of tooth or pipe...	Tongue or lip	"Epithelioma."
2. Strain of blow	Breast	"Carcinoma."
3. Strain of blow	Bone	"Sarcoma."
4. X rays irritation	Skin	"Epithelioma."
5. Strain	Right horns of certain Indian cattle	"Epithelioma."*

* Mentioned by Dr. Bashford at the International Medical Congress, August 8th, 1913. In Cashmere the native wagons are dragged by oxen with the rope attached to the right horn, and it is usually in the right horn that cancer develops.

This simple relation is the only one definitely established up to date, namely:

Irritation or chronic mechanical strain = Cancer.

Or, to give a definite illustration, take the case of a tooth rubbing on the tongue:

Antecedent factor (chronic irritation of tooth) → Internal strain in tissue → Internal change in tissue → Cancer.

Now, in approaching this problem, there are clearly two lines of attack:

1. From the cancer side, the one usually attempted.
2. From the side of strain.

It was decided in the present research to proceed from the standpoint of strain and to investigate the effects of strain upon the normal tissues.

To effect this inquiry three things were necessary:

1. A reliable and impersonal method of estimating strain.
2. A tissue of the body that can be measured and upon which strain falls specially heavy and in excess.
3. A sufficient number of normal tissues to measure.

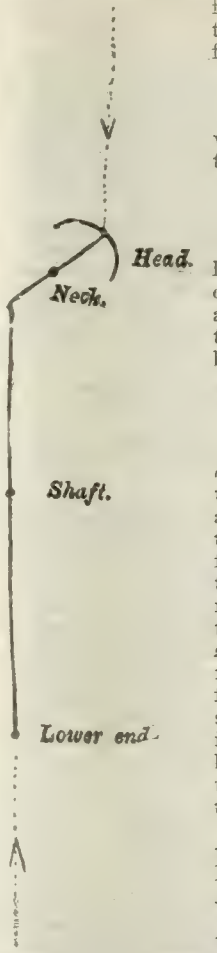
These three points were met as follows:

1. *The Internal Variability of Tissue.*—This can be measured by the usual variability figures. These depend in principle upon the extent of spread of a series of measurements to opposite sides of a mean or average value. Thus if the mean figure of 100 units reaching from 10 to 100 be 55, then obviously the spread of this series of units falling under the measurements thus:

$$\frac{10}{10} : \frac{20}{10} : \frac{30}{10} : \frac{40}{10} : \frac{50}{10} : \frac{60}{10} : \frac{70}{10} : \frac{80}{10} : \frac{90}{10} : \frac{100}{10}$$

would be greater than the spread of this series:

$$\frac{40}{25} : \frac{50}{25} : \frac{60}{25} : \frac{70}{25}$$



The variability figure can be calculated out for each of these series on the principle of finding (1) the average of a series, and (2) the deviation of a series, and dividing the one by the other:

$$\text{Variability figure} = \frac{\text{Total deviation of series.}}{\text{Average of series.}}$$

2. *The only tissues that can be accurately measured are the bones*, for they are fixed with calcium, and are thus measurable with great exactitude. The only bone where strain falls in excess is the thigh bone, for the neck of that bone has to bear not merely the vertical weight of the body, but also the oblique strain as well (see diagram). Every medical man is aware that the neck of the femur is subjected to an excess of strain: for, first, there are special internal strengthening buttresses of bone with special names, and, secondly, the bone yields and breaks readily at the neck in old age.

3. A sufficiency of normal tissues was secured through the kindness of Professor Macalister, in the ancient Egyptian bones lying at Cambridge.

Measurements.—Four measurements were done on each bone: (1) Total length; (2) narrowest at neck (where strain falls heaviest); (3) narrowest at mid-shaft (middle of bone); (4) narrowest antero-posterior measurement at lower end.

The measurements were made by Miss Scrymgeour of North Berwick; the calculations were carried out by Mr. John Dougall, mathematician, Glasgow.*

Results.

The variability figures worked out as follows:

	Length.	Neck.	Mid-shaft.	Lower End.
First 100	5.9	10.1	8.7	9.0
Second 100	3.5	11.3	7.5	7.9
Third 100	4.2	9.3	7.3	8.3
Fourth 100	5.4	9.6	8.2	8.0
Fifth 100	5.1	11.0	7.7	7.6
Sixth 100	7.8	10.2	9.7	8.9
Seventh 100	10.9	13.3	11.8	11.2
Eighth 100	6.6	10.8	9.5	8.6
Ninth 100	5.4	10.2	7.8	8.2
Tenth 100	7.5	12.9	9.7	10.0
Eleventh 100 (85)	5.6	9.0	7.2	8.2
Broken Femora.				
First 100	—	9.3	7.5	—
Second 100	—	10.2	7.7	—
Third 100	—	9.6	7.1	—
Fourth 100	—	10.4	8.1	—
Fifth 100 (80)...	—	9.8	7.8	—

* A detailed report on the research will be published in the *Glasgow Medical Journal*.

Putting the results concisely, we get the following: While the mean figure for the neck is lower than that for the shaft, its variability figure is higher.

	Mean Figure.	Variability Figure.
Neck	... 2.24	... 10.4
Shaft	... 2.28	... 8.3

These results may be regarded as an experiment of Nature carried out during the lives of some 700 Egyptians. In every hundred of the 1,600 the variability figure of the neck (the point of special strain) is higher than that of other parts of the bone. The chances against such a relation being accidental are as 65.535 to 1.

What relation has such a discovery got with the cancer problem? Simply this, that the reactive transformative changes in cancer in some cases and the reactive difference in the variability figure of this bone—the femur—are both dependent on the identical antecedent factor—mechanical strain. As already stated for the case of the tongue, the sequence in cancer is—

Mechanical strain → Internal strain → Internal change → Cancer.

The third factor—internal change—is unknown and is the heart of the cancer problem. The proposition now established for the hard tissues is—

Mechanical strain → Internal strain → Increased variability (that is, increased divergence from the mean or average towards the extreme).

As there is no reason to suppose that the hard tissues should react to mechanical strain differently from the soft tissues merely because they contain a higher percentage of calcium, it is safe to conclude that any principle of tissue transformation established for the hard tissues will also hold good for the soft—for example, the tongue. Therefore, combining the above two propositions—the one for the soft tissues, the other for the hard—we get the following:

Mechanical strain → Internal strain → Increasing divergence away from the average and towards the extreme → Cancer.

The figures above stated represent the end result of a research into the nature of the internal transformation changes of tissue. They are based upon 25,000 measurements and over 300 calculations. They establish a principle of the first magnitude in the cancer problem—namely:

> There exists a relation between the strain to which a tissue is exposed and the extent to which that tissue varies.

This principle offers a rational explanation of the transformation of normal into cancerous tissue without it being necessary to think of any external cause for cancer whatsoever—for example, parasites. The above results indicate that cancer is explainable as an internal, compensatory, and essentially physiological tissue-change. If the above results be true then cancer is not infectious.

ELECTRARGOL IN SMALL-POX.*

BY

R. DENMAN, M.R.C.S.Eng., L.S.A.,

DIRECTOR, MEDICAL AND HEALTH DEPARTMENT, MAURITIUS.

The following case is interesting not only for itself, but also for the events it led up to.

A young Mauritian creole was taken ill at the end of our last plague epidemic, early in March, 1913, and was removed to the lazaret for treatment. His case at the commencement was not normal, and twenty-four hours later he developed a rash which turned out to be small-pox. The diagnosis of plague was confirmed microscopically, and it was evident that the lad was suffering from the two diseases simultaneously.

On admission, he was given the routine treatment for plague—namely, intravenous injections of electrargol 10 c.cm. every twenty-four hours—and, as is not uncommon when the patient is treated early enough, the plague symptoms abated. It was noticed at the same time that the rash of the small-pox, which at the commencement looked as though it was going to be confluent, aborted. That on the forehead had already become papular, but got no further. The rash on the rest of the body did not become papular, and the destruction of skin was almost *nil*. The patient recovered, and was dischargod cured within a month.

On talking the matter over with the medical officer in charge (Dr. Keisler) the question as to whether the plague made the small-pox abort or the small-pox the plague, or the electrargol both, was discussed, and we decided that it was worth while to give the electrargol a trial, and as small-pox has been in an epidemic form lately, we have had plenty of opportunities for doing so. We have had over 1,500 cases in the last five months, and we have tried the electrargol treatment on about 150 of them, choosing the confluent and haemorrhagic cases and leaving the milder ones to ordinary methods. The results have been most encouraging: if cases are treated before the full development of the rash, no matter how close the papules may be, they go no further. Those that have already begun to suppurate dry up. Those that have not yet suppurated do not do so, and those that are not yet papular remain simple maculae and fade away. The secondary fever does not appear, and the case takes a favourable turn after the first injection.

Some patients refused this treatment, so that we have been able to compare treated and untreated cases. The comparison has always been in favour of the treatment. The cases submitted to it have always made a more rapid recovery, been more free from complications, and recovered with little or no disfigurement, whereas those that have refused have had prolonged convalescence, frequently severe chest, kidney, or bowel complications, and if they recovered have been badly disfigured.

Of course success could not be expected in every case, and as the most severe were chosen for treatment we have had our failures; but even in the most severe haemorrhagic or septicaemic forms we have occasionally met with success, especially if we have been able to deal with them early enough; but as these, if untreated, rarely live for thirty-six hours after the first onset of the fever, they have to be caught very early for the treatment to be of any use.

Our epidemic is not yet over, owing to the difficulty we have experienced in getting the population revaccinated. We are geographically so situated that until we began making our own lymph we had to wait a whole month before we could get help from outside; but at last we are getting the epidemic under, and I hope in a few weeks to be able to follow this with a full report giving exact figures.

We have latterly increased the dose from 10 c.cm. to 20 c.cm., with marked success, and I recommend this treatment to others who are faced with a similar epidemic, and I give the following advice: Begin treatment as early as possible, give the injection intravenously, and give it at twenty-four-hour intervals for three or four consecutive days. Intravenous injection is difficult in children in any case, and more so when the skin is covered with a confluent small-pox eruption, but the treatment should be attempted in every case, and if intravenous injection is impossible an intramuscular one may be tried, though from our experience they are not very useful.

The virus of this epidemic has been very active; the percentage of confluent and haemorrhagic cases has been high and we have had several fatal cases in second attacks. We have had one second attack semi-confluent within two years of the last, and one patient readmitted to the lazaret twice in the same epidemic, the first attack semi-confluent and the second discrete.

Our death-rate for the whole epidemic has been less than 10 per cent., and for the cases treated—namely, all the cases worse than semi-confluent—about 20 per cent. Of the untreated semi-confluent and worse cases the death-rate has been nearly 50 per cent.

* Electrargol is a liquid preparation of colloidal silver, obtained electrically, as distinguished from the older preparations which were made by chemical reduction. It contains ultra-microscopic particles of metallic Ag in suspension, forming a colloidal solution. It is rendered stable by the addition of other colloids, so that it does not agglomerate on contact with electrolytes. It may be injected into the tissues without risk of local precipitation of metal in an inactive state.—*Year-book of Pharmacy*, 1912.

EIGHTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF ELECTRO-THERAPEUTICS.

W. Deane Butcher, M.R.C.S., President.

PRESIDENT'S INTRODUCTORY REMARKS.

The President said that occupying, as electro-therapeutists did, a position at which medicine touched upon physics, it had been thought well in recent years to emphasize that position by asking a distinguished physicist to open the proceedings of the Section. On the present occasion Professor C. G. Barkla would give an address dealing with a subject on which he was the great authority in England—namely, secondary radiations.

ADDRESS ON SECONDARY X-RAY RADIATIONS IN MEDICINE.

By C. G. Barkla, M.A., D.Sc., F.R.S.,

Wheatstone Professor of Physics, University of London, King's College.

(*Abstract.*)

Professor Barkla dealt in turn with the three distinct types of secondary rays excited by the primary *x*-ray beam—namely, scattered *x* rays, fluorescent *x* rays, and corpuscular or electronic rays.

I. All substances when traversed by Roentgen radiation emitted a secondary radiation, which was of the same type and had the same penetrating power as the primary radiation itself. To this secondary radiation he applied the term "scattered." The human body when exposed to Roentgen radiations behaved like a cloud of light smoke under exposure to ordinary light. If *x*-ray tubes were used as lamps each person would appear as a semi-transparent bluish mist, with a well-defined outline. The importance of this scattered radiation was due to the fact that it frequently carried away a considerable portion of the energy of the primary radiation. Thus any *x* radiation which penetrated more than a very thin superficial layer of the body was largely scattered by the organ upon which it fell. The percentage of energy scattered might be anything from 70 upwards. The more penetrating the radiation the greater the percentage of the energy lost by scattering. Owing to this scattering the therapeutic action, if such existed, was enormously diminished, although there was some compensating gain, owing to the radiation scattered from surrounding organs being reabsorbed in the organ treated. These scattered rays had the same properties as the primary ones, and injurious action by continued exposure was possible. The danger of exposure to the scattered Roentgen radiation from heavier substances like metals was much less than from light elements, such as those which constituted the main part of the human body, because the former allowed only a comparatively feeble scattered radiation to escape through the surface.

II. The fluorescent *x* radiation was that which was emitted by substances on being traversed by the *x*-ray beam, but with a penetrating power differing from that of the exciting primary radiation. This was analogous to the fluorescent light emitted by many substances when exposed to white light or any radiation of shorter wave-length than that of the fluorescent radiation itself. Chemical combination did not affect either the quality or the intensity of the radiation emitted by a particular element, and the higher the atomic weight of an element the more penetrating—that is, the shorter the wave-length—was the radiation emitted. The emission of two definite fluorescent radiations by many elements—probably by all—complicated the phenomenon somewhat, but usually only one was sufficiently penetrating to escape through air to any considerable distance. When the human body was exposed to an ordinary beam of Roentgen radiation, the secondary radiation of this type usually played an insignificant part in the processes set up; but the discovery of this type of secondary radiation provided a means of obtaining radiators of definite penetrating power, and of accurately investigating the change in properties, therapeutic and otherwise, with the variation of penetrating power or wave-length. The amount of energy of the primary beam which was transformed into fluorescent radiation never exceeded about 40 per cent., and of this only a fraction escaped from the radiating material itself, if, for instance, it was in the form of a plate. It would, however, be quite an easy matter to obtain in this way a fluorescent *x* radiation of definite penetrating power, and of about one-twentieth of the intensity of the primary beam which produced it. If it were the soft *x* radiation characteristic of copper which it was desired to use, and the anticathode of an *x*-ray tube be made of copper, then not only would that copper emit a very intense secondary radiation characteristic of the copper, but even the directly generated primary radiation would consist largely also of radiation characteristic of copper. Mixed with the copper radiation there was, of course, a heterogeneous and more penetrating radiation, but this could be largely eliminated by absorption. By means of a number of anticathodes of various materials in one *x*-ray tube, and a simple device for moving these, so that any one might be made the anticathode, beams of practically any desired penetrating power might be generated.

III. The corpuscular or electronic radiation emitted by bodies when exposed to *x* rays, like the beta radiation from radium, consisted of negative corpuscles or electrons which were hurled out of certain atoms of the substances traversed by the primary *x* rays, with a velocity of from 40,000 to 100,000 miles per second. All the evidence tended to show that it was to this secondary radiation that must be attributed all observed physical, chemical, and therapeutic actions, with the exception, perhaps, of a slight heating effect in substances which absorbed *x* rays. When the Roentgen radiation passed through a substance for an instant only, there were liberated here and there throughout the body of that substance these rapidly-moving electrons, which wriggled about for an exceedingly short time, losing energy, and leaving behind them a trail of positively and negatively charged particles, called "ions." Thus during the transmission of the primary radiations upon the human body electrons, moving with a velocity half of that of light, were being ejected from atoms here and there, and in their flight were producing ions. The action of the electrons, therefore, was to produce a state of electrification throughout the whole of the body traversed, and it was to this state of ionization that all therapeutic action must be due. The ionization, not only of the tissues of the body, but of all the constituents, was certainly stimulating to chemical action, for this was, of course, fundamentally electrical. Professor Barkla showed photographs to demonstrate, what had previously only been suspected, that all the ionization produced in a substance by *x* radiation was due to the action of the secondary corpuscular radiation, as well as other photographs from which he gathered the inference—photographic effects being taken to correspond with therapeutic—that the therapeutic action was dependent upon the energy of the electrons actually absorbed in the organ treated, or more directly upon the number of ions produced in that organ. The essentials for the production by Roentgen radiation of any measurable effect in an organ traversed by that radiation were, first, a transformation of the energy of Roentgen radiation into energy of corpuscular radiation; and secondly, in addition, the absorption of this corpuscular radiation by the organ to be treated.

Attempts had been made to utilize the action of secondary rays by placing against the body plates or leaves of metal, so that either the Roentgen radiation after passing through a portion of the body fell on these plates, or first passed through the plate or the powdered metal. It should be remembered, however, that a layer of tissue of the

thickness only in the neighbourhood of one hundredth of a millimetre was affected by these soft rays. Similarly, in the immediate neighbourhood of the bones in the body, the flesh was exposed to a strong corpuscular radiation from these bones, and thus underwent a treatment which might be twenty or thirty times as strong as that to which the rest of the body was subject. Where heavy elements occurred in the body, these, or rather the regions immediately surrounding them, were the regions of greatest ionization. The introduction of heavy elements into the body, by injection or otherwise, so that the heavy substance was distributed in a finely divided state within the organ to be treated, meant that this element acted as a transformer, absorbing the penetrating x radiation, and re-emitting the energy in the form of corpuscular radiation which was readily absorbed by the surrounding tissue.

In conclusion Professor Barkla referred to the recently discovered fact that x rays might be partially reflected from the cleavage planes of crystals, exactly as light was reflected from a mirror. By bringing the reflected rays to a focus with a suitably curved crystalline plate, the action over a limited region might be enormously intensified.

DISCUSSION ON RADIUM AND RADIO-THERAPEUTICS, CHIEFLY IN MALIGNANT GROWTHS.

OPENING PAPERS.

I.—Sir ALFRED PEARCE GOULD, K.C.V.O., F.R.C.S.,
Senior Surgeon, and Surgeon in Charge of Cancer Out-patient Department, Middlesex Hospital.

THE USE OF GAMMA RADIATIONS IN SURGERY.

SIR ALFRED PEARCE GOULD, after stating that he proposed to limit himself to a part of the subject of which he had had some personal experience, namely, the influence of the emanations of radium upon malignant growths, proceeded:

Two great facts have emerged from the exact experimental research upon cancer which has been carried on with such great enthusiasm in this and other countries during the past few years. These are, first of all, the enormous power of growth possessed by the cancer cell; and secondly, what is an equally important fact, and one much more cheering to us poor humans, the existence in the tissues of our bodies of a power of resistance to these cancer cells—a power which can hold them in check, and which may be so considerable as to prevent altogether their development. I make no apology, therefore, for prefacing what I have to say this morning by referring to these two fundamental facts.

The power of resistance, or the "immunity reaction," as it has been called by Dr. Bashford, who has done splendid work in connexion with this subject at the Imperial Cancer Research Laboratories, is a thing which does not appeal to any of our senses; we cannot see it, and we are apt, as physicians and surgeons, to ignore it. For many years I have been in the habit of teaching my students at the hospital that this power is the surgeon's great ally. When one thinks of the enormous power of the cancer cell to multiply, and of the great ability of these cells to disseminate themselves, who of us surgeons dare say that any operative successes we obtain in the removal of cancer are entirely due to the wideness of our operations, to the skill with which they are carried out, or to any surgical procedure whatever? I shall never say otherwise than that any case of cancer which seems to have been cured by a surgical operation has really been cured as a result of the combined work of the surgeon and of the great natural power of tissue resistance.

Certain definite scientific knowledge has been obtained about the influence of radium on the cancer cell and on this resistance. First of all, we know that radium—and when I speak of radium I speak of other radio-active bodies as well—has the power of influencing cell multiplication and development. It would take too long if I were to go fully into the evidence in favour of that conclusion. It has been proved experimentally, as you well know. It has been shown that radium emanations can both stimulate and check cell growth. It is to its power of checking cell growth that I especially refer just now.

The second great fact about radium and cancer is this—that the power of radium in checking cell multiplication and growth is greater upon the cells of malignant tumours than upon the normal physiological cells of our body. It is a very difficult thing to estimate precisely that power, but Dr. Russ, who has been working at the Middlesex Hospital Cancer Research Institution, tells me that he has satisfied himself that the power of radium emanations over the life-history of a cancer cell is twenty times as great as it is over the life-history of a leucocyte. But he has obtained certain evidence of this power which carries us even a step further than that. He has found that the influence of radium emanations upon the multiplication of cells is seven times as great when applied during the actively dividing stage of the cell as when applied during the resting period. This shows that the influence of radium upon the actual life and division of a cell is something very direct, working without the intervention of any other forces. It is not the resultant of a number of co-operating forces; not the result of any link-like action of a succession of processes of metabolism, but is the direct power of the radium upon the nucleus in which the division of the cell starts. No one has yet thrown any light, so far as I know, upon the actual determining factor in the division of the nucleus and the subsequent changes accompanying cell growth. But at any rate scientific men have pushed their researches far enough to show that radium not only checks it and has a great power over it, but that it has this *direct* influence upon the multiplication of the cell, and that its action is much more intense when applied at the moment of division than when applied at the resting moments.

The next point that I wish to refer to is the influence of radium upon the immunity reaction—the resistance of the tissues to the growth and propagation of cancer. Dr. Bashford, in his latest report upon the Imperial Cancer Research Fund, has made the categorical statement that tissue reaction induced by normal tissues and by tumour tissues is—I use his words—"identical in nature." They are not merely similar, but they are actually the same. Now Dr. Russ tells me that he has shown that radium emanations can affect the immunity reaction power of tumour tissue; they can affect it to the extent of destroying it. But this effect of radium emanations is the result of larger dosage and longer influence than are necessary for the demonstration of the cell-inhibiting power. Radium, therefore, can check the growth of a cancer cell without lessening the immunity reaction of the tissue, but if pushed too far it can both kill the cancer cell and at the same time destroy the immunity reaction power of the tumour tissue. That is an observation of most fundamental importance.

It may be of interest to describe the experiments on which Dr. Russ bases that statement. He has taken a thin slice of mouse cancer and exposed it to radium emanations for an hour. On inoculating portions of the tumour thus briefly irradiated into mice he finds the results are negative—the power of self-propagation of the cancer cells has been destroyed by the radium emanations. But if mice after inoculation with portions of this irradiated tumour are inoculated with portions of other mouse cancers, the results are also negative, showing that the power of the cancer tissue to produce an immunity reaction has not been influenced by the radium. He then repeated these experiments, but exposed the slice of mouse cancer to the radium emanations for twenty-four hours. It was now found that not only had the power of growth of the cancer cells been destroyed, but its immunity-producing power was also destroyed. For mice treated with this long-irradiated cancer tissue showed no special immunity when inoculated with other mouse cancers.

Thirdly, I would venture to remind you that while this discussion is on the gamma radiations in surgery, we must not overlook the fact that the alpha, beta, and gamma radiations of radium differ—I was going to say *only* differ—in one great feature—namely, in their power of penetration. The alpha rays have hardly any penetrating power, the beta rays very little, the gamma rays very much. That is the great distinction which underlies our use of this remedy. But while these rays differ in this way, we have

alongside it the fact that the less penetrating rays are more destructive than those of greater penetration.

When we come to apply this in our practice we have to remember that in radium emanations we are dealing with an agent which has the power both of stimulating and of inhibiting cell division, and while it can destroy the power of propagation of the cancer cell, can also destroy other living cells. Happily, that power is exerted later than its power on cancer; living physiological tissues have greater power of resistance than have pathological tissues. Further, radium emanations can influence the immunity reaction of animal tissues if a larger dose is applied than is necessary to inhibit the growth of a cancer cell. It is upon these two facts that we have to base our therapeutic use of the remedy. It is evident that radium is a two-edged therapeutic agent. Granted its power of "curing" cancer, it can also burn the patient. Granted its power of checking the growth of the cancer, it can also destroy the immunity against the cancer which the animal had before. Capable of doing good, it is also capable of doing harm, and evidently we must use this remedy with special precautions.

In the first place, we must bring our radium emanations to act upon the tumour tissue as directly and as immediately as we possibly can. We must put the radium *into* the malignant growth if we are to use it not only to the most advantage in checking the growth of the cancer, but with the greatest safety as regards the patient's other tissues. That is the advantage of radium over *x* rays. When used for a perfectly superficial growth—a growth absolutely on the surface—it is doubtful whether there is any advantage in one over the other. But inasmuch as we cannot easily put potent *x* rays into a deep tissue without any risk whatever of affecting the tissues lying superficially to it, while we can do that with radium, it follows that radium has that certain superiority over *x* rays. But I want to insist that radium should be applied *into* a malignant growth, rather than on a healthy surface over a malignant growth. I have seen successes by that method, but I am convinced of this, that the real value of radium is obtained when it is put into the growth if the growth is not actually on the surface of the body, and not when it is applied to the surface in the hope that its influence will penetrate through the healthy tissues.

The second great practical point is that, radium having this power of checking the cancer cell growth at one stage, and at a later stage injuring the tissue reaction of the patient, we must be careful to use it sufficiently to influence cell growth and not enough to injure the tissue resistance or the immunity reaction of the tissues. We have got to hit the mean between one and the other, and we must be on our guard against using radium too long at a time. We must try to use it so as to get its advantage, but not for so long a time or so powerfully as to suffer the disadvantage of which it is capable. Most workers have had experience of the disastrous effects which are possible, and we know, too, that these effects may be very late in making their appearance. They tell us in Paris of a case of *x*-ray dermatitis which only appeared fourteen years after the use of the *x* rays, and of another case in which the disease appeared after three years. Such statements should make us very cautious in our use of this remedy.

Sir Alfred, in conclusion, went on to describe some of the personal experiences he had had in the use of radium. One case was that of a woman admitted to the Middlesex Hospital cancer ward with a malignant growth of the right tonsil, which interfered very much with her breathing and deglutition. He introduced into it a dose of radium on one occasion only, and the growth entirely disappeared. It was now difficult to say on which side of the fauces the disease had been. Fourteen months ago a young man came to him with a spindle-celled periosteal sarcoma of the lower end of the shaft of the femur. He cut down to it, and put in a tube of radium which he left there for twenty-four hours, and a month later he cut down upon it again, took out another piece of growth, and found that the sarcoma cells were very much degenerated. A second application of radium completed the recovery, and the man was now at work feeling quite well, and there had certainly been no growth, and the swelling was ossified.

He had under his care at the present time a young girl, also with periosteal sarcoma of the lower end of the femur, whose parents refused the ordinary surgical treatment of amputation of the limb. Three weeks ago he introduced some radium in three tubes. The case was still under treatment, but there had been diminution in the circumference of the limb already, and the patient had entirely lost her pain. It was not a case of cure, but he mentioned it as one of the clinical experiences which led him to support the laboratory view that radium emanations had the power of checking the growth of malignant tumours.

A patient came to him several weeks ago at the hospital with a scirrhous carcinoma of the right breast. It was obviously a case unsuitable for operation. He introduced a tube of radium into the lump, and the growth had almost vanished. At the same time he had treated some glands above the clavicle, and he was glad to say that these glands also had disappeared.

Another case was one of squamous epithelioma in the upper jaw with an enlarged gland in the neck. The tumour filled up the nasal fossa on the left side. A three-fold introduction of radium had entirely removed this growth. He cut out the gland in the neck, and found it was typical squamous epithelioma.

Then he had a patient whom he saw from time to time, with a large rapidly growing tumour in the right iliac fossa. He had introduced radium into that, and it had got very much smaller. In that case he had experienced one of the drawbacks of radium-therapy. He had used the radium a little in excess, and at three punctures of introduction were small sloughs, unfortunately giving considerable pain to the patient—tough, dry, immobile sloughs, which showed no tendency to separate.

A woman in his cancer ward came in with malignant disease of the ovaries. The abdomen was opened to see if it was possible to remove the growth, which proved to be completely adherent. This tumour was steadily growing, and he thought he would try the influence of radium upon it. He therefore introduced a tube for twenty-four hours. Her pain was better—he did not lay much stress upon that, because whatever one did, there was almost sure to be some response of the kind—and the tumour diminished in size quite appreciably. He repeated the dose, and it had the same happy result, and he repeated it again, but, unfortunately, soon after the third dose of radium, the wound through which he had introduced the second tube of radium ulcerated, and an intestinal fistula formed. The influence of the radium, unhappily, was not only exercised for good upon the ovarian tumour which it had checked, but it had also burnt into the adherent bowel. All further interference was stopped, and ultimately the patient died.

A woman, who had a fibro-sarcoma of the thigh removed at another hospital, came up with an enormous recurrence in the calf of the leg, and refused amputation. She had had two doses with three tubes of radium on each occasion, at about four weeks' interval. The bosses from the surface had all disappeared, and the circumference of the leg had become two inches less.

Another case was one of malignant growth in which the ovaries were removed by two operations, and then there was recurrent growth, which the surgeon attempted to remove at a third operation. The intervention was unsuccessful, and the surgeon said he could do no more. The patient happened to come and see him (Sir Alfred), when it was found that the growth had risen nearly up to the umbilicus, with glands in both groins. Through the kindness of Dr. Pinch at the Radium Institute she was treated with radium plates, and the growth had all absolutely disappeared. There was no trace of any of the tumour, and she had since enjoyed excellent health. It was a splendid tribute to the influence of radium, even when applied by means of radium plates.

My last word (said Sir Alfred) must be this: that we must speak with the greatest caution and reserve of the influence of radium as a therapeutic agent. Our knowledge — our really intimate biological knowledge — of these diseases is so incomplete. We do not know the actual cause of cancer; we do not know the actual conditions upon which its growth really depends. And, on the other hand, we are only at the threshold of our knowledge of the powers of these wonderful radio-active

bodies, of which radium stands supreme. We do know enough to say that it has perils as well as advantages, and in view of that double mist of ignorance that hangs about this subject it behoves every one, while looking forward with hope and working with enthusiasm, which is the great aid to successful work, to speak with the utmost reserve.

II.—Robert Abbe, M.D.,

Surgeon, New York Cancer Hospital; Professor of Surgery, New York Post-Graduate Medical School.

Dr. Abbe agreed with Sir Alfred Pearce Gould that the subject was full of stumbling-blocks, and that the fundamental principles had not yet been fully grasped any more than the cause of cancer had been unravelled.

We meet with a great many mishaps (Dr. Abbe continued), and these are most instructive. The suffering of the patient and our failure to cure the disease are only a stimulus for us to go on and study our failures. It is from that point of view that I can speak this morning of one fundamental principle, although it differs a little from the line of thought which Sir Alfred has initiated. Some ten years ago I began my work on radium-therapy after twenty-five years of incessant surgical work. Forget for a moment that the knife will cut out and the electric cautery will destroy tumours. In this way the patient is sometimes cured, but the disease is never cured; it is only removed. An agent which will cure the disease will be one which produces a retrograde action upon the malignant overgrowth, while it does not produce an equally potent effect upon the normal tissues surrounding it. Now we come to the consideration of the vital force which actuates the cell. When I began my study of radium I repeated most of the biological experiments, and for years I worked at the problem. The influence of radium on seeds and bulbs is most interesting. If a parcel of seeds are exposed to radium action it will soon be apparent on planting them that they have been effectually influenced, the degree of vital force which is lost after over-exposure depending on the duration and intensity of the irradiation.

I have made experiments in this direction which, I venture to think, are fundamental in their illustration of these problems. I allowed a little series of layers of oats, each layer separated by a quarter of an inch from the next, to have the radium playing upon them for a week, and then planted them carefully in rows corresponding to the distances from which each of the layers had been radiumized, together with two rows which had not been radiumized at all. These were allowed to grow for one month, at the end of which time the average height was about one foot. The two rows which had been nearest to the radium were killed. The third row, which was half an inch away, was devitalized. The fourth to the seventh rows, which had been from an inch and a half to three inches away, were most perfect in growth. These four rows had been stimulated, growing larger, thicker, and richer in colour than the rows which had not been radiumized. In the rows the seeds of which had been at four inches' distance from the radium there was again apparent a devitalizing effect, so that the nineteenth row was the poorest row of all except for the two front rows which had been destroyed. This suggests how the stimulating and depressing action of the radium can be localized. I have also tried the effect of a time and not a distance irradiation, and in this case also the same effect took place. After ten or fourteen hours' irradiation the effect was that of overgrowth, and beyond that there was a depression. If this is true it explains many cases of failure, because we have an aggravation of the growth of the cells instead of a destruction or a depression.

Both a stimulating and a retrograde action being obtainable from radium, certain logical deductions follow from the seed experiment. We may destroy a tumour by immediate contact, and beyond that there may be stimulation. But if one does not produce enough radiation of the gamma type to overcome the stimulating action of the rays of shorter range, all attempts to cure the tumour may be vitiated. If, for example, we have only given enough to carry the stimulating rays to the margin, we may produce a marginal expansion of the tumour. To secure a pure gamma radiation must be our aim.

Speaking of his personal cases, Dr. Abbe said that with gamma radiation the most striking and simple instances of cure were those of warts. There was no papilloma of any part of the body, from the typical papillomas which looked oftentimes liked cancer, which could not be cured by means of gamma rays. The laryngeal papillomas were cured to perfection. He instanced the case of a girl, 17 years of age, who lost her singing voice, and afterwards had aphonia. There were papillomas in one vocal cord, and the case was at first pronounced fibroma. Then in a few weeks came an enormous development of true papilloma, covering largely the vocal cords, with more or less loss of the power of breathing, and, of course, no voice. He tried radium upon this girl's throat, giving her an anaesthetic, and putting 100 mg. between the vocal cords, holding it there for thirty minutes. In two months the voice was normal, in four months she had the true range of scale, and now, years afterwards, her voice was as perfect as ever, and she was able to sing quite well. Another case of the same sort extended over to the adenoids. Here again the voice was lost, and this case also cleared up absolutely under radium treatment. Another patient, an elderly lady, had enormous papillomas in her larynx which had existed for years. So troublesome were they that twice a year she had to undergo an operation in order to be able to breathe. She came to him four years ago, when he applied radium, and one cord cleared up and gave no more trouble. For three years—although previously she had had to come up every six months for operation—she required nothing to be done to her; and although there were still some papillomas left, he had no doubt that if he had put in more radium the condition would have cleared up absolutely. The fact was that they were dealing with an enormous hypertrophic cell growth. It was a living cell, which by its riotous overgrowth produced a destructive tumour. Perfect phonation returned in the cases he had instanced.

Speaking of the burying of radium tubes, Dr. Abbe quoted his first case, nine years ago, of an enormous hypertrophic thyroid, in which he practised the insertion of a radium tube. That case had never shown the slightest tendency to relapse. There was in radium a subtle power to affect hypertrophic tissues of cell development. Cases of cancer behind the ear were very common, and wonderful relief was afforded by laying the radium tube upon the growth and giving from one to three or four hours' exposure. One case, of which he showed recent photographs, was treated six years ago, and the result was a perfectly smooth beautiful scar, illustrating the effect upon the tissues at the corner of the eye. A plastic operation would have involved an extensive excision. In another case of typical carcinoma he cut away all that he could and radiumized the wound for eight hours. The wound closed perfectly.

Radium had the power of curing *x* ray lesions. He showed the photographs of the hands of a gentleman who, for fifteen years, had been a maker of *x*-ray tubes. Both hands were covered with small epitheliomas caused by the rays, and these were cured by radium, which was applied for from fifteen to forty-five minutes on each one. Every one of them dropped off perfectly in one month, leaving the smooth healthy skin. The gamma radiation was spoken of as being the equivalent of the radiation from the *x*-ray tube, but it was not the same gamma radiation. He instanced a case of sarcoma of the lower eyelid, sent to him after some weeks of Roentgen-ray treatment. This yielded to radium within a few weeks, and it was not possible to say on which eyelid it had existed. Combined *x*-ray and radium treatment was promising, since gamma radiation was the factor in both agents, and the one was complementary to the other.

He showed finally a photograph of a case of giant cell sarcoma destroyed nine years ago by means of radium, and a recent photograph which testified to the enduring nature of the cure. The pain encountered in some of these cases should not be regarded in the light of a discouragement. It was due to excessive treatment. If they waited patiently they would find it subside, and then they were ready for the final cure.

III.—Francis Hernaman Johnson, M.D.,
Darlington.

ON THE INDICATIONS FOR RADIATION BEFORE, DURING, AND AFTER OPERATION FOR CANCER.

While all radio-therapeutists agree as to the value of ray treatment in cancer, they are not altogether at one regarding the time at which it should be applied. Leduc, for example, is a believer in lengthy pre-operative raying, and roundly condemns post-operative applications. In this latter view he is at variance with most *x*-ray workers of note. Knox, Morton, and Skinner—to cite a few instances—are convinced of the value of irradiation subsequent to surgical removal: and the last-mentioned authority (Skinner) is further of opinion that pre-operative exposures are harmful.

The main arguments against pre-operative irradiation are three in number. The first is, that parts which have been exposed to rays do not recover well from surgical trauma. The second—which might be urged with equal propriety against any form of ray treatment in cancer—is that the deeper parts of the growth may be actually stimulated. Thirdly, it is said that, once a diagnosis of malignancy is arrived at, it can never be in the patient's interest to delay operation even for a few days.

The first objection—that tissues do not heal well after irradiation—is, I feel sure, a legacy from the past, when surgeons were sometimes called upon to operate in cases where the integument had been rendered blue and unhealthy by excessive exposure to soft unfiltered rays. As I pointed out at Liverpool last year,[1] the effect of moderate doses of hard rays is to stimulate the activity of normal tissues, while depressing the pseudo-embryonic cells of a malignant growth. A part which has been moderately exposed to *x* rays will recover, if anything, more quickly from an operation than one which has not been so exposed.

As to the alleged risk of exciting deep-lying cancer cells to increased mitosis, with modern technique a dosage inimical to such cells can be made to reach any part of the interior of the body.

Lastly, there is the statement that to delay surgical interference is never justifiable. This is not argument, but dogma, a surgical *ipse dixit* which it is high time to examine on its merits in the light of present-day knowledge. It is true that Leduc has already challenged the doctrine, but in such an extreme manner as to discredit his attack.

Radio-therapy, as at present practised, is no substitute for surgery, and any prolonged course of treatment before operation is certainly to be condemned. Nevertheless, I would venture to suggest that even early cases of cancer—cases, that is, in which the least percentage of recurrences takes place—should undergo a radio therapeutic preparation.

We know that whenever and wherever the knife is employed there is always a risk of disseminating malignant cells, which subsequently take root and flourish. It is not to be supposed, however, that this colonization is allowed to take place without opposition on the part of the invaded tissues. Many of the would-be settlers are no doubt slain before they are able to propagate their kind. Some, nevertheless, usually escape, but if these specially vigorous cells were subjected to previous radio-therapeutic attack, their chances of post-operative survival would be materially lessened. A cancerous tumour in an early stage presents an opportunity for *x*-ray therapy which is never repeated. The enemy is concentrated in close order, and can be assaulted in force. Every cancer cell which escapes removal will then be in a devitalized condition, and in the presence of tissues whose resisting power has been artificially heightened. It is interesting to note here that mouse cancer which has been exposed to radium is grafted with difficulty or not at all into fresh hosts.

As to the time necessary to accomplish this combined depression of malignant and exaltation of normal tissues, in the absence of clinical data we have only analogy to guide us. The dosage may be taken as that usually necessary to bring about the first definite sign of improvement in an ordinary case of recurrent inoperable growth. Every radiologist will have his own ideas on this subject: personally, I think that eight or nine sittings, spread over about three weeks, may be regarded as a working basis.

So far, I have dealt with tumours seen first in an early stage—cases in which surgeons claim considerable permanent success. I have not ventured to do more than *suggest* pre-operative raying under such circumstances. When, however, we come to deal with patients first seen under less favourable conditions—where there is already considerable pain, physical depression, and perhaps commencing ulceration—I think there is ground not only for suggesting but for strongly urging preparatory radio-therapeutic treatment. Such cases, while not mechanically inoperable, are looked upon by surgeons as, for the most part, ultimately hopeless. The friends are usually told that from six months to a year is the limit of life; delay for preparatory raying can therefore scarcely make matters much worse.

Patients of this type are sometimes themselves told the truth, or are strong-minded enough to drag it from their advisers. Not infrequently they refuse an operation which holds out but little prospect of actual cure, and betake themselves to the radiologist for palliative treatment. The majority improve at first in a wonderful manner—tumours diminish in size, pain vanishes, and the body-weight increases week by week. After about two months they seem to the uninitiated to be on the highway to recovery. Now is the time to operate; and let the incision be not less wide and deep because of the retrogression which has occurred.

At this point we may have trouble with the patient and his friends; they cannot see why the risk of an operation should be incurred when everything is going on so well. It is our duty to insist, for we know that while it is true that in a few cases apparent cures are accomplished by radio-therapy alone, yet, as a general rule, after some months the disease again gets the upper hand. Skill and experience is needed to judge the proper moment for surgical intervention; the radiologist should retire some weeks before the crest of the wave of improvement has been reached. Once this point has been passed operation is worse than useless.

Surgeons are already beginning to recognize that hopelessly inoperable cases may sometimes be rendered operable by radio-therapy. From this it is surely no great step to an admission on their part that, whenever the ultimate prognosis is unfavourable despite operation, the radiologist should be called in to prepare the patient for his ordeal.

How are we to get hold of such patients? Fortunately there are many surgeons willing to work hand in hand with us; but in not a few instances Ephraim is wedded to his idols. There remains the general practitioner. Perhaps we may induce him to call the radiologist into consultation before hurrying off each and every cancer patient to the operating surgeon. By so doing we run the risk of having hard things said about our intelligence, and even our moral rectitude may not go unchallenged. But if we use such skill and learning as we possess with a single eye to the benefit of those who suffer, we may safely disregard abuse.

The subject I have just dealt with bristles with controversy, and I am glad to leave it for less contentious matters. I come now to the employment of *x* rays during actual operation for malignant tumour. We are indebted to Dr. Reginald Morton for the suggestion that a full dose should be delivered into the wound before the flaps are drawn together. Where a powerful *x*-ray plant is available in the theatre this seems to me a most valuable suggestion. I would go further, and recommend that in cases of internal growth where, on opening the abdomen, it is found to be impossible to remove the whole neoplasm, a part should be ablated if this is feasible, and *x* rays applied to the remainder. If the conditions prove to be such that the knife cannot be used at all, then the wound flaps should be held widely apart, and a full dose of rays be delivered into the exposed tumour mass.

There remains to be considered the question of post-operative preventive raying. To this alone a lengthy paper might well be devoted, but time does not permit me to do more than refer briefly to a few important points. Surgeons are ready enough to send cases in which there is almost a certainty of speedy recurrence, but hesitate to submit those which they consider favourable. This attitude is born of a desire to "let well alone." It is common

knowledge that *x* rays have in the past caused skin cancer, and it has been stated that they sometimes stimulate an existing malignant growth. To the layman—using the term in relation to our speciality—all rays are alike; yet it would be as reasonable to compare the effect of an injection of salvarsan in syphilis with that of arsenic taken in small quantities on a period of years, as to judge of the action of hard filtered rays therapeutically applied by reference to the results of prolonged exposure to soft irritating radiations. It should be our business to prove that post-operative raying never does harm, and for this reason we must be careful never to push our treatment beyond the stage of stimulation of normal tissues.

Preventive irradiation should include not only the original tumour area, but also *all organs which experience teaches us are likely to become the seat of metastatic deposits*. Such a wide distribution being necessary, it is manifestly impossible to deliver at any given point a dosage actually fatal to stray cancer cells; some amount of depression of these latter is all that can be looked for. On the other hand, to enhance the resisting power of the body tissues is well within the power of a quite moderate amount of irradiation.

In prophylactic post-operative raying it is not permissible to produce any reaction beyond a slight darkening of the skin. As to the method of spacing the applications, I believe in courses of seven or eight sittings crowded into a fortnight, with at least six weeks' interval between each series. The power of the tissues to respond to *x*-ray stimulation is thus, I think, better conserved than if, for example, continuous weekly *séances* are administered over long periods.

The above recommendations apply only to early cases, where operation of itself can secure many successes. When there is grave reason to expect a speedy recurrence, more vigorous measures are called for. In fact, the boldness of the radiologist should be commensurate with the prognostic fears of the surgeon.

Patients who have been operated on for cancer are not usually sent for preventive treatment till at least a month has elapsed. Where there has been a preparatory course, this delay is of no consequence; otherwise, raying should be commenced as soon as recovery has taken place from the initial surgical shock. During the first month after operation the resistance of the patient is probably lower than normal, and it is then that the foundations of future trouble are laid. I have found that if one proposes to treat a rodent ulcer by scraping and subsequent irradiation, an interval of even ten days will seriously affect the ultimate result.

Immediate treatment after major operations is, of course, practicable only where a movable apparatus is at hand. Great weakness is a contraindication, but the presence of raw granulating surfaces after extensive ablation of the breasts and axillary glands is no bar. On the contrary, an open wound will heal more quickly under ray stimulation.

Before I conclude this paper I should like to repeat that the last thing I have in my mind is to advocate radiotherapy as a substitute for operation. On the other hand, ray treatment is not to be looked upon merely as a means of attaining a sort of prolonged euthanasia. Operators demand, and rightly demand, that cases shall be sent to them at an early stage. We are entitled to no less consideration. The treatment of every case of cancer should be undertaken jointly by a surgeon and a radiologist, between whom the closest harmony and co-operation must exist if the patient is to have his full chance of life.

The implements of surgery are comparatively simple, and have changed little in a generation, whereas the weapons which we employ are undergoing constant modification, and could be made a life-study in themselves. Nevertheless, if we wish to rank as the equals of our surgical colleagues, we must study disease no less than electrical technique, and a treatise on cancer should come as naturally from the pen of the radiologist as from that of the surgeon. Only thus can we enter into our proper heritage in the great world of medicine.

REFERENCE.

1 BRITISH MEDICAL JOURNAL, August 17th, 1912, p. 377.

IV.—FRANK FOWLER, M.D., M.R.C.S.,

Medical Officer in Charge of Electrical Department, Royal Victoria and West Hants Hospital, Bournemouth.

THE TECHNIQUE OF X-RAY TREATMENT OF CANCER.

THAT a certain amount of success has attended the use of *x* rays in the treatment of cancer is now generally admitted by surgeons as well as radiologists, and it is our duty to find out how the results attained so far can be improved upon.

I propose to give reasons for the technique which I employ, which I will describe as fully as time will permit, in order that they may be subjected to adequate criticism.

Why are we generally successful in treating a secondary cutaneous nodule while we fail to benefit cases of deep-seated cancer? No one will have any hesitation in answering that in the latter case the dose of rays is insufficient. I believe that this is the whole truth, and that we should endeavour to increase the effective dose which reaches the tumour: (1) By increasing the skin-focus distance; (2) by cross-fire; (3) by filtration; (4) by the use of very hard rays. Unfortunately each method entails more time, trouble, and expense.

1. The possibility of increasing the distance of the tube from the skin is the chief, perhaps the only, advantage *x* rays possess over radium. The wider angle of radiation is important, as well as the greater uniformity of dose that the deep parts receive compared with the dose at the surface. Improvement in tubes and apparatus having made possible the greater skin-focus distance, I have hopes of being able to treat cancer of the liver if I can keep the tube far enough away. In any case I believe it is impossible to get satisfactory results without the aid of powerful modern apparatus.

I take 9 in. as the minimum skin-focus distance, and for tumours of greater thickness or depth 12 in. (15 in. or more would be better, but this distance entails divided doses).

2. *Multiple direction of radiation* is essential to the successful treatment of a tumour of any appreciable thickness, if the deeper part of it is to receive an effective dose; and also, for the reason that all lymphatic glands in the area should be treated in every case, we should not wait for them to become obviously infected.

When treating a scirrhus of the breast for prophylaxis after operation, the scar or wound, the axilla, and the supraclavicular area should be treated, the direction in each case being at right angles to the other two. In cases where there is already recurrence of the growth I also give a fourth dose over the scapula. Cancer of the rectum I treat from the perineum and from above the pubes, keeping the skin-focus distance as great as possible. Glands in the neck can be rayed from two directions on one side, and, if necessary, from the other side as well. I do not think there will be much difference of opinion about these two points—skin-focus distance and cross-fire. I now come to more contentious matter.

3. *Filtration of the rays* enables us to give a larger dose of the more penetrating rays in proportion to the thickness of the filter, provided that the tube is hard enough; it would be useless to attempt to give a pastille dose through 1 mm. of aluminium with a tube capable of giving a satisfactory skiagram of a hip-joint. I do not think it matters what material is used for the filter, *if* the dose is measured *on the skin* by Bordier's or Hampson's pastilles. The skin is certainly the most desirable place for the dose to be measured, but the difficulty in reading small differences of tint has, so far, impelled me to continue using Sabouraud's pastilles, placed at half skin-focus distance, and in this case a metal filter must be used. The pastille is placed not nearer than 2 cm. to the wall of the tube, and the filter between the tube and the pastille; I use aluminium of ½ mm. and 1 mm., increasing the thickness if the treatment is prolonged. The trouble of accurately measuring the half skin-focus distance is the only real objection to this method. I have heard it stated that the heat from the tube deepens the colour of the pastille, but the filter cuts off the heat of the glass wall, and I do not find the metal gets appreciably warm. Another objection was that secondary rays from aluminium would affect the barium platino-cyanide pastille, which I believe to be a physical impossibility, especially at 1 cm. distance.

It is undesirable to put any metallic filter on the skin of the patient, as the secondary rays may be dangerous; the same objection applies to solutions of tungstate. Boiler felt and leather are free from these objections: only, I repeat, if these are used the pastille must be placed on the skin; neglect of this point seems to me to be responsible for the statement that it is impossible to cause a dermatitis if sufficient thickness of filter is used; the colossal doses occasionally reported only reach the skin in infinitesimal amounts when they are given with a medium tube through thick filters. I believe it is a fact that these large doses have all been measured before filtration.

4. It has frequently been stated that a substance is only affected by rays of such quality as it is able to absorb. I believe this statement is incorrect, and that we have been to some extent misled by physicists, who told us that theoretically rays should be as soft as possible. Perhaps the explanation of the difference we find in practice is that hard rays are necessary to produce in the tissues secondary rays of the correct quality to affect the growth. That very hard rays do affect the tissues is shown by their effect on cancer and myoma, by the epilation that follows their use, and by the dermatitis that a sufficient dose will certainly produce, nor do I confine their use to thick or deeply-seated tumours. I find them efficient in some diseases of the skin, such as psoriasis; here the amount absorbed must be very small.

Since writing this I have read a paper by Dr. Hernaman-Johnson, in which he very ably advocates the use of hard rays.

Dosage.

I give 6 or 8 Holzknecht units in each direction once a fortnight for treatment, and once in three weeks for prophylaxis, the dose being measured after filtration. This soon causes a deep brown pigmentation of the skin, but seldom any redness; only when the skin-focus distance is made too great to get a full dose in reasonable time do I give fractional doses at shorter intervals.

Tubes.

For private cases, where I can allow half an hour for each patient, I use Cyclops tubes, and find that, with careful seasoning, I can get them to stand 3 to 4 milliampères without overheating. With ½ mm. aluminium this current gives 6 Holzknecht filtered rays in five to six minutes. With 1 mm. aluminium the same dose takes ten to fifteen minutes. For hospital work I use water-cooled tubes on a Snook; after long use, when they have become deeply purple, they will stand 4 to 5 milliampères. We have given 20 pastille doses in one afternoon with the same tube. I only soften a tube when the current begins to spark round it. An alternative spark-gap of 20 cm. is about the limit of hardness it is convenient to use with our present tubes. To get 4 milliampères through such a tube strains the insulation of the coil and condenser. I run the break as fast as the tube will allow; reducing the speed will harden even a warm tube.

Duration of Treatment.

Where there is a recurrence to be treated, the duration is indefinite. I have some few cases that have been able to leave off treatment and remain free from disease. My partner, Dr. Saberton, and I have attempted to map out a route for prophylaxis, giving what we consider the minimum, which is 4 pastille doses, in each possible direction, in three months; then a rest for two months, and 2 pastille doses in each direction in the next six weeks; six months' interval, and repeat two doses. I cannot say whether this will prove to be enough; a few cases have had recurrences in spite of early prophylactic treatment; but I am confident that the trouble and expense will be warranted by the results, which will take many years to prove.

Results.

We cannot usefully compare technique without mentioning results, so far as can be done at present. *X* rays have already done much to lessen the horror a patient associates with the diagnosis of cancer. I tell a patient, when I begin treatment, that although I cannot undertake to cure the disease, I *can* promise that there will be no ulceration and no pain. The relief that such an assurance gives to the patient helps to prevent the downward course that often follows the diagnosis of cancer; I do not attempt to discriminate between the good that is done by *x* rays and that done by my confidence in their beneficial effect.

There are some disappointing cases which seem to be entirely unaffected by treatment, but these are not met with as frequently as they were a few years ago; I do not know of a single case that I have thoroughly treated where there is any extensive ulceration. Most of the deaths from cancer lately have been from secondary growth in the liver; a few in the bones of the pelvis or vertebrae; in these it is difficult even to alleviate the pain. Many of my early cases died from mediastinal growths, but these have become rare since I have systematically rayed the chest from three or four directions; I consider the mediastinum to be within the range of control. Enlarged glands do not cause me any anxiety; I believe we are justified in claiming that they are better treated by *x* rays than by excision.

I have under treatment several cases who have refused operation, in which the primary growth remains quiescent, but I do not advise *x*-ray treatment as a substitute for operation. In one case of scirrhus of the breast the surgeon removed the growth, and left the axillary glands, which were not obviously infected, at my request. So far we have no cause to regret the omission.

DISCUSSION.

Dr. William Hill (St. Mary's Hospital) described a case of cancer of the oesophagus which was held in check by radium for nearly three and a half years. The patient, a woman, was sent to him in February, 1910, suffering from dysphagia, with marked debility and emaciation. Under examination with the oesophagoscope under cocaine a well-marked stricture with inflamed and ulcerating mucosa, readily bleeding when swabbed, was seen 29 cm. from the upper alveolar margin. It had all the appearances of a malignant growth. The stricture was dilated up by graduated bougieing through the oesophagoscope, and he inserted his intubation apparatus, through which milk and brandy were immediately administered. In the course of a few days the patient could swallow fluids easily by the side of the tube, and this was removed at the end of a fortnight, when it was found that soft food passed readily. Two months later swallowing became difficult again, and *x*-ray examination showed an irregular outline at the mouth of the stricture, suggestive of fungation. An examination was made under a general anaesthetic to make sure of the diagnosis, and a small portion of the sprouting growth was removed for microscopical purposes. This was reported to be an endothelial sarcoma. The intubation apparatus was reinserted to dilate up the stricture, and later, with the co-operation of Dr. Finzi, a tube containing 100 mg. of radium, enclosed in a tube of lead 2 mm. in thickness was inserted in the stricture through the oesophagoscope, and allowed to remain *in situ* for twelve hours. There was remarkable objective and subjective improvement, in fact, all traces of fungation and ulceration disappeared, and the swallowing was almost normal for well-masticated food. Six months later there was a return of dysphagia, but on endoscopic examination there were no objective signs of malignancy. Obvious contraction had taken place, however, necessitating dilating up of the stricture by endoscopic bougieing, the latter procedure not inducing bleeding as formerly. Ulceration and other signs of lighting up again in the hypertrophied growth had appeared on three subsequent occasions, on each of which the radium treatment had been repeated with the same temporary result. The patient now weighed nearly a stone heavier than she did when the treatment was started. The patient was shown before the Medical Society of London in February, 1911. Of 21 cases of cancer of the oesophagus treated by radium salts reported on that occasion, all were dead except this woman. One man, however, who had died from haemorrhage only just previously, had lived for three years after only one application of radium, and his improvement until a little time before had been so great that he had declined further treatment. He returned, however, with the disease too far advanced to justify its repetition, as the trachea showed signs of invasion. Out of 40 cases treated up to the present, there had been very marked improvement in one-third, and some improvement

in others. Dr. Hill handed round *x*-ray prints of the cases before and during treatment, and also showed cases with the radium tubes *in situ* in the gullet. Various forms of screens used by him in cancer of the deep pharynx and of the gullet were exhibited.

Dr. F. H. WILLIAMS (Boston, U.S.A.) had been using radium for twelve years, but during the first two years it was not possible to obtain the pure radium bromide, so that his actual experience only covered a period of ten years. Ordinarily he had used at the Boston City Hospital a capsule containing 50 mg. The work there had been confined chiefly to small superficial lesions of the skin. It was hardly worth while for him to attempt to say much about ten years' experience in a few moments, but there were one or two matters of paramount importance. In the first place, he thought that any interference only aggravated the situation, and that it was better that there should have been no previous treatment, such as the use of caustics. Radium did not do as well as usual if it followed many other kinds of treatment. There was another point worth mentioning, but one about which he was not quite so sure. It was that in some of the more active cases the radium worked more promptly; the results were more readily seen. Radium was the best agent available for keloids. With the amounts he used, all the small keloids had yielded. The larger ones had not done so, perhaps because radium was used in insufficient quantities, therefore the keloids should be attacked when they were small, or at any rate at as early a stage as possible. The results, as a rule, were better with radium than with *x* rays. One advantage of radium was its greater safety. It had a uniform output, and the worker knew what he was doing. This he certainly did not know in the case of the *x*-ray tube. With the pastilles it was possible to measure quantitatively more or less the amount of rays coming from the tube, but he did not think that they could make qualitative determinations easily in that way. By using a small instrument which was something like a comparison photometer, and with radium as a standard of light, the interposition of plates of different thicknesses might enable one to analyse the light which came from the tube. In conclusion, he had something to say about protection from *x* rays. It was easy to make up a material which was a non-conductor of electricity, and quite opaque to the rays, as well as capable of being used in any desired form. For this purpose he employed white lead, worked up into a kind of putty, and this, supported on a wooden holder, enabled one to have quite a thick opaque protection from *x* rays, which, he thought, was better than anything else. Lead glass was not a sufficient protection for the physician.

The President (Dr. DEANE BUTCHER) said that it was important to mention one little point which occurred to him, namely, the danger of taking a specimen for diagnosis. The great advantage of *x*-ray treatment was that it did not necessitate the opening up of the lymph spaces, and he wished very strongly to emphasize this matter. He recalled a painful case in which a sarcoma of the thumb was doing admirably under *x* rays, but in order to make the diagnosis absolutely sure a specimen was taken, and the case forthwith went from bad to worse. He confessed to a sort of shudder on seeing cases go to the hospital and, for the purpose of completing diagnosis and making it clean and clear, having the lymph spaces opened up to further contagion. Whatever they did their first duty was to the patient. The surgeon, on the other hand, was perfectly right; he took a specimen and then he amputated the limb or cut away the part, but the radiologist had no right to take such a specimen, in his opinion. At the same time, the burying of the radium tube within the tissue was a very different thing from cutting out a piece of tissue for diagnostic purposes.

Mr. J. HALL-EDWARDS (Birmingham) said that Sir Alfred Pearce Gould had based his arguments on certain experiments made in the laboratory, and he had described two very wonderful experiments, in one of which a thin slice of cancer taken from a mouse was grafted upon another mouse, which became immune, while with a second section, which had been subjected to radium emanations for twenty-four hours, the mouse was no longer immune. When they came to follow up the treatment which he advised, however, they must get a very clear case. The radium emanations were dying off from a central spot, so that he took it that some of the tissues lying away from the centre of the spot would have an exposure equal to one hour, while others lying near to the filter would have an exposure equal to twenty-four hours. The result certainly must be a mixed one. In view of the danger of opening up the lymph spaces, he thought that where radium could be inserted without making any artificial opening, as, for example, in the uterus or the rectum, it demonstrated its superiority, but in other cases *x* rays were preferable. Dr. Hernaman-Johnson's paper was one which certainly gave them much food for thought. The speaker had had no experience of giving radiations before operation, but he had treated a great number of patients immediately after operation, and taking the cases all round—although it must be many years before a definite conclusion could be arrived at on this point—out of about 60 cases he had treated, he had only heard of about 2 cases in which the secondary growths appeared under twelve months, and in most of the cases the results had been entirely satisfactory. There could not be the slightest doubt that irradiation immediately after operation delayed recurrence if recurrence was likely to follow quickly. In recurrent carcinomas of the breast the thickest filter and the hardest tube would produce the best results. Rays of the same quality as were ordinarily given in the treatment of myomas should be used, and it would be found that the results were better than by using soft rays.

Dr. A. A. WARDEN (Paris), speaking of Dr. Russ's experiments, hoped that his conclusion that even a slight overdose of radium necessarily destroyed tissue-reaction immunity, need not be accepted in its entirety. It was at present impossible absolutely to fix the necessary dose—time and amount—and such a conclusion would indeed disarm the operator. In some cases the actual introduction of radium tubes into a malignant tumour was impossible, and a good result might be obtained by placing the tube buried in the connective tissue of the part as close as possible to the neoplasm.

Dr. JAMES METCALFE (London) could call to mind two or three cases of malignant disease of the breast which had benefited by post-operative radiation. He thought of one specific case at the present moment in which a large mass the size of two fists and much ulcerated was removed by the surgeon, and he gave post-operative applications of *x* rays for some months afterwards at intervals. Although an unlikely case for any treatment, the woman was now absolutely in good health, and he had no doubt whatever that she would continue so. He was thinking also of a case of malignant disease of the rectum in an old man of 77 years, who was seen by several surgeons. Colotomy was recommended, but he applied *x* rays through a speculum to the part, and the patient got quite well, passing his motions freely afterwards, and living comfortably for three years. When it was possible to do things like that in malignant disease, even though the condition were not cured, the *x*-ray treatment amply justified itself. Dr. Williams had said that radium acted more scientifically, but it seemed to the speaker, on the other hand, that radium must necessarily be more erratic. The material in the case of radium could not really be controlled. The worker did not know exactly at any moment the power and capacity of the material he was applying. Radium remained to a large extent empirical, while *x* rays, when filtration was taken into account, had reached such a point of precision that the result obtained could exactly be foretold. For the present, therefore, radium must be regarded as the inferior method of treatment from the strictly scientific point of view.

Dr. C. F. BAILEY (Brighton) quite agreed with the last speaker that there was much more hope of working in a scientific manner with *x* rays than with radium. Some of the statements made that morning by Sir A. P. Gould called for question. Sir Alfred had said that they all knew that the less penetrating rays were much more destructive than the more penetrating ones. But was this

a generally accepted fact? They knew that radium gave out a large number of soft rays, and quantitatively these might be more destructive, but, ray for ray, was it an absolute fact that the soft ray when it set up its ionization possessed an intrinsically more destructive action than was exercised by the hard ray eventually? After pointing out that some cases mentioned by Sir Alfred were of the kind with which radium workers were quite familiar, he referred to Professor Barkla's suggestion that in the future a homogeneous ray, having a definite and measurable amount of penetration, might be discovered. He felt that it was along these lines that *x*-ray work would become increasingly scientific. In the case of radium they were limited to the gamma rays, which represented a very small proportion of the whole sheaf of rays sent out, but he thought the great hope lay in being able to arrive at different orders of penetration. Barkla had suggested that the targets in the *x*-ray tube should be made of a certain metal, and then the preponderating element in the beam would be a particular ray given out by that metal. The other rays could be absorbed away, and a simple ray of one penetration could be found to work with. A good deal had been said in the course of the discussion with regard to screens. Dr. Ironside Bruce favoured thicknesses of felt, and Dr. Reginald Morton and himself preferred tungstate lint, with a rather thin aluminium filter. He felt sure that this was a perfectly satisfactory type of filter for preventing dermatitis. He instanced the case of a patient who had had the breast removed, and who had had no dermatitis, but only a slight bronzing of the skin. She had absolute freedom from recurrence, and was in quite good health. Therefore he thought that there must be a great deal in what Dr. Morton had said in praise of the tungstate screen.

Dr. G. E. Bowker (Bath) referred to the interesting address delivered before the Section at Liverpool last year by Professor Rutherford, who had laid it down as a fact of the greatest importance that by every test he could employ the physical action of the gamma rays of radium was the same in kind as the *x* radiation. The first thing they had learnt in the Section on the present occasion in Brighton was that the universal opinion favoured a hard tube. Another point emphasized in the proceedings had been the necessity of efficient filtration to protect those structures which were not parasitic. They were aware that the more penetrating rays—those which in the *x*-ray sheaf approximated most closely to the gamma rays of radium—were the least harmful in their action upon the physiological functions of the normal cells of the body. Therefore, in these more penetrating rays they had the advantage of a very powerful action directed upon the parasitic organism in its development or in its rapid cell growth, and a less harmful action on the physiological processes of the tissues approximate to the pathological growth. The subject of the immunity of the surrounding tissues, to which reference was made by Sir A. P. Gould, was more or less a new one in connexion with this matter, and all that the opener had said with regard to the transplantation of cancer cells which had been removed from the mouse and kept in artificial surroundings for several hours was of too experimental a nature for any great reliance to be placed upon it at present, particularly when considering the action of radium upon malignant growth.

Dr. Abbe, in a brief reply, said that in his opening remarks he had had no occasion to make any comparison between radium rays and Roentgen rays. He had in his cabinet plastic casts of breast cancers, made at intervals of six weeks, showing how a grave form of malignancy disappeared almost entirely and progressively under Roentgen-ray treatment. And, while he felt the very great value of the Roentgen rays, he admitted also that radium was erratic. It had, as he had tried to show, an element of danger: but this arose out of technique, and was due to the fact that stimulating rays had not been eliminated. The scientific accuracy which speakers and readers of papers at that meeting had brought to the subject of Roentgen-ray work would mark a striking advance in the surgical treatment of cancer, but the small contribution he had been able to make was to endeavour to show that radium also had its merits and its special applications. In cancer of the uterus its value had been demonstrated. In papilloma of the larynx no external application would be of avail, but the use of 100 mg. of radium for thirty minutes would cure any such condition. With regard to the filtering out of the irritating or stimulating rays, he attached great importance to the method of distance filtration through air. With a distance of 2½ in. separating the radium from the skin, so that the tissues were beyond the range of everything save the gamma radiation, they could do in two hours what would occupy them for forty hours by the method of filtering through 2 mm. of lead. In a case of sarcoma of the scalp, about the malignancy of which there was clinically no question, he placed 100 mg. of radium in the bottom of a pasteboard box, stuffed it with cotton, and applied it to one hummock for an hour, and then moved it on to another, giving a seven hours' application in all. The man had to go 500 miles to his home, and was told to report within a fortnight. He came back on the twelfth day, when there was not a trace of the disease. His scalp was as white and normal as any bald scalp he had ever seen. That demonstrated to his mind the utility of distance filtration instead of lead filtration to eliminate the irritating and burning rays. This made short applications possible instead of the long applications which were necessary in order to get efficient rays through lead. With regard to the destruction of fibroids by either method, his suspicion was that they brought about what was done in surgery by removal of the ovaries. The ovaries were being radiumized by hard rays. He thought that the burying of radium in tumours was of great value in certain cases, and he used the method when it seemed proper to approach the centre of the tumour. He had had some fifteen thyroid gland cases, and he never hesitated to make a cocaine cut and to leave in his tube as long as necessary. There was no disaster, because a lymph exudate set up a blockade of the lymph spaces. He added that he did not wish to exploit radium at the expense of *x* rays. There were practical differences between *x* rays and the gamma radiations of radium, and the agents might be considered simply as adjuncts the one of the other.

A NOTE ON CARDIOSPASM.

By Alfred C. Jordan, B.A., M.D.Cantab., M.R.C.P.,
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[With Special Plate.]

Cardiospasm, or spasmodic constriction of the cardiac orifice of the oesophagus, has not long been recognized, although it is not rare when looked for. Hundreds of cases have been recorded, notably by Plummer. The essential features are: (1) A long history, extending over fifteen or even thirty years; (2) difficulty in swallowing, or else regurgitation of food and mucus after eating—this may be constant or may intermit partially or entirely; (3) a corresponding degree of malnutrition, not so great or so progressive as in the case of organic stenosis.

Diagnosis.

X-ray examinations with bismuth emulsion are of the greatest service in the diagnosis. The patient is examined vertically. Sometimes the oesophagus, greatly dilated, is shown full of mucus and food before any bismuth has been swallowed, the contents of the oesophagus being opaque relatively to the clear pulmonary areas (Fig. 1). When the patient swallows an emulsion containing bismuth carbonate, this rests at first upon the horizontal upper surface of the oesophageal contents; the heavy bismuth then falls through to the cardiac orifice and gradually collects in the lower portion of the oesophagus. Typically the dilatation is very great; the oesophagus curves forward in its lower portion, and finally turns downward, ending in a conical point, through which a trace of bismuth trickles in some cases, while in others not even a trace is seen to pass through, and no bismuth appears in the stomach (Fig. 2). I have seen nearly the whole of a bismuth meal (emulsion) still in the oesophagus six days after I watched the patient swallow it. This was in the case of a man aged 64, the trouble having existed more than thirty years. In such cases the patient

is often thought, erroneously, to be the subject of a dilated stomach, and I have known patients "washed out" regularly for weeks; but on observing, with the fluorescent screen, the passage of the stomach tube, it was seen that the tube, if a soft one, doubled back, while a rigid tube pushed the lower oesophageal wall before it at the place where the oesophagus turned forward.

Treatment.

The treatment of the condition is typically American. The problem is to get a bougie or dilator through the cardiac orifice. A reel of ligature silk is used; about a yard of silk is unwound, and the patient begins to swallow the silk. For the purpose of observation with the *x* rays a leaden shot is attached to the end of the silk before the patient swallows it. With the fluorescent screen the shot is observed after an hour or two in the conical lower end of the oesophagus. Eventually the spasm yields for a moment and the leaden shot slips through, taking the silk thread with it. This may occur within a few hours, but it may be deferred for days. The silk, having entered the stomach, soon passes through the pylorus, and begins to travel through the intestines. The patient carries the reel in his waistcoat pocket, the silk, projecting from the corner of the mouth, being passed over one ear. It remains throughout the treatment, and causes little inconvenience. When the whole reelful of silk has been swallowed a second reel is started, the two being knotted together, and when the silk appears at the anus it is cut short as often as necessary. The object of the thread is to furnish a guide; it is held taut while a special bougie (Fig. 3) or catheter with a perforated metal "acorn" (Fig. 4) at its lower end is threaded over it and passed down. To the lower portion of the catheter, above the acorn, a rubber dilating bag is attached (Fig. 5). When the bag is seen (on fluorescent screen observation) to be in the stomach a rubber tube is attached to the upper end of the catheter, and the bag is filled with air through this tube (Fig. 6). The dilated bag is now withdrawn slowly; being wedge-shaped it forms an efficient dilator. These special bougies and dilators are made by Messrs. Down Bros. from descriptions supplied by Sir Arbuthnot Lane. They are exhibited, together with some skiagraphic prints, in the Pathological Museum.

Result of Treatment.

The improvement after dilatation is immediate, the patient being able to take solid food; the gain in nutrition corresponds. Usually it is necessary to repeat the dilatation several times at intervals of a week or a fortnight, and then at longer intervals, before a definite "cure" can be claimed. A relapse may occur after six months or more; it yields to treatment more readily than the original attack.

The case illustrated (by photographs and lantern slides; Figs. 2, 6, 7, 8, and 9) is that of a woman, aged 39, with sixteen years' history of difficulty in swallowing and of malnutrition and constipation. She gained 3 st. in weight within three months of the treatment by dilatation; by this time she had received (but declined) three offers of marriage!

Etiology.

What is the cause of cardiospasm? Is it a disease *per se* or merely a symptom? Experience of spasm in other parts of the alimentary tract, notably the stomach, leads one to suspect the latter. Gastric ulcer is accompanied by extreme spasm, but there is no evidence that ulceration of the oesophagus has any part in the production of cardiospasm. There is no need to postulate ulceration, for persistent spasm may exist (especially at the pylorus) although the region appears healthy at operation.[1] From the analogy of gastric and duodenal diseases, the most fruitful means of attacking the problem of the ultimate cause of cardiospasm should be by making a complete investigation of the alimentary tract in all cases. An initial difficulty occurs from the circumstance that in severe cases the bismuth remains in the oesophagus so long (for example, six days) that no view is obtainable of the stomach or intestines. After treatment, however, this difficulty is no longer present. A complete investigation now reveals, with great constancy, the distended "writhing" duodenum (Fig. 8), the delay in the lower ileum and in the large intestine (Fig. 9) typical of chronic intestinal stasis. My cases are not yet sufficiently numerous to permit me to say this is the invariable sequence. It is well illustrated by the case of the woman already quoted. The fact that great improvement follows dilatation of the cardiac orifice does not prove the spasm to be the primary disease; analogous improvement occurs

DESCRIPTION OF SPECIAL PLATE.

Fig. 1.—Chest of a woman, aged 39, taken from the front with the patient vertical, showing the oesophagus, greatly dilated and full of mucus and food, forming a large shadow in the upper part of the right side. (Her oesophagus and stomach are also shown in Figs. 10 and 11.)

Fig. 2.—Oesophagus, greatly dilated, taken vertically in the right anterior oblique view in a typical case of cardiospasm in a woman aged 39. A, Aortic arch; the arrows indicate the spasmodic constriction of the lower end of the oesophagus. (See also Figs. 6, 7, 8, and 9.)

Fig. 6.—Dilating bag (Fig. 5) shown *in situ* in the stomach; the bag is shown distended with air prior to its withdrawal. R.D., L.D., Right and left diaphragm; *Cr.*, crest of left ilium; U., umbilicus, marked by a penny. (In the subject of Figs. 2, 7, 8, and 9.)

Fig. 7.—Taken vertically, showing the lower end of the dilated oesophagus, the constricted lower orifice, and a thin stream of bismuth trickling through the stomach down to the great curvature. U, Umbilicus; the arrows indicate the spasmodic constriction of the lower orifice of the oesophagus. Right anterior oblique view.

Fig. 8.—The pylorus and duodenum in the subject of Figs. 2, 6, 7, and 9, taken on the couch after a bismuth meal. The duodenum afforded well-marked evidence of intestinal stasis, for the bismuth returned time after time from the third to the second part of the duodenum, only small quantities entering the jejunum in spite of strong duodenal contractions. *Py*, pylorus; *a*, *b*, *c*, first, second, and third parts of the duodenum; U, umbilicus.

Fig. 9.—Taken on the couch thirty-four hours after the same bismuth meal, showing great dropping of the large intestine. Hardly any bismuth has advanced beyond the middle of the transverse colon. U, umbilicus; *Trans.*, transverse colon.

Fig. 10.—Anterior view of the oesophagus and stomach taken vertically in the subject of Fig. 1, showing the lower portion of the dilated oesophagus, the spasmodic narrowing of its lower orifice (marked by arrows), and the stomach divided in the middle by a long hour-glass constriction proved at the subsequent operation to be due to a cicatrizing ulcer of the lesser curvature. C, P, cardiac and pyloric portions of the stomach; U, umbilicus.

Fig. 11 shows the appearance of the oesophagus and stomach in the same subject as seen on the couch immediately after Fig. 10.

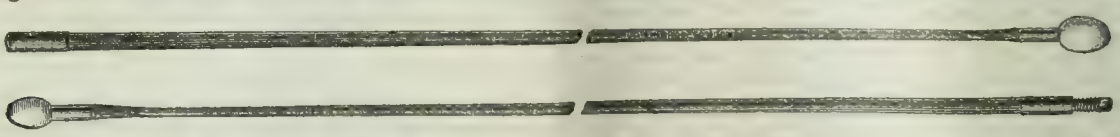


Fig. 3.—Bougies with metallic "acorn," the descent of which through the oesophagus into the stomach is observed with the fluorescent screen.



Fig. 4.—Metallic "acorn," showing perforation for the silk thread, which is used as a guide (see text).



Fig. 5.—Catheter with rubber dilating bag and perforated metallic "acorn" used in the treatment of cardiospasm.

DR. ALFRED C. JORDAN: A NOTE ON CARDIOSPASM.



Fig. 1.



Fig. 2.



Fig. 6.



Fig. 7.



Fig. 8.



Fig. 9.



Fig. 10.



Fig. 11.

after gastro-enterostomy for pyloric stenosis. One consideration throws doubt on the explanation of cardiospasm as an occasional manifestation of intestinal stasis: one would expect to meet with slight degrees of spasm at the cardiac orifice in a fair proportion of well-marked cases of stasis. I am bound to admit this is not so; I observe the passage of the bismuth through the oesophagus in every gastro-intestinal investigation, and I find it very rare to encounter any difficulty whatever at the cardiac orifice in the ordinary run of stasis subjects.

My most recent case of cardiospasm, however, affords strong confirmation. A woman aged 39 had suffered from difficulty in swallowing, and regurgitation of food and mucus for two years. I found the oesophagus enormously dilated, presenting a large shadow in the right chest, as seen from the front without bismuth (Fig. 1). With bismuth, in the right anterior oblique view, the bismuth emulsion lay on the surface of the fluid already occupying the oesophagus, the long dividing line indicating its abnormally great diameter. The heavy bismuth fell slowly, and began to trickle through the conical cardiac orifice. The stomach was then shown to consist of two portions separated by a long, irregular hour-glass constriction (Figs. 10 and 11). The pylorus appeared normal in form, but only traces of bismuth were seen in the duodenum on this the only examination I was able to make.

The combination of cardiospasm with chronic gastric ulcer is new to me. I showed, quite recently,[1] how intestinal stasis causes gastric ulcer. For the notes of the operation performed a few days later by Sir Arbuthnot Lane I am indebted to his house-surgeon, Mr. F. Glendining:

> There was an old, contracted gastric ulcer constricting the stomach, which was extraordinarily narrow and contracted—no doubt owing to the small amount of food that had passed into it lately. The duodenum was narrow, long, and pouched as if it had formerly been very dilated, but, again owing to small amount of food, had contracted. The appendix controlled the ileum (causing ileal stasis), and she had a very dropped large gut. The oesophageal condition was due to cardiospasm.

REFERENCE.
[1] Gastric Ulcer, *Proc. Roy. Soc. Med.*, 1913, vol. vi (Elect.-Therap. Sect., pp. 117-138).

DISCUSSION.

Dr. William Hill (London) said that Dr. Jordan had shown some excellent *x*-ray prints of cases of general dilatation of the oesophagus, but he (the speaker) very much doubted that primary cardiospasm was often, if ever, the cause of the condition. Dilatation was the usual sequence of anatomic stricture, and also of kinking or angulation. It was possibly in some few cases the result of physiologic—that is, functional—stenosis of the phreno-cardiac portion of the oesophagus, as from paresis or atony, or from inco-ordination of the swallowing act, the lower end of the gullet failing to open out wide when food reached the level of the diaphragm. Evidence of primary spasm as the cause of the stenosis and of the subsequent dilatation was not in his (the speaker's) considerable oesophagoscopic experience forthcoming when an adequate investigation was made. The *x*-ray examination alone was not decisive, but must be supplemented by visual inspection through the endoscope, when a definite anatomic narrowing of the phreno-cardiac region would be found in nearly every case. In fact, the speaker had long been looking out for a genuine case of purely functional phreno-cardiac stenosis, and had as yet failed to find one, though he did not deny their possible existence. There were clinical difficulties in the way of accepting primary spasm as the predominant feature even in alleged functional stenosis, for the special mark of spasm in the alimentary tract, whether primary or secondary, was pain of the nature of colic or cramp, or else of stitch. It was significant that a painful cramp only occurred secondarily in these cases, if at all, when a portion of solid food got impacted in the stenosed region; it was not induced by "held up" liquid food. As a primary spontaneous colic was not a feature of alleged primary cardiospasm, it had been argued that the spasm which was postulated as the cause of functional phreno-cardiac stenosis was not a marked one, and that the condition was little more than a slight hypertonus or even a mere want of relaxation of the circular fibres. There was no demonstrable sphincter, and the assumed non-relaxation was rather of the nature of want of co-ordination in the act of swallowing, the phreno-cardia not opening widely enough to allow the food to pass. The latter act was probably a powerfully muscular one, and not a mere inhibition of the tone of the circular fibres, and, if this were true, failure to open up was much more likely to be due to functional paresis or atony than to a mere spasm without the characteristic pain. Furthermore, the fact that these cases of alleged functional spasmodic stenosis were usually relieved, either temporarily or for prolonged periods, by mechanical dilatation was strong evidence in favour of either inflammatory soft tumefactive stenosis or of fibrous stricture. Mechanical irritation merely increased spasm, and would only relieve those functional cases due to paresis by stimulation. He believed nearly all the cases of dilated gullet loosely attributed to primary cardiospasm would be found to be due to an anatomic lesion if properly investigated. X rays were invaluable for showing angulation and for outlining the dilated gullet and showing the area of arrest of the bismuth-impregnated meal, but radiography must be combined with oesophagoscopy and with a study of the clinical features of the case in order to arrive at an accurate diagnosis. The speaker also went on to emphasize the point that the employment of blind methods of diagnosis and treatment had been abandoned by modern experts, and it was hardly justifiable for practitioners with few opportunities of dealing with these cases to insert blindly bougies, etc., into a strictured gullet. With the oesophagoscope inflammatory tumefaction, associated with inflammation and venous engorgement of the stomach, peptic ulcers, and fibrous strictures, could be definitely seen, and treatment should be carried out through the endoscope, whether by bougieing or otherwise.

Dr. R. Murray Leslie (London) wished to mention an interesting case of cardiospasm. A young man, 28 years of age, came home from South Africa with dyspeptic troubles. He explained that the food seemed to stick after being swallowed, and that in an hour or two, or sometimes immediately, it came up again. Dr. Jordan made an *x*-ray examination, and found a well-marked stricture at the cardiac end of the oesophagus and an enormous distension of the oesophagus above. It was found possible for as much as two pints of food material to be held in his oesophagus. The first treatment was thoroughly to wash out the oesophagus, but this made no difference to the condition. An oesophagoscopic examination was made, and a tiny quill was successfully passed after the patient had swallowed some silk thread. Before finally counselling operation special kinds of tubes were inserted, but ultimately operation proved to be the only course. On operation they were able to open up and pass a tube from below, and an ordinary large stomach tube was kept down. There was evidently no cicatrix, and the case was purely spasmodic. The patient succumbed to leakage from the gastric wound, and at the *post-mortem* examination there was found to be enormous distension of the oesophagus, which was almost the size of the stomach. The speaker was just able to get his little finger right through. It was inevitable to conclude that they had there a condition of primary cardiospasm, and that by giving a generalized anaesthetic it would have been quite possible to pass a tube. They much regretted that the patient had not been put deeply under an anaesthetic and this procedure carried out; but one learned from one's mistakes.

Dr. G. E. Bowker (Bath) gave the details of an interesting case of cardiospasm. The first photograph, taken with bismuth in the oesophagus, showed the oesophagus with the appearance of a champagne bottle. The patient, a nurse, went under treatment in the various institutions in which she happened to be employed, and while at Bath she was able to go about her work by following out the usual procedure of washing out the oesophagus regularly. Ultimately she passed into the hands of Mr. Rushton Parker, at Liverpool, and there she went under operation, the stomach being opened through the abdominal wall, and the cardiac orifice of the stomach dilated through the opened stomach. She recovered from that operation, and afterwards did remarkably well, putting on weight, and

requiring no assistance. The last he saw of her was when a second radiograph was taken and showed an entirely different form of oesophagus, the shape now being something like that of a collapsed football. She had lately been operated on for appendicitis, from which she made an uneventful recovery, and she was still, he believed, sound and well and free from any cardiospasm.

Dr. A. F. HERTZ (London) said that the Section was indebted to Dr. Jordan, because it was most important that this class of case should be recognized. Hitherto it had frequently been misunderstood. The condition was known to some extent years ago, and nearly every museum in London contained an example of an enormous so-called "idiopathic dilated oesophagus." On examining such examples it would be noticed that, although the oesophagus was enormously dilated and hypertrophied, the cardiac sphincter was not hypertrophied. If one had continuous spasm anywhere else one got hypertrophy. A spasm of the pylorus produced a hypertrophied pylorus, a spasm of the anus a hypertrophied sphincter ani, and so on. But in spite of the enormous efforts of the oesophagus to overcome the difficulty at the cardiac orifice, there was yet no hypertrophy of the sphincter. It was absolutely normal. The only possible explanation was that some question of inco-ordination was involved. One knew from physiological experiments made years ago that, in the normal process of swallowing, the moment that the contraction, passing down the oesophagus, reached the cardiac sphincter, this was relaxed—in just the same way as, with the contraction of the rectum in defaecation, the sphincter ani relaxed. But in certain cases the sphincter did not relax, sometimes owing to organic lesions, or tumefaction of the oesophageal mucous membrane, and at other times, he believed, to purely nervous causes. He recalled a case of a man of about 60, who had had absolutely perfect health, and who received a shock one morning at breakfast owing to the contents of a letter, and found himself unable to swallow. The speaker saw him shortly afterwards, and found that all the food was held up at the cardiac sphincter. A bougie was passed and the condition cleared up. This might have been a case of spasm, but the pathological evidence was all in favour of an upset of co-ordination. With regard to treatment, all must admit the possible dangers of the bougie. In the early stages of some cases with this dilated oesophagus the passage of a mercury bougie was, in his own limited experience, most successful. On the other hand, the cases in which he had not been successful were the more severe ones in which there was pouching. In those cases the bougie, on being passed, was apt to go against the pouch, and there was danger of perforation. One imagined that the only way to introduce the bougie in such cases was through the oesophagoscope. In the milder cases treatment with a mercury tube, which was a really safe and simple means, should be tried before the more elaborate one of swallowing the thread and passing the bougies over it.

Dr. J. DELPRATT HARRIS (Exeter) said that spasm existed surely enough at the lower end of the oesophagus. Not long ago, while using the barium meal, he observed the barium stop a little way down in the thorax, and, watching further, he saw a process of extrusion take place, the barium coming out like clay. Whereas previously it had been going down slowly, it seemed afterwards to fall by the action of gravity. Without wishing to drag one subject into another, he would like to call attention to the two different sets of phenomena that occurred with the use respectively of barium and of bismuth. The great value of the barium meal was that, although scarcely as opaque as bismuth, it revealed the phenomena within a shorter period of time. This was an advantage, as it was impossible in private practice to keep the patient under control for twelve or twenty-four hours. The patient passed out of their observation within a few hours at the most, and anything which expedited the phenomena was of value.

Dr. JORDAN, in reply, said that evidently cardiospasm was a most surprising and mysterious condition. The name had never appealed to him, but it was the name in prevalent use, and he thought he could not do better than avail himself of it. The dangers of the treatment were greatly diminished by the use of the silk thread referred to in his paper. There was very little fear of doing injury when adequate precautions were taken, and any careful operator ought to be able to prevent all danger of perforation. When the passage of the bougie was undertaken while the patient had a generalized anaesthetic, it was even more necessary to have the silk thread as a guide.

COLLARGOL INJECTIONS IN THE DIAGNOSIS OF DISEASES OF THE URINARY TRACT.

By W. IRONSIDE BRUCE, M.D.,

Physician, *X*-ray and Electrical Departments, Charing Cross Hospital.

JUST as bismuth food in the diagnosis of the alimentary tract opened up an entirely new line of investigation and has yielded most encouraging results, so the use of collargol in diseases of the urinary system is now proving to be of the utmost value. Its application is, however, by no means so simple as bismuth food, for the solution has to be introduced through the urethra and ureter. For this purpose the cystoscope is essential, for by the aid of this instrument the ureteric catheter is introduced into the renal pelvis, and so the injection of collargol is made.

This may seem a simple operation, but success can only be obtained with much practice and a great deal of manipulative skill. The process of catheterization of the uterers and the collargol injection is the really essential part of the method, and in the hands of Mr. Thomson Walker, who has conducted all the examinations I have seen, was most successfully carried out.

Mr. Walker proceeds as follows: The cystoscope is introduced, the bladder distended with water, and the ureteric catheter passed into the renal pelvis. Having accomplished this, the bladder is emptied again, the cystoscope withdrawn, leaving the ureteric catheter *in situ*—a matter of some difficulty, for, if not carefully done, the catheter will be drawn out of the ureter. The patient is now quite comfortable, and the collargol solution, which is sterile and carefully warmed, is allowed to flow into the pelvis of the kidney from a glass serum syringe by the force of gravity only, a head of not more than 1 ft. being used.

Any suggestion of discomfort or pain complained of in the region of the kidney is an indication to stop the injection, and when this has been decided upon the end of the catheter is plugged, surrounded by cotton-wool, and strapped or bandaged to the patient's thigh. The plugging of the end of the catheter and the use of the cotton-wool is a practical point, for it must be remembered that collargol is dangerous material, for it is opaque to the *x* ray, and if it gets on to the couch, or any other part of the *x*-ray equipment, it is most difficult to get rid of.

The patient is now ready for the *x*-ray examination, which should be carried out with as little delay as possible. I employ the method which I use in ordinary renal investigations—that is, the patient is laid face downwards on the couch, with the tube arranged underneath, a compressor pad being placed under the abdomen.

At first sight it would appear that the compressor pad would cause considerable inconvenience, but in practice this is not so.

The method has been employed so far mainly for the early diagnosis of hydronephrosis, but in the future it may be found to give useful information in other conditions, for example, tuberculous or malignant disease of the kidney.

DISCUSSION.

Mr. GILBERT SCOTT (London Hospital) said that he had had quite a number of cases in which this method had been employed, and a very interesting condition had been discovered. One patient was shown to have double ureters and double pelves on both sides, and also a tumour in one kidney. There was a small point in technique which had given him some trouble—namely, the running down of the collargol on one side of the catheter. In one or two of the radiographs the collargol showed itself in the form of little bulbous shadows at intervals down the

line of the ureter. It was best to get everything in readiness before the collargol was injected, and to make the radiograph quickly.

Dr. Ironside Bruce said that so far as the difficulty of keeping the pressure up in the catheter was concerned, the procedure which he had employed in renal examination was to turn the patient on his face quickly after injection, and the radiograph could be obtained in thirty seconds.

X-RAY TREATMENT OF UTERINE FIBROID.

By Agnes F. Savill, M.A., M.D.Glas., M.R.C.P.I.,
Assistant Physician, London Skin Hospital; Physician, Skin Department, Women's Hospital for Children.

During the past four years I have had the opportunity of treating three cases of uterine fibroid by *x* rays. The notes of the first case were published in the *Lancet* of October 15th, 1910.

The cases showed a marked contrast in the general symptoms caused by the destruction of ovarian activity which was brought about by *x*-ray treatment. The more rapidly the treatment was carried out, the fewer were the constitutional symptoms.

My first case was a single woman, aged 43, who had suffered for many years from various nervous symptoms and vasomotor disturbances. Her pulse was always about 100, and she had frequent attacks of giddiness, flushing, and great prostration following any gastric upset. In 1900 she had profuse haemorrhage at the monthly periods. On examination she was found to be suffering from a fibroid uterine tumour. By 1909 the tumour had grown above the level of the umbilicus; her waist measured 36 in. Haemorrhage had continued severe and frequent, so that the patient was extremely anaemic and had to live a sedentary life. She refused operative treatment.

In May of that year (1909) I began treatment by the *x* rays—at first by Schönberg's method. By this method she had altogether some fifteen exposures, and on an average one-third of a Sabouraud dose at each sitting, measured above a filter of three layers of leather and two of tin-foil. In July and August the periods were unusually profuse and painful. In October of 1909 Bordier's method of treatment was commenced. At that time his method was to place a pastille beneath the filter directly on the skin, so that one measured the exact dose received by the skin. Each dose measured Tint O. Bordier, which is almost the equivalent of a Sabouraud dose. Three exposures a week were given for three weeks, and after a week or two had elapsed this series of nine was repeated. At each exposure I employed a filter of aluminium half a millimetre thick. In the evening, after an exposure, the patient complained of headache, mental depression, rapid pulse, and pain in the neck and ovarian regions. Consequently, after the first three or four exposures, she only permitted me to administer about half the correct dose at each sitting. During the first three months of treatment the patient had attacks of exhaustion and mental depression, with abdominal swelling, rapid pulse and gnawing pain. On these occasions I could feel that the tumour was softened and enlarged. When the symptoms subsided the tumour became hard and contracted. After a few months' treatment she had a slight oozing, which lasted for a fortnight, followed in a short time by a profuse period, and then amenorrhoea lasting for three months. Treatment was arrested in December, and resumed in April, 1910. I then gave exposures at intervals of four or five days, and a long rest in August and September. Treatment continued until October, 1910. She had, in all, some forty-eight sittings extending over eighteen months. Bordier says it is not safe to give more than forty sittings, but as this patient never had more than three-quarters of his dose, and usually had less, she was well under the danger limit. In no single sitting was a full dose given. During treatment the skin acquired a slight pigmentation which gradually disappeared. She has now, in 1913, telangiectases on both ovarian regions. Her health, however, is better than it has been for years, except for marked constipation which is an entirely new symptom with her. In this case the stimulated ovarian activity, brought about by the first doses of the *x*-rays, showed itself by profuse haemorrhage and prolonged oozing, signs which continued, more or less, for nine months after the commencement of treatment. It is to be noted, however, that even now (July, 1913), there is but little diminution in the size of the tumour.

My second case of uterine fibroid was treated by Bordier's latest method, as given in his paper which was read before the Royal Society of Medicine last summer (1912). The patient was under the care of Dr. Alice Corthorn, to whom I am indebted for information as to the history.

Miss J., aged 46, had suffered from menorrhagia for over six years. The period set in every three and a half weeks, and lasted about eight days, with very profuse flow and clots of blood. She complained of great weakness and a feeling of weight in front. Some bladder trouble was present, due to pressure by the tumour. When examined in February, 1912, the fibroid was the size of a small orange on the right of the uterus, pushing the fundus over to the left. Treatment by styptol, ergot, and hydrastis at first caused diminution in the amount of loss, but by May, 1912, the tumour had increased in size and the periods had become more frequent. In September the tumour was as large as a big cricket ball, lying in Douglas's pouch. On September 21st *x*-ray treatment was begun, and continued according to Bordier's rules until December 6th. Only twenty exposures in all were administered—one series of nine, one series of eight, and a cycle of three. Bordier gives nine sittings on nine consecutive days, but I was afraid to push the treatment quite so quickly. In the first two series of nine the sittings were given with one day's interval between each cycle of three. After the first series of nine the menstrual period was greatly increased. On the sixth exposure during the second series slight pinkness was noticed on each ovarian region. Treatment was suspended, and the pinkness rapidly developed into a dusky redness with slight swelling of the skin, which did not entirely disappear until several weeks had elapsed. The period following this second series was postponed almost a week, but when it did set in it was excessive in quantity. After an interval of over a month three further exposures were administered—one on the middle line and one on each ovarian line. Slight redness appeared on each ovarian region the day after the exposure, and treatment was arrested. There was then complete amenorrhoea for three months, when, during thyroid administration, another slight loss of blood occurred. Dr. Corthorn reported that examination proved that the tumour had disappeared by May, 1913. Pressure symptoms had disappeared during the first month of treatment.

The points of interest in this case are:

1. No symptoms of the menopause were present. The patient had no flushings and no exhaustion. Throughout the treatment she felt stronger than she had been for some time. This clinical picture is in marked contrast to that of Cases I and III.

2. The occurrence of a mild degree of radio-dermatitis.

A few words must be said with regard to this dermatitis. In 1909 Bordier recommended the method employed in my first case as absolutely safe. Nine exposures were given in three weeks. A sheet of aluminium (of from ½ to 1½ mm. in thickness) was employed as a filter, and the measuring pastille was placed directly on the skin *beneath the filter*. In his article of 1909, Bordier stated: "With the technique above described the patient runs no risk of dermatitis, the cutaneous effects consisting at most of an erythema with desquamation. The measurement of the dose at each sitting can be easily made, and security is obtained in the dosage of radio-therapeutic treatment." In 1912, however, he declared that this method was not always safe. He had found long-delayed trophic troubles and dermatitis.

To avoid all danger Bordier now recommends that nine exposures should be given on nine successive days, just after a menstrual period, each series of nine to consist of three cycles—one exposure over each ovarian region and one over the middle line. The measuring pastille is placed *on the top of the filter*. A filter of aluminium is placed over the ovaries, and is gradually increased in thickness with each cycle. For the middle line a thick 3½ mm. filter is always employed lest a median incision should be required later on. During treatment of the lateral region the median line is protected by a wide strip of lead. In small fibroids Bordier obtains a cure after two series of exposures. He employs a water-cooled anode tube of 9–10 Benoist penetration. The tube must be held very near the patient. He recommends that a breadth of four fingers only should be present between the glass of the tube and the patient.

As he did not say whether the filter should be laid in immediate contact with the skin, I placed the filter directly on the skin and earthed it by a wire leading to the hot-water pipes. It has been suggested to me by other *x*-ray workers that the dermatitis was due to secondary radiation from the metal plate. As Bordier allows so little distance between the patient and the tube (four finger-breadths), there could not be much space for felt or other material, otherwise the pastille placed on the top of the filter would be too far from the skin to be a true guide as to the dose administered.

During the first fourteen sittings I did not employ a water-cooled heavy anode tube. I employed one of Mr. Dean's small light anode tubes. It was very hard, with a spark gap varying from 14 to 18 cm., and the Benoist penetration when tested was always about 9–10. A current of 1 milliampère was run through. During the time of application, which varied from ten to sixteen minutes, the

milliampèrage remained entirely steady; only on one occasion when treating the left flank it rose to 1½ milliampères. In the last cycle I employed a water-cooled anode tube with all other details exactly as Bordier recommends. In searching for causes of the dermatitis, I discovered that the sheets of aluminium as used in England are not exactly the same thickness as those employed by Bordier. The plate which is sold as being 0.5 mm. aluminium is, in reality, in England, only 0.4 mm. Hence, I had employed 0.4 mm. for three exposures when I should have had 0.5. Again, in the copy of Bordier's instructions with which I worked, I discovered a misprint. In the second exposure of the flanks during the second series the correct thickness of the filter should have been 1.3 mm. In my copy this read as 1 mm. But allowing for these small errors, my filters were deficient over the ovarian regions by only 0.6 mm. I do not consider that this was sufficient to account for the resulting erythema and swelling. On several occasions during the treatment, knowing that 0.5 mm. aluminium was a very slight filter for the skin, I took the precaution of placing the pastille under, as well as above, the filter, directly on the skin as well as on the aluminium plate. When the tube was working in fifteen minutes I found that with a 0.4 mm. aluminium filter there was less than 1 Hampson unit of difference between the pastilles. I do not, therefore, think it safe to give a full dose with a 0.4 mm. aluminium filter at intervals of three days.

My third case was sent to me in May, 1913, by Dr. Alice Corthorn. She was a widow, aged 48, and had a history of tumour growth since 1907. In 1910 the periods became very excessive and irregular. In spring, 1913, the periods set in every fourteen days, and were very profuse. I decided not to risk a dermatitis, and therefore during the first two series (18 sittings) I gave only about ⅔ Bordier doses, and employed thicker screens than advised by Bordier. I also separated the metal filter from the skin by a layer of felt. A pastille was placed *on the skin* and *on the top of the filter*, and both measurements noted. The skin became pigmented, but there was no dermatitis. The edge of the metal filter (which was earthed) rested on the thigh without any protecting layer of felt; and there she developed a line of dermatitis, even though that area was not the part on which the greatest amount of rays could fall. After the 18 exposures she had had under two-thirds of the dosage Bordier recommends; the ovarian function was stimulated, and a profuse flow ensued. Six further exposures were given in July. A filter of sodium tungstate lint was employed, and Bordier's full dose (Tint III by electric light) was administered on the top of the filter. On the skin the pastille twice registered 8 Hampson units. Dermatitis set in on that area three weeks later but slowly healed. Amenorrhoea was complete. During treatment the patient felt very exhausted and was troubled with flushes, and these continued for some time after the amenorrhoea.

Successful treatment depends on dosage; therefore I have made experiments to ascertain the relative value of different filters. I placed two pastilles above and below two adjacent sheets of aluminium, 0.4 mm. and 0.3 mm. thick respectively, and exposed the two at the same time. I jotted down the milliampèrage, Benoist, spark-gap, and time of every experiment, and wrote these notes on different sheets of paper daily, so that no subjective bias should prejudice the experiment. The results were then tabulated as in the diagram shown. This shows that 0.4 mm. aluminium retards only about one-quarter of the rays, while 3 mm. does not retard so much in proportion, but from three-fifths to one-half only. Bordier obtained very different results from his chemical method of measurement. He employed tubes of 9 to 10 Benoist from a water-cooled tube, and found that 0.5 mm. aluminium only allowed 55 per cent., and 3 mm. allowed only 14 per cent. to pass through. With my pastille measurements I found that when his Tint III was obtained above, the pastille beneath 0.4 mm. aluminium registered over eight of Hampson's units, four of which are equal to the epilation dose. Now Bordier recommends his Tint III by electric light as the constant dose to be measured over the filter. I find this Tint III is nearly equivalent to 12 Hampson units by electric light; hence, if the pastille beneath a thin filter receives a three-quarter dose, it is obvious that the skin receives more than the epilation dose (4 Hampson units).

The penetration from hard and from soft tubes differed little except when the tube was very soft indeed—2 or 3 Benoist. I then tested the relative value of screens made of felt (the method of Dr. Ironside Bruce) and of lint soaked in a saturated solution of sodium tungstate and dried (the method of Dr. R. Morton). Twelve layers of felt and eight layers of the sodium tungstate lint were tested at the same exposure, and it was found that when the pastille at half-way distance registered Tint B, the pastille under the felt showed three Hampson units, and the pastille under the lint only one.

Further experiments showed that twelve layers of felt were equivalent to four layers of sodium tungstate lint, and, if the lint was very heavily impregnated, two layers would give the same degree of retardation.

TABLE I.—*Registration of Pastille Measurements in Hampson Units.*

H = Hampson.

Date.	Type of Tube.	Ma.	Benoist.	Spark Gap.	Time	Thickness of Aluminium Sheets.		
						0.4 mm.	3 mm.	1 mm.
					Min.			
May 15	Small hard light anode	½	—	—	10	H 4* H 2+	H 4* H 1	
May 15	Water cooled heavy anode	—	—	—	12	H 3+ H 3	H 4 H 2−	
May 17	,,	—	—	6	—	H 4 H 3		H 7 H 4
May 17	Small hard light anode	—	10	—	9	H 5 H 4		H 5 H 3
May 17	Large light anode	—	—	6	15	H 4 H 3+		H 4 H 3−
June 2	Water cooled heavy anode	1	7	—	15	H 4 H 3	H 4 H 1	
June 2	Small hard light anode	1	10	—	8	H 5 H 4	H 5 H 1+	
June 6	,,	1	10	—	12	H 9 H 7	H 9 H 3	
July 4	,,	1	10	—	8½	H 5 H 3+	H 5 H 2	
July 6	,,	1	10	13	8	H 5 H 3+	H 5 H 2	
July 6	Large light anode	1	3	8	16	H 4 H 2	H 4 H 1	
July 6	Water cooled heavy anode	1	6	9	8	H 4+ H 3	H 4+ H 1	

* The top line in each experiment refers to the pastille placed above the aluminium filter, the bottom line to that placed under the filter.

TABLE II.—*Showing Penetration through Screens of Sodium Tungstate Lint and Felt.*

Pastille measurements in Hampson units.

Date.	Type of Tube.	Ma.	Spark Gap.	Benoist.	Time	Screen of 12 layers Felt.	Screen of Lint.*	No. of layers of Lint.*
					Min.			
July 10	Water cooled heavy anode	2-1	—	4	7	H 3	H 1	8
July 10	Light anode	¾	8	7	10	H 4	H 3+	4
July 10	Light anode	¾-1½	—	7-4	10	H 3	H 2	4

* Sodium tungstate lint.

TABLE III.—*Comparing Penetration of Screens of 3mm. Aluminium and Sodium Tungstate Lint and Lint.*

Date.	Type of Tube.	Ma.	Spark Gap.	Benoist.	Time	3 mm. Aluminium.	S. T. Lint.*	No. of layers of S.T. Lint.*
					Min.			
July 12	Hard light anode	1	16	10	10	H 8 H 1+	H 8 H 1+	4
July 12	Hard light anode	1	16	10	—	H 6 H 1	H 6 H 1	4
July 14	Water cooled heavy anode	1	13	6	6	Simple Lint H 5 H 4	H 5 H 2	4
July 14	Hard light anode	¾	13	6 to 7	7	H 5 H 4	H 5 H 2	4

* Sodium tungstate lint.

Plain lint formed a very slight barrier to the passage of the rays. Thus, when authors discuss their dosage and their screening methods, we shall in the future be able to understand the relative properties of their filters.

SECONDARY X RAYS IN CONNEXION WITH IONIZATION.

By John Delpratt Harris, M.D., M.R.C.S.,

Senior Surgeon and Honorary Medical Officer in Charge of Electrical Department, Royal Devon and Exeter Hospital.

The year before last, when the Annual Meeting of this Association was held in Birmingham, I mentioned a case in which *x* rays given in unusual doses proved successful in causing shrinkage and eventual disappearance of a tumour containing bony plates—osteo-sarcoma. This occurred after the tumour had proved immune to smaller doses.

It is this intermittent action that has been occupying my thought and consideration in connexion with secondary *x* rays. There appears to be an inhibitive action in the patient, restraining the beneficial qualities of *x* rays, present at one time, yet absent at another; and further, cases of epithelioma of the auricle of the ear heal under *x* rays, yet the glands involved seem quite unaffected by them. The object of this paper is to show that this curative action seems capable of restoration by ionization in some instances.

In 1909 Mrs. B. was seen by me in consultation with a view to electrical treatment of a large fungating ulcer at the junction of the hairy scalp with the forehead. Three sittings of *x* rays were given, as the case was one of papilloma degenerating into epithelioma. I then represented to the family that it would be dangerous to the health to get rid of so large a mass by absorption, supposing *x* rays proved successful, and on October 15th I removed it by the knife. It was a bun-shaped mass, highly offensive, not less than 3½ in. in diameter. Centrally the bone was discoloured with a brown tint, but not eroded. It healed in very slowly from the edges, and a central patch, more or less red in colour, refused to heal. *X* rays were therefore applied—four sittings, two a week. Zinc ions, twice a week, next were used, and again *x* rays, a week apart. On several occasions complete healing occurred, only to break down again if there were any exposure to cold. As the wound gradually became smaller and divided itself into three or four smaller ulcers, zinc ions were introduced until the wound, becoming glazed over by a very thin layer of epithelial cells, refused to take the characteristic grey tint caused by the ions of this metal. *X* rays were then used several times in succession, and the wound healed. As smaller and smaller ulcers again formed, the same routine was followed, but complete permanent healing did not take place for three years.

It was this case that brought the idea of systematically using the two remedies to my mind. It occurred to me that possibly the zinc ionization acted in two ways: first, its own specific action, whereby rodent ulcers and spreading lupus were transformed into healing ulcers; secondly, the ions, which were substantial enough to colour the granulations, gave off secondary *x* rays on being acted on by primary *x* rays, and *that* in the deeper portions of the granulations. On this assumption the ions have been allowed to remain for three or four days or more before the use of the *x*-ray tube.

Miss E. was sent to me by a practitioner who had tried all kinds of medical remedies and local applications of formalin with some success for tuberculous ulceration of the end of the nose, a very superficial form of lupus, in which the cheeks were not affected. In this case *x* rays and ions of zinc were systematically given—the ions of zinc whilst the three or four small wounds were open and *x* rays as soon as they were too small or covered with crusts. Under this treatment the improvement was most marked. She is now well, but I still keep her under observation, as crusts occasionally form.

Mr. H. was sent in for lupus on the bridge of the nose of the scaly type, affecting the most superficial layers only. This gave way almost immediately to *x* rays, as such cases usually do. But on the upper lip, close beside the ala nasi of the right side, was an ulcerating papilloma. There were everted edges, with a deep pit centrally. At first *x* rays appeared to cause healing and inversion of the edges, but later this effect passed away and CO_2 was tried. This did not produce the benefit I quite anticipated, and after a few weeks zinc ionization was commenced. At this time the base was inflamed and the ala of the nose nearly involved, and I debated in my mind whether I had not tried these measures long enough and whether I ought to urge him to have an operation, necessarily disfiguring, performed with little delay. The cases already reported to you had made an impression on my mind, and I determined to try the method.

Two treatments of zinc ions, given a fortnight apart, were followed by two of *x* rays, with the best possible effect. The ulcerated surface healed centrally, having a heaped-up ridge around. The ridge flattened gradually from the outer edge, and finally the ridge nearest the ala flattened. A whitish, but thin, scar remains. I regard this case as a very convincing one, for *x* rays were given a full and long trial, and though successful at first, the case threatened to degenerate in spite of them. The ions of zinc supplied a means of regenerating their useful effect, which was never lost after.

I do not propose to read you further detailed notes of cases, but epitomize one or two others to show the class of cases this routine seems to suit best.

Sarah H., a woman of 72, had an unusual form of ulcer of her left nipple. It was on the surface, and did not produce any loss of substance. Ionization with zinc always healed the ulcerated portion, but fresh ulcers formed, and so the net result was but slight, until *x* rays were given more or less alternately, when healing still took place, but it ceased to break out afterwards.

Tuberculous ulcers healed readily under this combined treatment in a girl with tubercle of the skin near the elbow-joint.

Captain Henry J. was a case of small but penetrating rodent ulcer of the right ala of the nose. He was over 80, and came from the same town the case with papilloma came from. He was put on the combined treatment with quick and complete healing. Less than a year was sufficient to heal this ulcer, and there is no sign of its breaking down, although he occasionally comes to report himself.

I have had one or two failures where cases have not responded. These have been in cases in which the condition has been more or less eczematous, and in which zinc ions have difficulty in penetrating deeply. But where granulations exist and deeper penetration can take place, the effect appears most striking.

Even the deeper tissues seem to respond to this treatment, for in a hospital case a man came with caries of the cartilages on two ribs with sinuses running underneath the thin edge of the greater pectoral muscle. There was more than one superficial ulcer also, each about the size of a threepenny piece. He was at first treated with *x* rays, which appeared to heal the superficial ulcers. Finding the sinuses disinclined to heal, the man was taken into the hospital and the sinuses thoroughly explored and scraped. He was next ionized with zinc, which quickly healed the superficial parts; and then *x*-rayed, and in a very few weeks this alternating treatment produced complete healing of the sinuses and superficial ulcers.

My belief, therefore, is most strong that *x* rays alternating with zinc ions will produce a better result than either of them singly, and I suggest this is due to secondary rays, not from the tissues, but from the ionized metal already introduced into the deeper tissues. I claim also that the ions of zinc have the property of supplying a means of resuscitating the effect *x* rays have in healing an ulcer, when that has been exhausted.

Should this be found a common experience, it will, I think, open a door for future experiment. On this occasion I can only indicate a line of research.

A most severe case of actinomycosis in a young girl came to the electrical department, and it was proposed to see whether *x* rays would be of use. When first she came down it appeared as though she scarcely had strength to go through the exposure. The left side of her face was greatly involved, together with the neck. Her temperature was high—namely, 104°—and it was only with the aid of a whole-length wheeled couch and lifts that she could be brought down at all. Potassium iodide had been pressed until her stomach could digest no larger dose. Her kidneys were deluged with potassium iodide and, we may assume, so was her blood. The first few exhibitions of *x* rays produced a slight but favourable effect. But her feverish condition and quick pulse still seemed to demand more stringent and hasty measures. I felt I could scarcely do any harm in a case so desperate, and injected a solution of potassium iodide into the diseased tissues in many places at one sitting, thinking to get the salt into more close proximity with the spores, and especially that excretion by the kidneys might be delayed. I then immediately *x*-rayed the parts. After many such sittings this was followed by recovery, slow but complete. Combined treatment was therefore given in this case also, but with iodine instead of a metallic salt.

One case of this kind cannot prove much, but taken in connexion with those in which the ions of zinc have been used, it may, I think, call for an examination of the effects of other bases introduced into the tissues, capable of giving off secondary rays.

Quinine, we know, is visibly fluorescent. Salts of strontium and barium fluoresce under certain electrical stimuli from the + electrode, and but slowly part with that condition.

The behaviour of iodine, bromine, salicine, magnesium, and other elements has not been investigated in this connexion, so far as I know.

The point which it is required to know seems to be as to the nature of the laws that govern secondary *x* rays. Do secondary *x* rays occur from substances introduced into our tissues by ionization? Have they any differential therapeutic effects? Secondary rays certainly do occur from substances introduced by ordinary means, such as injection. Probably we all have seen patients brought to us for bismuth meals, followed by *x*-ray examination, who have been loud in expressing how benefited they have felt by them. We have elevated our eyebrows and remarked on the influence of the mind on the body. But the case may be otherwise, and secondary *x* rays from bismuth during the examination may have been an important factor.

DISCUSSION.

Dr. G. E. BOWKER (Bath), after congratulating Dr. Harris on his results, and also Dr. Hernaman-Johnson on his scientific exposition of this combined method on the occasion of the annual meeting at Birmingham, said that he himself had had very marked and decisive successes with the use of the zinc ion precedent to *x*-ray irradiation. He mentioned a case of extensive rodent ulcer which was treated on each occasion with zinc ionization twenty-four hours before *x* rays were applied, and the result was a completely sound epithelial surface, with no recurrence up to date of the malignant growth.

Dr. W. HARWOOD NOTT (Sheffield) had used the combined treatment systematically for rodent ulcer, epithelioma, and various forms of lupus. Rodent and other forms of ulcer had given way to the combined treatment after they had refused to yield to any agent taken alone. One case of rodent ulcer in the inner canthus of the eye in a man of 67 had been ameliorated by *x* rays once, but the rays never appeared to be of any benefit subsequently until they were combined with zinc ionization, when the case healed up quite well.

Dr. DIRK DE VOS HUGO (Worcester, S.A.) confirmed Dr. Harris's experience of the combined method. He never treated cases of foul ulcer except by this procedure. He instanced its value in a case of very bad epithelioma of the lip which had resisted *x*-ray treatment, and also one of rodent ulcer of the ear, in which the cartilage was affected. In the latter case two surgeons recommended amputation of the ear, but by the use of the combined method for only six weeks the ulcer completely healed up.

Dr. F. FOWLER (Bournemouth) did not agree that it was advisable to use ionization as a routine method before *x*-ray treatment, even in cases of chronic ulceration. The treatment was generally painful, and should be kept for cases in which *x* rays seemed to fail. He believed that failure was often reported because unfiltered rays had been used, and in such cases, of course, the rays should be filtered.

Mr. J. HALL-EDWARDS (Birmingham) said that his experience with the combined methods had lasted for a considerable time, but he got quite as good results by using secondary radiation from silver. His practice was to cover over the wound with freshly precipitated silver, and the procedure was painless, and scarcely added at all to the elaboration of the treatment.

Dr. F. HERNAMAN-JOHNSON (Darlington), who was asked to speak in the absence of the reader of another paper on an allied subject, referred to the paper read to the Section by Professor Barkla, in which he laid a fair amount of stress upon the advantage of being able to get soft and readily absorbed radiations. These radiations were useful, providing they could be generated in the right place, but it was of no use trying to use pure specific secondary radiations from a zinc or copper plate, because these soft rays, unless they could be brought into direct contact with the tissues, did not appear to have any action at all. One could certainly cure skin lesions by going on for a sufficient length of time with a plate used as a "reflector," but the cure would not be due to the secondary rays generated by zinc or copper, it would be due to scattered primary radiation of the same quality as the primary exciting beam. Therefore, if it was desired to use zinc and copper radiation, which was only capable of penetrating a fraction of a millimetre of tissue, the only effectual way was to introduce the ions into the interior of the cells. That was really the only satisfactory way in which materials of low atomic weight could be used for the purpose, but if metals of higher atomic weight, giving a radiation capable of penetrating a centimetre or more, were substituted, then it was possible to make use of the method of powdering the surface as Mr. Hall-Edwards had described. It was necessary to distinguish very carefully between the effects of the primary and secondary rays, and in view of the fact that the whole of the secondary radiation from, say, bismuth could be stopped by a sheet of paper, as he had demonstrated by a photographic experiment, it seemed rather far-fetched to attribute any action on cancerous glands to the effect of the secondary rays from an insoluble bismuth salt scattered in their neighbourhood. In spite of what the physicists might say, it was true that the harder the rays one used and the more heavily filtered they were, the greater was the physiological effect. These hard rays were valuable, not only for deep, but also for surface structures, and it should be remembered that even if the organs scattered the rays, a large portion of them must be scattered back again by the surrounding organs, and thus finally absorbed. He hoped they would not be induced to waste time by using pure secondary rays from plates set at angles, because, if these were used with the object of obviating a deep effect, there would be no effect at all, save such as was produced by the scattered primary rays, and if one went up the scale to silver and tin there was not much advantage over and above what was obtained by using a tube of approximately the same penetration. The speaker added, apropos of Dr. Harris's paper, that, if one's simpler measures failed, one was quite justified in resorting to ionization. He had had many good results in such cases, which had been obstinate or unyielding to *x* rays in the ordinary way. On the whole, the progress of secondary radio-therapy in three years was rather disappointing, but if one definite method were added to their armamentarium, it would be quite sufficient to reward them for their trouble.

Dr. DELPRATT HARRIS, in reply, acknowledged his indebtedness to Dr. Hernaman-Johnson and also to Dr. N. S. Finzi for certain of the ideas underlying the work recorded in his paper.

THE RADIO-THERAPEUTIC TREATMENT OF GYNAECOLOGICAL CASES AT FREIBURG.*

By Dr. C. J. GAUSS,

Director of the Gynaecological Clinic at the University of Freiburg-i.-Br., Germany.

I FEEL specially honoured in having been afforded, through the invitation of the President of the Electro-therapeutical Section, this opportunity of addressing you on a subject which is undoubtedly one of the most interesting in the whole of modern medical science. In view of the shortness of the time at my disposal I must naturally confine myself within narrow limits. You will, therefore, pardon me if, after a very brief reference to the development of radiation therapy, I proceed directly to the main portion of my subject, in which I shall deal with the technical methods employed and the results achieved in the Freiburg University Gynaecological Clinic.

It is, of course, impossible for me in what follows to refer to every kind of ray treatment. When, therefore, I speak of radio-therapy, I shall understand only treatment with Roentgen rays, radium, and mesothorium. Nor could I expect to deal fully with all the diseases which we have treated by Roentgen-radium methods in our clinic. I shall leave out of account tuberculosis, various inflammatory conditions, pruritus, dysmenorrhoea, goitre, and other affections, and shall speak only of

* This paper was read at a joint meeting of the Gynaecological and Electro-therapeutical Sections.

Roentgen and radium methods as applied to fibroma, metritis, and cancer.

Radio-therapy was for a long time purely a surface treatment, the reason for this lying in the nature of Roentgen radiation. The Roentgen rays, like those of radium, are a compound of rays of different penetrations, in which, however, the soft element predominates. These soft rays have but little power of penetration, and their healing function, consequently, is confined chiefly to the body surface.

With the advent of knowledge that the hard rays could penetrate much more deeply, came attempts to employ these rays to a greater extent. This end was attained by the use of high vacuum tubes, and by placing metal filters of moderate thickness between the radiation and the tissues. The results were improved by this procedure, but they did not come up to expectations. As a proof of this, it may be sufficient to mention the fact that the French, always to the fore in this work, speak of a surgical radio-therapy, and, in agreement with the views and experiences of workers in other countries, hand over complicated cases, presenting large tumours and excessive anaemia, to the surgeon's knife.

At this point our own researches began. Relying upon the fact that by the use of thick metal filters a harder and more penetrating radiation could be secured than was possible by merely raising the vacuum of tubes, we treated, for purposes of comparison, young bean plants and tadpoles, both with strongly filtered and with quite unfiltered rays. The results were evident. The growth of the plant was arrested much more quickly by the filtered than by the unfiltered rays, and the tadpoles exposed to the filtered rays were killed during the exposure, whereas those irradiated with the unfiltered rays did not die until several hours later.

The practical application was obvious. It must be possible, we concluded, to obtain better penetrative action with filtered than with unfiltered rays, provided that a sufficiently large volume of the hard rays could be introduced into the body. We therefore projected the Roentgen rays through an aluminium filter 3 mm. in thickness, and strove to increase to the greatest possible extent the doses of these hard rays. Here we were helped principally by an application of the French "cross-fire" method, which we employ in the following way: As large a number of special fields as possible are marked off on the body of the patient, and through each of these fields—from thirty to fifty in all, on the abdomen and on the back—the *x* rays are introduced into the depths of the tissues, while the neighbouring fields remain covered. In carrying out this procedure we made a very useful observation which revealed the fact that the skin will stand a double or triple dose of filtered rays without danger of burning. We were able, therefore, without any difficulty to introduce into the body through the thirty or fifty above-mentioned fields from 600 to 1,000 × units (Kienböck measure*) by irradiating each field with 20 ×. The dose so applied represents a radiation series, which after periods of from two and a half to three weeks is repeated in exactly the same manner, until the appearance of amenorrhoea shows that the healing process has begun. Finally, as an extra precaution, one or two additional series are given in order to prevent any possibility of recurrence.

The rapid appearance of favourable results depends essentially upon the speedy application of the ray dose. It has been established experimentally that the effect of a given amount of rays varies with the intensity of its application. In the case of a large dose applied for a short time healing sets in quickly, whereas the same dose extended over a long period tends, on the contrary, to aggravate the symptoms of the disease. We are able to obtain such an intensive concentration of large doses within short periods of time by irradiating the various fields in quick succession, by reducing the distance of the *x*-ray tube from the body to between 15 and 20 cm., and by increasing the charge of the tubes to 5, 7, and even 10 milliampères on the secondary current circuit, such an increase being rendered possible by the use of instruments constructed expressly for our purpose. Hitherto our expectations have been justified by facts. By means of large doses, applied in as short a time as possible, we have succeeded in curing all the patients we have treated for fibroma and metritis. Amenorrhoea has set in, followed by complete disappearance or marked shrinkage, or at least arrested growth of the tumour. Latterly the average time needed to attain this result in the case of about three hundred patients with fibroma or metritis has been about eight weeks, the total dose in each case being about 1,800 ×.

It goes without saying that we did not venture to apply such large doses in non-malignant cases before we had made preliminary experimental investigations in cases of inoperable carcinoma. It will doubtless be known to you that in the course of these experiments we succeeded, by means of large doses of *x* rays, in influencing a number of hopeless cancer cases to such an extent that, although formerly carcinoma most certainly existed, it was no longer possible by a deep excision to detect the presence of cancer cells. One question was of special significance in the question of cancer cure by means of deep *x*-ray therapy. This was an extensive inoperable carcinoma of the stomach, whose existence was established by a laparotomy. As the result of *x*-ray treatment, it disappeared entirely for macroscopic vision, and microscopically was shown to be reduced to the minimum. We were, nevertheless, forced to admit that it was extraordinarily difficult, by the employment of *x* rays alone, to induce a permanent effect at any considerable depth. We therefore conceived the idea of applying radium simultaneously. The radium capsule does not merely project its rays forward, as does the *x*-ray tube, but distributes them in all directions. Moreover, radium rays, by reason of their proportion of extraordinarily hard gamma radiation, possess much more penetrating power than Roentgen rays, and it should be possible, we considered, by isolating the pure gamma rays of radium or mesothorium, to improve upon the unsuccessful attempts of other authors. The isolation was obtained by the Dominici method, using strong metal filters so as to cut off all but the gamma rays, and then introducing sufficiently large and hitherto untried doses of these rays to the seat of the disease. It was, of course, necessary first of all to find out the size of dose which the healthy organism could bear without injury.

As the result of laborious experiments we determined this for each of our capsules, and then proceeded, by the use of cross-fire, to treat a carcinoma with as many hard gamma rays as appeared in our experience permissible. In this way a radiation treatment has been rendered possible which, both in duration and intensity, was formerly undreamed of, and which, though varying with special circumstances, may involve a series of radiations extending over a period of from seventy to two hundred hours and the continuous use of from 400 to 800 mg. of mesothorium. The results have exceeded our expectations. Large ulcers have disappeared rapidly and been replaced by extensive webs of scar tissue. Bleeding, discharges, and pain have ceased at the same time, and the strength of the patients has improved markedly. Up to the present we have to record 28 such cures out of 82 cases of carcinoma treated purely by radio-therapy.

It is, of course, impossible to say to what extent these cures may be regarded as permanent. Our first case, treated eighteen months ago, has hitherto shown no signs of recurrence. If it should turn out that radio-therapy can offer only a palliative treatment for carcinoma, still it would be the best means which we know of as yet for brightening and lengthening the lives of the patients whom hitherto it has been impossible to help in any satisfactory way. But we have good reason to hope that our results will be permanent. In this connexion we may mention an interesting fact. Investigation has shown that of the patients operated on in our clinic for carcinoma of the uterus, almost all those not subjected to radio-therapy after operation died subsequently from recurrence, while of 21 patients who underwent regular radio-therapeutic treatment 20 have remained free from recurrence. In the one outstanding case all traces of the patient have been lost.

These facts furnish food for thought. They show that radio-therapeutic treatment must be repeated at certain intervals if the cure at first effected is to remain permanent.

I should mention, in conclusion, that we use mesothorium also in the treatment of non-malignant diseases

* 10 Kienböck × units are equal to 5 Holzknecht, or Tint B, Sabouraud-Noiré.

of the female genital organs, especially in fibroma and metritis. The method of application is quite analogous to that employed in *x*-ray treatment. At intervals of three weeks a mesothorium capsule containing at least 50 mg. is introduced into cervix, uterus, or vagina, the strongly filtered rays being allowed to work as long as possible from this centre. By the use of this method two or three sittings have sufficed to cure all cases treated up to the present—that is to say, they have brought about shrinkage or disappearance of the tumour and cessation of menstruation, irrespective of the patient's age or of the size of the tumours or of the degree of anaemia.

In spite of such successes, however, we retain the Roentgen treatment in non-malignant gynaecological diseases, only combining it with the mesothorium treatment in specially complicated cases. Such a policy is, however, dictated only by economy, as we know that radium and mesothorium rays are much more valuable than Roentgen rays for the treatment of cancer.

DISCUSSION.

Dr. DEANE BUTCHER said he was anxious to know what was the area of the *porte d'entrée* through which Dr. Gauss projected the rays. A great discussion had arisen in Germany on this matter. It was so difficult to compare the dosage given by two different people, for the reason that the *porte d'entrée* was not definite. In the future there was some reason to suppose that doses would be estimated by the number of units X absorbed per square centimetre of the *porte d'entrée*. Then they were indebted to Dr. Gauss for a new idea, namely, the concentration of *x*-rays, not only in place, but in time. That was an absolutely new departure in *x*-ray treatment. They had been accustomed to spread their treatment over a long period, and by that measure the pathological cells seemed to get accustomed to the insult of the rays, if he might say so, and the reaction to be correspondingly less. He would ask a further question as to the method of cross-fire. The idea of cross-fire was very fascinating, but the thought occurred to them every now and then as to the possible inaccuracy of that cross-fire. And it seemed to the speaker that there must be another factor involved, that is to say, the attack on the fluids of the body, the lymph and the blood, in addition to the local action on the ovary itself. Then there was another point with regard to which he had hoped to learn something from him, namely, the hardening of the ray by filtration. The average hardness of the ray-beam could be increased by such a means, but did he understand Dr. Gauss to say that by any method of filtration they could increase the rapidity of the ethereal vibrations? The action of mesothorium was little known in this country, but he would like to hear from Dr. Gauss some appreciation of the particular advantages of mesothorium as compared with radium. The great merit of Professor Gauss's method seemed to be that he had increased the thickness of the aluminium shield. This consisted of a 3 mm. thickness of aluminium, and with such a filter one might go on for as long as necessary and the skin would not be injured. That in itself was a very great advantage. As to the question of burns he gathered from Dr. Gauss's book that under his new technique the burns were practically negligible. But how much did such a statement involve? What about the late reactions? He himself believed that the sudden attack by *x*-rays was less likely to burn than the practice of using smaller but unknown doses and extending them over an indefinite period of time.

Dr. HANS SCHLIMPERT (Freiburg) said that in the Freiburg clinic the number of operations for gynaecological conditions had diminished steadily. The results in every case by the method expounded by Dr. Gauss were good, even to the critical and jealous eye of the gynaecological surgeon. Then, again, there was no mortality, and, furthermore, there were no conditions, such as adhesions, etc., which caused trouble after operation. The only after-effect was a slight headache and sickness. In the Freiburg clinic the radiation method of treatment had been extended to carcinomatous conditions, and the results were very encouraging. The results of operation in malignant conditions, especially in sarcoma, were so unsatisfactory that the results with *x* rays were all the more welcome as manifesting a great improvement.

Dr. DELPRATT HARRIS (Exeter) asked whether the rapid absorption of large tumours was not dangerous.

Dr. ABBE (New York) asked whether the pedunculated fibroid yielded to this method of treatment.

A lady member asked what method Dr. Gauss employed to isolate the ovaries.

Mr. BECKWITH WHITEHOUSE (Birmingham) wished to know whether it was actually a fact that large interstitial uterine fibromyomata would disappear under the action of *x* rays. Furthermore, he asked whether any degenerations occurred, such as fibro-cystic change, with possibly later suppuration. If this was so, as it was in the days of the electrical treatment by Apostoli's method, then he preferred to regard operation by myomectomy or hysterectomy as the better procedure. On the other hand, if, as he had just heard from Professor Gauss and Dr. Hans Schlimpert, there was nothing but a succession of brilliant results and no disadvantages, he was afraid that gynaecological surgery had fallen on evil days.

Dr. GAUSS regretted that his knowledge of English was not sufficient for him to reply adequately on the discussion. With regard to the size of the *porte d'entrée*, he explained that they took a sector of a circle as a unit of area, the triangle measuring 6 sq. cm., and divided the abdomen into these sectors. With regard to the concentration of *x* rays in time, he found distinctly a better result when the same dose was compressed within a shorter time. The necessary dose could not be given in one series, because there must be two menstrual periods. With regard to the hard rays, the highest degree of hardness could not be reached without filtration, because of the intermixture of soft rays, which he thought it advisable to filter away. He was not able to compare radium with mesothorium precisely, but he had no doubt that the difference between the two agents was slight. He had had no burns which could be traced to any fault of technique during two and a half years, and during that time also he had seen no belated reactions, although Dr. Albers-Schönberg had said that the apprehension of such reactions could not be definitely laid aside until after six years. He had treated two or three cases of pedunculated fibroids, and had seen no bad results, nor had he observed any instance of danger to the patient from the absorption of the tumour masses.

THE TREATMENT OF RINGWORM BY X RAYS.

By GEORGE B. BATTEN, M.D.,

Honorary Radiologist, Home and Infirmary for Children and Women, Sydenham.

My excuse for reading a paper on such a commonplace subject as ringworm is twofold: first, because I believe that I have had a longer (about eleven years) experience of its treatment by *x* rays than any one else in England, and secondly, because I wish to describe to you a modification of the ordinary modern technique, which I have devised, and which I hope will be found a help to other workers.

Ever since 1896, when I began practice in Dulwich, I have taken a great interest in ringworm, and I treated and cured many cases by the older, very tedious, and rather unsatisfactory methods. In 1900, hearing of the accidental production of baldness by *x*-ray treatment of lupus, I exposed a small portion of my left arm to *x* rays and succeeded in producing a temporarily bald patch on it without any ill effects. During the following two years I tried the effects of *x* rays on a few cases of ringworm of the scalp, but as I had to guess at the whole details of exposure and dose, the first cases were not very satisfactory, the hairs coming out better around the ringworm patches than in them. Dr. Norman Walker then suggested verbally to me to try ten-minute exposures. I found that six such exposures on alternate days produced the desired baldness. I referred to this treatment in a paper which

I read, on the uses of alternating current, to the British Electro-Therapeutic Society in March, 1903.

My first successful case was begun in November, 1902, and finished early in January, 1903; I show you a photograph of this case, taken some months afterwards, when the hair had grown again. This case was followed by many others, the results of which I published in the *General Practitioner* in 1904.

I wrote a fuller paper in November, 1904, which, with photographs, was published in the *Archives of the Röntgen Rays* in August, 1905. In this is shown what I believe to be the very first case in which the whole head was treated. This was done in the second half of 1903. In this case a portion of the scalp over the left ear remained somewhat bald for over a year, and up to 1907 the hair at this place was thinner than elsewhere on the head.

In 1905 Sabouraud and Noiré devised their pastille method of measuring a single effective epilation dose, and during the last few months of that year I began to use their method—at first exposing the head through holes cut in an ordinary school cap which had been covered with white lead, or else by exposing one part of the head, and, after it had become bald, covering it with a portion of such a cap, and exposing other portions in the same manner.

In December, 1906, I devised and tried an overlapping open method, that is, one which obviated the necessity of protecting devices on the child's head. I show you some photographs of the first case so treated, which was most successful. I managed this by moving the head and the *x*-ray tube about, and succeeded in epilating all except the areas above the ears by two such exposures. I treated several cases by this overlapping open method, but they were not all so successful. I published a paper on this method in the *Archives* in July of 1907.

Soon after that Dr. Agnes Savill tried the overlapping open method, and then Drs. Adamson and Critchley in this country and Dr. Kienböck in Vienna much improved the overlapping open method and invented the 5-in., 5-area naked overlapping method, now almost invariably used. Sabouraud's pastilles and distance were adhered to, the distance being measured by transparent wooden rods, which are usually called Kienböck's, but which I prefer to call Adamson's, because I believe that he and Dr. Critchley used them first.

This method is a very safe and satisfactory one, but it entails the pastille being at least half an inch from the glass of the tube, and therefore at least 3 in. from the anticathode, and the child's head must therefore be at least 6 in. from the anticathode. At this distance, with an average apparatus and an average tube, one area takes from 7,000 to 12,000 interruptions of from seven to fifteen minutes—that is, thirty-five to seventy-five minutes for the whole five areas. If many cases have to be treated, this is rather tedious. I have had tubes so well exhausted, so hard and so seasoned, that they will change the pastille in 5,200 interruptions, or under six minutes, but one cannot count on having a regular supply of such tubes.

To get over these difficulties, Dr. Hampson devised a method for shortening the time required by putting the pastille on the child's head and bringing the head to within about 4½ in. of the anticathode—that is, the "half-time distance." He invented a tube shield to suit this method, and also his radiometer, which divides Sabouraud's tint "B" into sixteen tints. When the pastille on the child's head has changed through four of these tints, the head has had an epilation dose. I have worked with his method, and find it efficient and quicker, but in my opinion it has two disadvantages: that it is very difficult for most workers, even in the proper artificial light, to match accurately all the requisite tints; and that without some other control it is hardly safe enough. In my opinion the safe margin for error above and below the correct dose is not more than 12 per cent., and the difference between, say, tint 4 and tint 5 is 20 per cent. of the correct dose. I may also mention that most of the shields made for Dr. Hampson's method have not a large enough hole, which should be 5 in. in diameter, whilst they are often not more than 4½ in.

To overcome these disadvantages I devised a modification in technique, which I think combines the safety of the Adamson or Kienböck-Sabouraud method with the rapidity of Hampson's. I have had a wooden tube shield made with a full 5 in. aperture, and with transparent distance rods of such a length that by simply removing them with their holder and putting the child's head at the level of the aperture one moves it from the "full-time" Sabouraud distance to the "half-time" Hampson distance; for instance, with a 5 in. (or 13 cm.) tube, the rods are 1¾ in. in length vertical measurement; with these distance rods of mine in place, the child's head is 6 in. from the "anticathode"; with the rods removed, the distance is 4¼ in., that is, the half-time distance. I have also devised a very simple pencil-like pastille-holder, and this is inserted radially to the anticathode.

With my rods in place I put the pastille at Sabouraud's half distance, that is, 3 in. from the anticathode. When the rods are removed and the head moved to the nearer distance the pastille distance is kept the same (3 in. from the anticathode) but a new pastille is, of course, used.

I use a small piece of bandage across the opening of the tube shield. This is kept in place by being fastened to pieces of bonnet elastic with safety hooks to the rim of the shield.

My procedure on any given day for the treatment of cases is as follows: I expose the area over the right ear and the area at the nape of the neck of the first child at the full distance and note the details of ampèrage, voltage, milliampèrage through the tube, and the equivalent spark-gap, and I find how long and how many interruptions the tube is taking to change a pastille to tint "B." Then I remove my distance rods and place another area of the child's head up against the bandage—that is, 4¼ in. from the anticathode—insert another pastille at the same distance, and set the tachymeter for half the number of interruptions, or half the time that was taken with the child's head at the full distance—that is to say, if the tube took 10,000 interruptions with the rods in, I set the tachymeter for 5,000 interruptions with the rods out. I do the three remaining areas of the first child at the half-time distance. With the second child I put my rods in again and do an area at the nape of the neck, again noting the number of interruptions required for tint "B." I remove the rods and do the four remaining areas at the half-time distance. I repeat this for all the other cases if the tube conditions remain fairly constant.

Of course, while dosing the areas at the half-time distance the pastille will only undergo a change equal to half of tint "B," and this I am gradually learning to recognize. However, I leave the same pastille or some portion of it in for two such half-time distances, and the tint then produced is the same as the Sabouraud tint "B," and serves as a useful and efficient check to one's dose calculated from the number of interruptions or the time occupied.

I had a wooden tube box made to suit this method, and Messrs. Newton and Wright lined it with protective rubber and made a slide with my distance rods on it. Since then they have made me one in papier-mâché, lined with opaque rubber, which I show you. You will see from this photograph that it is quite opaque to *x* rays. Messrs. Newton and Wright are now making these tube boxes in wood lined with opaque rubber, opaque papier-mâché, and also in glass, which is the best of all.

I pass round a few photographs of a child's head treated twenty-six days previously by this method, and I do not think that any one can tell which areas were treated at the full-time distance and which were done at the half-time distance.

I contend that my method is at least as safe as Sabouraud's and more than a third of the time quicker. If the tube is taking ten minutes for each area, it saves fifteen minutes on the first head and twenty minutes on each subsequent head treated—an important consideration for both the patient and the doctor. Only one—or, if one wishes, two—tints have to be learnt, and I believe that mine is a distinctly safer method than Dr. Hampson's.

With regard to general results: Before we had Sabouraud's pastilles in 1905 I had one case with complete baldness over an area the size of a florin and two cases of partial baldness, and also one case in which the hair on the front part of the head of a fair-haired boy did not return for over two years, when, however, it grew well. Since I have used the pastilles I have never had any cases of permanent baldness nor any other ill effects to the patients, and I have had exceptional opportunities for seeing and following up the cases. My only trouble has

been that during my ten and a half years' experience occasionally I have had to use slow tubes for short periods, and I have underdosed some cases and had to *x*-ray them over again after an interval. I have come across two cases this year, in which, even after three times of exposure to *x* rays, I have failed to cause proper epilation. I should like to ask members what is their routine treatment after dosage by *x* rays, and especially what they do to help to get out the very short ringworm stumps in cases where the dose has perhaps been not quite long enough.

SUGGESTED STANDARDS IN THE X-RAY EXAMINATION OF THE ALIMENTARY CANAL.

By ARTHUR F. HERTZ, M.D., F.R.C.P.Lond.,
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OPINIONS still differ as to the normal variations in the position of the stomach and colon, and the rate of the passage of food along the alimentary canal. In order that the *x*-ray reports of gastric and intestinal cases should be as valuable as possible, it is very desirable that there should be greater unanimity on these subjects. The differences of opinion depend in part upon differences in technique and in part upon insufficient experience in examining normal individuals. I propose to-day to make suggestions in order to lead to a discussion, which I hope will result in the laying down of a standard in technique and a definition as to what constitutes the normal.

1. *The Standard Meal.*—The appearance of the stomach varies greatly according to the amount of food which is present in it. In order to obtain comparable results the bulk of the meal should always be the same, and it is also desirable to have its composition fixed, as there is no doubt that variations in the proportion of its constituents result in variations in the activity of peristalsis and the rate of evacuation. In my opinion it is also necessary that about the same quantity of the same opaque salt should be used in each case.

For a considerable period now I have been using a mixture of 4 oz. of porridge with 1 oz. of milk and a little brown sugar to which 2 oz. of barium sulphate are added. This mixture is better than a suspension of the salt in water, as it approximates much more closely to a normal breakfast and excites a normal secretion of gastric juice; consequently peristalsis is more active, and the pyloric mechanism comes into play in a way which never occurs when a suspension in water is drunk. An advantage it has over most other mixtures which have been used is that it makes an admirable suspension of the salt which does not tend to form a sediment; consequently the whole outline and the upper limit of the gastric contents can be clearly seen. I have on previous occasions given reasons for preferring bismuth oxychloride to bismuth carbonate, but I now invariably use barium sulphate, as its price is one-twentieth of that of bismuth salts, and it has the advantage in cases of diarrhœa of not combining with sulphuretted hydrogen, and consequently of not tending to stop the condition which it is desired to investigate.

2. *The Stomach*: (*a*) *Position.*—The normal stomach varies considerably in position, but I suggest as a standard for the diagnosis of gastroptosis that normally the lesser curvature should not be situated below the umbilicus in the vertical position, and that the greater curvature should not be below the umbilicus in the horizontal position. It is important to distinguish between the two varieties of gastroptosis, one of which is present in the vertical position alone, the other in the horizontal position as well. A possible criticism of this standard is the variation in the position of the umbilicus. It is, however, an exceedingly convenient landmark, and its variations are only considerable in stout people with pendulous abdomens. In such cases the fallacy can be avoided to a great extent by hanging a penny by a long piece of strapping, which is fixed at the ensiform cartilage, and arranging it so as to be over the umbilicus in the recumbent position. When the upright position is assumed, the umbilicus may drop an inch or more, but as the penny is suspended from the fixed ensiform cartilage its position can be regarded as that of the normal umbilicus.

(*b*) *Tone.*—The tone of the stomach can be estimated by the position of the upper level of the gastric contents, and under certain conditions by the position of the greater curvature. It is extremely important not to mistake the upper level of the barium for the upper level of the gastric contents in cases of hypersecretion, in which the stomach already contains fluid and the porridge falls to the bottom, its upper level assuming an independent horizontal line. In cases of doubt the patient should be told to shake himself, when the splashing of the clear fluid under the gas in the fundus can be seen. I suggest that if the upper level of the gastric contents is less than 1 in. above the umbilicus atony should be diagnosed. The position of the greater curvature is, of course, no help to the diagnosis of atony, as extreme gastroptosis may be present with normal tone and extreme atony with very little ptosis. Hypertonus, however, which occurs most constantly in association with duodenal ulcer, can best be recognized by the position of the greater curvature. I should suggest calling a stomach hypertonic if the greater curvature is more than 1 in. above the umbilicus in the erect position.

(*c*) *Size.*—The size of the stomach needs no separate determination, as it depends entirely upon the tone. When the stomach is hypertonic it is also small, when it is atonic it is also dilated. The ordinary division into atonic dilatation and organic dilatation is inaccurate, as the latter is simply due to the tone of the stomach giving way as a result of increasing pyloric obstruction, and is therefore as much "atonic" as that which occurs independently of organic disease. The correct classification is dilatation due to primary atony, and dilatation due to atony resulting from obstruction.

(*d*) *Stasis.*—In order to determine the presence of gastric stasis, it is essential that the patient should be examined in the morning before any food has been taken, and that nothing should be eaten or drunk until after the second examination, which should be made six hours later than the first. In cases of suspected pyloric ulcer the stomach should be examined in the vertical position before any food is taken, as continuous hypersecretion of gastric juice occurs, which manifests itself by the presence of fluid recognizable with the *x* rays by the splashing visible under the gas of the fundus before breakfast. The whole of the standard meal should leave the stomach in less than six hours if the patient is up. A common fallacy, especially in hospitals, is to allow the patient to remain in bed between the two examinations, in spite of the fact that the stomach often empties itself twice as rapidly in the recumbent as in the vertical position. If more than a trace of the meal is still present in the stomach after six hours have elapsed stasis can be diagnosed. If peristalsis is observed to be weak, stasis does not necessarily indicate obstruction, and a second examination should be made in order to exclude the possibility that it was purely psychical in origin and due to fright or the unpleasant taste of the meal. When, however, peristalsis is active and stasis is present, obstruction can be diagnosed. If it is associated with gastroptosis the latter may be the cause of the stasis by causing obstruction at the fixed part of the duodenum, and a second examination should be made with the patient lying on his right side. If no more than a trace of the meal is left in the stomach after four hours, it can be presumed that the stasis was due to ptosis. When reversed peristalsis is seen at the first examination, when the upper level of the gastric contents does not reach the lesser curvature, or when such a degree of dilatation of the pyloric end of the stomach is present that in the horizontal position the pylorus is more than an inch to the left of the extreme right hand limit of the stomach, organic pyloric obstruction can be diagnosed even in the absence of a second examination after six hours.

3. *Iliac Stasis.*—About three and a half hours are required for the gastric contents to reach the end of the ileum, and a delay of an additional hour and a half is common in normal individuals before the chyme passes into the cæcum. It is clear, therefore, that iliac stasis should not be diagnosed unless five hours have elapsed since the last trace of the meal left the stomach. As it is difficult for the patient to go for more than six hours without taking food, it is practically impossible to

diagnose iliac stasis in a single day unless the stomach empties itself with normal rapidity, except in the comparatively rare cases, in which no barium at all has entered the caecum at the end of six hours. If, for example, the stomach is empty in three hours and no more food is taken until six hours after the barium meal, and a considerable quantity of barium-containing chyme is still in the end of the ileum eight hours after the meal, iliac stasis can be diagnosed. In the majority of cases, however, iliac stasis can only be diagnosed with certainty if some barium is present in the ileum twenty-four hours after the meal.

4. *Colon:* (*a*) *Position.*—The position of the colon varies greatly in normal individuals. The caecum and transverse colon are so often pelvic organs and the hepatic flexure so often drops into the right iliac fossa, that it is very difficult to say in any individual case that the ptosis which may be present is pathological. I have seen the caecum drop into the true pelvis in such a large proportion of healthy individuals with no stasis and no abdominal symptoms that I feel convinced that the occurrence should not be regarded as pathological. It is, however, uncommon to find a pelvic caecum in the horizontal position in healthy individuals. My own opinion is that one should state where the caecum, hepatic flexure, and transverse colon are situated in the vertical and horizontal positions, but add that the presence of the caecum and transverse colon in the pelvis and of the hepatic flexure in the right iliac fossa is not necessarily pathological. In some cases the splenic flexure drops with the rest of the colon when the vertical position is assumed. In my experience ptosis of the colon only leads to definite kinking when the splenic flexure retains its normal attachments to the diaphragm. If, therefore, the transverse colon falls into the true pelvis and the splenic flexure remains attached to the diaphragm, the condition can generally be regarded as pathological and likely to give rise to symptoms.

(*b*) *Stasis.*—Some recent investigations which I have carried out with Mr. Alan Newton of Melbourne have confirmed the opinion first expressed by Holzknecht that the large movement, which he and subsequently Barclay saw in the colon, is the normal process by which the faeces pass along the large intestine. I have now seen it on six occasions, and we have in addition frequently obtained evidence of its occurrence without actually seeing it. It occurs generally at the end of a meal or immediately afterwards, and it is undoubtedly identical in character with the movements which I had previously described as occurring in defaecation. As, therefore, the faeces may normally be carried in the course of a few seconds from one end of the colon to the other, it is clear that slight discrepancies from the average time at which different parts of the bowel are reached are of small importance. It is, indeed, exceedingly difficult to make any definite statement as to what are the normal limits in the *x*-ray examination of the colon. I believe, however, that the following varieties of stasis can be definitely separated.

1. If the greater part of the barium is still in the caecum and ascending colon at the end of twenty-four hours, stasis in this situation can probably be diagnosed; if the greater part is still present after forty-eight hours it can be diagnosed with certainty, even if a small quantity of faeces has been carried by a big movement to the distal part of the colon or the rectum, from which it may actually have been expelled.

2. If at the end of twenty-four hours nothing has passed beyond the splenic flexure, or if at the end of forty-eight hours the greater part of the barium is still in the transverse colon, the caecum and ascending colon being nearly empty and little or nothing having passed beyond the splenic flexure to the rectum, stasis at the splenic flexure may be diagnosed.

3. If at the end of twenty-four hours the greater part of the barium has collected in the rectum and in spite of this no desire to open the bowels is felt, dyschezia can be diagnosed.

4. If stasis in the caecum and ascending colon, as in Class 1, is associated with delay in the transverse colon, as in Class 2, and perhaps also in the descending colon, general colonic stasis can be diagnosed.

Whenever the delay is confined to a single point it is essential to give a barium enema. If some of a pint and a half of the fluid, injected at a pressure of not more than a foot and a half, does not reach the caecum in five minutes with the help, if necessary, of massage and change in position, and if the point of delay corresponds with that at which delay took place in the previous examination, an organic obstruction is probably present.

DISCUSSION.

Dr. C. F. Bailey (Brighton) had no doubt that a great many of the points which Dr. Hertz had put forward so strongly would fail to secure the agreement of a good many workers to a greater or smaller extent, but still it was a great advantage to have a definite issue set forward.

Dr. W. Ironside Bruce (London) had often thought lately that radiographers incurred a great responsibility in view of the large number of people who were subjected to operations, and whose abdomens were opened on these diagnoses. He agreed with Dr. Hertz as to the quality and quantity of the meal. It was obvious that it should be a standard meal, a palatable one, and a somewhat reasonable one. If large quantities of cold bismuth emulsion were given the stomach itself might reject the food simply because it was so unpalatable. Dr. Hertz, he understood, did not insist on his own particular meal, and it was open to them to use bismuth oxychloride, bismuth carbonate, etc., but it was important that there should be a standard. The speaker had been in the habit, in order to keep the food as even as possible, of advising that the patient should have an ordinary meal after the bismuth breakfast. He had done so because he believed that it was necessary to keep the condition normal. The patient would want a meal, and undue abstinence might make a difference in the action of the stomach in respect to the bismuth. Dr. Hertz had said that iliac stasis should not be diagnosed unless five hours had elapsed since the last trace of the meal left the stomach. The speaker believed that if complete iliac stasis were observed eight hours after the food was given under the conditions in which he gave it, the condition was mechanical, provided it was not a case of general gastroptosis. He confessed that he felt very nervous about the colon. One of his first cases was that of a young man who had undoubtedly at one time definite symptoms of obstruction. He had what appeared to be an acute attack of abdominal obstruction, and the food was seen to lie in the caecum and ascending colon for seventy-two hours. He believed, therefore, that he was safe in saying that there was some obstruction at the hepatic flexure, but when the surgeon opened it no sign of obstruction was found. Therefore he was always very careful in those cases in which the meal was retained for a long time in the form of segmented food without any sign of actual obstruction of the lumen.

Mr. J. Hall-Edwards (Birmingham) thought it highly important that a standard should be fixed. At the same time, it was one of the most difficult things to do. He found in a large hospital practice that it was almost impossible to get two patients to take the same quantity of meal. Personally he preferred to use bismuth carbonate, because, scientifically, he thought it the best substance. To use a material of such high specific gravity as barium sulphate was unscientific. Consistently with the proper density for the purpose, the substance should be as light as possible. Just as a matter of interest, he had had the meal not only weighed but measured. He gave 14 oz. of porridge and 3 oz. of bismuth carbonate. This weighed 17 oz. altogether, and on pouring it into a pint measure it was found to measure 15 fluid ounces. The question of weight had a good deal to do with the distortion of the stomach under certain conditions, and he thought it possible that a very heavy substance like barium sulphate might distort the stomach more than the carbonate. The ordinary meal given to a hospital patient consisted of:

Water	...	...	...	...	6 oz.
Pudding	...	...	...	...	6 ,,
Bread	...	...	...	...	2 ,,
Meat	...	...	...	...	4 ,,
Cabbage	...	...	...	...	4 ,,
Potatoes	...	...	...	...	4 ,,

The weight of this was 26 oz., and it measured 28 fluid oz. Any meal they were in the habit of giving thus fell far short of the standard meal as prescribed in hospital practice for filling the stomach, and it had been held that a proper diagnosis of the shape and position of the stomach could not be made unless the stomach was as full as it could be held without making the patient sick. In markedly dropped stomachs it was impossible to fill the stomach up under any circumstances unless an enormous amount of food were given. The great difficulty in standardizing the meal consisted in getting certain patients to take an amount as large as others. As to the position of the stomach and other organs, he thought that considerable harm was done to radiology by too definite statements which were made in the medical journals. The practice of stereoscopic radiography was of great value in the large intestinal kinks. It was almost impossible to make a diagnosis without this proceeding. He knew that many medical men palpated the abdomen during the meal and obtained thereby results which differed very considerably from time to time. The stereoscopic image gave a far better idea of the true position than palpations or any other method of examination. In a recent visit to Berlin he saw several photographs of this kind, and obtained evidence as to the value of the method. In conclusion, he would like to hear from Dr. Hertz why he chose a substance of great specific gravity for the meal in preference to one of low specific gravity. During the last two years he had registered upon his notes five patients sent to him by surgeons, who complained of not having had a moment's rest after a meal for a very long time. In several instances the administration of 5 oz. of bismuth carbonate had cured them. One gentleman, of whom he took a series of radiographs, was sent back to him in order that a further examination might be made. About three weeks afterwards this gentleman asked him for the name of the chemist from whom this special bismuth was obtained, and said that he had given up surgeons, and was going to prescribe 1 oz. of bismuth carbonate for himself three times a week for the rest of his life!

Dr. REGINALD MORTON (London) said that in the matter of standardizing the bismuth meal radiographers had been very lax. Some gave it semi-solid, others more or less solid. All this was grossly unscientific. For his own part he had given a dose made up either on a basis of bread and milk or of porridge, and had kept its bulk at about ½ lb. or 10 oz. This was not too small a meal for adequate observation, and not too large for the majority of people to take. A meal measuring 10 oz. contained 2 oz. of bismuth or barium salt. He could not see any material difference between bismuth and barium in their action on peristalsis. It would be very difficult, however, to arrive at any certainty with regard to that, as it would be necessary to subject the same patients to the same conditions repeatedly before positive information was forthcoming. As to distortion from the dropping of the stomach by the weight of the meal, if a meal were made up in the form he had mentioned and only 2 oz. of the salt were mixed in, the total increase in the specific gravity would not be considerable. The meal after the mixture of the bismuth would certainly be of a higher specific gravity than before, but this would count for a great deal more when the bismuth was given otherwise than intimately mixed with the bread and milk or porridge, as it would tend to drop down to the bottom of the stomach and give distortion. Mixed up with the bread and milk, however, it made a most perfect suspension.

Dr. F. HERNAMAN-JOHNSON (Darlington) remarked that a good deal had been said about the composition of the meal, but not anything about the psychical condition of the patients. Many of the patients had the idea that they were going to be hurt, and, moreover, the surroundings were somewhat awe-inspiring to the average person who had had nothing to do with radiographic matters. He had had a case in which there was thought to be atony of the stomach after a bismuth meal, but at the end of a quarter of an hour or so, when the patient found that nothing had been done to hurt her, the stomach returned to the normal J shape. The speaker protested against the tendency of some surgeons to open the abdomen for too little reason.

Dr. G. E. BOWKER (Bath) said that they were all feeling that they wanted a standard laid down for them to work with. If they gave 4 oz. of bismuth and the radiographs were taken or the screening done, the surgeon would ask why they gave 4 oz. when another radiographer gave only 2 oz. As this matter had been brought foward by Dr. Hertz, he hoped sincerely that it would not end in talk. He suggested that the Council of the Electro-therapeutic Section of the Royal Society of Medicine should collect evidence, and that each member of the Council should put forward the formula he usually employed in giving the bismuth meal. The Council might then express some preference as a Council, and there would be some chance of a standard which would furnish uniform observations.

Dr. HERTZ, in reply, said that it might be possible for either the Council of the Electro-therapeutic Section of the Royal Society of Medicine, or perhaps even that meeting itself, to form a committee which should obtain and discuss evidence and furnish a report on a standard meal for *x*-xay examination. The report might then be adopted in general practice by all who could bring themselves to do so. The committee might consist, say, of six members, and all who were interested in *x*-ray work should be asked simply to send in a report of what meal they used and why they used it, and thus they would arrive at definite conclusions. Mr. Hall-Edwards had said that he used bismuth carbonate because he considered it the most scientific method. He (the speaker) gave up bismuth carbonate because he considered it the least scientific. The first essential was that a salt should be chosen which interfered with the normal activity of the alimentary canal as little as possible. There were two chemical substances in the alimentary canal which might combine with certain salts, and the first of these was hydrochloric acid. It was known quite definitely from physiological and *x*-ray experience that peristalsis depended to some extent on hydrochloric acid, and the pylorus depended almost entirely on the free hydrochloric acid present in the stomach on the one hand and the duodenum on the other. Two ounces of bismuth carbonate neutralized every trace of hydrochloric acid in the stomach. The speaker some time ago carried out an experiment in which three or four patients were given a meal of milk and porridge containing 2 oz. of bismuth oxychloride on one day, and on another day the same amount, similarly administered, of bismuth carbonate. He then got his house-physician, who had no idea which meal had been given, to look for the more active peristalsis, and in each case it turned out that the peristalsis was more active after the oxychloride than after the carbonate. The absence of hydrochloric acid did interfere with the activity of the peristalsis, and that was why one should not use carbonate. The oxychloride was quite inert in the stomach. In hospitals the financial consideration had usually to be taken into account, and at Guy's, by the substitution of barium sulphate for bismuth oxychloride, they would save something like £50 per annum. Unless the bismuth oxychloride proved considerably better, he thought the financial consideration made it right to substitute barium sulphate. Moreover, barium sulphate had one little advantage. Bismuth salts stopped diarrhoea, neutralizing the sulphuretted hydrogen, which was often present in excess in that condition. But barium sulphate did not combine with sulphuretted hydrogen, and therefore it had no effect on these cases. It was a small point, but one of some little importance. In further reply to Mr. Hall-Edwards, he himself would not have thought that 2 oz. of barium sulphate evenly distributed throughout the whole of the porridge or bread and milk would have produced any distortion different from that of 2 oz. of bismuth carbonate similarly distributed throughout the whole meal. The matter was really one of physics; but with a proper suspension there could scarcely be any great difference, the weight remaining the same. Mr. Hall-Edwards had given some figures relating to the weight of the meal; and he, too, had had his meal weighed, and his (the speaker's) figures were very much smaller than those of Mr. Hall-Edwards. That did not mean that either of their results was necessarily the better, but simply that they were not comparable. He would be perfectly ready, however, to adopt a larger

amount than he had been in the habit of using if this were generally agreed upon. One advantage of the smaller amount was its more general applicability, for it was difficult to induce some patients to take a large quantity. It was a good thing to have a standard amount which every patient could take. The meal could never be really very palatable, and some total amount like 6 oz. would be better than 14 oz., but that was a matter for detailed discussion later on. The reason why he suggested porridge rather than bread and milk was that in his experience porridge gave a much better suspension. He used bread and milk at first, but he now preferred porridge. With regard to gastric and iliac stasis and the procedure of giving an ordinary meal after the barium meal, he considered this to be a point of the greatest importance. If one examined a patient at 11 in the morning and the patient had an ordinary meal at 1 o'clock, the stomach might be half empty at the latter hour, but the last trace of barium would not leave until the whole of the meal had passed. If tea, again, were taken at 4 o'clock the meal would be mixed up with the remaining barium, and in that way the delay would be increased. The same thing applied to iliac stasis. So long as there was barium in the stomach there would be some barium in the ileum, and one could not diagnose iliac stasis until five hours had elapsed since the last trace of the meal left the stomach. With regard to the psychical condition of the patient, Dr. Bruce had brought this question up at a previous discussion in connexion with the rate of evacuation of the stomach and the condition of stasis. Perhaps it also furnished an argument for doing a second examination to confirm the first before advising any operation.

At the close of the morning's proceedings the following resolution was carried unanimously:

> That this meeting expresses the opinion that it is advisable that one definite type of standard meal for radiographic examination should be adopted by general consent, and asks the Electro-therapeutic Section of the Royal Society of Medicine to appoint a committee to obtain evidence with the view of suggesting this "official" standard meal.

THE PRESENT POSITION OF THE X-RAY DIAGNOSIS OF PULMONARY TUBERCULOSIS.

By E. Reginald Morton, M.D., F.R.C.S.Edin.,
Physician in Charge of X-ray Department, West London Hospital.

So much has been written on the subject of the *x*-ray diagnosis of early pulmonary tuberculosis during the past year or two that an apology seems necessary for referring to it again, but the question is one of such extreme importance to the profession and the public, that I consider it the duty of all who have had any extensive experience in the matter to come forward and express their views. It is only by collecting all the available evidence that we can arrive at some near approach to the exact truth. Thanks to the kindness and courtesy of my colleagues at the West London Hospital, and I would particularly mention Dr. Arthur Saunders and Dr. Sydney Owen, I have been enabled to examine a large number of cases of all ages, but nearly all in the early stages of the disease. Though my views for the most part tend to corroborate those of other radiologists, I consider it none the less important that they should be recorded.

In connexion with the subject of this paper, probably the most important event of the past year was a discussion in the Section of Electro-therapeutics of the Royal Society of Medicine. It was my privilege and honour to occupy the chair during this discussion, which extended over two meetings, and might have been continued through a third did circumstances permit. The vastness of the subject and the lateness of the hour made any summing up of the evidence or comments of my own out of the question, for after all a president's first duty is to preside.

I have given much thought to the points raised in this discussion, especially to the criticisms from the clinical side, which are of the greatest value to us as radiologists, and this paper is in a sense based on the evidence then brought forward, to which as occasion arises I interpose my own views. I have listened to many papers and discussions on this subject since 1904, and it is very interesting to note the change of attitude of the profession towards our work in that period. In 1904 the rule was that the paper was received with a silence that could be felt. This was disappointing, but as we now know, our work was crude, and it did not command the respect of the clinician. During the first session of the newly-constituted Royal Society of Medicine in 1907 a full discussion of this subject took place, and while we did not carry everything before us it was quite evident that our ideas were being more or less seriously considered by the clinical school. Since that time the subject has gone steadily forward, and thanks to great improvements in apparatus, skill, and technique, the *x*-ray method has attained an established position in the diagnosis of early pulmonary tuberculosis, and it is not too much to hope that this position will be greatly strengthened in the future.

What the ultimate position will be in this matter it is impossible to predict, but at the present time, at least, we must be careful not to claim too much for the *x*-ray method; it must remain an adjunct to the clinical methods, not a substitute for them.

It has been stated that one objection to the more general adoption of an *x*-ray examination is that of expense. In view of the uncertainty of our results there might have been some justification for this in the past, but considering that at the present time something very like positive evidence can be obtained in most cases, this objection should not exist. What is the significance of a consultation fee if through it we get for the patient information that is of the very first importance to him? In most cases it will prove the greatest economy, not only to his pocket, but also to his physical well-being.

The radiologist in making an examination of a chest for pulmonary disease notes the following points, among others:

- Opacity, local or general, and the effect of deep inspiration thereon.
- Movements of the diaphragm and ribs.
- The size and position of the heart.
- The presence of enlarged bronchial glands with striae radiating therefrom.
- The presence of tuberculous foci.

Opacity.

It is very generally agreed that the presence of more or less opaque areas in the lungs, which do not illuminate on deep inspiration, as well as the surrounding parts, is very suggestive of tuberculous infiltration. Opacities due to other causes either light up on inspiration or the history of the case makes the matter quite clear. This sign is one of great delicacy and can be observed only at the screen examination. The tube should not be "hard" and the illumination relatively feeble to get the best results. It frequently happens that a patient who is "out of sorts," and has been feeling unwell for some time, presents himself for consultation—probably with a view to getting a tonic. There is no rise of temperature, perhaps a slight cough at times, no haemorrhage, and no definite history or physical signs of chest trouble. The physician is not satisfied, however, and suggests an *x*-ray examination. In such circumstances it is not uncommon to find one or more opaque areas such as have been referred to, and if a good plate be obtained other evidence may be found to which reference will be made later. Frequently it is only a question of time for such a patient to develop more definite signs and symptoms of tuberculous invasion, unless he has been put under more favourable conditions from the first; in fact, it is safe to say that all such cases should be looked upon as tuberculous and treated accordingly. The arrest or cure of the disease will be more rapid, certain, and economical if taken in hand at this stage.

That many such cases as this are definitely tuberculous has been frequently proved by the tuberculin test, which, if not infallible, is in the main quite reliable.

The Diaphragm and Ribs.

Limitation of the movements of the diaphragm—Williams's sign—was at one time regarded as almost pathognomonic of tuberculosis. At the present time we are not disposed to go so far as this. More extensive observation and better appliances have taught us that while

it is an important presumptive sign, no more than this can be claimed for it. The movement may be limited, jerky, or "stammering"; but these departures from the normal may be present in conditions other than tubercle, and absent in cases that we know are tuberculous. Very much the same may be said about the movements of the ribs. Free movement is presumptive evidence against tuberculosis, and vice versa; but more than this cannot be claimed.

The Heart.

A large proportion of cases of tuberculous invasion of the lungs have a relatively small and centrally placed heart; it is so common that it must be more than a coincidence. The view most commonly held is that this small and rather feeble circulatory pump is an important predisposing factor, and the chest to which it belongs has a lower resisting power than normal. While the presence of this sign is no definite proof, it indicates the existence of a soil favourable to the lodgement of the tubercle bacillus.

Enlarged Bronchial Glands and Striae.

Since the meeting of this Section at Liverpool last year, when Dr. Jordan read his paper on peribronchial phthisis,[1] the real meaning of these shadows at the hilum of the lungs has come in for a great deal of discussion, and it is doubtful if yet there is complete agreement on this interesting question. That many children and practically all adults living in towns have them, and that most of the latter at least are not the subjects of pulmonary tuberculosis, sufficiently proves that their presence cannot be accepted as positive evidence of anything in particular, unless to uphold the view expressed by Sir R. Douglas Powell, that since the bronchial glands are the dust-bins of the broncho-pneumonic system and the lethal chambers of many bacilli, they undergo enlargement as a result of the irritating presence of these foreign materials.

Even under the most favourable conditions, life as we understand it is a constant battle between the resisting forces of the body and the invasion of pathogenic bacteria. Though we may come through unscathed so far as any active disease is concerned, all sooner or later have their bronchial glands enlarged, with more or less well-developed bands radiating therefrom. Consequently, all we can say with any certainty is that, while the chest showing enlarged glands and striae on one or both sides may be tuberculous, it is not necessarily so.

Up to this point the *x*-ray examination is carried out with the fluorescent screen, and some observers have stated that a photographic plate is not necessary. In my opinion, and particularly in the earlier cases, it is impossible to be quite sure of the diagnosis without the additional and most valuable evidence afforded by a radiographic plate of good quality. Such a plate must show fine details, as obviously there will be little else to show in the earliest stages of the disease. It is not the purpose of this paper to go into the technique necessary to produce a satisfactory plate, but it may be said that the most essential point is that the exposure must be short —never more than five seconds. So-called instantaneous exposures are even better, but not necessary if care is taken.

There is no difficulty in getting patients, even children, to stop breathing for from three to five seconds, as the preliminary screen examination gives them confidence. No intensifying screen is to be used—the best of them is not good enough to be of any use in this class of work.

In such a plate we will find corroboration of some of the points noted in the screen examination, and if we trace out the striae leading from the enlarged bronchial glands it will be found that they lead to finer ramifications.

These are thickened lymphatic vessels, and the shadows of those near the surface of the lung, but on different levels, make that very characteristic picture, commonly called "mottling," but which might be better termed a network, though even this leaves much to be desired.

Frequently one of these striae will be found to run through or end in a tiny round or oval shadow—a tuberculous focus. These small foci scattered through the network of fine striae are probably the most characteristic appearance we get, and the most positive evidence we have of tuberculous disease of the lungs. Owing to diffusion and secondary radiation it may be difficult to bring this out in the early stages of hilum tubercle, and in a case affecting a considerable thickness of the lung these foci will be found in all stages of blurring or "woolliness."

This latter appearance has been put forward as evidence of activity, and this may be true as far as it goes, but if we have two of these little shadows side by side—one of the "woolly" and the other with a relatively sharp outline—we would have to be sure they were the same distance from the plate before we could say with any certainty that one was more active than the other. If these foci become fibrosed and perhaps calcified, so that they become obsolete they will cast shadows much larger, and we may assume that a large focus casting a dense, well-defined shadow is innocuous. I have a plate showing two such shadows near the hilum and close together. One has a well-defined outline while the other is distinctly "woolly." I do not believe the latter to be more active than the former; they are both obsolete and inactive. During the screen examination, by slightly rotating the patient to the right and left, it was quite easy to see that the "woolly" one was about twice as far from the screen as the other, and thus could not throw so sharp a shadow. If we could have our *x*-ray tubes sharply focussed we might, to some extent, eliminate this blurring of the shadows of opacities some distance from the plate or screen, but in the present state of our knowledge we cannot correct this entirely, owing to the action of secondary radiations. The most we can do is to allow the latter to act for the shortest possible time by using rapid or instantaneous exposures. In my opinion the best test of the activity of an early tuberculous pulmonary lesion is the presence of these small "pinhead" shadows, and the more numerous they are the more active and extensive is the lesion. Paradoxical as it may seem, a case undergoing recovery will show these little shadows gradually getting larger and more dense from the fibrous encapsulation. To the ordinary observer an examination of the plates before and after shows the last stage worse than the first, but the experienced radiologist is not deceived.

In estimating the value of enlarged glands and striae as a sign of pulmonary tuberculosis we must be careful to discriminate between adults and children, and also particularly note the character of the shadow in adults. As we have seen, practically all town dwellers give these shadows, but in the average healthy individual they lack the vigour and density seen in a case of tuberculosis in the active stage. The distinction is a fine one, and not to be estimated too highly, but it is worth noting.

Then as regards children, we may say that the younger the subject the more we are justified in attributing enlarged bronchial glands and striae to the presence of tuberculous invasion of the lungs, unless the previous medical history provides an adequate explanation.

Time does not permit me to go into the very interesting question of the most common point of origin of the disease in the lungs, but the evidence so far goes to show that the seat of origin is more frequently in the hilum than was generally supposed. Dr. Bythell goes so far as to say that in children the hilum is invariably the seat of origin. I am not prepared to go so far as this, and I note that Rieder is also disinclined to take such an extreme view. Dr. Bythell's experience of this disease in children is a very extensive one, and his view may be quite correct. On the other hand, "invariably" is a very sweeping term, and it will surprise no one if further experience makes it advisable to modify this to a slight extent.

I have occasionally been asked if there was a definite radiographic picture positively indicating the presence of pulmonary tuberculosis in the early stages. I am convinced there is such a picture, but I do not say we should depend on that alone; the other links in the chain of evidence must be well represented. Also the absence of the fine striae and tuberculous foci is not proof of the absence of the disease, as the latter may be so slight as to give no definite image, or there may be some fault in the *x*-ray technique, which is necessarily complicated in character.

It is highly probable that improvements in skill and technique will reduce the minimum amount of change in the lung that can be detected, but at the present

time it may be claimed that a careful *x*-ray examination will very often anticipate an independent clinical diagnosis.

In a paper by Dr. Sydney Owen and myself we have shown, to our own satisfaction at least, that there is a definite group of cases where the clinical signs and symptoms are so slight as to make any positive diagnosis out of the question, and yet in a large proportion of these an *x*-ray examination gave a positive, and in others at least a tentative diagnosis of tuberculosis. I am sure nothing more is needed to justify the inclusion of the *x*-ray method in the routine examination of all suspected cases.

And not only can the *x*-ray method frequently anticipate a clinical diagnosis, but it is found almost invariably that where a clinical diagnosis has been made, even by those possessing the highest degree of skill, the *x* ray examination will show a more extensive distribution of the disease than was supposed.

The *x*-ray method has thus established for itself a very substantial claim for recognition as the most valuable one at our disposal for the examination of pulmonary tuberculosis, and its value will increase with its more extended and general use. It only remains for the profession and the public to demand it in all doubtful cases at least.

REFERENCE.
[1] BRITISH MEDICAL JOURNAL, August 31st, 1912, p. 484.

ELECTRO-THERAPEUTICS IN NEURON LESIONS.

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EVERY lesion affecting the nervous system is a lesion of neurons (or nerve cells), for the nervous system consists of neurons and neurons alone. Like other cells, each neuron is an independent living unit, dependent for its existence on the integrity of its perikaryon; it has, however, to an extent superior to that of all other cells, the power to transmit states of excitement with extreme rapidity (otherwise "conduct nerve-impulses"), and finally it is able to act on other neurons in such a manner that similar states of excitement are generated in them.

> The edifice of the whole nervous system is reared upon two neurons, the afferent root cell and the efferent root-cell. These form two pillars of a fundamental reflex arch. And on the junction between these two are superposed and functionally set, mediately or immediately, all the other neural arcs, even those of the cortex of the cerebrum itself. (Sherrington.)

In practice, electro-therapy has limited itself largely to lesions of *peripheral reflex arcs* (for example, complete or incomplete nerve divisions, nerve-root injuries, and the destructive results, more particularly to the perikarya, in affections of the cord, such as infantile paralysis, etc.). That is to say, it concerns itself almost wholly with the lower neurons—neurons forming the simplest reflex arcs. Such a simple reflex arc must at least consist of (1) the sensory peripheral neuron (protoneuron), connected with various ceptors for receiving stimuli; (2) the conductor, made up of intercalary or interposed neurons; and (3) the peripheral effector neuron, causing action in an effector organ—in this case voluntary muscle.

Electric stimulation of any portion of a reflex arc will act, according to the position of the stimulus, on the muscle fibre at the end of the arc, either through nerve conduction or through reflex-arc conduction. The stimulus through reflex-arc conduction is commonly ignored as not very important, but in my opinion it should be looked upon as a valuable—perhaps the more valuable—method of applying electric treatment.

Practical experience in electro-therapy has convinced the majority of electro-therapeutists that electric treatment, intelligently and scientifically carried out, is a real advantage in the treatment of these lower neuron lesions: on the other hand, it is no uncommon thing, among physicians or surgeons outside our speciality, to come in contact with scepticism as to its value and an absolute objection to its use.

May not this feeling of doubt or antagonism be a sort of relic—a result of our former limited knowledge of the physiology and histology of the nervous system? Take, for example, such a simple instance as a divided mixed nerve with primary suture: are we not prone to limit our thoughts to peripheral degenerating nerve fibrils, certain muscle paralyses, and particular losses of different sensibilities? And yet who is not aware that the severance of the nerve means so much more? It may be that only extero-ceptive stimuli are abolished, while proprio-ceptive are unaffected; our mind may recognize the important result that a "final common path" of various reflexes is blocked, but omits to take cognizance of the many "afferent arcs" interfered with. These afferent arcs may be parts of many other reflexes, and each reflex may by inhibition act on others or may incite new reflexes into action, and such action may be a simultaneous one or may be successive; and so on.

Sherrington, in his lectures on the integrative action of the nervous system, lays stress upon the infinite complexity of results which may be produced by a very simple stimulus—such a one as the electric stimulus he employed—a similar stimulus to that which we use in daily treatment. He does certainly remark that

> electric stimuli not being of common occurrence in nature, there has been no chance for adaptation to evolve in the organism receptors appropriate for such stimuli, and that electricity therefore never constitutes the *adequate* stimulus for any receptor, being an artificial form of stimulus.

Nevertheless, it is a very efficient excitor, particularly in regard to reflexes which react to noxious agents (pain reflexes or damage-threatening reflexes).

To hark back to our example, the divided mixed nerve, what is the modern view, shortly summarized, of such a nerve's structure and functions? It is a bundle of processes of neurons, each neuron being kept in a state of health by the integrity of its perikaryon (or "neurosome"). The function of each neuron is the generation and conduction of nerve impulses; if, like any other cell, it is deprived of work—made functionless—then, becoming useless, it will dwindle and waste away. But every single neuron is in such intimate relations with so many other neurons by means of its widely branching processes that it is impossible to isolate it and deprive it of stimuli. Though there is no connexion between the adjacent processes of separate neurons they are everywhere contiguous, though not continuous. Every neuron can and does actuate, by means of mittors on its dendritic ramifications, innumerable ceptors of neighbouring neurons, through synapses betwixt mittors and ceptors. Therefore any stimulus affecting any neuron may have an action (usually a beneficial one, because it means work) on hosts of other neurons. Electric stimuli, being of the prepotent type of stimuli, the "noci-stimuli" must therefore be especially valuable forms of stimulation. Let us examine the conditions of such a divided mixed nerve undergoing repair. New axon processes of protoneurons are slowly groping their way down through empty neurolemma sheaths towards end-organs of varying type, and at the same time new processes of peripheral motor neurons are growing down to muscle fibres; when they reach these end-organs or muscle fibres, as the case may be, in a couple of years more or less after nerve suture, they will be the subject of nerve impulses whose effects we can appreciate subjectively or objectively. But during all those months how many "peripheral reflex arcs" are out of action, and all the neurons making them up—protoneurons, intercalary neurons, and the peripheral motor neurons terminating on muscle or gland cell—all affected by the loss of stimuli which the absence of ceptors severed from the protoneuron entails. But ends of growing nerve fibrils can be stimulated by noci-stimuli, electricity in especial. Excited by an electric stimulus of the ends of its fibrils, a protoneuron becomes the seat of a nerve impulse which, transmitted to mittors at the ends of its central extremities, excites an impulse or impulses in intercalary neurons situate in the central nervous system, these impulses again exciting nerve impulses in peripheral motor neurons. Although these motor neurons are cut off from muscle fibres, yet they are attempting to cause contraction, and thus they are kept alive

and functioning. Theoretically, then, the use of a rhythmic stimulus, like the waxing and waning weak faradic current, with its opportunity for rest between action, to keep all these neurons awake must be a right one. Where the ultimate result of the initial nerve impulse, when reflected back to the periphery, would be to produce some modification in the activity of muscle fibres (or gland cells), and the result does not ensue because muscle fibre or gland cell is separated from its motor neuron, it is reasonable to believe that the neurons which are working, or attempting to work, will maintain nutrition or repair their damages quicker than if they were allowed to remain idle.

Then there is the fact that, although it is possible to damage (and often to damage very considerably) a "reflex arc" by accident or disease, yet it is practically impossible to destroy it absolutely. We may thus often be able to stimulate electrically proprio-ceptors to a marked degree, although we cannot affect extero-ceptors, because the nerve fibrils to the end-organs in muscles and tendons, etc.—the carriers of "deep" sensibility—may be intact, and their associated or other intercalary neurons may be able to stimulate the neurons which conduct impulses to the vessels supplying the part with blood; thus stimulation may (and does) lead to improvement in the nutrition of a part, and expedites a return to its normal.

Sherrington states that in all normal "actions, reflex or voluntary, especially in the limb regions, the centrifugal discharge to the muscles takes place through scattered motor fibres contained in several roots, even when the action provoked and the movements effected are weak." The severance of a single "motor root produces, not the complete loss of any one particular movement, but a weakened condition of many movements."

Dr. Lewis Jones, too, quotes another statement showing how scattered is the position of the nerve cells sending motor fibres to any one skeletal muscle, extending as it does through the length of three whole segments of the spinal cord as a continuous columnar group and intermingled at each transverse level of the cord with cells innervating many other muscles. He quotes him to support the view he maintained thirty years ago (which view has obtained confirmation year by year since), that prolonged treatment by electrical methods in nearly all cases of infantile paralysis will do good. He particularly points out the importance of the reflex mode of stimulation and argues the rational procedure of peripheral electric sensory excitation of a limb in infantile paralysis or of the face in a pure motor paralysis, like that of the facial nerve.

There is a period in the recovery of a mixed nerve after section and suture, early in Sherren's "third" stage, when restoration of sensibility to light touch and minor degrees of temperature coexists with hyperprotopathic sensibility, the power of accurate localization not yet having returned; it is associated, I have noticed, with apparently greater clumsiness than is present in the earlier stages. The patient, if the lesion is of the ulnar nerve, for example, frequently drops things should his attention wander, although, if his attention is active, his powers of delicate and complicated movements have become much better. This is apparently a result of antagonistic reflexes; the *tactual* reflex, which would result in maintaining the grasp, being overcome, unless reinforced by attention, by the *noci-reflex* set up by hyperprotopathic sensibility, the tendency of the *noci-reflex* being to withdraw the skin of the hand from the painful stimulus. Now this condition is greatly relieved by the stimulus of the faradic bath, with intermissions in the current; the hyperprotopathic sensibility is relieved and the clumsiness disappears.

In conclusion, I am becoming more and more of opinion that, as a method of treatment, omitting cases where ionic medication is required, the constant current might be given up. For testing purposes it will probably still be required, although the condenser methods seem likely to supersede it. I consider that the waxing and waning alternating interrupted current, with periods of rest, is of great value, and I prefer one where the rises and falls of potential are sudden; it seems most comfortable when given by means of a warm bath. Periods of rest seem very important.

THE VALUE OF CONDENSER DISCHARGES IN TREATMENT.

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I HAVE already drawn attention to the advantages which may be gained from the use of condenser discharges for diagnostic purposes, and that subject is to be further illustrated this morning in a communication from Dr. Cumberbatch. My object to-day is to advocate the use of condensers for treatment as a substitute for induction-coil currents when muscles have to be stimulated. In the treatment of paralysis the tendency at present is to use strong currents and long applications, and this has been especially insisted on by Bergonié, whose paper on the subject appears to me to represent a very important advance in electro-therapeutic practice. Moreover, the treatment of obesity by setting up powerful muscular contractions in many groups of muscles calls for a method of stimulation which can excite vigorous muscular responses with a minimum of sensory effect.

Much has been done in the direction of improving the induction coil in this respect, for we have learnt that by reducing the duration of the individual waves composing the current the sensory effect of induction-coil discharges is reduced, whereas the motor effect remains unaltered.

The disagreeable effects of electrical currents upon the sensory nerves are ionic effects, and the greater the movement of ions the greater is the amount of cutaneous stimulation, and the nature of the ion employed to moisten the electrode is also a factor, as can be readily shown by experiment. When we test muscles with condenser discharges, one of the most striking features noticed is the comparative painlessness of the discharges as compared with their motor effect, and this difference becomes more evident as the capacity of the condenser is reduced. It is natural that this should be so, because a small condenser gives a short discharge, and a larger one a longer discharge. Condensers provide a means of obtaining waves of current which are shorter than those of any induction coil, and on trial upon patients we find that condensers are admirable for producing painless muscular contractions.

In the stimulation of muscle a rhythmic interrupter is a necessity when best results are needed, and as this requires motive power of some kind to drive it, the same motor can be used to operate a revolving commutator, so designed as to go through the cycle of charging the condenser from the main and then of discharging it through the patient. The pantostat, which is now becoming so common a source of current for medical uses, possesses a motor, and is therefore capable of the further duty of operating a condenser commutator as well as a rhythmic interrupter. I have on the table a motor arranged in this way and fitted with a condenser commutator and a rhythmic interrupter. Though the example before you is the first of its kind, and happens to be somewhat unnecessarily complicated, it fulfils the requirements very well, and it will no doubt be simplified very shortly.

As supplied by the makers it is provided with condensers of one and of two microfarads, very cleverly arranged in the cover, and is intended to be worked off the resistance apparatus of the pantostat at about 20 or 30 volts. I find, however, that it gives even better results with a smaller capacity at a higher voltage. When this is 100 volts, a condenser of a quarter or an eighth of a microfarad gives excellent painless muscular contractions, and I shall be glad to demonstrate this at the close of this morning's meeting.

THE USE OF CONDENSERS IN ELECTRICAL TESTING, AND SOME RESULTS.

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THE subject of this communication is the use of condenser discharges for muscle testing, and a comparison of the results obtained with those given by the older method in

which currents from coil and battery are used for the same purpose. During the past few months I have tested a number of patients by both methods, and I feel sure that the new method possesses the advantages claimed for it by Dr. Lewis Jones, to whom we are indebted for its introduction into this country, and for the construction of a much more complete form of apparatus.

The first statement that I should make, and with the most confidence, is that the new method produces little or no pain, and the observer is soon impressed by the quietness of children and the stillness of their limbs, in place of the cries and convulsive movements which accompany the stinging pain of the battery current when the old method is used. In its other features also, to which I will refer later, the new method constitutes a milestone in the progress of electrical diagnosis.

In vol. vi of the *Proceedings of the Royal Society of Medicine*, 1913 (Electro-therapeutic Section, pp. 49–59), will be found a paper by Dr. Lewis Jones on the use of condenser discharges in electrical testing, and there the principles of the method are set forth and the apparatus described.

The apparatus is quite simple. It comprises a battery of condensers, ten or twelve in number, packed away in a small box. The smallest has a capacity of 0.01 of a microfarad, the largest has a capacity of 3.00 microfarads. There are eight or ten of intermediate capacity. By means of a metronome any one can be alternately charged from the mains and discharged through the patient. Condensers of different capacities differ in this essential feature, the duration of their discharge through the body. The smallest condenser in the box, that of 0.01 microfarad capacity, takes only $\frac{1}{3000}$ second to discharge through the body, but many healthy muscles can respond to impulses of such brief duration. But as the muscle proceeds further and further along the downward path of degeneration so does it require impulses of longer and longer duration from condensers of larger and larger capacity to induce it to contract. We can thus get a *measure* of the degree of degeneration and express it in the report by a figure indicating either the duration of the discharge necessary to make the muscle contract or the capacity of the condenser which produced it.

In the old method the coil is supposed to give impulses of very short duration; but Dr. Lewis Jones has shown that the wave of discharge of most medical coils is $\frac{1}{100}$ second, and that even if the effective part of it is only half of this, its duration is too long to reveal the slighter degrees of degeneration. In the Du Bois-Reymond coils used in experimental physiology, the waves of discharge are probably still longer, and they are not the instantaneous stimuli as they are called in the article on the physiology of muscle in Schäfer's textbook. Then, on the other hand, the impulse given by the battery current is much longer than necessary, and causes unnecessary pain. Science is measurement, and in our condensers we know the duration of their discharges, and in place of the two forms of stimuli provided by the coil and battery, one being not short enough, and the other being too long, we have a wide range varying from the very brief to the comparatively slow. The method of testing is simple and short. The electrodes are placed in position, the box of condensers is connected to the mains, the metronome set working, while by simply moving a key over successive studs we find out the smallest condenser which will just cause the muscle to contract. No pain to the patient, no necessity to decide whether the contraction is strong or weak, brisk, or slow. Such decisions are often very difficult to make, especially if there is no healthy muscle on the opposite side to give the standard of normal. And some normal muscles contract less briskly than others, and the muscles of a cold limb will also contract less briskly than those of a warm limb.

I have tested a number of patients by both methods, so as to determine the condenser figures corresponding to the three usual types of muscle reaction hitherto recognized—namely, normal, partial R.D., complete R.D. First, with regard to muscles showing normal reactions. Healthy muscles will contract to discharges from the smallest, or nearly the smallest, condensers. Muscles which have a superficial situation, like those of the face and many of the limb muscles, will react with a condenser as small as 0.01 microfarad. Others, lying more deeply, require the next size larger, 0.02 microfarad. Muscles which are weakened or paralysed, yet by the old method give a reaction which is normal in type, require larger condensers, 0.02, 0.05, or 0.07. Thus we have a numerical measure of different degrees of the normal type reaction. To give an example: A patient complained of weakness and wasting of the muscles of his arms:

Deltoid	0.01
Biceps	0.02
Triceps	0.05
Forearm muscles (supplied by median nerve)	0.05
Forearm muscles (supplied by posterior interosseous nerve)	0.05
Intrinsics of hand (median)	0.07
Intrinsics of hand (ulnar)	0.05

It will be seen that all these muscles responded with small size condensers; they gave normal reactions when tested by the old method. The condensers indicated that some of the muscles have departed, to some small degree, from the normal. The case proved to be one of muscle weakness accompanying osteo-arthritis.

When a muscle has passed into the condition in which it gives, by the old method of testing, the first indication of degeneration—namely, a partial R.D.—it is found that larger condensers are required—0.10, 0.25, or 0.50. Here are the figures from a report on the leg muscles of a patient suffering from progressive muscular atrophy:

Tibialis anticus	0.25
Extensor communis digitorum	0.10
Peroneus longus	0.10
Peroneus brevis	0.25
Gastrocnemius	0.50

These muscles, when tested by the old method, gave, beyond doubt, a partial R.D. The diagnosis of this reaction—partial R.D.—when sought by the old method depends mainly upon the decision whether the rate of contraction is quick or slow, and this is often very difficult. In the condenser method all we look for is whether the muscle contracts or not, and what condenser is required. In the figures mentioned we get an indication of three degrees of partial R.D.

I have tested muscles which, beyond all doubt, gave a partial R.D. and yet responded to condensers smaller than those mentioned above, condensers to which we would expect only muscles with normal or weak normal reactions to respond. I have seen muscles with partial R.D. responding to condensers of 0.07, 0.05, and, in one case, 0.02 microfarad. It is difficult to say yet what this means. Perhaps there is another type of reaction between weak normal and partial R.D.

In cases of complete R.D. the condenser method gives much information, for it shows that muscles with such a reaction vary within wide limits, and indicates the degree to which they have passed. Cases of paralysis, due to peripheral neuritis, progressive muscular atrophy, poliomyelitis and nerve injury have been tested by both methods, and I have found that muscles which show the complete R.D. will not respond to condensers smaller than 0.50 microfarad. A few muscles gave a response with 0.25, but it was found, testing by the old method, that if the coil stimulus was made stronger, some contraction occurred, and therefore the reaction was really a partial R.D. Evidently between 0.25 and 0.50 we are passing the limit between partial and complete R.D. Proceeding on the downward path, some muscles require condensers of 1.00 microfarad, others 2.00, others 3.00. The torpor of the last muscles is such that they required an impulse lasting three hundred times longer than that required for a normal muscle. But it was soon found that many muscles had degenerated still further and required condensers larger than 3.00 microfarads. Larger condensers cannot be used because they produce disagreeable sensations. Dr. Lewis Jones has surmounted the difficulty by introducing into the circuit with the patient a high resistance, and this has the effect of still further lengthening the time of discharge, but it is necessary to charge the condensers to a higher voltage. This can be quite easily and quickly done. So if a muscle cannot respond with a condenser of 3.00 microfarads, the condensers are charged to 200 volts, an extra resistance is introduced into the discharging circuit, and the testing is continued, first with the 1.00 microfarad condenser, then with the 2.00 microfarads, then with the 3.00 microfarads. I have found

5,000 ohms a suitable resistance, and with this in the circuit the times of discharge of the last three condensers is increased, respectively, to $\frac{1}{70}$th, $\frac{1}{30}$th, and $\frac{1}{20}$th second. So far I have not found a muscle showing a complete R.D. that would not respond to a stimulus lasting $\frac{1}{20}$ second.

Here are some figures from the report on a few of the muscles of a patient suffering from neuritis.

Muscle.	*Condenser.*	*Duration of Discharge.*
Tibialis anticus...	1.00 ...	$\frac{2}{30}$ sec.
Extensor longus hallucis ...	3.00 ...	$\frac{1}{30}$ sec.
Extensor communis digitorum...	2.00 (with 5,000 ohms in circuit)	$\frac{1}{30}$ sec.

Thus we see that some muscles with complete R.D. have just reached the stage in which this reaction is given, requiring a stimulus lasting $\frac{1}{30}$ sec.; others have proceeded far, and require one lasting $\frac{1}{20}$ sec., or forty times longer.

Since we are able by the condenser method to express the degree of degeneration in figures, we can get a clearer idea of the *progress* of a paralysed muscle. Thus one of the muscles of the patient just mentioned, when first tested, required a condenser of 0.02 microfarad; two months later, 0.05; three months later, 0.10.

Another patient, with progressive muscular atrophy of his leg muscles, was tested twice with a week's interval in between. On the second occasion it was found that each of his tested muscles required a condenser one size larger. This suggested that his muscles had retrogressed during the short interval of one week. The patient stated that on the first occasion he had been tested after an electric bath, while on the second occasion he had not had his bath before the test. Accordingly the test was repeated after the bath, and it was found that many of the muscles responded with the same condensers as on the first occasion. The patient volunteered the statement that his muscles always felt stronger for some time after the bath. The suggestion that the lowering of the condenser figures indicated improvement of the condition of the muscles by the electric treatment will probably be criticized. I do not think that the lowering of the figures was due to diminished resistance of the body following soaking of the skin in the bath or to the entry of ions, because the skin was continuously soaked in salt solution during the testing, which lasted longer than the bath. And in the bath a sinusoidal current was used, not a direct current.

In conclusion, it may be said that many of the results shown by the condenser method are what we might expect, normal muscles responding to a stimulus of brief duration given by a small condenser, degenerate muscles requiring a longer stimulus given by a larger condenser. Yet there are many results which are obscure. Why is it that some muscles with partial R.D. require medium capacity condensers, others with the same reaction small capacity condensers such as are used for normal or nearly normal muscles? Why is it that some muscles with a less severe degree of degeneration, as indicated by condensers of 2.00 microfarads, are not under voluntary control, while others with a much higher degree of degeneration can be voluntarily contracted? The investigation of these questions by the condenser method, and the comparison of the results with those obtained by the older method, is likely to lead to further knowledge in electrical diagnosis.

DISCUSSION.

[The paper by Dr. Bailey and the two foregoing papers on condenser discharges were discussed together.]

The President, Dr. DEANE BUTCHER, said that Dr. Bailey had taken advantage of an accident to his own arm in order to make a study of neuron lesions at first hand. He had done well to remind them that, after all, electrical treatment was the treatment of neurons. His explanation of the cause why there were so many different treatments for the same disease, which had been made a reproach to electro-therapeutic art, seemed to him to be new and convincing, and his paper marked some progress in the theory of treatment. The importance of the communications by Dr. Lewis Jones and Dr. Cumberbatch could scarcely be exaggerated. If science was measurement, then for the first time they were in the position of having a really scientific indication of what they found in muscle testing, and an indication which was explainable to one another and to the whole world.

Dr. H. LEWIS JONES said the old notion of partial R.D. was clearly going to be split up into several different conditions. Hitherto more than one muscular state had been confounded under the title of "partial R.D." Possibly some of the muscles which, while preserving the response to the induction coil, responded with unusual sluggishness when tested by waves of greater length, had healthy and diseased fibres side by side, while others represented a degeneration to a certain degree of all the fibres of the muscle. Partial R.D. would ultimately be analysed into several components. A drawback to the use of the metronome as an apparatus for charging and discharging the condenser was the possibility of giving the patients an unexpected shock when the metronome was not in good order. This form of interrupter involved the use of three mercury cups and three wires, one wire always being in contact with the middle mercury cup and the two others dipping alternately. A little derangement, by which these two were in the mercury cups at once, would mean that the full charging voltage passed through the patient, which was always inadvisable, though not dangerous, providing there was a resistance, such as a low candle-power lamp, in the circuit. But in the case of the commutator no mishap of the kind could take place. He intended to work further upon the development of that particular commutator and to apply it, if possible, not only for treatment, but also for testing. An induction coil, driven by a dry cell or an accumulator or what not, lacked uniformity. It might happen in ten or fifteen minutes' treatment that the dry cell driving the coil got "tired" before the end of that time, and one could not tell how it was acting, save by asking the patient what it felt like, and that was unsatisfactory. In the case of the condensers and commutators one knew that the action was just the same at the end of the longest application as it was at the beginning. The effect was readily ascertained on taking a reading of the capacity and voltage.

Dr. REGINALD MORTON said that he had always been displeased with the unsatisfactory reports one had to send down regarding muscular degeneration. There was always a difficulty with those muscles which gave the confused reactions generally classed together under partial R.D. Some which were thought to have a chance of early recovery got worse in spite of treatment. The condenser offered a means of getting the report in terms of scientific measurement, and if it were possible to express the graduations of the reactions in figures they would arrive in the course of time at a report on the condition of a muscle which could be exactly understood in any part of the world. The conditions of a test might be absolutely indicated; and this was an enormous advance, because it brought the whole question of electrical testing within the purview of scientific work. He himself had shown in the Electro-therapeutic Section of the Royal Society of Medicine an instrument almost identical with the one brought before them that morning by Dr. Lewis Jones, save that he (the speaker) had not coupled it up with the use of the condenser. He had displaced the induction coil and used the Leduc commutator, and by that means again he was able to duplicate the conditions of the test at any time. The curve of the current was constant, and it was also coupled with a rhythmic interrupter, which he regarded as one of the most important things ever introduced in the treatment of paralysed muscles.

Dr. C. F. BAILEY said that the theoretical reasons for many of the points at which Dr. Lewis Jones had been hammering for thirty years were only now becoming apparent. The speaker had been very much interested in the condenser, and he believed that he was Dr. Lewis Jones's first patient to undergo this form of treatment. One interesting point was that after faradic contractility returned a muscle was thought to be more or less normal, but it was by no means normal by the condenser method.

He had been using the condenser method for testing at the Sussex County Hospital, and one interesting case which was recently cleared up by this method was that of a girl who was supposed to have progressive muscular atrophy. When she was tested by the condenser methods, however, the reactions to the condenser were normal, and on going into her history it became evident that it was really a case of neuromimesis or hysteria. The only trouble about the condenser was that up to the present it had not been possible to use it for treatment, but the apparatus of Dr. Lewis Jones was going to help them in this respect very much indeed. The speaker had been working up to the present with the metronome interrupter. He had never found any particular difficulty with that, but he had always been careful that the two needles did not go simultaneously into the mercury cups. It was an excellent method for testing, but not the sort of method one could use very well for treatment. Dr. Lewis Jones's commutator gave them the opportunity of using condensers for treatment. Some arrangement was needed by which the same instrument could be used for both purposes. The question of voluntary control as compared with faradic response was rather important. Although thoroughly good faradic contractility might be obtained, voluntary action due to will power might be lacking. In his own experience he had found very often good faradic contractility without response to voluntary impulse. Sometimes the faradic response came first, and sometimes the voluntary power of contraction, in the period of recovery. In the case of voluntary contraction a great deal more must be involved than an impulse coming down to contract these particular fibres. The sensory element must be mixed up with the voluntary action. In his personal experience, after ulnar nerve section he found the muscle which adducted the little finger contract perfectly by faradism when he could not make it contract by will power, whereas the other muscles were contracting to will power, and yet presented the same reactions to faradism as the particular muscle which contracted to faradism only.

Dr. E. P. Cumberbatch mentioned a case of neuritis in a boy of 10 years who had no control over his leg muscle, which nevertheless reacted to the smallest sized condenser. That contrasted with cases otherwise similar which required the very largest possible condenser to make them contract and yet had retained will power. There were several obscure points like this upon which inquiry would lead doubtless to further knowledge.

Dr. J. D. Harris (Exeter) drew attention to the size of the pads used for electrodes in Dr. Lewis Jones's instrument. It had always been an axiom in the teaching of nurses that if it was required to affect the deeper structures the larger pads must be used, and if the action required was superficial the smaller pads had their turn. Some of the ambiguous results recorded might have been due to the size of the pads. It appeared to him also that the wetting of the skin was a point of so much importance that in note-taking it should not be lost sight of.

Dr. F. Hernaman-Johnson (Darlington) thought that the medico-legal aspect of the case was worthy of some consideration. He had known more than one case brought before the courts in which the appellant had been unable to move his muscles voluntarily, although they had responded perfectly to faradism. Therefore, it was an important matter when Dr. Bailey and others said that one could have faradic reaction without control by the will. He had seen a number of cases go against people on this ground, the supposition being, in view of the faradic stimulation, that they were malingering. If it could be well established that faradic reactions were frequently obtained without control of the will it would alter the medico-legal aspect of the matter. Up to the present he had not been able definitely to contradict the view that because the muscle reacted faradically, although the man himself said that it was incapable of voluntary movement, therefore he should lose his compensation.

PATHOLOGICAL BLOOD PRESSURE AND ITS TREATMENT BY MODERN ELECTRO-THERAPEUTIC MEASURES.

By Francis Howard Humphris, M.D., F.R.C.P.Edin.,
President of the American Electro-Therapeutic Association.

The importance of recognizing a pathological blood pressure, and the advantages of reducing a tension unduly high, are to-day so generally conceded that it were superfluous to dilate upon them.

Ever since 1828, when Poiseulle introduced the V-shaped mercurial manometer, progressive and painstaking physicians have gradually brought the subject to its present state.

Although an altered blood pressure is only a symptom, and not a disease *per se*, it is a symptom of such importance that in some cases diagnosis and prognosis may be decided by it, and in others treatment may be modified by its variations, and, again, it may be in itself a symptom which urgently calls for relief.

"A man is as old as his arteries," and if it were only that an alteration in blood pressure gave a warning of advancing years, that fact alone would justify attention to the subject-matter of this paper. There are, however, many conditions resulting from, or concurrent with, an alteration in arterial tension that make the subject interesting as well as vital.

Increased arterial tension is, in all probability, responsible for the degeneration of the muscular walls of the arteries; in fact, nothing else can be conceived, if granted the pathologically increased tension, than that the persistently-contracted muscular structure of the arteries should suffer. Muscles in any part of the body degenerate under constant tension or contraction.

The importance of early recognition and treatment of the altered blood pressure is, therefore, obvious; if we can recognize the pressure before it has had time to cause the degeneration, then we may, by the various therapeutic measures, diminish that pressure and thus avoid the otherwise resultant degeneration.

In some cases, where the blood pressure is giving rise to nervous trouble, we can, I believe, by an approximation of the blood pressure more nearly to the normal, prevent those troubles from ending in permanent disease, and from crossing that border line between nervous disease and mental derangement to which they are surely but slowly progressing.

It may not be out of place to submit a list, modified from Leftwich, of some of the conditions which give rise to, or in which we may expect to find, a high blood pressure, or to which it may lead:

High Tension.

Arterio-sclerosis, especially where there is sclerosis of the splanchnic vessels, or of the aorta above the diaphragm, and also when associated with renal disease.
Angina pectoris.
Aortic aneurysm.
Chronic bronchitis.
Cirrhosis of kidney.
Cerebral tumour (first stage).
Chronic alcoholism.
Constipation.
Cerebral haemorrhage.
Cheyne-Stokes breathing (which, with high tension, is ominous).
Dilatation of aorta.
Emphysema.
Glycosuria and albuminuria.
Gout.
Hemicrania.
Hypertrophy of heart.
Hysterical seizure.
Lead poisoning and other toxaemias.
Malaria (cold stage).
Meningitis.
Migraine.
Neuralgia and other conditions of bodily and mental suffering.
Pregnancy.
Pleurisy, acute (first stage).
Uraemia.
All kidney affections except amyloid, suppurative, and tuberculous, except in terminal stages, when cardiac weakness causes a fall. Hypertension is absent, too, in some toxic nephritis, and in those cases caused by certain of the infectious diseases.
A too nitrogenous or too liquid diet.

Insanity with depression, including general paralysis of the insane. Also found in healthy but apathetic individuals.

Certain drugs may act in raising pressure (especially when injected): Extract of the fundibular part of the pituitary body, caffeine (preferably in the form of caffeine-sodium benzoate), strychnine and camphor, ergot, barium chloride, oxygen, nicotine, digitalis (of doubtful value).

Cold weather.

Descending galvanic current.

Treatment must be directed in all cases not only to the approximation of the blood pressure to the normal, but also to the ascertaining of the cause and its removal; but though the cause, be it dietetic, hygienic, toxic, or what not, is of prime importance, this is not the place to discuss it; it is mentioned to emphasize its significance.

Unless the abnormal tension be compensatory, efforts should be made to reduce the abnormality.

It is generally conceded that electrical currents have the power of modifying pathological arterial tension, and yet have little or no effect upon normal blood pressure (indeed, the same had been observed of the action of digitalis[1]). It has already been pointed out that in a slight degree the static bath will approximate to the normal either an increased or a decreased blood pressure, but for greater effects other currents must be employed. The precise way in which these act has not yet been fully determined, but this much may be taken for granted—that their action is upon the muscle fibres of the arteries, either upon these directly or indirectly through the vasomotor centres. In practice, if we wish to raise an abnormally low blood pressure, the static brush applied to the spine will be found fairly effectual. Static sparks in obstinate cases will produce a definite effect perhaps in a shorter time.

Much good may be done in case of high blood pressure when the increased tension is due to imperfect elastic recoil in the arteries (even with arterio-sclerosis) and increased peripheral resistance. When, however, there is a falling ventricular compensation it is wiser not to attempt to lower the peripheral resistance, for this resistance is an attempt on the part of nature to compensate for the failure of another compensation.

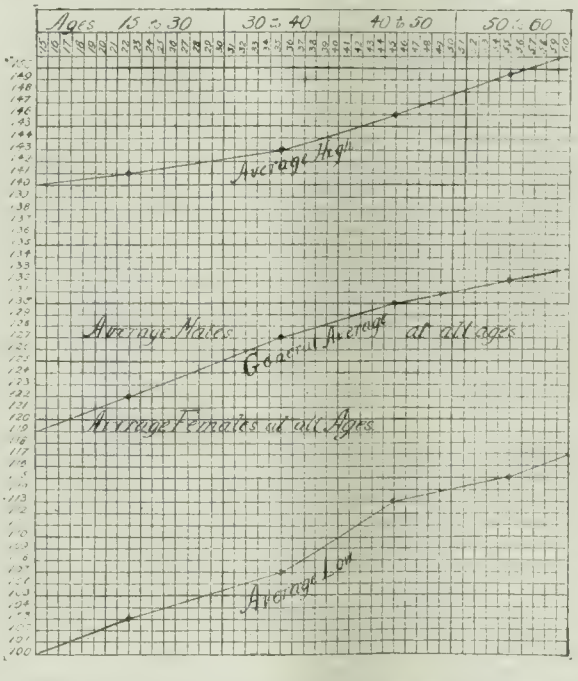


Chart showing normal limits of variation in systolic blood pressure.

In the former class the great majority of cases fall, at least those which come to the physician for treatment.

Electrically there is a simple means of determining whether or no it would be wise to attempt to lower the pressure—that is, whether we have simply imperfect elastic recoil with increased peripheral resistance, or whether we have broken cardiac compensation.

If a patient connected with a Tesla coil (arranged in a manner similar to that of the autocondensation couch) show any lowering of tension with a current of 20 to 50 milliampères, we may conclude that the peripheral resistance is of vasomotor origin, and should be left alone. If on the other hand no change is shown, then it may be taken that the case is suitable for electrical treatment.

Of course, it is superfluous to test every case in this manner; as a rule, it is easy to decide the class of case with which we have to deal.

Another method of differentiating is by means of amyl nitrite, but, as this paper confines itself to electricity, it would be out of place to go into details of this. Vasomotor insufficiency may also be detected when the sphygmomanometric reading is not proportionately higher in the standing than in the recumbent position.

Etiology.

Having generalized rather discursively before proceeding to the treatment, in order to get a clear picture of what is to be treated, let us look briefly at the etiology and symptoms.

Inherited tendency undoubtedly determines our general resistance, and arterial tissue is no exception to this rule. When Oliver Wendell Holmes was asked the secret of living to an advanced age, he replied that the secret consisted in choosing one's ancestors 100 years before being born; but the congenital form is happily rare, and more rarely still comes under the notice of the physician practising electro-therapy. Woley has shown in the accompanying chart what are generally accepted as the normal limits of variation in systolic blood pressure.

One word should be said about the normal maximum arterial tension in advancing years. It is usually taught that its rise with advancing years is physiological. True it is that as a man gets older his tension usually rises, but the fact is that his tension rises not on account of his years, but on account of something wrong in his health; and should not a man who has always lived a healthy, active, abstemious life have practically the same blood pressure at 60 as he had at 30? I think so. I think that in order to live to an advanced age one should have an estimation of one's blood pressure made every six months, and on the appearance of any tendency for the pressure to rise, the cause should be sought and removed, and unless the cause of the rise contra-indicate its reduction, the pressure should be reduced by the electrical method described later.

Sex.

It is generally admitted that men are more liable to hypertension than women, and when the list of its causation is complete it will be apparent why this should be so.

Occupation.

Any occupation entailing long muscular exercise and lifting heavy weights would seem to be especially provocative of hypertension. It is easy to understand this, for it can always be noted that the mercury will rise in the sphygmomanometer when the patient makes muscular effort, and any repetition of a temporary condition is apt to make it permanent.

Among the better class of patient worry is a frequent factor in raising the blood pressure, and prolonged mental strain can very well be traced as cause in financial magnates, stockbrokers, theatrical managers, etc.

Diet and Habits.

Alcohol and tobacco are convenient scapegoats on which to lay the blame for the condition of hypertension, but it must be left for pathologists and statisticians of a later day to judge. Evidence is too conflicting at present. The moderate use of either, or both, I have yet to see clearly established as a cause. Far more certain is it that rich and indigestible food—and especially a plethora of it—will cause a high blood pressure. This it may do in two ways, either directly, by frequently causing a temporary hypertension, a condition which eventually becomes permanent, or indirectly, by setting up an intestinal autointoxication, and the toxins thus liberated circulate in the blood and act as a chemical irritant.

Disease.

The diseases which may act as etiological factors have already been given. It may be noted that syphilis was

not included, and it was omitted for this reason, that in the majority of cases syphilis causes arterio-sclerosis, which in its turn gives rise to hypertension directly.

Signs and Symptoms.

High blood pressure, especially in the presclerotic state, may exist without any signs or symptoms, or with these so vague as to be barely recognizable by the patient; and may, indeed, be only discovered by the sphygmomanometric reading, or there may be certain functional symptoms, such as attacks of transient giddiness; headache, often intensified with the effort of mental concentration ("the sign of painful thought"); epistaxis; palpitation; slight oedema of the ankles; dyspepsia (stomach contents usually being subacid); insomnia or sleepiness, with a disinclination to work; irritability of temper; a tendency to tire easily after bodily or mental exercise; anxiety, or a sense of impending evil impossible to define.

Thus it will be seen that high blood pressure may evidence itself in a variety of ways, none of them pathognomonic; but they usually occur grouped together in such a way as to suggest collectively an altered blood pressure.

Here we have a condition in which electricity can accomplish much. Pathologically there may exist a process of degeneration, which we can check, and so prevent an arterio-sclerosis, and ward off such imminent consequences as apoplexy, kidney affections, and the myriad ills that follow in the train of an arterio-sclerotic condition.

With d'Arsonvalization, properly administered, much more can be accomplished than with most measures employed for treating hypertension. With it, except in the very advanced cases, a patient can be kept for years in a condition of safety, judicious attention, of course, being paid to general lines of alimentation and exercise.

The therapeutics of this current in lowering the blood pressure are twofold. One, the general or constitutional effect, as affecting metabolism; and the other, the local effect on the vasomotor system. The general effects of the current as influencing metabolism have been demonstrated both clinically and chemically. There is a gain in physical and mental strength and general improvement in the health, and the symptoms involved, be they insomnia, palpitation, or anxious fears, disappear. Chemically, there is an increase of solid in the urine, and this has also been found on analysis of the perspiration.

The improvement in general metabolism is probably largely due to the effect on the vasomotor system, whereby the arteries becoming relaxed, permit of a freer circulation of blood, and if this one fact be granted, then the beneficial effects of the current are easily explained. A subsidiary cause may be at work, and that is the thermic effect of the current. This is quite apparent to the patient, and it may be that this causes an increase of functional activity by which the elimination of the toxic materials is augmented.

The current of d'Arsonval, of which I have been speaking, consists fundamentally of a high potential current, conducted through a spark-gap, two condensers, and a copper solenoid. The particular arrangement that I have found most successful, and one capable of giving up 2.500 milliampères by the autocondensation method, may be thus described (see diagram):

The current is led from the direct main in the ordinary way into a 12-in. coil through a switchboard provided with a voltmeter and ampèremeter marked A and V. Also there is a knife cut-out and three resistances, one controlling the speed of the interrupter (2), and (3), the other two (diagrammatically represented as one), regulating the current strength. From the coil the current is led into a multiple spark-gap. This multiple spark-gap was designed by Dr. de Kraft, of New York.

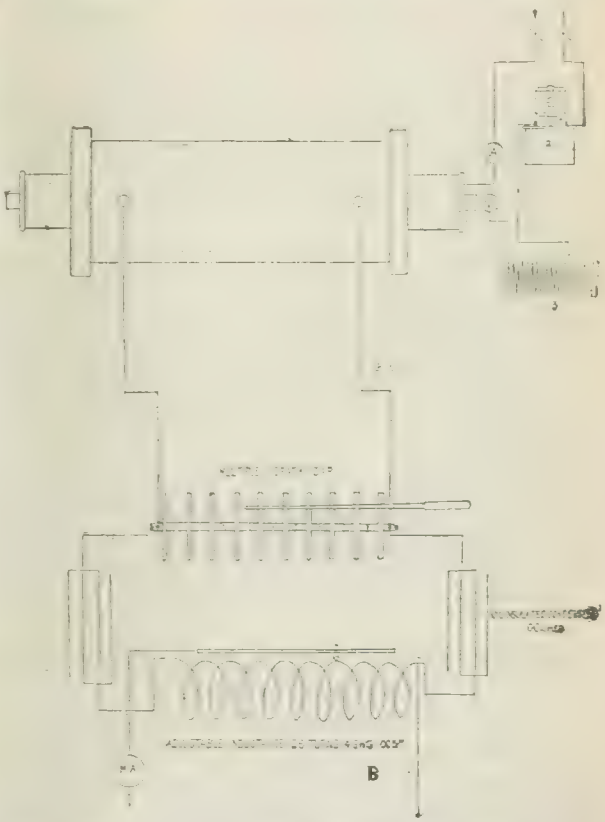
This is one of the simplest possible type. There are nine gaps, each measuring about 2 mm. The sparks are discharged unmuffled in the open air owing to the extreme shortness of the sparks and the multiplicity of them. The noise is much less than with the ordinary high-frequency spark. More recently I have been using a spark-gap which is noiseless, each of the small gaps being enclosed in a small receptacle.

The result from having a greater number of sparks in increasing the rate of oscillation to be obtained from the d'Arsonval spiral is astonishing.

The current from the spark-gap is led to two insulated condensers having a capacity of 0.002 microfarad. Thence it is led to an adjustable inductance resonator of copper wire (4 B.W.G.) having twenty-eight turns: from thence to one terminal attached to a sheet of metal, and to the other ending in a handle with a milliampèremeter (M.A.) in circuit.

The patient rests on a cushion, which is made of leather and filled with horsehair, measuring 22 in. wide and 72 in. long and 3 in. in thickness. He holds the handle in his hands, and should feel nothing except a sense of warmth, which is chiefly manifest in the wrists and up the arms as the current is slowly turned on and the milliampèremeter measures 1.000 milliampères or more.

A pleasant feeling of warmth and comfort pervades the body, and there is a tendency to somnolence. The treatment should be continued for fifteen minutes. The blood pressure should drop from 10 to 20 per cent.



Thus, the blood pressure which is 200 at the beginning of the treatment becomes 180 or 160. This will gradually rise till the following day, but not always, however, to its original point, when another treatment should be given; but after a time it will be observed that the pressure no longer rises between treatments. This may be taken to be the patient's normal pressure, and to keep it at this he will require to come for further treatments from time to time, as the varying conditions may cause an increase in the pressure.

Another form of treatment of hypertension, especially when this is associated with acute nephritis, is that by the electric light cabinet. The effect on the patient is almost always satisfactory—not only does he feel better, but with the increased elimination, both cause and effect are benefited.

Our lives depend upon the integrity of our hearts and blood vessels for the maintenance of activity and of life itself.

Comparatively young people grow old before their time. This is due often to the manner of life led. Whether excessive eating or drinking, or brain-work, or worry, which tend, as we have seen, to raise the blood pressure, pave the way for arterio-sclerosis, and are the means of hastening the patient to a premature grave. But if a mode of life conducive to a healthy old age be adopted, and proper

electrical treatment used when the pressure shows sign of rising, arteries may be kept elastic and youthful, and man will then be as young as his arteries.

REFERENCE.
[1] Czyhlarg, *Wien. klin. Rundschau*, April 15th, 1900.

DISCUSSION.

Dr. C. F. BAILEY (Brighton), speaking with regard to the influence of high frequency on arterial tension, mentioned that he had had one case, a diabetic, who was much improved by high-frequency treatment. He was interested to see whether the improvement was maintained; but it was not, and the man developed further trouble with his arteries. The speaker agreed with Dr. Humphris as to the necessity for a very high milliampèrage.

Dr. G. E. BOWKER (Bath) asked whether there was any distinction between high-frequency and diathermic treatment.

Dr. DELPRATT HARRIS (Exeter) related an instance of a lady who was singularly susceptible to high frequency. After a brief application he noticed that she was breathing very quickly—really panting. Her face was red, she was turgid, and broke out into a profuse perspiration. The milliampèrage at the time was between 400 and 800. His average was from 600 to 700, and he seldom went up higher than 900. He was convinced that this treatment was most useful in certain cases, and that the good effect was not transient.

Dr. F. FOWLER (Bournemouth) said that diathermy was useful for the purpose of lowering high tension in some cases. Given from hand to hand, he could not reach higher than 350–500 milliampères, as the patient could not bear more, owing to heat in the wrists. He wished to know what arrangement of electrode Dr. Humphris used for the large doses. There was some question as to the accuracy of the readings of the hot-wire milliampèremeter.

Dr. HUMPHRIS, in reply, entered into further technical details of his procedure, and defended the accuracy of the meter. As to the question of terms, he preferred the description, "electro-thermic penetration." There were only slight differences in the production of the current as between diathermy and d'Arsonvalization.

THE TREATMENT OF CORNS AND WARTS BY IONIZATION.

By H. LEWIS JONES, M.A., M.D., F.R.C.P.Lond.,
Consulting Medical Officer, Electrical Department, St. Bartholomew's Hospital.

IN a paper on ionic medication read last year at the Annual Meeting of the British Medical Association in Liverpool[1] I mentioned that corns and warts could be successfully treated by ionic methods, and expressed the opinion that corns were probably due to a microbic invasion, as is now considered to be the case with warts.

In my opinion, a corn is not merely a callosity caused by friction. Such callosities are common on the toes, but may remain harmless for years, neither growing nor becoming painful, whereas a genuine corn grows quickly, is tender, and often becomes painful. It is granted that a callosity due to friction is often a favourite site for the development of a corn.

The well-known treatment of corns by salicylic acid dissolved in collodion is said to act by virtue of a solvent action upon epidermal cells which is ascribed to salicylic acid. It is quite as likely that the action of the drug is an antiseptic action, and if so a watery solution of salicylic acid would probably be better, as such a solution would permit of an ionic action. Salicylic acid is not very soluble in water, but is much more soluble in water containing borax.

The treatment of corns has been rather neglected by medical men, but corns are none the less worthy of attention, as they cause a great deal of discomfort, and, one might add, are responsible for much bad temper. By ionization one can obtain very good results, and, in fact, one may claim to be able to cure them.

In addition to the treatment of a number of cases of ordinary corns, I have had three cases of severe corns of the sole of the foot, a variety which has the reputation of being unusually difficult to treat, but which yields satisfactorily to ionization with zinc. The procedure is simple, and consists in using first a zinc positive needle for the centres or foci of the corn, and following this up with ionization of the whole affected area with a zinc plate and a pad moistened in the usual way with a zinc salt. It is usual to prescribe a compress of zinc sulphate of a strength of 1 per cent. to be applied for some hours before the ionization, in order to have the horny epidermis imbibed with the solution beforehand, so far as this can be accomplished by simple diffusion.

Two of my cases were in women, and one in a man. All were completely freed of their corn in three or four weeks. It disappeared and left no trace. One was a lady at Oxford, captain of her hockey team, and much crippled in her movements before the treatment. I heard some months later that she remained quite well. The second lady was able to spend her holidays in mountaineering, and had no relapse. The third patient wrote me to say that he was out with his company of Territorials, and that the corn had completely gone.

There is not much to say in respect of warts. Transfixion with a zinc needle, with a milliampère of current for a minute, suffices for ordinary warts. If large, the transfixion is done twice, crucially. A little more current or a longer time may sometimes be desirable.

When warts are numerous and small and close together, ionization with a pad and zinc solution is quicker than needling of the individuals. For some warts magnesium answers very well, especially for the flat multiple warts of the backs of the hands and of the face.

The branching, coral-like warts of the chin and scalp are easily removed by the use of a zinc needle. Warts of the penis, which I have treated on one occasion, were satisfactorily removed by simple zinc ionization from a pad of zinc sulphate.

There seems to be some evidence that magnesium salts by the mouth exercise a specific influence upon warts. I have met with several cases in which small doses of magnesium sulphate caused multiple warts to crumble away and disappear in a very few days.

REFERENCE.
[1] BRITISH MEDICAL JOURNAL, August 31st, 1912, p. 486.

DISCUSSION.

Dr. E. P. CUMBERBATCH mentioned a St. Bartholomew's patient who had been completely cured of a thickened epidermis of the foot by the zinc ionization method.

Dr. HARWOOD NUTT said that at the Royal Hospital, Sheffield, he had treated a case of warts of the hands—the warts numbering fifty or sixty—by means of magnesium ions, and the excrescences cleared up after three applications. He also instanced the disappearance of a corn after two applications of salicylic ions.

Dr. IRONSIDE BRUCE said that he had made the warts disappear by means of cataphoresis. He had failed, however, to ascertain how the warts disappeared. Did they gradually become smaller, or did they drop away?

Dr. G. E. BOWKER (Bath) said that he had treated a few of these cases of warts with great success by means of magnesium ions. The warts in the one case covered more especially the tips of the fingers surrounding the nail, and there was one particularly large wart on the back of the hand. This would answer Dr. Ironside Bruce's question, for the wart dropped off, more or less like a ripe pear.

Dr. LEWIS JONES, in reply, said that very often the warts crumbled away. The patient said that they "rubbed off"; he gathered that it was usually piecemeal, but sometimes clearly they must come off *en masse*. He was very glad to hear any evidence that magnesium had been a success. A little while ago it was stated in France that the treatment of warts by magnesium was a treatment by systematic purgation. It was not so at all. No doubt magnesium acted well, although he used zinc in

preference, because his experience of zinc was greater, and he was rather more confident of its action. But it was clear that magnesium had a specific action when introduced ionically. Belot had said that he got just as much effect from the action of the constant current. But there was no constant current except a migration of ions, and, if the pad were wet with something else, he was simply using certain other ions. It had also been claimed that lime administered internally was a cure for warts, and one could not help thinking that what was wanted in the cure of warts was alkalinity, and that any alkaline material would cure them—lime, magnesia, soda, etc. It might be that the warts were due to a germ which grew in acid media and not in alkaline media, and that magnesium was one of many ions capable of eradicating it.

DEMONSTRATIONS.

I.

Dr. Thomas Lewis (London) described the method of taking simultaneous electro-cardiograms and heart-sound records, and gave a lantern demonstration of the results. The method, he said, was particularly valuable, because of the exact idea which it furnished of the time relations of heart sounds. His lantern slides included tracings of normal heart sounds and the common murmurs. Dealing with the character and time relations of the murmurs in mitral stenosis, he pointed out that, the heart's mechanism being normal, when the heart-rate was fast or the stenosis severe, the murmurs filled diastole, and when the heart-rate was slower and the grade of stenosis was less, they occupied presystole or presystole and early diastole. The presystolic murmur was not usually crescendo, the crescendo quality being given by the accentuation of the first sound. When the auricles fibrillated the murmurs filled diastole in the short cycles, or in all the cycles, when the heart-rate was fast. They lay in the early diastole of the long cycles, and were confined to early diastole when the heart-rate was very slow. Under the last-named circumstances the murmur might be separated from the preceding second sound by a short interval of silence. An isolated presystolic murmur was not found when the auricles fibrillated. The relation of the diastolic murmurs of mitral stenosis to the auricular contractions when heart-block was present showed that these murmurs were largely controlled by the positions of the auricular contractions. He added that the explanation of all the diastolic murmurs of mitral stenosis was to be found in a study of the differential pressures between the auricle and ventricle, and therefore in the velocity of flow through the mitral orifice.

At the close of the demonstration Dr. Lewis answered questions by Dr. C. F. Bailey and Dr. E. P. Cumberbatch relating to the cost of the electro-cardiograph apparatus, and to certain heart irregularities which were observed after operations.

II.

Dr. Franz Nagelschmidt (Berlin) brought forward a combined method of diathermy and electro-gymnastics in the treatment of nutritional disorders. He considered that dieting was frequently a failure. So long as the dieting continued the effect was good, but within a few weeks of the end of the dieting the disorders reasserted themselves. Dieting did not mean curing, but simply covering the symptoms. His own method, he claimed, involved not symptomatic treatment, but actual cure. He employed diathermy, or the electrical introduction of heat deeply within the tissues, by means of the Nagelschmidt diathermy apparatus, thus sparing the combustion of the body's reserve material, and at the same time stimulating the circulation and nutrition of the cells. Together with this he employed a method of electro-gymnastics of his own devising, which, he said, was free from the occasional disagreeable sensations of Bergonié's method, and at the same time stimulated a very active contraction of the muscles. The result was that while feeble persons gained in weight, over-stout persons tended to lose their surplus; the metabolism was thoroughly modified and righted, and the results remained steady after a long period of time. By combining a carefully regulated electro-gymnastic method with diathermy much good was done in heart troubles, and he mentioned that he had also found the electrical treatment of value in arthritic and other conditions.

III.

Mr. J. Hall-Edwards (Birmingham) projected a cinematograph film, which had been produced in Germany, showing the cycle of action of the stomach.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

LEAD NITRATE FOR INGROWING TOENAIL.

I was interested in the memorandum of Dr. Liesching concerning the use of lead nitrate for ingrowing toenail, as I also have found it satisfactory. Before using it I apply a little strong carbolic acid, and have not noticed any pus under the scab.

A. Baird, M.B., F.R.C.S.Edin.,
Worcester. Lieutenant-Colonel, R.A.M.C. (ret.).

BROMIDE ACNE TREATED BY VACCINE.

As the ordinary treatment of bromide acne seems very unsuccessful, the following notes may be of interest.

The patient, aged about 20, had been taking potassium or sodium bromide, for three or more years. Her face was covered with a rash presenting every variety of acne. The usual methods of treatment had completely failed, but it was considered inadvisable to leave off the bromide. I had written to the laboratory from which I usually obtain my vaccines, and was told that vaccine treatment of bromide acne was not likely to be of any use. In the course of an article in the British Medical Journal in June or July last year a couple of lines were quoted to the effect that Professor Strubell of Dresden had treated three or four cases with good effect. I wrote to Professor Strubell, who very kindly sent me some of the stock vaccine he used—mixed staphylococci—at the same time giving me advice on the treatment of the case.* He considers that bromide acne is almost always a staphylococcic infection, and that only in a few cases is it necessary to follow the opsonogen by a course of acne bacillus vaccine. At the same time he insists on the need of systematic local and dietetic treatment. The course of vaccine, too, is a long one, and from twelve to twenty injections, or even more, may be necessary.

In the case referred to the injections were rapidly run up to 500 million, and then maintained at that dose. Massage with ichthyol and salicylic soap was done twice daily, and a diet as far as possible free from fat carefully carried out.

Improvement was very soon noticed, no fresh spots appearing after the third or fourth dose. After a series of ten doses the skin was clear of spots, and the scars of the old ones were fading rapidly. Three weeks afterwards one or two spots appeared, and a further series of five doses was given—since which time (a year ago) no further treatment has been required, although the patient has continued to take small doses of bromides. The disappearance of the discoloration of the skin has been, from the patient's point of view, not the least valuable part of the cure.

The success of this case would make the treatment worth trying in others. I have also used "opsonogen" with very good effect in five or six cases of furunculosis, and in a case of chronic periostitis following a wound of the shin.

Helston, Cornwall. Mark R. Taylor.

METASTATIC SARCOMA OF LUNG SIMULATING PNEUMONIA.

The clinical aspects of metastasis secondary to malignant disease of the viscera are of considerable interest and importance. When the existence of a primary tumour is obvious, or when such a tumour has been more or less

*The vaccine is made for him by the Chemische Fabrik Güstrow, and can be obtained in England from Messrs. Chas. Zimmermann and Co., of London, under the name of "Opsonogen." It has the merit of being cheap.

recently removed by operation, evidences of disease in other organs must necessarily excite more or less alarm. In actual practice, however, this relatively straightforward state of affairs by no means always exists. The primary growth may perhaps be overlooked, or the history of it may be concealed, or its nature, even though the tumour has been removed by operation, may have been doubtful. Further, the interval between the primary growth and the secondary development may be so considerable that suspicion is at rest; and in individual instances the symptoms of the later growth may be so indefinite that the true meaning may be missed. The following clinical record illustrates some of the above points:

A woman, aged 48, consulted me in September, 1912, when she complained of pain in the right side, cough and expectoration of blood-stained sputa. The physical signs were those of pleurisy and pneumonia—dullness, crepitations, bronchial breathing, etc.—with a temperature of 101° F. With rest in bed and appropriate treatment the patient gradually improved; the temperature fell to the normal level and the symptoms disappeared, so that after three weeks the patient regarded herself as completely recovered. There remained, however, at the right base physical signs which were regarded as due in part to a thickened pleura, and in part to fibrotic changes in the lung substance.

During the next two months the patient lived in the country and appeared to enjoy good health. In January, 1913, she again complained of pain in the right side, and was much troubled with cough attended by expectoration deeply stained with blood. The temperature was normal, and the tubercle bacilli was not present in the sputum. The physical signs had become much more decided. Practically the whole of the right chest was dull, and the dullness passed across the middle line in the front of the upper chest; the cardiac impulse and percussion were outside the left nipple line. In the lower part of the chest the respiratory murmur was feeble or absent, but at the higher levels the murmurs had a tubular or bronchial quality. An exploring needle was introduced, but obtained only a little blood-stained fluid. A careful investigation of the patient's history showed that in June, 1910, she was in University College Hospital under the care of Dr. Blacker, who kindly informed me that she then had "a degenerative fibroid polypus removed, and a second growth in December, 1910, the latter being of doubtful character. In April, 1911, another sloughing tumour was removed, and this had the definite structure of a sarcoma." The uterus and appendages were at once removed. In view of this history, and of the clinical facts, the diagnosis of secondary sarcoma of the lung was made. The immediate future promptly confirmed the conclusion, as the symptoms continued in spite of treatment. The patient's appetite failed, she rapidly lost flesh, and died of exhaustion on April 20th, 1913.

The feature of the case which it is desirable to emphasize is the appearance of malignant disease of the lung in the guise of an ordinary pleuropneumonia, this diagnosis seeming for a time to be confirmed by the marked improvement in the patient's general condition. Had the history of the patient been fully known at this stage it might, perhaps, have modified the prognosis, yet it could hardly have afforded ground for a confident interpretation of the pulmonary signs and symptoms as significant of malignant disease. The record lends emphasis to the caution "that with a history of malignant disease, subsequent clinical events, even though remote in time and situation, and perhaps not obviously suggestive of a secondary malignant growth, ought to be viewed with anxiety and suspicion.

Clapton, N.E. T. MUIRHEAD MARTIN, M.D.

WE may remind readers that the eleventh International Congress of Tuberculosis will be opened in Berlin on Wednesday, October 22nd. The first of these congresses was held in the same city in 1902; at the present congress the chief subjects for discussion will be the clinical and pathological phenomena of human tuberculosis, the surgical treatment of pulmonary tuberculosis, the influence of insurance on the campaign against the disease, and the constitution of schools for debilitated children threatened with tuberculosis.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

MONTROSE ROYAL ASYLUM.

A CASE OF RETENTION OF FAECES WITH UNUSUAL SYMPTOMS.

(Reported by JOHN G. HAVELOCK, M.D.Edin., Physician-Superintendent.)

A. I. S., female, aged 38, single, domestic servant, was admitted on the night of August 29th, 1913, a pauper patient from a remote parish in the north of Scotland.

The history obtained was that she had been detained in an English county asylum from October, 1912, to July 26th, 1913, when she was removed to Scotland and placed in a poorhouse. She was found to be too troublesome for management there, as during the night she shrieked and shouted for no apparent reason, and refused to pass urine so that it was necessary to have it drawn off by catheter. The medical certificates stated that "she was alternately quiet and sullen, and restless and excited; talked incoherently and kept staring with a wild, vacant look in her eyes. At other times she sat silent and brooding, refusing to speak. She suffered from retention of urine, but objected to urine being drawn off although none had been passed for twenty-four hours."

Her mental condition on admission was that described in the medical certificates; her bodily condition was about average, but it was noted that the abdomen was distended. A catheter was passed, but only some 8 oz. of urine were drawn off. Her weight was recorded as 9 st. 9 lb.

On the morning of August 30th a dose of Epsom salts was administered, but this was vomited, and later in the day a dose of castor oil, which she retained. As this was not followed by an action of the bowels an enema was administered, and it was then manifest that the abdominal distension was due to retention of faeces. Copious enemata and mechanical operations succeeded in removing an immense accumulation of scybala, which were emptied into the ward w.c., with the somewhat ludicrous sequel that the drain became choked and was only relieved after much strenuous work by the institution plumber.

As the patient had been carefully weighed just before the operation, when the scale showed 9 st. 9 lb., it was evident that a similarly careful record of her weight after the removal of the faecal matter would give a correct estimate of the amount which had been removed. It was surprising to find that she then scaled only 8 st. 10 lb., so that the evacuated mass was 13 lb. in weight. Surely this must be a record stool; but I remember a somewhat similar case which occurred here when a patient, soon after admission, passed unaided a solid stool exactly the size of an ordinary whisky bottle, and of the same shape, minus the neck.

The case shows that faecal retention of a serious nature may exist without showing the usual well-known symptoms. In this instance two very able general practitioners seem to have been misled by the patient refusing to empty the bladder; and it was only by the observance of the routine precaution of ensuring that the action of the bowels is regular that we were able promptly to diagnose the trouble.

The case also may be regarded as an example of the extreme difficulty that exists in the medical treatment of the insane; the patient can give no assistance, and the history of the case is usually not only meagre but often absolutely misleading.

DR. J. M. MULLICK AND DR. B. N. GHOSH, writing on behalf of the Editorial Committee of the *Indian Medical Record*, Calcutta, informs us that a special tuberculosis number of that periodical will be issued in December, and that they are prepared to deal with notes on prevention and treatment based on personal experience if received by the middle of November. The editors have been moved to take this course by the prevalence of tuberculosis in India, the serious mortality it produces, and the rapid progress which the disease is said to be making.

Reviews.

SOME CLINICAL TEXTBOOKS OF TUBERCULOSIS AND TUBERCULIN.

All modern students of tuberculosis must by this time be familiar with the associated names of Bandelier and Roepke. Together and separately these two physicians have contributed much to the literature of the subject, and their exceptional opportunities as directors of large sanatoriums have given them the right to speak with authority on the results of investigations now extending over a considerable period. Their most ambitious work, descriptive of the clinical aspects of tuberculosis as affecting all parts and organs of the body, has proved so useful to the profession in Germany that a second edition has been issued within a comparatively short time, and a translation of it by Dr. Bertram Hunt has recently been prepared for the profession in England, and presented in the form of a handsome volume entitled, *A Clinical System of Tuberculosis*.[1] Covering the whole range of tuberculous disease, the work is conveniently arranged for reference. It is properly recognized that tuberculosis, wherever it may occur, is a pathological entity, and although it can be more easily studied in one part than another it is, in its main features, amenable to the same scheme of treatment. In preparing the second edition, the authors have taken full advantage of the criticisms and suggestions that were evoked by the first, and have noted all recent advances both in pathological and therapeutical respects. As a practical guide to the better understanding of the present state of knowledge on the subject, the book in its English dress should prove of real value to the very large number of persons who are now concerned in the recognition and rational treatment of this scourge of the human race. The average reader may be disappointed to find that there is so much difference of opinion upon certain important points between equally skilled observers. Even as to the paths of entry open to the bacillus there is no common agreement. A rough division into aërogenic and enterogenic may be made for controversial purposes, but the finer distinctions are not so easy to explain. The authors have made careful selection of the leading authorities for quotation, leaving the reader to form his own judgement on many moot points. Pulmonary tuberculosis naturally claims the first place for consideration, and no stone with respect to it is left unturned. Like many other physicians who are in daily contact with a special disease, Drs. Bandelier and Roepke are by no means prepared to exalt the microscope and the cultivation plate above the older instruments and methods of diagnosis. For the practical purpose of early diagnosis, for instance, they lay great stress upon inspection and palpation, and evidently regard the phenomena of agglutination, fixation of complement, and Bauer's anaphylaxis with considerable suspicion, as too inconstant in their occurrence to inspire trust. As experienced sanatorium managers they have much to say on the subject of rational treatment, and their detailed advice is worthy of close study. The general lines of physical treatment are well known, but very many modifications of them can only be learnt by experience, and almost every case calls for careful consideration of some special feature. In agreement with many others of like experience, they consider that at the present time the association of careful tuberculin treatment with enforced hygiene is the most successful line to adopt. As in their previous work on tuberculin in diagnosis and treatment, they utter grave warnings with regard to the necessity for careful consideration before employing inoculations, and maintain that every one proposing to inject any preparation of tuberculin ought to make himself fully acquainted with the exact qualities of the preparation that he is about to use, and not to trust to the "instructions on the bottle." Various surgical methods have of late years been suggested and practised for the relief of advanced cases—such, for instance, as the production of artificial pneumothorax with injection of nitrogen into the pleura, resection of ribs, etc.; but of all these they speak with great reserve, and only recommend their use when all resources of medicine are exhausted. The provision of State hospitals for consumption in Germany, at first disfavoured, would appear now to be recognized as useful to the community in many ways, but chiefly as a ready means for isolation of infective cases. It has been found that segregation is not objected to so long as some form of treatment is adopted. The *spes phthisica* has often proved stronger than nostalgia. Only passing mention is made of national insurance in Germany, but enough is said to show that it is applied strictly to cases with some prospect of future usefulness and not indiscriminately. Space does not permit of mention of the many practical points arising in the course of the authors' account of tuberculosis of the various systems and organs, and it must suffice to say that the same strain of practical common sense is traceable throughout, giving the work a value, not only as a complete account of the whole subject, but as a trustworthy aid to the average practitioner in his daily round of work. Much credit is due to the translator for the pains that he has taken to render the authors' meaning in clear and readable English.

The earlier work of Bandelier and Roepke, dealing with *Tuberculin in Diagnosis and Treatment*,[2] has already passed into a seventh edition, and an excellent English translation of it has been made by Dr. Wilfred B. Christopherson of Arosa. An earlier English edition, translated from the second German issue by Dr. E. G. Morland, was published in 1909, but so much work has been done by way of research, and so much clinical experience has been gained, that a fresh account of the whole subject is fully justified at the present time. An introductory note was written for the third edition by the late Professor Koch in which he rightly prophesied that the sterling character of the work would find recognition and call for many subsequent editions. Produced in the same style, though not quite uniform, with the larger work referred to in the foregoing review, the book possesses all the qualities that we have noted in its companion. It is divided into three main sections, dealing first with the theoretical aspects of tuberculin treatment, then with its value in diagnosis, and finally with its practical application in the treatment of the disease in all its varying conditions and localizations. Each branch of the subject is dealt with at length, and every observation or train of thought that has been put forward by investigators of repute finds mention and criticism. It has, however, to be admitted that no commonly acceptable theory has as yet been reached, and that each must stand or fall on its own merits. A few definite points have been established. It is agreed that the bodies of all tuberculous individuals contain antibodies, and that the phenomenon of hypersensibility varies greatly. The latter phenomenon has been subject to much study, but as yet no laws can be formulated with respect to it. The idea that immunity artificially acquired is not an advantage to a tuberculous patient is not shared by the authors, and throughout the work it is made very clear that increase of experience has inspired increase of faith in the value of tuberculin judiciously administered. With respect to its diagnostic value there is much to be said, but the conclusion arrived at brings the reader back to the point from which he started, and he is advised to pin his faith, as heretofore, to the subcutaneous method as likely to produce the most trustworthy evidence of the presence of tubercle, and to trust his ordinary diagnostic powers to determine the extent or position of the focal lesion. In the case of children, the less painful cutaneous method may be preferable, but many reservations attach to its indications and call for very cautious interpretation. The major part of the book is devoted to an account of the results hitherto recorded, mostly by German observers. Tuberculosis of every part is dealt with, and the arrangement of the subject renders the whole very easy of reference. The outcome of such a collation

[1] *A Clinical System of Tuberculosis; describing all Forms of the Disease.* By Dr. B. Bandelier, Medical Director to the Sanatorium Schwarzwaldheim at Schomberg, and Dr. O. Roepke, Medical Director to the Sanatorium for Railway Workers at Stadtwald, Melsungen, Cassel. Translated from the second German edition by G. B. Hunt, M.D. B.S., late Physician to the Scarborough Hospital. London: John Bale, Sons, and Danielsson, Limited. 1913. (Roy. 8vo, pp. 537; 8 coloured plates. 21s. net.)

[2] *Tuberculin in Diagnosis and Treatment.* A Textbook for Practitioners and Students. By Drs. Bandelier and Roepke. Second English edition translated from the seventh German edition by Wilfred B. Christopherson of Arosa. London: John Bale, Sons, and Danielsson, Limited. 1913. (Roy. 8vo, pp. 321; plates, illustrations, and charts. 15s. net.)

of contemporary study and research is somewhat disappointing, and the conviction is forced upon the reader that no great advance has been made of late years towards a common agreement upon any of the points at issue. The authors, themselves men of exceptional experience, can only maintain that tuberculin does some good, even to advanced cases, and that no positive rules can be laid down to guide its employment. Personal experience and opinion must still determine the treatment in each case, and the need for caution is as great as ever. They urge very strongly the advisability of careful study on the part of practitioners who have to carry out special treatment, and recommend a few months' sojourn in a sanatorium as the best means of acquiring the needful experience. But as a guide to the present state of medical thought on this very difficult subject the book cannot be praised too highly. The translator has put the whole work before the English-speaking profession in a form which should earn the gratitude of all who wish to keep pace with the progress of modern research.

THE DIAGNOSIS OF SMALL-POX.

On page 9 of his book, *How to Diagnose Small-pox*,[3] Dr. WANKLYN quotes a statement by Dr. Ricketts that "small-pox is, perhaps, of all diseases that in which a certain diagnosis can be arrived at in almost every case." With this saying Dr. Wanklyn writes that he is in agreement. How is it, then, that mistakes are made? The answer to this question is supplied, first, by the fact that few medical practitioners and students in these days have the opportunity of studying small-pox at the bedside, because for some time past cases of the disease have been scanty in this country, and such as have occurred have been hurried off to special isolation hospitals, in which they have been lost so far as clinical teaching has been concerned; and, secondly, by what, we fear, is also the fact that the method of diagnosis usually employed is faulty. Dr. Wanklyn points out that the characteristic features of small-pox lie mainly on the surface throughout the course of the attack, and are not hidden away internally and obscurely. This makes for certainty in diagnosis in spite of admitted difficulties. These features and the proper method of studying them are very clearly described by the author. We strongly advise that a perusal of the book should be undertaken at once, and not deferred to the next outbreak of small-pox which the unvaccinated condition of London and other large cities in this country is certain to bring about, very probably at an early day. The book is small and inexpensive, its language is simple, its contents can be mastered in an hour or two. The misdiagnosis of a case of small-pox has so frequently led to deplorable results that it is the duty of every medical man, in the interests of the public health as well as of his own reputation, to be as conversant with the disease as is possible under the circumstances. He will find this book most valuable for the purpose.

THE INDIAN JOURNAL OF MEDICAL RESEARCH.

THE *Indian Journal of Medical Research*, the first number of which bears date July, 1913, makes a bold bid to take its place among the leading periodicals devoted to the publication of the results of medical research. It is published for the Indian Research Fund Association by Messrs. Thacker, Spink, and Co., Calcutta, and will appear quarterly. The subscription price in India will be 6 rupees, and in other countries 10s., including postage in either case. It will replace the periodical, *Paludism*, the first number of which was issued in July, 1910, and also the great majority of the monographs published in the *Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India*, a series which has been published for many years at irregular intervals.

The Indian Research Fund Association exists for "the prosecution and assistance of research, the propagation of knowledge, and experimental measures generally in connexion with the causation, mode of spread, and prevention of communicable diseases." The new journal will deal with every branch of research directly or indirectly connected with medical and sanitary science, including hygiene, sanitary engineering, sanitary laws, statistics, bacteriology, parasitology, and entomology. It will not publish reviews or abstracts of papers published elsewhere, but it will include from time to time reviews of existing information regarding particular diseases, such as the article in the first number by Captain J. Cunningham, I.M.S., summarizing present knowledge of dysentery, and giving a full bibliography of the subject. Summaries of official reports of the Indian Government containing matter of scientific medical interest will also be published. The main intention of the founders of the new journal, which will be edited by the Director-General, I.M.S., and the Sanitary Commissioner with the Government of India, is to present in a readily accessible form accounts of the work done in India with the object, not only of letting the outside world know how much is being done, but also to co-ordinate such work and excite healthy emulation.

Of the sixteen papers in the first number, five are concerned with medical entomology. The first, by Captains W. S. Patton and F. W. Cragg, of the King Institute, Madras, deals with certain haematophagous species of the genus *Musca*, and contains a description of two new species. The second paper by the same authors describes a new species of *Philaematomyia* and contains some general remarks on the genus. Mr. F. M. Howlett, in a paper on the natural host of *Phlebotomus minutus*, the commonest sand fly in Bihar, and a pest to man in summer, shows reason for believing that its natural host is the common Geckonine wall lizard. Major E. D. W. Greig, I.M.S., who is on special duty for the Cholera Inquiry, contributes a series of papers on cholera. The first is on an investigation into the occurrence of the cholera vibrio in the biliary passages, the second on an epidemic of cholera caused by a "carrier," the third on an investigation of cholera convalescents and contacts in India, and the fourth on the occurrence of the comma bacillus in the urine of cases of cholera. Major A. C. MacGilchrist has a paper on the haemolytic action of quinine and its salts, containing suggestions regarding the etiology and treatment of blackwater fever. Lieutenant-Colonel C. Donovan, I.M.S., contributes a paper on kala-azar in which he discusses its geographical distribution, showing that its endemic areas are low-lying damp districts near rivers, places very suitable for malaria and where in fact the two diseases coexist. He discusses also the probable mode of infection without arriving at any very definite conclusions, but he exculpates the house-fly of India, and suggests that attention should be directed to the possibility of the conveyance of *Leishmania* by food contaminated by excreta or other substances containing the encysted forms of the flagellate. His paper is followed by a preliminary report by Captain W. S. Patton on the question whether kala-azar in Madras is of animal origin. The general conclusion of this research so far as it has gone, is that the dog and probably the cat play no part in the transmission of the disease in Madras.

This first number of the *Indian Journal of Medical Research* is well illustrated by reproductions of photographs in the text and by special plates of flies from drawings signed Edith M. Patton which attain a very high standard of excellence: it may be worth while to add that in the copy we received they were not very securely fastened. Subsequent issues of the new periodical will be looked forward to with high expectation by all interested in the study of the diseases of hot countries.

VITALISM AND REPRODUCTION.

PROFESSOR MARCUS HARTOG'S volume entitled *Problems of Life and Reproduction*,[4] one of the Progressive Science Series, consists rather of a series of essays than of a consecutive exposition. Several of the chapters have been previously published as contributions to scientific journals or reviews. The last chapter is devoted to the teaching of "Nature Study," and was delivered as an address to

[3] *How to Diagnose Small-pox*. By W. McC. Wanklyn, B.A.Cantab., M.R.C.S., L.R.C.P., D.P.H., Assistant Medical Officer of the London County Council. London: Smith, Elder, and Co. 1913. (Demy 8vo, pp. 111; 6 plates, 4 diagrams, 1 chart. 3s. 6d. net.)

[4] *Problems of Life and Reproduction*. By Marcus Hartog, M.A., D.Sc., F.L.S., F.R.H.S., Professor of Zoology in University College, Cork. London: John Murray. 1913. (Demy 8vo, pp. 379, 41 figures, 3 tables. 7s. 6d. net.)

teachers in Queen's College, Cork; this chapter has but little relation to the subject-matter of the remainder of the book.

The work is primarily addressed to the lay reader, but there is much in it which, though not new, will prove of interest to the biological expert. The earlier chapters deal with the problems of the origin of the sexual process and of the bisexual cells. The evolution of the latter is traced from the green flagellates through an interesting series of the *Fucaceae* to the higher types with definite ova and spermatozoa. These facts lead on to a consideration of the essential processes of conjugation and fertilization which, in the opinion of the author, "lies in the creation of a new cell, whose nucleus and protoplasm have not been previously associated in a common cell life." In this connexion there is an interesting discussion on the interrelationships between the nucleus and the protoplasm of cells in general.

Passing from sexual reproduction to the processes of reproduction of organisms by grafting, budding, and the regeneration of lost parts, Professor Hartog next deals with the bearing which these facts have upon the theories of inheritance. The views of Weismann and of Herbert Spencer, Darwin's pangenesis and the facts of parthenogenesis are briefly set forth. Weismann's germ-plasm theory and the non-inheritance of acquired characters are somewhat severely criticized. The number of biologists who believe in the inheritance of acquired characters if few are steadily increasing, and Professor Hartog is to be numbered among them.

An interesting and readable account is given of the physical factors concerned in the process of mitosis and of the new dual heteropolar force—mitokinetism. The view is expressed that much of the persistent advocacy of the view that mitokinetism is identical with electrostatic force "is due to a latent fear that a 'new force' within the organism, not known in the inorganic world, might strengthen the side of the vitalists."

Professor Hartog confesses himself to be a vitalist, and the brief discussion of the subject of vitalism will be read with interest at the present time owing to the general attention drawn to it at the recent meetings of the British Association.

The latter part of the book deals with such subjects as instinct and memory, and more particularly with the life and writings of Samuel Butler, for the new edition of whose work on *Unconscious Memory* Professor Hartog wrote an introduction.

The Problems of Life and Reproduction is a volume which will well repay the time spent in reading it. The author's interest in this branch of biology is well known, and no more competent writer than the Professor of Zoology in University College, Cork, could have been found to put the subject before the non-scientific reader. To the expert biologist there is much in it which will be considered heterodox, but this is an advantage. Too rigid orthodoxy in science does not tend to progress. There is one point, however—a comparatively small one—which does call for adverse criticism; it is the "legends," and more particularly the lettering, of the illustrations, which are in much too small type. Fig. 7, for instance, almost requires the use of a magnifying glass. This fault might easily have been avoided. Otherwise, the book may be confidently commended to all those interested in the problems with which it deals.

NATIONAL INSURANCE IN GERMANY AND ENGLAND.

At the Conference of the American Hospital Association held in Boston, Mass., in August last, a paper contributed by Dr. Mackintosh of the Western Infirmary, Glasgow, was read which he has in a pamphlet entitled, *National Insurance in Germany and England*.[5] The paper gives some interesting details, with statistics, of the arrangements in Germany for medical benefit and the struggles between the medical profession and the societies as to free choice of doctor and the amount of medical remuneration. In commenting on the fact that with free choice of doctor in Germany there has been a great increase in the sickness claims, Dr. Mackintosh utters a warning, which he thinks is specially applicable to areas where there is the system of payment by attendance, that unless the greatest care is shown in the granting of certificates in England, the experience of Germany leads him to believe that the demand for State appointed referees and for the administration of medical benefit by the societies will be likely to increase. In this connexion he quotes figures about malingering in Leipzig where the societies pay a capitation fee of 5s. for medical treatment of insured persons without dependants, or 7s. 3d. when attendance on dependants is included. The money is handed over to the two medical associations and pooled, the doctors being paid by attendance, with a *pro rata* deduction if the pool is insufficient to pay in full.

The Leipzig societies have their own confidential medical advisers to examine patients suspected of malingering, and in 1910 the number of persons referred for examination to ascertain whether they were really unable to work was 8,487. Of these requests for examination 3,382 came from the doctors treating the patients. Over 2,600 of the total number either notified their recovery before the examination or failed to appear, and out of 5,827 persons actually examined, 47 per cent. were declared able to work at once, 12 per cent. able to work at the end of a week, 10 per cent. were to be re-examined at the end of a week or two, and 31 per cent. were declared unable to work.

After dealing with the German system the main provisions of the National Insurance Act are described and the panel system explained; attention is drawn to the facts that in England only treatment within the competence of a general practitioner is given, while in Germany payments to specialists are made, and that treatment of dependants is already given in Germany.

Speaking of the hospital treatment of the insured, Dr. Mackintosh points out that in Germany the public authorities own general hospitals in which patients of all classes are received and payments are made for all, the charges being fixed by each authority. The societies take advantage of this, as they may give their members treatment in hospital in place of medical and money benefits, the latter being reduced while the member is in hospital. The prices charged to the societies work out at below cost. For example, at Kiel, where the cost for treatment and maintenance, exclusive of capital cost, is 4s. 1d. a day, the Kiel District Sickness Society only paid an average of 2s. 7d. a day for its members in hospital. In England, Dr. Mackintosh says, the Insurance Act was apparently drafted on the understanding that the hospitals would continue to give the best treatment without charge to the necessitous, and there is no provision making it incumbent on the societies or insured persons to pay for hospital treatment. In two cases only, he said, did the Act take cognizance of hospitals—first, where it allows societies to give donations; and, secondly, where it provides that if an insured person without dependants is an inmate of a hospital, the society may enter into an agreement with the hospital to pay the whole or part of the person's benefit to the hospital. Dr. Mackintosh feared that, if that were done, the Local Government Board might demand that the hospital should be open to inspection, that special records of the cases would have to be kept, and that any changes in the management or alterations in the medical staffs would have to be notified to the Local Government Board. Dr. Mackintosh expressed the opinion that this would strike at the root of the voluntary principle, and that managers would hesitate to hand over their institutions to be so governed. On July 27th Mr. Masterman said in the House of Commons that, if the insured person were willing, some of the benefit could go to the hospital, but he would be very chary in making over to the hospital the whole of the benefit; he thought there ought not to be any pressure on the patient to sign away his sick pay to a hospital, and he moved an amendment which would ensure that the benefit should be paid to the patient upon leaving an institution in a lump sum or in instalments, or applied as the society or committee thought fit. Dr. Mackintosh concludes: "The question arises, Will the voluntary principle stand this strain? For my part, I see no reason in the meantime to suppose that voluntary hospitals in large cities will not be maintained in the future as they have been in the past, but only time and

[5] *National Insurance in Germany and England*. By Donald J. Mackintosh, M.V.O., M.B., LL.D., F.R.S.E. The American Hospital Association. (Printed for private circulation.)

experience will confirm this belief." Dr. Mackintosh acknowledges his indebtedness to the work on *Medical Benefit in Germany and Denmark*, by Mr. I. G. Gibbon, which was reviewed in the JOURNAL of October 26th, 1912, p. 1151; and also to Mr. W. R. Fuller, of the Nurses' Insurance Society, for his assistance.

GRAY'S ANATOMY.

Gray's Anatomy[6] is so well known to medical students and practitioners that the appearance of the eighteenth edition calls for little comment beyond pointing out the main alterations which Professor HOWDEN, the acting editor, has introduced. The outstanding modification in this edition is the use of the Basle nomenclature. Except in one or two instances this nomenclature has been adopted in its entirety; in most cases English translations of the Latin terms are employed, but in those cases in which the Latin terms have become fixed by routine usage the editor has retained them. Thus the new terminology has been adopted by the four leading textbooks of systematic anatomy used in this country—namely, Quain, Cunningham, Morris, and now Gray. Obviously it has come to stay, and we must be prepared to learn it whether we will or no, but the most enthusiastic supporter of the findings of the Basle Commission will admit that before long alterations and modifications will become necessary.

An improvement in this edition will be found in the section devoted to surface anatomy. In previous editions certain paragraphs relating to this division of anatomy were appended to the descriptions of the various structures. These have now been collected and recast into a special chapter, an arrangement well adapted for easy reference.

When a book has reached the eighteenth edition criticism and suggestion seem unnecessary, for it is obvious that the writers and readers are so intimately in touch with one another that the requirements of the latter are continuously being met. When *Gray's Anatomy* first appeared its subject matter occupied 750 pages, and the illustrations numbered 363. Now the subject matter extends to 1,243 pages, with 1,120 illustrations, of which 431 are coloured. There can be no doubt that the volume will continue to hold the high position it has gained as one of the very best textbooks of human anatomy, and we offer our congratulations to Professor Howden on his skill in so admirably adapting the book to modern needs.

NOTES ON BOOKS.

PROFESSOR LEDUC of Nantes has written a second volume in his series of studies in what he calls biophysics. His first volume was translated into English by Dr. Deane Butcher, and published under the title, *The Mechanism of Life*. The new volume, with the title, *La biologie synthétique*,[7] continues the subject, and relates several series of experiments in which by the chemical and osmotic interaction of a concentrated salt with a solution of another, various forms are produced which mimic lichens, seaweed, and other vegetable structures. The most remarkable of his results are, however, no doubt those which show appearances resembling karyokinetic figures. Professor Leduc gave a demonstration of these appearances at the meeting of the British Association in Dundee last year, and photographs are reproduced in both his books. His investigations are of great interest as throwing light on the physico-chemical processes which underlie the phenomena of cell division and the forms of living things. The volume is very fully illustrated, and the author has stated his facts and arguments with the clearness and precision characteristic of the best French scientific writings.

The thirty-third volume of the *Transactions of the Ophthalmological Society of the United Kingdom*[8] relates to the proceedings of this body during the session 1912-13 and contains some forty papers, many of which are illustrated by plates or diagrams. Three of them relate to retinal changes associated with general disease, four to diseases of the eye and conjunctiva, three to those of the orbit, four to those of the cornea, and six to those of the uveal tract. The rest deal with diseases of the vitreous, with congenital abnormalities of an ophthalmic order, with questions of refraction, glaucoma, and nerve defects. Among the more noteworthy papers are Mr. Bishop Harman's analysis of 300 cases of high myopia among school children, and those on cases of optic atrophy of familial type by Drs. James Taylor and Gordon Holmes.

The manual dealing with procto-sigmoidoscopy and its use in the diagnosis and therapy of rectal and sigmoid diseases, written by Professor STRAUSS,[9] to whom we are indebted for the instrument that has made the procedure of real value, is one that will well repay perusal by all those—and they surely include almost every surgeon—who have to deal with the obscure symptomatology of disease in the lower intestinal tract. Anything which makes it possible to anticipate the tragedies associated with undetected carcinoma of the bowel is sure of universal welcome. The sigmoidoscope has its detractors, and disasters have attended its use in inexperienced hands and in unsuitable cases. This does not in the least detract from its value in competent hands and in proper cases. A much more serious point is that when the correct technique has been learnt, as it may be from the very clear and definite directions given in this book, there remains the difficult task of interpretation of the findings. It is a difficulty inseparable from all instruments disclosing but a small field, at what, for ocular purposes, is a considerable distance, in tracts not ordinarily visible, of conditions that look quite different from what is seen on the *post-mortem* table or in museum specimens. Here Dr. Strauss expounds the results of his great experience, and, moreover, gives a series of good coloured plates of sigmoidoscopic views of both normal and diseased conditions. Practically the only contraindications to the use of his instrument recognized by the author are acute inflammatory conditions immediately around the rectum or in the vicinity of the sigmoid as it lies when the tube is in place. Strauss prefers the knee-chest position for examination, and only very rarely finds it necessary or advisable to employ narcosis; sometimes a local anaesthetic is needed, but with good lubrication the instrument can be used almost painlessly in most cases. It is to be remembered that even expert inspection may err in estimating the innocence or malignancy of ulcers and that excision of small portions for histological examination is not only possible, but imperative.

Some twenty-five papers read at the annual meeting in April last year are contained in the twenty-fourth volume of the *Transactions of the American Pediatric Society*.[10] Some half-dozen deal with the feeding of infants on strictly scientific lines, among them being one in which Dr. David Cowie describes very fully a graphic chart method of studying the subject. Dr. Freeman of New York supplies an account of 10 cases of pneumonia in infants treated by a serum without any conspicuous benefit, and Dr. Griffith an analysis of 75 cases of typhoid fever in infants. Also worth noting is a study of the Wassermann reaction in infants and children which led the author, Dr. Churchill, to conclude that congenital syphilis was common in Chicago, and a paper on the employment of salvarsan in children and infants by Dr. L. E. La Fétra, who is also the editor of the volume.

Under the title of the "S.P. Pocket Guides,"[11] the Scientific Press, Limited, is now issuing a series of booklets of vest-pocket size intended for use as reference books by those already trained in the subjects to which the booklets relate. Those already published or in the press deal with such questions as fever nursing, Swedish exercises, bandaging, the reading and writing of prescriptions, drugs and their uses, the securing of asepsis, operation after-treatment, and the duties of nurses before and during an operation. Some of the authors are medical men.

[6] *Anatomy, Descriptive and Applied.* By H. Gray, F.R.S. Eighteenth edition. Edited by R. Howden, M.A., D.Sc., M.B., C.M. Notes on Applied Anatomy revised by Dr. A. J. Jex-Blake, M.A., M.B., B.Ch., F.R.C.P., and W. F. Fedden, M.S., F.R.C.S. London: Longmans, Green, and Co. 1913. (Roy. 8vo, pp. 1325; figures 1120. 32s. net.)

[7] *La biologie synthétique.* Par Stéphane Leduc. Paris: A. Poinat. 1912. (Cr. 8vo, pp. 218.)

[8] *Transactions of the Ophthalmological Society of the United Kingdom.* Vol. xxxiii. London: J. and A. Churchill. 1913. (Demy 8vo, pp. 240. 12s. 6d. net.)

[9] *Die Procto-Sigmoscopie.* Von Professor Dr. H. Strauss. Leipzig: Georg Thieme. 1910. (S. roy. 8vo, pp. 149; 92 illustrations, some coloured.)

[10] *Transactions of the American Pediatric Society*, vol. xxiv. Edited by Dr. Linnaeus Edford La Fétra. Chicago: American Medical Association Press. (Medium 8vo, pp. 318.)

[11] The S.P. Pocket Guide Series. London: The Scientific Press, Ltd. Each volume is bound in limp cloth, 1s. 1d. post free.

SANITARY AND DOMESTIC APPLIANCES.

A New Gas Fire.

THE domestic gas fire is still in an experimental stage, and not yet as efficient and economical as doubtless it is destined to be. A considerable step forward, however, has been taken by Dr. Charles Gayford, of London, who has recently patented an improvement in gas fires which seems likely further to simplify and popularize this method of warming a living-room. The primary object of the invention is to adapt the ordinary fire-grate to the use of a combination of gas and air as fuel. On inspecting the device it is seen that the fire-brick back and sides of the grate are rearranged according to a special plan, one result of which is that the back presents a plane surface slanting forwards, at an angle of about 60 degrees to the floor level. Along the floor by the side of the fireplace is laid the copper or iron burner, with a mechanism at one end for admitting the air supply into the joint service pipe, and for regulating such supply by a revolving shutter. At the other end the burner widens and flattens out into an 8-in. slit opening, which emits a steady sheet of flame. This head of the burner is introduced into a suitable aperture in the grid bottom of the grate, and the flame is made to strike upon the slanting surface of the firebrick back, which soon becomes red-hot, and stores the heat in its substance. With the continual impingement of the flame upon this back, the heavy hydrocarbon vapours, which are the constituents of coal-gas, are disintegrated, and complete combustion is said to be practically instantaneous; the residual end products of such combustion, namely, carbon dioxide and steam, escape by way of the chimney. The radiation of heat from this firebrick back, through the usual pile of fireclay, is naturally most intense in the lowermost stratum of air, and this stratum, rising as it is warmed, is replaced from the air inlets of the room by successive cool layers, which rise in their turn. Dr. Gayford showed us some figures which indicated that a twelve hours' constant and efficient fire could be kept up for a consumption of about 177 c.ft. of gas, which in respect to gas consumption, and consequently to cost of maintenance, represents a saving of 50 per cent. on that of the ordinary gas fire. The points upon which the inventor of this gas fire insists are that the open chimney is still available as a mean of unobstructed ventilation, that the gradual upward warming of the air does away with the unpleasantness of down draughts, that no fumes given off by partially consumed coal-gas are retained in the room, and that the invention has its obvious bearing on the question of smoke abatement.

NATIONAL GAS CONGRESS AND EXHIBITION.

A GASOMETER is an ugly object which gives the approach to many towns a sordid aspect, but that the subject of gas can be made really attractive, and that an intellectual and artistic pleasure attaches to many phases of the gas industry, is demonstrated at the present National Gas Exhibition at Shepherd's Bush. We should like to think that this display inaugurated a new era in exhibitions, for it is an exhibition with only one exhibitor—namely, the gas industry of this country—and individual competition has been successfully damped down. No salesman's importunities worry the visitor, nor is he distracted by the rival claims of competing exhibits. Moreover, although the distance is said to be half a mile from one end of the corridor and halls to the other, he is conscious of no fatigue, for the reason that some one has realized that the exhibition-goer likes to sit down occasionally. But, over and above all these advantages, the exhibition is pleasing to the eye. The illuminator and fitter has been assisted by the architect, and the upholsterer, and the paperhanger, and the expert in draping, but the greater part of the pleasure after all is due to the cheeriness and warmth of the gas itself. There is no doubt that for the pleasing appearance of the exhibition the British Commercial Gas Association is largely responsible. This body, which is supported by companies and corporations supplying gas, organizes demonstrations on a large scale, and otherwise advertises the industry. Those who remember the old days when, as Sir Corbett Woodall reminded the company at the opening ceremony, anything like canvassing on the part of a gas company would have been considered unnecessary if not distinctly vulgar, can only marvel at the array of brightly illustrated pamphlets which the association has scattered about the exhibition, and at the seductive advertising which pleads the merits of gas at every turn.

A detailed description of the exhibits is out of the question. The visitor will pass through a large hall filled with every kind of gas engine and appliance for industrial purposes; he will see also an arcade of shops, an attempt at a church interior, a class-room scientifically lighted, various stalls to demonstrate the scientific side of gas as an illuminant, such as the effect of differently tinted wall-papers on a lighted interior, a large town house, furnished and illuminated from billiard room to garage, and, by the side of this, a small dwelling fitted with a prepayment meter. Among the exhibits is a section of a hospital ward, showing the sanitary appliances and the hot-water apparatus, and a bath-room and nurses' sitting-room adjoining, the latter possessing a gas-fire and a small cooker. The ward itself is designed to show that the radiant gas-fire helps in the ventilation, assists in maintaining cheerfulness, and offers itself to convenient adjustment for keeping an equilibrium of temperature.

The exhibition was opened by the Lord Mayor of London, supported by a large number of provincial mayors, and several of the speakers on that occasion, notably the Lord Provost of Edinburgh, laid stress upon the bearing of the gas question on public health, notably in the direction of smoke abatement. In the list of patrons of the exhibition we have counted the names of no fewer than eighty medical men, and among those present at the luncheon on the opening day were Sir Alfred Keogh, who replied to the toast of "The Visitors," Sir John Collie, Dr. Leonard Hill, Professor Henry Kenwood, and Dr. Meredith Young.

Conference on Food and Cookery.

The first of the conferences to be held during the course of the exhibition took place on October 4th, the subject being cookery, chiefly in its relation to health. In delivering the opening address, Dr. Joseph Priestley, M.O.H., Lambeth, treated what the author of the *Anatomy of Melancholy* calls "a noble science" with becoming respect. Despite the jest of Garrick—that Heaven sent the meat and the devil the cooks—civilized man could not get on without their assistance. The aim of cooking was to aid digestion, and just as in digestion there was a mechanical process, represented by mastication and peristalsis, and a chemical process, represented by the action of digestive juices and ferments, so cooking also included a mechanical process in which the fibres of meat and other foodstuffs were loosened and softened, and a chemical one, in which certain changes, such as the partial coagulation of albumin and emulsification of fat, were started, to be carried further and completed by the physiological functions of the body. Cooking increased the digestibility of vegetables, principally by softening their cellulose network, but lessened the digestibility of meat by partially coagulating the albumin and by causing the meat to shrink in bulk, owing to loss of water. The lessening of digestibility, however, did not vitiate the value of cookery, for it prevented the too-rapid absorption of the resulting chyle into the blood stream, and—like vinegar and other condiments, as well as tea, coffee, and alcohol—it damped down the human furnace. Formerly there was an idea, abandoned now for some years by the expert, and at last thrown over by the layman, that gas-cooking tended to poison the meat, owing to the escape of fumes. The gaseous products were not absorbed by the meat, for the reason that meat during cooking was emissive, and this pressure from within effectually prevented imbibition. The only drawback to the gas-cooker was the expense of the fuel; but otherwise the result might satisfy the dock labourer's wife and the most fastidious chef. The appearance of the food and its taste were the same as when cooked by the coal fire, as were also the chemical changes it had undergone, though these last were brought about by somewhat different methods. The scientific method of cooking meat by roasting or boiling was to submit it first to a high temperature in order to obtain the preliminary coagulation of the outer surface, thus retaining the juices within this jacket, and to follow this up by the moderate but prolonged and uniform application of heat. For this purpose the gas stove was perfect, and its value for the early breakfast or the late supper, or for the emergency of sickness in the night, was obvious.

The other papers of the afternoon dealt rather with gas cookery from the standpoint of domestic economy, but mention should be made of Miss Mildred Atkinson's excellent communication, in which the kitchen coal fire was arraigned as one of the causes for a great deal of the existing indigestion and malnutrition, and incidentally for the vogue of quack medicines. The ignorance of dietetics and food values on the part of the housewife among the poorer classes was very largely to blame, but the absence of labour-saving machinery in the home, in the first rank of which was the gas-cooker, virtually condemned her to drudgery, inefficiency, and discomfort.

THE OPENING OF THE WINTER SESSION.

(Concluded from page 878.)

EXAMINATIONS, EXAMINERS, AND EXAMINEES.

ADDRESS BY SIR WILLIAM OSLER.

On the first day of the winter term Sir WILLIAM OSLER, after distributing the prizes at St. George's Hospital Medical School, delivered an address on examinations, examiners, and examinees.

Sir William Osler said that in every department of human knowledge men were asking for guidance in the solution of a world-old problem—namely, how to train the mind and heart and hands of the young. Especially in connexion with medicine were men in a quandary, for there were new outlooks in every direction, not alone in the fundamentals of science and in methods of practice, but in the relations of the profession to the public and to the State. The chief difficulty lay in the extraordinary development in every subject of the curriculum—a new anatomy, a new physiology, a new pathology, new methods of practice, to say nothing of fundamental changes in physics, chemistry, and biology. Everywhere there was increased complexity and mind burdening terminology. What was the teacher to do, and, more important still, what was the poor student to do, when confronted with too much new knowledge and a Rabelaisian onomatomania? The diet of the modern student was extraordinarily complex and had far outrun an educational system which was framed in simpler days and to meet simpler conditions.

What a student knew and what he could do were judged by examinations, oral, written, and practical. Such tests had always loomed large in educational systems and might prove either their very essence or their ruin. The way in which examinations might come to control and sterilize the mind of a nation might be read in the story of China. The system of education in that country was not only more rigid and exacting than anything in Western life, but exercised a blighting influence owing to the fact that it was directed towards one single end—namely, the passing of examinations. The Greeks, on the other hand, taught that for the pursuit of knowledge to be productive it must be disinterested. Nothing could be more fatal to true intellectual training than constant preoccupation with its practical results.

As a subject of education, medicine had everything in its favour, since it made it an exceedingly easy task to carry out John Locke's primary canon in education—namely, to arouse interest. There was hardly a dry subject in the curriculum, yet a statement to this effect to an audience of medical students would arouse a smile. The student was early given the impression that he was at school to pass certain examinations, and the whole of his environment ground this impression into his soul. The atmosphere was Chinese, not Greek. Failure in teaching was admitted by the advertisement of special technical classes for the different examinations.

There was a second circumstance that proclaimed loudly how much out of touch with teaching were the tests imposed. Despite the fact that the qualifying examinations in the United Kingdom were well organized and admirably conducted, and that a man's knowledge was tested in the laboratory and by the bedside more freely than in any other country, the General Medical Council was forced year by year to issue a report which must demonstrate to any teacher beyond dispute how completely out of touch with the examiner either he or the student, or both, had got. A medical school was a human factory turning out doctors as the finished product at the end of five years' careful preparation and fitting of the mental machinery. Failure was incident to every human effort, and even the great motor-car shops turned out cars that were failures; but while these failures were few, the medical shops sent out medical motors which when turned out for trial on the road by the official experts were declared to be defective, and sent back to the shops in great numbers. Year after year the returns relating to the two great final subjects, which were the most attractive and the easiest to teach, showed rejections ranging between 35 and 46 per cent.

As far back as 1896 Mr. Pridgin Teale had introduced a motion dealing with this subject at a meeting of the General Medical Council, and had pleaded wisely and forcibly for reduction in the number of examinations, and for the substitution in certain subjects of a system of certification by the teachers and class examinations. Mr. Teale had remarked that with the multiplication of examinations the more fatal did they become, and the figures for the five years 1908–12 showed a continuation of the movement which Mr. Teale showed to exist when he spoke on the subject in 1896.

Sir William Osler, having quoted figures showing the rejections at examinations in the final subjects—medicine and surgery—held by the three Conjoint Boards and by the Universities of Edinburgh, Oxford, and Cambridge respectively for the five years ending 1912, then continued as follows: There is not so much difference, you notice, between what may be called the pass men of the Conjoint Boards and the men entering the universities, and I do not believe there is any special difference in stringency between the Oxford and Cambridge examinations and those of the London Conjoint Board. There are two other examinations which the *élite* of the student body affect. How do they stand? All regret that in London only the select and the elect attempt to get the degree of their own university. And it is difficult! Twice in the past five years more students have failed than have passed the final subjects for the M.B. The total figures for the period are: Of 1,061 candidates examined 481 were rejected, a percentage of 45.33. And, lastly, to one other qualification, greatly prized, sought only by the very best men, the Olympic athletes of their classes, I will refer — the F.R.C.S.Eng. Consider, please, how carefully this group is trained—only the very best venture to compete, and they have a diet of which the intellectual calories are gauged with surpassing accuracy. There is no doubt they are our very best, the picked steeplechasers of our stables. How do they fare? I am almost ashamed to read the figures. Your ears have tingled already, but only those hardened by familiarity will not be shocked at the demonstration of such a chasm between education and examination. Of 1,186 men who have tried for the primary Fellowship examination of the Royal College of Surgeons during the past five years only 365 have passed, 30.77 per cent. Of 680 men at the final Fellowship examination only 386 passed, 56.76 per cent. The high-water mark of examination futility was reached in May, 1912, when of 118 candidates for the primary Fellowship only 31 were approved. These are picked men, our very best students, the most carefully prepared, who rarely attempt the trial without months of extra study and attendance upon grinding classes. Of the ploughed I have known personally many seem to have been over-trained, others had spent their time in unprofitable original researches; but all, passed and plucked alike, I maintain, are of the highest type of our students, whose calamities proclaim to the world the breakdown of our present educational system.

The failure is general all along the line and in all grades—at the licensing boards, at the older universities of Oxford and Cambridge, at Dublin and Edinburgh, at South Kensington, and at Lincoln's Inn Fields—with singular uniformity all tell the same tale. There have been uneasiness and talk, but too much self-satisfied indifference, and even after the famous rout for the primary Fellowship in May last year I am told that satisfaction was expressed with the scope and method of the examination! Satisfactory to the examiners, perhaps, though I doubt it, but most unsatisfactory to the teachers, most painful to the students, and by no means a pleasure to the public as represented by the parents.

The speaker then put forward five suggestions as to the way in which relief from the condition of affairs

described might be obtained. In the first place, the curriculum should be simplified to give the students more time, and the teachers should have a freer hand in the matter of systematic lectures; the subject of medicine, for example, might be taught without any set lecture. Lectures had their value, and were precious when they came from the lips of a Watson or a Trousseau; but the day of the lecture had gone to give place to other methods better adapted to modern conditions. The saving of time if the lecture list were snipped in half or limited to a few subjects, such as physiology and pathology, would be enormous. The futility of attempting to teach all to all students should be acknowledged, and the anatomical fetish to which sacrifices had been paid too long should be burnt. Let them glance at Cunningham's *Anatomy*, for instance, a volume of 1,465 pages, many in small type. It was barbaric cruelty, when there was so much ahead, to burden the mind with minutiae which had only a Chinese value—a titanic test of memory. To schedule a minimum of the essentials should not be difficult once the great principle was acknowledged that in all departments of the curriculum only a few subjects could be mastered thoroughly. The secret of the tragic tale of rejections lay in a quotation which Socrates made to Alcibiades:

> Full many a thing he knew,
> But he knew them all badly.

Some universities made a practice of issuing schedules setting forth the minimum of essentials in different subjects.

Secondly, continued Sir William, relief may be obtained by giving credit for work done throughout the course, changing the present system of "signing up" for one of reports by demonstrators and assistants on the character of the work done by each student. Let all who teach examine. Let education and examination go hand in hand. Let the day's work tell from the moment a student enters the school. Everyone—from the junior demonstrator who supervises the student's first dissection to the professor—all should weigh while teaching. Day by day, as I see John Smith in the wards, and read his notes, and watch his clinical work and discuss the features of the patients, or as he narrates his case to the class about the bed and he and I have a Socratic dialogue, instruction and examination go hand in hand, and in such a way that at the end the formal tests should be but an amplification, an extension, and an inclusion of the scores of examinations which have been part of the routine of his life. Perhaps at present Utopian, this plan will be feasible in a new and reorganized generation, indeed it is feasible now in self-contained universities. Once accept the principle that instruction and examination should go hand in hand and the difficulty is solved. The returns are automatically passed on to the head of the department. Yes, but some one will say, "Take the judgement of a group of young teachers? It is absurd!" Not a bit. They see more of the students, come into closer contact, and are better able to judge of the quality of their work than the professor, and much more than any outside examiner. According to the character of his work a student should acquire much or little merit, and should be able to take to the examination table enough to pass, or at any rate to make the final test in any subject *pro forma*. Where the classes are small, as in many of the provincial universities, this plan could be easily worked. I have had practical experience of it and came to the conclusion that the judgement of the man who was fit to teach could be taken in estimating the progress of the student's education. And the system is being adopted. A few months ago I went into the beautiful clinical and pathological laboratory of the new Toronto General Hospital, and in one room I found an examination in pathology going on. The candidate had a set of cards in his hands on each of which were written the details of the *post-mortem* examination he had made with careful discussions of the cases. Pass or pluck really depended on the cards a man held. He brought his marks with him—instruction and examination had gone hand in hand. I was delighted to hear from Professor MacKenzie that the system, introduced at McGill by my pupil and successor, the late, much lamented Wyatt Johnston, had proved very successful in both Canadian schools.

Thirdly, simplify the examinations. Cut off some of the written papers. In the final subjects the long report on cases, bedside *viva*, supplemented if need be by a special "oral," will give examiners the necessary knowledge of a candidate's mental outlook. If they will consider not how much he knows, but how he knows what he knows, the long "written" is superfluous. As one watches a man handle a patient it is easy to tell whether or not he has had a proper training, and for this purpose fifteen minutes at the bedside are worth three hours at the desk. We must substitute for the quantitative estimate the qualitative, and judge the student as much by manner as by matter.

Fourthly, when possible, evidence of original work should be substituted for examination. Think of the stimulus to British surgery if, in place of the Egyptian tyranny to which our best students now slavishly bow, the President and Council of the Royal College of Surgeons selected for the Fellowship each year the fifteen or twenty of the men under 30 who had distinguished themselves most highly in surgical research. It would change the mental attitude of the younger generation, instil the spirit of Hunter into its members, and prevent the paralysing mental sterility that overtakes many good men who now spend precious plastic years in the dry drudgery of examination details.

Fifthly, compel no student to pass an examination twice in the same subject. At present brain and pocket alike suffer; and the burden could be lightened by a free reciprocity between the examining boards.

Speaking of examiners and their duties, Sir William said that men were usually very superior to the system which they worked, and this was true of examiners. He had found his fellow inquisitors, as a rule, the mildest mannered men that ever scuttled ships or cut throats. There were two extreme types—the metallic examiner who took a delight in finding out not what a man knew, but what he did not know, and the molluscoid examiner who was too soft-hearted to give any one less than 50 per cent. of full marks. But between these two extremes there was the large group of sensible examiners who tried to put the candidate at his ease and to find out what he knew in a simple, sympathetic manner. Nevertheless, whatever the type of an examiner might be, he was apt to take an unfair advantage of his position, and did so quite unconsciously. A specialist to whom the facts of his subject had become familiar and ingrained was apt to forget the years he had spent thereon, and might wonder when a man hesitated over an Argyll Robertson pupil or mistook a pericardial rub for an aortic insufficiency murmur. The most grievous mistake of the examiner was to regard the candidate as his mental equal, and to expect from him knowledge equal to that he himself possessed, ignoring his own long years of study and the short time into which the student had to cram acquisition of the knowledge of a dozen subjects. Examining was often a heart-breaking task, and it was much nicer to watch the gradual growth of a student's knowledge, and to get it out retail day by day, than to drag it out wholesale at set times. Much engaged men should not be chosen as examiners, and to examine in the evening after a hard day's work was to handicap the student. No doubt the time would come when professional examiners would be appointed by the General Medical Council to act as associates and assessors to the professors.

As for the examinee, the source of his troubles lay in intellectual dyspepsia from the cramming necessitated by the enormous development of the subjects that he had to take up. Defective preliminary education also helped to swell the rejections, though even among Cambridge men the percentage of rejections in some subjects was nearly 50 per cent. Weak men, fitted neither by breeding nor by early training to pursue medical studies, should be asked early to withdraw. It was infinitely kinder to stop a man in his career than to allow him to struggle on painfully and submit to the humiliation of half a dozen or more rejections. Finally, the speaker summed up his views as follows:

The student needs more time for quiet study, fewer classes, fewer lectures, and, above all, he needs the incubus of examinations lifted from his soul. To replace the Chinese by the Greek spirit would enable him to seek knowledge for itself, without a thought of the end, tested and taught day by day, the pupil and teacher working

together on the same lines, only one a little ahead of the other. This is the ideal towards which we should move. The pity of it all is that we should have made an intolerable burden of the study of one of the most attractive of the professions; but escape therefrom is in our own hands and should not be far off. A paragraph in an address of the late Dr. Stokes contains the pith of my remarks: "Let us emancipate the student, and give him time and opportunity for the cultivation of his mind, so that in his pupilage he shall not be a puppet in the hands of others, but rather a self-relying and reflecting being."

ANNUAL DINNER.

On the same evening the annual dinner of past and present students of St. George's Hospital Medical School was held at Princes' Restaurant. Mr. ADAMS FROST was in the chair, and in proposing the toast to the "Hospital and its School" made allusion to the approaching reunion with the Westminster Hospital, and gave an interesting summary of the events which led the two institutions to assume independent existences in 1733. A further consequence was the building of St. George's on the site of Lanesborough House, which then stood in the fields adjoining Hyde Park. In acknowledging the toast, Mr. WILLIAM WEST, the treasurer of the hospital, briefly outlined the arrangements that had been made for the amalgamation of the two institutions and of the general scheme of rebuilding which was in view. The precise details of the plan, as also the choice of a site, were still under consideration by a joint committee. The dean of the school, Dr. R. S. TREVOR, said that the school was still holding its own satisfactorily, and was very much alive, despite difficulties to which it was subjected in common with all medical schools in London. He made special appeal to old St. George's men not to allow a sentimental attachment to the present site to lead them to waver in their fealty to their old school when it had found a new home. The toast to past and present students and the St. George's Hospital Club, proposed by Dr. DRURY PENNINGTON, was acknowledged by Mr. IVOR BACK and Mr. GRELLIER; those to the orator of the day and to the chairman being proposed by Dr. ROLLESTON and Mr. G. R. TURNER respectively.

GUY'S HOSPITAL.

THERE was a slight variation in the 1st of October proceedings, which at this school usually take the form of a conversazione, preceded by an informal dinner, both being organized by the Students' Physical Society. This year, though the proceedings were still of a more or less informal character and plenty of opportunity was provided for exchanges of reminiscences between old friends, the conversazione was dropped and the evening spent in the college hall round the dinner table. Mr. COSMO BONSOR was in the chair, and many members of the staff were present. The principal after-dinner event was the report of the dean of the school, Dr. H. C. CAMERON. There had been, he said, extraordinary activity in every department of the school throughout the year. Not only had the new pathological department been brought into smooth working order, but the opening of the session was marked by the birth of three new departments — those of pharmacology, morbid histology, and chemical pathology. They were adequately housed, equipped, and staffed, and would do their work under the direction of Drs. A. J. Clark, G. W. Nicholson, and J. H. Ryffel respectively. With regard to the future, it would be folly to deny that the present time was a critical one for all medical schools in London, but Guy's, at any rate, had at least held its own. The number of students had even increased during the past year, and in regard to finances not a single scheme of improvement which had won general approval had had to be withdrawn, or even postponed, owing to lack of funds. All concerned had set themselves to perfect as far as possible the system of clinical training which was the pride of all the schools of medicine in London, and the report of the past year's work showed that the endeavour had by no means failed. His account of the dental school was equally satisfactory. The whole of the teaching therein had been reorganized, the number of students had very greatly increased, and the percentage of success obtained by them at recent examinations had been the subject of general comment among those interested in dental education. The same note was struck by Mr. COSMO BONSOR in proposing the toast to the medical and dental schools. During all the years that he had presided over business meetings relating to them the thing that had struck him most was, he said, the absolute determination both of the governors and of the staff that nothing whatever should be allowed to stand in the way of securing efficiency in teaching and full opportunities for investigation and research. They held that no financial sacrifice to attain these ends could be too great. Dr. HALE WHITE, who replied, said that both schools owed an enormous debt of gratitude to the long line of treasurers of Guy's Hospital, and especially to Mr. Cosmo Bonsor. Taking up the work at a time when the fortunes both of the hospital and of the school were depressed, he had steered them safely into their present fortunate position; the services that he had rendered to the schools could never be over-estimated. The work he had initiated was being admirably carried on by his successor, namely, the present treasurer, Viscount Goschen, who, to every one's regret, had been unable to be present that evening.

ST. BARTHOLOMEW'S HOSPITAL.

THE old students' dinner, which always marks the beginning of the winter session at this school, was held, as usual, in the Great Hall of the hospital on October 1st. The chair was taken by Dr. HOWARD TOOTH, now senior physician of the hospital, who in the course of the evening said that at no time in the school's history had its teaching machinery been more efficient. One index of development was the organization of separate departments under specialists. The former electrical department, for instance, was now subdivided, there being separate departments for *x*-ray diagnosis and electro-therapy, while the lecturer in pharmacology was now provided with a laboratory for research work. The proposal for the incorporation of the medical school was in abeyance pending consideration of the report of the Royal Commission on University Education in London. That report contained many important recommendations, but in regard to them he would at present only say that the school staff felt that the clinical teaching provided was the best in England, and that no amount of pictures and lectures could form an adequate substitute for actual contact with patients. He hoped, therefore, that whatever else might be done, that part, at any rate, of the present teaching system of the school would continue to be treasured. One effect on the hospital of the Insurance Act had been to reduce to a remarkable extent the number of patients in the casualty and out-patient departments, especially on the male side, because insured persons suffering from minor ailments were now referred to their own doctors. There was, on the other hand, little change in the number of in-patients, and the main opportunities for clinical teaching were not affected. He also mentioned the retirement from the staff of Mr. Bruce Clarke, Dr. West, Dr. Ormerod, and Sir Francis Champneys, and the deaths of Mr. Alfred Willett at the close of a useful and good life, and of Mr. Etherington-Smith, a surgeon of great promise. The memorial which the friends of the latter had decided to provide would take the form of refitting the old operating theatre and building over it a small ward for the treatment of members of the staff. This work, which would cost over £1,700, would shortly be completed. Mr. ACTON DAVIS, the acting treasurer of the hospital, replying to a toast thereto, also referred to the death of Etherington-Smith, and said that that sad event would recall to many of those present the name of James Shuter, a member of the staff who thirty years ago was cut off at the beginning of what promised to be an exceptionally brilliant career. He still hoped that the incorporation of the school would take place, as in his opinion the step would be of advantage both to the school and to the hospital. The latter had for a short time been bitterly abused for the interpretation which it placed on the Insurance Act; but since then the example set by it had been generally followed. All old St. Bartholomew's men should endeavour to dispel the idea that St. Bartholomew's was a rich institution and not in need of help, for its receipts from funded property were now at their zenith, and as the years went on were bound to fall. A permanent appeal department had now been formed, and

during the past year had succeeded in collecting over £8,000. The toast to the visitors was proposed by Dr. Herringham, who, speaking of the proposals with regard to the University of London, of which he is Vice-Chancellor, said that the report of the Royal Commission thereon certainly contained some mistakes and exaggerations, but contained likewise the germs of reforms which he hoped would obtain acceptance. This toast was acknowledged by Sir Pardey Lukis, Director-General of the Indian Medical Service, who said that one-seventh of his whole staff was composed of old St. Bartholomew's men, who also held about two-thirds of all the most important administrative and professorial appointments in the service. There had lately been some falling off in the number of candidates for admission to the service, but if this were due to lack of confidence in the service, he hoped to be able dispel it before his tenure of office was at an end. The formal proceedings of the evening ended with a toast to the Chairman, proposed by Sir Anthony Bowlby and acknowledged by Dr. Howard Tooth in a few happy phrases. The company then adjourned to the library.

ST. THOMAS'S HOSPITAL.

The customary gathering of St. Thomas's men on October 1st resulted once more in a very pleasant evening, bringing together, as it did, nearly 200 St. Thomas's students, past and present. Dr. H. B. Hawkins, now senior physician, was in the chair, and in the course of the evening supplied an interesting review of the recent past and immediate future of the hospital and its school. Both had ever proved ready to adopt new ideas and any changes which seemed likely to result in improvements; but as one looked back it was easy to perceive that a distinct shifting of the old line of advance had taken place. At one time it centred from the wards alone, then from both wards and laboratories in parallel lines, and now the laboratories were the leading position. Before they met again, however, next year the lines of advance were likely to be reunited, some working scheme by which ward work and laboratory work would be brought into closer contact having been devised. Laboratory work was becoming more and more essential in the diagnosis and treatment of disease; indeed, there was every reason to believe that the day of the general physician as at present known was passing away, since the temptation to specialize in some particular subject was becoming too strong to resist. Even in ward work a tendency in this direction seemed likely to make itself obvious, since hospital and school between them now possessed so many experts in various special branches of medicine. All this represented an immense change from the position of matters at the time when the speaker first joined the staff twenty-three years ago. Mr. Wainwright, the treasurer, likewise bore testimony to the great development that had taken place at St. Thomas's during his tenure of office. Recently there had been a considerable decrease in the number of ordinary out-patients, owing to the operation of the Insurance Act. A further by-product of that Act was the establishment at the hospital of a tuberculosis department, one of the objects of this step being to retain opportunities for instructing students in regard to tuberculosis and its treatment. In default of such a department, opportunities for this might have been lacking. Attached to the department was a ward to which cases could be admitted for the purpose of diagnosis, and whoever was in charge of that department had great opportunities before him. Further modifications of work might prove to be necessary as the result of the report of the Royal Commission on University Education in London. Some of the suggestions made therein seemed likely materially to interfere with the present organization of all the teaching hospitals in London, but for the present one could only wait and see. He had hopes that before October, 1914, the hospital would be possessed of a new out-patient department. One difficulty which stood in the way was that of choosing a site; possibly it would prove necessary to utilize some of the open spaces between the ward blocks, or the ground at present used as a cricket pitch. This would be regrettable, but obviously the needs of the hospital demanded the first consideration. Another speaker was the dean of the school, Dr. Stainer, who spoke of the success of the school in many directions, and of the excellent way in which it had been represented by old students on the battlefields of Eastern Europe during the recent Balkan wars. What the school chiefly needed now was encouragement in the direction of research work. The toast to the Chairman was proposed by Mr. E. F. White, and the Chairman's acknowledgement brought the formal proceedings of the evening to a close.

CHARING CROSS HOSPITAL.

A large number of students and their friends assembled at Charing Cross Hospital on October 1st to witness the distribution of prizes to successful students of the medical school by the Lady Wantage, and to hear the report by Dr. William Hunter, the dean of the school, which was published last week. In the evening the past and present students reassembled round the dining-table, the outstanding feature of the after-dinner proceedings being the announcement that Dr. F. W. Mott had consented for the present to withhold his foreshadowed resignation of his position of senior physician of the hospital. The announcement was received with vociferous applause, which Dr. Mott acknowledged by supplying one of the excellent songs which for years past have formed one of the pleasant features of meetings of Charing Cross students. The dinner was held at Gatti's Restaurant, under the chairmanship of Mr. H. F. Waterhouse, who, in proposing the toast of "The Hospital and Medical School," said that the progress of the school had been continued and uninterrupted, and that it would be impossible to speak in too high terms of the reorganizing work undertaken by Dr. William Hunter as dean during the last two years. Dr. Hunter, in response, showed a modest tendency to shift the honours on to the shoulders of the vice-dean, Dr. W. J. Fenton. In response to a toast to certain non-medical guests, proposed by Dr. Eden, Dr. Burrows, the new Principal of King's College, said that the close connexion between Charing Cross and King's College, in the laboratories of which Charing Cross men undertook their preliminary studies, was, he said, keenly appreciated on both sides. The removal of King's College Hospital was also not without its effect upon the neighbouring hospital of Charing Cross, and with Westminster and St. George's going, he saw Charing Cross occupying an increasingly important strategical position in the hospital system of London. The Hon. Fletcher Moulton, son of the Lord Justice, also responded, as did Mr. Duff, chairman of the council of the hospital. The health of Mr. Waterhouse was proposed by Dr. J. Galloway, who delved into the mediaeval history of Charing Cross and its neighbourhood, and instituted a parallel between a certain Brother Lupus of the friary there—an angler, a good fellow, and a man who worked well with his colleagues—and their chairman of the evening.

ST. MARY'S HOSPITAL.

At St. Mary's Hospital there was a prize-giving ceremony on October 1st, when an address, of which some account was furnished last week, was delivered by Sir John Prescott Hewett. On the following day the school dinner was held at the Princes' Restaurant, and was very largely attended. Dr. Horace Sworder, of Luton, who was in the chair, proposed the toast of the evening, which was acknowledged, on behalf of the hospital, by Mr. Austen Leigh, chairman of the hospital board. Reviewing the events of the year, he mentioned as their outstanding features the rebuilding and enlargement of the casualty department and residents' quarters, the renewal of the drainage system of the hospital, and the completion of plans for the installation of a new mechanical lift. St. Mary's Hospital was one of the few institutions which might still be said to be situated just where it should be, and it was likely to gain increased importance from the migration of several other large institutions into the suburbs. Replying on behalf of the school, Sir John Broadbent, its dean, mentioned the more important successes of the year; they included the awarding of the Hungary prize to Sir Almroth Wright, of the Nettleship prize to Mr. George Coates, of the Jacksonian prize to Mr. F. W. Goyder, and of a gold medal in medicine to Dr. C. M. Wilson at the recent M.D. examination of the University of London. This made the eighth gold medal

obtained by the school during the past nine years. In addition, the only readers in the subjects of biology and chemistry at the University of London were both members of the school. The toast to "The Visitors," proposed by Dr. GRAHAM LITTLE, was acknowledged by Sir ARTHUR CONAN DOYLE and Mr. H. G. HANDOVER; the latter, who is Mayor of Paddington, mentioned the increasing needs and size of the districts served by the hospital. Finally, Dr. SIDNEY PHILLIPS, in proposing the health of the Chairman, drew attention to the strength in work and in athletics which had been brought to St. Mary's by Dr. Sworder and members of his family.

WESTMINSTER HOSPITAL SCHOOL.

A GATHERING of old students round the dinner table took place in connexion with the opening of the winter session at the Westminster Hospital School. Dr. PURVES STEWART, after speaking of the future amalgamation of the institution with St. George's Hospital, suggested that an even larger problem awaited the consideration not only of themselves but of all those connected with great hospitals either in London or elsewhere, thanks to the ultimate effect of recent legislation. As patients with minor ailments were now going to panel doctors instead of to the hospitals, it seemed to him possible that the latter would be ultimately reduced to the condition which hospitals already occupied in Germany. Cases of tuberculosis would be taken out of their hands and treated at special institutions, and venereal diseases might eventually prove to be similarly ear marked. Dr. DE HAVILLAND HALL, who also spoke at this dinner, said he was in favour of calling the future joint hospital the United Hospitals of St. George and Westminster. With regard to the site, he had originally been in favour of Clapham Common, but he now thought a site to the east of Wandsworth Bridge preferable, as there was space there for both out-patient and in-patient departments. The question of site, however, remained to be settled by the joint committee of the two hospitals.

KING'S COLLEGE HOSPITAL.

THERE was no formal ceremony in connexion with the opening of the winter session at King's College Hospital on October 1st, but on the following day a number of old students were conducted over the new buildings at Denmark Hill by the dean and other members of the staff of the school, and were afterwards entertained at tea. The same evening a large gathering of King's men met at dinner at the Waldorf Hotel, the chairman being Viscount HAMBLEDON. Sir WATSON CHEYNE, in proposing the health of the Chairman, dwelt on the exceedingly satisfactory relations which existed between the management committee and the staff of the hospital, and mentioned that at no previous dinner of King's men had the chair been taken by a layman. On the present occasion, however, the eve of the opening of the new hospital at Denmark Hill, it was unanimously felt that an exception to the general rule should be made, and all present would join with him in expressing the hope that Viscount Hambledon would continue to be chairman of King's College Hospital for many years to come. Viscount HAMBLEDON, in his reply, explained that the delay in completing the new hospital was largely due to the unfortunate disputes in the labour world during the last few months. He hoped, however, that in a few weeks the hospital would begin its work, and he was sure the staff would find the building in every way as perfect as it was possible to make it. He desired especially to thank Dr. Silk and members of the Watching Committee for the immense amount of time and labour they had given. To this would largely be due the perfection of arrangements in the new hospital.

UNIVERSITY COLLEGE MEDICAL SCHOOL.

AT the dinner of past and present students of University College Medical School Mr. C. J. BOND of Leicester, who was in the chair, supplied an interesting account of the school as it was at the date when he was a student; and the dean, Dr. G. F. BLACKER, stated that there had been a noteworthy increase in the number of new entries for the year. The endowment of the Students Bed had been completed, and the proposal to erect a squash racquets court in the gymnasium of the school had received considerable support. The proceedings ended with a toast to the Chairman, which was proposed by Sir VICTOR HORSLEY, F.R.S., and duly acknowledged.

BIRMINGHAM.

AT Birmingham the opening of the new academic year was marked, as usual at this medical centre, by a conversazione given by the dean and other officers of the Faculty of Medicine. The principal event thereat was an interesting address by Professor ARTHUR KEITH on the subject of present problems relating to the origin of modern races.

THE ROYAL VETERINARY COLLEGE.

WORK for the winter session was formally inaugurated on October 1st by an address from Sir JOHN MCFADYEAN, who was able to give the students, new and old, a very satisfactory account of the prospects that awaited them when they had completed their studies and obtained their diplomas. They might rely upon their profession providing them with a comfortable livelihood. Though the growth of mechanical traction was diminishing the opportunities for veterinary work in regard to horses, this reduction was being counterbalanced by an extension of work in other directions. At the present time the veterinary profession was by no means overcrowded; either at home or in British colonies there were at least a dozen vacant veterinary appointments in the public services for which suitable candidates could not be found. As for the future, the Tuberculosis Order of the Board of Agriculture, which came into force last May, would provide the veterinary profession with a large amount of new work. Tuberculosis had an enormous hold on the stock of Great Britain, as of every other European country, but as a rule the incidence of the disease was out of all proportion to the loss that it occasioned. This loss would be lessened if due effect were given to the Order, but voluntary action on the part of each owner was necessary if tuberculosis were to be eradicated entirely from any single badly infected herd. Exceedingly few dairy herds were entirely free from tuberculosis, and few attempts to increase the number had hitherto been made, because of the inherent difficulty of the problem, and the absence of any prospect of adequate reward for the trouble and expense involved. Contagious abortion in cows was, from an economic point of view, now the most formidable disease of cattle existing in Great Britain. No one would deny that the bull might spread the infection, and for this reason the speaker regarded with misgiving the proposal recently made to endeavour to promote improved cattle breeding by subsidizing approved bulls for the service of cows belonging to different owners in the same district. If this plan were put into operation without any safeguard to prevent the spread of contagious abortion by the agency of the bull, very serious consequences would result. Another disease against which public action might have to be taken sooner or later was Johne's disease; it was usually spread by the sale of infected but apparently healthy animals in which the disease was known to exist. So long as that was permissible, its continued spread might confidently be expected.

THE SCHOOL OF PHARMACY.

AT the School of Pharmacy, under the control of the Pharmaceutical Society, the beginning of the new academic year was marked by the distribution of prizes by Mr. E. WHITE, the president of the society. The successful competitors included several women students. In his report the dean of the school, Professor GREENISH, mentioned that the number of students was the same as in the previous two years—namely, 73, about as many as the school could accommodate. At the last examination 40 candidates had sat for the minor qualification, 31 passing; and 22 for the major qualification, of whom only 1 failed. The proceedings also included the presentation of the Hanbury medal to Dr. E. B. Power, Director of the Wellcome Chemical Research Laboratories. This medal, founded as a memorial to the late Daniel Hanbury, who entered the School of Pharmacy in 1844—that is to say, some three or four years after its first inception—is

awarded every two years for distinction in connexion with original research in the chemistry and natural history of drugs. Hanbury's chief work lay in the investigation of drugs from botanical and historical points of view, and of much of it Dr. Power gave a detailed account. In concluding his address, he remarked that, despite the immense fund of knowledge which had been accumulated in the course of the past centuries, the field of research was still practically unlimited. Even in only those branches of knowledge with which the School of Pharmacy was more particularly concerned there was much material ready to hand demanding investigation. Moreover, the vast continents of Asia and Africa, and the forests of South America, as well as the islands of the sea, doubtless contained among their natural resources many thousands of plants which had never yet been touched by hand, and a still larger number which had not so far been named or classified. There was no doubt that the chemical study of the immense number of plants or plant products whose constituents were as yet incompletely known would not only reveal much that was of scientific interest, but also medicinal principles which might prove capable of alleviating some of the ills of mankind.

"PROHIBITED IMMIGRANTS" TO AUSTRALIA.

The countries specially interested in the subject of immigration are giving increasing attention to the medical aspect of the problem. Excerpts from the instructions issued to Canadian medical immigration officers by the chief medical officer were recently published in the Journal. We are now informed that the Australian Commonwealth, at the close of last year, amended and extended its immigration legislation by defining more specially those liable to exclusion as "prohibited immigrants" on account of disease or physical or mental disability.

Classification of Prohibited Immigrants.

The following classes of persons are so defined under the Act:

(*b*) Any person not possessed of the prescribed certificate of health.

(*c*) Any idiot, imbecile, feeble-minded person, or epileptic.

(*d*) Any person suffering from a serious *transmissible* disease or defect.

(*e*) Any person suffering from pulmonary tuberculosis, trachoma, or any loathsome or dangerous communicable disease, either general or local.

(*f*) Any person suffering from any disease or mental or physical defect which is, in the opinion of an officer, liable to render the person concerned a charge upon the public or upon any public or charitable institution.

(*g*) Any person suffering from any other disease, disability, or disqualification which is prescribed.

The following diseases, disabilities, and disqualifications have been prescribed under (*g*).

Serious deformities or physical defects.
Insanity, an attack of insanity within five years of proposed emigration, or a history of two or more attacks of insanity or mental derangement at any time, or dementia.
Chronic alcoholism, senile decay.
Tuberculosis of the digestive tract, or the genito-urinary system, or of bones or joints.
Heart disease with signs of heart failure.
Chronic bronchitis with complications.
Paralysis or other serious nervous affections.
Cancer or other malignant growths.
Chronic rheumatism, rheumatoid arthritis, or rheumatic gout.
Severe hernia.

We understand that category (*d*) is intended to cover serious diseases and defects which may be transmitted by heredity, such as congenital cataract, deaf-mutism, or haemophilia, and that under (*e*) venereal disease would be included.

Necessity for Certificate of Health.

The most novel feature of this portion of the Act, however, is that requiring each immigrant to possess a prescribed certificate of health. This applies irrespective of the class in which the immigrant may travel, it being held that persons, except native-born Australians and those who are already Australian citizens, are immigrants if they are going to Australia to live there.

The prescribed medical certificate will not be obtainable from any medical practitioner, but only from approved medical referees, for the appointment of whom the Act provides. A Medical Bureau, under the direction of a chief medical officer, has been established in connexion with the High Commissioner's Office, and when all arrangements have been made all persons applying to shipping companies and agents for single passenger berths to Australia will be informed of the necessity of obtaining the prescribed certificate and be advised how to proceed in the matter. Dr. W. Perren Norris, formerly Director of Quarantine for the Commonwealth, has come to London to organize the Bureau, the address of which is 63, Victoria Street, Westminster, S.W.

The Commonwealth authorities consider that this provision in the Act will not only protect Australia, but will also prevent cases of hardship which arise under existing conditions whereby persons who have given up positions and sold up their homes may be rejected at the ship's side at the port of departure, or when they arrive at the port of entry in Australia. The burden now entailed on the shipping companies will also be reduced, as there should be few or no prohibited immigrants to be returned to Great Britain at the ship's expense.

It is held that the only humane course in dealing with any prospective emigrant is to afford facilities whereby before any expense is incurred it can be decided whether or not the person is in such a state of health or physical or mental condition as might lead to his rejection as an immigrant.

It has also to be borne in mind that under the Act the responsible Minister can make an exception and allow the admission of any person should circumstances warrant such action. In this way any undue hardship may, it is hoped, be avoided.

MOTOR CARS FOR MEDICAL MEN.

"Suburban" would be glad to hear the results of the experience of a doctor who has used a 10-h.p. four-cylinder Swift, light car, particularly as to its suitability for medical work, whether easily driven in traffic, and its consumption of petrol.

The Vauxhall Cars.

At a recent trial at Brooklands, a car manufactured by the Vauxhall Company achieved the task of keeping up a speed of 87.74 miles an hour for nearly eight hours in succession. The feat was the more notable because the chassis used was, except for being fitted with a racing body and having its gear-ratio and carburetter duly adjusted, a specimen of the ordinary light touring car sold by the firm under the title of the "Prince Henry" model. In addition to this model the firm is now building three others, which range from 16 to 35 h.p. The latter is a six-cylinder car, which moves with remarkable smoothness and absence of noise and vibration. The prices of the various chassis range from £395 to £625.

We are asked to state that until further notice the address of the Wellcome Bureau of Scientific Research, of which Dr. Andrew Balfour is director, will be 54a, Wigmore Street, London, W.

At the Italian Congress of Medical Radiology, which, as already announced, will be held in Milan next week, discussions will take place on the radiology of the cranium and of the intestines. There will also be a discussion on radium treatment in gynaecology, and visits will be paid to clinical radiology laboratories in the city.

A French translation by Professor Léon Guinet of the second edition of Dr. Charlton Bastian's work, *The Origin of Life*, has been published by H. Lamertin of Brussels. The article by Dr. Bastian entitled "Spontaneous Generation: its Reality and what it Implies," which appeared in the June number of the *English Review*, has also been translated into French, and is published in the *Revue Scientifique* for September 27th.

The Prussian Medical Ethical Court of Appeal (Ehrengerichtshof) has revised the verdict of the lower Ethical Court (Ehrengericht) in the case of a medical practitioner who was charged with advertising in a manner "derogatory to the honour and interests of the profession," by exposing notices concerning his sanatorium in railway carriages. The lower court had imposed a fine of £25, which the Court of Appeal reduced to £10.

British Medical Journal.

SATURDAY, OCTOBER 11TH, 1913.

ARTHROPLASTY.

ARTHROPLASTY means the "restitution of functional activity in joints rendered useless by ankylosis," and it is no longer to be regarded as a procedure beyond the limits of the art of surgery. Tuffier over two years ago described to the Paris Surgical Society how in resection of joints he had in three cases successfully endeavoured to form a new joint by applying grafts of articular cartilage over the raw bone surfaces. It appeared to him that, as it was the property of cartilage to ensure mobility in joints, it was reasonable to use that tissue rather than any other. A few cases have been published by Lexer and others of successful transplanting of whole articulations, but these are so few that the method must be regarded as still in the experimental stage. Lorenz suggested the term "arthrolysis" in discussing the possibility of restoring mobility to a fixed joint. In his view everything depended upon the cause and form of anyklosis; while a tuberculous ankylosed joint ought to be left alone, it was safe to attack ankylosis after metastatic or traumatic suppuration, or following gonococcal infection, especially if the patient was young and generally in good condition. He advised that the best substance for interposing between the bones going to form the joint was a muscular or fascial flap cut from the immediate vicinity of the joint.

It is a little startling to find that in Mercy Hospital, Chicago, no fewer than 62 arthroplasties have been performed by Dr. John B. Murphy[1] and his assistants, in the hip-joint 16, the knee 28, the elbow 12, and others. Nearly all have reached the ideal set up by Dr. Murphy: restoration of the normal anatomical conformation of the joint, so that the patient shall have not only a movable but a strong and useful joint, fit to support the weight of the body, reliable enough to allow walking, running, and mounting stairs.

The theory upon which the operation is founded depends on the observation so often made that pseudarthrosis may result from interposition of muscle, fascia, or other tissue between the ends of fractured bone; in such a false joint intra-articular cartilage and membranes with a fluid resembling synovia have been found, and there was also a well-marked capsule. Many experiments along this line ultimately led to a definite technique, so that in 1902 Dr Murphy was able to perform his first arthroplasty. Painstaking study elaborated many kinds of arthritis, and many varieties of ankylosis. The osseous, fibrous, and capsular types of ankylosis yield only to this operation, whereas the periarticular and extra-articular types may be treated successfully by such operations as capsulotomy and tendon lengthening. Osseous ankylosis only is dealt with in the paper. The author remarks that only in ankylosis following tuberculous disease is he fearful for the result, his apprehension being due to the indifferent reparative power of these patients and to the risk of stirring up dormant foci of the disease.

The main principle of the operation is to place between the ends of the bones, after their separation, and after their restoration as near as may be to the normal configuration, some material which will prevent recurrence of bony union. The best interposing material is a pedicled flap of fat and fascia lifted from the tissues in the neighbourhood of the joint, or, if that is impossible, a detached flap from the trochanteric bursal portion of the fascia lata may be transplanted. This interposing material must cover the entire articular surface of the bones, though fixed only to one. The technique of the operation in the hip may be outlined: A large U-shaped incision, base inwards, is made with trochanter well within the bay, and a flap of skin, cellular tissue, and fascia lata dissected up; the trochanter is sawn off and lifted away with its attached muscles; the femoral head is carefully separated from the acetabulum with chisels, and both surfaces rounded and smoothed; a flap of fascia lata from the trochanter region is split and folded over so as to form a complete covering for the head and neck of the femur; when the head is placed in the cavity of the acetabulum this flap serves as a lining for the cavity and reinforces the capsular ligament; the trochanter is fixed again in position by a nail. The leg is firmly extended and abducted. Passive movement is begun in seven to ten days. In three to four weeks splints are removed, and it is found that the patient has a fair amount of movement and may be encouraged to use the limb. In the knee the femoral condyles are rounded, corresponding concavities are formed in the head of the tibia, while the spine and intercondyloid ridge are preserved and refashioned so as to fit accurately into the intercondyloid notch. Two flaps of fascia lata are cut, one on each side, and stretched across the articular surface of the head of the tibia and sutured together. Passive and active movements are instituted, as in the hip. Methods similar to these are applied to the wrist and elbow.

The degree of success attained in Dr. Murphy's cases is so high that the operation may be said now to be quite within the sphere of practical surgery. Failures there have been from various causes—sometimes faults of technique, as insufficient interposition of fat and fascia, imperfect excision of capsule and ligaments; sometimes faults in after-treatment attributable to timidity and fearfulness in the patient. But probably failure left the patients no worse than before. The brilliance of the successes demonstrated by complete series of photographs and skiagrams in Dr. Murphy's paper more than counterbalances the misfortune of the few failures. Dr. Murphy is exceedingly cheerful in his outlook on the prospects of this operation. It is no longer an enthusiast's dream or a surgical curiosity. Perfectly movable joints with hinge and rotary motion of normal type have been produced. New synovialoid membrane is found with fluid not unlike synovial fluid, and lining membrane identical with that lining hygromata. These new joints support full weight and traction; they are painless once the process of repair is complete, and they are not subject to the haematogenous metastatic arthritis of other joints.

[1] Arthroplasty. By John B. Murphy, M.D., Chicago. *Annals of Surgery*, May, 1912.

INCOME TAX.

At this period of the year formal notice of the assessments for the financial year 1913-14 are being issued, and we would impress on practitioners generally the advisability of giving immediate attention to any communication they may receive with regard to the income tax.

This matter is of considerable importance, because the right of objection against an excessive assessment is extinguished by the failure on the part of the person assessed to give notice of objection within the time limited by statute. From cases which have been brought to our notice it appears that many persons are under the impression that nothing is lost by allowing an excessive assessment to stand, because it is believed repayment may be claimed at any time during the next three years. We would point out that a claim to repayment can be successfully made only when authorized by statute, and in general such authority can be claimed only in respect of insufficient allowances for abatement, life assurance, and children, and not in respect of an excessive assessment. In a repayment case argued in the King's Bench Division some years ago the court held that as the appellants had not appealed against the assessment made upon them they had neglected their proper remedy and could therefore obtain no redress, even upon a Petition of Right (Holborn Viaduct Land Co., Ltd., *v.* The Queen). The advisability of examining every notice of assessment immediately it is received is therefore sufficiently obvious.

In this connexion one or two remarks as to the points most likely to call for attention may not be out of place.

It is, of course, generally known that the claim to the "earned income" rate of duty must be lodged before September 30th each year, and that no subsequent claim can be admitted by the revenue authorities even on appeal. But where a practitioner has, before September 30th, intimated to the proper authority his intention of making the claim, but has not filed the full declaration of income which is required to complete it, the Board of Inland Revenue seems to be willing to regard that intimation as keeping alive the right of making a later and fuller claim; in other words, a bare statement of claim made before September 30th is allowed to be subsequently enlarged—by process of appeal, if necessary—into a complete claim.

For some time now the Board of Inland Revenue has waived the right of separately assessing under Schedule E the fees received by practitioners from public appointments; but the method of assessing the whole of the profits of the practice in one sum under Schedule D does not yet appear to be universal, and should a practitioner receive two or more notices of assessment, they ought to be closely scrutinized to avoid any double assessment of fees received from appointments.

We have before called attention to the claim of the income-tax authorities that the allowance for depreciation does not apply to professional earnings, but that the deduction of renewal expenses is held to be an available allowance. Accordingly, in any case in which a practitioner has renewed a car during the three years 1910-12, an appeal may be made unless the cost of renewal has already been deducted as a professional expense in arriving at the sum assessed.

Moneys received from Insurance Committees should be included as ordinary professional receipts in the assessment under Schedule D, and where previous assessments have been based on cash receipts the practitioner would, we conceive, be entitled to continue his return on that basis. That is to say, inasmuch as the fees payable through the Insurance Committees are in substitution for, rather than in addition to, previous receipts, the cash receipts for, say, 1912 may legitimately be taken in calculating the average liability, although there may be outstanding at the end of the year unpaid fees which have accrued due during that period.

Where practitioners are in partnership the notice of assessment will probably show only the total liability of the firm, but the surveyor of taxes will usually be prepared to supply on application details showing how the total liability should be shared between the partners. This apportionment should be examined and preserved, so that when the amount of income tax due is paid out of the firm's account, each partner may pay his share into that account. By this means each member of the firm will be certain of receiving the relief afforded to him by his own allowances for abatement, life assurance, etc.

The notice of assessment usually requires appellants to give notice in writing stating the grounds of appeal "within ten days of the date hereof" to the surveyor of taxes. The section which deals with this time limit (Section 57 (3) of the Taxes Management Act, 1880) is far from perspicuous, and we have known cases in which the period of ten days was not rigidly enforced. The dates on which the appeal meetings are held are stated on notices affixed to church doors (Section 119 of the Act of 1842), and though there may be some doubt as to whether appellants are entitled to more than the ten days' notice, the period certainly does not extend beyond the tenth day before the day of appeal.

The procedure to be adopted after the notice of objection has been lodged must, of course, vary according to the precise nature of the point involved, but in general an interview with the surveyor of taxes may be suggested as being likely to clear the ground, and possibly afford some opportunity for a settlement of the question by mutual consent.

Although the absence of any appeal generally makes the assessment binding, this is not so in some rather infrequent cases—for example, after a succession in a practice where the profits of the year of assessment have fallen short of the sum assessed, or when an actual loss has been incurred. In either of these cases a claim to repayment may be preferred at the end of the financial year, although no objection was taken to the original assessment.

THE DUCTLESS GLANDS AND THE NERVOUS SYSTEM.

The pathology of the ductless glands touches neurology at many points. Professor Murray, in the comprehensive review of the whole field of inquiry into the functions of those glands with which his Address in Medicine at Brighton was concerned, did not fail to deal with this division of the subject. But many readers of that address may be glad to have their attention directed to an excellent brief summary of our knowledge of the ductless glands, on the one hand, and of their connexions with the nervous system on the other, contributed to *Brain*[1] by Dr. T. R. Elliott. He points out that our knowledge of the ductless glands is

[1] Ductless Glands and the Nervous System. By Dr. T. R. Elliott. *Brain*, London, 1913, xxxv, Part 4, p. 306.

still very scanty, and has been hard to come by; the subject suffers from the encumbrance of various theories and hypotheses unsupported by observed facts, and he enters a strong plea for moderation and conservatism. There is great fear lest theory and analogy should be permitted to develop into statement and assertion, and be accepted as conclusive before their foundation on solid facts has been proved. As an example may be quoted the views of the Vienna school on the actual function of the thyroid secretion, as expounded by Falta and Rudinger. The thyroid and parathyroid secretions oppose one another, the former stimulating the sympathetic nerves, the latter inhibiting them. The secretions of the pancreas and of the parathyroids retard metabolism, those of the thyroid and adrenals augment it. Hence loss of the thyroid secretion leads to: (1) Slowed metabolism; (2) absence of stimulation of the adrenals; (3) escape of the pancreas from inhibition; (4) decreased excitability of the vagus in all its area of distribution, which includes the thyroid gland. This curiously intricate statement of function is purely speculative, as Dr. Elliott points out. To discuss it would be profitless, and the present need is the need of more facts. Medicine owes no gratitude to those who teach to her theories without proof.

One of the perplexing features of all these glands is their double anatomical constitution. In each two types of cell are found living in close neighbourhood, often under the same roof, and yet there is no obvious reason why they should have chosen such a union. Thus the thyroid gland is associated with the parathyroids. Removal of the latter has been supposed, though without sufficient proof as yet, to set up the condition of tetany by means of exaggerated excitability of the skeletal muscles through their motor nerves. The pituitary gland can be divided macroscopically into the posterior "pars nervosa" and the anterior glandular portion. Microscopically it is extremely complex, the anterior part containing two distinct types of cell, eosinophile and basophile (or chromophobe) respectively. The nervous part behind resembles neuroglia, tissue of an indeterminate character. Between the two lies the "pars intermedia" of the pituitary, roughly resembling the anterior lobe and consisting of columns of cells enclosing alveoli distended with colloid secretion. The adrenal glands are well known to consist of cortex and medulla; thanks to the work of the Cambridge School of Physiology, it is now recognized that the adrenal medulla consists of paraganglion cells, controlled by the splanchnic nerves and secreting the adrenalin that maintains the unstriped muscle regulated by the sympathetic nervous system at a fair level of tone for its routine activities in the blood vessels, viscera, and glands. The cortical cells do not belong immediately to the sympathetic group; overgrowth of the cortex in children is associated with sexual precocity and premature adolescence. As for the pancreas and the testis, though they of course are not ductless glands in the strict sense of the word, yet each produces an internal secretion, and each, again, contains secreting cells of two distinct types. The cortical cells of the adrenal glands secrete a special lipoid, a doubly-refracting fat, and so do the interstitial cells of the testis. It is also of interest to note that active chemical substances of relatively simple molecular constitution, not destroyed by boiling, can be extracted from the adrenal and pituitary glands, and, apparently, from the thyroid and the pancreas also.

Increasing emphasis has been laid in the last few years on the need to look upon the ductless glands as parts of a connected whole. If one is diseased, the others suffer, all having some functional relationship with each other. Careless clinical analysis is apt to accept this readily, concealing its want of exact knowledge beneath such terms as "pluriglandular insufficiency," "the polyglandular syndrome," "pauciglandular syndromes," "endocrine insufficiency," and the like. Dr. Elliott ends his paper with the enumeration of half a dozen common clinical features that suggest a common bond between the ductless glands, and urges once more the pressing need for further observation and research in the matter of these tangled relationships. He particularly commends the adrenals to the attention of any neurologists who may be seeking for deeper acquaintance with the physiological processes of nervous activity.

CANVASSING: A WARNING.

THE Association has recently received information to the effect that in several areas combinations of workmen or of friendly societies have been taking action which may seriously compromise those members of the profession who are parties to it. In several districts certain lay combinations, being dissatisfied with the terms on which the local medical profession is willing to undertake treatment of uninsured persons, have resolved to bring into the district some other medical man who will accept their terms. They have accordingly proceeded to advertise for a medical practitioner, and up to that point no legal question arises, though, of course, no medical man introduced into the district under such circumstances could expect professional recognition from those members of the profession whose standard of conditions and remuneration he was helping to undermine. But in several cases the friendly societies or workmen have gone further, and have made a public announcement that they intended to introduce a new medical man, and have then proceeded to canvass in order to induce insured persons to promise to transfer their names from the doctor on whose list they are at present to the practitioner it is proposed to introduce. There seems little doubt that such a course of action not only offends against all the traditions of the profession, but is a violation of the rulings of the General Medical Council in regard to canvassing and advertising. In some cases the practitioner who has been induced to accept such an appointment has proffered the excuse that he was not a party to the canvassing, and knew nothing whatever about it. Such an excuse is not adequate. Whether the advertising and canvassing were done prior to the engagement of the practitioner or not the fact remains that he profits by them. We would warn practitioners who are thinking of applying for appointments which are advertised by lay bodies of the kind mentioned to make sure that no canvassing or advertising of this kind has been done by the promoters of the scheme, and, if there is any doubt, to refuse to have anything to do with the appointment. The Association is collecting evidence in some of these cases, and intends to bring it to the notice of the General Medical Council. If those practitioners who respond to advertisements of the kind named find themselves charged before the Council with associating themselves with bodies which have canvassed for patients they will only have their own carelessness or indifference to blame. Members of the Association who are aware of such cases and can produce evidence in support of the charges of canvassing or advertising are urged to place themselves in communication with the Medical Secretary.

THE LEGAL RELATIONS OF INSURED PERSONS AND THEIR MEDICAL ATTENDANTS.

At page 968 will be found a record of a case which opens up the whole question of the relations, from a legal point of view, between a medical practitioner on the panel and a person he has accepted as one of his insured patients. The facts themselves are of interest, since they constitute a little vignette of some of the worries and inconveniences involved in the existence not alone of medical men who are on the panel, but of all general practitioners alike. No medical man, indeed, who has ever been in general practice can fail to sympathize with Dr. John Dunlop, the medical man concerned. But the facts in this case also show that if the judgement regarding them is allowed to stand these drawbacks of a medical life are likely to be materially increased in the case of panel doctors. A medical man in private practice, if he neglects, or declines, or delays to pay a visit, knows that the main risk run by him, if any, is that of losing a patient; but the judge of the Liverpool County Court appears to hold that in the same circumstances a medical man on a panel runs the additional risk of having to pay the fees of another medical man whom that patient may summon in his place. For the panel patient to succeed in imposing this expenditure on his doctor it would be necessary for him to prove not only that an adequate message had been received by his panel doctor and that the latter had failed to attend without due cause, but that the need of medical services was so urgent that there was real justification for asking another medical man to attend in his place. No doubt this would, commonly, not be easy, but nevertheless the possibility of success that this particular case suggests serves to justify the fears expressed in a letter which we have received from a correspondent. He believes that the judgement will pave the way for the growth of the belief that any panel patient who has a real or fancied grievance need not approach the Local Insurance Committee, but can at once serve a writ upon his doctor. As for the general effect of the judgement, it has been pointed out in this Journal on more than one occasion that the general relations between a medical man on the panel and a person whom he has accepted as a patient are those ordinarily existing between medical men and their patients. But the Liverpool judgement goes a good deal further. According to this, not only does an aggrieved panel patient stand possessed of the ordinary rights under the common law of an aggrieved patient of any kind, but he has special rights arising out of his contract. Furthermore, his contract is not with the Local Insurance Committee but with the medical man who has accepted him as one of his patients, such medical man, in addition to being liable for the results of malpraxis or professional negligence, as in the case of ordinary patients, being also liable to a penalty if he wrongfully omits to afford attendance of any kind. The judge appears to have held that Insurance Committees are merely agents, not principals, and that the framers of the National Insurance Act, as also the framers of the regulations of the National Insurance Commissioners, have omitted to introduce any clauses to control the legal relations between medical man on the panel and a person accepted by him as a patient. Both alike have merely provided for the settlement of such disputes as might be expected in ordinary life to end either by the medical man declining to place his services any longer at the patient's disposal, or by the patient informing his medical attendant that his services were no longer required. This being the case, the judgement becomes of such importance to all medical men on panels that a proposal made concerning it by the correspondent whose letter we have mentioned would seem to demand careful consideration. It is to the effect that a fund should be raised to enable Dr. Dunlop to take advantage of the permission to appeal granted him by the judge and contest the judgement in a higher court.

RESIGNATIONS IN SOUTH LONDON.

Many members of the Association who were distressed by the evidence of further weakness in the medical profession afforded by the defection from the British Medical Association of certain members in South London will have expected that the Journal would have the opportunity of publishing this week some better explanation of the course taken than was afforded by the speeches made at the meeting of the Wandsworth Division. They will find in the Supplement several letters on the subject, and among them communications from Dr. Edwin Smith and Dr. Barton, which, as they are written respectively by the mover and seconder of the resolution advising resignation, must be taken as the best defence that can be put forward. Neither letter, so far as we can discern, contains any new idea with regard either to the past or the future. None of the points put forward in the article published last week are seriously dealt with, and no suggestion whatever is made as to the policy which the Association should follow in order to safeguard the interests of its non-panel members. If to call a meeting and solemnly register the opinion that the Association is "reacting detrimentally to the interests of the members of the profession in general," and approving the action of members resigning, is not a course of conduct designed to injure the influence of the Association, all that can be said is that the Association may well pray to be saved from its friends. We have no intention of repeating what was said last week, but it may be well to say a word on one point to which Dr. Edwin Smith recurs, that is to say, what is described as the failure to appoint a non-panel committee. It is true that the Insurance Act Committee was asked to appoint a non-panel committee, but it must be obvious that, being itself a committee appointed jointly by the Representative Meeting and the Council, it had no power itself to appoint another committee, and that in fact, it could not do more than it did—namely, to appoint a Non-Panel Subcommittee. If that Subcommittee does not make its influence felt it can only be due to want of energy and courage on the part of non-panel practitioners. The experience of the Association, extending now over many years, of conflicts in which the profession has had to engage in order to safeguard its interests against the encroachments of Government departments and municipal authorities, proves that a policy which involves the comminution of the influence which a united profession can exert is essentially detrimental to the interests of members of the profession in general. Public opinion is disposed to be influenced when the profession is united, but it soon wearies when confronted with warring factions whose points of difference it does not fully understand. Dr. Napier Jones has sent us a short note, in which he describes the recent correspondence in the *Times* as "sorry reading. Whichever side," he adds, "is in the right, the only effect has been to hold the profession up to public derision." Dr. Cromie puts the general principle very well in the admirable letter published in the Supplement, and we would echo the appeal with which he concludes: "Let us credit those who differ from us with the pure motives we hold; let us cultivate the golden rule; let us be charitable to our neighbours; let us remember that there are two sides to every question; but, above all, let us reason and be reasonable, and with a united front we will weather the worst gales and ride safely under the shadow of the British Medical Association."

ABERTILLERY MEDICAL OFFICER OF HEALTH.

WHEN the Local Government Board advocated the employment of whole-time medical officers of health, and suggested that such a service might more readily be brought about in certain districts by adding to the duties of the medical officer of health those of school medical officer, isolation hospital superintendent, etc., it was confidently hoped that the Board would insist upon an adequate salary being paid to the holder of such a combined appointment. It is to be regretted that this anticipation has not been realized. The policy of the Board appears to be to require a net salary of at least £500 per annum for a whole-time officer, and this is the policy which the Association is striving after. In several instances, however, the Board has sanctioned a salary of £400, though making it a stipulation that the officer appointed should be permitted to earn fees from public health consulting work, the giving of expert evidence, etc. This course was adopted when Dr. A. E. Remmett Weaver was appointed medical officer of health to the Abertillery urban district in Monmouthshire. Dr. Weaver has now been elected, at a salary of £500, medical officer of health to the borough of Yeovil, and the Abertillery Council is seeking to appoint his successor on the same terms as those under which he held office. In view of the large amount of additional work which has been cast upon medical officers of health by recent legislation, both directly and indirectly, the Local Government Board is urging the payment of a salary of £500 per annum. The Abertillery District Council is composed very largely of colliery labour representatives, who would be the first to advocate for themselves and their fellow workmen the payment of a standard wage. They do not appear willing, however, to carry out this principle when it affects the medical profession, and are credited with the intention of refusing to acquiesce in the suggestions of the Local Government Board. It will be very regrettable if the Board sanctions the proposals of the District Council, for the arguments in favour of a salary of £500 for a whole-time medical officer of health are even stronger in the case of Abertillery than they might be in that of some other districts. The population of the Abertillery district approaches 40,000; it has an area of about ten square miles, and on account of its hilly character it is very difficult to work. Moreover, in addition to his ordinary public health duties, the medical officer of health acts as superintendent of the isolation hospital, he is school medical officer, and has the care of a school clinic. It would be difficult to find a better instance for a display of firmness on the part of the central authority.

COMPLEMENT DEVIATION IN GONORRHOEA.

IT is a curious fact that, while the complement deviation test was applied almost simultaneously to the diagnosis of syphilis and gonorrhoea, the nature of the reaction differs in important particulars in the two instances. Thus, the gonococcal complement fixation test discovered by Müller and Oppenheim,[1] is a true example of the Bordet-Gengou phenomenon, as the antigen is prepared from cultures of gonococci only, while the Wassermann reaction is not, for the antigen may be prepared from non-syphilitic tissues. It is therefore not remarkable that, if recent research has perhaps thrown some doubt on the value of the Wassermann test,[2] it has enhanced that of the complement fixation test for gonorrhoea. Schwartz and McNeil,[3] who have done important work in this subject, in their latest communications came to the conclusion that the complement fixation test for gonorrhoea is absolutely specific, and "a positive reaction denotes the presence or recent activity of a focus of living gonococci." In most cases the reaction does not become strongly positive till the fourth week of infection. If the disease is limited to the anterior urethra a positive reaction is not obtained, probably because the absorption of toxins is not sufficient to produce antibodies. The positive reaction does not entirely disappear till seven or eight weeks after apparent cure, owing to the persistence of antibodies in the blood; hence, if a strong positive reaction is obtained after this time it signifies that gonococci are still present although there may be no clinical signs of gonorrhoea. In 165 cases regarded as clinically cured Schwartz and McNeil found a positive reaction in 13 per cent. In women the reaction appears to be positive only when the disease has affected the cervix, but the test is of value in the gonorrhoeal complications of the female, owing to the difficulty of bacteriological diagnosis. In the differential diagnosis of gonorrhoeal arthritis from other forms the test is especially valuable. The above observers mention three cases of gout which gave a negative reaction, although in one of them there was previous gonorrhoeal infection on several occasions. Negative reactions were also obtained in arthritis deformans and in streptococcal and tuberculous arthritis. Of great interest were cases of syphilitic arthritis, which gave a negative gonococcal reaction, but a positive Wassermann, thus showing that the test allows of specific differentiation, even in the presence of another disease, such as syphilis, which also causes deviation of complement. A negative reaction does not absolutely exclude gonococcal infection, but, according to Schwartz and McNeil, it is of much more value than a negative Wassermann reaction in the case of syphilis, for the latter may depend upon recent mercurial treatment, or upon the encapsulation of spirochaetes by a connective tissue capsule which hinders the absorption of toxins, and consequently the formation of antibodies. Comparing the relative diagnostic value of the complement fixation test and bacteriological diagnosis, these observers remark that bacteriological proof of the presence of the gonococcus is not so easy to obtain, owing to sources of error, such as degeneration forms of Gram-positive cocci which do not retain the Gram stain, the *Trichomonas vaginalis*, aberrant forms of the *Bacillus coli*, and the *Micrococcus catarrhalis*. Thus, bacteriological diagnosis depends on culture, the technique of which is more difficult than that of the complement fixation test. The gonococcus grows only on special media, and culture may fail owing to the presence of other rapidly growing organisms which inhibit the growth of the gonococcus or render its isolation impossible. They therefore conclude that the complement fixation test gives more reliable results than bacteriological methods in the majority of doubtful cases. They also draw attention to the use of the test in medico-legal cases, for the absence of a positive reaction in the early stages of infection may distinguish between a fresh infection and the recurrence of an old one. This has an obvious application to cases in which symptoms of gonorrhoea appear after marriage.

[1] *Wien. klin. Woch.*, No. 19, 1906.
[2] BRITISH MEDICAL JOURNAL, May 17th, 1913.
[3] *Amer. Journ. Med. Sci.*, September and December, 1912.

THE SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS.

THE possibility of affording temporary relief to cases of advanced unilateral consumption by the artificial production of pneumothorax has been but little regarded in this country. The chief English textbooks contain few references to it, but successful cases are recorded by French and American authors, some of whom go so far as to assert that the method is "now adopted by most of the leading sanatoriums and hospitals for diseases of the lungs on the Continent and in the United States." Statistical evidence as to the proportion of success achieved is not as yet forthcoming. In a critical article on the whole question,[1] Dr. Louis Rénon examines the theory upon

[1] *Journal des praticiens*, January, 1913.

which the treatment is founded, and reviews the numerous points of difficulty with which the practical application of it is beset. Theoretically the provision of physiological rest to the damaged lung is a sound therapeutic proceeding. In practice, however, the uncertainty which must attend the diagnosis of the exact condition of the affected lung and pleura renders the choice of suitable cases extremely limited, and even with the exercise of the greatest caution the operation has sometimes tended to shorten life rather than to prolong it. The best result that can be hoped for is a postponement of the fatal day, and it would appear that this has sometimes been attained for considerable periods, during which the life of the patient has been rendered less miserable than before. The idea seems to have been first suggested in 1892 by Forlanini, and three years later a series of original observations were published by J. B. Murphy. Dr. Pearson read a paper on the subject at the annual meeting of the British Medical Association last year,[2] supplementing the description of the procedure recently contributed by him and Dr. Lillingston to the first volume of the *System of Treatment*, edited by Drs. Latham and English. The operation of introducing gas into the pleural cavity is obviously restricted to cases of unilateral disease, but it is claimed that large apical cavities have been collapsed and cicatrized, and that the rest of the lung has then been allowed to expand and has come into effective use again. The method of introduction is elaborate, nitrogen gas being employed at several sittings, the treatment sometimes continuing for long periods in order to maintain the collapse of the lung and overcome its tendency to re-expand prematurely. The closed method by means of a needle is regarded as the safest, although Murphy obtained success by the open plan of cutting down upon the parietal pleura in the first instance. The possibility of setting up purulent effusion has always to be borne in mind, and serious disturbance of cardiac action has been known to occur. The latter days of the patient with advanced disease carry little but misery to the patient himself and depression, if not danger, to those about him, and the possibility of affording temporary relief and cessation of the constant output of infective sputum is worthy of consideration. "Hundreds of cases," we are told, have already undergone this line of treatment, but it is to be feared that the percentage of advanced cases with disease limited to one side, and with a pleura sufficiently detached to admit of inflation, is only to be counted in units.

MEDICAL TERMS IN THE NEW ENGLISH DICTIONARY.

The current part of the *New English* (or Oxford) *Dictionary* passes in alphabetic sequence from *Tombal* to *Trahysh*, two words which, it can be imagined, are hardly familiar to every reader, but yet are not so difficult when the key is provided, for *tombal* simply means pertaining to a tomb, and *trahysh* is to betray. Neither the first nor the last term in the part, therefore, is medical. There are, however, crowds of truly medical words in this section of Sir James Murray's great work, and it is difficult to choose from the number those of most interest. If we take the words derived from the Latin *toxicum*, which in turn is an adaptation of the Greek τοξικὸν φάρμακον (poison for smearing arrows), we shall probably have enough to illustrate both the method of the *Dictionary* and the fullness of the present part of it in medical expressions; there are between fifty and sixty terms coming from *toxicum!* Most of them, too, are products of the past twenty or thirty years and some are only of yesterday. Every one knows, of course, what *toxaemia* means (blood poisoning), but hardly any one, perhaps, is aware till they read it in the *Dictionary* that it has an anglicized form—*toxemy*. *Toxalbumin*, or *toxalbumen* (both are right, but Sir James Murray puts the *in* first), means a poisonous or pathogenic albumin or protein produced by bacteria, or, shortly, a protein toxin; *toxalbumose* is a poisonous albumose, *toxamine* is a poisonous amine, and *toxanaemia* is anaemia caused by the action of a poison. It is significant that all these words except the first are illustrated by quotations which go no further back than the beginning of the present century or the last decade of the nineteenth. Another batch of equally modern terms contains such words as *toxidermic* (pertaining to skin disease produced by a poison), *toxignomic* (enabling one to diagnose the action of a toxin), *toxihaemia* (equivalent to toxaemia), *toxi-infective* (characterized by infection due to a toxin), *toxiphagus* (one who eats poisons), *toxiphobia* (fear of being poisoned, as a form of insanity or monomania), and *toxiresin* the name of a poisonous substance obtained from digitalis by the action of acids. The word *toxic*, however, is much older, and Sir James Murray has captured an illustrative quotation from the seventeenth century, from Evelyn's *Sylva*, published in 1664 ("the toxic quality was certainly in the liquor . . . not in the nature of the wood"); but he has to go forward to 1876 to get a second instance of its use. *Toxical* was also used in the early years of the seventeenth century, and as for *toxicate* (poisoned or poisonous) there is a quotation from about 1470, and the word is now obsolete. *Toxication*, however, is moderately modern (1821); it means poisoning especially by toxic substances produced by disease germs; and *toxicity* is quite modern (earliest use was in 1881), and signifies toxic or poisonous quality, especially in relation to its degree or strength. Another large group of words begin with *toxico-* and include *toxicaemia*, *toxicoderma*, *toxicodermatitis*, *toxicodermitis*, *toxicogenic*, *toxicohaemia*, *toxicomania*, *toxicophagous*, *toxicophagy*, *toxicophobia*, *toxicotraumatic*, as well as the familiar *toxicology* (the science of poisons) with its derivatives (*toxicologist*, etc.). The *toxicoses* are a family of diseases caused by the reception of poisons into the system. Then there is *toxin* (a specific poison, usually of an albuminous nature, especially one produced by a microbe, which causes a particular disease when present in the system of a human or animal body) and *toxinaemia* (the presence of a toxin in the blood). A group of extremely new, almost neonatal, words begin with *toxo-*, and include *toxo-infectious*, *toxo-peptone* (or pepto-toxin), *toxophil* (having affinity for a toxin), *toxophore*, *toxophoric*, or *toxophorous* (poison-bearing), *toxophylaxin* and *toxozosin* (defensive proteins or antitoxins), and *toxoprotein* (a toxic protein or mixture of a toxin and a protein). Finally, there is *toxoid* (a modification, or transformation product of a toxin, in which the toxophoric group of atoms is lost, and which has, therefore, no toxic effect, but retains affinity for the antitoxin), *toxon*, and *toxonoid*. Along with, and mixed with, these poison-words are several terms, such as *toxophilite*, *toxophily*, and *toxology*, which mean a lover of the bow and the practice and study of archery. How come they *dans cette galère?* The answer is simple enough: the word *toxicum* was the Latin for poison, but the full term was the Greek τοξικὸν φάρμακον, poison for smearing arrows, and only the first word was carried over, and, as it chanced, it meant, not poison, but arrows, from τόξον, a bow. As Sir James Murray puts it, the effect of using *toxicum* as short for the Greek phrase was to transfer the sense "poison" from φαρμακον to *toxicum*, first as "poison for arrows," and at length as "poison" generally. There is no space for notes of the other medical terms (such as *tonsils* and their derivatives *trachea*, *topical*, *tormina*, *tractoration*, *tourniquet*, *tragacanth*, *tragus*, etc.), but the *toxi-* group will have given some idea of the extraordinary fullness and accuracy of this magnificent lexicographic undertaking.

[2] British Medical Journal, 1912, vol. ii, p. 957.

PLETHORA ABDOMINALIS.

A SYMPTOM-COMPLEX has been described by Julius Shiötz under the old title "plethora abdominalis." He traces it to primary disorders of the splanchnic circulatory system, with venous stasis in the abdominal organs. A typical patient is a man, 40 to 50 years old, who complains of a sense of pressure and fullness in the abdomen, constipation, flatulence, tiredness, pyrosis, giddiness, palpitation of the heart, and a feeling of anxiety. While the arms and legs are emaciated, and the chest is flat, the belly is distended, and the complexion muddy. When examined in the upright position, the heart appears dilated, the cardiac dullness being increased, notably to the right. The blood pressure is often high, and the urine contains albumen and granular casts. Often, too, the liver is somewhat enlarged, and it may even be tender. In the axilla, at the level of the seventh and eighth ribs, signs of atelectasis may be detected. Many other symptoms are those of neurasthenia, enteroptosis, gastric atony, and hyperacidity. Fatty degeneration of the heart may also be diagnosed, but in plethora abdominalis, with change from the erect to the horizonal position, the signs of cardiac dilatation disappear. This is due to the fact that, while meteorism in the erect position displaces the diaphragm upwards, and thus presses the heart against the anterior chest wall, the horizontal position renders the abdomen flaccid and the intra-abdominal pressure less high. The heart, in consequence, is no longer displaced, and its boundaries appear normal. The patient's occupation is usually sedentary, and his most important troubles, such as distension of the abdomen, enlargement of the liver, haemorrhoids, and varicose veins of the legs, are all traceable to stasis within the abdominal blood vessels. The signs and symptoms referred to the heart are, however, secondary; and are due to the meteorism. If general adiposity or fatty degeneration of the heart be diagnosed, a dietary suitable for such conditions will be prescribed. This may, indeed, lighten the heart's work, but it will not lessen the obstruction to the circulation in the abdomen. If, however, primary venous stasis of the abdomen be recognized, treatment will include the systematic use of aperients, abdominal massage, gymnastic exercises, a non-fermentative diet, and air and carbonic acid baths.

WANTED—A HOSPITAL FOR ANIMALS.

AT an inaugural lecture delivered a short time ago before the University of Liverpool, Professor Glynn[1] put forward strong arguments for the establishment of a complete and up to date animal hospital in connexion with the local veterinary school, supporting his arguments with a mass of evidence as to the achievements of veterinary science in the prophylaxis and treatment of animal diseases that merits the most serious consideration. Animals have been the servants and the friends of man since, perhaps, the neolithic age. As a result of this long association there are now a great many diseases common to both man and animals, and it is undeniable that if these diseases could be studied in animals as thoroughly and as scientifically as they can be studied in man, it would be greatly to the advantage of both. We shall not attempt to reproduce the full list given by Professor Glynn of the infective diseases of animals that may be communicated to man; a few only can be mentioned. Tuberculosis naturally occupies the first place here. The Royal Commission on Tuberculosis has recently published its conclusions, and we are to believe that the tubercle bacilli found in cattle and in man respectively are two different varieties of the same bacillus, and that the disease they produce is the same disease; bovine tuberculosis does infect man, and is responsible for a large amount of tuberculosis in children, which is usually contracted by drinking cow's milk. The Commission has urged the Government to take steps to eliminate tuberculosis from the domestic animals, and so reduce the amount of human tuberculosis: in 1910 over 51,000 persons died of tuberculosis in England and Wales, while Delépine estimates that there are not less than 1,600,000 tuberculous cattle in Great Britain alone. Tetanus, fortunately rare in man, is comparatively common amongst horses; the tetanus bacillus is a normal inhabitant of the intestine of many herbivora, and so is particularly common in manured soil. Anthrax is a most deadly disease among cattle and sheep, and very prevalent in certain parts of Europe and Asia; 908 separate outbreaks occurred amongst the cattle of Great Britain in 1911. The reasons for its spread and its frequent appearance in farms where there has been no previous case are not yet understood, and urgently demand investigation; it is practically always fatal to the animals it attacks, and a number of fatal cases occur every year in man. Rabies or hydrophobia has not been seen in Great Britain since 1903; this triumph was due to a general muzzling order enforced in spite of the strenuous opposition of those who maintain that a "compulsory collar order" would have been equally successful. Rabies still occurs in Germany, where a "collar order" is in force. Plague in its bubonic form is dependent on the infection of rats, the disease being spread from rat to rat, and from rat to man, by the bites of rat-fleas; fortunately the rat-fleas do not often bite man. Sleeping sickness, the scourge of equatorial Africa, threatens to prevent the civilization and even the inhabitation of great tracts of territory there; it has recently been found that a large proportion of the wild game in equatorial Africa is infected with the trypanosomes of sleeping sickness, and acts as their carrier. Though apparently quite healthy, the wild beasts infect the tsetse flies that feed upon them, and the tsetse flies in turn infect man. Want of space prevents more than a mention being made of the many other diseases common to animals and man—glanders, Malta fever, foot and mouth disease, the swine fevers (at least three are distinguished, and one occurs in man), cerebro-spinal meningitis, probably acute poliomyelitis, various types of acute food and milk poisoning, rat-bite fever, and other rare or exotic disorders. Professor Glynn goes on to consider a number of the infective diseases of animals that are apparently not communicable to man, and finally comes to the important matter of the present undermanning of the veterinary profession. During the five years—1907–1911—the average number of men entering the veterinary profession was but 85 per annum, as compared with an average annual entry of 140 during the preceding five years. This shortage he attributes to two main factors—want of appreciation by the public of the services that can be rendered by the veterinary surgeon, and want of proper training and facilities for his education. The Government recently appointed a Departmental Committee to inquire into the matter, realizing its importance, and its report has now been issued, with recommendations for increasing the output of veterinary surgeons and raising the standard of their training. To give an example of the low ebb to which this country is now reduced, the fact may be mentioned that there are only about 50 whole-time veterinary inspectors of our meat supply, while the United States have 775 and Germany 1,180. But it must be admitted in extenuation of these apparently alarming figures that in this country we indulge but little in the practice of eating raw meat, so that trichinae and the pathogenic bacteria of all sorts that go with meat are in greater danger of death by cooking and are less likely to live to infect the inhabitants of these islands than is the

[1] *The Study of Disease in the Domesticated Animals, its Importance to the Community, with a Plea for an Animal Hospital.* An inaugural lecture by E. Glynn, M.A., M.D.Cantab., M.R.C.P.Lond. Liverpool: University Press. 1913. (8vo, pp. 40. 1s.)

case in some other countries. Professor Glynn concludes his most interesting and instructive lecture with a strong appeal to the University of Liverpool to found a hospital for the study and treatment of disease in the domestic animals, and with an outline of the requirements and management of such an institution. His lecture places on record the vast amount of success that has already followed the work of veterinary medicine and surgery in the prevention and treatment of the diseases of animals, whether common to man or not, and it indicates the countless lines upon which similarly productive research will follow in the future. He makes out a very strong case, and we hope that his appeal will not fall upon deaf ears.

LAPAROSCOPY.

Following the discovery of the endoscope, which has revealed the secrets of the open cavities of the body, the stomach, bladder, and rectum, suggestions for the exploration of the closed cavities by similar means have been made. Jacobeus of Stockholm has laid down rules for the practice of laparoscopy and thoracoscopy; and Rénon[1] has recently described the method in some detail. Briefly, it consists in passing the cystoscope of Nitze along the hollow sheath of a large trocar into the abdominal cavity. The cystoscope used is one of small diameter, terminating in a metallic filament lamp supplied by a current of 3 volts and 0.02 ampères. The trocar sheath terminates in a small chamber provided with a metallic valve, by means of which communication between the peritoneal cavity and the air can be shut off when the sheath is empty. The instrument is sterilized before use, the cystoscope itself being kept in the vapour of formol for twenty-four hours. The technique varies according to the presence or absence of fluid in the abdominal cavity. In the former case it is comparatively simple. The abdomen having been entered under local anaesthesia the fluid is evacuated, a smaller sheath having been first introduced within the large one to keep the valve open. Air or oxygen is then introduced after sterilization by filtration through cotton wool, and the abdominal cavity is moderately distended. The inner sheath is then withdrawn, and the cystoscope introduced. When the examination has been completed the light is extinguished a minute or two before withdrawal. This having been done, the inner sheath is again passed, the valve kept open, and the air evacuated. If there is any therapeutic purpose in view, the air may be quite safely left in the abdominal cavity. When no ascites is present a modification of the technique is necessary owing to the risk of injuring the intestine. Rénon is of opinion that the method of Jacobeus in these circumstances is not free from danger, and that it is by no means easy. After an exploratory incision under local anaesthesia, he prefers the use of the ingenious instrument invented by Küss to penetrate the pleural sac in the formation of an artificial pneumothorax. The variations of abdominal pressure are noted by a water manometer. Once in the abdominal cavity air is insufflated, and the large trocar sheath with the cystoscope, is substituted for the trocar of Küss. Jacobeus has in this way successfully established the diagnosis of cirrhosis of the liver, various tumours of the abdomen, and several cases of tuberculous peritonitis. The characteristics of the various diseases were clearly demonstrated *in situ*, and every detail was visible, notably in the cases of tuberculous peritonitis. Rénon asks the question whether the use of laparoscopy would be justified in subacute and chronic appendicitis or in colitis, and suggests that this will only be so when the technique necessary in non-ascitic cases has been further perfected. When this has been done he believes there will be great scope for this method of diagnosis.

[1] *Journal des praticiens*, March 8th, 1913.

MUSEUM DEMONSTRATIONS.

The autumn course of demonstrations given in connexion with the museum of the Royal College of Surgeons of England will commence on Friday next, October 17th, at 5 o'clock, when Professor Keith will exhibit specimens illustrating various forms of defective bone growth. In this demonstration the condition described recently by Porak and Durante, under the name of *Dystrophie periostale*, will be described and exemplified by two specimens which have been added recently to the College collection. Although periostale dystrophy, in its clinical manifestations, has certain resemblances to achondroplasia, pathologically it must be regarded as a totally distinct disease. At subsequent demonstrations, which will be duly noticed in our Diary of the Week, Professor Keith will exhibit specimens showing the anatomical and pathological characters of the great bowel in cases of intestinal stasis, and a group of specimens which illustrate the anatomy of the internal ear. The series of demonstrations given by the Pathological Curator of the Museum, Mr. Shattock, will cover the collections of tumours of benign origin—including fibroma, chondroma, and myxoma—as well as the section of the museum which shows inflammatory changes in bone. Mr. J. F. Colyer, Honorary Curator of the Odontological Collection, will give two demonstrations on irregularities of the teeth. The demonstrations are free to all medical men and to students working for higher examinations in surgery.

THE CINEMATOGRAPH IN PHYSIOLOGY.

In the brief account which was given in the Journal of September 20th of the International Congress of Physiologists, held in Groningen at the beginning of September, reference was made to some cinematograph films for the analysis of movement, shown by Professor Richet for Dr. L. Bull of Paris. The films were run at such a pace that the movements thrown on the screen seemed to have been very slowly performed. In the course of a demonstration to medical practitioners and students on some recent applications of cinematography to physiology, given in the Medical School of the University of Manchester on October 3rd, Professor Stirling showed several films taken on this principle. He explained that the images were taken at the rate of 180 a second and projected in the ordinary manner, namely, at the rate of 16 a second. He also showed, in the course of his very interesting demonstration, a series of films of microscopic objects taken by the dark ground method of illumination. Among other phenomena illustrated by the films was the circulatory movements of the protoplasmic and chlorophyll granules of water plants, the growth of the protoplasm of slime fungi at the circumference, the circulation of the blood in small crustaceans, and the movements of various species of spirochaetes. Professor Stirling also demonstrated the growth of fragments of embryonic tissues removed from the living body and maintained in a culture chamber. Among the objects shown to illustrate these points were fragments taken from the spleen and from the heart of the embryo chick, and others in which cell division could actually be observed in progress.

H.R.H. Princess Louise Duchess of Argyll will open the Mothers' Hospital at Clapton, N.E., on Saturday, October 13th.

Dr. R. C. Brown, whose readiness generously to assist worthy educational causes has been so often shown, has recently presented an organ to Preston Grammar School, at which he was educated. The President of St. John's College, Oxford, who was present on the occasion, referred to the importance of music as a branch of school life and school work. The attitude of teachers and boys to it had undergone a salutary change, and in this materialistic age music was by no means the least of the arts that ought to be taught to boys.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

MEDICAL EDUCATION IN GLASGOW.

A CLINICAL research laboratory erected within the grounds of the Victoria Infirmary, Glasgow, was opened on October 2nd. It is the gift of Mr. William Robertson, shipowner, and at a meeting held immediately before the opening ceremony—which was performed by the donor—Lord Rowallan, the chairman of the governors, said that all experts agreed that a clinical laboratory was a necessary adjunct to a hospital. He believed that hospitals would find no difficulty in getting all the money they wanted if the public had more imagination; if it required imagination to sympathize with the ordinary work of a hospital—the direct relief of suffering—a still more vivid imagination was required to realize the necessity for a clinical laboratory, and the greatest credit and gratitude was due to Mr. Robertson for having come so generously to the assistance of the Victoria Infirmary in this respect. Mr. William Robertson said that his gift had its origin in a conversation with Dr. Ebenezer Duncan. In realizing the project to erect a clinical laboratory for the Victoria Infirmary Dr. Mackintosh and Dr. Grant Andrew had given invaluable assistance, and now that the laboratory was established he hoped that it would help to keep the Victoria Infirmary in the forefront of clinical knowledge, and be a power for good to the community. Dr. Donald Mackintosh, M.V.O., thanked Mr. Robertson for his benefactions to that and similar institutions, and congratulated the governors and staff of the Victoria Infirmary on the possession of a building not surpassed by any in the United Kingdom, and equipped with the best that money could purchase. He looked forward hopefully and confidently to much original work being done within the building, for the laboratories would facilitate the labours of the staff and furnish precise data enabling them not only to diagnose cases with greater ease and accuracy but to treat them with greater confidence. The under part of the laboratory building would be used by the attendant in preparing various media, and in fact would be the workshop for the laboratory. In this part of the building there also was an excellent lecture room where scientific meetings might be held. On the flat above was the laboratory proper, which he hoped would shortly have an entrance more in keeping with the building. He was led to believe that the governors had in view the extension of the main corridor which led to the upper part of the building where the scientific work would be carried on. Here there was a large clinical laboratory where quite a number of medical men might work together and have the advantage of each other's counsel, in addition to the assistance and guidance of the director. Adjoining this large clinical laboratory there was a chemical laboratory. The finest balance which could be purchased had been placed in a room specially devised to obviate vibration, and a special vaccine room and a fully equipped sterilizing room and an incubator room had also been provided. A vote of thanks to Dr. Mackintosh, Dr. Duncan, and Dr. Grant Andrew for their services in connexion with the erection and equipment of the laboratory was adopted, and Dr. Duncan made a suitable reply.

The late Mr. William Weir of Kildonan left several large bequests to institutions in Glasgow, including a bequest of £5,000 to the university, the income of which is to be applied in providing an additional assistant to the professor of materia medica in the university, Dr. R. Stockman, in addition to the assistants already provided by the University Court. The bequest was formally accepted at a meeting of the Glasgow University Court on October 2nd. The other bequests of Mr. Weir include £10,000 each to the Glasgow Royal and the Glasgow Western Infirmary, £5,000 to the Victoria Infirmary, £2,000 each to the Kilmarnock and Ayr Infirmaries, and £500 each to the Glasgow Eye Infirmary and Glasgow Ophthalmic Institution.

The governors of St. Mungo's College have appointed Dr. John Henderson, one of the visiting physicians of the Royal Infirmary, to be Professor of Medicine in the college, in succession to Dr. T. K. Monro, recently appointed to the Chair of Medicine in the university. Professor Henderson takes up his duties on October 13th.

MEDICAL INSPECTION OF SCHOOL CHILDREN IN GLASGOW.

Dr. Ernest Roberts, Chief Medical Officer of the Glasgow School Board, in his third annual report on the medical inspection of school children, states that of the total number of children examined during the school year 60 per cent. were found to be normal. In response to the request conveyed to them, 72.3 per cent. of parents attended at the medical inspection of their children. During the year 5,920 notifications of disease or defects were made to parents, and on re-examination of the abnormal children 33.4 per cent. were found to be cured and 28.6 per cent. improved. Twenty-six centres for the feeding of necessitous children were opened last session, at which 88,670 breakfasts and 419,872 dinners were supplied. The Board had appointed eight part-time dentists, three anaesthetists, three oculists, one aurist, one dermatologist, and six nurses to carry out the scheme of school clinics, and the medical staff employed in the work of examination included one male and two female full-time medical officers, fourteen part-time medical officers, and ten nurses. In the Board schools and other schools within the Board area no fewer than 45,728 pupils were examined for defective vision, of whom 26,430 were examined by the oculist, the remainder being tested by teachers.

TUBERCULOSIS TREATMENT IN EDINBURGH.

On September 30th the Public Health Committee of the Edinburgh Town Council visited the City Hospital and inspected the extra accommodation provided for the treatment of phthisis under the Insurance Act. There has been room for some years in the hospital for patients suffering from advanced phthisis, but now additional accommodation has been prepared for those affected with the earlier stages of the disease, so that they shall not come into contact with the others. The new buildings are two large open-air shelters, capable of containing sixty patients each; the shelter is in the form of an elongated shed, with an entirely open front, and possessing a series of removable screens by which it can be partially closed in bad weather. At the end of each shelter is bathroom accommodation; each has also a large dining hall and a recreation room. The Edinburgh local authority is now in the position of being able to treat all types and stages of phthisis, and Dr. Maxwell Williamson reported to the Town Council's Committee that there was room for 180 patients in the City Hospital, that there were actually 88 patients in residence under treatment, and that there were therefore still 92 vacant beds available.

DECLINING BIRTH-RATE IN EDINBURGH.

Some eight or ten years ago the medical profession pointed out the serious nature of the fall in the birth-rate in Edinburgh, but little public interest was excited thereby. During the past few years the rate has continued to fall, and the effect is now beginning to be seen in the attendance at the elementary schools. The local newspaper press is beginning to take some notice of the state of affairs. It is pointed out that, according to the School Board return, there is a decrease of 748 in the enrolments in the day schools for the session just opened as compared with last year. It is 36,960 as against 37,708, and the decrease affects 21 out of the 47 schools under the Board. Of course other causes, such as emigration, may be at work, but the falling birth-rate is a very important one. Thus, there are 57,170 houses in the city with a rental of £30 and under, and no fewer than 32,377 of these are without children of school age. It is claimed that with smaller classes the teaching will be more individualized, and possibly the hygiene of the schools will be better; but in the meantime the education-rate does not fall. It is perhaps by accident that one of the evening papers places, immediately after a note on Edinburgh's dwindling birth-rate, one on "taxation of bachelors," in which it is pointed out that "bachelors of both sexes" escape too lightly in the matter of taxes.

CAUSES OF INFANTILE DEATHS IN DUNDEE.

Further evidence that there is need for the provision of rest for expectant mothers in the later weeks of their pregnancy and in the months following confinement is

found in the report of Dr. Charles Templeman, Medical Officer of Health for Dundee. Many of the married women in that city are at work all day in the mills and factories: this means that they are unable to take things easily before their babies are born, and it means that after confinement the babies are generally left in the charge of strangers, who are often old and incompetent, whilst the mothers return to their work. Dr. Templeman says:

> It is sometimes alleged that the disadvantages and dangers to infant life which attend the absence of the mother from her home during working hours are counterbalanced by the advantages which the increased earnings of the household bring to bear on the domestic comfort and well-being. From the point of view of infant mortality this, I think, is very doubtful.

The lady health visitors found that it was very difficult to convince mothers that milk was the only safe and proper food for infants; many women insisted on giving them a little of "what was going."

Extension of the Anderson Sanatorium at Hawick.

On October 2nd, at a meeting of the Hawick Parish Council, it was decided to proceed with the extension of the Anderson Sanatorium. It was stated that there was at present a lack of accommodation to deal with the cases of tuberculosis in which there was less hope of recovery. There was need for more outside shelters. Estimates had been obtained, and about £200 would be required from the Town Council and the same sum from the Parish Council. It was intimated that the Town Council had decided to provide its share, and Mr. Winning, who made the report, asked the Parish Council to do the same, and to this the meeting agreed.

Joint Sanatorium for North-Eastern Counties.

On October 3rd the Public Health Committee of the County Council of Aberdeen adopted the scheme which had been approved by the representatives of the County Councils of Aberdeen, Kincardine, Elgin, and Nairn, for a joint sanatorium. The scheme provides for 80 beds, and an administrative block sufficient to meet future extensions up to 120 beds. Under the approved arrangements 53 beds will fall to Aberdeenshire, 14 to Elgin, 10 to Kincardine, and 3 to Nairn.

Royal (Dick) Veterinary College, Edinburgh.

At the opening of the new session of the Royal (Dick) Veterinary College, Edinburgh, it was announced that the operations for the erection of the new college buildings are progressing rapidly, and would be pushed on with all speed in order that the classes might be transferred from the old buildings at an early date. The cost of the new buildings is estimated at £65,000.

Memorial to a Tiree Doctor.

On September 29th there was formally inaugurated at Baugh, Isle of Tiree, a memorial erected to the late Dr. Alexander Buchanan (Tiree). The memorial is in the form of a shaft of red granite 10 ft. high, resting on a solid granite pediment and encircled by a rough cairn of sea-worn boulders, the whole erection being 17 ft. high. The eastern face of the pediment bears the following inscription: "In loving memory of Dr. Alexander Buchanan, born at Callander, 4th October, 1835, died at Tiree, 29th April, 1911, for 51 years the medical officer and loved and valued friend of the islanders." The monument was unveiled in presence of a large gathering from all parts of the island and elsewhere.

Practical Course on Tuberculosis in Edinburgh.

As will be seen by an advertisement appearing at page 53, a practical course of instruction on the pathology, diagnosis, and prevention of tuberculosis (especially pulmonary tuberculosis) will commence in Edinburgh on October 29th. The course, which will last seven weeks, will be conducted by Sir R. W. Philip at the Royal Victoria Hospital and Tuberculosis Dispensary and by Dr. James Miller at the Pathological Department, Surgeons' Hall, and the Pathological Laboratory of the dispensary. The fee for the course is £7 7s. As the number attending the course will be limited, early application for places should be made to the Dean of the School of Medicine of the Royal Colleges, Bristo Place, Edinburgh.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

The Dublin Hospitals and the Strikes.

The coal famine with which the Dublin hospitals were threatened owing to the present strikes in Dublin has been averted, and the various hospitals are now being supplied with coal under police escort. But a worse famine appears to be threateniag in the near future, and that is a famine in surgical dressings, and specially cotton-wool. It would seem from inquiries that have been made that the stock of cotton-wool in Dublin is only sufficient to last for about another fortnight, even with strict economy, and all the efforts made up to the present by the various medical supply agencies to obtain further quantities of cotton-wool from England have been unavailing, as it cannot be shipped to Ireland. It is said that an attempt even to bring it round to Dublin by the south of Ireland has failed. The supply of nitrous oxide is also reduced to such an extent that it will not last for more than about a fortnight. Unless the labour troubles come to a speedy termination, or some special means are adopted for the carriage of surgical dressings, a very serious condition will arise in Dublin, specially if there should be further riots, necessitating the treatment of surgical injuries in the hospitals to the extent of some seven hundred patients, as occurred in a period of less than three days about a fortnight ago.

Sanatorium for Tuberculous Joint Disease.

The objections of the residents in the neighbourhood to the erection of a sanatorium for the treatment of persons suffering from tuberculosis of the bones and joints, at Larch Hill, near Dublin, has led to the presentation of a petition signed by or on behalf of over 1,200 people living in the vicinity to the Dublin County Council and the South Dublin Rural District Council. The petitioners argue that the vicinity of the metropolis of Ireland is not a suitable place for the assembly of all these diseased persons, and that each county or province of Ireland should look after its own sick in sanatoriums or hospitals within its area. They are further of opinion that it is unwise and undesirable to place a hospital capable of containing some three or four hundred patients in a locality to which the citizens of Dublin are in the habit of resorting for fresh air and exercise. Here we think there must be exaggeration, as we do not imagine that there is any idea of founding such a large sanatorium; and anybody who knows Dublin and its neighbourhood must be surprised to hear it suggested that the place in question is a popular resort for fresh air and exercise. Finally a doubt is expressed in the petition as to where funds for the upkeep and maintenance of these numerous consumptive and other hospitals are to come from, the institutions mentioned being Crooksling and Peamount.

Local Government Board Report.

The forty-first annual report of the Irish Local Government Board furnished much interesting information. There has been a large decrease in the number of persons in receipt of Poor Law relief during the last five years; the total number at the end of last March was 24,861 fewer than at the same time in 1909, and nearly 3,000 fewer than in 1912.

Boarded-out Children.

The number of pauper children boarded out by the guardians was 2,589, in addition to 446 maintained in district and other schools. The total number left in the workhouses was 7,438, but 719 of these were in schools separate from the workhouses, which leaves a net total in the workhouses of 6,719. The number of orphans or deserted children, who alone are legally qualified for boarding out, was 1,506; of these 919 were unsuitable to be boarded out, owing to age, illness, physical or mental defects, or other causes. Therefore, the number eligible and suitable for boarding out was 647, or less than one-tenth of the total number. The guardians of eight unions did not adopt the system of boarding out; this accounted for 63 cases. In seven unions the guardians considered that the children were better treated in the workhouses than they would be if boarded out; this accounted for

another 90 children, and in nearly half the other cases the guardians complained that there was a difficulty in obtaining suitable foster parents or houses for the children. It would appear, therefore, that much more cannot be done in this direction, unless the guardians are empowered to board out all children in respect of whom they can legally assume parental control, as is the case in England.

Lunatics, Idiots, and Epileptics.

There was a decrease of 168, compared with 1912, in the number of lunatics, idiots, and epileptics in the workhouses, but there were still 2,145 in the workhouses in addition to those sick in hospital.

Causes of Death.

There has been a progressive increase in the number of deaths from cancer during the last four years; there was also an increase in the number of deaths from tuberculosis in workhouses, and this fact, taken in conjunction with the general decrease in mortality from this disease throughout the whole country, shows that these institutions are now used as places of isolation for advanced cases. The deaths of infants of under 1 year of age are still very numerous, the number for the year being 791. A woman doctor has been appointed as an assistant temporary medical inspector of workhouses, her duties being to make special inquiries as to infant mortality and nursing in the workhouses, and also to inspect children and the female wards. The staff of trained nurses has been increased to 268 in 146 homes, but there were still twelve workhouses where no trained nurse was employed; the number of pauper attendants had been further reduced during the year.

New Dietaries.

New dietaries framed in accordance with a list of rations prepared by the Local Government Board were tried experimentally in fifteen large and small workhouses in different parts of the country, and the result was highly satisfactory, the inmates being fed both better and cheaper.

Medical Service.

During the year there was an increase of 6,531 in the number of new cases attended at the patients' own homes, whereas the number of new cases attended at the dispensaries showed a decrease of 10,585. The boards of ninety-two unions have adopted scales of increased salaries for their medical officers, and in consequence the salaries of district medical officers during last year amounted to a total of £105,787, an increase of £1,591. The system of graded salaries was started in 1904, but the progress has been slow, and the Local Government Board expresses the hope that the boards of guardians which have not yet taken this subject into consideration will no longer delay in dealing with the claims of medical officers and granting them suitable increases in their salaries.

Midwifery.

There was a further increase in the number of dispensary midwives. The total is now 766, showing an increase of 210 in the last ten years, but there are still a considerable number of dispensary districts where the guardians have made no provision for supplying skilled midwifery nursing for the poor.

Vaccination.

In the previous report it was pointed out that there had been a marked diminution in the number of primary vaccinations performed by the Poor Law medical officers during the year ended March, 1912, as compared with the previous year, and this year there is a still further diminution. The decrease shown in this report in the two unions which include the city and suburbs of Dublin has been very considerable. The primary vaccinations carried out by the district medical officers of the North and South Dublin Unions in the year ended March, 1911, numbered 6,372; in the year ended March, 1912, 5,317; and during last year only 2,689. The local administration of the Vaccination Acts devolves upon the boards of guardians, and unfortunately some boards of guardians, including those of the two metropolitan unions, have adopted resolutions condemning the Compulsory Vaccination Act and refusing to prosecute defaulters. In some places the defaulters are not even asked to comply with the law. The Local Government Board is content to deplore this attitude on the part of the responsible local authorities and to warn them of the serious responsibilities in which they will become involved should an epidemic of small-pox occur in these districts. One case of small-pox was treated in a workhouse hospital during the year; it was the first since 1908.

Typhus Fever.

The number of cases of typhus fever notified was 126, but this, it is stated, does not indicate the true number of cases occurring during the year, as notification was not universal, and in the early stages of an outbreak many cases were not recognized and merely notified as fever. One doctor succumbed to the disease, contracted in the course of his duties while acting as temporary medical officer of Newcastle Dispensary District.

Notification of Tuberculosis.

The notification of tuberculosis had been adopted in forty-one sanitary districts, but even in these it was not thoroughly carried out, as shown by the fact that in both Dublin and Belfast the number of cases notified was less than the number of deaths from the disease. It is hoped that before long steps will be taken to introduce compulsory notification of tuberculosis in all the large urban districts; this is considered to be specially desirable in the county boroughs of Cork and Waterford, where the incidence of phthisis is particularly heavy. It was found that the Tuberculosis Prevention (Ireland) Act, 1908, required to be amended in order to meet the altered circumstances consequent upon the passing of the Insurance Act. A short bill was accordingly drafted, and opportunity was taken to include provisions for the compulsory notification of all cases of pulmonary tuberculosis, but as these clauses were opposed they had to be deleted, as otherwise the bill would not have been passed. This is regretted, as it left Ireland in the unfortunate position of being the only portion of the United Kingdom where compulsory notification is not in force, although the disease is more prevalent in Ireland, and, consequently, notification is more urgently required.

Milk Supply.

In one hundred and eighty-five districts veterinary surgeons have been appointed as chief inspectors to superintend the work of the ordinary inspectors in carrying out the Dairies, Cowsheds, and Milkshops (Ireland) Order of 1908, and in one hundred and two districts other inspectors have been appointed; provision for the control of the sources of the public milk supply has thus been made in two hundred and eighty-seven out of a total of three hundred and nine sanitary districts.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER.

SIR ALFRED HOPKINSON'S RETIREMENT.

THE retirement of Sir Alfred Hopkinson from the position of Vice-Chancellor of the Manchester University is now an accomplished fact, and the esteem with which he is regarded was never more plainly demonstrated than it was at a complimentary dinner given by the Convocation of the University on September 29th. Mr. C. T. Needham, M.P., Chairman of the Convocation, presided, and the company present numbered over 200. The Chancellor of the University, Lord Morley, was unfortunately unable to be present, and letters regretting absence were received from the Archbishop of York, the Bishops of Manchester and Salford, Sir A. W. Ward (Master of Peterhouse), Sir F. Forbes Adam, Sir Wm. Mather, and others. Sir Alfred was accompanied by Lady Hopkinson, and practically the whole of the teaching staff of the university was present. The toast of "The Vice-Chancellor" was proposed by the Chairman, who gave a brief sketch of the guest's career and spoke in the highest terms of his work in furthering the interests of the Manchester University. Sir Alfred Hopkinson, when he rose to reply to the toast, was greeted in a most enthusiastic manner. He reminded the audience that he had occupied the position of Vice-

Chancellor for fifteen years, and only regretted that the daily routine of the office had prevented him from fully carrying out all that he wanted to do. He specially congratulated Convocation on its excellent choice of chancellors of the university. Three elections had been made, and he said deliberately that the three men chosen were men of whom English public life had reason to be proud. For their present Chancellor they felt not only veneration but affection. He spoke feelingly of the men with whom he had been associated in the earlier days of Owens College, men like Dr. Ward, Dr. Greenwood, Professor Jevons, Dr. Christie, and many others. As for himself, the proceedings of that evening would be an encouragement to him, and he should feel so long as he was able to work that those with whom he had been associated in Manchester recognized with a kindly heart anything he had been able to do. At the close of his remarks Sir Alfred Hopkinson was again greeted with cordial cheers. He intends shortly to go to India, and there can be no doubt that wherever he may be he will take with him the affectionate regard not only of Convocation, as the Chairman assured him, but of every member of the university and of the various public bodies which, largely through his influence, have worked so cordially with the university.

Scarlet Fever in Manchester.

Several weeks ago it became evident that an unusual epidemic of scarlet fever was commencing in the Cheetham district of Manchester, and in spite of the most energetic measures taken by the public health authorities the disease has spread to other districts. At the end of the week before last there were 430 cases in the Monsall Fever Hospital, and in a single week 150 fresh cases were notified. On October 4th there were 448 cases in the hospital, and 139 cases were reported in the week. As a general rule the cases have been of a moderate or mild type, and the fact that for several years previously the attack-rate had been very low in comparison with other large towns, has tended to cause more attention to be given to the present outbreak. It is noticeable that the most congested districts of the city, such as Hulme and Ancoats, have had only few cases; by far the greatest number have occurred in Cheetham, where the population is largely composed of Jews. In this respect the figures show the greatest contrast with those for 1912, when the attack-rate in Cheetham was one of the lowest, being less than one-third of the rate in the Harpurhey and Blackley districts. By far the largest number of attacks occurred in children between the ages of 2 and 5, though the case fatality was highest under one year of age. In 1912, taking the entire city, 77 per cent. of the cases were removed to hospital, and over 89 per cent. of those occurring in the Manchester township received hospital treatment, but an uneasy feeling has been expressed that the residence in hospital is not sufficiently long. This feeling probably arises from the fact that desquamation is not always completed when the patients are discharged from hospital, and the popular impression is still that the peeling is infectious. As a matter of fact, the alleged "return" cases were not numerous in 1912, and by far the most serious fact is that there are so many "overlooked" cases, meaning by this cases which were not recognized, and so not isolated, for at least a week after the onset. In 1912 no fewer than 103 of such "overlooked" primary cases were subsequently discovered. Of these, 26 occurred in homes where there were no "susceptible contacts," a "susceptible" being taken to be a person under 15 years of age who has not had scarlet fever, and no secondary cases occurred in these homes. The remaining 77 cases gave rise to 65 secondary cases in 47 homes. The total number of "susceptibles" in these homes was 190, and of these 65, or 34.7 per cent., contracted the disease. The fact that so many cases were not discovered for at least a week after onset, makes it practically certain that a large number of cases are never discovered at all, mostly owing to the mildness of the attack and the fact that no medical practitioner is summoned. In the present epidemic it has been impossible to admit all the cases to hospital; a careful selection is made, every care being taken to admit all cases occurring in homes where there are any susceptibles, or where sufficient isolation cannot be carried out. The question of closing the schools has been considered, but with the elaborate precautions that are being taken it seems to be felt that the children are really safer in school than running about without control in the streets.

LONDON.

Treatment of Tuberculosis.

A resolution passed by the Holborn Borough Council, and endorsed by the councils of several other metropolitan boroughs, with regard to arrangements for the treatment of tuberculosis in London are under consideration by committees of the Metropolitan Asylums Board. The borough councils express the opinion that the Metropolitan Asylums Board should be made the authority providing institutions for residential treatment of tuberculous persons of all classes, and that the borough councils should be represented upon the Asylums Board, so that the councils, as the local sanitary authorities of London, may be brought into closer relationship with the hospital authority.

The committees of the Asylums Board have also under consideration a letter addressed by the Local Government Board to the London County Council stating the opinion of the Local Government Board that the County Council should be the authority for the metropolis, and that through it all other agencies should be co-ordinated. The Local Government Board suggests that a great part of the accommodation required could be provided by the Metropolitan Asylums Board under agreement with the Council as regards insured persons under Section 39 of the Insurance Act, and as regards other persons under Section 3 of the Public Health (Prevention and Treatment of Disease) Act, 1913, and Section 80 of the Public Health (London) Act, 1891.

India.

[FROM OUR SPECIAL CORRESPONDENTS.]

Indian Women Medical Students.

The Principal of the Agra Medical School states in his annual report that 65 male students appeared at the final qualifying examination in April, 1913, and that only 29 passed in all subjects. On the other hand, of the 20 women students who presented themselves, 13 passed in all subjects. Of the failures among the male students 27 have been referred to their studies for a further period of one year, and 9 have been recommended for removal from the school, "as in the opinion of the examining board they are never likely to pass and their retention is a waste of money to the Government. . . . A large class of failed students also interferes with the work of other students and makes the classes unmanageably large."

The Indian Ambulance and Italian Explorers.

The Indian Branch of the St. John Ambulance Association offered the Italian Himalayan exploration party, on arrival in India, a complete sanitary equipment. The expedition was already largely provided with medical equipment, but Dr. de Filippi, the leader of the expedition, was so impressed by the utility of the surgical haversacks specially fitted by the association for his use that he gladly availed himself of them, and has written to Major Blackham, C.I.E., General Secretary of the Indian Branch, thanking him for the generosity and thoughtfulness of the Indian Branch. This interesting offer on the part of the Ambulance Association marks a new step in its career. Starting as merely an educational body, it has shown its ability at the Durbar and State Entry to organize large bands of trained men and women for public service, and now it has embarked on a new field of usefulness in designing and providing ambulance equipment for exploration parties. A body which has such a wide field of utility would certainly appear to deserve more financial support than it at present receives from the State and the Indian public generally.

Lunacy in the New Province of Bihar.

The Governments of Bengal and of Bihar and Orissa have agreed that the Berhampore Asylum shall continue, till other arrangements can be made, to receive insane

persons from those districts of the new province which formerly sent their lunatics to Berhampore. The Inspector-General of Civil Hospitals, Bengal, states that it has been practically decided that a Central Lunatic Asylum for Indians shall be constructed at Ranchi on a sufficiently large scale to meet the needs of the two provinces, and that it will be worked by the Bihar and Orissa Government, Bengal paying a contribution in proportion to the number of Bengal lunatics accommodated. Designs for the asylum are now under preparation by the Bihar and Orissa Government in consultation with the engineering experts and the Inspector-General of Civil Hospitals of both provinces and the Superintendent of the Berhampore Lunatic Asylum.

NEED OF SANITARY PROGRESS.

A painful illustration of the need for pushing on sanitary work in India occurs in the annual report of Nagpur City, which is by no means one of the worst cities in India from the sanitary standpoint. The total number of births registered in the city during the calendar year 1912 was 4,445 (40.69 per mille), against 4,440 (40.0 per mille) in the previous year. The total number of deaths during the year was 6,876 (63.4 per mille), against 5,506 (50.7 per mille) in the previous year. The high death-rate was due to plague, which continued in the beginning of 1912, and also to small-pox. The mortality amongst infants under 1 year of age also rose to 1.870 from 1,412, showing a ratio of 420.6 per 1,000 births in the year.

THE INDIAN BACTERIOLOGICAL DEPARTMENT.

The Government of India has under consideration the question of strengthening the Bacteriological Department. This is a very small department, consisting of only thirteen officers, who are mainly engaged in research work. It is understood that a scheme for augmentation of the staff has been drawn up.

Correspondence.

THE WORK OF THE ASSOCIATION.

SIR,—The proposition to increase the subscription to £2 2s. will, I trust, meet with general approval. I hope, however, that the change will not be made applicable to home members only, but will be universal throughout the world. I do not quite see why such a distinction as was suggested should be drawn. The expenses of all men vary. Some are rich, some poor. Income does not depend alone on the place of residence on the earth's surface, but upon many other factors.

The question really at issue is whether the work of the Association, which one may take to be (1) the spread of knowledge, (2) the preservation of the integrity of the profession, can be carried out on the present subscription. I am disposed to think it cannot.

The younger members of the profession do not, perhaps, entirely realize the very great importance of supporting an institution which may prove in emergencies their only practical and reliable safeguard against injustice, if not absolute ruin. Without it many would be helpless and powerless, as want of money, want of time, or the peculiar constitution of their work, may forbid the invocation of the law. It was, for instance, owing chiefly to the action of the Association that the Army Medical Service attained its present honourable and useful position. There are numerous similar instances. No one can foresee the blows that fate may have in store, and the wise man is he who endeavours to protect himself. There are few forms of insurance more reliable than the British Medical Association.

It is almost needless to refer to the immense amount of information the JOURNAL contains. To any one whose duty it is to know what is being done on the most advanced lines in every branch of work, the JOURNAL is invaluable. It is hard to see what the profession would do without it, especially those members who are not in immediate touch with great centres of work. Moreover it brings the reader into personal contact with the leaders of thought. Nothing could be more inspiring to a scientific thinker than the records of the ideas of the most advanced specialists of the modern world, so fully and ably reported in recent numbers.

But it is impossible to carry out work of the great scope of the Association without money; without funds, effective organization, either for purposes of defence and advance, or for the crystallization of knowledge, is impossible. It is to be hoped, then, that members will cordially approve the increase to the subscription, which could be borne by the profession generally, and further, that those who are members will induce those who are not, but who nevertheless reap many of the advantages of the Association, to join without further delay.—I am, etc.,

September 15th. SURGEON-GENERAL.

MODERN MEDICAL TERMINOLOGY.

SIR,—I have been meeting lately several general practitioners and antiquated fossils like myself who are breathlessly panting in the rear of modern medical progress, and trying to keep abreast of its recent developments, and from all sides I hear the same complaints.

First, of the complexity and obscurity of style and want of the "clarity" which one of your correspondents so earnestly recommended in your columns some time ago; and, secondly, of the harsh and jaw-breaking words, mostly from Greek roots, extracted with difficulty, tough to chew, and impossible to digest.

May I remind your readers of a few culled from recent numbers of the JOURNAL? "Trypanosomiasis" has, I believe, something to do with tropical diseases: and fortunately we are told that "triphenylmethane" is a dye, but no clue is given to the identity of "haptophoric." "Salvarsan" modestly cloaks itself in the mantle of "dioxydiaminoarsenobenzol," alongside, I suppose, of the "orthoamidophenol" group.

Pursuing our investigations a little further, we find "parasitotropism" and "organotropism," whilst a new derivative of quinine is introduced to us under the name of "ethylhydrocupinum," which is basely outdone by the methylhydrocuprein combined with pneumococcal serum. We are relieved to find that blastomycosis can be treated by salvarsan, but the victims of piroplasmosis must be in a bad way if they have to fall back on the two colouring matters—trypallavin and tryparosin. We hear of the semi-auricular spindle derived from the original semi-auricular ring, which has apparently something to do with the bundle system of the heart. It may possibly be satisfactory to some victims of cardiac trouble to be told that Külbs divided the bundle system into three distinct portions—namely, the Aschoff-Tawara node, the bundle of His proper, and the fine ramifications of the bundle to the apex of the ventricle, but even "orthopercussion" would fail to let me find the true inwardness of these weird terms.

If it is necessary to use a nomenclature which conveys no meaning to the ordinary professional mind then we must bow to the inevitable, and we old-fashioned folk must return with a sigh of relief to the clear and classic pages of Watson and Clifford Allbutt and Paget and Latham and Chambers.—I am, etc.,

Finzean, Aboyne, Sept. 26th. R. FARQUHARSON, P.C., M.D.

AFTER OUR HOLIDAYS.

SIR,—The end of all pleasant things is tinged with sadness, and the end of our holidays is usually a little annual tragedy. And the disaster is greater if it is not. For men and women who love the crowded streets and long to get back to them, are abnormal beings; they have shed their healthy instincts. I am always suspicious of the person who exclaims, "The country is too slow for me!" There was a man who was recommended to go for a month to Tunbridge Wells, but came back to London after a stay of a day, saying, "I couldn't stop there. It's all trees!" Persons of this sort may not be sorry when their holiday ends; they have got so used to an artificial life that a natural mode of existence bores them. But they have soon or late to pay a heavy price for their perversity.

Even those of us who looked forward with zest to an escape from the smoke and whirl of the city will often feel at first disappointed with the effect of the rest. We get so used to wearing harness that we feel uncomfortable without it. This feeling, however, rapidly passes off as a rule, and something lifts from our minds as soon as we get clear from the great city and catch glimpses of the quiet villages of the green countryside, with a fresher, cleaner

air blowing across it. But it still requires a little time before we cast off the irritating and wearying habits of the town. We miss the hum of the streets and the frequent calls of the postman; and so strong has become the newspaper habit that those of us who bury ourselves in the country continue for some days to long for our morning and evening sheet of news. Yet slowly and surely the peace of the fields descends upon us, and we find ourselves content to drift instead of drive through life. The days glide away and carry us with them, and we leave all thought of time and work behind us, and our minds gradually become engaged more with the sun and moon and stars than with the transient things of the earth. This is the general effect. For you may walk up a village street and find that not one-half of the people know the day of the month, and that some are even uncertain about the day of the week.

That is the right mood for a holiday. To sit on a lawn, or hill, or cliff, and do nothing of one's own will, and let the restoring effects of nature play on us is the height of wisdom. How kindly does our mother and our nurse give us our sedative! All the fever and the fret leave us, and we gather new strength with as little effort as we draw our breath. These are among the highest and the fullest moments of our life—the moments when the best part of us comes uppermost, and we feel most grateful for our creation and our preservation.

The great mistake of many holiday makers is to go to a crowded seaside resort. They apparently believe that they can improve their health by living in a hot lodging-house, eating indifferent food, and taking no exercise, while sleeping, smoking, and often drinking a great deal more than is necessary. They would be better off in body and pocket if they kept to their work. I have been pained at times to find persons returning from their holidays with a tired body and a weary mind. The change should have been taken quietly. No good can come out of a pleasure trip spent in travelling by rail or boat at a speed of five or six hundred miles a week, while trying to see the sights of the cities and the beauties of the scenery by the way. In this respect our American cousins are greater sinners than we. Arriving at a town, they will snatch a hurried meal and rush out to do the sights in time to catch the next express. Their strained, nervous faces show what good they derive from this extraordinary way of enjoying oneself.

The holiday which does the holiday maker most good is a holiday of leisure and early hours, as well as of change of scene and new interests. And those who relish keenly a spell of country life spent in this manner always feel sad at having to leave it for another year of toil in the city. Yet we must all admit the truth of Shakespeare's remark:

> If all the year were playing holidays,
> To sport would be as tedious as to work.

We find proof of this in the lives of those who are idle and rich. Killing time becomes in the end a tedious task. What we wish for, if we are wise, is just the leisure to follow some hobby. Well, if we cultivate that hobby as best we can, life will soon have more flavour.

To live in a big city, to catch the same train, to go to the same office, sit on the same stool and do the same work, year in and year out, does take the heart out of a worker. It is the dull monotony of it that breaks down a man's nervous system and produces melancholia, irritability, and hopelessness. Many men and women come back from their fortnight's holiday with a breaking heart, knowing they must tread the same weary way in the vast human hive. Yet the hive goes on increasing in size and population. Great cities are, in my opinion, great curses; they are vices, and, like all vices, fascinating. Still they grow, and still the flight of the country folk continues—still the stir and lights and lure of higher wage draw into the destroying cities those whose lives have been simple. The remedy we do not know. Of one thing, however, we may be quite certain, and that is that the health of the individual is always damaged by a town life.

Indeed, I am inclined to think that if a high wall were built round London and the inhabitants confined therein and well fed and housed, in a few years—probably little more than twenty-five—there would not be a soul alive. We cannot even under present circumstances find more than four generations of Londoners. Life becomes more complex every day, and although we have done much to accelerate speed and diminish distance, we cannot claim that these advantages are to the increased health of the race. Those who have returned to London after a quiet summer holiday must find the noise and the atmosphere worse than before. It takes the refreshed worker some time to settle back into his groove; the harness chafes at first—sometimes it always chafes—because it does not fit. All we can do is to remember that happiness can only come to each of us in patches, and to take care of every fragment when we find it. Half of the work any human being does is distasteful, and the two qualities that will help us most are cheerfulness and courage.—I am, etc.,

October 6th. M.D.

THE ORIGIN OF LIFE.

Sir,—In the course of the recent discussion on the above subject following Dr. Bastian's paper at the International Medical Congress, an important suggestion has been made by Dr. Bothwell Thomson—due, I believe, originally to Mr. George Barlow—to the effect that the primitive germs to which life on our planet is due, came originally in the form of a corpuscular radiation—such as light is now supposed by many physicists to consist of—and that this radiation came to us from the sun. It is not, of course, supposed that these corpuscles resembled the living organisms of to-day, nor, indeed, those contemplated in Lord Kelvin's and Arrhenius's hypotheses, since the heat of the sun would have rendered their existence impossible, and, had they come to us from interstellar space, the light from the sun would have been sufficient to destroy them, so far as their potential vitality was concerned, at a distance far beyond our own from our luminary. But if, as I understand, the suggestion is that the corpuscles are electrons themselves, the theory is quite a plausible one. In an article on "Radio-activity" in the *Monthly Review*, November, 1903, I pointed out that the corpuscles from radio-active substances might possess such properties. These corpuscles are the same as those from the sun and nothing more or less than electrons. The idea was subsequently developed in my contributions to *Nature*, May 25th, 1905, and the *Fortnightly Review*, September, 1905, and more fully in my book on *The Origin of Life* (1906).

The cellular growths produced by radium are due doubtless to the emanation, which has the property of coagulating albuminoids, so that artificial cells appear to multiply as the result. Moreover, if any traces of sulphur be present the radium will cause a sulphate precipitate, and the radium, in virtue of its physical properties—unlike barium, strontium, or lead—will act on the sulphate as Sir William Ramsay has just found, converting it into argon, thereby adding to the growths.

These "mimic cells" are quite different from Buschli's, Lehmann's, or Leduc's, though they appear to have been observed by Dubois while the experiments were being made at the Cavendish Laboratory at Cambridge, and subsequently at the pathological laboratories. They are, of course, not necessarily alive, or to be identified with the living organisms of the evolutionary series; but, as M. le Dantec of Paris says, it is the opinion of the learned world that life might be sought in the radium atom, or, at any rate, that great enigma to the physicist—the positive ion or nucleus of the atom. These bodies, which I have named "radiobes," are so unstable that the light from the sun, presumably its heat, is sufficient to melt them.

It is true that radium itself is a poisonous substance like strychnine, although in very minute quantities it may act as a stimulant to living matter. Light acts in this manner.

It would be of interest to know whether Dr. Bastian has succeeded in stimulating the growth of his cultures by exposing them to radio-active radiation instead of to diffused daylight. But it must not be expected that any bodies which might arise spontaneously at the present day would be actually bacteria, but rather such as could merely be placed in the borderland between living and dead matter in the evolutionary series which has been handed down to us through countless generations and innumerable ages in the past. The most elementary forms of life in nature known to us to-day are the descendants of

an almost infinite number of ancestors, whereas those of the laboratory can be at the most but of a few.—I am, etc.,

Royal Societies Club, St. James's Street, W., Oct. 4th. JOHN BUTLER BURKE.

FIBROSITIS AND MUSCULAR RHEUMATISM.

SIR,—I have been very interested by the discussion on fibrositis and muscular rheumatism which is reported in the JOURNAL of October 4th.

My interest, I must confess, is mainly on personal grounds, as I have been through one very severe attack of muscular rheumatism eight years ago, and have had it more or less constantly with me ever since.

Dr. Luff's account of the disease is by far the most comprehensive that I have come across, in a fairly exhaustive search of the literature of the subject, and I think he has earned the gratitude of the profession for putting the case so clearly and fully before us.

The articles in most current textbooks on muscular rheumatism are so inadequate, and in many cases so inaccurate, that it is wellnigh impossible to get a clear idea of what the disease means or how to treat it.

My own case was rather interesting. After lying for about half an hour on a sunny day in May on a grassy cliff, I was seized that night with pains nearly all over my body, but especially in the abdominal and lumbar muscles. I had no rise of temperature at any time, and after three weeks' treatment in bed with salicylates, iodides, and alkalis, and most of the usual antirheumatic drugs, I was no better. I was then sent to Harrogate, and my medical adviser there, after demonstrating "nodules" to me in my lumbar muscles and abdominal recti, ordered me a course of Harrogate massage, douches, and sulphur water to drink.

At this time I was only able to walk for a very short distance on crutches, and could not lie down in bed, but had to be well propped up to ease the strain on the recti. Most movements were very painful, but especially any attempt at laughing, which seemed to tear me to pieces in the neighbourhood of the pubis. The massage was at first intensely painful, and I groaned so freely that my bath-man wanted to stop after a few minutes. However, I persevered, and my cure was rapidly accomplished. I soon got rid of the crutches, and from having the appearance of an old man of 75 I returned to my normal gait as a youth of 25. In three weeks I left Harrogate, and was able to take up my house-surgeon work again with full vigor.

The most troublesome part was at the insertion of the recti at the pubis, and it was some weeks before I could do away with all except one pillow under my head at night. Since then I have had several minor attacks, and on one occasion I had to resort to massage again, but not being within reach of Harrogate I had to train an attendant at an ordinary Turkish baths how to apply the necessary movements.

I find that sodium salicylate has no effect on me beyond making me miserable, but aspirin really does give some relief. Diet does not seem to have much effect one way or another, although I nearly always tell my patients to keep to milk foods. I find that beer is absolute poison, as is also port.

I have never had the opportunity of trying the various kinds of electrical treatment, but sea bathing I really do find to be of certain use. I may be feeling as stiff as possible after a wet spring and early summer, but with my first swim my pains go from me like magic, and I keep the bathing up as long as possible into the autumn. Even now, although the weather has thoroughly broken up, I am going in for another few dips to help me to start the winter well. I was surprised to see that none of those who took part in the discussion suggested this, and if, perchance, they have not thought of it I bring it to their notice. I confidently recommend it to all my patients, and they get great benefit from it.

I suggest that muscular rheumatism is really a perineuritis, as one finds not alone that the painful points coincide with the points of exit of nerves through the muscles and tendons, but that the "nodules" can be felt at these sites.—I am, etc.,

Brixham, South Devon, Oct. 6th. CECIL B. F. TIVY.

ON DOSES IN THE NEW "PHARMACOPOEIA."

SIR,—Very little has transpired as to the changes that will appear in the new *Pharmacopoeia*, but it is to be hoped that the present chaotic table of doses will be simplified. Sir William Osler has recently complained of the immense amount of knowledge exacted from students, and here is one way of reducing it. But this is only a single aspect of the subject. Probably every reader of this paper will be able to recall an occasion when the patient was deprived of the benefit of the most promising drug because the prescriber was not quite certain of the dose, something else not so good being substituted. This would happen chiefly at visits, though even in the consulting-room it does not do for the doctor to be seen referring to a book for the dose. But, worse even than this, it is quite certain that there have been at least a few deaths from the same cause, and many more have been prevented only by the vigilance of the chemist. The subject is specially urgent because under the Insurance Act numbers of men who have almost forgotten the art are now called upon to write prescriptions.

Two years ago, in a little book on *Treatment*, I wrote these words: "It is to be hoped that in the next *Pharmacopoeia* all galenical preparations of the same name will have the same dose," and I made the suggestion that strong preparations should have the prefix "per." I propose now to go into the matter somewhat more fully, and I hope to show that the golden maxim, "one name one dose," can be adopted without disturbance to old practitioners.

Some preparations already conform to the principle. Such are the confections, the decoctions, the mixtures, and practically the syrups, while to aquae there is only one exception. On the other hand, the sixteen liquid extracts have 6 different doses, the twenty-two infusions 3, the forty liquors 11, the fifteen spirits 4, the five succi 3, the sixty-seven tinctures 3, and the six vina 3. Is any living person capable of remembering every one of these doses in addition to those of the simple drugs? I doubt it. There is, it is true, a rough guiding principle which teaches us that the dose of a tincture is usually ½ drachm to 1 drachm, of an infusion ½ oz. to 1 oz., and so on; but when, as here, exceptions are numerous, such a rule is worse than none. It becomes, indeed, a most dangerous snare.

But if we are to adopt the suggestion of having only one dose for every preparation of the same name, it is evident that there are not enough names to go round, and we must reconcile ourselves to new ones. I propose, therefore, to retain the present name for the principal preparation and to prefix "per" to those with a smaller dose, and "sub" to those with a larger one. There would still be divergencies, but these could be reduced by standardization to a single dose for each class, the dose being increased by dilution or diminished either by evaporation or by using less of the menstruum. With such horrible words in current use as uricacidaemia and antibody, I need hardly defend my Latin. Per, however, is of course used as an intensive, and my compound words have their classical counterparts in *perturbatio* and *pernegatio*. Pertincture, therefore, means a strong tincture, and subtincture a weak one. The most objectionable word is perinfusum, but perfusum would mean poured through; after all, infusum has been turned from a participle into a noun, and we have an analogy to perinfusum in perfectus as a noun, and in perincertus as an adjective.

It is difficult to bring the liquid extracts into the scheme, but it can be done by omitting those of nux vomica and ipecacuanha, which are practically used only for making a tincture and a vinum. With liquors, in their present ridiculous arrangement, I must confess myself baffled, their eleven different doses ranging from ½ minim to 2 oz., while thirteen have no dose at all! Some changes, however, are certain to be made, and these must bring them into line.

My idea, therefore, in its completeness is to make the dose of every tincture ½ drachm to 1 drachm, pertincture 5 minims to 15 minims, and subtincture ½ drachm to 4 drachms; every infusion ½ oz. to 1 oz., perinfusion 2 drachms to 4 drachms, subinfusion 1 to 2 oz.; every spirit 20 to 40 minims, perspirit 5 minims to 20 minims, subspirit 1 drachm to 2 drachms; every succus 1 drachm to 2 drachms, persuccus 5 minims to 15 minims; every

liquid extract ½ drachm to 2 drachms, perextract 5 minims to 15 minims, subextract 2 drachms to 4 drachms; every vinum 1 drachm to 4 drachms, pervinum 10 minims to 30 minims, and subvinum ½ oz. to 1 oz.

Of course objections will be raised, and I will consider some in advance. There would be absolutely no danger in the change, because no preparation would be stronger than that of the same name in the present *British Pharmacopœia*, while with drugs like ipecacuanha, to which two doses are accorded, there would be no more and no less difficulty than at present. Old practitioners, therefore, could mix up the old and the new titles with impunity.

The one thing with which the maxim, "one name one dose," would clash is the table of strengths. Now, a knowledge of the strength of a tincture or solution may or may not be of use to the pharmacist, but to the prescriber it is only of value as an indirect guide to the proper dose, and the system here advocated makes it so easy to remember doses that an indirect guide is superfluous. I may add that I have examined the pharmacopœias of France, Germany, Austria, the United States, and Japan (Latin edition), but in all these is the same want of system as in our own. Let us give them a lead!—I am, etc.,

London, S.W., Oct. 4th. RALPH W. LEFTWICH, M.D.

TURBINECTOMY.

SIR,—It is difficult to understand why Sir Robert Woods condemned this simple operation in such sweeping terms (reported in your issue of September 20th), and I am glad that Dr. William Wilson has drawn attention to his remarks. Many years ago I thought, as Sir Robert Woods does still, that a dry nose and throat were the inevitable sequelæ of all turbinectomies, but experience has proved to me that the textbooks are wrong in their statements on this point. When the inferior turbinates are large and thickened with chronic inflammation and cause obstruction to nasal respiration I am convinced that a removal of a portion of the thickened turbinate is not only a justifiable operation, but one which gives excellent results, and all the patients who have undergone it express themselves as very grateful for the relief which they obtain after this simple and painless operation. Only those who have suffered from enlarged turbinals realize the discomfort which they cause, and I have cured many headaches of years' standing by removing one or both inferior turbinates. The risk is practically *nil* and the pain very slight. I have only had 3 cases of troublesome haemorrhage in 147 cases: those were all young females, and in them intranasal plugging was necessary for twenty-four hours. I never use a spokeshave, as I consider it an unscientific instrument. I make a preliminary cut with a special pair of scissors and finish with a cold wire snare. It is important, as I pointed out ten years ago, not to mix adrenalin chloride with the cocaine solution, as it occasionally leads to smart haemorrhage about one and a half to two hours after the operation.

In some cases of deflected septum I prefer turbinectomy to a submucous resection of the septum: this will no doubt sound like rank heresy to many rhinologists, but the results have justified my method of procedure.—I am, etc.,

Lincoln, Oct. 6th. STANLEY GREEN.

SIR,—As to the merits or demerits of this operation, there seems to be a growing opinion condemning its general application. The turbinal mucosa, playing as it does such an important part in the nasal respiratory functions, ought to be at all times, as far as possible, respected. An adequate breathing channel can usually be obtained by submucous resection of the bony portion of the turbinated bodies. Mutilation of physiological tissue is thus spared, and such sequelæ as pharyngitis sicca and rhinitis sicca are avoided. This method of reducing the turbinated bodies requires special skill and practice, but fully repays the trouble involved. No doubt many partial turbinectomies are done where the septum (which in all cases should receive the first attention) is the offending member. Turbinectomy, partial or complete, might with advantage be abandoned, save, of course, as a preliminary step in sinus intervention, in exceptionally narrow noses where no other means are available, and perhaps in very obdurate cases of paroxysmal rhinitis.—I am, etc.,

London, W., Oct. 4th. H. CLAYTON FOX, F.R.C.S.Irel.

SIR,—I think Dr. Wilson has misunderstood me. Against what he calls a "carefully graduated turbinectomy" I feel sure I should have nothing to say, except that his terms appear contradictory. The word "turbinectomy" should be reserved for complete removal of the (inferior) turbinal, both soft parts and bone—that is, the operation for which the spokeshave was devised. It is only against this operation that I raised my voice.

Every one agrees that "an advanced condition of chronic hypertrophy" should be treated by removal of a portion of the turbinals (turbinotomy), but that is another thing, unless it is carried to excess. In the third paragraph of his letter Dr. Wilson misquotes me. I did not say that "atrophy was a necessary consequence of this operation and not a complication." What I did say was that pharyngitis sicca often occurs after removal of the turbinals; and by removal I meant complete removal, or turbinectomy. My remarks about instruments had reference to the only instrument adapted to that purpose—namely, the spokeshave.

Though I do not think my words were ambiguous, I might, perhaps, have been more explicit had the time for my paper not been limited to fifteen minutes by the clock.

With Dr. Wilson's remarks about the rudimentary state of our knowledge of the physiology of the turbinals I quite agree.—I am, etc.,

Dublin, Oct. 7th. ROBERT H. WOODS.

CURE BY LAUGHTER.

SIR,—Your note in last week's JOURNAL (p. 879) on the curative effect of laughter recalls to my mind a personal experience. When I was about 23 years of age I had a very severe attack of quinsy; swallowing was almost impossible, and breathing difficult. The surgeon in attendance was about to incise the tonsil, but while waiting for a scalpel he took up the *Ingoldsby Legends*, which happened to be lying on the table. He proceeded to read the diverting history of "The Lady Rohesia," and how she was cured of her quinsy. In spite of the miserable condition in which I was, the story caused me to laugh, and this led to the bursting of the abscess, and to my cure without the use of cold steel.—I am, etc.,

London, W., Oct. 6th. F. DE HAVILLAND HALL.

VOICE AND SPEECH TRAINING.

SIR,—The BRITISH MEDICAL JOURNAL of August 30th, 1913, contains on p. 558 the report of Subcommittee No. 1 of the Voice Training Conference of the University of London on "normal healthy breathing in relation to speech." On my return from abroad my attention has been drawn to statements therein made, which in some respects are so extraordinary that they can hardly be allowed to pass as authoritative.

It will be remembered that some few years ago one of the signatories, Professor Arthur Keith, took an extremely keen interest in the mechanism of respiration, and since I was then also actively engaged in pursuing researches on respiratory phenomena, I had full opportunity of becoming personally acquainted both privately and publicly with the conclusions which at that time Dr. Keith had reached.

Portions of the report of the Subcommittee above referred to are, of course, truisms which no one is likely to controvert, but in justice to Professor Keith's previously published work, I would ask him whether the report of this Subcommittee represents his present considered opinions.—I am, etc.,

London, W., Oct. 7th. J. F. HALLS DALLY.

THE MEDICAL ASPECTS OF THE CENSUS PAPER.

SIR,—In the suggestive note on the medical aspects of the next census paper (September 27th, p. 824) members of our Association are invited to make proposals as to questions the inclusion of which in the next census

inquiries may be productive of useful information. This has for years been a hobby of mine, and I have thought much about it. The census might be made enormously more useful than it ever has been, and information might be obtained which would help in the solution of some medical problems. For instance, the decay of the teeth so enormously prevalent. Has this anything to do with locality and water supply? I have a strong impression that it has. Now, wages are much better in Lancashire, and the people are better fed than Londoners, and yet during the last fifty years, during which time I have almost yearly visited London, I have always been struck by the apparent fact that the Londoners seem to have much better teeth than the Lancashire people. In Lancashire it is quite common to meet young persons only just out of their teens with not a tooth of their own growth in their mouths. Healthy, well-developed, young people, too, not the least delicate, and coming of healthy stocks. If this is so, what is the explanation? I have a hypothesis that the reason is that the London water contains plenty of lime and the soft drinking waters of Lancashire almost none. The census, and only the census, could settle this.—I am, etc.,

Blackpool, Sept. 30th. WILLIAM HARDMAN.

Medico-Legal.

ACTION AGAINST A PANEL MEDICAL OFFICER.

IN Liverpool County Court on October 2nd his Honour Judge Roberts heard an action brought by an insured person against a medical man on the Liverpool panel. Judgement was given for the sum claimed, but, in view of a possible appeal on a point of law, proceedings were allowed to be stayed for twenty-one days.

The plaintiff's claim stated that he was an insured person under the Insurance Act and entitled to its benefits; that the defendant was a panel doctor who in January accepted the plaintiff as a patient whom he would attend: that at the end of March the plaintiff became ill and called upon the defendant for his services, and these the defendant negligently and improperly failed or declined to supply. Hence the plaintiff had to engage another medical man whose charges amounted to £2 6s., which sum the plaintiff consequently claimed from the defendant.

The defendant's reply notified that he intended to rely on the second section of the regulations issued by the Insurance Commissioners, and on Rule 1 of the rules adopted by the Liverpool Insurance Committee in February for the administration of medical benefit.

The evidence for the plaintiff as reported in the *Liverpool Post and Mercury* was to the effect that after playing football on Saturday, March 29th, he contracted a chill, and the following morning began to spit blood. A messenger who was sent to ask the defendant to attend did not find him at home, but wrote down the name and address of the patient, and left word that the case was urgent. A second messenger at 3.15 p.m. found the defendant at home, and was informed by him that the earlier summons had come too late for him to call on his morning round. On a request being made that he would now come at once because the boy's mother thought he was suffering from pleurisy, the defendant, it was alleged, replied that he was not supposed to see patients on Sunday, and if necessary would report the matter to the Insurance Committee as a vexatious case. At 6.25 p.m. a third message was delivered by two married sisters of the plaintiff, who, on asking whether the defendant intended to visit the patient, received, it was alleged, the reply, "I can't come now. . . . I want recreation just as much as any one else does. I will come as soon as it suits me." In the event the defendant did not attend at all, and about 8 p.m. the boy's condition became such that another doctor was called in and took up the case, which he found to be one of pneumonia.

On opening the case for the defence counsel submitted that the plaintiff had no right of action against the defendant. The Act provided a remedy for his grievance, and that remedy was the only one of which he could avail himself. Provision was made for every dispute by Subsection 2 of Section 67 of the Act. It was the duty of the Insurance Committee to provide insured persons with medical treatment, and in pursuance of that duty the Insurance Committee made arrangements with the doctors. Hence it was with the Insurance Committee alone that the plaintiff could deal. If there had been any default on the part of the defendant—and this counsel did not admit—then it was the Committee's default, and the plaintiff must call the Committee to answer for it. Alternatively counsel pleaded that if the foregoing view were not accepted, then the matter should be regarded as a dispute between a doctor and an insured person, and under Subsection 52 of the Regulations drawn up by the Commissioners such disputes should be dealt with by a special subcommittee appointed by the Local Insurance Committee.

In reply to this argument, Judge Roberts suggested that if the first plea were well founded it meant that an Insurance Committee was itself to act as the judge in respect of any grievance alleged against it. Counsel responded that this was not the case, because it was the Committee's duty to set up a special subcommittee to deal with such allegations. The court then further suggested that the section of the Regulations quoted by counsel was merely intended to apply to questions arising as to the conduct of a doctor when actually attending a patient, and not to cases in which a practitioner failed to attend. Was not the reference to the Insurance Committee for the purpose of discussing whether the doctor should be retained on the panel, or reprimanded, or dealt with in some disciplinary way; or, on the other hand, whether the insured person in any given case had committed some offence, such as treating the doctor vexatiously? Finally, the court decided the case must proceed.

Counsel for the defence then continued his opening statement. The defendant, who had only about 450 insured patients, made no distinction between them and his private patients; his hours for seeing them were the same and all went into the same surgery. The plaintiff's friends must have known by 6 a.m. on Sunday that he was seriously ill and ought to have given notice promptly to the defendant, who it so happened actually visited during his morning round the street in which the plaintiff lived. When he returned from his round about 3 p.m. he was late for his dinner and had to attend in his surgery from 3 p.m. to 4 p.m. He accordingly had a snack of dinner and got into his surgery about 3.10 p.m., remaining there until 4.50. At 5 p.m. he took a cup of tea, and at 5.10 a second messenger arrived. He told this messenger that he would come to the house, and then returned to finish his tea. At 5.30 p.m. just as he was about to start to see the plaintiff, the two sisters of the latter arrived and insisted that the defendant should go with them at once. He was nettled by their manner, and because he did not at once comply with their demand they said he need not come at all and that they would get another doctor. This statement the defendant took as his dismissal from the case and he considered it no further. The plaintiff's parents, counsel submitted, had acted unreasonably in not giving the defendant more prompt notice of the need of his services. In regard to the statement that the defendant had been apprised that the need was urgent, all calls were urgent from a patient's point of view, and it was a medical man's duty, if he were to get through his work at all, to discriminate what cases really justified this term.

Evidence in support of his counsel's opening address having been given by the defendant, the latter under cross-examination stated that if the boy was spitting blood at 6 o'clock in the morning the disease from which he was suffering was well established and he ought to have been summoned much earlier. He never refused to go to the case: he only refused to go at once. He did not realize that it was an immediate case: an immediate case wanted immediate attention, but he drew a distinction between an immediate case and an urgent case. In medical phraseology "urgency" did not always mean that the case should be attended immediately. At the time the two sisters called he certainly was not occupied, but he had just finished his tea, and had been very busy up to that time. He then realized that it was an urgent case, but refused to go at once because he was asked to do so in an offensive manner. This offensive manner was not his only reason. He was going to stay at home and have a rest and smoke for five or ten minutes. He had not declined to go at all, but only to go there and then. It was not true that he had threatened to bring the matter before the Commissioners if it proved to be a vexatious case. In reply to a suggestion of the court that, as he must have seen that the plaintiff's sisters were extremely anxious and alarmed, he might have said "I am coming," the defendant repeated that the reason he refused to go was the extremely offensive way in which they ordered him to do so. Doctors did not like to be ordered about.

On conclusion of the final arguments on either side, His Honour delivered judgement to the following effect: The case raised for the first time, he believed, what might prove to be a difficult question of law—namely, what were the legal relations between a person under the Insurance Act and a medical man who had accepted him as one of his panel patients? He did not agree that if a panel doctor failed to carry out his duties the only remedy open to an aggrieved panel patient was that given under certain regulations in a certain section of the Insurance Act. The regulation to which counsel had referred seemed really to be a disciplinary regulation and was intended to govern cases which arose during the course of the treatment of a patient. There was nothing in it which excluded a patient from proceeding against a doctor who in the course of his treatment had acted negligently provided that such remedy would have been open to the patient in ordinary circumstances. Once a medical man had accepted the duty of attending a patient he was bound to do so with due diligence, whether the patient was an insured person or otherwise. In the present case, as a matter of fact, the doctor did not attend the patient at all, and the question arose whether, when a doctor had wrongfully not given his services, and when thereupon the patient reasonably called in another medical man, the doctor was not liable for the expense involved. Under the Insurance Act the patient paid a contribution which entitled him to the services of a panel doctor and to freedom from the obligation of having to pay fees to an ordinary doctor. If the panel doctor who had accepted the patient wrongfully refused to attend him, could a patient himself sue the doctor directly for any expenses to which he might properly be put by calling in another doctor?

This question, the judge thought, should be answered in the affirmative. A panel patient could not get the free services of another doctor without getting a transfer, and to do this must take time, which was not available when cases requiring immediate attention were in question. In the present action there were some discrepancies in the evidence as to the hours at which messages were delivered and other matters, but when the third message was received the defendant ought to have realized that the case might turn out to be really urgent, and that he had no business to say "I will come some time." The probable explanation of his refusal to do so was not inhumanity or anything of that kind, but merely that he felt that he ought to have been sent for earlier, and was vexed at the way in which he was being pestered. His answer arose from the temper of a busy man on a busy day, and in the circumstances the plaintiff's family was justified in calling in another doctor and entitled to charge the latter's bill against the defendant.

His Honour then entered judgement for the plaintiff with costs on scale B, but on application from the defendant's counsel granted leave to appeal.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

EXAMINATION FOR APPOINTMENTS AS ACTING SURGEONS.

At the examination for the Naval Medical Service held on September 29th and October 1st and 2nd, thirteen candidates were successful, and obtained the following marks:

Name	Marks.	Medical School.
Mr. J. S. Elliot, M.B. ...	1,703	... Edinburgh University.
Mr. A. J. Tonkinson, M.B.	1,686	... London Hospital.
Mr. A. R. Sharrod, M.B.	1,643	... London Hospital.
Mr. T. J. KilBride, M.B.	1,578	... Cecilia Street Medical School, Dublin.
Mr. A. E. Panter, B.A....	1,515	... Cambridge University and King's College Hospital, London.
Mr. G. S. Harvey, M.B...	1,483	... University College, Cork.
Mr. J. P. Blockley, M.B.	1,470	... Edinburgh University.
Mr. W. H. Murray ...	1,455	... University College, Cork.
Mr. J. R. Haldane, M.B.	1,455	... Glasgow University.
Mr. G. H. Hayes, M.B....	1,435	... University College, Cork.
Mr. W. S. Birch	1,418	... King's College Hospital.
Mr. H. C. A. T. Cannon	1,380	... Royal College of Surgeons, Ireland.
Mr. H. J. Hopps, M.B....	1,338	... Edinburgh University.

The maximum number of marks obtainable is 2,4

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

The following candidates have been approved at the examination indicated:

SECOND M.B., *Part II (New Regulations)*.—A. C. Ainsley, A. B. Appleton, K. Atkin, G. A. Back, B. F. Bailey, O. A. Beaumont, P. H. Berry, W. K. Bigger, C. E. Bond, A. B. Bratton, H. C. H. Bull, B. Burnside, F. V. Cant, F. L. Cassidi, G. F. Clifton, L. P. Costobadie, H. E. Cresswell, J. S. Eloff, E. T. D. Fletcher, L. S. Gathergood, A. A. Gemmell, G. L. Grant, C. Habgood, H. W. Hales, W. F. T. Haultain, R. C. Hewitt, E. P. Hicks, W. Hillbrook, C. E. Kindersley, W. N. Leak, A. A. Lees, B. K. Liang, H. D. McCall, J. B. McFarland, H. D. McIlroy, A. S. L. Malcolm, K. Playfair, H. R. Pollock, R. T. Raine, W. F. R. Schloss, J. A. B. Snell, C. R. A. Thacker, A. W. Uloth, W. T. Warwick, T. T. B. Watson, G. W. Woodhouse, R. H. Yolland, F. H. Young.

CONJOINT BOARD IN ENGLAND.

The following candidates have been approved at the examination indicated:

SECOND COLLEGE (*Anatomy and Physiology*).—W. F. Barrett, J. Behesnilian, R. V. Bevan, A. Bishara, A. H. F. Bizarro, E. S. Bowes, I. R. R. Brogden, H. Chand, R. G. Dani, F. P. G. de Smidt, E. M. Dickson, G. B. Dowling, N. Fahmy, R. Fazan, S. M. Ghosh, E. A. Gibb, F. Y. Hassaballa, W. O. Holst, J. R. John, L. P. Johns, D. N. Kalyanvala, T. L. Kan, D. P. Karaka, T. W. Le Mesurier, N. H. S. Maelzer, F. K. Marriott, V. R. Mirajkar, E. C. de M. Morgan, F. M. Mosely, B. P. Mozoomdar, S. Muttiah, C. P. Nagamuttu, W. G. S. Neely, B. D. H. Philip, R. L. Portway, C. Y. Roberts, A. R. Roushdy, P. G. Russell, B. Sahai, J. E. Scanlan, R. J. Scarr, J. M. Smith, G. T. Symons, J. A. Tippet, M. B. M. Tweed, D. J. Valentine, H. C. C. Veitch, H. S. Wacher, L. P. Waghorn, A. Wilson, I. Zaki.

MIDDLESEX HOSPITAL.

The competition for entrance scholarships at the medical school resulted in the award of the University Scholarship to Mr. J. J. O. Beven, of Cambridge, and of the First, Second, and Third Ordinary Entrance Scholarships to Messrs. S. C. Shaw, O. L. C. Sibley, and G. F. W. Howorth respectively. On the nomination of the head master of Epsom College the Freer Lucas Scholarship was awarded to Mr. L. W. Hefferman.

ST. THOMAS'S HOSPITAL.

The University Entrance Scholarship has been awarded to Mr. H. Monk Gould, of Charterhouse and Clare College, Cambridge.

LONDON HOSPITAL.

The competitions for entrance scholarships at the Medical School have resulted in the following awards: The *Price Scholarship* in science (value £100) to Mr. C. S. Clarke; the *Price University Scholarship* in anatomy and physiology for candidates from Oxford or Cambridge (value £52 10s.) to Mr. J. G. Jacob, of Christ's College, Cambridge; the *Open Scholarship* in science (value £50) to Mr. G. Adler.

Obituary.

W. CARNEGIE BROWN, M.D.,

LONDON.

Dr. W. Carnegie Brown, whose death at the age of 54 took place on September 30th, 1913, received his early education at the Old Grammar School, Aberdeen. From there he proceeded to King's College in the same city, where he studied medicine, winning the gold medal for physiology. He also studied for a time at St. Thomas's Hospital. In the year 1880 he graduated M.B., C.M. Aberdeen, and proceeded to the M.D. in 1884; he took the diploma of M.R.C.P.London in 1906. After qualification he held various posts, and as medical officer of the White Star and P. and O. lines he visited many parts of the world, and was doubtless attracted to life abroad. He saw active service and did medical work with troops in Turkey and Egypt. In 1885 he started practice in Penang, where he continued to work until 1904. He was well known in the Straits Settlements, and held for a considerable period a seat in the Legislative Council. Like other medical men of his standing, he had not the opportunity now afforded of training in tropical medicine before going abroad, but he was a keen observer, and during his practice in the tropics he had made a careful study of the diseases with which he had to deal in the course of his work.

In 1904 he returned to England and started a consulting practice in London. Very shortly after this steps were taken to form the Society of Tropical Medicine and Hygiene, and Dr. Carnegie Brown was chosen to serve with Dr. Sandwith as one of the honorary secretaries of the new society. He threw himself into this work with great energy, and his good judgement and business capacity proved of great service to the society, which he continued to serve as secretary until the summer of 1912, when from failing health he was obliged to resign the post. He had won the respect and friendship of his colleagues of the society, and at his funeral on October 2nd there were present Sir Ronald Ross, past-president of the society; Dr. Sandwith, vice-president; Dr. Beddoes, and Dr. Harford, one of the present honorary secretaries. Dr. Sandwith also represented the London School of Tropical Medicine. A wreath was also sent by Sir Patrick Manson, the first president of the society. Dr. Carnegie Brown was the author of two important monographs on tropical subjects, one entitled *Sprue and its Treatment*, issued in 1908, and another, *Amœbic Dysentery, its Complications and Treatment*, issued in 1910. He leaves a widow, three sons, and three daughters.

EDWARD JAMES NIX, M.D.Brux., L.R.C.P.Ed.,

LONDON.

In the passing of Dr. Nix the profession has lost not only an able member, but a representative of the highest ideal of a general practitioner. Although his loss will be most keenly felt by his friends and patients in the west end of London, Dr. Nix's practice covered an extensive area, for such was the confidence he inspired that when patients removed to a distance his services continued to be sought.

A brilliant student at Charing Cross (where he obtained medals for surgery and midwifery as well as prizes in pathology and materia medica) Dr. Nix was to the last enthusiastically devoted to his profession, keeping himself *au courant* with modern developments in spite of hard work and scant leisure. Dr. Nix's mind was active and ever on the alert; the comprehensive character of his professional knowledge was for the most part due to a

close study of his cases, never resting until he had threshed them out, and to his constant attendance at the societies. At the Medical Society in particular he was a familiar figure, where he also held office as councillor and vice-president.

Those who had the privilege of a close and lengthened friendship with Dr. Nix, as was the case with the writer of this notice, will have noted among his characteristics a high ideal of professional integrity and courtesy, a peculiar pleasure in being of service to his colleagues, a paramount concern for the interests of his patients, untiring energy, and an ever-present spirit of genial hospitality.

Dr. Nix was physician to the All Saints Children's Hospital, Margaret Street, and to the St. Elizabeth Home for Incurables. He was formerly vice-president of the Medical Defence Union, and president of the Brussels Medical Graduates' Association.

It is sad that Dr. Nix's last illness, though short, was accompanied by acute suffering, but to die in harness is just what he would have wished.

Dr. Nix has left a widow, six daughters, and one son, on whom devolves the responsibility of carrying on the practice.

C. W. C.

DEPUTY SURGEON-GENERAL NATHANIEL NORRIS, formerly of the Army Medical Department, died at Chester on September 29th, aged 82. After taking the M.R.C.S. and L.S.A. in 1854, he entered the Army Medical Department as Assistant Surgeon on April 2nd, 1855. He became Surgeon in 1867 and Surgeon-Major in 1873, retiring from the rank of Brigade Surgeon, with an honorary step, on June 24th, 1885. His war services comprised the Yowaki expedition of 1877–8, on the North-West Frontier of India, when he received the frontier medal with a clasp; the Afghan war of 1878–80, when he gained another medal; and the Soudan war of 1884–5, when he served on the Nile as Field Medical Inspector on the lines of communication, receiving a third medal with a clasp, and the Khedive's bronze star.

His old friends will be very sorry to hear of the death of Deputy Inspector-General JOHN LYON, M.D., R.N., which occurred on September 25th at Southport. He was born at Galston, Ayrshire, in 1847. He graduated M.B., C.M.Glasg. in 1867, and M.D. in the same university in 1876. He entered the Royal Navy in 1871 and served with the naval brigade at Magdala. He was on the flagship at the siege of Alexandria, and received the Egyptian medal and the Khedive's bronze star. He was promoted to Staff Surgeon in 1883 and Fleet Surgeon in 1891. After thirty years' meritorious service, chiefly on foreign stations, he retired with the rank of Deputy Inspector-General in 1901. After that he acted for some time in Manchester as naval medical officer for recruiting. In the later years of his life he resided at Bowdon, near Manchester, and was a member of the Altrincham Division of the British Medical Association. He was a man of very genial, kindly disposition, and will be always remembered by his old friends as Jock Lyon. He leaves a widow to mourn his loss.

IN the ninth annual report of the Department of Public Health for the year ending June 30th, 1912, it is stated that Tasmania heads the countries of the whole world in possessing the greatest relative natural increase of population, or excess of births over deaths. The high natural increase of population in Tasmania has been maintained for the years 1906–1910, the excess of births over deaths per 1,000 of mean population having been 18.37; the death-rate for 1911 was only 10.109. The infantile mortality-rate for 1911 per 1,000 births registered was 74, a reduction of 28 on the rate of the previous year. The death-rate from tuberculosis was 0.87 per 1,000 in 1910 and 0.84 in 1911. There was a gratifying reduction of the incidence of typhoid fever, from 544 in 1910 to 237 in 1911 and 152 in 1912. The excellent system of medical inspection of schools introduced by Dr. Elkington has been the means of directing attention to the inadequacy of accommodation, insufficiency of lighting, and various sanitary defects, which have been, and are, gradually being remedied.

Medical News.

THE President and Council of the Royal Microscopical Society have issued invitations to a conversazione at King's College, Strand, on Wednesday next at 8 p.m.

DR. MOTT'S address before the Midland Medical Society, Birmingham, on degeneration of the neuron in the light of recent research, will be delivered on Thursday evening, November 13th.

THE annual dinner of past and present students of the National Dental Hospital will take place at the Trocadero Restaurant on Friday, November 21st. Professor Arthur S. Underwood will be in the chair.

THE annual dinner of the Continental Anglo-American Medical Society will be held in Paris on Saturday, October 18th, at 7.30, at the Majestic, when the chair will be taken by Professor Saundby of Birmingham.

WE are asked to state that copies of the catalogue of the museum of the International Congress of Medicine, London, 1913, can be obtained by application to the Honorary Secretary of the Museum Committee (Dr. H. W. Armit, Ravenhurst, Talbot Road, Wembley), for the payment of the postage, namely, 4d. a copy.

A MEETING of the Manchester Royal Infirmary Old Residents' Club will be held at the Midland Hotel, Manchester, on Saturday, October 18th, at 6.30 p.m. The meeting will be followed, at 7 p.m., by a dinner, at which Dr. George H. Pinder will preside. Any old resident who has failed to receive a notice is requested to apply to the secretaries, Royal Infirmary, Manchester.

AN address dealing with the history of laryngoscopy from the year 1860 to 1912 will be delivered by Dr. T. J. Walker, of Peterborough, Vice-President of the Laryngological Society of London, at the Central London Throat and Ear Hospital, on Friday, October 17th, at 3 p.m., on the occasion of the opening of the winter session at this institution. The annual dinner of its staff and present students will be held the same evening, Dr. Dan McKenzie in the chair.

AT the National Dental Hospital on October 3rd, Mr. Francis R. Smyth presiding, a very handsome presentation was made to Dr. Maughan, who has been anaesthetist to the hospital for five and twenty years, of a gold watch, a solid silver rose-bowl, and a substantial cheque, in recognition of his services to the hospital, Students' Society, and *Gazette*. The gift was from the Students' Society, and subscribed by the staff and past and present students. The meeting was largely attended, and the proceedings most enthusiastic throughout.

THE annual service of the Guild of St. Luke will be held in St. Paul's Cathedral on Tuesday, October 21st, at 7.30 p.m., when the preacher will be the Rev. Canon Arnott, F.R.C.S., rector of Beckenham. The offerings, after the expenses of the service have been defrayed, will be for the missionary funds of the Guild. Tickets of admission can be obtained by sending a stamped addressed envelope to the Provost, Mr. George Cowell, F.R.C.S., 24, Harrington Gardens, S.W.

THE West London Medico-Chirurgical Society commenced the work of its thirty-second annual session at a meeting on October 3rd, when the Keetley Memorial medal was presented to the retiring president, Dr. T. P. Shuter. Subsequently the new president, Dr. F. S. Palmer, delivered an address on the subject of malingering, the psychology of which he described as a complex and interesting study. Pecuniary gain, he pointed out, was not always the underlying motive; other influences, such as idleness, resentment, or a desire for sympathy or notoriety, often played a part. The essential feature of true malingering was deliberate deceit in the direction of simulating or exaggerating the symptoms of some disease, or of misstating the date or origin of their onset, with the object of gaining some desired end.

THE winter session of the London School of Tropical Medicine was opened on October 1st with sixty-two students. The new buildings which have been provided out of the fund raised by Mr. Austen Chamberlain were opened for the first time. The new laboratory has accommodation for sixty students, and the old laboratories have been subdivided among various special departments. One of the laboratories thus provided will afford accommodation for the new course in tropical sanitation and hygiene, which will commence on October 20th. Dr. B. A. Wedd, of Guy's Hospital, has been appointed bacteriologist and demonstrator. The new residential quarters have also been occupied for the first time, the number of rooms being more than doubled, and all the accommodation provided has been already taken up. Dr. F. M. Sandwith

will preside at the annual dinner at Prince's Restaurant, Piccadilly, W., on Friday, October 24th. Old students are requested to make application for dinner tickets to the secretary at the school.

A visit to the "Ideal Home" Exhibition at Olympia on the day of the press view made it apparent that matters were still at the stage which might be described as ideal rather than real. Carpenters were busy everywhere, but officials were confident that all would be in readiness for the public opening. This is a point on which exhibition officials are always confident and on which their expectations are seldom realized. It was, however, apparent that there would be much of interest to see at a later stage. In an annexe a number of rooms were being arranged in accordance with the designs of well-known ladies, and Queen Alexandra has designed a children's day and night nursery. The fees for admission to this part of the exhibition will be devoted to the funds of the Middlesex Hospital. Further attempts to solve the problem of cheap and suitable cottage accommodation for the rural labourer find illustration in structures specially erected on the ground floor. The electric house suggests a solution of the domestic servant problem. In all parts of the exhibition are schemes of room decoration, fanciful and practical, futurist and impressionist, artistic and (to some eyes) inartistic, but all full of interest. A representation of a Russian village will doubtless attract attention; it contains many beautiful exhibits of peasant workmanship.

Among the leaflets issued recently by the Board of Agriculture is one on ropy milk. It is pointed out that ropiness in milk from individual cows, or "garget" milk, is commonly due to inflammation of the udder, and is probably to be attributed to the presence of fibrin and white corpuscles forming masses of slimy material in the milk. Though ropiness in other milk is not caused by the addition of garget milk, such milk contains organisms which may lead to infection, spreading from one cow to another. Prompt attention should therefore be given to all cows yielding garget milk, and it should not be used for food. Ropiness developing in the milk of a herd, after keeping for some time, is usually due to organisms derived from water, but sometimes from dust. These organisms are of two types—those which require a large amount of oxygen and produce either an alkaline reaction in the milk or very little acid; and, secondly, those which produce much acid, and precipitate casein; these organisms grow much better without air than the other type. The chief preventive measures recommended are that pails should not be rinsed with cold water after being scalded, and should always be kept covered to exclude dust. As a dilute solution of washing soda favours the growth of the organisms it is better to use sodium hypochlorite. As the organisms may be contained in the straw or mouldy hay, the udder should not be wiped with straw, and the milkers should not touch straw after washing their hands. Wooden vessels may retain the organism, and, if used, should therefore be kept scrupulously clean.

In the Journal of July 12th, p. 91, in commenting on the report of the medical officer of health for Johannesburg for the year ending June, 1912, we expressed the opinion that there could be no very active cause of death on the Rand—at any rate, in so far as concerns the white population. This opinion was founded partly upon the fact that the death-rate corrected for age and sex distribution amounted to only 13.3, and that the rates for typhoid fever and tuberculosis were low. The *South African Mining Review*, published in Johannesburg, has taken exception to this opinion on the ground that the cost of living is so high on the Rand that few people past their working years would live there in retirement, and that in fact most persons who are in a position to draw a pension at once leave. Our contemporary also states that the compensation paid in respect of miner's phthisis is not such as to induce sufferers to remain on the Rand. It also states that Sprinkell Sanatorium lies outside the municipal area, and assumes that the deaths occurring there are not entered in the municipality's statistics. In commenting on the report of the medical officer of health we attempted to make allowances for considerations of this kind, and we are quite prepared to believe that these factors may be somewhat larger than we had supposed; at the same time the general figures leave no doubt that, as our contemporary admits, a vast improvement must have been brought about in the hygienic conditions of the town by the work of the medical officer of health and of the town engineer, who has been most persistent in his endeavour to prevent the dust nuisance by road tarring. We altogether agree with our contemporary that the good results already achieved should only serve to stimulate further efforts in both directions.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* British Medical Journal *alone unless the contrary be stated.*

Correspondents who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

Authors desiring reprints of their articles published in the British Medical Journal are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

Telegraphic Address.—The telegraphic address of the EDITOR of the British Medical Journal is *Aitiology, Westrand, London.* The telegraphic address of the British Medical Journal is *Articulate, Westrand, London.*

Telephone (National):—
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☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

CARFAX asks if there is any institution in England or Wales where a patient whose income is £100 per annum could be treated for angina vaso-motoria.

Income Tax.

W. A. J. has a small practice from which he receives £30 after deducting his professional expenses. He is preferring a claim for repayment in respect of income tax deducted from dividends, and is informed that his profits have been assessed at £180, and that he is therefore not entitled to any repayment.

*** If "W. A. J." received formal notice of the assessment and did not lodge an objection within the time limited his right of appeal has failed. On the other hand, if he can show or if it is admitted that the notice of assessment was not served upon him, he should be able to obtain an adjustment on the ground that he had no proper opportunity of expressing his objection to the assessment.

ANSWERS.

H. M. will find that *The Examination of Waters and Water Supplies*, by Dr. J. C. Thresh (London: J. and A. Churchill, 1913, price 18s. net), contains much information likely to be useful in explaining to members of a local authority the nature of the dangers arising from contamination of the water supply.

LETTERS, NOTES, ETC.

International Medical Congress.

The Honorary General Secretary of the International Congress of Medicine, London, 1913, informs us that during the Congress a box of medals was lost, and that on this account some members of Congress or ladies may have failed to obtain them. If such persons will write to the General Secretary, 40, Wimpole Street, the medals will be sent to them.

Earth Eating and Ankylostomiasis.

Dr. J. W. Lindsay (Belén, Paraguay, South America) writes: I was interested to read the letter of your correspondent on "earth eating" in the Journal of April 5th, and have looked up your remarks on the same subject in the issue of February 1st.

As reference has been made to the prevalence of this custom in various parts of tropical South America, I may be excused if I extend these references and give my experience as to what is probably in very many cases the cause of this phenomenon.

Your correspondents have referred to it variously as a "pernicious habit," "perverted appetite," "geophagy as a disease." I am surprised that no mention has been made of what is probably the true explanation of the practice, at least in very many cases and in many parts. I do not refer at all to the eating of "sulphur earth" or calcareous or other medicinal earths, but to the eating of pure dirt or mud, black or red earth, or whatever kind of earth may be under the patient's feet when he wants to indulge his craving.

During an experience of over twelve years in the centre of South America, in which my observations have extended over the Republic of Paraguay, the adjoining Brazilian province of Matto Grosso, the northern provinces of Argentina and certain parts of Bolivia, I have found earth eating to be a symptom of a very widely-spread disease. It is true that when the natives come to consult me about it they refer to it as a "vicio," a vice or perverted appetite or pica. Their "vicio" is that they eat earth; they cannot say why they eat it. They only say they must eat earth, the craving is so

intense. I put such patients under treatment for the disease, of which the craving is but a symptom, and with the disappearance of the disease the craving immediately ceases.

About eleven years ago a European colleague who had been twenty-eight years resident in Paraguay told me that he had treated some 12,000 cases of ankylostomiasis with male fern, and that after the treatment the patients never wanted to eat earth any more. I have seen and treated hundreds of cases of ankylostomiasis in natives of all the provinces mentioned above, as well as in Europeans. They were all earth-eaters. None of them had ever lived in mining districts. They were all village people, labourers on ranches or in plantations, or members of the families of planters and ranchers. They attribute the anaemia of their disease to the poisoning by the earth they ate. There is no doubt that the ankylostoma—in South America, at any rate—requires some of the ingredients of ordinary earth in order to be able to thrive in the interior of its victims, and that the ankylostoma is the cause of the majority of cases of "earth-eating" in tropical South America.

COMMODE *v.* BEDPAN.

DR. ARTHUR E. T. LONGHURST (Chandlersford) writes: Ever since the days of the great lawgivers the question of the disposal of human ordure, either in the field, the city, the house, or the sick room, has been a vexed one, and it is with the latter only that I am now concerned for the convenience and safety of the sufferer. After long field service and during thirty years' professional practice in London I have had considerable experience in the use of both bedpan and commode, and having recently recovered from pleurisy my personal experience and attention has again been drawn to the subject. There can be no doubt that the use of the bedpan is very disagreeable, often ineffective, and at times in many cases a very painful effort, causing the sufferer much needless exertion; and on such occasions he is much at the mercy of the nurse or other attendant, who, however careful, cannot always accurately judge the possibly undue pressure he or she may be giving to different parts of the body or its varied internal organs—in fact, the old proverb of the shoe and its pinching forcibly applies—whereas I am convinced that even in acute and enfeebled cases the sufferer will often alone, or aided by a patient and careful attendant, find the use of the commode far easier. But hurry or haste must not be permitted, the sufferer being allowed to raise himself or herself from the recumbent posture and gradually to sidle off the bed on to the commode placed at the bedside; and the return to the bed with the same care will also be easy. Too much stress, I think, in even acute cases, is often laid upon the fear of cold if the sufferer is allowed to get out of bed; but with due care, I do not think any such risk outbalances other advantages. Moreover, there can be no doubt that the position on the commode is the more natural one, and with it the sufferer can with less personal exertion aid Nature in her efforts for relief. I venture therefore to appeal to both doctor and nurse for a careful and unprejudiced consideration of the subject.

THE USE AND ABUSE OF HYPNOTICS.

DR. T. H. MOORHEAD (Cootehill) writes: I wish to express my entire agreement with Dr. Hardman's observation on hypnotics as well as with his criticism on current medical literature. When I take up a medical periodical I look first to see if an article on a subject that interests me has "conclusions." If it has not, I do not read the article; if it has, and any of the conclusions appear novel, I look over the article to see what arguments or facts the author advances. As for the padding Dr. Hardman refers to, I leave it severely alone, and my experience with medical friends is that frequently they ruin important matters because they have not time to separate the wheat from the—well, I won't say chaff, for it is not quite that; but life is too short to read the half of it. Dr. Hardman wonders whether the writer of the article has personal experience of the drugs he refers to. A very proper question. I recollect a junior practitioner read an article in the BRITISH MEDICAL JOURNAL on the dangers of sodium salicylate and was so scared that for years he would not give more than 5-grain doses even in acute rheumatism. Since then he has learnt to rely upon his own judgement. Talking of these bogeys, I wonder how long it will take to explode the fallacy passed on from one generation of students to another that opium preparations are dangerous to children, and that mercurials should not be given to patients with renal disease, and others of the same class. I was taught them nearly half a century ago, and still they crop up as fresh as ever.

COINCIDENCE OR TELEPATHY?

DR. B. JONES (Boscombe) writes: The communication under this heading by Dr. Phillips is certainly an instance of coincidence, scarcely more. The wonder is that instances do not oftener occur of this character. On the contrary, how often has one seen people in high spirits when some untoward event has been taking place in some member of the family. Those who infer from happenings such as this that there is some mysterious influence at work which they call telepathy or some other weird name, overlook the many times that people have a foreboding of disaster which never takes place. I remember on one occasion having a foreboding of this kind with regard to a favourite old dog of my wife's. We had had a very pleasant holiday; but as we approached home in the train I had a very distinct feeling of impending disaster. I felt certain that our old favourite had died, and I was apprehensive as to the effect it would have upon my wife, who was deeply attached to it. My first inquiry was about it, never expecting but one answer. Much to my relief and surprise I was told that it was quite well, and in a few minutes I found it in its usual health, and overjoyed at our return. It lived for years afterwards. So with dreams. There are a few startling instances on record of "coming events casting their shadows before." But is not it a greater wonder that with so millions of people dreaming every night of all sorts of things, their dreams mostly influenced by externals, whether of newspapers or books or their personal affairs, that really so few shape events as they really happen. If one could have well-authenticated cases where every detail as to time and circumstances were exactly as happened afterwards or before, if beyond one's ken, one might call it extra-physical. At present there are very few such records.

OLD COFFEES AND YOUNG TEAS.

DR. CHAS. MERCIER (Parkstone, Dorset) writes: "Old coffees, young teas" you quote (p. 819) from an anonymous authority, but the maxim was not always allowed. In 1769 Dr. Lettsom published "an inaugural dissertation intituled 'Observationes ad Vires Theae pertmentes,'" of which he published in 1772 an English translation with additions. In this he states that "neither the Chinese, nor the natives of Japan, ever use tea before it has been kept at least a year; because when fresh it is said to prove narcotic, and to disorder the senses." He gives his authorities in a footnote, which I transcribe—Kæmpfer, *Amoenit. Exot.*, p. 625. *History of Japan*, vol. ii, App. p. 10, 16. I am not in a position to refer to the originals, but Dr. Lettsom was an accurate man, and no doubt his transcription is correct. It would be interesting to know from those who have resided in China and Japan whether the practice is still followed. On the same page he says:

"The Japanese reduce the tea into a fine powder, by grinding the leaves in a handmill; they then mix them with hot water into a thin pulp, in which form it is sipped, particularly by the nobility and rich people. This is called 'koitsjœa,' that is, thick tea, to distinguish it from that made by infusion."

What do those who have been entertained in recent years by the nobility and rich people of Japan say about this?

MONUMENTS IN WINCHCOMBE CHURCH.

DR. WILLIAM MILLIGAN (Hanwell, Oxon.) writes: In the fine old parish church of Winchcombe, Gloucestershire, are two seventeenth century monuments the inscriptions on which are of interest to the members of the medical profession, and which, I think, have not previously been noticed in the JOURNAL:

> Hic jacet Elizabetha uxor amicissima Gulielmi Harvey clerici. Triduo labore defessa obstetricantis manus vix et ne vix quidem auxilio tertiam enixa sobolem.

The Rev. John Taylor, B.D., D.Lit.Lond., lately vicar of the parish, gives the English version of the most interesting part: "Worn out with three days' labour she hardly and not indeed hardly brought forth her third child with the help of the midwife's hand." The inscription on the other monument runs as follows:

> Hic etiam jacet idem Richardus, Caelebs (si quis alius) vitae integrae, notusque inter suos animi paterni.
> Obiit xix° Martii, Anno Aerae Christianae mdclxx, Aetatis lxiv.
> Honoris gratitudinisque causa hoc addidit Christophorus Merrett Nepos.

Dr. Taylor writes to me: "It is most probable that the C. Merrett who dedicated this brass to the memory of Richard, a bachelor (if ever there was one) of upright life, etc., was the famous Ch. Merrett, first custodian of Harvey's library and museum, one of the earliest Fellows of the Royal Society."

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

An Address

ON

THE INVESTIGATION OF THE HIGHER NERVOUS FUNCTIONS.

GIVEN AT THE CLOSING MEETING OF THE INTERNATIONAL CONGRESS OF PHYSIOLOGISTS AT GRONINGEN ON SEPTEMBER 5TH, 1913.

BY PROFESSOR I. PAWLOW,
ST. PETERSBURG.

(Adapted into English by C. LOVATT EVANS, D.Sc., *Institute of Physiology, University College, London.)*

THE work of Hitzig and Fritsch in the year 1870 marks an important epoch in the physiology of the central nervous system, and formed the starting point of a great number of important investigations of the functions of the cerebral hemispheres, which have proved most fruitful in their clinical applications. Why was this? To my mind it was because investigators were dealing with pure physiological facts, all of which lay within the scope of experimental investigation.

It is important that emphasis be laid on this fact, which physiologists would do well to take as a guiding principle in their further researches on the functions of the cerebral hemispheres. We are now on the fringe of such advances. Although the work which has been done concerning the so-called motor areas of the cerebral cortex must be regarded by physiologists as a very satisfactory achievement, it remains quite an isolated chapter in the physiology of the cerebral hemispheres. Work on the so-called sensory centres has only so far resulted in general indications of the nature of the problem which calls for solution, and none of us can doubt that the investigation of the chief functions of the cerebrum still presents a vast and almost untouched field for the physiologist. Sooner or later we shall find ourselves compelled to undertake the investigation and analysis of the functions of this part of the central nervous system working as an integrated structure whose total activities seem almost boundless. But up to the present, with the exception of the facts discovered by Fritsch and Hitzig, and some general information concerning the sensory centres, these activities of the brain have been grouped with the so-called psychic phenomena which form the subject-matter of sciences other than physiology. It is chiefly for this reason that the physiology of the higher parts of the central nervous system has not made that progress which might have been desired in view of its deep interest and the breadth of the various problems which it presents. For physiology to borrow knowledge from a science more exact than itself is one thing, but it is quite a different thing for physiology to take information from a subject which it must be admitted has not yet arrived at the condition of an exact science, from a subject whose followers are not yet agreed concerning the general postulates, the general tasks, and the method of investigation which it is best to follow.

The physiologist who proposes to occupy himself with the investigation of the functions of the cerebral hemispheres is therefore faced with a dilemma. Either, on the one hand, he must wait until psychology has developed into a modern exact science, with its province and its place among the other sciences exactly defined—only then could the physiologist apply the teachings of psychology with any profit to his complex undertaking. It is, in any case, difficult to see in what way the conceptions of present-day psychology could be related or brought into line with our knowledge of the material construction of the brain. Or, on the other hand, the physiologist must work out a path for himself quite independent of psychology, and must himself investigate and systematize the fundamental mechanisms of the higher nervous functions—in a word, he must remain a pure physiologist.

To my mind, there can be no question of choice in this dilemma. If we choose the first alternative we should be postponing for an indefinite time the investigation of the most interesting phenomena of the animal organism. Thus, only the second choice lies open to us, and I venture to suggest that at the present time there are real and sufficient reasons for believing that this path is the normal and rational one—that is, that its fruitfulness is assured.

We all know what a wealth of material, and what an insight into the phenomena of the central nervous system, has been rendered to physiology by the study of the primitive function which we denote as reflex action. The conception of the simple reflex has removed much of the mystery from the province of neural phenomena, and has brought many aspects of these phenomena within the scope of direct scientific investigation. These investigations have shown with what regularity the animal organism responds, by means of its central nervous system, to various events occurring in itself and in the surrounding world.

It is now time for physiologists to extend their views of reflex action, and to recognize that the nervous system, besides the primitive function of reproducing innate reflexes, possesses another prime function—namely, the formation of new reflexes. Since in machines constructed by human ingenuity we often have examples of the establishment of new relations of the various parts under certain conditions, it is difficult to deny this capability of adaptation to the central nervous system, that complex regulator of an intricate structural entity.

Although these facts and their explanation on these lines do not introduce anything essentially new in our conception of the central nervous system, yet it is highly desirable that they should be systematically investigated, and constantly kept in view in working in this field. It is a generally recognized property of living matter to adapt itself, or, as I prefer to say, to preserve a condition of equilibrium with the world around it. This is equivalent, in this particular case, to saying that new relations are established under new conditions, to the advantage of the living complex; or again, that the living thing is enabled to respond, by definite and suitable activities, to agencies to which it was formerly indifferent.

This establishment of new paths in the central nervous system as a result of the presentation of new external conditions is most clearly seen in the higher animals; their life is one long story of continual evolution and ingraining of these new connexions. Natural factors which at one time are indifferent for the animal's activities can develop in a very short time into powerful stimuli for the most important vital functions.

With the help of my various collaborators I have studied the feeding of the dog, or the introduction of acid into its mouth, together with the simultaneous application of various external stimuli. In the course of time these stimuli develop into infallible excitants of salivary secretion, and thus become indissolubly connected with the reaction of the animal to food or to the introduction of acid into the mouth. We are here undoubtedly dealing with a response, through the agency of the central nervous system, to a special condition in the outer world—it is in fact a reflex; but it is not a stereotyped reflex, it is one which has been constructed under our observation. If we take the word "reflex" as meaning not merely a response to a stimulus brought about by the intermediation of the central nervous system, but add the conception of the regularity and constancy of the phenomena, then it is only necessary to assume—and such an assumption is quite legitimate and scientific—that the newly developed reflex is no accidental occurrence, but is in accordance with fixed principles, in order to see that the word "reflex" is quite in its place when used in connexion with this phenomenon.

Is there any legitimate obstacle to the acceptance of such new self-constructed reflexes in physiological theory? It seems to me that there can be but one. By deliberate or by involuntary comparison with our own subjective world we may feel inclined, by reason of the fundamental nature and adequacy of the new reaction, to reject a deterministic view of the situation. From our own experiences we may be tempted to imagine that the establishment of such new connexions represents a highly complex process, if not, indeed, the intervention of special forces. But have we the right to do this in the case we are considering? In the lower, as in the higher, animals we have innumerable instances which render it quite clear that the new stimulus for the reflex exerts its action just as directly as did the old one. In our experiments with the new feeding reflex we often observed that when the

accompanying stimulus was a visual one the animal, after the reflex had been fully established, exerted the same grasping movements towards the stimulating visual object as towards the food itself. We have found no evidence of such hypothetical complexity in these cases, but rather the contrary. From the fact that the new reflexes can always be produced in a short time under suitable conditions, we may conclude that their production is a simple and easy matter. The inhibition of the reflexes, however, presents quite a different case, for this represents a highly complex process, and quite a number of stimuli of various kinds continually exert a powerful action on the reflex. So that the complexity of the phenomena which claim our attention does not depend on the complex nature of the newly-formed reflex itself, for this is in essence simple, but rather upon the extraordinary dependence of this reflex on events taking place in the outer world, and also in the organism itself.

We will now pass on to the consideration of the second fundamental mechanism which the higher parts of the central nervous system exhibit. A living animal responds by activity to only particular phenomena of the external world, so that it must analyse these and pick out from them certain special components. The higher an animal is in the zoological scale the greater the number of factors which the world represents for him, and therefore the functions of the animal are conditioned by a proportionally large number of factors. A very lowly creature is itself a single receptor, and also a proportionately simple one. In higher animals, with highly developed nervous systems, an important part of this system is devoted to the task of special receptors, for analysis by physical or chemical mechanisms. Highly specialized and delicate analysis is a fundamental function of the higher parts of the central nervous system. As a result of my experimental work, I propose to regard the analysors as specialized parts of the central nervous system, in each of which we must include the peripheral end-organ of the so-called sense organs, the nerve fibre belonging to it, and its termination in the cells of the cerebral hemispheres. It is better to consider the whole analysor in this way as one structure, since we do not at present know exactly what part the peripheral and central portions respectively play in the analytic process. We do know, however, that the analysis lies in very close relationship to the formation of the new reflexes. The mechanism which is responsible for the origin of the new reflexes can only bring into relation with the functional activity of the organism such physical events as are analysed for it. Conversely, there can be no doubt that any phenomenon of the outer world, however insignificant it may seem, when it has been isolated by the analysors of a given animal, can, and in fact does, become a special stimulus for this or that functional activity on the part of the animal. For this reason the investigation of the new reflexes gives us the fullest possibility for an exact study of the functions of the analysors. But the activity of the analysors in the higher animals is as incessant as is the mechanism by which new reflexes arise, and in the present insufficient state of our knowledge of these activities we can scarcely as yet see how far-reaching these functions are in the life of the animal. Probably at present we often ascribe to metaphysical processes what are really only due to fine and accurate neural analytical mechanisms. There is great need for the systematic investigation of the mode of action of the analysors; we need to be able to determine in a given animal what components its analysors are able to distinguish in the presentations of the external world; we need to know all the qualities of the stimulus, their intensities, their limits, and all their interrelations. At the same time we need to investigate the fundamental laws which are concerned with the process of analysis. Partial destruction of the peripheral or cerebral ends of the analysors can only teach us a little about their detailed activity. And the combined activity of all these various parts must eventually give us a clear insight into the total powers of analysis of sensations of which a given animal is capable.

We have now devoted twelve years of hard work to the investigation of these two fundamental mechanisms—to the investigation of the mechanism of the formation of new reflexes, and the mechanism of the analysors. It is my object now to try to give the outlines of our work as viewed from the standpoint of our most recent results; the review must of necessity be a very rapid one, and I shall only be able to refer with great brevity to those results that in my opinion are the most important.

"Conditional Reflexes."

As a preface to this short summary, I may state that I have called these reflexes of recent formation "conditional reflexes," in order to distinguish them from the ordinary reflexes, to which I have given the name "unconditional reflexes." The name "conditional" is merely used in order to denote an important property which these reflexes exhibit—namely, their very great dependence on a multitude of conditions. There are, of course, many other words which might be used in place of these, such, for example, as innate and acquired, or fixed and plastic, or permanent and transitory, and so forth. As already stated, my colleagues and I have almost exclusively used the salivary glands as the object of our studies of the conditional reflex. Our reason for this is briefly that the salivary glands are in direct communication with the outer world, having, therefore, quite simple internal relations, and that they can work alone, and do not represent parts of a complicated system, as is the case with the skeletal muscles.

We may now pass on to the consideration of some of our facts. As already mentioned, a fundamental condition for the formation of a conditional reflex is that whatever indifferent stimulus is chosen for the purpose of the reflex which it is desired to build up is given at the same time as the food or acid is introduced into the mouth. After a few such sittings it will be found that this formerly indifferent stimulus alone is now capable of calling forth a secretion of saliva. The conditional reflex has been formed; the formerly indifferent stimulus has now found a path to the requisite parts of the central nervous system. The reflex arc now has a different afferent neuron.

Conditional reflexes can be formed not merely from indifferent stimuli, but also from a stimulus which is more or less closely connected with some special centre in the brain. A good example of this is seen in the experiments with noxious stimuli, which in common terminology are called painful stimuli; the usual result of such a stimulus is that the animal does its best to defend itself against the stimulus, and to get away from it if possible, or to attack the source of the painful stimulus. But it is possible without any great trouble to modify this response by systematically accompanying each feeding of the animal (that is to say the stimulation of its feeding centres, for there are as good reasons for the existence of the feeding centres as for that of the respiratory centre) by strong electrical stimuli applied to the skin. We now find that even the strongest electrical stimuli applied to the skin give rise merely to the feeding reaction, that is, to secretion of saliva, and to no symptoms of fright or pain at all. The skin of the dog can now be subjected to cutting, pinching, or burning, and the only result we shall obtain will be the manifestation of what, judging from our own experience, we should call the symptoms of the keenest appetite; the animal follows the experimenter about, licks himself, and saliva flows in abundance. This fact has been demonstrated very frequently to large audiences, and to many of my friends privately, and the result can invariably be obtained. Its significance seems to me to be quite clear, for what other explanation is more appropriate than that the nervous impulse resulting from the stimulus, which formerly went to a particular region of the nervous system, is now directed to a different one? In this way we have been able to divert the impulse from one path to another, according to the conditions, and we cannot avoid the conclusion that this represents one of the most important functions of the highest parts of the central nervous system.

Apparently the same factors are at work when a conditional reflex is formed from any indifferent stimuli. The presence of certain special conditions (the administration simultaneously with the unconditional reflex, or with a previously established conditional reflex) causes the indifferent stimulus, which otherwise would be dispersed in the higher centres, to be directed to a particular focus, and eventually to lay down for itself a path to that part.

The question which now arises is—What conditions will determine the direction of the nervous impulse along special channels? Judging from our results it seems to

be a question of the relative functional power of the various centres or of their degree of irritability. The following case can be explained in this way. We have already shown that it is easy to train a feeding reflex with nocuous skin stimuli as the conditional stimulus. All our efforts have been in vain, however, in the special case where the stimuli have been applied to areas of skin which lie directly over bone—in other words, when we have used nocuous stimuli applied to bone. We have also been unable to make nocuous skin stimuli the conditional stimulus for the reaction of the gland to acid (0.5 per cent. HCl introduced into the mouth at the time of the stimulus), in spite of all efforts. To express the thing somewhat crudely, we may say that the centre connected with the painful stimulation of bone is physiologically stronger than the centres connected with the feeding reflex, and that in like manner the feeding reflex is prepotent as compared with the reaction of the gland to acid. For these and similar reasons we say that the stimulus is directed to the centre which is physiologically the more powerful.

There are many subsidiary conditions which play a part in the formation of conditional reflexes, and of these I wish to call special attention to the particularly advantageous conditions of experiment which obtain when the conditional stimulus slightly precedes, in point of time, the unconditional stimulus (feeding or acid) with whose help the reflex is to be built up. If we try to carry out the experiment by feeding the dog, or introducing acid into its mouth, and then even only five seconds afterwards apply the indifferent stimulus with which we wish to build up the conditional reflex, we shall be introducing a condition which will present a remarkable obstacle to the formation of the reflex. This can be explained in the same way as many other well-known inhibitions; the unconditional stimulus creates a focus in a special centre of the cerebrum, and this results in relative depression of the excitability of other centres of the brain, so that stimuli arriving at those parts are now below the threshold value, or else suffer some block to further propagation to other parts of the cerebrum. It seems that the new stimuli are only efficient and can only effect the proper connexion with other stronger and subsequent stimuli when the centres are in a more or less indifferent condition to begin with.

It is naturally of much importance that the stimuli from which the new reflex is to be worked out shall be rigidly isolated. If, in addition to the stimulus which has been chosen for the experiment in hand, another stimulus regularly obtrudes without the operator perhaps being aware of its existence, and if this extraneous stimulus happens to be absolutely or relatively of greater physiological strength than the intended one, then the reflex will be formed not from the desired stimulus at all, but from the incidental one. It has happened in many cases that at the commencement of an investigation, and sometimes throughout the work, the reflex has been dependent upon some peculiarity of the experimenter, upon some odour or movement (or even, it is thought, a change in the mode of breathing on the part of the operator), which has preceded or accompanied the feeding of the dog or the administration of the acid. It was partly on this account that in some of the experiments made by my colleagues in my old laboratory all applications of stimuli and all observations were carried out by mechanical devices from another room. In our new special laboratory we now obtain complete isolation of the animals not merely from the incidental stimuli which may proceed from the person carrying out the experiment, but also from all sudden and variable stimuli. Lack of time will not allow of the description of the other less important conditions which operate in the formation of conditional reflexes, nor of the description of the numerous types of reflex which we have studied, since we must now go on to the consideration of another important aspect of the physiology of these reflexes.

Inhibition of Conditional Reflexes.

Fully formed conditional reflexes, as already mentioned, exhibit great sensitivity to all sorts of conditions, and on this account they are subject, in circumstances of everyday life, to continual variation, and often, indeed, to complete inhibition. This sensitiveness is, however, of value, since it serves as a useful means of checking our methods in any particular experiment.

Spontaneous Inhibition.

We have devoted a great deal of attention to the inhibitory phenomena which are so often encountered, and our experimental material has led us to recognize three distinct types of inhibition. The first type is that which is seen when the animal becomes drowsy, or when it falls asleep: this is seen as a fading and final vanishing of the conditional reflex, and presents many interesting features.

External Inhibition.

The second kind of inhibition we call also "external inhibition," and it corresponds completely with the process of inhibition which has been so much studied in the spinal reflexes. This mode of inhibition is obtained as a result of the arrival at the higher centres of stimuli, either from without or from other parts of the central nervous system, which give rise to other reflexes. There are also various subtypes which can be distinguished.

Internal Inhibition.

A third highly characteristic and especially interesting form of inhibition is that which we have designated as "internal inhibition." This kind of inhibition is developed as the result of particular relations between the conditional stimulus and the unconditional stimulus, with the help of which the reflex has been prepared. Whenever the conditional stimulus, in a fully formed reflex, is occasionally (or, under certain conditions, regularly) not followed by the particular unconditional stimulus (feeding or acid), it becomes converted into an inhibition. We have investigated several types of such inhibition. Thus, if with the fully developed reflex the conditional stimulus is given alone for a few times without being followed, or, as we say, "confirmed," by the unconditional one, the type of inhibition which results is called "extinction." When in working out a new reflex the unconditional stimulus is only allowed to follow some time (from one half to three minutes) after the conditional stimulus, the intervening inhibition is called "retardation."

Conditional Inhibition.

"Conditional inhibition" is seen when the conditional stimulus is accompanied by some indifferent stimulus, and is then not followed by the unconditional stimulus: and, lastly, "differential inhibition" is seen in the fact that stimuli approaching closely to the conditional stimulus in location or quality, and which are at first effective, gradually lose their efficiency as the reflex is developed. That all these phenomena are in reality due to inhibition can be shown by the fact that under appropriate conditions the inhibition may be removed, and the reflex restored—a phenomenon which we have called "escape" of the conditional reflex (*Loshemmung*). Such an effect can be obtained by giving any stimulus of moderate strength which shall evoke an orienting reaction on the part of the animal, and also by some other stimuli. By the observation of various aspects of this phenomena we have been able to study the relation between different varieties of the same types of inhibition and also to study the differences between different types.

Latent After-effect.

In order to cover all contingencies, it is necessary to reckon with the important phenomena of latent after-effect. Many factors co-operate to influence the duration of this after-effect. We have found that it can vary from a few seconds to several days, according to the stimulus and to the special conditions of each experiment.

Propagation of Nervous Influences in the Cerebrum.

We must now return to the question of the propagation of the nervous impulses in the cerebral hemispheres. In addition to the phenomena of the focussing of an impulse in a particular direction, there are many facts which indicate that an impulse can be more or less dispersed or distributed in all directions. The following may be taken as an example in illustration of this. We have a dog which is evidently a watch dog; that is to say, he has developed the reflex of flying at a strange person—an attacking reflex—and, in addition, he is readily roused. When no person except the one who generally experiments with the dog is in the room the animal is quite quiet, and various conditional reflexes and inhibitions can be worked out with ease with him. But if any strange person

enters the room the dog commences at once to bark violently, and if this person makes threatening gestures, or especially if he strikes the dog, the aggressive reaction reaches its climax. Now if the newcomer takes the place of the experimenter, and remains alone to continue the experiment, a very interesting phenomenon is observed. In spite of the fact that the dog continues to bark angrily, the conditional reflex, contrary to all expectation, not merely does not give less effect than usual, but it gives a much *greater* one: saliva flows in great abundance, and the food is taken with hasty snatchy movements from the hand of the experimenter, the object of the aggressive reflex. Now if the new experimenter remains as still as is possible, only applying the conditional stimulus and the subsequent feeding from time to time, the dog finally ceases to bark, although he follows the person closely with the eye the whole time. Now, strangely enough, it will be found that the conditional stimulus is without any effect as judged by the salivary secretion, and the dog only takes food five to ten seconds after it is offered to him, and this is not eaten with relish. But it is only necessary for the visitor to get up and move about in order to restore the hostile demonstration once more, and with this also the heightened conditional reflex to food.

The mechanism of this reaction is, I think, somewhat as follows: The conditional reflex towards the stranger when brought to its climax by the movements of the man acting as a special stimulus, incites the food reflex also. As its intensity diminishes, the excitatory process is confined to its own special centres in the brain, so that the excitability of the food centres is now lowered. When taken in connexion with analogous experiments on the mutual effect of different feeding reflexes on each other, on the effect of heat and cold reflexes on each other, and with other observations, and also with the fact, known since 1870, that general epileptiform convulsions can be evoked by the stimulation of quite small points in the motor cortex of the cerebrum, these facts make the idea that an impulse can spread very widely in the higher centres quite incontestable. Besides the phenomenon of dispersal of the impulse, we see also the converse phenomenon, the focussing and concentration of the excitatory process as the second phase of the whole process.

The same principle can be conclusively demonstrated with the phenomenon which we have called internal inhibition. Although I have recently published an account of this case in the French language, still it will bear repetition here for the sake of rendering the present account more complete. Suppose that we arrange serially several apparatus for effecting cutaneous stimulation along the hind leg of the dog, and that these stimuli have been worked up as conditional stimuli for the feeding reaction, with the exception of the lowest one of all, which has been differentiated so as to be inactive; with such an arrangement it is easy to show that when the lowest piece of apparatus is put in action the resulting inhibition spreads to all the areas above it, and then fades away in strict sequence, to concentrate itself again at its point of origin.

Physiology of Sleep and Hypnosis.

In the course of the investigations on the conditional reflexes the question of the physiology of sleep and hypnotism has forced itself on our attention. The following unexpected facts can now be demonstrated regularly with all the dogs, although at first they were only obtained occasionally. When the conditional stimulus commences half a minute, or one or more minutes, before the unconditional one, a retardation of the effect is developed, as already mentioned; this latter gets nearer and nearer to the point when the unconditional reflex is introduced. The time which intervenes between the conditional stimulus and the response is occupied by the internal inhibitory process. But this is not all. By degrees the effect quite disappears from the period immediately preceding the unconditional reflex, and experiments show that it only persists during the time when the unconditional stimulus is acting. But finally the effect disappears also from this period, and the conditional reflex becomes quite inactive. At the same time the animal enters into a kind of cataleptic condition: inert to stimuli, the animal assumes a particular pose and thus remains rigid, finally failing into a deep sleep, from which it can only with difficulty be aroused. This curious phenomenon develops with different speeds and attains different degrees of intensity, according to certain conditions. The intensity of the conditional stimulus, the length of time which intervenes between the conditional and unconditional stimuli, and the number of repetitions of the subdued reflex, are all conditions which have an influence on the result. The animals also exhibit considerable individual differences. The phenomenon just described disappears rather quickly when the conditional stimulus is given almost simultaneously with the unconditional—that is, when it precedes it by only three to five seconds. It is difficult to avoid the conclusion that these effects are closely connected with the phenomena of sleep and hypnotism, and we shall have to return to a consideration of them presently when we deal with the experiments in which portions of the cerebral cortex have been removed. In conclusion of the part of this lecture dealing with conditional reflexes, I would remark that time is for us also a real conditional stimulus, which might be subjected to investigation with regard to differentiation, inhibition, and escape. At all events, I have the certain knowledge that by means of exact experiments on the lines here described the problem of time, which has concerned and still concerns philosophers so much, may be definitely solved.

The Functions of the Analysing Mechanisms.

Now we will briefly review the chief results which we have obtained in our experiments on the functions of the analysing mechanisms. We have attempted to investigate still further those qualities and intensities of stimulus which could be isolated by the analysors of the animal.

As we have accumulated more and more experimental material, it has become increasingly clear that the principles on which the discriminative process works are quite general. When any stimulus is used as a conditional stimulus, extensive and less specialized parts of the discriminating mechanism are at first involved, and it is only later on, after frequent repetition of the conditional reflex, that the conditional stimulus becomes more and more specialized and restricted, so as to correspond finally with a very small part of the analysor. Concerning the degree of sensitiveness and the limits of accuracy of these analysors, we are unfortunately unable to state anything, since the limits were determined in the cases investigated by the incompleteness of the apparatus at our disposal.

We have especially studied those inhibitory processes by the help of which the differentiation of the stimulus is brought about; neighbouring and similar stimuli which at the commencement are as effective as the special conditional stimulus gradually become inoperative as the reflex is worked out. This process of differential inhibition can readily be investigated in the form of inhibitory after-effects—that is, the inhibited condition which lingers in the higher parts of the nervous system after the application of the differentiated inactive stimuli. The higher the grade of the differentiation in any case the more clearly are the inhibitory after-effects seen. A new differentiation gives a more powerful inhibitory effect than one fully worked out. The more strongly the differentiation is worked out the shorter the duration of the inhibitory after-effect. If in the course of one and the same experiment the stimulus which has been rendered inactive by differentiation be repeated several times running, the after-inhibition which it produces is intensified by a sort of summation. The phenomenon of escape from inhibition can also be seen with the differentiated stimulus.

Since we have seen that the higher nervous activities can be regarded as the work of two mechanisms—that of the conditional reflex and that of the analysors—we will now see what are the effects of injury or destruction of those structures which are believed to be concerned in the carrying out of these functions. Only a few examples can be given

The experiments on conditional reflexes with skin stimuli are especially striking. Since at the commencement all conditional reflexes are generalized, it is easy to render mechanical stimuli of each of several large skin areas a conditional stimulus for the feeding reflex. If now certain parts of the frontal lobes of the brain be extirpated in such an animal, it will be found that the conditional reflex cannot now be obtained at all from a particular

and sharply delimited area of skin; in all other parts, however, it can be obtained in the normal manner. It is a fact of some importance, also, that on stimulation of the inactive skin areas one obtains a strong *inhibition* of the effect got by the stimulation of the active areas; and that, further, such stimulation of inactive areas leads very quickly to drowsiness and sleep. The conditional reflexes return again in time, but definite injury to the differentiation persists at these places; the analysis is either less accurate or else it presents certain abnormalities. The following effects are permanent, even for years, at the affected areas; the conditional reflex can only be obtained under complete synchronism of the two stimuli, conditional and unconditional; if the unconditional stimulus be removed ever so little from the conditional, the reflex rapidly vanishes and the animal becomes drowsy. At the neighbouring skin areas the conditional reflex remains quite normal. In this way the phenomenon which is seen in the normal animal, and which appears to me to have such an important connexion with the problems of sleep and hypnosis, is evidently much intensified by the operation of partial extirpation. The skin receptors seem to me to be especially well adapted for the investigation of the functions of the cerebral cortex.

Conditional reflexes can also be obtained from stimuli from the locomotor apparatus—for example, from the joints, when the latter have been differentiated from the skin stimuli. The proof that such differentiation is attained is furnished by the extirpation of parts of the frontal lobes. When one part is extirpated the reflex is obtained from the flexion of the joint, but not from the skin; if a different part be removed, we can get the skin reflex, but not the reflex from the joint.

In one case we extirpated the greater portion of the posterior part of the brain, and the dog lived for several years afterwards in complete health; in the later years it was found easily possible to obtain a conditional reflex from various intensities of illumination, yet we could not succeed in getting a reflex for individual visual objects. It was also possible to obtain conditional reflexes for sound in the same dog, and we could even get a fine differentiation of tones. Yet the auditory discrimination of this dog differed greatly from that of a normal animal. Whereas the normal dog can easily distinguish when the same tones follow each other in a different sequence, this was not attained in the present case, in spite of much trouble, and it seemed to lie outside the range of possibilities for this animal. Thus it appears that the limits of accuracy of the analysors are, to some extent at all events, determined by the cerebral apparatus, and that partial destruction of the central end of the analysors leads quite definitely to some special limitation of the activity of the analysors.

The ideal conditions for the investigation of this question would, it seems to me, be obtained in a case in which we had an animal with such numerous differentiations worked out that the slightest interference with the cerebral cortex would be at once rendered evident by a change in this system of differentiations.

Another of our experiments on ablation of part of the brain is especially interesting. In this dog the anterior half of the brain was taken away and all the reflexes which had been worked out on this animal disappeared. The animal appears to be completely helpless and to have lost all its normal relations with the outer world; it cannot take food which is placed before it, it recognizes no objects, persons, or animals, and when it attempts to walk it encounters every obstacle and gets into all kinds of difficulties. And yet even in such an animal there can be found a link with the normal complicated nervous reactions; we can train it to give that response of the salivary glands which we have called the "water reflex." In a normal dog, when water is poured into the mouth, there is usually no secretion of saliva, or at most a few drops. But, if first of all an irritating substance—for example, a little acid—be introduced into the mouth, the subsequent administration of water will provoke an abundant secretion of saliva.

Apparently the various stimuli which accompany the forcible introduction of acid into the mouth, and which also accompany the reflex secretion which follows upon this, become converted into conditional stimuli for the reaction to acid; as such they would also come into play in the administration of water. This secretion of saliva in response to water has all the characters of a conditional reflex. In the animal which I have just mentioned it is also possible to work out the conditional reflex to water in all its normal details. This result has also been confirmed in another animal in which the centre for smell had been spared, but which in other respects resembled the previous one. In this animal it was possible to train smell reflexes also. These animals, speaking psychologically, were uneducatable idiots when judged by their locomotor systems, but as judged by their salivary apparatus they were rational beings enough.

Conclusions.

As my time is so limited, I will only mention two of the conclusions which may be drawn from the experiments which have just been described. The advantage of using the salivary glands and not the skeletal muscles as indicators of the higher functions of the brain is clear enough. If we judged by the muscles, the important fact that these complicated nervous relations still remain after the extirpation of the anterior half of the brain would be concealed. These experiments deal a severe blow to the psychological classification of subjective states; a psychological explanation here would encounter insuperable obstacles and a quite incomprehensible series of phenomena.

In an animal from which the cerebral hemispheres have been completely removed it is impossible to form any conditional reflexes at all. It appears, therefore, that the cerebrum is the organ for the analysis of sensations, and for the construction of new reflexes and new connexions. It represents that part of the animal organism which is specialized for the purpose of retaining the animal always in a state of equilibrium with the outer world; in other words, it is an organ for direct and appropriate adjustment to the most varied combinations and changes in the phenomena of the surroundings; it is the organ which is above all others necessary for the unimpeded evolution of the organism.

It is perhaps not rash to think that some of the newly-formed conditional reflexes can be transmitted hereditarily and become unconditional thereby.

Finally, I can assert from my own experience that the various facts which have been described here are all of them easily and faithfully reproducible. My colleagues and I, to whom I take this opportunity of expressing my best thanks, have demonstrated these facts in the two courses of lectures on the conditional reflexes which I have given, and they have also been shown at various scientific societies and to many visitors in my laboratory.

During our many years of work we have never been able with advantage to turn to psychological conceptions for help, or to utilize explanations founded on these conceptions. I must confess that formerly, when I have found myself in difficulties, I have, perhaps in my anxiety, turned in some cases to these explanations, as to conceptions which have been long regarded as established. But in the long run I have recognized how badly they have served me. It was when I was in difficulties that I did not perceive the natural sequence of phenomena. Such help as psychology gives consists only in words; the animal has remembered, he has desired, he has thought—in other words, these were merely examples of undetermined thought. The methods for the investigation of the higher nervous functions of animals which arise from psychological conceptions, the extrication from labyrinths, the disproving of certain hypotheses, and so forth, naturally yield a scientific material; but this is merely fragmentary, and teaches us absolutely nothing of the fundamental principles of the higher neural processes, since it needs itself to be first of all analysed and explained. For an exact and continuous scientific investigation of the functions of the higher nerve centres, it is necessary that the fundamental and guiding principles be purely physiological ones. On the groundwork which I have just outlined it will be possible to work. The results in the hands of other investigators will show whether my premises are correct and whether they are sufficient.

Gentlemen, I feel that I can reckon on your sympathy with what I have described to you of my work, since it must all be accounted in general, if not in detail, immeasurably more your work than my own. I have not felt that it was necessary for me to mention the names of

those of you who have worked at the central nervous system, and especially at the complicated relations of the animal to the exterior, and who have stimulated me with observations and conclusions to undertake the detailed study of the subject which I have in hand. In these studies we have always felt to what an extent we were dependent upon the work of others, rather than upon our own initiative.

I desire to express my best thanks to our distinguished president for having given me the opportunity of speaking to such a distinguished gathering of my professional brethren on a subject to which I have devoted a good third of my scientific life: and you, gentlemen, I must also thank for your attention, which I have so long abused.

"STRUMA" AN IMPORTANT FACTOR IN DISEASE OF THE EYES.*

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THE older school of ophthalmologists recognized "struma" or "scrophula" as an important factor in many ocular affections, but when Koch showed conclusively that struma and tuberculosis were identical the term was more or less dropped and their successors ceased to employ it. The logical sequence of thought would have been—certain affections of the eye were once regarded as strumous; struma is only another name for attenuated tuberculosis, therefore these diseases are due to attenuated tuberculosis. This reasoning, however, failed to arrest the attention of ophthalmic surgeons, and consequently many of them have even now failed to appreciate the fact that attenuated tubercle plays an important rôle in many of the diseases of the eye, diseases as common and simple as phlyctenular conjunctivitis and keratitis. Dr. Koller, of New York, in a paper on recurrent tuberculous choroiditis, says that the prominent part played by tuberculosis in the causation of eye diseases was not recognized until the beginning of the present century. I would go further and say that even to-day the most recent textbooks pay little or no attention to it. Von Michel was the first to point out, many years ago, that about 50 per cent. of all diseases of the uveal tract were tuberculous in nature. His work received little notice, although Sydney Stephenson and Carpenter amply confirmed his views, mainly on clinical grounds. Dr. Windbiel, writing in *Ophthalmology* (vol. vii, 1910, which also contains Koller's paper), says that tuberculosis of the eye is a relatively frequent disease, although up to within two or three years ago it was believed that the eye was immune to the tubercle bacillus. He goes on to state that in his clinic at Amsterdam, New York, about one half of all the eye diseases were due to tuberculosis and occurred chiefly in childhood and middle life. I think this high percentage must have been associated with some peculiar local conditions. Mackay, of Edinburgh, read an interesting paper at the annual meeting of the British Medical Association in Liverpool, 1912, which showed that the activities of the *Bacillus tuberculosis* were responsible for a large number of diseases of the eye. His paper was copiously illustrated by a series of excellent lantern slides, and was founded upon a laborious and painstaking research. Many other prominent ophthalmic surgeons, both in England and abroad, are fully alive to the importance of tubercle, but others are still content to talk of diatheses and dyscrasias, and to them the word "rheumatic" is a veritable shibboleth.

Before considering the various parts of the eye and their liability to affection with tuberculosis it will be well to consider the grounds for regarding this etiology as probable or certain in any case under consideration. The most important diagnostic agent we possess is tuberculin used by subcutaneous injection. I reject Calmette's procedure at once as utterly fallacious and very dangerous. I have myself proved it to be harmful to normal eyes, but were the eye actually infected with tubercle it might quite easily lead to its total loss. It is unnecessary to go further into this question, it is one upon which all ophthalmologists, including the originators of the test, are agreed. Von Pirquet's reaction is far too delicate: it gives a positive answer in about 90 per cent. of all adults and in a high percentage of children. A negative result would be far more valuable than a positive, especially if the test were repeated and remained negative. The subcutaneous test is made by injecting old tuberculin into the subcutaneous tissues between the shoulder-blades or into the arm. The patient should be kept in bed for a few days before the test is made, and his temperature taken four-hourly. I always commence with a dose of 0.001 of a cubic centimetre of Allen and Hanburys' old tuberculin. It is uncommon to get a reaction to this first injection. After three or four days I repeat the injection, giving 0.002 c.cm. If no reaction be noted I give a third injection of 0.004 c.cm. The test is not very delicate. It is uncommon for a reaction to follow the first injection, but this sensitizes the body, and the second or the third injection should cause a reaction in a tuberculous individual. It is not essential to increase the dose. In my last case my new house-surgeon misunderstood my directions and gave three successive doses of 0.001 c.cm. Reaction followed the third dose. It has been suggested that this sensitizing action may allow a normal non-tuberculous individual to react. This is not the case: several of my patients have failed to react, even to the third injection. Reactions are far more common after the third than after the previous injections. There are three kinds of reaction: the local, the general, and the focal. The focal reaction is by far the most important in eye work. I have not paid much attention to the local reaction; it seems to me too capricious in its action. It consists of swelling and redness at the site of injection, and may be the only reaction obtained. At present I disregard it as a sign of tuberculosis. In this I may be wrong. The general reaction consists of a rise of temperature occurring at from twelve to twenty-four hours after the injection, accompanied in some cases by general malaise and headache. I take it to signify that somewhere in the body there is a tuberculous focus. The focal reaction consists of increased injection of the eye, pain, lacrymation, and sometimes in the appearance of definite choroidal tubercles of a transient nature, or of nodules in a case of scleritis. I have also noted alterations in pigmentation in cases of tuberculous choroiditis. Up to the present I have never seen any harm done to the eye by a focal reaction to old tuberculin, and in many instances reaction has heralded a rapid recovery. I regard a focal reaction as an absolute indication of the actual presence of bacilli in the eye. Here again I may be in error. Perhaps it is given by an inflammation due to a tuberculous toxaemia.

The second great indication of ocular tuberculosis is the presence of definite tuberculous deposits elsewhere in the body. The most important are enlarged glands in the neck and abdomen, and tuberculous joints and bone disease. I have never so far detected pulmonary complications or pleural disease. In fact, as Straub points out, the chronic attenuated tuberculosis which causes secondary disease, either definitely bacillary or toxaemic, has immunized the organisms to the bacillus, and so serious tuberculosis is rarely seen.

I attach great importance to a family history of phthisis and other tuberculous affections. I obtain it in the majority of my cases. Finally, the actual appearance of the eye will often lead to a correct diagnosis of tuberculosis when the observer has become accustomed to this class of case.

In this paper I am dealing with struma of the eye, attenuated tuberculosis, but it is often impossible to draw a hard and fast line between this class of case and classical florid tuberculous processes, such as, for example, a tuberculous iritis with massive tubercles in the anterior chamber.

It is often difficult or impossible to differentiate between a definite infection where the eye actually contains bacilli and a tuberculo-toxaemia, and in most cases it is unnecessary to make this distinction.

Phlyctenular Ophthalmia.

I shall now after these general remarks consider in detail some of the common diseases of the eye in which

* A paper read before the Birmingham Branch of the British Medical Association.

struma is frequently, if not always, the exciting cause. The most common is phlyctenular conjunctivitis and keratitis. A careful study of this affection will elicit the fact that it is chiefly found in children of a decidedly strumous habit. At least 70 per cent. of my cases have enlarged glands or a very strong family history of tubercle, many of them have adenoids and enlarged tonsils, and with one exception every case that I have tested with a subcutaneous injection of tuberculin has given a positive reaction. Further, I have treated 5 or 6 cases by one injection of T.R., and in each instance the phlyctenule has disappeared within a couple of days. No local treatment was adopted. Dr. Wall, of Coleshill, speaking at the last meeting of the Birmingham Medical Society, said that in every case in which he had used this method of treatment it had been immediately successful. Phlyctenulae are not examples of tuberculous infection of the eye. They have been repeatedly excised and rigorously searched for bacilli, but they have never been found. We must regard the disease as the result of a tuberculo-toxaemia. This view receives confirmation from the fact that they often appear when old tuberculin is instilled into the conjunctival sac. It seems to me that the question with regard to phlyctenulae is not whether they indicate the existence of a tuberculous lesion elsewhere in the body, but in what proportion of cases this is the case. I have been able to regard a tuberculous etiology as exceedingly probable in 70 per cent. of my cases. Professor Straub, of Amsterdam, thinks that 100 per cent. is nearer the truth. I have had one case, as I mentioned above, in which I failed to get a reaction after three injections of old tuberculin in increasing doses, and I have frequently seen them in the East associated with other infections of the conjunctiva, more especially the Koch-Weeks bacillus. At present I can only say that a child with phlyctenulae, especially recurrent phlyctenulae, is probably strumous. Straub has pointed out that these strumous children have a lower specific gravity than ordinary healthy children. Phlyctenulae are very common in hospital practice, exceedingly rare in private practice—a fact that shows that they are associated with defective hygienic conditions. These views are by no means universally accepted. Bishop Harman, in his book *The Conjunctiva in Health and Disease*, does not even discuss the question of a tuberculo-toxaemia as the usual cause, and says the word "strumous" should be dropped in this connexion. He scouted the whole idea at the Liverpool Meeting last year. The matter is of prime importance. Thousands of children annually have their sight terribly impaired by the ravages of this form of keratitis. I believe that when England gets a milk supply free from living tubercle bacilli the disease will become very uncommon.

Photophobia in Children.

This is a symptom-complex caused by an increased irritability of the mucous membrane of the nose and of the conjunctiva. It is probably due more to the chronic rhinitis than to the catarrhal conjunctivitis. This condition is first cousin to phlyctenular disease. It is practically in its typical form only found in strumous children, who mostly have thick lips and enlarged cervical glands. Associated with the rhinitis and the catarrhal conjunctivitis we generally find eczema of the upper lip and of the skin over the malar bone. Adenoids and enlarged tonsils are frequently present. When a child is treated as an out-patient the photophobia may continue for months, even though atropine is used. If the child be removed from its unhygienic home conditions, and be taken into the hospital and given spinal douches with cold water every morning, it rapidly improves. Unfortunately it often relapses as soon as it returns home. I have tested a few of these children with tuberculin, and have obtained positive reactions. I regard this form of photophobia in which there are no lesions of the cornea as pathognomonic of struma.

Scleritis.

Scleritis is one of the diseases which probably is almost always caused by the *Bacillus tuberculosis*. A few cases of diffuse scleritis and some of episcleritis are syphilitic in nature, and some are due to a gonococcal metastasis, but tuberculosis is the prime factor. This has been rendered almost certain by the researches of Török, Verhoeff, and others. Stork succeeded in producing experimental scleritis in rabbits by injecting living tubercle bacilli into the ear vein. My own results point most conclusively to the same opinion. In all cases in which I have used the tuberculin test I have obtained a general reaction; in four cases I got a focal reaction after an injection of $\frac{1}{5000}$ mg. of T.R. without any general reaction. Scleritis has been held to be due to a rheumatic diathesis, whatever this may mean, because patients with scleritis are apt to have articular rheumatism. I would suggest that the joint pains are due to a chronic arthritis caused either by actual infection with attenuated tubercle bacilli or to the toxic effect of blood chronically impregnated with the products of some distant tuberculous glands. This question of chronic articular rheumatism, not including osteo-arthritis, would seem to be a useful field of research with tuberculin. Scleritis is apt to be a serious disease. It is very chronic, and when cured recurs with aggravating persistency. Each attack leaves scars in the sclera, which may become ectatic, causing an intercalary staphyloma. The cornea is often implicated with a sclerotising keratitis which is, I believe, a tuberculous process, because I have seen it clear up considerably under the action of tuberculin. The origin of the disease is not generally in the sclera itself but in the ciliary body, where Verhoeff has demonstrated a caseating tuberculosis. Up to the present we have been impotent against the disease; there was no efficient treatment. But now tuberculin therapy gives us a potent weapon with which to combat it; but I would here sound a note of warning. Tuberculin in scleritis is a double-edged weapon, which, if not used with extreme caution, may precipitate the loss of the eye. I have on two occasions been faced with a condition of anaphylaxis. One case was a very severe one of scleritis of both eyes in an old woman. I treated her successfully with T.R. after a preliminary test with T.V., which gave a positive reaction. A severe relapse occurred a year later, and I gave her an injection of $\frac{1}{5000}$ mg. of T.R. The result was a little short of disastrous. Both eyes became intensely inflamed, and a severe and intractable irido-cyclitis commenced. After seven weeks of careful treatment she is now a little better, but I fear that the tuberculin has hastened the total loss of both eyes, which was, perhaps, inevitable from the first. I strongly advise that when scleritis has been cured temporarily by tuberculin and a relapse occurs the second course of tuberculin should begin with very small doses, say $\frac{1}{10000}$ mg., and the patient should be kept in bed until it is certain that the second course will be well tolerated. I have had a second example, but the focal reaction which followed $\frac{1}{5000}$ mg. of T.R. fortunately did no permanent harm, although it made me very anxious for the eye for some time.

Interstitial Keratitis.

In about 70 per cent. of the cases of interstitial keratitis is a manifestation of congenital syphilis, but the remainder of the cases are strumous in nature, and often yield to tuberculin treatment. The tuberculous affection is commonly confined to one sector of the cornea, and is not so liable to affect the whole cornea. It is, however, if untreated, more liable to leave behind a permanent nebula, and this is especially the case when the keratitis is contiguous to and part of a tuberculous scleritis.

Tuberculous Iritis.

I shall say nothing about florid tuberculosis of the conjunctiva, cornea, or iris, nor of miliary tuberculosis of the choroid. These conditions are caused by virulent bacilli, and are well understood. I shall at once pass on to a form of tuberculous iritis which is at present barely recognized. I am quite convinced that a certain proportion of iritides of the so-called "rheumatic" type are really due to tuberculosis. Whether there is a direct infection or a toxaemia I do not know. I may at once say that I am yearly becoming more and more sceptical of the existence of a "rheumatic" or "gouty" iritis. Most of these cases are gonorrhoeal in nature, many are caused by a distant septic focus, a septic mouth, otorrhoea, septic Fallopian tubes, boils, etc., others are caused by auto-intoxication from the alimentary tract, but a few are certainly tuberculous. My experiments with tuberculin have shown me that this is the case, and in two examples which I thought might be "rheumatic" I detected choroidal tubercles.

Cyclitis.

Cyclitis is frequently tuberculous, and I have obtained most encouraging results from tuberculin therapy.

Choroiditis.

I do not intend to say much about this subject because I recently read a paper upon tuberculous disease of the uvea to the Midland Ophthalmological Society, which was published in the *Birmingham Medical Review*, May, 1912. It is not an uncommon affection, and exists in three forms—the acute miliary form generally seen in association with tuberculous meningitis, the solitary form, and the disseminated form. The miliary form does not concern us because it is not a strumous disease—it is not attenuated tubercle, but a highly virulent form. It is, however, interesting to note that Stephenson and Marple have both stated that tubercles are present in a very large number of cases of tuberculous meningitis. Marple suggests that if only the examination be made with sufficient frequency they will be detected in every case. They may be very evanescent, appearing rapidly and disappearing within a few hours. The solitary form may advance steadily to the total loss of the eye, but I believe them to be generally benign. I have so far never seen a case which has not cleared up under tuberculin treatment, leaving a practically undamaged eye. I constantly find scars in the cornea, pigmented patches, which represent all that remains of a past tuberculous process. It is, however, a not infrequent occurrence that a fresh solitary tubercle develops close to an old quiescent one. In children obsolescent tubercle of the macula is not uncommon, and naturally their central vision is very defective. Disseminated choroiditis is more likely to be due to syphilis than to tubercle, but I believe that many cases ascribed to this disease are in reality caused by the tubercle bacillus in an attenuated form—to struma, in fact.

Lacrymal Sac.

The lacrymal sac is frequently affected with tuberculosis, especially in children, and should be extirpated at once.

TREATMENT.

We have in tuberculin a weapon which is of inestimable value in the treatment of struma or attenuated tuberculosis. The small chronic foci which originate the ocular manifestations, and the small deposits in the eye do not generally generate enough tuberculo-toxin to excite the formation of antibodies in the blood. In these cases the injection of tuberculin supplies the absent stimulus, and the circulation becomes flooded with the necessary antibodies, whatever they may be, and so the tendency to repair obtains the necessary advantage over the destructive influences at work in the small focus of disease. If, however, the local focus in the eye be but a part of a widely-spread tuberculosis, I believe that tuberculin is apt to be very harmful. The same is true when a state of anaphylaxis is present. Two cases will illustrate this point. Both were adolescents; both had florid tuberculosis of the iris, with large tuberculous masses in the anterior chamber. The first patient was a healthy lad with no other signs of tuberculous infection and a normal temperature. He failed to react to three increasing doses of old tuberculin, but reacted strongly to a small dose of bovine old tuberculin. After a year's treatment with T.R. he made a complete and absolute recovery. The second case had a similar condition in both eyes, but, in addition, had masses of palpable glands in her abdomen and a hectic temperature. After rest in bed, when the temperature curve had become normal in character, I gave her an injection of $\frac{1}{10000}$ mg. of T.R.; the result was disastrous, and hastened the inevitable total loss of both eyes. Probably—nay, almost certainly—the same thing happens when tuberculin is used in phthisis and other tuberculous affections where the actual tubercles are hidden from us, and it behoves us to be exceedingly cautious how we use such a potent agent for good or evil. If recent legislation leads to the indiscriminate use of tuberculin, the results can only be disastrous both to the patients and to tuberculin therapy.

Up to the present I have only used T.R. I begin with $\frac{1}{20000}$ mg., unless I have special reasons for extreme caution. This dose I repeat once a week, and perhaps, after eight to ten weeks, increase it to $\frac{1}{10000}$ mg. It may, in some cases, be advisable to again increase the dose to $\frac{1}{5000}$ mg., but generally I keep to the initial dose. A focal reaction obtained during a course of tuberculin treatment always does harm in eye cases, sometimes great harm. It is necessary to be very patient. Sometimes no improvement may be manifest for weeks or even months. My successful case of tuberculous iritis did not show the slightest sign of improvement for five or six months, and then he began to improve and got quite well.

In conclusion, gentlemen, the fact which I have brought to your notice, that attenuated tuberculous or strumous disease of the eyes is exceedingly common and generally amenable to treatment with tuberculin, should lead to the obvious conclusion that the eye is not likely to be the sole organ affected by attenuated tuberculosis. The presence of chronic rhinitis and of enlarged tonsils and adenoids in children should be regarded as indicating the probability of struma, and doubtless much of the chronic rheumatism so prevalent among us has a similar origin.

ON THE RIGIDITY OF CALCIFIED ARTERIES.

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(*Communicated by* PROFESSOR ADAMI.)

THE ordinary conception of calcification within the organism wherever it occurs is that it is of a stone-like rigid character, and this whether it occurs in a calcified fibroid of the uterus, a calcified obsolescent tubercle in the apex of a lung, or a calcareous plaque in an artery. A familiar expression is "the pipe-stem radial." Here it is true the calcareous deposit is not in the intima, but in the media, but in support of this view our museums show beautiful pipe-stem arteries, with dense white rings of calcification.

But is this view correct or constantly correct? Are there not data which are difficult to reconcile with such a view? Were the radial artery as rigid during life as we find it sometimes after death, why is it capable of expansion with each heart beat, as is indicated by the pulse tracing; why is it compressible by the finger; or why is it not shattered by the fingers of the numerous students during the clinic or ward round? And in the case of the aorta, if the saucer-like calcareous plates and scales which we find after death exist as such during life, why do we not have formed upon them, much more frequently, parietal thrombi, which, becoming free, cause emboli and gangrene? Why, again, do surgeons experience so little difficulty in ligaturing the arteries in a case of senile gangrene, although on examining the amputated limb later the proximal ends of the severed arteries are rigid and brittle?

As a matter of fact I would lay down as a general rule that arteries are not of a stony rigidity during life. (I shall later on give exceptions to this rule.) During life the calcareous matter in the arterial wall is not present in the form of rigid plates. It is there, but in the state that may be compared with unset mortar.

Let me place before you the following observations:

CASE 1.—C. D., aged 72, was a patient in Dr. Finley's service at the Montreal General Hospital. He had a blood pressure of from 180 to 205 mm. of mercury. The radial arteries were tortuous and could be rolled under the finger. He died somewhat suddenly, and permission for autopsy was obtained immediately. The radial arteries were dissected out within one hour of the patient's death. On removal they were no doubt more resistant than the normal, but they could be compressed and could be bent and curved like a moderately stiff rubber tube. About ten minutes after removal, however, the removed lengths of the vessel were found absolutely rigid, possessing "pipe-stem" characters. They crackled on compression and broke on being bent.

CASE 2.—Was one of senile gangrene of the foot in the service of Dr. Armstrong at the Royal Victoria Hospital, Montreal. Dr. Armstrong amputated at the upper portion of the popliteal space. The artery was much sclerosed, but on being severed bled freely, and was ligatured without difficulty.

The distal portion of the artery from Case 2 was immediately dissected out and disposed of as follows: A small length was allowed to stand in the open air; another was dropped into a one-half per cent. solution of sodium hydrate: another into a similar solution of hydrochloric acid; one into a normal saline, and another into a 20 per

cent. solution of potassium sulphocyanide, which latter paralyses the muscle, and therefore dispenses with any rigidity due to muscular contraction. (These solutions were previously boiled and cooled to drive off any gas.) The following changes were noted:

In about ten minutes the artery exposed to air had become hard and brittle, would crackle on pressure, and break in the thicker areas when bent. After four hours the artery in the alkaline solution was still comparatively soft, could be cut easily with a knife, and could be ligatured without rupture. The length of artery placed in the acid solution had become quite hard, and almost as brittle as that in the open air. The artery in the saline solution presented about equal hardness to that in the acid solution, that in the potassium sylphocyanide was of about the same hardness as that in the hydrochloric acid, showing that the contraction of the muscles had no bearing on the extreme hardening.

The lower 2 or 3 cm. of the popliteal and the upper few cm. of the anterior and posterior tibial arteries were filled with recent clot, but like the parts above were pliable on removal. Below this, however, they were hard and brittle, and, on cutting, the knife encountered hard calcareous deposits, similar to that in the artery exposed to the air. As these tibial arteries were removed immediately after the popliteal, I cannot but conclude that this dense calcification had taken place before amputation.

Other confirmatory observations I owe to Dr. Keenan and to Dr. Gruner of the Royal Victoria Hospital, Montreal. Dr. Keenan, amputating a leg for senile gangrene, took special note of the popliteal artery at operation. He found it thickened and nodular but pliable, being ligatured without difficulty. He slit the amputed portion for a few centimetres and found it to cut easily. One hour later he again observed the artery, and found that it had become quite calcified and brittle.

Dr. Gruner, who did an autopsy immediately after death on a case dying of ruptured iliac aneurysm and extensive aortic atheroma, found the aorta fairly soft and pliable, moving without resistance under the fingers. Within a few hours, however, the specimen presented a very different appearance and feel, there being many rigid calcareous disc-shaped plaques with peripheral ulceration between which were areas of atheromatous degeneration.

I have employed the simile of unset mortar, but apparently this is more than a simile—it is, in fact, an identity. On making inquiries, I find that it is generally accepted by chemists that the process of setting of mortar is one of conversion of calcium hydroxide into calcium carbonate by the absorption of carbon dioxide from the air. Kept under an alkaline solution, or kept in bulk away from the air that contains carbon dioxide, mortar remains unset. I have it on the authority of Professor MacIntosh, of McGill University, Montreal, that a mixture of calcium carbonate and calcium phosphate remains soft so long as it is in an alkaline medium; placed in an acid solution it sets.

To test the matter I have made the following observations:

A. *Experiments with Plain Mixed Mortar.*

1. 200 grams of mortar were mixed with about 50 c.cm. of a 2 per cent. solution of sulphuric acid. A mild reaction took place with slight effervescence and evolution of heat. In about half an hour the mass had become dried, hard, and firmly "set," and remained so for over a week.

2. 200 grams of mortar mixed with 50 c.cm. of a 2 per cent. solution of sodium hydrate remained soft until it became dried out, twenty-four hours later, and then could be rubbed to a powder between the fingers.

3. 200 grams of mortar mixed with plain water, dried and became fairly hard and "set" in twenty-four hours, similar to to the mortar to which no extra water had been added.

B. *Experiments with Mixtures of Calcium Oxide and Calcium Phosphate.*

1. About 10 grams each of calcium oxide and calcium phosphate were mixed to a thin paste with a 2 per cent. solution of sulphuric acid, and became hard and "set" in eight hours.

2. About 10 grams each of calcium oxide and calcium phosphate were mixed to a thin paste with a 2 per cent. solution of sodium hydrate. This dried out in twenty-four hours, but could be rubbed to a powder between the fingers.

3. A mixture of calcium oxide and calcium phosphate was rubbed to a thin paste with the fluid expressed from muscle tissue (acid in reaction). This became firm and set in twelve hours.

4. A similar preparation was made, using plain water. This set in about fourteen hours, but even then was not quite so hard as the one with the muscle juice.

5. A mixture of calcium oxide and calcium phosphate was rubbed to a thin paste with muscle juice, to which was added about one-quarter its volume of acetic acid. This became hard and set in eight hours.

6. A similar preparation was made, making the muscle juice strongly alkaline with sodium hydrate. This dried out after about twenty-four hours, but could then be rubbed to a powder between the fingers.

From these observations it would seem quite evident that these mixtures of calcium oxide and phosphate and also plain mortar "set" more quickly in an acid than in an alkaline medium. Also the more strongly acid the medium the faster they set, because when I added strong acid to the mortar there was a marked reaction, which, of course, is easily explained by the equation $Ca(OH)_2 + H_2SO_4 = CaSO_4 + 2H_2O$, and the preparations became dry and extremely hard in a very few minutes.

Again passing CO_2 through the mortar did not seem to immediately affect it, as I stirred for about fifteen minutes a dish of mortar with a glass tube which was attached by a rubber tube to a CO_2 generator, thus while stirring the gas was bubbling through the mortar. Professor MacIntosh thinks there must be a complete reaction going on similar to that in the magnesium compounds used in flooring preparations.

Now it is worthy of note that in the first place the reaction of the tissues and body fluids during life is alkaline but becomes acid shortly after death. It is deserving of note particularly, in the second place, in connexion with arterial calcification, that the gas which after death replaces the blood within the arteries is largely composed of carbon dioxide.

Without doubt when there are large areas of necrosis appearing in the tissues, there the production of acid is sufficiently abundant to bring about an *intra vitam* setting of the calcareous matter. For instance, it is the experience of the gynaecologist that a calcified fibroid of the uterus may be found of stony hardness even while in the body; so also our own experience is that in a case of senile gangrene the arteries of the necrosed or gangrenous area are of stony hardness, whereas the same arteries higher in their course, where the circulation is still maintained, are soft and pliable and can be ligatured with ease.

In short, the realization of this fact, that in arteries provided with an adequate circulation the calcareous matter, whether it be in the intima or the media, remains unset, is calculated to fully explain the cruces indicated at the beginning of this paper. It is easy to understand now why, after handling pipe-stem radials, there is no thrombosis and gangrene, easy to understand why rigid and tortuous splenic and other mesenteric arteries in the aged arterio-sclerotic do not undergo traumatic rupture. During life they are not rigid. It is easy also to understand the occurrence of extensive so-called atheromatous ulceration of the aorta without thrombosis commonly occurring during life. Those ulcers, in short, and the saucer-like plaques with surrounding rupture of the endothelium are *post-mortem* productions. The calcified areas become in the intima set and rigid before the muscular contraction of the aorta gives way and the tube undergoes dilatation. The result is that a tension upon the endothelium at the edges of the plaque induces rupture of this lining.

THE Report of the Inspector-General of the Insane for 1911 states that there were 844 persons certified as insane in Western Australia on December 31st, 1911, an increase of 55 from December, 1910. The total population of the State on December 31st, 1911, was 294,133 (males, 168,260; females, 125,873). The number of admissions to the Government hospitals for the insane was 215 (males, 135; females, 80), and the proportion of admissions to population was 1 to 1,368, or 7.30 per 10,000. The readmissions only numbered 22, or 10.23 of the total admissions, which is gratifying. The number of patients discharged was 99, of whom 78 were discharged recovered; the proportion of recoveries to admissions was 36.27 per cent. During the year 66 patients died; of the deaths, 21, or 31.84 per cent., were due to general paralysis. There were only 4 deaths from phthisis. In connexion with the hospitals at Claremont and Whitby, farms are worked, which, besides affording occupation for the patients, are a source of revenue.

A SECOND CASE OF DOUBLE LOOP HERNIA.

BY

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IN the BRITISH MEDICAL JOURNAL of April 2nd, 1910 (p. 799), I reported a very unusual form of double loop hernia, and discussed the theories in connexion with the formation of that uncommon condition.

On September 1st, 1913, a man aged 26, suffering from a large strangulated right inguinal hernia, was admitted to the Royal Infirmary under my care (while acting for Mr. Paterson).

He stated that the hernia had been present for at least four years, his work, to which he attributed the affection, having entailed heavy lifting; that it had been gradually increasing in size but had always been easily reducible, and had caused so little trouble that he had never worn a truss. On the morning in question the hernia came down, and was larger than at any previous time. He could not reduce it, and walking was rendered difficult. The strain of subsequent vomiting made matters still worse. The bowels had always been quite regular, and had moved shortly before strangulation occurred.

The hernia was moderately large and tense, and presented a marked prominence in the inguinal region, projecting abruptly almost opposite the position of the internal ring.

On incision the mass was found to consist of two loops of bowel, each some 4 or 5 in. in length, which were prevented from returning by a constriction at the internal ring. This constriction was neither very firm nor tight, and it was possible to pass the finger up between it and the bowel. Had a single loop of bowel been present reduction without cutting would probably have been easily accomplished, but under the circumstances it was necessary to cut the band to enable the middle connecting abdominal loop to be brought down for inspection.

The two herniated portions were bound together by numerous fine translucent bands, which were certainly not of recent origin, and when, after manipulation, the abdominal loop (which was some 8 or 9 in. in length) was brought into view, it was found that these fine bands ran up from the herniated loops to it. The arrangement of the herniated and abdominal loops resembled the Greek capital letter omega, and the fine adhesions running from the herniated to the abdominal loop involved the mesentery of the abdominal loop. All three loops of bowel were dark in colour, congested, and distended. The fine adhesions were broken down, camphorated oil was applied with a view to hindering recurrence, the bowel was replaced, and the radical cure performed. Save for an unusual complaint of pain over the region for a couple of days after operation, the patient made a normal recovery.

In addition to referring to some of the theories put forward to explain the formation of "W herniae," I mentioned in my previous article suggestions made and experiments done to elucidate the reason why the intermediate abdominal loop should suffer so markedly in strangulation of the herniated loops. It appears to me that the fine adhesions found in this case would at least partly explain the implication of the abdominal loop. Traction upon these bands (which, it must be remembered, are abnormal, and would, therefore, not be present in the experimental production of such hernias in animals) rendered them tense, and, attached as they were to the mesentery, must have caused them to drag upon and compress the mesenteric vessels, and thereby interfere with the blood supply of the abdominal loop.

THE Legislative Council of the Federated Malay States has voted £5,000 towards Mr. Chamberlain's appeal for the endowment of the London School of Tropical Medicine. The fund now amounts to £70,000.

A PHYSICIAN practising in Brest, Dr. Lenoble, has detected the presence of a very definite, yet always transitory type of paralysis of the lower extremities, in two families of Breton peasants. A father and two sons were attacked suddenly when working in the fields, and two brothers and a first cousin of the other family suffered in precisely the same manner. All recovered speedily. Lenoble is of opinion that these pareses, which are accompanied by trophic disturbances, are to be traced to a lesion in the anterior cornua of the grey matter of the cord, with implication of the roots of the nerve supplying the vasti, extensor communis digitorum, and extensor proprius hallucis, a very localized anterior myelitis of undetermined origin. The report of these cases was communicated to the Académie de Médecine, Paris, by M. Achard.

THE SCIENCE COMMITTEE OF THE British Medical Association.

REPORT TO THE THERAPEUTIC SUBCOMMITTEE.

PART II.—ON CERTAIN NON-OFFICIAL FATS AS OINTMENT BASES.

BY

ROBERT B. WILD, M.D., M.Sc., F.R.C.P.,

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IN Part I of this report[1] the formulae of the official ointments were considered with especial reference to their bases, and certain suggestions made with a view to modification in those cases where experience had shown the present formula to be unsuitable.

In this part it is proposed to report upon a certain number of non-official fats which have been examined during the past two years in the laboratory and, when found suitable, made into ointments and tried in actual practice.

Various combinations were made, and also mixtures with paraffins and other bases, in order to modify their consistency or other properties. The ointments thus made were compared with the official formulae, and it may be shortly stated that none of those hitherto examined have shown sufficiently valuable properties to justify their inclusion in the *Pharmacopoeia* as general substitutes for the bases already official. Some of them, however, have been found to possess special properties which render them useful for particular purposes.

The soft bases in the *Pharmacopoeia* are wool fat, lard, soft paraffin, almond oil, and olive oil; the hardening substances are beeswax, suet, spermaceti, and hard paraffin. All the official ointments are made from these, either alone or in combination. Their properties as bases have been dealt with in Part I; the substances which have been tried as possible substitutes are butter fat, margarine, marrow fat, goose fat, turtle fat, cocoanut oil, nucoline, cocos white, palm oil, and, as hardening agents, carnauba or Brazil wax, and ceresin.

Butter Fat.

Butter fat has been used from a very early period as an extemporaneous base; the presence of a certain amount of water (12 to 15 per cent.) makes it a pleasant, cooling application, somewhat of the character of a cold cream, but this water also hastens its decomposition and impairs its keeping properties. The presence of about 7 per cent. of the glycerine esters of the more volatile fatty acids—butyric, caproic, capric, and caprylic—also lowers its stability. The melting-point is low—from 31° C. to 34° C.—but, in spite of this, ointments made from it are of good body and rub well.

Margarine.

Margarine in commercial samples resembles butter in its properties. It usually contains only a small amount—usually under 1 per cent.—of the butyric group of fats, and seems to be of somewhat firmer consistence than butter when made into ointments. Probably a very satisfactory ointment base could be obtained by selecting certain portions of the margarine, but the result would not have any advantage over lard, and it is doubtful if it would be any less expensive.

Marrow Fat.

Marrow fat is a cream-coloured solid fat of granular consistence. It rubs smoothly, however, on the skin, and is not sticky or oily; it has a slightly beefy smell. The melting-point was 45° C. to 48° C.; it was not easily

absorbed, only 7 to 10 per cent. after two minutes' rubbing in the manner described in Part I. Ointments made with it were firm and of good consistence; they were slightly granular, but rubbed well.

Goose Fat.

Goose fat, commonly called "goose grease," and frequently used in domestic medicine, is a soft fat varying in colour from white to yellow in different samples. It is much softer than lard and more translucent. It has an unpleasant, slightly rancid smell, which becomes worse on keeping. It rubs easily on the skin, melts quickly, and is not sticky. The melting-point varies, but is about 29° C. It is readily absorbed to the extent of 12 per cent. to 20 per cent. after two minutes' rubbing. When old, the amount of free fatty acids which it contains is sufficient to irritate and redden the skin. This counter-irritant action is no doubt of value for some of the purposes for which it is used. Ointments made from goose fat were of good body, rubbed well, and were more adhesive than marrow fat or lard.

Turtle Oil.

Turtle oil is a dark yellow granular fat, still softer than goose fat and more oily; it has an unpleasant fishy smell, and a melting-point of 27.5° C. It was not absorbed as well as goose fat, but only to the extent of 7.5 per cent. Ointments made from it had much the same properties as those made from goose fat.

On comparison with lard none of these substances appeared to have any advantages over it as a base for ointments.

Cocoanut Oil.

Cocoanut oil is a white, firm, solid fat, slightly granular in some samples. It has a pleasant cocoanut smell, which does not become rancid on keeping. When rubbed into the skin it liquefies at once to an oil, which runs freely and spreads widely on the skin: it has little or no adhesive power. Although a solid, the melting-point is very low—it varied from 22° C. to 28° C. in different samples. It is absorbed to the extent of from 10 to 15 per cent. after two minutes' rubbing.

Ointments made from it have a firm consistence, but melt and run too much for ordinary purposes. It was found, however, particularly useful for ointments intended to be applied to hairy parts, such as the scalp. Here its oily character enables it to penetrate well, and as it has no tendency to cake on the skin it is much pleasanter for the patient in continued use. The addition of a small proportion of wool fat—from 10 to 25 per cent.—gives it some adhesive power and lessens its tendency to run. It does not take up a large quantity of insoluble powders, such as zinc oxide, as well as lard or soft paraffin, and such ointments harden on keeping.

Nucoline.

Nucoline is a white solid fat, firmer but less granular than cocoanut oil; it has no smell. It melts at once when rubbed into the skin, and runs freely. The melting-point was 25° to 26° C., and 15 per cent. was absorbed on rubbing. It has the properties of the cocoanut oil and the advantage of a more uniform consistence.

Ointments made from it resemble those made from cocoanut oil; they are stiff, but on rubbing liquefy and run freely—they also harden on keeping.

Cocos White.

Cocos white is a slightly cream-coloured solid fat, firmer than nucoline and too stiff to rub into a tender skin. When rubbed it melts easily, runs freely and is not sticky. The melting-point was found to be 27° to 28° C., and it was absorbed to the extent of 15 per cent. As a stiffening agent for soft paraffin it gave a very satisfactory ointment in the proportion of 50 per cent.; on keeping this became slightly granular but rubbed easily; in consistence it resembled butter and was neither sticky nor ran on the skin. On keeping an ointment made from cocos white and zinc oxide a very hard mass was formed which required vigorous rubbing to soften it sufficiently for application to the skin when in a tender condition.

Palm Oil.

Palm oil is a bright orange-coloured, pasty, opaque fat obtained from the pericarp of the fruit of the *Elaeis guineensis*. The colour becomes paler on keeping and it can be bleached by heating to a temperature of 240° C. The melting-point was found to vary from 30° C. to 35° C. in the samples we had at our disposal, but 27° C. is given in the *National Dispensatory* (1905), with the statement that it may acquire a rancid odour on keeping and the melting-point rise to 42° C.

It has a firmer consistence than lard, but melts easily when rubbed on to the skin, it does not, however, run so much as cocoanut oil. It was found to be absorbed to the extent of from 5 to 7 per cent. only. Ointments made with it were very granular and dry-looking, they rubbed down well with a little pressure and did not run like cocoanut oil, they became harder on keeping.

Carnauba Wax.

Carnauba wax or Brazil wax is a creamy-coloured solid wax; it is very dry and hard, breaking with a resinous fracture; the melting-point is very high, namely, 85° C. It is a vegetable product obtained from the leaves of *Corypha cerifera*.

Earth Wax (Ceresin).

Ceresin or earth-wax is a mineral wax obtained from ozokerite: it is a white, hard solid, with a slightly glistening surface; the melting-point appears to vary, some samples melt at 43.5° C., whereas it is given at 68° C. by some authorities.

Both these substances can be used as stiffening agents in place of hard paraffin and have advantages for certain purposes, these need not be discussed here as they may be found in Franklin's paper in the *Yearbook of Pharmacy* (1909).

Part III.—On Soft Paraffin as an Ointment Basis.

In the first part of this report I called attention to the variable characters of the commercial soft paraffins and suggested the introduction of two varieties, of higher and lower melting points respectively, into the *Pharmacopoeia*. During the last two years I have had samples of soft paraffins supplied to me of firmer consistence and melting-points as high as 46° C. Some of these are admirable bases for protective ointments and much superior to the average article supplied when "soft paraffin" is ordered; if they can be supplied at a cost not prohibitive they will largely fill the place of the present unsatisfactory paraffin ointment, but not entirely, as a still firmer base is frequently required, especially for ointments to be spread on lint and confined in their action to the affected parts.

It has therefore seemed desirable to endeavour to prepare such a base as an alternative to the Lasser's paste, which is too heavily charged with dry powders for some purposes, though admirably suited for others. The base must not be too stiff, as it is frequently applied to a painful or tender surface, and must not require much pressure in order to rub it into the affected part before it melts; on the other hand it must not melt too quickly and run widely over the skin, or its action cannot be confined to the diseased area.

A number of samples of unguentum paraffini were obtained from different sources and examined, others were made in the laboratory by various methods. Samples of hard and soft paraffin of various melting-points were also combined in different proportions and by different methods. These were examined when freshly made and at intervals afterwards during the last twelve months to test their stability. Some were found to be too soft, others too hard; some were granular and did not rub smoothly, others were satisfactory when freshly made but became granular on keeping. Films of these ointments were made on an ordinary glass slide and examined microscopically with a power of 300 diameters. The soft paraffins of low melting-point were practically homogeneous; those of higher melting-point showed usually a few fine prismatic or needle-shaped crystalline bodies, and the official paraffin ointments of 30 per cent. hard and 70 per cent. soft paraffin showed numerous feathery or

rosette groups of these crystalline bodies and also particles of hard paraffin embedded in the softer matrix; probably these particles cause the granular character and consequent want of smoothness on rubbing into the skin which is the main disadvantage of the official formula.

A series of ointments was then made by carefully melting together a soft paraffin melting at 38° C. and a hard paraffin melting at 55° C. and allowing it to cool very slowly with constant stirring.

These preparations were examined microscopically; it was found that while the soft paraffin was homogeneous, a mixture of 95 per cent. of the soft with 5 per cent. of the hard showed a few needle-shaped crystals. This mixture was translucent, smooth and not granular; it had a melting-point of 42° C. A mixture of 90 per cent. of soft with 10 per cent. of hard was somewhat more opaque but still smooth; it had a melting-point of 43° C. and microscopically showed more needles and also a few feathery groups of crystals. A mixture of 85 per cent. of soft and 15 per cent. of hard was distinctly opaque but still smooth to rub; it had a melting-point of 45° C. Microscopically it was more granular and the crystalline bodies more numerous; there were no particles of hard paraffin.

Above this proportion of hard paraffin the smoothness of the ointment steadily deteriorated, and with the official proportions of 30 per cent. hard to 70 per cent. soft a granular ointment was obtained too hard to rub smoothly without considerable pressure. Microscopically it showed numbers of feathery crystals and particles of hard paraffin which had separated out on cooling. This ointment was distinctly worse after keeping than when freshly made, and also worse if allowed to cool quickly and not constantly stirred while cooling.

Similar trials were made with beeswax in place of the hard paraffin, and satisfactory products, but of a more adhesive character, obtained up to a proportion of about 15 per cent.; above this amount of the beeswax an adhesive ointment not easy to remove and painful to rub on a tender skin, but very useful for such purposes as protecting the fingers for a *post-mortem* or vaginal examination, was obtained.

Other experiments to prepare a firmer base by adding various proportions of cocoa butter, cocoanut oil, nucoline, cocos white, palm oil, carnauba wax, ceresin, and wool fat were made, which need not be detailed. It will be sufficient to state that satisfactory ointments were obtained from the addition of hard paraffin, ceresin, carnauba wax or beeswax not exceeding 15 per cent.; cocos white 50 per cent.; a soft paraffin of high melting-point (46° C.) was satisfactorily stiffened by 5 per cent. of hard paraffin. Hydrous wool fat 25 per cent. somewhat stiffens a soft paraffin of low melting-point, and renders it more adhesive; the product is slightly harder, but closely resembles the "parenol" of the *British Pharmaceutical Codex* formulary, which contains 65 per cent. of soft paraffin, 15 per cent. of anhydrous wool fat, and 20 per cent. of water. Like all water-containing ointments, this does not keep well.

Several formulae suggested by Lucas,[2] and modifications of them by Bagley,[3] were made up and found to be satisfactory as pharmaceutical products, but too hard for medical use in the great majority of cases where ointments are required.

Conclusions.

In the course of these experiments it became evident that the factors which go to make up the perfect ointment base are still not completely understood.

Chemical composition seems to be chiefly of importance in that the glycerine esters of the higher fatty acids and the cholesterine fats are absorbed more readily than the hydrocarbons. It does not, however, follow that *all* drugs are more easily absorbed from these bases, since we still lack information as to the readiness with which they part from the drugs with which they may be combined; neither do we know what effect the volatility of certain drugs has upon the rate at which the base may give them up to the tissues, or whether a drug dissolved in the base behaves differently from one which is merely mechanically mixed with it.

The physical properties alone of the bases do not seem to explain their relative values as ointment bases; the melting-points are certainly of the first importance, but some substances which are too hard for ointments have melting-points below those of comparatively soft bases.

A number of specific gravities have been taken, but have so far been of little assistance; a few experiments upon the specific heat and upon the relative viscosity at different temperatures have also been done; these experiments are difficult, as the ordinary apparatus for the determination of these factors is not suited for this special kind of work, and much time is required to obtain a constant result. So far no conclusions can be drawn from these experiments.

One essential point appears to be that an ointment is better for most purposes when it melts gradually, and this is apparently the reason why a mixture of fats or hydrocarbons (provided that the difference between their melting-points is not too great) is better as an ointment base than a single pure fat or hydrocarbon with a sharply defined melting-point.

My thanks are especially due to Mr. James Grier, M.Sc., who has given me much help in the experimental work. I also desire to thank the various firms who have kindly provided me with certain samples; among them I must mention more particularly the Cheeseborough Company, the Dee Oil Company, the Vacuum Oil Company, Messrs. Loders and Nucoline, and Messrs J. Woolley Sons and Company.

REFERENCES.
[1] BRITISH MEDICAL JOURNAL, July 22nd, 1911, p. 161. [2] *Chemist and Druggist*, 1912 and 1913. [3] Ibid., 1912.

EIGHTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF GYNAECOLOGY AND OBSTETRICS.

ROBERT SANDERSON, M.B.Oxon., President.

PRESIDENT'S INTRODUCTORY REMARKS.

DR. SANDERSON, after expressing a welcome to those present, said they would find the subjects to be discussed covered a wide field of interest: and some of them, at any rate, illustrated the truth that their speciality was becoming less and less limited to the boundaries of the pelvis, that the pathology and treatment of disease of the pelvic organs in women demanded more and more a wide view of the principles of biochemistry, the functions of remote ductless glands, and of other general physiological problems as yet either half-solved or the solution of which, if it came at all, would be known only to a later generation. He then called for the opening of the first discussion.

DISCUSSION ON THE BEST METHODS OF DEALING WITH MALPOSITIONS OF THE UTERUS,

ESPECIALLY WITH REFERENCE TO RETRO-DISPLACEMENTS AND PROLAPSE.

OPENING PAPERS.

I.—Mrs. MARY SCHARLIEB, M.D., M.S.Lond.,
Consulting Gynaecologist to the Royal Free Hospital, London.

IN March this year (1913) there was a very important discussion in the Obstetric and Gynaecological Section of the Royal Society of Medicine on the subject of displacements of the uterus, which embraced a consideration of the indications for various operations, their technique, and results. A good many gynaecologists—amongst whom, unfortunately, I must reckon myself—were unable to be present and share in this discussion. It is, therefore, of great advantage to us that this subject has been assigned

for one of the discussions at this Annual Meeting of the British Medical Association.

The diagnosis and treatment of displacements of the uterus is a professional duty that falls to the lot of every practitioner of medicine. It is, indeed, one of our most important duties, because although displacements of the uterus seldom or never lead to a fatal result, yet they frequently cause an amount of suffering and disability that make them of first-class importance to women and to those who care for their welfare.

I suppose I may take it for granted that many cases of displacement cause no discomfort and need no treatment, and that of those which do need treatment the great majority are treated from first to last by means of various mechanical appliances, and that it is only the very small minority that are submitted to operation of any kind. I think I may also take it for granted that the days of the use of all varieties of intrauterine stem are gone for ever, and I wish I could say that all varieties of cup and stem and other pessaries taking their bearings from any form of pad and bandage were likewise entirely obsolete. The great majority of the members of our profession are quite convinced that cup and stem and other kindred pessaries are dangerous, but we still occasionally meet with a patient wearing such an instrument. A few months ago I saw a woman, aged 62, who was living in the extreme west of America, and on whom fell the burden of all the domestic work for a household consisting of herself, her husband, and two sons. She had an aggravated form of prolapse of all the pelvic viscera. It was very inadequately supported by a boxwood cup and stem pessary. The pressure of the cup against the cervix had produced ulceration, which, as the microscope showed, had involved the deeper layers of the mucous membrane and appeared to threaten the development of malignant disease.

Among the rarities of practice I might mention a custom prevalent some years ago among the natives of Madras, who used to insert into the vagina a fruit about the size of a large orange which has a woody rind; it is known as a "wood apple," and in one instance I had the ill fortune to be called on to remove one of these objects; it was said to have been *in situ* many years. I had to extract it with a pair of midwifery forceps; in the course of the delivery it broke, with the result that my anaesthetist and assistants fled before the appalling odour. The poor woman's vaginal walls were deeply ulcerated, but she recovered under the usual methods of disinfection and cleanliness.

Probably the forms of pessary most commonly used may be classified under two heads: (1) The many varieties of simple ring pessaries; and (2) the still more numerous modifications of Hodge's lever pessaries. Practitioners who have been at work, as I have, for some thirty-five years must have seen the rising and the setting of many stars of different magnitudes in the galaxy of pessaries, but the buckets, the cradles, the stems, and many other varieties which enjoyed more or less reputation, have, we may be thankful to observe, been thrown on to the scrap heap. With the greatly improved methods of conducting labour, with the now universal rule of immediate repair of the perineum, and with the increasing diligence with which practitioners examine their patients a month or so after childbirth, we ought to find that the necessity for the use of pessaries and of operations to cure the result of lacerations are becoming less frequent.

Unfortunately the time has not yet come when displacements of the uterus have ceased to be a matter of interest and importance to patient and practitioner. We are still obliged to use pessaries, much as we regret the inconvenience they cause in all cases and the disagreeably septic discharge which is their less frequent accompaniment. We are still constantly called upon to diagnose displacements from other abnormal conditions, and to decide whether in the individual case before us the best treatment is by use of soluble pessaries and douches, by mechanical pessaries (whether rings or Hodges), or whether some form of operation is indicated.

In the brief time at my disposal you will not expect me to go minutely into the question of the choice of pessaries, their use and their abuse. I would rather say a few words about the operations that have been advocated, and relate my own experience of their indications, technique, and results.

In view of writing this paper I have looked over my notes for the last eighteen years, and find that during that time I have records of 93 cases in which I opened the abdomen with the intention of correcting displacements of the uterus, either as the sole indication for the operation or as part of a more general procedure.

As there is evidently some uncertainty as to the nomenclature of the various abdominal operations for the correction of retrodisplacements and prolapse of the uterus, may I take it that, for the purposes of this discussion, we shall by "ventrisuspension" mean the mooring of the uterus to the anterior abdominal wall by means of its round ligaments, and by "hysteropexy" we shall mean the sewing of the uterus to the anterior abdominal wall, and that under these two heads we will not consider Alexander's operation, nor the Alexander-Adams operation, nor any variety of doubling or crimping the broad ligaments, nor the slinging of the uterus by bringing the ligaments together behind it and the sewing of them to its posterior aspect? I do not want to inflict upon you details of operations, but if you will permit me I should like to clear the ground by saying that the form of ventrisuspension I practise consists in drawing a loop of the round ligament on each side through the peritoneum, the rectus, and the fascia, about ¾ in. to 1 in. from the median line, and the sewing of them to the fascia and to each other.

The hysteropexy I do consists in passing a suture of silkworm gut through the fascia and peritoneum of one side, through the musculature of the uterus as low as possible on its anterior surface, and out through the peritoneum and fascia of the opposite side. Two more sutures are passed in a similar fashion at intervals of about half an inch or less; thus the uppermost suture is placed below the level of the origins of the round ligaments, leaving the whole of the fundus, the posterior wall, and some portion of the anterior wall of the uterus free to expand during any subsequent pregnancy. I have never placed the suture in the fundus itself, still less have I invaded the posterior aspect of the organ.

It seems a little unenterprising to have limited myself to these two operations so far as abdominal operations on the displaced uterus are concerned, but as they have given me satisfaction and commend themselves to my judgement, I have thought it better to continue their use. No doubt there must be plenty of gynaecologists here present who prefer other methods and will be prepared to tell us about them and about their results.

According to my records, of the 93 patients 71 were married women and 22 single. With regard to age incidence, two of my patients were under 20, nine between 20 and 25, seventeen between 25 and 30, twenty-five between 30 and 35, sixteen between 35 and 40, twenty between 40 and 45, while only four were over that age. As to the conditions for which the operations were done, so far as the uterus itself was concerned there were 39 cases in which retroversion was very distinctly the dominant condition. In 22 cases there was marked retroflexion, in 25 prolapse or procidentia, in 6 cases the uterus was variously retrodisplaced and adherent, and in the remaining case the uterus was extremely mobile, at one time anteverted, and at another time retroverted. Of course, in many cases the abdomen was not opened simply with a view to correcting the malposition of the uterus. Indeed, the operation was primary in only 20 per cent. of my cases. In at least 15 cases appendicitis, acute or chronic, was the real reason for opening the abdomen; in 20 cases the operation on the uterus was combined with ovariotomy; in 2 with myomectomy.

With regard to perineal operations, some form of operation on the perineum such as the old-fashioned Lawson Tait, or Kelly's operation for the reduction of the vaginal outlet, or Holden's operation for the restoration of the perineal body was done at the same time. With these anterior colporrhaphy was frequently combined, and in a smaller number of cases there was also repair of the cervix, amputation of the cervix, and dilatation and curettement. The most extensive combination in my list was in the case of a woman for whom I did anterior colporrhaphy, Holden's operation, appendicectomy, and

hysteropexy, complicated with the removal of a large bunch of tuberculous glands from the mesentery. This was a lady who expressed her determination to have her money's worth, and I think we may hope she had it.

As to the results of the operations, I am thankful to say that not one of my patients died or was seriously ill. A good many of them bore children subsequent to the operation, and so far as I have been able to ascertain there was no dystocia.

I attribute this to my not placing the sutures high on the anterior wall nor invading the posterior aspect of the uterus.

So far as I know the stitching or suspension has been efficient, but I must confess that in a certain proportion where the anterior colporrhaphy was not sufficiently thorough there has been a return of the prolapse of the anterior wall of the vagina. I think the way to obviate this is to denude a large surface of the anterior wall more or less in the form of a triangle. The base should be just in front of the vaginal insertion of the cervix and its apex towards the urethra; care should be taken to completely free the bladder from its attachment to the anterior vaginal wall and sufficient mucous membrane cut away to really narrow the surface while a good hold is obtained on the cut edges so as to reproduce a median raphe starting from just in front of the cervix uteri and ending at the urethra.

Rectocele, which is one of the most distressing complications of prolapsus uteri, is only too likely to return in a very disappointing fashion if the operation for its relief does not include the freeing and drawing together of the levatores ani as described by Holden. In this operation the mucous membrane of the posterior vaginal wall is widely denuded; the rectum is entirely freed from its attachments to that wall and drops away, thus permitting the freeing of the levatores ani, and the bringing of them together in the median line with buried sutures, the operation being easily completed by the oversewing of the vaginal mucous membrane.

I should very much like to know the experience of other operators. Mine has been that Holden's operation is absolutely satisfactory in its results, but that the patients are apt to suffer from considerable irritation of the bladder during the first week or so of convalescence, and I suppose that this must be due to interference with the nerves, for the bladder itself does not come into its scope.

More and more I have come to find that in those cases where the disability is bad enough to warrant operation one ought to do, at any rate, an anterior colporrhaphy and some form of perineal operation in addition to a hysteropexy or a suspension. In many cases, in addition to these operations, the uterus needs curetting, while occasionally the cervix is so unhealthy or so badly torn as to demand amputation or trachelorrhaphy.

II.—Dr. Hans Schlimpert,
Freiburg.

Since Marion Sims in England, and Hegar in Germany, first described their operations for prolapse, a host of methods with the same purpose in view has been recommended. In medical science, when many remedies are proposed with one object in view, it is safe to infer that the multiplicity is due less to the enthusiasm of discovery than the unsatisfactory nature of the results obtained with the older methods.

In these endeavours to better the technique and results in prolapse operations, broadly speaking, two methods, based on two theories of origin of prolapse, have been followed. The one theory maintains that in cases of prolapse there is a weakness in the suspensory apparatus of the uterus and vagina, and the other that there is a defect of the supporting tissues—especially of the muscles of the pelvic floor. As a result of the former there have been developed the operations of fixation and interposition, while the latter has led to colporrhaphy, perineoplasty, and more recently to suture of the muscles of the pelvic floor—especially the levatores ani.

A more satisfactory basis was established, and the subject took on a new life, when Halban and Tandler, of Vienna, in their well-known monograph, showed—

(1) That prolapse is a hernia through the levator opening;

(2) That the chief cause of prolapse is a congenital or acquired defect in, or separation of, these muscles; and hence,

(3) That the only logical method of dealing with the problem was to unite these muscles.

Since then this type of operation has been largely performed, but there are still a few who object to it—Hastings Tweedy, for example, in Britain, and Bumm and his pupil, Martin, in Germany.

Allow me now to present to you the methods adopted, and the results obtained, in the Freiburg clinic, under the direction of Professor Krönig. From the beginning we have been enthusiastic supporters of the muscle theory, and have performed the suturing of the levatores in accordance with the technique in vogue at the moment.

On purely theoretical grounds, however, and because of the tendency for failure to follow our operations in the more severe cases, we began to doubt whether we had included in our sutures the levatores or only the superficial muscles of the perineum.

Accordingly we experimented upon the cadaver, and found that in most cases we had only approximated the superficial perineal muscles, especially the transversus perinei profundus, and that it was really impossible, with the methods in use, to unite properly the edges of the levatores. Therefore we have evolved *a new and more radical method*, the chief principle of it being, first, to cut through the transversus perinei profundus in order to get access, and then to suture the levators.

Along with the myorrhaphy of the levatores an anterior and posterior colporrhaphy is performed, and, in addition, an antefixation of the uterus by the Alexander-Adams operation or by vaginal fixation. Only occasionally, and at the beginning of our experiments, did we perform Kocher's ventrifixation.

In the case of elderly multiparae resection of the Fallopian tubes for the purpose of sterilization is usually performed in addition.

Now I come to the results. From July, 1909, to July, 1912, we performed 272 operations, including cases where the levatores were isolated as described above and others where this was not done. To every one of those patients we wrote letters and asked them to come to be re-examined in the clinic again; 169 came down from the hills of the Black Forest and were carefully examined.

Of course, not a very long time has elapsed since operation, the longest being four years; but most of the patients are peasant women, and their conditions of life and work are very hard, and dispose to recurrence.

The 99 cases of suture of the perineal muscles *without* isolation of the levatores included 13 cases of total and 86 of partial prolapse. Two of the total prolapse cases showed recurrence, and one of the partial. Of the 68 cases of isolated separation and suture of the levatores, 15 were total and 53 partial prolapse cases. None of the total prolapses had recurred, and but one of the partial.

This last result may appear peculiar, but we were not astonished at it, because, in our opinion, the prognosis depends not so much upon the partial or total form of the descensus as upon the condition of the levatores. I wish to lay particular stress upon this point. In all our cases we have tested the levatores per rectum before and after operation, and we find some cases of total prolapse with the levatores well developed, and, on the other hand, cases of partial prolapse with very poor or almost totally absent levatores. The former have a good, the latter an unfavourable, prognosis. Indeed, when we examined the clinical records of our failures, we found that the levatores were noted before operation to be very poor or absent, and bad prognosis given.

From these observations, and from another factor still to be mentioned, we derive the indications for operation in cases of prolapse. This additional factor is the mortality involved in the new method as compared with the older methods.

In our 272 cases we have to record 3 deaths—that is, 1.1 per cent. mortality. One of those followed the non-separated suture, and two the isolated myorrhaphy. All three died from septic condition caused by an abscess of the operation wound. Perhaps this may be due to defective technique, and the mortality may decrease with its further development and with increased experience.

It is clear, however, that the much more difficult technique of the suture of levatores conduces to greater haemorrhage, and disposes, therefore, to a higher mortality than does the very simple colporrhaphy. Our mortality is about the same, or perhaps rather less, than that of the Schauta-Wertheim interposition operation.

We must conclude that the suture of the levatores has to be regarded as a more effective, but also as a more dangerous, operation than simple colporrhaphy. Therefore we would give the following as indications:

If the levatores are strong and their separation under two fingerbreadths when examined per rectum, we deem colporrhaphy to be sufficient.

If the span between the levatores is about two fingerbreadths, we would advise the suture of the non-isolated muscles.

If the levatores are weak and the span three to four fingerbreadths, we would isolate the muscles and then perform myorrhaphy.

If the levatores are not palpable, we deem the case to be unsuitable for conservative operation, and advise the colpokleisis of Peter Müller.

Dr. Schlimpert's paper was illustrated by a series of coloured drawings showing the stages of Krönig's operation for isolation of the levatores ani, and was followed by a demonstration on the cadaver.

III.—Henry Corby, M.D., M.Ch., Q.U.I.,

Professor of Obstetrics and Gynaecology, University College, Cork.

We know that, in the great majority of cases, uterine displacements are the direct result of parturition, and accordingly we find that the immediate causes are relaxation of the uterine ligaments and of the vaginal walls and increased weight of the uterus. To these is usually added rupture of the perineum, and lately it has been asserted that tears in the pelvic cellular tissue are also responsible. To my mind, it seems that the excessive weight of the uterus and the relaxation of the vaginal walls, especially the posterior vaginal wall, are the causes to which we should devote special attention when treating these displacements. For the moment I will devote my attention to retrodeviations uncomplicated by adhesions.

Whilst it is self-evident that the undue weight of the uterus is a very important factor to be dealt with, apparently the relaxation of the vaginal walls, or, as I would put it pointedly, the lengthening especially of the posterior vaginal wall, has not at all been adequately recognized as one of the dominating causes of retrodeviation.

Whilst pondering on this aspect of the question, I must say I was largely influenced by recollecting a passage in Hart and Barbour's excellent manual on gynaecology describing the action of a Hodge pessary when in position. Here is what these writers say:

> The posterior vaginal wall runs round the upper bar as on a pulley, and as it is inserted into the cervix the latter is thereby drawn upwards and the fundus thrown forwards.

Further on they state:

> Another way of showing how the Hodge pessary acts is as follows. With the patient lying on her left side, pass the index finger into the posterior fornix vaginae and push it up in a direction parallel to the vaginal wall. This necessarily pulls the cervix back, and thus the fundus is kept forward.

This was running very close to the mark, but the writers failed to indicate that the posterior vaginal wall had been made tense. This tension you can easily note by examining before and immediately after the introduction of an easily fitting Hodge.

The production of this tension is what I aim at both when I am replacing the uterus and also when I adopt surgical measures for keeping the fundus in the normal position. Here is how I replace the uterus. I put the patient on her back. Then I introduce the index and middle fingers of the right hand high up in the posterior fornix and press the body of the uterus upwards and forwards as far as I can. Then I turn the pulp of the fingers towards the posterior vaginal wall and pull downwards as if I were endeavouring to empty the rectum, and by that means sometimes cause a portion of the redundant mucous membrane to protrude outside the vaginal orifice. Next, whilst I keep up the tension with one finger I put the other on the anterior surface of the cervix, or, as I frequently do, I transfer both fingers at once to the anterior surface of the cervix and press the cervix backwards and upwards. At the same time I dip the tips of the fingers of my left hand through the abdominal wall behind the uterus and hook the fundus forwards so as to produce a condition of exaggerated anteflexion.

By this method the replacement can be effected with great facility, and usually at the first attempt. Sometimes I turn the patient on her side before the replacement is quite completed. Though I found it an advantage to have the patient in the dorsal position, I was at first at a loss for an explanation, as apparently gravity would tend to keep the body of the uterus in its abnormal position. But, on thinking the matter over, it flashed across my mind that in nearly all cases of retrodeviation you have a laceration of the cervix, great or small in extent, with concomitant cervical inflammation. This cervicitis too often means cystic degeneration, sclerosis, considerable enlargement, and consequent increased weight of the cervix. Accordingly, when the woman is placed in the dorsal position, the heavy cervix falls backwards and aids the upward and forward movement of the body and fundus. You may now ask why do I draw on the posterior vaginal wall in a downward direction, and my answer is, because I want to procure the tension which I have already shown leads to the pulling of the cervix in a backward and upward direction, thus facilitating the tilting upwards and forwards of the body and fundus. I very seldom am obliged to have recourse to the sound for the replacement of a retrodeviated uterus, and for many years past, when I do use it, I adopt a modification which I have seen recommended only in one manual on gynaecology, and that quite recently, though I believe the method is an improvement.

We know that one disadvantage of the sound is that its point pressing distinctly on the anterior wall of the uterus is liable to damage it. Accordingly, when I have introduced the sound in the ordinary way with its concavity looking backwards, I bring the handle, which is now near the pubes, gradually backwards till I press firmly against the perineum. In that way, when moving the body of the uterus out of its abnormal position, I have the much larger surface of the back of the sound pressing against the anterior wall of the uterus. I then do the *tour de maitre*, completing the further forward movement on the point of the sound, aided, of course, by the fingers of my left hand on the abdomen. It may be well to say that, when bringing the handle of the sound back to the perineum, I always keep the index and middle fingers on the anterior lip of the cervix to prevent the sound from slipping out of the uterus, which it is very liable to do.

Now comes the question of how to keep the uterus in position, and before adopting any measures for the purpose we must carefully consider the causes which in each individual case produced the retrodeviation. In some instances, especially when the trouble is of recent origin, pessary treatment with such adjuvants as douching, etc., may be successful. On the other hand, it may occur to you that it will be necessary to open the abdomen, either for the purpose of stitching the fundus to the anterior abdominal wall or in order that you may shorten the round ligaments by one of the various methods suggested. Between these two extremes—pessary treatment and coeliotomy—we have operative vaginal methods, which have given me satisfactory results, and these measures apply to perhaps the vast majority of the cases which come under our notice. Take a typical example: There is endometritis; there is cervical laceration, perhaps it is not extensive, but the cervix is enlarged, possibly elongated, or the ectropion due to the laceration may be so great as to cause the lower part of the cervix to take the shape of the top of a mushroom; in any case the cervix is unduly heavy. Then you find prolapse of the posterior vaginal wall, and, it may be, also of the anterior wall; and, finally, there is laceration of the perineum.

In such circumstances I dilate the cervix and curette the uterus. Then I do trachelorrhaphy or amputation of the cervix as may be indicated, and if I select trachelorrhaphy, especially if there is a mushroomed cervix, I know I must remove a considerable amount of tissue to bring the extreme edges of the lips together, but more especially to lessen the weight of the cervix. Now comes the crux—How am I to deal with the prolapsed vaginal

walls? Many of you, no doubt, would reply, do colporrhaphy. If I consult gynaecological books I find posterior colporrhaphy means removal of an elliptical portion of the mucous membrane of the posterior vaginal wall, the long axis of the ellipse corresponding with the long axis of the vagina, and that the object of the operation is to produce narrowing of the posterior vaginal wall. But I do not want this narrowing. What I do want is shortening of the posterior vaginal wall, and accordingly I perform what I will call transverse colporrhaphy. About 1 in. or 1½ in. above the margin of the perineum I make a crescent-shaped incision, the concavity of the crescent looking upwards. I then dissect upwards and remove the portion of mucous membrane in such a way that the upper margin of the denuded surface is also crescentic, but with the concavity looking downwards. Thus I have formed an ellipse with its long axis running at right angles to the long axis of the vagina, and I stitch the edges together by means of silkworm-gut sutures. The amount removed will, of course, depend on the laxness of the wall. The net result is that I have shortened the posterior vaginal wall and produced the tenseness which I have pointed out is so essential for keeping the uterus in its normal position. I then do transverse colporrhaphy on the anterior wall if the laxness should be sufficient to indicate it. Then, if required, I do perineorrhaphy. All can be done at the one sitting. Sometimes at the hospital a belated student comes in and in an undertone asks one of the nurses what operation I am doing, and she whispers in reply, "All the 'orrhaphies."

I have not had an extended experience of such operations as stitching the fundus to the anterior abdominal wall or of the many operations devised for shortening the round ligaments, because I have come to the conclusion that it is in comparatively few instances almost any one of these operations would be requisite, and, perhaps I may add, justifiable. I have done ventrisuspension, where you aim at producing an artificial ligament between the fundus and the anterior abdominal wall, as distinct from ventrifixation, where you cause an actual adhesion of the fundus to the anterior abdominal wall. I have not kept notes of my ventrisuspension cases, but with regard to four that I remember I can give a few particulars, which I think you will find to be interesting.

1. Mrs. O., aged 31, mother of three children, a widow three years. I operated on her on December 30th, 1904. She got married for the second time a year after the operation. Menstruation ceased a week after marriage, and when six months pregnant she had a miscarriage, which she attributed to an attack of "gastric fever," from which she suffered at the time. During the second pregnancy she had splendid health and was delivered of a boy at term. Her labour was very quick.

Third pregnancy. She came to me stating that for about three weeks her sight had been very bad. I found a quantity of albumin in the urine and diagnosed optic neuritis. This diagnosis was verified by an ophthalmic surgeon. I got her into hospital and her sight steadily improved, but rather suddenly became very bad when she was three weeks under my observation. She stated she was then seven months pregnant. With a view to relieving tension, I ruptured the membranes, and about two days afterwards she was delivered of a boy, which lived half an hour. The sight in the right eye continued bad, but when she took her discharge from the hospital the sight in the left eye was very fair and she could get about her business practically without inconvenience.

Next pregnancy (fourth) she enjoyed excellent health the whole time; went to term, labour very quick, was delivered of a girl.

Fifth pregnancy. Was admitted to hospital May 10th, 1913. The previous day she noticed her sight failing. A quantity of albumin was found in the urine; she complained of vomiting and very severe headache. Soon after admission she was nearly blind, but under treatment her sight commenced to improve. Thirteen days after admission had miscarriage; she was then four months pregnant. The fetus, a male, was macerated, though quickening had occurred since admission. Vomiting had ceased prior to miscarriage. To-day (May 26th) when I am writing this paper headache is gone, sight in left eye improved; is doing well generally.

Was the optic neuritis in this patient in both instances produced by the ventrisuspension? Did the pregnant uterus, owing to absence of normal mobility, press unduly on the bladder and ureters and thus produce the kidney disease which led to the optic neuritis? What is in favour of that is that in the two pregnancies, the third and fifth, in which the neuritis occurred the fetus was a male. On the other hand, why was it that during the second and fourth pregnancies she felt in excellent health and went on to term without any development of optic neuritis, and in spite, too, of the fact that in one of these pregnancies, the second, the fetus was also a male.

2. I did ventrisuspension on Miss F., aged 32, who, strange to say, was a sister of the previous patient. The operation was performed on August 23rd, 1905, and she got married in January, 1907. Her first child was born about ten months after marriage. She has had three entirely, all girls; the pregnancies were normal; first labour slow, the others very quick; has been in splendid health since the operation.

3. Mrs. L. In this case the retrodeviation recurred, and when I saw her some years afterwards she refused to submit to any further operation.

4. Mrs. D. Though I had carried out careful antiseptic precautions during the operation phlegmasia dolens developed. I saw her about two months after she had left hospital. The uterus was then in position. I have not been able to trace her further history.

All these four were obstinate cases of retrodisplacement. As you have seen, in three of them the fundus was retained in a forward position. But if I had four exactly similar cases now I would far prefer operating vaginally on lines such as I have indicated. Shortening the round ligaments does not appear to be as much in favour as it was some years ago, and it seems obvious that in the effort to hold the fundus forwards these ligaments are made more taut than they would be in the natural condition of affairs, and that accordingly the mobility of the uterus is diminished. There is a likelihood, too, that under these circumstances, as in cases of ventrisuspension or ventrifixation, intestinal peristalsis may be interfered with or actual obstruction result. It is not necessary for me to say much with regard to the treatment of prolapse of the uterus, as we have pretty much the same state of affairs as we find in retrodeviations—lessening the weight of the uterus and performing transverse colporrhaphy being usually indicated. I may mention that I examine the patient a month after the operation. If you find then that there has been some recurrence of the displacement you may feel pretty certain that you have been too parsimonious in the removal of cervical tissue or of vaginal mucous membrane. But even if you are obliged to have recourse to pessary treatment the probability is that at her next visit your patient will tell you that she feels decidedly more comfortable than she was before you operated.

DISCUSSION.

Dr. ARTHUR GILES said that he found himself in complete accord with Mrs. Scharlieb's observations on the question of the technique of operations for pelvic displacements: and he congratulated Dr. Hans Schlimpert on his interesting demonstration. He had on other occasions recorded the results of his operations for the treatment of displacements, and it was not necessary to enlarge on this aspect of the subject on the present occasion. He would rather confine his remarks to the question of indications, as this was the point on which there was likely to be the greatest divergence of opinion. Up to July 7th, 1913, he had done a hysteropexy in 569 cases, distributed as follows:

Chronic retroversion	170	cases
Prolapse	75	,,
Procidentia	123	,,
Retroversion with pelvic inflammation ...	54	,,
Displacements with fibroid tumours ...	45	,,
Displacements with ovarian tumours, tubal pregnancy, or tubal inflammation	102	,,
Total	569	,,

In the last three groups there was usually no divergence of opinion as to the necessity for operation, but there was probably a divergence of view as to the performance of a hysteropexy at the same time. His own practice was this, that if he were operating for tubal or ovarian conditions, and knew that the patient had a chronic displacement, he considered it a kind and proper procedure to sling up the uterus at the same time, to save the patient from future trouble. In the first three groups, however, there was considerable room for difference of opinion, because it was chiefly a question of pessaries *versus* operative treatment. There were cases where operation was unsuitable or out of the question, and other cases where the temporary wearing of a pessary would

lead to a permanent cure, by which he meant that the patient was able to do without a pessary: pessaries, therefore, were still necessary. His feeling, however, was that they were a necessary evil—necessary sometimes, but evil always. Therefore he frankly advocated surgical interference—even when a pessary held the parts up perfectly well—in cases where a patient appeared to be condemned to the wearing of a pessary for an indefinite number of years. The drawbacks of the pessary were numerous and obvious, and he held the view that patients were entitled to have relief from pessary treatment, in just the same way that the radical cure of hernia allowed patients to dispense with the wearing of a truss.

Mr. Christopher Martin (Birmingham) expressed his entire agreement with Mrs. Scharlieb's opening remarks and her judicious summary of the treatment of uterine displacements. He was also much indebted to Dr. Schlimpert for his lucid description of his operation. The speaker looked upon prolapse of the uterus as due to a stretching of the pelvic fascia, not to a lesion of the vaginal mucous membrane, and only to a slight extent to the pelvic muscles. It was, in fact, a hernia of the uterus through the pelvic fascia, just as an inguinal hernia was due to the protrusion of intestine through the stretched fibrous structures of the inguinal canal and rings. He thought Professor Corby was wrong in attributing displacement of the uterus to stretching of the mucous membrane of the posterior vaginal wall. He was putting the cart before the horse; the displacement of the uterus might cause stretching of the vaginal mucous membrane, but not vice versa. The aim of plastic operations for prolapse should be the restoration of the pelvic fascia. He submitted that the success of Dr. Schlimpert's operation—for suturing the levatores ani—depended on the bringing together of the separated fibrous sheaths of the muscles and the pelvic fascia. Any good that might result from Professor Corby's transverse colporrhaphy he thought was due to the bringing together of the fascia behind the mucous membrane. He agreed with Dr. Giles that pessaries were still a necessary evil. If they operated on all women who were at present made comfortable with pessaries, they would have to enlarge sixfold their gynaecological hospitals. He believed the best pessary for prolapse was Simpson's shelf pessary. No doubt, if too large a pessary were inserted, or if it were left in too long—over three months—without being changed, or if the patients did not douche regularly, trouble would result and inflammation or ulceration of the vagina occur. In cases calling for abdominal section he preferred ventrifixation to any of the round ligament operations. It was important to insert the sutures through the anterior wall of the body of the uterus below the level of the round ligaments. This left the fundus unattached, and if pregnancy occurred it was free to expand.

Dr. Cuthbert Lockyer (London) stated that a consideration of all the malpositions of the uterus would lead to too wide a discussion to be adequately dealt with in the time allotted for the subject, and he would therefore confine his remarks to the special reference to backward displacements and prolapse—especially as retroflexion and descent were so commonly associated and so frequently met with. Although backward displacements and prolapse were often in company they were none the less met with singly—that is, they might find descent of the first degree without backward displacement and also backward displacement without descent. Similarly they found descent and backward displacement with or without prolapse of the vaginal walls, and therefore the state of the latter could be ignored in discussing the treatment of uterine prolapse; and the same remark applied to the bladder, since in uterine prolapse of the second degree this organ might lie mainly outside the vulva. For the purpose of discussion, therefore, it would seem most fitting to divide the treatment as follows: (1) The treatment of uncomplicated retrodisplacement; (2) the treatment of uncomplicated descent; (3) the treatment of descent of the uterus, accompanied by prolapse of the vaginal walls; (4) the treatment of descent of the uterus and prolapse of the vaginal walls and the bladder. Many cases of simple backward displacement required no local treatment; this applied especially to young single women. With this class of patient, if symptoms were severe—for example, if menorrhagia, leucorrhoea, dysmenorrhoea, and sacralgia were present—curettage and ventrisuspension were preferable to treatment by pessaries; but such cases were few. When simple backward displacement was associated with dyspareunia and sterility, and the husband's virility had been proved by examination of semen, after reposition of the uterus, a Hodge pessary should be the treatment in the first instance. If the presence of a pessary proved objectionable, it was justifiable to offer the patient the advantage of ventrisuspension; again such cases were few. Simple descent of the uterus was not infrequently met with after parturition. In many of these cases prolonged rest in bed, massage, and tonics were all that was required. In fact, attention should be directed to the accompanying subinvolution of the uterus. A watch-spring or vulcanite ring pessary might be necessary for a few months, especially in the case of poor women who had to resume their ordinary household duties. Descent of the uterus complicated with prolapse of the vaginal walls was met with in varying degrees, and the treatment would vary accordingly. A ring pessary was the most suitable form of treatment in cases of minor degree, but its success would necessarily depend upon the size of the vaginal outlet and the integrity of the pelvic floor. Where the perineum was deficient, curettage of the subinvoluted uterus and colpoperineorrhaphy were indicated. For advanced cases of uterine prolapse of the second degree, with the vaginal walls and bladder prolapsed outside the vulva, the speaker performed the following operation:

1. The anterior vaginal wall is stripped from off the bladder.
2. The bladder is freed from its attachment to the cervix.
3. The freed bladder is invaginated and the anterior edge of the invagination cup is stitched to the isthmus of the uterus high up under the peritoneal reflection.
4. The cervix is then amputated.
5. The vesical posters (fibro-muscular aponeurosis of the pelvic floor) are picked up on either side and brought together in the mid-line, thereby covering the front of the cervical stump and the invaginated bladder.
6. The excess of the vaginal flaps is now removed, the fresh edges united by continuous suture in the mid-line.
7. Finally an extensive posterior colpoperineorrhaphy completes the operation.

The fundus uteri is not suspended to the anterior abdominal wall.

Pregnancy had followed this operation within eighteen months of its performance without any sign of a recurrence resulting. For complete procidentia in very old subjects he preferred Le Fort's operation to any other procedure. Only in cases where there was strong contraindication to the administration of a general anaesthetic would he prefer external supports (such as Napier's or Cutter's stem pessary) to operation. For retroflexion and retroversion complicated by adhesions or by tender prolapsed ovaries, laparotomy and ventrisuspension should be performed, but he did not find it necessary to employ ventrisuspension for "prolapse." It was quite true that in the second degree of prolapse the fundus uteri became retroflexed, but the symptoms in these cases were not due to the retrodisplacement of the body of the uterus, but to the associated displacement of the bladder, and often to the increased weight of the uterus. The latter was dealt with by amputation of the cervix, and the former by a cystocele operation such as the one already mentioned. The fundus uteri could be left alone. Ventrisuspension as a primary procedure had but limited indications, and in taking this view the speaker found himself at variance with those operators who employed this operation frequently. He noted in Dr. Giles's book on the after-results of 1,000 abdominal operations that "ventrifixation" was performed in 22.2 per cent. of the cases. In Dr. Lockyer's own series of 733 consecutive abdominal operations, he performed ventrifixation or ventrisuspension on 41 occasions—that is, in 5.5 per cent. Again, Dr. Briggs of Liverpool had recorded over 600 cases treated by fixation or suspension of the uterus. It was thus quite clear that there were two distinct schools of opinion in regard to the value of these operations for backward displacements. For mobile retroflexion with symptoms such as bearing-down pain, sacralgia and menorrhagia, curettage, with the use of a Hodge pessary, was all that was necessary in the way of treatment. Up to 1906 he employed "fixation" of the uterus, passing two silk sutures

through the anterior part of the body of the uterus low down, so as to give the fundus free play, but after hearing Tod Gilliam describe his method of suspension at the Toronto meeting of this Association he had always used this method in preference to fixation.

Miss IVENS (Liverpool) referred more particularly to the method of Gilliam's operation, in which the chief flaw was the formation of internal apertures through which strangulation might occur. Out of 100 cases Miss Ivens had opened the abdomen in two for chronic pain and discomfort, and in both had found a loop of intestine lying loosely in the foramen. To remedy this, in 75 cases Miss Ivens had adopted Mayo's modification, where the round ligament was drawn through the peritoneum in the situation of the internal ring, so that no aperture was left. The speaker pointed out the advantage of a round ligament operation over a peritoneal fixation, owing to the hypertrophy of the muscular tissue in the former, whereas peritoneum stretched.

Dr. WILLIAM RITCHIE (Glasgow) stated that the operation selected for the treatment of retroflexion of the uterus depended on the individual case, but he would limit himself to one method of treatment. He had had more satisfactory results with round ligament suspensions in complicated cases, such as fixed retroflexions or cases in which pessary treatment and colporrhaphy had failed, than with any other operation. He had records of over 40 cases in which he had seen the patients at least six months after operation. In most of them the records were for a longer period. The cases were consecutive, missing out those with records of less than six months. Out of those one was unsuccessful in keeping the uterus in anteflexion. The patient in this case developed an acute pneumonia immediately after operation, and the suspending sutures gave way as the result of the prolonged coughing. He subsequently operated on her, and found the uterus and ligaments *in statu quo ante*. He again resorted to a suspension by the round ligaments, with good result, the uterus being in good position more than six months afterwards. One of his patients became pregnant, and had an uneventful full-time delivery, and he had had the opportunity of examining 8 others after delivery at full time, and found the uterus anteflexed. In the examination of these cases months after operation the suspending ligaments had not appreciably elongated, and the uterus was found closely situated to the anterior abdominal wall. This he verified in one of his cases in which he had to perform an ovariotomy eighteen months after a round ligament suspension had been undertaken. In 3 of his cases a hysteropexy had been already performed—one five months previously. In all 3 the uterus was in retroposition but attached to the anterior abdominal wall by long bands from 4 inches in length in one case to $2\frac{3}{4}$ inches in another. In one there were two bands of attachment. In those cases the resulting bands stretching across the pelvic cavity antero-posteriorly were undoubtedly a source of danger. In his unsuccessful round ligament case the result was as before operation, with no danger resulting. The remarkable power of the round ligament to retract, as shown after full-time pregnancy, justified its use in suspension in women during the reproductive period. In all of these cases he had drawn the ligament through peritoneum, muscle and fascia, which gave a stronger suspension than through peritoneum and muscle alone. An objection was advanced against this method in that a hernia might result. He would like to deal at the same time with another fault that was found—that by pulling taut the end of the ligament distal from the uterus a foramen might result through which a loop of bowel might pass and become strangulated. To overcome these two objections he had lately cut the ligament such a distance from the uterus as he required. After having partly freed the suspending uterine portion from the broad ligament, it was passed through the muscle and peritoneum in the usual way, and then through the fascia at a level about 1 inch higher. This could easily be done, as a longer piece of ligament was obtained by this method. The likelihood of hernia was thus diminished. This method had some advantages over the ordinary Gilliam's operation. In Gilliam's operation the suspension was only obtained by that part of the ligament proximal to the uterus, the distal portion having no suspending power and causing one of the objections to the operation. By this method the same suspension by the same part of the ligament was obtained, and the objection was eliminated. The only function of the round ligament was its mechanical suspension of the uterus, and when this was lost no harm was done by cutting it. The level of suspension varied according to the tension produced on pulling up the uterus, and no fixed point was chosen, such as the line between the anterior superior spines, which was selected by some operators. In addition to his own cases he had had the privilege of being associated with Dr. W. D. Macfarlane in over 150 cases of round ligament suspension which he had performed, and his results along with his own had confirmed him in the opinion that this operation gave much better results than ventrisuspension; and where pessary treatment failed, or was unsuitable, it should be adopted as the operation of election for the severer cases of retroflexion of the uterus. He concluded (1) that round ligament suspension was satisfactory; (2) that this operation could be performed on women during the child-bearing period with impunity; and (3) that it was a much more satisfactory operation than hysteropexy.

Dr. R. L. DICKINSON (New York) was keenly interested in contrasting English and American practice. In the States the almost universal use of catgut for ligature and buried suture prevailed. Small sizes (for example, Nos. 1 and 2) were employed. Fine silk was used for bowel and silkworm gut for external stay stitches in the abdomen and pelvic floor. Retroversions giving no symptoms, and uncomplicated by lacerations or tumours, should be left alone. Pessaries had a field of usefulness in pregnancy and *post partum*, in cases curable within six months by pessary-wearing, in cases inoperable because of the general condition—for example, the prolapse of certain old women, and lastly, while waiting the menopause in women not really crippled by pelvic symptoms. There was a happy medium between the skilful surgeon who refused to take time to try a pessary, or sweepingly condemned them, and the gynaecological practitioner who, for lack of opportunity to develop surgical skill, fostered the lamentable "office habit." He rejoiced to see an open mind on the matter here. There were fashions in pelvic work, and in America the pendulum had swung strongly away from Kelly's suspension, which anteverted the uterus by delicately stitching the back of the fundus to the abdominal wall. Ventral or vaginal fixation was limited to cases of prolapse in sterilized or post-climacteric women. For retroversion the round ligament operations were in great favour, but extraperitoneal shortening was rarely resorted to because no view of the organs was obtained. Intra-abdominal mural shortening (Gilliam) and ante-uterine plication (Coffey) were fairly popular. Retro-uterine plication (Baldry, Webster) was extensively used, and appeared specially adapted to correct varicose broad ligaments, and to lift swollen ovaries from the cul-de-sac. Interposition operations had been popularized by Watkins, but were only suitable for small uteri. Hysterectomy in retroversion was reserved for fibroid uteri (myomectomy having been practically abandoned), for intractable menorrhagia, or, with some operators, for badly adherent uteri associated with pus tubes. The wearing of a pessary after operative correction had lessened the speaker's recurrences from 9 to 3 per cent. Hysterectomy for incomplete prolapse, while theoretically indefensible, gave in practice excellent results, and furnished a thick bridge of united broad ligaments to which the prolapsed bladder and vagina could be made fast (Goffe). For prolapse in old women he recommended a trial of the pessary, and taught them to remove and leave it out at night. He considered the American practice as regards the restoration of the pelvic floor (following some of the above operations) to be more thorough and complete than he had seen in Germany, or, judged from hearsay or book knowledge, to be the case in England. Buried knots were danger spots, and personally he depended upon a single continuous catgut suture in three or four tiers, the first in the "levators" and the last subcuticular. He expressed his gratitude to Dr. Schlimpert, and congratulated Dr. Giles on his full and exact statistics.

Mrs. Scharlieb, in reply, thanked Dr. Schlimpert for his able demonstration of an improvement on Holden's operation by restoring the power of the deep transversus perinei in addition to the restoration of the levatores ani as taught by Holden, but asked why there should be any mortality in these plastic operations. She ventured to differ from Dr. Corby, and thought it could not too strenuously be insisted that *no* fixation stitches should be inserted in the fundus or posterior wall of the uterus. Massage of the vagina and perineum was practised long ago by Thüre Brandt of Stockholm. It was good treatment for incipient and slight cases of pelvic relaxation, but for obvious reasons it was a treatment to be used by women doctors only. Dr. Lockyer and Dr. Ivens urged the claims of Gilliam's suspension of the uterus. It was excellent, but must be limited to cases in which the round ligament was well developed. Professor Dickinson of New York mentioned with approval the performance of hysterectomy in severe cases of prolapse; but surely an operation of such severity should not be done for conditions which involved inconvenience but not danger, and which were remediable by less severe measures.

Dr. Schlimpert fully agreed with Mrs. Scharlieb that the ideal result would be an operation without mortality, but even with simple colporrhaphy an occasional death would occur. It meant a lot to a working woman to have her incapacity relieved, and to completely cure them some risk had to be run. He could not agree with Mr. Martin as to the prime importance of the fascial sheaths. This tissue was difficult to find even in the cadaver, and in general surgery, as in radical cure of a hernia, failure would result if the muscles were not brought together. He fully endorsed Dr. Lockyer's views on the cure of cystocele.

Professor Corby indicated that Mr. Martin had misunderstood him in regard to the elongation of the posterior vaginal wall. He (Professor Corby) believed this to be a result and not a cause, and his operation was intended to restore the original condition of affairs. He found that an efficient pelvic floor was produced by the retraction of the muscular tissue which had been separated from the removed portion of vaginal mucous membrane. He had had several cases where women suffering from menorrhagia, leucorrhoea, sacral pain, and nervousness had reported themselves as well and comfortable after the operation he had indicated.

DISCUSSION ON AFFECTIONS OF THE URINARY TRACT COMPLICATING PREGNANCY.

OPENING PAPER.

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The subject upon which I have been asked to open a discussion is extensive and complicated, and it would be impossible for me, in the brief space of time at my disposal, to refer to, far less discuss, all the various complications that may occur in the urinary tract during pregnancy. I must confine my remarks to a selection of those conditions which seem of most interest.

For the successful conduct of pregnancy, the practitioner must observe three essential points—first, the careful adoption of antiseptics; secondly, the accurate measurement of the pelvis; and lastly, what we are specially interested in to-day—namely, the regular examination of the urine of a gravida.

It is impossible to over-emphasize the importance of this proceeding. All of us who have had much experience of consulting work know how often the neglect of it has been the cause of hopeless disaster; because, while it is perfectly trite to say that as yet we have no certain and uniform means of dealing with that interesting and ghastly syndrome of symptoms known as eclampsia, yet, by careful examination of the urine, we can ward it off. Eclampsia can, by careful attention to the examination of the urine, be prevented in most cases.

It must be admitted that the liver and kidneys are the most vulnerable point in the body during pregnancy. Valuable information regarding the general metabolism is got from the urine, and its frequent examination is an absolute duty. It should be examined every three weeks until the seventh month, and then every two weeks. If there is any suspicion of toxaemia, it should be examined every day. By this procedure many cases of probable eclampsia and toxaemia may be anticipated.

Pathological conditions found in the urinary tract are numerous, and it would, as I have said, be beyond the scope of this present communication to refer to them all.

Such a condition as retention of the urine associated with gravid retroversion has received attention from the days of Hunter onwards, and the frequency of its occurrence, both in hospital and private practice, has afforded ample opportunity for its study.

Stone in the bladder must be a very rare condition indeed in pregnancy and labour, because during the fifteen years I had charge of the gynaecological department in the Royal Infirmary I saw only one case of stone, and during the twenty years I have been obstetric physician to the Royal Maternity Hospital I have seen none. In my consulting practice also I have never seen a case of stone associated with pregnancy or labour. As is well recognized, the length of the urethra, its dilatability, and large bore, must account for the infrequency of this condition.

Let me now approach the subject of pyelitis during pregnancy, or, rather, the pyelitis of pregnancy. I am not dealing this morning with an acute manifestation of a pre-existing chronic affection of the pelvis of the kidney which existed before the woman became pregnant, or with one that has been developed from calculus or some other cause entirely independent of pregnancy. Such cases may be called pyelitis in connexion with pregnancy. I am concerned at present with an acute inflammation developed during pregnancy and dependent in some way on the pregnant condition for its causation. This may be called pyelitis of pregnancy or pyelitis gravidarum, having pregnancy as its exciting cause, and with, in the majority of instances, complete recovery after labour.

The first reference to this subject was made by Rayer in 1841, and then a further contribution was made in 1893 by Reblaub.

Time will not permit me to go into the history of this condition further. Suffice it to say that in recent years the condition has received very considerable attention. That the condition occurs more frequently than recorded cases would lead us to suppose may be very fairly assumed, as the condition is far from being generally recognized by the profession at large. The question arises, How does pregnancy directly cause this lesion? First of all, one may look at some of the conditions of pregnancy which predispose to its production.

It has been sufficiently shown by Olshausen, Löhlein, and others that the pregnant uterus may cause dilatation of the ureter or ureters, and thus place the kidney and ureter in danger of infection. For instance, it has been shown conclusively that in some few eclamptic cases, 25 per cent. at outside, dilatation of the ureters was present, both ureters being sometimes dilated, but generally the right one. This is entirely in keeping with the fact observed in pyelitis of pregnancy, that the right kidney is the most frequently affected.

Now, why should this be so? The explanation is to be found in the anatomical relation of the right ureter, as it crosses the brim of the pelvis, making more of an acute curve, and lying more exposed than the left ureter. An additional reason may be found for the compression of the right ureter, in the position of the uterus itself, which generally lies in the right oblique diameter. This would still further favour the pressure on the right ureter.

Much stress has been laid on the mechanical state of affairs during pregnancy as a contributing factor, namely, the pressure on the ureters, especially the right, by the head of the child. Personally, I have been unable to see how this could be a factor, for although the majority of cases of pyelitis occur between the fifth and eighth months, it often does occur earlier in pregnancy, before the presence of the head could act as a factor at all. Certainly, an explanation which seems a very rational one is that in the cystoscopic examinations made at my

request at the Maternity Hospital in Edinburgh, we found the mucosa of the bladder swollen and hyperaemic, as was pointed out by Mirabeau in 1907. Therefore a very slight pressure on the ureter would be sufficient to close its canal and obstruct the current of urine, thus forming a favourable nidus for all sorts of infection.

As to the modes of infection, they may either be ascending from the bladder or descending from the kidney, or through the blood current. I think there can be no doubt that the infecting agent in the vast majority of cases is the colon bacillus. Certainly in all the cases that have occurred in the hospital under my care that has been the most common infecting agent. This, however, is not exclusively the case, because gonorrhoeal infection, pyogenic infection generally, and tuberculous infection are also described. But unquestionably the colon bacillus is the most common.

The clinical picture varies. Sometimes the onset is very insidious indeed, at other times it begins suddenly and severely. For example, the patient, without any obvious reason, about the sixth or seventh month of her pregnancy is seized with acute abdominal pain. The pain is referred very often to the region of the bladder, sometimes to the kidneys, sometimes to both. It is often associated with nausea and vomiting. Frequently enough the pain is confined to the bladder alone, and associated with frequent micturition, along with a rise in temperature. The cardinal symptoms then are lumbar pain, pyuria, and fever. The pain becomes localized over the infected kidney, and deep pressure causes pain. Cystoscopic examination of the bladder shows it to be more or less inflamed. In simple cases the temperature drops in the course of four or five days, and in the course of two weeks the conditions are very often normal. On a bacteriological examination the quantity of pus varies in different specimens. The urine shows no change, except a little albumin to start with. In the course of a day or two the specific gravity may rise to 1020, and microscopic examination shows pus, blood corpuscles, granular casts, and rod-shaped bacilli.

Differential diagnosis from acute appendicitis, acute cholecystitis, typhoid fever, and salpingitis has to be made. Yet with the knowledge we possess of pyelitis in pregnancy, it is striking how often the condition is missed. I have confined these remarks to pyelitis during pregnancy, but it is not uncommon to find pyelitis during the puerperium, in which case a differential diagnosis is not so easy, as it is often a complication of puerperal sepsis.

The prognosis, as regards the mother, is quite good, the disease running its course in seven or fourteen days. Some cases continue until pregnancy is brought to a conclusion either by artificial or spontaneous delivery. The prognosis for the child is not so good. Premature spontaneous delivery often takes place, and in most or many cases the child is dead. Even in bad cases it is remarkable how rapidly the woman recovers after the uterus is emptied spontaneously, which is one of the reasons why I would be disposed to induce labour rather than operate on the kidney.

There can be no question that the pathological conditions associated with the toxaemias of pregnancy have attracted more attention of late than any other subject in obstetrics, but I am concerned only with the manifestations of toxaemia as far as regards the urinary apparatus. During pregnancy there seems to occur in the kidney an anaemia, with fatty infiltration of the epithelial cells, without acute or chronic inflammation. This condition of matters occurs very frequently (in 5 or 6 per cent.), and is associated with very mild symptoms, such as slight albuminuria, headache, and so on. It occurs so frequently that it has been called the "kidney of pregnancy." It is most likely that the condition is due to a diminution of the blood supply, produced by increased intra-abdominal pressure and contraction of the arterioles, owing to the increased products of metabolism in the blood of pregnant women.

The clinical significance of this so-called "kidney of pregnancy" is that, owing to the increased metabolism, the kidneys are suffering from extra strain being placed upon them. With appropriate treatment it passes off, but it must always be watched, as it is the earliest signal of toxaemia in pregnancy, and if unattended to, it is the precursor of serious eclamptic symptoms later. In respect of the nature of true nephritis occurring before pregnancy, or developed during pregnancy, the prognosis is much graver, owing to the extra amount of work thrown upon the kidneys. The differential diagnosis between a true nephritis and the "kidney of pregnancy" is often a very difficult matter. So far as the symptomatology is concerned, this much may be said, that if kidney disease exists before pregnancy, it will develop itself in the early months; whereas, if symptoms of kidney insufficiency develop themselves after six months, it may be presumed that the disease had its origin as a result of pregnancy. I am, however, concerned here not so much with its symptomatology as with the conditions of the urine. We are indebted to the work of Dr. Herbert Williamson, St. Bartholomew's Hospital, for a very original attempt to clear up this difficult subject. He asks two questions:

1. Can we distinguish between an albuminuria which is the result of a chronic nephritis, and an albuminuria due to pregnancy toxaemia?

2. In a case of chronic nephritis, can we tell when pregnancy toxaemia has been grafted on to the old kidney lesion?

If it can be established that acidosis is constantly found in pregnancy toxaemia and is not present in chronic nephritis, the onset of acidosis will prove a valuable indication that pregnancy toxaemia has been developed.

The question of acidosis is a profoundly interesting one. What is the significance of it in pregnancy? It is, of course, intimately associated with the toxaemias of pregnancy, and represents an alteration in the ammonia-urea-nitrogen ratio in the urine, accompanied by the presence of acetone and diacetic acid. Acidosis occurs in the vomiting of pregnancy, in diabetes, as we shall see further on, in starvation, delayed chloroform poisoning, and in eclampsia. It is impossible to refer to this subject without mentioning the important work of Dr. Swayne. It seems from his observations that acidosis, occurring in a pregnant woman suffering from albuminuria, indicates a pregnancy toxaemia: although, to prove this conclusively, an investigation of albuminuria in pregnancy without acid is necessary. So far this evidence is wanting, since all cases of albuminuria investigated show an acidosis. In all the cases he referred to the acidosis disappeared within a comparatively few hours after delivery, showing that pregnancy is undoubtedly the determining factor in producing the toxaemia, and its cessation leads also to the cessation of the toxic symptoms.

There can be no question that the condition which has attracted most attention of late is the toxaemia of pregnancy, specially as shown in pernicious vomiting and eclampsia. Pernicious vomiting has distinct pathological lesions, with urinary findings; they are not only present in all marked cases, but the degree in which they are present to a very large extent determines both the diagnosis and prognosis, and in no inconsiderable degree the treatment of the case. In the urine there are found acetone, oxybutyric acid, diacetic acid, indican, and albumin. Leucin and tyrosin crystals are frequently to be found by appropriate methods. In addition to these there is found an increase in the proportion of the total nitrogen excreted through the kidneys in the form of ammonia. In order to interpret the abnormal nitrogen output it is necessary to understand the normal nitrogen output, the so-called ammonia coefficient. The total amount of nitrogen excreted in the urine is, roughly speaking, composed of 90 per cent. of urea, 5 per cent. of ammonia salts, and 5 per cent. of nitrogenous bodies difficult to isolate. The proportion of nitrogen excreted as ammonia to the total nitrogen—that is, the ammonia coefficient—is, normally, about 5 per cent.

For the examination and elucidation of this question we are indebted to Whitridge Williams. Recognizing that in normal pregnant women the ammonia coefficient varied from 3 to 7 per cent., he pointed out that in women suffering from toxaemia it rose to 15 to 20 per cent. This work of Dr. Williams differentiated therefore the variety of vomiting by excluding neurotic and reflex forms. It is well known that this high ammonia coefficient is not specially characteristic of pernicious vomiting, but occurs also, as I have said, in starvation with profound inanition, and also as the result of delayed chloroform poisoning. Since writing his paper on the subject Williams has modified his opinion very consider-

ably, and shown that it requires a much higher percentage to establish a diagnosis of toxic vomiting than 10 per cent. He makes his position thus:

> For clinical purposes we can regard a given case as toxaemic in origin whenever a seriously ill patient presenting a high ammonia coefficient (20 per cent. or more) fails to improve after a few days' complete rest in bed combined with suggestive treatment, energetic rectal feeding, and the administration of large quantities of salt solution per rectum and beneath the skin. Furthermore, the appearance of coffee-ground vomit, well-marked icterus, and a semi-comatose condition justify an almost positive diagnosis, provided chloroform has not been administered as an anaesthetic; and if death ensues characteristic hepatic and renal lesions will be found at the autopsy.

It is more and more becoming a recognized fact that induction of abortion should be confined to cases of pernicious vomiting, and in these only after the suggestions of Dr. Williams have been carried out. One of the difficulties associated with the ammonia coefficient as a means of diagnosis is that the method of making the estimation is difficult and can hardly be attempted by the general practitioner. To secure an accurate estimation a copious specimen should be sent to some laboratory accompanied by a note of the amount of urine passed in twenty-four hours.

It is probably somewhat incorrect to include glycosuria and diabetes under the heading of conditions of the urinary system, they being really diseases of metabolism associated with the liver and pancreas. But, as their diagnoses are only arrived at by careful examination of the urine, I think I may fairly include them. I have already referred to the presence of sugar in the urine. It occurs in about 5 per cent. of gravidae. True glycosuria is a comparatively rare occurrence, but pregnancy favours its production. The alimentary form is more easily produced in pregnancy, and there is often a transient glycosuria in the last weeks of gestation. It is not at all an uncommon thing to find in multigravid women a temporary or physiological glycosuria, which gives rise to no symptoms, but which is detected by routine examination of the urine. It is a purely evanescent occurrence, and the sugar disappears after labour is over. But neither the alimentary form of glycosuria, nor the transient form, are altogether to be overlooked, because, although they generally pass off without any serious symptoms whatever, at the same time they are occasionally the precursors of underlying serious diabetes. True diabetes—diabetes mellitus—however, is a very different matter. There glucose, diacetic acid, and acetone are all present, and albumin adds very considerably to the gravity of the case.

In looking at this matter one must differentiate between a diabetic woman who becomes pregnant and a pregnant woman who becomes diabetic. Where a diabetic woman becomes pregnant the prognosis is always a serious one, specially so in the acute cases, where dieting has little or no effect. One may roughly say that a glycosuria which does not respond to any treatment, dietetically or otherwise, is virtually diabetes. In this case the outlook for the patient is very bad, and the prognosis may be regarded as a grave one. Sometimes, however, where the diabetes is what is known as the alimentary type, the patient often goes on to term without any bad effect whatever. In diabetes it is a well known fact that sterility is common, and this accounts, to some extent, for the paucity of records of pregnancy in diabetes. When they do become pregnant, however, premature labour is very common, occurring in about 50 per cent.

The gravity of diabetes in pregnancy was long ago recognized by Matthews Duncan. He found the mortality in true diabetes was very high - 50 per cent. died, 30 per cent. of them in coma. And in the children the results are equally disastrous—51 per cent. being stillborn and 10 per cent. dying within a few days after birth. There is no question that pregnancy has a very maleficent effect upon the course of the disease. It may develop a latent diabetes. The liver is at fault in diabetes, and is overburdened during gestation, and thus acute hepatic insufficiency is usually explained.

I am well aware of Neumann's paper, in which he records cases of pregnancy, labour, and childbed which took a normal course, and in which he found diabetes was no indication for terminating pregnancy. In none of his cases did pregnancy occur in true diabetics; but the glycosuria developed during pregnancy, a condition to which I have already alluded. Glycosuria occurring during pregnancy and remaining with greater or less persistence is a disease which comparatively seldom gives rise to any trouble. With due care as to diet and management, and so on, such patients can be tided over to full term very frequently. It is obviously important to make a clear distinction between glycosuria and lactosuria, as the latter is of no clinical significance at all.

If such is the condition of matters in pregnancy occurring in diabetics the question of treatment becomes an urgent one. It seems to me that the lines of treatment are perfectly definite. Should the sugar content of the urine diminish under appropriate treatment, then unquestionably the case ought to be allowed to proceed to the end. On the other hand, if at any time during pregnancy, whether before or after viability, serious conditions are discovered, such as acidosis, albuminuria, and acetonuria, and there is under treatment no diminution in the sugar, then induction of abortion or premature labour is the obvious course to be adopted. No advantage can be gained in early pregnancy by waiting for the fetus to be viable, because mostly the child either dies before or immediately after birth.

It must, however, always be kept in mind that coma is apt to supervene with the induction both of abortion and premature labour.

There is nothing special, as far as I know, in the delivery of a diabetic woman, except that as diabetes is accompanied by a marked acidosis, and as any muscular exertion may increase the acidosis, and so bring about an attack of diabetic coma, so the muscular strain of labour may precipitate the condition. The prognosis, therefore, in a diabetic woman is a very grave one. The labour should be as free from exertion as possible, and, as chloroform produces an acidosis in a healthy subject, it obviously ought not to be administered to a diabetic. With a view to preventing coma, an intravenous injection of sodium carbonate (a teaspoonful to a pint) should be used.

Lastly, haematuria complicating pregnancy is a somewhat rare condition. I have met with it twice. In both cases it was due only to a congestion of the vesical mucosa, the condition being similar to the one to which I have already alluded in cases of pyelitis. In one case the condition lasted for six months, and in the other for three months, before labour. After the completion of labour the condition subsided. There are obviously two varieties of haematuria: first, the result of actual disease, such as tuberculosis, solitary ulcers, foreign neoplasms; and secondly, the variety to which I have referred, which is due to the congestion of the bladder, as a cystoscopic examination during pregnancy reveals; or its origin may be in the kidney, from the pressure on the abdominal vessels or the ureter. It is quite possible that the condition may be the result occasionally of a toxaemia.

In conclusion, permit me to say that if further advances in connexion with these questions and the whole subject of toxaemia generally, upon which our ignorance is profound, are to be gained, there must be two changes in our maternity hospitals. The first is the establishment of prematernity beds. In the last few weeks this question has again been raised in Dr. Routh's eloquent valedictory address to the Royal Society of Medicine, but he is only bringing into special prominence what has been the constant plea of my colleague, Dr. Ballantyne, and what has been for years an accomplished fact in the Maternity Hospital in Edinburgh. So valuable have our prematernity beds proved, that in the coming alterations of our hospital we hope to have a small ward devoted to that particular purpose. The admission of patients in labour only is unsatisfactory, and the establishment of prematernity beds for the scientific investigation of patients is of the utmost importance.

Secondly, chemistry and chemical pathology in the elucidation of many of these obscure problems in obstetrics are of great importance. The pathological departments of our hospitals must, in the future, be in close touch with chemical laboratories; and it is probable that chemistry, so applied, will give us a better insight into these problems than can be gained at the bedside.

DISCUSSION.

DR. HERBERT WILLIAMSON (London) asked, What did one know of the causes of pyelonephritis of pregnancy, what factors favoured its development, and to what extent was the mechanical pressure exerted upon the ureters by the gravid uterus responsible for its production?

It was generally accepted that pyelonephritis was preceded by an obstruction to the outflow of urine with consequent dilatation of the ureters and renal pelvis, that hydronephrosis was thus produced, and that the stagnant urine was subsequently infected by coliform organisms. Dilatation of the ureters was commonly found *post mortem* in women dying during the later months of pregnancy; the condition might be unilateral or bilateral; when unilateral the right side was affected in 84 per cent. of the cases, and when bilateral the dilatation was greater on the right side than on the left. The portion below the pelvic brim was usually unaffected; the portion above was elongated and dilated, but occasionally the dilatation involved the whole ureter down to its entrance into the bladder.

Such were the facts; what was the explanation? It seemed reasonable to believe that the compressing force was the uterus itself, which, as it enlarged, rose out of the pelvis, became an abdominal viscus, and obstructed the ureter at the spot where it crossed the brim of the pelvis and lay in almost direct contact with the bone. If this view were correct, the compression was due to the uterus itself, not to the lowest part of the fetus, for in the latter event, pyelonephritis would be most common during the last two months of pregnancy, whereas it commenced most often in the fifth and sixth months, when the largest circumference of the uterus occupied the brim of the pelvis. The greater frequency of dilatation of the right ureter was also explained on anatomical grounds, for the uterus lay obliquely so that the right border was rotated backwards and brought into contact with the posterior part of the pelvic brim, whilst the left border was rotated away from it. When the ureter was dilated throughout its whole length the conditions were more difficult to explain; the compression was generally attributed to the firm fibrous tissues of the ureteric canal; but this explanation was not satisfactory, and he suggested that possibly the valvular opening into the bladder might be obstructed by the altered anatomical conditions which existed during pregnancy.

He recognized fully the importance of the mechanical factors, but there was a tendency to lay too much stress upon them. Pyelonephritis the result of infection by coliform organisms was a very common disease at all ages, and even in children was much commoner in girls than in boys. It was met where no cause of obstruction in the pelvis could be found, where there had been no preceding constipation or gastro-intestinal disturbance, and independently of all the other conditions to which its onset during pregnancy was commonly attributed. The same distribution of lesions occurred in the gravid and non-gravid, for the right kidney was far more often affected than the left. During the last year he had had under his care three cases of what might be termed "pyelonephritis of the honeymoon"—cases in which the commencement of married life was followed by a severe renal infection; in all three cases the right kidney was affected primarily. It should be recognized also that dilatation of the ureter accompanied pyelonephritis in many instances where no pelvic tumour or other possible cause of obstruction existed, so that a mechanical obstruction could not be an essential factor in the production of the dilatation.

There was another fact very hard to explain upon the mechanical theory—why was pyelonephritis so seldom found in cases of flat pelvis or in pregnancy complicated with uterine fibroids? We should, *a priori*, expect it to be common; as a matter of fact it was very rare. These considerations made him think that perhaps the importance of the pregnancy had been over-estimated, and that one was apt to forget that, after all, pyelonephritis was one disease, whether the patients were or were not pregnant, and that its treatment must be conducted upon the same broad principles under whatever conditions it occurred.

The Infecting Organisms.—The term *Bacillus coli* was a generic name, including many different species, and he had been struck with the great variety of organisms isolated from his cases. A comparatively small number proved to be the classical *Bacillus coli communis*, and in the most virulent case of the series the infecting agent was the *Bacillus paratyphosus*. He laid stress upon this point to emphasize the uselessness of employing stock vaccines; if vaccines were used they must always be autogenous. He had sometimes, but not always, succeeded in isolating the same bacillus from the patient's faeces, and had often found that the organism was agglutinated by the patient's serum.

The Route of Infection.—He had elsewhere stated fully his reasons for believing that there were three different routes of infection:

1. An ascending infection, not through a column of stagnant urine, but through the chain of lymphatics in the wall of the ureter.
2. Through the blood stream; this method had been repeatedly demonstrated by direct experiment.
3. From the bowel, (*a*) through the wall of the colon as it lies in contact with the kidney; (*b*) through lymphatic connexions between the two viscera; (*c*) through an inflamed appendix adherent to either the ureter or renal pelvis.

Of these modes of infection, he regarded the first as the commonest and the second as the rarest.

With regard to *symptoms*, the speaker said: I have pointed out elsewhere[1] that the initial symptoms vary widely, and that we may recognize six different modes of onset:

1. Gradually developing malaise, with increasing lumbar pain.
2. A sudden acute attack of lumbar pain, followed by constitutional symptoms.
3. High fever, with at first no localizing symptoms.
4. Onset with marked urinary symptoms.
5. Onset with vomiting and abdominal distension simulating intestinal obstruction or peritonitis.
6. Onset with symptoms suggesting pleurisy or pneumonia.

But, whatever be the mode of onset, the following symptoms are common to the great majority of cases:

(*a*) *Pain* is the most striking feature of the disease; in many instances it is at first slight, is felt in the back, and is often described by the patient as "a dull ache like lumbago." Sometimes it is sudden and acute, felt over a wide area, and difficult to localize; in other cases it is referred to the iliac fossa, and raises suspicions of appendicitis; whilst more rarely it is felt in the lower part of the chest, and is suggestive of pleurisy or pneumonia.

(*b*) *The temperature* is raised, irregular, and remittent; it usually rises at night to 101° F. or 102° F. When the pus is pent up in the kidney, the temperature rises, and the discharge of a quantity of pus per urethram is usually followed by a fall of temperature. Rigors are common, and are sometimes of great severity.

(*c*) *The pulse-rate* is increased and varies from time to time with the pain, the temperature, and constitutional disturbance.

(*d*) *Vomiting* occurs during the paroxysms of the pain, and is sometimes a marked feature of the disease. Gastro-intestinal disturbances are often spoken of as precursors of the disease; they are, however, in reality often its earliest manifestations.

(*e*) *Constitutional Symptoms.*—Drenching sweats are often present and are of toxic origin. Anaemia, rapid loss of flesh, a sallow earthy complexion, furred tongue, headache, and constipation are nearly always found when the disease has lasted some days.

(*f*) *Abdominal distension* is usually only slight, but in some cases so marked that in association with persistent vomiting it has led to a diagnosis of intestinal obstruction.

(*g*) *Urinary Symptoms.*—Frequent and painful micturition is present in a relatively small number of cases. The urine is often at first diminished in quantity, later the amount is increased, probably as the result of treatment. Albumin is present in small quantities before the pus is discharged and active motile bacilli are found in large numbers. Pus cells are present in varying amount; epithelial cells, leucocytes, and a few red blood corpuscles

[1] *Kidney Diseases.* By W. P. Herringham. With chapters on Renal Disease in Pregnancy by Herbert Williamson.

are often seen, and, when the kidney substance is affected, epithelial and hyaline casts.

Blood Examination.—Pyelonephritis is usually associated with some degree of leucocytosis. In pregnancy there is normally a slight increase in the number of white blood corpuscles, but during the fifth and sixth months (the time at which pyelonephritis is commonest) they seldom exceed 10,000 per cubic millimetre in uncomplicated pregnancies. The absence of a leucocytosis does not exclude the presence of pus in the kidney; a patient was admitted to St. Bartholomew's Hospital, under my care, on January 15th, with a temperature of 100° F., a pulse of 96, pain in the loin, pus and motile bacilli in the urine, but with a count of only 8,200 leucocytes, although on the day previous to admission she had vomited and had a severe rigor. Such cases are, however, unusual, and we commonly find a leucocytosis up to 12,000 or 14,000 per c.mm.; in several of my cases it had exceeded 20,000. As stated previously, the *Bacillus coli communis* can seldom be grown from a blood culture. Agglutinins and bactericidal substances are often present, for in several instances we have found the patient's serum agglutinate a bacillus derived from the urine.

Treatment.—In the majority of cases medical treatment only is required, and as a rule marked improvement occurs within ten days. In carrying out the treatment there are five essential points:

1. Absolute rest in bed; the patient should be instructed to lie in the semi-prone position and on the side opposite to that infected, so as to cause the uterus to fall away from the pelvic brim and allow free drainage of the kidney.
2. *Diet.*—I do not believe strictly milk diet to be either necessary or desirable. I allow cocoa, custard, eggs, bread-and-butter, and boiled fish.
3. The ingestion of a large quantity of fluids such as barley water, or Vichy water, to which is added potassium citrate in sufficient quantity to render the urine alkaline.
4. Urinary antiseptics, of which the most valuable are urotropin and helmitol.
5. Free purgation.

Administration of serums have proved useless and the value of autogenous vaccines is still doubtful. If there is no improvement after this treatment has been persisted in for ten days labour should be induced. It is doubtful whether nephrotomy or nephrectomy are ever necessary.

Dr. H. O. Nicholson (Edinburgh) affirmed that the most important and interesting affection of the urinary tract complicating pregnancy was undoubtedly the kidney condition which arose in cases of grave toxaemia. The condition might develop very rapidly, and the entire secretory mechanism of the kidney was thrown out of action. Then, definite and unmistakable clinical features were present. There was complete, or nearly complete, suppression of urine, the urine secreted was loaded with albumin, and contained far too little urea, and, most important of all in his opinion, there was a striking increase in the arterial blood pressure. Later on convulsions and coma were very liable to develop.

Since this kind of suppression of urine occurred in women who had previously been healthy, and might subside under treatment, more or less rapidly, leaving the kidney as normal as before, it could not always be due to pathological changes in the organ. One might therefore consider the physiological aspect of this sudden incompetency of the kidney, which sometimes culminated in eclampsia, and he wished to show that it depended entirely upon an alteration in the renal circulation the nature of which it was possible to interpret from a study of some of the clinical features present in most cases.

When toxaemia was increasing towards the end of pregnancy the blood pressure rose higher, and then a very striking clinical feature was to be noted—namely, that in spite of the raised blood pressure the quantity of urine steadily diminished. Far too little notice had been taken of this phenomenon, and yet it was such a remarkable thing to find the secretion of urine abolished at a time when the blood pressure was abnormally high that it was worth while trying to interpret the condition of matters. He wished to explain the mechanism by which anuria was brought about in the toxaemia of pregnancy.

In order to do this one must bear in mind two important physiological points in connexion with the secretion of urine under normal conditions. The first point was that the secretion of urine increased and diminished with increased and diminished *flow of blood* through the kidney; to have urine properly secreted there must be a steady and uninterrupted flow of blood through the renal vessels. The second point, which was more important still, was that the amount of urine secreted was determined entirely by the height of the blood pressure in the *glomeruli* of the kidney—the height of the pressure in any other part of the arterial system counted for nothing.

In the toxaemia of pregnancy there was, without doubt, a powerful vaso-constricting substance circulating in the blood, a substance possessing very similar properties to the internal secretion of the adrenal glands. How did it affect the kidney so as to suspend the functions of the organ? As the toxic substance accumulated in the blood it caused contraction of the vessels, not only of the body generally, but of the kidneys in particular. This contraction proceeded to such an extent that the smaller branches of the renal artery became so much contracted that the flow of blood through the kidney was markedly diminished. That in itself would lead to a lessened secretion of urine. When the vaso-constriction proceeded still further the pressure of blood within the glomeruli naturally fell to a very low level indeed, and the secretion of urine could not be maintained. In this way the urine might be suppressed altogether, exactly as it would be if one put a ligature round the renal artery. In a case of this kind the brachial blood pressure, as estimated by the sphygmometer, was found to be enormously high. Thus in a severe toxaemia of pregnancy, by means of steadily advancing vaso-constriction, the arterial blood supply to the kidney could be gradually lessened until the circulation through the glomerular tufts was brought to a standstill, and complete anuria resulted. The toxin had, in fact, stopped its own excretion. This might sound like a fairy tale, but it was nothing of the kind. Digitalis and certain vaso-constricting drugs in poisonous doses did act upon the renal circulation precisely in this manner and produce suppression of urine. These circulatory changes leading to anuria might, of course, occur when the kidney happened to be affected by pre-existing disease, and then the symptoms might be somewhat modified.

The *post-mortem* appearances found in the kidneys, and also in the liver, lungs, and spleen, in eclampsia might, in his view, be ascribed to the intense venous congestion of these organs which resulted from the cutting off of their arterial blood supply. In all probability the toxin also acted as a protoplasmic poison. It was highly suggestive that the histological changes produced by the injection of large doses of adrenalin on some of the glandular organs of the rabbit, which W. B. Drummond had described, were quite similar to the changes found in these organs in eclampsia. It was possible, he thought, that the adrenal secretion really was the vaso-constricting substance which threw the kidney out of action in these cases. In normal conditions its powerful tendency to constrict the vessels was fully opposed by the thyroid secretion, which acted in entirely the opposite direction. These two internal secretions were definitely antagonistic as regards their effects upon the arterial calibre. Normally one might assume that the thyroid secretion was the opposing influence which safeguarded the renal circulation from dangerous over-action of the suprarenals. The thyroid was a most important antitoxic gland, and when there was excessive absorption of toxins from the alimentary canal—as might well happen in pregnancy—the gland might, and frequently did, become tremendously overtaxed. Sometimes—owing, perhaps, to a primary fault in the individual—the gland could not undergo a compensatory hypertrophy sufficient to meet the demands made upon it, and then the suprarenal action on the blood vessels was exerted to an extreme degree.

Dr. F. Edge (Wolverhampton) considered pyelonephritis to be an ascending infection due to decomposition and infection of stagnant retained urine. The germs came from the patient's rectum, and were due to want of cleanliness. Where infection occurred after use of a catheter,

he had been in the habit of ascribing this to an imperfectly sterilized instrument; where properly used, he considered that it did good by emptying the bladder. Exercise during pregnancy and the puerperium was advantageous in that it emptied the abdominal and pelvic viscera. The question of sterilization of a patient arose when pyuria recurred, and he had performed it on a patient who had had six children, and where he had induced premature labour in the seventh and eighth pregnancies. Vaccines had been of great service in his cases. In Birmingham they had prematernity beds and an obstetric out-patient department. A competent chemist and an expert bacteriologist and pathologist were very necessary, and it was to be hoped that some simplified method of estimating ammonia in the urine would be discovered.

Dr. H. BRAMWELL (Nunney, near Frome) confined his remarks to the pyelonephritis of pregnancy. It must be looked on as a coincidence rather than as a consequence, for it was very common in women and children as a whole. He did not think that pressure was a primary cause. There must be predisposing conditions, for pyelonephritis was not unduly common with fibroids complicating pregnancy, or with contracted pelvis. *Bacillus coli communis* was the most common cause, and the infection was not always an ascending one. The condition was often due to direct infection from the colon or appendix. The organisms in the ascending colon were more virulent than those in the descending colon, and this might partly account for the frequency on the right side. Further, the greater mobility of the right kidney was a predisposing cause by intermittent kinking of the ureter.

Dr. R. L. DICKINSON (New York) was of opinion that the infrequency of death from pyelitis gave value to the reports of findings of multiple subcortical abscesses in some *post-mortem* examinations. Irrigation of pus cavities was good surgery in general, but had not shown itself useful in pyelitis. The complicated chemistry of the nitrogen partition tests had not proved itself of practical value. The emphasis on urinary examination twice a month after the third month could not be too great, but, if they had to choose between urinalysis and blood pressure as a warning of eclampsia, they should choose the latter test. Every practitioner should be taught to take pressures in all late pregnancies, and it was inexcusable not to do so in all cases with headache or lessened quantity of urine.

Dr. R. MOWBRAY (Castlederg) stated that in his experience, which was confined to rural districts, urinary infections in pregnancy were very rare. In thirteen years, with an average of sixty confinements, he had not met with more than five which caused any trouble.

Dr. LEITH MURRAY (Liverpool) discussed the question of acidosis in pregnancy. He recommended to Dr. Edge and others interested the relatively simple methods of quantitative analysis which he had already communicated to the North of England Obstetrical Society (*Transactions*, December, 1912). These methods were: Groat's for total nitrogen, Mathison's for ammonia, and Hart's for acetone-complex bodies calculated as β oxybutyric acid. His experience of these in a long series of cases had been most satisfactory, and he was led by his results to insist on the distinction between acidosis and acid intoxication. In the latter these acid bodies were present in quantities capable of poisoning, while in the former they represented merely a symptom of altered metabolism. In pregnancy the importance of calculating these acid bodies quantitatively was emphasized, for here, unlike diabetes, the increased fraction of ammonia was no direct gauge to the excess of acid bodies. The "liver of pregnancy" apparently led to an arrest of the complete process of oxidation, more ammonia being liberated and less urea formed. In the majority of normal pregnancies there was an appreciable increase in the ammonia coefficient, and normal cases had been reported with the percentage as high as 17; yet in such cases there might be no trace of acetone bodies. He hoped, therefore, that, if these simpler methods came into more general use, the results obtained would be placed at their proper value. Great care was necessary for a correct interpretation. The direction in which the ammonia fraction of the total nitrogen was moving was of much more importance than the actual increase, and for this purpose frequently repeated estimations in toxic cases had infinitely more value than routine examinations of twenty-four-hour specimens. With regard to bacillary infection of the urinary tract, he recalled an observation of Stenhouse Williams, Wallace, and himself (*Journ. of Obstet. and Gynaec. of the British Empire*, August, 1912) that coliform organisms were to be found in one-third of normal female urines; the specimens on which this was based were obtained by intraperitoneal puncture of the bladder, thereby eliminating all urethral contamination. There was, therefore, a greater predisposition to infection in women than in men, where only in 2 per cent. of normal cases had coliform organisms been found. A considerable personal experience of the preparation and administration of vaccines in the pyelocystitis of pregnancy had convinced him and his patients of their undoubted merit.

A PLEA FOR EARLY OPERATION IN CASES OF UTERINE FIBROIDS.

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IT will be convenient to preface my arguments for early operation in the case of uterine fibroids by a brief reference to the alternate course. The passive or expectant method of treating fibroids may be expressed in the now famous phrase, "Wait and see"; that is to say, "Wait for the menopause and see how matters will improve."

What reasons can be brought forward in favour of the expectant method? The possible reasons are these:

1. That at the menopause the symptoms disappear and the fibroids tend to shrink.
2. That fibroids are not dangerous tumours.
3. That operation is attended by a high mortality, insomuch that the risk of operation is greater than the risk of leaving things alone; and that years of invalidism and disability are preferable to the running of this great risk.

I will deal with these reasons in turn.

1. This first reason is based on a succession of fallacies. The first is the assumption that the only bad symptom of fibroids is haemorrhage. Really, haemorrhage is only one symptom, and, moreover, it is a symptom only with some kinds of fibroids; the subperitoneal and many of the interstitial fibroids are not attended by any appreciable haemorrhage. The other symptoms—pain, pressure-effects, disability, and general weakness—are not improved by the menopause, and may be aggravated. The second fallacy is the assumption that the haemorrhage caused by fibroids is only menstruation; such an assumption could only be excused if made by a layman. The haemorrhage caused by fibroids continues for years after menstruation in the physiological sense has ceased; it may go on for years after the performance of double ovariotomy. I have met with two cases in which fibroids have occurred and required removal some years after double ovariotomy had been performed. The third fallacy is that fibroids shrink after the menopause; in many cases they actually increase in size; and in the few cases where a shrinkage occurs the effect may be worse than it was before, as a fibroid that lodged previously above the pelvic brim may become impacted in the true pelvis.

2. It is said that fibroids are not dangerous tumours. The same may be said of ovarian tumours, the danger of which lies in their possible complications. In the same way, the danger of fibroids, apart from the draining effects of haemorrhage, lies chiefly in their possible complications; and I shall show presently, by exact figures, how numerous and serious the complications of fibroids really are.

Moreover, if we could say with truth that ovarian tumours are dangerous but fibroid tumours are not, there still remains the question, Can we be sure, in

any given case, that the tumour is a fibroid? I shall show presently what dangerous results may follow such an assumption.

3. The argument based on the high mortality of operation would have had great weight twenty five or even twenty years ago. I shall show that this mortality has dwindled with the progress of abdominal surgery, and that hysterectomy may now claim a recognized place not only as an operation for saving life, but also as a means of relieving suffering.

After this destructive criticism of the expectant method of treating fibroids, I will now proceed to the constructive work of giving my reasons for early operation. They are as follows:

1. The age-incidence of fibroids is so varied that no importance can be attached to age as an indication for operation.

2. Early operation would often allow of a conservative myomectomy, when delayed operation necessitates hysterectomy.

3. In a large proportion of cases fibroid tumours are associated with pathological complications, many of which are of a dangerous nature.

4. Diagnosis is still so uncertain that grave conditions, urgently requiring operation, may be mistaken for simple fibroids.

5. The mortality attendant on the procedures of myomectomy and hysterectomy in the practice of experienced surgeons has become so reduced that operation may legitimately be advised for the relief of suffering when life is not directly threatened.

1. *Age-incidence of Fibroids.*

I have particulars of the ages of 575 patients with fibroids operated upon by abdominal section. They were as follows:

Under 25	...	...	3 cases, or	0.5	per cent.
25–29	...	...	12 ,,	2.1	,,
30–34	...	...	57 ,,	9.9	,,
35–39	...	...	92 ,,	16.0	,,
40–44	...	...	155 ,,	27.1	,,
45–49	...	...	151 ,,	26.3	,,
50–54	...	...	73 ,,	12.7	,,
55–59	...	...	15 ,,	2.6	,,
60 or over	...	...	16 ,,	2.8	,,
Total	...	...	575	100.0	,,

The above table bears out the accepted view that the greatest incidence of fibroids is between the ages of 40 and 50, since 55.4 per cent. of the cases were from 40 to 49.

We may take the average age of the menopause as 48 or 49; consequently we find 104 cases, or 18.1 per cent., requiring operation after the age when the menopause might be expected to have become established; and 16 cases, or 2.8 per cent., requiring operation ten years after this date. The two oldest patients were aged 66.

On the other hand, 161 cases, or 28.5 per cent.. were under 40, and would have had to wait at least ten years for the menopause; 72 patients, or 12.5 per cent.. under 35 would have had to wait fifteen years; 15 patients, or 2.6 per cent., under 30 would have had to wait twenty years; whilst 3 of the cases, aged 24, 23, and 18, would have had to wait about twenty-six, twenty-seven, and thirty-two years respectively.

It seems evident, therefore, that it is quite time that the age question should be left out of consideration in relation to the operative treatment of fibroids, just as it is with ovarian tumours. When a patient is discovered to have an ovarian tumour operation is advised, whatever the age of the patient, and it should be the same with fibroids, with only this reservation, that whilst age should not affect the fact of operation, it may properly influence its nature; that is to say, that whilst hysterectomy should nearly always be done after the age of 45, myomectomy should always have the preference before the age of 30, and from 30 to 45 the decision should depend on the position, character, and number of the tumours.

2. *Conservative Myomectomy.*

There can be no question that the ideal treatment of fibroids is to remove the tumour and leave the uterus. Such a course is, of course, impossible or inadvisable in the case of multiple fibroids and cervix fibroids and in many cases of large fibroids, but when it is practicable it has two important advantages: First, because the uterus may be capable of subsequent child-bearing; and, secondly, because some women feel mutilated and unsexed by the removal of the uterus. With fibroids of long standing the chances of doing myomectomy are obviously less than with those of more recent development. It is my practice, when dealing with early fibroids in young women, to aim at myomectomy rather than hysterectomy, although myomectomy may be not only possible but also the better operation sometimes in older women. In the following table I have instituted a comparison of the number of cases of myomectomy and hysterectomy at different ages.

	Under 30.	30 to 39.	40 to 49.	50 and over.
Myomectomy ...	7 (46.7 %)	37 (24.9 %)	28 (9.1 %)	8 (7.7 %)
Hysterectomy ...	8 (53.3 %)	112 (75.1 %)	279 (90.9 %)	96 (92.3 %)
	15	149	307	104

This table shows strikingly how the proportion of myomectomies decreases and that of hysterectomy increases as the age advances.

The next table shows the number and percentage of patients of different ages in the two groups of myomectomy and hysterectomy.

Age.	Myomectomy.		Hysterectomy.	
	Cases.	Percentage.	Cases.	Percentage.
Under 25	1	1.25	2	0.4
25–29	6	7.5	6	1.2
30–34	17	21.25	40	8.0
35–39	20	25.0	72	14.4
40–44	16	20.0	140	28.2
45–49	12	15.0	139	28.1
50–54	3	3.75	70	14.1
55–59	2	2.5	13	2.8
60 and over	3	3.75	13	2.8
Total	80	100.00	495	100.0

This table shows that 8.75 per cent. of cases of myomectomy, but only 1.6 per cent. of cases of hysterectomy, were under 30; 30 per cent. of cases of myomectomy, as against 9.6 per cent. of cases of hysterectomy, were under 35; 55 per cent. of cases of myomectomy, as against 24 per cent. of cases of hysterectomy, were under 40. After the age of 40 the value of conservation of the uterus becomes much less, and we find, accordingly, that 76 per cent. of cases of hysterectomy and only 45 per cent. of cases of myomectomy were over 40. The figures in the two tables fully bear out my contention that early operation will often allow of a conservative myomectomy, whilst delayed operation necessitates hysterectomy.

3. *Complications of Uterine Fibroids.*

I have analysed the complications present in 580 consecutive cases of uterine fibroids operated upon by abdominal section, and the results are shown in the subjoined table. They include 495 cases of hysterectomy, 80 cases of myomectomy, and 5 cases in which the fibroids were merely incidental to some graver condition and were left alone.

An Analysis of the Pathological Complications Present in 580 Consecutive Cases of Uterine Fibroids Operated upon by Abdominal Section.

I. Uncomplicated cases			170
II. Complicated cases:			
1. Degenerative changes in fibroids—			
Necrobiosis	50		
Red degeneration	9		
Fibro cystic degeneration	11		
Calcareous degeneration...	8		
Necrobiosis and calcareous degeneration	5		
Sloughing	3		
Sloughing associated with bowel fistula ...	1		
Suppurating fibroid, ovarian abscess, septic peritonitis	1		
		—	88
2. Inflammatory disease of the tubes—			
Salpingitis and resulting adhesions ...	47		
Hydrosalpinx	16		
Haematosalpinx	2		
Pyosalpinx	18		
		—	83
3. Ovarian disease—			
Cystic ovaries	111		
Ovarian tumours	58		
		—	169
4. Malignant disease—			
Carcinoma of the uterus	5		
Carcinoma of the ovary	4		
Carcinoma of the sigmoid	4		
		—	13
5. Adeno-fibroma of the uterus			12
6. Pregnancy			8
7. Tubal pregnancy			1
8. Uterine displacements			36
			580

Total complications, 410 out of 580 cases = 70.5 per cent.

Dangerous complications:		
Degenerative changes		88
Suppurative conditions		18
Ovarian tumours		58
Malignant disease		13

Total dangerous complications, 177 out of 580 cases, equals 30.5 per cent. of all cases and 43.1 per cent. of the cases of complications.

It will be seen from the table that complications were present in 70 per cent. of cases. Some of these complications were relatively unimportant as far as the danger to life is concerned: for example, non-suppurative disease of the tubes and uterine displacements are not dangerous conditions, though they may induce a great deal of suffering and invalidism; cystic disease of the ovaries may be unimportant, though it probably represents the early beginnings of ovarian cysts; adeno-fibroma is not in itself dangerous, though it may predispose to the development of adeno-carcinoma of the uterus. Pregnancy may be regarded as a purely accidental complication, and some writers on the subject rather make light of it; for my own part, I consider it may be one of the most formidable of the complications of fibroids.

There are, however, other complications that are intrinsically dangerous, including degenerative changes in the fibroids themselves, suppurative conditions in the pelvis, ovarian tumours, and malignant disease; and these four groups make up no less than 30.5 per cent. of all the cases of fibroids, and 43 per cent. of the cases of complications.

In view of the tendency that still exists to advocate waiting for the menopause, it appeared to me that it would be interesting to compare the complications in cases under the age of 50 with those in cases over that age, and such a comparison is shown in the following table.

It will be observed that whilst the total number of complications is only slightly greater above the age of 50, namely, 71.9 per cent., as against 70.4 per cent. under 50, the tendency to dangerous complications is markedly greater, rising from 28.2 per cent. under 50 to 39.8 per cent. over 50. Consequently the incidence of dangerous complications is in itself a strong argument against the "wait and see" policy.

A Comparison of the Complications in Patients under 50 and over 50.

	Under 50.		Over 50.	
	Cases.	Per Cent.	Cases.	Per Cent.
I. Uncomplicated cases	141	29.6	29	28.1
II. Complicated cases—				
1. Degenerative changes ...	69	14.5	19	18.1
2. Inflammatory conditions, non-suppurative	54	11.3	11	10.8
Inflammatory conditions, suppurative	15	3.1	3	2.9
3. Ovarian disease, cystic ovaries ...	99	20.8	12	11.6
Ovarian disease, ovarian tumours	46	9.6	12	11.6
4. Malignant disease	6	1.2	7	6.8
5. Adeno-fibroma	10	2.1	2	1.9
6. Pregnancy (uterine and tubal) ...	9	1.9	0	0.0
7. Displacements	28	5.9	8	7.8
Total	477	100.0	103	100.0

Total complications ... ... under 50, 336 out of 477 = 70.4 per cent.
Total complications ... ... over 50, 74 out of 103 = 71.9 per cent.
Dangerous complications ... under 50, 136 out of 477 = 28.5 per cent.
Dangerous complications ... over 50, 41 out of 103 = 39.8 per cent.

4. *The Uncertainty of Diagnosis.*

It is very easy to make mistakes in diagnosing uterine fibroids, and the mistakes are of two kinds. In the first place, one may diagnose only fibroids and find some other serious condition present also, such as uterine or ovarian carcinoma, ovarian tumours or pus tubes; in the second place the condition may not be a fibroid at all, but carcinoma of the uterus or a solid ovarian tumour.

The first kind of mistake is the more liable to occur, and I could recount numerous instances among my own cases. When a patient presents the history and symptoms of fibroids, including progressive menorrhagia and metrorrhagia, and various hard and irregular swellings are present in the pelvis and lower abdomen, it is a not unnatural inference that all these swellings are fibroids; and indeed, often there is nothing in the history of the case to lead one to think otherwise. In this way I have found pus tubes and ovarian tumours present in a number of cases. The table of complications shows 18 cases of pus tubes and 58 cases of ovarian tumours, and in most of these cases the complication was not suspected beforehand. In 4 cases uterine fibroids were complicated by ovarian carcinoma: two of the patients died subsequently of recurrence; one had a recurrent mass of growth which was enucleated from the broad ligament, and she has so far remained well for two years and two months; the fourth was operated upon seven and three-quarter years ago, and has so far remained well. In two cases an unsuspected carcinoma of the body of the uterus was found, in addition to fibroids; one patient has remained free from recurrence for six and a quarter years; the other has had recurrent nodules in the vagina and vulva, which have been removed, the last only a few weeks ago. I may mention, as a final example of a formidable complication, the case of a patient who had known for seven years that she had a tumour.

Five weeks before I saw her she was seized with acute pain and rapidly became very ill. She came up to my out-patient department at Tottenham, and she looked so ill that I kept her in. She had an enormous mass of tumours impacted firmly in the pelvis and extending up to the epigastrium. Her temperature on admission was 101° F. On opening the abdomen, several pints of pus were found free in the abdominal cavity; a tumour full of pus was adherent in the pelvis; a second, also full of pus, was connected with the front of the uterus, and appeared to be a breaking-down fibroid. The only chance for her was to clear out the suppurating masses, but she succumbed to shock just as the operation, which lasted an hour, was being completed.

Of mistakes of the second kind I will relate only five well-marked examples:

One was a patient of 75, with a hard solid tumour filling the pelvis. I diagnosed uterine fibroid and made arrangements to operate with all possible speed to minimize shock. It turned out to be an ovarian fibroma, the removal of which was so simple that the whole operation took just ten minutes. I saw the patient three years later, when she looked very well.

The second was a patient, aged 60, with an enormous solid tumour. Dr. Champneys had seen her ten years before and diagnosed uterine fibroid, and advised waiting for the menopause. Meanwhile the tumour grew steadily, and after some years she was advised that it was too large for removal. When I saw her I also diagnosed uterine fibroid and advised operation, as the patient was incapacitated; it turned out to be an ovarian fibro-adenoma, weighing 30 lb. The operation was exceedingly simple, and the patient remains in excellent health four years after the operation.

In the third case the patient had been seen by Dr. Herman, who diagnosed uterine fibroids; he asked me to take her into the Chelsea Hospital for Women for operation, and when I saw her I concurred in the diagnosis. It turned out, however, to be a mass of extensive malignant disease in the pelvis too far advanced to allow of removal. The patient lived about ten months in great pain and distress.

The fourth case was a patient of 39, stout and well nourished, with a history of metrorrhagia. The uterus was about the size of a man's fist, the cervix looked healthy, the os externum was nulliparous. When the uterus was removed there was no fibroid, but a large mass of carcinoma occupied the body of the uterus, and an apparently separate endocervical growth of carcinoma extended down nearly to the external os. The operation took place only recently (on July 14th).

The fifth was a patient aged 32, who had a uterine tumour the size of a cocoanut; when it was removed, by hysterectomy, it turned out to be a case of hydatids of the uterus.

5. *The Diminishing Death-rate of Hysterectomy and Myomectomy.*

It may be laid down as a surgical axiom that highly dangerous operations are justified only when undertaken for the saving of life, whilst operations that are attended with a small risk may legitimately be undertaken for the relief of suffering.

Twenty-five years ago hysterectomy was a highly dangerous operation, with a mortality ranging from 25 to 40 per cent., and the operation of myomectomy was unknown. Clearly, with such a mortality, hysterectomy could be advised only when life was seriously threatened; and when it was only a case of suffering and disablement it was best for the surgeon to hand the patient over to the priest, who should prescribe patience and fortitude; for it is, after all, better to live as an invalid than to die cured.

We cannot base the treatment of fibroids to-day on the mortality of twenty-five years ago. Hysterectomy, as we understand it, is an operation radically different from that which was done then, and the following table shows the phenomenal diminution of mortality. It will be sufficient for my purpose to record the results of hysterectomy for fibroids at the Chelsea Hospital for Women for five successive quinquennial periods, and my own results of hysterectomy for fibroids and fibrosis, and of myomectomy, during the sixteen years that I have been performing these operations. The results in other hospitals and of other operators would be somewhat similar.

Mortality of Operations for Hysterectomy and Myomectomy.

1. Analysis of results of hysterectomy for fibroids at the Chelsea Hospital for Women for twenty-five years, from 1886 to 1910:

	Cases.	Deaths.	Mortality.
1886–1890 ...	14	5	35.7 per cent.
1891–1895 ...	12	5	41.6 ,,
1896–1900 ...	150	16	10.6 ,,
1901–1905 ...	345	18	5.2 ,,
1906–1910 ...	487	9	1.8 ,,

2. Analysis of author's results of hysterectomy for fibroids and fibrosis for sixteen years, from July, 1897, to July, 1913:

	Cases.	Deaths.	Mortality.
1897–1900 ...	10	0	0.0 per cent.
1901–1905 ...	89	6	6.7 ,,
1906–1910 ...	234	7	3.0 ,,
1911–1913 ...	217	2	0.92 ,,
Total ...	550	15	2.7 ,,

3. Author's results of myomectomy:

1898–1903 ...	19 cases,	2 deaths.
1904–1913 ...	61 ,,	0 ,,
Total ...	80 ,,	2 ,,
Mortality ...	2.7 per cent.	

We see from this table that in the last quinquennial period, to the end of 1910, at the Chelsea Hospital for Women 487 hysterectomies were performed with a mortality in all cases, serious as well as simple, of 1.8 per cent.; during that period my own mortality was 3 per cent. for 234 cases, and in the last two and a half years I have had two deaths in 217 cases, a mortality of 0.92 per cent. Previous to these two deaths there was a series of 110 consecutive recoveries; and there was a series of 90 between the two.

The indications for an operation whose mortality is 30 per cent. are necessarily very different from the indications when the mortality is only 1 or 2 per cent. My contention is that whereas formerly hysterectomy could only be advised in urgent cases of life and death, it is now indicated in the far more numerous cases in which patients suffer constant pain and discomfort and are chronically incapacitated by the drain of haemorrhage and the pressure of tumours on surrounding organs; and further, that the relief of patients in these early stages is not only curative of chronic ill-health, but also preventive of many dangerous complications.

How often one has had to reflect, "If only this operation had been done years ago, how much suffering would have been saved, and present danger, or fatal disaster averted!"

To sum up, early operation allows of conservative procedures whereby the uterus is preserved in many cases where delay entails the inevitable sacrifice of the uterus; it saves patients from many years of suffering and disablement, enabling the workers to earn their living and the leisured to enjoy life; it averts many complications that are the direct result of fibroids and makes it possible to deal with independent complications that would otherwise be overlooked; it save patients from the serious consequences of mistaking for fibroids tumours that are even more dangerous; it prevents the health and life of patients from being sacrificed to the exploded fallacy of the "waiting for the change of life"; and it saves the surgeon, as he contemplates a life lost by needless delay, from the mournful reflection—

> Of all the sad words of tongue and pen
> The saddest are these, It might have been.

DISCUSSION.

The President, after congratulating Dr. Giles upon his paper and his results, asked (1) what considerations decided Dr. Giles as between myomectomy and hysterectomy, and (2) how he dealt with large cavities in the uterine wall left after myomectomy.

Dr. Purslow (Birmingham) had recently met with a case in which pyometra simulated a fibroid. The patient, 60 years of age, had had a blood-stained offensive discharge for twelve months, and, on examination, the uterus was found to be as large as a five and a half months gestation and acutely retroflexed in a sacculated form, the cervix being high up behind the pubes and reached with difficulty; the vaginal cervix was normal. Degenerated fibroid complicated by malignant growth of the endometrium appeared to be the probable diagnosis. On abdominal section the condition was found to be a pyometra of unusual size, with an epitheliomatous growth high up in the cervical canal. An extensive panhysterectomy was performed with successful result.

Dr. R. L. Dickinson (New York) thought that most American operators were limiting myomectomy rather strictly. His own rule was to restrict it practically to (1) polypoid submucous protruding or infected growths, removed by the vaginal route, with hysterotomy and morcellement if needed; (2) single or pedunculated subperitoneal tumours, removed by laparotomy; (3) women, keen for children and willing to face the probability of a second major operation, whose uteri were not riddled with little tumours, and whose husbands exhibited spermatozoa numerous and vigorous for hours under conditions of warmth and more than 80 per cent. normal in shape. As to decision for operation, certain survival was not the only consideration. Liability to the after-distresses of abdominal pains and nervous shock were to be weighed. The speaker had studied and published a series of hysterectomies in which the ovaries and tubes were left, and this practice he advocated. X rays were giving such striking results in selected cases by Gauss's improved method that, under the limitations laid down by Menge, careful consideration was called for.

Miss LOUISE MCILROY asked Dr. Giles as to his experience of the after-history of cases of myomectomy where injury to the uterine mucous membrane had occurred. In her experience dysmenorrhoea had been experienced in a few cases. She inquired whether Dr. Giles had had any experience of the return of uterine haemorrhage some years after enucleation, and where no secondary tumour growth could be felt bimanually. This had been her experience in one case lately in a young woman operated upon four years ago.

Dr. GILES, in reply, gave the indications for myomectomy: (1) Not more than three or four fibroids. (2) A solitary submucous fibroid: he had on occasion deliberately opened the endometrial cavity, removed a tumour, and closed the cavity. (3) He had successfully removed fibroids on several occasions during pregnancy. He closed the resulting cavity with mattress sutures, and was quite satisfied with the after-effects. He wished for more information on the action of *x* rays on the degenerative changes in fibroids. Women with small symptomless fibroids did not require operation, and should not be told that they had a fibroid.

GENERAL PERITONITIS DUE TO THE VERMIFORM APPENDIX AND COMPLICATING PREGNANCY.

By T. H. IONIDES, M.B., B.S.Lond., F.R.C.S.Eng.

I BRING this case before you because it is one involving some interesting points in treatment, and I should very much like to hear the views of this Section on the matter. The history of the case is as follows:

A multipara, aged 37, was admitted with a history of pain after food for a long time. She was advised by her doctor to have a gastro-enterostomy done, but as she became pregnant she put it off. She had a sudden acute attack of pain in the abdomen with frequent vomiting, constipation, and no flatus passed; no pain on micturition; temperature 100° F., pulse 126. She looked very ill and was in great pain; the abdomen was distended, extremely hard, and did not move with respiration, which was very shallow; tongue dirty; mouth dry; she was pregnant, from her history, nine months, although the uterus was only the size of a seven months pregnancy. An incision was made in the left rectus: the stomach looked normal, but there was a lot of free fluid. An incision was then made over the appendix, which was found to be perforated and so was removed and the abdomen drained through both incisions.

The patient did well, and by a fortnight the wounds were practically healed.

Labour now came on: the presentation was a breech; the second stage was rapid, and a female child was born, weighing 3½ lb. The patient immediately collapsed; there was a slight attempt at rallying, but she soon died; there was no *post-partum* haemorrhage to speak of. This occurred early in September, 1911; the weather was very hot, and there was some delay in getting leave for a *post-mortem* examination, and so this was not as satisfactory as it might have been. One found, however, that the adhesions to the uterus had torn off, and that there was a lot of blood in the peritoneal cavity. There was some question of torn intestine, but, owing to the condition of the body, doubt was expressed as to whether this appearance was *ante mortem* or not. I should like to raise the point whether, in cases of late pregnancy complicating general peritonitis and where premature labour does not occur, it is a safe procedure to try and stop labour or whether labour should be induced, and if so by what method. I have only seen one other case, and so I have not much to go on, but I should like to hear from those who have more experience what have been their treatment and results. This patient was very ill, and would not have stood a long operation.

DISCUSSION.

Dr. SCHLIMPERT suggested that pregnancy should be interrupted if this serious state of affairs were met with in late pregnancy. This could be accomplished best by vaginal section, and an appendix operation could be done afterwards. In the earlier months appendicectomy alone was advisable.

CLINICAL TRAVEL.

By ROBERT L. DICKINSON, M.D.,
Brooklyn, New York.

CLINICAL pilgrimages are as old as medicine. Heretofore sporadic and individual, within a very few years systematic visiting of men and institutions by travel in groups has originated simultaneously in several countries, and the practice has made noteworthy strides. The success of these journeyings has led to the formation of a number of new clinical societies, and the drawing power of the older organizations may be yet further weakened from this tendency. It should be worthy of consideration, therefore, whether adaptation of our present machinery cannot obtain many of the same results without duplication of meetings already far too numerous. Three instances may be quoted. The interchange of invitations between the operating rooms of the London hospitals is a departure which one may hope to see widely copied. Paris has long had a central bureau of information. In New York we have recently initiated and systematized the bulletining of clinics, operations, and demonstrations at the Academy of Medicine in the following manner. Of the two bulletin boards, one carries the regular clinic hours of all institutions that have such hours. This list is also printed in some of the journals. The other board schedules, also in large lettering, the notices of operations day by day. These notices are sent in by messenger or telephone to the special attendant, preferably before six the preceding evening. Any one may secure this information without cost, but if notice is desired, by telephone or telegraph, of any particular operation or of work by any particular surgeon, there is a moderate fee in advance. In visiting London one cannot help wishing for such a bureau. It is true that London, Vienna, Berlin, New York, and other cities make provision for post-graduate courses, but what we are now considering is the desirability of regular acquaintance with the practical working of clinics and hospitals at large. Toward this end general societies might allot one or more meetings a year to attendance at clinics or inspection of institutions and to the details of their work and organization. A county medical society could have first-hand cognizance of its public and semi-public medical foundations, and might even recognize a certain moral responsibility for their efficiency—whether it were a hospital or a college or a home. And clinical lectures or demonstration of newer methods of diagnosis, treatment, and operation—not rare, big things, but everyday practical matters—might well become part of the programme of all medical societies.

As a striking testimony of the hunger for this object study and for this training in observation on *post*-post-graduate lines, let me instance the Clinical Congress of Surgeons of North America. It sprang to birth full armed, initiated by Dr. Franklin H. Martin in 1909. Not less than 2,500 men have visited, in each successive November, the surgical and special clinics and the laboratories of Chicago, Philadelphia, and New York. Such an inrush only a great city can welcome; the crowd is too large for close seeing. The importance of this development lies herein: the beginning of the habit of clinical travel is formed, and a man is enabled to select one's future teachers. Also water finds its level quickly in a week like this, for the amount of discrimination is noteworthy.

As to a specialist society, it can readily make the tour in a reasonable time, of all the institutions working in its own and in allied fields in its neighbourhood, and study clinical work as well as efficiency of administration. Such a visit should not be deemed barren of result if a subsequent vocal meeting of the society fails to bring forth real frankness in discussion of the visit by members detailed to report. The effect on visitor and visited is, nevertheless, very searching. For such a society the next step is the visit to neighbouring cities, and specialist societies are not too large for this, say one or two days in a year.

It was intimated that a man should be seen in his own workshop. If I were to ask you to come before this Section to explain how it is that your benches are overflowing or your operating staff has perfected such teamplay, you will pick out your own data and what seem to you explanations, but if I go and see your machinery at work I will find my own omissions and blunders, on which you may never touch. Moreover, I am getting training in the art of observation. With practice this mental sieve strains finer and finer, and one selects and compares more surely, more swiftly.

Provided such opportunities are well worked out, is there a field for the travelling clinical club? As to the need. How often does a busy man visit other clinics? Does he do it systemically? Is it the hard-pressed surgeon from the great city who sees others at work, or is it only the younger men who travel? Perhaps it will be good for our souls openly to confess that heretofore we of New York have actually seen too little of men in institutions other than those in which we hold appointments. The American Gynaecological Club asked, after a visit to Pittsburg, why there should prevail in that city of twelve new hospitals in seven years an average of technical performance and resource and judgement unusually high and even, combined with an entire absence of the perpendicular pronoun? The answer seemed to be because it was the habit of these men to visit clinics at home and to go to those in other places three times a year.

Is there any one of us in a rut? Is there any man satisfied with his results? Is there any man too driven to do quiet thinking? Or is any prone to be carried away by the sweeping claims of novelty? If any of these, then he needs travel, and travel with other men; for clinical travel interspersed with much sight-seeing and the piloting of a family is with a divided mind. Although one may thus come upon more average performances and a stage not set, yet, on the other hand, a programme prearranged for a group furnishes condensed, selected experiences with far wider prospect, and, best feature of all, attrition and illuminating informal discussion. Certain details of such organization, loose as it purposely is, may be jotted down.

The members must have like interests. They should be of one line of practice, or of one nearly allied. Diverse interests gave scattered and vague direction to a recent exodus. The group should be small. Thirty with an attendance of twenty has worked well. The large group straggles, cannot see, cannot be intimate. Membership may include, with advantage, variety of type—the library man with the pure handicraftsman—but it may not take in the unclubbable man, because the contacts are very close. To take in only half a given feud is, of course, to deprive the club of some strong men. The irreconcilable or blatant individual is necessarily outlawed by a close vote. The age limit has been worked out in this way—that men over 55 show little inclination to see new work. As they come into range of 50 or 55 (as variously regulated in different clubs), members are automatically "promoted" to "honorary" membership, welcome but not active. There are also very successful groups of men younger than the 40 to 50 group. The measure of a candidate would be, however, experience and service rather than age. As guests such a society has invited one or two men of allied interests. The clinical surgeons did this when a genito-urinary surgeon and a gynaecologist made the English tour with them. The conditions are well stated in a letter from a member of your own Gynaecological Visiting Society.

> The society is a purely informal one. We have no records or minutes, no president or committee, and never publish any proceedings. The only conditions for membership are:
>
> 1. Age of retiring from society 50, which secures us a society from the more obvious results of arterio-sclerosis.
> 2. A gynaecological or obstetrical hospital appointment in Great Britain.
> 3. Membership is restricted to thirty men.
> 4. Members of a group section (say Liverpool, Birmingham, or London) must be prepared to welcome once a year the other members at their hospital for demonstrations of technique, reading communications, and the free discussion of new ideas and work by the society.
> 5. Three to four annual meetings in the United Kingdom.
> 6. Personal election, which secures the absence of disturbing personalities.
>
> The fact that there are no minutes enables us to say exactly what we think of one another and in as forcible language as we like, and strange to say we all remain intimate friends, prepared to recognize that a lot of our associates do things better than ourselves. The result is a unique spirit of camaraderie, which is, I think, our strongest asset. I can only say that in British gynaecology there has been, up to the last ten years, a most poisonous spirit of jealousy, suspicion, and veiled contempt (very thinly veiled at times) amongst the seniors of the profession. No man could recognize that his fellow's technique was better than his own. The possibility of a senior man going to see another senior man operating was undreamt of, with the result that many of the larger gynaecological schools were fast becoming intensely parochial in their practice, and I know no place where that danger was more threatening than in London. Now that spirit we have set out to kill, and I think we have already effectively scotched it; we consider ourselves the gynaecologists who will be most naturally in the van within a few years, and hope by that time to have completely leavened our section of the profession. There is, in addition, an element of mild Bohemianism about us which prevents us taking ourselves too seriously, and which comes to the top at the dinner we hold at every meeting. We were founded about three years ago, and have already had visits to our friends at Liverpool, Glasgow, Edinburgh, and London. Eight weeks ago we arranged a most successful trip to Paris, and are going to Berlin next May. I wonder if I have succeeded in conveying to you something of the spirit of the little society which has taught me more than anything I know, and convinced me that there are men without a good many of my opportunities who can do things better, more neatly, and more quickly than myself. In my own view I am quite convinced that our success lies in our informality. There is so much one is prevented from saying or criticizing at formal societies—which tend to develop pomposity in the speaker.

Is there a need of international travel? Emphatically yes. The difference of practice being greater starts more thinking, and longer duration permits thinking that is more sequent and to the purpose. The field looked over is larger, the generalizations are wider. One man travelling alone can hardly bring back from abroad a nation's best and spread it generally in his own country, but a picked group may. A group will carry weight with a visited nation that no lone opinion can. Also it is found that more men will go to visit a number of clinics afar, for their ties on a nearer round call them back and interrupt this study. On distant travel half-day clinics covering two or three weeks may well exhaust the capacity for sustained attention. In such travel the programme should be made out in detail many months ahead, selecting for especial attention the best teachers, equipment, hospitals, museums, laboratories, operators, book stores, instrument houses; the recent literature should be excerpted. There need be no papers, and there should be none but simple functions, preferably at a joint charge. As to publications of a report, no agreement of opinion is found. Either a bare outline of clinics and cases could be issued; or only praiseworthy matters touched upon; or, thirdly, full and frank observations without comment might be privately printed, and from these he who read might run to his own conclusions. Whether any of this is undertaken or not, the total amount of information gathered is so varied, and one's memories run into such a kaleidoscope, that notes should be made, particularly of the details of methods which one is eager to carry home.

It is a safe thing to say that when the habit of travel becomes general the provincialism of the big town will die, and our smug self-satisfaction receive its quietus. The important outcome of these experiences lies in a heightened and discriminative mutual regard together with an overhauling and practical review of one's mental storehouse and craftsmanship that may prove to be the strongest stimulus of years—perhaps of a lifetime.

As an example of what may be done in so short a space as four years to secure a birdseye view of a speciality, I ask your indulgence for the following imperfect outline. Your Visiting Gynaecological Society has travelled in British and Continental cities. The New York Obstetrical Society has visited almost all of the important clinics of its own city and of Philadelphia. Our national society gave to the operating room of Kelly and Cullen one of its three days in Baltimore at the annual meeting. Each year for a week or more visitors at the Clinical Congress have been welcomed at every hospital and college of each of our three greatest cities in succession. For three weeks, last July, twenty-five members of the American Gynaecological Club went about among the institutions of six German cities, and of Amsterdam and Vienna. The spirit was the spirit of appreciation, and the enthusiasm and profit and the stirring of ideas

were very marked. We hope in July, 1914, to be able to cross the ocean again, and to look forward in our department to that increased heartiness and personal friendship among gynaecologists and obstetricians which have linked together the surgical profession of England and the United States since the visit of our "Clinical Surgeons" to this country two years ago. In the following year (September, 1915) we expect to tender a most cordial welcome to very many of you at the International Congress of Gynaecology and Obstetrics in New York, and at series of clinics across the continent to the Panama Exposition in San Francisco.

THE SIGNIFICANCE OF THE WASSERMANN REACTION IN GYNAECOLOGICAL DIAGNOSIS, WITH SPECIAL REFERENCE TO UTERINE HAEMORRHAGE.

By A. Louise McIlroy, H. Ferguson Watson, and J. Hamilton McIlroy.

(From the University Gynaecological Clinic, Royal Infirmary (Professor Munro Kerr), and the Pathological Laboratories of the Western and Royal Infirmaries, Glasgow.)

The Wasserman serum test for syphilis has proved itself to be of importance in the diagnosis of many pathological conditions, and it occurred to us that an investigation into the prevalence of syphilis among gynaecological patients would be of value, not only from the point of view of diagnosis and treatment, but also in so far as it might add to our knowledge of the conditions concerned in infant mortality.

For our investigation we took 100 cases, mainly from the out-patient department. These patients, whilst not selected from the point of view of the probable result of the Wassermann test, in every case suffered from definite gynaecological complaint, accompanied by more or less serious disturbance of the general health. Only 6 patients gave a history which pointed to syphilitic infection in the past, and in these the Wassermann reaction was positive. The patients attending the clinic are drawn chiefly from the respectable working classes, all cases of obvious syphilis being excluded and sent elsewhere for treatment.

The method used by us (H. F. W. and J. H. McI.) for the Wassermann test was that of Browning, Cruikshank, and Mackenzie.

The accompanying tables show the main general features, with the result of the Wassermann test.

An investigation of the serum of seven families belonging to negative mothers was made, and in every case examined the reaction was found to be positive. Those patients classified as "doubtful" include several in which the reaction was very weakly positive, but we were careful in classifying as positive only those cases in which the reaction was quite definite. In collating the results we were much surprised at the proportion of cases with a positive reaction. From this investigation it would appear that there is an amazing prevalence of latent syphilis in gynaecological patients, and that the patients do not display the classical symptoms of the disease.

We are fully aware that so considerable a proportion of positive results in this class of cases may raise doubt as to the reliability of the Wassermann reaction in the minds of those who are unacquainted with the method of the test. Accordingly it is of importance to detail here the results of the examination of a series of healthy children carried out at the same time as the investigation of the gynaecological cases mentioned above. Thus one of us (H. F. W.), in the course of work on the prevalence of syphilis in town children, examined by way of control 69 country children coming from thirty-nine families living in a district of Ayrshire. There was no suspicious circumstance in either the personal or the family histories of these children, and they all without exception reacted negatively to the Wassermann test. Thus it is perfectly clear that a positive reaction does not occur at haphazard, and the specificity of the Wassermann test for syphilis has been universally recognized by investigators. It must be here stated that the present publication is in the nature of a preliminary communication, as the investigation is being continued and further extended, more especially with regard to the nature of the gynaecological diseases and also to the presence of syphilis in the offspring. The form of treatment used was the administration of mercury and arsenic by the mouth. The result of this treatment in the positive cases was markedly beneficial.

* The expenses of this research were defrayed by a grant from the Carnegie Trust.

Table I.

Number of cases examined	... 100
Clinical history of syphilitic infection ...	... 6
Positives (married 34, unmarried 9) ...	... 43
Negatives (married 48, unmarried 0) ...	... 48
Doubtfuls (married 9, unmarried 0) ...	... 9

Table II.

General Diagnosis.	Number Affected.	Result of Wassermann Reaction. Age Groups. Under 25 Years.	25 to 40.	40 and Upwards.
Metritis	24	Positive	Positive 10 Negative 6 (one had + child) Doubtful 1	Positive 5* Negative 1
Uterine haemorrhage	13	Positive 1 Negative 3 (one had + child)	Positive 3 Negative 3 Doubtful 2	Negative 1
Uterine displacement	13	Positive 1	Positive 3 Negative 5 (one had + child)	Positive 1 Negative 2 (both had + children) Doubtful 1
Leucorrhoea and constipation	23	Positive 2 (one was suspected) Negative 2	Positive 3 Negative 9 (two had + children) Doubtful 2	Positive 2* (one was suspected) Negative 3
Dysuria	8	Positive 1 Negative 1 Doubtful 1	Negative 4	
Anaemia with headache	5	Negative 2	Positive 1 Negative 1	Positive 1
Adnexal conditions	5	Positive 1	Positive 1 Negative 1 Doubtful 1	Negative 1
Fibroids	3		Positive 1 Negative 2	
Pregnancy with unusual complications	3		Positive 1 Negative 1	Positive 1
Congenital malformation of uterus with mental deficiency	1	Positive 1		
Menstrual epilepsy	1		Doubtful 1	
Acute puerperal mastitis	1	Positive 1		
Total... .	100	Positives 10 Negatives 6 Doubtfuls 1	Positives 23 Negatives 32 Doubtfuls 7	Positives 10 Negatives 8 Doubtfuls 1

Note.—Those marked * are the six cases in which there was a history suggestive of syphilitic infection.

The Diagnosis in Cases of Uterine Haemorrhage.—It has been the experience of most gynaecologists that there is much difficulty in the diagnosis and treatment of certain cases associated with menorrhagia or metrorrhagia occurring about the menopause, or after menstruation has become established at puberty. In the former class of patients the question of neoplasm of the uterus is at once considered, and if this can be excluded the diagnosis of metritis or fibrosis is made, provided that the clinical investigation indicates the uterus alone as the cause of the symptoms. In such cases we must trace the condition to its origin in the failure of function on the part of the internal secretory organs or to some change classified under the heading of toxaemia. Many of the patients investigated suffered from increased amount of menstrual flow, and the diagnosis of metritis was frequently made. Our results show that in cases in which uterine haemorrhage,

apart from tumour, is the principal feature, syphilis very frequently is present. After treatment by anti-specific remedies many of the patients stated that the menstrual flow was less copious in amount, and that the headaches were much less distressing. Some of these patients had been treated previously without any success by the ordinary gynaecological methods. Indeed it was this failure on the part of many patients to respond to treatment by curettage, etc., that led us to take up the investigation of toxaemia in its relationship to gynaecological affections, and consider the treatment upon broader lines than merely operative measures.

Minor symptoms, such as digestive disturbances and moderate leucorrhoea, were of frequent occurrence, but were present among the negative cases also, so that no deduction can be drawn from these.

Some of the younger unmarried patients giving a positive reaction were of special interest, and, as an example, we quote one, a girl aged 15, who had profuse irregular menstruation for a year with dysmenorrhoea. She was the eldest of five, two of whom were "delicate." Improvement was very marked after treatment. In another case, that of a girl aged 19 years, somewhat physically and mentally defective, and suffering from irregular menstruation, the pelvic organs were found to be infantile. When she was put on treatment for syphilis, and at the same time given thyroid extract, the improvement was pronounced. Such a case is as a rule classified as a ductless gland aberration, and it may be said that the thyroid extract caused the improvement. This to a certain extent we allow, but at the same time it is felt that the presence of a definite transmitted congenital poison has had some deterrent effect upon the function of the internal secretory organs themselves.

Syphilis and Fertility.—The examination of our series of cases showed that there was no case of sterility among the positive married patients. Whilst it is unfair to generalize from the examination of 100 cases, it may be mentioned in confirmation that one of us (H. F. W.) found that there was marked fertility in a family where both father and mother gave positive reactions.[1] We can, therefore, suggest that the presence of active syphilis is no bar to fertilization and the birth of viable children. It was noted on inquiry that a greater proportion of the children of positive mothers were described as "delicate" than that of the negative mothers. On this point we cannot make any clear statement until we have continued our investigations further into the serum reaction of the offspring. Although in only two of the cases was there definite clinical evidence of syphilis in the children, we feel confident that congenital specific disease plays a large part in the derangements of fetal metabolism with their effect upon the future well-being of the child. The obvious conclusion to be drawn from the point of view of those interested in the subject of fetal and infantile mortality is that it is our duty as medical practitioners to enforce some measure of reform in the way of a thorough investigation into the prevalence of syphilis—latent as well as active—among the community, and consider a scheme of notification, having as its ultimate object the eradication of the disease. The subject is beset with many difficulties, but when there is a realization of the enormous amount of congenital syphilis, apart even from acquired cases, there will be an awakening as to the importance of its effect upon the development and well-being of the race.

In conclusion, we would urge that in cases of gynaecological ailments, especially of the type associated with uterine haemorrhage, syphilis very frequently is present. Wherever there is metrorrhagia or menorrhagia, apart from obvious cause, such as tumour, syphilis should be suspected. Evidence of syphilis in the form of classical signs often cannot be detected in such patients, but the existence of the disease is shown by the Wassermann reaction.

[*Note.*—Since writing the above a patient was seen by one of us (A. L. McI.) in consultation, with a view to the operative treatment of severe metrorrhagia occurring at the menopause which had not improved to any marked extent under the usual methods of treatment. On examination the uterus was found to be enlarged and hard in consistence. The diagnosis of metritis and malignant disease was discussed; but, before coming to a definite decision as to the diagnosis, the Wassermann test was applied. The reaction was markedly positive, although there was no clinical evidence which might lead to the suspicion of the presence of syphilis or its history.]

REFERENCE.

[1] Watson, BRITISH MEDICAL JOURNAL, vol. i, 1913, p. 877.

DISCUSSION.

Dr. SCHLIMPERT asked for details of the technique and of the antigen employed. He was greatly surprised at the very high percentage of positive results. The reaction had been done at Dresden on the blood of 400 cases *post mortem* with only 10 per cent. of positive results. The test in each case was done before *post-mortem* changes could have had time to affect the result. He was of opinion that the test might be very useful before delivery in maternity cases, as it would put the practitioner on his guard.

Mr. BECKWITH WHITEHOUSE (Birmingham) wished to thank Miss McIlroy for her important paper. He would like to know the technique of the Wassermann test employed, since to him 50 per cent. of positive cases in all patients examined appeared extraordinarily high. Scotland must be a terrible place! He was much interested in the speaker's remarks about fibrosis and metritis. He also had been conducting experiments upon this subject, the results of which he intended to bring forward in a Hunterian Lecture next year. All he wished now was to emphasize the fact that his research so far tended to prove that a certain proportion of cases classed as fibrosis uteri or metritis was syphilitic in origin. The fibrosis was secondary to degeneration supervening upon syphilitic endarteritis.

Dr. ARCHIBALD LEITCH (London) also asked for the details of the method used, because it seemed to him that the percentage was very high. He doubted results obtained from *post-mortem* cases and considered that even 5 per cent. positive in an average population might be an overestimate.

Miss MARTINDALE (Brighton) asked Miss McIlroy why she advocated notification of syphilis. It seemed to the speaker the only use of notification was: (1) The enforced isolation of the patient (an obviously impossible procedure, as the length of time of isolation would be so long). (2) The enforced treatment. Again, in those countries in which notification had been introduced, as in Sweden, the law had proved itself a dead letter, the doctors refusing to notify, or the patients to submit to it.

Miss MCILROY, in reply, stated that the method used was the Browning-Mackenzie method, lecithin-cholesterol being used as antigen. The Wassermann reaction would be of enormous value as a routine in obstetrical cases by clearing up many cases of toxaemia. In fibrosis and metritis much information might be gained. In reply to Dr. Martindale, she indicated that her idea of notification was to confine it to the medical profession only as a means of estimating the prevalence of syphilis in the community, and therefore the adoption of means for its treatment. As a system of control exercised by other countries it was of little use; some other and better method would have to be employed, but in a discussion such as this there was no time for details of discussion upon this question.

ABDERHALDEN'S SERUM REACTION OF PREGNANCY.

By Dr. HANS SCHLIMPERT,

Freiburg.

ALLOW me first to give you the theory of Abderhalden's reaction in pregnancy. If albumin be taken into the alimentary canal, it is broken up, by the action of the epithelial cells, into the lower albuminoid bodies—peptones, polypeptids, and amino-acids. In these forms, and particularly the last of these, the albumin is absorbed and carried by the blood to the various organs, where it is again synthetized into complicated albumin. If albumin be injected directly into the circulation without the intervention of the intestine, proteolytic ferments are produced in the blood in an endeavour to break the albumin down,

as occurs in the normal metabolism. These ferments are produced either against a foreign albumin or a homologous one, such as an animal's own muscular tissue. Largely to Abderhalden and his pupils do we owe our knowledge of these processes.

Next, Abderhalden went on to prove his theories in human physiology, and chose pregnancy as being an easily controlled condition. Schmorl's observations have made it certain that chorionic villi enter the maternal blood in some cases of pregnancy, but there is in every case of pregnancy a complicated protein metabolism and a communication between the maternal and fetal circulations so close that albumin molecules far short of cleavage to amino-acids may pass from the placenta into the maternal blood. Therefore it was to be expected that in the maternal blood proteolytic ferments existed against placental albumin.

This Abderhalden found to be true to a degree that enabled him to demonstrate, by the presence of the ferments, the existence of pregnancy. He evolved three methods:

1. The so-called optical method.
2. The dialysation method, with the biuret reaction as an indicator.
3. The dialysation method with ninhydrin as an indicator.

The first two are rather more complicated than the ninhydrin method, which is now adopted generally. The results obtained are, at present, a matter of contention.

Technique.—Four components are necessary: (1) The blood to be tested; (2) the dialysing tubes and the flasks to hold them; (3) placental tissue coagulated by boiling; (4) ninhydrin (chemically triketohydrindenhydrate).

The blood serum should be obtained if possible before breakfast, because even after the not very substantial German breakfast a quantity of amino-acids will be present in the blood, and may interfere with the reaction. There must be absolutely no haemolysis, as thereby intracellular ferments would be liberated. The dialysing tube must be tested very carefully beforehand. Ninhydrin is a stain which reacts with all albuminoid bodies, including amino-acids, to give a bluish-violet colour after boiling. The preparation of the coagulated placenta is difficult; it must be blood-free to eliminate serum albumin, and must be boiled in small pieces till all amino-acids are either destroyed or washed out—that is, as tested with ninhydrin.

Experiment.—In one tube is placed pregnant serum *plus* placental tissue; the mixture is surrounded by water in a flask, and placed in the incubator for sixteen hours. By the action of the pregnant serum on the placental albumin peptones and amino-acids are formed, and dialyze into the surrounding water, where they may be tested for with ninhydrin; a *bluish-violet*, that is to say a *positive colour*, results.

Now take the case of the serum of a non-pregnant woman or a man; place serum *plus* placenta in the tube. There are now no ferments acting on the albumin of the placenta, therefore no amino-acids and other dialyzing substances are formed; the albumin of the placental tissue remains unaltered, and nothing dialyses through the walls of the tube. If you now boil the water with ninhydrin, no colouring results—that is, the reaction is negative.

We should be very fortunate if the technique were as simple as my description would indicate. As a matter of fact, it is full of pitfalls, and Abderhalden himself has admitted this. I am especially indebted to my colleague, Dr. Hendry of Glasgow, who did most of the work with us and helped to discover some important faults of technique, thus gradually developing the method still further. It is not possible to deal with all the details of technique in this short paper, and I hasten to give you our results. We examined both animal and human serums. With animals we examined horse serum reacting with horse placenta and sheep serum reacting with sheep placenta. In addition, we reacted sheep serum with horse placenta and human placenta, and horse serum with sheep placenta and human placenta.

We got horse blood and placenta from some horse breeders, and the placenta of the sheep from the slaughter-house. We had thus absolute certainty in our controls. In all we examined 78 cases of pregnant and non-pregnant animals, with only one failure, and this probably due to a fault of technique. The blood of an innocent male sheep reacted positively! With the exception of this doubtful case every reaction proved accurate.

Now, as to our results with human serum and human placenta. In a first series of 237 cases done nearly ten months ago, we had many failures, especially positive reactions with non-pregnant cases. However, with better technique, especially additional controls, our results have improved, for we have had a second series, of 79 cases, without a failure. Lately we have gone further and examined certain pathological conditions, such as carcinoma, fever cases, etc., in non-pregnant cases. This we did because certain workers have observed positive results regularly in such cases. We cannot altogether bear out these workers, although in some of them we did get positive reactions. This, however, we believe to be due to the summation of amino-acids in the serum and some still present in the placenta, neither of these alone being sufficient to react with the indicator. With Abderhalden's latest technique, we have lately had accurate results in these cases also.

To sum up, it may be stated that:

1. An exact diagnosis of pregnancy can be made in animals (horses and sheep).
2. The same is true for *normal* pregnancy in women.
3. In cases of carcinoma and fever the reaction may be doubtful, but this result is more likely to be due to a defect of technique than to the formation of non-specific ferments.

DISCUSSION.

Dr. HENDRY (Glasgow University) dealt with some details of technique. The best dialysing tubes were those of the Halle firm, which provided material for Professor Abderhalden's Institute. Tubes should be used for any one experiment which gave the same density of reaction with the preliminary tests with ninhydrin. Salt solution was better than tap water for washing the blood from the pieces of placenta. The coagulated placenta must be proved absolutely peptone-free by a very strict test, namely, 1 c.cm. of a 1 per cent. solution of ninhydrin to 5 c.cm. of dialysate. Ninhydrin was a very delicate reagent, and, by the summation of peptones and amino-acids in the serum, *plus* the placenta, might give a positive reaction where each alone was negative. The serum must be absolutely fresh, as, when stale, the ammonia formed would give a rose-red colour with the indicator. Abderhalden had decided that cases of eclampsia giving a negative reaction had a worse prognosis than those showing a positive.

Dr. ARCHIBALD LEITCH (London) congratulated Dr. Schlimpert on the excellent exposition of Abderhalden's method, as he had come to Brighton specially to listen to it. Serological methods suggested for the diagnosis of pregnancy hitherto had been very unreliable; but, judging from the consensus of opinion of German workers and from his own limited experience, he thought the method of Abderhalden was of very considerable value in the diagnosis of early or obscure cases. Most of the fallacies had been dealt with by Dr. Schlimpert, and he was glad that the speaker did not subscribe to the dictum of certain experimenters that the reaction was infallible. He pointed out certain additional fallacies that ought to be taken into account before giving an opinion on the result. If one tested the latest dialysation tubes recommended with a certain solution of Witté's pepton, it would be found that the colour reactions of the dialysate given with ninhydrin varied enormously. This was important, because in the performance of the reaction one compared colour tints. Thus, if one by chance used a tube of slow diffusion rate for the placenta *plus* serum, and one of greater dialysability for the serum control, it might happen that a pregnant serum would be negative and a non-pregnant serum would be positive. Normal serums, too, might contain considerable quantities of dialysable substances, such as amino-acids, that would give a positive reaction. The former fallacy could be got over by duplicating or triplicating the tests, and the latter by previous dialysating against running water. He had put the method to practical test and thought very highly of it in the diagnosis of early pregnancy, but it was not strictly specific.

Dr. Leith Murray (Liverpool) had listened with great interest to the description of technique given by Drs. Schlimpert and Hendry. He had had considerable experience of the method for certain conditions other than pregnancy, and as the result of the almost weekly improvements in technique that had appeared, found himself in the unpleasant position of having to discard all but his latest results. He had found that less than half of the dialytic thimbles (579A, Schleicher and Schüll) were satisfactory, and recommended that they be tested with strong egg-albumin and pepton. He emphasized the necessity for complete aseptic technique throughout, and advised that excess of toluol be laid on the surface. The coagulated material must be tested with a very strong solution of ninhydrin on the day of the experiment. He had had considerable difficulty in obtaining blood absolutely haemoglobin-free, and asked for information on the point. He doubted whether the reaction was so absolutely specific as had been stated, for lately Williams and Pearce had shown that uterine wall at term, and occasionally kidney, would react with pregnant serum. With so many pitfalls any simplification of technique was advisable: and he called attention to the method of the above-mentioned workers who dispensed with the dialysation thimbles altogether. They pointed out that as the bodies to be tested for were incoagulable, the process could be performed in an ordinary test tube, thereafter the contents diluted to a certain volume with water, boiled after the addition of acetic acid, filtered, and if necessary refiltered, after again boiling. The filtrate was tested in the ordinary way with ninhydrin (0.2 c.cm. of a 1 per cent. solution to 10 c.cm. of filtrate).

Dr. Schlimpert, in reply, reiterated several points in his technique, especially with regard to the testing of the coagulated placental tissue. He recommended the dialytic tubes obtainable from Schöps of Halle. In reply to Dr. Leith Murray, he recommended that the blood after withdrawal be placed in an ice chest for four hours; the serum could then be decanted and centrifugalized.

SECTION OF DERMATOLOGY.

J. H. Sequeira, M.D., F.R.C.P., President.

TREATMENT OF CUTANEOUS TUBERCULOSIS BY MEANS OF COPPER.

By G. Norman Meachen, M.D., B.S.Lond., M.R.C.P.Lond. and Edin.,

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The therapeutics of the various salts of copper, more especially the sulphate and the chloride, may be stated briefly to lie in their antiseptic, astringent, and caustic properties. Thus, weak solutions of copper sulphate (1 in 5,000,000) have been employed for purifying water. Blue vitriol has long enjoyed a reputation as a mild caustic, causing less pain than silver nitrate. The oleate of copper had, at one time, considerable vogue as an antiparasitic in the treatment of ringworm. Levi and Barduzzi (quoted by Ringer and Sainsbury) state that small doses of copper sulphate promote assimilation and act like arsenic (as an alterative), being useful in eczema, scrofula, and tuberculosis.

The action of copper in the colloid state upon the blood has been demonstrated by MM. Chabanier and Rollin, who showed that the red cells and the haemoglobin are at first slightly diminished, gradually regaining the normal amount. The number of leucocytes diminished immediately after the injection, returning after fifteen days to the normal. The polynuclear and large mononuclear leucocytes are increased in number.

As far back as 1894 the phosphate and the acetate of copper were employed in tuberculosis by two Frenchmen—Luton, father and son. In 1906 the use of copper alginate was recommended by Drs. A. and G. Gresswell, of Louth, in doses of $\frac{1}{24}$ to $\frac{1}{6}$ grain as a remedy for tuberculous enteritis and lupus.

With the advent of chemotherapy it is only natural that researches should be made into the value of metallic salts both in internal and external tuberculosis. The experiments of von Linden (Bonn), Professor Meissen (Hohenneck), and A. Strauss (Barmen), into the specific action of salts of copper in tuberculosis were reported upon at the Tuberculosis Congress at Rome, April, 1912. These observers found that in guinea-pigs the tubercle bacillus is stained by methylene blue and by solutions of copper chloride and tartrate, while *in vitro* these same agents in a 1 per cent. solution kill the bacilli in twenty-four hours, so that animals, when infected by them do not become diseased. In tuberculous animals treated with copper the nodules of miliary tuberculosis appear in the lung as brownish-coloured spots which, under the microscope, contain brown granules and brown bacilli-like bodies. When moistened with ammonia the intense blue colour which results shows that traces of copper salts have become deposited in the tubercle.

A combination of copper with lecithin, according to von Linden, enables large doses to be introduced into the body without injury. Such a compound is prepared by the Bayer Farbenfabriken, and may also be employed locally as an ointment. "Borcholin" is a similar preparation prepared by the Vereinigten Chemischer Werke, Charlottenburg. Potassium tartrate was added by Strauss as an electrolyte in watery solution. Lupus nodules may also be painted with copper potassium tartrate dissolved in traumaticin. Some degree of local reaction occurs, but the lupus nodules pale and flatten without exudation or tumefaction. Strauss's technique consisted of the injection, subcutaneously or intravenously, of iodine-methylene-blue, two to three parts per thousand, in a 6 per cent. solution of common salt, in doses of 3 to 10 c.cm. Simultaneously with this, or alternately, copper salts, such as the chloride or the potassium tartrate, may be given, or, better still, a chemical combination of the dye with copper and lecithin, which preparation is said to have a greater lipoid solvent effect. A preliminary freezing of the nodules with the carbonic acid snow, to expose the cutis, prepares the ground for the copper treatment.

Internally, copper chloride may be given as well in capsules containing 0.01 gram, one ter in die. Luton states that when copper is given internally milk or Vichy water or a menthol pastille should be given at the same time. He recommends a pill of acetate of copper, 1 cg. for a dose.

Although the time is too short to draw any sound conclusions as to the result of chemotherapy in lupus vulgaris by means of copper salts, I should like to say that I think Strauss's method may prove to be a valuable adjunct to our armamentarium for the treatment of cutaneous tuberculosis. I have used the copper chloride for hypodermic injection directly into the lupoid tissue, employing for the purpose $\frac{1}{4}$ c.cm. to 2 c.cm. of a 1 per cent. solution in water. At the same time I give cachets of the same salt in one-sixth grain doses three times a day. The nodules are turned slightly white for a short time after the injection, but some erythema follows and a little local swelling. In two or three days time the lesions look somewhat paler and flatter. I have also bathed the patches with ordinary Fehling's solution, and in one case of lupus cavi nasi, in which I had previously employed Pfannenstill's method, I directed this solution to be gently syringed up twice a day, a weak ointment of boric acid being used to calm any irritation.

I have not yet had time to speak as to the effects of the lecithin compound. In view of the fact that the copper treatment is clean, non-toxic, and is particularly suitable for ambulatory treatment, I beg to commend it for the consideration of my colleagues as being worthy of a more extended trial.

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THE TREATMENT OF SKIN AFFECTIONS BY SOLID CARBON DIOXIDE.

By J. L. Bunch, M.D., D.Sc., M.R.C.P., B.S.,

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The use of solid carbon dioxide in the treatment of many affections of the skin has now become well established, and there is no question that some skin diseases can be more satisfactorily and more rapidly cured by freezing than by any other method of treatment at our disposal. Solid carbon dioxide has a larger field of usefulness in the treatment of angiomata, pigmentary, stellate, and other varieties of naevi than in other skin diseases, chiefly because naevi are so very common and also because they occur so frequently in children, and in children a method which is extremely rapid and almost painless is of the utmost value.

I have treated naevi in babies only a day or two old, and in most cases the few seconds' application of the snow is completed and the child is on its way out of the room before it has had time to cry, if cry it will, and older children rarely seem to feel any definite pain while the carbon dioxide is being applied, although there is usually some burning or tingling while the frozen surface is thawing again afterwards.

At the meeting of the British Medical Association last year I read a paper on two thousand naevi which I had treated by the application of solid carbon dioxide, quite aside from other methods of treatment, and I have treated a large number of naevi since. Apart from the rapidity and comparative painlessness of the method, one great advantage is the ability to cut or mould the stick of snow to any shape, so that a naevus of reasonable size, whatever its irregularity of outline, can be accurately frozen in its whole surface at a single application—a result which cannot, of course, be obtained by such methods as electrolysis, the cautery, or radium. A single application is usually sufficient to cure a stellate naevus or small angioma if care is taken to shape the stick of snow accurately to fit, including a margin of healthy skin of one or two millimetres all round, and exercising firm pressure on the skin.

Pigmentary naevi, especially if they are hairy, usually need more than one application, and it is much better to do too little at one sitting than too much, as I have seen quite unsightly scars, sometimes keloidal, produced by a too prolonged application of the snow to moles, the scar being often to all intents and purposes as disfiguring as the original skin lesion. When the hairs on the mole are coarse I prefer to remove them by electrolysis, and the subsequent return of any pigment in the naevus can be obviated by giving radium applications while the skin is healing up from the carbon snow treatment.

In the case of naevo-fibromata and naevo-lipomata, where excision is objected to, a great deal of disfigurement can be removed by treating the purplish skin areas with carbon dioxide until the surface is white, and then inserting some electrolysis needles, insulated with shellac to within half an inch or an inch of the point, right into the swelling, and repeating this procedure if necessary at different points of the swelling.

Port-wine stains are undoubtedly the most unsatisfactory kind of naevus to treat by any method, and one sees cases the colour of which is so intense and which involves the deeper structures to such an extent that no method at present at our disposal is capable of doing more than diminish the disfigurement without running the danger of unsightly scarring. The most difficult cases to treat are those in which the corium and underlying structures are deeply involved, and which have a nodular, irregular surface with warty projections, and for these there is no really efficient method of treatment. But for a moderate-sized, red, superficial port-wine stain in a child, where the purple tint is absent or but slightly marked, applications of solid carbon dioxide at intervals of a fortnight or three weeks will often give excellent results. In adults, too, I have been quite successful when the port-wine stain was fairly localized and carbon snow was employed in conjunction with a plaque of radium of one million activity. In these cases the radium was first applied to the areas which showed the darkest tint. When the colour had been eliminated, or markedly diminished, from these areas, applications of solid carbon dioxide were commenced, and the final results were quite good. Of course this method of treatment demands some patience both on the part of the dermatologist and the person under treatment; but from the patient's point of view I gather that the somewhat prolonged treatment is quite worth while.

Cases of linear naevus and naevus verrucosus also do very well when treated with solid carbon dioxide, but for verrucose naevi where there is much thickening and warty growth very firm pressure must be made, and the pressure maintained for about sixty seconds or even more.

In all these cases I consider that the stick or crayon of solid carbon dioxide is far preferable to any other method of applying carbon snow. At one time I tried a method of dipping the stick or crayon into ether before applying it to the naevus, with the idea of obtaining a greater intensity of cold, and so diminishing the length of the application, but it has been clearly shown that the analogy of a mixture of snow and salt does not hold in the case of carbon snow and ether, and no lowering of temperature is obtained by this means. This also applies to the method of dissolving carbon snow in ether, and painting on the mixture with a camel's hair brush. This latter method is, however, useful in some cases of lupus erythematosus, when a considerable area has to be covered, and diminution of vascularity, rather than any deep action, is of importance, but the painting has to be repeated so frequently that the inconvenience to the patient more than outweighs any slight advantage in the initial saving of time. This method of treatment was first initiated in America, and has now been practically given up there.

When a much greater intensity of cold is required than that obtainable with solid carbon dioxide, or a large surface has to be covered in the minimum of time, it is often convenient to use liquid air. The temperature of solid carbon dioxide is only — 78.2° C., while that of liquid air is — 190° C., so that with the latter reagent the freezing is much more rapid. There is little appreciable difference in the nature of the inflammatory reaction produced by liquid air and solid carbon dioxide, but liquid air has a much more powerful action. In the liquid state air occupies $\frac{1}{800}$ part of its ordinary volume: in other words, if liquid air be vaporized it will expand 800 times, and as the more volatile nitrogen evaporates the temperature rises, and the almost colourless liquid assumes a bluish tint—the colour of liquid oxygen—which remains until all the liquid has vaporized. Liquid air can be best applied on a swab of absorbent cotton, and its action can be regulated both by the time of application and the amount of pressure employed. It is rarely necessary to apply it for more than ten seconds.

The application to the skin of either liquid air or solid carbon dioxide for a few seconds causes a preliminary freezing of the tissues, followed by a well-marked inflammatory reaction, which, according to its intensity, may result only in thrombosis of the superficial vessels and fibroplastic sclerosis of the epidermal tissues, or any stage between this and complete necrosis.

The action differs from that of the cautery or a caustic in that all the tissue elements frozen are not indiscriminately destroyed, and the resulting scarring is, owing to the gradual transformation of the tissue elements into fine fibrous tissue, much more supple and inconspicuous than when these other methods of treatment are employed. Moreover, the exact amount of inflammatory reaction can be controlled, both as regards extent and depth.

Rodent ulcer is perhaps the skin disease, other than naevi, in which solid carbon dioxide gives the best results. Small rodent ulcers on the face can frequently be cured by a single application of forty seconds with firm pressure, and, if care has been taken to go well outside the raised edge of the ulcer, no further application may be necessary and no recurrence take place. But, if the spreading edge be not destroyed in its entirety and a small portion of the edge be left, this usually gives rise to a recurrence in a few weeks or months. The recurrence is, however, considerably smaller than the original growth, and one or two more applications will complete the cure.

When the original ulcer is of the size of half a crown, or larger, I usually give an initial application of forty seconds, followed by a second application of thirty seconds at the end of the week. The ulcer is then allowed to heal up under boracic acid dressings, which takes about three weeks, and it is then carefully examined to see whether any traces of the edge still require further treatment. If it appears quite cured, I order the patient to present himself at monthly intervals, in order that any possible recurrences may be treated before they have had time to make any headway. The results thus obtained are, in my opinion, equal, if not superior, to any results got with *x* rays, ionization, and radium, and, of course, with greater rapidity and less expense.

Lupus erythematosus of the discoid, or nodular, variety reacts very well indeed to the treatment with solid carbon dioxide, and fifteen-seconds applications are usually sufficient. When the patches are old-standing ones and there is a great deal of thickening somewhat longer exposures are necessary. The small superficial ulcer which results from the freezing heals up in a week or two, and the newly-formed tissue is usually sound and supple, with very little appreciable scarring. In the much rarer telangiectatic type of lupus erythematosus the diffuse reddening is quite unsuitable for solid carbon dioxide, and it is in these cases that I have found a mixture of carbon snow and ether, repeatedly painted on with a camel's hair brush, is useful to diminish the vascularity. It is similarly useful in cases of acne rosacea, after all the larger dilated vessels have been destroyed by electrolysis.

I have used this reagent in a number of cases of lupus vulgaris, and, although many of the cases can be cured by it, the scarring is rather excessive if no recurrence is to take place. In small patches the isolated nodules can be more satisfactorily destroyed, one by one, by other means, and large patches are better treated by scraping thoroughly and immediately *x*-raying. If, in addition, a successful Thiersch grafting be performed, the scar will be much better than that got with carbon snow in a really severe case. The latter is, however, preferable to *x*-raying without scraping, on account of telangiectases which repeated *x*-raying is so likely to produce.

Localized patches of chronic psoriasis, chronic eczema, and lichen planus respond extremely well to freezing. The irritation caused by the lesions of the two latter diseases ceases immediately after the snow has been applied, the patches heal up with healthy skin after a single application as a rule, and even the soreness caused for a time by the snow is far preferable to the itching previously experienced. Corns and warts lend themselves very well to cure by freezing, but they are such bad conductors that very firm pressure has to be made and the exposure increased to a minute or more. The period of freezing can, however, be appreciably diminished by first shaving down the wart until it is nearly flush with the skin and then applying the stick of solid carbon snow. Corns on the sole of the foot after adequate freezing are apt to be rather excessively tender, owing to the resistance of the underlying plantar fascia and the pressure which it causes on the inflammatory swelling produced by the freezing, but this can be diminished or prevented by injecting a few drops of novocain solution. For corns in this position and for no other skin lesion have I found it advisable to employ any local anaesthetic before freezing. Both corns and warts must have an application of carbon snow sufficiently long to destroy them entirely, otherwise there is danger of recurrence, and, judging from certain recurrences which I have seen, some dermatologists seem to be afraid of giving an adequate dose. A shorter application suffices for seborrhoeic warts.

Chronic ulcers of the leg, when the edge is markedly thickened and indurated, may often be made to take on healthy, healing action by being frozen lightly for about twenty seconds. The object here is not, of course, as in rodent ulcer, to destroy a malignant growth, but to induce the formation of healthy granulations in place of the indolent ulcer base which shows little or no tendency to form fresh, actively growing tissue. The actual edge of the ulcer, if much indurated, should have a longer exposure to carbon snow.

I have recently reviewed a book which recommends solid carbon dioxide for such widely different diseases as alopecia areata, leprosy, and morphoea, but, however excellent a method of treatment in certain well defined diseases of the skin, freezing is not a universal panacea for every form of disease met with in England, whatever it may be in America. Nor has carbon snow as yet displaced all the other physical methods of treatment, such as *x*-rays, ionization, and Finsen light. But for certain diseases of the skin it provides us with a cheap, rapid, and efficacious method of treatment which gives us the most excellent results and causes the patient a minimum of pain.

DISCUSSION.

Dr. F. Gardiner (Edinburgh) said he unfortunately had not obtained success in spider naevi, and, like Dr. Bunch, had obtained little success in port-wine staining. Lichen planus chronicus benefited in respect of relief from itching, but otherwise there was little change. For warts he preferred *x* rays and excision—the first method for multiple warts, excision for the isolated variety. The objection to the use of CO_2, especially on the hands, was the subsequent blister, which lasted a week. He would be interested in trying the remedy in other conditions suggested by Dr. Bunch.

Professor R. B. Wild (Manchester) agreed with Dr. Bunch as to the value of carbonic acid snow in the treatment of many forms of skin diseases, but more experience showed clearly that its usefulness was sharply limited, and that its application should not be a routine procedure but adapted to each case both as to duration and degree of pressure. He had found the best results in lupus erythematosus from short applications of five seconds' duration; in lupus vulgaris longer applications were needed, and good results were especially obtained in isolated nodules in scar tissue. In rodent ulcer applications up to one minute gave good results, and one case of epithelioma of the pinna which refused operation had been successfully treated by two minutes' application; the upper third of the pinna with the growth was entirely removed eighteen months ago, and no recurrence had taken place. In naevi the deeper-seated forms were more successful than the port-wine stain and stellate naevi.

CIRCULATORY DISORDERS IN RELATION TO ALOPECIA AREATA AND OTHER FORMS OF BALDNESS.

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Much has yet to be learnt as to the ultimate causes of baldness, whether acute or chronic, partial or complete, premature or senile, diffuse or patchy. This lack of knowledge is possibly due to the fact that loss of hair is symptomatic of an underlying morbid condition, the significance of which in diagnosis has not hitherto been grasped. The obscurity that surrounds the subject is shown by the wide divergence of opinion amongst dermatologists as to the etiology, the pathology, and consequently the classification and the rational treatment of the various forms of baldness. The present object is to draw attention to what the author regards as the vital part played by cardio-vascular defects as a predisposing cause, not only in patchy but also in the diffuse forms of acquired baldness.

Crocker's classification of alopecia areata included: (1) Universal forms, (2) local or neuritic forms, (3) parasitic forms, (4) chronic seborrhoeic forms. Its main cause he believed to be parasitic. His group "alopecia neuritica seu localis" included cases in which definite nerve areas were involved or those associated with leucoderma, or following severe and persistent neuralgia. This neuritic group of Crocker corresponds with that separated from true alopecia by Max Joseph, who included cases in which blows on the head or mental shock are followed by alopecia in angular, band-like or map-like areas.

Personally, the author finds no difficulty in adopting Crocker's classification. There are peculiarities about the generalized alopecias that justify his inclusion of them in a separate group. It seems impossible, again, to avoid his

conclusion that some forms of alopecia areata are infectious. Many such instances have been recorded by competent observers in schools, barracks, and other places where individuals are congregated together in large numbers. The fact that no specific pathogenic organism has been established need not seriously disturb our belief in this group. On the other hand, it can hardly be doubted that many alopecias are for all practical purposes neuritic and non-infectious. As to the seborrhoeic group, it seems clear that scalps affected with that condition are specially prone to baldness, both patchy and diffuse.

Crocker himself fully recognized that there is no constancy in the organisms found in the seborrhoeic forms of alopecia areata. Sabouraud's claim that the flask bacillus is invariably present has not been confirmed. Nor have the particular micro-organisms described by Thin, Schlen, Robinson, and others, found any more general acceptance.

At the outset of an inquiry into baldness one is struck by the fact that it is almost always an acquired condition. Age in itself is not essential to its causation, for a man may live to a hundred years and more and during all that time preserve a luxuriant crop of hair. Its incidence, moreover, has not so far been reduced to any formal terms of cause and effect. Many persons, for instance, suffer from severe neuralgia or sustain severe blows on the head, but relatively few of them develop alopecia areata. Seborrhoea of the scalp, again, is more or less universal in its distribution, but patchy baldness is comparatively rare. The only explanation that appears to the author to cover the whole ground is the assumption of some predisposing condition common to alopecia areata and to the wider class of cases of diffuse or general baldness. That common predisposing cause he concludes to be some cardio-vascular defect. The evidence upon which that opinion is based, from the nature of the investigation, is mainly clinical, and consists for the most part in a collection of cases in which alopecia areata or diffuse baldness has been found associated either with heart troubles (valvular, muscular, or functional), with arterio-sclerosis, or with certain general maladies, such as exophthalmic goitre or Raynaud's disease, in which the circulation is subject to disturbance.

It may be asked what relation a circulatory defect has to a scalp affected with some obvious traumatic agency—say that of seborrhoea. The answer is, that from the examination of a large number of cases the author is convinced that where alopecia areata occurs along with severe seborrhoea it is commonly associated with some obvious circulatory defect, most often central and of valvular origin. It has not been possible to obtain detailed statistics on the point, but as regards chronic and recurrent cases of alopecia areata the author estimates, roughly, that in perhaps eight or nine cases out of ten it is possible to find some marked cardio-vascular defect. In the remaining margin of cases one often finds less definite signs of circulatory inadequacy, such as cold extremities, dusky hands, tendency to chilblains, and feeble pulse. Here and there, as a rare exception, no clear evidence of circulatory disorder could be detected.

The author's general proposition is that in most cases of alopecia areata there can be found a predisposing element in some circulatory disorder. The determining cause is probably multiple, and may be ascribed to traumatism of some kind or other, varying so widely as to include blows on the head, neuritis, mental shock and seborrhoea. The ordinary individual with a normal circulation, central and peripheral, is able to resist more or less effectually the traumatism of seborrhoea, probably because his local means of defence by the blood stream are adequate. Let the blood supply to his scalp, however, become deficient, either from direct or indirect vasomotor influences, from arterio-sclerosis or from disease of the heart, and straightway his local circulatory defences break down and the ordinary normal reaction of the scalp against traumatism is replaced by a morbid passive process. The diminished or arrested blood stream is then no longer able to establish a rapid healthy reaction, to repair local damage, to dilute and neutralize toxins and to antagonize and destroy invading organisms by phagocytosis. In a word, local resistance is lessened or altogether lost.

Robinson of New York has reported a microscopic investigation of seven biopsies of alopecia areata. His conclusions are well summed up by Unna[1], as follows:

> Robinson always found appearances of inflammation, as well as a perivascular, but not very widespread, and not specially perifollicular infiltration with round cells. In most cases the lymph had coagulated in the dilated lymphatics, and some of the larger and smaller arteries contained thrombi. In other cases the blood vessel walls were always thickened. In all the lymph spaces of the cutis Robinson found cocci, numerous in recent cases, and these he regarded as the cause of the affection. The cocci were about the size of the *Staphylococcus aureus*.

Unna agrees with Robinson's views generally, but he did not find cocci in the lymph spaces.

In sections* from a biopsy of a recent alopecia areata by the author cocci can be seen in the dilated lymph spaces around the hair follicles and elsewhere. This agrees with Robinson's observation. In another patient suffering from an extremely chronic superficial spreading dermatitis associated with valvular disease a biopsy was made. The sections again showed what appeared to be cocci in the lymph spaces. In this case cultures of *Staphylococcus albus* were obtained from the lesions. A vaccine has been prepared and treatment commenced, with improvement after three injections. This case appears to be somewhat analogous to the alopecia areata section in its association of apparent cocci in the lymph spaces, in the perivascular changes, and the associated vascular lesion. The shedding of the hair under similar conditions may be regarded as due to an anatomical accident. Lymph stasis is probably a pathological factor of vital importance.

It is recognized that the human skin, and probably hair follicles and glands to a less extent, is the normal habitat of various micro-organisms. The majority of individuals, however, are comparatively seldom affected with resulting eruptions. The author suggests that the essential predisposing condition for the effectual invasion of the deeper cutaneous structures by pathogenic organisms is a disturbed balance of surface circulation due to cardio-vascular disease. The indispensable contributory condition appears to be connected with the diminution or the actual breakdown of the defensive forces presented by a normal circulation against invading bacteria. The latter are enabled to gain a footing in the deeper tissues, where they set up, in turn, defences for themselves against opsonic, phagocytic, and other adverse influences by causing coagulation of blood and lymph. In the case of a hairy region the small capillaries to the hair bulbs probably are blocked at an early stage, and general obliteration of the surface capillaries takes place, the latter being replaced by fibrous tissue. Capillary fibrosis thus induced is accompanied by shrinkage and increased vulnerability of the whole skin.

A similar explanation applies to ordinary baldness. A surprising proportion of cases of baldness in young persons is accompanied by serious cardio-vascular defect. I have noted this association in a large number of cases, of which the following may be taken as a type:

> W. H. B., male, aged 24 years, came to hospital complaining of loss of hair for the past eighteen months. There was a family history of phthisis, but he had always enjoyed good health, and had recently passed a medical examination for life assurance. Beyond a little occasional indigestion he always felt well. The scalp was thin and moderately scurfy; the hair thin all over scalp, especially at crown and vertex. The heart apex was felt in the fifth and sixth interspaces; cardiac dullness reached to the left nipple line; there was epigastric pulsation. A systolic mitral murmur was heard, conducted into axilla; and the arteries were thick for age.

This illustrates the case of a young adult apparently in good health, but in reality suffering from valvular disease of the heart, to the state of which attention was drawn simply and solely by the symptomatic shedding of hair. In the case of premature baldness, as in alopecia areata, and in cutaneous eruptions under similar conditions, the external sign, in the author's opinion, is closely related to the cardio-vascular defect, and in many cases affords earlier and more constant evidence of heart disease than the classical signs and symptoms set forth in the text-books.

Unna and Robinson, the authorities above quoted, agree as to the inflammatory nature of the process in alopecia

* The sections (shown) were made by Dr. Dudley Benjafield, pathologist to the Western Skin Hospital.

areata. Robinson regards the vascular changes as primary and thinks the ultimate cause is infection by micro-organisms. The author agrees with that view, but differs in regarding the essential predisposing condition as some cardio-vascular defect whereby the balance of the surface circulation has been so modified as to destroy or lessen the natural defences of the blood stream and admit the invasion of micro-organisms from the follicles and glands of the skin. When the bacteria have once secured a footing in the corium inflammatory changes follow, with dilatation of blood vessels, small-celled infiltration and oedema. An essential part of the process appears to be plugging of the small arteries, whereby the nutrition of the hair bulbs is suddenly cut off. Apart from that explanation it is difficult to imagine why the hair bulbs in a given area should suddenly become atrophied. To repeat, the view of the author is that there is some predisposing defect of the circulation which diminishes or destroys the natural circulatory defences, and thus permits the invasion of external organisms, and leads to the vascular stasis which ultimately cuts off the nutrition of the hair. The first brunt of this vascular impairment falls on the hair papillae, and is testified by the atrophy of the bulb, which permits the hair to be readily pulled out, showing a pointed instead of a rounded bulb-end.

The general relationship of cardio-vascular defects to many skin affections, especially those of a chronic or recurrent nature, has been dealt with by the author elsewhere.[3] Briefly, it was pointed out that a great number of maladies of the kind were associated with cardio-vascular disease. The skin affection was regarded not infrequently as an early and delicate indication of disease of the heart or the blood vessels, to which attention had as a rule not been drawn in any other way. The pathological process was attributed to the substitution of an abnormal or unhealthy reaction to traumatism of various kinds in place of the power of rapid recovery that characterizes the normal skin. A normal skin recovers quickly, for instance, when exposed to a hot sun, whereas the sufferer from cardio-vascular trouble probably develops more or less prolonged dermatitis. This general view applies, *mutatis mutandis*, to the scalp, where, owing to anatomical conditions the damage shows markedly in the destruction of the hair.

The following case illustrates the general type:

W. S. C., a clergyman, 40 years of age, presented himself with a patch of alopecia areata on the left occiput, of four or five months' duration. The affection began some nine years before on the left chin, a year after he had gone through an earthquake in Costa Rica, and a month after an operation for stone in the kidney. There was no dyspnoea nor dyspepsia, and the urine was normal. Recently he had suffered from a little palpitation, dating from an attack of influenza. His family history was good, and he had enjoyed good health, except that he had suffered from several attacks of malaria. The pulse was 80, regular, compressible; arteries thick. The heart dullness reached to the nipple line, impulse weak; there was a mitral systolic murmur conducted to the axilla.

In this case nothing had drawn special attention to the heart, the valvular affection of which—or its failing compensation, according to the author's view—was probably registered by the appearance of the alopecia patch on the chin.

Another case taken at random from the hospital case-book is that of a girl of 18 who came first in January, 1911, with half a dozen small areata patches. There was seborrhoea of the scalp, and this was looked upon as sufficient cause. She complained at the time of giddiness and shortness of breath, but she looked the picture of health, and at that time the common association of heart disease with alopecia areata had not been suspected. The areata recurred several times, and on December, 1912, she returned with fresh patches, and was found to have a mitral systolic murmur with dyspnœa on exertion and some dyspepsia. She had suffered at times from muscular rheumatism; the pulse was 100, variable and compressible. The case was regarded as one of recurrent alopecia areata in a patient suffering from previously unsuspected valvular disease of the heart. In the author's opinion, the disturbed balance of the surface circulation probably accounted for the failure of the ordinary stimulant remedies to cure the areata in a young subject.

In ordinary diffuse shedding of hair and baldness the essential predisposing condition appears in a surprisingly large number of instances to be some disease of the heart or the blood vessels.

The heart trouble in such cases may be temporary. It may be functional, such as the disturbance due to excessive cigarette smoking. It may arise from dilatation or from failure of compensation, which may be signalled by a diffuse fall of hair, and is not infrequently seen after an attack of influenza. Obviously, the predisposing factor of a weakened circulation would be commonly present in post-influential states. In the post-febrile stages of the exanthems, when hair commonly falls, the myocardium is in most cases affected, and there may be, of course, temporary or permanent valvular mischief. Premature baldness commonly dates from a febrile attack in early life. In such cases the baldness may register a weakening of the myocardium from which the heart has long since recovered, or it may be the outward sign of an incurable valvular lesion.

For the purposes of this investigation 36 consecutive cases of alopecia areata have been noted. Of these 23 were in males and 13 in females; 14 were under 20 years of age and 6 were 50 or over. Of the 36 patients no less than 24 had valvular murmurs and other evidence of cardiac disease, while three others showed general arterio-sclerosis (one advanced atheroma). Of the remaining 7, one had exophthalmic goitre; one chorea and irregular heart action; one irregular action from tea and another from tobacco poisoning; one a feeble circulation;

Thirty-six Cases of Alopecia Areata.

No.	Name.	Sex.	Age.	Occupation.	Duration.	Cardio-vascular Condition.
1	W. S. C.	M.	40	Clergyman	9 years recurrent	Mitral regurgitation.
2	W. F. W.	F.	26	None	1 week	Exophthalmic goitre.
3	J. A. W.	M.	25	Government official	6 to 7 years	Aortic direct.
4	R. H.	F.	27	Home	1 year	Feeble circulation.
5	A. K.	M.	29	Coach-builder	10 years	Aortic and mitral systolic.
6	F. W.	M.	39	Traveller	3 years	Arterio-sclerosis.
7	A. N.	F.	27	Home	Recent	Mitral regurgitation.
8	M. G.	M.	45	None	"Years."	Double aortic.
9	K. F.	M.	16	Home	9 years	Mitral regurgitation.
10	S. S.	M.	15	Tea-taster	8 years recurrent	Irregular action (tea).
11	W. T.	M.	21	Farrier	8 years recurrent	Aortic direct.
12	F. R.	M.	9	School	4 years recurrent	Chorea and irregular action.
13	G. W.	F.	18	Home	2 years recurrent	Mitral regurgitation.
14	G. R.	M.	17	Printer	1 month	Mitral regurgitation.
15	C. A.	F.	70	Home	"Years"	Multiple murmurs.
16	J. W. C.	M.	22	Engineer	2½ months	Tobacco heart.
17	T. A.	M.	32	Clerk	4 months	Aortic and mitral systolic.
18	A. B.	M.	26	Porter	10 years recurrent	Mitral regurgitation.
19	C. D.	M.	42	Labourer	5 years	Atheroma.
20	G. B.	M.	50	Painter	4 months	Aortic direct.
21	L. H.	M.	32	Carter	—	Arterio-sclerosis.
22	C. C.	M.	24	Porter	2 years	Negative.
23	T. C.	M.	45	Bootmaker	3 years	Aortic double.
24	H. H.	M.	25	None	—	Mitral regurgitation.
25	G. C.	M.	—	Clerk	10 years	Mitral regurgitation.
26	T. P.	F.	28	Teacher	"years"	Mitral regurgitation.
27	L. K.	F.	25	Post Office	1 year	Mitral regurgitation.
28	W. P.	M.	26	None	3 years	Mitral regurgitation.
29	W. H. B.	M.	24	Clerk	8 years	Mitral regurgitation.
30	W. J. F.	F.	32	Teacher	3 years	Mitral regurgitation.
31	L. B.	F.	22	Factory	12 years	Arterio-sclerosis.
32	A. W.	M.	19	Clerk	2 years	Mitral regurgitation.
33	B. F. F.	F.	25	Home	8 years	Mitral regurgitation.
34	L. W.	F.	26	Home	8 years	Negative.
35	N. T.	F.	37	Teacher	1 year	Mitral regurgitation.
36	B. A.	F.	18	Machinist	9 months	Negative.

while in three only could no marked abnormal circulatory condition be detected.

Of the 24 valvular conditions, 18 showed mitral regurgitation, and 2 of them aortic mischief as well; 5 were direct aortic, 2 of them direct and regurgitant; and 1 showed multiple murmurs in a terminal stage of cardiac disease.

It may be objected that in cases of alopecia following mental shock the cause is evidently neurotrophic, and that cardio-vascular disturbance does not enter into the question. The answer is that shock does not produce alopecia areata in all individuals but only in those who have a certain predisposition, which may be either cardio-vascular, or due to a temperament in which the heart is peculiarly liable to be disturbed. Some years ago the author described a type of individuals, characterized by a congenital high forehead and abnormal thyroid gland, in whom shock was apt to be followed by a curious symptom-complex in which were to be found tremors, nervousness, depression, tachycardia, palpitation, headaches, exophthalmos, diffuse and patchy baldness, and so on. There was a special tendency to exophthalmic goitre and myxoedema, the two being sometimes associated. This temperament, with its consequences, was often met with amongst poorly-fed children in an out-patient department. So far as myxoedema is concerned, the author cannot recall a single case in which the patient had not a congenital high forehead. Where shock is followed by alopecia areata the same condition, in the author's experience, is almost always present. The associated instability of the heart condition in such cases is shown by the quick and variable pulse, the palpitation, and sometimes by the physical signs of a dilated heart.

As regards the diagnosis of the cardio-vascular defect, no cases have been recorded which appeared to be doubtful. In all instances independent medical confirmation has been obtained. It happened on various occasions that examination of the heart proved negative when the patient was standing up and was auscultated with an ordinary binaural stethoscope. Patients were therefore invariably examined with a stethonoscope lying down after previous exertion, under which circumstances an otherwise latent valvular murmur was sometimes detected.

The practical application of the cardio-vascular relationship of skin affections, assuming it to be established, is obvious. In future the dermatologist called upon to treat any form of alopecia will investigate the cardio-vascular system as a matter of routine. If any defect be discovered, his guiding principle will be to restore as far as possible the normal balance of the surface circulation. The heart condition may demand rest, purging, cardiac tonics, iron, appropriate diet, and so on, while locally for the scalp massage, antiseptic stimulant applications, mild galvanization, and other measures to restore surface circulation are indicated. As regards diagnosis, the occurrence of patchy or of ordinary baldness should at once suggest an examination of the central and peripheral circulatory system. As to prognosis, the existence or otherwise of an associated cardio-vascular defect can hardly fail to be pertinent. At any rate, the author may claim that in the long series of cases in which cardio-vascular disease has been found associated with various forms of alopecia, the discovery of that circulatory defect has enabled him to substitute a rational for a purely empirical line of treatment, for some of the patients in whom unsuspected serious disease of the heart was detected were in the habit of taking violent exercise at football, cricket, tennis, and cycling, and of indulging in such habits as excessive smoking and tea-drinking.

The author's main conclusions are as follows:

1. That the abnormal loss of hair, whether acute or chronic, diffuse or patchy, is in the majority of cases associated with some serious cardio-vascular defect, which constitutes an essential predisposing cause.

2. That given this predisposing cause the exciting cause may be one of various bacterial, chemical, or other physical or mental agencies, acting either directly or indirectly.

3. That alopecia areata is simply a localized form of diffuse baldness, and both are probably due in most cases to exciting traumatism and predisposing cardio-vascular defect.

4. That a similar explanation applies to a surprisingly large proportion of skin eruptions, some of them acute, but more often chronic or recurrent.

5. That the predisposing cardio-vascular condition may be (*a*) cardiac valvular, myocardial, or functional; (*b*) vascular, as arterio-sclerosis; (*c*) neuro-vascular, as exophthalmic goitre or Raynaud's disease.

6. That in some cases the skin sign, in the form of alopecia or eruption, may register a failure of compensation. For instance, when an attack of influenza breaks down the compensation of a pre-existing valvular lesion an acute shedding of hair follows.

7. That in all forms of baldness it is desirable to make a careful examination of the heart and circulation generally.

8. That baldness, whether diffuse or patchy, premature or senile, often forms an early and delicate sign of disease of the heart or the blood vessels, to which attention in many instances has not previously been drawn by the classical signs and symptoms described in the textbooks.

9. That the examination of the heart should be made with the patient lying on the back immediately after exertion, and that a good modern instrument, such as the stethonoscope, should be used.

10. That a similar explanation, *mutatis mutandis*, applies to the numerous skin eruptions associated with cardio-vascular disease.

11. That from a pathological point of view the predisposing part played in these cardio-vascular cases depends on a disturbed balance of the surface circulation and acts in a two-fold manner: (1) By diminishing the natural local defences of the skin circulation against the invasion of bacteria from without; (2) by predisposing to the formation of clots, with subsequent damage to nutrition and shrinkage of capillaries (fibrosis); (3) by inducing lymph stasis.

12. That the result of traumatism in an individual with predisposing cardio-vascular defect may be described briefly as the substitution of an abnormal reaction to traumatism in place of the usual speedy recovery that takes place in a healthy person—for instance, where exposure to a hot sun produces a more or less violent dermatitis, usually, according to the author's experience, a defective circulation is present.

13. The term "idiosyncrasy," applied to baldness and various skin complaints, in many cases simply indicates a predisposing cardio-vascular defect, and in much the same way the so-called "hereditary tendency" to baldness or certain skin complaints in all probability means an inherited tendency to cardio-vascular complaints.

14. That so far as patchy baldness is concerned a series of 36 consecutive cases has been investigated; in 24 of these there existed valvular disease of the heart, in each instance confirmed by independent medical examination; three others showed arterio-sclerosis, while in three cases only was no marked circulatory trouble noted.

15. That prognosis and treatment in all forms of baldness, as well as in many skin diseases, must to a great extent depend on the state of the cardio-vascular system.

References.

[1] *Histopathology of Diseases of Skin.* English translation, 1894, p. 1093. [2] British Medical Journal, August 10th, 1912; *Medical Press and Circular*, May 14th, 1913.

DISCUSSION.

Dr. Alfred Eddowes (London) said that of course circulatory disturbances had an effect on the skin. Every one knew about so-called varicose ulcers; for example, about ten years ago the speaker had hundreds of hairs from alopecia areata cases examined, and the microbacillus was found so constantly and in such numbers as to lead him to conclude they were always present, and when not found it was the fault of the person who did the staining. Many cases were probably due to infection at the barber's shop. Still the fact that some cases immediately followed exhaustion and shock gave some support to Dr. Walsh's conclusion as to the importance of circulatory failure.

Dr. Griffith (London) said that in his experience he had not noticed any special relationship between alopecia

areata and gross cardio-vascular lesion, and he submitted that Dr. Walsh had not established the fact that any such relationship existed.

Dr. Sequeira (London) inquired whether the 36 consecutive cases of alopecia areata in which Dr. Walsh had found cardio-vascular distension in 30, were not at a hospital for heart diseases.

Dr. Barendt (Liverpool) thought that the practical point in Dr. Walsh's paper was the importance of thoroughly examining the patient, and not regarding the skin affection from too narrow a standpoint.

Mr. Bernhard Smith (London) thought that heredity, as a cause, had not been given the importance that it deserved. The habit of clipping the hair, and the wearing of hats which, by compressing the temporal arteries, restricted the blood supply to the scalp, were no doubt in some cases contributory factors; but, after all, patients cared little as to the cause of their baldness, and doctors were beset with applications for a cure. Their treatment had become, in the eyes of the laity, a reproof to the profession. Doctors were forced to fall back on the hereditary theory when pressed as to a cause of the condition: and indeed it would seem that, like the impulse towards suicide, baldness among the men of certain families commenced with considerable regularity at a certain time of life. They were inevitably led back to the personal equation, and the dread of baldness felt by so many people at 40 or therabouts, more especially on aesthetic grounds, but laughed at when the danger was passed, was a very real one.

AN UNUSUAL CASE OF ACNE NECROTICA.

By F. Gardiner, M.D., F.R.C.S.,
Lecturer on Diseases of the Skin, Edinburgh University.

This condition is a comparatively rare one, and as the following case is characterized by unusual distribution I have thought fit to record it.

J. C., aged 21, a fisherman in the North of Scotland, was admitted in January of this year. A cousin on the male side is somewhat similarly affected, but otherwise his family history is good, and up till seven years ago he never had anything of serious moment wrong with him. The eruption first appeared at the back of the neck in the form of furuncles which discharged, crusted, and then cicatrized. For about a year the distribution was limited to that region and the face, but after that it gradually spread to the trunk and limbs. He then was admitted to Aberdeen Infirmary, and Dr. Christie reported that the lesions all disappeared under exposure to *x* rays. Unfortunately he had only resumed his occupation as a fisherman for a few months when the condition recurred, and in spite of treatment by his own doctor at home it has gone on gradually spreading.

On admission he seemed rather dull-witted and lethargic, but the ward sister remarked that among the patients he was noteworthy for a keen sense of humour.

No evidence of affection of the nervous system was obtained, except sluggishness of the pupils and a difficulty in articulation which had existed from childhood.

The alimentary system was normal.

The urine showed slight albuminuria and occasional haematuria, but no casts. Bacteriologically it was negative. Dr. Boyd, who kindly examined him for me, would not give any explanation.

The circulatory system was free of any organic mischief. Pulse regular. Blood pressure 140. Red blood corpuscles 4,400,000, white corpuscles 13,000, and of these polymorphs represented 58 per cent., large mononuclears 36 per cent., eosinophiles 5 per cent., and myelocytes 1 per cent.

Skin Condition.—Practically the whole surface except the hands and feet were involved.

The scalp showed some pustulation—not marked, however.

The forehead, cheeks, and chin showed the pocked scars of old acne with very few comedones, and only one or two isolated papules on the chin. Near the angles of the jaws were some oval depressed scars, pinkish in colour, about 1 in. by ½ in.

The neck showed numerous large confluent comedones with tags of skin over them in places: at other areas there were pitted scars and isolated comedones. The regions most involved were the nape of the neck and the areas inferior to the ears. Several furuncles were observed just below the fringe of the hair at the occiput.

Both anterior and posterior aspects of the chest showed numerous areas of scar tissue, in some places pink, in others pearly white, but all markedly atrophic, with the skin edge raised and irregular. These areas were of all conceivable shapes, and even as much as 3 in. at their widest measurement.

Interspersed were furuncles not evidently deep, but multilobulated like a kerion, with more redness around. Isolated and grouped undermining comedones filled up the picture, which then showed only scattered irregular areas of unaffected skin. The front and back of the abdomen showed a similar state, but not so severely scarred.

The furuncle stage seemed more in evidence here as there was more sound skin to become infected. The upper and lower limbs showed more distinctly what one takes for one form of commencing lesion, namely, a small papule slightly hyperkeratotic and generally about the size of a pinhead. On the body the commencement was evidently a comedo. There was some scar tissue on the arms, but much more on the lower limbs, where also the crusted furuncle and pigmentation were a pronounced feature. A curiously stubborn area of pustulation was on the left popliteal space.

A first glance at the limbs suggested a bromide rash, and one has seen it identical in appearance to this. Careful inquiry, however, revealed the fact that no drugs of any kind were responsible.

Syphilis was then eliminated as far as possible by obtaining a negative Wassermann reaction and questioning the patient.

A biopsy revealed nothing special except infiltration of small cells, and no evidence of tuberculosis. To make certain a guinea-pig was inoculated, with again negative results.

Films of the pus stained showed a Gram-positive, short bacillus, and cultures were then made on various media, but only in old broth cultures did one obtain the bacillus, otherwise the staphylococci seemed to kill it off. Evidently acne bacillus.

Treatment.

Boric starch poultices were applied to the pustular area and elsewhere; sulpho- and then boro-calamine lotion was applied. These lotions were found to be irritating, and zinc paste and vaseline containing 5 grains to the ounce of ammoniated mercury proved more suitable to the skin.

X rays were used for three or four weeks in doses of five to ten minutes four times weekly without benefit. Then pastille doses at intervals of three weeks to one or two areas also proving ineffective, this method of treatment was stopped.

Thereafter a vaccine made from the bacillus has been given with some interruption about once a week in doses commencing at 40 millions, increasing. There has been some improvement, and one noticed that when the vaccine ran out he seemed to get worse and more depressed than before. Now he is also on zinc, potash and ichthyol lotion, and has been taking ½ to ¾ grain thyroid for some weeks. In brief, the chief point in this case is the unusual and wide distribution.

I beg to express my indebtedness to Dr. James Ritchie, of the Royal College of Physicians Laboratory, for bacteriological examinations, and to Dr. Maclaren, the house-physician, for valuable notes and assistance.

DISCUSSION.

Dr. R. A. Bolam (Newcastle-on-Tyne) said the President would remember a somewhat similar case where the affection, contrary to general experience, affected not only the trunk but also the limbs, which was shown by Sir Malcolm Morris at the Dermatological Section of the Royal Society of Medicine. It had been benefited by use of an autogenous vaccine, but recently the speaker had seen the case once again, and the condition was unfortunately now much the same as formerly. These extensive infections were extremely difficult to treat.

DR. F. H. BARENDT said that acne necrotica was originally described as acne varioliformis, and being confined to the forehead had been termed acne frontalis. He regarded Dr. Gardiner's case as a diffuse acne indurata.

SOME REMARKS ON OINTMENTS.

By HALDIN DAVIS, M.B., B.A.Oxon., F.R.C.S.Eng.

FROM the earliest times fatty and greasy preparations have been used for application to the skin both for therapeutic and cosmetic purposes. References will be found to them with some frequency both in theological and classical literature. At the present time the term "ointment" is limited by general consent to those preparations which are supposed to possess a therapeutic value; those which are of cosmetic importance are variously designated creams, cold creams, massage pastes, skin foods, etc., and those in some ways are more interesting than the purely medical ointments. In former times all sorts of weird and wonderful things were put in ointments or salves, a word which is still popular among out-patients, and they were incorporated in a greasy and fatty mixture of bases derived from every quarter of the animal and vegetable kingdoms. Now, however, we have altered all that; polypharmacy has become a thing of the past, and we now practically use only two bases, lard as an emollient base, paraffin as a protective. With these we incorporate one, two, or scarcely ever more than three drugs, each with a definite and clearly defined function. Lard, of course, has been known from time immemorial, and in many ways is a perfect emollient, but has the grave disadvantage of easily becoming rancid. It is only in comparatively recent times that the chemists have learnt to preserve it by the addition of benzoin, which, however, has the drawback of making it somewhat irritating, so that it is unsuitable for eye ointments and occasionally irritates sensitive skins. It is interesting to note, on the other hand, that paraffin is a product of modern organic chemistry and was only introduced into pharmacy as recently as 1877 as a proprietary article from America under the now familiar name of "vaseline." It is interesting to refer to the old numbers of the *Year Books of Pharmacy*, in which numerous communications on this, at first mysterious, substance may be found. Being a non-irritating substance with few chemical affinities, and therefore stable, with no tendency to decomposition, but capable of incorporation with almost any drug, it forms almost a perfect base for protective ointments. For those ointments which are designed to be rubbed into the skin it is unsuitable, because it is only absorbed with great difficulty. This has been clearly brought out by Dr. Gardiner in his work upon the absorptive powers of various bases. As every doctor knows, paraffin may be liquid, soft, or hard, according as the product under examination is a lower or higher member of that series of hydrocarbons which begins with marsh gas and, theoretically at any rate, stretches out to infinity. In every case the formula is on the plan $C^nH_2N_2$, that of marsh gas being CH_4. The solid paraffins of pharmacy range from $C_{21}H_{42}$ to $C_{30}H_{62}$. The paraffins have been introduced into the *British Pharmacopoeia* formulary as the unguentum paraffini. The formula for this preparation is 70 per cent. soft paraffin and 30 per cent. hard.

This mixture has the disadvantage of lacking uniformity of consistence and also of being too soft in warm climates and too hard in cold. Mr. E. W. Lucas, who has given much study to the question of ointments for the Pharmacopoeia Committee, suggests the following modification for a standard temperature of 15° C.:

Hard paraffin (melting-point 54-57° C.)	...	27 per cent.
Soft paraffin (melting-point 44-46° C.)	...	70 ,,
Beeswax	...	3 ,,

The introduction of the beeswax enables a mixture of uniform consistence to be prepared and at the same time does not interfere with the valuable properties of the paraffin. Mr. Lucas also suggests that in the next edition of the *Pharmacopoeia* proportions ought to be quoted for the following variations of temperature: 10, 20, 30, and 35° C. This series is adequate to cover the extremes of indoor temperatures met with throughout the British Empire. A further suggestion of Mr. Lucas is that there should be an official unguentum emolliens, of which the provisional formula might be:

Lard	...	40 per cent.
Wool fat	...	40 ,,
Paraffin ointment (as above)	...	20 ,,

This mixture, unlike pure lard, keeps well.

The most promising field for original work upon ointments lies in the department of pharmacology. In some cases the action of drugs incorporated in ointments is fairly easy to understand; in others it is very obscure.

Most of the simple instances are antiseptic in principle, and there is little difficulty in realizing the capacity of a mercurial ointment to deal with a superficial septic infection, like impetigo, or a surface-growing fungus, such as tinea circinata or tinea versicolor, although the same remedies are almost powerless against more deeply-seated infections. The soothing drugs which are used in the treatment of irritative and non-microbic inflammations of the skin, of which the best example is eczema, owe, in my opinion, their value to their negative as opposed to their positive qualities. Everyday experience shows that zinc oxide and zinc carbonate are the most useful drugs to incorporate in an ointment for the treatment of eczema, and I believe that the right explanation of their efficacy is the fact that they are chemically quite inert. They owe their therapeutic value to their physical qualities, in that they form a protective covering to the inflamed tissue, preventing contact with its external surroundings, and therefore give the natural recuperative powers of the skin a chance of exerting themselves.

It is usual to speak of the astringent properties of zinc. What is an astringent? An astringent, according to the dictionary, is a substance which contracts the tissues and canals of the body, condensing the soft solids, and thereby checking or diminishing excessive discharges (*Century Dictionary*). There is no evidence that zinc compounds have any vaso-constricting action; the only way in which they conform to the above definition of astringency is that they precipitate proteins from their solutions, forming an albuminate. Probably, when used for discharging surfaces, this phenomenon does occur to some extent, and the albuminate forms an additional protective layer, but when used on a dry surface even this action does not take place. Bismuth is also said to be an astringent; how inert that metal is has been repeatedly demonstrated during recent years, since it became the fashion to feed patients on bismuth for the purposes of visceral investigation. Ounces of bismuth introduced into the stomach have, it seems, absolutely no action upon that organ, the mucous membrane of which is many times more sensitive than is the skin. Upon the skin ointments and pastes of bismuth have precisely the same therapeutic properties as those of zinc; probably the reason that they have never been introduced largely into dermatology is that they are about ten times as expensive.

There are other drugs which are employed empirically with great success in ointments, the action of which is far more difficult to explain. The action of sulphur, one of the oldest dermatological remedies, is still as mysterious as ever. Although undoubtedly an antiseptic, its antiseptic properties are insufficient to explain its action in acne vulgaris and acne rosacea.

Among all the array of organic compounds now lately introduced to us by cunning chemists, including the tar derivates, whether of animal, vegetable, or fossil origin, gallic acid, and its congeners (with the solitary exception of salicylic acid, which we know acts upon horny cells), there is not one whose action is really understood. The key to the solution of these problems lies no doubt in the study of the biochemistry of the cell, a study which is still in its infancy, although some progress has lately been made, especially by Unna and his school. The results of their work will be found in Unna's new book, *Biochemie der Haut*, which, however, deals particularly with the special processes of oxidation and reduction. It is a most fascinating, but difficult, study in chemical histology.

Cosmetic Preparations.

Cosmetic ointments include cold creams and massage pastes, and between these no hard and fast division can be drawn. The same mixture may be used at one time to act as a simple cooling preparation, and at another as

a lubricant for the fingers of the masseuse whose duty it is to rub the patient's face. When used under the latter conditions it is often dignified with the name of skin food. This specious appellation has of course been invented owing to the fact that in the process of attrition the cream disappears, and the patient deludes herself into the thought, encouraged by the beauty specialist, that she is replacing the subcutaneous fat which the hand of time has threatened to remove, whereas in truth, as every physician knows, the valuable part of the treatment is the rubbing, and one face cream is as good as another except, it may be, in elegance. The qualities which are especially desired in a good face cream are smoothness, homogeneity, no stickiness, and complete disappearance when rubbed into the skin. For these reasons no ointment which contains an insoluble metallic salt such as zinc oxide, is suitable for these purposes. Among the forty-five ointments of the *British Pharmacopoeia* there is only one which is of purely cosmetic value, and that is not very satisfactory. This is the unguentum aquae rosae. This preparation is supposed to be the lineal descendant of the original cold cream invented by Galen, and its formula is:

Rose water (undiluted)	70 parts
White beeswax	15 ,,
Spermaceti	15 ,,
Almond oil	90 ,,
Oil of rose	0.17 ,,

This formula has two disadvantages: (1) That the percentage of water is too high, which makes the cream difficult to compound, and, when made, is liable to separate out; and (2) the presence of spermaceti, which is useless, and renders it likely to become rancid. Mr. Lucas, in his report to the Committee for the revision of the *British Pharmacopoeia*, suggests instead the following:

White beeswax	18 per cent.
Almond oil	61 ,,
Borax	1 ,,
Rose water	20 ,,
Oil of rose	0.1 ,,

The only disadvantage of this formula is that the borax is incompatible with mercurial salts. But this is unimportant because it is very improbable that the necessity will ever arise for their incorporation with a cold cream.

Another simple formula which yields a satisfactory cream is as follows:

Borax	gr. xx
Parolein	℥ij
White beeswax	℥ij

Those creams which are specially intended to be rubbed into the skin, and which, therefore, particularly deserve the name of skin food, are now made, as a rule, with a basis of either stearic acid or casein. True fats, although they are fairly readily absorbed, are not so popular because they are likely to become rancid in the presence of water. The stearic acid creams when properly made vanish completely when rubbed into the skin, and thus are often known as vanishing creams. They are made by the neutralization of hot stearic acid with a weak solution of sodium carbonate; a little glycerine is then added. Stir from time to time when cool. Firmness may be imparted to the resulting cream by the substitution of quince or Irish moss mucilage for some of the water. Drugs should not be added to these creams. In making casein creams it is best to employ freshly precipitated casein, although the manufactured article may also be used. Casein should be precipitated from separated, not skim, milk, which contains too much fat, with 1 per cent. hydrochloric acid. This should be added in a thin stream to the separated milk, heated to a temperature of 150 F., stirring the while. The precipitate settles slowly, and should be collected upon a muslin strainer. After thorough washing it is carefully compressed and beaten up thoroughly with a little boric acid, glycerine, and the necessary amount of perfume in a mortar. Lard should not be incorporated in massage creams. It is more used on the Continent than in this country.

Dr. Barendt (Liverpool) agreed that unguentum zinci acted purely as a protective, and he would mention in this connexion unguentum plumbi carbonatis—the unguentum cerussae of old authors—which was now somewhat neglected owing to fear of plumbism.

Dr. Semon (London) mentioned a case at present in the wards under Dr. Gray's care at University College Hospital. This patient, during the three months he had been under treatment for ever-recurring relapses of a generalized eczema madidans, had run through most of the recognized lotions and ointments in that time without obtaining marked relief. He was now being treated exclusively with frequent applications of pure liquid paraffin, under which he certainly seemed to be improving. This case, he thought, confirmed Dr. Davis's views on the protective action of paraffin.

Dr. Eddowes (London) thought paraffin agreed in Dr. Semon's case because it did not become rancid. Rancidity was probably accountable for much internal and external irritation. Rich fats were liable to suboxidation. He asked if members had noticed that some people had peculiar secretions of skin, and they smelt rancid after bathing though not before getting wet. Probably the moisture hastened suboxidation of unstable fatty secretion.

Dr. L. J. Hobson (Harrogate) said he had found the liquid form of paraffin called Dee oil a most valuable protective and healer, and in certain cases of eczema a 1 in 60 strength of carbolic acid in this oil was an antipruritic as well. It was also a valuable addition to the bases of ointments, and blended well with lanolin.

Professor R. B. Wild (Manchester) said the difficulty in regard to the paraffin ointments was largely due to the fact that mixtures of hard and soft paraffin were not homogeneous, and examination under the microscope with a power of 250 diameters, and especially with polarized light, showed that the hard paraffin was in a crystalline form; this was apparently due to the wide difference between the melting-points of the hard and soft paraffin.

TREATMENT OF CHRONIC ULCER OF LEG.

By A. Winkelried Williams,
Brighton.

This paper is limited to the treatment of ambulatory cases of chronic ulcer of the leg. These cases, above all others, appeal to our sympathy on account of the brave heroism of the majority of the sufferers. The brief reply, pregnant with noble self-sacrifice, so constantly given to our advice for the patient to lie up or go to the infirmary, is: "Doctor, I cannot; for if I did my home would be broken up, and what would become of my children?" So they continue, the majority being women standing for long hours at the laundry and other occupations, and this must of necessity increase their sufferings and the duration of their disease.

I hope in the discussion of this subject we may assist each other in the treatment of these unsatisfactory and difficult cases.

The literature is exceeding great on the subject, and the following summaries of some of the treatments recommended from time to time may be of service:

Tincture of Aloes.—V. Dehaine.[1] (*a*) Ulcer cleansed; (*b*) surface painted with tincture of aloes and allowed to dry; one coat for superficial, two coats for deep ulcers; (*c*) Unna's zinc gelatin or Lassar's paste over all. Coffin[2] previously had recommended tincture of aloes.

Alum and Lead Lotion.—Marcuse[3] recommended alum 5.0, plumbi subacetate 25.0, aqua destil. 500.0, as a means of checking secretions and improving vascularity. Sometimes painful for ambulatory cases and better for patient to lie up. Followed by Unna's zinc jelly.

Airol.—Veiel[11] recommends as preferable to iodoform.

Benzoin.—H. S. Purdon.[47] Tinct. benzoin. compos. one or two drachms to an ounce of ung. zinci. It is a specific for sluggish ulcers. Tzitrin[41] recommended benzoin 2 drachms, lard ½ oz., wax ½ oz., thickly spread on lint for atonic ulcers.

Balsam of Peru.—Aronheim[45] recommended the following: Argent. nitrat. 0.3, balsam of Peru 5.0, paranephrin 2.0, ung. diachyli ad 50.0. Pettreto[52] recommended argent. nitrat. 1.0, balsam of Peru 20.0, ungt. simpl. 300.0.

Pure Carbolic Acid.—Painting surface of ulcer with pure carbolic as a means of disinfecting it is recommended by many writers, for example, B. C. Stevens,[46] D. Couper.[9]

Calcium Hypochlorite.—W. Zeuner[5] recommended (1) 1 per cent. calcium hypochlorite soaked in gauze to cover ulcer with, in deep ulcers, wool over it; (2) bandage firmly to press gauze down on all parts of ulcer. Renew dressing twice daily.

Internal use of Calcium Iodides.—Arbour Stephens[15] introduced and strongly recommended it in doses of 2 or 3 grains three times daily. A. G. Peters,[56] B. C. Stephens,[16] and others, including J. Donnell,[55] who recommends it in 10-grain doses three times daily, with local use of unguentum. "J. D."[57] found calcium iodide upset patient's stomach and did not cure the ulcer.

Copper Sulphate.—Blanc[40] recommended 1 per cent. compresses.

Abstinence from Chlorides.—P. Oliver,[50] led by the good effects of abstinence from chlorides in other oedemas, tried it in leg ulcers. He gave food containing a minimum of common salt, and with the seasoning addition of only 22 grains daily; this in several cases was followed by the disappearance of leg oedema in from six to ten days and cure of the ulcer in from two weeks to two months. He also records failures.

Decalcified Cancellous Bone and Sponge Treatments.—Kirsch.[8] (1) Deep ulcers filled with iodoform gauze, superficial simply cleansed; (2) sponge with flat under surface moist and swollen with water but not too wet applied and bandaged firmly on. James MacMunn.[62] Sprinkle slice of sponge with iodoform and strap it to ulcer. Rapid stimulation if granulations result. B. C. Stevens recommends decalcified bone as an improvement on sponge. (1) Cleanse ulcer well swabbed with hydrogen peroxide; (2) cut bone into thin slices and cover ulcer entirely, or around edges in very large ulcers; (3) boric lint wrung out in hot water, cotton, crêpe bandage.

Fomentations followed by Mercurial Ointments or Powder Applications.—Wilmot Evans.[17] (1) Internal treatment by large doses of iodides until ulcer heals, later on mercury; (2) begin local treatment of sloughy, fetid ulcers by fomentations, for example, boroglyceride 1 drachm, hot water 10 oz.; (3) cleanse ulcer with lotio hydrarg. flav.; (4) mercurial ointments, the best being hydrarg. ammon. chlor. or hydrarg. oxid. flav., or else cover the ulcer with a powder in large quantity, for example, calomel ½ drachm, zinc oxide 3 drachms, Kieselguhr to 1 oz., and allow ulcer to heal up under powder crust.

Other Powder Treatments.—Marchetti.[16] (1) Cleanse ulcer successively with hot water, alcohol and ether, perchloride of mercury. (2) Cover the ulcer with boric powder, then four layers G.P. tissue, then sterilized gauze. Cotton and bandages. Keep on for at least five days. Thies.[17] Fine sand, sterilized by prolonged boiling in 10 per cent. soda solution, is applied in a thick layer and changed when foul or every third day. (N.B.—Is rather a painful treatment in chronic ulcers of leg.) Diossjilagyi.[18] (1) Ulcer covered with thin gauze bandage; (2) thick layer gypsum over gauze-covered ulcer; (3) cotton-wool and G.P. tissue. The gypsum, wool, etc., is frequently changed without removing gauze bandage. Later on an ointment of argent. nitrat. 0.30, balsam of Peru 3.0, zinc. oxid. 2.0, vaselin. flav. 30.0. Saalfield[83] recommended in varicose ulcers with eczema dusting with europhen, with or without boric acid.

Drugs Stimulating Epithelial Formation.—Allantoin, derived from the common comfrey, is recommended by Macalister[27] in 0.3 to 0.4 per cent. watery solution; it is also recommended by Macalister[27] in Donnell.[55] C. Searle[54] records the cure of a severe extensive fungating ulcer of the foot by fomentations of comfrey root. *Scarlet Red Dye.*—Cernezzi[28] recommended Grubler's scarlet red, 8 per cent. in lanoline or vaseline (weaker if it irritates), to be painted on edge of ulcer in very thin layer, and before reapplication to be most carefully cleansed off. Then cover with G.P. tissue, gauze, and wool. Other writers recommend scarlet red for ulcers—for example, J. S. Davis,[60] Gaudie,[29] Lemaire,[70] McDonagh,[13] K. Pein,[66] Strauss.[81] *Amido-Azotoluol.*—W. Katz.[31] Amido-azotuluol is more reliable and does not stain linen so much as scarlet red; he recommends 8 per cent. ointment spread on gauze and limited to the areas of granulations; it should be frequently changed and alternated with a simple ointment. Gurbski[30] has recorded poisoning similar to aniline from use of amido-azotoluol for burns; on this account a derivative—that is, azodermin, which is less toxic, has been introduced to take its place. Curschmann[71] reports favourably on use of azodermin in leg ulcers. *Pellidol*, another derivative belonging to the same group as azodermin, is strongly recommended by C. Decker[35] and Retzlaff[36]; all the advantages of amido-azotoluol can be obtained from a much weaker ointment of pellidol—that is, 2 per cent. obtains the maximum good effects. *Various Aniline Dyes.*—Sachs[37] has shown from experiments on animals that most aniline dyes have the power of stimulating epithelial proliferation, and that dyes other than aniline have not this property.

Iron and Thymol.—M. J. White.[74] (1) Wash ulcer with carbolic lotion and remove crusts, etc., from borders. (2) Dust ulcer with a powder (that is, thymol iodide and ferri sulph. exsic., equal parts), and when it smarts blow off all the excess of powder. (3) Apply zinc ointment, gauze, and bandage. N.B.—If much of the powder is used, acute pain and severe inflammation results.

Local Massage.—Cyriax[22] strongly recommended Kellgren's method—that is, (1) empty veins below ulcer as far as possible by elevation of limb and massage. (2) Fingers placed on skin round ulcer and vibratory movements, ten to twelve per second, with considerable pressure; gradually get nearer to ulcer and continue until edges of ulcer become wet with exuded lymph. (3) Then, if patient can bear it, put lint on ulcer and similar vibratory movements on ulcer surface. (4) Then hands on skin each side of ulcer and pressure movements to relax and stretch borders. (Take ten or fifteen minutes daily.) Erdinger[33] also strongly recommended massage.

Mercurial Injections.—Meshcherski[13] records case of varicose ulcers with elephantiasis which had resisted all treatments for years cured by four intramuscular injections of calomel.

Naphthalin (Treatment for smaller ulcers).—H. J. Takowlew.[4] (1) Cleanse ulcer and parts around. (2) Cotton wool size of ulcer dipped in antiseptic solution and then powdered naphthalin spread upon it and placed over ulcer. No water to touch surface. (3) G.P. tissue and bandage. Keep on eight to ten days and renew, later to be kept on much longer.

Open Air Treatment.—Exposure of ulcers to open air is recommended by E. H. Sweet[38] and W. Ewart.[89] To open air and bright sunlight by F. Laurent.[42] Treatment by oxygen gas by G. Stoker.[75]

Pyrobol is recommended by H. Lenoir.[68]

Quinine Locally.—Alfodi[21] recommended a 1 per cent. solution.

Radium and X Rays.—T. R. Macdonald[58] records rapid conversion of a long-standing ulcer into a healing ulcer by half-hour application to every part of the ulcer of 200 mg. pure radium bromide through very thin rubber tissue and no other filter. W. Evans[12] finds that gummatous ulcers of leg resisting other treatments are much benefited by a half Sabouraud dose of *x* rays.

Sodium Citrate.—A. Whitfield[61] found chronic callous ulcers had their borders softened in a week by local application of a solution of salt and sodium citrate.

Silver Nitrate and Strapping.—Gills[25] recommended (1) thorough application of silver nitrate solution 30 grains in 1 oz. (2) Sterile gauze and strapping over. Repeat dressing every other day.

Salvarsan and Neo-salvarsan.—Several cures of ulcers of leg are recorded from injections of salvarsan and neo-salvarsan—for example, Wilkie.[23] Local application of neo-salvarsan is recommended by H. Alston. A single application of neo-salvarsan 1 to 3 of xeroform is lightly sprinkled on ulcer, care being taken that no water touches the surface. The skin round ulcer is painted by tinct. iodi. and the patient to lie in bed for one day, after treatment by xeroform powder.

Toxins of Bacteria.—T. Bukovsky[20] recommends local application of toxins of cultures of *Bacillus pyocyaneus*, but his results were obtained with patient lying up.

Thioform.—J. Schmidt.[79] (1) Cleanse ulcer. (2) Dust thickly with thioform. (3) Cotton-wool and bandage. Change dressing every fourth day. De Buck[82] also recommends it with equal parts boric acid.

Unna's Treatment as described by various Writers.—Hecker.[24] (1) Solution of lysol or chinosol to cleanse ulcer and reduce irritability of surrounding skin. (2) Skin of entire leg cleansed with soap and water, shaving, and then ether to remove fat. (3) Whole leg painted with Unna's zinc jelly, the ulcer being filled to skin level with powdered airol. (4) Ulcer and pressure regions of foot and leg protected by absorbent wool. (5) Double-headed wet starch bandage, 10 cm. wide and 10 metres long, bandaged ankle to foot and back to knee; another similar bandage over this; limb kept horizontal during bandaging and while bandage is drying. (6) Renew bandage if discharge soaks through, otherwise keep on three or four weeks. B. A. Thomas.[76] (1) Cleanse leg and foot with spiritus saponis, alcohol, and hot solution of hydrarg. perchlor. (1 in 2,000 to 4,000). (2) Disinfect ulcer with peroxide of hydrogen and solution of hydrarg. biniodid. (3) Paint on zinc gelatin from ankle to knee. (4) Three or four layers of bandages painted with zinc gelatin. (5) If stickiness is complained of, a layer of shellac over all. (6) Renew two or three times a week. Vorner,[84] Brings,[77] Rosenthal,[78] also, are among the many writers who publish modifications of Unna's classic treatment. Vorner used, instead of the ordinary zinc glycerine gelatin, the following formula: Tragacanth 0.5 per cent., gelatin 10 per cent., glycerine 5 per cent., sod. biborat. 5 per cent., boric acid 5 per cent., water 75 per cent., which after dressing ulcer is melted and painted on leg, and on two layers of bandage. Rosenthal, by means of watch-glasses, has windows in the bandage so as to dress ulcers without removing it.

Vioform.—Piquard[10] recommended: (1) Compresses of hot water, ten to fifteen minutes; (2) ointment 1 of vioform in 40, kept on for two days; (3) later on dust with vioform.

Hot-water Irrigations.—Kindler[9] recommends 2 litres of water as hot as patient can bear poured on ulcer from height of 6 ft., followed by rubbing with iodoform or dermatol. To be repeated two or three times daily. (It is a useful but splashy treatment, which in out-patient departments tries the temper of the nurses.) Veyrasset[7] advises saline 7 in 1,000 at 50° C. for a quarter of an hour daily irrigation until ulcer is quite clean, and then later at longer intervals. A dressing of sterilized gauze between the dressings. Piquard[10] recommends compresses of hot water for fifteen minutes every second day.

Xeroform, Dermatol, Aristol, Loretin, and similar bodies as iodoform substitutes are recommended by many writers.

Zinc Peroxide.—De Beurmann and Tanon.[66] (1) Cleanse ulcer with hydrogen peroxide; (2) 20 per cent. zinc peroxide in white vaseline spread on sterile gauze; (3) renew dressing every third or sixth day.

Other and recent papers on treatment of chronic ulcers of leg are by Lanel,[64] Donnat,[65] Sonder,[67] Mauclaire,[68] Garland,[70] Roos,[71] Boden,[72] Schlegel.[73]

The following are notes on a few treatments I have personally tried, with more or less success:

I.—*Internal Treatment.*

The most valuable drugs are iodides and mercury combined with intestinal tonics—for example, aloin, strychnine, and belladonna pills. My experiences coincide with those of Wilmot Evans,[12] the varicose veins *per se* rarely if ever cause chronic ulcer of the leg. There is invariably some other constitutional condition at work, and this I think is generally syphilis, or in a few cases rheumatic sepsis. W. Evans[12] estimated that 90 per cent. of chronic ulcers are syphilitic; his views when published were challenged by McDonagh[13] and C. F. Marshall[14]. McDonagh found of 65 cases Wassermann's reaction was positive in 15 only. But whether or not the proportion of syphilitic cases is as high as 90 per cent., in my experience at least 90 per cent. of the cases heal more quickly and the cure is more lasting when treated with mercury and iodides. Unfortunately from the methods in which our records are kept and want of time, I cannot give the exact statistics of several hundred cases I have treated at St. Mary's Dispensary. My views as to the greater permanence of the cure by mercury and iodides are supported by the spontaneous expression of the sisters of St. Mary's. These ladies have acted as dressers for twenty or thirty years and also in their work as district visitors keep in touch with the patients after being cured; they all agree that since the routine treatment by iodides and mercury has been adopted the cured patients remain cured far longer and more permanently than in what they describe as the strapping days.

I prefer to give the iodides and mercury together; some authorities do not. For example, W. Evans[12] emphatically says that the iodides must be given alone, and when the ulcer is healed to follow with mercury. I give them together because I do not find much difference in the time taken to heal the ulcer, but I do find that when the ulcer is healed the patient will not return for mercurial treatment. My one and only consolation in cases that take a long time to get well is that it gives the patient an opportunity of a mercurial course of treatment, and that after all the ulcers may be a blessing in disguise by saving the sufferers from later and more disastrous disease.

In my early experience I was very unhappy regarding which cases should have mercury and iodides. I soon found that the old ideas of locality and punched-out look of ulcers was a very uncertain guide, and that a better indicator was the character of the pain. Painful ulcers may be divided into two classes: (1) Those in which the pain is worse when the leg is down, and (2) those in which the pain is worse at night, and becomes severe after the patient has been in bed two or three hours; the latter cases almost without exception are relieved by iodide and mercury, and I think the periostitis in these cases is generally syphilitic. Accumulating experience further showed that a large proportion of cases in which the nocturnal pain is trivial or absent are also relieved by mercury and iodides. Coues[26] advises the leg to be skiagraphed to detect periostitis and if it exists, whether syphilitic or not, to give iodides.

Salicylates.—A few cases where iodides and mercury fail are relieved and the cure hastened by salicylates. These cases usually give a history of previous attacks of rheumatism. I usually give the sodium salt with sodium bicarbonate and direct the patient as to cleanliness of the teeth and mouth.

Acid Treatment.—In a few cases of callous ulcer with extreme brawny hardness extending far beyond the ulcer, I have found benefit by treatment with large doses of citric acid given for four days, followed by the application when possible of Bier's suction cups.

Calcium Iodide and other Calcium Salts.—I have not had great success with this treatment; in a few cases of weak oedematous ulcers with much discharge it has done good work. But I must confess I have not tried it extensively.

Opium I have not found of much good.

Salines.—Small doses of magnesium sulphate several times daily is of marked value in cases where constipation and ulcer with considerable discharge exist.

Iron, Quinine and Digitalis are often required in weak ulcers as symptoms indicate.

Local Treatment.

A. When eczema rubrum complicates the ulcers. If ulcers are acutely inflamed, (1) paint ulcers with solution of anaesthesin and place over them a piece of lint thickly spread with weak starch iodide: paste enough to fill up ulcer, and over all lint soaked in lead lotion. If ulcers are not much inflamed, (1) wrap entire part in lint soaked in lot. hydrarg. perchlor., 1 in 3,000. A few days later replace by 3 parts thick calamine lotion, without lime water, to 1 part lot. hydrarg. perchlor. (1 in 1,000). All lotions without oiled silk, etc., simply bandaged over and changed twice daily; if the lint is sticking, it is to be carefully soaked off. Other valuable lotions: Lot. nigra, as recommended by Purdon[44]; weak boric lotion, 1 to 5 per cent. resorin, recommended by Schaffer[48]; or 3 grains thymol in ʒj liq. calcis, Schaffer.[48] Still later, when redness and scales have subsided, I find Lassar's paste, boric ointment, and vaseline, in equal parts, useful, or, if any pustules exist, 5 to 8 grains hydrarg. am. chlor. in a similar paste. Still later, I fill up ulcer with weak iodoform starch and zinc powder, cover with gauze, and apply Unna's zinc gelatine and bandages. I rather flinch at Unna's method of beginning at the ulcer, and working up up and down with the bandage, and when, as is generally the case, there exist varicose veins about the ankle below the ulcer I bandage from the toes upwards. The jelly and bandage are changed once or twice a week.

Strapping still has a limited place in my practice. When skin is sound I powder ulcer with xeroform, etc., and put a pad of gauze over it. Prominent points are protected by gauze after painting with saturated picric acid solution. Strapping is renewed twice or once a week. For local pain in ulcers of all types I find the drug known as anaesthesin—chemists call it para-amido-benzoic-ethyl-ester, $C_6H_4{<}^{NH_2}_{COOC_2H_5}$—most valuable. This drug was first recommended for ulcer of leg by C. von Noorden[19] in 1902. It was long before I dared to use it on account of its close relationship to orthoform. I used orthoform in several cases, and it was followed by a vesicular dermatitis, and, to my awful distress, in two cases by necrosis of the skin and doubling the size of the ulcer.

J. Noe[50] showed that anaesthesin was much less toxic than orthoform, but it was not until after W. Fackelmann[51] published his statistics of 4,000 separate cases of ulcer of leg relieved of pain without ill after-results that I ventured to use it. Anaesthesin is a solid, very slightly soluble in water, freely soluble in alcohol, and moderately soluble in fixed oils. My favourite solution is 20 grains in ʒj spt. vini rect. I drop or paint it on the ulcer and allow it to diffuse and dry. A single application gives absolute freedom from pain for forty-eight or more hours, and relieves it for six or seven days longer. I have seen no ill result. The spirit produces a few seconds' smarting, but by its affinity for water allows the drug to penetrate; this is valuable when a fetid slough has to be cleansed.

My routine in treating a sloughing stinking ulcer is: (1) Anaesthesin. (2) Douche well with a suspension of terebene in water; this is a good deodorizer, and relieves a sickening duty from its offensiveness. (3) Rub down surface of ulcer with rags soaked in lamp paraffin, and cleanse skin around with same. (4) Fill up ulcer with iodide of starch paste, and spread same thickly on linen and bandage. Renew dressing twice daily.

Lamp paraffin is a very valuable cleanser of old crusts and scales and dried ointments, etc. Saturated permanganate is also useful in sloughy ulcers.

The most useful general application I know for all kinds of chronic leg ulcers—inflamed, weak sloughing, callous, irritable, gummatous, and tuberculous—is an iodide of starch paste. I first learnt the value of this from my friend and teacher, Mr. C. W. Cathcart of Edinburgh, when I was his house-surgeon in the lock wards of the Royal Infirmary, where it was used for sloughy bubonic ulcers of the groin. I think Tilbury Fox was the first to recommend it for venereal ulcers. Years later, when I was appointed to St. Mary's Dispensary for leg ulcers, I tried it, and found that, while it suited many, it caused considerable irritation in others. I then tried it half the strength, and with rather more starch than the original formula, and found it most valuable. Formula: Starch 10.5, glycerine 20.0, water 60.0; boil, and when nearly cold add liq. iodi (*B.P.* 1885) 5.0.

It is applied very thickly spread on, to well overlap the ulcer, and bandaged over. If there is much discharge it should be renewed twice daily; later, once daily or even less frequently. Nearly all cases do well; the pain is lessened or removed in a few days, the hard borders of ulcer soften, the surface is cleansed, granulations form with little discharge and are not irritated. There are a few cases in which it does not suit: (1) In patients with an idiosyncrasy to any form of iodine; (2) in a few cases of intensely inflamed ulcers; (3) in a minority of irritable ulcers about the malleolus in neurotic women; (4) in weak ulcers with very profuse discharge it sometimes liquefies inconveniently and requires frequent changing.

Pancreatic ferments I have not used very successfully, but my colleague Dr. S. B. Figgis has had considerable success with their use in chronic sloughy ulcers.

X rays, in my experience, have failed to do any good.

Zinc ionization has done good after a callous ulcer has been cleansed. I have not used it since I have used anaesthesin; before I concluded that the benefits were not proportionate to the pain of the process.

Tuberculous ulcers and Bazin's disease, in my experience, yield to pot. permanganate solution (5j in 3j) followed by pasta amyli iodidi.

The use of drugs which stimulate epithelial growth on granulating ulcers is rather difficult in out-patient practice. I have no experience with allantoin. The 8 per cent. scarlet-red ointment, even when scrupulous care in directions given to patients, was too strong, and I substituted 5 per cent. The following experiment was interesting: I covered half a healing ulcer with carefully shaped lint with a 5 per cent. scarlet-red, the other half with 5 per cent. amido azotoluol; in twenty-four hours the scarlet-red half was inflamed and painful, the amido half showed no inflammatory signs; and this is practically an epitome of my experience with these drugs. I have now replaced them by a 2 per cent. pellidol, and, as far as a short and limited trial is concerned, I believe it to be far more useful for out-patient work.

In conclusion of these, I fear, rather rambling remarks, I hope that the publication of my now many years' experience in several hundred cases of the pasta amyli iodidi may be of use. I feel justified in stating this from the very large number of letters of inquiry I have had from doctors in many parts of the country, who have seen my patients, as to what is the black paste the patients have told them of.

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DISCUSSION.

Dr. R. MOWBRAY (Castlederg), said he had found that after getting the ulcer more or less aseptic an ointment of zinc oxide with a little sulphur spread on silk tissue to prevent sticking, then covered with lint and fixed in position with an evenly applied bandage, would cure most cases.

Dr. DORE (London) said he would like to thank Dr. Winkelried Williams for his interesting and important paper, and also for the comprehensive bibliography he had supplied. The speaker agreed that iodide of starch ointment was a most useful preparation for chronic ulcers. He would like to inquire as to Dr. Williams's experience of Scharlach R. ointment which was largely used as a stimulant of epithelium, he had used it in several concentrations and had been somewhat disappointed in the results.

Dr. SEMON, in reply to a question from Dr. Mowbray as to a satisfactory and simple treatment for the cure of chronic leg ulcers, said that in Professor Riehl's clinic (Vienna) all such cases were dressed once a day in the out-patient department in the following way: A piece of xeroform gauze, cut accurately to cover the ulcer, was first soaked and rinsed out of weak H_2O_2 solution. It was then spread with an indifferent ointment to prevent sticking, and applied to the ulcer, the margins of which were protected with Lassar's paste. This dressing was covered with lint soaked in lead or aluminium acetate solution (1 per cent.), and prevented from evaporating with oiled paper protective, the whole being then encased in a starch-impregnated gauze bandage. Ulcers in all stages did exceedingly well, and it was only in very septic cases that daily dressings were necessary.

THE USE, ACTION, AND DOSAGE OF X RAYS IN PSORIASIS AND OTHER SKIN DISEASES.

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THE literature on the *x*-ray treatment of lupus vulgaris, rodent ulcer, and ringworm is already extensive, and in this paper I propose to refer to some other cutaneous affections in which benefit may be obtained from *x* rays. Among these may be mentioned psoriasis and eczema, lichen simplex and lichen planus, mycosis fungoides, acne vulgaris and coccogenic sycosis, hypertrophic scars and keloid, warts and thickenings of the horny layer, hyperidrosis, and pruritus.

The favourable action exerted by the *x* rays on so many dissimilar conditions—and the list might be considerably extended—is largely due to the fact that they penetrate the deep as well as the superficial layers of the skin, and have a special action on epithelial and actively proliferating cells.*

There is abundant pathological and clinical evidence of the changes which occur in tissues exposed to the rays. Histologically, the epithelial structures are chiefly affected. The cells of the epidermis undergo various degenerative processes, associated with an increase of kerato-hyalin and of pigment, the latter, according to Scholtz,[1] being especially marked in psoriasis. Degeneration and atrophy of

* For an account of various theories of the action of the rays on the tissues see article on The Rationale of Roentgen and Radium Therapy, by W. Deane Butcher, *Archives of the Röntgen Ray*, June, 1913.

the hair follicles, sebaceous and sweat glands accompany the changes in the superficial layers of the skin. The blood vessels become dilated and vacuolated with proliferation of their endothelial coats. The connective and nervous tissues on the other hand are only slightly affected.

The clinical effect of *x* rays on epithelial neoplasms is well known. The action on glandular tissues is exemplified by the therapeutic effect on the sweat glands in hyperidrosis, the sebaceous glands in acne, the spleen and thyroid gland in leukaemia and Graves's disease, and on the testicles by the production of sterility in *x*-ray workers. The occurrence of telangiectasis after prolonged or repeated exposures of the rays show their marked influence on the vascular tissues. Possibly their reputed styptic action and the early erythema sometimes observed during or shortly after an exposure may be taken to indicate a transient vaso-constrictor and vaso-dilator action respectively. A drying action upon ulcerated surfaces (the reverse of that which occurs with radium) is also very noticeable, although this may be due to static discharges from the tube.

Clinical evidence of the influence exerted on the nervous system is provided by the analgesic and antipruritic effect of the rays.

Selective Action.

Two views regarding the selective action of *x* rays on the tissues may be mentioned. Rowntree[2] examined specimens from cases of *x*-ray carcinoma, and investigated the histological characters of *x*-ray dermatitis in rats, mice, and rabbits. He concludes that the rays are selective, and that moderately large doses cause retardation of cell division and tissue atrophy; small doses, on the other hand, causing stimulation and inducing hyperactivity of cell proliferation. Further, he thinks it probable that a dose just sufficient to induce retrogression of the superficial parts of a growth may, in the deeper portions, stimulate to increased activity.

Hernaman-Johnson[3] admits the selective action and the stimulating effect on normal tissues, but denies the power of small doses to stimulate pathological or embryonic cells. He maintains that Roentgen rays, even in minute doses, are injurious to young cells or to cells retaining the peculiarities of extreme youth, and that a healing rodent ulcer displays destruction of cancer cells probably concidently with increased activity of normal epithelial and connective tissue elements. In support of this contention he quotes the experiments of Dr. Gaskell[4] on the embryos of chicks. Gaskell showed that the *x* rays cause a progressive lowering of the mitotic index—that is to say, the number of mitoses per 1,000 cells in the tissues of the developing embryo, and that there is a critical dose for each embryo, depending upon its stage of development. This critical dose varies with the mitotic index; the larger the mitotic index, or, in other words, the greater the reproductive activity the larger is the dose required to prevent further development. The writer considers that the *x* rays are directly antagonistic to the reproductive activity of the cell and act in such a way as to lower and finally to destroy its power of reproduction. Clinical results seem to me to bear out Hernaman-Johnson's view as to the increased susceptibility of young and rapidly growing cells, and it may be true, as he suggests, that there is a critical dose for each given tumour; but I do not think it follows that rapidly proliferating tissues require correspondingly large doses to inhibit their growth. Experience seems rather to point in the opposite direction. In psoriasis, for instance, the effect of small doses is remarkable. In this and other diseases in which parakeratosis, whether primary or secondary, is a prominent feature, it is probable that the imperfectly cornified and proliferating epidermic cells are in a state of increased susceptibility to the rays and hence react to smaller doses.* The effect of small doses on rapidly growing tumour formations is seen in mycosis fungoides, two cases of which have recently been under the care of Sir Malcolm Morris and myself. In one of these cases half-pastille doses were sufficient to cause resolution of many of the tumours and infiltrations. In some of the sarcomata the same rapid effects are seen. On the other hand, harm may result from large doses in psoriasis, rodent ulcer, epithelioma, and lupus vulgaris, independently of excessive reaction, owing, perhaps, to an injurious effect on the healthy cells and the upsetting of the balance between the normal and the pathological tissues.

The effect of the rays in causing epilation without appreciably affecting the tissues overlying the deep-seated hair bulb illustrates their selective action on the epithelial cells of the latter, which, as regards their activity of growth, are comparable to the cells of a malignant tumour. The abundant regrowth of hair after epilation of the scalp for ringworm, and the regrowth following a Sabouraud dose on a patch of alopecia areata seem to point to a stimulating rather than an atrophic action on the connective tissue papilla. The comparatively small difference between the dose which just fails to cause epilation and that which causes complete loss of the hair, and, again, between the quantity of rays causing temporary and permanent alopecia, is an indication of the difficulty of correctly apportioning the dose when pathological tissues are treated.

The inference I wish to draw from these remarks is that maximum doses are not necessarily the best method of treatment for all cases. We are still ignorant of the pathological data upon which to form a correct system of dosage, but a comparison of clinical results will help us to arrive at an approximate estimate of the quantity of *x* rays which will produce the best results in the various morbid conditions we have to deal with.

Measurement of Dosage.

The pastille of Sabouraud and Noiré affords a useful means for measuring an exact dose of *x* rays, and is now commonly employed as a standard of measurement in this country.

Used under the proper conditions, tint B of the pastille may be taken to represent the maximum quantity of *x* rays which can safely be administered to the healthy skin at a single exposure. It also represents the dose which is just sufficient to cause epilation, or, in other words, the minimum quantity of rays which will cause atrophy of epithelial structures. A fractional part of this may be called a subpastille dose, and a slightly larger amount a superpastille dose. Speaking generally, these may be said to cause stimulation, temporary atrophy, and permanent atrophy of epidermic structures. Radiometers have been constructed to measure fractional doses, but they are apt to be too delicate for practical use, and with a tube providing a fairly constant output,† time measurements give sufficiently accurate results.

Therapeutic Dosage.

Doses representing one-quarter of a pastille may be employed for their stimulating effect on ulcers of various kinds (remembering that malignant or tuberculous ulcers may be healed on the surface without the deep-seated disease being destroyed). In psoriasis and chronic eczema, half-pastille doses seem to give the most satisfactory results. These diseases are superficial, and therefore receive a relatively larger amount of rays, but perhaps another explanation may be found in the selective action of the rays already referred to.

Pastille doses are given when epilation is required as in ringworm of the scalp and beard, favus, staphylococcic sycosis, and some cases of alopecia areata, etc., and for many other conditions in which there is hypertrophy or infiltration of the superficial or deeper structures of the skin.

In warts, corns, hypertrophic lichen planus, hypertrophic scars and cheloid, tint B of the pastille may be slightly exceeded with safety, but in hyperidrosis and acne in which gradual atrophy of the glandular tissues without injury to the healthy skin is aimed at, and in pruritus, pastille doses repeated at intervals of three weeks afford the best method of treatment.

Intensive doses have been advocated for rodent ulcer, squamous carcinoma, myoma uteri, etc., but the advisability of such a procedure is doubtful owing to the risk of setting up a severe dermatitis and of breaking down the

* Since writing this paper I find that a similar explanation of the action of *x* rays on cutaneous tissues has been suggested by Dr. Ulderico de Luca of the University of Rome, Action of the *X* Rays on the Peripheral and Central Nervous System, *Archives of the Roentgen Ray*, June, 1913.

† A hard tube worked with a red anode and an alternative spark-gap of 3 to 5 in., seems to give the best results both in changing the pastille and therapeutically.

connective tissue surrounding the growth. In practice it is safer to give pastille doses at shorter intervals than to extend the dose at one application.

The Treatment of Psoriasis.

The majority of observers who have written on the *x*-ray treatment of psoriasis agree that small doses of the rays cause rapid disappearance of the diseased patches, but that relapses occur as in other methods.

Among recent authors, Tousey[5] says that one dose of 2 H for the face, or 3½ H for the body is sufficient, or smaller doses may be given and repeated every day at first and later every second day. No inflammatory reaction should be sought. The author's experience indicates that the diseased areas are much more susceptible than the surrounding skin, and that there is an increased susceptibility after the first course of treatment. Smaller doses than usual should therefore be used in recurrent cases. The application should be limited to the areas of disease and a small zone of surrounding skin. The patches clear up in a remarkable manner, areas which have received a sufficient dose disappear completely, while those which have been insufficiently treated disappear incompletely.

Bythell and Barclay[6] state that the rays act rapidly upon psoriasis, the best results being obtained by the use of small doses applied at intervals of a few days. The treatment requires to be repeated, but permanent cases have been published. Curative action is sometimes seen on patches in other parts of the body which have not been exposed to the rays. According to Schultz,[7] recent or old cases of guttate psoriasis are especially favourable for *x*-ray treatment. The small circumscribed areas, up to the size of a halfpenny, often disappear completely after single one-third doses of 7–8 Wehnelt. When such cases have become generalized, the results are equally favourable. The scalp may be successfully treated with divided doses without causing loss of the hair. Psoriasis of the nails, according to this author, is very difficult to influence. In some extensive cases of psoriasis, which in other respects react promptly, a few plaques may remain completely refractory to radiation, although he has not seen individual plaques resist treatment. In the author's cases the refractory plaques were always situated on the trunk, while the sites of election—namely, the elbows and knees—never presented special difficulties. Psoriasis which was refractory to the normal type of radiation did not react to larger doses or to the use of more penetrating rays, and irritation of the skin, set up by the rays, might lead to an increase of the disease. Freund[8] curettes the patches before giving them an exposure of one-third or two-thirds of an epilation dose repeated on four to five successive days. He finds that without a preliminary curettage relapse *in situ* occurs in from six to eight weeks. In 4 out of 7 cases thus treated relapses did not occur over a period of one year; in 3 slight relapses occurred after six months.

My own experience agrees, in the main, with these observers. The *x*-ray treatment is most suitable for obstinate localized patches, and these rarely fail to respond to 3 or 4 half-pastille doses repeated at intervals of a week. Repeated small doses seem to give better results than full pastille doses. Inflammatory reaction is unnecessary and harmful. Extensive areas may be treated by moving the tube in a plane parallel to the surface, so that each area receives an equal irradiation. Acute and rapidly spreading cases are unsuitable. I have not met with the absolutely refractory plaques mentioned by Schultz, and in a case in which the flexures were mainly affected equally good results were obtained. In some disseminated cases relapses have been frequent. In such cases chrysarobin treatment may be advantageously combined with the *x* rays. I have not tried curettage, as advocated by Freund, and the method seems to me to be unnecessarily severe. It is, of course, inadvisable to repeat applications of *x* rays too frequently, and sufficiently long intervals should be allowed to elapse between each series of exposures, but my experience is that even in frequently relapsing cases the disease may be kept in check by small doses without running any risk of *x*-ray dermatitis or of atrophy or telangiectasis of the skin. Patches on the scalp may be treated with small doses without causing loss of hair, but here again recurrence is to be expected. In psoriasis of the nails the penetrating effects of the rays seems to hold out a better prospect of relief than treatment by ointments, but larger doses are required than for the skin. In a case under my care in which the nails only had been affected for several years the hyperkeratosis of the nail-bed was arrested after one pastille dose had been given, and after six doses at intervals of a month the process was checked to such an extent that the new nails grew normally.

Unfortunately the *x* rays cannot be said to confer immunity from recurrence of the disease, but they afford a means not possessed to the same extent by other methods of removing residual patches and possibly of prolonging the period of freedom from the complaint.

The following are a few examples of cases illustrating the treatment of psoriasis and other cutaneous affections by *x* rays. I am indebted to Sir Malcolm Morris and also to Dr. Pringle for sending me many of the following patients and for allowing me to publish the notes.

A male patient, aged 60 years, had suffered from psoriasis for twelve years. There were large thickened patches in the sacral region and on the buttocks and legs and similar patches on both forearms. Half-pastille doses were given to the affected areas on the back and arms and repeated in a fortnight. The patient was seen again three months later, when the patches on the back and arms had completely disappeared, and some patches on the legs, which had not been treated, had also cleared up. Twelve months later there were a few fresh patches on the legs, but the parts which had been exposed to the rays remained free.

A male patient, aged 55, presented numerous large patches of psoriasis on the extensor surfaces of the limbs and on the trunk of several years' duration. All the usual remedies had been tried. Exposures of *x* rays were given every second day for four weeks. The patches were extensive and the tube was moved during the exposures so as to cover as large an area as possible, the lesions receiving about a quarter-pastille dose at each application. The diseased areas gradually lost their scaliness and red colour and finally disappeared altogether, leaving much pigmentation in the areas exposed, but no psoriasis on any part of the body. Three months later the patient reported that, with the exception of one or two small patches on the arms, he had been free from the complaint since he left London.

A female patient, aged 60 years, suffered from psoriasis of the elbows and dorsal and palmar surfaces of both hands. Four half-pastille doses were given at weekly intervals, and a further dose a month later. The lesions completely disappeared, and had not relapsed two years later.

A patient, aged 40 years, had suffered for six years from psoriasis, which was stated to have begun as the result of an injury to the right shin. All the usual remedies had been tried. When *x*-ray treatment was begun, there were large patches on both legs, and numerous small patches on the extensor surfaces of the forearms and scalp. Small exposures were given once or twice weekly for six months, and the patches all disappeared. The patient has suffered from slight relapses since, but the disease has been kept under control by treating the recurrent patches as they appear.

A young woman, aged 21 years, presented characteristic patches of psoriasis on the scalp, trunk, and flexures of the limbs. With the exception of chrysarobin ointment, no treatment had been successful. Small doses of *x* rays were given twice or three times a week to four large patches along the vertebral column and to scattered lesions on the shoulders, and also to patches on the front of the chest, abdomen, and axillae. A few isolated lesions in other parts of the body were treated with chrysarobin ointment. After seventeen exposures, extending over two months, all the patches disappeared, and there has been no relapse for four months.

In chronic eczema of the hands and fingers, *x* rays are often successful where other measures have failed. In a patient who had suffered from a vesicular eczema of the palms and fingers of both hands for six years, the condition yielded to five half-pastille doses of *x* rays. In another patient with dry scaly eczematous patches on the hands and fingers, and the angles of the mouth, the eczema of the fingers disappeared after three half-pastille doses, and the patches at the angles of the mouth after a quarter-pastille dose. Two months later there was a recurrence on the face, the hands remaining well, and three half-pastille exposures were given at intervals of a week. Five months later there had been no further relapse.

Eczema of the nipples is often refractory to treatment by means of ointments. The following cases illustrate the effect of *x* rays:

A female patient, aged 36, had suffered from eczema of the nipples for four years. There were thickened, discharging patches, with a well-defined margin around both nipples, and

extending beyond the areolae. After a few applications of *x* rays the eczema completely disappeared, and the patient remained well for four years. Subsequently two slight relapses occurred, but the disease yielded rapidly to treatment on each occasion.

Another patient suffered from eczema of the nipples and areolae; recovered after three half-pastille doses. Two years later there was a relapse on one nipple, and three more applications were given.

Cases of lichen simplex and chronic lichen planus, including the hypertrophic variety, can be relieved by *x* rays. A case of lichen simplex chronicus affecting the extensor aspect of the left arm was treated with four pastille doses at intervals of about a month. Each application was followed by diminution of the pruritus and thickening, and after the fourth exposure the skin regained its normal appearance.

In a patient with five linear bands of hypertrophic lichen planus, extending across the outer surface of the left arm, which had been present for seven years, the lesions disappeared after three pastille doses.

Hypertrophic scars are amenable to *x* rays. In two patients with raised linear cicatrices on the side of the neck and chin, resulting from operations for tuberculous abscesses, the lesions yielded to pastille doses given at intervals of a month, the scars being completely reduced to the level of the normal skin after eleven applications had been given.

In another patient who had two hypertrophic scars on the cheek and upper lip the lesions became almost imperceptible after six half-pastille doses.

In cases of acne vulgaris and coccogenic sycosis in which vaccine treatment has been tried unsuccessfully recourse may be had to *x* rays, or the two methods may be used in combination. In the persistent nodular type of acne one or two pastille doses are sometimes sufficient, but more often several relapses occur before the lesions are permanently removed. Cases of coccogenic sycosis are benefited by preliminary epilation, and a few pastille doses, repeated at intervals of three weeks or a month, have in several instances proved permanently successful. In severe cases, however, the tendency to recurrence only ceases when the hair follicles have been destroyed—a process which is usually accompanied by atrophy of the skin and telangiectasis. In spite of this drawback, the results of *x*-ray treatment in acne and sycosis compare favourably, in my experience, with those of vaccines. In the following cases *x* rays were employed with satisfactory results:

A lady aged 30 had suffered from constantly recurring subcutaneous abscesses on the nose and chin, for which she had had sixteen injections of an autogenous vaccine without benefit. The lesions relapsed from time to time under *x* rays, but did not recur after five pastille doses had been given.

In a case of extensive acne vulgaris of six years' duration, in which the face, neck, shoulders, chest, and back were affected, the lesions disappeared as a result of *x*-ray treatment extending over several months. Nine months later several fresh lesions recurred on the neck, but these yielded to a few more exposures, the other parts remaining free. This case, which was published in 1907,[9] was seen two years later, and there had been no recurrence of the disease.

A male patient aged 29 years, with coccogenic sycosis of both sides of the face of nine years' duration, was treated with pastille doses on each cheek repeated in two months. The patient then had eleven injections of an autogenous vaccine at intervals of a week, and the lesions improved but did not entirely disappear. Three months later, a pastille dose of *x* rays was given to each cheek. Complete resolution of the lesions resulted, and two years later there had been no relapse.

An obstinate case of sycosis of ten years' duration had resisted various forms of treatment, including the application of pure carbolic acid to the lesions. *X*-ray treatment was adopted, and although there were several relapses, complete recovery finally resulted, although it was attended by slight atrophy and some telangiectasis of the skin. The following case illustrates the effect of *x* rays in hyperidrosis: A hospital nurse had suffered for nine years from severe hyperidrosis of the axillae. Repeated small doses were tried at first without effect. Pastille doses were then given, and after three exposures to each side, the sweating was completely arrested for two years. There was then a relapse, especially on the left side, which was again treated with one pastille dose, and the patient has remained well for two years.

Warts and keratoses are somewhat uncertain in their response to *x*-ray treatment. Much benefit may result in multiple warts of the hands and fingers and in senile warts accompanied by pruritus, but the exposures should not be continued if the lesions do not improve after one or two full doses have been given.

X-ray treatment may be tried in alopecia areata, and I have seen several cases in which it has proved successful. Small stimulating doses are not of much value, but epilation doses to the bald area and surrounding hair are followed by regrowth in the majority of cases. The treatment of single areas does not prevent the formation of fresh patches in other parts of the scalp, but relapses *in situ* are rare. When the disease is extensive, the whole scalp may be exposed as in the treatment of ringworm, but in cases of total alopecia of old standing, the *x* rays, like all other methods of treatment, are of no avail.

In conclusion, it may be said that although *x*-ray treatment is mainly symptomatic, and temporary success is often followed by recurrence of the disease, beneficial results can be obtained in a large number of chronic cutaneous affections which are refractory to other methods of treatment.

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DISCUSSION.

The PRESIDENT thanked Dr. Dore for his practical contribution on this interesting subject. He had found benefit from small doses of *x* rays in selected cases of psoriasis. He recalled a case which was cleared up by the rays in which a relapse occurred after a few months. Here the internal administration of arsenic brought out an erythema on the patches which had been previously *x*-rayed, a phenomenon which suggested that the rays produced a profound, if not permanent, effect upon the skin.

Dr. W. GRIFFITH (London) said he had had considerable experience of the treatment of psoriasis by *x* rays, and had been disappointed with it because of the frequency with which recurrences took place after the treatment, and because of the danger of telangiectasis if used frequently in chronic recurring cases.

Dr. F. GARDINER (Edinburgh) remarked that *x* rays acted wonderfully well in some cases. They should be kept for chronic cases, but often succeeded when other remedies failed. He had never used previous curettage.

Dr. SEMON (London) referred to Dr. Freund's work on the combined use of *x* rays and the curette for the cure of psoriasis. Dr. Freund had personally assured him that the degree of curettage required was of the most superficial character, and hardly enough to inconvenience the patient. He (Dr. Freund) had used it now in several chronic cases, in the majority of which the plaques so treated had not recurred after eight to twelve months, whereas those not first scraped had soon relapsed.

Dr. DORE, in reply, said that he did not wish to advocate *x*-ray treatment for all cases of psoriasis, but there were certain cases in which it was advantageous, and it also gave the patient a better chance of getting rid of all traces of the disease than other methods, and probably therefore of remaining free from relapses for longer periods. He had never seen any harmful results; but the rays must, of couse, be used with the greatest circumspection.

TREATMENT OF COMMON SKIN DISEASES AT THE HARROGATE SPA.

By L. J. HOBSON, M.D.Lond., F.R.C.S.Eng.,

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ALTHOUGH the date of the discovery of the sulphur springs at Harrogate is wrapt in obscurity, as early as 1626 three of such springs in the vicinity were described, and one of these was apparently what is known as the Old Sulphur Well. They were drunk by the common people, and were

said to "soon help and cure by washing and bathing, itch, morphew, tettars, ringworm and the like"; and even earlier still sulphur waters were used to cure ulcers and sores, when seemingly reckoned too offensive and too dangerous for common use. In 1656 baths were introduced, as coffin-shaped tubs, in the various inns and lodging-houses, so that "twenty bathing-houses kept them all full employed in the season." At this time precise directions were first given by the physician for the rational use of sulphur waters internally, in seasons, times of day, and dosage.

Advantages of Spa Treatment.

1. *Generally.*—A patient is sent away from home, at some sacrifice, to go through a treatment elsewhere, quite out of the common. Inspired with hope he accepts, in a new environment and in minute detail, a regimen such as he would be unlikely to have readily submitted to at home, where but too often the means of a cure take a place only secondary to the routine of daily life, and receive but a half-hearted acquiescence much against a successful issue.

2. *In Particular.*—Harrogate has special claims for choice:

(*a*) Its long-established reputation for the cure of skin diseases.

(*b*) The ample variety of its mineral springs adaptable for internal or external use, or both.

(*c*) The powerful quickening of tissue change, effected by the waters and baths, is assisted by the influence of the dry and pure invigorating upland air, which stimulates the functions of the skin and the digestive and assimilative processes. Oxidation and elimination of waste products coincide with a rebuilding of tissue, insomuch that physical and nerve tone are alike enhanced, and in such degree that, at the conclusion of the course, no after-cure elsewhere is required.

(*d*) The supplementary advantages of other treatments obtainable here, and the better response to ordinary remedial agents, formerly perhaps slow in action or almost inoperative.

Selection of Suitable Cases and Stages of Disease.

The greatest success from the spa treatment is to be met with in the more chronic ailments of the skin, or where the stage of greatest activity has passed, and where no serious disease of heart or kidneys interferes with the course.

The skin diseases most commonly and effectively treated at the Harrogate Spa are eczema, psoriasis, lichen, acne, lupus erythematosus, furunculosis, erythema, syphilides, and certain neuroses.

Treatment.

Eczema.—Among skin diseases likely to benefit at the Harrogate Spa eczema has been from the earliest times pre-eminent. At the Royal Bath Hospital alone, where cases of eczema (next to rheumatic cases) always head the list of diseases treated, there have been as many as 215 cases dealt with in one year, and ever since this Charity came into being in 1824 its reputation for the cure of eczema, psoriasis, and other chronic skin diseases has been unrivalled in the provinces.

The treatment of eczema is partly (1) *local*, while eliminating sources of irritation; partly (2) *general*, in the correction of any existing impairment of health, our object being to attack any digestive, assimilative, or nervous fault, while removing from the system the toxaemic products of imperfect digestion, via the liver and bowels, skin and kidneys, and at the same time to raise general nutrition and nerve tone to the highest perfection attainable.

The waters internally have their corrective and eliminative, or their tonic, action, as a sulphur or a chalybeate course may be specially indicated. Where the stomach is mainly at fault, the alkaline sulphur waters may have their place; where, however, the liver, bowels, and kidneys need stimulating, the saline sulphur waters, strong and mild, are ordered, and it is here that the Old Sulphur water (our strongest spring) is a sheet anchor, its effects being most pronounced in cases of loaded system, a disordered liver, and dyspepsia with constipation, where the functions need rousing, and particularly in gouty and lithaemic conditions.

The mild sulphur waters are tonic to the stomach, and these include the Magnesia water, with its pronounced diuretic action, useful in renal torpor alone, and as an auxiliary to the aperient strong sulphur water where the system needs a thorough depuration. For their generally tonic action, among the saline-chalybeates, the water most valuable is the Kissingen spring; this is in full doses a tonic aperient, and often usefully follows on a preliminary sulphur course. The pure chalybeates have their place in simple anaemia and debility, especially in children. For bathing purposes there is choice of the alkaline sulphur baths (Beckwith and Harlow Car), and the saline sulphur baths, strong or mild; the former safest at the commencement, being the more sedative and fitting in the stage of declining hyperaemia, with itching of skin rather than smarting; the latter with their more stimulant action, indicated where there is dryness and scaliness of skin rather than crusting, and a more quiescent or chronic stage.

The temperature of the baths, their duration and frequency, are all important factors, and the opportunity is afforded by their use for the softening and removal of crusts and scales as a prelude to the efficient action of local applications.

Acting also as mechanical and thermal stimulants, a decided effect is produced by the baths upon the cutaneous nerves and vessels of the skin in the affected parts, which at first rosy, from heightened capillary action, subsequently show a more natural colour: itching is relieved, the skin becomes softer, its repair encouraged, and with lessened general irritability rest and sleep are the better secured.

The more chronic the eczema, the more dry, scaly, and infiltrated the skin, the more striking is the issue from the course.

Psoriasis.—In ordinary cases we have three indications in treatment: (1) To correct any attendant disorder of health; (2) to macerate and detach the scales; (3) to remove the chronic inflammatory condition of the papillary layer with its hyperaemia. (1) For cases where there is any gouty or plethoric condition, the sulphur waters, strong and mild, are applicable, both for their action upon the liver and bowels, and for their diuretic effect and consequent relief of vascular excitement. For a quiescent eruption, with only anaemia or want of tone generally, the chalybeates are the more indicated. For (2) and (3) the sulphur baths, in various strengths impregnated with sulphur and salines, soften and detach the scales, allay irritation, and stimulate the papillary layer; there is relief of hyperaemia, and with the removal of scales, suitable medicaments have their quickest and most penetrating effects upon the disease. Where there is a widespread eruption, the peat baths, which may be made with sulphur water, have a preference; this bath retains its heat more, and can be for longer given with advantage. In the restricted periods usually allowed for spa treatment, the use of drugs is best avoided, and the waters and baths allowed to have their uncomplicated play. With improved health and nerve tone, we witness a steadily fading eruption, and often a cure, even in old-standing psoriasis.

Lichen.—Here again we may improve general and nervous tone by a chalybeate course or in some cases, for diuresis, order the saline sulphur waters. To relieve the hyperaemia and itching of skin, the mild sulphur baths are well given before local remedies are applied.

Acne.—In common acne, the poor digestion and circulation are favourably influenced by the sulphur waters internally, especially where constipation exists; where, however, there is simply anaemia or menstrual disorder, a chalybeate course is preferable. Externally the glandular functions are stimulated by ablutions of sulphur water, and the sebum softened and expressed from the follicles, and in so far the way is prepared for the better action of lotions and other usual applications. Cases of acne vulgaris are usually curable by spa treatment without resort to vaccination. In acne rosacea a course of sulphur waters has special applicability for correcting the digestive functions and unloading the liver and bowels.

Lupus erythematosus in its limited and superficial form is found to respond well to treatment at Harrogate, with its tonic air and chalybeate waters, assisted perhaps by a

daily local d'Arsonvalization with the glass vacuum tube and short spark gap.

Furunculosis is generally associated with impairment of health, which may be the result of the absorption of products of imperfect digestion, and is well treated by the aperient and diuretic sulphur waters (with or without intestinal lavage), and a local treatment of the boils.

Erythema in its common local form of intertrigo, which so easily passes into an eczema, and in its more general form, some gouty or rheumatic condition may underlie it, and be amenable to the saline sulphur waters for their aperient and diuretic action, and to the baths when the disease is in the stage proper for their exhibition.

Urticaria, in its chronic form often gouty or gastro-intestinal in its origin, with an abnormally excitable nerve irritability, is well treated by a carefully adjusted dietary, and by sulphur waters, alkaline or saline, to correct digestion and to open up the channels of elimination. Alkaline sulphur baths soothe the irritable skin, and prelude the application of various antipruritic applications.

Syphilides, of the squamous and papular kinds, are treated specially by the alkaline sulphur baths at Starbeck, where their use is well supplemented by a full course of the sulphur waters, and where mercurial inunctions after each bath are given, as at Aix.

Neuroses.—In every case of pruritus we have to correct any internal causes, which may be an overloaded system with hepatic or digestive disorder, for which the saline sulphur waters are applicable where the kidneys are sound. The baths, alkaline or mild sulphur, given at a moderate temperature, often have a soothing action upon the irritable cutaneous nerves.

Auxiliary Treatments.

These deserve some final attention, although in some directions already touched upon.

Electricity, as high-frequency currents, is in many cases a useful supplement to baths and waters. In the form of "autocondensation" it is a nerve tonic; locally, the "effleuve" with the glass vacuum electrode is useful in some dry eczemas, and also in psoriasis, where patches are of some extent but limited in number; also it relieves certain local pruriginous troubles, particularly pruritus ani.

Intestinal lavage (Plombières method) with alkaline sulphur water, is a good adjunct in those cases of skin disease where absorption of toxins from the bowel is suspected, as in certain cases of eczema, boils, urticaria, and general pruritus.

Turkish and vapour baths may be of assistance in seborrhoea and acne, as well as in other cases where sulphur baths alone do not afford the requisite diaphoresis, and for these *electric-light baths* may be an alternative.

The *Needle and Vichy massage-douche baths* are good in some cases to improve general and vasomotor tone, as in acne, lupus erythematosus, and some neurotic skin affections.

X-ray treatment is not at present available at our baths.

In concluding my preliminary historical remarks, I might have noted that it was as recently as 1832 that our first bathing establishment was built, the Old Victoria Baths.

In 1811 a Mrs. Hofland versified the erstwhile balneological amenities of "A Season in Harrogate":

Astonished, I saw, when I came to my doffing,
A tub of hot water made just like a coffin,
In which the good woman who attended the bath
Declared I must lie down as straight as a lath,
Just keeping my face above water, that so
I might better inhale the fumes from below.
"But, mistress," quoth I, in a trembling condition,
"I hope you'll allow me one small requisition.
Since Scrophula, leperasy, herpes and scurvy,
Have all in this coffin been rolled topsyturvy,
In a physical sense I presume it is meet,
Each guest should be wrapped in a clean winding sheet?"
"Oh no! my good sir! for whatever your case,
You ne'er can catch anything bad in this place,
And your being settled on solid foundation,
We Harrogate bath women spurn innovation.
So caveller like I submitted to power,
And was coddled in troth for the third of an hour."

DEMONSTRATION.

Before the discussions commenced on Wednesday and Thursday Dr. Winkelried Williams (Brighton) demonstrated a series of cases.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

VACCINE TREATMENT IN BUBONIC PLAGUE.

During the twelve months ending April, 1912, in applying the vaccine treatment in plague the peripheral blood of every case was systematically examined by a simple bacteriological method (by culture) at the bedside just before injecting the vaccine. In this detail, as well as in the quality of the vaccine employed, the present observation differs from that of 1907,[1] where, with Dr. D. A. Turkhud, I applied the vaccine treatment in plague. The main features of the vaccine used in this year's observation are (1) that it was prepared from the first subcultures of rich growths on agar of peripheral bloods of virulent septicaemic plague cases, and therefore was abundant in the glutinous globulin characteristic of such cultures—the properties of the thin globulin-like protein has been described by the author elsewhere[2]—(2) that owing to the application of glycerine (and not of heat or Na_2So_4) in sterilizing the culture emulsion the vaccine contained only soluble immunizing substances and was free from coagulation and precipitation products, and, being stale (at least three months), was probably free from the toxic substances which Rowland[3] had described as being present in fresh emulsion of plague cultures before they are destroyed by the coexisting proteolytic enzyme, also described by the same author; (3) the dose of vaccine administered corresponded, as a rule, to $\frac{1}{100}$ agar tube and by computation to the glutinous products of about 75 to 80 million bacilli. Even double this dose has been borne well; only one injection was given at the earliest opportunity.

In every case the blood was obtained by a needle-prick of the finger tip and taken up with a straight glass pipette and planted straight on to a dry surface of an agar tube. With the ordinary sterility available with ether alcohol for the finger and spirit-lamp heat for the needle, pipette, etc., not a single contamination was found in all the cases observed. This culture method, in the author's opinion, was, for all practical purposes, quite a good index as to the non-septicaemic or septicaemic nature of the case, not a single colony being detachable even after a week in the former group, which colonies were demonstrable in about thirty-six hours in the latter group of cases.

The number of cases in this observation is small and the value attachable to a computation of a percentage is greatly lessened, but the uniform reaction obtained after twelve to twenty-four hours of the vaccination in all cases, and the uninterrupted progress of a great proportion of the non-septicaemic cases appeared to justify a record of the figures.

Total Number of Cases Treated, 87.

	No.	Recovered.	Percentage of Recoveries.
Non-septicaemic ...	44	35	79.5
Septicaemic	43	0	0

These figures speak for themselves, and might be taken as an indication to continue the observation.

Bombay. R. Row, M.D., D.Sc.Lond.

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Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

GENERAL INFIRMARY, LEEDS.

A CASE OF SEVERE INTRAPERITONEAL HAEMORRHAGE FOLLOWING CHRONIC PERFORATION OF A GASTRIC ULCER.

(Under the care of H. COLLINSON, M.S., F.R.C.S., Honorary Assistant Surgeon.)

ALARMING haematemesis and melaena as the result of the erosion of a large vessel by gastric ulceration is a common experience, but I have not been able to find any record of a case in which the haemorrhage has been entirely intraperitoneal, as in the instance which I am about to quote:

On September 17th, 1912, I was asked to see a married woman of 35, in consultation with Dr. Welch of Stanningley. The history was briefly as follows: For several years the patient had been troubled with indigestion, and rather more than two years before, whilst in America, an abdominal operation had been performed, but she could not say what had been found nor whether anything more than an exploration had been made. Since that time she had had considerable pain after food, and occasional vomiting, but had been under no regular medical treatment.

On the morning of September 17th she was seized with violent pain in the epigastric and left hypochondriac regions and vomited once, the vomitus consisting of food. When I saw her at about 10 p.m. she was lying in bed with the knees drawn up, groaning with pain. Her face was pale and agonized in expression, but her friends stated that they did not think she was paler than usual. Temperature was subnormal, pulse 120. Abdominal examination showed considerable rigidity of the recti muscles above the umbilicus, and in the left hypochondrium an ill-defined tumour could be felt; the boundaries of the swelling were not sharply defined, but it evidently extended beneath the costal margin and appeared to occupy the position of the lesser sac of the peritoneum; percussion over it gave a slightly resonant note. There was no dullness in the flanks and no diminution of liver dullness. The abdominal wall below the level of the umbilicus was scarcely at all rigid.

The diagnosis appeared to lie between perforation of a gastric ulcer into the lesser sac and acute pancreatitis, and operation was advised.

Operation.

The patient was moved to hospital as soon as possible, and operated upon early the following morning.

A median incision was made above the umbilicus. On opening the peritoneal cavity a quantity of blood was visible amongst the intestinal coils; the cardiac portion of the stomach was pushed forward close up to the anterior abdominal wall, and on passing the hand round the fundus the gastro-colic and gastro-splenic omenta were found to be tightly stretched over a mass occupying the lesser sac. The lower part of the abdomen was protected by swabs, and an opening made into the lesser sac through the gastro-colic omentum; the mass behind the stomach was then found to consist of a large quantity of blood clot. This was all cleared out and the cavity wiped clean.

No further haemorrhage occurring after the evacuation of the clot, a search was made for the origin of the bleeding, and on the posterior wall of the stomach there was found to be a perforation about the size of a sixpence, with indurated margins; at a point in the upper border of the pancreas corresponding to the perforated ulcer was a small excavation with some surrounding infiltration. No open vessel could be seen in the floor of this ulcerated area, nor was any bleeding occurring at the time, but as it appeared probable that the haemorrhage had come from one of the smaller branches of the splenic artery in this situation, the margins were approximated as closely as possible by a couple of catgut sutures, under-running the base of the ulcer. The margins of the perforation on the posterior wall of the stomach were freshened and the opening closed by interrupted sutures. A posterior gastro-enterostomy was rapidly performed, a dental rubber drain passed into the lesser sac through the opening in the gastro-colic omentum and the abdominal wound closed. Recovery was uneventful.

The case is interesting both on account of its rarity and from the point of view of diagnosis. There was no haematemesis at any time although there was very profuse haemorrhage from somewhere in the floor or margins of the ulcer; the acuteness of the pain and its sudden onset were highly suggestive of acute perforation of a gastric ulcer, and yet the extent and degree of abdominal rigidity were less than one usually finds in such a case.

The situation of the tumour suggested an effusion into the lesser sac but its extremely rapid development was contrary to what one would expect either in acute perforation of an ulcer on the posterior wall of the stomach or in acute pancreatitis.

The explanation of the condition appears to be that a branch of the splenic artery in the margin of the ulcer was eroded, this produced a sudden and profuse haemorrhage which was sufficient to separate the stomach from the pancreas at this point, as a consequence blood was effused into the lesser sac and not into the stomach, and as the amount increased the stomach was pushed further forward and its cavity obliterated. Whether the ulcer was entirely separated from its posterior attachment by the pressure of the effused blood or during the operative manipulation it is impossible to say.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

GIBRALTAR BRANCH.

A MEETING of the Gibraltar Branch was held in the Royal Naval Hospital on October 4th, Deputy Surgeon-General W. W. PRYN, R.N., President, in the chair. DR. LYONS demonstrated a case of *Leucoderma*, and made a few remarks on the present state of knowledge regarding the condition. The PRESIDENT demonstrated the Edridge-Green *Lantern for testing colour vision*, and showed how the test should be carried out in practice. He also explained Holmgren's method of testing colour vision by means of wools. DR. LOCHHEAD showed a patient operated on for *Multiple hydatids of the peritoneal cavity*, and read notes of the case and of a second case of removal of a hydatid cyst from the root of the neck. Major WANSEY BROWNING gave a lantern demonstration to illustrate the distribution of the *Rash in small-pox*, and showed how it differed from chicken-pox and such conditions as dermatitis and impetigo.

Council.—At a meeting of the Branch Council, held on the same day, Colonel Maher, R.A.M.C., was elected to the vacancy on the Council caused by the departure of Colonel Johnston, A.M.S., from Gibraltar.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

AT a meeting held on October 10th, Mr. CHARLES J. SYMONDS, President, being in the chair, the following were among the exhibits:—DR. J. D. ROLLESTON: A case illustrating the value of salvarsan in the local treatment of *Vincent's angina*. The patient was a man aged 20, with well marked ulceration of the right tonsil from which the characteristic organisms were grown. Other measures having failed, a throat swab moistened with glycerine was dipped in salvarsan powder and rubbed over the affected area. Four applications were made in this way and resulted in a rapid healing of the ulcer. Mr. G. H. MAKINS: Case of *Actinomycosis* of the cheek treated by parenchymatous injections of formalin. The patient was a boy aged 17, and the condition had progressed until four discharging sinuses were present. After treatment with potassium iodide, two hypodermic syringefuls of a 4 per cent. solution of formalin were injected around the periphery and into the margins of the area. Four subsequent injections were given, and each was followed by local oedema. When shown the cheek was nearly normal. Mr. T. H. KELLOCK: A case of complete destruction of a part of the diaphysis of the tibia by acute *Osteomyelitis* in a boy aged 8; also a case of *Osteogenesis imperfecta* with multiple fractures in a boy aged 11½. Skiagrams showed the long bones to be more translucent and to contain less compact tissue than normal. Spontaneous fractures were seen in the tibiae, radii, and ulnae, with practically no displacement of the fragments. Dr. W. ESSEX WYNTER: Two cases of *Splenic enlargement* associated with haemorrhage, anaemia, and oral sepsis, one in a man aged 50; the other, in which arteritis

obliterans was also present, in a woman aged 55. Sir Frederic Eve: A case of *Angioma* of the synovial membrane of the elbow in a girl aged 11. The chief interest of the condition lay in the diagnosis from localized tuberculosis of the synovial membrane. This, he thought, might usually be made by observing the changes in the swelling induced by alterations of the venous circulation. Also a case of Bazin's disease in a woman aged 31. Mr. P. P. Cole: A *Myxochrondroma* of the thigh in a man aged 45, following a fracture of the right femur which had failed to unite completely. The circumference of the thigh at the situation of the swelling was 22½ in. Dr. A. F. Hertz and Dr. W. Johnson: A case of *Bilateral atrophy of the face* in a man aged 38. He showed well-marked signs of chronic lead poisoning, and no other cause for the condition was discoverable. Mr. H. Gardiner: (1) A man, aged 42, with destructive *Arthritis* of the right wrist, which was entirely painless. Sensation to heat and cold was absent, and muscular and tactile sensations were also slightly affected. (2) *Bilateral cervical ribs* in a woman aged 17. A weakness had been noticed for three or four years, and was increased by much piano playing. Dr. H. D. Rolleston and Mr. E. F. W. Grellier: A case of *Unilateral clubbing of the fingers* due to axillary aneurysm in a man aged 63. The blood pressure and the pulse tracing of the radial artery on the affected side were similar to those on the normal side.

Reviews.

MEDICAL HYDROLOGY.

The therapeutic uses of water charged with varying degrees of mineral matter in solution have been the subject of discussion amongst medical men of all nationalities for many centuries. The successes that have been achieved have led to many enterprises, many of them more commercial than scientific, intended to popularize a form of treatment that carries with it a considerable amount of personal comfort. The more thoughtful of spa physicians have from time to time endeavoured to place the whole object upon a more scientific basis, and have tried to give a rational explanation of the phenomena they have observed. But practical experience has proved both to them and to their patients that even the most authoritative rules are subject to so many exceptions that there is no royal road to cure, but that there must be a certain amount of experiment in each individual case. Experience, however, if it throws doubt upon the infallibility of rules, must of necessity lead to a very full acquaintance with exceptions, and hence the considered opinions of a well-qualified spa physician are worthy of careful study.

A comprehensive treatise on *The Principles and Practice of Medical Hydrology*,[1] from the pen of Dr. Fortescue Fox, has recently appeared, in which the whole science of treatment by waters and baths is dealt with in a thoroughly scientific spirit. The writer is evidently conscious of the limitations of precise knowledge as to the mode of action of these agents, and, like many others of equal experience, he has found that a mysterious difference exists between the natural water containing salts and an exactly similar chemical compound synthetized in the laboratory. "Science," he remarks, "is everywhere bounded by the unknown," and he evidently recognizes that the boundary is very soon reached when attempts are made to account for some of the results obtained at medicinal springs.

Theory has been active of late years. The possibility of the presence of metals in a colloidal condition, defying detection by ordinary analysis, has been assumed, and still more recently the possession of radio-activity has been attributed to many of the alkaline waters of this and other countries. Neither of these hypotheses are as yet capable of satisfactory proof, and it is still necessary to fall back upon the teachings of experience for guidance as to the practical employment of baths and waters for the relief of disease. One quality, however, has been clearly established—namely, the varying tonicity of waters with different chemical composition. Their osmotic behaviour is capable of demonstration, and may be held to explain their more rapid action in certain cases.

Dr. Fox's book is comprehensive. Without assuming too enthusiastic a tone he carries his reader with him by the sounder method of convincing argument, founded on observation and a strong belief in the clinical wisdom of many of the older writers, whose teachings are as worthy of respect at the present time as they were in the past.

The skin is an organ with very complex relations, and it is not usually treated with the care that it deserves where the use of baths is concerned. A cardinal point that has always to be borne in mind when the use of heat and cold to the skin is in question is the fact that temperatures above or below a certain point must produce circulatory and nervous variations. At or about 93° F. no such changes occur, but this fact is entirely unknown to most people, or is too often disregarded. The results of such ignorance or disregard have often to be suffered by young children who, as a rule, are subject to far more immersion than is consistent with robust health. The excessive use of soap in infancy is, in Dr. Fox's opinion, a common cause of delicacy owing to the unnecessary frequency with which the natural secretions are removed.

By far the greater number of cases calling for treatment by baths and mineral waters are the chronic affections in which metabolism is persistently obstructed by the presence of the results of local disease or of defective digestion. Hence gout and rheumatism in their protean forms have mainly to be considered, and a good deal of space is devoted to the means that have been employed for their relief. The whole book may be commended as a most useful and trustworthy guide to the use of baths and waters, and it may be especially directed to the notice of medical men in charge of spa establishments. The spa physician is in the peculiar position of a specialist who has had no special training beyond the gradual experience gained in his work, and in one of his final chapters the writer points out the qualities that make for success or failure in this special line of practice.

A plea is made for better nomenclature in place of the somewhat unsatisfactory terms of hydrotherapeutics and balneology, and the writer urges the adoption of the title medical hydrology for a branch of medicine which is deserving of more serious study than it has hitherto obtained.

TRAUMATIC NEUROSES.

Now that most of the civilized countries of the world have passed workmen's compensation acts in one form or another, the problem of the immediate and remote effects of injury has become one of increasing urgency and practical importance. How far are the symptoms and signs the direct result of the injury? How much is genuine, how much simulated? How much malingering? These are questions which crop up at once in all these cases, and the solution may demand the highest acumen and the greatest experience. The fact that some kind of indemnity looms ahead in nearly every case is no small factor not only in causing the symptoms to continue but even in originating them. The enforced idleness, not always entirely due to the accident itself, but sometimes caused by delay in settlement, helps to keep up the morbid condition. The average workman speedily becomes demoralized by such compulsory idleness, and this is one of the elements in favour of capital payment as against the instalment system. There is evidence that in countries—for example, Germany—where the instalment system of payment prevails, there is considerably more traumatic neurosis than in countries where a mixed system obtains. It is not easy to lay down general laws on the subject. Much may be said for either system, but where possible Professor Salmon, the author of a valuable recent contribution to the elucidation of this subject,[2] argues in favour of payment by a lump sum, each case being judged on its merits.

When one reads the long list of neuroses, both organic and functional, which have been attributed to traumatism, there seem to be few diseases which have not been traced with more or less accuracy to injury. Professor Salmon

[1] *The Principles and Practice of Medical Hydrology.* By R. Fortescue Fox, M.D.Lond., F.R.Met.Soc., late Hyde Lecturer in Hydrology, Royal Society of Medicine. London: University of London Press; Hodder and Stoughton, and Henry Frowde. 1913. (Demy 8vo, pp. 309. 6s. net.)

[2] *La Nevrosi Traumatica.* Del Professor Alberto Salmon. Turin: Unione Tipografico. 1913. (Roy. 8vo, pp. 219.)

does not believe that traumatic neurosis is a disease *sui generis*, although cases have qualities which seem to give them a special clinical note, the chief being the crystallization of the symptoms and signs about the injury from which everything seems to start, and to which everything points in the patient's mind. When he comes to prognosis, like most authorities of experience, Professor Salmon is inclined to give a very reserved opinion, especially after head injuries. The effect of settlement is often so magical that this is one of the strongest arguments for payment by a lump sum rather than by instalments. Some wise remarks are made as regards prophylaxis, especially as to the importance of cultivating a well-balanced mind and restraining the emotional elements. Perhaps in dealing with a question like traumatic neurosis, where so much may happen, it is difficult to avoid what looks almost like hedging, or making a book seem very much like a glorified catalogue of nervous diseases; for the long lists of diseases given, on good authority, create the impression that almost anything may happen. However, in spite of his long catalogue of woes, the author evidently possesses a saving common sense which enables him to steer safely through his troubled sea. When all is said, each case has to be judged not on general lines but in view of his or her peculiar history, whether personal or family.

MURPHY'S CLINICS.

WE have pleasure in again calling attention to *The Surgical Clinics*[3] of Dr. JOHN B. MURPHY, of Chicago. They cover a wide range in surgery and in some recent issues contain "clinical talks" by visitors on subjects with which they are known to be more or less identified. These interludes are interesting in themselves and also for the certain element of contrast in style introduced, but we feel compelled to protest against the reproduction in cold type of the fine things the host and guest have to say about one another in mutual admiration. The real value of publications of this sort is the opportunity they give of taking part even at second hand in a clinical demonstration by such an acute-minded surgeon and stimulating teacher as Dr. Murphy. The *Clinics* would, we think, be improved if the series of questions and answers between Dr. Murphy and the sometimes rather unfortunate intern were left out, and if we had only Dr. Murphy's racy and critical talk. A direct transcript of the shorthand note of a conversation is apt to make weary reading. The dramatic author knows this, and to get the effect of natural conversation, while keeping his play moving, he has constantly to condense, and part of his art is to do this without on the one hand being stilted and so destroying the illusion of reality, and without on the other hand leaving the audience in doubt as to what is meant.

We observe with interest that the dressing employed in bone and joint work is almost invariably 5 per cent. carbolic gauze applied moist—a curious reversion to original Listerian recommendations. The object is to make doubly sure of asepsis of the wound. Murphy holds that asepsis sufficiently rigorous for the peritoneum is not quite good enough for bones and joints; it must be hyperperfect to attain the certainty of results required. This was taught years ago by Edmund Owen and Robert Jones, whose work is deservedly acknowledged by this author. Similarly he follows Macewen's teaching on the function of periosteum as a limiting membrane simply. The close relationship of accurate pathological knowledge to correct surgical treatment appears strongly in every case. We appreciate very highly Dr. Murphy's habit of pointing out the analogies between conditions in which analogy has not been generally observed; for instance, a gangrenous appendix is pathologically analogous to the necrosis which occurs in acute osteomyelitis, and the same early energetic treatment is required in both cases.

Another volume contains reports on some rare tumours: desmoid tumour of rectus abdominis, paratracheal tumour, and infectious granuloma of caput coli. A very important feature is a clinical lecture by Dr. F. H. Albee, of New York City, on his method of treating—indeed, curing—Pott's disease of the spine by inserting a bone graft from the tibia into the spinous processes split to receive it. This method was spoken of more than once at the International Medical Congress, London, and aroused the liveliest interest. Those of our readers who are not likely to obtain the transactions of the Congress would do well to consult the June issue of Dr. Murphy's *Clinics*.

The August number is the most important yet issued. The first paper is on vaccines and serum-therapy, by Dr. Kreuscher, of Murphy's Clinic, followed by a report of the discussion upon it in the Chicago Medical Society. Dr. Murphy's comments and explanations of the nature of vaccines and serums are lucid, without any attempt at an elaborate explanation. The general trend of opinion is in favour of their use, and in favour of autogenous as against stock vaccines—that is, in favour of closer individualism in treatment. Following this paper is a beautiful series of skiagrams showing the blood supply in and around many of the important joints. They are the work of Dr. G. W. Hochrein, radiographer to the Murphy Clinic. The object of these is mainly to "aid in determining the position of the flap pedicle used in arthroplasties." The cadavers were injected with red lead emulsion, which found its way into the most minute arterioles. We have never seen anything so exquisite as the skiagram of the foot with the blood supply of the heel and sole clearly shown. It is quite comparable in excellence with the famous Hunterian injection of the pia-arachnoid vessels.

The general style of the *Clinics* is being improved. The author has dipped more deeply into the pathological and philosophical aspects of his cases. He has also dipped into the past, and reprinted a paper of twenty-five years ago on appendicitis, entitled On Early Operation in Perityphlitis. In this paper it will be seen what remarkable foresight he possessed, as the views advocated there are precisely those of to-day, and the treatment he prophesied has actually become the universal daily practice.

[3] *The Surgical Clinics of John B. Murphy, M.D.*, at Mercy Hospital, Chicago. Published bi-monthly. Philadelphia and London: W. B. Saunders and Co. 1913. (Roy. 8vo, pp. 352. 35s. net a year.)

UROLOGY.

THAT a period of nearly eight years has elapsed since the appearance of the first edition of Professor LEOPOLD CASPER'S *Lehrbuch der Urologie*[4] is an indication rather of the author's modesty than want of progress in this branch of surgery. Urology is at present probably studied as a speciality more on the Continent than in this country, but we are quite entitled to claim no lack of interest in the subject. Surgeons on the whole regard the surgery of the genito-urinary tract as part and parcel of everyday surgical work; it does not appeal to the average man as a room in the surgical mansion in which he would like to shut himself up. To those who specialize in urology and to general surgeons alike this volume will appeal. It is in almost every respect a complete treatise. The only deficiency we have found is that operative urology is kept too strictly in the background: the author apparently aims at elaboration of pathology and symptomatology. The volume is divided into the usual sections—a general part concerned with the examination of the patient, the anatomy and physiology of the genito-urinary organs, the methods of physical examination, and the various forms of urinary analysis; and a special part, which is the greater moiety, dealing with the diseases of the constituent parts of the tract. The teaching is uniformly sound, and conforms to that generally accepted. Prostatectomy is recommended almost entirely on English and American lines—the Freyer operation for the suprapubic route, the Young operation for the perineal route. The chapter on kidney and ureter is, perhaps, one of the best; it is concisely written, yet is complete and full enough for any surgeon who wishes to extend his knowledge beyond the everyday textbooks. The author appears to have less difficulty than most in placing papilloma of the bladder, though he recognizes that differential diagnosis of papilloma and cancer is far from easy. A tumour, so far as its tufts or papillary growth are concerned, may be innocent, but malignant in its deeper layers and in its base. He believes it to be good practice to regard these tufted or papillomatous growths as simple.

[4] *Lehrbuch der Urologie, mit einschluss der Männlichen Sexualkrankungen.* Von Dr. Leopold Casper, Universitätsprofessor in Berlin. Zweite, neubearbeitete und vermehrte Auflage. Berlin: Urban and Schwarzenberg. 1910. (Sup. roy. 8vo, pp. 575; 221 figures. Mk. 15.)

Both kinds of tumour may be multiple or single. The innocent papilloma is the most common. The severity of haemorrhage is no indication of the kind of tumour: severe haemorrhage may occur from a papilloma, while a carcinoma may hardly bleed at all. One point of importance is that persistent bleeding with at most occasionally a few days' freedom always indicates malignancy; it may be an innocent tumour which has become malignant.

The book is well illustrated, mostly by drawings. The index is faulty because it is much too scanty.

We cannot say that we have felt much satisfaction in the perusal of Dr. Bransford Lewis's translation, published under the title *Genito-urinary Diagnosis and Therapy*,[5] of Portner's book on the subject. In the first place, there is far too little diagnosis and too much therapy. In the discussion of such a difficult diagnostic subject as renal tuberculosis, for example, we are referred simply to the paragraph on tuberculosis of the bladder, and there we find the whole subject dismissed in seven lines with the crux of the matter in these words: "As soon as the possibility of genito-urinary tuberculosis is thought of, the diagnosis is easy, and demands only the demonstration of the bacillus." We entirely disagree that the diagnosis is easy as soon as such a possibility is thought of. There are no recommendations to investigate the appearances of the ureteral orifices or balance the probabilities of the kind of renal infection nor indications how soon an early nephrectomy may be confidently advised. In a similar fashion diseases of the prostate are dealt with. There is no adequate discussion on diagnosis of prostatic enlargement, its varieties and forms, and no adequate description of the operation of prostatectomy; the author makes the unsatisfactory statement that "the prostate is approached by the abdominal or by the perineal route, and the gland is completely removed." The operation is recommended only after failure of conservative treatment, but the reader gets no help in deciding precisely when that form of treatment has failed. Indications for operation are quoted from Israel; these will meet with general approval, though to us they appear to postpone the operation unduly. The operation will be more likely to succeed when less severe stages or conditions are classed amongst the indications. The mortality is placed at from 4 to 7 per cent. We question quite seriously whether such a low mortality can, as a rule, be attained in everyday hospital and private practice. The section of the book dealing with papillomata of the bladder is good and the treatment is reasonably discussed. In the symptomatic treatment of this disease "all indications," it is said, "are met by one and the same medicament—silver nitrate." The bladder is irrigated two or three times a week with 200 c.cm. of a 1 in 1,000 solution of silver nitrate. In the short discussion on diagnosis no mention is made of microscopic search of the urine for broken off pieces of papilloma. The author recommends early diagnosis, and holds that cystoscopic examination is essential on the first appearance of haematuria. One of the chief features of this book is the enormous number of prescriptions—quite a satisfactory sort of thing for young practitioners anxious for variety. The translator has assumed also the office of editor. So far as we have been able to see, he has not so much exalted his office as employed it for the interpolation of his own ideas and inventions. One instance of this will suffice. The operation of circumcision (one of the simplest and most ordinary in the whole of surgery) devised by the translator is described in detail with no fewer than six illustrations.

[5] *Genito-urinary Diagnosis and Therapy; for Urologists and General Practitioners.* By Dr. Ernst Portner, Specialist for Urology, Berlin. Translated and edited by Bransford Lewis, M.D., B.Sc., Professor of Genito-urinary Surgery, Medical Department of St. Louis University. London: Henry Kimpton; Glasgow: A. Stenhouse. 1913. (Med. 8vo, pp. 221; figures 43. 10s. 6d. net.)

COLLOQUIAL PHYSIOGNOMY.

Dr. W. T. Fernie has long been known to many of us as a genial and industrious compiler of books wherein old-world customs and superstitions—therapeutic, dietetic, and what not—are in pleasantly loquacious fashion strung together by a thread of shrewd commentary, adorned at frequent intervals by quotations from the poets and prose writers. In this, the latest (which, we regret to learn, is also to be the last) product of his pen,[6] Dr. Fernie discourses with undiminished charm and vivacity upon *Our Outsides and What They Betoken*—that is to say, upon things in general and physiognomy in particular; for the author is of the school of Burton, and no unworthy disciple of that immortal gossip. He rambles on from page to page and from topic to topic; and, whether he is discussing the colour of eyes, the contour of chins, the shape of noses, the expression of lips, the folklore of dwarfs, or the disposition of adipose tissue, is never for a moment at a loss for anecdotes or "learned instances." Consequently his books, and this book not less than its predecessors, are adapted not so much for continuous perusal as for picking up at odd moments in order to while away an hour in random turning of the pages. Such readings will reveal Dr. Fernie as a man very decidedly and very wisely "on the side of the angels"—that is to say, he knows how, in order to make a book on physiognomy readable, one must lean strongly to the affirmative side, to the side of belief and acceptance. Here, accordingly, without being troubled with sceptical cavillings, one may refresh one's memory with regard to the features and characteristics of the four main temperaments—the nervous, the sanguine, the lymphatic, and the bilious—collated by transcendentalists with the four "elements"—air, fire, water, and earth. Here one may read of the ill luck which dogged Victorien Sardou for five years after his accidental meeting with Jacques Offenbach, "a singular-looking old man with a hooked nose and reddish beard," believed to be a possessor of the "Evil Eye." Here, in the section devoted to phrenology, we may compare the cranial developments of Nero, Caesar, and Alexander; note the fullness of eyebrow typical of the artist, as exemplified by the heads of Michael Angelo, Titian, and Raphael; or the acute sense of form signified by the wide separation of Hogarth's eyes. Such things, whether we accept or reject them, make interesting reading. Dr. Fernie is far too modest to claim for his book the rank of a serious contribution to science. It appeals not less to the lay than the medical reader. It makes for entertainment. Above all, it appeals to feminine curiosity; and his publishers might find it a sound investment to advertise *Our Outsides* in the journals which cater for our better halves.

[6] *Our Outsides and What They Betoken.* By W. T. Fernie, M.D. Bristol: John Wright and Sons. London: Simpkin, Marshall. 1913. (Cr. 8vo, pp. 428. 4s. 6d.)

NOTES ON BOOKS.

Volume xxvi of *Merck's Annual Report*,[7] dealing with the year 1912, consists, like previous volumes, principally of a general summary of the original work bearing on therapeutics published in medical and other journals during the year. In the present issue a special article of fifty pages is devoted to lecithin, its occurrence, chemistry, mode of action, and therapeutic uses; a bibliography of lecithin literature which accompanies it contains references to the publications of over 400 authors and a much larger number of papers, most of these having appeared during the last ten or twelve years. This useful article is well-timed, in view of the importance which is now attached to the part played by lecithin in the body, both in health and disease. Following the article on lecithin, about 400 pages are devoted to various preparations and drugs, both natural and synthetic, the observations published during the year in regard to each being summarized. Indexes of drugs, authors, and diseases increase the usefulness of the compilation. Mr. E. Merck (66, Crutched Friars, London, E.C.), who publishes the work, informs us that a limited number of copies will be sent to members of the medical profession on application.

The second volume of Molinari's *General and Industrial Chemistry*,[8] which deals with organic compounds, is distinguished by the same general characters as the previous volume on inorganic chemistry; in addition to the usual

[7] *E. Merck's Annual Report of Recent Advances in Pharmaceutical Chemistry and Therapeutics. 1912.* Volume xxvi. E. Merck, Chemical Works, Darmstadt. 1913. (Demy 8vo, pp. 543. 1s. 6d.)

[8] *Treatise on General and Industrial Organic Chemistry.* By Dr. Ettore Molinari. Translated from the second enlarged and revised Italian edition by Thomas H. Pope, B.Sc., A.C.G.I., F.I.C. Vol. ii. Organic. London: J. and A. Churchill. 1913. (Roy. 8vo, pp. 790; 506 illustrations. 24s. net.)

systematic study of organic compounds, much attention is devoted to industrial processes for the production of the most important substances, and statistics of production and price in different countries are given at some length. The author states that his intention has not been to prepare a complete treatise on technological chemistry, and still less on chemical technology, but to present such a general treatment of the matter as shall be of value to the student who may later on be required to advise on or direct the processes of actual manufacture. It is not claimed that the processes described are in every case those actually in use in the most modern factories, familiarity with all of which would require a width of experience scarcely obtainable by any one man; and it is stated in the preface that "in any particular industry it has often been found that the results of investigations are in such disaccord with the practical data as to render it a matter of great uncertainty what conclusions should be presented to the reader." In spite of such difficulties and limitations, a mass of information is given which will be of great service to those requiring a knowledge of industrial organic chemistry, and at the same time an additional interest is imparted to the subject by the statistics. Among the matters dealt with at considerable length, petroleum, soaps, sugar, alcohol, explosives, and dyes may be mentioned; alkaloids receive somewhat meagre treatment. The English edition, translated from the second Italian edition, contains certain additional matter, particularly in the statistical data referring to Great Britain and the United States. The English is occasionally somewhat involved, and a few errors which are to be noted may perhaps be due to a too literal translation of the original wording—as, for example, the curious statement (italics ours) that chloroform "may cause death if not used with great care, since it acts on the heart; to diminish this effect it is *mixed with* atropine or morphine." The text is accompanied by fairly numerous illustrations of special apparatus and machinery.

The medico-chirurgical treatise on diseases of the stomach and oesophagus,[9] written by MM. A. MATHIEU, L. SENCERT, TH. TUFFIER, with the assistance of J. CH. ROUX, J. L. ROUX-BERGER, and F. MOUTIER, is an example of a book dealing with a subject which in practice demands the co-operation of both types of practitioner, and written by physicians and surgeons working in collaboration. It is almost needless to say that it is well written, admirably arranged, and abundantly illustrated with excellent drawings. The only defect we notice is the absence of an index. The outstanding feature of the book is the remarkable monograph on diseases of the oesophagus, written by M. Sencert with the assistance of Dr. Mathieu. M. Sencert is a surgeon; the merits of the contribution which extends to over 300 pages will be best appreciated by his surgical colleagues, and we strongly recommend it to their careful consideration. It contains a number of anatomical drawings, original and otherwise, and numerous illustrations explanatory of the surgical procedures mentioned in the text. Throughout the book the surgical position is dominant, but this is not surprising in view of the far greater progress recently been made in the surgical than in the medical treatment of stomach diseases.

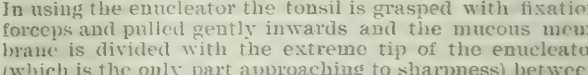
The fourth edition of THOMPSON'S *Compendium of the Pharmacopoeias and Formularies (Official and Unofficial) with Practical Aids to Prescribing and Dispensing*[10] has been issued. Its scope and purpose are sufficiently indicated by the title. It is a strictly practical work. A list of recent unofficial remedies is first given; this is followed by a set of useful formulae; then comes an index of diseases and remedies, and lists of synonyms and incompatibles, notes on analysis of urine, bacteriological memorandums and notes on a number of other subjects as to which the practitioner may require information. Finally synopses are given of national pharmacopoeias, including those of the United States, France, and Germany. The book concludes with a full index in which the doses are set out; it will be found a convenient companion for the consulting-room table.

Mr. E. A. GARDINER, the senior science master at Berkhamsted school, has written a first year course in general science[11]—a combined textbook and notebook. This, he says, is an attempt to save time (but not work) for the boy and labour for the teacher. Nothing is told the boy which he can reasonably be expected to discover for himself, and additional questions and exercises are given as a safeguard against the work becoming merely mechanical. Part I consists of simple measurements of volume and mass density, specific gravity, pressure in a liquid, the principle of Archimedes, density of liquid, and solid flotation. Part II concerns some common apparatus and instruments—the Bunsen burner, construction of a wash-bottle, the thermometer, its construction and graduation. Part III deals with properties of water and air—purification of sea water by filtration and distillation, evaporation, solution, precipitation; the physical and chemical changes in water—boiling point, latent heat, evaporation, ice and its melting point, latent heat effusion, action of electric current on water, etc.; the familiar properties of air, solubility in water, weight and pressure, the barometer, oxygen and oxides, carbon dioxide, breathing of plants and animals, water vapour in the air, dew point. The author has put together an interesting and instructive laboratory course; the boys who carry it through and fill in the notes and tables, and answer the questions set, ought to receive an excellent introduction to science. In his preface he says: "No apology is offered for the lengthy lesson on manipulation of glass tubing; the number of boys one comes across, even in a sixth form, who will bend a delivery tube in an ordinary Bunsen flame is sufficient proof of the need of such teaching, and the sooner they are taught it the better for them and for the laboratory expenses." Things are moving onwards even in the scholastic world; when the writer of this notice was at school, no sixth-form boy attempted to bend a glass tubing or knew what a Bunsen burner was.

MEDICAL AND SURGICAL APPLIANCES.

Tonsil Enucleator.

MR. HOWARD WARNER, M.B., B.S.Lond. (Fakenham, Norfolk), has designed an enucleator for use in the complete removal of tonsils of the following types: (*a*) The ordinary enlarged tonsil, over the anterior surface of which the anterior pillar of the fauces is spread and firmly adherent. (*b*) The small, fibrous, embedded tonsil, the subject of repeated attacks of follicular inflammation, which cannot be properly introduced into the guillotine. In using the enucleator the tonsil is grasped with fixation forceps and pulled gently inwards and the mucous membrane is divided with the extreme tip of the enucleator (which is the only part approaching to sharpness) between



the anterior pillar and the tonsil. The curve of the blade enables the operator to separate the body of the tonsil completely from its bed working from above downwards, and finally the lower pole, which is hanging only by mucous membrane, may be separated. The enucleator is double-ended, thus being suitable for either tonsil, and is curved slightly on the flat; this does not show in the illustration. The blades are quite blunt, except the extreme tips, which are half-sharpened only. The instrument was made by the Holborn Surgical Instrument Company.

MEDICINAL AND DIETETIC PREPARATIONS.

Sour Milk.

WE have received from the makers, the Société du Yaourt d'Orient (Paris; and 10, Hans Road, Brompton Road, London, S.W.), a sample of the sour milk which they prepare and market under the name "Yaourt Ariston Sour Milk"; it is stated that this is made by a process of which the secret is known only to a few, whether in the East, where it originates, or in the West. Our examination of the sample showed that it was of about the consistence of junket, and had an agreeable taste, quite free from bitterness; on titration it was found to contain 1.3 per cent. of lactic acid, and microscopical examination showed the presence of the characteristic bacilli in an active condition.

[9] *Traité médico-chirurgical des maladies de l'estomac et de l'oesophage.* Par MM. A. Mathieu, L. Sencert, et Th. Tuffier, avec la collaboration de MM. J. Ch. Roux, J. L. Roux-Berger, et F. Moutier. Paris: Masson et Cie. 1913. (Roy. 8vo, pp. 934. Fr.20.)

[10] *Compendium of the Pharmacopoeias and Formularies (Official and Unofficial), with Practical Aids to Prescribing and Dispensing.* By C. J. S. Thompson. Fourth edition. London: J. Bale, Sons, and Danielsson, Ltd. 1913. (Pott 8vo, pp. 366. 5s. net.)

[11] *First Year Course in General Science.* By E. A. Gardiner. London: W. Heinemann. 1913. (Cr. 4to, pp. 119. 2s. 6d. net.)

Nova et Vetera.

PROVERBS ON ARTICLES OF FOOD: AN ADDENDUM.

By Sir John Byers M.A., M.D.

The following proverbs and sayings—almost all of which I have heard myself in the north of Ireland—are in most cases expressed in the dialect or language spoken by the people themselves, and especially by those living in the country districts. They may form a slight addition to those recorded in the extremely interesting paper on "Proverbial Medicine," in the British Medical Journal of September 27th, 1913, which dealt with proverbs on such articles of food as butter, eggs, and tea.

1. *Butter.*

A common proverb heard in Ulster is "Butter to butter is no kitchen." It would be quoted if two eligible young girls were seen walking or dancing together, and it is also sometimes applied to a tiresome reiteration of anything. "Kitchen," in the dialect of Ulster, means anything eaten to give a relish to some simple articles of food. Thus butter, bacon, or herrings improve such plain fare as bread or potatoes; they give them the necessary relish or condiment which is styled "kitchen," and if a housewife had nothing with which she can "kitchen" a dinner the meal would be a poor one. I recollect at a consultation in a country district, the farmer's wife at whose house I met the doctor of the locality asked us before leaving to have some "potatoes and kitchen," which latter took the form of an excellently cooked duck. In the case of the young women dancing or walking together, the "no kitchen" is the absence of companions of the other sex. "Kitchen" is also used in another sense, meaning to serve out sparingly. I remember, at a meal which followed a funeral in the country, hearing some one say to a stranger who had been asked to carve at one end of the table, "Kitchen that turkey, for there are a good many to go roun'."

A man's laziness surely reaches its maximum limit when it is remarked about him, "He's as lazy as butter's grazy" (greasy). Of a cook who wasted the butter it will be said, in a punning way, "She's the grub that makes the butter fly," while a flatterer can "lay on the butter," or can "butter you up." A man who was complimented on his great success in life said, "I didn't get it all for atin' (eating) butter." What he wished to convey was that his prosperity depended not in doing simple things (such as eating butter), but rather by dint of hard work. A knife is pretty useless when "it's that blunt that it would not cut butter"; and when something which was attempted carefully to be concealed leaks out or comes to the surface, it will be remarked "The butter's comin' out of the porridge now," the reference being to the custom of covering well up in porridge a piece of butter which appears in time as the food is eaten. A man who it is noticed pays special attention to, or humours in every way, some friend or relative who has a great deal of influence or wealth, will bring upon himself the remark, "He knows on what side his bread's buttered"; while just as some fortunate people are "born with a silver spoon," so others seem always to have their "bread buttered on both sides." The proverb, "Butter goes mad twice in one year," clearly means that in summer it is too soft, and in winter too hard and also too expensive. "He'll not go to market and cry dirty butter of his own" is said of a man who knows how to get rid of his wares to the best advantage, like the woman who "never sells her hens on a rainy day." It is certainly not very complimentary to say of any one, "She spreads the butter on the bread as thin as the striffin of an egg"—that is, the thin film inside an egg shell. "It takes no butter off your bread," said to any one means that the person's interests are not affected.

Sometimes butter is depreciated in value owing to its appearance, either because it has been imperfectly worked after the salt has been added to it, or because in the process of churning the water that is added has been too hot. As a result, "lump butter," which is prepared for market in the form of brick-shaped masses called miscans (Irish *mioscán*, a small dish or lump of butter), when cut presents a series of streaks formed by a quantity of small holes: it is then said, from its resemblance to a row of pins, to be "pinrowed." Again, butter may be much diminished in value as an article of food when it has a rancid unpleasant flavour, "a tack" (tack is derived from the old French word *teche* of the eleventh century, and *tache* of the twelfth century, which meant a spot or blemish). The word is preserved, and appears in modern French medical scientific literature in the term *tache cérébrale*. When butter after use leaves a disagreeable, penetrating, so-called "after" flavour, or taste which conveys the impression that it has come in contact with something else, it is said to have a "*twang*" or "*tang*"—a fine old Norse word which has been known in English literature from the fourteenth century. It is also applied to an odour, as "the tang of turf-smoke." A much simpler expression, used to describe an unpleasant taste in butter, is often conveyed by the saying, "that butter's touched," exactly the same term as is applied to one who exhibits some mental defect.

2. *Eggs.*

Any one who is "not worth a fresh hen-egg" is in a poor way physically or financially, and the saying "It's a poor hen that can't scrape for two chickens"—when applied figuratively to a mother who is bemoaning her fate with two children—is very significant. How apt is the saying used in reference to a boastful, fussy person, "It's not the hen that cackles most lays the biggest egg"; while how better can a very restless creature be described than to say of him "He's like a hen on a hot griddle"? When a man who has been carrying a sack or any heavy burden on his back arrives at his destination and cleverly deposits it on the ground he will remark—or some one else may do it for him—"'Well laid,' as the hen said" (another punning proverb). "They cackled before they laid" is reported of people whose performance is far short of their boastful promises. When any one talks too much about a matter which should be kept quiet it will be said, "If yer too keen in the clocken ye'll discover the eggs" (the use of "discover" meaning to tell or disclose is a very old one). "There's a rayson (reason) in roastin' eggs," means, when said to any one, that you should not find fault with a line of action about which you do not know the real reason for it. "He must be gettin' better, for the doctor *put him on an egg*," means the doctor improved the patient's diet. I heard a man quote to a "ne'er do well" who had gone all over the world and returned unsuccessful, "A rolling stone gathers no moss"; to which the reply came at once, "A sittin' hen never grows fat." When something that it was hoped would be a great success totally fails it will be said of it, "That's a saft (soft) egg," while an unreliable person without character is often called a "saft egg." When dealing with a very greedy and avaricious man you will be advised to be careful for fear "He'll give you the shell while he keeps the egg" (a variant is "He'll keep the potato and give you the skins"). In Ulster there are a number of proverbs in which an additional clause to the form usually quoted is a great explanatory improvement. Here are two proverbs in reference to eggs: "Don't count your chickens before they are clocked (hatched), for fear some of them might be ducks," and "You spoke a while late, as the man said when he swallowed a bad egg and heard the cheep of the chicken as it went down his throat," which I heard used in this way: Two men were settling a dispute between some parties, and on making public their decision one of those affected began to object, when the proverb I have quoted was given as a reason for not reopening the arbitration.

Of an undulating type of country it will be said, "It's up and down like a baskit of eggs." I have heard this specially applied to County Down, which is often called the "Yorkshire" of Ireland. In relation to the egg as the emblem of heredity there is a proverb, "A black hen may have a white egg," which I heard quoted recently against the eugenists, as it indicates figuratively that children with good qualities may be born of parents not so gifted.

3. *Tea.*

That tea should not be stewed is made clear by the proverb, "The first of the tay-pot, but the last of the cow," of which, "The fore-part of thé tay and the strippins (or stribbins) of the cow," or "The hind-milk of

the cow and the fore-milk of the tay-pot" are slight variants. In other words, the richest of the milk yielded by the cow is the last which is "stripped" from the udder, while the tea which is first taken from the tea-pot—after a proper time has been left for its infusion—being without the deleterious substances apt to develop in tea which has been kept too long, is the best. A variant is, "The finest of the meal and the coarsest of the potatoes." A "tea and turn-out" entertainment means that those present should understand that no other meal will follow; while "a long sleep and a tay breakfast," is a saying used by workers to describe Sunday.

Many years ago cocoa of an inferior coarse type was sometimes used in Ulster, and was called "miserable"; and, as an indication at an early period how exclusive an article of diet tea was, owing to its price, there arose the couplet:

> The wives of the officers sat down to tay,
> The wives of the soldiers took skillabolay.

(Skilly, skillagolie, or skillabolee, was a sort of thin oatmeal porridge or poor weak gruel, used by soldiers, and also by occupants of gaols and workhouses.)

A match-maker, in recommending a suitor to an eligible lady may "butter him up" as one who has a nice "wee nest-egg," but she will certainly not forget to add to the lady—provided the facts warrant her—that "there will be no one between you and the tay-canister," that is, the bride-to-be will be the only female monarch in the projected new home.

NATIONAL GAS CONGRESS AND EXHIBITION.

A Conference on Smoke Abatement.

THE National Gas Congress and Exhibition in London is doing service by bringing into conference hygienists, sociologists, and others, who are interested only incidentally in the gas industry. Smoke abatement was the subject discussed at one of these gatherings, held on October 9th, and although the claims of the gas fire as the most obvious practicable means of lessening the smoke nuisance were fully and ably put forward, they were not suffered to obscure the large issues of the problem.

The chair was taken by Sir William H. Bennett, F.R.C.S., who pointed out that it was only when the basis of comparison between coal and gas was restricted to their respective prices, and to the number of heat units generated by each, that coal appeared to be four or five times cheaper than the rival fuel. When account was taken of the enormous waste of heat energy in connexion with coal, not to mention the damage to interiors as a result of the coal fire, the relative expensiveness of gas disappeared. Not only was the gas fire as efficient as the coal, but if properly installed it was equally sanitary. A proper installation, however, would include a chimney or fire shaft, otherwise gas was a menace to health. No form of heating was really suitable for domestic purposes which did not provide automatic ventilation. On the general question of smoke and fog, Sir William Bennett's paper was as trenchant, if not as picturesque, as one which came later from Sir William Richmond. The dense ground-fog and the sun-screen, or overhead fog, said Sir William Bennett, affected health in different ways, but both were a public menace. Although the troubles caused by fog were chiefly respiratory, almost any organic disease was liable to be stimulated, partly by the direct effect of the fog itself, but more especially as a result of the lowered resistance due to the coldness of the air in the fog area. This latter factor was a danger to health which had not received the attention it deserved. Another frequently unsuspected result of fog was its deleterious action upon milk. There was no doubt that milk coming from cows which were kept within the fog areas of large towns was deficient in lime, owing to the sulphuric acid deposits upon the pasture. Yet another count in the indictment against coal smoke appeared to be shaping itself out of the recent investigations into the relation between fuel and cancer. A comparison between certain peat-burning and coal-burning areas in Scotland had gone far to establish a connexion between the incidence of cancer and the sulphur content of the fuel used. Cancer was shown to be most marked in districts where coal was the staple fuel, or where the variety of peat burned had a high sulphur content.

Dealing with this point in the subsequent discussion, Mr. F. W. Goodenough drew attention to the fact that only an infinitesimal proportion of the total amount of sulphur in the coal was conveyed in the coal gas offered as fuel. This was confirmed by another speaker, Professor Vivian B. Lewes, Chief Superintending Gas Examiner to the City of London, who had compared samples of dust taken from places in which there were coal fires but no gas, either as illuminant or fuel, with others from places in which only gas was used for both purposes. The relative scarcity of sulphur in the dust from gas-heated and gas-lighted buildings was an important fact. Professor Lewes also read a paper, in which he pointed out that the chief damage done by smoke was not the result of the soot or solid carbonaceous matter, which settled readily from the air and was washed down quickly by rain, but of the tar vapour. It was the cloud of floating vesicles of tar, containing flue gases and vapours, which glued the dirt to our buildings, stopped the pores of animal and plant life, and caused the familiar yellow fog. The obvious method of abatement was the more general use of gas stoves, and Professor Lewes produced a balance sheet, showing that, of the total amount of heat generated in the case of a gas fire, 62 per cent. was utilized, 50 per cent. being radiant and 12 per cent. convected heat, whereas in the case of the coal fire the percentage utilized was only 19. The chief losses were due to the escape of heat in the flue gas, to unburnt gases and vapours, to decomposition and volatilization, and to the heat remaining in ashes and grate. With a gas fire the wastage from all save the first of these causes was eliminated. Professor Lewes was not oversanguine as to the future wholesale displacement of the coal grate by the gas fire, for the reason that the limits of economical gas production were rapidly being approached, and that the absence of a market for the increasing quantities of coke would constitute a difficulty.

Subsequently Sir William Richmond sounded a vigorous call to action, in which he suggested that a tax should be put on smoke; and in another breezy paper Dr. H. A. des Voeux outlined the history of the Coal Smoke Abatement Society, and described the war which for the last fourteen years has been waged upon the coal fire in its "entrenched position, behind iron bars, and protected by shovels, tongs, and pokers, as well as by every maiden aunt in England"—an obstacle before which "a Wellington, a Marlborough, or even a Sir Almroth Wright might have wavered"—but the million gas stoves now in use showed among other things that the crusade had not been in vain.

School Lighting.

The lighting of schools was the subject of another interesting conference, which took place on October 11th under the presidency of Sir George Kekewich. The opening paper was read by Professor Silvanus Thompson, who brought forward certain considerations on the brightness of lights. One of his suggestions was that the Board of Education should issue an order prohibiting the use of shiny paper, having the so-called art surface, in schools. Very smooth paper acted partly as a mirror, and reflected too much light at particular angles. Another suggestion was that every school inspector should be equipped with a simple photometer, so as to be enabled to measure directly the illumination received at any surface, and to decide whether the desks and walls, and especially the blackboard, were adequately illuminated. A system of indirect lighting in which the rays of lamps were intercepted and thrown only upon ceilings and walls, so that a soft, diffused light reached the eye, had advantages for writing and reading, but the shadowless illumination interfered with the visibility of solid objects and raised surfaces, such as textile fibres. For diffusing purposes Professor Thompson pointed out that while opal globes and ground-glass shades, to say nothing of devices of paper and silk, were useful as means of preventing the illuminating source from injuring the eye, they wasted an unconscionable percentage of the light. Modern dioptric globes were far less wasteful; they spread the visible outline of the source, but with a minimum loss by absorption.

Mr. Leon Gaster gave a summary of the preliminary report on school lighting recently prepared for the Illuminating Engineering Society by a special committee. The

main recommendation was that for ordinary work, such as reading and writing, the minimum illumination at any desk should not be less than 2 (or, according to some members of the committee, 2½)-candle feet, and that for special work, such as drawing and stitching (preferably always done by daylight), the illumination should never be less than 4-candle feet; while for blackboard illumination a standard of 2-candle feet was admitted to be sufficient only for small class-rooms where the students were within 20 feet of the board.

A model class-room scientifically illuminated is one of the features of the Gas Exhibition. The chief point of interest is the illumination of the blackboard by a source of light immediately in front of and above it. This is backed by a shield of dark metal, so that the light-source is invisible to the class. The standard illumination is also secured on each desk without allowing the rays of light to fall injuriously on the eyes, either of teacher or scholars.

THE NEW GERMAN INSURANCE ACT.

[From our Special Correspondent in Berlin.]

The alterations and amendments which are to supplement the original Act, and which come into force on January 1st, 1914, are of the utmost importance to the medical profession in Germany. It would seem that, as has been the case from the incipience of the national insurance scheme, the Legislature has once more turned a deaf ear to the claims and suggestions put forward on behalf of the profession.

The old division into three main classes of insurance—(1) accidents, (2) sickness, (3) invalidism and old age pensions—is still to obtain, but it is supplemented by a fourth class, that which pertains to provision for widows and children of insured persons.

The original term, the "Workman's Insurance Act," is now no longer applicable to the scheme, for the new regulations embrace circles far removed from those of the labouring classes, and invade deeply the middle strata of society. The income limit of those compelled to insure has hitherto been £100 per annum: it is now to be raised to £125, and will in future include all workmen, all domestic servants, and all who contract to work for employers of labour, at home or in their own workshops, even when their income exceeds the £125 limit, provided that it does not exceed £250 per annum.

Furthermore, there are to be included all artificers and technical workers, school teachers, tutors, etc., minor works officials,[1] and shop assistants, those connected in any capacity with the stage, concert hall, or opera, provided their income does not exceed £125 per annum. In the event of an increase of income among the aforesaid the law still allows them to remain "voluntary" subscribers under the Act until officially informed that their income has exceeded £200. All independent workers and small landowners whose income does not exceed £150 are included as voluntary members.

The scheme, which comes into force next year, will cover not only the labouring classes, but a very large percentage of the official and middle classes. Compulsory insurance, which applied to 13 millions of the population under the old system, is now to be enforced on 22 millions, and to that colossal figure is still to be added the unknown numbers of those who may voluntarily insure, so that in some districts it is computed that not less than 92 to 95 per cent. of the total population will be insured.

It is not too much to say, therefore, that the new regulations will have a most far-reaching and vital effect on the economic position of the profession, particularly on its younger members, whose income is mainly derived from middle-class patients; and it is not surprising to hear that most bitter disputes are to be expected between the doctors on the one hand and the authorities entrusted with the administration of the State mandate on the other. These bodies correspond to the English sick clubs and friendly societies, etc., and they are to undergo a very complete reorganization in the new year. Their number is to be very considerably reduced, and they will be divided into, or rather amalgamated under, two groups:

1. The Urban Insurance Society (*Ortskrankenkasse*).
2. The Rural Insurance Society (*Landeskrankenkasse*).

The first category includes skilled workmen and officialdom in general, and the second farm labourers, home workers, and domestic servants. The various small societies which at present administer the Act in Berlin are all to be dissolved, and will then be amalgamated into one gigantic organization with a membership of between 400,000 and 500,000.

The question of choice of medical attendant has been repeatedly raised, and is a very real problem. The societies have hitherto been free to choose between one of two systems. According to the first any medical man has the right to apply for the inscription of his name on the society's books, and the member has the right to choose his doctor from among the registered names, according to his personal wishes. Under the alternative system the society reserves to itself the right to appoint a prescribed number of physicians to work for its members who can select their medical adviser only from this particular panel. The medical profession has always been strongly in favour of free choice of doctor, whereas the majority of the societies are in favour of the fixed panel system, arguing that such an arrangement is more economical, whereas the true reason is to be found in the fact that they are thereby in a better position to control the medical man. The new regulations do not favour either disputant, and allow both systems to remain. It is probable, however, that the imminent reorganization of the committees of management will considerably curtail the present powers of the administrative bodies, and that the sad, but common spectacle—in Berlin especially—of medical practitioners obtaining their insurance appointments by personal canvass and other undignified means will now become a rarity. It is more than probable that in the near future the controlling Boards will be composed of equal numbers of lay and medical members, in whom will be vested the power to appoint or reject medical men who apply to work under the Act.

It is a fact that the majority of medical men at present employed by the various smaller organizations which are to become amalgamated on January 1st will lose that part of their income derived from this source, and it is, therefore, not too much to demand of the Legislature that due and ample consideration be shown them when, consolidation of these societies being effected, further supplies of medical officers will be required.

In spite of the most urgent representations by the medical profession, there is no indication of any increase in the capitation fee of 5s. a patient per annum, and it is significant that the President of the Government Insurance Offices, whose permanent function it is to arbitrate between the societies and the profession, in a letter to the medical representative, has characterized this sum as "ample and proportionate."

Such are the main points of dispute between the doctors and the insurance societies, and at one time it appeared that their differences were irreconcilable. But an agreement may shortly be arrived at, and the final signatures may, indeed, be appended to it any day. It is greatly to be hoped that, in spite of the lateness of the hour, the medical leaders will yet succeed in still further mitigating the damage threatened by these alterations in the law to the status and dignity of the whole profession.

[1] The word used is *Betriebsbeamten*. It implies a person discharging duties similar to those of a foreman in England, but the majority have had some theoretical education.

MOTOR CARS FOR MEDICAL MEN.

Light Cars.

Dr. Wm. J. Furlong (Dublin) writes, in reply to "Motor Cyclist": I have been running one, a two-seater Ford car, for eighteen months—week days, Sundays, and occasionally at night—without any trouble. The same set of tyres, Dunlop's grooved, are on since I bought the car, having done 5,680 miles up to the present, only requiring a few cuts filled in. I use 1 gallon of petrol to 15 miles; but constant stopping in town work is wasteful, and it would work out much better in country work. The car has given every satisfaction. It generally starts at once on second push of handle, except the first thing in the morning, when it requires some extra winding to begin with. It will climb 1 in 12 at 20 miles an hour with two up.

British Medical Journal.

SATURDAY, OCTOBER 18TH, 1913.

A NEW EXPERIMENTAL PSYCHOLOGY.

Professor Pawlow's address on the investigation of the higher nervous functions, printed upon another page, gives the results of something like a quarter of a century's work upon this most interesting and most obscure subject. Knowledge of the functions of different parts of the cerebrum is still very incomplete. Large areas of its surface have yielded so little to experiment that they are known as "silent areas"; of the actual working of its internal economy, the systematization of its fundamental mechanisms, we know almost nothing. Professor Pawlow contends that the problem of the functions of the cerebral hemispheres is really a problem for the experimental physiologist and no one else. Psychology, he says, has made little of it, for the science of psychology is still lacking in exactitude. One may add that the findings of pathology give information here that is often of great interest, but lacks the continuity and the possibility of being controlled that are essential for the study of such complicated matters. If any progress is to be made in the knowledge of the mental functions of the brain, it must be made, Professor Pawlow maintains, by the pure physiologist.

For the last twelve years he has devoted himself to the experimental study of reflex action and the prime function of the nervous system that concerns the formation of new reflexes. Evolution and the adaptability of living creatures to their surroundings demand that new reflexes should be capable of being formed, and this Professor Pawlow finds does occur. His method of experimentation is quite simple in principle. The animals upon which he works are dogs. The reflex action he studies is the secretion of saliva. The stimuli employed to provoke the reflex are various; food or a dilute acid solution are given by the mouth, both of them active excitors of salivary secretion, and at the same time various external stimuli—heat, electricity, pain—are applied. In the course of time the latter stimuli develop into infallible excitants of salivary secretion; what is more, they then cease to produce the reflex (fright, pain, or the like) to which they originally and naturally gave rise. In other words, the stimulus has been diverted from one region of the nervous system to another; and this power of adaptation must be regarded as one of the most important functions of the highest parts of the central nervous system. When the new reflex has been cultivated, if the skin of the dog is subjected to cutting or pinching or burning, the only result obtained is the manifestation of symptoms of the keenest appetite, and no evidence of fright or pain at all. Such a trained reflex Professor Pawlow calls a "conditional reflex," to distinguish it from ordinary reflexes and to indicate its great dependence on a multitude of conditions. It is established by specialized parts of the central nervous system, which Professor Pawlow terms "analysors," comprising the peripheral end organ of the so-called sense organ, the nerve fibre belonging to it, and its termination in the cells of the cerebral hemispheres. Such analysors are incessantly at work controlling the reactions of the living organism to its changing external conditions; probably many results we now ascribe to metaphysical processes are really only due to the fine and accurate work of such neural analytical mechanisms. Conditional reflexes are sensitive to all sorts of conditions and show a great variety of inhibitory phenomena; if the brain is removed they all disappear.

To what extent are different parts of the cerebrum involved in such reflexes as these? The question may be attacked in two ways: First, the cortical "spread" of the stimuli evoking a conditional reflex may be studied. Just as general epileptiform convulsions may be produced by exciting quite small points on the motor cortex, so may a number of reflexes, conditional and otherwise, be excited by normal or artificially produced stimuli. Secondly, the results of ablation of parts of the brain may be investigated, and Professor Pawlow quotes several instances in which this has been done. The details need not be recounted, but seem to show that a well-developed conditional reflex has a definite cerebral localization, particularly in the frontal lobes of the brain. Curious light has been shed on the physiology of sleep and hypnosis by these and other experiments. Conditional reflexes built up by stimulation of the skin may be developed in certain conditions so that the reflex disappears, and the conditional stimuli produce not the reflex but a drowsy, or even cataleptic, condition passing into deep sleep. Professor Pawlow concludes that we now have experimental proof that the cerebrum is the organ for the analysis of sensations, and for the construction of new reflexes and new interpretations of sensations, and that his method of investigation will take us far in the analysis of the mental functions of the brain. Will it be found that our every thought and deed is a reflex, and man a mere automaton conditioned by his various reflex mechanisms and his environment? Do these experiments throw any light upon the successes that may result from faith-healing, or the methods of Christian Science, so called? Such questions he leaves untouched. He deplores the fact that psychology has never yet given him practical help in his work: its help consists solely in words, for it needs itself first to be analysed and explained. One may recall the very similar criticism of metaphysics made by the eminent physicist, von Helmholtz, who found that branch of philosophy so sterile in practical results.

Taken in its entirety, Professor Pawlow's method of investigating the higher functions of the brain is new, and has yielded results of the first importance. His work illustrates the truth of the thesis defended in his examination for the doctorate by the great German physiologist, Johannes Müller, ninety years ago, "Psychologus nemo nisi physiologus"—no one but the physiologist can advance psychology.

THE FORM OF THE STOMACH.

When Cannon, in 1898, initiated the study of the gastric and intestinal movements in dogs and cats by means of x rays, and more especially when, at a later date, the same method of examination was shown to be applicable to the human alimentary canal, a new field of clinical investigation was opened up whose limits as a means of diagnosis have not yet been reached.

By gradual improvement in the physical details of the x-ray apparatus the length of the exposure

necessary to obtain radiographs has been reduced from minutes to fractions of a second, and by using the screen the passage of a bismuth meal along the alimentary tract can be directly followed without the need of taking photographs. There are, in fact, few more interesting *x*-ray demonstrations than those obtained in watching the passage of the bismuth-laden food from the pharynx into the stomach, and onwards to the duodenum.

A method of examination so simple and yet so effective has naturally attracted much attention from many sides, for the results were widely different from anything that had previously been obtained. But while the mechanical difficulties in the examination have been largely overcome, it must be admitted that uncertainty exists as to the interpretation of the appearances obtained and as to the whole value of the method. Several causes have contributed to render difficult the interpretation of the screen pictures or radiographs. Even in healthy individuals amazing variations have been found in the apparent form and position of the stomach, not only among different persons, but also in the same person from time to time. One of the earliest results of the application of this method of examination was to confirm the impression, which had been gaining ground among anatomists since the use of formalin became general, that the current description of the stomach could no longer be considered to harmonize with all the appearances which were being found in bodies prepared by formalin injection, and that their conception of the anatomy and physiology of the stomach must be modified.

The work of W. His and of D. J. Cunningham upon the varying form of the stomach anticipated a good deal that has since been written. These observers showed, from the study of anatomical specimens only, how profoundly the shape and form of the stomach were modified by varying conditions, and during different phases of digestion. They recognized further that the aberrant forms of the stomach often met with represented different phases of gastric activity, and that different parts of the stomach had different mechanical as well as chemical functions. This work remained incomplete until further knowledge was obtained by watching the stomach by *x* rays, as well as by examining it at surgical operations, but in the main it has been corroborated by the further examination to which it has been submitted.

The whole subject was discussed fully by anatomists and Roentgenologists at the Liverpool meeting of the Association, and within the last few months a prolonged correspondence has appeared in the pages of this Journal upon the shape and form of the normal stomach, in which views of considerable diversity have been expressed. Dr. Barclay, who took part in this correspondence, has set forth in a volume published recently[1] his views upon the value of *x*-ray appearances as a guide in diagnosis and prognosis. It may at once be stated that Dr. Barclay has little additional light to throw upon the subject of the normal stomach. His description of it is short, and in a footnote it is stated that "the description is left purposely vague—it is as fruitless to apply the precision of descriptive anatomy to that organ as it would be to give exact figures and shapes for an india-rubber balloon." The main positive result which emerges is that the *x*-ray shadow of a bismuth meal in a normal stomach may present very wide variations and yet be within the normal.

But while it may be impossible to give anything but a vague description of a normal stomach, the vagueness arises from the fact that the normal stomach presents many different appearances in the different stages of digestion, and a much less vague description can be given of the normal empty and of the normal filling or filled stomach. It would have been of considerable assistance if Dr. Barclay had given a somewhat more detailed account of the sequence of events in a normal stomach.

The value of *x*-ray examination lies largely in the fact that the stomach does not behave as an "india-rubber bag," but has in its walls a sensitive mechanism—the contractile muscular coats. As Dr. Barclay says, it is in the examination of the functional activity of this coat that the greatest help in diagnosis is obtained. Pathological defects are to be judged largely by the tonic and peristaltic activity of the stomach, by the rate of emptying itself of a meal, and so on.

The question whether there is a physiological subdivision of the stomach into parts is of considerable interest. There is much evidence, derived not only from *x*-ray examinations but from other sources also, to show that there is such a physiological subdivision, which expresses itself structurally in phases of digestion, one portion, near the fundus, acting as a reservoir, not greatly affected by peristaltic waves, and another, the pyloric part, which is capable of contracting itself into a cylindrical tube, and is greatly affected by peristaltic waves.

In some other sections Dr. Barclay mentions, but does not discuss, questions of this kind, but his book will be useful as a guide to *x*-ray work on the upper alimentary tract, and shows the potentialities and limitations of the method. His statements, based upon the work which he himself has done, of the grounds upon which he is inclined to make a diagnosis of atony, of pyloric obstruction, of carcinoma of the stomach, and other diseases, are valuable; and, in summing up the question of the value of *x* ray diagnosis, he states that the point has not yet been reached at which it is possible to say "there is no active pathological lesion of the stomach walls," but adds that evidence is accumulating which he believes will soon lead to the possibility of always making a definite positive diagnosis of pyloric ulcers. One suggestion made is that many gastric ulcers are due to spasmodic contraction of portions of the stomach wall set up by swallowed septic matter, constipation, mucous colitis, and a variety of other conditions capable of producing spasmodic contraction of portions of the stomach wall. This theory is modestly put forward, and seems to deserve consideration from other aspects than that of the *x*-ray worker.

[1] *The Stomach and Oesophagus*. By Alfred E. Barclay, M.A., M.D. London: Sherratt and Hughes. 1913. (Sup. roy. 8vo, pp. 126; 29 figures. 7s. 6d. net.)

THE ASYLUM SERVICE.

The somewhat desultory correspondence which has taken place recently in the Journal on the grievances and disabilities of assistant medical officers of asylums has sufficed to reveal a widespread unrest and discontent. The story told is not new; it has been repeated at irregular intervals for a good many years past, and until the causes of the grievances, which have a continuously unfavourable influence on the junior asylum service, are removed they will continue to find expression.

The grievances are numerous, but they all grow out of two defects in the asylum service. The one is that the prospects of promotion for an assistant medical

officer are few and uncertain, and the other that the conditions of the service are such as tend to curtail opportunities and occasions for clinical or scientific investigation, crush initiative, and turn the officer into an administrative drudge. There are conspicuous exceptions where a liberal-minded committee and a wise superintendent have combined to create opportunities for clinical investigation in the wards and in the laboratory of the asylum, but the statement made is true as a general proposition, and we shall have to go a very long way before we reach the position to which some other nations have already attained.

We have used the term "asylum medical service" for convenience, but it is not strictly speaking correct. There is in truth no such service, but only a number of local asylums each with its medical superintendent and assistant medical officers. Save in the case of some populous counties with several asylums there is no connexion between one asylum and another, no system of transfer of officers from a position of less to one of greater responsibility, no system of promotion by merit or even by length of service. We are far from advocating a system of promotion by seniority, but a man who has given good service and gained experience ought to be able to count on promotion, increased emoluments, and a wider scope for such talent as may be in him. As it is, he cannot count with any approach to certainty on anything better than plodding on with some trifling accession of income until he is worn out, or, taking his courage in both hands, leaves asylum work to find some other sphere of practice for which the years spent as a specialist in a subordinate position are not likely to have fitted him.

A remedy for this state of stagnation, which is not good for the man, for the asylum or its inmates, or for the progress of psychiatry in this country, must be found, and we are glad to learn that the Durham County Asylum Committee has taken the initiative, and has invited other asylum authorities to consider the advisability of calling a conference at an early date. The invitation has already been accepted by several asylum committees, and if such a conference were to meet it would doubtless find many other topics affecting asylum administration ripe for discussion. A petition to which a large number of signatures has been appended has, we understand, recently been presented to the Government, asking for the nationalization of asylums, as it is believed that such a change would do away with the inequalities in maintenance rates and in the incidence of taxation, and with disparities in the salaries of staffs, lay and professional. It would also render possible the establishment of a graded service for the whole country, and greatly facilitate the institution of an equitable system of promotion. There are doubtless other questions which such a conference would find it profitable to consider, but the programme outlined is sufficiently wide for several days' work, and there can be no doubt that it would conduce to the formation of a healthy public opinion with regard to the administration of asylums for the insane. It is essential to recognize that asylum authorities and the medical profession must take the public along with them if any far-reaching reforms are to be carried through. Improvement in the emoluments of assistant medical officers would doubtless do a good deal to produce contentment, but asylum committees are custodians of the public purse, and the justice and necessity of increased expenditure must be shown. That the claim for such increase is just is realized by those who are acquainted with present conditions, and that it has become necessary the increasing difficulty in finding young medical men willing to become assistant medical officers is evidence.

But increased salaries alone will not suffice to attract to the asylum service and retain in it the stamp of man the country needs and has a right to command for this work. He will be got if assured of freedom to live a normal life, with opportunities for making himself efficient in his speciality and of advancing our knowledge of it, and with a reasonable prospect of attaining a position of greater freedom and responsibility when he has proved himself worthy of promotion.

We do not think that any good will be done by further correspondence ringing the changes of grievances which have been sufficiently expressed and not disputed. It is to be hoped that the proposal for a conference put forward by Durham will be taken up, and it would be well that the assistant medical officers would agree in drawing up a case in which the disabilities under which they labour should be temperately stated and from which all special or local grievances should be excluded.

RECORDS OF PRACTICE UNDER THE INSURANCE ACT.

Judging from letters received in the central offices of the Association, there would seem to be reason to fear that a good many medical men who have joined panels under the Insurance Act are not fully alive to the importance, from more than one point of view, of keeping full and accurate records of all the work they do under the Insurance Act. These records will eventually pass into the hands of the Insurance Commissioners, and as by the agreements they have signed with the Insurance Committees medical men have undertaken to keep such records, the Commissioners may feel justified in assuming that the returns reaching them are complete; from the collation of these returns conclusions may be drawn which may have an important influence on the policy of the Government and on the interests of the profession in the future. Medical men notoriously dislike the book-keeping side of their profession, and few things tended to make the early days of the operation of the Insurance Act more unpopular with the members of the profession who accepted service than the way in which clerical duties were heaped upon them. It seemed to suggest that the attendance upon the patient was quite a secondary matter. There may have been a good excuse for any defaults in record keeping which occurred during the strenuous days of last January and February, but every practitioner on a panel should by this time have organized his clerical work, on a strictly business footing, and should now be in a position to note carefully every attendance—that is to say, not only visits paid and consultations at his surgery, but also every occasion on which a patient has been seen for the purpose of obtaining a certificate. The records will in the ordinary course of business reach the Commissioners, and they will, no doubt, be anxious to find out the amount of attendance which has been given. If the returns sent to the Commissioners are incomplete, the actuarial experts may draw from them statistical results which will be erroneous, and the error will be gravely to the disadvantage of the whole body of medical practitioners. There is no doubt that any arguments based upon this year's records, taken as a whole, would be faulty, because they would be founded

on an under-statement of the work done. But it is desirable that this source of error should be eliminated, and we would urge all practitioners who are on panels to be careful that every item of their work is properly recorded; failure may lead to the formation of very incorrect estimates of the amount of work actually done, and these incorrect estimates may be used with fatal effect in the future as an argument for reducing the present rate of remuneration, or more probably for securing the treatment of dependants for a comparatively small additional payment. Forewarned is forearmed. Attention may particularly be directed to the matter of giving medical certificates, and especially the continuing certificate which a busy practitioner is perhaps apt to look on as a matter of form. It is, however, a matter of legal form carrying with it a serious legal import. Such a certificate may be produced at any time in a court of law, or before the Medical Service Subcommittee in a case of complaint upon which the professional reputation of the giver may depend. The responsibility attaching to the giving of certificates should make practitioners exceedingly careful not only in considering whether a certificate should be granted, but also to record its issue. This obligation to himself and to the profession is all the greater in view of the general charges recently so freely made in certain quarters against the profession of carelessness and encouragement of malingering or of that common complaint, disinclination for work, which Mr. Spanton a good many years ago dignified by the name of "ergophobia." The thoughtless or culpable action of a few may have a serious effect in undermining the confidence placed in medical certificates. We would therefore urge doctors to remember that they cannot be too careful in signing their names to documents the full import of which no layman can adequately assess, and as to which it is, therefore, incumbent on the members of the profession to justify the trust which is reposed in them.

A LESSON IN UNITY.

The Brighton guardians, at a meeting specially convened for the purpose, have resolved to appoint an operating and consulting surgeon at the workhouse infirmary at a salary of 100 guineas a year. The history of the controversy in connexion with this appointment is interesting, for it shows clearly the immense value of a united profession in a town. Some two years ago an advertisement appeared in the local press for a consulting and operating surgeon at the infirmary. The proposed duties and emoluments were settled without any consultation with the medical men in the town, and at a hastily convened meeting of the Medico-Political Committee of the Brighton Division it was resolved that the proposed remuneration (50 guineas a year) was inadequate for the services required, and that every effort should be made to induce candidates and prospective candidates to withdraw their applications. The Division was successful. Not a single candidate remained at the day of election, and here the matter rested for a time. Recently the Medico-Political Committee wrote to the guardians suggesting a friendly conference with a view to terminating a position which, on the showing of the guardians, was very undesirable from the standpoint of the patients in the infirmary. This conference, which was held in private, was eminently satisfactory, and as a result the guardians have decided to make the appointment at the fees suggested to them by the Brighton Division. The medical men of the town approached the case in an eminently fair manner. All they asked was reasonable remuneration for work done. The guardians have met them in an equally reasonable way, and the result shows how, with this spirit on both sides and a united front, disputes between medical men and public bodies can be settled to the satisfaction of both.

EARLY MAN AND MODERN RACES.

In his address at the opening of the winter session of the School of Medicine of the University of Birmingham, Professor Arthur Keith returned to the subject of the Piltdown man, and defended his ascription to him of a large brain. In the earlier part of his address Professor Keith set out to show that the many recent discoveries of early man all tended to establish the belief that man of the type of modern man has existed on the earth for a very much more prolonged period than had until recently been supposed possible. He put aside the theory that the type, presenting many simian features, discovered over half a century ago, and known as Neanderthal, represented the stage in evolution which the ancestors of modern man had reached during the Pleistocene period. It had now, he said, been realized that Neanderthal man presented many high specializations, and that he could not stand in the direct line of ascent. Neanderthal man was quite distinct from all modern races, and the difference between him and us was much greater than between a European and a negro. He represented, in fact, a totally different form of human being, and died out in front of modern man in the same way as the Tasmanian disappeared before the European. The investigations of the last fifty years clearly proved that the distribution of mankind, and their separation into widely different races, had been not a rapid but a very slow process. Thanks to the labours of the Archaeological Survey of Egypt, to Dr. Reissner, to Professor Elliot Smith, Dr. Wood Jones, and Dr. Derry, something was known of the people who occupied the lower Nile Valley during the last eight thousand years. Though at every phase of that long period there was found evidence of the arrival of new types—of migrations or invasions of Egypt—there was also clear evidence of the survival of the old type, and Dr. Seligmann had recently shown that certain native tribes near Suakin, on the Red Sea, had features and bodies very similar to the predynastic Egyptians. His final conclusion to be drawn from a study of the ancient inhabitants of the Nile Valley was that though there was evidence of mixture the passage of eight thousand years had left the prevailing human types unmodified except to a slight degree. The explorations of Mr. Henry S. Wellcome in ancient cemeteries in the Sudan have demonstrated that the peculiar tall, slender, long-limbed negro tribes which now occupy the upper waters of the Nile were there at least two thousand years ago. Professor Keith went on to point out that America has afforded further evidence of the permanence of human types. Eleven years ago a skeleton was discovered at Lansing in Kansas, in a stratum beneath a deposit which, according to Dr. Frederick Wright, the leading authority on the glacial period in North America, was formed before the last cycle of glaciation, and therefore at least 12,000 years ago. Yet this man was physically identical with the Indian of the present day. The discoverer, Dr. Hrdlicka did not accept the inevitable conclusion that before the last great glacial cycle there existed in the central states of America a type almost identical with the modern Indian of the same region; but his objection was due to the belief that human types were so liable to variation that it was impossible for them to breed true over a long space of time. To this it was replied that evidence had accumulated which proved that the belief in rapid variation in man was mistaken. For example, the type of man whose remains were found in the Neolithic barrows of England did not differ from the modern type, except as concerned the state of his teeth and the shape of his limb bones. Professor Keith went on to say that he had had an opportunity of examining two discoveries of human remains from Kent so similar in conformation that they might almost have been members of the same family, yet it was fairly certain that they belonged to very widely separated

periods. The one found by Mr. F. G. Bennett at Coldrum in Kent, in the valley of the Medway, at the base of an ancient stone monument, was accompanied only by flints of the Neolithic types; the other, found at Halling on the Medway, was accompanied by flints which belonged not to the Neolithic but to the Paleolithic type, and were similar to those found in the floor strata of French caves, assigned to the phase of Paleolithic culture known as Aurignacian. The interval between the time when the Halling and the Coldrum man lived must, he thought, be counted in thousands of years. How long it was since the Aurignacian period closed there were no accurate means of determining; but a study of the changes in the conformation and form of valleys led to the opinion that a period of thirty thousand years, or perhaps more, must be allowed. The realization of the persistence of human types showed that a very long interval must be allowed for the time necessary, not for the peopling of the world, but for the differentiation of modern man into the well-marked European, Chinese, and Negro types. The argument founded on this is that, as the brains of all modern varieties of man are so much alike in the essential features of their architecture, it is a legitimate inference that a large and moderately complex brain was a common inheritance of modern races—that is to say, that in the common stock from which all modern races have arisen a fairly large human brain must already have been present. Professor Keith holds that the human skeleton discovered by Mr. Reid Moir of Ipswich beneath an undisturbed layer of chalky boulder clay 3½ ft. in thickness is proof of the existence of modern man in England even before the middle of the Pleistocene period, and that evidence of the Piltdown skull puts the date of man on the earth still further back. The remains found with it were those of extinct animals, belonging chiefly to the Pliocene period, and the skull itself presents characters which mark its ancient date. No modern man has such a chin or lower jaw, and, if Dr. Smith Woodward be right in assigning the canine tooth subsequently found at Piltdown to this skull, no human being has been seen with such a simian canine tooth. Yet in many features the Piltdown skull, Professor Keith holds, foreshadowed the modern type, and the question arises whether he was in the direct line of our ancestors. To this Professor Keith replied in the negative, and his reasons may be given in his own words. "I base my opinion on the fact that we know of the remains of two different species or genera of mankind in Europe at the beginning of the Pleistocene—one is the Heidelberg man, the other is the Piltdown. The Heidelberg man was certainly of the Neanderthal type; the Piltdown man is much more of our own type. They are clearly products of a common stock. We must presume, from what we know of man's nearer relatives—the anthropoid apes—that the common ancestor of Piltdown and Heidelberg possessed the ledge-like, overhanging eyebrow ridges which characterize the anthropoid forehead. These ridges have disappeared in the forehead of the Piltdown man; they have been retained by the Neanderthal man. On the other hand, in the Heidelberg jaw the region of the chin already shows human modifications; the Piltdown man retained the simian form. There is, if we may use Mendel's law for this purpose, apparently at least one intermediate descendant of the common Piltdown-Heidelberg ancestor missing — one which shows the human modification of the chin and the disappearance of the ledge-like supraorbital ridge. That missing form would serve well as our ancestor. We must, then, not dismiss as Neolithic burials those human remains which have neither simian eyebrow ridges nor simian chins. I still maintain, as I did before the discovery of the Piltdown skull, that the Pliocene ancestor of modern man was one probably as highly evolved as the aboriginal man of Australia."

THE PATHOLOGY OF PELLAGRA.

Two papers on the pathology of pellagra recently published appear to deserve careful consideration, as both are founded on detailed microscopical study of well marked cases. The first paper in order of time is by Drs. Douglas Singer and Lewis J. Pollock, published in the *Archives of Internal Medicine* last June. They studied fourteen cases, which, they state, all presented unquestionable clinical evidence of pellagra, attended, in all but two instances, by some form of mental disorder. Eleven of the cases died in the acute or subsiding stages of the pellagrous attack; seven of them, presenting clinical symptoms of "central neuritis," died shortly after the skin lesions had subsided. The remaining three patients died of intercurrent disease at varying periods after apparent recovery from pellagra. The nervous system was submitted to microscopical examination in all the cases. In the acute cases the changes in the vessels of the pia were seen in the smallest branches; the intima was thickened, and there was more or less perivascular infiltration. The authors, however, consider that too much stress had been laid on the changes in the blood vessels, and found that the changes in the ganglion cells were extremely marked, and, as they believe, of great importance. In recent cases axonal changes were pronounced, but there was evidence that except when the damage reached the most severe stage the cells were capable of recovery. Their conclusion is that the picture presented by the lesions observed in cases succumbing during an acute attack of pellagra and in cases dying in an interval is compounded of acute and chronic types of reaction, and affords evidence of both acute and chronic intoxication. They lay emphasis on the constant presence, in all the cases examined in which death occurred during or soon after an acute attack, of "central neuritis," a condition which appears to be a primary lesion of the nerve cell. In health the nerve cell has an accurately balanced and adjusted power of repair; when it becomes unable to repair the loss sustained by its functional activity progressive degeneration of the entire neuron follows. Mott has pointed out that in neurons in a low state of nutritional equilibrium degeneration begins in the fine collaterals and terminals and proceeds back to the cell of origin, and Coriat argues that in certain psychoses the loss in weight, diarrhoea and emaciation reduces the neuron to such a low state of nutrition that its reparative power is destroyed, with the result that the entire neuron degenerates, and that the peculiar symptom-complex of central neuritis follows. Singer and Pollock found that this type of change had almost entirely disappeared in two patients who died eighteen months after an attack, though it was definitely present in a mild degree in a third patient who died three and a half months after the attack. They conclude, therefore, that the acute attack of pellagra is often, if not always, accompanied by some general intoxication of a special kind which disappears in some, if not all, cases in which recovery occurs. They find no evidence of local infection of the nervous system with micro-organisms or of chronic changes favouring the opinion that chronic vascular lesions are essential to the picture of pellagra. The second paper, published by Dr. Lucius Nicholls in the *Journal of Hygiene* for July, is based on eight *post-mortem* examinations, and on observations of what he considers to be an identical condition produced in rats by feeding them on the products of decomposing maize meal. The cases occurred in St. Lucia, B.W.I., and the research was carried out in the Quick Laboratory in the University of Cambridge. All the patients were mulattos of the lower class—five women and three men, ranging in age from 26 to 72. Dr. Nicholls's conclusions are based upon a microscopical study of all the organs, and lead him to the opinion that the pathological changes which take place in pellagra are to a great extent due to degeneration of the

capillaries and smaller vessels: this gives rise to stenosis and blood stasis, which cause leakage or actual haemorrhages from the weakened vessels. Thus, he considers, may be explained the atrophy of the tissues due to impaired nutrition, and the eruption on the exposed skin surfaces where solar radiations and possibly other factors accentuate the damage to the vascular supply, with consequent exfoliation of the stratum corneum, blob formation from exuding serum, and pigmentation from altered haemoglobin. The tissue cells, especially those of the liver, spleen, and alimentary tract, are also attacked. Assuming pellagra to be due to a toxin, Dr. Nicholls would divide the pathological changes into three stages: the initial stage in which the toxin causes degenerative changes in the endothelium of the smaller vessels, and the endothelium and glandular cells of the alimentary system: the acute stage, that in which mental symptoms and skin eruptions first appear, when the toxin damages capillaries and arterioles, causing the repeated haemorrhages, and also acts upon the cells of the organs; and the chronic stage, attended by great fibrosis of the arterioles and capillaries, and general sclerotic changes in the organs, including the spinal cord and nervous system. He enumerates three hypotheses of the etiology of pellagra: (1) That the disease is due to deleterious substance present in or formed in maize meal by micro-organisms; (2) that the disease is due to bacterial infection: (3) that it is due to a protozoal organism carried from the infected to the healthy by the sand-fly. He contends that the evidence in support of the third hypothesis is very frail, and appears to hold the same opinion with regard to the second. Preliminary experiments on animals were made by feeding rats three-quarters grown with decomposing corn meal. The animals so fed developed with great rapidity a condition which presented clinical features resembling those of pellagra in man, while the microscopical changes included all those seen in human pellagrins, with the exception of the advanced arterial thickening and extreme atrophy and cellular degeneration observed in chronic human cases. In conclusion, he states that though several organisms and active principles can be isolated from soured maize, the exact nature or relation of these to the disease have not yet been worked out.

THE PNEUMOTHORAX TREATMENT OF PULMONARY TUBERCULOSIS.

Publications on the subject of artificial pneumothorax in the treatment of pulmonary tuberculosis have lately been numerous; and while in German journals they have dealt chiefly with refinements and modifications of technique, French journals have devoted much space to records of isolated cases illustrating both the advantages and the dangers of the treatment. These accounts of complete recovery or sudden death may interest the enthusiast and the sceptic respectively; but in this country, where the treatment has been only lately introduced, an account of the broad outlines of the treatment, and of the results to be expected of it, is of more value. Such an account is given by Dr. Begtrup Hansen,[1] whose thesis for the Danish degree of M.D. contains a report on the first 100 cases of artificial pneumothorax at Professor Saugmann's sanatorium in Vejlefjord. The treatment failed at the outset in 31 cases, owing to pleural adhesions. In a second class of case a pneumothorax was induced *causa solaminis*, and as a last resort, although severe complications such as tuberculous intestinal disease rendered the chances of permanent recovery trifling. This class, which contained 24 cases, also included those of bilateral disease in which the healthier of the two lungs was extensively and actively involved, and in which experience has shown that a pneumothorax does no good. In a third class of 45 cases an artificial pneumothorax was induced, and though the disease was bilateral, it was not very extensive or active in the healthier of the two lungs. In every case the treatment had been started more than a year and a half at the date of publication. All the patients were in an advanced stage of the disease and many had undergone sanatorium and other treatment without improvement. Broadly speaking, the extent and activity of the disease was the same in the first and third classes. The first class, therefore, in which the treatment was not carried out, serves as a reliable "control." The fate of these cases at the date of publication was: Improvement in 6, no improvement or progress of the disease in 9, and death in 10 cases. Six cases in the first class are not included in this analysis. The result in the third class showed continued improvement in 25, no improvement in 2, and progress of the disease in 4 cases. In several other cases there was temporary improvement. Twelve out of the 45 patients were dead at the date of publication. Only 3 of the patients in the first class ceased to expectorate tubercle bacilli, whereas they could not be found in 21 patients in the third class, although they had been present in every case at the beginning of the treatment. The evidence, therefore, in favour of this treatment is considerable, and, with a careful selection of more or less unilateral cases, the prospects of effecting a permanent recovery in otherwise hopeless cases is considerable. It must, however, be borne in mind that the treatment was supplemented by sanatorium treatment, and that most of the patients were well-to-do, and were not forced to return to work at a too early stage. There was only one case of sudden death during a first injection in this series, and, considering the pioneer work done at Vejlefjord on this subject at a time when the technique of the operation was still being evolved, this result is good. Sufficient data have not yet, apparently, been collected on which to base an opinion as to the duration of the treatment. At present the maintenance of a pneumothorax for at least a year or two by injections of gas at long intervals would seem necessary, and in one of Dr. Hansen's cases the pneumothorax was maintained for three years, at the end of which the lung was allowed to re-expand. But a relapse occurred a year later. Seven other patients, whose treatment had lasted for two years and whose lungs had then been allowed to re-expand, remained well, the period of observation being half a year or more.

[1] *Den Kunstige Pneumo-thorax i Ftisis Behandlingen.* V. Thaning and Appels Boghandel. Copenhagen. Pp. 267.

THE FINLAND BATH.

The story of the communal or family steam bath of Finland has been told by every traveller in that country, and many readers have perhaps been disposed to think that there was some exaggeration in the descriptions. The facts as related by one to the manner born show, however, that the singularity of this national custom has been by no means overstated. In a book entitled, *Finlande et Finlandais*, containing a series of essays by native writers on aspects of life in Finland, recently edited by Professor Werner Söderhjelm, of the University of Helsingfors, and published in Paris, Professor E. Lampén, who writes on popular hygiene, begins by giving an account of the universal addiction of the people of all ranks to the bath. Finland is a very sparsely populated country, and a great part of its surface, not occupied by lakes and rivers, is still covered by forests—timber, indeed, being its chief article of export. Many forest tracts are not yet utilized, but a certain amount of migration into these unworked districts goes on, and Professor Lampén declares that, like his forefathers of the distant past, the first act of a migrant of to-day, when he has settled on the place of his habitation, is to build a wooden bath-house; in it the family lives by day, takes a bath in the evening, and sleeps by night; later on he builds barns as he wants them, and

finally a house to dwell in. On the walls of the bath-house are shelves one above another to the ceiling. The hearth is in one corner, and piled upon it are large stones on which a fire of logs is kept burning all day. In the evening the whole household assembles, and each person, having undressed, disposes himself or herself on a shelf. Then hot water is poured on the red-hot stones, and instantly the room is filled with steam. The bolder spirits choose the upper shelves, where the heat is most intense, and there is a sort of bravado in bearing the highest temperature. When they have had enough of it the bathers get off their shelves have a douche of tepid water, and go out into the open air whatever its temperature may be. In summer they lie down on the ground until the surface of the body, reddened by the heat, has resumed its natural colour; in winter they dry themselves rapidly, though some of the bolder spirits may first roll in the snow; in any case, the rule to dress in the open air is absolute. The bath is very often taken every day at all seasons of the year, and always in August, when days are long and harvest work hard. During the bath a bunch of birch twigs may be worn at the waist, but otherwise every one is without any covering, and no harm results. In certain districts custom requires the sexes to take the bath at different hours, and in Helsingfors most apartments have bathrooms, in many cases with hot water laid on. Many workmen's lodgings in that city have bathrooms, but where this is not the case the number of public baths is so large that a peasant who migrates to the capital finds no difficulty in keeping up his practice of taking a bath daily. According to Professor Lampén the Finlanders have followed the custom from time immemorial, and he thinks they may have derived or inherited it directly from the Sarmatians who, as early as the beginning of the Christian era, were, it is said, in the habit of taking vapour baths prepared by pouring water on stones heated in the fire. Experience has convinced the people of Finland that the steam bath, in addition to its cleansing virtue, possesses a certain therapeutic use. It is considered a sovereign remedy for a chill or fever in the earliest stage to put the patient on the hottest shelf in the bath-house and to dose him with brandy; if this combination fails to produce perspiration the doctor is sent for, but there is a proverb to the effect that when bath and brandy fail death is at hand. For muscular stiffness and joint pains the steam bath is combined with rubbing, and in every parish, Professor Lampén says, there are numbers of old women skilled in massage. Finally, he tells us that if there is no obstetric clinic at hand a woman always goes to the bath-house when labour sets in, and when the critical moment is at hand the room is filled with steam. It is believed that in this way the pains of labour are diminished, and it is suggested that as the room and its furniture are so frequently exposed to the action of hot vapour, they must be clean, if not sterile, and that therefore the risk of puerperal infection is diminished.

THE WEST AFRICAN MEDICAL STAFF.

IN the Educational Number for the past two or three years we have felt justified in speaking of the West African Medical Staff in terms which, though carefully qualified, might fairly be interpreted as indicating a belief that this service offers the prospect of a satisfactory career to those who obtain admission to it. It remains to be seen, however, whether the same view will be possible when the date for the issue of the next Educational Number arrives. Some doubt on this point is inevitable, because for the past few months there has been a distinct alteration in the tone of the communications that reach us in regard to this service. These are not always from those who belong to it, or even exclusively from members of the medical profession. For three years, roughly speaking, the Colonial Office in its administrative control of the medical affairs of the West African Colonies and Protectorates has had the advantage of the co-operation of an advisory committee, and it seemed reasonable to expect that the joint wisdom of these two bodies would suffice to prevent the occurrence of anything likely to injure the budding reputation of the West African Medical Staff as an attractive service. At present the tendency towards discontent seems to be localized in Nigeria, and has not reached a sufficient degree of acuteness to make it other than quite an easy task for the Colonial Office to insure that it shall promptly cease. Governors come, and Governors go, but the West African Medical Staff remains, and it would be disastrous if some particular Governor were allowed to leave behind him a legacy of profound discontent among the medical men serving the Government on the West Coast of Africa, and thus bring about a repetition of the unhappy condition of affairs which led to the appointment of a Departmental Committee in 1908. Economical government is, no doubt, an excellent thing in its way, but it would hardly be worth while to save a few hundred pounds a year by a policy which in the case of junior men could fairly be interpreted as one of pinpricks, and in the case of older men both as a breach of promises made to them when they entered the service, and as destructive of the belief that good work would eventually carry one or other of them to its head.

SCHOOL MEDICAL OFFICERS.

THE meeting of assistant school medical officers and school medical officers engaged in the medical inspection of school children, convened by Dr. Hutt, was held on October 10th, at the offices of the Society of Medical Officers of Health, under the chairmanship of Dr. Herbert Jones. Those actually engaged in the work of medical inspection of school children were well represented. In the course of the discussion the advisability of school medical officers and assistant school medical officers joining the Society of Medical Officers of Health was suggested on the grounds that the society could place at the disposal of its members an organization which was the result of the experience of many years; it had considerable funds at its disposal, in addition to a well-established journal. The chairman pointed out that the constitution of the society permitted any medical practitioner engaged in the medical inspection of school children to become a member, and that women were eligible as well as men. It was resolved to form a group within the Society of Medical Officers of Health of medical officers engaged in the school medical service, in order that the views of medical inspectors of school children should be adequately placed before the Society of Medical Officers of Health. Drs. Hutt and Ashkenny were appointed to act as honorary secretaries *pro tem.* for the group, and were instructed to inform the council of the society of the formation of the group, and to make arrangements for its first meeting to take place on November 7th.

THE ELECTRICAL HOUSE.

WHAT is described as the up-to-date house of the twentieth century is a popular feature of the Ideal Home Exhibition at Olympia. In this house most of the domestic service is carried out by electricity. From the cleaning of the boots to the heating of the curlers, electricity is put to every application which ingenuity can suggest. Some of the apparatus has, we believe, come from Paris; but the triumph is really due to the electrical supply companies of London, which have combined to demonstrate in a fearful and wonderful manner what

electricity may accomplish in the household of the future. The kitchen resembles a signal-box in the multitude of its switches. By pressing the appropriate knob food is cooked, eggs whipped, clothes ironed, or knives cleaned. Electricity proves that it rules the world, for here it rocks the cradle, not to speak of heating the water in the bathroom and drying the towels, pulling aside the casement curtains, and assisting the toilet. The sensation culminates in the dining room, which, by the way, is rather too pungently ozonified, for through a diaphragmatic opening in the table wagons bearing the courses make an unassisted ascent, glide round on a circle of rails, and—so civilized is modern electricity—stop in front of the ladies first. The flesh-and-blood servants are out of sight and mind, but they are probably more responsible than the company appreciates, for they hear all that is said through an electrophone concealed in the table decorations and keep an eye upon things by an arrangement similar to the conning-tower of a submarine. There is certainly something magical in the way in which the dishes prove as responsive to a beckon as the most sensitive waiter, but whether they come round afterwards for a gratuity we cannot say. We left after the fish.

THE CENTRAL INSURANCE DEFENCE FUND.

THOSE guarantors of the Central Insurance Defence Fund who have not yet responded to the call of 20 per cent. of their guarantee are asked to send the amount due on the call as soon as possible. One of the objects with which the fund was established was to provide compensation or pecuniary assistance for practitioners who incurred loss in consequence of action taken through loyalty to the profession, and it will have been observed from the reports of the proceedings of the Insurance Act Committee that it has frequently had to consider applications for assistance from the fund. Full information as to all such claims is obtained by the Committee, and the circumstances of every applicant are carefully examined. Assistance is granted in cases in which the need for it is established, and it is hoped that the call of 20 per cent. will suffice to meet all the claims. This expectation can only be fulfilled if all the guarantors respond to the call. Many sums are still outstanding, and it is requested that they may now be paid. Cheques should be made payable to the Central Insurance Fund, and forwarded to the Medical Secretary, British Medical Association, 429, Strand, London, W.C.

THE recent outbreak of typhus fever in Glasgow was associated with old clothes and rags, and on the recommendation of Dr. Chalmers, M.O.H., the corporation has now resolved to insert in a provisional order at present before Parliament an application for power to inquire into the sources of old clothes and rags bought by merchants in the city.

SIR JOHN BYERS, of Belfast, has contributed this week an article on proverbs referring to articles of food in use in Ulster, as an addendum to the more general article published on September 27th, and other essays on the dialect, folk-lore, and sayings of Ulster have been noticed in our columns. We understand that he is giving his leisure time to the preparation of a work on the subject. It will include a glossary of local words, or words having a special local usage.

IN a presidential address before the Glasgow Medico-Chirurgical Society, on October 3rd, Mr. A. Ernest Maylard indicated a doubt as to whether dilatation of the stomach ever existed in an uncomplicated form, or could be caused by simple chronic gastric catarrh. He thought it more probable that both conditions were the outcome of some obstruction to the abnormal escape of the gastric contents. If this were true, there should be early resort in these cases to surgery instead of prolonged dietetic and medicinal treatment, which usually proved merely palliative.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER.

PROFESSOR DELÉPINE.

DR. SHERIDAN DELÉPINE, Professor of Public Health and Bacteriology, has now been officially connected with the Manchester University for upwards of twenty-one years, and on October 10th he was entertained at dinner at the Midland Hotel, Manchester, by former workers in his laboratory, and an address was presented to him signed by over 200 of his former students. Dr. Newsholme presided, and referred in the highest terms to Professor Delépine's pioneer work in applying pathology to public health work. The toast of the evening was proposed by Dr. Coutts, who said that not only was Professor Delépine eminent as a scientist, teacher, and organizer, but his influence had spread throughout the world through the many important positions as public health officers held by his former students. The toast was supported by Dr. Greenwood, and Dr. W. J. Howarth presented the address, in which former students expressed their affectionate regard for Professor Delépine and their admiration of his work for the Manchester University and the students who came under his care; it added that the Public Health Department which he had built up was one of which the university and the city of Manchester might justly be proud.

Professor Delépine, in replying to the toast, said that the Manchester Public Health School had been fortunate in the quality of the men that had passed through it. No less than a hundred sanitary authorities were connected with the laboratory, and he suggested that as soon as opportunity arose steps should be taken to promote the establishment in Manchester of a well-endowed chair of preventive or State medicine.

Sir Edward Donner, chairman of the advisory committee of Professor Delépine's department, and Dr. Niven, medical officer of health for Manchester, expressed their high appreciation of the work done by Professor Delépine, which had resulted in making the Manchester Public Health School probably the finest in the country.

NEWCASTLE-UPON-TYNE.

NEW CHAIRS IN THE COLLEGE OF MEDICINE.

THE University of Durham College of Medicine is about to establish three new chairs in the college—diseases of children, throat and ear, and diseases of the skin. The hospital facilities in Newcastle offer ample opportunities to students to acquire practical knowledge of these subjects. Attendance upon the classes will at first be optional but will ultimately become compulsory. Care, however, must be taken not too heavily to overload the medical curriculum, which is already pretty well weighted.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.

On October 9th a large number of members of the Northumberland and Durham Medical Society, Durham medical graduates and students attended the meeting of the society to listen to the address given by Mr. James Berry, of the Royal Free Hospital, London, on malignant diseases of bone, a subject upon which Mr. Berry is a recognized authority. The address, which was appropriately illustrated by specimens and slides in the epidiascope, was listened to with marked attention by the large audience, and flatteringly spoken of by Professor Rutherford Morison in his vote of thanks.

In the evening the annual banquet of the society took place, when Mr. Berry was the principal guest. In a speech not less reminiscent and indicative of his personal obligations than appreciative of the work done by Mr. Berry, Mr. W. G. Richardson gave the health of "Our Guest." This was appropriately acknowledged by Mr. Berry. One speech which was much appreciated was that of Mr. M. P. Griffith-Jones, of the Northern Circuit. A kinder and truer compliment has seldom been paid to the medical profession than that by him in proposing the

Northumberland and Durham Medical Society. The toast was acknowledged by the president, Dr. Auburn Wilkinson of Tynemouth.

BIRMINGHAM.

SANATORIUM BENEFITS.

A REPORT on the administration of sanatorium benefit in Birmingham during the year ended July 14th last states that the committee has entered into an agreement with the Birmingham Corporation for a period of thirty years from July 15th, 1913, under which the Corporation will provide the whole of the institutional treatment of insured persons suffering from tuberculosis, recommended by the committee, within the limits of the accommodation and facilities provided by the Corporation's scheme for insured and non-insured persons. The scheme when in full operation will include the following accommodation:

Residential Institutions.

Yardley Road Sanatorium (including 50 beds reserved for children)	199 beds
Salterley Grange Sanatorium	68 ,,
West Heath Sanatorium	52 ,,
Romsley Hill Sanatorium: 100 beds provided by the Hospital Saturday Fund Committee, the Corporation having arranged for the use of	90 ,,
	409 ,,

Dispensary.

Broad Street Tuberculosis Dispensary (capacity, 2,000 patients a week).

Tables appended to the report show that 1,783 applications for sanatorium benefit were received (1,102 males and 681 females); of these, 63 males and 58 females were ineligible on grounds other than health. Of the 1,039 males referred by the Committee to the medical adviser for examination 908 were members of approved societies, while 527 of the 623 females came under the same category; 834 males and 533 females were examined, 68 males and 20 females failed to attend for examination, and 137 males and 70 females were awaiting examination at the close of the year.

Sanatorium treatment was recommended for 551 males and 347 females; in the case of 337 males and 206 females for a course of six weeks; 182 males and 152 females were ordered dispensary treatment. Domiciliary visits were suggested for 89 males and 31 females.

One of the tables shows the occupational incidence of pulmonary tuberculosis, from which it appears that the engineers sent the greatest number for treatment. The brass trade sent 130 males and 18 females; there were 104 general labourers. There were 103 domestic servants (including charwomen) on the list; while 66 female press workers and 36 clerks were other heavy totals on the female side. The residential incidence varied from the 3.9 per 1,000 in St. Bartholomew's Ward to the 0.2 in North Erdington. The average for the whole city was 1.9 per 1,000.

The income for the year was £12,697 9s. 7d., and the expenditure £11,849 12s. 6d., divided as follows:

	£	s.	d.
Maintenance at sanatoriums	6,267	17	0
Dispensary	1,142	15	6
Domiciliary (estimated)	3,622	10	3
Medical examinations	393	0	0
Administration expenses	350	0	0
Incidentals	73	9	9
	£11,849	12	6

COMPLIMENTARY DINNER TO COLONEL W. H. BULL.

The officers of the Birmingham units of the R.A.M.C.(T.) entertained Colonel W. H. Bull, K.H.S., V.D., Assistant Director of Medical Services, South Midland Division, at dinner on October 3rd, in the Officers' Mess at Great Brook Street Barracks, in honour of his recent appointment as Honorary Surgeon to the King. Lieutenant-Colonel F. Marsh presided, and in proposing Colonel Bull's health, referred to his period of service of over thirty-five years in the Volunteer and Territorial Forces, and to the great interest he took in his work, and the keenness and energy he displayed. He expressed the great satisfaction felt by every officer, non-commissioned officer, and man in the units on the distinguished honour conferred on him, and conveyed to him their most cordial and heartiest congratulations. Colonel Bull thanked the units for their kind congratulations and hospitality, and referred to the excellent manner in which the recent annual trainings in camp had been carried out. He paid a high tribute to the work done by the officers and by the adjutant, Captain Bramhall, R.A.M.C. He was pleased to say that the average strength of the R.A.M.C. units in the South Midland Division was well maintained, and that the Director-General had expressed his satisfaction thereon.

LONDON.

AMBULANCE SERVICE FOR THE METROPOLIS.

AT the first meeting of the London County Council, after the summer recess, held on October 14th, Mr. E. Smallwood called attention to the case of a school teacher in Stoke Newington who was taken ill in the street, and conveyed on a costermonger's barrow to a hospital, where she died a few hours later. He asked the Chairman of the General Purposes Committee whether any indication could be given as to the early removal of the reproach to London of the absence of an efficient ambulance service.

Mr. Ernest Gray, the Chairman of the Committee, in reply, said he was glad to be able to inform the Council that Parliament had now granted the powers whereby the Council might co-ordinate the ambulance services of London. He had now no doubt that an efficient ambulance service would be provided for the whole of London—he hoped before the end of the present year.

WALES.

"THE GLAMORGAN RED CROSS GAZETTE."

THE organization of Red Cross voluntary aid detachments has made great progress in South Wales, especially in the county of Glamorgan, and we have received the first number of the periodical, *The Glamorgan Red Cross Gazette*, which is to appear three times a year—in September, February, and May. It is intended to be a medium for disseminating news about the work of the detachments in the various districts and spreading information as to the nature and aims of Red Cross work. The first number contains a paper on the development of Red Cross voluntary aid work, by Lieutenant-Colonel A. W. Sheen, R.A.M.C.(T.), the County Director. In this, after insisting upon the necessity of a sound knowledge of the rudiments and foundations of the work and a good general training, he goes on to indicate the need and desirability of a certain amount of specialization. He suggests that, at a later stage, the men's detachments should give special attention to the moving and care of sick convoys, the fitting up of buildings as temporary hospitals, and the provision of proper sanitation for building or areas. The women's detachments would undertake to find the staff of an improvised hospital, to provide nurses and equipment for an ambulance train, and to give special training in the nursing of infectious diseases, such as typhoid. The members of the men's detachments in specializing for convoy work would make themselves acquainted with all the different vehicles likely to be available, and the methods of adapting them and fitting them up; how, for instance, to arrange a motor car for patients, and how to drive it, and how to fit up an empty goods wagon so that patients may be slung therein comfortably on stretchers. Another detachment would take up sanitation, learning methods of purifying water, of disinfecting and disposing of excreta, of disinfecting clothing and buildings, of constructing incinerators, and of attending to the general sanitation of camps. It would be the duty of the women's detachments to interest themselves in the staffing of an ambulance train and the method of converting a goods wagon into a travelling kitchen and the provision of portable foods, dressings, and bed coverings. The men and women's detachments working together would undertake the organization of a mobile clearing hospital, which would move immediately behind the field ambulance of the Royal Army Medical Corps. He indicates the equipment which a detachment would need in order to carry out this programme, and urges also that a Red Cross dépôt should be formed in the county where equipment should be accumulated, and from which

nursing equipment for the instruction of first aid and nursing classes and of candidates for enrolment and general equipment would be issued to detachments on loan. The *Gazette* also contains a letter from Mr. Lynn Thomas, honorary organizer of Red Cross work in the county of Glamorgan, which expresses the hope that eventually there may be a Red Cross gazette for Wales. The letter contains also an idea which may, perhaps, act as does a crystal added to a saturated solution to produce a brilliant formed precipitate. To some minds there is always a want of reality in military exercises and preparation for war, because the possibility of such a catastrophe appears remote. But voluntary aid detachments and all that they imply might be turned to account in the emergencies of civil life, such as that by which the country was shocked on October 14th. They could also do good work in assisting in the war against tuberculosis. In support of this idea Mr. Lynn Thomas quotes the opinion of Professor Harvey Cushing as expressed in the eloquent and practical address which he gave at the International Medical Congress in London on realinements in greater medicine. If the idea were developed and then carried out in practice it would serve two useful purposes; it would give voluntary aid detachments a greater sense of responsibility, and would afford them opportunities of testing their organization in emergencies while at the same time rendering an important service to the community. The *Gazette* states that several prizes are being offered to voluntary aid detachments for competition. Lady Aberdare is offering a cup for competition by the men's detachments, and Mrs. Lynn Thomas a cup for the women's detachments in Glamorganshire. In future at the Welsh National Agricultural Society's annual meetings there will be two ambulance competitions—one for a silver challenge shield presented by Mr. Lynn Thomas for ambulance work, and another for a silver challenge cup, value £50, presented by Mrs. Lynn Thomas for home nursing. The same lady has placed at the disposal of the National Eisteddfod Association a prize of £50 with a medal for the best essay in English embodying a scheme for diffusing a knowledge of first aid, nursing, and domestic hygiene in Wales. The essays must reach the general secretary, Eisteddfod Offices, Bangor, on or before July 1st, 1914. The *Gazette* is edited by Miss E. P. Hughes, Penrheol, Barry, with the assistance of Miss S. Corbett, Pwllypant, Caerphilly, and is published by E. J. Llewellin, Cadoxton-Barry, Cardiff.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

The Chair of Bacteriology in Edinburgh.

The inaugural lecture in connexion with the newly founded Chair of Bacteriology in Edinburgh University[1] was given by Professor James Ritchie on October 7th, in the M'Ewan Hall. Principal Sir William Turner, who presided, referred to Dr. Ritchie's work as professor of pathology in the University of Oxford and as superintendent of the laboratory of the Royal College of Physicians in Edinburgh, and alluded to the circumstances in which the late Mr. Robert Irvine had made the foundation of the chair financially practicable.

Professor Ritchie opened his lecture with a graceful appreciation of Mr. Robert Irvine's generosity and interest in research: "His leisure was dominated by the spirit of inquiry and his house was the centre of a scientific coterie." The history of bacteriology was then traced and reference made to the three great names of Pasteur, Lister, and Koch; the science was still young; it had not attained its jubilee, but it had already made contributions of the highest value, not only to medicine but also to many other human interests. Industries connected with food preservation had had their conditions revolutionized, and the place which bacteria played in the fertilization of the soil was well recognized and acted upon in agriculture. In medicine bacteriology was a branch of pathology, for the disease-producing bacteria were the most important of all micro-organisms; but it was also closely related to physiology, and scientific therapeutics owed much of its recent success to it, as did likewise preventive sanitation. Professor Ritchie closed his address with a statement as to the function of the new professorship; it was to be primarily for the fostering of research, and secondarily for the teaching of the science of bacteriology. The position of the subject in Edinburgh University was unique. There would be some teaching of students; but bacteriology was essentially a post-graduate study, and the chair was therefore to be rather a research than a teaching one. This announcement was in some respects the most important matter in the inaugural lecture, and Professor Ritchie rightly emphasized it: it was the key-note in the address, and it will be well if the university authorities are able to keep it sounding.

[1] British Medical Journal, May 17th, 1913, p. 1076.

The Teaching of Clinical Medicine.

Sir Thomas R. Fraser (who has recovered perfectly from his accident of last winter), in his opening address on October 7th to the clinical medicine classes in the Edinburgh Royal Infirmary, described the new arrangements which were now coming into action. These arrangements have been explained in the pages of the Journal (August 16th, 1913, p. 434), and they were summarized by Sir Thomas Fraser as follows: An incorporation with the university had been effected of the whole of the ordinary physicians, assistant physicians, and tutors into one concrete body without distinction, in all essential points, between university professors and extramural teachers. The ordinary physicians have become university officials, with the title of senior lecturers in clinical medicine, the assistant physicians as lecturers, and the tutors as university tutors or assistants. All of these teachers, along with the professors of clinical medicine, had thus, he said, been fused into one body to work for one common purpose, and without the semblance of two different bodies, each desirous, it might be, of maintaining separate interests. Sir Thomas Fraser alluded also to the extended responsibilities which would fall upon the assistant physicians (now lecturers under the scheme); they would for the future take a larger share in the management of the patients in the wards, and would in fact assume the position and functions of the *chefs de clinique* who had for many years existed with much advantage in the hospitals of France and Germany.

There is much to be said in favour of the new arrangements for the teaching of clinical medicine in the Edinburgh Medical School and for some other changes which have tended to break down the separation between intra-mural and extra-mural lecturers and lecturing; but there are many who view with some alarm and foreboding the gradual extinction of the extra-mural school which seems thus to be coming nearer, the change taking place with accelerated speed. If, however, the healthy rivalry which has existed between the teachers inside the university and those outside its walls can be maintained when all are, so to say, inside, then no great damage is to be apprehended, and for purely administrative, teaching, and examining purposes simplification with increased efficiency may fairly be looked for.

On October 6th the joint committee of the University Court and the managers of the Royal Infirmary met to consider the appointment of a professor to the Moncrieff Arnott chair of clinical medicine which has so recently been founded (Journal, May 17th, p. 1089). The committee adjourned until October 11th, when a short leet of two names was selected to be recommended to the University Court so that it might appoint one of the persons named to the chair. The two names sent up to the University Court were Dr. William Russell and Dr. J. J. Graham Brown. The appointment is to be made on Monday, October 20th, when the court meets.

Sanatorium for South-East of Scotland.

The Local Government Board for Scotland received on October 10th representatives of the county councils of the counties of Berwick, Haddington, Linlithgow, Midlothian, Peebles, Roxburgh, and Selkirk, to discuss the terms of a draft order prepared by the Board providing for a combination of these counties for the erection of a sanatorium. The amendment of certain details in the draft order was discussed at length, and it was arranged that a representative of the county councils should adjust with the Board

the terms of the amendments necessary to give effect to what was arranged. When this is completed the draft order as amended will be submitted to individual counties for approval.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

A MEDICAL OFFICER'S FEE.

THE Local Government Board has now replied giving its reasons for objecting to the payment of a fee of 2 guineas to Dr. O'Dwyer, medical officer of Granard Dispensary district, for assisting, while he was on his holiday, his locumtenent in a difficult midwifery case. The Local Government Board says that it attaches much importance to the principle involved, and points out that the medical officer was absent on vacation with the view to benefit his health, and was in receipt of his full salary, and that the temporary medical officer was employed as his locumtenent by the guardians at a fee of £4 4s. a week. Similar claims to that of Dr. O'Dwyer, on the rare occasions on which they have been put forward, have invariably been refused, as the Board considered that payment of a fee to a medical officer for assisting his temporary substitute would be open to serious objection and would lead to grave abuse. The Board is of opinion that the guardians are bound to safeguard the interests of the ratepayers in the present instance, and should, so as to avoid the possibility of a surcharge, instruct their solicitor to defend the proceedings in the county court, and if the decision should be adverse to them, to take the necessary steps to appeal to the assizes. Dr. O'Dwyer is to be put to all this trouble, therefore, to obtain payment for work which he was obliging enough to do, though he was entitled to refuse to do it, in which case another doctor would have had to be sent for and paid the same fee. This seems rather a troublesome and expensive method of preventing a "grave abuse," which is not the least likely to arise.

SCARLET FEVER.

At the last meeting of the Clonmel Corporation, Dr. P. O'Brien, medical officer of health, reported that an unusually severe epidemic of scarlatina had prevailed in the town for some weeks. All precautionary measures had been taken, including the closing of the schools. He was of opinion that the epidemic had reached its present dimensions because cases were not placed under medical care, and were not notified to the sanitary authorities. At the meeting of the board of guardians it was stated that there were 30 cases of fever in the hospital. An outbreak of scarlet fever is also reported from Borramount, co. Wexford, and from Malahide, near Dublin, where two children were attacked in one of the District Council's cottages, and removed to Balrothery Workhouse Hospital. As there are forty other labourers' cottages in the immediate vicinity to which the disease was in danger of spreading, all the members of the family in which the fever occurred volunteered to go in the workhouse cab to Balrothery, where the clothes which they were wearing were disinfected.

CATTLE IN A BEDROOM.

At the last meeting of the Loughrea Rural District Council, Dr. Geraghty, M.O.H., reported on the insanitary condition of a house, and recommended that the Council should order the occupier to limewash his house, and to remove the cattle and fowls that occupied one of the bedrooms. The Council ordered the owner of the house to be prosecuted if he failed to comply with the sanitary notice within a week.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

At the annual general meeting on October 10th the following officers were elected for the coming year:

President, W. G. Smith; *General Secretary*, J. Alfred Scott; *Secretary for Foreign Correspondence*, Sir John Moore.
President of the Medical Section.—J. O'Carroll.
President of the Surgical Section.—R. D. Purefoy, P.R.C.S.
President of the Obstetrical Section.—M. J. Gibson.
President of the Pathological Section.—J. B. Coleman.
President of the Section of Anatomy and Physiology.—B. J. Collingwood.
President of the Section of State Medicine.—T. P. C. Kirkpatrick.

MEDICAL SUPERINTENDENT'S PENSION.

At the last monthly meeting of the Tyrone and Fermanagh Asylum Board Dr. Carre, who had resigned after about thirty-three years' service in that institution, was unanimously granted a superannuation allowance of £540. The salary of the new medical superintendent was fixed at £500 per annum, with £100 allowances.

PHARMACEUTICAL SOCIETY OF IRELAND.

At the thirty-eighth annual meeting of the Pharmaceutical Society of Ireland, held in Dublin last week, the President stated that the society had never been in so prosperous a position. There were 1,860 names on the register, an increase of 54 since last year. In the preliminary test 59 candidates passed by examination and 31 with certificates from other bodies, making a total of 90. The pharmaceutical licence was obtained by 42 candidates. The preliminary examination had been altered, in accordance with the Privy Council Order of August 12th, by the omission of chemistry, botany, and physics. This Order should attract an increased number of students who could easily take this modified course before commencing their apprenticeship. The attendance at the various classes of the society's schools in practical chemistry and materia medica numbered 63, showing a marked increase over the last two years. The Law Committee, in performance of its work of seeing that the law was respected, was compelled to prosecute in several cases in which it was alleged that prescriptions had been compounded by unqualified persons or poisons sold without licence.

Correspondence.

ON DOSES IN THE NEW "PHARMACOPOEIA."

SIR,—In your issue of October 11th a letter appears from Dr. Leftwich advocating the simplification of doses. I most heartily join with him in the hope that in the new *Pharmacopoeia* the table of doses should be simplified. I am quite sure that Dr. Leftwich is perfectly right in saying that inability to remember the proper dose of a medicine has sometimes led to the most suitable medicine not being prescribed, and on other occasions has even caused the death of the patient, so that simplification is urgently needed.—I am, etc.,

London, W., Oct. 13th. LAUDER BRUNTON.

MAXIMAL AND MINIMAL BLOOD PRESSURES.

SIR,—I was much interested to read Dr. Halls Dally's lecture on blood pressure. It was he that first introduced Pachon's instrument to me some years ago. Since then I have been working at the question of diastolic pressure, testing the accuracy of methods, etc. The results I hope to publish shortly, but I may state here that:

1. The maximum oscillation does not correspond to the minimal pressure, and its position varies with the capacity of the vessels peripheral to the armlet.

2. All instruments built on the principle of Erlanger's instrument are inaccurate.

3. It is just possible to obtain the diastolic pressure by oscillation methods, but so complicated that clinically such methods are useless.

I agree with Dr. Halls Dally that the diastolic pressure is very important, and that Pachon's instrument used with a double armlet is useful for systolic pressure, and if the bag is made of non-distensible material gives a fairly accurate estimation of the oscillation of the arterial wall.—I am, etc.,

London, E.C., Oct. 14th. MALCOLM DONALDSON.

EYESIGHT AND NAVIGATION.

SIR,—I am much obliged to you for your very courteous notice of my recent publication on eyesight and navigation.[1] The only matter which I would perhaps like to point out is as to the certainty of a man with hypermetropia being able to navigate quite safely. Your reviewer seems to take the ground that because a yacht is small, and therefore of

[1] BRITISH MEDICAL JOURNAL, October 4th, p. 884.

little velocity, that that makes a change on the conditions of the problem. Here it is not a question of the velocity of the vessels at all, but purely a question of the velocity of light, which for any finite distance may be regarded as infinite. So soon as ever a vessel appears on the horizon a hypermetropic man will see it equally well with an emmetrope; I myself, with a dioptre and a half of hypermetropic astigmatism against the rule, have no difficulty in the matter whatever. It is purely a question of the velocity of light, not of the velocity of the vessels. Moreover, a man with that amount of hypermetropia has not the least dubiety as to which vessel is to clear the other. There are definite rules laid down by the Board of Trade on the subject, and it is not a question of speed but a question of position which determines the matter. I have no doubt whatever that anybody with 2 or 3 dioptres of hypermetropia is perfectly as safe as a man who is approximately emmetropic.

I think it also possible, although I am not certain of it, that a man with a weak myopia may be safe; certainly I know of one case where a man with 5 dioptres of myopia did pilotage for many a year. The radical blunder has been in attempting to make navigational ability a function of visual acuteness. Again let me express my thanks alike to you and to the reviewer.—I am, etc.,

Glasgow, Oct. 9th. FREELAND FERGUS.

P.S.—I have no doubt whatever that the Royal Navy is annually deprived of the services of many excellent officers by the fact that the Admiralty insists on emmetropia.

ACCIDENTS DUE TO DEFECTIVE SIGHT: A CORRECTION.

SIR,—In a small book that I have lately brought out, *On Cases of Accident to Shipping and on Railways due to Defects of Sight*, which was favourably noticed in the JOURNAL of September 13th, Case 41, the case of the Guisborough accident on the North-Eastern Railway on January 1st, 1908, was included with others in a miscellaneous group of suspicious, although unproved, cases in which a defect of sight in the engine driver if present would have afforded a satisfactory explanation of the disaster. I think the attitude I took was justified by the facts that the report of the Board of Trade inquiry contained not a word as to the driver's sight having been examined after the accident and that I had no access to other information. Your own annotation upon the case in the JOURNAL of April 4th, 1908, was no doubt based also on the Board of Trade report. I have now just heard from Dr. J. G. McBride, the medical inspector to the North-Eastern Railway Company, that the driver, then aged 46, was examined by himself a month after the accident and found to have visual acuity of $\frac{6}{6}$ in each eye and normal colour vision to Holmgren's test. He was injured at the accident, and could not be examined sooner. He has since been tested with Edridge-Green's lamp, and found to be normal. Although the man might possibly have been suffering from slight tobacco amblyopia at the time of the accident, such an interpretation is so much less probable in the light of Dr. McBride's information than it was before, that had I known, when writing the book, what I know now I should not have considered the case sufficiently strong to justify its inclusion in my list. It would have been more satisfactory if the result of Dr. McBride's examination and the reason that prevented this from being made until some weeks after the accident had been incorporated in the report of the Board of Trade Inspector.—I am, etc.,

Hindhead, Surrey, Oct. 11th. E. NETTLESHIP.

THE SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS.

SIR,—In your annotation of October 11th you refer to the difficulties of obtaining suitable cases, and to the disadvantages of producing artificial pneumothorax. One observation certainly holds true—that any form of treatment ought to do better in early rather than in late (one-sided) cases of phthisis, whereas artificial pneumothorax seems reserved for the later cases only.

Having seen the process, may I suggest as an advance on artificial pneumothorax that the production of artificial pleuritic effusion would offer greater advantages in both early and late one-sided cases?

If a splint be required to rest the affected lung, surely a liquid rather than a gaseous medium, following Nature's hint in pleurisy with effusion, should be employed. I would suggest saline infusion, or, perhaps better still, sterilized oil, with the addition of sulphur and creosote in small quantities. This mixture, in my experience in localized tubercle after scraping, is the best dressing for the condition. And if a splint of oil to compress the lung were first employed on dogs, I venture to think the same method, seasoned with sulphur to compress and disinfect the affected lung, might be usefully employed in human subjects.—I am, etc.,

Newcastle-on-Tyne, Oct. 14th. T. M. ALLISON, M.D.

SIR,—May I contribute a commentary to the paper under this heading in the JOURNAL for October 11th, with its rather pessimistic beginning, "The *possibility* of affording *temporary* relief . . ."[1] Discussing the action of an artificial pneumothorax, Dr. L. Spengler[2] has recorded 15 cases in which it had been induced from nine months to four years earlier. All these patients could do a full day's work, they had neither fever nor cough, and tubercle bacilli were no longer demonstrable.

With regard to the statement, "Statistical evidence as to the proportion of success achieved is not as yet forthcoming," I would point out that, at the International Medical Congress in London this summer, Professor Saugman read a paper in which he analysed 100 cases of advanced pulmonary tuberculosis, in which artificial pneumothorax was prescribed. In 36 cases pleural adhesions prevented the realization of this treatment. These cases were in other respects similar to the 64 cases in which a pneumothorax was induced. The following comparison, therefore, gives a fair estimate of the benefit to be derived in advanced pulmonary tuberculosis (1) from sanatorium treatment alone, and (2) from sanatorium *plus* pneumothorax treatment. No patient is included in this table for whom a pneumothorax was prescribed less than nineteen months earlier.

Fit for Pneumothorax Treatment (100).	Pneumothorax Effected (64).	Not Effected (36).
1. Able to do ordinary or light work	32	8
2. Unable to work on account of tuberculosis	18	12
3. Dead from tuberculosis	12	14
4. Unknown	0	1
5. Dead from acute complications...	2	1
Not considering the last three, the percentage is as follows:	Percentage.	Percentage.
1. Able to work	51.7	22.9
2. Unable to work	29.0	34.3
3. Dead from tuberculosis	19 3	40.0
4. Freed from tubercle bacilli ...	50	8.6

Striking though this comparison is, it does not yet do full justice to the treatment as confined to practically unilateral cases; for Professor Saugman has prescribed it in cases with the healthier of the two lungs considerably diseased. Even in such cases wonderfully good results may sometimes be obtained; but the practically unilateral cases are those in which, as a rule, the improvement is most dramatic and permanent. I do not suppose one lung is ever perfectly healthy when its fellow is extensively diseased. Cases of severe but unilateral disease, instead of being "counted in units," should be discreetly tucked away with "the Emperor's new clothes."—I am, etc.,

Gorleston-on-Sea, Oct. 13th. CLAUDE LILLINGSTON.

TURBINECTOMY.

SIR,—I am pleased to hear that Sir Robert Woods repudiates the report of his remarks, but think he does not quite meet my criticism. My contentions are that:

[1] The italics are mine.
[2] *Münchener Medizinische Wochenschrift*, February 28th, 1911.

1. It is extremely rare for atrophic changes to follow even a turbinectomy with the spokeshave (complete or incomplete).

2. When such atrophy does follow it is due to the perpetuation of a condition of the mucous membrane present prior to operation. Certainly most of the cases we have in Manchester are associated with excessive secretion of mucus, and these can bear a large loss of secreting tissue with favourable results. It is in the anaemic young girl or the patient with a coexisting sinus disease (ethmoidal and sphenoidal especially) that extensive removal of tissue is undesirable, for it is in just these cases that atrophy occurs in time even without interference.

It is possible to remove a definite strip of turbinal with the spokeshave; my chief objection is that it leaves tags and also may injure the septum, thus requiring some tedious after-treatment. I am awaiting the completion of a new pair of forceps which, I think, will remove with one cut the turbinal in its entire length, or will remove a strip of desired breadth with precision.

With all the remarks of Mr. Stanley Green I cordially agree, especially as to the gratitude of patients for this unorthodox treatment.

Again, I do not think my phrase, "a carefully graduated turbinectomy," is at all contradictory. Much confusion has arisen from the loose way in which the words "turbinectomy" and "turbinotomy" have been employed. Surely turbinotomy means nothing more than cutting the turbinal, and is only part of the technique of performing turbinectomy.

Removal of a portion of the turbinal should not be called turbinotomy—removal of one lobe of the thyroid is a partial thyroidectomy, not a thyroidotomy; similarly with partial nephrectomy, not nephrotomy; partial gastrectomy, not gastrotomy. Removal of a portion of the larynx is not laryngotomy, but a modified laryngectomy. The correct nomenclature should, by analogy, be anterior or posterior turbinectomy, and complete or incomplete linear turbinectomy for removal of the whole turbinal or a strip of the whole length.—I am, etc.

Manchester, Oct. 12th. WILLIAM WILSON, M.D., B.Sc.

MEDICAL MISSIONS DEPARTMENT, S.P.G.

SIR,—I wish to make known some openings for junior members of the medical profession, which, putting aside other aspects of the work, provide a variety of cases and scope for the performance of important operations greater than commonly fall to the lot of general practitioners in this country. In the majority of these places there can be also the inspiring reflection that there is no other qualified doctor within many miles to whom the patients could possibly apply for the treatment they need. The salaries, except in the case of Rusapi, in Mashonaland, where there is a Government guarantee of £300 besides private practice, are small, but sufficient for comfortable maintenance of unmarried doctors, being the same both for men and women as those offered to the clergy working under similar conditions in the S.P.G. Missions in connexion with which these posts are.

The doctors must be in full sympathy with mission work, but will not be required to do any but their professional work unless they desire it themselves. The vacancies are, for men: (1) Hazaribagh, Behar, India; (2) Rusapi, Mashonaland; (3) Kwamagwaza, Zululand. For women: (1) Ping Yin, North China; (2) Delhi, India; (3) Malacca. In all these places the hospitals are in full working order. Several more men are wanted for China and three women for India, but we could not send them at present owing to lack of funds. Our doctors never enter into competition with private practitioners or those working in Government posts. We appeal to members of the profession who are in sympathy with the efforts which the S.P.G. is now making to meet the great need for medical aid in places otherwise unprovided for to help us by bringing these vacancies to the notice of some who seem suited to fill them.

I shall be glad to answer fully any inquiries made from me about these posts and the needs and plans of this department of the S.P.G.—I am, etc.,

K. W. S. KENNEDY, M.B.,
Secretary, Medical Department, S.P.G.

15, Tufton Street, Westminster, Oct. 14th.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examinations indicated:

FIRST M.B. (*Part I. Chemistry*).—C. C. Beney, F. H. V. Bevan, I. M. Bickerton, C. M. Billington, C. M. Childe, H. Corsi, S. L. P. Davidson, K. Dykes, T. Fernandez, L. W. Finlow, J. D. Gabb, H. C. Gloster, C. G. Guy, G. A. Harrison, H. E. Lambert, R. J. Lathbury, O. G. Misquith, J. R. Mitchell, J. H. E. Moore, G. P. Morris, F. C. Odling, N. Rumboll, K. H. Tallerman, E. B. Verney, J. Whittingdale, M. Wong, F. G. Wood. (*Part II. Physics*): R. C. Bentley, W. L. Berry, F. H. V. Bevan, I. M. Bickerton, C. M. Billington, C. M. Childe, E. D. Collins, H. Corsi, S. R. E. Davies, S. L. P. Davidson, K. Dykes, L. W. Finlow, H. Franklyn, H. C. Gloster, H. C. Gunasekara, C. G. Guy, G. A. Harrison, P. R. Hatch, T. S. Hinnell, S. H. G. Humfrey, A. King, H. E. Lambert, R. B. P. Lansdown, P. Lazarus-Barlow, P. T. Liang, D. L. Macintyre, L. B. Maxwell, J. H. E. Moore, J. H. Naumann, P. M. Neighbour, R. H. Reece, N. Rumboll, A. N. Solly, F. V. Squires, K. H. Tallerman, W. B. Thompston, E. B. Verney, C. R. P. Wallace, A. T. Westlake, H. L. Willey, H. C. Wimbush, M. Wong, F. G. Wood. (*Part III. Biology*): J. M. Bickerton, C. M. Billington, A. D. Coates, S. L. P. Davidson, T. Fernandez, L. W. Finlow, A. M. Gaselee, H. C. Gloster, N. D. de M. Greenstreet, R. T. S. Gwynne, G. A. Harrison, L. B. Hartley, W. E. Heath, C. R. Hind, R. W. Jackson, P. C. Livingston, D. L. Macintyre, F. P. N. Parsons, H. R. Reece, C. E. Taylor, D. L. Tucker, W. E. Vandrey, E. B. Verney, M. D. Vint, S. Waterworth, A. T. Westlake, J. Whittingdale, D. E. Wijewardern, S. C. Williams, W. T. Williams-Green, M. Wong, F. G. Wood, L. M. Younghusband.

UNIVERSITY OF EDINBURGH.

THE following candidates have been approved at the examinations indicated:

FIRST M.B. (*Zoology*).—Lal S. Anand, San H. Aung, G. Buchanan, E. A. Carmichael, Anna G. Christie, P. C. Datta, H. M. Deans, E. Dickson, J. A. A. Duncan, M. H. A. Fletcher, D. P. Gay, H. A. E. Girby, W. A. Gray, E. F. Griffin, W. A. Hennessy, S. S. Horwitz, J. T. Johnston, A. Klenerman, Y. C. Lee, G. N. Lomax, J. C. M'Cartney, D. M'Eachran, F. P. MacGillivray, R. D. Mackenzie, A. M. MacLachlan, P. B. Maitland, D. A. Miller, J. K. Mitchell, J. C. Moolman, T. B. Moyes, Tin Po Ng, P. V. Paul, K. N. Rao, C. B. Reekie, J. Riesnik, Mary J. D. Rutherford, J. K. Sen, C. Shapiro, J. O. P. Smith, Janet Smith, S. L. Smith, G. Verghese, T. C. Wakefield, J. D. White. (*Physics*).—M. S. Abaza, Y. Y. Chan, P. C. Datta, W. J. Dunlop, V. A. Earnshaw, K. J. Ebsworth, G. B. Flint, A. S. Garewal, H. P. D. Helm, R. MacGarrol, A. G. Mackay, R. A. MacNab, P. V. Paul, Susan A. Robertson, J. Robinson, Mary J. D. Rutherford, R. B. Smith, J. F. Stewart. (*Botany*).—M. S. Abaza, G. Balsillie, R. B. Barnfather, R. E. Batson, J. H. Brink, G. Buchanan, Anna G. Christie, E. Dickson, J. A. A. Duncan, T. S. Duncan, W. J. Dunlop, A. S. Garewal, D. P. Gay, R. N. Gibson, E. S. Jackson, G. N. Lomax, J. C. M'Cartney, D. Mackay, F. A. Meine, J. C. Moolman, J. K. Murray, R. B. Okholm, K. N. Rao, H. H. L. Richards, Susan A. Robertson, J. Robinson, J. K. Sen, J. Smith, J. F. Stewart, C. M. Thomas, D. F. Thompson, M. S. Toukhy, W. C. Tsoi. (*Chemistry*).—W. Bald, P. Barlow, G. P. Burns, N. A. Doggart, A. S. Garewal, F. Gunaratna, E. S. Jackson, N. Jennings, R. M'Garrol, A. R. Matheson, S. D. Nurse, J. Riesnik, Susan A. Robertson, Mary J. D. Rutherford, R. B. Smith, J. A. Stirling.

SECOND M.B. (*Physiology*).—G. S. Barnett, D. Colombos, K. M. Dey, S. L. Dmitrieff, P. W. Edwards, W. N. Greer, T. L. P. Harries, F. J. Hauptfleisch, Jane E. Hay, Wilhelmina W. Hendry, A. Kennedy, A. C. Kirton, Isobel M. M'Lullich, Annie M. Madin, Isabella Morison, D. J. Morrison, J. E. Phillips, G. C. Sahgal, E. O. A. Singer, E. D. Söderström, C. I. Stockley, G. W. C. Sutherland, M. D. Thakore, A. F. de Waal. (*Anatomy*).—W. W. Brown, A. Cleland, W. H. Ferguson, A. B. Grant, W. N. Greer, T. L. P. Harries, Wilhelmina W. Hendry, A. N. Homewood, W. L. Hunter, M. K. Jardine, C. M'Donald, J. M'Garrity, Margaret M. M'Garrity, I. Mackenzie, R. N. Mackenzie, P. D. M'Laren, Isobel M. M'Lullich, D. A. Macrae, W. G. F. O. Morris, D. J. Morrison, G. Nicholson, J. O. Reid, G. C. Sahgal, J. Sellar, J. J. Shannon, W. A. Slack, M. D. Thakore, J. I. de Villiers, Gladys Ward, Gladys R. M. V. Williamson, C. M. M. Zubair.

THIRD M.B. (*Materia Medica*).—T. L. Clark, C. H. H. Coetzee, D. Dunlop, A. J. Ferguson, E. G. M. Gilchrist, M. P. Inglis, H. Jackson, O. D. Jarvis, G. G. S. Johnston, E. Law, G. Lilico, Mary Martin, W. J. Purdy, J. Rodger, A. R. Ross, L. J. Spence, T. J. W. Sveinbjornsson, L. H. Werden, B.A., J. M. Wishart, A. Wotherspoon. (*Pathology*).—T. C. Bowie, A. F. Campbell, J. R. Crolius, J. G. Dobson, R. B. Eadie, E. L. Galgut, Helen M. Gall, Y. H. Hoashoo, P. W. Lam, P. M. Little, T. J. Lloyd, A. L. M'Ilwaine, Mary Martin, E. S. Mellor, G. Schussler, W. Shanks, L. J. Spence, B. P. Varma, J. D. Whitfield, M. E. Willcock.

UNIVERSITY OF GLASGOW.

THE following candidates have been approved at the examinations indicated:

FIRST M.B. (B., Botany; Z., Zoology; P., Physics; C., Chemistry).—*W. Adams (B., P.), T. A. J. Aitchison (Z., C.), *R. Aitken (B., P.), J. R. P. Alexander (B., P.), G. W. Allan (Z., C.), T. F. Arnott (B., P.), J. D. Arthur (B., P., C.), J. Ashworth (B., P.), H. E. C. Bacon (C.), H. Bankhead (Z., P.), D. E. Brown (B., P.), G. Brown (B., P.), *R. S. Caldwell (B., P.), R. B. Cameron (B., P.), W. J. S. Cameron (B., P.), W. M. Cameron (B., C.), M. Chalmers (B.), A. E. Cochrane (Z., C.), H. L. Coulthard (B., P.), J. S. Craig (B., P.), H. A. Cruickshank (B., P.), W. Dempster (B., C.), R. K. Duguid (B., P.), W. Edgar (B., P.), R. Erskine (B., P.), W. J. Ferguson (B., P.), J. P. Fleming (B., P.), T. Forrest (B., Z.), W. W. Forsyth (B., P., C.), R. S. France (B., P.), R. J. L. Fraser (B., P.), G. K. Fulton (B., Z., C.), *J. B. D. Galbraith (B., P.), K. J. A. Gillanders (C.), C. N. Gordon (B.), W. H. Gordon, M.A.

(B., Z., P.), W. L. Gordon (B., Z.), G. O. Grant (B., P., C.), W. R. D. Hamilton (B., P.), A. Harper (P., C.), W. E. Haydon (C.), J. C. Hendrie (C.), J. Hill (B., P.), J. Hislop (B., P.), H. F. Hollis (Z., C.), H. J. Hollis (B., P.), J. R. R. Holms (B., P.), D. W. Humble (B., Z.), E. P. Irving (B., P.), J. N. Jamieson (B.), J. A. Jenkins (B.), J. Joels (B., P.), R. E. Kerr (B., P.), W. M. Kerr (Z.), J. P. Kilty (B., P.), A. B. M. Lang, M.A. (B., Z.), *J. R. Learmonth (B., P.), C. U. Lee (B., P.), J. E. W. Lee (B.), J. Liddell (Z.), A. E. Lillicrap (B., P.), F. R. Lubovius (B., Z., P., C.), A. J. Macartney (B., B.), A. B. Macdonald (B., P.), E. Macfarlane (Z., C.), R. F. M'Gibbon (B.), T. M'Gowan (B., P.), E. M'Guire (B., P.), J. W. Mackay (B., P.), N. Mackillop (Z., C.), D. J. M'Kinnon (B., P.), W. S. L. M'Leish (B., P.), P. M'Luskie (Z., C.), D. Macqueen (B., P.), *W. M'William (C.), *J. Marshall (B., P.), J. S. Martin (B., P.), A. M'C. Millar (C.), A. S. Miller (B., P.), G. A. Mitchell (B., Z., P., C.), L. Mitchell (C.), J. Moffat (B., P.), *J. R. J. Mylles (B., P.), D. J. Nicol (B., P.), W. Nicolson (B., P.), J. B. O'Neill (Z.), W. H. Palmer (C.), F. F. Paul (B.), *N. B. Peacock (B., C.), G. Pearson (Z., C.), B. T. Pelham (B., P.), C. K. T. Pelham (B., P.), A. G. Petrie (B., P.), J. Prentice (Z.), J. Pyle (B., Z., P., C.), R. S. Reid (Z.), J. G. Rennie (B., C.), S. M. Riddick (C.), H. Robertson (B.), I. M. Robertson (Z., C.), J. L. Rowlands (B., P.), W. Scotland (B., P., C.), J. Shaw (P., C.), J. H. Shearer (B., P.), J. Smart (B., C.), E. E. M. Steen (B., P.), J. S. Stewart (Z., C.), T. S. Stirling (Z.), H. A. Summers (B., P.), D. F. Suttie (B., P.), A. S. van Coller (B., P.), A. R. Waddell (B., Z.), W. A. Walker (B., P.), W. H. Wallace (B., P.), J. Watt (B., P.), J. P. White (B., P.), J. D. Williamson (B., Z., P., C.), W. Wiseman (B., P.), G. Young (B., P.), *J. S. Young (B., P.), W. Young (B., P.). Annetta G. T. Anderson (B., P.), Mabel N. Blake (Z., C.), Grace Chatterton (B., P.), Jean M. Frew (B., P.), Mary B. Gillespie (Z., C.), Alison M. Hunter B., P., C.), *Grace L. Hunter (B., P.), Mary R. Knight (B., P., C.), Agnes P. M'Gavin (B., P., C.), Margaret T. M'George (B., P.), Elizabeth C. M'Haffie, M.A. (B.), Jessie B. Maclachlan (B., P.), Mercedes M. Morton (P., C.), Kathleen Nicol (P.), Vida J. Perry (B., Z., C.), Jessie N. Robertson (B., P.), Margaret N. Robertson (B.), Agnes P. Routledge (B.), Katherine Scott (P.), Dorothea H. Suttie (B.), Lydia I. H. Torrance (B., P.), Marion Watson (Z., P., C.).

SECOND AND THIRD M.B.—(A., Anatomy; P., Physiology; M., Materia Medica and Therapeutics).—R. Aitken (M.), W. D. Allan (A., P.), W. Baird (A., P.), J. E. Bannen (A., P.), W. Barras (A., P.), T. Blackwood (A., P.), J. P. Broom (A., P.), A. C. Brown (A., P.), H. D. Brown (A., P.), D. C. Buchanan (A.), J. A. Buchanan (A., P.), *S. E. A. Buckley (A., P.), D. R. C. Cameron (M.), D. Cameron (P.), *D. Campbell (A., P.), D. S. Campbell (M.), W. Campbell (A., P., M.), J. Chalmers (A., P.), *D. Clyde (A., P.), D. H. Coats (A., P.), W. Combe (M.), J. Connal (M.), W. K. Connell (A., P.), A. S. Cook (A., P.), W. G. Cook (A., P.), R. S. Crawford (A., M.), J. Crerar (A., P.), H. P. Crow (M.), J. N. Cruickshank (A., P.), J. F. Cunningham (P., M.), R. Cunningham (A., P.), A. Davidson (P.), R. S. Dickie (A., P.), W. Donald (A.), *J. Dunbar (A., P.), E. M'M. Dunlop (M.), S. N. Dykes (A., P.), J. Ewing (A., P.), B. W. H. Fergus (A., P.), L. L. Fotheringham (A., P.), M. M. Frew (A., P.), T. R. Fulton (P.), D. G. Gardiner (A., P., M.), R. S. Gibson (M.), N. W. Gilchrist (A., P.), R. K. H. Gillespie (M.), J. G. Gilmour (P.), J. Glaister (A., M.), W. Gordon (M.), T. Gray (A., P.), D. Heard (P.), S. J. Henderson (A., P.), W. A. Higgins, M.A. (M.), T. P. Hutchison (P., M.), S. Johnstone (A., P.), *A. Kennedy (A., P.), G. Kirkhope (M.), R. M. Lang (M.), J. A. Leiper (M.), R. Lindsay (A., P.), A. T. Logan (M.), P. Y. Lyle (M.), R. Lyon (A., M.), H. L. M'Cormick (A.), H. D. M'Crossan (M.), D. J. MacDougall (A.), D. K. MacDougall (A., P., M.), J. W. Macfarlane (A., P.), *J. E. Macfie (M.), G. J. M'Gorty (P.), J. P. M'Gregbin (P., M.), J. MacInnes (A., P.), D. B. M'Intosh (P.), R. H. M'Killop (P.), *J. MacA. Mackintosh (A., P.), K. S. Macky (A., P.), J. W. Maclean (A., P.), A. F. M'Millan (A., P.), D. M. Macmillan (M.), D. M'Neill (M.), E. J. MacPhail (A.), F. R. Martin (A., P.), W. Martin (A., M.), P. O. Moffat (A.), A. Morton (A., P.), J. H. Murray (A., P., M.), W. J. Poole (P.), J. K. Rennie (M.), J. Richardson (A., M.), A. W. Ritchie (A., P.), D. B. Robertson (A., P.), R. Rodger (A., P.), F. W. Sandeman (A., P.), A. M'A. Scott (P.), J. Steel (A., P.), J. Steele (A., P.), *A. Stenhouse (M.), D. S. Stevenson (A., P., M.), W. M. Stewart (A., P.), G. C. Swanson (A., P.), J. B. Sweet (P.), R. T. Todd (M.), J. L. Torley (M.), H. W. Torrance (A., P.), A. J. van der Spuy (P.), G. T. Walker (A., P.), J. D. Watson (A., P.), W. J. C. Watt (A., P.), R. H. Williamson (A., P.), K. J. T. Wilson (A., P.), R. J. Wilson (A., M.), W. L. Wilson (M.), Christina B. Buchanan (A., P.), *Maud C. Cairney (A., P.), Ann K. Cormack (P., M.), Winnifred J. Crawford (A., P.), Jane B. Davidson (P.), Jessie C. Gilchrist (A., P.), Jean L. Hamilton (P.), Janet D. F. Henderson (M.), Helen I. W. Kerr (A., P.), Florence S. Kirk (P.), May C. B. Leigh (P.), Dorothy M'Cubbin (P.), Margaret J. Maclachlan (A., M.), Mary A. M. MacLean (A., P.), Effie C. M'Vie (P., M.), Elizabeth S. Martin (A., P.), Margaret K. Mitchell (A., P.), Janey L. Munro (A., P.), *Helen Y. Murdoch (A., P.), Mary A. Noble (A., M.), Mary H. Routledge (A., P.), Mary Scott (P., Mary I. Sinclair (M.), Jane Stalker (A., P.), Margaret A. H. Stewart (M.), Isabel S. Thomson (M.), Alison E. Wilson (A., P.), Marion B. D. Wilson (A., P.), Mary F. Wood (A., M.).

THIRD AND FOURTH M.B.—† (P., Pathology; M., Medical Jurisprudence and Public Health).—G. K. Allan (M.), J. M. Anderson (M.), J. Anderson (P.), A. D. Blakely (M.), W. E. Boyd (M.), J. Buchanan (M.), W. E. A. Buchanan (M.), J. Cameron (P., M.), J. Campbell (P., M.), J. M. Campbell (P.), A. M. Clark (P.), A. La B. Clark (P., M.), R. Clark (M.), W. Cullen (P.), F. V. Daeblitz (P.), T. Ferguson (P.), H. T. Findlay (P.), G. J. Fraser (P., M.), I. M. Fraser (P., M.), W. W. Galbraith (M.), T. Gilchrist (M.), G. Gordon (M.), *R. T. Grant (P.), R. M. Lang (P.), W. J. B. Lavery (P.), H. D. M'Crossan (P.), *A. M. M'Cutcheon (P., M.), D. F. Macdonald (P.), *J. B. M'Dougall (P., M.), D. M. M'Intyre (M.), M. B. Macleod (P.), F. W. M'Millan (P., M.), J. K. Manson (M.), J. M. Matheson (M.), J. P. Mathie (M.), T. S. Meighan (M.), P. Naith (M., J. M. Pinkerton (M.), J. S. Prentice (P., M.), W. B. Primrose (P.), H. Quigley (M.), T. F. B. Reid (M.), G. W. Ronaldson (M.), A. F. Ross (M.), A. M. Russell (M.), S. C. Shanks (P.), J. Sillars (M.), J. Smith (M.), N. M. Smith (M.), J. B. Steven (M.), J. F. Steven (P.), R. S. Strachan (P.), C. R. T. Thompson (P., M.), W. Thomson (M.), J. Walker (P., M.), J. G. Wilson (P., M.), A. Young (M.). Agnes E. M. Cooke (M.), Dagmar F. Curjel (M.), Ethel W. Gompertz (M.), M. Walker (P.), Marguerite Wilson (M.), Isabella H. Younger (P.)

FINAL.—*D. K. Adams, Norah M. A. Allan, E. A. C. Beard, S. H. Bloom, W. A. Brechin, D. P. Brown, Margaret J. Brown, B. Cohen, *W. M. Conley, N. Crichlow, L. Crombie, D. A. Cush, G. D. de Kock, J. Dunbar, W. C. Fleischmann, W. Forsyth, W. Fotheringham, I. D. Grant, J. G. Hendry, *W. J. Henry, G. Hislop, *Mary P. Hislop, *W. Hornsby, A. Lindsay, *D. M'Alpine, J. L. M'Bean, J. A. M'Connochie, *J. W. M. M'Donald, J. MacInnes, Annie R. M'Kail, D. Mackinnon, J. R. C. Mackintosh, R. M'Lean, A. P. Martin, O. H. Mayor, A. U. Millar, M. Murphy, A. Naismith, T. M. Newton, J. Purdie, A. M. Ramsay, D. Smith, W. R. Snodgrass, W. R. Taylor, *C. J. van Lingen, R. B. Wallace, M. White.

*Passed with distinction in one or more subjects.
†Under old and new regulations.

The following were degrees conferred by the Vice-Chancellor on October 9th:

M.B., CH.B.—*D. K. Adams, †W. J. Henry, †W. M. Conley, †T. M. Newton, †J. MacInnes, Nora M. A. Allan, E. A. C. Beard, S. H. Bennet, W. A. Brechin, D. P. Brown, Margaret J. Brown, B. Cohen, N. Crichlow, L. Crombie, D. A. Cush, G. D. de Kock, J. Dunbar, W. C. Fleishmann, W. Forsyth, W. Fotheringham, I. D. Grant, J. G. Hendry, G. Hislop, Mary P. Hislop, W. Hornsby, A. Lindsay, D. M'Alpine, J. L. M'Bean, J. A. M'Connochie, J. W. M'Donald, Annie R. M'Kail, D. Mackinnon, J. R. C. Mackintosh, R. M'Lean, A. P. Martin, O. H. Mayor, A. U. Millar, M. Murphy, A. N. J. Purdie, A. M. Ramsay, D. Smith, W. R. Snodgrass, W. R. Taylor, C. J. van Lingen, R. B. Wallace, M. White.

B.SC. (*Public Health*).—Tehl Singh.

*With honours. †With commendation.

The Brunton Memorial Prize (value £10) for the most distinguished medical graduate of the year has been awarded to Mr. John S. K. Boyd.

UNIVERSITY OF ST. ANDREWS.

THE following candidates have been approved at the examination indicated:

FIRST M.B. (*Zoology*).—J. P. Leckie, Margaret W. Shirlaw.

UNIVERSITY OF LONDON.

THE UNIVERSITY BUILDINGS.

AT the meeting of Convocation on October 14th the two following resolutions were adopted:

That whenever arrangements are made in connexion with a new site for the University they should expressly provide that the Government shall continue to provide accommodation for the University free from expense for rent, rates, taxes, and structural repairs, as it has done since the foundation of the University.

That inasmuch as the accommodation for university purposes at South Kensington is neither adequate nor suitable, the Senate be requested to promote negotiations for a fitting site.

The second resolution, as originally moved and carried by a large majority as an amendment to another motion, contained the phrase "a new site," and the substitution of "fitting" for "new" was carried by 60 votes to 59.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY council was held on October 9th, Sir Rickman J. Godlee, Bart., President, in the chair.

Donations.

Dr. Keatinge, Director of the Egyptian School of Medicine at Cairo, was asked to convey the thanks of the Council to the Egyptian Government for presenting to the College a series of "corrosion preparations" made by Professor Wahby and recently exhibited in the museum of the Seventeenth International Medical Congress.

The gratitude of the Council to the authorities of the Egyptian Exploration Fund for their presentation of twenty-four skulls discovered during excavations in Egypt last winter was also recorded.

The thanks of the Council were given to the Director of the Department of Agriculture at Washington, U.S.A., for presenting to the College a collection of plants and drawings made by Dr. Erwin E. Smith to illustrate tumour formation, and recently exhibited in the museum of the Seventeenth International Medical Congress.

Thanks were also given to Sir Thomas Wrightson, Bart., for his gift of a Leitz projection apparatus and a serial section of the human labyrinth.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE Liston Victoria Jubilee Prize (value £100) has been awarded to Mr. John David Malcolm for his investigation into the causes of shock.

CONJOINT BOARD IN ENGLAND.

THE following candidates have been approved at the examination indicated:

FIRST COLLEGE (*Part IV, Practical Pharmacy*).—E. G. Anderson, W. Andrew, C. S. Archer, C. J. L. Blair, P. R. Chevreau, A. M. Clément, G. R. E. Colquhoun, A. J. Drew, A. P. Green, J. A. Gregory, Dorothy M. Henty, J. A. Hill, J. Hope, F. B. Jago, G. L. Lawlor, J. MacAdam, W. F. Matthews, W. Morris, C. F. Pedley, A. Peiue, H. L. Peregrine, P. H. Rawson, A. St. Johnston, H. C. Samuel, A. E. Schokman, A.-el-K. Selim, J. W. G. Steell, E. L. Stephenson, D. Stewart, G. A. O. White, S. M. Wilcox.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examination indicated:

D.P.H. (*Both Parts*).—A. D. Campbell, G. R. Vohra, C. Cameron, W. A. Muir, N. R. R. Ubhaya, A. Campbell, G. G. Jolly, W. S. M'Laren, J. D. Saner, M. L. Bangara, G. Richardson, A. G. Ingram, J. A. MacLeod.

KING'S COLLEGE HOSPITAL.

THE authorities of the medical school have made the following awards of entrance scholarships: The scholarship in science, for students commencing their medical studies, to Mr. H. O. Gunewardene; the scholarship in arts, for students of the same standing, to Mr. A. Blackstock; the scholarship in general and clinical pathology and pharmacology, for students commencing their final medical studies, to Mr. E. C. Malden. The corresponding scholarship in anatomy and physiology was divided between Mr. W. Wood and Mr. H. A. B. Whitlocke. All these scholarships are of the value of £50 each.

LONDON HOSPITAL.

THE name of the candidate to whom has been awarded the *Price Scholarship in Science* is C. S. Cloake, not C. S. Clarke, as printed in our issue for October 4th.

Medical News.

THE autumn dinner of the Irish Medical Schools' and Graduates' Association will take place at the Hotel Cecil, Strand, W.C., on Thursday, October 30th.

DR. NORMAN PORRITT, Honorary Treasurer of the Society of Medical Phonographers, has forwarded on behalf of that society a cheque for £7 7s. towards the funds of the Royal Medical Benevolent Fund.

THE annual meeting of Fellows and Members of the Royal College of Surgeons of England will be held at the College, Lincoln's Inn Fields, W.C., on November 20th, at 3 p.m.

THE demonstration which was to have been given by Dr. Noguchi at the Royal Society of Medicine on October 13th was, owing to his indisposition, unavoidably postponed until Monday next, October 20th, at 5.30 p.m.

THE North London Medical and Chirurgical Society held its first meeting for the new session on October 9th, when an address on the mental diseases of old age was delivered by Sir George Savage. The President of the society, Dr. T. Wilson Parry, was in the chair.

AN address on clinical psychiatry will be delivered by Dr. T. B. Hyslop at the opening meeting of the Chelsea Clinical Society at 8.30 p.m. next Tuesday. As last year, the society will hold its meetings in the club-room of the medical school of St. George's Hospital.

AN address will be delivered in the Post-Graduate College, West London Hospital, on Thursday, October 30th, by Sir Gilbert Parker, M.P. Sir Alfred Pearce Gould, K.C.V.O., Dean of the Medical Faculty of the University of London, will take the chair at 5 p.m.

DR. FRANCIS WARNER will commence a course of lectures at the London Hospital Medical College on the neuroses and psychoses of children on Tuesday next, at 2 p.m. The syllabus of the lectures, which will be continued on the following Tuesdays, will be found in the advertisement columns.

THE next meeting of the Hunterian Society will be held in the library of St. Bartholomew's Hospital at 9 p.m. on Wednesday, October 22nd. The President of the society, Dr. W. M. Ettles, will give an address, and this will be followed by a pathological demonstration by Dr. A. S. Woodwark. All members of the profession are cordially invited to attend.

THE Balneological and Climatological Section of the Royal Society of Medicine will hold its annual dinner at the Waldorf Hotel at 7.15 p.m. on October 23rd. It will follow a meeting of the Section at the society's house, at which Dr. F. A. de T. Mouillot will deliver a presidential address descriptive of lessons derived from twenty years' experience of spa practice.

A COURSE of Gresham lectures to be given by Dr. F. M. Sandwith, Gresham Professor of Physic, on Tuesday, Wednesday, and Thursday, October 28th, 29th, and 30th, at 6 p.m., will deal with Harvey, Darwin, and Huxley respectively. On October 31st Dr. Sandwith will give a lantern demonstration bearing upon the subject of the lectures and will show some letters and other interesting relics.

THE opening address of the winter session of the North-East London Post-graduate College will be delivered at the Prince of Wales's Hospital, Tottenham, on Thursday, October 23rd, at 4.30 p.m., by Sir Arbuthnot Lane, Bart., the subject being Chronic Intestinal Stasis. Dr. W. Seaman Bainbridge (New York) and Dr. A. C. Jordan will show slides, and some twenty patients, who have undergone the operation devised by Sir Arbuthnot Lane, have agreed to attend. Tickets of admission to the meeting can be obtained by any medical practitioner on application to the Dean of the College, 142, Harley Street.

SOME clinical observations on the employment of salvarsan in syphilitic pregnant women have been recorded by Dr. Sauvage, obstetrician to the Paris Hospitals. He admits that injection of salvarsan is not without danger to the life of the fetus, but considers that the risk is not high, and the influence of the drug, when it has become diffused over the mother's system, is decidedly favourable to the offspring. Dr. Sauvage adds that, though the standard signs of syphilitic taint are rare in the newborn child of a mother under this treatment he has seen malformations and general dystrophy, resembling those produced by syphilitic infection. Sauvage concludes that injections of salvarsan produce a decidedly favourable effect on syphilitic complications in active progress in gravid patients, but states that in actual practice the use of salvarsan in pregnancy involves risks so serious as to demand precise indications. When syphilitic infection is active, manifesting itself in the usual symptoms and in special complications incident to gestation, the treatment appears altogether good, and is favourable not only to the mother but likewise to the fetus. Syphilis, evidently in existence but not active, may indicate the advisability of salvarsan treatment if there be a distinct history of imperfect or neglected specific treatment before conception. On the other hand, when a syphilitic subject has been kept under suitable treatment for a long period before her pregnancy, and shows no complications during gestation, mercurial or mixed treatment is indicated, as salvarsan injections involve more risk. Women with renal and hepatic disease are unfitted to undergo salvarsan treatment.

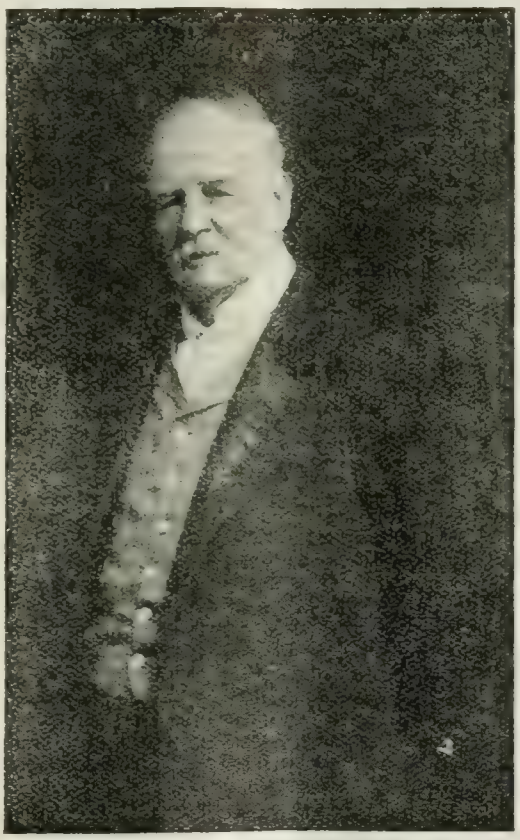
AN instance of a woman afflicted with acromegaly becoming pregnant is now under observation at Budapest (Dr. Lados Kalledey, *Zentralbl. f. Gynak.*, No. 28, p. 1030). The catamenial function was suspended when the symptoms of acromegaly developed, yet when ovarian extract was administered it returned and impregnation occurred. The patient was 32 years old, and married twelve years. There was no family history of importance, and she had enjoyed good health in youth. The periods began at 17, and were scanty, with little pain. At about the age of 20 her gait became unsteady: at the same time her feet steadily increased in size, and she was troubled with vertigo, headache, palpitations, and insomnia. At the age of 22 complete amenorrhoea set in, and she began to grow fat. She was, when first examined last autumn, 5 ft. 1½ in. in height, and of masculine appearance; indeed she was obliged to shave, as she had acquired a well-developed beard. The long bones were very big, the lips and nose thick, the subcutaneous fat universally over-developed, and the mammae large, mainly through a disproportionate growth of adipose tissue. No organic disease of the heart or lungs could be detected, but the patient had an attack of syncope during examination: Romberg's sign was marked, and the gait was ataxic. The *x* rays failed to detect any abnormality in the base of the skull. The urine was free from sugar; the cervix was conical, but the uterus could not be well defined owing to the fatness of the abdominal wall. Dr. Kalledey diagnosed diminished ovarian and excessive hypophysial function, and early in December, 1912, began intravenous injections of a watery extract of ovarian substance, a cubic centimetre representing a gram of (cow's) ovarian tissue. After six injections at intervals of three weeks the gait improved, and headache and vertigo diminished. When she left the Budapest Gynaecological Clinique on January 6th, 1913, Dr. Kalledey prescribed three ovarian tabloids daily. On January 22nd molimen was felt, and a few drops of blood appeared. On February 2nd free uterine haemorrhage developed, and the patient declared that she was obliged to wear smaller shoes and to alter the fit of her clothes, which had grown too wide for her. On March 2nd and 5th Kalledey administered 1 c.cm. by the veins, but treatment was suspended for a fortnight owing to what her family doctor diagnosed as influenza. On March 30th, the catamenia having failed to appear, the patient was examined. Signs of early pregnancy were detected, and the ovarian extract was discontinued. On April 30th all the signs of pregnancy in the second month were found, and a month later, when the report was prepared, gestation was proceeding normally.

Obituary.

SIR JOHN BATTY TUKE, M.D.Edin., F.R.C.P.E., LL.D.Edin., D.Sc.(Hon. Causa)Dub., F.R.S.E., etc.

Sir John Batty Tuke, who died at his residence, Balgreen, Gorgie, near Edinburgh, on Monday, October 13th, although associated with Scotland, and particularly with its capital, for nearly his whole life, was a Yorkshireman by birth and a native of Beverley. He exhibited, too, in his life some of the best of the characteristics of the Yorkshireman: he had tenacity of purpose, pluck, grit, and strength of mind, with a sound judgement; his words were always weighty and his opinions to be respected; and he marched steadily on through varying circumstances, remembering, perhaps, that "the Yorkshireman's days are of all sorts and sizes."

Sir John was born in Beverley on January 9th, 1835, and was the eldest son of John Batty Tuke, of that quiet town with the two big churches; his boyhood and youth he, however, spent in Edinburgh—first at school at the Academy and later as a student of medicine in the University. He graduated M.D. in 1856, and married in the same year Lydia Jane Magee, youngest daughter of the Rev. John Magee, Rector of Drogheda, and sister of W. C. Magee, the eloquent Bishop of Peterborough, who was translated to York shortly before his death.



Sir John Batty Tuke.
(Photograph by Elliott and Fry, Ltd.)

Immediately after his graduation and marriage John Batty Tuke proceeded to New Zealand, where he acted as surgeon to the Colonial troops, and served as senior medical officer in the Maori war from 1860 till nearly the end of the campaign in 1863. He then returned to this country to find his life-work in the department of medicine which deals with the treatment of the insane, a sphere in which earlier Tukes had borne an honourable part; but he had an opportunity in later years of revisiting the battlefields of the Maori war. He began, as many other distinguished alienists have done, as assistant physician at the Royal Edinburgh Asylum; then he acted as medical superintendent of the Fife and Kinross Lunatic Asylum from 1865 to 1873, and did much there to introduce and establish the "open door system" of management. He then returned to Edinburgh, where, along with Drs. Smith and Lowe, he took charge of Saughtonhall Asylum, a large institution for the treatment of the insane, which was then situated to the west of Edinburgh, but has since been removed to the south of the city, to Mavisbank, Polton, under the name of New Saughton Hall. For many years Saughton Hall was under Sir John's sole control, but he was also in practice in Edinburgh as a specialist in mental diseases, and played a leading part in many other spheres of medical interest. Lately he associated his son, Dr. John Batty Tuke, with himself in his asylum work, and became director of New Saughton Hall and visiting physician thereto.

Soon after his return to Edinburgh (in 1874) he was appointed Morison Lecturer in the Royal College of Physicians, to which he had been admitted a Fellow in 1871; exactly twenty years later he again held the Lectureship, and chose as his subject "The Insanity of Over-exertion of the Brain," and many of those who attended remember his huge wall diagram of the cerebrum—surely the biggest of its kind. He also became a Lecturer on Insanity in the Extramural Medical School (1899) and in the Medical College for Women. He was closely attached to the Royal College of Physicians, representing that body on the General Medical Council for twenty-five years (1887–1912); played a great part in the establishment (1887) and development of the Laboratory for Research of the College, and served for ten years as a manager of the Edinburgh Royal Infirmary. If any part of his work should be selected for special praise, it should be the labour which he so ungrudgingly bestowed upon the laboratory; and it must have been a keen satisfaction to Sir John to see in the post of superintendent to that institution three such men as Professor Sims Woodhead, Professor Noel Paton, and now Professor James Ritchie.

It was but natural that he should be elected President of the College, and it was during his occupancy of the presidential chair that he received the honour of knighthood (1898); but before this (in 1896) he had been made D.Sc. (*honoris causâ*) of Trinity College, University of Dublin, and later his own university (in 1902), inscribed his name as an Honorary Graduate in Law (LL.D.). He had served the university well in Parliament, having been elected member for the dual constituency of Edinburgh and St. Andrews in 1900 as a Unionist, succeeding the late Sir William Priestley. After his election he spent much of his time in London during the parliamentary sessions. He never sought to obtain a prominent position as a party politician, but his frankness, geniality, and wide knowledge of his own subject won the respect of his fellow-members and gave him an influence out of proportion to the part which he took in the public proceedings in the House of Commons. Failing health reconciled him to retiring from a parliamentary career, and in 1910 he made way for Sir Robert Finlay. For the past few years Sir John Batty Tuke lived mostly in retirement, his old enemy, the gout, hampering him a good deal, and ultimately bringing his life to an end on October 13th.

He was a Fellow of the Royal Society of Edinburgh; he had been President of the Medico-Chirurgical Society of Edinburgh, and for many years served as a director of the Royal Maternity Hospital, Edinburgh. He made a number of important contributions to the study of insanity, and, in addition to publishing his two courses of Morison Lectures, he wrote the articles on "Hysteria," "Insanity," etc., for the *Encyclopaedia Britannica* (ninth edition), and published papers on insanity of pregnancy, puerperal insanity, and insanity of lactation, etc.

He was a member of the British Medical Association for many years; he was President of the Section of Psychology at the annual meeting in London in 1895, and at the annual meeting in Edinburgh three years later gave the Address in Psychology. In this address he discussed modern conceptions of the etiology of insanities, and it may be taken as containing his confession of faith as to the scope and future of the speciality to which he had devoted his life. It was characteristic of his temperament and conviction that after thirty-five years' study of the nature and treatment of mental diseases he was able to take a sanguine view of what scientific investigation could do for their elucidation, and that he even then believed that a nosology of mental

diseases founded on morbid anatomy was near at hand. To the realization of this hope he devoted time and energy. He was always anxious to encourage workers in this field of investigation, and ever ready to use his influence to secure for them adequate facilities for the prosecution of such researches. In this same address he insisted on the importance of the special treatment of cases of recent insanity. He urged that they should not be mixed up with the residual and chronic cases, but placed in a separate institution where they could be submitted to systematic treatment on thoroughly hospital principles. The importance of this reform has been generally admitted and greatly extended since he spoke. The wide range of his sympathies in all matters attaching to the functions of the nervous system was shown by his election to be president of the Neurological Society of the United Kingdom.

We have said above that Sir John Batty Tuke showed many of the best characteristics of the Yorkshireman, but we omitted to mention one which endeared him to many of his friends during holiday time. We mean, of course, his love of sport, which was catholic in extent, and included golf as well as shooting and fishing. Although his face has been much less seen on the Edinburgh streets in recent years, there will be many in the profession and out of it who will miss his smile of recognition and somewhat quizzical look of regard.

He is survived by his widow, three sons, and a daughter.

JAMES WILLIAMS, M.R.C.S., L.S.A.,

HOLYWELL, FLINTSHIRE; FORMERLY PRESIDENT OF THE NORTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

To the general regret there passed away at Holywell, in Flintshire, on September 19th, Dr. James Williams, whose general position in the public esteem is almost sufficiently indicated by a quotation of the term which was often affectionately applied to him—namely, the Grand Old Man of Holywell. He was born in that town in the early years of the third decade of last century, and commenced his medical studies as a pupil of his father, himself a well-known personality in that neighbourhood, and continued them at the Royal Infirmary, Liverpool, and St. Bartholomew's Hospital, London. He became M.R.C.S. in 1848 and L.S.A. in 1849, and served for a time as resident surgeon at Warrington Infirmary, where he played a conspicuous part in connexion with a cholera outbreak. He afterwards joined his father at Holywell, and again had to deal with an outbreak of cholera. His history from that time onward is the history of Holywell itself, for he served it practically for the rest of his life, not only as a medical man, but also as one of its leading citizens. Professional work he gave up some ten years ago, but he remained a member of its urban district council, of which he was the first chairman, and as recently as last year made a short speech at a public meeting in connexion with an antituberculosis exhibition.

During his long career he filled a good many professional offices, and some of them for a remarkably long period. He was, for instance, M.O.H. for the district for thirty-seven years, and public vaccinator for as many as fifty-six. He was a great believer in the truth of the saying, *Salus populi suprema lex*, and his annual health reports bore constant testimony both to this feeling and to his capacity for lucid expression. Modern views on the subject of tuberculosis were no surprise to him, for he used to relate that his father was accustomed to prophesy that the day would come when the current belief that consumption was an hereditary disorder would cease to obtain credence. But, in any case, Dr. Williams would have been prepared to accept the modern view, for he had kept himself in touch with the progress of science throughout his active career, and up to the end of his life exhibited a receptivity of mind quite rare in a man of his advanced age. Until he gave up professional work he had a large family practice, and the soundness of his judgement as a clinical physician was acknowledged not only by his patients but by his professional colleagues over a wide area in North Wales. Among the latter he obtained an excellent reputation quite early in his career, with the result that he was elected by them President of the North Wales Branch of the British Medical Association as far back as 1868. In his public work he was greatly assisted by the facility he possessed for expressing himself clearly and a certain skill in reconciling the views of conflicting parties.

On the day of his funeral flags were flown half-mast high on all places of public worship in the neighbourhood, and his funeral was attended by a large concourse. Dr. Williams married a niece of his old St. Bartholomew's teacher Frederick Skey, one of Abernethy's more famous pupils. She died some twelve years ago. He is survived by two sons and three daughters, one of the former having succeeded him in his practice at Holywell.

JOHN MACMILLAN, M.A., M.B., C.M., D.Sc., F.R.C.P.E., F.R.C.S.E.,

EDINBURGH.

John Macmillan died at his house, 22, George Square, Edinburgh, on Tuesday, October 7th. He underwent a somewhat serious operation about two years ago, and his many friends in the profession and outside of it were delighted when he made a good recovery therefrom, and was to be seen once more in college and lecture room, at examination meetings, and on the streets of the city, where his strikingly tall and slim figure always attracted attention. The end, however, was not far off, and he passed away, almost without his acquaintances knowing that he was again laid aside, on October 7th, when the medical classes were opening, and the students who were always so dear to his heart were reassembling. It was at a somewhat more advanced age than is common that Dr. Macmillan turned to the medical profession. He was an M.A. of St. Andrews, and a B.Sc. in Natural Science of Edinburgh University in 1879: he spent some years first at Perth Academy, and later in the Academy of Edinburgh engaged in teaching mathematics and science, and there are not a few members of the medical profession living in Edinburgh now who were his pupils in one or other of these two academies. He imbued many a lad and young man with a true love of botany and the natural sciences. He graduated M.B., C.M.Edin. in 1892, B.Sc. in Public Health in the same university in the following year, and D.Sc. in 1894. He was elected a Member of the Royal College of Physicians in 1895, and a Fellow of the same College in 1896; and some years later (1903) he was also elected a Fellow of the sister College (of Surgeons). He studied abroad as well as at home, visiting the medical schools of Jena, Berlin, Vienna, and Paris. He became in 1910 a lecturer on medical jurisprudence and public health in the Edinburgh extramural school, and he was an examiner in biology for the College of Physicians and for the D.P.H. of the College of Surgeons. Dr. Macmillan was also a Fellow of the Royal Society of Edinburgh and of Edinburgh Obstetrical Society, and was President of the Scottish Natural History Society. He gave a paper on fungi in the aërial roots of epiphytic orchids to the British Association in 1835. Kindliness was perhaps the most outstanding of Dr. Macmillan's characters, and no one could be long in his company without discovering it; it was only on further acquaintance that his stores of accumulated learning were revealed. Possibly he was at his best as a teacher, and he loved science; but he was always a sympathetic and attentive practitioner of medicine, too. Dr. Macmillan was never married.

One of the best-known medical practitioners in the east end of Glasgow, Dr. Matthew Martin, died with startling suddenness on October 10th. He had been engaged in his usual round of visiting when he became ill about midday, and dropped in the street. He died before assistance could be given him. He had been chatting with a friend a few minutes before his sudden attack. He was a native of the east end of Glasgow, his father and his brother both having served for long periods in the town council and city magistracy. His brother, Mr. J. H. Martin, was at the time of his death the "father of the council." Dr. Martin graduated at the University of Glasgow in 1882, and since then has been in practice in the city. He was treasurer for the Poor Law Medical Association, and for thirty years served on the Glasgow Parish Council. It was expected that he would enter for municipal honours next month, a course that had long been pressed upon him. He was a most enthusiastic worker, and in addition to his

professional work had varied interests in the life of the city: he was on the executive of the local Unionist Association, and a past chairman of the Municipal Ward Committee. He leaves a widow and one son.

On October 3rd Dr. Frederick Royston Fairbank passed away, in his 73rd year, at Caversham. He was educated at Rugby School, the Manchester Royal School, and at King's College, London. He was in practice for some time at Lynton, and later for a number of years at Doncaster. Here he had a large and influential practice, was surgeon to the infirmary, and surgeon-captain in the Yorkshire Dragoons Yeomanry. In 1892, as he suffered severely from rheumatism and bronchial asthma, he removed to St. Leonards, and afterwards to Dorking: having disposed of his practice there about three and a half years ago, he retired to Caversham. He had been a Fellow of the Royal Medical and Chirurgical Society since 1869, and he was also F.R.C.P.Edin. and M.D. Heidelberg. He was a keen and accurate physician, as evidenced by a paper on digitalis in the *Transactions* of the Clinical Society; and a skilful surgeon, as was shown by the excellent results of tarsectomies he executed for relief of talipes equino-varus in adults. A clinical notebook he designed is of considerable value. In his later years he was drawn more to the study of archaeology and architecture, and was elected F.S.A.Lond. in 1888. He published several articles, particularly on brasses and memorials of Old Surrey, in the Associated Architectural Societies' Reports of excavated Roth Abbey. He was twice married, and leaves two daughters and a son with his widow to mourn his loss.

Lieutenant-Colonel John Ritchie, R.A.M.C., died suddenly in a nursing home in Glasgow, on October 6th, aged 50. After graduating M.B., C.M. in the University of Glasgow in 1884, he entered the R.A.M.C. as Surgeon on February 5th, 1887, becoming Major on February 5th, 1899, and Lieutenant-Colonel on July 29th, 1911. He was stationed last winter at Firuzpur, in the Punjab, but for the past six months had been at home on sick leave. He served in West Africa in 1898–9, in Sierra Leone, receiving a medal and clasp, and in the northern territories of the Gold Coast, getting another clasp. He also served in the South African war from 1900 to 1902, in the operations in the Orange Free State in April and May, 1900; in the Transvaal in May and June, 1900, including the actions near Johannesburg, Pretoria, and Diamond Hill on June 11th and 12th; in the Orange River Colony up to March, 1901, including the action at Wittebergen; and in the Transvaal from March, 1901, to May, 1902, gaining the Queen's medal with four clasps and the King's medal with two clasps.

Public Health.

LOCAL GOVERNMENT REPORTS.

Rochester Borough.—In August and September, 1912, there occurred in the Strood portion of the borough of Rochester a sudden outbreak of typhoid fever, in which 69 persons were attacked, of whom 8 died. An account of his investigation of the outbreak is contained in a report by Dr. S. W. Wheaton to the Local Government Board.* Rochester is divided by the river Medway into two distinct parts, the more modern, Strood, having a population of about 14,000 persons, or rather less than half of the whole borough. The earliest cases were notified during the first week in August, 1912, and in the two successive weeks there were notified 26 and 21 cases respectively. The sufferers were found to be served by eight different milk supplies, and quite half the persons attacked had condensed milk only, so that it seemed very improbable that milk was the medium of infection. There was, however, strong evidence that the outbreak was water-borne. The water supply to the houses concerned is from a well sunk through the chalk. In the neighbourhood of the well are numerous cesspools connected with water-closets, the walls of which are formed by the bare chalk and the contents of which soak away into the chalk. There were also drains which were known to be defective. In the vicinity of the waterworks, within a radius of 300 yards, there are at least fifty cesspools, the liquid contents of which soak away into the chalk. It is held that the specific infection of the water in the well was in all probability derived from a house in the Strood rural district the drainage of which ran through the waterworks site. In this house during June there was a patient suffering from typhoid fever. Dr. Wheaton states that the sources of pollution of the well are so numerous, and are increasing so much with the extension of building operations in the borough and adjoining rural area, that it will be impossible with certainty to exclude them. He gives cogent reasons for stating that the water from the Strood waterworks can no longer be considered safe for use.

* Reports to the Local Government Board on Public Health and Medical Matters. Dr. S. W. Wheaton's Report on Enteric Fever at Strood in Rochester Borough in 1912. (New Series No. 79.) London: Wyman and Sons. 4d.

The Services.

GOOD SERVICE PENSIONS IN THE INDIAN MEDICAL SERVICE.

The *Gazette of India* of September 13th, 1913, announces the grant of Good Service Pensions to several officers of the Indian Medical Service. The announcement comes somewhat late; the most recent is over two years old; the first in point of date is over eight years old; in fact, its recipient died over eight years ago. The grant of these pensions to Surgeon-Generals Bomford, Browne, Benson, and Greany was gazetted at the time, but in all four cases has been now somewhat antedated. The list is as follows:

Surgeon-General W. McConaghy (Bo.), from June 16th, 1905, vice Bookey, retired.
Surgeon-General G. Bomford (B.), from September 4th, 1905, vice McConaghy, dead.
Surgeon-General W. R. Browne (M.), from March 25th, 1907, vice Reid, retired.
Surgeon-General P. H. Benson (M.), from April 1st, 1908, vice Browne, retired.
Surgeon-General J. P. Greany (Bo.), from May 22nd, 1907, vice Fayrer, dead.
Colonel D. Wilkie (B.), from October 1st, 1908, vice Greany, retired.
Colonel H. McKay (B.), from April 2nd, 1909, vice Wilkie, retired.
Colonel R. Macrae (B.), from December 3rd, 1909, vice McKay, retired.
Surgeon-General H. W. Stevenson (Bo.), from March 1st, 1910, vice Macrae, retired.
Surgeon-General A. M. Crofts (B.), from April 7th, 1911, vice Hamilton, retired.
Surgeon-General W. B. Bannerman (M.), from July 26th, 1911, vice Benson, retired.

These pensions are bestowed, with few exceptions, only on administrative officers, and are not tenable along with the increased pensions given, in the Indian Medical Service, to officers of these ranks who complete their tour of office as such. In most cases, therefore, the recipients vacate these pensions on retirement, after having enjoyed them for, at most, a few years. The pensions amount to £100 a year, and are appreciated rather as a distinction and as an acknowledgement of good service, than for their pecuniary value. Two of the officers upon whom they have now been conferred—Surgeon-General McConaghy and Colonel Macrae—enjoyed them for less than three months.

In the rare cases in which such pensions are conferred upon officers who have not attained to administrative rank, they are tenable for life, along with the ordinary pension of rank. Brigade-Surgeon James Arnott, of the Bombay Medical Service, received one of these pensions on March 2nd, 1895. He retired as a Brigade-Surgeon. A Good Service Pension was also bestowed upon Sir Joseph Fayrer, who retired as a Surgeon-Major after he vacated the post of President of the India Office Medical Board; and he drew it till his death.

As one of these pensions was bestowed upon the present Director-General of the Indian Medical Service, Sir C. P. Lukis, from January 1st, 1910, all four of the Surgeon-Generals in that service now hold them. No other officer of the Indian Medical Service on the active list has one, and one only, Arnott, on the retired list.

A quarterly court of the Directors of the Society for Relief of Widows and Orphans of Medical Men was held on October 8th, when Sir Thomas Boor Crosby, President, in the chair, and twenty members of the court were present. Three gentlemen were elected members of the society. The sum of £523 was voted to be distributed among the widows and orphans at Christmas, each widow to receive £10, each orphan £3, and each orphan on the Copeland Fund £10. The Brickwell legacy of £37,250 recently received will yield an annual income of £1,325 10s., and it was resolved to authorize the directors to dispose of this income by increasing the grant to widows over the age of 65 by £25, and under that age by £10 a year, by increasing the grants under the Copeland Fund by £20 a year, and by an increased grant of £15 a year to orphans other than those in receipt of grants under the Copeland Fund. The invested funds of the society now stand at £139,500. Relief is only granted to the widows and orphans of deceased members. Membership is open to any registered medical practitioner who at the time of his election is resident within a radius of twenty miles of Charing Cross. The annual subscription is two guineas. Special terms for life membership. Further particulars and application forms for membership may be obtained from the Secretary at the office of the society, 11, Chandos Street, Cavendish Square, W.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DR. G. ARBOUR STEPHENS (Swansea) asks for references to statistics with regard to appendicitis in this and other countries.

SALVARSAN IN PERNICIOUS ANAEMIA.

PERNICIOUS ANAEMIA asks if any one can tell him of relapse in this disease following "cure" by salvarsan, which rescued a former patient from the jaws of death with apparently a complete cure eighteen months ago, but this man cannot now be traced. The present patient is a woman of 30, with three years of debility, anaemia, and dyspepsia. For a few weeks she has had severe anaemia (haemoglobin 39 per cent.) and a typical blood picture. She is weak, with spells of obstinate vomiting. Liquor arsenicalis does her good, but as that treatment never prevents the ultimate victory of the disease, he would feel justified in subjecting her now to the risks of salvarsan treatment provided that no instance of relapse after its successful use is so far known. A prompt reply, with doses employed, might be life-saving.

*** Some information on this point is given by Dr. Byrom Bramwell in his clinical lecture on pernicious anaemia published in the BRITISH MEDICAL JOURNAL of May 24th last, p. 1093 (see Cases III, and XII, and perhaps also IX. Note also Cases VI and VII).

ANSWERS.

493.—The Government grant for successful vaccination is regarded as part of the emoluments of the public vaccinator. If A. has been in the habit of sharing with B. the usual fees for vaccination, he must also share with B. any additional grant he receives from the Government.

LETTERS, NOTES, ETC.

THE next award of the Alvarenga Prize, which is of the value of about 180 dollars, will be made by the College of Physicians of Philadelphia on July 14th, 1914. Essays in competition, which may be upon any subject in medicine, must be received by the Secretary of the College on or before May 1st, 1914. The essay must have been hitherto unpublished, must be typewritten and in the English language, or accompanied by an English translation.

A DISCLAIMER.

DR. H. D. MCCULLOCH (London) writes: My attention has been drawn to the appearance of my name in the lay press in connexion with the contradiction of the alleged discovery by Dr. Hugel, of Berlin, of the curative effects of radio-active agents in chronic deafness. I desire to say that I am not personally responsible, as the contradiction there did not emanate directly from me or my agents.

WILLIAM LANGLEY MEMORIAL FUND.

DR. J. P. FAGAN (London) writes: I would feel much obliged if through the columns of the JOURNAL you could make it known that subscriptions to the above received by my bankers, Sir Charles R. McGrigor and Co., 25, Charles Street, St. James's Square, S.W., will be transferred to the committee at Lagos, Northern Nigeria.

THE HUNTERIAN SOCIETY'S MEDAL.

WE are asked to remind competitors for the annual silver medal of the Hunterian Society that the latest date for sending in essays for the present competition is December 31st. The medal is given for the best essay by a general practitioner, embodying the results of his own observations. The competition is open to all registered general practitioners resident in Great Britain, Ireland, and the Channel Islands, whether Fellows of the Society or not. Full particulars may be obtained from the honorary secretaries, Dr. O. K. Williamson (21, Bryanston Street, W.), or Mr. E. Maynard, F.R.C.S. (55, Oxford Terrace, Hyde Park, W.).

HERPES AND VARICELLA.

DR. JOHN ORR (Edinburgh) writes: I have been interested by the letters in your columns regarding the relationship between herpes and varicella. The following two recent cases may afford grounds for reflection: (1) Male, aged 50, developed herpes of the scalp of severe character on September 2nd, 1913. His daughter, who had not wittingly been in contact with any case of varicella, showed signs of varicella a fortnight later. (2) A male, aged 45, became affected with herpes intercostalis on September 29th, 1913, and had a well-marked manifestation. On October 2nd he developed an equally well-defined varicella eruption, typical in character and distribution. These parallel cases may serve to indicate to your correspondents that the connexion between herpes and varicella is of the nature of a coincidence.

SHIP SURGEONS.

B.A., M.B. states that shipping companies are finding difficulty in obtaining the necessary medical officers for their vessels, and thinks that they have only themselves to blame. "Often," he writes, "the accommodation provided has been ill-ventilated and insanitary, and even to-day, on some big mail steamers, a room is offered to the surgeon without ventilation, and in which artificial light is always necessary. Until just recently the highest remuneration obtainable was £10 a month, when on the same ship the purser was receiving £16 or more, and the chief steward and chief cook £12 each. To-day the leading company trading to the East is paying £20 a month to its newly-appointed surgeons, and it seems likely that £25 will be reached shortly. This cannot be deemed excessive when chief officers receive £20 and over, and chief engineers £30 and over. Some companies, as a further inducement, are permitting their surgeons to charge regular fees to passengers, and hold out visions of anything over £200 a year being obtained in addition to the pay. Let me say at once that the ships on which anything like this amount can be earned are very few and far between, and are already in charge of permanent medical officers. In the last three months, on the large mail steamers, I have earned under £4.

"1. Let those applying for positions as ship surgeons hold out for at least £20 a month, and they will get it, even when the company permits fees being charged to passengers.

"2. Let them secure an undertaking in writing that their accommodation shall be 'an outside cabin with a porthole,' and thereby avoid the experience of a night in the tropics in an inside room.

"3. Let them insist that the cabin be furnished with an electric fan, for even this elementary necessity is refused by some companies unless an arrangement is previously come to."

"THE LONDON MEDICAL COMMITTEE."

MR. E. ARTHUR DORRELL, F.R.C.S., 45, Welbeck Street, London, W., honorary secretary of the London Medical Committee, which, he states, is "an entirely non-panel body," desires to draw the attention of the non-panel section of the profession in London to the efforts made by the London Medical Committee in promoting the formation of non-panel associations in the county of London. He states that three such associations are in existence, at Hampstead, Wandsworth, and Lewisham respectively, and that others are in course of formation. He invites non-panel men who desire to keep in touch with each other and prepare by combination to meet attacks upon their interests to communicate with him at the above address.

CURE BY LAUGHTER.

DR. GUSTAVE MONOD (Vichy), writes: And now for a French case. The whole family was gathered round the patient's death-bed, a young lady struggling for breath. Her mother fell on her knees and prayed: "Leave me this one, leave me this one, and take all my other children." Then was heard a man's voice from the corner of the room: "Are sons-in-law included?" So irresistibly comic in its pathos was the question that laughter exploded, and the patient's abscess burst.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

An Address

ON

THE HISTORY OF THE INVENTION AND DISCOVERY OF SPECTACLES.

Being the Inaugural Address delivered before the Members of the Bradford Division of the British Medical Association.

BY

GEORGE H. OLIVER, L.R.C.P.Lond., M.R.C.S.,

Diplomate in Ophthalmology, Oxford.

Assistant Surgeon to the Royal Eye and Ear Hospital, Bradford; President of the Division.

Science has been very lavish in the benefits she has conferred on mankind. A host of subjects occurs to one's mind in this relation: the steam engine, telescope, telegraph (in its various forms), telephone, microscope, etc., and, giving full consideration to each useful invention and discovery depending on the revelation of some hitherto hidden secret of Nature, none is of more importance than the observation that a biconvex lens apparently increases the size of the object viewed through it. On this observation rests the invention of a large number of optical instruments, including the spectacles or eyeglasses with which to-day we are so familiar.

Words fail me to give an adequate description, or to present to you any idea of the enormous benefit that has accrued to humanity from the use of spectacles. What should we do without them? When we consider that the emmetrope at 50 is no longer able to read ordinary print, nor to write at the usual distance, we are struck with the fact that all those above that age and in both sexes would be barred from the most useful and pleasure-giving functions and exercises of which their organisms are capable. What an enormous loss it would be to the world if every one at this age was put out of gear, so to speak, regarding reading and writing! This means something of still greater importance—namely, that without glasses a very large proportion of these people would be prevented from earning a living.

Our imagination might carry us into every grade of society and phase of life, and suggest to us not so much, perhaps, that the loss of this great boon would be a calamity as that we enjoy in its use one of the greatest, if not the very greatest, blessings that has ever been conferred on us by a mixture of empiricism and science.

I think you will agree with me—at least, I am hoping so—that anything that can affect not just you and me, not only this town and neighbouring towns, and not even whole countries, but the whole world—the entire human family—as spectacles do, a little time devoted to the study of their discovery will not be altogether without interest.

This inquiry can only be prosecuted regarding the people of the Western world, not those of the Far East, because it is quite possible the Chinese had the advantage in this, as in many other things, for we know that this interesting people had already reached a very high state of civilization in the early history of the world, and they may have used glasses long before we heard of them. To-day they use glasses which come from Europe, and are very much like those we use. It was different at the commencement of the nineteenth century. In 1817 Ferrario figured a group of Chinese in which a man is shown wearing glasses connected by a bridge and held in position by a string tied behind the ears. A similar picture is presented by Davis, in which a Chinaman is depicted wearing glasses held in position by weighted cords, which hang over the ears. Other travellers at that time relate that glasses were widely worn in China, the large round discs of which were made from a brownish stone, which the Chinese call "tea" stone, because it resembles in colour an infusion of the leaves of this plant. Among the drawings of a Chinese artist a female native is depicted wearing large round mounted glasses secured with a string which goes behind the ears, and attached to the bridge is a piece of bent wire having a spread-out end which serves as a support, resting on the forehead.

Two French writers have recently said that when Marco Poulo penetrated China in 1270 the inhabitants were wearing lunettes. Horner says that the only people of antiquity who may have used spectacles are the Chinese, and Pansier too thinks this possible, but neither presents any evidence in support of his statement. Inquiries on the part of others show that there is no trace of evidence that the Chinese used glasses in the Middle Ages. As far as can be ascertained, there is nothing in the writings of the ancient Jews showing they had a knowledge of spectacles. We can say with certainty that the Greeks and Romans of antiquity knew nothing of the subject of this discourse—that is, of lenses with a long focus—as no author speaks of it, neither have excavations revealed anything of the kind. The great European collections contain nothing that can be referred to this class, but various references are made to lenses made of glass or rock crystal, which have been found in different places, such as Nola, Mayence, Pompeii, Nineveh, and in England—all convex; but, in the sense of spectacles, these lenses are out of the question, as they have too short a focus, and regarding their use we cannot get beyond conjecture; perhaps they served as magnifying and burning glasses.

Pliny and Seneca in places refer to the magnifying effect of a glass ball filled with water, like the well-known *Schusterkugel* of the Germans, by the aid of which the old cordwainers prosecuted their humble, though useful, calling. In this case the ancients attributed the magnifying effect of the ball to the water and not to the curved surface of the ball, and recognized the fact that with the help of such a device they were enabled to decipher small or indistinct writing. We cannot but be struck by the thought that the workers used some means of magnification when we reflect what small and fine work was done by the ancients in the art of precious stone cutting, some of the most beautiful work of antiquity still preserved; and it may be assumed that the extremely fine examples of Egyptian work in gold and precious stones, executed about 2000 B.C., could have been accomplished only with the aid of magnifying glasses. On this we can but hypothesize. There is ample evidence to show that biconvex lenses were used as burning glasses. Pliny tells us that glass balls filled with water were used by physicians for burning, and were to be bought from medicine dealers, and, perhaps, formed part of the armamentarium of the practitioner. What astonished them most in those days was that, in spite of the ball being full of cold water, it burnt.

The fact that Nero used an emerald when watching the gladiatorial contests would apparently end the contention that the ancients knew nothing of glasses. Tradition and narrative of varying origin have spread this belief widely, because Nero used this emerald.

The ancients were well acquainted with short sight, but there is no suggestion of a concave glass. Neither is there any indication of the manner in which Nero's emerald was ground, nor of the manner in which it was used—that is, whether he looked through it or at it. It would be useful and of some importance to learn something of the size of this stone, which must have been considerable, and in so far was exceptional, for at that time, though emeralds were plentiful in Rome (obtained from the Ural Mountains), they were mostly small, so it is not unlikely that Nero used the emerald otherwise than as a lens to aid his vision; and we must find some other reason for its use, which was probably this, that among the ancients the emerald had the reputation of being a means of strengthening the eye, for stonecutters were recommended to lay the stone they were cutting on an emerald or near it, and the fact that a green colour had an agreeable effect on the eye, which had been known from earliest times, appears to have been taken advantage of, and the Emperor's emerald may have been used as a real protective glass, which rendered his photophobia more easily tolerated. The green colour, on the other hand, may have been significant of the Emperor's political tendency, as the "party" openly manifested their partiality for the "greens" by wearing green dresses, strewing the floor with green sand, etc.

In the early Middle Ages we meet with the same difficulty in finding any trace of ground glasses with a long focus. We find even the same conditions prevailing at this time as obtained at the end of the early ages, which

need not excite our surprise, as the people of the early Christian era obtained their knowledge from the Greeks and Romans only. In old writings casual mention is made of magnifying glasses, but never of spectacles. Winfrid, the great Scot, called St. Boniface (A.D. 680–755), knew the effect of magnifying glasses, as also did the German poet Konrad, who died in 1287. The Arabian Alhazen, in the middle of the eleventh century, speaks of the magnification caused by a segment of a glass ball, and his commentator, Vitellio, was anxious to obtain such a glass to enable him to see small objects better. Roger Bacon, one of the most learned men of his day, was the first to make mention of glasses, in the year 1276. He remarks, in treating of the properties of glass lenses, of which he had a very valuable collection, "how useful they must be for those who are old and have weak sight."

About the year 1300 glasses were well known in Germany, as is expressly signified by the lyric poets of that time, and, according to von Humboldt, they were then extensively used in Flanders. Pansier says that pictorial representations of biblical characters wearing glasses were made in the middle of the fourteenth century. The majority of direct references to the invention of glasses are met with in Italian authors. Of the sons of that country two are credited with it. They were Salvino d'Amarto degli Armati and Alessandro della Spina. To the former the invention of glasses, in the year 1285, is attributed. He died in 1317. The Florentine antiquarian, Leopold del Migliore, discovered in a church in Florence an epitaph which ran as follows: "Here lies Salvino d'Armati of Florence, the inventor of spectacles. God forgive him his sins. Died in the year of our Lord 1317." Spina was a Dominican friar in the cloister of St. Catherine in Pisa. The archives of this monastery relate that he died in 1313, that he was a good man, of retiring disposition, who understood how to reproduce anything he saw, or of which he heard; he made glasses himself which were first made by some one who would not divulge the secret of their manufacture. With kind heart and willing hand he imparted what knowledge he had to his fellows. Giordano da Rivalto, a renowned preacher and divine of this same monastery, said after one of his sermons, preached on February 23rd, 1305: "It is barely twenty years since the art of making spectacles which enable us to see better was introduced, one of the most useful arts in the world. I have myself seen and spoken to the man who first made them." To whom he referred we do not know. This would give a date about 1280.

Dr. Franciscus Redi, physician and philosopher, writes to his friend Paul Falconeri, a Roman, in 1676, that he has an old manuscript dated 1299, which says in reference to correct writing and speaking, "I find myself so oppressed with years that without the glasses, known as spectacles, I have strength neither to read nor write. These have been lately invented for the conveniences of poor old people who are weak-sighted."

An account of the festivities in connexion with the marriage of the Duchess Juta of Austria with Count Ludwig von Oettingen states that a guest, Pietro Buonaparte, ambassador to the Austrian Court, caused great excitement by appearing with glasses, called "beryls," across his nose, invented by the Florentine, Salvino degli Armati.

That glasses were invented at the end of the thirteenth century in Italy is abundantly shown by the great majority of contributors to the history of this subject, and either by Armati and Spina together or independently of each other. We read, however, that at the same time in Germany old people were using them, as they were also in Flanders. Other accounts agree in the statement that the same thing was going on in countries far removed from each other.

The references to Armati and Spina are so numerous that they have forced other traditions into the background, the chief of which declares that Roger Bacon was the discoverer. Caesamaker decides in favour of the learned Oxford monk, and there is much to be said for him when we take into consideration the general history, the things that were known, and the few who took interest in them. Heinrich Goethals, a close friend of Bacon, may have been entrusted with the secret of the invention and use of glasses and of Bacon's studies with magnifying glasses. He was commissioned to go to Rome to advocate a matter relating to his Order before Pope Martin IV. On his journey through Italy he heard the Pope was dead (A.D. 1285), and in order that the journey should not be made in vain he remained in Florence until a new Pope was chosen. Here he got to know Spina (the man who could reproduce anything of which he heard), who, from what Bacon's friend told him, it is said, made spectacles, so that Spina may have got his inspiration indirectly from Bacon. The sad fate which overtook the intelligent Oxford Franciscan explains why his name was not mentioned in this matter. Though in scientific knowledge by far excelling his contemporaries, his invention was looked on as a sort of witchcraft, or as the work of the very devil himself. His name was of bad repute in Italy, as he frequently and emphatically reprehended the corrupt morals of the clergy. He was finally overcome by his enemies, for, after writing one of his letters to the Pope, they threw him into prison, where he languished until within a short time of his death.

The first medical man to mention glasses was Bernard Gordon, educated at Salerno, and professor in Montpellier. He said that they were not necessary, thanks to his remedies for eye complaints, which so excelled that they made those whose sight was failing able to read small print without the use of glasses. Guy de Chauliac, body physician to Popes Clement VI. Innocent VI, and Urban V, also lauded his own eye lotion, but added: "If this doesn't relieve you, then try eyeglasses."

No one at this time knew anything at all about the refraction of light, hence the senseless talk about the various remedies. The laws of optics, relating to glass lenses, have been known only since the time of Maurolycus (A.D. 1494–1575) and the immortal Kepler (A.D. 1571–1630). The physician who first ordered glasses in a professional capacity was one Montanus, a teacher in Padua. He ordered protecting glasses, reading glasses, and, some say, prisms. Physicians at this time evinced great hostility to the wearing of glasses, and owing to the way in which they dissuaded the people from their use, it was not to be expected that it would spread very rapidly. The chief among these was Georg Bartisch, of Königsbrück, near Dresden, the author of the first German book on ophthalmology. Even into the nineteenth century they considered it beneath their dignity to order proper glasses for anybody, and left it to dealers, who, even in our time, surround the testing for glasses with a mysterious air. It was only in the middle of the nineteenth century that fixed printed testing types were obtainable by ophthalmic surgeons. Until the laws of optics were discovered which was long after spectacles came into use, these were considered things of mystery: people attributed a secret power to lenses by the aid of which they could read and write. Franz de Paula (died A.D. 1507) declared that his lost vision was quite restored by the use of glasses. Theophrastus Paracelsus, the wonderful chemist and doctor, who spoiled an otherwise worthy reputation by "crying in the markets," speaks of an *ars berillistica*, and considered spectacles a consecrated crystal in which one could see the events of the future. In the year 1551 Record related that Roger Bacon had ground a glass in which he could verily see the devil at play.

It is not difficult to explain why our knowledge of the advent of spectacles is so spare and deficient. About the time at which the events of which we have spoken were taking place, the methods of communicating them to successors were very few and primitive, the only means at disposal being writing on either parchment or stone. The latter has at least preserved the name of the inventor of spectacles.

There were comparatively few of the costly manuscripts at the time when the art of writing and illuminating them was first practised, and only a few have resisted the destruction caused by the unrelenting hand of time, and thus have been preserved. In a sketch of the Council of Constance by Richtenthal in the library of Prague University, the Chancellor is represented with glasses clipped on his nose (A.D. 1417), while in part of the same manuscript preserved in the library of the Royal Academy of Arts in St. Petersburg none is seen wearing glasses, though it abounds in figures. Paintings may be considered important sources of information. We do not possess many pictures executed in the early days of the

spectacle era, and the artist, whatever his imagination might be, would never have sullied his reputation by introducing subjects wearing glasses. In some degree this was different in the fifteenth century, when great artists produced great works rich in figures, when the reproduction of drawings by copper engravings or woodcuts began, and when the art of printing in unparalleled triumph transformed the whole life of mankind.

To the caricaturist our subject presents a rich field, and many express by their productions the use and form of glasses. These are also useful in giving us the period of the production of the picture—not that of the subject. In the same way, according to the choice of the painter who thought fit to dress his biblical characters in costumes of the Middle Ages, so also we find in such pictures people wearing glasses. Examples of this are seen in the "Adultress" by Kranach, and in "The Widow's Mite" by Titian in the Louvre; an old Jew is seen in each wearing glasses. Although the number of such pictures is considerable, yet it is relatively small considering the enormous number of pictures in which we seek in vain for any subject wearing glasses. This is particularly the case with pictures in which numbers of individuals of different standing are represented. Not only in miniatures of divines, philosophers, and others, but in wall and panel paintings, especially taking at random such paintings as those of Paul Veronese in Venice, Raphael's Stanzas in Rome, "Triumph of Death" in Pisa, wall paintings of Pinturrichio in the library of Siena, and pictures of the Netherlands of the seventeenth and eighteenth centuries, and in many others representing hundreds of pictures and thousands of people, yet not one wearing glasses, while other things, such as tobacco pipes, are in strong evidence. The same may be said of bodies of divines, physicians and learned men in general. In single representations of men of various callings we see their various insignia, but no trace of spectacles. In representations of the audiences of theatres not a single individual is seen wearing glasses. A comparison of these with similar representations of the nineteenth century shows a different condition of things, for we regularly see people represented wearing glasses. The medical man is nearly always so represented in order to distinguish him from others. There is also another great difference between the periods. In former centuries few people used glasses at all, still fewer wore them; this difference is all the more marked when we consider that the eyes of mankind, with the exception of some increase in myopia, have not changed. There must have been some cause or causes at work which prevented the general adoption of glasses as an aid to vision. As a matter of fact, such causes did obtain; not only did doctors themselves refrain from wearing them, but they distinctly dissuaded the people from doing so. From lack of means of quick locomotion in the Middle Ages and early modern times a long period was required for glasses to become known to a wide circle, and, as I have said, they were looked on as a kind of magic toy until such time as the laws governing the action of lenses on light were known. Still other causes may be adduced. It must be remembered that life in the old days seldom rendered it necessary to use glasses, as few people followed any calling which demanded acute vision. Watchmakers, workers in gold, engravers, doctors, men of letters, and teachers were not so frequently met with as nowadays. Even members of such bodies were but seldom depicted wearing glasses, whereas with the physician the urine glass never failed. Those who had not good vision avoided such occupations as required it. The world was not quite so well filled as it is to-day. The choice of occupation and the obtaining of a livelihood were not so difficult, and we know that among the monks those only were entrusted with the execution of manuscripts to whom writing and painting presented no difficulties. History relates that monks suffered from cramp in the arms and hands from prolonged writing, but there is no mention of difficulty in seeing; Witkerb, Abbot of Tours (tenth century), renowned for the wonderful manuscripts he produced, wrote his last one in his 90th year. Neither did the invention of printing, which brought the reading of books to a wide circle, tend to the increased use of glasses, for then the books were so large that they were carried on a stand, and the thick letters could be deciphered without difficulty. The number of those who wore glasses relatively to those who actually required them was still lessened by want of training and the inferior social position of the women of that period. Women and girls who at that time were able to read and write with facility formed such remarkable exceptions that those who possessed that faculty were considered to be highly accomplished. Pictures showing women wearing glasses are extremely rare, and not one has been seen showing children wearing them, and all men shown wearing glasses have the mark of advanced age.

We need not wonder that in early times men were strongly opposed to this custom, as at first glasses were ill-shaped and most disagreeably striking in appearance, and, more than this, they directed the attention to a physical disability.

Patients wearing glasses were made fun of, and not altogether in a very tender manner. On the title-page of a satire on a tailor, published in the sixteenth century, two goats are represented standing erect on hind legs, the one on the left wearing glasses, and at the same time ejecting the contents of the lower part of his digestive apparatus. In the year 1494 a caricature of a bibliomaniac was published by Sebastian Brandt, representing that individual wearing a very ungainly pair of nose nippers. In a series of caricatures published in 1715 a dwarf is depicted in clown's dress executing a somersault, and on the buttocks, which part is directed to the spectators, is sketched a pair of glasses. Many other examples of the caricaturist's art executed at this period are extant, and are evidently intended to show to what ridicule people were subject who availed themselves of this valuable aid to vision. The shadow of this ridicule accompanied the wearing of glasses for a long time, even unto the nineteenth century. Thus does valuable knowledge travel slowly.

Their prohibitive costliness rendered the wide adoption of spectacles impossible. At the end of the sixteenth century the price per pair, expressed in terms of present-day value, was from £10 to £20. From this circumstance glasses which frequently had costly ornamental fittings were seldom seen, and then in the possession of wealthy people only. They were enumerated among the possessions of the owner, and in testamentary dispositions were particularly mentioned—for example, in 1372, in the will of King John of France and in that of Charles V of France, and also in a list of belongings of St. Antonine, Archbishop of Florence (died 1446). They could not always be obtained, even for large amounts of money. The Elector of Saxony in 1570, then in his 48th year, just about the time when his presbyopia and latent hypermetropia, if he had any, where rapidly becoming manifest, sent his servant to Augsburg to get him a pair, which, however, he could not there obtain: he was obliged to go to Venice, where he accomplished his mission. Lenses, too, were made in very few places, and the art of preparing them was very jealously guarded as a valuable secret. This secret was held until the sixteenth century, when it was lost, as was that of the manufacture of artificial eyes, through treachery, and the secret quickly spread to other lands. Venice for a long time was the only place where good glasses were made. The factories were placed at some distance from the town in order to avoid the danger of fire; even here, though the home of the manufacture of this valuable article, it found no favour, probably because the highly developed sense of the beautiful in the Venetians resented such a menace to their pleasing exterior. Treatises on arts and manufactures of the eighteenth century give a prominent place to the making of glasses for spectacles, and, as far as we are able to gather, Germany was the chief country which produced them. The places selected were those that had made themselves famous for industry—namely, Nuremberg, Regensburg, and Augsburg. In France spectacle-makers were included in the Reflector and Toymakers' Guild, and were mentioned in a new statute granted by Henry III in 1581. This order, or company as we call it to-day, possessed its own heraldic emblem, whereon is figured a mirror between two pairs of eyeglasses. For the production of lenses fine Venetian glass as well as flint and crown glass was used. When we read that the raw material was provided by the beryl, we must not forget that under this name to-day many kinds of precious stones are included, from the dull or transparent

and variably coloured crystals to the more costly variety, the aquamarine, and the mostly prized of all, the emerald. In the Middle Ages every transparent stone, even glass, was named "beryl," and there is no reason for doubting that lenses were ground from beryl—not the finer varieties, but from those of a less attractive virtue. Such crystals have been found in England and France, having a length of 1 to 2 metres, weighing 1.500 kilos, and chiefly grey or brown in colour. This recalls the topaz used by the Chinese, which has great variety in colour and markings. About the middle of the nineteenth century the most preferred and at the same time—as is usually the case—the most expensive glasses were made from Brazilian rock crystal, the "pebble" of to-day, which is characterized by its peculiar clearness and hardness. In 1591 a maker prepared glasses from amber saturated in linseed oil, which made the amber transparent and colourless. These were probably used as protectors, as were discs of mica used later. The lenses were not always round; some were oval, others square or even octagonal. At first—and probably with Armati—the lenses had figures scratched on them, indicating the age of the individual for whom they were considered most suitable—a quite arbitrary notation, which in the most favourable case rested on very small experience; this method was given up, but on what ground is unknown. The designation of lenses according to their focal length was generally adopted about the middle of the nineteenth century. In the second half of the eighteenth century they were graduated according to their focal length in inches, and even then each maker had his own method of differentiation. A long time elapsed before glasses were made comfortable for wear. Perhaps a reference to pictorial representation will do more than I can say to give you some idea of the evolution of the spectacle frame. The oldest form is the reading glass for old people (it still survives), round, and mounted in metal rim with long handle; this continued in general use until the nineteenth century. The lenses were large and thick and the rim not unusually made from one of the precious metals and highly ornamented; many of these had protecting cases, which were used as handles; these single glasses were used by every nation in Europe. During the time of the first French Empire the use of these glasses was associated with a certain amount of foppishness and coxcombry, and it was the fashion with men, as well as with women, to swing in an elegant manner a large glass with a handle, and to put it before the eye (chiefly the left) from time to time, as though observing persons and things in earnest, but it was impudence more than anything else; such glasses were very often simply plain glass, the possessor being neither myopic nor hypermetropic. The history of the monocle I have not been able to trace. From this single glass, frames with two lenses evolved at the end of the fifteenth century. Each glass had a support, and these were fastened together at the end, or were bound together with an overlapping joint, and sometimes furnished with a protecting case. This form went out of fashion later, and was reintroduced at the end of the first French Revolution, partly as a useful instrument and partly by the fops. At the commencement of the fifteenth century we find the glasses connected with each other by a very thick bar or bridge, the forerunner of the later adopted pince-nez, but still not so constructed as to sit or grip the nose firmly.

Savonarola in one of his sermons advised those who wore glasses to attach them to the peak of the cap, which latter should be well pushed down on the head, a method that survived a long time, but it was never popular. Glasses at this time were mounted in heavy frames of wood or leather, and maintained in position by means of a cord tied behind the ears. Later, mountings were of gold, silver, steel, fishbones, and variously coloured horn. These were provided with side pieces for holding them in position, mostly of metal, but so thick and clumsy that the whole thing looked like the production of a village blacksmith; this obtained until the end of the eighteenth century, when the much lighter constructed sides made their appearance. Such as we see nowadays were not made until the Thirties of last century. The cumbrous nose-riders, then so-called, soon made way for those provided with springs, and the clumsiness was relieved somewhat by various perforations of the coloured horn mountings. The spring arrangement preceded by some time the adoption of a joint between the two glasses (shown in one of the pictures), which was adapted to a better fit by allowing the glasses to grip the nose. The springs were of different form and size. To make them at all certain of retaining their position on the nose was reserved for later times, for well into the eighteenth century all eyeglasses fitted very badly and so uncertainly that they must either be kept in position by hand or pushed forward into the fold between the cheek and nose; this continued until the nineteenth century. The precursor of the metal spring was one made from horn or fishbone, shown in one of the photographs. The use of the string or cord commenced with the nineteenth century. At the end of the fifteenth century various ornamentations were added to or cut in the frames among the better class of people, consistent with the greater care exercised in dress characteristic of this period—hearts, crowns, trefoils, acorns, and human faces. These were exceptions, as already said, the cumbrous form prevailing well into comparatively recent times. The weight of the glasses was chiefly accounted for by the size and thickness of the lenses, as they were mostly of short focus. A picture by Watteau, painted a little time before his death (A.D. 1720), gives the first representation of the long-handled lorgnette as we see it to-day.

Glasses were sold chiefly by pedlars, mostly Jews, who occupied themselves also with grinding the lenses. These hawkers must have aroused some interest and curiosity, as they became the subject of numerous pictures, of which you see one or two copies. These dealers carried their wares from place to place so long as there were no resident eye doctors, the only representative of the ophthalmic surgeon being the cataract coucher, such as is seen to-day in the Balkans and in India. These wanderers made glasses one of their most fertile sources of income; they gave themselves pompous sounding names, pretending to be real eye doctors, selling expensive glasses, not only for near and distant vision, but for the cure of diseases of the eye; and many of these gentry recommended glasses for reading to those who had not learnt that art. They were also sold in respectable shops in Germany, and at the beginning of the seventeenth century legal protection was extended to the manufacturers.

The makers of glasses were mostly skilled in other fine work, such as carving in ivory, bone, and wood. The shops of respectable dealers were made known by signs such as we see to-day, but of a more primitive character, as shown in the pictures.

The lenses referred to in the foregoing remarks have been of the convex kind. The history of the development and use of the concave lens is very different from that of the convex variety; it came on the scene much later. There is no mention whatever of concave glasses by the ancients, though short-sightedness was well known, not as an error of refraction, but as a weakness of the eye. Theophrastus relates that the tyrant Dionysius (460 B.C.) was short-sighted, and his courtiers flattered him by feigning a similar affliction. Aristotle discusses the cause of blinking and the small writing of the myope. From some remarks of Pliny we may conclude that short sight was not uncommon even in his day. The well-known Arabian physician, Avicenna (A.D. 980–1037), the learned Dominican, Albertus Magnus (A.D. 1193–1280), and other authors from the twelfth to the seventeenth centuries relate that not only was short-sightedness well known, but that in Italy it was very common, a circumstance most likely having connexion with the great number of students and the high rate of civilization and advanced education in that country. This myopia engaged the attention of many learned men. Cardanus (A.D. 1501–1576), mathematician, philosopher, and physician in Pavia, made the mind and disposition of the myopic the subject of dissertation without having the slightest idea of the nature and cause of the condition. Roger Bacon was the first to mention concave glasses (A.D. 1276), but it was not until the end of the sixteenth century that we find the first clear description, and that was given by John, Archbishop of Canterbury, in the year 1593. Porta also described the effect of concave glasses on short sight. The optical nature of myopia, as said before, was first discussed by Kepler, and some time after Zahn, in the year 1685, first

described the grinding of concave lenses. Compared with convex lenses, a much longer time elapsed before they came into general use, as there were many more obstacles in the way of progress for this than for the reading glass. The life of that day did not lend itself to the desire or even necessity of improved vision for distance. The houses were compressed within small space, streets were narrow and dark, and the people were little inclined for the open; the short-sighted instinctively avoided occupations and pleasures demanding good vision for distant objects, such as the military and hunting, though Leo X was an exception to this, for he hunted with a concave glass, and in spite of his myopia is said to have seen better than his companions: a picture by Raphael, painted A.D. 1517, corroborates what history says, as he is represented sitting between his two cardinals holding a single glass, which is evidently concave. He has the typical appearance of a myope.

So that we can assume with a fair degree of certainty that concave glasses came into use about the middle of the sixteenth century. Stilling found in a book on duelling (A.D. 1551) rules laid down for the short-sighted, so that they should not stand at a disadvantage when engaging with one whose vision was normal. We also find that helmets for myopes were used in war. Specially made appliances were attached to the visor with small slits through which the short-sighted wearer could look. It is a well known fact that myopes can see better through small holes, as the peripheral rays of the cone of light are cut off. In Dante's time glass protectors were used in the visor to keep the dust from the eyes of the warrior. Had concave glasses been known at this time they would in all likelihood have been put into the helmets of the short-sighted, but there is no evidence of this. By the eighteenth century concave glasses were widely used, and it was then understood that the lorgnette had reference to glasses for distant vision only.

It was remarked by numerous observers that many were affected with weak eyes who were neither long nor short sighted, and who were not at all benefited by concave or convex glasses. It was reserved for Thomas Young to clear up this question, which he explained as being due to an abnormal curvature of the cornea, to which the name of astigmatism was given. It was while at Göttingen that Young made his first communication on this subject, which was soon followed by others from different observers. It was, however, a long time before anything was done in the way of relieving the symptoms produced by this condition, and, as you well know, cylindrical lenses, either concave or convex, according to the error of refraction, were discovered to be the only help. Cassas the painter recognized his own astigmatism in 1818, but not until 1844 did Suscipi, the Roman optician, succeed in fitting him with suitable glasses. Goodrich, a divine, was fitted by the optician McAlister in Philadelphia in 1828 with a concave cylinder. Airey of Cambridge described the astigmatism of his own eyes, which was corrected by Fuller of Ipswich. Goode also discovered the same condition in himself, and Chamblant in Paris gave him the correcting glass. To-day it is the daily duty of every ophthalmic surgeon, and should form part of his work, to estimate and give the proper glass for astigmatism, which can be done easily, thanks to the appliances available. Periscopic lenses are of somewhat ancient date. They were recommended as the objective of the telescope in 1660. At the end of the eighteenth century Smith advised their use along with spectacle lenses, but it was Wollaston, in 1804, who introduced them into practice under the name by which they are now known. Made first by the English optician Dollond, they were introduced into France in 1813. Achromatic lenses were first made for spectacles by Charles Chevalier in the middle of last century, and, according to Desmarres, it was he who was also the first to recommend the use of prisms, about the year 1844, "as a great help in the treatment of squint." Hyperbolic glasses made their appearance in 1879 at the Ophthalmological Congress in Heidelberg. Rahlman of Dorpat recommended them for conical cornea and irregular astigmatism. The lenses were 4 cm. in diameter and the cone had a depth of ½ to 2 mm.

Protective glasses came into use at the end of the seventeenth century. Ambroise Paré recommended those who had been operated on for cataract to wear green glasses. They were unpopular, as certain peculiarities were supposed to attach to individuals who wore them, such as moroseness, unsociability, and depression of spirits, a connexion not altogether avoidable at the present day.

Prejudice against the use of glasses still exists. However daintily made, many people will not wear them unless in practical solitude, and still more will not be seen outside wearing them, though, happily, these are in the minority. Such prejudices die hard, and I think we have practically escaped from the thraldom that held us, and the public are now convinced that the wearing of proper glasses can be counted as nothing but a benefit to those for whom they are intended.

I thought of devoting a few minutes to the consideration of the value of this discovery to the public. It can be stated definitely that it was given to the world quite independently of the medical profession: in fact, had the advice of medical men been taken, the time of general adoption of glasses as an aid to vision might have been considerably postponed; but this can be said, that it was left for the medical profession to put the estimation and treatment of errors of refraction on a strictly scientific basis. Donders made a name which will abide so long as ophthalmology is practised, and Helmholtz, accredited also with the discovery of the ophthalmoscope, gave physiological optics such a strictly mathematically scientific foundation that few of us can follow him in his abstractions.

The ampler my experience becomes, the more I am convinced that the only person who should correct the vision of the ametropic is a well-qualified, experienced ophthalmic surgeon. As well as the various anomalies of refraction, he must be able to detect and treat the several disturbances of the ocular muscles, one of the most difficult branches of ophthalmology. The varieties of heterophoria are numerous and their treatment often exceedingly difficult, especially hyperphoria, and it is in such cases that prisms act as a veritable charm, and render a life comfortable which before relief was obtained was nothing but continual misery. Beside the knowledge necessary to correct a simple error of refraction, it is very important to be able to distinguish between the various forms of squint, concomitant and paralytic, congenital word-blindness, congenital cataract, and many other conditions; and last, but greatest of all, to be able to interpret correctly the appearances of the fundus oculi as revealed by the ophthalmoscope.

My opinion is that any one attempting the prescribing of glasses who is ignorant of these points, and is unable to use the ophthalmoscope, courts disaster, is doing a great injustice to himself, and a still greater injustice and perhaps permanent injury to his patient.

It is to the everlasting credit and honour of our profession that we are the last to endeavour to put a value on our own art, charitably practised; I mean, to calculate what the value of it may be to the recipient. I rather think we err too much in this direction, and that on occasion the public should be reminded to what extent they really are indebted to us, especially those who get hospital treatment.

During the last seventeen years, that is the time I have been connected with the Royal Eye and Ear Hospital at Bradford, something like 35,000 pairs of spectacles have been prescribed by the staff. What real value in cash has that been to those benefited? It is always a difficult thing to appraise the value of medical work; at most we can only approximate. Taking the average duration of life of these 35,000 patients at ten years, which is extremely low, and much more likely to be far below the mark than otherwise, this would give 350,000 years distributed among the 35,000 people. What would be the average gain per head resultant on wearing glasses? Would £20 per annum be too high? I think not, considering that a large number over 50 could not earn a living at all without glasses; but take it at half that, and you will get a result which will surprise all those who have not considered this question before—namely, that within the last seventeen years the wage-earning capacity of this neighbourhood has been increased by no less a sum than £3,500,000, and this advantage has been conferred on the community by the staff of the Royal Eye and Ear Hospital by the prescribing of glasses only.

Sir Jonathan Hutchinson, in speaking publicly on this subject a few years ago*—that is, the value of ophthalmic science—claimed that the saving to the community by the operations done for senile cataract alone at the Royal London Ophthalmic Hospital was no less than £104,000 per annum. This amount would be reduced to *nil*—nothing—if the patients were not able to get suitable glasses.

These figures are, if anything, too low an estimate, and when the increased comfort and pleasure the wearers enjoy is added to other advantages it may be justly allowed that few greater benefits have been conferred on mankind than the invention of spectacles.

(The pictures referred to in the text—a series of artistic prints from various sources, illustrating points referred to by the speaker—were passed round the audience during the address.)

AUTHORS CONSULTED.

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Stilling: *Untersuchungen ueber die Entstehung der Kurzsichtigkeit*, 1887.
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THE INFLUENCE OF TIME ON RED GLASS.

By C. H. WÜRTZEN, M.D.

(From the Medical Department of the Øresundshospital, Copenhagen.)

In an earlier publication[1] attention was drawn to the fact that it must be supposed that the power of absorbing the chemical rays of light ceases in the course of time in the case of ordinary red—that is, not diffused glass coloured all through, even if it is kept in the dark when not in use.

In accordance with this it was pointed out that it was necessary to examine every single glass immediately before use, and not to remain satisfied with former examinations, still less when the glass held up to the light still appears beautifully red and unchanged. On the other hand, not knowing the age of every single red pane, nor whether it was spectroscopically examined when received, nor how long it had been in use, it was impossible on the basis of existing material to say how long or how short a time the red glass might have kept its efficiency, or anything about the further conditions under which it might be lost. Herein lie a few questions whose practical importance we cannot disregard, and I shall therefore set forth what we have been able to learn in this regard from a series of periodical examinations of the department's stock of red panes.

In January, 1909, this stock consisted of 45 panes. At the end of March of the same year we bought 12 new ones, which were faultless when tested. Our stock was thus increased to 56, as one of the old ones was lost. Since then no new panes have been procured.

Result of the Spectroscopical Examinations.

In each column is indicated the number of the glass which has proved to be pervious to (1) only red and orange rays, (2) also to yellow and slightly green, and finally (3) to almost all rays.

	Red and Orange Rays.	Yellow and Slightly Green.	Almost All Rays.
January 25th, 1909 ...	24	8	13 = 45
March 21st, 1910... ...	26	12	18 = 56
April 7th, 1911	27	9	20 = 56
March 6th, 1912	20	11	25 = 56

The reason why the classification embraces no more than these three groups is that the object of the examinations was only to distinguish between usable and unusable glass. The usable glass comprises both the first groups, as presumably it is of no importance whether the yellow and a few green rays pass, but it is necessary to understand that the question only turns on small quantities of green, and therefore the examinations to mark the boundary between the second and the third group have been very exact.

On the other hand, the limit between the two "usable" groups of one set may appear somewhat fluctuating, considering the variation of the mutual proportion in size between these which has been found at the different examinations. But even if, in a way, it may be said that the limit appears fluctuating, this fact does not rest on any difficulty of acknowledgement nor on any defect in the spectroscopical examination in itself. We must suppose that it is connected with the fact that the strength of the light, although the examinations have always been done in sunny days and the spectroscope has always been pointed directly at the sun, has varied somewhat in intensity at the different times—a circumstance whose influence cannot be avoided, unless a constant artificial source of light is at disposal. The figures in the last column give a fairly certain affirmation of what hitherto could only be a supposition—namely, that the red glass gradually loses its power of retaining the chemical rays of the light. The verification of this point has undoubtedly a certain value, but we still have to find out when and how the change takes place.

As the glass is kept in the dark, and it has therefore been under similar conditions and under circumstances which apparently gave the colour only a slight and rather equal chance for fading, one would naturally anticipate that this change would take place equally and gradually in the course of a certain number of years. On examining the table, it is seen that a movement of this type takes place. The number for 1912 is not taken into account in this connexion, as the panes bought in 1909 all proved to be faultless till 1911 inclusive, and therefore the trace and the equal course of the movement are shown in the graduated series 13–18–20. Thus the number of panes which for this reason have to be renewed yearly is not very considerable, but must be taken into consideration, as the appearance of variola is so rare in our country.

However, the red glass is not weakened exclusively by this late age change; long before this claims its quota of the panes which for a long time have shown themselves resistant other panes are already far advanced towards unfitness. The 12 panes, for instance, bought in 1909 have quickly lost their power of resistance. As already mentioned, they were found to be quite satisfactory when examined in 1910 and in 1911, as some of them were used during a very short period during 1911 in the treatment of some patients attacked by measles; examination on March 6th, 1912, gave quite another result, only 4 remaining quite insensible to time; 2 allowed red, orange, yellow, and slightly green rays to pass through, while 6 let all rays pass.

In order to find out whether it may be supposed that it was this quite short influence of light, or perhaps rather the long preservation which had affected the panes, all the last bought panes were left unprotected on a lawn for about ten days, many of them being fine sunny days, after which they were submitted to a renewed examination. This gave the same result as mentioned above, and consequently the light had no temporarily deleterious influence on the panes found faultless at the last examination but one, nor had it produced any further deterioration of the two belonging to Group II.

These observations show sufficiently clearly that the deterioration may take place rather quickly, and they indicate also that the glass quickly fails completely when first it has begun to fail—that is, is no longer able to absorb that part of the spectrum which lies in the beginning of the green.

The fact that the spectroscopical examination of all glass together—old as well as new—has always shown that as soon as the first green stripe is distinctly visible all the rest of the spectrum is visible at the same time, points in the same direction. At all single examinations there has been only a single exception. This exception showed us that all rays passed to the beginning of the blue; but of this part of the spectrum it was chiefly the transition itself which was visible. This phenomenon explains why the separation of the groups could take place in practice without difficulty.

*Special report of the Mansion House meeting in support of the Royal London Ophthalmic Hospital, February 1st, 1897.

I have still to remark that red glass, when it has long lost its power of retaining the chemical rays, will appear suspicious to the naked eye too. In this case the red colour fades and turns yellow. The yellowing generally begins as wavy streaks, sometimes as islands, and is no doubt an infallible sign that the glass is quite unusable even with respect to those parts where nothing is yet to be seen by the naked eye.

I can therefore only repeat that an examination with the naked eye is no examination at all, or, to be more precise, when founded on such an examination we only can prove unusableness, but judge nothing about usableness.

Before concluding I must mention that when procuring red glass we unfortunately have no means of securing ourselves against getting a product which comparatively soon loses its applicability, as for reasons of economy we are compelled to take an article of which only the surface is coloured.

If, therefore, it happens that we are rather often exposed to a bad purchase, this circumstance must have a restraining influence on the Finsen treatment of small-pox by this method of application. But this unsurpassed and ideal treatment cannot be attacked for this reason, and the carrying out of the treatment by red panes has in some respects such advantages over the other methods in which it can be arranged that it is well worth some expense.

REFERENCE.

[1] Treatment of Small-pox in Red Light and in the Dark, BRITISH MEDICAL JOURNAL, August 6th, 1910.

THE OPERATION FOR INDUCING ARTIFICIAL PNEUMOTHORAX.

By H. DE C. WOODCOCK, M.D., M.R.C.S., M.R.C.P., D.P.H.EDIN.,

HONORARY PHYSICIAN, LEEDS TUBERCULOSIS HOSPITAL, ARMLEY, AND VISITING PHYSICIAN, TUBERCULOSIS WARDS, LEEDS CITY HOSPITAL

THE great Continental authorities on artificial pneumothorax are Forlanini and Saugman for the puncture method, and for the incision method Lucius Spengler, Brauer, and Neumann. In England most work has probably been done by Dr. Lillingston and Dr. Vere Pearson. I have witnessed the operation at Dr. Jane Walker's sanatorium at Naylands, have seen Dr. Vere Pearson at work, and have discussed the subject with Dr. Lillingston; abroad I have seen the work of Dr. Lucius Spengler and of Dr. Neumann at the Schatzalp Sanatorium, Davos. The following notes give instructions for the puncture method. I have tried both this and the incision method, and I prefer the puncture. Both have their dangers, and it has been said that the adherents of each have counted the slain of the other; but after reading the treatise by Brauer and Lucius Spengler,[1] I see no reason to agree with their strenuous and emphatic condemnation of primary punctures, and in the following remarks this method alone is described in detail.

1. A few hours before the operation care should be taken to place the patient in such a position that sputum may as far as possible be got rid of.

2. Half an hour before the operation an injection of ⅓ grain morph. hydrochlor. is given. I see no objection to the use of scopolamine as an alternative, but I have not myself used it. The site of operation (the posterior axillary border of the sixth interspace, or another point, according to the necessities of the case) is to be carefully prepared by shaving, if needed, scrubbing with antiseptic, washing with saline, and painting with iodine. Care must be taken to have the nitrogen properly warmed. By means of a hot-water jacket the temperature within the nitrogen jar can be raised and maintained at approximately the normal temperature of the body.

3. At the end of the half-hour, ½ grain novocain or cocaine is to be injected into the superficial tissues, and a similar quantity two minutes later into the deeper tissues. Adrenalin is associated with each of these drugs; 5 drops of a 1 in 1,000 solution (Parke, Davis, and Co.) may be given in all, half the quantity with each injection. Novocain is said to be safer, and personally I prefer it.

4. Place the patient in position on the bed or couch; let him lie on the side, turning over a little as if to lie on his face, thus bringing the site of operation uppermost. A pillow, such as Moynihan uses in certain abdominal operations, should be placed underneath, so as to arch the side of the chest, and thus to widen the intercostal spaces; and the arm of the side to be operated on should be raised and bent round the head. A flatter surface is obtained if the patient is seated and bending forward, with the hands extended between the knees and crossed in front, as in the older manner of handcuffing; but this position does not separate the ribs so well, and it is more trying for the patient.

5. The needle, which has been kept sterile in alcohol, is attached to its tube and is slowly introduced. The communication between the needle and the manometer is opened by manipulation of the three-way cock, all other passages being kept closed. The moment the needle trespasses in the slightest degree on the pleural space there is oscillation of the water level in the manometer, owing to the fact that the needle has penetrated a space in which the pressure is negative—that is, there is a suction tendency towards the lung from the manometer.

6. As soon as it is evident, from this oscillation, that the needle is in the pleural cavity, a further test must be made in order to see whether a vein has been punctured; for if at any time a vein is punctured or torn, there is danger of gas being allowed to enter the circulation. To test for this danger apply a well-fitting hypodermic syringe nozzle to a sideway passage in the needle, this sideway passage being guarded, when not in use, by a plug. If blood can be aspirated into the hypodermic syringe, the needle must be withdrawn and a fresh puncture made.

7. If there is no aspiration of blood, manipulate the three-way cock so as to allow nitrogen to enter. (Some use air instead of nitrogen, and even oxygen, for the first puncture, these gases being more soluble in blood and less likely to cause embolism.) The patient should be advised not to breathe deeply, and the manometer should be carefully watched, so that the nitrogen may only be allowed to pass in slowly. A suitable amount to be introduced at a first puncture is 300 c.cm.: on subsequent refills it may be as much as 1,000 c.cm., the usual quantity being 750 c.cm.

8. The patient, if doing well, becomes slightly blue and sweaty; the pulse remains fairly regular, but may quicken a little. During a first operation, however, there may be signs of faintness; pallor, gasping distress and intermittency of the pulse call for immediate stimulation. Five drops of liq. strych., given hypodermically, is one of the best of stimulants. The supply of nitrogen may, if necessary, be interrupted for a while, or, if so much has been allowed to enter that a refill may be made safely, the operation may be stopped altogether.

9. When sufficient nitrogen has entered the pleural cavity the needle is withdrawn and the opening is sealed with collodion. No other dressing is necessary.

10. The patient must of course be kept in bed for a day after the first operation: this direction must be strictly enforced. But after several refills toleration is established, and the patient need only lie down on a couch for two hours, after which he may get up and walk about.

11. The gas is generally absorbed in the course of a week; a refill is therefore necessary as a rule in three days. Brauer and Lucius Spengler sometimes proceed to the refill on the day following the first operation, and so does Saugman. A refill is a simple matter, as there is now a real cavity, and not, as in the first instance, a potential one. After three or more refills have been made, gas ceases to be readily absorbed, and the refill may be made every fortnight, or even every month, according to the indication afforded by the physical signs.

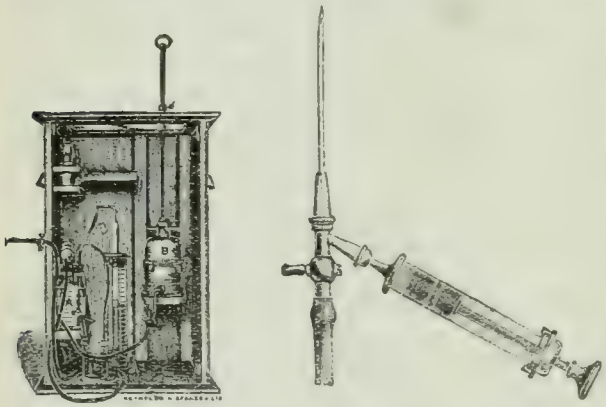
12. One minor result of the operation I have found to be the relief of that constant pleuritic pain which is more than occasionally met with in cases of phthisis. The major result is to compress the diseased lung into small compass, thus lessening the area of ulceration and absorption.

13. The presence of adhesions does not negative the operation, though it may lessen its usefulness. The common *x*-ray picture is a cavity filled with air and subtended by a bridge of adhesions. In some cases the gas

has to be introduced at more than one point, because the adhesions divide the cavity of the pleura into two or more chambers. Of course, the ideal patient for the induction of artificial pneumothorax is one who has unilateral disease without any excess of pleuritic adhesions.

14. Death has occurred from pleural reflex, the stimulus being reflected through the pneumogastric nerve to the heart. This is obviated by the narcotics administered before and at the time of the operation, and also by the warming of the nitrogen, a precaution on which Brauer and Lucius Spengler lay great stress, though they do not suggest a method for carrying it out. Death has also occurred from gas embolism. This is guarded against by observing the suction test for blood. I have known rapid oedema of the lung to follow the operation, which is thus limited; it should not be performed when there is marked emphysema or any of those conditions which are associated with cyanosis and marked dilatation of the right side of the heart.

The apparatus which I use, made by Messrs. Reynolds and Branson, Ltd., of Leeds, seems to offer some improvement on the older instruments which I have seen used by



other workers. It is simple, well made, accurate, and clean. The nitrogen is generated from the air as required, by means of a pyrogallate solution. It can be warmed by filling with hot water the bottle into which it is to pass; to maintain the heat a hot water jacket may be used. It is an additional precaution against sepsis to fill this bottle with a solution of hydrarg. perchlor. 1 in 5,000. The manometer is so constructed that it acts as a safety valve, allowing no greater pressure than 10 in. of water. It permits of direct communication with the patient, not merely through the nitrogen jar, so that the actual pressure within the pleura can from time to time be controlled—a point of great importance, emphasized by Saugman as well as by Brauer and Lucius Spengler.* Brauer has "found it useful during refills, in doubtful cases, to scent the nitrogen strongly, so that the breath of the patient might furnish an indication as to whether or not the needle had entered the lung." Vere Pearson, in making the same suggestion, refers to the sensation of the patient. Where the primary puncture method is used this precaution may well be taken always, and not merely for refills in doubtful cases. A little peppermint may be put for this purpose on cotton-wool in one end of the tube leading from the nitrogen flask to the patient. A short sterile glass tube close to the needle should contain a plug of sterile cotton-wool. The depth to which the needle enters during primary puncture should always be noted, for guidance of the operator during subsequent refills.

Dr. Neumann, of Davos, who demonstrated the incision method before Dr. Nathan Raw and myself, dissects down to the pleura, cutting through the fascia and separating the intercostal muscles with a blunt instrument in the direction of their fibres. Having exposed the costal pleura, which is recognized by its white fibrous appearance, he punctures it, still using the blunt needle. The obvious danger of this method is sepsis, an accident which can be avoided by sufficient care. The dissection is not repeated for a refill, the puncture method being used instead. I have myself induced artificial pneumothorax by incision, but so far my impression is in favour of the primary puncture method. The operator will find the dissection on the cadaver much more simple than on the living patient. For me it is not so much a question of deciding as to the better method of inducing artificial pneumothorax as of deciding whether that or thoracoplastic is to be preferred, especially as the latter operation can now be done by experts with lightning rapidity and without a general anaesthetic.

* Saugman, who obtains his nitrogen from iron bombs under pressure, whence it is transferred to a glass cylinder, suggests that the gas should be allowed to flow through the needle before it is inserted, until there is an equilibrium of pressure between the nitrogen in the cylinder and the atmosphere. This is not necessary when the nitrogen is generated by the method to which I have referred.

REFERENCE.
[1] *Die Technik des künstlichen Pneumothorax.*

A CASE OF INFLUENZAL MENINGITIS.

BY

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WHILE it would be incorrect to describe influenzal meningitis as a rarity, at the same time instances of this affection are sufficiently uncommon to deserve being placed on record from their clinical, therapeutical, and bacteriological interest.*

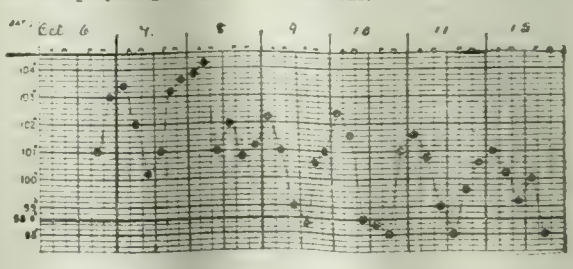
Batten,[1] in 1910, brought the literature up to date by publishing 14 cases of Langer, Douglas, Dudgeon and Adams,[2] and others, with the addition of 5 cases which he had observed himself. At the same time, he reviewed 26 cases which Cohoe had published. In the same year Ritchie[3] published 3 more instances, and Douglas[2] 1. In 1911 Sayce[4] gave 7 examples, in which, however, the organism isolated presented some deviation from the type originally described by Pfeiffer. Considering, therefore, that the influenzal organism is a definite cause of meningitis, we venture to publish the following case as a further contribution to the literature:

The patient, a male child of 13 months, was admitted to the East London Hospital for Children on October 6th, 1912.

The history was that he had been a strong, healthy child till a month previously, when he had whooping-cough. The acute attack had passed off, but he had been left with a troublesome cough, and was said to twitch at times, and have some difficulty in getting his breath. On the evening of admission he had suddenly started "fitting," and was brought up within half an hour of onset.

On admission he was very rigid and had marked retraction. The head was held twisted to the left as well as retracted. The eyes were staring and directed to the left. Knee-jerks were present: Babinski extensor and Kernig's sign obtained. There was some impairment of the note at both bases and tubular breathing at left base. Many crepitations of bronchial character scattered over the rest of the chest. The examination of heart, abdomen, throat, and ears revealed nothing abnormal.

On October 7th rigidity was a little less and the child could swallow, but during the night it had had to be fed by nasal tube. Spinal fluid was withdrawn, 10 c.cm.: it was under increased pressure and turbid. It contained albumin, 85 per cent. of polymorphs, and a short bacillus.



On October 8th stiffness and head retraction more marked, and the child moaned continuously. Signs of pneumonia were more definite, and more widespread on the left side. Lumbar puncture was again performed, and, after withdrawing 10 c.cm.

* J. G. Forbes, in the *Quarterly Journal of Medicine*, 1908, p. 109, published the results of the examination of cerebro-spinal fluid in 140 cases with cerebral symptoms treated at Great Ormond Street Children's Hospital. Of these, 109 were various forms of meningitis, 57 being tuberculous, 36 meningococcal, 9 pneumococcal, 5 streptococcal, 1 staphylococcal, and 1 due to the *B. coli*. In no case was the *B. influenzae* the causal organism.

of fluid, the thecal space was washed out with sterilized normal saline solution until the fluid draining away was clear. This spinal lavage was repeated on October 9th, 10th, and 11th, and urotropin gr. iij was given every six hours; but, although the temperature seemed to be coming down gradually and the fluid becoming clearer each day, on the evening of October 12th the child died.

The Cerebro-spinal Fluid.

Lumbar puncture was performed five times, and a total of about 55 c.cm. of turbid cerebro-spinal fluid was obtained. Centrifuged film preparations stained by carbol-thionin consisted almost entirely of polymorphonuclear leucocytes and numerous small, slender bacilli. Most of the organisms were free, but a good proportion of them were intracellular. The bacilli were Gram-negative, and a differential count gave polymorphonuclears 86 per cent., mononuclears 14 per cent.

Cultural Characteristics of the Organisms.—A good growth, consisting of discrete, fine, translucent colonies, was obtained on blood agar at 37° C. in forty-eight hours. The term "dew-drops," used by some authors, is a good description of the appearance of these colonies. In broth no growth could be obtained anaërobically, and none on agar or gelatine at 22° C. There was no action on litmus lactose, maltose, mannite, cane sugar, or dextrose. On cultivation some longer forms of the bacilli were noted. Pure cultures were obtained on blood agar in every instance.

At the necropsy cultures were taken from the fluid in the descending cornu of the right lateral ventricle. The influenza bacillus was recovered in pure culture. Further investigation showed that the cultural characters of this organism agreed with those of the bacillus obtained during life from the cerebro-spinal fluid.

Film preparations made *post mortem* from the purulent exudate revealed polymorphonuclear cells and a few small bacilli, which were mainly extracellular.

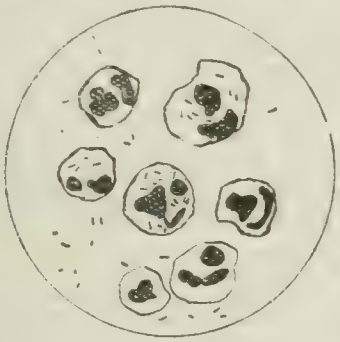


Fig. 1.—Showing the polymorphonuclear leucocytes with bacilli both inside and outside the cells. Ocular No. 6; Zeiss objective 1/12. Drawn under the camera lucida. Stained by carbol thionin blue.

Post-mortem Report.

Brain.—The entire ventricular system showed dilatation, and was filled with turbid cerebro-spinal fluid.

Spinal Cord.—No evidence of involvement of the membranes.

Meninges.—Thick yellowish pus occupied the interpeduncular space and covered the superior and anterior surfaces of the frontal lobes. The anterior poles of both temporo sphenoidal lobes were capped by the purulent exudate, which was also distributed in random scattered patches over other portions of the cranial vertex. The pus was odourless and the vessels of the brain and meninges were intensely injected.

Heart normal.

Cranial bones and *middle ears* normal.

Lungs.—Right lung was oedematous and congested. In the left lung an area of confluent bronchopneumonia occupied the lower lobe and the lower half of the upper lobe. Excised portions sank in water. A creamy layer of adhesions was found on the pleura covering the left lower lobe. There was no free pus in the pleural cavity. A section of the lung showed microscopically a layer of fibrin forming a network on the pleura, and having some round cells entangled in its meshes. The pleura deep to this showed a band of dense white fibrous tissue containing numerous fibroblasts and thin-walled blood vessels. There was marked round-celled infiltration of the walls of the smaller bronchi, and desquamation of epithelial cells into their lumina. The alveolar walls were congested, and the alveoli themselves were filled with cells principally of the epithelioid and plasma varieties, but among these was a certain number of polymorphonuclear leucocytes.

Trachea and oesophagus were normal. Bronchial glands congested, but not enlarged. The liver, spleen, kidneys, all normal except for a little cloudy swelling. The stomach, intestines, peritoneum, mesenteric glands were all normal.

Various writers have met with some differences in the morphology of this organism. Although in direct film preparations from the fluid only small short bacilli within the limits of 1.5 to 2.5 μ were found, on cultivation long thread-like bacilli were observed to be mingled in comparatively small numbers with shorter forms. Sayce notes that the organism in his cases produced colonies similar to Pfeiffer's, was non-motile, stained feebly with Loeffler's blue, Gram-negative, and aërobic. It differed from Pfeiffer's in that some thread forms were always present, and that on primary direct cultivation (not only on subculture) stout large bacilli were formed, together with numerous filaments often very long. Professor Hewlett[6] states that the preparations from cultures show long twisted chains and threads of bacilli aggregated so as to form networks and convolutions. These chains or threads are composed of bacilli placed end to end, and united by a continuation of the cell membrane. In our example no stout bacilli as described by Sayce were found, except that although cultures taken at autopsy formed absolutely typical colonies on blood agar, a few rather swollen bacilli were noticed in the films, but these were quite uncommon, most of the organisms presenting the usually described features. Lastly, Ritchie publishes some excellent micro-photographs showing thread forms of the bacillus, and he also utters a word of caution, which we make no apology for quoting in full:

> It is thus impossible to dogmatize as to whether the organism isolated from the sporadic cases of meningitis with which we are here concerned, is identical with the organism occurring in the respiratory tract in influenza. In the meantime it is sufficient to say that there exists a group of cases which often presents pyaemic characters, in which meningitis is a very common occurrence, and in which the only organism present is a haemophilic bacillus having the characters of the influenzal bacillus.

The example recorded by Dudgeon and Adams was of

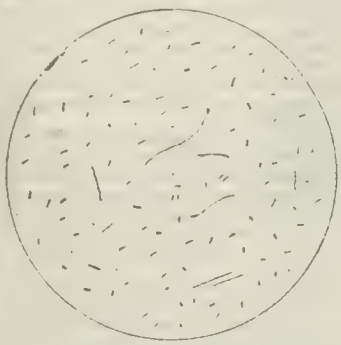


Fig. 2.—Film preparation from a pure culture of the organism on blood agar. Showing the predominant minute short type of bacillus, together with the longer filamentous forms described. Ocular No. 6; Zeiss objective 1/12. Gram preparation, counter-stain saffronin. Drawn under the camera lucida.

the pyaemic variety and appears to have been among the earliest noted. Unfortunately it was impossible for us to amplify our results by means of animal inoculations.

As regards the diagnosis of influenzal meningitis, nothing has yet been noted which can enable the observer to differentiate it from the post-basic type. It is true that in some instances wild delirium is marked, but this seems by no means common. In the case above recorded the sudden "fitting" with rapid transition to rigidity was striking, and perhaps important clinically, since one of the cases noted by Batten began in the same way.

From the statistics available, the prognosis is undoubtedly very bad, and is certainly the more severe the younger the patient. Sanger's example of a boy aged 9, who recovered, was for some time the youngest recovery recorded, but Batten's case of a child 14 months old, who was improving long after the acute stage had passed off, shows that even at the earliest age a fatal prognosis should not be absolute. The cases that survive are so few that ultimate prognosis is very difficult. In the last instance mentioned there had been blindness, which was gradually passing off at the time when Batten published his paper. A patient of Sayce was ill six months, and developed a flaccid paralysis, while Mya, in 1902, had a case which recovered but was left with a hemiplegia.

Treatment seems to have little effect upon the disease. Vaccines have been given, but the results do not appear to be encouraging. The patient aged 14 months, to whom Batten refers, was given urotropin gr. x every four hours, and recovered. In the case we decribe urotropin was used, but the dose was much smaller.

The other method of treatment, namely, spinal lavage, already referred to, was at first promising, and certainly at

the necropsy the cord showed less involvement than the brain. In other examples the cord appears to have been affected to an equal extent with the brain, but in this one there certainly was less pus in the thecal space and less softening of the tissue of the cord.

While the treatment by other means is so unsatisfactory, it seems reasonable to suggest that both urotropin and spinal lavage are worthy of further trial.

In conclusion, we desire to thank Dr. Eustace Smith for kindly permitting us to publish the notes of the case.

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THE EFFECTS OF EMETINE ON ABSCESS OF THE LIVER.

BY R. L. SPITTEL, F.R.C.S.ENG.,

GENERAL HOSPITAL, COLOMBO.

I REPORT the following case in evidence of the effects of emetine injections on amoebic abscess of the liver; also because in the near future *post-mortem* examinations of cases of amoebic abscess of the liver are perhaps likely to be of greater rarity than heretofore.

History.—The patient, a male Cingalese labourer, aged 20, was admitted into the General Hospital, Colombo, on February 7th, 1913, complaining of fever, cough, and a swelling in the epigastric region. He had had parangi at the age of 7, and dysentery at the age of 17. For the three months previous to the date of admission he had fever which he ascribed to malaria, but which was no doubt due to the epigastric swelling, this being a liver abscess.

State on Admission.—He was exceedingly weak and emaciated, and complained of a chilliness and feverishness towards evening, accompanied by sweating, and of a sense of discomfort after food. There was a prominent swelling in the epigastrium suggesting a sense of fluctuation. The spleen was not palpable. Over the heart there was a haemic murmur: the lungs were clear. The general leucocyte count was 16,720. His evening temperature was 99.2°.

Operation.—Emetine hydrochloride ½ grain was given subcutaneously on February 11th, and the following day an exploring needle was plunged deeply into the epigastric prominence. As is not infrequent in these cases, no pus appeared in the syringe, but on its withdrawal, after repeated suctions, a yellow bead was noticed in the cannula. An incision was then made through the right rectus muscle, and the liver was found free from adhesions to the parietal peritoneum. The general peritoneal cavity having been packed off with gauze, the liver was incised, and 1½ pints of grumous bile-tinged pus were evacuated. Digital exploration disclosed a large loculated cavity, the walls of which, in certain directions, were quite beyond reach of the examining finger. It was flushed out with sterile water. A double drainage tube was inserted so as to fit tightly the margins of the liver incision, and gauze was carefully packed around it.

Progress.—Some foul discharge subsequently escaped, and was copious at first, but later diminished considerably in amount under treatment with ½-grain doses of emetine daily for four days. The abscess cavity was also irrigated daily with iodine lotion (tinct. iodi ℥j, sterile normal saline Oj), and 4 oz. of quinine bi-hydrochloride solution (gr. x ad ℥j) was kept in on two occasions.

The patient made good progress until February 18th—six days after operation—when, in my absence, the drainage tubes were inadvertently removed and reinserted. This interfered with the newly-formed adhesions between the liver and the anterior wall of the abdomen, allowing pus to escape into the general abdominal cavity. From this time the patient's health declined; his pulse became feeble and irregular; persistent vomiting and violent diarrhoea supervened; the discharge became foul and ochry yellow in colour from the presence of bile, and he died on February 21st—or about nine days after the operation.

Necropsy.—A loculated abscess cavity was found occupying the anterior aspect of the right lobe of the liver, of a capacity of about 4 oz.; only ¼ in. thickness of liver tissue lay between the abscess and the visceral surface of the liver. A deep recess was found leading into a saccule in the immediate vicinity of the gall bladder near the neck of which the tissues had been worn down to the thinness of parchment, and had tapped the beginnings of the hepatic ducts. The walls of the abscess and its contents were deeply bile-stained. Pyogenic membrane merged into normal liver substance through a thickness of ¾ in. Microscopic examination of this part showed the rapid transition from inflammatory cells to fibrous tissue enveloping here and there single liver cells and groups of them. There were also several buff-coloured islets of pus organized into coherence and solidity; microscopically these areas showed inflammatory cells packed together, with filmy, fibrous strands between individual and groups. There was a considerable quantity of pus in the general peritoneal cavity; the mucous membrane of the colon showed a few scars of old ulcers.

REMARKS.

The noteworthy points of this case are:

1. The cavity in the liver, which at the time of operation contained 1½ pints of pus, was found nine days later to have a capacity for only 4 oz., while a very rapid advance of fibrosis was proceeding through a thickness of tissue that measured ¾ in.

2. Several separate foci of pus had been rendered inert and crystallized into solid, buff-coloured islets, which disclosed microscopically the very beginnings of fibrosis. Mere evacuations of pus and local treatment could not account for this latter phenomenon, even if they did for the former. In this connexion it may be pointed out that Rogers[1] has recorded a case in which encystment of a small liver abscess occurred under emetine.

As for the etiology of the case, I failed to find any motile amoebae even by staining processes, but the clinical history of the case is strongly suggestive of an amoebic origin, and it has been shown by Rogers that in 98 per cent. of liver abscess in the tropics amoebic dysentery is the cause; Wenyon,[2] too, has recently produced evidence to show that the *Entamoeba histolytica* of Schaudinn is the same as the *Entamoeba tetragena* of Viereck, or rather that Viereck's is the true life-history of the pathogenic amoeba that Schaudinn discovered and named.

It was not the liver abscess itself which caused the death of this particular patient, but the inadvertent removal of the drainage tubes which has been mentioned. No harm would have been done thereby if I had stitched the liver to the anterior abdominal wall at the time of the operation, but as I had no reason to anticipate the action in question I adopted my usual practice in dealing with liver abscess. In future I should give preference to Rogers's method of dealing with liver abscesses—namely, to aspirate them, inject emetine hydrochloride (1 grain to 1 oz. of water) before withdrawing the cannula, sealing the puncture with collodion, and repeating the procedure on a further occasion if required. This is because the *post-mortem* findings of the case now recorded suggest that emetine besides having a specific action on the amoebae may also be an organizing and cicatrizing agent of some value. In Rogers's words, the abscess will be found to dry up.

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HAEMORRHAGE IN A NEWLY BORN INFANT.

BY S. D. CLIPPINGDALE, M.D.,

LONDON.

I RECENTLY had to make for the coroner a *post-mortem* examination of a child 1 day old, who had died from severe haemorrhage (melaena, and haematemesis).

I found the stomach and small intestine full of blood. On washing the blood away I found the mucous membrane presented several ulcerations with bleeding points, from which the blood had come. The case seemed to me to be one of irritant poisoning, but on interrogating closely every person who had had anything to do with the child, I convinced myself that the child had had nothing but a little cold water. The midwife, however, informed me that when the child was born it was covered with a fetid "slime," which had come from the mother's passage. Not only was the child's head covered with this "slime," but some had entered the child's mouth, so much so that the midwife had to hold the child up by its feet to enable the "slime" to drop out of the mouth, and had also to resort to artificial respiration. I came, therefore, to the conclusion that the ulceration and the haemorrhage had been the result of direct bacterial infection such as occurs in dysentery and in enteric fever. The coroner, a medical man, accepted my view, and directed the jury accordingly.

I am no expert in these matters, but a noted bacteriologist, with whom I discussed this case, strongly urges that it should be placed on record.

EIGHTY-FIRST ANNUAL MEETING
OF THE
British Medical Association.
Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF SURGERY.
W. Thelwall Thomas, F.R.C.S., President.

DISCUSSION ON THE DIAGNOSIS AND TREATMENT OF PRIMARY CARCINOMA OF THE STOMACH.

OPENING PAPER.

By G. H. Makins, C.B., F.R.C.S.,
Vice-President, Royal College of Surgeons.

It is a matter to me of some interest to recall the fact that some thirty odd years ago, when Billroth's first stomach operations were performed, the late Sir John Erichsen in speaking to me expressed his regret that the operations should have been performed and published, as he considered their publication would entail a great deal of useless suffering on patients who were likely to be operated upon by surgeons attracted by Billroth's proposition. At the present day a great advance has been made on that position, yet it is still an undoubted fact that far fewer subjects of gastric carcinoma come into the hands of the surgeon than should be the case; again, that they do so less frequently than do patients with carcinoma of the remaining portion of the alimentary tract, although operative treatment of the disease has been ably advocated in this country by Robson, Moynihan, Paterson, and others.

The disease occurs with great frequency, since it is computed that carcinoma of the stomach accounts for 21 per cent. of all cancers, the incidence thus following closely on carcinoma of the uterus.

The fact that surgical means are not more generally resorted to in the treatment of carcinoma of the stomach depends on two circumstances: (1) The difficulty of early diagnosis of the disease; (2) the want of general appreciation of the results which can be attained.

Incidence of Carcinoma in Various Parts of the Intestinal Tract.

Year.	Stomach.	Small Intestine.	Large Intestine.	Rectum.	Total.
1901 ...	29	4	21	22	76
1902 ...	26	1	19	27	73
1903 ...	31	0	24	32	87
1904 ...	30	1	25	32	88
1905 ...	38	0	15	35	88
1906 ...	40	0	25	32	97
1907 ...	45	0	47	17	109
1908 ...	53	1	38	29	121
1909 ...	44	1	21	30	96
1910 ...	49	1	24	43	117
1911 ...	32	1	28	43	104
1912 ...	41	0	40	35	116
	458	10	327	377	1,172
	39 %	0.8 %	27.9 %	32 %	

Total number of patients for the years 1903-12, 70,234, with 403 cases of malignant disease of the stomach. Incidence, 0.57 per cent.

The above table shows:

1. The incidence of carcinoma of the stomach in patients undergoing treatment in a general hospital. Thus, of 70,234 cases treated in the medical and surgical wards of St. Thomas's Hospital, 403 were the subjects of gastric carcinoma (0.57 per cent.).

2. The incidence of carcinoma in the various portions of the alimentary tract from the stomach downwards.

It may be noted that the table shows a slight continuous increase in the number of patients coming under treatment, which probably corresponds with the slowly growing appreciation of the fact that such patients may be successfully dealt with by surgical methods. It is of some interest to compare the numbers in this table with a similar compilation made by Dr. Mayo at St. Mary's Hospital, Rochester, in which an exact reversal of the proportionate occurrence of cases of carcinoma of the stomach and carcinoma of the large intestine respectively is seen.

	St. Thomas's (12 years).		St. Mary's, Rochester (14 years).	
	Number.	Per Cent.	Number.	Per Cent.
Stomach	458	39.0	863	68.2
Small intestine	10	0.8	14	1.1
Large intestine	327	27.9	219	17.3
Rectum	377	32.0	168	13.2
Rectum and large intestine together	704	60.0	387	30.6
Total	1,172		1,264	

Operable Cases.—St. Thomas's, 31.4 per cent.; St. Mary's, Rochester, 35.5 per cent.

I believe this to depend on the fact that where operations on carcinoma of the stomach are freely performed their success is demonstrated and the supply of cases increased. Conversely, the surgical treatment of carcinoma of the bowel has acquired an earlier recognition than that of the same disease of the stomach. This is no doubt in part due to the fact that growths of the colon and rectum are more easy of diagnosis, but chiefly because the medical attendant has always been ready to resort to surgery for the relief of intestinal obstruction, which for a long period he has known could be relieved by a simple colostomy, and for a shorter period he has become familiar with the results of partial colectomy. Thus, of the 704 cases in the table, 45 per cent. were admitted for intestinal obstruction. On the other hand, the distressing results of pyloric obstruction are not to be relieved by the simple expedient of establishing a fistula, a step which for many years has acquired a definite position in the treatment of the less hopeful conditions of carcinoma of the gullet. The introduction of gastro-enterostomy made the first step in carrying the conviction that surgery could aid, and from that the possibilities of gastrectomy are only slowly gaining the notice they deserve.

The Diagnosis of Gastric Carcinoma.

The early diagnosis of carcinomata of the intestinal tract is difficult throughout, and that of carcinoma of the stomach is perhaps the most difficult of all. Yet in early diagnosis lies the whole crux of dealing with this disease on an adequate scale.

The mere persistence of symptoms of indigestion, which differ little or not at all from those accompanying simple conditions of the stomach, except, perhaps, in their intractability may be all that exists to arouse suspicion. Such symptoms occurring in any patient of middle age, especially in a man, should lead to special investigation, particularly if they commence suddenly with a previously good digestive history, or if they supervene after a long interval of health following earlier signs of a gastric ulcer.

Methods of Investigation.

A determination of the functional capacity of the stomach by a test meal. From this we learn that the passage of the contents of the stomach is delayed either as a result of deficient motor power, or of mechanical obstruction, either by noting the delay in digestion of certain food elements, or by the presence of an undue amount of the ingested food after an interval which should

have sufficed to allow the organ to have completely emptied itself.

Chemical tests may show us that the gastric juice is defective in some of its elements with consequent loss in digestive power. In carcinoma deficiency in the ferments is of the lesser importance since it is generally allowed that no feature pathognomonic of the disease has been actually established.

The observation of Golding-Bird, in 1842, that the free hydrochloric acid normally present in the gastric juice gradually diminishes in amount in cases of carcinoma of the stomach as the disease progresses, while the organic acids steadily increase in quantity, has of late years been further investigated by many workers. Although increased experience has fully supported Golding-Bird's observation, yet the absence of free hydrochloric acid has been found to occur in other diseases (such as chronic gastritis, alcoholic gastritis, severe anaemia, chronic pulmonary tuberculosis, and some nervous diseases), while in carcinoma it is uncertain in degree. It has been shown that in some stages of carcinoma of the pylorus hyperchlorhydria, or at least euchlorhydria, is met with, just as is found in pyloric or duodenal ulcer or simple pyloric obstruction, although in carcinoma of other portions of the stomach absence of free hydrochloric acid is the rule. This observation has led Schryver[1] and Singer to consider it probable that changes in the composition of the gastric juice depend rather on the site than on the nature of the lesion. They further conclude "that carcinoma of the stomach has no specific effect on the composition of the gastric juice, although both pepsin and chloride readings are generally lower than in other conditions."

Panton and Tidy[2] dwell upon the importance of the length of history of the individual case in forming any conclusion as to the cause of the absence of free hydrochloric acid, suggesting that in a case with two years' gastric symptoms the absence of free acid points to carcinoma, while absence of acid in a patient with four years' gastric symptoms is not likely to indicate the presence of carcinoma. The presence of abnormal organic acids, such as lactic and butyric acids, is of less constancy and importance from a diagnostic point of view, and the same remark applies to the presence of certain organisms, such as the Oppeler-Boas bacillus and the *Bacillus filiformis*, which are not uncommonly present in cases of carcinoma of the stomach.

Microscopical examination may offer further aid by revealing the constant presence of blood in small quantities, fragments of the growth, or evidence of imperfect digestion of the elements forming the test meal. The microscopic determination of the constant presence of blood in the faeces has also been regarded as an evidence of carcinoma.

It is a somewhat striking commentary on the efficiency of these methods that in the clinic of Drs. W. J. and C. Mayo,[3] where every means exist for their use, the simple plan of determining gastric insufficiency by testing the power of the stomach to rid itself of some incompletely cooked rice and raisins in eight or ten hours is used in order to decide on the advisability of an exploration.

Skiagraphy is now generally employed as an aid to diagnosis, and is capable of furnishing valuable evidence as to motor sufficiency, and the capacity of emptying itself possessed by the stomach. Beyond this, in the later stages, interference with the normal outline of the organ and deficiency in peristalsis in the affected part of the organ may point to the presence of a tumour. The beautiful series of serial radiographs produced by Professor Lewis Gregory Cole[4] of New York shows what valuable information as to the extent, position, and nature of the growth may be obtained by this method in the fully developed stages of the disease, but at present this method is too expensive to come into general use, and its value in the early stages is not yet demonstrated. Dr. Cole says even in the early cases some of his findings are sufficiently definite to justify him in stating with a reasonable degree of certainty that the process is malignant. The value of skiagraphy in readily determining the location of a tumour in the stomach or transverse colon respectively is obvious, while the method has also proved useful in determining the site and presence of a gastro-colic fistula as well as demonstrating the nature of the disease (Handek).

A number of other aids to diagnosis—such as examination of the blood, serum diagnosis, determination of the power of the stomach to assimilate certain drugs and pass them on to the urine, and the direct examination of the interior of the stomach by the gastroscope—cannot be regarded in their degree of development as of great practical diagnostic value.

In the present state of our knowledge it is, unfortunately, clear that no symptom or complex of symptoms allows of a certain diagnosis of the early stages of gastric carcinoma, and we are driven to the ruder procedure of making an exploratory incision. Even this may fail. Thus Mr. Paterson records a case in which a small carcinoma at the junction of the oesophagus and cardiac extremity of the stomach was not discovered; but it may be fairly said that at this stage of the disease, whether the condition be carcinomatous or not, no grave risk is involved in the procedure.

The diagnosis of advanced carcinoma offers less difficulty; here symptoms such as pain, vomiting, haematemesis, melaena, dilatation of the stomach, obvious peristalsis, the presence of a palpable tumour, may make the detection of the disease easy enough. The presence of a tumour is the most useful of these signs to the surgeon. It gives valuable information as to the locality of the disease, whether at the pylorus or the body of the stomach, its size, consistence, and degree of fixity. In employing this information it must be borne in mind that the tumour may have assumed an abnormal position, thus low in the abdomen, or it may be pushed over to the right by a dilated stomach or drawn up to the left by contraction of the organ. It may be difficult at once to distinguish from a tumour of the colon or pancreas. Lastly, it may be only occasionally palpable, then generally with light pressure only, and occasionally it may vary in size. With regard to the last point, it is well to bear in mind that variability in size of the tumour may be due to muscular spasm, and that this, if accompanied by pain, is far more suggestive of an inflammatory lesion than of carcinoma.

Here, again, the question of an exploratory operation may arise not for diagnostic purposes, but to determine whether the case comes within the limits of operability, and what operation is advisable. It should be said at once that an exploration in this stage of the disease should be less lightly undertaken than in the earlier stages. Experience has abundantly proved that such explorations are not devoid of danger, and should not be embarked upon without full consideration of the condition and the power of the patient to bear the operation.

Even with the advantage of direct examination the difficulties of diagnosis are not ended. The differentiation of different types of growth—for example, sarcoma, myoma, or endothelioma—may not be an exacting task, since each has some characters of its own, and each is suitable for radical treatment if operable. The differentiation of inflammatory conditions and carcinoma is less easy, and in some cases insuperable. A long clinical history, the localized nature of the constriction, and the presence of adhesions of the band form, are valuable aids in relegating a constriction of the pylorus to the inflammatory class, but in a considerable proportion of cases a doubt must exist until the matter is settled by the histologist. In such the performance of a partial gastrectomy is justified by the safety with which the operation may be performed, and the satisfactory result which may be obtained. The frequency with which these errors may be made has been well shown by Professor Alexis Thomson, who found among 24 cases of probable carcinoma 6 to be chronic fibrosis following ulceration; of 25 collected cases, 7 to be non-malignant; and of 21 museum specimens, 6 to be non-malignant, which causes him to suggest that all cases of "atrophic carcinoma" are really of a non-malignant fibrous nature.[5]

METHODS OF TREATMENT.

These depend upon the position and extent of the growth. With regard to position, carcinoma of the cardiac end of the stomach is generally unsuitable for operation, except in the form of a palliative gastrostomy.

Growths of the body of the stomach may be treated by gastrectomy, anastomosis, or, rarely, by jejunostomy. The

last operation has been advocated by Mr. Mayo Robson and Dr. W. J. Mayo, who say, in cases of cardiac obstruction and in diseases affecting a considerable portion of the wall of the stomach rendering gastrostomy impossible or difficult, jejunostomy is as efficient and easier of performance than gastrostomy.

Pyloric growths which form from 50 to 60 per cent. of the series are the most generally satisfactory cases for operation, whether by anastomosis or excision.

The limits within which radical operations may be undertaken are fairly wide. They are determined by the extent of the primary growth. Extension along the lesser curvature is the most serious direction in the localized and pyloric cases, since if the growth reaches the cardiac extremity no chance of a radical operation remains. With regard to the cases complicated by the presence of scattered nodules, it may be easier and more satisfactory to perform partial gastrectomy than to establish an anastomosis, since the removal of the nodules gives the newly-formed channel a greater possibility of escaping invasion of the growth. As to the actual extent of involvement, if a handbreadth of the cardiac end of the stomach is free it suffices to allow of a satisfactory anastomosis. Where a large extent of the central portion of the stomach is involved a total or subtotal gastrectomy may be performed, the limits of practicability being governed by the rules laid down below.

(a) The Degree of Lymphatic Invasion.

For practical purposes the classification of the glands into those of the greater curvature, the subpyloric, the retropyloric, and the lesser curvature groups is the most useful. The exhaustive study by McCarty and Blackford [6] of the glands in 200 cases of gastric carcinoma removed by operation has substantiated much that was known, and has allowed them to draw valuable conclusions.

This study shows that the regional involvement of the glands bears a definite relation to the position of the primary growth, but that the size of the primary lesion has no corresponding effect on the extent of the glandular enlargement. Again, that clinically there is no apparent relation between the duration of the symptoms and the extent of the glandular enlargement. The size of enlarged glands is no indication of carcinomatous involvement; large glands may be inflammatory, small ones carcinomatous. Again, as in the case of intestinal carcinomata, the path of invasion is not always obviously continuous, glands or groups of glands being skipped. In McCarty and Blackford's series 1,404 glands were examined microscopically, and in these carcinomatous invasion was proved in 52 per cent. It is also shown in this series of cases that both the immediate mortality and the length of interval before recurrence of the disease were directly affected by the extent of the glandular involvement.

(b) Direct Extension to Neighbouring Organs.

Involvement of the transverse colon and transverse mesocolon is perhaps the least formidable. The main point to bear in mind in dealing with the mesocolon is the middle colic artery, and, if this cannot be spared, the whole transverse colon must be sacrificed. Many cases of successful removal of growths involving both stomach and transverse colon have been recorded. Perthes [7] has recommended that both growths should be removed in one mass, and records four operations with one death. He points out as an inducement to perform this operation that the growth in such cases involves the greater curvature of the stomach, the region in which glandular involvement is most hopefully dealt with.

(c) Extension to the Duodenum.

This is comparatively rare. Langwill,[5] in a study of 200 cases in Professor Caird's clinic, found it to have occurred in 5, or 2½ per cent. It is well to bear in mind at an exploratory operation that tumours of the florid variety often project freely through the pylorus into the lumen of the duodenum without involving its wall.

(d) Pancreas.

When carcinoma of the lesser curvature, especially carcinoma engrafted on an old ulcer, extends into the body of the pancreas, the case must be regarded as unsuitable for operation. In a certain number of cases either the primary growth or the retropyloric glands may involve a part of the head of the pancreas; in this situation portions of the gland may be successfully removed, the peritoneum being sutured over them.

Extension to the Liver and Gall Bladder.

This is an undesirable complication, but portions of the liver have been successfully removed by Mayo Robson and others, while the addition of a cholecystectomy is not a serious addition to a partial gastrectomy.

CONTRAINDICATIONS TO OPERATION.

The general condition of the patient may be a bar to any form of serious operation: in some such instances a preliminary jejunostomy has been proposed. It suffices to



Fig. 1.—Wilms.

enumerate such contraindications as visceral metastases ascites, extension to the abdominal wall, or distant lymphatic enlargements, as in the posterior triangle or the groin. The question may be raised whether apparent extension of glandular involvement to a degree incompatible with complete eradication is to be looked upon as an actual bar to the operation of gastrectomy. In answer to this it may be replied that a doubt may always exist as to the nature of the glands left behind; and secondly, that the patient may be much better, even if some glands do remain, when the primary growth is of the florid variety or is ulcerating, than with the alternative gastro-enterostomy.

Gastro-enterostomy is almost as severe an operation as partial gastrectomy, and the duration of the relief it affords does not exceed an average of five months. It must be allowed in stating this general average that the cases

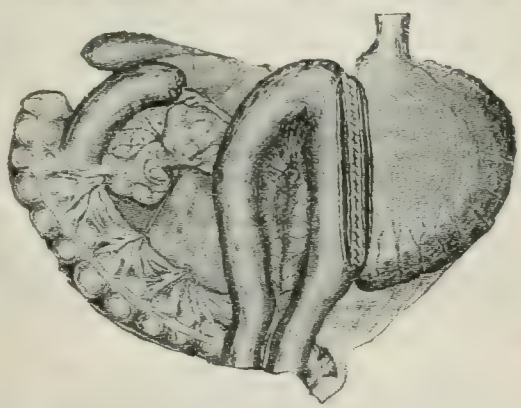


Fig. 2.—Polya, Reichel.

dealt with include the most unpromising for any form of treatment; but gastro-enterostomy, as the less satisfactory procedure, should be resorted to only in cases in which the state of the patient or the extent of the growth renders the more radical procedure impracticable. The objection to gastro-enterostomy, even as a preliminary procedure, is a real one. The technical conditions may be influenced for the worse when the second operation is undertaken, while, the patient often withholds consent to the second operation too long, as a result of the temporary relief following the establishment of the anastomosis.

The best method of partial gastrectomy is an operation on the lines of Billroth No. II, either a posterior or anterior gastro-enterostomy being performed, as may prove the more convenient in the individual case.

When the remnant of the cardiac end of the stomach is too small to allow of a convenient lateral anastomosis, the loop of jejunum may be applied directly to the opening of the divided stomach by one of the methods devised by Polya, Reichel, Wilms, etc.[9] (Figs. 1 and 2).

One other technical point should be raised. In early days especially, leakage from the duodenal stump was a troublesome and often fatal sequela to the operation. This even led some surgeons to advise that the severed end of the duodenum should be fixed in the abdominal wound. The difficulty should only occur if the duodenum has needed to be cut very short: in this case it may be sewn down to the peritoneum over the pancreas. Lewitt[10] has suggested that an end-to-side anastomosis of the duodenum into the distal limb of the loop of jejunum attached to the opening in the stomach should be made, and has employed the method with success (Fig. 3).

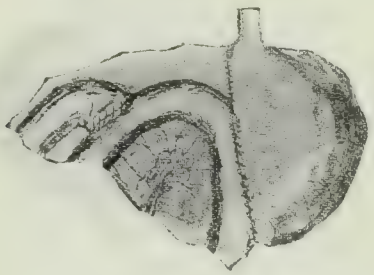


Fig. 3.—Lewitt.

With regard to the immediate mortality of the operation of partial gastrectomy, it may be pointed out that it has always been lower than that which occurred with the earlier partial colectomies, and yet allowed the latter operation to become firmly established. This is readily intelligible, since the danger of peritoneal infection is far less than in the case of the colon. Published records have stated the mortality as high as 30 per cent. and as low as 10 per cent., and with the development of more satisfactory technique it is steadily decreasing. The largest and most successful series published, that of Dr. W. J. Mayo, places the immediate mortality at 10 per cent. In my own experience the immediate mortality nearly doubles this figure. With regard to the permanent results to be obtained, no doubt these are to a certain extent vitiated by the fact that a definite proportion of the cases classed as carcinomata were really of a cicatricial nature. The investigation of Professor Alexis Thomson on this point has been already alluded to. Allowing this source of error, which with present knowledge must be a steadily decreasing one, the permanent results are as good as in any operation for malignant disease and better than most. Surgeons performing this operation have cases of five years' freedom from recurrence, while a considerable proportion of the patients undergoing the operation live much longer.

Dr. Mayo sums up the chances of the patient as follows: In operable cases a 90 per cent. chance of recovery from the operation exists, a 36 per cent. chance of three years' life, and a 25 per cent. chance of five years. This statement appears to furnish the ideal as the operation stands to-day.

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DISCUSSION.

Mr. E. W. HEY GROVES (Bristol) said that in considering the difficulty in diagnosis there was great danger in the number and complexity of the new diagnostic methods now being put forward. Many of them took time, and none held out reasonable certainty of accurate diagnosis. In 20 to 30 per cent. they never could be certain of diagnosis—certainly not before exploratory operation. Valuable time might be lost while the patient was being kept under observation; this time should be occupied with an exploratory operation. A fallacy underlay the expectation that definite diagnosis could be made by chemical and physical means; it was assumed that every case was either definitely malignant or definitely benign. But they knew that many cases of malignancy had been benign or inflammatory. It was not reasonable to expect any test to definitely differentiate between these two conditions where the case was doubtful. The next point was the difficulty in diagnosis even after the abdomen was opened, and if such difficulty existed it was impossible to be certain by means of the gastroscope or test tube. He was doubtful if even the presence of apparent metastasis was sufficient to make diagnosis certain. In a case lately under his care there were in the quadrate lobe of the liver, in close contact with the stomach, two nodules which he regarded as metastatic growths. Pyloric obstruction existed, and gastro-jejunostomy was performed. Fortunately the patient refused further operation, and he now was in robust health, the nodules evidently not being malignant. He was formerly of opinion that in suitable cases the great omentum should, where possible, be removed with the growth. He was now more certain of that than ever: the only extension of the growth might be into the lymphatics of the great omentum. Its removal added very little to the difficulty of the operation.

Dr. T. KENNEDY DALZIEL (Glasgow) thought that concerning the diagnosis of carcinoma of the stomach they were in the same position as in the diagnosis of carcinoma in other situations, such as the breast. When the cancer ulcerated in the stomach changes in the gastric juice occurred which rendered the diagnosis suggestive. As soon as ulceration began they almost constantly found minute traces of blood in the gastric contents: that was a factor of great importance. He laid stress on the peculiar facies of these cases; it was not a certain guide but it was of some importance. In pyloric cancer they had, as a rule, symptoms of obstruction so direct that coming after a history of indigestion they should never hesitate to recommend immediate operation. Cancer of the body of the stomach might go on to great advancement without material symptoms showing themselves. He quoted the case of an aged lady who was found to have suffered for years from cancer of the body of the stomach, and whose only symptom was persistent flatulence. He deprecated the performance of a partial operation. For the past ten years it had been his rule fearlessly to remove the greater part or even the whole of the stomach. He did not approve of any operation which entailed tension, as in fixing duodenum to remains of stomach. They must try to avoid tension. He preferred end-to-end anastomosis of jejunum to oesophagus or small portion of stomach left. Operations on the stomach could be done confidently, as the possibility of sepsis arising from the contents was exceedingly slight, and fear of sepsis may be put aside. In the last five years he had performed forty-five partial or complete gastrectomies with the loss of only three cases; one from collapse after the operation, one from peritonitis due possibly to defective technique, and the third from thrombosis of abdominal veins. He had not infrequently removed the transverse colon with the stomach, but all the cases suffered recurrence. He would not remove the omentum as recommended by Mr. Hey Groves; he regarded omental infection as arising in consequence of infection of general peritoneum and the gathering up by the omentum of cancer cells. The results in reference to cure would be based on the same considerations relating to cancer elsewhere, and early and thorough operation would give results better than in cancer in other situations.

Mr. R. JOWERS (Brighton) thought that very few cases of early cancer of the stomach came into the hands of the surgeon. In the early stages there were no symptoms at all until mechanical or other causes gave rise to pain. He employed gastro-jejunostomy after closure of the ends of the stomach and duodenum. On one occasion he implanted the duodenal stump on the posterior wall of the stomach with satisfactory results. He had had no case which lived more than two years after operation.

Mr. A. H. BUCK (Brighton) said: With regard to the diagnosis of cancer of the stomach, the point which has impressed itself most firmly on my mind is the fact that there is a large proportion of doubtful cases in which, notwithstanding chemical tests, bismuth meals for the

purpose of *x*-ray photography, gastroscopes, and all the other methods of diagnosis at our command, the actual determination of the presence of carcinomatous cells can only be fixed by the microscope after removal of a portion or the whole growth by operation. More particularly does this apply to the earliest stages of carcinomatous growth. Of course I feel very strongly that in such cases the only point on which one should be dogmatic is their uncertainty. One has so often seen preconceived ideas upset at operations that I have been forced to the conclusion that early exploratory operations, with the determination to act as conditions found indicate, is the safest way of dealing with doubtful gastric cases in the best interests of the patient. Also there is the fact that one cannot—as I think Mr. Makins pointed out—possibly say what the extent of gland infection is without exploration. I would particularly mention that it is not only my own diagnoses that have proved wrong on operation, but those made by various physicians, some of them of worldwide reputation, who have had every opportunity with test meals and all the other diagnostic methods of coming to a correct conclusion. I have four times performed a preliminary gastro-jejunostomy and subsequently removed pyloric tumours believing them to be malignant. In each of these instances the microscope proved the tumour to be an inflammatory mass around a chronic ulcer. These cases have occurred during the last eight years. None of the patients had any further gastric symptoms, but one operated on eight years ago died this year of inoperable cancer of the rectum. In another case, five years ago, I found a movable pyloric tumour and performed a gastro-jejunostomy. Pylorectomy was advised but refused, but the patient came back to me in three months and asked me to do a further operation. On exploration I found that the mass had extended upwards and apparently into the liver and backwards to pancreas and abdominal vessels—that it was fixed and inoperable. I had to tell her that she was suffering from inoperable growth. The woman returned to her home in the country, and is alive and well to-day. I was certainly of opinion that this was a carcinomatous case, but now believe it to have been an infiltrating brawny chronic inflammatory mass. Six months ago I had to explore a gastric case where a very definite diagnosis of carcinoma of the body of the stomach had been made by a hospital physician who had had the patient under observation for five weeks, and, I believe, applied all the known tests except the gastroscope. This man had a pyloric tumour immovable on account of its fixity. After gastro-enterostomy he put on weight to 12 st., and is now perfectly well and following his occupation of blacksmith. I hope and believe the mass was inflammatory. But if there can be so much doubt after seeing the mass and having it in one's hands, and even, in those cases where one can remove the tumour, after cutting into it with a knife and examining the cut section with the naked eye, I do not believe that a correct diagnosis can be made in doubtful cases except with the microscope. If I had gastric symptoms myself which interfered with my daily life, and which did not yield to ordinary medicinal treatment, I should not hesitate to have an exploratory operation done, for whatever the results of various tests I should not be satisfied that there might not be grave mischief present, and, if there were, we know that operation is the only possible cure. The great trouble, as Mr. Makins pointed out, has been that one but seldom operates on carcinoma of the stomach sufficiently early. Complete removal of the stomach is, I believe, not such a serious and dangerous operation as might be imagined, provided the patient is in a fair condition when operated on. With reference to surgical interference with the pancreas, I might mention that I have removed the left half of that organ in a case of rupture without any bad symptoms supervening in a child of 5 years. In irremovable cancer cases gastro-enterostomy is, in my opinion, useless unless the opening can be made well on the cardiac side of the growth. When this has been impossible I have done an enterostomy and fed the patient by the bowel. The results, however, are, naturally, not very encouraging.

Mr. D. P. Dalbreck Wilkie (Edinburgh) referred to the dangers associated with the operation of pyloro-gastrectomy, more especially to the danger of leakage from the duodenal stump. He was convinced that this complication was usually due to a necrosis of the duodenal wall at the line of suture, owing to an interference with its vascular supply. It was noteworthy that this complication frequently occurred not in the cases where the duodenum was short and difficulty had been encountered in invaginating it, but in cases where the duodenum was comparatively lax and where great care had been taken in dealing with the stump. If it were borne in mind that the upper half of the first part of the duodenum was supplied by the supraduodenal artery coming from above and reaching the upper border of the duodenum about 1 inch beyond the pylorus, and that the anastomosis between the branches of this vessel and those of the other duodenal arteries was often particularly meagre, it would be seen that when an invagination was made within the area supplied by this vessel, the sutures were very liable to occlude the vessel itself at the upper border of the duodenal stump. From injection experiments on the cadaver, in which a pylorectomy was performed and the vessels were injected, he had found that a sufficiently nourished duodenal stump could be ensured in one of two ways—either by cutting the duodenum across close to the pylorus, so that the area of invagination lay proximal to the supraduodenal artery, or possibly better by dividing the duodenum ¾ to 1 in. from the pylorus, dividing the hepato-duodenal ligament and the supraduodenal vessels and then making a generous invagination of the stump, so that the final Lembert sutures were placed in vascular duodenum supplied by the pancreatico-duodenal branches.

Mr. McAdam Eccles (London) said: If surgery of the stomach in cases of primary carcinoma of the organ is to be radical and not merely palliative, early diagnosis is imperative. All are agreed that every means should be taken to endeavour to make the diagnosis admit of explanation, but also all will allow that much valuable time is often lost by non-operative treatment lines of diagnosis. Hence early exploration, as Mr. Makins has urged, is imperative. To certain points in this early diagnosis by exploration attention should be directed. Before exploration the consent of the patient should be obtained for any operation desirable. Supposing the abdomen is opened, what are the lines on which a diagnosis may be made? To my mind the first important point, when there is no tumour present, induration is of great value. This induration may be inflammatory solely, may be inflammatory *plus* malignant growth, or may be almost entirely carcinoma. Personally, I believe the correct procedure in cases of doubt is then to open the stomach on the proximal side of the induration, then to evert the affected area of the stomach wall through the gastric opening. It is possible now to see the mucous surface of the indurated part, and this inspection may show so suggestive an appearance of malignant disease that the diagnosis is settled. But supposing there is still a doubt, then a V-shaped piece of the affected area near, but not at its edge, should be removed and at once submitted to microscopical examination in a fresh section. If this reveals a carcinomatous nature, then there is a case in a stage the most favourable for a radical cure by excision. The proper procedure in such a case I believe to be (1) to excise widely the affected area, (2) to remove all glands in the three sets, whether these appear to be involved or not, and (3) usually perform a posterior gastro-enterostomy.

Mr. Betham Robinson (London) emphasized the fact that considerable difficulty might arise when the growth was in view as to whether it was of an inflammatory character or carcinomatous. He referred to a case in his own experience where there was a marked localized growth at the pylorus without adhesions and without glandular involvement. A preliminary incision was made on the stomach side and the growth inspected: there was seen hypertrophy and warty appearance of the mucous membrane, which was quite soft, and below this was felt infiltration of the pyloric wall, which was not nodular. As the condition was so suspicious of an early carcinoma it was decided to act on this suspicion, and pylorectomy was performed. The patient made an uneventful recovery. The histological report of the tumour showed that there was no sign of carcinomatous change in the mucous

membrane or tissue below. It was now sixteen months since the operation, and the patient was in perfect health.

The PRESIDENT drew attention to the utter unreliability of the free HCl test, and urged the attempt being made to excise gastric ulcers rather than do simple gastro-enterostomy. The difficulties after laparotomy of differentiating tumours need not trouble them; all should be removed.

Mr. MAKINS, in reply, said that he could not agree with Mr. Hey Groves in advocating removal of the omentum. The omentum was likely to be affected in carcinoma of the greater curvature of the stomach, and, if so, it was one of the most satisfactory places for cancer to appear, in so far as it gave rise to but little disturbance. Nor could he follow Dr. Dalziel in commending the removal of the whole stomach; he thought it sufficient to remove the lesser curvature. On the whole, there was no advantage in removing more than the amount of stomach involved. It was difficult to decide how far glands should be removed. He would be prepared to remove the growth alone, even though he could not remove the whole of the glandular implication. All the glands might not be carcinomatous, and therefore the patient should have the advantage of that chance. In regard to Mr. McAdam Eccles's recommendation to open the stomach itself to examine the growth from within in doubtful cases, he was personally opposed to such a proceeding in a case where he would simply have to stitch up that opening again. There was no harm in removing a tumour which proved to be simply an inflammatory one. The patient was better without it, so that if a tumour were present it should be removed, and there was no necessity to inspect it from within.

EXPERIMENTAL OBSERVATIONS ON THE CAUSE OF DEATH IN ACUTE INTESTINAL OBSTRUCTION.*

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THE high mortality which is still associated with operations for acute intestinal obstruction lends a peculiar interest to all investigations regarding the cause of death in such cases. Any advance in the treatment of acute ileus must be based on a more exact understanding of the relative importance of the various factors which make for a fatal issue in this malady.

In spite of the great amount of experimental work which has been carried out with the object of determining the cause of death in intestinal obstruction considerable diversity of opinion still exists regarding this subject, and it was by reason of this lack of concord in the results of previous observers that the present writer was induced to carry out the series of experiments with which this paper deals. The three theories which are at present held regarding the cause of death are:

1. That it is due to a secondary peritonitis.
2. That it is due to a splanchnic paresis, a draining of the body fluids into the portal area, followed by cerebral anaemia.
3. That it is due to toxaemia resulting from the absorption of poisonous products from the afferent bowel.

In discussions on this subject too little attention has frequently been paid to the distinction which must be drawn between simple obstruction of the intestinal lumen and obstruction *plus* interference with the blood supply of a segment of the gut. The classical experiments of Kader[1] showed how all-important is the latter factor, and in this paper these two fundamentally different types of obstruction will be dealt with separately.

Simple Obstruction of the Intestinal Lumen.

My experiments dealing with primary facts in regard to simple obstruction of the intestine I will merely mention, as they fully confirm the results of other observers. Thus I found that obstruction was more rapidly fatal the higher up in the intestine it was situated. This fact is most clearly brought out in dealing with an animal, such as the rabbit, which does not vomit. Thus, whilst an obstruction of the colon in this animal is survived for about ten days, an obstruction of the ileum is fatal in from four to five days, and one at the distal end of the duodenum in, on an average, seventeen hours. In the cat and dog, as also in the human subject, this difference is not so striking, but still holds good. My experiments also confirmed the fact so clearly shown by McClure,[2] that in the afferent bowel there is an enormous increase both in the number and in the virulence of the bacteria; and although this fact is most striking in low obstructions, it is also well marked in cases where the obstruction is situated high up in the small intestine. Also in regard to the question of peritonitis, my work confirmed that of all recent observers, with the notable exception of Borszéky and Genersich,[3] in showing that death usually results before any appreciable infection of the peritoneum has taken place. In the vast majority of my experiments, in which an accidental infection could be excluded, cultures from the peritoneal cavity were negative.

Perhaps the most striking feature in the *post-mortem* appearances in cases dying from simple obstruction is the accumulation of fluid in the afferent intestine and in the portal vessels, the scanty amount of blood in the systemic blood vessels, and the dryness of the skeletal tissues. Braun and Borultau[4] maintain that in this drainage of the body fluids into the splanchnic area is to be found the true cause of death in obstruction of the intestine.

Toxicity of the Intestinal Content.

Nicolaysen[5] was the first to bring forward experimental evidence in favour of the view that toxaemia from the retained intestinal content was the cause of death in cases of obstruction. He collected the content from the afferent bowel in a case of acute obstruction in the human subject, filtered the content through a Chamberland filter, and injected the filtrate into the peritoneal cavities of a mouse and a guinea-pig. Both of the animals succumbed within twenty-four hours. Following this, elaborate experimental researches by Kukula[6] and Clairmont and Ranzi[7] appeared to establish the fact that toxic products developed in the afferent bowel, mainly as a result of bacterial activity, and that absorption of these poisons into the circulation accounted for the symptoms and the fatal issue in acute ileus. The theory of death from acute intestinal toxaemia has influenced very greatly the surgical treatment of the condition. At the present time many surgeons maintain that at operations for acute intestinal obstruction it is not sufficient to relieve the mechanical obstruction, but that measures must be taken to remove the toxic content which fills the afferent bowel, whilst many emphasize the danger of allowing the poisonous content to flood the empty efferent bowel, by which they maintain it is "greedily absorbed." It was imbued by this toxic theory that I commenced my investigations with the object of finding out how this toxaemia could best be combated. That such toxaemia could not be purely bacterial in nature was clear from the fact that death occurred earlier when the obstruction was situated high up in the relatively sterile reaches of the intestine than when in the ileum with its luxuriant bacterial flora. The work of Roger[8] and of Draper Maury[9] seemed to indicate that there were two types of death from obstruction of the small intestine—the one occurring in obstruction situated high up close to the duodenum, an auto-intoxication from some disturbance of the duodenal secretion; the other, met with in obstruction low down in the small intestine, an exo-intoxication bacterial in nature. I therefore carried out separate investigations in regard to simple obstruction at the high and low levels.

High Intestinal Obstruction.

This is met with in the human subject most typically in cases of gastro-mesenteric ileus resulting from pressure on the third part of the duodenum by the root of the mesentery either as a primary mechanical obstruction or secondary to a gastric paresis. The experiments of Maury, of Stone, Bernheim and Whipple,[10] and of Bunting and Jones[11] all pointed to there being produced, in cases of duodenal obstruction, some toxic body the absorption

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of which led to a rapidly fatal issue. The results of the two latter groups of observers also indicated that such a toxic substance was formed by the perverted activity of the duodenal mucosa and was independent of the biliary and pancreatic secretions. Whilst there can be no question as to the toxicity of the content of an obstructed duodenum when injected intravenously or intraperitoneally—I have repeatedly found such injections caused death with paralytic and spastic phenomena in a matter of from ten minutes to two hours—no conclusion can be drawn from such experiments, as Magnus Alsleben[12] has shown that the normal secretions from the upper part of the intestine injected in this way are highly toxic, more especially after a meal rich in protein. When the duodenum of a rabbit is obstructed in its distal part by a ligature death results in about seventeen hours. *Post mortem* the stomach is found enormously distended, studded with petechial haemorrhages, contains a thick mucoid acrid-smelling fluid, and shows numerous haemorrhagic erosions of its mucous lining.

In a series of seven rabbits I obstructed the distal end of the duodenum by means of a ligature, and at the same time drained the duodenum above this to the exterior by means of a rubber tube. The average duration of life in these animals was thirty-six hours, and during this time they lost more than a third of their body weight. As Matthews[13] had shown the vital importance of the duodenal secretion, I performed another series of experiments, in which, besides obstructing and draining the duodenum, I performed a jejunostomy and fed an extract of duodenal mucosa into the jejunum, but without appreciably prolonging life.

In another series of six animals I performed the same operation, but introduced at intervals through the jejunostomy opening the content from the duodena of rabbits which had died from simple duodenal obstruction, again with no appreciable effect on the length of survival of the animals. In a further experiment the content of the duodenum of a rabbit which had just died of duodenal obstruction was introduced into the duodenum and upper part of the jejunum of another rabbit without any obstruction being produced. This was carried out on two animals, but without producing the slightest effect on the health of either. I concluded from these experiments that the content above a duodenal obstruction was not markedly toxic when introduced into the intestine, and that the loss of fluid into the intestine, combined with the shock associated with the acute distension of the stomach and duodenum, might in great measure account for death. One could not exclude, however, a toxic absorption occurring as a late event after the distension of the duodenum had led to a loss of the vitality and integrity of its mucous coat.

Isolation of a Duodenal Loop in the Cat.

Stone, Berulieim and Whipple, experimenting with dogs, found that if a portion of duodenum, extending from just below the entrance of the pancreatic and bile ducts to the duodeno-jejunal junction, were isolated between two ligatures and a gastro-jejunostomy performed to preserve the continuity of the alimentary canal, the animals died within from twenty-four to forty-eight hours, apparently from an acute toxaemia. If the isolated duodenal loop were drained the animals survived for weeks. They found the content of such a closed loop, as also an extract of its wall, to contain a highly toxic substance which withstood filtration and heating at 60° C. for several hours.

I have repeated these experiments on cats, but with entirely different results. The following experiment was carried out on four cats:

Under chloroform and ether anaesthesia the abdomen was opened and two ligatures of fine rubber tubing were tied round the duodenum, the one just distal to the point of entrance of the bile and pancreatic ducts, the other just proximal to the duodeno-jejunal junction. A posterior gastro-jejunostomy was then performed. For the first three days after this operation the cats, with one exception, appeared well and showed little evidence of toxaemia, so much so that on the third day one of them was reopened to make sure that the ligatures had not cut through nor slipped. The ligatures were found to be firm and *in situ*, the duodenal loop being greatly distended and congested. This animal died on the following (fourth) day, and *post mortem* the striking feature was the extraordinary degree of fatty degeneration of the liver, which resembled that seen in delayed chloroform poisoning. There was no peritonitis. The duodenal loop was deeply congested, contained blood-stained, foul-smelling content, and its mucosa showed extensive ulceration along the antimesenteric border. In this case there was certainly evidence of a profound toxaemia, but one could not exclude a post-anaesthetic poisoning. The other cats lived for periods of three, six, and eight days respectively, and, although sleepy and apathetic, showed no evidence of profound toxaemia until within a short time of death. *In each case death was due to peritonitis the result of a necrosis of the duodenal wall* and leak at one of the sites of ligature. In no case did the liver show a marked degree of fatty change. In one case the mucosa of the duodenal loop was necrotic throughout; in the other two it showed areas of superficial necrosis and numerous haemorrhagic erosions.

The impression conveyed by these experiments was that whether the content of a closed duodenal loop in the cat be very toxic or not, it is apparently not absorbed freely in its toxic state so long as the mucosa is intact. To test this point further the following experiment was carried out on two cats:

Under ether anaesthesia a loop of duodenum was isolated by ligatures as in the previous experiments, but before tightening the lower ligature the loop was distended, by means of a needle and syringe, with the content of the duodenal loop of an animal which had just died from this form of duodenal obstruction. A posterior gastro-jejunostomy was then performed in each case. These animals therefore, started out with their duodenal loop filled with this possibly toxic content.

The one animal showed little or no evidence of toxaemia on the first two days following operation; on the third day it appeared somewhat apathetic, though it moved about and was certainly not acutely ill. It was killed on the fourth day, and *post mortem* there was found a generalized peritonitis due to a perforation of a necrotic area under one of the ligatures. The loop contained some solid material, evidently the residue of the content injected at the operation.

The second animal remained well for the first four days after operation and showed no symptoms of toxaemia.

On the fifth day it was obviously acutely ill and was consequently killed. At the *post-mortem* examination it was found that a perforation of the loop had occurred close to one of the ligatures. In neither case was there any noteworthy degree of fatty change in the liver.

These experiments demonstrated the important selective and neutralizing function of the intestinal mucosa, for until distension had interfered with the vitality of the mucous lining of the gut, absorption of toxic bodies was not noteworthy. In simple duodenal obstruction, therefore, where the mucous coat of the bowel remains more or less intact, I concluded that the acute symptoms are due as much, if not more, to loss of fluid as to absorption of toxic bodies. The fact that I was able to delay death in both cats and rabbits by subcutaneous saline infusions supported this view, whilst the work of McLean and Andries[14] and the results obtained by Hartwell and Hoguet[15] in duodenal obstruction in dogs fully confirmed it. These observers found that death could be delayed for several weeks if loss of fluid by vomiting and by the urine was more than made up for by copious subcutaneous saline injections.

Value of Subcutaneous Infusions.

If an obstruction of the distal end of the duodenum be produced in a cat, the animal presents symptoms closely resembling those of gastro-mesenteric ileus in the human subject—namely, thirst, lethargy, and occasional vomiting of large quantities of bilious fluid—the animal rapidly losing weight, and dying usually within seven days of the onset.

If, however, the animal be given daily by subcutaneous injection, a large quantity of saline, or, still better, a quantity of a 3 per cent. solution of dextrose in addition to the saline, not only will it show immediate improvement, but life will be prolonged for many days beyond that of a control animal. Clinical experience fully supports the experimental evidence of the supreme value of supplying the depleted systemic vessels with fluid in cases of high intestinal obstruction. Part of the value of the administration of large quantities of fluid must almost certainly be the enhanced secretory activity of the kidneys thereby produced. The impeded and sometimes almost arrested renal function which is met with in cases of high obstruction as a result of the depletion of the systemic circulation must itself constitute an important factor in producing a fatal issue.

Simple Obstruction of the Ileum.

A study of obstruction in the lower part of the small intestine of the cat throws much light on the relative

importance of the various factors making for death in acute intestinal obstruction. If the lower end of the ileum of a cat be cut across and both ends invaginated, the health of the animal does not appear at first to be much disturbed. For the first week after such an operation the animal will move about freely, eat readily though sparingly, will not, as a rule, vomit, and, apart from a loss of flesh and a gradual enlargement of the abdomen, will appear healthy. In a series of animals thus treated I found that the duration of life varied from eight to nineteen days (the animals were killed when grave symptoms developed). After the first week, the animals appeared somewhat apathetic and slept more than usual, but never exhibited any of the symptoms which we associate with acute intestinal obstruction. *Post mortem* in such cases enormous distension of the afferent bowel is seen. There is, as a rule, no peritonitis and little or no free fluid in the peritoneal cavity. The lower end of the afferent bowel is filled with solid, almost scybalous faecal matter, above this is foul-smelling liquid faeces. Microscopically, the mucous membrane of the distended bowel shows little change from the normal: as a rule, there is no evidence of ulceration, but when this does occur it is situated close to the obstruction. The liver and kidneys do not show any noteworthy degree of degenerative change.

Numerous experiments were made by injecting the intestinal content, filtered and unfiltered, boiled and unboiled, into other animals intravenously and intraperitoneally, and, although when injected in sufficient amount such content was markedly toxic, the surprising fact to me was the large amount which some animals would tolerate. I will not detail such experiments, as they are purely of scientific interest, not being comparable to anything which occurs in the human subject. The point of practical importance appeared to be to ascertain the extent to which toxic absorption occurs through the intestinal mucosa when the intestine is filled with obstructed content. I therefore carried out two series of experiments.

In the first series, the content from an obstructed small intestine was injected into the unobstructed small intestine of another animal. Eight experiments of this nature were performed, 5 on rabbits and the rest on cats.

In each case the abdomen was opened under ether anaesthesia, a loop of jejunum brought out and the abdominal cavity packed off with sterile gauze. A fine purse-string suture was then inserted into the wall of the gut, and into the centre of the area thus marked out the needle of a Record syringe was plunged, and the whole of the fluid content from the intestine of an animal dead from a simple obstruction injected. On withdrawing the needle the purse-string suture was tied and reinforced by one or two Lembert sutures. In spite of the utmost care to prevent soiling of the operative field, two of the animals died of peritonitis on the second and fourth days respectively. None of the animals presented symptoms referable to intoxication during the first twenty-four hours, and although two of the rabbits died of acute enteritis on the third and sixth days respectively, this was partly accounted for by the fact that in both cases the intestinal content had been injected cold.

In another experiment eight fluid ounces of intestinal content from a case of obstruction in a human being was injected into the small intestine of a dog, which showed few symptoms and made a prompt recovery.

The impression conveyed by these experiments was that the mucous membrane of normal intestine offers an effective barrier to the rapid absorption of large quantities of the products of intestinal putrefaction, and that the danger of absorption from the empty efferent bowel after the relief of obstruction has probably been exaggerated.

In order to gauge the relative importance of toxic absorption from the afferent bowel in bringing about the fatal issue, I carried out a second series of experiments, in which, having produced a simple obstruction at the lower end of the ileum, I filled the intestine above with the content of the small intestine of an animal which had died from a similar obstruction. I calculated that if toxic absorption had killed the latter animal, and if the former started out with its obstructed intestine filled with toxic content, symptoms of toxaemia should very quickly supervene, for, as Enderlen and Hotz [16] have pointed out, the active peristaltic movements which characterize the early stages of an obstruction tend to accelerate absorption, whilst the work of Clairmont and Ranzi, and of Braun and Boruttau clearly proved that absorption from obstructed intestine becomes very slow in the later stages.

This experiment was carried out in six animals, and again one was met by the difficulty of preventing peritonitis, the least soiling of the peritoneum with the highly infective content leading to a fatal peritonitis. The animals survived for periods varying from two to seven days, four of them dying of peritonitis. In no case was there evidence of any marked toxaemia within the first thirty-six hours, and, as in the previous series of experiments, the impression conveyed was that absorption of the content of obstructed intestine through healthy intestinal mucosa does not lead to acute toxic symptoms.

The outstanding difference between high and low intestinal obstruction in cats is that in the former a large amount of fluid from the actively secreting upper part of the intestine is lost by vomiting, whereas in the latter the fluid of the secretions of the upper part is reabsorbed lower down and life is consequently prolonged. Absorption of toxic bodies in simple obstruction is a slow process, and does not lead to the symptoms of acute ileus. In the surgical treatment of simple obstruction, infection and not toxaemia from intestinal absorption is the danger to be guarded against.

Obstruction of Lumen plus Interference with Vascular Supply.

As the majority of cases of acute intestinal obstruction which come under the care of the surgeon belong to this group, it requires the most careful study. In spite of Kader's work many of the later observers have ignored the paramount importance of the vascular factor in producing the typical symptoms of acute ileus. In this class of case the symptoms are much more dramatic than those met with in simple obstruction, to which they bear little resemblance. Albeck [17] and Murphy and Vincent [18] among recent investigators are the only workers who have given due weight to the essential difference between the two conditions. As a result of the experiments which they carried out they came to the conclusions that in cases where a loop of intestine was strangulated, death resulted from toxaemia from the absorption of poisons generated within the strangulated loop. Albeck believes that such poisons belong to the putrefactive class, whilst Murphy and Vincent maintain that they are bacterial toxins.

I have carried out a series of experiments on cats with the object of determining what part toxaemia played in causing the symptoms and the fatal ending in cases of strangulation of the intestine. In my earlier experiments I found that the method of strangulating a loop of intestine by a rubber band or similar contrivance was too uncertain. I found, as did Murphy and Vincent, that obstruction of the venous return was the most important factor in producing an early fatal result, and that the complete necrosis of an isolated loop of intestine resulting from a ligature of both its arteries and veins was survived for a considerably longer time than was the haemorrhagic infarction which resulted from a ligature of its veins alone. I therefore took as a standard operation the isolation of the lowest 12 to 20 cm. of ileum by tightly ligaturing the intestine at either end with a rubber band, and then ligaturing the veins returning from this loop. The symptoms following this operation were very similar to those met with in cases of acute internal strangulation in the human subject, and death resulted in, on an average, thirty hours. *Post mortem* the loop was found to be of a deep prune colour, tensely distended with foul-smelling blood-stained content, which swarmed with bacteria. The surface of the loop was covered with a fine layer of fibrin, and cultures from this in the majority of cases gave a growth chiefly of *B. coli*. The peritoneal cavity contained a large quantity of blood-stained exudate, the mesenteric veins were engorged, and although the intestine proximal to the strangulated loop was not distended, the total amount of fluid collected in the splanchnic area was very striking. Microscopic sections of the wall of the affected intestinal loop showed that the mucous membrane was almost completely destroyed, the cells being disintegrated and having lost their staining properties. If death were due mainly to absorption of toxic bodies from the strangulated loop, this must occur by one or both of two channels—namely, by the lymphatics from the loop or through the peritoneal cavity. In five animals I ligatured all the lymphatics as well as the veins from a portion of ileum isolated between two ligatures, but found that lymphatic obstruction did not affect the length

of survival of the animals to any appreciable degree. Absorption of toxic products, if it occur, must take place, therefore, mainly through the peritoneal cavity.

In six cases of venous obstruction I collected all the fluid from the peritoneal cavity, and injected it intraperitoneally into six other cats. In no case was there evidence of toxaemia, and all six cats survived. This, of course, only proved that there was not sufficient toxin in the peritoneal fluid at the time of death of the obstructed animal to produce symptoms on injection, and did not preclude a steady continuous absorption, the cumulative effect of which was sufficient to produce toxaemia and death. The content of the loop in such cases was next examined as to its toxic properties. It was found that the intraperitoneal injection of even small amounts of the unfiltered content produced rapid death from a virulent peritonitis and septicaemia.

In five cases the content of the loop was filtered through a Berkefeld filter, and then injected intraperitoneally into cats. In no case was there any marked evidence of toxaemia, and the animals all survived, although in three cases they lost weight considerably for several weeks after the injection.

In order to test what degree of toxic absorption may occur in the human being when a strangulated loop is allowed to empty its content into the intestine below, the unfiltered content from a venous obstruction loop was injected into the intestine of another animal above a simple obstruction of the ileum. This experiment was carried out on three cats. In spite of elaborate precautions to prevent soiling of the peritoneum, two of these animals died of a virulent peritonitis. The result in the third animal was very interesting: it showed no immediate toxic symptoms and lived for fourteen days—that is, slightly over the average duration of life for a simple obstruction.

I concluded, therefore, that whilst the content of a strangulated loop is highly infective, it does not cause toxic symptoms when absorbed through healthy intestinal mucosa, and that passing it through a Berkefeld filter removes any toxic bodies that it may contain as tested by intraperitoneal injection. The question then arose, Is death due to poisoning, not so much from the content of the loop as from absorption of autolytic poisons developed in the infarcted bowel wall itself? To test this question the affected loop in cases of venous obstruction, after being emptied of its content, was put into a hydraulic press and subjected to a pressure of 3,000 lb. to the square inch; the juice thus expressed was collected, passed through a Berkefeld filter, and injected intraperitoneally into cats. This experiment was carried out on five cats, but in no case did the injection cause more than a trifling and passing indisposition, all the animals recovering. I concluded, therefore, that poisoning by an autolytic toxin could play but a small part in causing death in such cases of obstruction.

In a fourth series of injection experiments I tested what was the effect of the combined injection of the three filtrates—that is, the peritoneal exudate, the content of the loop, and the pressure extract of the wall of the loop. This was tested in four cats; two of them recovered (one of these was definitely indisposed for forty-eight hours after the injection), the other two, although exhibiting no immediate toxic effects, died from peritonitis some days later, this being due to imperfect filtration of the fluids injected. Finally, to test whether there was any toxic body in the circulating blood of an animal during the later stages of a venous obstruction, I connected up the carotid artery of such an animal to the jugular vein of a healthy cat (50 c.cm. of blood having been previously removed from its saphena vein) and transfused the blood of the obstruction animal into the healthy one. On coming out of the anaesthetic the latter showed no evidence of toxaemia and made an uneventful recovery. The results of these experiments convinced me that toxic absorption from the strangulated intestine is not the primary cause of death in cases of internal strangulation, and whilst fully sensible that they did not exclude toxaemia as being a factor in many cases, they still pointed to shock and splanchnic paresis being the chief factors in producing the symptom-complex in cases of acute strangulation. This point was made especially clear in one experiment where, in an unusually large and powerful animal, the venous return from 50 c.cm. of small intestine was interfered with and this portion of bowel isolated by ligatures, the animal dying in five hours with typical symptoms. In this case cultures from the peritoneum were negative, as were also injection experiments with the peritoneal exudate, intestinal content, and the extract of the wall of the infarcted loop.

In cases surviving for more than twenty-four hours the factor of peritoneal infection comes in and may constitute the ultimate cause of death in such cases.

Conclusions.

1. Simple obstruction of the intestinal lumen must be clearly distinguished from strangulation. In the latter, death ensues long before the obstruction to the onward passage of intestinal content has become a factor of importance.

2. Simple obstruction high up in the intestine differs from that lower down, chiefly in the great loss of intestinal secretions by vomiting in the former, compared with the latter, where the secretions are reabsorbed above the obstruction.

3. Absorption of poisons from the content of the obstructed intestine is not the leading factor in producing the symptoms of acute ileus.

4. The danger of allowing the content pent up above an obstruction to flood the empty intestine below has probably been exaggerated.

5. Peritonitis plays no part in causing death in the majority of cases of simple intestinal obstruction; in cases of strangulation, however, it may undoubtedly be a factor in the later stages.

6. In all varieties of intestinal obstruction the bowel content is highly infective.

7. Splanchnic paresis with depletion of the systemic circulation is the main factor in producing the symptom-complex of acute intestinal obstruction. In treating this factor, besides the operative relief of the obstruction, copious subcutaneous infusions of saline and dextrose solutions are of immense value. Clinically, the administration of pituitrin is found to be a valuable adjuvant.

8. The prompt relief given by enterostomy in cases of simple obstruction of the small intestine in the human subject is to be explained, not so much by the relief from toxic absorption as by the breaking of a vicious circle, the intestinal distension causing a paresis of the splanchnic vessels, and vice versa. By relieving the intestinal distension the splanchnic vessels are allowed to regain their tone, and the depletion of the systemic circulation is arrested.

9. The operative treatment of intestinal obstruction should be as conservative as possible; only on imperative indications should the intestinal lumen be opened. The danger of a post-operative peritonitis from the slightest soiling is much greater than that of toxic absorption from a loaded bowel.

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RADIUM AND INOPERABLE CANCER.

By A. A. Warden, M.D.,
Paris.

The surgeon is a little apt, once he has committed himself to the opinion that a case of cancer is inoperable, to add that it will probably be best to attempt no treatment whatsoever. He has a wholesome disbelief in non-surgical measures, and classes among uncertain remedies Coley's fluid, radium, diathermy, etc. In other words, his attitude is orthodox and conservative, for the fiat has gone forth

that the only officially recognized treatment of cancer is the knife, and the knife as early as possible.

Now it seems to me that this phrase—that a cancer is inoperable—requires consideration, and perhaps some qualification. What is an inoperable cancer? Does the surgeon mean merely that in his opinion an operation is not advisable because likely to be followed by speedy recurrence, or does he mean that it is literally impossible, without undue risk to life, to perform any operation? From the patient's point of view the term "inoperable" may have a different meaning, for he may decline to submit to the vast mutilation that some surgeons still—and with good results in many cases to support them—feel themselves justified in recommending. For example, a patient has a small buccal or lingual cancer. The surgeon consulted thinks it quite operable, and suggests excision of the upper jaw or complete removal of the tongue. The patient declines, for he prefers, if necessary, death to such deformity. In other words, his cancer, to him, is inoperable—nor, indeed, can we blame his decision.

The term, therefore, does not seem to admit of strict definition, but must vary in its sense with the judgement and experience of each surgeon. Perhaps the simplest and least objectionable meaning to be attached to it would be that a cancer must be considered inoperable or operable in unfavourable circumstances when there is extensive glandular infection. Wide extension to glands of a cancerous process implies conditions of time and distribution that make it of very grave import.

If the cancer, then, be considered inoperable, is there any resource other than surgery, or is the outlook altogether hopeless?

Five years' experience has shown me that radium is worthy of recognition by every surgeon and physician who may be called to deal with an "inoperable" cancer. I ask the consultant surgeon not to confound inoperable with hopeless conditions, but to remember that radium-therapy, although in its infancy, has already proved its value in such cases. No reasonable man who takes the trouble to follow the records that have been published in different parts of the world can doubt that radium has won—next, perhaps, to the bistoury—the highest place in our therapeutic armoury.

In Paris, my friend Dr. Chéron and Dr. Rubens-Duval published last year a case of inoperable uterine cancer cured by radium. I use the word "cured" advisedly, for fifteen months later the patient died of a disease of the central nervous system, and the autopsy verified the clinical evidence of the complete disappearance of all cancerous tissue. Some details of this case were given in the *Lancet* of November 16th, 1912.

Ten further cases of uterine or vaginal cancer have been reported by these authors in which there has been, clinically, complete disappearance of the growth. Eight of these patients are alive and well one, two, and four years after the cessation of all treatment. These results are confirmed by Léjars, the well-known surgeon, and others.

I have had under my care a number of cases of advanced cancer—all so proved by microscopic examination—that have been known to exist for periods varying from nine to eighteen months, and that, accompanied by extensive glandular involvement, have rightly been considered inoperable. In almost every case the use of radium, alone or combined with surgical intervention on the glands, has resulted in the complete disappearance of the original tumour. Sometimes there has been no recurrence; the longest case in my mind, to which I shall refer more fully in a moment, is a squamous epithelioma of the mucous membrane of the lip under the care of Professor Gaucher and Dr. Dominici, inoperable, but well under radium treatment since February, 1908—that is, over five years later. Sometimes, although the initial lesion disappears, the glands can only be incompletely dealt with, and the patient succumbs to generalization. Sometimes, when a local cure has apparently been effected a metastatic growth in the vertebrae, or in an abdominal organ, makes its appearance. Sometimes there is recurrence, so-called, some months later, in contiguous tissue.

Considering that in these cases the radium has been applied after the cancer cells have been circulating in the lymphatic system for from nine to eighteen months, such results can scarcely be laid to the discredit of the therapeutic agent. It is possible no blame can be placed anywhere; but if there is any to be apportioned it is surely to the delay in the recognition of the cancer as finally inoperable, and in reaching the decision that the case is at last suitable for the radium expert.

It is surely evident that such reasoning is neither logical nor just. The squamous epithelioma of the mucous membrane of the lip, to which I refer above, occurred in a patient shown by Dr. Dominici and myself at a demonstration given before the Radiology Section of the British Medical Association in London in July, 1910. This patient (see photograph and special plate, BRITISH MEDICAL JOURNAL, August 27th, 1910) was treated in December, 1907, and was well in February, 1908, and now, in the spring of 1913, or over five years later, remains perfectly well with the mucous membrane of the lip completely restored and normal in appearance.

As I have referred summarily to what may fairly be termed a definite cure of cancer by radium, let me also give, as briefly as possible, notes of what might be termed a failure, in that, within the year, there has been "recurrence" or rather a fresh outbreak, close to the original lesion.

In May, 1912, a patient was sent to me to Paris by a distinguished London surgeon. He first had sore-throat with a definite pharyngeal lesion, not, however, then recognized as cancer, in March, 1911.

In October, 1911, glands enlarged on the left side of the neck, and, six months later, suppurated, were opened, examined histologically and found to be squamous epithelioma. The primary lesion, an ulcer situated between the epiglottis and the side of the pharynx, was then detected and other glands noted in the neck. On his arrival in Paris, therefore, we had to deal with a carcinomatous lesion of at least fifteen months' standing, inaccessible to surgery and complicated by extensive lymphatic infection.

In consultation with Drs. de Martel and Dominici our treatment was by a combination of radium-therapy and surgery. A platinum tube containing 40 mg. of radium was introduced into the base of the tongue through a small submental incision, and, after the anterior triangle of the neck had been cleared of the glands and cancerous tissue including part of the sterno-mastoid muscle, three other tubes were left to irradiate the tissues of the neck. These four tubes were removed thirty-six hours later. The wounds healed rapidly and, a month later, the complete disappearance of the tumour was certified by three eminent throat specialists, among them the authority who had originally discovered the lesion.

Nine months later the patient's condition remained excellent, and hopes of complete recovery were held by all familiar with the details of the case.

In April, 1913, that is, ten months after the treatment, further malignant processes were found in the throat—namely, ulceration the size of a sixpence, at the base of the tongue and along the left border of the epiglottis, an inch distant from the original lesion. Under cocaine the epiglottis was removed, and the microscope showed the cancer cells extending deeply into its cartilage. The lingual ulcer was dealt with by the introduction into the base of the tongue, through small lateral incisions in the neck, of two tubes of radium of 45 and 25 mg. A month later the most careful search again failed to detect any sign of malignant disease, and the patient is to-day in full enjoyment of his usual strength.

Even admitting such a case to be, however, a failure in that recurrence took place, it may justly be claimed for radium:

1. That the original tumour disappeared.
2. That the neck remains free from evidence of lymphatic infection; and
3. That the patient is still enjoying healthy activity a year after a hopeless verdict had been pronounced, and more than two years after the first evidence of cancer.

CHRONIC INTERSTITIAL ENTERITIS.

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I HAVE pleasure in drawing your attention to this condition, which, I think, has not yet been fully described.

Twelve years ago I saw a professional colleague, suffering from obstruction of the bowels of a fortnight's duration.

previous to which he had had for several weeks numerous attacks of colic, slight attacks of diarrhœa with no tenderness over the abdomen, and very slight rise in temperature, with no appreciable alteration in the pulse-rate. When seen by me the abdomen was not distended nor were the muscles rigid, but to the hand gave a sense of putty-like resistance. As vomiting was persistent, I concluded that there might be an obstruction high up, and so opened the abdomen, to find the whole of the intestines, large and small alike, contracted, rigidly fixed, so that when a loop was lifted from the abdomen it sprang back into its sulcus. That the wall of the whole intestine was chronically inflamed there was no doubt. In parts the peritoneum seemed oedematous, as was also the omentum and mesentery, in which the glands could be felt enlarged. Nothing could be done to restore the function of the canal, and the patient died a few days afterwards.

We were not then familiar with the condition, and it was supposed to be tuberculous, though this was negatived by microscopic examination, the only information we obtained from the pathologist being that the condition was a chronic and inflammatory one. A few years later, with Dr. Gibb of Paisley, I saw an exactly similar condition in a young man of 32. His symptoms were somewhat more acute than the previous case, but practically the same. He also died. No examination was allowed.

In these two fatal cases the disease involved the whole of the small and large intestines. The following cases being localized, and therefore excisable, permitted operation, and excision of the affected portion was in all cases followed by complete restoration to health.

The first of these cases I saw with the late Professor Gemmell in 1905.

Mrs. T. was admitted to the Western Infirmary with symptoms of partial obstruction, and one could palpate a coil of intestine, rigid and thickened. Treatment was of no avail, attacks of pain becoming more frequent; progressive emaciation and general malaise led to operative interference, when a portion of jejunum over 2 ft. in length was found to be affected and was excised, with perfect recovery. I removed in two cases the caput coli and adjoining portion of the ileum.

In another case the sigmoid, and in another the transverse colon, and, lastly, from a child of 10 a specimen which well now indicates the great thickening of the bowel wall. This specimen was from the middle of the ileum.

The following is the pathological report of the condition from the laboratory in the Western Infirmary, on the specimens obtained from the ileum, jejunum, and colon.

Pathology.

Histologically there is much in common in the three cases, indeed they form a graded series in which all the stages from acute to chronic may be traced. The most acute lesions are found in Master W. G., and the most chronic in Mrs. N. The following description is based upon a study of numerous sections from each case.

The earliest change in the bowel appears to be that of acute congestion. The vessels throughout are dilated, and there is much oedema of the submucosa. As evidences of the acute inflammation, the vessels are seen to be rich in polymorphs, and there is considerable infiltration of all the coats with similar cells. Here and there, too, in mucosa and submucosa irregular haemorrhages have occurred. These changes also implicate the mesentery in a lesser degree. It is noteworthy that the lymphoid aggregations are singularly free from pathological change.

With increasing infiltration the next phase arises, namely, cellular and fibrinous exudation within the gut lumen (bile-stained naked eye). Still later the mucous membrane is denuded of epithelium, and, the muscularis mucosae being obscured by infiltration and necrosis, the appearance is that of a few islets of glandular tissue lying in a semipurulent collection which abuts upon the much altered submucosa. There is, however, no great sloughing of the bowel wall, and the muscle is not laid bare, indeed it is in a way protected, as shown by a new formation of capillaries in the more superficial layers of the submucosa.

In the specimen from Mrs. T. the regenerative process is in the ascendancy, although the condition is still fairly acute. The serous and muscular coats are slightly oedematous, markedly congested, even slightly haemorrhagic, and considerably infiltrated with both polymorphs and mononuclear cells. The submucosa is also oedematous and infiltrated, mononuclear cells, however, predominating. The muscularis mucosae is definable as the outer limit of a broad zone of young granulation tissue which is evidently replacing the now thin layer of purulent exudate within the gut lumen.

A still further advance in the healing process is seen in the sections from Mrs. N. There is scarcely any purulent exudate within the lumen, it and the mucosa having been replaced by granulation tissue in which the vessels are numerous and well formed, and fibroblastic transformation is well marked. There is less oedema of the tissues than in the two previous cases, and though leucocytic infiltration of all the coats is still great, it is definitely a mononuclear one. Further, there is a notable number of eosinophiles throughout, and a few giant cells are also present in the granulation tissue.

From the acute case, Master W. G., coliform bacilli were isolated in pure culture from the depths of the affected bowel wall under circumstances which suggest an etiological relationship. They are also demonstrable in suitably stained sections.

A careful search has failed to reveal micro-organisms of any kind in the depths of the other two cases—the ordinary bacterial flora of the gut alone visible in the most superficial part of the exudates. The symptoms in all the cases were similar: the characteristic and most striking feature being most violent colic, causing vomiting and occasionally an escape of some blood, also constant mucus from the bowel. The bowel becoming exhausted, or the contents being forced through the rigid portion, the patient then would be at rest, quite comfortable and cheerful for a time. In the case of the child even ten or twelve hours might elapse between the attacks of pain, which were truly distressing in their intensity. In the young one would naturally suspect intussusception, except that the obstruction was not complete, while the intensity of the pain put a chronic intussusception out of the question. Above the affected portion of the bowel peristalsis could be observed. During a painful attack the inability to retain food and the constant suffering leads to steady emaciation, the temperature only occasionally rises and during the intervals of pain, and the pulse is quiet. In all the cases one could determine an area of resistance in the colon and sigmoid, naturally giving rise to the supposition that we might have to deal with a diffused and malignant growth. As far as I am aware, the prognosis is bad except in cases where the disease is localized, and even there seems rather hopeless unless operation be had recourse to.

Etiology.

In regard to etiology, we have no direct clue by histological or pathological examination. The cases gave the impression that they were probably tuberculous, and yet from the uniform character of the affection it evidently is not so. The affected bowel gives the consistence and smoothness of an eel in a state of rigor mortis, and the glands, though enlarged, are evidently not caseous.

In vol. xx of the *Journal of Comparative Pathology and Therapeutics*, McFadyen draws attention to Johne's disease, a chronic bacterial enteritis of cattle which was called pseudo-tuberculous, in which the histological characters and naked-eye appearances are as similar as may be to those we have found in man. The condition was first described by Henny and Frothingham in 1895, since which time numerous observers have noted its course in various parts of the Continent, and McFadyen examined 6 cases found in England in 1911. McFadyen, however, describes an acid-fast bacillus similar to but demonstrably not the tubercle bacillus, differing in size, and also as not giving rise to tuberculosis in guinea-pigs. This bacillus is found not only in the tissues but also on the surface of the mucous membrane, which in animals seems to be more affected, presumably because they die earlier, than in man, so that the disease is not so advanced. In my cases the absence of the acid-fast bacillus would suggest a clear distinction, but the histological characters are so similar as to justify a proposition that the diseases may be the same. As far as I know the disease has not been previously described, but it seems probable that many cases must have been seen and have been diagnosed as tuberculous, and possibly nothing done for their relief.

Treatment.

In regard to treatment, these cases which have come under observation have pursued their course uninfluenced by dietetic or medicinal treatment, and apparently only operation can afford relief, and then only if the disease be limited. Seven out of the nine made a perfect recovery after the operation, and one does not hesitate in resecting large portions of the intestine. The subject has been one of great interest to me for some years. My friends the pathologists prefer to call it hyperplastic enteritis, and I can only regret that the etiology of the condition remains in obscurity, but I trust that ere long further consideration will clear up the difficulty.

Another specimen I obtained recently from a patient of Dr. Revie of Kilmarnock.

A lady on whom I had performed colostomy on the right side a year previously, with the object of arresting the intestinal current to enable us to freely flush the diseased colon. The symptoms were those already described with an exaggerated degree of pain, and persistent, most painful diarrhoea with blood and mucus. Distinct improvement ensued from the colostomy and lavage, though during the year she had on two occasions exacerbations. When seen at the end of the year she had been extremely ill again for one month, and was so evidently losing ground that I advised complete removal of the colon, which colon shrunk to its present dimensions as I now show you. The histological characters are similar to those found in the previous specimens. The patient has made an uninterrupted recovery so far, and I hope at no distant date to transplant her caput coli (which alone was unaffected and was left) to her rectum.

An interesting fact in this case is that on the removal of the colon it was immediately sent in a sealed vessel to the pathologist, and he failed to discover micro-organisms either on the surface of the mucous membrane or in the tissues, indicating that lavage had been thoroughly effective in purifying the canal, in spite of which lavage, however, the disease had steadily progressed. Indeed, from the first operation the disease had extended upwards from below the hepatic flexure to near the caput coli.

DISCUSSION ON THE DIAGNOSIS AND TREATMENT OF INJURIES OF THE KNEE-JOINT OTHER THAN FRACTURES AND DISLOCATIONS.

OPENING PAPERS.

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In the first place I must thank the President and Council of the Surgical Section for the honour they have done me in asking me to introduce the discussion on the diagnosis and treatment of injuries to the knee-joint other than fractures and dislocations. I can assure you it is an honour I greatly appreciate, and I sincerely trust that the subsequent discussion will prove both interesting and profitable.

It has been somewhat difficult for me to decide upon the form in which I should treat the subject, but, after considerable thought, I have come to the conclusion that the clearest and best method will be to exclude such conditions as perforating wounds and their effects, and confine myself to what one might term subcutaneous injuries. Among these are simple traumatic synovitis and arthritis, more or less severe lacerations of important ligaments, haemophilia, some forms of loose bodies, injuries, sometimes trivial, to joints already affected with disease, such as osteo-arthritis and torn semilunar cartilage.

Anatomy.

Before considering these injuries seriatim, I think it would make the subject clearer if I briefly mentioned some of the more important features in the anatomy of the knee-joint, particularly those which have a bearing on my subsequent remarks. This joint, besides being the largest, is the most complicated articulation in the body, and possesses important extrinsic and intrinsic ligaments. Included in the former are the anterior or ligamentum patellae; the internal lateral, which is a broad, flat structure; the cord-like external, and lastly, the posterior. The chief intrinsic ligaments are the anterior and posterior crucial. Also contained in the joint, and in close relationship to the articular surface of the upper end of the tibia, are the two important semilunar cartilages. These are two crescent-shaped pieces of fibro-cartilage, the internal being applied to the upper surface of the internal and the external to the upper surface of the external tuberosity of the tibia. The internal forms a larger segment of a circle, and is less movable than the external. Its posterior end is attached to the back part of the intermediate rough area on the upper end of the tibia in front of the attachment of the posterior crucial ligament, and the anterior end is attached to the front of the intermediate rough area just in front of the anterior crucial ligament. Its circumference has a firm attachment to the deep surface of the internal lateral ligament, and a somewhat weak connexion, by means of the coronary ligament, to the upper end of the tibia. The external cartilage forms a smaller segment of a circle than the internal, and takes up a smaller space. Its anterior extremity is fixed to the intermediate rough area in front of the tibial spine, while its posterior end is connected to the tibial spine between the two tubercles, giving a strong slip to the posterior crucial ligament. It has no attachment to the external lateral ligament, being separated from this by the tendon of the popliteus muscle, but it has a weak connexion with the upper end of the tibia by means of the coronary ligament. The external semilunar cartilage therefore has a decidedly looser attachment than the internal, and this circumstance, as I will show later, is the cause of the greater frequency of tears or splits of the internal semilunar cartilage.

The knee is not a simple hinge-joint, as at the end of extension and the beginning of flexion there is a distinct twisting movement of the femur on the tibia. This is brought about by the fact that the articular surface of the internal condyle is longer by a third than the corresponding surface of the external. Thus, in the movement of extension, following upon acute flexion, after the articular surfaces on the external and posterior two-thirds of the internal condyles have glided over the corresponding parts of the articular surfaces of the tibia, any further movement must occur in the anterior oblique third of the internal condyle. In consequence, this condyle twists or screws inwards, and at the end of extension the joint is securely locked. Thus, the femur and tibia become practically one continuous rigid support; no lateral or rotatory movements being possible, and the following ligaments—namely, the internal lateral, anterior crucial, and posterior—become taut and tense. When, however, flexion takes place, a certain amount of rotation and lateral mobility is possible, varying in degree with the amount of flexion. Whereas, therefore, in the case of a fully extended knee-joint, no rotation is possible, except there be tearing or stretching of important ligaments, in the case of the flexed position a certain amount of rotation and lateral movement is possible, and hence there is greater insecurity. It is in this flexed position that tearing or splitting of the semilunar cartilage takes place.

In a paper which I read on October 8th, 1912, before the Royal Society of Medicine, after stating that the occupation of coal-mining far outnumbered all others, in the district of Northumberland and Durham, in supplying the vast majority of sufferers from this accident, I mentioned that the coal-miner, owing to the lowness of the seam at which he is hewing, performs his work with his knees more or less flexed—in a position, therefore, in which a certain amount of rotation and lateral mobility, between the upper end of the tibia and the lower end of the femur, is permitted. If, while the knee is in this position, a forcible twist or wrench takes place, the semilunar cartilage, nipped between the condyle of the femur and the upper end of the tibia, may be forcibly dragged towards the centre of the joint, and either split more or less in a longitudinal manner, or have its free edge torn or frayed.

This conclusion, which was based upon a personal experience of 449 cases in which operation had been performed, and in which great care had been exercised in taking the history of the patients, is, I am aware, directly contrary to that of Mr. Albert Walton, who is of opinion that forcible extension is the cause. I may mention, however, that his opinion is based mainly upon anatomical grounds and experiments on the cadaver.

I would here urge that in all cases of injury to the knee-joint accurate inquiry should be made into the story of the accident and the subsequent history, as, when the

patient comes before the surgeon, most probably no objective symptoms, beyond perhaps the presence of fluid in the articulation, are present, and to gauge the extent of any intra-articular lesion you are compelled to depend on the answers given to your inquiries.

Under the term "traumatic synovitis" I am including those cases in which, after injury, there is an acute effusion of more or less extent into the joint, but no extensive injury to any of its ligaments or to the semilunar cartilages; consequently the stability of the joint is not in any way permanently affected. It is true that in a large effusion, with consequent stretching of ligaments, some lateral mobility of the joint in the extended position is possible, but when the effusion has disappeared this disappears also. If simple acute synovitis be treated immediately after the accident by rest, and perhaps by the application of cold, the condition quickly improves, and when pain and tenderness have subsided, moderate exercise should be encouraged to aid in dissipating the effusion. In some few cases the effusion becomes chronic, but when this occurs elastic pressure with moderate exercise will, as a rule, effect a cure.

Where there has been extensive injury to the important ligaments accurate diagnosis is very important, as in the absence of this correct treatment will be impossible, and the result will be probably a very much weakened articulation. Probably the most common is that in which, in consequence of forcible hyperextension, rupture of the posterior, back of the internal lateral, and anterior crucial ligaments has occurred.

In April, 1911, in an important League match under Association Football rules, a famous centre-forward, after beating the opposing backs, was making for goal with the ball at his toes. The goal was apparently at his mercy, when the goalkeeper rushed out, fell on to his knees, and endeavoured to pick up the ball. In doing this he "chocked" the forward's right knee, and prevented it being bent. As a result, the body momentum going onwards, and the knee being incapable of flexion, a large degree of hyperextension took place, leading to extensive tearing of the ligaments normally preventing this. I possess an instantaneous photograph, taken at the psychological moment, which aptly illustrates what actually occurred.

When I saw him, a few minutes after the accident, he was in extreme pain, the knee-joint was very much swollen, and hyperextension was possible to an angle of 45 degrees beyond the normally fully extended position. An *x*-ray photograph showed that there was no injury to the bone. He was treated by splinting the injured knee in a slightly flexed position for three weeks, and during this time he was confined to bed. He was then allowed to get about on crutches, the limb being encased in poroplastic splints and the joint still kept in the slightly flexed position. After three months had elapsed, passive movements were cautiously commenced. Necessarily, of course, treatment was both prolonged and tedious, but in the end a good result was attained, sufficient to allow him to return to first class football.

In other cases, in consequence of forcible abduction or adduction, tearing of the external or internal lateral ligaments respectively may result, and, if proper repair does not take place, a weakened joint, with abnormal lateral mobility, will certainly eventuate. This result probably is not so liable to happen where the internal lateral ligament is the one affected, seeing that it is a broad structure, and therefore possesses more chance of uniting. It would seem almost certain to take place where the external lateral ligament has been torn, as this is narrow and cord-like, unless operation be carried out and the torn ligament sutured.

I have had several cases of recently ruptured internal lateral ligament in which abnormal lateral mobility was a prominent feature, but none in recent years. These cases were all treated by splinting over a prolonged period, but in no case was a really good result procured. If I were to meet another case I should unhesitatingly expose the injured ligament and bring together the torn edges with chromic catgut sutures.

The anterior ligament, or the ligamentum patellae, is sometimes torn. In a certain number of cases no doubt it has resulted in the same way as an ordinary transverse fracture of the patella, and in others it has occurred in consequence of sudden and forcible flexion of the knee joint.

Where such an accident has taken place, there is inability to extend the leg on the thigh, the patella is displaced upwards, and a gap is felt in the position of the patellar tendon. There may or may not be an effusion into the joint. The treatment to be recommended is, I think, primary suture of the torn ligament with chromic catgut or fine silk sutures, followed by rest in the fully extended position for at least eight weeks. At the end of this time splints may be discarded, but full flexion should not be allowed for a further two months. My colleague, Mr. Angus, has recently had two examples under his care. In both the cause was acute flexion, and in both primary suture with chromic catgut was used. In each case an excellent result was obtained.

To sum up the treatment, then, of recent rupture of these important ligaments, where forcible hyperextension has been the cause, I would recommend splinting in a slightly flexed position for twelve or more weeks, followed by massage and exercises. Where the internal lateral, external lateral, or anterior ligaments are torn, I think the best treatment is primary suture.

I have several times been consulted by patients who possess knees which are capable of being abnormally hyperextended, and which have resulted from severe injury some time previous. There is no difficulty, at any rate, in concluding that one of the crucial ligaments, or both, have been torn, but what ought to be recommended under these circumstances is a serious problem. My colleague, Mr. Rutherford Morison, has endeavoured to replace the damaged crucial by one of the semilunar cartilages, but with no success. Personally, in such cases I advise the patient to content himself with wearing a properly fitting knee brace.

The subject of haemophilia is a very interesting one, but may be dismissed in a few words. Children or young adults the subjects of haemophilia, on very slight injury to the knee develop haemorrhages of more or less amount in the articulation. In consequence swelling of the joint occurs. In the first attack or two the condition will probably readily be recovered from, and the parts may regain their normal condition. Subsequent attacks, however, result in degenerative changes taking place in the joint, leading to thickening of the synovial membrane and fibrillation of the articular cartilage. In consequence more or less permanent swelling of the parts remains, and ankylosis, more or less complete, is likely to result. Such cases may be mistaken for tuberculous or syphilitic disease, but consideration of the family and previous history will prevent error in diagnosis.

With regard to treatment, all that can be recommended is to warn a haemophilic patient to avoid injury as far as possible. If haemorrhage has already occurred into the knee, then rest in bed must be enjoined for a prolonged period, and ice applied to the injured part. Incisions and even explorations by a hypodermic needle must not be used.

Loose Bodies.

Some forms of loose bodies in the knee-joint undoubtedly result from accident or injury. During the past twelve years I find I have had a personal experience of 25 cases of loose bodies of all sorts. In some of these a history of definite injury was obtainable. In one case the body was found to be a small piece of articular cartilage; in another case it was found to be composed of fibrinated blood clot; while in 2 cases it was found to be composed of a portion of semilunar cartilage which had become detached in a way which I shall show you later, when I describe the different forms.

In 3 cases upon which I have operated on the assumption that they were suffering from torn semilunar cartilage, I found, on opening the joint, a remarkable condition of affairs. In the synovial fluid were a number of white flakes, their appearance suggesting thin slices of cartilage. For some reason or other no microscopical examination was made in the first two cases, but in the third—which only came under my care some days ago—I sent a flake to Professor Stuart McDonald. He reports definitely that it is fibro-cartilage, and therefore of the same structure as a semilunar cartilage. An interesting feature of the same case was that on the under surface of the semilunar cartilage a small thin shaving of its substance was stripped up. It was easy to imagine its complete detachment, becoming then one of the loose flakes before mentioned. In all three cases there had been repeated attacks of pain and swelling following upon a twist, and a prominent physical sign was marked crepitation on flexion and extension movements.

I have met with several cases where the loose body was composed of bone covered by articular cartilage, but as in these fracture of the subjacent condyle of the femur had occurred they would be beyond the scope of this discussion. The symptoms which arise from loose bodies in the knee-joint may at first be somewhat obscure, but later, as a rule, present no difficulty in diagnosis. They result from the body becoming engaged between the joint surfaces during the movement of extension. In this way the ligaments are stretched and perhaps even torn, thus giving rise to the pain complained of by the patient. A common history is that, while the patient is walking or running, he feels something slip in the knee, and a sudden pain is experienced in the joint, generally at the inner or outer side. He then finds that he is unable momentarily to fully extend his knee. In some cases the inability to completely extend the joint remains until the body is removed, but this can only happen when the body is large and wedged between the patella and the condyles. In at any rate the earlier attacks these symptoms are followed by an effusion into the knee-joint, which disappears in the course of a week or ten days. At first the patient is probably unable to feel the body, although at times he may be conscious of something moving about the articulation. Later there comes a time when he is able to feel it and perhaps demonstrate it to the surgeon. I have known sufferers from this condition, after the surgeon has persisted in a search lasting over several minutes, flex and extend the joint several times, simultaneously pressing with their thumbs round the patella, quickly locate the body, and fix it. These bodies are very elusive, and easily slip away into some inaccessible part of the articulation on the slightest pressure, and on this account the Germans have quite appropriately named them "joint-mice." A curious feature of the loose body is that on pressing it the patient complains of severe pain.

If loose bodies give rise to trouble the only treatment is removal. This must on no account be undertaken until they have been located and fixed in some accessible part of the joint. My own plan is not to use a general anaesthetic, as while the sufferer is being placed under its influence the body may slip away. After thorough cleansing of the skin surrounding the joint I fix the body by thrusting a hare-lip pin, or some such thing as a darning needle, through the skin into it, and next inject a few drops of weak eucaine solution in the line of the proposed incision. Then after opening the joint there is no difficulty in removing the troublesome agent. I need hardly say that strict aseptic precautions must be carried out previous to operation, otherwise a disaster may occur, as is shown in a case in which, a few years ago, I had to amputate the leg of a young man on account of acute septic arthritis of the knee-joint following upon the removal of a loose body by a doctor in his surgery, no aseptic or antiseptic precautions being used.

Injuries to Joints Affected with Osteo-arthritis.

Traumatic osteo-arthritis is looked upon by many surgeons as a definite pathological entity, but I am by no means convinced that such is the case, rather am I inclined to believe that such are cases where injury has aggravated a joint already affected with osteo-arthritis. I have, of course, encountered patients where, after a knee has been more or less severely twisted or contused, and particularly if these injuries have been frequent, signs of osteo-arthritis have been discovered; but in the large majority of such cases, on examining the opposite knee, signs of the same disease will probably be found, though generally much less marked.

One commonly meets patients who present definite signs of osteo-arthritis in their knees, signs such as crepitation on movement, lipping of bone, etc., and yet who complain of no symptoms and are able to work regularly and well. They then receive an injury, more or less severe, to one or other knee, and from that time complain of symptoms—such as stiffness, feeling of insecurity, and pain on walking or standing—for a long while. In many cases the injury is not a severe one, and would have been easily and quickly recovered from had the joint been healthy.

Changes in the knee-joint similar to those of osteo-arthritis are frequently met with in old people, and in all probability are of the same pathological nature. In these cases a comparatively slight injury has a similar effect as in the joints affected with osteo arthritis, and very often results in, especially where prolonged rest has been used, a painful and ankylosed articulation.

In these osteo-arthritic patients, after an injury such as a twist or wrench, symptoms similar to those of torn semilunar cartilage are complained of. Even at the time of the accident the patient may experience a click at the inner side of the joint, and inability to completely extend the articulation is also found. I have operated upon several such cases, and, beyond finding signs of osteo-arthritis, have never noticed tearing of the semilunar cartilages. In textbooks and elsewhere it is stated that the cause of the symptoms is probably nipping of a hypertrophied synovial fringe. Personally, however, I have not found this to be the case. Where I suspect that a joint is affected with osteo-arthritis I hesitate to advise operative interference, unless it be for the purpose of removing a loose body, such as might be formed of a piece of hypertrophied synovial fringe, portion of articular cartilage (which in this disease becomes very brittle), or an osteophytic outgrowth. The treatment I would recommend consists simply of rest to the injured joint until pain and tenderness have subsided; then carefully graduated passive and active movements are instituted together with hot douches and massage.

Injuries to joints affected with such a disease as tubercle, either latent or active, have also to be mentioned. In the former case the disease may become active again, but in any case treatment does not differ from that ordinarily used for tuberculous disease affecting a joint.

Injuries to Semilunar Cartilages.

I now come to probably the most interesting condition which will properly come within the scope of this discussion, namely, injuries to the semilunar cartilages.

In the Royal Victoria Infirmary, Newcastle-upon-Tyne, the hospital to which I am attached, these accidents are frequently met with. This institution receives patients from the whole of the northern counties, a district in which coal-mining forms one of the largest, if not the largest, industries. In these mines the seams of coal are, as a rule, low, and in very few instances exceed 4 ft. or 4 ft. 6 in. in thickness. The mine-worker, therefore—and this applies not only to the coal-hewer but to all underground workers—is seldom able, when once below bank, to adopt a position in which the knees are fully extended. In the great majority of cases they work in the squatting position or sit on a low stool. Their knees, therefore, are in a position in which a certain amount of lateral mobility and rotation is possible, a position which, I have before pointed out, conduces to rupture or tear of the semilunar cartilages.

I would here emphasize that in the large majority of cases definite splitting or tearing occurs, this being brought about, I think, by the inner circumference of the cartilage being nipped between the condyle of the femur and the tuberosity of the tibia, and then, in consequence of a sudden twist, being forcibly dragged towards the centre of the joint.

The internal semilunar cartilage is much more commonly torn than the external. I find that up to the end of March last I have operated upon 509 cases, of which only 38 have been external; this gives a percentage of 7.5. I think perhaps the reason for the greater frequency of internal semilunar cartilage tears or ruptures is to be found in the existing anatomical conditions. The external semilunar cartilage has a much looser connexion than the internal, consequently, supposing it became engaged between the external condyle and the upper surface of the external tuberosity of the tibia, and is then dragged towards the centre of the joint, stretching of its connexions rather than splitting of its own substance would be more likely to result. In the case of the internal semilunar cartilage, which has a close connexion with the internal lateral ligament and the capsule, a tear would be more likely to occur under the same circumstances. As a rule, the injury will be found in the anterior part of the semilunar cartilage, and therefore, on the joint being opened, is readily seen. Where it is in the posterior part, unless care be exercised, it may be easily overlooked.

Probably the commonest type of torn semilunar cartilage is that in which there is a split which extends for a variable distance from before back. This split varies in position, being sometimes quite close to the attached border, and in others near the free edge: but in all cases there still remains a portion of cartilage retaining its normal attachments (see Fig. 1). When the accident is recent the edges of the tear are rough, and may even be blood-stained. In old cases, on the other hand, the edges of the tear become rounded, and cicatrization may even be noticed at either end. The detached portion, on opening the joint, may still occupy its normal position, and unless careful scrutiny be made, may be overlooked. In the great majority of cases, however, it will be found displaced towards the centre of the joint, and under these further trauma, it may become completely detached and form a variety of loose body (see Fig. 5). In others the loose piece—possessing quite a wide arc of movement, but still retaining an attachment to the cartilage from which it has been torn—slips out of the joint and can readily be felt in front of the condyle (see Fig. 6). I might add that it is only under these circumstances that, previous to operation, the torn piece can be seen or felt. In a case recently operated upon the transverse tear did not extend through the whole thickness, but only across the superficial fibres, which were also torn forwards for an inch, thus forming a pedunculated piece, which at times gave rise to trouble.

In a few specimens I have found that the under surface only has been split.



Fig. 1.

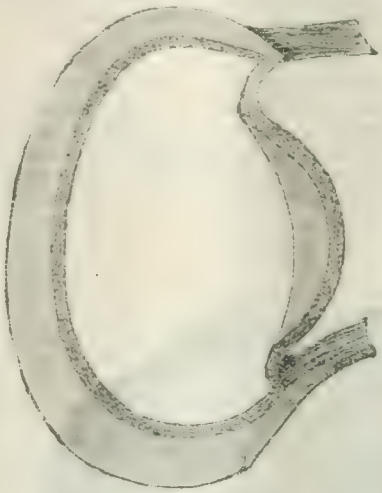


Fig. 2.

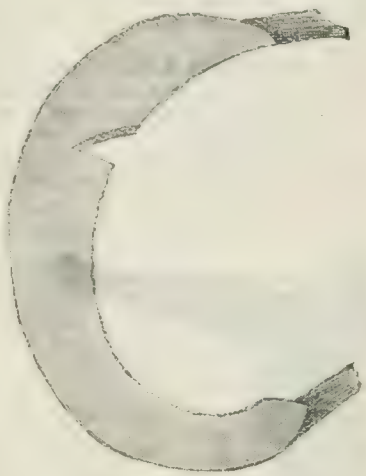


Fig. 3 A.

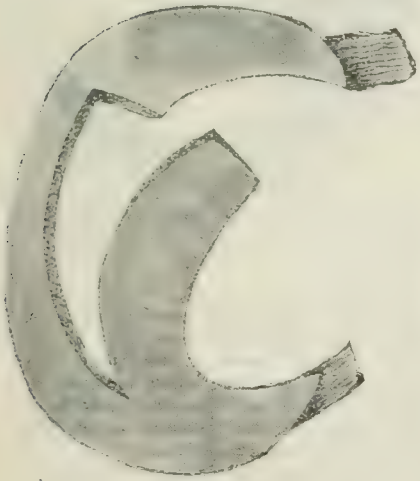


Fig. 3 B.



Fig. 4.

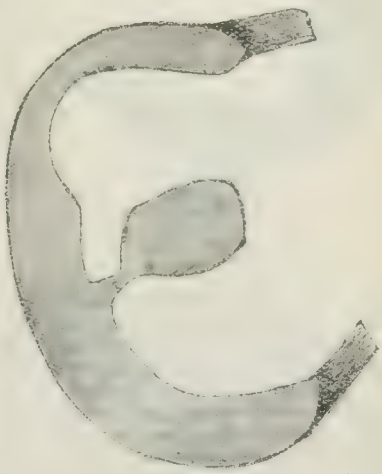


Fig. 5.

circumstances is easily recognized, being practically only attached to its anterior and posterior ends (see Fig. 2). Where the split is situate in the posterior part it can only be demonstrated when the anterior part of the cartilage is divided and strongly dragged upon, and on this being done, the detached portion suddenly snaps forward.

In another type the tear extends from some point in the free edge across the cartilage, then forwards or more rarely backwards for a variable distance, thus giving rise to a pedunculated piece, which may readily become engaged between the condyle and the corresponding articular surface of the upper end of the tibia (see Figs. 3 A and 3 B). This pedunculated piece after a time, and in consequence of being frequently ground between the articular sufaces, becomes rounded and of a discoid shape (see Fig. 4). In some examples its attachment to the rest of the cartilage becomes very slender, and, no doubt in consequence of

Definite injury, amounting to fracture of the articular cartilage, may be caused by sudden extension movement of the knee while the detached piece of semilunar cartilage is engaged between the joint surfaces.

A short time ago I operated upon a man who, eighteen months previously, had severely twisted his right knee in consequence of his right foot slipping on a banana skin. At the time of the primary accident he experienced very severe pain at the inner side of the joint and also felt something crack in the same situation. He fell to the ground, and on rising his knee was locked, and could not be extended beyond semiflexion. He hobbled home, and shortly afterwards was seen by a bonesetter, who made forcible attempts at extension, and in the end seems to have succeeded, as after the efforts this movement could be effected, and he was able to walk about much more comfortably. Since this time he has had several attacks of pain of much the same character as the first, only much less

severe. A week previous to being seen by myself he twisted the same knee while getting out of bed. The same signs and symptoms resulted, and, previous to operation, he was still unable to completely extend the joint. I found, on opening the articulation, that the internal semilunar cartilage had been torn across about its middle, then split forwards, the loose portion lying in the joint. On the under surface of the internal condyle towards the intercondyloid fossa, and with its attached edge towards this fossa, was a semilunar tear in the articular cartilage. This included a piece of cartilage which could easily be lifted forwards, and had no doubt been caused by the torn piece of semilunar cartilage becoming interposed between the articular surfaces of the internal condyle and internal tuberosity of the tibia, and then sudden extension taking place (see Fig. 7). In another case the torn piece of an internal semilunar cartilage caused splitting of the articular cartilage covering the internal tuberosity of the tibia.

As I have before indicated, we have to depend upon the patient's story of the accident and the subsequent attacks of joint pain to guide us to a correct conclusion that a semilunar cartilage has been torn. The original accident may have occurred years previously, and we are often told that, since this took place, attacks of pain in the joint have occurred on more or less slight provocation, such, for instance, as walking on uneven ground, slipping on a greasy pavement, rising from the squatting position, etc. Seeing that the condition is most frequently met with in miners, it will perhaps be advisable if I indicate how the accident often occurs in the course of their occupation. A man in a squatting position is casting coals from one side into a tub; the body swinging round too far causes the knee to be forcibly twisted inwards or outwards. Again, while hewing in the squatting position the same thing may occur; or, again, while walking in the stooping position with the knees flexed he may get his foot fixed in a hole, the corresponding knee becoming twisted and the cartilage torn.

Football players are, next to coal-miners, the most frequent sufferers from torn semilunar cartilage, and the accident is brought about, very often, in the action of swerving or dodging. Here, one foot being firmly fixed in the ground, in consequence no doubt of the long studs in the player's boot, and the body momentum going on, the knee on the same side becomes violently twisted. Again, in some cases, where the ball is about to be kicked, say with the right foot, but instead is missed or miskicked, the left foot being fixed in the ground and the body momentum swinging round, the same knee may become twisted and the cartilage torn. I would here mention that I have never known the accident result in consequence of a direct blow.

However the accident happens, the first symptom is very severe pain, which is often primarily felt over the whole joint. Later it becomes localized to a point at the inner or outer side, according as the inner or outer cartilage is injured, and may be so excruciating as to cause faintness and vomiting. Simultaneously, a click or a snap is felt in the same situation, and, as a rule, the patient falls to the ground. In the majority of cases, the joint is incapable of full extension, and feels absolutely helpless. One is frequently told that it is only after the joint has been flexed and extended several times, probably by a fellow-worker, that the movement of full extension is restored. When this takes place, the pain is very much lessened, and, in many cases, the patient is then able to hobble home. In a few hours marked swelling of the joint occurs, the result of effusion into it, and this, in consequence of treatment, disappears in the course of two or three weeks. In certain cases the inability to extend the joint following immediately on the accident persists for, may be, two or three weeks, or until the joint is opened and the torn piece of cartilage, which has slipped between the joint surfaces, has been removed. A marked feature of any case is that for some weeks after the accident a tender point remains at the inner or outer side of the patella ligament, according as the internal or external semilunar cartilage has been injured. Once the accident has occurred, it is probable that subsequent attacks of joint pain and disability will occur, and these may result from very slight causes. I have known such an attack be brought on by catching the toes in the bed clothes or slipping on a banana skin: moreover, it may occur at very awkward times, as, for instance, while crossing a road or street in which there is a large amount of traffic.



Fig. 6.



Fig. 7.—*a*, Tear in articular cartilage caused by a pedunculated piece, *b*, of internal semilunar cartilage torn from anterior portion.



Fig. 8.—*a*, Healed transverse tear; *b*, pedunculated piece torn from posterior part of cartilage.

Whereas after the primary accident pain and swelling are very prominent features, in subsequent attacks these often become much less marked. Frequently an attack will consist of little more than experiencing pain at the inner side of the knee, and a click or snap in the same situation. The joint is then found to be locked in a more or less flexed position, and remains so until, while the knee is being moved, another click or snap is experienced, and it is found that full extension is possible. These attacks occur more or less frequently, and, where they have been often experienced—owing, no doubt, to increased tolerance—may be followed by no effusion in the articulation, but invariably on examination a tender spot will be found at the inner side of the patella tendon.

When a clear history, such as I have described, is obtainable, there will be no difficulty in coming to the conclusion that a torn semilunar cartilage is the cause of the symptoms. In some cases of loose body, however, especially just after the first attack of joint pain, there may be some difficulty in coming to a correct diagnosis; but in these, unless the body be of large size and wedged between the condyles and the patella, the locking is only

momentary. Again, in almost every case of loose body there comes a time when it can be actually felt, and in these circumstances no mistake can be made. Perhaps the condition for which a torn semilunar cartilage is most frequently mistaken is osteo-arthritis. Patients suffering from this disease, after twisting a knee, may complain of pain which was previously not noticed, or at least was not a marked feature, and the pain is often referred to the inner side of the joint, just in the position where it is present in the case of a true tear of the semilunar cartilage. Moreover, inability to extend the joint may be a prominent feature, and a tender point at the inner side of the joint is frequently demonstrable. As a rule, however, it is comparatively easy to distinguish between the two, if sufficient care be taken. In the case of the osteo-arthritis, the patient is beyond middle life, there is crepitation on moving the joint, and there may be actual lipping of the articular ends of the bones. Again, the other knee may present definite evidences of the disease.

Treatment.

With regard to the treatment of torn semilunar cartilage, the question arises as to whether in a recent case healing may take place with appropriate measures. That cicatrization may and does take place is shown in several specimens which I have removed, and in which scar tissue has been seen at either end of the split. In one, where a complete transverse tear had occurred, complete healing has actually taken place. This last specimen I can show you, and a curious feature about it is that in its posterior part a second tear has taken place, the detached portion being rounded and somewhat discoid in shape (see Fig. 8). Complete healing, of course, can only take place in a recent case if the edges of the tear are kept in accurate apposition over a long period; and, inasmuch as it is impossible to be certain that apposition in a given patient has been secured, a good result will be problematical and impossible to foretell. However, if your patient be in easy circumstances it is certainly worth while, after getting rid of the effusion, to thoroughly immobilize the articulation in a plaster-of-Paris splint, extending from the toes to the upper part of the thigh. After this has been in position for two months it may be removed and cautious movements commenced.

In the case of patients who do not need to earn their living by hard manual work, and who are content to give up such strenuous games as football, hockey and cricket, or who are unwilling to undergo operative measures, treatment such as I have just recommended is also indicated.

Where a tear has resulted sometime previously there will probably have been more or less numerous attacks of joint pain, and we may safely assume that in each attack the damage to the torn cartilage has increased. Under these circumstances I am sure no good purpose is secured by prolonged rest, and the best treatment then in patients who refuse operation is, after getting rid of all swelling and pain, to prevent rotatory movements by wearing a well-fitting knee brace. Such a brace, to be effective, is necessarily somewhat cumbersome and clumsy, but with it, providing he is content to give up violent forms of exercise, subsequent attacks may be completely prevented.

Where the patient is engaged in manual labour, and a perfectly sound joint is consequently necessary, operative treatment must be recommended—of course, in the absence of intercurrent disease. This treatment ought also to be recommended in the case of a man or woman who is desirous of still taking part in open-air sports, such as football, cricket, hockey, riding, etc. Again, where inability to fully extend the knee persists, the same treatment must be carried out.

The question now arises as to the time when one should operate. Personally, I always wait a week or ten days after an attack. I do this because by that time the devitalizing effect of the injury shall have passed off. Previous to and during operation, the most rigid antiseptic precautions are necessary, and, for my own part, I do not use dry sterilization, but rely mostly on chemical methods. If possible, I keep the patient in bed for thirty-six hours previously, and at the beginning of this period commence preparations. The whole of the skin of the leg and thigh is shaved, thoroughly washed with spirit-soap and hot water, then with turpentine, and finally with methylated spirit. It is then thoroughly rubbed over with swabs of cotton-wool wrung out of 1 in 1,000 corrosive sublimate solution, and finally is covered with a compress wrung out in the same solution, extending from the middle of the thigh to the middle of the leg; this compress is covered by mackintosh and secured by a bandage. Twenty-four hours later the thigh and leg are again washed with the 1 in 1,000 corrosive solution and a compress wrung out in the same solution reapplied. When the patient is anaesthetized a tourniquet is applied round the thigh, and, after the compress is removed, the operation area is thoroughly washed with a solution of 1 in 20 carbolic acid; the knee is then thoroughly flexed and kept in this position by my assistant, who stands opposite to me.

I use a transverse incision, commencing, in the case of the internal cartilage, at the inner border of the patella tendon and extending backwards for a distance of about 2 in. in the line of the articulation. I am firmly convinced that this incision gives the best exposure, and, if the internal lateral ligament be not cut across, the after-stability of the joint is not interfered with. Some years ago, in the practice of another surgeon where this precaution was not observed, a somewhat unstable joint resulted, in which there was a certain amount of abnormal lateral mobility.

On dividing the skin and subcutaneous tissue a strong aponeurosis is exposed, which is also divided in the length of the incision; then the capsule and subjacent synovial membrane is opened and the interior of the joint exposed.

If the split or tear be situate in the anterior part of the semilunar cartilage it will be quickly recognized, particularly if the torn portion be displaced towards the centre of the joint. In a few cases, and even where the tear has been fairly extensive at the time, on the joint being opened the parts seem in their normal condition, and it is only on careful scrutiny that the line of tear is discovered.

Where the damage is in the posterior part of the cartilage, in a large number of cases it will be impossible to demonstrate it until the anterior extremity of the cartilage is divided and strongly pulled upon, when the torn portion will suddenly snap forwards from behind the condyle, and it will then be found that, until this has again been reduced into its normal position or has been removed, the joint is incapable of being fully extended. If this snapping forwards be once witnessed, it will readily be appreciated that at the time of the accident an audible snap or click will occur, and it will also explain the subsequent signs and symptoms. On three occasions at least I have had to open the joint a second time, where a posterior split existed and had been overlooked at the previous operation. If the anterior extremity of the cartilage had been divided and strongly pulled upon, this mishap would not have occurred. Personally I aim at removing the entire cartilage, and in the large majority of cases this is quite an easy procedure. After the cartilage is removed the capsule and synovial membrane are sutured in one layer with thin catgut; the incision in the aponeurosis is similarly dealt with, and the edges of the skin are brought together with a subcuticular suture. An antiseptic dressing, consisting of gauze wrung out of a solution of corrosive sublimate in methylated spirit (1 in 1,000) is then applied, and over this a thick layer of wood-wool wadding, both being kept in place by a domette bandage. I use no splint in the after-treatment, and encourage the patient to move his knee, as far as the dressing will allow him, as soon and as freely as he can. During the operation neither my assistant's nor my own fingers come in contact with the wound, all manipulations being carried out with instruments and, needless to say, india-rubber gloves are worn by operator, assistant, and nurse.

After the operation, for the first two nights, a rise in temperature, to the extent of 1° or even 2°, need cause no alarm, and during the same period severe pain may be experienced, sufficiently bad to necessitate one or two hypodermic injections of morphine. Beyond this the convalescence of the patient is quite straightforward, and at the end of a week the dressing is taken down, and the subcuticular suture is removed. There is no difficulty with after-stiffness, and even at the end of ten days the majority of the patients are able to fully flex the knee and to commence to walk about without any support.

The operation is a very successful one, and it is

extremely rare for patients to be otherwise than completely relieved by it.

In several cases I have removed both internal semilunar cartilages with an interval varying from six weeks to five and a half years between the two operations. In one case both internal cartilages were removed at the same operation; in a further case both cartilages, in the same knee, were removed at the same operation, and in three cases both cartilages in one knee were removed in two operations with an interval varying from eight months to three years between the two operations. All these patients did well.

In conclusion, I would state that for a long time the question of injuries to the semilunar cartilages has not received the recognition it deserved, and it is only in the past few years that these injuries have commenced to be really understood. This injury, which is so common in such an important industry as coal-mining, which undoubtedly causes a large amount of unemployment, and, therefore, results in the loss of a great amount of money, surely should have commanded more attention.

II.—ALBERT J. WALTON, B.Sc., M.S., F.R.C.S.,
Assistant Surgeon, Dreadnought Hospital, Greenwich.

IN a previous communication[1] I attempted to show that injuries of the semilunar cartilages were brought about by a condition of hyperextension of the knee, and not, as is usually taught, by a rotatory movement while the knee is in a position of semiflexion. The proof of this argument was based upon the study of the anatomy and the movements of the joint.

Time will not permit me to-day to enter as fully into this aspect as I should have desired, and therefore I must refer to this previous paper for a full account of these points. I shall, however, again consider the condition from two aspects. First, the anatomical; and, secondly, the clinical.

Anatomy.

Examination of the dissected knee-joint shows that during extension both lateral ligaments, the posterior ligament, and the two crucial ligaments are tightened. Of these latter it is usually taught that the posterior is loose during extension; this is, however, not the case. Its upper extremity is attached behind the mean centre of rotation of the articular surface of the femur, as is well shown in the diagram (Fig. 1), and must, therefore, be tightened during extension. In other words, during extension the tibia will approximate to the femur



Fig. 1.—Attachment of posterior crucial ligament to outer surface of internal condyle.

At the termination of the movement of extension, the tibia will rotate outwardly on the femur. This is due to the pull of the two crucial ligaments, which, being attached to the internal and external condyles of the femur respectively, will act as a "couple" as represented in the figure (Fig. 2). That this is so is well shown by the dissected joint which I present. It is in no way dependent upon the shape of the articular surface.

This screw action is simply a continuation of and part of the movement of extension.

The internal semilunar cartilage is loosely attached anteriorly. Laterally it is firmly attached to the internal lateral ligament, and behind this it is protected by the semimembranosus muscle.

On section it is "wedge"-shaped, the wedge fitting between the articular surface of the two bones. It is a very elastic substance, its two ends tending to approximate; this being well shown in a freshly removed cartilage.

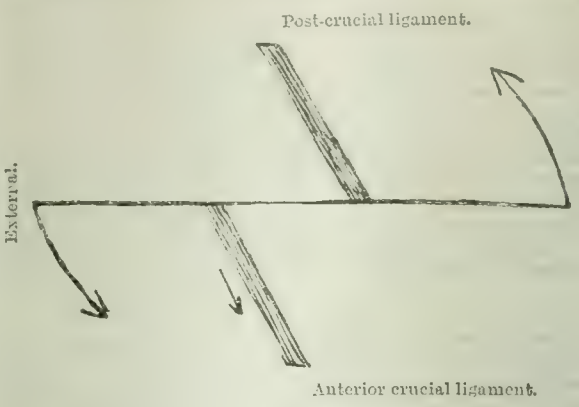


Fig. 2.—Action of the crucial ligaments in causing internal rotation of the femur at the end of extension.

There is therefore always a tendency for the ends to pass into the interior of the joint, and since the anterior end is markedly the thinner of the two, this tendency is also more definite anteriorly. On extension of the joint, therefore, the tibia and the femur will be forcibly pulled together. This force, owing to the screw action, will be almost wholly exerted on the inner side and anteriorly. The following conditions may then take place:

1. The anterior end of the cartilage, having passed somewhat into the interior of the joint by its own elasticity, may be caught during a sudden movement of extension between the approximating bones and forcibly crushed, fracture of the cartilage thus taking place (Fig. 3).

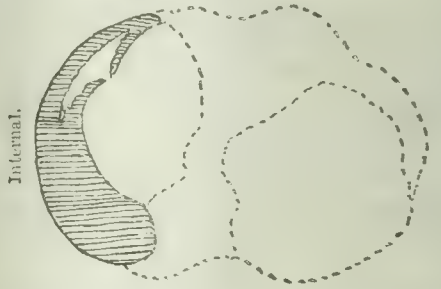


Fig. 3.—Cartilage crushed by pressure between femur and tibia.

2. The wedge-shaped cartilage may be forcibly squeezed out from between the bones and torn from its attachments. This will either take place anteriorly or at the junction of the fixed and movable parts—that is, just in front of the internal lateral ligament (Fig. 4).

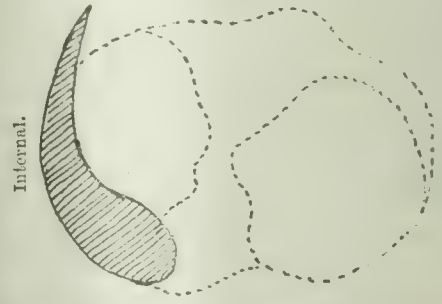


Fig. 4.—Separation of anterior attachments of cartilage by forcible extension.

3. It may have passed sufficiently far into the joint to be caught on the outer side of the internal condyle of the femur. On extension it will then be pushed into the intercondylar space (see Fig. 5).

4. After its attachment has been torn by the first movement of extension of the knee, it may, on flexion of the

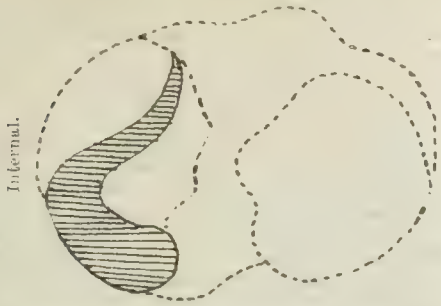


Fig. 5.—Position of separated cartilage on full extension. Second step.

joint, pass between the two bones and be crushed on the second movement of extension, a secondary fracture of the cartilage thereby arising (Fig. 6).

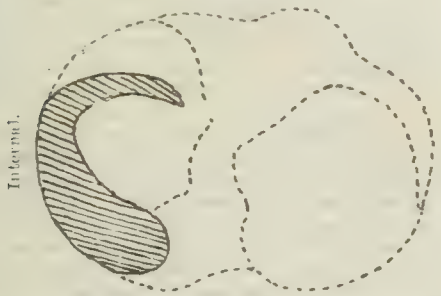


Fig. 6.—Separated anterior end of cartilage lying between femur and tibia on full flexion.

It will be readily noted that when the cartilage is thus crushed it prevents approximation of the two bones, giving rise to what is clinically recognized as locking of the joint.

All these conditions, which are identical with those found clinically, can be easily reproduced in anatomical specimens, but there is no evidence from such anatomical specimens that any lesion of the cartilage can occur while the joint is in a position of flexion or semiflexion.

As has already been shown, the pressure between the two bones is, owing to the screw action, most marked on the inner side. In fact, lesions of the external cartilage cannot readily be caused.

Clinical Aspects.

It has been shown beyond question that lesions of the internal cartilage are much more common than those of the external.

In the series of cases I have already reported from the London Hospital, 73 out of 77 were internal. Since then I have operated on a further 8 cases, in all of which the internal cartilage was alone affected.

It is also equally agreed that the anterior part of the cartilage is much more commonly affected than the posterior part. In the above series of cases the site was noted in 76. The anterior end of the cartilage was alone affected in 70 cases.

It was previously thought that either separation or transverse fracture was the common lesion. Rutherford Morison showed, however, that a longitudinal fracture was much more frequent as a primary lesion, although such a condition is liable to be overlooked, unless carefully looked for.

The more recent cases of this series have fully borne out this contention—7 of the 8 recent cases mentioned above showing this change.

More rarely transverse fracture or separation of the anterior extremity takes place. In 5 cases the cartilage remained attached at its extremities, but was separated at its circumference.

The nature of this lesion is readily accounted for if one believes that the cartilage passes sufficiently far into the interior of the joint to be caught by the apex of the wedge of the internal condyle of the femur during extension.

The clinical condition therefore agrees absolutely with that which can be artificially produced.

All investigators, however, are agreed as to the lesion being caused with the knee in a position of semiflexion. I have shown that in cases met with in a general surgical practice the history, if carefully inquired into, will show that the knee was really hyperextended at the time of the accident, but owing to the sudden pain the joint is immediately flexed, the patient falls, the cartilage passes into the joint, the knee is locked, and the patient on attempting to rise finds that the knee is fixed in the flexed or semiflexed position, hence giving rise to the belief that the accident took place when the joint was so flexed.

In the majority of the cases I have previously reported such a history of extension was clear, and in the further 8 cases it was also beyond question.

At the time of my last report my views were severely criticized in as far as they applied to miners. I have no experience with this class of patient, but Mr. Finch has since shown very clearly that the same factor of hyperextension is true for them also. I shall therefore leave him to deal with this aspect of the question and to overcome the only definite objection to my views.

As regards the other types of cases, 30 were caused at football. Of these, 3 kicked at the ball and missed it; 4 were passing the ball from the wing to the centre, or vice versa, the ball being hit by the inner side of the foot whilst the leg was extended.

In 21 the foot was everted during running, the front part of the foot of necessity coming into contact with the ground whilst the leg was extended. In the remaining 2 a second player fell across the patient's outstretched leg.

In a further 22 cases the patient was walking or running over rough ground. Here, as in the larger group of footballers, careful questioning elicited the fact that the foot was everted as it first came on to the ground, and that at this stage the knee was completely extended.

A careful consideration of the mechanism of these movements will show that this must indeed be the case.

In 11 the patient fell from a height; in 3 he was stepping from the train to the platform, the position of extension being again clear.

The lesion is not uncommon among boxers and wrestlers, but in this series there were only 3 such cases; 2 were boxers, and both gave a clear history of rotating to the right and drawing the body backwards to avoid a blow, whilst the left leg was extended and in advance, the screw action of hyperextension on the left leg, which was the one affected, being self-evident.

In 4 cases the condition arose whilst jumping; here the forcible extension at the moment of the take-off is evident.

Of the 3 further cases, 1 occurred while throwing a ball; one while the patient was rising from the stooping position; and the third from being thrown out of a bunk whilst the foot was caught, the leg being hyperextended, and the femur rotated inwardly on the tibia. In the remaining 8 cases no history of the accident was given in the notes.

It is important to note that nearly every case that I have examined myself gave at first a history of having twisted the knee while it was semiflexed, but when an exact description of the accident was asked for, not only was hyperextension at the moment of the injury made clear, but the patient corrected himself and stated that the leg was either straight or being forcibly straightened when the accident occurred.

Such a history is in my experience constant and definite, although every care is taken not to put leading questions, and as far as possible not to suggest to the patient what answer is required.

I venture to think, therefore, that our views as to the causation of this lesion must undergo revision, and all the evidence at our command, both anatomical and surgical, is in favour of it being caused by hyperextension with its terminal movement of external rotation of the tibia.

REFERENCE.
[1] *Proc. Roy. Soc. Med.*, November, 1912.

DISCUSSION.

Mr. R. H. ANGLIN WHITELOCKE (Oxford) thanked Mr. Martin for his thorough and complete survey of the subject. He was in so much agreement with him as to the etiology

and in a measure with his treatment, that he would but refer to a few of the points to which Mr. Martin had not referred specially. As regards anatomy, he believed that the integrity or otherwise of the internal lateral and crucial ligaments was the important one in the etiology of most of these ailments. When either or all of these ligaments were torn, the joint became weakened and liable to injury as increased external rotation was permitted. Sprains should never be regarded as simple where there was much effusion, especially if this followed immediately, the effusion in these cases being of blood and indicative of considerable amount of tearing of ligaments or periosteum, or even detachment of bone. One should never be satisfied in such a condition until fracture had been excluded by a radiograph. Simple sprain was treated by elastic pressure, and rupture of ligaments by open operation and suture. As regards haemophilia, he mentioned a case where, in mistake, he opened a knee to remove a torn cartilage, and found the patient a haemophilic. For days he bled, and the only means which succeeded eventually in stopping the bleeding was by using horse serum by injection; two injections were enough. One form of loose body that he would specially like to call attention to was the variety which was usually single, and often described in textbooks as concavo-convex in shape. These were the result of separation of a portion of an articular cartilage, sometimes the result of strain, at others from a direct blow. These loose bodies continued to grow for years, although completely detached and floating in the cavity, and should be always removed. He possessed a specimen of which he had a history of increase in size for over twenty years. He believed in the case of damage to semilunar cartilages that the injury occurred when the joint was in slight flexion with outward rotation, and not in extension, as exemplified by its frequent occurrence in football players and miners. His experience was with athletes mainly, and he believed that in them the injury was mainly and primarily a transverse fracture, becoming later a longitudinal one, and not longitudinal splitting, as is mainly found in quarrymen and miners. Partial avulsion of the tubercle of the tibia was common in athletic boys from 14 to 16. The pathology was, in addition to the bony separation, a tearing of the periosteum in the neighbourhood, and a haemorrhage into the infrapatellar bursa. The injury resulted always in cure in from two to three years, though with permanent thickening of the tubercle, but complete restoration of function. An operation might be performed to deal with the condition if the friends should so desire, but it was, however, never necessary.

Mr. E. W. HEY GROVES (Bristol) expressed the opinion that neither flexion nor extension was the real anatomical position, but that it was violent rotation which tore the cartilage. It was as difficult to make an accurate diagnosis of internal derangement of the knee-joint as of internal derangement of the abdomen. They settled the difficulty by opening the abdomen, and in the same way they must decide that the best way to settle their difficulties of the knee-joint was to open the joint. Better results would be obtained by free radical exposure of the joint by a transverse incision carried through the patella.

Dr. T. KENNEDY DALZIEL (Glasgow) pointed out that in addition to the injuries described by Mr. Martin they occasionally found a condition which might be described as pulverization of cartilage. Direct violence through the one bone acting on the other forced the cartilage from the bone. Such fragments probably accounted for some of the fine foreign bodies which might be found in the joint. These denuded areas of bone healed, and an irregular scar would mark the site.

Mr. ERNEST FINCH (Sheffield) said: Early this year I investigated 102 cases of internal derangement of the knee-joint treated at the Royal Infirmary, Sheffield, in the five years 1907–11. I was only able to examine 60 of these cases, so any figures I may quote will be confined to these, which I have personally examined. The investigation was undertaken in order to ascertain (1) the wage-earning capacity after operation, (2) the length of time off work before and after operation, and (3) the type of accident which caused the injury complained of. A clear conception of the anatomy of the knee-joint is essential for diagnosis and treatment. Especially would I lay stress on the external rotation of the tibia at the completion of extension, also the relation of the internal semilunar cartilage to the internal lateral ligament of the joint. The internal lateral, the anterior crucial, and post-crucial ligaments are all tense at the completion of extension. The symptoms are those usually described in the textbooks. The history of the patient is often the main means of diagnosis. There is one sign on which I would lay stress, and that is the presence of a spot of exquisite tenderness, on the anterior and inner aspect of the joint over the anterior horn of the internal cartilage, when this is the cartilage injured. This sign can be elicited often months after the accident. In regard to diagnosis there are three important conditions to differentiate; (1) Synovial fringes; (2) osteo-arthritis; (3) early chronic infective arthritis. In regard to treatment, if seen immediately, reduce, cold application, rest, and retentive apparatus; if seen after the patient has had the further trouble of recurrence, then operate. The two points of importance are: (1) Asepsis; (2) remove the whole cartilage; no resection, no stitching in position should be done. After treatment I advocate: (1) No drainage to the joint; (2) movement after seven days, active by the patient at first, passive movement at the end of fourteen days if the wound is quite healed; (3) no retentive apparatus to be allowed whatever; (4) discharge from hospital three weeks after operation, and start work six weeks after operation. Of the cases examined by myself after operation, 60 in number, the following are the chief points. Sex: 59 males and 1 female. Age: youngest 11 years of age, operated upon at 24 years; 1 case also received the injury at 12 years, and was operated on at 29. Both injured at football, and both have played since the operation. *Occupation.*—Miners injured during occupation 25 in number. *History.*—Position of the joint: Sudden extension from a position of partial flexion in 34 cases, flexion in 11 cases, uncertain in 14 cases. I asked every patient to get into the position he occupied at the time of the accident, and I satisfied myself that sudden extension from a position of partial flexion accounted for the majority of the "uncertain" cases. The football injuries were definite and were 5 in number. Four were in the act of kicking when knocked over, and on reaching the ground the joint was fixed. The other patient was running when he was tripped, and the joint was fixed almost immediately. That the suddenly extended position causes accident has recently been borne out by a medical colleague while keeping goal at football. *Time in Hospital.*—Average of 60 cases is 22 days, shortest time 12 days, longest time 37 days. *Back to Work.*—The average of 60 cases is 7 weeks after operation, the shortest time was 16 days. Five cases have not returned to work. Since these cases were seen one of them who had not worked for six years, having injured himself in 1907, when the cartilage was stitched, has now gone back to work, the cartilage having been removed in April of this year. The reason he gave for inability to work during the past six years was that the joint was often locked. In one other case there was marked ankylosis. In the other three cases I could find no cause for non-return to work. A few of the other noteworthy cases are:

J. B.—Left internal cartilage removed 1906; right internal cartilage removed 1909. Both injured at football. He still plays football.

W. P.—Both internal and external cartilage removed. He is now working.

B. C.—Injured twenty-five years ago; then operated upon with bad result. Re-operated, 1909. Wage-earning capacity now the same.

The cartilage was stitched in three cases, one with good result. Two still have locking. One of these since operated on, and now has a perfect result. *Patients' Opinions:* Forty cases were pleased with the result; nine cases fairly successful; eleven cases not satisfied at all. Creaking in the joint I do not think of importance; many of the cases who were back at their own work had it well marked. Only those cases who had not worked had wasting.

Mr. COTTERILL (Edinburgh) remarked that he took a special interest in the subject of derangement of the knee-joint, as it was just forty years since he assisted the

late Professor Annandale in all his pioneer operations in this department of surgery. He disputed several points brought forward by previous speakers. (1) It had been said that the whole thickness of the cartilage was never turned in. That had not been Mr. Cotterill's experience, and he had operated on many cases where the whole thickness of the anterior end of this cartilage had been separated from its attachment and turned in. (2) He was strongly of opinion that the best incision was a longitudinal one, and when it was necessary to examine the whole joint this vertical incision could be produced, the tubercle of the tibia chipped off, the patella externally dislocated, and the joint widely exposed. The tubercle was replaced and fixed in its old position by a nail. (3) It was very rarely necessary to excise the whole cartilage. It was sufficient to remove the part projecting into the joint. (4) The lesion *never* took place in full extension (as stated by Mr. Walton), as then the cartilage was tightly "splinted" between the bones. It occurred *in process of extension* from the flexed position, when the tibia was externally rotated on the femur, a grinding action being thus brought about. (5) It was advisable to operate in certain cases, as there was a tendency to osteo-arthritis, etc., being caused in chronic cases. Forcible hyperextension was of value as a means of certain identification of any substance, displaced cartilage, loose body, etc., lying in an abnormal position between the joint surfaces.

Mr. McAdam Eccles (London) said: The partial separation of the tubercle of the tibia in an adolescent is by no means uncommon, and, as Mr. Whitelocke has said, may lead to prolonged convalescence. In some cases this continuance of discomfort and inability to carry out athletics is due not so much to the tubercle but to an ossification in the patella tendon, easily shown by a skiagram. This formation of bone is in its nature similar to traumatic myositis ossificans. The small mass of bone may be quite separate from the tubercle, but its presence appears to cause the persistence of the bursitis. I have operated upon several of these cases by longitudinally splitting the patella ligament fibres, removing the mass of bone and the inflamed post-ligamental bursa.

Mr. Chad Woodward (London) said: I entirely agree with Mr. Martin's remarks about the undesirability of using a general anaesthetic in the ordinary cases of solitary loose body in the knee-joint. With the aid of a few cubic centigrams of a 1 per cent. solution of novocain the body can be harpooned and then removed through a tiny incision. Patients after this little operation walk about in eight or ten days. The term "Schlatter's disease" includes, in my opinion, several distinct pathological entities. There is one variety which was well described years ago by Sir James Paget. It is of the nature of a chronic traumatic periostitis and osteitis around the tubercle of the tibia and anterior aspect of inner tuberosity. In several such cases under my observation the patients were of what one can only describe as the loose-jointed type of person, and the ligamentum patellae was unusually long. The disability may persist for years, but they all recover when complete ossification takes place and the tubercle becomes joined up to the tibia. But many prefer a more speedy cure. They do well after operation. Most previous speakers have largely confined themselves to discussing the cases requiring operative interference. I should like to draw attention to some points in the treatment of those cases of sprain which form the vast bulk of all knee-joint cases and which, if properly dealt with, seldom need operation. The first indication is to empty the joint of fluid. In slight cases this is readily accomplished in a few days by daily rubbing and the application of firm elastic pressure. In severe cases the joint should most certainly in the first place be emptied by aspiration. The most striking feature in these cases, when seen some weeks after the injury, is the extreme degree of muscular wasting, frequently amounting to as much as an inch and a half of difference in the measurements of the two thighs. This is chiefly due to the antiquated notion of the necessity for rest in these cases. As soon as the fluid has been removed exercises should be systematically undertaken together with massage. In a week or two the knee is firmly strapped and the patient allowed to go about as usual.

The President, Mr. Thelwall Thomas, preferred an oblique incision, and did not think it necessary to remove the whole of the semilunar cartilage, and thought from his experience that the injury was caused during flexion.

Mr. A. M. Martin, in reply, regretted that he had not dealt with fracture of the tibial spine, as he had thought that injury outside the scope of the discussion. He agreed as to the necessity for an *x*-ray photograph in injuries of the knee-joint. On the anatomical point raised by Mr. Walton, he was perfectly convinced that it was absolutely impossible for such an injury to take place in the extended position. Miners worked entirely in such a posture that the knees must be flexed, and it was while in this position that the injury occurred. In football players the non-kicking leg was the one affected. He thought that the presence of a point of tenderness insisted upon by some speakers was of no great moment; the same sign was present in osteo-arthritis. After operation for torn semilunar cartilage the time spent in hospital was no more than eight to ten days. No splint was employed. Active movement was permitted as soon as the patient felt inclined. Active movement was more reliable than passive movement. He most cordially thanked the members of the Section for their kind attention.

ON THE TREATMENT OF COMPOUND AND COMMINUTED FRACTURES.*

By Ernest W. Hey Groves, F.R.C.S.,
Bristol.

It is rather remarkable that in the enthusiasm which has been displayed during late years concerning the operative treatment of fractures there has been so little said or done on the subject of compound or severely comminuted cases.

The two chief protagonists of the operative treatment of fractures—namely, Lane and Lambotte—lay great stress on the inadvisability of applying their methods to any case that is complicated by an open wound. And these methods are so difficult of execution even in simple cases that they become for the average surgeon quite impossible if they have to be applied to the union of many small fragments. Now, it is a matter on which great difference of opinion still exists as to the advisability of operation upon cases of simple fracture. Great authorities, such as Bardenheuer and Lucas-Championnière, consider that as good or better results can be obtained by simple extension with massage and early movements, but all are agreed that the compound fracture with much displacement and the severely comminuted fracture gave bad results by all methods of treatment; and yet these very classes of case have been withheld from the scope of the usually described operative methods. For the last three years I have been trying to solve this problem, working on experimental lines first, and then adapting my conclusions to clinical work. First let me summarize the difficulties that have to be overcome:

1. *Mechanical Difficulty of Fixing Small Fragments.*—Supposing the shaft of the bone to be broken into a number of small fragments, it is very difficult by any system of plates and screws to restore a firm continuity to the shaft of the bone. This is a difficulty when experimenting with a dry bone outside the soft parts, but the difficulty is greatly increased when the bone has to be attacked *in situ*. The plates can only be applied to a little more than one half of the circumference and fragments furthest removed from the surface cannot be fixed. Then the number of plates and screws necessary is so great that there is much danger of shutting out the bone from its chief blood supply from the periosteum.

2. *The Difficulty of Operating upon a Septic Bone Area.*—Every one who has operated upon fractures insists on the overwhelming importance of asepsis. It is only courting disaster to operate upon a case in which the skin is so abraded that it cannot be sterilized. And a bad

* The expenses of this research were defrayed by a grant from the British Medical Association; see Supplement, p. 344.

compound fracture in which dirt is ground into the bone is impossible for direct attack. I am not speaking of trivial wounds which heal cleanly within a few days, but of dirty lacerated wounds which lay open the fractured area.

3. *The Difficulty of Applying Non-operative Methods to the Cases under Consideration.*—It is a matter of common experience that a bad compound fracture is one which is most difficult to treat with due regard to the functional usefulness of the limb. I give one example which illustrates the usual results, even when one is keenly alert and applying all possible methods to obtain a good result. A woman was run over and sustained a compound and comminuted fracture of the lower end of the tibia and fibula. Several large fragments of the tibia had to be removed, as they were necrosed and septic, then parts of the overlapping fibula were resected in order to make the two bones of the same length. Next a sliding splint was devised by which an extension of ten pounds was maintained on the foot whilst the wound healed and the fracture united, and yet in spite of this the excessive reaction which always takes place in this type of fracture resulted in such contraction of the parts that the bone ends were firmly joined in a vicious manner with much overlapping. The patient, seen a year after the accident, could walk with a stiff ankle, and she was grateful that her foot had been saved, but she is crippled for life. The main problem to be solved is how to keep up such powerful extension that overlapping of fragments will be prevented, and how to do this in such a way that during the prolonged period of bone healing the joints and muscles may be exercised and the wound dressed without disturbing the fixation of the bone. The nail extension method is undoubtedly the most powerful means at our disposal for applying extension to a fractured bone; I therefore sought to adapt this as a solution of the problem.

Experimental Results.—I made an apparatus consisting of two bars which transfixed the bone transversely, and which were held in place by longitudinal bars at the sides of the limb.

In these cases the bone had been divided by a simple saw cut. The animals could run about within a few days of the operation, and at the end of a week or a fortnight they could do so with little or no limp. The union of the bone was rapid, firm, and accompanied by the minimum of callus formation. Not only do these specimens exhibit the most ideal method of healing, but they show how this transfixion apparatus may be left in place as long as ten weeks without causing any irritation either of the bones or of the soft parts.

Experiments on Severely Comminuted Fractures.—Having obtained a series of successful results with this apparatus in simple fractures, I next applied it to the severely comminuted cases. The skiagrams handed round show the degree of comminution produced (one after twenty-eight days with the fragments and periosteum in place, one after forty-two days with the fragments removed, and one after thirty-five days with the periosteum excluded). If all the fragments and periosteum be left *in situ* a rapid firm union occurs, with some callus excess. If the fragments be removed the union is very slow, as it only takes place by bone proliferation from the ends of the main fragments. Now if the periosteum be excluded, union takes place, but rather slowly, by reason of the bad vascular supply of the fragments.

Clinical Application.—I will only give two examples of the application of this method in human surgery. One is from the leg of a man with comminuted fracture of tibia and fibula. The skin was so contused over the seat of fracture that direct operative exposure was inadvisable. He wore the apparatus for four weeks; he had good functional result at the end of three months, and there was good union of the bone with no shortening.

The other example is from a similar case, and the apparatus had the effect of replacing the comminuted fragments in almost perfect anatomical position.

The method is not so readily adapted for the femur and humerus, because of the impossibility of transfixing the proximal portion of these bones. I attempted at first to overcome this difficulty by using an apparatus which transfixed the lower end of the femur and took a bearing above from a ring like that of a Thomas's knee splint. This, however, does not come up to my ideal of mechanical efficiency, and I feel sure that a better apparatus is one like Lambotte's "fixateur," which transfixes the bones from one side only. (The author then showed some cats which had been the subject of comminuted fractures involving about a third of the shaft of the tibia. They retained both the shape and function of the leg at periods varying from ten days to four weeks after the operation.)

PROSTATISM—THE PATHOLOGICAL BASIS OF THE OPERATIVE TREATMENT.

By HENRY WADE, M.D., F.R.C.S.Edin.,
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THE favourite method of operative treatment of prostatic dysuria, as practised in this country and throughout a large part of the surgical world, is suprapubic prostatectomy according to Freyer's method. This operation has won for itself a pre-eminent position in the domain of surgical practice, and by means of it prompt and complete relief have been frequently afforded for a most distressing ailment that rapidly undermines the patient's health. The great advance that has taken place in the treatment of certain varieties of prostatic disease by Freyer's operation can be gainsaid by no one, and in this paper I shall have occasion to show how suitable it is for a certain type of case. At the same time, it will be shown that there are cases of prostatism for which it is unsuitable, and I shall particularly refer to its utility for the earlier manifestations of the disease for which it is executed, and consider the best means of treating such cases.

Although it is the rule for a speedy and complete recovery to take place after suprapubic prostatectomy, the operation is undoubtedly associated with a high mortality, and sometimes is followed by disagreeable complications, despite the brilliant results of a limited number of surgeons. Reasons may be advanced to account for this state of affairs on clinical grounds, but an accurate conception of them can only be obtained after the surgical pathology of the disease is studied in the light of the operative treatment. It is the object, therefore, of this paper to consider the question of the treatment of prostatic dysuria from the standpoint of its pathology and the pathological findings observed in the parts removed by operation, in cases terminating fatally and in cases dying naturally of the disease. Material of this nature has been examined from 134 cases.

Definition of Prostatism.

The prostate gland is frequently the site of disease which produces local deformity of the organ, interference with the complete emptying of the bladder, damage to the genito-urinary tract above, and serious ill health to the patient. The clinical indications of these are designated "prostatism."

Varieties of Disease Producing Prostatism.

It is recognized that prostatism may arise from a variety of pathological lesions. The majority produce hypertrophy of the gland; all are of the nature of chronic prostatic disease and at one period are amenable to direct operative treatment. In 134 cases examined three outstanding varieties of disease were present: (1) Prostatic hypertrophy or chronic lobular prostatitis, 110 cases. (2) Prostatic fibrosis or chronic interstitial prostatitis, 10 cases. (3) Prostatic carcinoma, 14 cases.

Prostatic Hypertrophy or Chronic Lobular Prostatitis.

The frequency of incidence of this variety of disease as the cause of prostatism is such as apparently to lead occasionally to the belief that it is the only cause. Its etiology has been the subject of much dispute. Thus, Wilson and McGrath, in their recent article, enumerate some thirteen different theories that have been advanced to explain its origin. I do not propose to enumerate these, but would suggest that the changes met with in this disease are in their essential nature so closely identical with those observed in another accessory sexual gland—the female breast, when the site of multiple cystic disease

or chronic lobular mastitis—that their origin probably resides in factors that are essentially identical. It appears to me likely that prostatic hypertrophy will be found to owe its origin to some alteration in a normal internal secretion.

I do not consider the changes found in prostatic hypertrophy, or as I would prefer to call it chronic lobular prostatitis, to be indicative of a truly neoplastic process. In my opinion there occurs a senile hyperplasia, an aberrant overgrowth of tissue, not the result of the appearance of an independent new growth, but possessing a pronounced liability to develop into the same and become a carcinoma. The disease is virtually always associated with a great increase in the size of the gland, but it is occasionally met with in glands that are even smaller than normal, but clinically have produced pronounced indications of prostatic dysuria. Tandler and Zuckerkandl, as a result of their investigations made on subjects dying naturally with prostatic hypertrophy, have shown that prostatic hypertrophy is always found involving the middle lobe. In those cases that I have examined it is undoubtedly by far and away most commonly met with in that situation, but it is also clear that the lateral lobes are frequently also involved. In one specimen the disease was confined to the anterior lobe. This latter condition is, however, unique (Fig. 1).



Fig. 1.—Median sagittal section, prostate, showing chronic lobular prostatitis (prostatic hypertrophy) confined to anterior lobe.

When the prostate gland, the site of chronic lobular prostatitis, is sectioned and examined, it is usual to observe areas of glandular overgrowth scattered irregularly throughout its substance. These most usually form spheroids of varying size, and are surrounded by a ring of prostatic tissue that has been uninvolved in the disease, and become compressed to form a coarse trabecula throughout the gland. This displacement and condensation results in the formation around the periphery of the diseased organ of a thick layer of fibrous tissue, non-striped muscle, and compressed and degenerative glandular acini, which is known as the false capsule. It will be found that between the false capsule and the area of disease the flattened out glandular acini form a line of natural cleavage that permits of the easy separation of the diseased tissue beneath from the false capsule surrounding it. In a typical case these flattened acini form an arrangement somewhat like the perforation around a postage stamp, the perforation being, however, longer and the bridges much further apart. Very occasionally a spheroidal area of hypertrophy is seen where the stroma is increased very much in amount, and the gland tissue very much reduced in quantity, so that a fibromyomatous nodule is produced. These are, however, not true neoplasms, and of all the cases where I have observed it in only one did I fail to detect the presence of atrophied gland tissue amidst the fibrous and muscular tissue, and in this case circumstances did not permit of a complete section of the entire gland. These fibroid areas are probably the result of a former inflammatory process.

When the prostate gland enlarges in chronic lobular prostatitis, in addition to producing for itself a false capsule, it usually herniates itself through the internal vesical sphincter, and comes to lie directly beneath the thin mucous membrane of the bladder floor. The disease being confined to the middle and lateral lobes, the seminal vesicles and ejaculatory ducts are displaced into a region of safety.

The class of case above described, of advanced chronic lobular prostatitis, is the ideal one for suprapubic prostatectomy. Glandular hypertrophy has resulted in changes that render the operation possible and usually easy. It is important, however, to remember that cases of this disease are met with that are not ideal for this operation. These are: (1) Cases of chronic lobular prostatitis without hypertrophy; (2) cases of hypertrophy without intravesical herniation; and (3) cases of incomplete false capsule formation.

Prostatic Fibrosis or Chronic Interstitial Prostatitis.

Of the 134 cases I have examined, 10 suffered from prostatic fibrosis or chronic interstitial prostatitis. In this disease the prostate gland is smaller than normal, and is of a firm fibrous consistence. The intraglandular stroma is increased in amount, the whole organ being of a sclerotic nature. When the middle lobe of the prostate is especially involved a fibrous sclerotic bar is produced which mechanically leads to interference with the voiding of urine from the bladder, and a severe degree of retention may result (Fig. 2). When sections of the gland, the site



Fig. 2.—Median sagittal section, prostate; chronic interstitial prostatitis, to show median prostatic bar.

of chronic prostatitis, are examined, the appearance seen is very comparable to those observed in a cirrhotic kidney or liver. The glandular tissue is compressed and atrophied by strands of fibrous tissue amidst which portions of degenerated muscles are situated. Throughout the stroma areas are present where small cells, mainly of the lymphocyte type, are accumulated, such as are constantly observed in processes of a similar nature elsewhere. From the point of view of its morbid anatomy, therefore, the prostate gland in which chronic interstitial prostatitis is present differs in almost every respect from that in which chronic lobular prostatitis has occurred. It is perhaps its misfortune that the only features it shares in common are the clinical indications of prostatism that are so closely similar as to tempt certain surgeons to treat them by a similar operative technique, with occasionally disastrous consequences.

Carcinoma of the Prostate.

According to Young's most recent statistics completed from cases in his own clinic, 1 case in 5 of prostatic enlargement causing obstruction in old men is due to cancer. Out of the 134 cases investigated that form the basis of this communication, 14 showed carcinoma of the prostate to be present, or approximately 1 in 10. The clinical records of fully an equal number of cases of cancer treated by palliative measures, the prostate not being removed, exist, but as no material was available for investigating the morbid anatomy, they are, of course, not included; but they go to further confirm the accuracy of

Young's statement of the frequency of prostatic carcinoma. In 10 of the 14 cases prostatectomy was performed, and in 6 of them chronic lobular prostatitis was also present; and had obviously existed antecedent to the onset of cancer, and probably predisposed to its development (Fig. 3).



Fig. 3.—Horizontal section, prostate; medullary carcinoma.

Three types of carcinoma were found: (1) Scirrhous, (2) medullary, (3) adeno-carcinoma. They were very comparable to the types met with commonly in the female breast and showed a similar degree of malignancy, the last, like the adeno-carcinoma of Halsted, being the least malignant. Wilson and McGrath have noted how carcinoma of the prostate is frequently only revealed on careful examination of the specimen after its removal by prostatectomy. In the 10 specimens obtained by me from the operating theatre this proved to be the case. They showed how fortunately at first it is the rule for the malignant disease to commence in the centre of an area of chronic lobular prostatitis, so that at first enucleation is rendered even more easy. Complete celloidin sections being made, they also showed how necessary it is to obtain a complete section for examination before a certain opinion can be expressed on the presence or absence of carcinoma. In one case this was especially borne out. The patient underwent prostatectomy, a "lobar" removal being carried out. Clinically carcinoma was not suspected, and the ease with which prostatectomy was accomplished, combined with the speedy and uneventful recovery of the patient, did not arouse the suspicion that cancer was present. On examining the specimens, however, it was found that one "lobe" was the site of typical chronic lobular prostatitis, while the other showed the same change, but in addition there was present in the centre of it a mass of carcinomatous new growth. The presence of this was borne out clinically eight months later, when the disease recurred, and led to the death of the patient from cancer. When carcinoma of the prostate has progressed beyond this early stage of centrally situated disease one of three results may follow when the operation of suprapubic prostatectomy by blind dissection is attempted. Either the removal is accomplished with difficulty, a "total" prostatectomy being achieved, or, this being impossible, fragments of the diseased gland are extracted with difficulty, danger, and doubtful benefit to the patient, or the disease is found to be widespread, involving the adjacent blood sinuses and neighbouring glands, and consequently incapable of even partial removal.

Duration of Life and Cause of Death in Untreated Cases.

The frequency with which chronic prostatic disease producing prostatism occurs is difficult to estimate. Richardson states that chronic prostatic enlargement has been found in 34 per cent. of men over the age of 60, of which number 15 per cent. suffered from symptoms. Plondke has estimated that 33 per cent. of all men over 50 years of age suffered from enlarged prostate, and that 10 per cent. of these require treatment. He also says that catheter life results in a 100 per cent. mortality within an average period of four years. In cases dying naturally of prostatism, two forms of death are observed. In one a sudden renal infection brings the patient to a surgeon, under whose care he rapidly expires, with or without operative treatment, from acute consecutive suppurative nephritis. In these cases the organism has usually entered the blood stream from a focus of infection in the lower urinary tract and been determined to the kidney, whose power of resistance to infection has been weakened by prolonged backward pressure.

On the other hand, a slow renal destruction from persistent backward pressure may bring the patient within the care of the physician. The patient's loss of weight, persistent sickness, and failing heart naturally lead to attention being directed mainly to the state of his cardio-vascular system. The prostate is occasionally unsuspected by his medical attendant as the primary cause of his illness, and he dies, breaking up in a manner that is characteristic of so many medical ailments. Sometimes such a case comes under a surgeon's care at a stage just prior to the final breaking up. At this period the appearance of the patient is sometimes most deceptive. His general health is stated to be good. The amount of urea present in the urine is diminished but to no excessive degree. The ordinary tests of renal functional activity, when employed, indicate a certain degree of renal insufficiency. The surgeon may operate and the patient dies, slowly sinking from no obvious or apparent cause of complication, and at the *post-mortem* examination the ureters are frequently found to be dilated to an extreme degree, and the renal pelves dilated to such an extent that the parenchyma is reduced to a thin rim on the surface of two thin-walled multilocular sacs, which are all that represents the kidneys.

During the *post-mortem* examination of patients who have died of various diseases in the medical wards of the hospital, there can frequently be observed, in male subjects over the age of 50 years, indications of a mild degree of chronic prostatic disease with associated damage to the urinary tract above. It is virtually always found that no complaint has been made of this by the patient. It is usually unsuspected, and has virtually never received treatment. In these cases, however, the ureters and renal pelves are dilated to a moderate extent, and there is present a recent interstitial nephritis throughout both kidneys, and the renal parenchyma shows indications of pressure atrophy through its substance. When the pathology of these cases is viewed by one with a surgical mind, it is impossible to avoid the conclusion that the renal destruction as a result of the partial retention of urine from the prostatic disease has contributed to a certain extent to lowering the patient's power of resistance to a general infection, or has poisoned the heart muscle by the retained products of metabolism, which should be normally excreted by the healthy kidney. A most noteworthy feature of the *post-mortem* examination in all the cases of prostatism examined by me was the constant presence of chronic interstitial nephritis. The explanation of this, in my opinion, is that it is frequently due directly to the backward pressure present in these cases. The appearances seen suggested strongly that in those cases where the renal change was of long standing and had obviously existed before the onset of the prostatic disorder it had become aggravated further by it.

Operative Treatment.

The mortality associated with the operation of prostatectomy is high. The mortality of 1,000 cases operated on by Freyer is returned by him at 5.5 per cent. The operation of perineal prostatectomy has been especially practised in America by Young. He reports that out of 450 cases of benign disease 17 died, a mortality of 3.77 per cent. These results, from the point of view of successful operations, appear to be the best in existence. It must not, however, be assumed that these figures approximate even closely to those obtained in the wards of the general hospitals in this country and abroad.

Space will not permit of my quoting full statistics, but it can be confidently asserted that in these institutions the mortality from prostatectomy is approximately from 20 to 25 per cent. In this connexion Rovsing's remarks, when speaking of the results obtained by Freyer and Young, are of especial interest. He says:

> We must not let ourselves be led into believing that this is the real mortality of the operation as regards the great number of surgeons; you will find a far higher rate of mortality from this operation in the wards of the large hospitals all the world over. In my opinion, this is not due only to deficient technique as compared with that of the specialist. Perhaps, least of all so, but far more to the advanced stages of disease of the cases. The true mortality certainly cannot be estimated at less than 10 to 20 per cent.

We have observed, when considering the pathology of those cases that died from prostatic disease without

receiving treatment, how prostatism, if untreated, rapidly undermines the patient's health and power of resistance to infection, so that many patients are really in a dying condition when they come under the care of a surgeon. Page has compiled from the statistical returns of St. Thomas's Hospital returns that form a most interesting comparison in this connexion. He has collected the cases of prostatic disease that were admitted to hospital, and tabulated these according to the variety of treatment they received. The total number of cases treated was 132, and the mortality over all was 21.7 per cent. Those treated by catheterization had a mortality of 22.7 per cent., those treated by suprapubic drainage a mortality of 20 per cent., and those by suprapubic prostatectomy a mortality of 20.3 per cent. The value of these latter results is wherein they show the extent to which the patient's health was broken down prior to any surgical treatment, however simple, being adopted for the relief of the disease.

Cause of Death after Prostatectomy.

From the records of St. Thomas's Hospital, Page has constructed a statistical analysis of the cause of death after suprapubic prostatectomy. For our present purpose it is sufficient to mention that of the 15 fatal cases examined by him 10 died within a week of operation, and the majority of these from an acute local infection or from acute suppurative nephritis. An analysis of the 68 fatal cases that have occurred in the hospital to which I am attached has given a very similar result, and has gone to show that by far and away the commonest cause of death after suprapubic prostatectomy is septic absorption, arising out of the wound inflicted. And secondly, it has shown the fact that the majority of cases of prostatism operated on in the wards of a general hospital are extremely "bad lives" from the actuarial standpoint, on account of the pronounced degree of chronic renal disease from which they suffer.

Local Results of Prostatectomy.

A considerable amount of discussion has centred round the questions, What is removed when suprapubic prostatectomy is performed? and What remains of the gland after the operation is completed? When Freyer's operation is performed for hypertrophy or chronic lobular prostatitis, the tissue removed is found to come away in one of four different methods: (1) "Total" enucleation along with the prostatic urethra. (2) "Total" enucleation with conservation of the prostatic urethra. (3) Lobar enucleation. (4) Nodular enucleation. The main factor that determines the manner in which the diseased tissue is removed is neither the skill nor the dexterity of the surgeon, but the nature of the disease present in the gland.

1. *Total Enucleation with the Prostatic Urethra.*

Where a so-called "total" enucleation is performed and the prostatic urethra removed along with the mass of diseased tissue, it will be found that, although it conforms in the main to the size and structure of the enlarged prostate felt before operation, fortunately for the patient a true "total" extraction of the entire gland is never accomplished. In order to realize exactly what has been accomplished, the information gained in the operating theatre should be contrasted with the morbid anatomy commonly met with in cases of this disease that have died without operation and compared with the features seen in complete sections made of the tissue removed and of sections made of the prostatic bed and adjacent viscera in cases that have terminated fatally after the operation.

It is the experience of every surgeon who has performed the operation of suprapubic prostatectomy on several occasions to note the ease with which the large "adenomatous" hypertrophied prostate is frequently removed. The thin mucous membrane covering the mass projecting into the bladder is scratched through without difficulty. The line of cleavage is easily found. The finger sweeps readily round the mass of tissue, which is enucleated with celerity and in comfort, being held for an instant only, when the tough mucous membrane of the urethra is being torn through. The bleeding at the time is in no way alarming, and is soon naturally controlled. The cavity or prostatic bed out of which the tissue has been extracted contracts at once to a size approximately half of that of the structure it previously contained. The prostatic bed is felt to possess a smooth lining, and the inner vesical sphincter can be made out as a muscular ridge between the bed below and the vesical cavity above. When the morbid anatomy of such a case dying without operation is examined, it will be noticed how Nature would here appear to have designed the parts for the performance of suprapubic prostatectomy. The main bulk of the gland forms an intravesical projection covered by a thin and atrophied mucous membrane. The internal vesical sphincter is dilated and crushed into a region of safety, and surrounds the base of the intravesical mass. Damage to it is virtually impossible. The line of cleavage between the false capsule formed by the condensed, uninvolved prostatic tissue and the diseased lobes is distinctly defined by the flattened and atrophied gland acini, which form the ring of "postage stamp" perforations that have already been described in referring to the morbid anatomy of the disease. The process being confined to the middle and lateral lobes, the ejaculatory ducts and posterior lobe are displaced into a region of safety, and are separated from the area of hypertrophy by the thick-walled false capsule. This latter membrane also serves as a thick protecting coat to the large blood sinuses lying between the sheath and true capsule. The external vesical sphincter is also safe from any possible source of damage. When the tissue removed in such a case is examined, it will be noticed to possess the typical appearances of prostatic hypertrophy or chronic lobular prostatitis already described. Serial sections never reveal the presence of the ejaculatory ducts within it or of striped muscle fibres coating the specimen. A fatal issue may ensue even in such a case, however, and a further opportunity be afforded of observing what the operation accomplished locally. In order to investigate this latter question I have studied the pathology of eight fatal cases following prostatectomy. The pelvic viscera were hardened *in situ*, and thereafter complete celloidin sections of the prostatic bed and adjacent viscera were made and examined microscopically. For our present purpose one typical case will be referred to.

The case was that of a man who suffered from typical prostatic dysuria from prostatic hypertrophy. The gland was extracted without difficulty. He died, however, on the fifth day from pelvic cellulitis, owing to infection through the space of Retzius. Fig. 4 is a vertical median (sagittal) section traversing the prostate and prostatic urethra, which was removed.



Fig. 4.

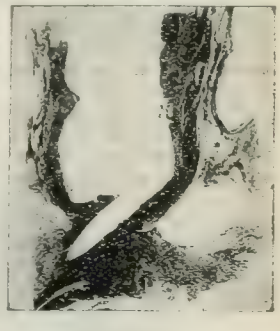


Fig. 5.

Fig. 4.—Median sagittal section of prostate and prostatic urethra removed by the operation of suprapubic prostatectomy for chronic lobular prostatitis (prostatic hypertrophy).

Fig. 5.—Section of prostatic bed in fatal case after prostatectomy. Median sagittal section of prostatic bed after "total" prostatectomy, showing dilated internal vesical sphincter, false capsule, posterior lobe and external vesical sphincter. The seminal vesicles are seen on section between the bladder and rectum and the ejaculatory duct can be observed passing downwards and forwards and traversing the false capsule of the prostatic bed and opening into its lower limit. Between the ejaculatory duct and the rectum the compressed tissue of the posterior lobe is seen.

Fig. 5, a similar section of the prostate bed left after removal. Fig. 6 is a composite superimposed photograph with the gland replaced within the cavity from which it was extracted by operation. Owing to the contraction of the cavity of the prostatic bed, the photograph of the prostate had naturally to be reduced in size to permit of this. When Fig. 5, showing the prostatic bed, is examined, it will be noticed that the stretched internal vesical sphincter surrounds the upper vesical entrance to the cavity. The thick, smooth covering of the false capsule lining the space is visible. Microscopic examination shows this coat to consist of condensed prostatic tissue, consisting

mainly of muscle fibres and fibrous strands with compressed and atrophied gland acini amidst the fibres. The ejaculatory duct is clearly shown traversing the posterior wall of the space from the seminal vesicles above. Below and behind the ejaculatory ducts the compressed and atrophied posterior lobe is seen lying between the false capsule and space of Denonvillier. The undamaged external vesical sphincter and recto-urethralis muscles are seen beneath the prostatic bed. Fig. 6, where the



Fig. 6.—Drawing of photograph obtained by the superimposition of Figs. 4 and 5 to show the situation occupied by the enlarged prostate prior to its enucleation by operation.

tissue is superimposed within the cavity from which it was extracted, conveys in a manner more lucid than verbal description, the exact nature of the operation where a "total" enucleation of the prostate gland is accomplished by the operation of suprapubic prostatectomy.

Even in the case above described, serial sections showed that, at the margin of the lateral lobes, nodules of diseased prostatic tissue had remained behind within the false capsule.

2. *Total Enucleation with Conservation of the Prostatic Urethra by Suprapubic Prostatectomy.*

The determining factor in this operation is the consistence of the anterior commissure. Where there is situated in front of the urethra a mass of tissue tough in consistence and virtually devoid of disease, the finger is deflected naturally towards the urethra as it passes over the front of the gland and sweeps behind the urethra, conserving it wholly or in part in consequence. In such cases it will usually be found that the lateral lobes are not widely involved in the disease, which is mainly confined to the middle lobe. Horizontal sections of specimens from such cases show a typical horseshoe contour.

3. *Lobar Enucleation.*

The nature of the false capsule formed by the disease is the determining factor in such cases. In those cases where the morbid process is more lobar than lobular a

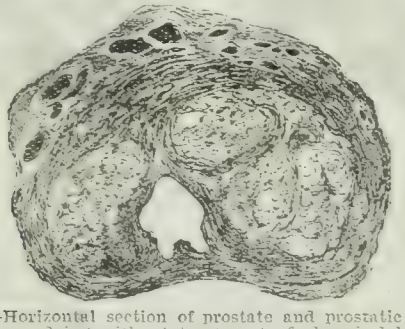


Fig. 7.—Horizontal section of prostate and prostatic urethra. From a case dying without treatment of chronic lobular prostatitis (prostatic hypertrophy); showing disease involving both the lateral lobes and producing a false capsule around them. Note the situation of the large blood vessels of the prostatic sinus on the outer surface of the false capsule.

thick false capsule surrounds the lobes and their separate enucleation is most easy and most likely to be accomplished. The appearance in sections of the tissue removed is characteristic (Fig. 7).

4. *Nodular Enucleation.*

The nature of the false capsule is here again the determining factor in explaining the result achieved. In discussing the morbid anatomy of prostatic hypertrophy or chronic lobular prostatitis, it was pointed out that the change that led to the formation of the false capsule surrounding the gland was not confined to that region, but took place in a similar manner between individual spheroids. In those cases where the tissue removed is extracted in individual nodules of varying size, it will be

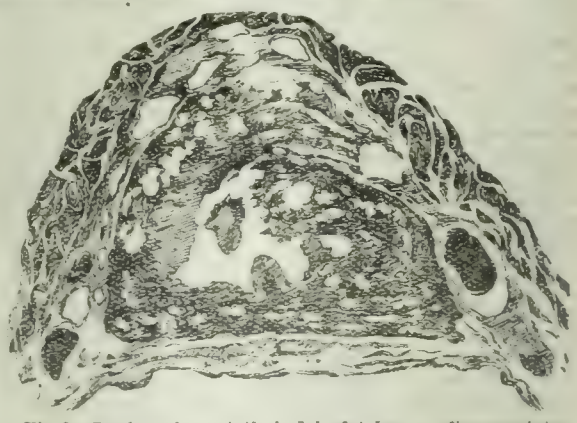


Fig. 8.—Section of prostatic bed in fatal case after prostatectomy, showing thick false capsule consisting of prostatic tissue that remains after "total" enucleation. The condensed tissue of the posterior lobe lies between the prostatic bed and rectum.

observed that the external false capsule is imperfectly formed, and the finger is in consequence deflected into the lines of separation that pass into the gland and separate the individual spheroids. It has already been mentioned that in addition to the case already described, the pelvic viscera of seven other cases that died after the operation of prostatectomy were hardened *in situ*, and serial sections made of the prostatic bed and neighbouring viscera (Fig. 8). Certain of these illustrated some of the complications with which the operation may be associated. In only one of the eight fatal cases examined were the ejaculatory ducts found to be seriously damaged. In five of the eight the false capsule was torn, and the pericapsular space infiltrated with blood and infected. In one case where a nodular removal was practised numerous fragments of diseased prostatic tissue had been left, and were seen projecting into the prostatic bed. In such a class of case it is not difficult to account for the liability for the obstruction to recur after the operation is recovered from. Microscopical examination of the prostatic bed of the eight cases showed it to consist of muscle and fibrous tissue and compressed gland acini, as already described, and in all cases it was the site of an acute suppurative process. In all cases small septic thrombi were present in the smaller vessels, and in two cases large septic thrombi were also present in the large veins of the prostatic sinus.

The question may now be considered whether a total extracapsular complete enucleation of the prostate gland is ever accomplished by blind finger dissection in the course of the operation of suprapubic prostatectomy. In certain anatomical textbooks the student is led to believe that this is what the surgeon aims at and usually accomplishes. Thus, for example, the most popular student textbook of anatomy states:

> Immediately surrounding the prostate, and quite independent of the sheath, is the fibrous capsule of the prostate. This capsule varies in thickness, in some cases being extremely thin, in others forming a distinct cortex. In association with operations for the removal of the prostate, now frequently performed, it is important to notice that the capsule has but very slight connexion either with the venous plexus or with the sheath of pelvic fascia. It is on this account that the gland can be so easily shelled out from its surroundings.

So far I have only obtained one specimen of this nature. It was presented to me by a graduate, and in addition to the complete prostate the seminal vesicles had been removed along with portions of the vasa deferentia, which hung like tentacles to the specimen. When the specimen was sectioned it showed the gland to be the site of chronic interstitial prostatitis. I was informed that it was removed with the utmost difficulty. This was not surprising. No further history was obtainable.

Cases are, however, not rare where a partial extracapsular removal has been carried out. In the operating

theatre these are difficult cases, and when the specimen is examined after removal portions of striped muscle fibre are found on its surface and a portion of one of the veins of the prostatic sinus may be adherent.

From the lower apex of the gland a tongue of tissue frequently projects, which contains muscle fibres derived from the external vesical sphincter. These are usually either cases of diffuse chronic lobular prostatitis, where no spheroids are formed, or combined lobular and interstitial prostatitis, or cases of early carcinoma (Fig. 3). The case from which this last specimen was obtained terminated fatally, and the *post-mortem* examination showed the false capsule to have been torn and early secondary carcinoma present in the lymphatics. I have not had the opportunity of examining *post mortem* a case of fibroid prostatitis treated by prostatectomy. If, in such a case, the prostate is enucleated, it is easy to deduce what is likely to result from what has been already described as the morbid anatomy of this disease.

Conservative Perineal Operation of Young.

In Young's operation the surgeon is afforded at the time of operation a full view of the dissection he executes, consequently the same dubiety as to the structures divided and removed does not exist. The material examined by me was obtained from 10 cases, all of which were operated on by myself. When the tissue removed was sectioned and examined microscopically it showed the lobes to be masses of tissue the site of chronic lobular prostatitis, and demonstrated the fact that the lobes were the product of no natural anatomical division of the gland, but resulted from the separation of a common mass of diseased tissue into three more or less artificial divisions.

The Choice of Operation based on the Pathology of the Disease.

In discussing this question we are met at the outset by the opinion already expressed when considering the pathology of certain "ideal" cases of advanced chronic lobular prostatitis, where it was said "that Nature would appear to have designed the parts for the operation of suprapubic prostatectomy." We will therefore consider the question from two standpoints: (1) The factors contributing to the relatively high mortality met with in those "ideal" cases, when treated by suprapubic prostatectomy, and how far it is possible to diminish this by the employment of other methods of operative treatment; (2) the danger of attempting to perform Freyer's operation of suprapubic prostatectomy in cases where the circumstances are not "ideal," the prostatism being due to other causes.

When the first question is considered, the facts concerning the cause of death after suprapubic prostatectomy already mentioned should be borne in mind. It has been already shown that the "ideal" case was the large "adenomatous" hypertrophied prostate, the site of chronic lobular prostatitis, where a large intravesical projection existed, and a thick, complete false capsule was formed. The damage to the patient's health during the period when this mass of tissue was ripening for removal has been also shown; the local and general irreparable damage caused by the prolonged backward pressure on the bladder and kidneys due to the retention of urine have been described. The case may be "ideal" for suprapubic prostatectomy, but the health of the patient has become so permanently impaired that any operation is now to him a most dangerous procedure. The factors that are liable to be the immediate cause of death in such a case have been shown to be: (1) Local infection arising out of the wound inflicted—for example, pelvic cellulitis, suppurative cystitis, consecutive suppurative nephritis, and under this heading may be included also reactionary haemorrhage. (2) The development of a distal septic focus such as bronchopneumonia. (3) Embolism, producing pulmonary infarction, which is always due to an associated infection. (4) Surgical accidents, such as fatal reactionary haemorrhage and peritonitis. (5) Uraemia, in cases where the damage to the kidneys before operation was so severe that, in the absence of other complications, this revealed itself as the sole cause of death. The underlying cause common to all is thus the weakened power of resistance owing to the prolonged disease. The dangers that are peculiar to suprapubic prostatectomy in an "ideal" case are the wounding of the space of Retzius and the consequent risk of septic pelvic cellulitis, and the risk of pulmonary infection with hypostatic congestion and pneumonia that is present when an elderly patient is confined to bed for some time, as is the general practice after suprapubic prostatectomy. The third risk is the difficulty of providing an efficient drainage of the bladder and prostatic bed so as to prevent a profound septic absorption from the stagnant septic urine that bathes the raw surface of the latter.

We may now ask how far these factors are avoidable by the choice of other means of treating the disease. The choice at our disposal lies between catheter life, the performance of a preliminary suprapubic cystotomy, or perineal prostatectomy. Catheter life may be dismissed at once as only justifiable in the hopelessly inoperable cases of this type. Preliminary suprapubic cystotomy is favoured by some on the grounds that it permits of a certain improvement in the patient's condition prior to the removal of the growth, and improves the condition of the septic bladder, but the value of it is doubtful. Page has shown how the mortality attending this line of treatment is relatively as great as that attending suprapubic prostatectomy, and it has further this disadvantage, that it does not get rid of the main risk of the operation where suprapubic prostatectomy is performed in an "ideal" case, which is pelvic cellulitis due to infection by way of the space of Retzius. A typical case is quoted below to illustrate this danger.

He was a man of 67, upon whom a suprapubic cystotomy was performed with the intention of its being preliminary to a suprapubic prostatectomy. On the night after operation the temperature rose to 103°, and remained high for nine days, when it fell to 100° F. He complained chiefly of pain in the upper part of the abdomen, and died suddenly on the tenth day. The abstract of the pathological record is: Enlarged prostate, backward pressure, pyelitis, pelvic suppurative cellulitis, early bronchopneumonia. The detailed description of the pelvic viscera shows how the pelvic cellular tissue was infiltrated by a thick greenish lymph, which extended up into the retro-abdominal tissues. This area of purulent infiltration extended from the space of Retzius, which had been wounded in the natural course of opening the bladder. The purulent infiltration reached as far as the lower pole of the right kidney. The prostate was increased in size, with a nodule of prostatic substance projecting into the cavity of the bladder behind the urethral opening, and forming the so-called middle lobe of the prostate. This projection was covered with ulcerating bladder mucosa. The bladder wall was hypertrophied, owing mainly to an increase in the muscular coat. The mucous membrane had undergone chronic ulceration, and multiple villous-like projections of indurated mucous membrane projected from the surface. The ureters were somewhat dilated; their walls were hypertrophied and their mucous membranes showed evidences of recent catarrh. The pelves of both kidneys were dilated and showed signs of recent acute catarrh. There was no evidence of suppurative nephritis; there was some chronic interstitial nephritis.

Where perineal prostatectomy according to Young's method is employed for the treatment of this "ideal" case, it is of course associated with risks peculiar to itself, but with it there is naturally no risk of infection of the space of Retzius, which is not damaged. The risk of pulmonary complications is much less, the patient being out of bed on the second or third day; and, finally, every impartial critic will grant that where the technique of bladder drainage is carried out according to the directions laid down by Young, the drainage is as near "ideal" as is possible to achieve, and there is no retention of stagnant septic urine in the bladder and prostatic bed. The unavoidable risks peculiar to Young's operation in such a case are the greater length of time occupied by the operation and the risk of infection of the pelvic cellular tissue planes owing to the opening of the lymph paths when the space of Denonvillier is opened into. This latter would appear, however, to be more a theoretical than actual danger, as it has not been encountered by Young in his numerous cases, and in my very limited experience of ten cases it has never been encountered. The reason for this would appear to be that the time when infection is liable to gain entrance to the cellular tissue is during the hours immediately following the infliction of the wound, before Nature has had time to create the natural protective barrier; and during this period in Young's operation the bladder drain and gauze packs in the prostatic bed prevent the entrance of septic urine in such quantity as to lead to a cellulitis. When the gauze

packs and bladder drain are withdrawn, by the end of the second day, the free dependent drainage prevents septic material accumulating. The importance of this latter fact appears to me to be borne out in my limited experience, where I have noticed how liable such patients are to have a slight rise of temperature and other indications of ill health about the end of the first week after operation—at that period when the external skin wound is closing, but still a day or two before the urine comes by the natural channel. During this brief interval Denonvillier's space is liable to be distended with septic material for the first time during the course of operation. This passing phase of septic absorption, if my explanation be correct, bears out the well-known surgical dictum: "That man does not die from sepsis on a free surface; it is the confinement of sepsis that the surgeon fears after operation."

The avoidable risks peculiar to perineal prostatectomy are probably more dreaded by certain surgeons. The reality of them no one familiar with the operation will gainsay. None of them are, however, such as to be likely to lead to a fatal issue. The position as regards the operative treatment of the "ideal" case of prostatic hypertrophy due to chronic lobular prostatitis may, therefore, be briefly stated to be that the simplest, most rapid, and, speaking broadly, the safest method of treatment is Freyer's operation. When it is performed it is of the utmost importance that the skin wound should not be sutured, so as to minimize the risk of prevesical infection. Efficient drainage of the bladder and getting the patient out of bed as early as possible are of equal importance. Perineal prostatectomy in such cases, in skilful hands, may produce an equally good result, but is more liable to be followed by such post-operative complications as stricture, fistula, or partial incontinence. In the hands of those unfamiliar with the accurate steps of the operation and its after-treatment, it is a much more dangerous method of treatment for this class of case. Thus on practical and theoretical grounds we may reaffirm that Nature would here appear to have designed the parts for the operation of suprapubic prostatectomy.

The Operative Treatment of Cases of Prostatism where the Disease is not Ideal for Suprapubic Prostatectomy.

We have seen how in this class there are included: (1) Cases of chronic lobular prostatitis or prostatic hypertrophy without glandular enlargement; (2) cases of chronic lobular prostatitis without intravesical projection; (3) cases of chronic lobular prostatitis without the formation of a complete false capsule; (4) cases of chronic interstitial prostatitis where the disease is generalized or has led to the formation of a median prostatic bar; (5) cases of carcinoma of the scirrhous type or involving the capsule.

The danger of attempting to perform Freyer's operation in such cases is known to every surgeon who has endeavoured to do it. At the same time it should be remembered that Freyer's position as regards such cases is perfectly clear. In speaking of cases suitable for suprapubic prostatectomy, he says:

> In patients in the earlier stages of the malady in whom not more than an ounce or two is found on introducing the catheter, it is inadvisable to attempt the removal of the prostate, because the enlargement of the organ will not have sufficiently advanced to render it prominent in the bladder or to define adequately the lines of cleavage between the true capsule of the prostate and its enveloping sheath. When we have to deal with adenomatous enlargements of smaller dimensions, say less than 1½ oz. in weight, the greatest difficulties present themselves as to the possibility of their enucleation entire being practicable.

It is important to bear in mind, however, in addition to early cases with a smaller quantity of urine, the most pronounced cases of prostatism with the severest degree of backward pressure are frequently met with in cases where the prostate is not enlarged or only slightly so, and where the gland in consequence maintains its normal relationship to the surrounding structure. In treating such cases, therefore, the courses open to us are: (1) To delay and wait for the gland to ripen to the maturity necessary for the satisfactory performance of suprapubic prostatectomy, a procedure surely unwarranted as a sound surgical practice in the light of the damage done to the urinary tract and the whole body by delay. (2) To endeavour to enucleate the gland by suprapubic prostatectomy. (3) To seek in another operation a satisfactory means of treating such cases. The risks associated with the second course where suprapubic prostatectomy is practised in the types of disease mentioned are numerous, and have been already referred to. Thus, in chronic interstitial prostatitis and advanced carcinoma, the operation is practically impossible. Its attempted performance is advised by no surgeon of standing, but, at the same time, cases have occurred where it has been attempted, and I have referred to one where a complete extracapsular removal of the entire gland was achieved by this means. The dangers of such a procedure are too obvious to warrant repetition.

Where glandular hypertrophy without intravesical projection is present, it can of course be diagnosed by cystoscopic examination, or, better still, examined with a urethroscope such as Wossidlo's or a cysto-urethroscope. I am afraid, however, that in many cases it is only when the bladder is opened that the condition is discovered. Suprapubic prostatectomy in such a case necessitates damage and probably destruction to the internal vesical sphincter. It is likely also that in these cases the line of cleavage between the area of disease and false capsule will be more difficult to find. The result is the operation is much more difficult and the extracapsular lymph space will probably be opened into, and the grave risk of septic pelvic cellulitis encountered in consequence.

There remains, lastly, the case where the false capsule is imperfectly formed to be considered. I claim to have already shown that these cases are occasionally met with, and we have seen how, when suprapubic prostatectomy is done in such cases, the tissue is removed, usually in fragments, with the risk of leaving portions as possible future causes of obstruction. In this class of case, again, the dangerous lymph area between the capsule and sheath may be opened into. We may therefore consider that in all the classes of cases mentioned Freyer's suprapubic prostatectomy is unsuitable.

THE OTHER OPERATIVE PROCEDURES SUITABLE FOR THESE CASES.

Those comprise: (1) Perineal prostatectomy; (2) division of the median bar by Bottini's galvano-cautery or its modifications, or by Young's more recently introduced prostatic punch; (3) suprapubic transvesical prostatectomy by the transperitoneal route or extraperitoneal with visual dissection. The scope of the second variety of operative treatment where the cautery or punch is used is clearly defined. They are the procedures of choice for cases of chronic interstitial prostatitis, especially with median bar formation.

Perineal Prostatectomy.

Cases of chronic lobular prostatitis (prostatic hypertrophy) without glandular enlargement are particularly suitable for this operation. In this type of disease the false capsule was well formed in the cases I have examined. The entire gland, however, is situated below the bladder floor and separated from that cavity by its mucous and muscular coats. By means of the operation of perineal prostatectomy, if properly executed, the area of disease may be entirely removed without damage to the internal or external vesical sphincters. If, at the same time, the surgeon, following Young's instructions, cuts deeply into the individual lobes by the incisions made parallel to the course of the prostatic urethra, the compressed tissue of the posterior lobe will be divided and the line of natural cleavage reached that allows of the easy removal of the diseased tissue in the separate portions described as lobes by Young. It has appeared to me that the importance of making this incision of a necessary depth in all cases where Young's operation is performed, so that the posterior lobe is divided completely, is perhaps not always fully appreciated when this operation is performed, and it is rendered much more difficult in consequence owing to the natural line of cleavage not being reached by the shallow cut made.

Where perineal prostatectomy is done for cases of chronic lobular prostatitis with general enlargement without intravesical projection or with an imperfectly formed false capsule the dual sphincter can always be conserved. The absence of the false capsule will of course render the removal more difficult, but as this is an operation whose technique is that of a visual dissection and not a blind finger enucleation, as in the suprapubic operation, this

difficulty is not anything like so serious. Further, the wounding of the extracapsular lymph space which is liable to occur and was referred to as a serious complication in the suprapubic operation is not here of serious consequence, because owing to the reasons already given the space is not liable to the same degree of septic infection, and the drainage it receives is so thorough as to mitigate against the risk of cellulitis arising from this cause. If the large veins beneath the sheath are wounded, the bleeding vessel can be seen and controlled by ligature and serious haemorrhage thus prevented.

The treatment of carcinoma by perineal prostatectomy has been shown by Young to be possible even in those cases where the capsule and base of the bladder are invaded. If the tumour is adherent to the rectum behind, the risk of damage to the bowel is correspondingly very much increased. Young has removed the entire gland along with the seminal vesicles and a portion of the bladder floor, a procedure impossible by the suprapubic route. It is only fair, however, to remember, when considering the treatment of prostatic carcinoma, that in many cases the disease, when early, has been removed with ease by Freyer's operation. This has, however, been accomplished when the malignant nature of the growth was clinically unsuspected, and usually owed its success to the co-existence of chronic lobular prostatitis, upon which the malignant process had supervened. This latter fact is a further reason for advocating early operative interference in all cases of prostatic dysuria, and it does not directly influence the question of the treatment of the disease when clinically recognizable. I think most will agree that in the light of the pathology of prostatic carcinoma and the results obtained by Young, Willan's advice, as given in his recent article, is unduly pessimistic, when he recommends that where a diagnosis of cancer of the prostate has been made clinically the performance of a radical operation for the removal of the disease is not to be recommended. When 20 per cent. of cases of prostatic enlargement or obstruction in old men are recognized as clinically due to carcinoma, such advice is surely unwarranted.

Suprapubic Transvesical Prostatectomy by the Open Method.

This method of treating prostatic disease is being more generally practised in recent years. It is possible that when visual accurate dissection has replaced blind enucleation, an "ideal" operative technique for the treatment of the above varieties of prostatic disease may be elaborated by this route. Accurate removal and perfect control of haemorrhage would thus be possible. On the other hand, however, it is obvious that if the route is transvesical it must necessitate serious damage to the bladder in many cases to reach an organ that is frequently entirely extravesical in situation. How far this can be made good by reparative plastic surgery as a final procedure in the technique of such an operation can only be conjectured.

Conclusions.

The conclusions as regards the treatment of prostatism from the standpoint of the pathology of the diseases causing it appear to me to be:

1. Three outstanding varieties of disease lead to prostatism: (*a*) Prostatic hypertrophy or chronic lobular prostatitis. (*b*) Prostatic fibrosis or chronic interstitial prostatitis. (*c*) Prostatic carcinoma.

2. The first is by far the commonest cause of prostatism, and was present in 82 per cent. of the specimens examined.

3. Chronic lobular prostatitis is, in my opinion, a senile hyperplasia, an aberrant overgrowth of tissue that is not the result of the appearance of an independent new growth, but is liable to develop into the same.

4. Chronic lobular prostatitis in the majority of cases produces prostatic hypertrophy.

5. It virtually always develops in the middle lobe, and is almost uniformly confined to the middle and lateral lobes.

6. The gland in consequence undergoes changes that usually permit of its easy removal by suprapubic prostatectomy.

7. Chronic lobular prostatitis may develop in and be confined to the anterior lobe, this being noted by me in one case.

8. Chronic lobular prostatitis may cause prostatism without enlargement of the organ, intravesical herniation, or complete false capsule formation.

9. In these cases the performance of suprapubic prostatectomy is difficult and dangerous.

10. The successful performance of suprapubic prostatectomy depends on the presence of an advanced type of prostatic hypertrophy due to chronic lobular prostatitis.

11. The recognition of this is clinically frequently very difficult.

12. When a patient with this advanced type of disease is operated on, his urinary tract and general health have usually suffered serious damage from the disease.

13. It is therefore unjustifiable to delay operation in an early case of chronic lobular prostatitis in order to permit of the gland undergoing those hypertrophic changes that facilitate its easy removal by suprapubic prostatectomy.

14. The mortality attending suprapubic prostatectomy is mainly due to the impaired health of the patient prior to operation.

15. The actual cause of death in such cases is usually a local infection arising out of the wound inflicted.

16. The operation of suprapubic prostatectomy by blind enucleation is unsuitable in cases of prostatism due to other causes than advanced chronic lobular prostatitis.

17. Perineal prostatectomy is a most suitable operation for such cases.

18. Perineal prostatectomy permits of the removal of the disease when its presence is diagnosed in all cases. It is, therefore, at present the operation that offers the best prospect of further advance in the treatment of prostatism.

19. For its successful performance an accurate knowledge of the anatomical structure and relationships of the prostate are necessary, as well as an understanding of the pathology of the disease.

20. The suprapubic transvesical method of prostatectomy by visual dissection offers the prospect of developing into a method of treating prostatism that may ultimately warrant its adoption in a large number of cases.

21. Chronic interstitial prostatitis is best treated by division and removal of the constriction by the transurethral route.

22. Prostatic carcinoma may be in an early case clinically indistinguishable from hypertrophy due to chronic lobular prostatitis.

23. This fact is, therefore, a further reason for early operation in all such cases.

24. Prostatic carcinoma, when recognized clinically, may be successfully treated by excision of the gland in suitable cases.

I desire to record my gratitude to the President and Fellows of the Royal College of Surgeons of Edinburgh, in whose laboratories this research was conducted.

I wish to thank also many of my senior colleagues, and especially Mr. David Wallace, for permitting me to use material from their private and hospital cases, and Dr. Shennan and the staff of the Pathological Department of the Royal Infirmary of Edinburgh, for the many willing services they have done for me in the course of this investigation.

NEURALGIA OF THE TWELFTH DORSAL NERVE SIMULATING VISCERAL LESIONS.

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Neuralgia of the intercostal nerves has long been a well-recognized affection, sometimes troublesome to get rid of, but as a rule, under proper treatment, subsiding satisfactorily. The twelfth dorsal nerve, however, from its anatomical relationship and its distribution, presents features worthy of detailed consideration.

During the last twelve years there has frequently come under my observation neuralgia of this nerve simulating visceral lesions so closely as to lead to the performance of laparotomy; indeed, recently a lady came under my

observation whose ovary and appendix had been removed and her kidney excised, but whose only complaint was evidently that of neuralgia of the right twelfth dorsal nerve, as was shown by the complete relief obtained by the division of this nerve.

Why the neuralgia of the twelfth nerve should be so inveterate is probably explained by its anatomical relationships—pursuing its course from under the twelfth rib to above the pubis, piercing the different layers of the abdominal muscles, giving a branch over the crest of the ilium, which branch is necessarily readily injured accidentally or in the course of occupation where weights are carried on the haunch.

Conditions of unrest thus exist as are found in the case of the sciatic nerve, and the resultant neuralgia may be as serious, as far as incapacity to work or enjoy life, as is found in the latter case.

In this nerve, as elsewhere, the neuralgia attack may be mild and quickly passing; but in those cases, 22 in number, on which I have operated the condition had persisted so long and the pain was so great as to make the patient right willingly seek relief by operation.

The functions of the twelfth nerve being mostly sensory, one need have no hesitation in dividing it, though the patient occasionally complains of a sense of coldness and numbness in the region supplied by the nerve; but this, as a rule, soon passes off.

In regard to the areas of pain in such cases, three points will be generally found. A painful area immediately under the twelfth rib, by the outer border of the quadratus lumborum; another to the inner side of the anterior superior spine of the crest of the ilium; and, lastly, an area above and to the outer side of the pubis. We thus have pain suggesting kidney and ovary, and on the right side appendicitis.

Almost invariably an area of tenderness can be determined in the area supplied by that branch of the twelfth nerve which crosses the crest of the ilium. Tenderness in this area has been supposed to be associated with ovarian disease—an association, however, which is not very apparent when one considers the distribution of the nerves. It seems not improbable that many of these cases of ovarian neuralgia and appendix colic unrelieved by operation may really be due to neuralgia of this nerve.

The first case which came under my observation, now twelve years ago, was that of a man of 40, who had for fifteen years spent the greater part of his time as an invalid. He was a working man who in his occupation had frequently pressure on his left haunch. The pain at times was excruciating, with intervals of comparative comfort, but never such as to allow him to get into the full swing of work. He was on his way to the poor-house when sent to me for an opinion. There being no other apparent reason for his suffering apart from neuralgia, I for the first time exposed and destroyed the twelfth dorsal nerve, with relief so immediate and complete that within six weeks he was once more at work, and has continued well.

Another typical case is that of a girl aged 15, who complained of pain in the right side of five years' duration. Five years before admittance she was kicked in the right groin. Sickness and vomiting occurred, and she was confined to bed for a fortnight. There was pain on micturition, but no story of haematuria. At times she noticed a swelling in the right iliac region. Menstruation began at 12 years; at each period pain increased in severity, so much so that she had to stay in bed a day or so. On examination the abdomen was found to be normal, except over McBurney's point, which was tender to pressure.

January 28th.—Pain now confined to right lumbar region and right buttock. No pain in right iliac region.

February 7th.—Resection of twelfth dorsal nerve.

February 22nd.—Dismissed well.

It is unnecessary to multiply clinical cases similar to those described. I have records of 22 cases, all of which, with one exception, were cured by this operation on the twelfth nerve. The case where no relief was obtained had previously been operated on for kidney affection; the wound had suppurated, and in the cicatricial mass it was difficult to find the nerve, and no relief was obtained.

It seems probable that in some cases the ilio-hypogastric may be at fault, but this seems to me less frequent and less likely to occur than in the case of the twelfth nerve. The nerve can be easily exposed through a perpendicular incision by the outer border of the erector spinae.

THE SURGICAL TREATMENT OF INTESTINAL STASIS.

By HERBERT J. PATERSON, M.C., M.B.Cantab., F.R.C.S.,
Surgeon to the London Temperance Hospital.

THANKS to the brilliant advocacy of Sir Arbuthnot Lane, there is an increasing belief as to the necessity for surgical treatment in certain cases of marked intestinal stasis with symptoms of alimentary toxaemia.

In some cases stasis is due to obstruction by definite bands at the termination of the ileum, at the hepatic or splenic flexures of the colon, or in the neighbourhood of the colon. Whether these bands are of developmental or inflammatory origin is of academic interest. The practical point is that they do occur as definite pathological lesions, and are not, as some would have us believe, the figments of the mental kink of a disordered imagination. In other cases—and perhaps these are the more numerous—stasis appears to be due, as has been pointed out by Sir Arbuthnot Lane, to the control by the appendix of the effluent from the ileum into the caecum.

The symptoms produced by intestinal stasis fall into two groups—namely, those produced by obstruction, and those resulting from autointoxication (Lane). Frequently, in intestinal stasis, the prominent symptom is indigestion—that is, pain after food, flatulence, and sometimes vomiting. There are, I think, grounds for believing that these digestive troubles are due to interference with the secretion of the stomach by the action of absorbed toxins. My reason for this belief may be stated briefly as follows:

It is now recognized that in many cases of gastric trouble the *fons et origo mali* is in the appendix; the symptoms are referred to the stomach, but the lesion is in the appendix, a condition for which I have suggested the term "appendicular gastralgia." In many of these cases there is a complete absence of free HCl in the gastric contents. This absence of free HCl has been attributed to inflammatory changes in the gastric mucosa, as a consequence of delay and stagnation of food in the stomach. This explanation does not seem to be satisfactory. After removal of the appendix in these cases I have found in many instances that free HCl is present in the gastric contents although absent before operation. This observation seems to be fatal to the hypothesis that the absence of free HCl is due to inflammatory changes in the gastric mucosa. If the absence of free HCl were due to this cause, it is difficult to believe that after operation there could be an immediate restoration of the secretion of free HCl. This observation is a very striking one, and puzzled me for several years. I used to think that the absence of free HCl might be the result of spasmodic pyloric stenosis, secondary to the irritation of the diseased appendix, and that the removal of the appendix led to the cessation of the spasm of the pylorus, and consequent renewal of the secretion of free HCl. This view seemed to be disproved by the absence of pyloric spasm on *x*-ray examination, and by the observation which I have made a number of times that electrical stimulation of the appendix has no effect in producing pyloric contraction. The hypothesis that the diminution of free HCl in the gastric contents is due to the absorption of toxins from the alimentary canal explains in a reasonable manner the restoration of the secretion of free HCl by the gastric mucosa after removal of the appendix.

Vomiting may be a consequence of toxic gastritis, but when continuous and copious, may be due to a kink either at the junction of the stomach with the duodenum or at the duodeno-jejunal flexure, the kink being the result of the distension of the intestines. In the following case it is difficult to give any other satisfactory explanation of the copious and persistent vomiting which occurred. The patient was a young woman, aged 25, who was under the care of my colleague, Dr. Soltau Fenwick.

For six or seven years she had suffered from pain coming on immediately after food, accompanied by vomiting. Two years previously she was operated on for acute appendicitis, but the appendix was not removed. She gradually got worse, and had two attacks of haematemesis. The pain used to wake her up at night, and she was rarely free from it. With gastric lavage, rectal feeding, and rest in bed she improved for a time, but then began to get worse again, was readmitted, and at Dr. Fenwick's request I operated on her. No lesion was found in the stomach, but the caecum was enormously distended, and at one point bound down by adhesions. Ileo-colostomy was

performed. The patient remained well for three months, and then began to have copious and persistent vomiting accompanied by pain. She was readmitted and kept under observation for several weeks. Notwithstanding all treatment, the vomiting persisted to such an extent that it was difficult to understand how she continued to live and look as well as she did. At night the pain frequently kept her awake for hours. After further consultation with Dr. Fenwick I removed the whole of the colon and the terminal portion of the ileum. The patient made an excellent recovery, has been completely relieved of her symptoms, and feels better than she has done for years.

The simplest method of demonstrating intestinal stasis is to administer two teaspoonfuls of charcoal to the patient, and watch for the appearance of the charcoal in the stools. Non-appearance of the charcoal for seventy or a hundred hours is evidence of intestinal stasis. The site of the stasis and the presence of kinks can be demonstrated by *x*-ray examination, in the technique of which admirable work has been done by Dr. A. C. Jordan. I regard the charcoal test as a very valuable one, and I should hesitate to accept the evidence afforded by *x*-ray examination unless it were confirmed by the charcoal test.

Indications for Surgical Treatment.

When there is evidence of appendicular trouble, of definite kinks, or of obstruction by bands, clearly surgical treatment is indicated. Colicky pain and constant tenderness over the caecum and sigmoid are suggestive of mechanical obstruction. When the stasis is due to atony of the large bowel, or to a large mobile caecum, medical treatment must have had a prolonged and thorough trial and have failed before surgical treatment is considered. It is only in the really severe cases that surgical treatment is indicated. It is scarcely necessary to add that intestinal stasis *per se* does not call for surgical treatment unless it be accompanied by constant pain or by distinct signs of toxaemia.

Operative Treatment.

In a certain number of cases in which the appendix controls the effluent from the ileum into the caecum complete relief is afforded by appendicectomy. Whether this control is due to the appendix acting as a ligament and causing a kink (Lane), or, as seems to me more probable, to the diseased appendix causing spasm of the caecum and end of the ileum, is a question of secondary importance. The frequency with which in these cases faeces or definite concretions are found in the appendix seems to suggest that the hypothesis of spasm is the more probable. The contractile efforts of the appendix to empty itself into the caecum spread to the caecum and lower end of the ileum. Frequently I have seen the appendix contracting vigorously when touched during the operation of appendicectomy. That such a contraction occurs during life is suggested by the severe attacks of pain—the so-called appendicular colic—which may be caused by an appendix which has little wrong with it, except that it harbours a concretion.

My experience is that, after removing the appendix for appendicular gastralgia, about 85 per cent. of the patients gain complete relief. The remaining 15 per cent. continue to suffer from indigestion, due apparently to a chronic gastritis and absence of free HCl. Some years ago I discussed the question whether it is justifiable to perform gastro-jejunostomy in such cases in the absence of a definite lesion of the stomach. I expressed the view that it is not justifiable. Since then Sir Arbuthnot Lane has shed new light on these dark places, and now the indication seems to be that when, after appendicectomy in these cases, the symptoms persist and are of so severe a type as to necessitate further surgical treatment, it is a short circuit between the ileum and pelvic colon, and not between the stomach and jejunum, which is indicated.

In a few cases in which the ileum is bound down by a band of limited extent, it may be possible to divide the band so as to free the ileum completely. Care must be taken to cover over with peritoneum the raw surface left after division of the band. This method of treatment is of limited application. In some instances the results of this simple procedure are excellent, but in others the bands reform. If the membrane binding down the ileum be wide in extent, its division is a hazardous procedure, as it may be followed by paralytic intestinal distension, which may be alarming, and has, I believe, proved fatal in some instances. An ileo-colostomy is safer than extensive division of bands. Division of bands about the hepatic and splenic flexures is not followed by good results. Bands about the sigmoid, on the other hand, I have divided in a number of cases with excellent results.

Ileo-colostomy is a safe, and in the majority of cases a satisfactory, operation. The proximal end of the ileum may be anastomosed to the pelvic colon by an end-to-end or by a lateral anastomosis. Personally, I prefer the lateral method, because one of my patients upon whom I performed an end-to-side anastomosis, subsequently required a secondary lateral anastomosis owing to contraction of the original end-to-side union. It is asserted constantly that patients after ileo-colostomy suffer from troublesome diarrhoea. I can only say that I have never met with this complication. On the contrary, I find that as a rule such patients have to continue the use of liquid paraffin to ensure a regular action of the bowels. The only objection to ileo-colostomy is that sometimes the patients continue to have some discomfort or pain owing to reflux of faeces into the colon, or more probably to distension of the large bowel with gas. I have referred already to a case of this kind.

Just over 25 per cent. of my patients have suffered more or less from this sequel of ileo-colostomy. My experience may be exceptional, but if this trouble occur as frequently as this, it raises the question whether colectomy should be performed at the same time as the short circuit, to guard against the disappointment of an incomplete cure. A combined ileo-colostomy and complete colectomy is a big operation, and does not appear to me to be justifiable except in exceptional circumstances. For this reason I have adopted latterly a method of partial colectomy, which Dr. Mayo has informed me he has employed successfully in several of these cases. This method consists in dividing the ileum and anastomosing it to the transverse colon in an antiperistaltic direction, and then resecting the terminal portion of the ileum, the caecum, and the right half of the transverse colon. The advantage of this limited operation is that it may be performed in one stage with safety. The antiperistaltic anastomosis renders the closure of the gap between the large and small intestine considerably easier than when an isoperistaltic union is made. So far as my limited experience goes, the results of this operation have been very satisfactory, and if time confirms this view it would seem to be preferable to a simple ileo-colostomy.

The technique of the operation is as follows:

The abdomen is opened in the middle line. The ileum is crushed and ligatured two inches from its termination. A pair of forceps is placed on the ileum distal to the ligature, and then the intestine is divided by the cautery between the ligature and the forceps, the division being extended into the mesentery for half an inch. I prefer to leave the invagination of the proximal end of the ileum until after the anastomosis of the colon has been effected, as by doing so one is able to regulate the amount invaginated so as to leave no part of the blind end projecting beyond the limit of the anastomosis.

The proximal end of the ileum is now anastomosed to the transverse just to the left of the middle line, the anastomosis being antiperistaltic. The ligatured end of the ileum is now invaginated by means of a serous suture so as to leave the blind extremity almost flush with the end of the anastomotic opening. Two pairs of crushing forceps are placed on the transverse colon in the line of the pylorus, and the gut is divided between the forceps with the cautery. The distal end of the transverse colon is closed by a serous suture passed over the forceps, so that when the forceps are removed the simple act of pulling the two ends of the suture tight invaginates the mucous surfaces into the bowel. The right half of the transverse colon, the ascending colon, the caecum, and the terminal portion of the ileum are now removed after ligature of their blood vessels. The free edge of the ileal mesentery is sutured to the great omentum, so as to leave no aperture through which intestine may prolapse. The abdomen is closed without drainage.

I think that this modified operation deserves an extended trial in those cases of intestinal stasis in which surgical treatment is necessary. Examination of the large intestine after removal supports the view that the caecum is the "cesspool" of the alimentary tract. In one of my cases I found, on opening the caecum after the operation,

putrid faeces mixed with bismuth which had been taken thirteen days before the operation. My experience of this operation is at present limited to 6 cases. All the patients recovered, 5 of them have been relieved completely, and the remaining patient is much better, but the operation is too recent to regard it as a cure.

The following case illustrates the use of this operation, and I think you will agree with me that operation was not entered on "lightly, inadvisedly, or wantonly." I have not performed an ileo-colostomy or colectomy on any patient without having had them under observation for five or six months, and in the great majority I have tried first the effect of removal of the appendix or the division of bands.

The patient was a young woman aged 22 years, who some years ago came under the care of my colleague, Dr. Soltau Fenwick. She had suffered from indigestion for many years. Four years before admission she began to suffer from pain after food, lasting until she vomited. This pain came on in attacks, some of which lasted for several months, although in between the attacks she suffered from flatulence and a heavy feeling after food. During the attacks the pain used to wake her up at night. At times the pain was so severe that she was doubled up with it. She had been in hospital previously for two months and was treated by gastric lavage.

At the time of her admission, under Dr. Fenwick, vomiting was almost constant. She could keep nothing down except soda and milk, and even this gave her pain. Constipation was very marked. Drugs appeared to have no effect. If charcoal was administered it was still unpassed at the end of a week. She was treated by gastric lavage and fed per rectum. After four weeks' treatment she improved, but two weeks after her discharge she was readmitted on account of the vomiting, although the pain was better. As she was no better after four weeks' further treatment, Dr. Fenwick asked me to open the abdomen with a view to removing the appendix. At the operation the appendix was found to contain three oval concretions and the mucosa was ulcerated. No abnormality was found in the stomach or gall bladder, but the caecum was large and mobile. After the operation she was better for a few weeks, but after she left hospital, although the pain almost disappeared, she continued to suffer from vomiting and extreme constipation. She was treated at home for several months with gastric lavage and liquid paraffin, but the vomiting continued. Six months after her discharge she was admitted once more into the hospital. Again she was fed rectally, but she could keep no food in her stomach except peptonized milk. Any other kind of food produced vomiting immediately, and even when on peptonized milk she had vomiting occasionally. After three months' medical treatment she was no better, and as she was steadily losing weight we agreed that the only course left was to short-circuit the colon. Accordingly I performed partial colectomy in the manner described. The patient made a good recovery and has remained quite well. Now, for the first time for ten years, she can eat all kinds of food and she has had no more vomiting. She says that her friends regard her as "resurrected."

The lot of those who suffer from the effects of intestinal stasis is so unenviable that it is our bounden duty seriously to consider all forms of surgical treatment, so that we may come to a decision as to the best procedure to be adopted in order to restore to the victims of this disorder their bodily and mental vigour and so enable them to resume their usual vocations and to enjoy the pleasures of life.

A CASE OF RETROPERITONEAL FIBROMA, WEIGHING 31¾ POUNDS, SUCCESSFULLY REMOVED.

By CHARLES P. CHILDE, F.R.C.S.,
Senior Surgeon, Royal Portsmouth Hospital

THE following case (with specimen produced) appears to be of sufficient interest to bring before the Section. G. T., schoolmaster, aged 48, consulted me on March 28th, 1912.

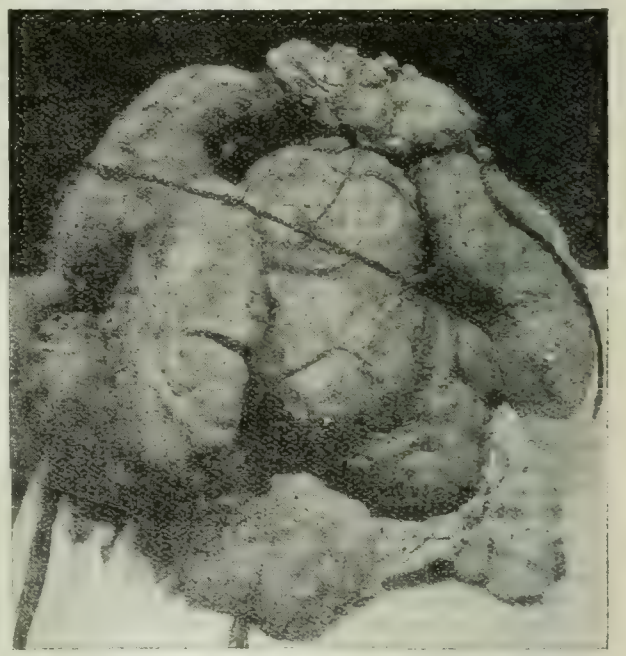
History.—Family history unimportant. No previous illness of any severity. Had suffered at times from constipation and "bilious attacks."

Present Illness.—Began about five years before with gradual enlargement of the abdomen. The swelling increased rapidly during the last year. During this time the constipation and "bilious attacks" from which he had previously suffered ceased. The only pain complained of was a sense of great discomfort owing to the size of the abdomen. No bladder trouble. Though he became considerably thinner during the last year, his weight increased from 11 st. 3 lb. to 12 st. 3 lb.

Condition Present.—The patient was very thin and rather sallow. An enormous tumour occupied the abdominal and pelvic cavities, completely filling them, and extended into both loins. Owing to its entire occupancy of the cavity it was impossible to move it at all, or to obtain any information as to its site of origin. On palpation it was firm and solid, with some bosses of stony hardness. (These turned out to be masses of ossification.) The measurement at the umbilicus was 41½ in., above the umbilicus 41¾ in., and below it 41 in. The heart, lungs, and kidneys were sound, and the tongue was clean.

Diagnosis.—On the first examination the fixity and stony hardness, combined with the rapidity of increase latterly, gave the impression of malignancy supervening on an innocent growth; but the total length of duration, combined with the fact that, though very thin, the man did not appear to be in an advanced stage of malignancy, pointed against it. His increase in weight was no doubt due to the growth of the tumour, for the rest of his body was very wasted. I induced him to allow me to make an exploratory incision.

Operation.—On March 31st, 1912, a median incision was made. The intestines were found packed away beneath the diaphragm, and the tumour was ascertained to be retroperitoneal. The posterior layer of peritoneum was divided and the most superficial lobule was shelled out. It was seen to contain some lobules of fat, and felt to contain some bone or calcareous matter. The incision was therefore prolonged from the ensiform cartilage to the pubes, and enucleation was proceeded with. Very large veins coursed over the surface of the tumour. Owing to the manner in which the tumour had insinuated itself everywhere—into the pelvis, far back into the loins, and



upwards beneath the diaphragm, making it almost impossible to insert a finger between the growth and its surroundings, the enucleation was exceedingly difficult. Besides while working in the dark at the back of the tumour, great gentleness had to be exercised to avoid tearing one of the large veins, iliacs or vena cava, which would have been an awkward accident. When the tumour was partly got out it took two assistants to hold it and shift it from side to side while the deeper lobules were extricated from their bed. The operation occupied three hours. The tumour was eventually found to grow from the capsule of the left kidney, which had to be stripped off with it. The abdominal organs, after removal of the tumour, appeared healthy, and the abdomen was closed. Very little shock followed the operation, and an uneventful recovery ensued. The post-operative temperature did not rise beyond the normal. He has remained quite well.

Clinical Research Report.—The tumour is a fibroma, with considerable myxomatous areas. There are areas of ossification in it, or, more probably, in its capsule, and some adipose tissue is present, which we conclude is perirenal in origin. No cartilage, muscle, or other type of tissue is present, and there is no evidence of malignancy.

Remarks.—The chief interest lies in the enormous size of the tumour. One would hardly conceive it possible that a tumour of this size and density could cram itself into the retroperitoneal space, and that, too, without causing any pressure symptoms. In fact, "bilious attacks" and constipation, formerly present, disappeared with the growth of the tumour. The intestines were very empty. I imagine they had to keep themselves so. There was no room for accumulations of faeces and gas. A fortuitous circumstance was that the tumour, from its extreme hardness and absolute fixity, was not considered inoperable without an exploratory laparotomy.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE ETIOLOGY OF BERI-BERI.

In the British Medical Journal of June 14th, 1913, there is a memorandum by Mr. E. G. Fenton, who directs attention to the possibility that factors other than the consumption of polished rice are concerned in the causation of beri-beri. In the Journal of July 5th, 1913, there are memoranda by Dr. Lindsay and Dr. Laidlaw on the same subject.

In the various publications which from time to time we have issued on the etiology of beri-beri, attention has repeatedly been drawn to the fact that the problem presented to us in 1906 was to determine the cause of this disease as it occurred in the Federated Malay States and Straits Settlements.

The observations and experiments which we carried out enabled us to state in 1909 that beri-beri, as it occurs in the countries with which we are concerned, is caused by the continuous consumption of polished rice as the staple of diet. Since that date further and complete confirmation of the accuracy of that statement has been obtained, and it is now beyond dispute that the etiology of beri-beri in the Federated Malay States and Straits Settlements has been demonstrated. From reports received we believe that in Siam and the Philippine Islands this disease is of similar origin.

We are not acquainted with any systematic observations and experiments having been carried out in either Southern Nigeria or Brazil which would permit of a conclusive statement being made on this subject so far as these countries are concerned. We sympathize with our colleagues in their doubts, but we disclaim all responsibility for the wide sweeping statements and generalizations which have been made by writers who have had no experience of the disease.

Facts have been determined by us, and if we were in a position to apply the knowledge gained beri-beri would cease to exist in this country, but those who are familiar with the difficulties of applying scientific results in actual practice will appreciate the position.

While fully recognizing the very valuable work which has been done by those investigators who have sought to isolate the important substance or substances contained in the subpericarpal layers (not, as stated by Mr. Fenton, in the pericarp, which is valueless) we cannot but regret the tendency of most recent writers to exalt the importance of *polyneuritis gallinarum*, and to ignore the human disease. The fact that polished rice, when forming the staple of diet in man, produces beri-beri, rests on quite other evidence than that produced by experiments on domestic fowls.

To those who would seek to advance our knowledge of the causation of beri-beri in other countries, we would suggest the necessity of determining that the disease known to them as beri-beri is the same as the disease which is known by that name here. After all, beri-beri is only a form of polyneuritis.

A survey of the voluminous literature which concerns itself with this disease will show not only that forms of polyneuritis of different origin have been called beri-beri, but that even diseases of which polyneuritis may not be a prominent feature—such as "epidemic dropsy," "Ceylon beri-beri," and the like—have been included under this name. It is not to be expected, therefore, that any single etiological factor will satisfactorily explain all the recorded outbreaks of so-called beri-beri.

Institute for Medical Research, Kuala Lumpur, Federated Malay States.

H. Fraser,
A. T. Stanton.

I happened to be medical officer in 1901–2 (attached R.A.M.C.) to the prisoners of war camp and hospital at Deadwood, in the island of St. Helena. There was an outbreak of beri-beri, which affected about 60 per cent. of the Boer prisoners. Etiologically we were puzzled to account for it, the rice and fish theories had to be discarded, as the Boer at home does not live on these articles of diet to any extent, nor did they figure in his dietary at Deadwood. They were free from the disease on arrival. Eventually we discovered that the land on which the prisoners' tents were pitched had formerly been a camping-ground for Indian coolies and negroes, employed at road-making and house-building by the British East India Company. These coolies possibly brought the disease with them from India. This would be some time in the Twenties, as the company was broken up and their fleet of ships sold in 1832. It was a far cry from 1902, but it suggested one way of accounting for the visitation, namely, that the infection had come from the ground, the micro-organism being dormant there all those years. The ground was not at all of a marshy character.

A story told me by an old resident on the island—a farmer with whom I was on friendly terms—has, I think, a significant bearing on the soil emanation infection theory. This gentleman, Mr. K., when a lad of ten rode out with his father one morning, and, when a mile or so from home, suddenly came on about a score of men's heads "sticking out of the ground." There was a man walking to and fro amongst the heads, applying a big bottle to the lips of each in turn. The uncanny picture so terrified young K. that he did not wait even for his pony, but turning his back, and at the same time a deaf ear to his father's reassuring shouts, ran crying all the way home to his mother. He learnt later that those heads belonged to beri-beri patients, the initial step in whose treatment consisted in their being interred in Mother Earth, their heads only showing above the surface. As Mr. K. quaintly remarked: "They buried them all for a start, and the fellows who did not die were dug out again and sent back to work."

When this old ground was condemned and the camp moved to a fresh field, there soon appeared a marked improvement in the general health, practically all recovering. It was notable also that there was no case of beri-beri amongst the troops, some of whom were quartered not far from the original prisoners of war camp.

Singapore. James P. Casey, L.R.C.S., L.R.C.P.

CAESAREAN SECTION FOR ACCIDENTAL HAEMORRHAGE.

About 2 a.m. on June 29th I was called to see Mrs. R. L., aged 34, who was expecting her first baby at the end of August. Her husband, who came for me, said she was sick, losing blood, and as white as a sheet. I found her very pale and complaining of considerable pain. The pain had commenced in the left groin nearly two hours before I saw her. Half an hour after its commencement she began to lose blood. The haemorrhage soon became profuse, and her discomfort was increased by vomiting. The pain became worse in the left groin, spread to the right side and then all over the abdomen. I saw at once that the haemorrhage was alarming, but there was no dilatation of the os uteri. I gave her a hypodermic injection of morphine and atropine, and remained with her for three hours. I then left her and returned after an interval of three or four hours. On my second visit I found the pain had been more severe, and she was still losing a considerable quantity of blood.

I had her removed immediately to a nursing home, and about thirteen hours after the onset of symptoms opened the abdomen. I found quite two pints of blood in the peritoneal cavity. The uterus looked like a thick-walled ovarian cyst with twisted pedicle. I incised the uterus and removed a well-developed seven months male child, dead. The placenta was almost central in position in the fundus, but rather to the left, and had been detached to the extent of 2 square inches. At one part the uterine wall was almost as thin as ordinary writing paper, but I discovered no rent and wasted no time in searching for one. The surgeon assisting me suggested that I should remove the uterus, but I did not act upon his suggestion. My patient, who was profoundly anaemic before the operation and had a pulse of 128, made an excellent recovery, and left the home just within the month. A week later she menstruated.

I decided upon Caesarean section in this case because at the end of nearly twelve hours there was almost no sign of any dilatation of the os, and dilatation by any of the methods usually adopted for inducing labour would have been tedious. Further, she had already lost so much

blood that speed was necessary to save her life. As things turned out, even speedy delivery by the vagina would not have saved her. I diagnosed the condition as one of placenta praevia. I was wrong, but I am convinced that Caesarean section would be the most speedy and successful method of dealing with a case of placenta praevia where the cervix is rigid and the haemorrhage severe.

JOHN IRVING, M.B.,
Consulting Surgeon, Huddersfield Royal Infirmary.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

LONDON HOSPITAL.

PUERPERAL SEPTICAEMIA DUE TO BACILLUS COLI.

[Reported by W. P. BONNER, M.R.C.S., L.R.C.P.]

ON May 21st, 1913, a multipara was admitted into the London Hospital under the care of Dr. Russell Andrews. Five days previously she had miscarried at the second month of pregnancy. There was no medical attendance until two days later, when a doctor was called in because the patient complained of bearing-down pain in the lower abdomen. The doctor kindly wrote to me saying that "On examination I found the placenta presenting, but so adherent that I could only remove a small part of it with the finger. The temperature and pulse were normal." "On the following day the condition was the same."

On admission the patient was a little pale, otherwise her general condition was good. Temperature 100°, pulse 80. Lochia very scanty in amount. There was no laceration of the vagina or cervix uteri. The uterus was about the size of a large fist, fairly firmly contracted and freely movable. Cultures were taken from the interior of the uterus by a method similar to that used by Menge and Krönig, and grew colonies of *Bacillus coli* and a few Gram-positive cocci in groups. The blood gave pure cultures of *Bacillus coli*.

The treatment of this case was: On the night of admission a general anaesthetic was administered, the interior of the uterus explored, and an offensively smelling piece of placenta removed from the posterior wall. A hot intrauterine douche (of ʒj of tincture of iodine to 1 pint of water at 118° F.) was given, and finally the interior of the uterus carefully swabbed over with 2 per cent. solution of iodine in rectified spirit. The patient was given a subcutaneous injection of ergot and put back to bed in Fowler's position, the head of the bed being raised 2 ft. On the following day four-hourly vaginal douches of diluted sanitas heated to 112° F. were commenced. The patient has made a rapid and complete recovery.

The chief facts remarkable about this case are:

First, the rarity of this condition, "*Bacillus coli* septicaemia," as compared with that of streptococcal infection. Amongst the cases of puerperal septicaemia admitted into the London Hospital during the last eighteen months there have been at least 34 cases with positive blood cultures:

28	cultures	of	Streptococcus pure.
1	,,	,,	*Staphylococcus aureus*.
1	,,	,,	Anaërobic cocci.
1	,,	,,	Gram and diplococci.
1	,,	,,	Pneumococci.
2	,,	,,	*Bacillus coli*.

Secondly, the mildness of the symptoms as compared with the majority of streptococcal cases. In this case there was no history of any rigors, and on the day after the uterus was cleared out the temperature and pulse became normal, and have remained so ever since. At the end of the third week the blood cultures remained sterile, and the patient was so well in health that she left her bed, and a few days later went away to a convalescent home.

I am indebted to Dr. Russell Andrews for permission to publish this case, and to Dr. G. T. Western for the bacteriological investigations.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

AT a meeting on October 13th Sir DAVID FERRIER gave a presidential address on the *Cerebro-spinal fluid in health and disease*. There existed, he pointed out, a system of canals continuous on the one hand with the pericellular or perineuronal spaces, and on the other hand with the subarachnoid space. These played an important part in the nutrition of the brain cells, probably forming the medium of interchange between them and the blood in the capillaries, giving up water and carbon dioxide and taking up oxygen and sugar. Of greater importance from the point of view of pathology was the fact that the subarachnoid space was continuous with the sheaths of investment of the cranial and spinal nerves, and through these entered into communication with the peripheral lymphatics, thus furnishing a means of entry for organisms and toxins into the central nervous system. The cerebro-spinal fluid was being continually secreted, and was continually escaping. It did not exceed in amount a few ounces at most. If allowed to escape it was secreted more copiously. Normally, the cerebro-spinal fluid escaped both by the lymphatics and by the veins; but the chief exit, as had been shown by the experiments of Leonard Hill, was the venous sinuses of the dura mater. It was held by Key and Retzius that the escape took place by way of the Pacchionian bodies, which are merely polypoid proliferations of the subarachnoid tissue which insert themselves into the venous sinuses of the dura mater and diploë. Cushing, however, was of opinion that a more direct communication existed between the subarachnoid space and the longitudinal sinus. Most physiologists were agreed that the cerebro-spinal fluid was secreted by the choroid plexuses, but though it was obviously a secretion, the cells of the choroid plexus offered remarkable resistance to the passage into the fluid of most substances that might be introduced into the circulation; urotropin, chloroform, and alcohol were among the chief exceptions. On the other hand, drugs and toxins were absorbed *from* the cerebro-spinal, and produced their characteristic effects with as great if not greater rapidity than when introduced directly into the circulation. The speaker then considered in detail the composition of the cerebro-spinal fluid, mentioning that it contained the active principles of the secretion of the pituitary gland, which it would thus bring into immediate contact with the spinal tissues. He spoke of the mechanical effects subserved by the cerebro-spinal fluid, showing that it acts as a distributor or equalizer of pressure throughout the whole cranial cavity. Whether it also acts as a sort of water cushion to protect the brain against shocks was more than doubtful. The same conditions which led to the uniform transmission of the normal increase of arterial tension explained the effects of sudden or gradually increased pressure on the brain, such as that caused by a severe blow on the skull, by the rapid injection of a non-absorbable substance, by bullets of high velocity traversing the brain, and by the growth of intracranial tumours. In the last case pressure propagated into the intravaginal sheath of the optic nerve was the cause of papilloedema or so-called optic neuritis. Another indirect result of increased tension of the cerebro-spinal fluid was the degeneration of the posterior columns of the spinal cord, which occurred in cerebral tumour. In the diagnosis of parasyphilitic affections great reliance had been placed on what was termed in Germany the four reactions: (1) The Wassermann reaction in the blood; (2) an excess of globulin in the cerebro-spinal fluid; (3) lymphocytosis of the fluid; and (4) Wassermann reaction of the fluid. He said it would appear from the most recent work that all four reactions might be found in tabes, general paralysis, and cerebro-spinal syphilis, and that one could not, as had hitherto been supposed, accurately differentiate syphilitic from parasyphilitic nervous affections by this method. The great test was the therapeutic one, for in parasyphilitic affections mercurial or salvarsan treatment did not influence the Wassermann reaction. The recent discovery of the *Spirochaeta pallida* in the substance of the brain and cord in undoubted cases of general paralysis and tabes seemed to have obliterated the last distinction

between syphilis and parasyphilis. The probable explanation of the failure of antisyphilitic treatment to arrest the disease was that remedies conveyed by the blood stream failed to reach the spirochaetes embedded in the nerve tissue. Hence it appeared rational to introduce into the cerebro-spinal fluid, if it could be done with safety, some of the agents which are known to be fatal with the spirochaetes. Salvarsan could not be so injected, but Swift and Ellis had introduced the serum of one who had first received an intravenous injection of salvarsan, diluted with normal saline, into the spinal subarachnoid space at intervals of from two to three weeks. In some cases the results had been very satisfactory. Dr. E. Farquhar Buzzard, in a paper on *Facial spasm*, said that pathologically they might be divided into three main classes: (1) Psychogenic, (2) cortical, and (3) peripheral. Other cases occurred which did not fall into these groups. In the psychogenic class he included the tics and hysterical spasms, and also movements persisting after chorea. Under peripheral spasm he included all cases in which the seventh cranial nerve or its nucleus was the site of a lesion, and closely associated with this group was the pure reflex spasm best seen in trigeminal neuralgia. For the condition which had been variously called "true facial spasm" and "tic convulsif," but for which he preferred the name "chronic fascio-spasm," alcoholic injections into the nerve were useful. Although the only treatment calculated to relieve the disorder, except division by the knife, it was not to be urged upon any patient.

ROYAL SOCIETY OF MEDICINE.

Surgical Section.

At a meeting on October 14th, Mr. Makins, President, in the chair, Mr. C. A. Pannett read a paper on selection of the *Incision in coeliotomy*. The ideal should be to restore the abdominal wall to its original condition. As a rule this was not attained owing to damage to the nerves or stretching of the muscles and aponeuroses. He had found that after abdominal operations certain portions of the abdominal wall were paralysed: the portions of muscle paralysed in incisions for the gall bladder, testicle, appendix, and kidney, for instance, was represented by the vertical slip to the inner side of the incision. The nerves should be avoided by making incisions parallel to them. It was impossible for them to be displaced, as they passed through the posterior wall of the rectus. Correct diagnosis was essential, as then the organ was rendered easily accessible through quite a small incision made over it. He preferred a paramedian incision to an incision through the umbilicus: Mayo Robson's gall-bladder incision caused considerable injury. For appendicectomy he preferred a right rectus incision. Mr. Dauber thought that Mr. Pannett had been unfortunate in his cases. The speaker had seen only a very small percentage of hernias after a median umbilical incision. He preferred a transverse incision half an inch below the margin of the pubic hair for pelvic operations. Mistakes were often made by using too small an incision. Mr. Frank Kidd, in a paper on *Pyeloradiography*, said that it was important for the diagnosis of the size and shape of the ureter and renal pelvis. He used a 5 per cent. solution of collargol in thin people, and a 7 per cent. in fat: from 4 to 10 c.cm. were passed up the ureter by gravity. This required a pressure of 30 mm. Hg. No anaesthetic was given, and only one skiagram should be taken, with a quick exposure of 15 sec. Renal colic had been recorded in cases in which the collargol had been left too long, or had been used too strong. The medulla was always infiltrated, but not the cortex, unless the collargol had been used too long or under too high a pressure. The whole process must take less than a minute if the cortex was to escape infiltration. Some sections cut by Dr. Turnbull showed that it spread up the collecting tubules, but later might get into the lymphatics. The solution usually produced no harm, but occasionally was followed by slight temporary changes. Malformations of the kidney could be easily diagnosed, and these abnormalities were much commoner than was to be expected. There now need no longer be the fear of removing a solitary kidney. Early dilatation of the pelvis, the differential diagnosis of renal from other tumours, the exact position of a stone, and the condition of the kidney before operation, the differential diagnosis of pyelitis, pyonephrosis, and perinephric abscess were amongst the conditions that now could be diagnosed with certainty. Discussion on the paper was postponed.

Section of Obstetrics and Gynaecology.

At a meeting on October 9th, Dr. W. S. A. Griffith (President) in the chair, Miss Ivens (Liverpool) read a paper on *Adneral tuberculosis*, based on 23 cases which had come under her observation. In all but one the disease was apparently primary. A history of obscure peritonitis in girlhood, followed by primary amenorrhoea, was given in 4 cases, and partial or complete amenorrhoea was very common. Pelvic pain, bearing no special relationship to menstruation, was generally present, and was associated with leucorrhoea. The majority of the patients were in the early twenties, and 14 were married, but only 2 of the patients had borne children, each of them having had one child only many years previously. In only 2 of the cases was the disease unilateral, and in every case a varying degree of thickness of the tubes could be felt. Laparotomy was performed in 22 of the cases, the ovaries being conserved in all but 6. Drainage was avoided, except in the presence of a secondary infection, and primary union usually followed. Two of the patients died after operation; 1 unilateral case required a second operation for the removal of the remaining tube; 3 made a good recovery from operation, but were then lost sight of; and 16 were traced and found to be doing well. The speaker advocated operative treatment of adnexal tuberculosis in all cases in which a second active focus did not exist, and considered that the operation not only had a beneficial effect on the patient's general health, but at the same time obviated the risks of dissemination or local complications. In reply to questions, she stated that her cases included both active and chronic types, and that tuberculous endometritis had been found once. Systematic curettage had not been practised, since leucorrhoea tended to disappear after the removal of the diseased tubes.

Section of Otology.

At a meeting on October 17th, Mr. Richard Lake in the chair, the following were among the exhibits:—Mr. W. M. Mollison: A man, aged 43, who three months previously, while at sea, had received a severe blow on the left side of the head. On recovery he showed loss of sight in the left eye and deafness on the left side. On admission to hospital the third, fourth, fifth, sixth, and seventh cranial nerves on the left side appeared to have lost their function. The upper tone limit of the sound ear was 20,000 vibrations, that of the left 12,000. *Rotation tests* (ten turns) showed fifty seconds nystagmus on the right side, ten seconds on the left. Three weeks previously an operation was performed on the left ear to restore the meatus, and definitely improved hearing ensued, the upper tone limit now being increased to 18,000. Syringing with cold water on the right gave good reaction in about forty seconds and in the left in fifteen seconds. The damaged eye showed the rotatory movements very effectively. It would be necessary to remove the damaged eye. Mr. Sydney Scott: A case of sero-purulent *Lepto-meningitis*, which made a rapid recovery after a translabyrinthine operation. The diagnosis was made on the presence of 3,500 polymorphonuclear leucocytes per centimetre in the cerebro-spinal fluid, which was withdrawn by lumbar puncture. The meningitis arose in connexion with labyrinth disease, secondary to chronic suppurative otitis media. Mr. O'Malley raised the question of what phenomena should be held to justify vestibulotomy, and what were the risks attending that procedure. He himself was guided by the teaching of Bárány and Neumann. The former did not open the labyrinth in cases of circumscribed labyrinthitis with moderate hearing, unless vertigo and vomiting were severe. Neumann, if the hearing were good, even when tests showed no response from the vestibular apparatus, regarded such cases as inflammatory, and preferred to watch them. In the case shown the hearing was relatively good, and the patient was not very ill. The

great risk of vestibulotomy was meningitis, and the question of skin-grafting in such a case merited careful consideration. In such a case he would not have grafted, as the more efficient the skin-graft the more completely would it lock up any sepsis. Mr. C. E. WEST said he had discontinued skin-grafting in cases where he could not find a fistula at the time of the operation, owing to two unfortunate experiences. Dr. DAN MCKENZIE agreed with Mr. O'Malley's remarks, and said that unless the labyrinth were obviously destroyed as a whole, he contented himself with the radical mastoid operation. Many cases had been shown in which fistulae had healed and the labyrinthine irritation had passed off after the simple radical mastoid operation. Mr. SCOTT replied that he did not show the case because of the skin-grafting, but to illustrate the method of early diagnosis. Mr. HUNTER TOD showed a case of *Trichophyton granuloma* affecting the auricle and other parts of the body. The application of *x* rays caused disappearance of the growth in six months.

SECTION OF PATHOLOGY.

AT a meeting on October 21st, Dr. F. W. ANDREWES, in a presidential address on the nature and degree of *Specific differences amongst bacteria*, pointed out that in the early days every observer baptised new species with an air of certainty. Then followed a period of study of the biological properties and their etiological association with disease, leading to a greater apparent certainty in discriminating between allied forms. More recently it had been found that even biological properties were readily variable; both their disease producing and fermenting properties, and still more recently agglutination methods, had brought about a minute differentiation between otherwise similar forms of bacteria. He was compelled to admit that in spite of constantly increasing refinements in methods of study, and partly in consequence of such refinements, the term "species" was an extremely elusive one to define. The criteria on which naturalists based a definition of species could not be applied by the bacteriologist, as sexual reproduction and extra conjugation were unknown amongst bacteria. The high degree of variability—this being specially marked in regard to physiological properties such as pathogenic power—was explicable by the absence of sexual reproduction; the inordinate rapidity of multiplication allowed the effects of environment to become apparent in a very short space of time. The mechanism by which animal passage revived the power of virulence was one of natural selection, and an excellent example of the principle of "survival of the fittest" in a community in which extreme rapidity of reproduction gave natural selection an opportunity elsewhere unparalleled. Bacteriological science was now wholly freed from the doctrine of immutability of species, though the term conveniently expressed the notions of workers as to the relations of a fixed group of individuals. Pathogenicity or metabolic capacity had to be taken with caution as evidence of specific value, whilst morphological distinctions, being slight or absent between closely related bacteria, were almost valueless in differentiating species, though of fundamental value in defining the larger systematic groups. Such characteristics as pathogenicity, fermentation, or serological tests were not employed as generic criteria, and, indeed, these were of later origin than generic distinction. But although bacteria were so variable, the variations did not transgress the generic groups—for example, cocci could never change to sarcinae. Furthermore, small genera containing one or two forms, such as anthrax or glanders bacilli, showed more constancy than large genera—for example, the *coli*-typhoid group. The speaker proceeded to discuss the existence and permanence of specific distinctions within the limits of a genus. Regarding such large genera as the *coli*-typhoid group and the streptococci, which were excessively abundant in nature, rich in number of forms, and presented the highest degree of variability, the greatest disputes had arisen. The multiplicity of forms in the "dominant genera" he held to be due to the readiness with which physiological characters were gained or lost under direct influence of environment, such modification being handed on by direct binary fission without the check imposed by sexual propagation. The statistical method alone was of use in the study of closely related forms, so that when any arbitrary group of characteristics were taken as a standard, certain predominant groups stood out as giving the same set of characters, and these were connected by smaller intermediary groups. He instanced the streptococci as a typical example of a "dominant genus," though he looked upon this genus as a melting-pot from which variable species were still emerging, whilst the typhoid group had advanced much further, so that not only had fairly definite species emerged, but the genus itself had become broken up into rather ill-defined subgenera—for example, dysentery, typhoid, Friedländer, etc. He proceeded to discuss chemical evolution, and the possibility of explaining differences between genera and specific tests on the basis of minute differences between the configuration of the molecules of protoplasm. But he held that this did not give any guide to the classification of species, and he confessed ignorance of what criteria would help to distinguish between species of bacteria, for no standard existed by which it was possible to determine specific limits, such as were applicable to more highly organized creatures. The speaker concluded with the suggestion that the labile nature of bacteria rendered them a promising field of study for the evolutionist, in which he might experiment at will with species in the making, instead of drawing his inferences from types already fixed.

DERMATOLOGICAL SECTION.

AT a meeting on October 16th, Dr. J. J. PRINGLE, President, in the chair, the following were among the exhibits:—Dr. S. E. DORE: A case of *Granuloma annulare* of the hands in a man for many years resident in Ceylon, who also presented the condition known as "tropical skin." Two members stated they had observed good results from the treatment of the former condition by *x* rays. Dr. GRAHAM LITTLE: (1) A case of Raynaud's disease in a middle-aged woman with marked nail changes of the hands and feet. It was suggested by members that the latter was possibly due to a ringworm invasion. (2) A case of unusually acute *Acne variioliformis* of the scalp and face. The PRESIDENT remarked on the rarity and difficulty of diagnosis in such acute cases in the early stages; successful results by vaccine treatment had been reported from America, but his own experience did not confirm that. (3) A case of *Chronic hypertrophy of both lips*, probably secondary to pyorrhoea alveolaris. Dr. J. H. SEQUEIRA: (1) An example of mixed leprosy. Dr. WHITFIELD referred to the use of salvarsan and tuberculin for diagnostic purposes in such cases, and Dr. PERNET related a case in which tuberculin had provoked an eruption of leprous nodules. In reply, Dr. SEQUEIRA stated that in his experience the Wassermann reaction was not constant in leprosy. (2) A typical case of so-called *Multiple idiopathic pigmented sarcoma* in an early stage, in a Russian Jew. The PRESIDENT said that in one of two cases of this disease under his care, spontaneous involution had occurred; pathologically the disease presented affinities with granuloma fungoides. Dr. MACLEOD reported having found lymphomatous nodules in sections from one case. In reply to a question, Dr. SEQUEIRA stated that in 2 out of the 5 cases seen by him there were evidences of gout. Dr. PERNET exhibited (1) a case of diffuse vascular naevus in a boy; (2) a case of permanent alopecia with dystrophy of the nails following *x*-ray treatment for tinea tonsurans. Dr. W. K. SIBLEY: A very extensive *Mixed naevus* implicating the buccal and nasal mucous membranes. Dr. J. M. H. MACLEOD: A case of *Vesicating urticaria* of face, arms, and hands of a girl, aged 12, to elicit opinions as to diagnosis and nomenclature. The PRESIDENT said he had experienced the same difficulty as the exhibitor in classifying these cases, and agreed with Dr. MacLeod that the best method of treatment was by intestinal antisepsis. Dr. HALDIN DAVIS: A case of *Mycosis fungoides* in a woman exhibited some months previously. It had undergone marked improvement in many respects under arsenical treatment, no local remedy except soft paraffin having been used. Dr. J. L. BUNCH: A child with *Keratosis spinulosus* of the scalp. Dr. S. E. DORE (for Dr. Winkelried Williams): A case of *Linear atrophy* of the arms and legs.

UNITED SERVICES MEDICAL SOCIETY.

At a meeting on October 9th Colonel Bruce Skinner, in a presidential address, pointed out that the society afforded an opportunity to all medical men to discuss methods of bringing their technical knowledge to the aid of the sailor and the soldier under war conditions. Many medical men had had no opportunity of seeing war, or even its peaceful presentiment at manœuvres, and to these the discussions held by the society were especially valuable. Those who had had a little experience in these directions heard discussed the difficulties of applying principles to varied situations, and learnt thereby the value of the initiative which enabled a man to adapt himself and his appliances to varying exigencies. A perusal of the past proceedings of the society showed how well the papers read illustrated the varying conditions of war and the different circumstances with which all medical men engaged in war operations might have to deal. They offered solutions of problems which could not fail to have their value when prompt action was demanded, and contained suggestions which might lead to advances in organization. They showed, too, that the discussions were useful to men who had lived in their shells and had not polished their wits by conference and discussion with their fellows. Much of the success of the society was due to officers of the Territorial Force, who made their colleagues familiar with problems with which they themselves had been faced. The speaker hoped that they would continue to widen the knowledge of army medical officers in general, since their papers were of immense value, by showing how closely were connected all spheres of the work of providing for the medical needs of armies. He also hoped that medical men from the Colonies would make use of the society when on visits to Great Britain, and furnish it with matter which would assist in co-ordinating its work, so that it might assume an imperial scope. The speaker then drew attention to various technical problems which at the present time demanded discussion from the point of view of the Army Medical Service, but added that the work of the society was by no means confined to such subjects. The discussion of any question relating to diseases specially affecting the services, and of any problems relating to the health and maintenance of its members, was of much value. Those who had any ideas upon these subjects should not hesitate to bring them forward on the ground that they were only juniors in rank. The society was not official, and the words of thinking men of all ages were worth due consideration. Colonel Wilson, C.M.G., then read a paper dealing with some of the *Problems of mobilization specially affecting the Royal Army Medical Corps*. One of the chief of them was the fact that whereas in other units there existed in peace something which could be used as a nucleus on mobilization, the medical units were formed only on mobilization, and the whole existing peace organization so far as the subordinate personnel was concerned would have practically to be destroyed in order to form the new units required for the uses of war. It was hardly sufficiently realized what an absolutely clean sweep there would be of all effectives from the hospitals when mobilization was ordered. In 1899 the military hospitals had been only gradually stripped of their non commissioned officers and men, but next time the denudation would be complete and immediate. Another difficulty was the diverse nature of the duties of the active service units: this necessitated complicated training and a great need for specialization. In a general hospital 40 per cent. of the total subordinate personnel required to be specially trained men. The peace establishment serving at home was 3,065 men, and 8,781 non-commissioned officers and men would be required on mobilization. As the balance would have to be made up from reservists who were in most cases privates, there would be an immense and immediate demand for non-commissioned officers. Among the remedies suggested were that all men possible should be trained continuously and incessantly in some special line of work, and that every intelligent and well-conducted man should be encouraged to qualify for employment as a non commissioned officer. Though a Territorial non-commissioned officer in Category B had to revert to the rank of private on mobilization, the shortage of such officers would lead to their immediate repromotion.

Reviews.

THE CHILDREN OF TUBERCULOUS PARENTS.

Dr. Wilhelm Weinberg's work on the children of the tuberculous[1] is based upon a statistical analysis of some 18,052 children the offspring of those persons whose deaths were attributed to tuberculous disease and occurred in Stuttgart between 1875 and 1902. The sources of the material were the official death certificates, and the amount of labour involved both in the arrangement and analysis of so many particulars must have been great. In the first part of the book the analytical methods employed are explained. On p. 33 an approximate method for deducing the coefficient of correlation is described, but neither the formula there given nor that printed on p. 128 is correct. If the value of k given on p. 33 be expressed in the usual notation and multiplied by 4 we have a well-known approximation, given by Pearson in a memoir cited by Weinberg, and this is apparently the formula he has actually employed to obtain the coefficients tabulated on p. 128. The misprint is an unfortunate one, but the worked example on p. 35 should enable the reader to make the necessary correction since the factor 4 appears there in its proper place. The author's remarks on the method of contingency are somewhat perfunctory, but for the purpose he had in view it was unnecessary to discuss the subject at length.

In the remaining sections the results of a statistical analysis are described in detail: numerous illustrative tables are provided, and many interesting conclusions emerge. If a comparison be made between the net fertility actually observed in the case of tuberculous persons and that calculated on the basis of the fertility of non-tuberculous parents, attention being paid to age distribution, it appears that the net fertility of the males is subnormal (in the ratio of 1.77 to 1.90), that of the females higher than the calculated value (in the ratio of 1.78 to 1.67). By "net fertility" the author understands the proportional number of children which have survived the twentieth year of life. A study of the influence of order of birth upon rate of tuberculosis mortality points to the later born children dying at a somewhat higher rate. The author considers that this result stands in direct opposition to the view of Pearson that the first and second born offspring are more subject to tuberculosis than other members of the family. As Weinberg is dealing with mortality, while Pearson was concerned with incidence, the two problems are not identical, but we assent to the former's conclusion that the alleged greater liability of the early born children needs confirmation.

The author provides a valuable discussion of the general and specific mortality of the children. They exhibit an enhanced mortality not only from tuberculosis but from all causes, and the important point is made that the degree to which the actual mortality exceeds the calculated varies with the interval between the deaths of parent and child. Thus, if we put the expected mortality of the children as 100, the actual figures are 267 and 333 in the cases of deaths less than five years before or five years after those of the tuberculous parents, but only 121 and 227 for deaths occurring more than five years before or after those of the parents. The obvious inference that this is due to the enhanced opportunities for infection consequent on the illness of a parent cannot, however, completely account for the facts, since a similar although less marked excess is found in the case of deaths from diseases other than tuberculosis. The values are 133 and 156 for deaths within five years, and 114 and 82 for deaths more than five years from that of the parent. The author's discussion of this very important matter deserves careful study.

The limitations imposed by the nature of the material upon the scope of the inquiry render the conclusions based upon it provisional, but this fact in no way derogates from the importance of the work. Some of the author's inferences are not likely to pass unchallenged. Thus, Dr. Weinberg writes (p. 157):

> In considering the tuberculosis problem from the standpoint of race hygiene, it is some consolation that the fertility of the tuberculous is not at all excessive, that, on the contrary, it

[1] *Die Kinder der Tuberkulosen.* Von Dr. med. Wilhelm Weinberg. Leipzig: S. Hirzel. 1913. (Roy. 8vo, pp. 160. Mk. 5.)

seems to lag behind that of the non-tuberculous. But in this connexion a continuance of the inquiry down to the most recent time and its completion by a study of synchronous births are necessary.

We did not know that even the zealots of eugenics had asserted that the fertility of the actively tuberculous was higher than the normal. The suggestion usually made is that the members of fertile stocks are more liable to tuberculosis than the offspring of less fertile stocks, and that the former stocks also exhibit a higher incidence of other pathological states—such as insanity—in which the factor of infection does not come into play. As a matter of fact, Dr. Weinberg's own investigation (pp. 98-9) shows an increase in the rate of mortality with size of family, and, although the explanation may be, as he holds, mainly increased opportunities for infection, this may not be, as he himself hints, the whole truth. This, however, is a subject upon which those best able to judge are by no means agreed, and we have no hesitation in commending Dr. Weinberg's book to the attention of all students of tuberculosis. We should add that, although many of the analytical methods used are highly technical, the account can be followed easily by any intelligent reader, even although he may have no preliminary training in statistics.

UTERINE CONTRACTIONS IN RELATION TO RUPTURE.

DR. WERBOFF'S[2] monograph on the normal work of the uterus and its rupture during labour consists of three parts, the first of which, that on spontaneous rupture, probably initiated the train of thought which led him on to the others in which he revises his mental picture of uterine action, and devises a special bandage for relief or supplement of the contractions of voluntary muscles by which, after a certain stage, the work of the uterine muscle is reinforced. Beginning with the cases of rupture observed in St. Petersburg, which are recited in detail, he shows that they never allowed of recognition as cases of impending rupture, and that when rupture was already present the classical symptoms as described by Bandl developed. Going on from this to a consideration of the 13 cases recited in Bandl's monograph, he shows that in 10 the rupture had certainly occurred before admission. The 3 which were observed did not present the classical symptoms of which the description was in fact given from a case in which no rupture was found on palpation. Allowing for the uncertainty of the inferences from palpation Werboff, in the light of a case described by Knauer where rupture of the outer muscle layer was found, considers that in Bandl's case also rupture was already in progress, and argues that the classical picture is not one of threatened rupture but of rupture already commenced. From this come the pain and tenderness, the bloody amniotic fluid, and the arrest of contraction. The ordinary conception of a contracting upper segment and a dilating lower one does not properly describe the true nature of the uterine action, which is really a typical peristalsis.

In the second section Werboff gives seventy pages to a discussion of the nature of uterine contraction. The view from which he starts is that the elongation of a muscle after contraction is effected through the contraction of its antagonist, and that peristalsis is a seesaw action in which longitudinal fibres shorten and widen an organ, and circular fibres contract and elongate it. In the uterus he considers the first stage to be one in which longitudinal fibres are mainly active: in the second stage circular fibres contract, reinforced by the voluntary muscles. He states that in observation the uterus is found to shorten and broaden in the first stage, and to narrow and lengthen in the second. He describes it as taking support for its pressure from the diaphragm and the abdominal wall. Shortening and subsequent lengthening are matters which should be capable of being tested by systematic observation, and this work obviously awaits some one who has the needful opportunities of watching cases from the onset to the end of labour.

The practical conclusion of the author's argument finds expression in the third section, where he discusses the question whether we can ease and accelerate labour, and answers in the affirmative by describing a special bandage by which the straining of the voluntary muscles can be replaced. He reports that the bandage has been employed with good results in 123 cases in the St. Petersburg Institute. The work is specially interesting as a stimulus to a detailed reconsideration of the ideas of uterine contraction, and it merits attention, whether its conclusions are subsequently confirmed or not.

[2] *Die Gebärmutter des Weibes ihre normale Arbeit und ihre Zerreissunge während der Geburt.* Von Dr. Werboff, Assistenzarzt am Kaiserl. klin. Institut f. Geburtshülfe u. Gyn. in St. Petersburg. Berlin: S. Karger. 1915. (Sup. roy. 8vo, pp. 150; 66 figures, 10 plates. Mk. 6; bound, Mk. 7.60).

CANCER OF THE BREAST.

A VOLUME which records the experience of an eminently practical surgeon on a subject of everyday interest is sure to arrest attention, and Mr. C. B. LOCKWOOD'S experience of the operative treatment of *Cancer of the Breast*[3] is certain to be worth considering. The key to the book which he has published under this title lies in the recognition of two important factors—immediate microscopic examination of the tissue removed within the operating theatre or its precincts, and the "complete" operation. The microscopic examination is made at the beginning of the operation, as soon as anaesthesia is established. The extent of the operation naturally depends on the result. The examination has in time come to be so speedily made that a section is ready in five minutes for the operator to examine for himself. This method has obviously many advantages, for operators would, by immediate microscopic examination, gladly save themselves the chagrin and patients the mutilation of a complete operation performed for a non-malignant growth. From the stringency with which the microscopic diagnosis is insisted upon, it may be inferred that the clinical diagnosis is not always reliable. Cancer of the breast, in spite of its external position, is essentially almost as insecure of diagnosis as cancer in other situations.

The complete operation is that performed in every case of cancer diagnosed clinically with microscopical confirmation. It consists in the removal of the nipple and areola, with an area of skin over the tumour, the whole of the mammary gland, both pectoral muscles together with their fasciae, the costo-coracoid membrane, and the fasciae over the anterior part of the serratus anterior (magnus), the superior part of the external oblique, the subscapular, the teres major, and part of the latissimus dorsi. All the axillary fat and the lymph vessels and lymph glands therein come away together, and in one piece with the rest. This formidable operation is employed for any kind of cancer, no matter how small and apparently limited. The author believes that if recurrence takes place it is because the whole of the cancerous growth has not been removed, and therefore it is not a true recurrence at all. The only true recurrence he recognizes is reappearance in the other mammary gland, though he is willing enough to use the word in its everyday sense. He has performed the complete operation 134 times, and 31 times has he found recurrence. Of course, many of these cases were very greatly advanced, one or two practically hopeless. Wherever the disease is limited to the mammary gland the complete operation is successful; all the patients in this group are still alive, some having been operated on eleven years ago. But if the disease has spread beyond the mammary gland, the result of the complete operation, "measured by duration of life, depends upon circumstances which are not within the control of the surgeon: for we have no means of knowing the direction, the distance, or the manner in which the growth may have spread." The author does not accept the dictum that if no recurrence takes place within three years the case is cured. He holds that there is no time limit.

The results of the incomplete operation were so unsatisfactory that the author long ago gave it up. He has records of 29 cases, and in 11 of these recurrence took place, and the duration of life in some of the others was not long enough for recurrence to become manifest.

The only other matter of interest to which we wish to allude is the short circuit of the lymph vessels in cancer of the breast. This short route is through the fibres of the pectoralis major, reaching the glands about the upper end

[3] *Cancer of the Breast: an Experience of a Series of Operations and their Results.* By C. B. Lockwood, F.R.C.S.Eng., Consulting Surgeon to St. Bartholomew's Hospital, etc. London: Henry Frowde and Hodder and Stoughton. 1915. (Demy 8vo, pp. 244; 23 figures. 10s. 6d. net.)

of the axillary vein. Indeed, the author thinks that this rather than the axillary channel may be the ordinary route of lymphatic spread. The importance of this fact is obvious, and if it be established the absolute necessity for the complete operation will be the more evident.

The book might have been materially improved had greater attention been given to the arrangement of the matter, for it is irritating to find the narrative frequently interrupted by rather brief references to cases. The book is, indeed, not a formal treatise on cancer of the breast; it contains no references to recent investigations into the mode of spread of cancer, and there are no illustrations; but as what it professes to be—a record of one man's clinical experience—it is a valuable contribution to medical literature, and as such can be commended to the consideration of the profession.

THE NERVE IMPULSE.

The theory of *Nerve Aggregation*, set forth by Dr. Elliot-Blake in the volume published under that title,[1] is in some respects a departure from the accepted view as to the physiology of innervation. In the first place, he dissents from the opinion that the nerve impulse is of electric origin and nature, pointing out the feebleness of the electrical changes revealed by the galvanometer as an accompaniment of nerve action, and their universal association with chemical or tissue reactions. He does not, of course, deny that nerves will react to electrical as well as other stimuli, or may conduct electrical currents; but, under normal as distinguished from laboratory conditions, the electrical phenomena are, in his opinion, by-effects rather than essentials of innervation. As to the precise nature of the impulse, he does not seem to have quite made up his mind, but suggests that it may be either of a contractile or mechanically vibratile kind—a flow-discharge over the cellular processes, axons, and dendrites of the nerve elements.

With regard to the mechanism of reflex action, Dr. Elliot-Blake conceives it, not as the result of a single afferent impulse, directly reflected from the recipient ganglion cell along some efferent path, but as the culmination of a previous preparatory process. This preparation consists, he believes, in a gradual and cumulative sensitization by the ganglion cells of spinal or cerebral nerve centres by nerve impulses of different kinds and sources. The "force of irritation" thus gathered or aggregated from any number of sources is compared to the filling of a tank. The final explosion or overflow is only possible when the tank is full—that is, when the force of irritation has attained to or nearly to its maximum. And for every important centre of reflex action there exists, Dr. Elliot-Blake believes, a definite collecting area of exploding or "climax" impulses, by which the accumulated force of the central cell is released. According to the average duration of the period of "aggregation" in the centres concerned, the author classifies nerve cycles as "immediate," "middle," or "long," respiration being a type of the first, defaecation of the second, and menstruation or childbirth of the third. Typical exploding stimuli would be those produced by the pressure of faeces upon the perineum, or the stretching of the cervix uteri by the oncoming head. The strong points of this theory are well brought out in some clinical applications, particularly in the section dealing at length with lumbago. Dr. Elliot-Blake does not accept the current view that this disorder is usually a fibrositis of the lumbar tissues. "In lumbago," he says, "wide and added nerve irritations keep on arriving at the lumbar section of the cord, and eventually these result in lumbar pain." The location of the pain, which of course is below the lumbar segment of the cord, he attributes to the brain. He points out the frequency at what he calls the "lumbago age" of such conditions as enlarged prostate, thickened bladder, constipation, renal calculus, uterine congestions, etc., any one or combination of which he regards as a possible source of bombardment of the cord centres with morbid impulses of cumulative effect. The muscular rigidity he regards as protective, not inflammatory, in origin. The second part of the book comprises some practical novelties. We may mention among these a form of head bandage and an improved method of tying a skein truss for hernia. Then follows a dissertation entitled, "Bio-mouldings," which appears to embody the author's reflexions upon the *rationale* of evolution. We must frankly say that in our opinion Dr. Elliot-Blake has here failed to give intelligible expression to his ideas. On the more familiar and concrete ground of professional topics he usually manages to convey his meaning to the attentive reader; but here, and in some similar flights of speculation, his views are for the most part shrouded in a fog of involved sentences. Still, we are unwilling to end upon a carping note, for the book, taken as a whole, is original and stimulating.

[1] *Nerve Aggregation and Medical Free Paths.* By H. Elliot-Blake, M.R.C.S., L.R.C.P. Free Path Series, vol. iii. London: John Bale Sons, and Danielsson, Ltd. (Fcap. 4to, pp. 275. 11s. net.)

STATE INSURANCE AND MEDICAL PRACTICE IN GERMANY.

Professor Quincke has written an essay on changes in the science and practice of medicine,[5] which deals with science only in so far as its rapid development has led to the present extensive specialization from which he sees no prospect of return. In practice he has to discuss the results of the insurance system, and his conclusions contain both encouragement and warning for the medical politician. Whatever improvements have been effected have been secured by professional union. On the important issue of free choice of doctor he says: "The desire expressed some years ago for completely free choice of doctor could not be fulfilled for various reasons, partly financial and partly from the nature of the case. For their very existence the insurance offices must exercise a certain control over their beneficiaries as well as over the doctors. The doctors were the first to recognize this and take it to heart. Thus arose in practice the system of organized free choice of doctor, under which in so far as he will observe certain conditions every doctor practising in the area may attend the insured." The economic conditions of the profession are even now much below those under which the insurance service has started here. In the matter of hospitals the author emphasizes the enormous development of hospitalization which has taken place and the great increase in the financial burden which has been transferred to the public authorities, and he concludes by discussing the evil of mingling charity and business. The principle of his conclusion has fortunately been the basis on which the British Medical Association has founded its campaign for hospital reform.

[5] *Wandlungen der Medizin in Wissenschaft und Praxis.* Von Prof. Dr. H. Quincke. Berlin: Julius Springer. 1913. (Demy 8vo, pp. 46. Mk. 1.)

NOTES ON BOOKS.

The Hygienic Management of Labour in the Tropics[6] is the title of an essay by Dr. P. N. Gerrard, of the Federated Malay States, in which he deals with the preservation of the health of workmen in the tropics. The author states in his preface that he has endeavoured to keep on lines which are practical, to avoid controversial matters, and to present to the planting community a *vade mecum* which will not fail them as a work of reference. He has succeeded in his aim, and the book should prove of great use to all who have to do with estates and the opening up of ground for estates in the tropics. There is no doubt that a little common sense as regards the prevention of some of the more common tropical ailments can make an enormous difference to the health of the coolies. This means for the labourers themselves a great increase in individual comfort, and for the planter a great economy of expenditure. Dr. Gerrard's hints and advice can be thoroughly recommended.

The *Bulletin of the Naval Medical Association of Japan*, published by the Naval Department in Tokyo, contains papers by members of that department. They are printed in Japanese characters, but abstracts in English are prefixed; it would be an advantage if the legends on the plates also were accompanied by English translations. One of the papers in the fifth number of the *Bulletin* contains an account by Fleet Surgeon H. Yamamoto of a case in which he sutured the brachial artery

[6] *On the Hygienic Management of Labour in the Tropics.* An essay (with which is incorporated the Labour Code, by courtesy of the F.M.S. Government). By P. N. Gerrard, B.A., B.Ch., B.A.O., M.D.Dub. Singapore: The Methodist Publishing House. 1913. Roy. 8vo. 92 5s.)

by the method of Carrel and Stich. The injury, which was a contused wound, had occurred forty-eight hours before operation. Immediately after the operation pulsation was noticed beyond the sutured part of the vessel, and after thirty minutes the radial pulse was felt. The wound healed by first intention. The discoloration of the nails, coldness of the fingers, and feeling of weakness in the arm present before operation gradually disappeared. The radial pulse gained in strength, although it did not become so strong as that of the opposite side. No hindrance to the movements of the limb resulted, and the patient was able to leave the hospital sixty-seven days after admission.

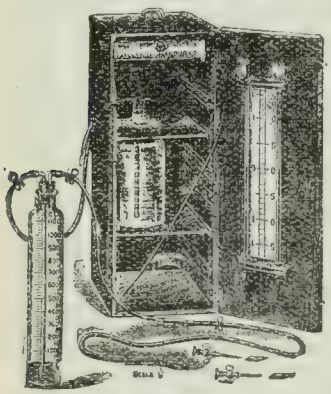
The book bearing the title *About Baby*[1] is of American origin, its author being Dr. FRANCIS TWEDDELL, of New York. It enjoys the distinction of two introductory notes, the one by an English matron, the other by Dr. W. Barkley, of Southfields, S.W., whose name also appears on the title page in virtue of the fact that he overhauled the book for English consumption, and omitted parts which he considered unnecessary in view of the conditions prevailing in Great Britain. The book, the teaching of which seems quite sound, is clearly written and sufficiently comprehensive to include paragraphs on toys, and perhaps makes none the worse reading for the occasional presence of quaint but grammatically quite correct phrases, such as a "well baby."

The *Tropical Diseases Bulletin*, dated August 30th, 1913, contains reviews on plague, leprosy, beri-beri, tropical diseases of the skin, verruga peruviana, rat-bite disease, vomiting, sickness, and some other miscellaneous subjects.

MEDICAL AND SURGICAL APPLIANCES.

Apparatus for the Production of Artificial Pneumothorax.

DR. S. VERE PEARSON (The Sanatorium, Mundesley, Norfolk) writes: The apparatus here illustrated had its origin in the rough but efficient model put together by a carpenter, the essentials of which were formed by two bottles, some rubber tubing and two glass tubes, contained in a wooden box. The gradual evolution of various simple modifications are the result of practical experience gained by myself and my friends—C. Lillingston, L. Colebrook, and the colleagues who have worked with me at Mundesley. Between us we have given many hundred injections of nitrogen. The advantages of the apparatus, which is now made and stocked by Messrs. Allen and Hanburys, Limited, 48, Wigmore Street, London, are as follows:



1. Its simplicity eradicates, as far as possible, unnecessary complications which may only create difficulties in working.
2. An even, easy, and perfect control of the gas is assured, because the bottles are movable and siphonage is used as the means of regulating the flow of nitrogen gas into the chest.
3. The arrangement of a movable shelf in a tall box makes it easily possible to obtain well-graduated positive pressures up to any amount found safe in practice.
4. The apparatus travels easily.
5. The height of the apparatus gives room for a tall water manometer, the advantages of which are that the occasional high pressures needed are easily read, and, secondly, that there is less risk of the fluid in the manometer through any accident flowing into the tubes.
6. The tall, narrow cylinder makes it easy to read the administration of comparatively small quantities of gas, which is advantageous for a first injection.
7. The bottles contain a sufficient quantity of gas to meet the requirements of an injection for any ordinary case.
8. The thistle funnel on the positive stem of the manometer obviates the risk of the fluid in the manometer being squirted out of it if the patient should cough.
9. The bulb on the negative stem of the manometer prevents the fluid in the manometer from being sucked into the tube if through any chance a high negative pressure should occur.
10. The marks both on the cylinder and on the part with the manometer on it are distinct, and can thus be read at a glance.
11. The screw clamp, put in at the suggestion of my friend Professor Saugman, at the base of the manometer enables the mean intrapleural pressure to be taken during an injection of gas.

[1] *About Baby.* By Francis Tweddell, M.D., and W. Barkley, M.B., B.Ch. London: Mills and Boon. (Crown 8vo, pp. 148. 1s. net.)

AUSTRALASIAN MEDICAL CONGRESS, AUCKLAND, 1914.

THE tenth Australasian Medical Congress will be held in Auckland, New Zealand, next February. The preliminary arrangements were made at the final meeting of the ninth congress held in Sydney in 1911, when Dr. A. Challinor Purchas, of Auckland, was elected President for 1914. A conference then took place between him, the President of the Congress in Sydney (Dr. F. A. Pockley), and the President of the New Zealand Branch of the British Medical Association, and in the following March the members of the Auckland Division of the British Medical Association formed themselves into a general committee for the purpose of making arrangements for the congress. An Executive Committee was appointed, and to it were subsequently added the Dean of the Faculty of Medicine of the Otago University, the medical heads of the various Government departments, the Director of Medical Services of the New Zealand Forces, and the medical members of both houses of the New Zealand Parliament.

The business of the congress will be conducted in eleven sections, as follows:

1. *Medicine.*—President, Dr. Sinclair Gillies, Sydney; Secretaries, Drs. W. C. W. McDowell and E. Roberton.
2. *Surgery.*—President, Dr. Hamilton Russell, Melbourne; Secretaries, Drs. Casement Aicken and Gore Gillon.
3. *Obstetrics and Gynaecology.*—President, Sir David Hardie, Brisbane; Secretary, Dr. Tracey Inglis.
4. *Pathology and Bacteriology.*—President, Professor D. A. Welsh, Sydney; Secretary, Dr. Milsom.
5. *Public Health and State Medicine.*—President, Dr. J. R. S. Elkington, Brisbane; Secretary, Dr. Monk. Subsection, Medical School Inspection and Hygiene.
6. *Ophthalmology.*—President, Dr. F. Antill Pockley, Sydney; Secretary, Dr. J. C. Pabst.
7. *Psychological Medicine and Neurology.*—President, Dr. Chisholm Ross, Sydney; Secretary, Dr. A. N. McKelvie.
8. *Diseases of Children and Orthopaedics.*—President, Dr. H. Swift, Adelaide; Secretary, Dr. G. Brunton Sweet.
9. *Naval and Military Medicine and Surgery.*—President, Colonel Chas. Ryan, Melbourne; Secretaries, Drs. W. H. Parkes and R. Walton.
10. *Dermatology and Radiology.*—President, Dr. Herschel Harris, Sydney; Secretary, Dr. Alfred Clark.
11. *Rhino-Laryngology and Otology.*—President, Dr. H. Russell Nolan, Sydney; Secretary, Dr. W. A. Fairclough.

The honorary secretary of the congress is Dr. Bernard J. Dudley, of Epsom, Auckland, and he has the assistance of Mr. Cyril H. Tewsley, of Kingsland, Auckland. As will be seen, the officers of the sections of the congress are drawn from all parts of Australasia, and this choice foreshadows the attendance of members from an equally wide area.

At the annual meeting of the British Medical Association in Liverpool last year, Dr. Barrett, of Melbourne, gave a cordial invitation to the members present to attend the Auckland congress, and later on a formal letter was received from Dr. Bernard Dudley, written on behalf of the Executive Committee of the congress, confirming the invitation. There can, we think, be no doubt that it would be to the advantage of the Association as a whole that as many members as possible in this country should accept the invitation so cordially given; their presence would help to draw closer the bonds of union between the home branches and those in the over-seas dominions. As will be seen from the list of sections given above, the congress will afford an occasion of learning much with regard to clinical and scientific medicine, and visitors will also have opportunities of becoming acquainted with the organization of the profession in Australasia. Moreover, they will find that arrangements have been made to enable them to see a good deal of New Zealand after the congress. There will be a cruise around the gulf and the islands, visits to the Titirangi Ranges, and a tour through the districts where the famous thermal waters exist.

THE NATIONAL GAS CONGRESS.

Conference on Illuminating and Heating Hygiene.

A conference on the hygiene of lighting and heating was held on October 14th in connexion with the National Gas Congress. Sir Rickman J. Godlee was in the chair. The time was almost wholly occupied with two papers, one, by Mr. S. Rideal, D.Sc., on the hygiene of gas considered as an illuminant, and the other, by Dr. Leonard Hill, on the health value of radiant heat.

Dr. Rideal's paper was largely a record of certain comparative investigations which he undertook some years ago, and had already published, into the relative hygienic values of gas and electricity. It was somewhat difficult to obtain a distinctive pronouncement in favour of one illuminant or the other on the physiological data brought forward: the use of gas certainly caused a slight increase in the ventilation of a room, and the records of the ophthalmic experiments also were clearly in favour of gas lighting. One novel and interesting experiment was carried out by Dr. Rideal in order to determine the physiological effect of a large coal-gas leakage. Three subjects were enclosed in a room of 2,500 cubic feet capacity for over four hours, and into this room 8.8 cubic feet of gas per hour was allowed to escape. From the carbon monoxide and ventilation determinations this was taken to correspond to a permanent gas leakage of 0.9 cubic feet per hour. No serious symptoms manifested themselves, and in one of the subjects a feeling of pulsation in the temples was the only inconvenience experienced. All of them after a time lost their ability to smell gas. The physiological observations showed a slight increase in the pulse-rate, and in two of the three cases a considerable rise in the respiratory frequency. Dr. Rideal drew the inference that with any quantity of gas likely to escape from an ordinary leakage there was no immediate danger to life.

Dr. Leonard Hill repeated his now familar gospel of air movement and variability. The ideal heating, he said, would correspond with that which prevailed out of doors on a spring day when a cool breeze tempered the radiant heat from the sun. Uniformity and monotony of cutaneous sensations were undesirable. Heating engineers who aimed at supplying a monotonous blanket of air heated to a uniform summer temperature were contravening the natural laws of health. Dr. Hill refused to pronounce the least blessing on the old-fashioned gas fires or the gas convectors (commonly and wrongly called radiators). He would only admit to his favour the modern gas fire fitted with an efficient flue, and giving approximately 50 per cent. of its fuel value in the form of radiant heat. He gave an interesting demonstration with the katathermometer, an instrument of his own invention, for determining the rate of heat loss, which, he said, was a more important determination than the average temperature when ascertaining the healthfulness or otherwise of the air of a room. With this instrument he had studied the conditions in a small room heated alternately with an anthracite stove and with a gas fire. The former gave off 10 per cent. of the total energy as radiant heat, 50 per cent. as convective heat, and 40 per cent. as flue heat. These figures in the case of the gas fire were 41.7, 29.7, and 28.6 per cent. respectively, though in later models the percentage of radiant heat was higher. The results showed that with the gas fire there was less uniformity of heat loss in different parts of the room, and that the radiant heat was unequally distributed over the surface of the body, the feet and legs being warmed while the head remained cool, this last condition being reversed under the influence of convective heat. The objection which Dr. Hill urged against the gas fire was on the ground of the sameness of its flame; it was always burning at an equally steady level. He was trying the attachment of a clockwork arrangement to a gas fire in his laboratory, with the view of introducing a continual variety in the blaze. This spasmodic gas fire, as one engineer called it, rather took away the breath of the gas experts, who have been concentrating for years upon getting the very uniformity of flame which Dr. Hill condemns.

After an adjournment, Professor Vivian B. Lewes supported Dr. Hill's conclusions from the chemical standpoint, and, in dealing with the difference between the methods of radiant and convective heat, said that with the former the human body as well as the other solids in a room was thoroughly warmed by the rays, and if the original temperature was 50° F., a person would feel quite warm and comfortable when the air temperature had risen to 59°. On the other hand, with convective heat, the air temperature would be raised probably to 68° before the same sensation of warmth was experienced. The older forms of gas stove, which gave out only a quarter of the fuel energy as radiant heat and a much larger proportion of convective, brought about an over-rapid evaporation of the air, and this caused the sense of oppression and general discomfort. In the case of the modern gas fire, however, from 45 to 50 per cent. of the thermal value of the gas was given as radiant heat and only from 12 to 20 per cent. ranked as convective, with the result that this trouble had ceased, and the necessity for the bowl of water to supply moisture to the over-heated air no longer existed.

Light and Sight.

The last of the conferences to have a special interest for medical men was held on October 17th, when Lord Rayleigh presided over a gathering convened to discuss certain problems of scientific illumination. Lord Rayleigh himself made the point that in order to suit the requirements of the eye, the distribution of the illumination was fully as important as its amount. He appeared to think that a too diffuse system of lighting might involve visual strain equally with one which was too concentrated. Sir John Cockburn, in proposing a vote of thanks to the reader of one of the papers, made the interesting personal confession that when he wanted to prepare a speech or write an article, and the needful inspiration failed to come, he followed the plan of turning up to the full every light which was available. Doubtless it was bad for the eyes, but he found it act invariably as a mental stimulus.

The principal paper of the conference was read by Dr. Meredith Young, who entered into the light and sight question with great particularity. While he would not support Sir John Cockburn's idea of wholesale illumination in order to whip up the mental faculties, he favoured an illumination of the walls in addition to the more intense local lighting of the desk for mental workers. He also described some tests of the effect of bright light on acuity of vision, which had been carried out by Dr. Cameron Gibson on his suggestion. These seemed to show that a bright light in the field of vision produced a lowering of visual acuity which lasted for some time, provided the line from the light to the eye made an angle of less than 40 degrees with the axis of vision. A fact frequently overlooked was that in the old days of rushlights and candles near-work was practically impossible except during the hours of daylight. As illuminants increased in power and brilliancy it was found that more time could be given to near-work. Therefore, it was only natural to expect that affections of the eye would increase *pari passu* with the increase of near-work done by them, and even with an artificial light which was the exact physical and physiological counterpart of daylight, eye affections would increase with the more prolonged use of the eyes. Dr. Young had elicited the opinions of certain eye specialists to the general effect (with reservations and modifications in some instances) that (1) the introduction of electric light had not increased the frequency of eye diseases or errors of refraction; (2) a brilliancy of 5 c.p. per square inch of lighting source was that which the eye could most comfortably endure; (3) to work with insufficient light was a greater evil than to work with sufficient or more than sufficient but unshaded light; (4) the use of unshaded lights of a greater intrinsic brilliancy than that mentioned above should be prohibited; and (5) the adequate and properly shaded local illumination was the best form of lighting for near work.

We read in *Paris Médical* of October 18th an interesting case of transfusion of blood. The patient was M. Alphonse Bertillon, whose name is associated with the anthropometric system. He suffered from severe anaemia, which proved refractory to treatment. His physician recommended him to find a friend who should be willing to give him some of his blood. Such a friend was found in Dr. Georges Bertillon, brother of the patient. Blood taken from the radial artery was introduced into the saphenous vein of the patient. In three-quarters of an hour M. Bertillon was greatly reinvigorated. The two brothers are said now to be in perfect health.

THE CULTURE OF SPIROCHAETES AND OF THE VIRUS OF RABIES AND POLIOMYELITIS.

DR. NOGUCHI'S CULTIVATION METHODS AND THE DEMONSTRATION OF T. PALLIDUM IN THE BRAIN.

THERE was a very large attendance of Fellows at the meeting of the Royal Society of Medicine, under the presidency of Sir FRANCIS CHAMPNEYS, on Monday, October 20th, to hear a lecture and witness a demonstration by Dr. NOGUCHI, of the Rockefeller Institute, New York, on the application of cultural methods to the study of infectious diseases of unknown etiology.

Before dealing with the cultivation of the virus of anterior poliomyelitis, in connexion with which his work had been done in conjunction with Dr. Flexner, Dr. Noguchi explained the methods he followed for the cultivation of various spirochaetes, as these were the first organisms which had been obtained in pure culture by these methods. Of spirochaetes he had cultivated three different groups. The first was pathogenic, and invaded tissues. The second group was also pathogenic, but occurred in the blood. The third group was non-pathogenic, and was to be obtained from the mucous orifices of the body or on the surface of moist lesions in various parts. These groups might be termed respectively tissue spirochaetes, blood spirochaetes, and saprophytic spirochaetes. Of the first group, two species had been cultivated—the spirochaete of syphilis (*Treponema pallidum*) and that of yaws. Of the second group four species (all pathogenic) had been cultivated, including the spirochaete of Obermeyer, the cause of relapsing fever in Europe, and the spirochaete of the fowl. Of the third group—that of saprophytic spirochaetes—six species had been cultivated, including *Treponema macrodentium*, *T. microdentium*, *T. mucosum*, *T. refringens*, and *T. calligyrum*, a new species which stood morphologically between *T. pallidum* and *T. refringens*. None of the spirochaetes of this group were pathogenic.

He then described briefly the method of cultivation. For the pathogenic varieties, whether the tissue or the blood spirochaetes, it was essential to have in the culture medium a piece of fresh sterile animal tissue. Saprophytic varieties could be grown without the addition of fresh tissue. For the tissue-spirochaetes he found it necessary to obtain absolute anaërobiosis, and he described and illustrated by lantern slides the apparatus he had constructed for the purpose. For the cultivation of blood spirochaetes, absolute anaërobiosis was detrimental, for if a small quantity of oxygen were not supplied the species would not grow. For the saprophytic spirochaetes strict anaërobiosis was essential. The culture medium was, as a rule, ascitic fluid solidified with agar.

This was the commencement of his work in the cultivation of such organisms. He had then gone on to apply the method to the study of the cause of poliomyelitis. Even an invisible virus can be kept growing outside the body if it be given favourable cultural conditions; it did not matter at the commencement of the work whether the virus of poliomyelitis was visible or invisible. It sufficed at that stage to know that the virus was capable of being transmitted from generation to generation. The study of its morphology could then follow. A similar principle was applied to the study of rabies. It had long been known that in the ganglion cells of a case of rabies there were present certain bodies known, from their discoverer, as Negri bodies. It was also known that the virus of rabies passes through a Berkefeld filter. But a connexion between the Negri bodies and the disease itself had not been hitherto demonstrated. Most pathologists had believed that the Negri bodies were simply reaction products, or the degenerative products of cells, due to the invasion of an unknown but filterable virus. By the use of the cultivation method briefly described above it had been found that some of the bodies could be grown.

Dr. Noguchi turned aside to describe the finding of *Treponema pallidum* in the brain in cases of general paralysis. Many workers in this country and in Europe generally had arrived at the conclusion that general paralysis was in some way connected with a previous syphilitic infection; some maintained that general paralysis was an active syphilitic condition, while others held that it was a remote consequence of the degenerative processes set up by the disease. To solve the question it was necessary to demonstrate the presence of the *Treponema pallidum* in the brain. While studying pure cultures of *Treponema pallidum*, he had observed peculiar forms, which might represent forms of degeneration or possibly a stage in the life-cycle of the parasite, and with these observations in mind he had examined specimens from the brain of 70 cases of general paralysis. The first 69 cases yielded no conclusive evidence. In a specimen from the seventieth brain he suddenly noticed a spirochaete. He thereupon went back over the other 69, and was rewarded by finding the parasite in 13 more. It was found, therefore, in 14 of the 70 specimens (25 per cent.). As it was ascertained that 2 of these 14 cases showed mixed syphilitic lesions in the brain, they were discarded from the records, and only 12 reported as successful. The material on which this research was based was derived from a single hospital; he therefore determined to examine a larger number of brains from several hospitals. Now 130 cases had been examined by a modification of Levaditi's method, and in 36 the spirochaete was found, making a total of 48 cases in 200 brains examined.

At about the same time he undertook the study of tabes dorsalis. It turned out to be extremely difficult and tedious. He had very carefully passed in review sixteen spinal cords, but in only one could he find the spirochaete, and in very small numbers; they were in the posterior column. Shortly afterwards the spirochaete had been found by another observer in the intervertebral ganglion of a case of tabes. So that two cases were now on record in which the spinal cord revealed the parasite. It had been found in other cases of general paralysis since his own work. Two German observers, working with the Neisser method—examining a small particle of brain substance by means of the dark field—had observed the spirochaete in 19 cases out of 25 examined.

Another practical consequence of the work was to establish a skin test for the diagnosis of syphilis. This was discovered in 1911, and was known as the luetin test, and since its publication many observers had confirmed his findings. It was more easy to apply than the Wassermann test and made it possible to diagnose latent and tertiary syphilis. A preparation of dead spirochaetes was used, and if the patient were syphilitic, a red lesion developed, sometimes proceeding to a pustule. In one case the trial was made repeatedly, and there was a definite lessening of the intensity of the reaction.

Three main types or strains of *Treponema pallidum* could, he said, be recognized—a coarse form, an average one, and a very thin one, the latter being usually found in malignant syphilis.

Dr. Noguchi showed numerous very beautiful slides, by means of some of which he demonstrated longitudinal division of the parasite and in others a chain-like arrangement, coccus-like bodies being joined together by a strand of protoplasm.

Treponema pallidum had been transmitted from the brain of general paralytics to the rabbit, and attempts had been made to produce symptoms and lesions in rabbits similar to those of general paralysis in man. The central nervous system of rabbits and monkeys was refractory to direct inoculation of the *Treponema pallidum*, so that lesions could not be caused in that way, but by treating these animals with dead spirochaetes for five months, giving them intravenously every five days for five months, then resting five months, and then inoculating into the brain, intracerebrally or subdurally, infection could be produced, the animals suffering from convulsions and emaciation, and giving a positive Wassermann reaction.

The method he used for the cultivation of the virus of poliomyelitis was similar to that described for spirochaetes: injection of the culture into rabbits, guinea-pigs, and dogs was always followed by the development of typical rabies.

The lecture was illustrated by a large series of lantern slides, including photographs of culture tubes in which various spirochaetes were developing, and of a large number of microscopical preparations. Among these were many showing cultivated spirochaetes of various species and *T. pallidum* in the brain. He also showed another series which appeared to indicate that Negri bodies were

derived from the breaking up of a relatively gigantic parasite of round or oval form. A large number of preparations of various kinds were also shown under the microscope.

MOTOR CARS FOR MEDICAL MEN.

The Hercules Tyre and Equipment Company, Bridge Street, Northampton, desires us to state that they will be pleased to send on receipt of a stamped envelope a free sample tube of their patent tyre cure stopping to any medical motorist.

Insurance: Accident or Mechanical Breakdown?

In Bolton County Court on October 15th a medical man was awarded judgement with costs on the higher scale in an action brought by him against one of five persons who had underwritten an insurance policy on his car.

According to a report in the *Horwich Chronicle* his claim was in respect of a fracture of the chassis frame brought about, it was maintained, by one of the wheels of the car falling into a deep rut on a hill which the plaintiff was descending on his return from a night visit. The underwriters refused payment on the ground that the fracture was a mechanical breakdown and not an accident, and put forward this plea in court. The plaintiff having described the accident and his investigation of what had occurred, evidence on his behalf was given by a surveyor to the effect that the hole described, which was probably caused by recent heavy rain, did exist; while a motor engineer stated that the chassis had given way where he would expect it to give way if the frame were subjected to an abnormal shock.

The court, in giving judgement for the plaintiff, remarked that if the contention of the underwriters was correct, it would follow that a plea of mechanical breakdown would be an effective defence even in respect of such an event as the breaking of the stearing gear through a collision between two cars.

The sum claimed and awarded was £2 8s., this being one-fifth of the total claim against all the five underwriters, only one of them being summoned by way of testing the position of them all.

Small Cars.

In reference to the inquiry from "Cornubiensis" and the letters of other correspondents, mention may be made of a small car built by Pilot Motors, Limited (Loudoun Road, St. John's Wood). We recently had an opportunity of trying it on the road, and this trial, though not exhaustive, was sufficiently long to satisfy us that the car is worth attention from those in search of a small, light car, either for habitual use or to save the wear and tear of their ordinary car. The car tried was not a new one, but had already been run approximately 12,000 miles. Throughout it had been driven by its owner, a private individual, who, although unable to state precisely what sum had been spent on repairs, assured us that, beyond one set of tyres costing £10, the maintenance charges had been quite trifling. Benzol was chiefly used, its consumption averaging one gallon for every thirty-five miles, the work done being partly in a very hilly city and partly over hilly country roads. As those interested can obtain full particulars for themselves, we merely mention the qualities by which we were particularly struck. These were that the car was almost absolutely noiseless at all speeds, that the speeds available ranged from a very slow walking pace on the bottom gear to between 30 and 40 miles on the fifth gear with the throttle open, that only towards the top of one very long hill was a change from the the top gear necessary, and that the car could be manœuvred with great ease. The engine is a water-cooled, four-cylinder Chapuis-Dornier, fitted with a Zenith carburetter, which is operated by a Bosch magneto. The two-seated body has a hood and allows plenty of room for the legs. Mechanically the distinctive feature of the car is that the engine power is transmitted to the back axle neither by bevel nor worm drive, but by a shaft disc and friction wheel. Friction transmission of power is, of course, exceedingly common in factories, but hitherto has been rarely used in car construction except in connexion with clutches. Its advantages are that it gets rid of a good deal of weight and expense and makes gear changing very easy, but whether as experience in the building of small cars accumulates its use will spread remains to be seen. The roads over which we tried this particular specimen of the Pilot were very good, and its work had usually been confined to good roads. Its cost is £150.

The Motor Shows.

The twelfth Olympia Motor Show organized by the Society of Motor Manufacturers and Traders will be opened on Friday, November 7th. The number of firms showing cars and chassis will be 119; the total number of firms exhibiting will be raised by those engaged in coach building and the provision of accessories and tyres to 349. The majority of the exhibits of cars will, it is stated, reveal only a slight collective modification. Four-cylinder engines will predominate, and it is found that monobloc casting has been generally adopted. The exhibition will close on Saturday, November 15th. The Motor Cycle and Cycle Car Show will be opened at Olympia on November 24th and continue until the 29th.

Arrangements have been made to publish descriptions of both shows, and it is intended to print an anticipatory article on the Motor Show in the issue of the Journal of November 8th.

LITERARY NOTES.

The autumn list of new books published by the Walter Scott Publishing Company, Ltd., includes *Influenza: Its History, Nature, Cause, and Treatment*, by Arthur F. Hopkirk, M.D. (Jena).

In Mr. Murray's Quarterly List of Forthcoming Works (October) we note a new edition of Sir Lauder Brunton's *Therapeutics of the Circulation*, and one (the eleventh) of Professor Halliburton's *Handbook of Physiology*. This is the twenty-fourth edition of "Kirke's."

Dr. G. Walter Steeves, whose *Life of Francis Bacon* was favourably reviewed in the British Medical Journal of June 17th, 1911, p. 1430, has recently published, through Messrs. Chapman and Hall, a book entitled *Some Main Issues*. In it he endeavours to illustrate some of those conditions which influence, directly or indirectly, individual life at the present day, and to study the origin of certain defects in the training and aspirations of children and students. An effort is also made to emphasize the responsibilities of those who undertake the education of the masses, and more especially the instruction of the young. While school examinations, recreations, and academic methods are discussed in their different phases, the obligations of the State with reference to its literature, ancient books and manuscripts also receive serious consideration.

It is now generally known that Leonardo da Vinci, that almost universal genius, was one of the pioneers of anatomy. He left a number of anatomical drawings with descriptions, which are now in the Royal Library at Windsor, after lying hidden in the Ambrosia Library, Milan, for centuries. By permission of the King photographs of these, with English and German translations of the descriptions, have been prepared by Ove C. L. Vangensten, A. Fonahn, and H. Hopstock, and published by Jacob Dybwad, of Christiania. Dr. Hopstock is prosector of anatomy in the University of Christiania, where Dr. Fonahn is professor of the history of medicine, and Mr. Vangensten professor of Italian. The first volume (*Quaderni d'Anatomia I*), published in 1911, contains 13 folios, 22 pages in facsimile (collotype), and 70 designs. The subjects illustrated are respiration, the alternating motions of the diaphragm and the muscles of the abdomen, together with the passage of the food through the alimentary canal, and the heart. A special volume on the heart (*Quaderni d'Anatomia II*), containing 24 folios, 33 pages in facsimile (collotype), and 240 design , was published in 1912. The third volume, which appeared in September of the present year, consists of 12 folios, 20 pages in facsimile (collotype), dealing with the organs of generation. The remainder of the hitherto unpublished Windsor papers will follow, one volume appearing annually in September. The whole work will comprise six volumes. Leonardo intended to produce a treatise on anatomy, but this intention does not seem to have been carried out. The specimens we have seen show that the drawings are of great beauty. The work is dedicated by permission to Her Majesty Queen Maud of Norway, through whose kind offices permission to photograph the drawings and publish the work was obtained. The Professor Voss Prize has been awarded to the editors by the University of Christiania.

A monument has recently been erected in the small cemetery of Ferney, near Geneva, in memory of the well-known doctor poet Jean Lahor, who died in 1910. His real name was Henry Cazalis, and he practised at Aix-les-Bains and in Paris. In 1870 he worked among the sick and wounded at Versailles. He is said to have prevented the palace of Louis XIV from being occupied by the Prussian King by the simple device of transferring there a number of men suffering from typhoid fever. He was the author of *Chants de l'amour et de la mort*, *Heures Sombres*, *Chants Panthéistes*, *Vers Stoïciens*, *L'Illusion*, and *Quatrains d'Al-Ghazali*. In all these he gives proof of an exquisite poetic gift. His stimulating and lofty thought, conveyed in melodious verse, may be taken as an example of that philosophy which Milton described as—

> Not harsh and crabbed as dull fools suppose,
> But musical as is Apollo's lute,
> And a perpetual feast of nectared sweets
> Where no crude surfeit reigns.

Dr. Cazalis was also the author of writings on medical subjects, of which the best known is *Science et Mariage*.

British Medical Journal.

SATURDAY, OCTOBER 25TH, 1913.

THE ABUSE OF OPIUM, MORPHINE, AND COCAINE.

EVIDENCE has of late come from East and West alike of the urgent need for some international co-operation with a view to restrict the illicit traffic in opium, morphine, and cocaine. China, with the election and recognition of the President of the Republic, it is hoped, will now pursue, under more tranquil conditions, the war against opium commenced under the Manchu dynasty. The dispatches from Sir J. Jordan, published in a parliamentary paper (Cd. 6876) last July, indicated that, while there had undoubtedly been a recrudescence of poppy cultivation during the disturbed period of the revolution in several provinces, the rigid methods adopted by the military, aided by fine, imprisonment, and summary execution, had eradicated poppy culture in several other provinces, and had considerably restricted the practice of opium smoking. The provinces of Anhui, Hunan, and Shantung having been proved to have effectively suppressed the cultivation of the poppy, are now, in accordance with Article 3 of our agreement with China of 1911, closed to the import of Indian opium. The efforts of General Chang and of the members of the House of Commons who have taken an interest in the matter seem to have failed to prevent the unloading into China of stocks of Indian opium in the Chinese treaty ports. Nevertheless, the cultivation of the poppy in India will, we are assured, in future be reduced to what is deemed necessary to meet the extra-Chinese demand.

In September the St. Petersburg correspondent of the *Times* gave currency to a disquieting rumour that an English syndicate had been formed to acquire a concession to import opium into Mongolia. It was darkly hinted that the opium in question would be of Indian origin, and that the Chinese in Mongolia were to be its consumers. Another market for Indian opium is apparently to be established in Hong Kong as a Government monopoly. The acting Governor, in a recent address to the Legislative Council on the Budget for 1914, intimated that the Government was about to take over the premises, appliances, and staff from an opium farmer in the colony, and to contract with the Government of India for the supply.

While the Government of India is evidently embarrassed by the glut of opium it is producing, and is seeking with more or less success for legitimate outlets for its stocks, India appears to be also the dumping ground for illicit imports of cocaine. More severe legislation is being demanded against what is a great and growing evil among Indians of all classes. In a recent trial in Calcutta the second presidency magistrate stated that "many people are in gaol owing to the horrible craving produced by cocaine. The number of homes it has broken up and the lives it has ruined are incalculable." Medical officers of asylums in India have testified to the yet greater potency of cocaine than opium or morphine in causing moral insanity of the worst type. The maximum penalty for smuggling the drug is three months' imprisonment, which is said to be quite inadequate, since enormous profits are secured by the smugglers, some of whom are believed to be very wealthy men. Last month a case was heard in court in Calcutta against a European smuggler, in the course of which a letter was produced addressed to a London firm suggesting "quinine cases" instead of old clothing as the best means of surreptitiously consigning the illicit drug. More recently still a case containing eighteen tins of cocaine was confiscated at Bombay. Each tin contained 16,000 grains, of a total value of £2,666.

The distribution of the cocaine vice, like that of morphine, is, however, world-wide. It is an Occidental as well as an Eastern question. The recent death of an English baronet in Montmartre called renewed attention to the growth of the drug habit in Paris. Hardly a week, it is said, passes without the report of the death of some student or *demi-mondaine* from an overdose of opium, ether, or cocaine. An opium smoking establishment at Vésinet, a suburb of Paris, was recently raided by the police in consequence of the death there of a prominent figure of the Paris *demi-monde*. Death was due to cocaine *plus* ether and opium-smoking, and the establishment, to which wealthy Parisians and foreigners resorted was evidently a rendezvous for those addicted to these vices. Early this year, as was noted in the JOURNAL at the time, the extensive use of cocaine in certain night restaurants in Montmartre, where it was hawked by flower sellers, and even openly, was the subject of discussion at two of the medical societies in Paris, and it was stated that the Procurator of the Republic had called the attention of the police in the department of the Seine to the fact that in certain quarters of the city it was possible to buy cocaine, opium, or morphine without any difficulty, contrary to the provisions of the law with regard to poisons passed in 1908. It is now reported that, no doubt in consequence of this intimation, a vigorous raid has been recently made by the Paris police in Montmartre which has led to the arrest of a gang of men engaged in the traffic and to the seizure of large stocks of morphine and cocaine.

All this unsavoury evidence serves to enforce the need for that stringent international control of these drugs which it is the object of the International Opium Convention of 1912 to secure. That Convention still awaits ratification by some Powers. As pointed out in the JOURNAL of July 19th (p. 140), thirty-four Powers had then signed the Convention. We understand that since that date Uruguay, Peru, Norway, and Sweden have also signed. Outside the Balkan peninsula, where other questions are dominant, only Switzerland and Austro-Hungary have failed up to now to give in their adhesion. At the Interparliamentary Conference at The Hague last month M. Cremer (Holland) and Sir William Collins (Great Britain), who had both been delegates at the first and second Opium Conferences, urged again the importance of securing general international co-operation in order that the Convention might be speedily put in force. The *Gazette de Lausanne* of September 26th contained a strong appeal to the Swiss Government to join in this humanitarian work, and we cannot believe that either Austro-Hungary or Switzerland will desire to postpone the beneficial results which must flow from the ratification of this important treaty.

THE STRUCTURE AND COMPOSITION OF RED BLOOD CORPUSCLES.

A vast amount of work on the structure and composition of the red blood corpuscles has been done during the last five-and-twenty years. Yet they remain problems as obviously with us as are the poor. Micro-chemical research has not done a great deal to elucidate them, for the various methods of fixing or of staining that have been employed, though often most useful in the case of abnormal or degenerated red cells, tell us comparatively little about the normal red cell. For example, Maurer's dots or clefts may be seen in red corpuscles infected with the parasites of malignant tertian malaria, and Schüffner's dots, coloured red by Romanowsky's stain, in the cells similarly infected by the parasites of benign tertian malaria: in each case the dots are regarded as evidence of degenerative changes that have taken place in the stroma of the blood corpuscles. Analogous granulations have been less often described in the red cells of normal persons, or in those of the victims of various disorders of the blood, and here, again, have been taken to indicate processes of degeneration. But, as Buckmaster points out, polychromatophilia (or the possession of granules demonstrable by certain staining reagents) occurs physiologically in the developing blood of the embryo, and there are good reasons for supposing that granulation may be evidence of regenerative processes, of repair and not destruction, going on in the red cells in which it is seen. The difficulties here are enhanced by the uncertainty that inevitably attaches to the interpretation of things seen in blood slides fixed and stained and mounted; how far such appearances are artefacts and how far natural is constantly in dispute.

The methods of physiological chemistry are equally disappointing when applied to the structure and composition of the red blood corpuscle. They tell us the quantities and composition of the various compounds that make up a mass of red cells that have been killed, and also give information as to the products of the metabolism of the living cells, but leave us in the dark as to their structure and constitution during life.

Finer methods of analysis and investigation are required for the study of the individual cell, and these have been furnished in abundance by various modes of physical examination, and osmosis, electrical conductivity, depression of freezing point, may be particularly mentioned in this connexion. As a result of the great variety of experiments that have been made, one may conclude that the red cell has a surface layer of variable permeability, an envelope or membrane, containing a stroma or endosoma, of which from 86 to 95 per cent. is composed of haemoglobin. The envelope is semipermeable, impregnated with a layer of a compound of cholesterin and lecithin, according to Overton's view, permitting the entrance of substances soluble in the lecithin and cholesterin it contains, impermeable to other substances, such as neutral salts and sugars. It is quite uncertain in what form the haemoglobin, or the several kinds of haemoglobin as Bohr puts it, exists inside the red cell. Only a part of it can be in solution; Buckmaster supposes that the rest can only be in some amorphous condition; Hoppe-Seyler suggests that it is present as a compound with lecithin. Besides haemoglobin the endosoma, or inside of the red cell, contains small percentages of protein, fat, lecithin, cholesterin, and inorganic salts.

Dr. E. M. Brockbank has recently published[1] a paper in which he describes a new method of attacking the problem of the structure and composition of red blood corpuscles. It is quite simple, demanding nothing beyond a microscope, blood smears, and acid pepsin solutions for its employment. Normal blood is smeared in the ordinary way on microscope slides, fixed in alcohol or formalin vapour—the method of fixation adopted makes little difference to the results obtained—or in Leishman's stain. The slides are then exposed to solutions of an active form of pepsin, acidified to a greater or less extent by hydrochloric acid. The results obtained vary with the degree of the acidity, and can be readily observed under the high power of the microscope (one-sixth of an inch). Three main phenomena are to be seen, according to the acidity of the pepsin solution that is allowed to act upon the red cells. If the strength of the hydrochloric acid present is small, say 0.005 per cent., the red cells become more opaque, roughened, and changed in their staining properties. A more strongly acid solution of pepsin causes early digestive changes in the cells that result in a process called "ballooning" by Dr. Brockbank; the whole corpuscle is seen to swell up rapidly until perhaps four times its normal diameter, as if distended with colourless fluid, or, less often, with granular material. This "ballooning" appears readily in a dried unfixed smear that has been laked by breathing on it. Here the laked corpuscles can be seen as colourless discs, the escaped haemoglobin lying outside them; a suitably acid solution of pepsin causes these colourless discs to "balloon." The phenomenon suggests that the envelope of the red cells is distended by the endosmosis of fluid; or that both the envelope and the uncertain substance that is supposed to unite the envelope and the haemoglobin together swell up to form the "balloon." The appearances suggest at any rate that the wall of the red corpuscle has a considerable thickness of substance in it, and is stouter than the ghost form left behind after osmotic haemolysis. If the pepsin solution has an acidity of about 0.01 per cent. of hydrochloric acid, in a few seconds the red blood corpuscles can be seen to put out a greater or less profusion of granules that are amorphous, opaque, apparently brownish, and insoluble. Dr. Brockbank calls this appearance "granulation," or "visible haemolysis"; if it goes on long enough all traces of haemoglobin vanish from the red cells, which remain as ghosts or shadows, so called. The composition of the granules he is not able to determine; their profusion and bulk make it unlikely that they consist of haematin, and he suggests that they may be a compound of haemoglobin with some other body, possibly lecithin. No "ballooning" can be obtained after a corpuscle has lost its contents by "granulation."

Another observation that Dr. Brockbank has made is that, if a blood smear be made on a hot glass slide, the red cells will be found much altered in shape. There are masses formed apparently by the coalescence of two or more red corpuscles, and there are other bodies like fragments of corpuscles. Both large masses and fragments show the phenomena of "ballooning" and "granulation," and the haemoglobin in them can be dissolved out by breathing on the slide. Dr. Brockbank concludes from these facts that live unfixed red blood corpuscles, like soap bubbles or globules of oil, possess the power of coalescing under certain conditions to form larger masses, and of forming smaller complete globular bodies when fragmented. Their limiting envelope must be albuminous or lipoid in nature, and cannot have a histological fibrous structure like that of the

[1] *Medical Chronicle*, Manchester, 1913, 4 S., xxv, 287.

envelope of fat cells. This would appear to be direct evidence in favour of Overton's view, or some similar view, of the structure of the envelope of the red cells. As regards the internal economy, the inner structure of the red cell, Dr. Brockbank reiterates his view of the origin of the blood platelets. These, he says, are extrusions from red blood cells. They arise from the interior of these, and can be seen in the red corpuscles and in the mouths of burst red corpuscles. Their appearance in the latter situation suggests that they come from a single cavity, and not from a sponge-like structure such as has been believed to hold the haemoglobin netted in its reticulations.

To summarize the chief conclusions drawn from this interesting paper, it would seem that there is some outer structureless material on a red corpuscle that is removed by strongly acid pepsin solutions. Inside this lies the true envelope of the red cell, devoid of histological structure, capable of coalescing with similar material in other red cells to form a bigger mass, and capable of fractionation into smaller masses. Within this again is the haemoglobin, not in watery solution at all, perhaps linked to the envelope by lecithin. And within the capsule of envelope and haemoglobin lies the material that is extruded to form the blood platelets, perhaps also the bodies which exhibit Brownian movements in fresh preparations of living blood and the so-called "spirochaetes" of normal blood.

THE PERILS OF COAL DUST.

Mining engineers as well as the public will await with some impatience the result of the inquiry into the cause of the explosion which has wrought such appalling havoc in the heart of the Welsh coalfield. The nature of the igniting force is still a mystery, but, whatever the immediate cause, there seems little doubt that the magnitude of the disaster was due to the inflammable coal dust formed in the haulage roads, and not to the so-called fire-damp or gas given off from the coal seams. When a pit disaster, like that at Senghenydd, involves great loss of life, and inferentially a wide area of destruction, it may almost be taken for granted either that coal dust is the sole agent or that it has greatly extended and intensified the original explosion. In by far the larger number of colliery explosions fire-damp is the cause, and no trace of the action of coal dust is to be found; but these explosions are usually of a local character. It is the coal dust, creating as it does waves of explosive energy along the roadways of the mine, which is usually responsible for such devastation as occurred as Senghenydd. The direction of the explosion wave in this latest calamity is held also to favour the coal dust theory. The mine is said to have been exceptionally well ventilated, and while such ventilation may prevent the accumulation of gas in the workings and, apart from sudden gaseous outbursts, act as a safeguard against the dangers of fire-damp, it may also stir up the dust, and thereby fulfil one condition for an explosion of a different kind. Unfortunately, as coal mines become deeper and drier, and consequently more dusty, calamities on this scale must be expected until some practical method of dealing with the accumulated dust has been devised. Experiments with those objects in view have been in progress on a large scale for some years under the direction of a special committee. They have confirmed the opinion as to the extreme danger of coal dust, but it does not seem that they have yet yielded results applicable on a large scale to an actual coal mine. The report of the disaster at the same colliery in 1901, when an explosion in the adjoining "district" caused a death roll of over seventy, only one entombed miner escaping, shows that though the cause was obscure, the explosion travelled through all the main roads, with the exception of a few portions naturally damp; it penetrated into what are called the stall roads and working-faces in each district, but avoided the principal return airways. In this case, again, there was evidence that the mine was dry and dusty throughout. It is only within recent years that the possibility of coal dust playing the leading part in mine disasters has been fully admitted, but the report of the Royal Commission on Mines (1909), not to speak of earlier pronouncements, made it abundantly clear that under certain conditions coal dust suspended in air may explode not only with but without the presence of fire-damp. To cause the disaster the dust must be dry and finely divided, some of it being suspended in air like a dense cloud, and an igniting medium of reasonably high temperature must be projected into it. Frequently this igniting medium is the flame produced during shot firing, and on the occasion of the disaster in this colliery twelve years ago, Professor Galloway came to the conclusion that the explosion was caused by the firing of a shot without any attempt being made to water the locality. In the present instance, however, it seems to have been proved that there was no shot firing. This theory being abandoned, there are a number of others, such as a defective lamp or a fused cable, but it has previously been regarded as scarcely likely that a naked light or an ordinary flame could cause an explosion of coal dust alone. The possibility of a small originating explosion of fire-damp cannot be disregarded, for fire-damp is rarely, if at all, absent from the pit, and it may liberate energies which are greater than its own. Of the preventive measures suggested, the admixture of stone dust has attracted some attention during the past few years, but the limits of safety within which even a non-combustible dust may be used on the mine roadways are still unknown. As the result of the recommendation of the Royal Commission on Mines provisions were introduced into the Coal Mines Act, 1911, directing that in mines where the floor, roof, and sides of the roads are not naturally wet throughout there should be a daily inspection and written report on the conditions of the roads as to coal dust, and of steps taken to mitigate dangers arising therefrom. A further provision directed that systematic steps, either by way of watering or otherwise, to prevent explosions of coal dust occurring or being carried along the roads, should be taken in accordance with regulations to be laid down. The Home Office Committee on explosions in mines has presented four reports, and it is understood that its fifth, which has been for some time expected, would deal with this matter of regulations; so far, however, no regulations have been issued. In the United States the introduction of moisture into the mine, either by means of water sprays or by humidifying the intake air current with exhaust steam sprays, has been recommended, but in the British coalfield the mine temperatures are said to be from 15 to 20° F. higher than in the American. The fear has in consequence been expressed that humid air conditions would make our mines, which at present, apart from accident, are remarkably healthy, the breeding ground of disease. Death dogs the miner's footsteps; cheated in one direction, it exacts its toll in one fell swoop in another.

THE INSURANCE DIFFICULTY IN GERMANY.

From the summary by our Berlin correspondent of the conditions created by the amendments of the Insurance Act in Germany, published last week (p. 1029), it will have been seen that the main cause of dispute between the doctors and the societies arises in connexion with questions affecting the free choice of doctor and the capitation fee. The new law, which comes into force on January 1st, 1914, does not determine these points, but leaves them to be settled

between the interested parties. For some weeks past the negotiations between the Leipzig union of doctors, together with the medical societies' federation (Aerztevereinsbund), as representing the medical profession, and the insurance societies and clubs (Betriebkrankenkassenverband), have been carried out with good promise of success, owing chiefly to the very moderate position taken up by the doctors. It was recognized that it would be an unwise policy to seek to impose conditions which the societies would have financial or administrative difficulties in carrying out. The principle of the free choice of doctor was modified in the hope of making it acceptable to the managers of the societies, and the question of remuneration was also treated in a spirit of great moderation. The local meetings and the conferences between the representatives of both parties appeared to be making good progress toward a satisfactory solution. But on October 13th the Leipzig Union issued a communication to the press stating that the societies had peremptorily refused to continue negotiations with the doctors in regard either to the free choice of doctor or to the question of remuneration. A special meeting of the Aerztetag (representative meeting of the medical profession) has been called for an early date to determine the policy to be followed. It appears that the societies have no desire to meet the reasonable demands of the profession, but intend to follow a policy of repression, attempting to carry on the administration of the Act with a high hand. It is further equally certain that the doctors are sufficiently united and in earnest to fight solidly for their elementary rights, and to hold out for the terms which they have already put forward. In a concise and illuminating account of the new Insurance Act,[1] Geheimrat Professor T. Rumpf has pointed out that the advantages of the Act for the masses in regard not only to efficient treatment of disease, but also to prevention, can only be attained when the conflict between the doctors and the insurance societies is ended. He contends that the chief difficulties lie in the standardization of the contracts which each insurance doctor is required to sign. It is suggested that the form of contract should be drawn up by the Leipzig Union, so that with its solid backing the individual practitioner will be in a position to require and obtain reasonable terms of employment. The Leipzig Union at present seems inclined to await the course of events, as the failure to reach a settlement was due to the other side. Meanwhile there is no course open to the union but to call upon the profession to hold out for its very moderate and just demands. In other words, the doctors will not accept service on January 1st unless the societies come round. If the latter remain obstinate, the Government will be compelled to intervene, and stranger things might happen than the fixing of the conditions of the contracts for medical service by the Government, on lines which the profession would be willing to accept.

THE LONDON HARVEIAN FESTIVAL.

THE Harveian festival of the Royal College of Physicians of London was celebrated on St. Luke's Day, October 18th. In the afternoon the Harveian oration was delivered by Dr. J. Mitchell Bruce. The subject of the oration was the origin and nature of fever, and the orator reviewed the history of the doctrines of the causes of fever from the death of Harvey to the present time. The subject, he said, had been studied from two different points of view—by those who were concerned with armies and with slums and gaols, and by those engaged in hospital and private practice. The studies of the former had been directed especially to the etiology and of the latter to treatment. Harvey's writings contained thoughts on the natural history of life and disease. There was a passage in the *De Generatione* which related to "the manner in which epidemic, contagious, and pestilential diseases scatter their seeds and are propagated to a distance through the air, or by some forms producing diseases like themselves in bodies of a different nature, and in a hidden fashion silently multiplying themselves by a kind of generation." Harvey alone of all the observers in two centuries had offered an experiment instead of an opinion. His experiment was, after pricking his finger with a clean needle as a control observation, to rub the same needle on the mouth of a spider and prick the hand in another place. The result was that "the part pricked with the envenomed needle immediately contracted into a tubercle, and by and by became red and hot and inflamed, as if it collected and girded itself up for a contest with the poison for its overthrow." The experiment, Dr. Mitchell Bruce said, was perfect in its kind, proving, as Harvey put it, that "the flesh itself readily distinguishes a poisoned wound from one that is not poisoned." He had also made observations of the organs of defence and escape in animals, concluding that "to those animals to which Nature has given vast strength she has also presented weapons in harmony with their powers; to those that are not thus vigorous she has given ingenuity, cunning, and singular dexterity in avoiding injury." This sentence, the orator pointed out, outlined in a few words the automatic, instinctive, and voluntary defences possessed by the individual for the struggle of existence. Harvey had also forecast the correlated law of sexual selection in the following sentences: "Ornaments of all kinds, such as tufts, crests, combs, wattles, brilliant plumage, and the like, to say nothing of such offensive weapons as teeth, horns, spurs, and other implements employed in combat, are more frequently and remarkably conferred upon the male than the female . . . the subject of dispute being no empty or vainglorious matter, but the perpetuation of the stock in this line or in that, as if Nature had intended that he who could best defend himself and his should be preferred to others for the continuance of the kind." Dr. Bruce then pointed out that these brief discussions of fundamental principles constituted a single great conception in which Harvey by way of experiment and intelligent observation came near to unlock the very inmost of Nature's secrets, the relativity of life, the reaction of man to the influences of his environment, whether favourable to his existence and health or unfavourable to them—constituting the causes of disease and death. This conception was alone sufficient to justify the admiration and reverence which the College entertained for the man whose work and character was its chief glory. The Baly medal was presented by the president to Dr. John Scott Haldane, F.R.S., reader in physiology in the University of Oxford. The medal was founded by Dr. Frederic Daniel Dyster in 1866 in memory of William Harvey, and is awarded every alternate year on the recommendation of the president and council to the person deemed to have most distinguished himself in the science of physiology, especially during the two years immediately preceding the award. It is not restricted to British subjects; the last five recipients were Professor J. N. Langley, F.R.S. (1903), Professor Pawlow of St. Petersburg (1905), Professor E. H. Starling, F.R.S. (1907), Professor Emil Fischer of Berlin (1909), and Professor W. D. Halliburton, F.R.S. (1911).

PORTRAITS OF WILLIAM HARVEY.

No one can read about famous men and women—whether the fame be good or bad—without feeling some curiosity as to their personal appearance. Carlyle somewhere says that a historian should spare no pains to procure portraits of the people of whom he writes, for even in the worst likeness, if it be genuine, there are to the seeing eye revelations of character. But in the case of many of those

[1] *Arzt u. R.V.O.* (Reichs-Versicherungs-Ordnung). By Geheimrat Professor Dr. Th. Rumpf. 1912. (Bonn: Marcus and Weber).

who have left their mark in one way or another on the history of mankind we are often perplexed by the variety of pictures of greater or less authenticity labelled with their names. The so-called portraits of Shakespeare are grotesquely unlike each other, and none of them conveys the idea of the foremost man in all literature. The portraits of Mary Queen of Scots, again, are still more discordant, and scarcely one of them has a trace of the beauty which made men ready to die for her, and the very tradition of which even now disorders the judgement of serious historians. In a spirit of pious reverence the Historical Section of the Royal Society of Medicine has had photographs made of such portraits of William Harvey as could be found, and has published reproductions of them in a handsome volume.[1] The collection, to quote from the preface, "proves that the undoubted and contemporary portraits of Harvey are more numerous than was expected, either because 'the honest little Doctor' liked to have his picture painted, or, as is the more likely, because he could not resist the importunity of artists whom he must often have desired to help pecuniarily." It is added that there are also several pictures of gentlemen of the seventeenth century with peaked beards and white collars which are labelled with Harvey's name. These spurious portraits can, it is said, be divided into two groups—those which may have been portraits of Harvey's brothers, supposing that a family likeness existed, and those which are clearly not members of the family. In the volume now issued the genuine portraits are arranged in the order of apparent age. We have a description of how Harvey looked in the eyes of his contemporaries in 1616 when he was 37 years of age. "A man of the lowest stature, round faced, with a complexion like the wainscot; his eyes small, round, very black, and full of spirit; his hair as black as a raven and curling; rapid in his utterance, choleric, given to gesture, and used when in discourse with anyone to play unconsciously with the handle of the small dagger he wore by his side."[2] Seventeen portraits are reproduced in the volume with a loving care that gives it an artistic as well as a historic interest. There is a brief but sufficient description of each picture, with an account of its history as far as that can be traced. Not all the portraits are genuine, as is, indeed, clear even to those who have no special knowledge. The first in order, which was bequeathed to University College, London, by Mr. George Field, and is said to have been in the possession of Mr. John Linnell Bond, architect to Sir E. Harvey, to whom it descended through William Harvey's second brother, is attributed to M. C. Micrevelt (1567–1641). It is a fine picture, but is certainly not a portrait of the discoverer of the circulation of the blood. Again, there is what is called the Rolls Park portrait, which is in the possession of General Sir Francis Lloyd. It was removed from Rolls Park, Essex, to Aston Hall, Salop, by Captain Richard Lloyd, a lineal descendant of Harvey through his mother, a daughter of Admiral Sir Eliab Harvey. It is said to be doubtful whether the portrait was ever intended to represent William Harvey, and it certainly, as Carlyle said about one of the portraits of John Knox, is difficult to see in the face of this somewhat commonplace "cupeptic" gentleman any trace of the deep thought, still less of the melancholy, which marks the genuine portraits, however these may differ in other respects. The picture from the Erich Galleries, attributed to Janssen and bought at a sale by Mr. Erich, is another doubtful portrait; we are inclined to look with the same doubt on the portrait in the possession of Mr. John P. Cobbold, of Holywell, Ipswich. Of the genuine portraits, the most pleasing is one in the possession of James Franck Bright, D.D., formerly Master of University College, Oxford, and a son of Richard Bright. It is attributed to Van Dyck. It has a coat of arms with a crest consisting of a lighted candle around which two serpents are entwined; underneath is the motto. *Più arde più splende.* We do not quite understand the interpretation given—più (Harde più splend(ide); the words are Italian, plain if not choice, and mean, "The more it burns the more it shines." What language "(Harde" is supposed to be we confess we cannot guess. Harvey himself in his notes wrote a jargon of English and dog Latin, but that is scarcely a sufficient reason for mixing Italian and Latin in his motto. The Royal College of Physicians has two portraits. One of these, which represents Harvey about the age of 50, was bought for the College by the late Dr. Frank Payne. The name of the artist is not given. The face is that of a man in the fullness of his intellectual powers; it has something of the expression of a thoughtful Cavalier. The other portrait is by Cornelius Janssen, and its authenticity may be accepted, as it is one of the three pictures saved from the Great Fire of London in 1666, which destroyed the College then situated in Amen Corner. It is thought possible that the portrait was expressly painted for the College, and that it may have been a gift from Harvey himself. It represents an older man than the other portrait. The genuine portraits show that Harvey had a long face with refined features; his hands, which were long and thin, well fitted for delicate dissection, are treated with special care by the better painters. It is interesting to trace the deepening melancholy of the face as years brought increasing sadness from the *turbarum plena respublica* and the feeling that he himself was on the high seas. Harvey was a devoted adherent of Charles I, and after the execution of the King the famous physician, who had been rather a dandy, always dressed in sombre raiment. The Historical Section of the Royal Society of Medicine is to be congratulated on the zeal and devotion to the objects for which it was founded in producing with rare perfection a work which, though a thing of beauty in itself and valuable to all students of medical history, makes little appeal to the general.

[1] *Portraits of Dr. William Harvey.* Published for the Historical Section of the Royal Society of Medicine by Humphrey Milford. London: Oxford University Press. 1913. (Dbl. roy. 8vo, pp. 55. 21s. net.)

[2] D'Arcy Power: *William Harvey.* Masters of Medicine Series. London: T. Fisher Unwin. 1897.

NOGUCHI'S CUTANEOUS LUETIN REACTION.

LADISLAUS BENEDEK[1] has recently reported observations on the reaction with Noguchi's luetin in general paralysis and in cerebral syphilis. He injected 0.07 c.cm. of luetin, mixed with 0.03 c.cm. sterile physiological saline solution, 4 to 5 mm. deep into the skin by means of a very fine needle. When the reaction was negative, a small weal measuring 2 to 3 mm. in diameter formed after a few hours; it became paler during the following twenty-four hours, but might still be felt as a minute papule for four or five days. In a few cases very minute haemorrhages took place around the puncture in negative cases. When a positive reaction occurred, vivid redness and marked prominence of the papule developed within the first twenty-four hours. At times the area became oedematous within forty-eight hours, but, as a rule, the reaction was most distinct on the third or fourth day, the area having increased in size and having become prominent. In some instances a pustule formed in the centre. These characters, including pustulation, were well illustrated by a set of slides shown by Noguchi during his demonstration at the Royal Society of Medicine this week. He considers that the reaction should not be considered positive unless the characters are well marked on the sixth day. Benedek, however, maintains that the prominence, the formation of a good areola and pustule, the intensity of the discoloration, and the duration of the development and involution may be regarded as the criteria, without definitely requiring that the conditions shall be of a certain kind on a certain day. Of 81 cases of progressive paralytic

[1] *Munch. med. Woch.*, September 16th, 1913.

dementia, 65 (80.4 per cent.) gave a positive reaction, while of 10 cases of dementia praecox only 1 gave a weak reaction. In 3 cases of cerebral syphilis the reaction was extraordinarily well marked; on the fifth day the areola measured from 3 to 5 cm. in diameter, and in the centre of this a dark red papule of the size of a hazel nut was seen. The edges of the papule gradually faded off into the inflamed oedematous surroundings. Vesicles formed on the seventh day, and the contents—a thick, brownish-yellow fluid—discharged between the eighth and tenth day, after which involution began. A papule could still be felt after three weeks, and the skin was then markedly discoloured. Benedek has not observed such a strong reaction in any case of general paralysis. He suggests that this striking form of cutaneous, or rather intradermal, reaction may possibly prove useful in the differential diagnosis of general paralysis of the insane and cerebral syphilis.

THE ABORTIVE TREATMENT OF SYPHILIS.

The discovery of the spirochaete of syphilis, the introduction of the complement deviation test for the diagnosis of the disease, and the discovery of salvarsan for its treatment, have together given an impetus to the study of the possibility of cutting short the attack while the infection is still in the earliest stage. That Ehrlich's aim at complete and immediate sterilization failed does not necessarily mean that attempts at an abortive treatment should be given up as hopeless. Zürn,[1] in a recent paper, shows that the abortive treatment of syphilis has, in the hands of various clinicians, met with a not inconsiderable success, and relates his own experience in Lesser's clinic. The attempt was only made in cases in which there was a primary chancre with spirochaetes, a negative Wassermann reaction, and no secondary symptoms. This practically meant an early infection and a certain diagnosis. The cases were treated either with salvarsan alone, or with mercury alone (calomel, or at times mercury salicylate or perchloride), or a combination of the two: 11 patients were treated with salvarsan alone, 17 with mercury alone, and 25 with a combination of the two. In 19 of the 53 cases, the attempt definitely failed. Success was definitely obtained in 4 cases, while in the remaining 30 the time is still too short to admit of deductions. The first patient of those successfully treated received calomel and salvarsan, and the chancre was excised. The proof of the cure was a reinfection eight months later, which was also treated by the same method, so far without the appearance of secondary symptoms or a positive Wassermann reaction. The second patient was treated with old salvarsan alone. No indications of syphilis have presented themselves during the thirteen months which have elapsed since the treatment. The third patient was treated with three injections of neo-salvarsan, and has remained free from symptoms for fourteen months, and has a negative Wassermann test. The fourth patient was treated with calomel alone. He, too, has remained free from all indication of infection for fourteen months. Before expressing a positive opinion as to the result of the treatment, Zürn considers it to be essential to keep the patient under observation for at least one year and to test the serum for the Wassermann reaction every two or three months. He recognizes that the chances of success of the abortive treatment are not very good, but when the cases can be got early enough the attempt to stop the disease before the infection becomes general is justifiable.

THE THERAPEUTIC USE OF THORIUM X.

O. Meseth,[2] who has used thorium X in the treatment of various diseases in Erlangen, recommends beginning with small doses except in leukaemia, where he recommends from the first a comparatively large dose, which may be increased. He advises 300 to 400 electrostatic units (1 electrostatic unit = 1,000 Maché units) to begin with; the highest dose he has yet given is 1,000 electrostatic units. In pernicious anaemia great care must be exercised, and he usually begins in such cases with from 10 to 70 electrostatic units. Secondary anaemias react well to small and medium doses. The best results obtained with thorium X were in rheumatic and other joint affections. Beginning with small doses, he either increased them gradually up to a maximum of about 500 or 600 electrostatic units, or continued the small doses for a considerable time. In small and medium doses thorium X was well tolerated for months. He is not yet able to say whether it is better to administer the substance by intramuscular injections or by the mouth. The dose given by injection was probably more exact, but excellent results were obtained by giving thorium by the mouth. The latter method is cheaper; an injection of 100 electrostatic units costs about 1s., and the corresponding dose by the mouth about 6d. He records the changes produced in the blood, and notes some cases in which certain undesirable effects occurred, but they were rare and not severe. He strongly advises the employment of this substance in anaemia (excepting pernicious anaemia), sciatica, and chronic joint affections.

BRATT'S SYSTEM FOR THE SALE OF ALCOHOL.

For many years Sweden has been Europe's experimental rabbit in the regulation of the sale of alcohol: and a notable example of Sweden's pioneer work is the Gothenburg system. But this, as was pointed out in the Journal of December 7th, 1912, has in many respects proved a failure; and the demand for total prohibition has lately gained favour with a large section of the public. This attitude was endorsed a few months ago in a speech by the head of the Government, and victory for the prohibitionists seemed imminent. Side by side with the agitation for prohibition, there has been a powerful movement in favour of radical changes in the control of alcohol, aiming at restriction of its sale to all, and a total prohibition of its sale to those whose abuse of alcohol has become notorious. The committee appointed in 1908 by the Swedish Medical Society, and subsidized by the State, published in 1912 a long report, and outlined a scheme, the principal features of which were: elimination of private interests in the sale of alcohol, restriction of its sale for consumption at home, and the adoption of stringent measures against the notorious drunkard. Dr. Ivan Bratt, a member of the Committee, has lately elaborated a system which has already been adopted in certain districts in Sweden. This autumn the authorities in Stockholm have accepted Bratt's system, which is sufficiently elastic to allow of adaptation to the needs of different localities. The principles of this system, which retains certain features of the Gothenburg system, are: the limitation of the quantity of of alcohol sold to each person, and the restriction of its sale to the possessors of tickets of sobriety. These tickets, for which application must be made to the authorities, are denied to persons living outside the district in which the liquor is sold, to habitual drunkards, and to those who have undergone treatment for drunkenness. Tickets are also denied to those who, within the year, have been punished for drunkenness or vagrancy, or have received on their own account, or on behalf of their relatives, poor relief which has not subsequently been refunded. Persons who are violent at home under the influence of alcohol, and others of whom complaints have been made by responsible authorities may also be denied a ticket. Any one who lends his ticket to another, or uses another's ticket, forfeits for ever his right to a ticket.

[1] *Berl. klin. Woch.*, September 8th, 1913.
[2] *Muench. med. Woch.*, September 23rd, 1913.

The ticket must be presented before liquor can be bought, and a record is kept showing the cause and the date of confiscation of a ticket. The sale of liquor for consumption off the premises is limited to persons living in the same area as that in which the liquor is sold, and the amount bought must be entered in a special form supplied by the authorities. So much for the chief features of Bratt's system, which, though accepted by the authorities in Stockholm, has not yet been carried into effect. In localities where the scheme has advanced further various modifications, not involving the principles of the system, have been introduced. Thus in Södertelje, near Stockholm, by a unanimous vote of a commission appointed to frame regulations for the sale of alcohol under Bratt's system, detailed and stringent measures have been decided on. The sale of liquors on the premises is to be confined to the hours 10 to 4 on week days. The premises are to be closed on holidays, between Christmas and New Year, and are to be open two hours less than usual on the days before and after Sundays. No one is to be permitted to buy more than 1 litre of brandy or similar intoxicant in a week, or more than 10 litres in three months. Under special conditions these quantities may be exceeded, provided certain forms are observed. Not more than two "drams" and a bottle of beer may be bought by the same person during the day, nor more than one "dram" and half a bottle of beer within two hours. The Gothenburg principle of serving liquors only with food is to be retained. With certain reservations, the sale of alcohol at hotels and restaurants is to be prohibited between the hours of 11 p.m. and 9 a.m. It is not yet clear to what extent Bratt's system will be adopted in Sweden, but with the prospect of total prohibition as an alternative it is probable that many who would otherwise oppose it will do their best to render it practicable.

CREMATION IN AMERICA.

THE first national convention of American cremationists was held at the crematorium, Detroit, Michigan, on August 27th and 28th. The object of the meeting was to found a national association. Dr. Hugo Erichsen occupied the chair. The following organizations were represented by delegates: The Massachusetts Cremation Society, the Cincinnati Cremation Society, the Buffalo Cremation Company, the Missouri Crematory Association, the Pittsburgh Crematory, the Indianapolis Crematorium, the Forest Lawn Crematorium (Omaha), the Cleveland Cremation Company, the Montreal (Canada) Crematorium, the Lindenwood Crematorium (Fort Wayne, Ind.), the Los Angeles Crematorium, and the Michigan Cremation Association. The following organizations were represented by proxy: The California Crematorium, Oakland; the East Lawn Crematorium, Sacramento, California; the New Haven (Connecticut) Cremation Society. Pledges of support had been sent by the Oakland Cremation Association, of Oakland, California; the Denver Crematory; and the Portland, Oregon, Cremation Association. In an address read by the Chairman, Mr. Oscar B. Marx, Mayor of Detroit, expressed the opinion that cremation was a great sanitary reform that would be increasingly forced upon people by the congestion of cemeteries and of cities. In order to bring about a change in public sentiment a continual propaganda was required, and in this way, he believed, the new national society was destined to play a great part. Cremation throughout the Union had made great progress within the past ten years, but the good work must be continued. Dr. Hugo Erichsen said that this was the first occasion on which those in favour of cremation had assembled to take counsel with each other and to arrange to carry on an effective propaganda. Every cremationist must be a missionary for the cause. That they had the best of the hygienic argument was generally conceded, but some people still contended that earth burial was more beautiful. He read what Mr. Franke W. Dickinson of Springfield, Massachusetts, a past president of the National Funeral Directors' Association, said in addressing the clergymen of that town upon funeral customs. After expressing his conviction that cremation was destined to supersede inhumation, he went on: "Most people assert that sentiment favours earth burial. I am sure that the reverse is true—that sentiment favours cremation, provided that sentiment has for its foundation an intelligent understanding of each. Cremation is a radical change, and its introduction may be slow, but it surely will become general when the people understand, as they will sometime, why it is best." In order to disseminate more thoroughly the arguments in favour of cremation, Dr. Erichsen suggested, first of all, that a lecture, upon which he had expended considerable research and work, should be placed in the hands of the secretary of every cremation society in the United States and in those of individuals in States where there were no cremation organizations. A draft of a constitution and by-laws was submitted to the National Convention, and with certain modifications adopted. It was decided that the name of the organization should be "The Cremation Association of America." The object of the association was defined as "the promotion of the practice of cremation, including the improvement of methods and all matters connected therewith, by expenditure of money from the funds of the society in the propagation of cremation by means of publications, meetings, lectures, or otherwise." The election of officers resulted in the choice of Dr. Hugo Erichsen as president, G. S. Metcalfe as vice-president, Frank L. Cobb as treasurer, and Charles C. Reynolds as secretary.

ACTION AGAINST THE BRITISH MEDICAL ASSOCIATION.

A REPORT of the case Sloman *v.* British Medical Association and others, heard at the Bedford Assizes on October 17th and 18th, containing the terms of settlement, will be found at page 1119.

THE Bradshaw Lecture before the Royal College of Physicians of London will be delivered on November 4th by Dr. T. R. Glynn, Professor of Medicine in the University of Liverpool, who has chosen for his subject Hysteria in Some of Its Aspects. Two Fitz-Patrick Lectures will be delivered on November 6th and 11th by Dr. C. A. Mercier, on Astrology in Medicine. The lectures will be given at the College at 5 p.m.

THE American Medicine Gold Medal for 1913 has been awarded to Dr. M. J. Rosenau, Professor of Preventive Medicine and Hygiene in the University of Harvard. The recipient of this distinction last year was Dr. Gorgas.

THE fifth international congress on provision for the care of the insane will be held at Moscow in January next (8th to 11th). The following is the official programme of discussions: Theories of dementia praecox and degeneration (to be introduced by Drs. A. Bagenoff and A. Marie); out-patient departments for mental diseases (to be introduced by Drs. Carswell and Van Deventer); new methods of treatment in general paralysis (to be opened by Drs. Wagner von Jauregg, Pilcz, and Donath); alcoholic degenerations (to be introduced by Dr. Robinouvitch); cosmic influences in the etiology of certain mental phenomena (to be introduced by Dr. Marie); surgical treatment of certain mental affections (to be introduced by Drs. Delbet, Perriol, and Poussep). The treasurer of the organizing committee is Dr. Bouneieff, Preobrajensky Asylum, Moscow. All communications relating to papers to be read at the congress should be addressed to the Secretary, Dr. Cettline, Krassnoselskaia, 3, Moscow. There will be a psychiatric exhibition in connexion with the congress.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Moncrieff Arnott Chair of Clinical Medicine.

At a meeting of the Edinburgh University Court, held on October 20th, Dr. William Russell, M.D., F.R.C.P.Edin., was appointed to the new Moncrieff Arnott chair of clinical medicine. Under the new arrangement come to between the University of Edinburgh and the Royal Infirmary, Sir Thomas Fraser was appointed chairman of the medical lecturers. Dr. Russell is at present physician and lecturer on clinical medicine in the Royal Infirmary, Edinburgh, and has been for many years lecturer on the practice of medicine in the Edinburgh School of Medicine, and is Dean of the School of Medicine for Women. Dr. Russell is well known to the profession at large by his writings, chiefly on cardio-vascular diseases. He has taken a keen interest in the work of the British Medical Association, was for a good many years Honorary Secretary of the Edinburgh Branch, and one of its representatives on the Central Council.

The New Professor of Natural Philosophy in Edinburgh University.

Professor C. G. Barkla, the new Professor of Natural Philosophy in the University of Edinburgh, gave his inaugural lecture in the M'Ewan Hall on October 16th. Principal Sir William Turner presided, and there was a large gathering of undergraduates, members of the University Court and Senatus, and of the general public. The subject of the address was, "What we Know of Electricity"; and in the course of a lecture which was learned and comprehensive, Professor Barkla gave his views on the mode of action of the x rays in medicine. He had no doubt that the therapeutic effect of these rays was due to their property of causing the body treated to emit electrons, and so produce a state of localized electrification throughout the tissue, millions of small patches becoming momentarily electrified, some positively, some negatively; this state stimulated chemical actions which might be beneficial or otherwise.

New Anatomy Rooms for the Edinburgh School of Medicine for Women.

About seven years ago Minto House, where the Medical College for Women in Edinburgh was partly housed, was sold, and it seemed for a time as if the medical education of women in the city could not be continued. The lecturers, however, found that, with certain alterations and extensions, sufficient room was available in the Surgeons' Hall School of Medicine, and, having obtained from the Court of the University of Edinburgh individual recognition as lecturers and teachers whose courses of instruction entitled women to present themselves for the medical examinations for the university degree in medicine, they continued the teaching of women in the Surgeons' Hall premises under the name of the Edinburgh School of Medicine for Women. There for six years the work has been going steadily on, and the school has already a list of sixty-seven former pupils who took out some or all of their classes there, and who have since graduated as M.B., Ch.B. in the University of Edinburgh, and of nineteen others who have obtained the triple qualification of the Royal Colleges and Royal Faculty of Edinburgh and Glasgow. During these six years the accommodation for the students has been sufficient in all the subjects of medical study save practical anatomy; in this some inconvenience was caused and some crowding suffered by reason of the small space available for teaching purposes. The difficulty thus experienced has now been surmounted; alterations and rearrangement of classrooms have been carried out; and, whilst an improved room has been made for natural history, well lighted and well ventilated dissecting and bone rooms have been provided. The new dissecting-room gives accommodation for six tables. The fact that seventeen new students have joined the school this winter session shows that the increased accommodation has not been supplied too soon.

On October 17th the new rooms were declared open by Principal Sir William Turner, who, along with Professor Rankine, represented the University Court. Dr. William Russell, the Dean of the school, presided, and, after sketching the history of the medical education of women during the past six years, and thanking the University Court for the kindness and encouragement it had given, spoke of the extension of the anatomical department as a distinct forward movement. Another forward step had been the appointment of a woman demonstrator in anatomy, and of a woman demonstrator to assist in both physiology and pathology. They had also to express their sincere gratitude to the Carnegie Trust for its generous approval of the plans they submitted to it, and for its permission to use part of the grant to the school for the structural alterations, which had been carried out under the directions of Mr. Balfour Paul, the architect to the Royal College of Surgeons.

Sir William Turner, in declaring the rooms open, spoke of the professions of nursing and medicine, into both of which women had an entrance; the latter, however, required an education on a higher and much more comprehensive basis. Principles must be mastered as well as details; and, when they got the fundamental ideas upon which they had to work, they would be astonished how much plain sailing there was in their profession.

Dr. Goodall, lecturer on physiology, proposed a vote of thanks to Sir William Turner, and this was cordially given. In addition to a large number of the students of the school, there were present some of the former pupils of the Medical College for Women, including Dr. Beatrice Russell, Dr. Margaret Merry Brotherston, and Dr. Isabella Cameron; Dr. McKenzie Johnston represented the Royal College of Surgeons; and from the lecturing staff of the school were Dr. Whitaker (Anatomy), Dr. William Craig (Materia Medica), and Drs. John Thomson, J. W. Ballantyne, R. A. Fleming, Aitchison Robertson, W. Robertson, and W. T. Ritchie. After the ceremony tea was served in the Royal College of Surgeons.

Prehistoric Relics in Scotland.

In August last a short cist containing the well-preserved human remains of a brachycephalous man was found in Burgie Lodge Farm, near Forres, by Mr. C. M. Bruce. It was examined by Professor Reid, of Aberdeen, and others, and the general conclusion seems to be that the interment took place from about 4,000 to 5,000 years ago. During the work of removing some stones from the same field Mr. Bruce uncovered another ancient grave about one hundred yards east of the previous find. It is a simply made cist of small capacity, primitive in the extreme, and apparently constructed to receive the ashes after cremation. No trace of bones was found, but only a thin layer of ash containing small particles of charcoal, probably oak. The cist was found about 3 ft. below the surface level, and is egg-shaped but slightly drawn in, the point lying to the east. It measures 24 in. in length, 17 in. at its greatest width, and 12 in. in depth. The floor of the tomb was bordered with small pebbles, and in the centre a flat stone measuring 6 in. by 8 in. No grave goods were in the cist that would associate the find with any age, nor was there any trace of sculpture work, or attempt at dressing the stones. The present is the third ancient grave discovered in this field; the first, found further west in 1848, contained an urn and bead ornaments.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Dublin Housing Problem.

It seems possible that the strike in Dublin may have a least one good effect by compelling attention to the necessity for the adoption of drastic measures to remedy the conditions under which the poor of Dublin are housed. The facts have been again and again set out in these columns, and the report of Sir Charles Cameron, M.O.H., Dublin, for the year 1912, published last week, shows that although improvements have been made since the death-rate of Dublin was 37.8 (in 1880), the conditions which still exist are utterly deplorable. Sir Charles Cameron reports that there are still 21,113 single-room tenements in Dublin; 1,488 of these

are each inhabited by six persons, 854 are inhabited by seven persons, 431 by eight, 146 by nine, 45 by ten, 16 by eleven, and 5 are each inhabited by twelve persons or upwards. The corrected death-rate for the Dublin registration area is 22.3 per 1,000 of the population, and though this is below the average for the last ten years, it compares very unfavourably with the death-rate for the suburbs, which last year was 15.4 per 1,000. On October 17th a deputation appointed by the Association of Municipal Authorities in Ireland waited on Mr. Birrell to advocate State aid for providing houses for the very poor in the various cities and towns of Ireland. The Countess of Aberdeen and Sir Henry Robinson, Vice-President of the Local Government Board, were present. The points put forward by the deputation referred to the necessity for better housing, the extension of the terms for the repayment of loans, with the option to the local authorities as to whether payments should be made by a sinking fund or on the instalment system; and that municipal authorities should have power to acquire compulsorily derelict areas that had not been utilized for a period of five years. The Lord Mayor of Dublin has since announced that Mr. Birrell intends to appoint a small departmental committee to inquire into the character and extent of the problem in Dublin. The Lord Mayor and the Dublin Diocesan Synod have both objected to the character of the inquiry and have urged that a vicereal commission on the whole housing question in Dublin should be appointed. This preference is due to the belief that a private inquiry before a departmental committee would not throw the necessary light on the ownership of the slums.

Epidemic Scarlet Fever in Ulster.

At the meeting of the Poor Law Guardians of Belfast on October 14th it was reported that 172 cases of scarlatina were in the workhouse hospital. The City Fever Hospital at Purdysburn with 270 beds was full, most of the patients being cases of scarlatina. In 1910 the number of cases notified were 734; this was considerably above the normal, or, perhaps more correctly, the ordinary number. In 1911 it was 766, and in 1912 it was 916. This latter figure means that 2.3 per 1,000 of population were attacked; there were 48 deaths, or 5.2 per cent. of those attacked. In the nine months of the present year no fewer than 1,214 persons, or 3.1 per 1,000 of population, have been attacked, with 75 deaths, or 6.1 per cent. of those attacked.

It has been alleged that scarlatina has increased since the opening of the Purdysburn Fever Hospital. This assertion has not been denied, but statistics are not available. It is well known and acknowledged that the most scrupulous care is taken to prevent the spread of the disease from the inmates. The Chairman of the Health Committee (Dr. Thomson) cited Edinburgh, with a larger and equally up-to-date hospital, as suffering from even worse epidemics of the disease. It would be a most important, interesting, and instructive investigation to confirm or refute with actual numbers the statement that is persistently being made that with the latest development of isolation scarlatina increases. Formerly a miserable old fever hospital, the relic of the early days of the nineteenth century, existed in a crowded area in the midst of Belfast, scarlatina was always present, isolation was difficult and inefficient, and yet it was the rarest thing for the disease to be found in the adjoining small streets, or in the general hospital only fifty yards away, though there was a constant traffic between the two. Is there some other factor that has been quite overlooked? The statistics of the Barnardo Home also make us wonder.

There are now 106 scarlatina patients in the Newry Union Hospital, and the clerk of the union has reported that no more can be admitted until further accommodation has been provided. As a temporary measure it has been arranged to use a couple of wards for convalescent patients. The disease is fortunately of a mild type.

A Relieving Officer's Dilemma.

A very curious position of affairs has arisen at Edenderry, and the board of guardians are in a quandary as to their powers in the matter. It appears that when Dr. Mills, of Rhode Dispensary District, went on sick leave some time ago, Dr. Hamilton of Edenderry did the duty for the first four days, and claimed payment of one guinea a day. The Local Government Board wrote pointing out that the usual remuneration for such a period is three guineas; this Dr. Hamilton refused to accept. The relieving officer secured the services of Dr. Small at four guineas a week, but he relinquished the duties after two weeks, and the relieving officer could get no one else to act at the same remuneration. Dr. Hamilton was then appealed to, and consented to resume duty at 30s. a day; but, in view of a recent letter from the Local Government Board to the effect that the relieving officer could not pledge the credit of the guardians in such a matter, the local relieving officer could not appoint him without the definite consent of that body. He placed the full facts before it, and received a reply to the effect that he should make the best terms possible so as to ensure that the district was not left derelict. No communication has reached the guardians in the matter, and, in view of the fact that the Local Government Board has not sanctioned Dr. Hamilton's original claim of one guinea a day, it is doubtful if the present arrangement at a higher rate will be permitted. The situation was discussed at the last meeting of the guardians, and it was pointed out that the relieving officer was bound to see that the district was properly attended to, but without the Local Government Board's sanction he could not offer a special rate of remuneration to a locumtenent. If he failed to have the district medically supervised he would leave himself open to dismissal, whereas if he appointed a medical officer at anything beyond the usual remuneration he would subject the guardians to the danger of a surcharge. The matter was postponed pending the receipt of a letter from the Local Government Board.

University College, Cork.

The report of the president, Sir Bertram Windle, on University College, Cork, is a history of continued progress. The number of students attending during session 1912-13 was 429, and of these 389 were matriculated, 17 non-matriculated, and 23 post-graduate. The number of students is practically the same as last year, but the number of matriculated students has considerably increased. This is the matter of real importance, since the non-matriculated students must necessarily fluctuate considerably in number. Professor Anglin has resigned the chair of mathematics, and Professor Conran has been appointed thereto, and the vacancy thus created has been filled by the appointment of Professor E. Harper, M.A. The opening of the college to dental students has been a great advance. This was rendered possible by the decision of the North Infirmary to open a dental department at which clinical instruction in this subject can be carried out. Two lecturers have been appointed—one in dental surgery, Dr. J. R. Hackett, L.D.S., and one in dental mechanics, Mr. G. Sheedy, L.D.S. The college has been provided for the first time with a proper set of administrative offices, and the council room has been enlarged to meet the requirements of the increased numbers both on the governing body and the academic council. New heating apparatus has been fitted into the main block, and will render the various classrooms and offices more comfortable. During the year the college authorities purchased the D'Arbois de Jubainville Library, an exceedingly valuable collection, numbering some 1,100 volumes of books, relating to the Irish language, folk lore, literature, and history. A very important development has taken place in connexion with the School of Commerce by which students can have six months' training in business houses of repute in the city during the summer months. The number of medical students is still the highest of all the faculties.

Deportation of Pauper Lunatics.

Recently a pauper lunatic, who had resided in Manchester Union, was sent back to the Athy Union, and thence to Carlow Asylum. The Athy guardians protested against this, especially as there is no similar power in Ireland to deport English and Scottish pauper lunatics. Dr. Greene, Resident Medical Superintendent, Carlow Asylum, stated that the committees of management of the Irish asylums had from time to time protested against such deportations, but the Irish asylums suffered more by the deportation of lunatics from the United States. Quite recently a woman was deported to Carlow from the States; she had lived there for fifteen years, but

had neglected to take out naturalization papers. The Clerk was directed to call the attention of the Irish members of Parliament to the matter.

Overcrowding in Mullingar Asylum.

At the last meeting of the Joint Committee of Management of the Mullingar District Lunatic Asylum, a discussion took place on the overcrowding of the institution. Dr. Gavin, Resident Medical Superintendent, reported that the number then in the house was 1,026, an increase of 13 on the corresponding period of last year. The Chairman said that in one dormitory there were 100 women who had to live there night and day. There were about 100 to 150 persons in the asylum in excess of the number for which there was accommodation. The increase was at the rate of 15 patients a year. The question of an additional building is to be considered.

Exemptions from Vaccination.

At a recent meeting the Navan Guardians passed a resolution not to prosecute people making a declaration of conscientious objection to vaccination. At the next meeting the Local Government Board was asked for its opinion, and at the meeting held last week a reply was received stating that under the statute the guardians had no power to grant exemptions from the requirements of the vaccination law.

England and Wales.

(From our Special Correspondents.)

LONDON.

London County Council.

Treatment of Tuberculosis.

A letter from the Local Government Board in reply to a request by the London County Council for a statement of the views of the Board with regard to the administration of treatment for tuberculosis in London (British Medical Journal, August 9th, p. 345) was reported to the Council. The Board, as stated in the Journal of October 11th, p. 963, maintained the opinion previously expressed that the London County Council should be the tuberculosis authority for the metropolis, and that through the County Council all the various agencies should be properly co-ordinated to form parts of a complete scheme of institutional treatment for this disease. It was essential that the dispensary arrangements should be closely related to the preventive work which it was the duty of the sanitary authority to carry out, and there were many advantages in regarding the metropolitan borough as the unit area for dispensaries. Accordingly the Board had invited the metropolitan borough councils to provide, or arrange for the provision of, these institutions. The Board agreed with the view contained in the resolution of the County Council that all possible use should be made of existing institutions: in the Board's opinion any hospitals or other voluntary institutions which were to be recognized as forming part of the tuberculosis scheme for London should be willing to work in close co-operation with the local authority. The Board agreed with the County Council in thinking that as far as practicable arrangements should be made for referring any specially difficult cases from a municipal or voluntary dispensary to some general or special hospital. The Board called attention to the recommendation of the Departmental Committee that each area should have a chief clinical tuberculosis officer, who should also act as medical adviser to the Insurance Committee of that area. This officer might also, in consultation with the other medical men concerned, supervise and generally direct the selection of cases to receive residential treatment. It seemed to the Board desirable that the cost of the scheme, at any rate to a large extent, should be borne by London as a whole. Inasmuch, however, as the dispensaries were to be provided locally, some proportion of the cost of providing these institutions should be charged locally. It would simplify matters if, as regards the treatment of insured persons, the County Council were recognized as the providing authority for all the institutional treatment required, whether in dispensaries or other institutions, so that the London Insurance Committee could make one agreement with the London County Council in regard to all the services rendered to insured persons. The Board stated that it would be happy to arrange, if desired, for a further conference with representatives of the County Council.

In some observations on the letter the Public Health Committee remarked that during the time the Council had been engaged in the preparation of a comprehensive scheme the Local Government Board had, without reference to the Council, approved local schemes prepared by the local sanitary authorities for the provision of dispensary treatment. It had thus been rendered very difficult, if not impossible, for the Council to organize a comprehensive scheme for London. In order, however, to avoid further confusion and inequality of treatment, the Committee thought the Council should agree, so far as dispensary treatment was concerned, to act to some extent on the lines suggested by the Board. All local schemes should be submitted to the Council in the first instance, and, so far as uninsured persons were concerned, contributions in relief of local rates, subject to certain safeguards, should be made out of the county fund. If the Council disapproved of a local scheme and the local authority concerned refused to make amendments to meet the Council's objections, the Committee thought that the Council should make no contribution. The Committee was unable at this stage to put forward even an approximate estimate of the expenditure which would fall upon the county rate if the proposal were adopted. From details available of the estimated cost of certain local schemes, the annual charge on the county rate might amount to upwards of £10,000. The Committee recommended the Council to pass the following resolution:

> That any comprehensive scheme for dealing with the treatment of tuberculosis in London shall provide for a contribution being made by the Council, from year to year, towards so much of the cost of the dispensary treatment of uninsured persons in the City of London and each metropolitan borough as would otherwise fall on the local rate, after taking into account the promised grant from the imperial exchequer, provided that such contribution (1) shall not exceed 50 per cent. of such cost; (2) shall in the first instance be made from a date to be fixed hereafter by the Council; and (3) shall be conditional upon the Council being satisfied with the local scheme in force in such area, and to the arrangements and expenditure being annually submitted to and approved by the Council.

Consideration of the subject was postponed.

Power to License Lying-in Homes.

The Midwives Act Committee presented a further report as to the proposed legislation for licensing lying in homes.[1] The Committee stated that it did not appear necessary or desirable that the Council's powers of licensing should extend to Poor Law institutions or important hospitals or to a private residence in which a relative of the occupier was received for her confinement. Such places should be excepted from the proposed legislation. It was necessary, also, having regard to the variety of institutions and places concerned, that the Council should retain the right to make certain other exceptions. There was still in force an Act of George III which required certain lying in institutions to be licensed by the justices in quarter sessions. This Act was practically obsolete, and it might be found necessary to repeal or amend it. In the event of the Council obtaining the power now sought, the additional cost involved, in the first instance at any rate, would be small, and the appointment of one female inspector at a salary of about £100 a year would probably be sufficient.

The Council decided to promote legislation on the lines indicated above, a clause being added to provide for an appeal to a police-court magistrate in case of the refusal of a license by the Council.

Massage Establishments.

On the report of the Public Control Committee recommending the Council to promote legislation in 1914 dealing with the control of nursing homes and establishments where massage, manicure, or electric treatment is carried on (British Medical Journal, August 9th, p. 343), Mr. Parsons moved an amendment to exclude from the operation of the proposals "recognized hospitals defined by schedule or otherwise," and to include premises where treatment by light, electricity, or baths, or other similar

[1] British Medical Journal, August 9th, p. 345.

treatment was carried on. Wide powers were, he said, necessary, because already, since the Council's proposals were first published, premises which had come under the notice of the police were being advertised as schools of instruction in foreign languages. Establishments at which the present proposals were aimed might possibly be better dealt with by the police, or by the borough councils, which were charged at present with the duty of suppressing disorderly houses. Lady St. Helier having seconded the amendment, the Chairman of the Committee said that the reason it was not proposed that the police should deal with this matter was that there was much stronger objection amongst the public generally to police than to Council inspection. He accepted the amendment, and the recommendation as amended was then agreed to.

Medical Inspection of Schools.

A summary of the annual report of the county medical officer of health and school medical officer for London for the year 1912 was presented to the Education Committee of the London County Council on October 22nd. The decision of the Council that the whole of the school medical work, including the organization and administration of medical inspection and treatment, should be placed under the direction of the medical officer of health for the county, took effect from January 1st, 1912, and the report dealt with the work of the school medical service for a complete year under the new administration. Of 240,764 children examined in detail at ordinary inspections, 85,508 were referred for treatment for various defects. In addition, 10,616 children were specially examined, and of these 6,816 were referred for treatment. At the end of the year provision was made for the treatment at 11 hospitals and 17 centres of 73,058 children for diseases of the eye, ear, nose, and throat, ringworm, dental caries, and minor ailments. There was no marked prevalence of scarlet fever, and the number of cases of diphtheria (2,571) was practically the same as in 1911. The report contained notes on the behaviour of infectious diseases in certain schools, and it was suggested that the subject of the association of scarlet fever and diphtheria was deserving of further study. The incidence of measles, which showed a diminished prevalence as compared with 1911, was discussed in some detail. Two open-air schools were open throughout the year, with very good results, and eighty-five playground classes had been carried on during the summer. The cleansing and personal hygiene schemes had been considerably developed, 630,369 examinations were made, or two-and-a-half times as many as in 1911, and 23,573 children were reported verminous. The total number of examinations made in schools for defective children was 14,652, and the report contained an analysis of the previous and family history of 3,000 mentally defective children. The full report will shortly be issued, and will receive more detailed notice in the JOURNAL.

Medical Treatment of School Children.

It was reported to the London County Council on October 21st that the Board of Education had approved as generally satisfactory the revised arrangements for the medical treatment of school children made by the Council before the summer recess (BRITISH MEDICAL JOURNAL, July 5th, p. 42). The Board, however, suggested that, with a view to placing the work of the centres more definitely under the general supervision of the school medical officer, Clause 1 in the agreement with committees of medical practitioners should be modified as follows:

> The administrative control of the centre, including the arrangements for supplying the centre with patients and for following up cases after treatment, shall be vested in the Council, and the work of the centre shall be under the general supervision of the Council's school medical officer.

The Education Committee did not anticipate that the committees of the centres would raise any objection to the modification suggested, and was of opinion that the alteration should be made. The Council approved the proposal.

METROPOLITAN ASYLUMS BOARD.

Salaries of Assistant Medical Officers.

The Metropolitan Asylums Board on October 18th considered proposals in connexion with the salaries assigned to assistant medical officers in the asylums service. The Asylums and Finance Committees mentioned the difficulty which for some time past had been experienced in obtaining assistant medical officers. This experience was not confined to the Board, but was general throughout the country, and was due in part to fewer entries at the medical schools, and, to a greater extent, to recent legislation, which had opened out to medical men a wider field of official employment. While there had been a general increase in the salaries offered to assistant medical officers in asylums throughout London and the country, the Board's rates of remuneration compared unfavourably with those prevailing in the London County Council and home counties asylums. It was proposed that the scale of remuneration of these officers should be increased. The rates paid at present and the revised rates suggested are as follows:

Present Scale.—Senior assistant medical officer: Commencing salary £250 a year, rising by annual increment of £10 to £300. Second assistant medical officer: Commencing salary £180, rising by annual increment of £10 to £200. Third and fourth assistant medical officers: Commencing salary £150, rising by annual increment of £10 to £170.

Proposed Scale.—Senior assistant medical officer: Commencing salary £300 a year, rising by annual increment of £15 to £360. Second assistant medical officer: Commencing salary £210, rising by annual increment of £10 to £250. Third and fourth assistant medical officers: Commencing salary £180, rising by annual increment of £10 to £200.

The Finance Committee concurred in the proposals on the understanding that the increased remuneration would cover any extra services that might be rendered under the National Insurance Acts (services which were light and, in the asylums, would be a diminishing quantity). The Board decided to give formal notice under its Standing Orders of its intention to make the increases in the scale of remuneration.

Position and Salary of the Medical Officer for General Purposes.

The General Purposes Committee reported that it had received an application from Dr. H. E. Cuff, the Medical Officer for General Purposes, for a reconsideration of his position and the salary attached thereto.

Dr. Cuff was appointed under the designation of Medical Officer for General Purposes in February, 1908, and since that date had been remunerated at the rate of £850 per annum. Over five years having now elapsed the Committee thought it desirable to review Dr. Cuff's position on the Board's staff, and the duties and responsibitities attached to his position. There could be no doubt that these had materially increased since the appointment was made. Dr. Cuff now took part in every branch of the Board's work, and was called upon to advise upon reports and requests received from all sources, including those from outside authorities as well as those made to committees and subcommittees of the Board. His work covered important questions of institution administration, of arrangements of accommodation, and of treatment of diseases, including those dealt with by the Board and those which it was suggested should be received for treatment. The Committee was of opinion that the position which Dr. Cuff, in fact, occupied of principal medical adviser to the Board was very indistinctly recognized by his existing title, and that it would be in the Board's interest to attach to the post a designation which would strengthen Dr. Cuff's position and attach more significance and weight to his reports, many of which the Board found it desirable to issue to other bodies. The title Principal Medical Officer should, therefore, be used in future.

With regard to the remuneration, the Committee was satisfied that considerable economies had been effected as a consequence of Dr. Cuff's advice and reports, especially in such matters as dietary of patients and purchase of goods, and this, coupled with the increase in work referred to, justified some addition to the present salary. The Committee suggested an increment of £50 per annum, and pointed out that even with this the post would not be so remunerative as that of many of the medical superintendents, who had the opportunity of adding to their incomes by students' fees.

The Committee recommended that, subject to the sanction of the Local Government Board, the title of Medical Officer for General Purposes be altered to that of Principal Medical Officer, and that the remuneration attached to the post be increased from £850 to £900 per annum.

This was agreed to.

A MOTHERS' HOSPITAL.

The lying-in hospital for women of the poorer classes which has been carried on for some years past by the Women's Social Work Section of the Salvation Army in Mare Street, Hackney, has been transferred to larger premises in the Lower Clapton Road, which were formally opened by Princess Louise, Duchess of Argyll, on October 18th.

The new buildings, which will be known in future as the Mothers' Hospital, provide accommodation for 50 women, and consist, in addition to the necessary offices, reception rooms, nurses' and pupil midwives' quarters, of four beautifully appointed bungalows, each containing four wards, connected with the main buildings and with each other by a covered colonnade. These bungalows are so arranged that their inmates are always under the immediate observation of the nurse, whilst their number makes it possible, to a certain extent, to classify the patients. At present it is proposed to use one bungalow for the unmarried and one for the married mothers; another is set aside for special cases, and the fourth is to be reserved for Jewish women. An isolation ward has also been erected in a corner of the grounds. Mrs. Bramwell Booth, who received the Princess, said that the present buildings were incomplete, and that it was hoped that in course of time sufficient funds would be collected to provide accommodation for 150 patients. For this a sum of £50,000 was needed; the new buildings have cost £27,000, of which £22,000 has already been subscribed. The opening ceremony was then performed by the Princess, and a short service having been held, the wards were thrown open for the inspection of the numerous visitors who had assisted at the afternoon's function.

BIRMINGHAM.

Hospital Saturday Fund.

The total of this year's collections for the Hospital Saturday Fund amounted to £22,108, but there are still a number of contributions outstanding. In view of the exceptional difficulties of the year—misunderstandings and unsettlement caused by the National Insurance Act and the protracted strikes in several directions—the committee regards the result as highly satisfactory, as the total is not very far short of the previous year's amount. The misconceptions with regard to the Insurance Act accounted for upwards of 150 firms discontinuing the collection, at least temporarily, but, on the true position being explained to them, in the majority of cases the firms came to see that they would be making a great mistake in giving up the Hospital Saturday collection. The volume of work done at the convalescent homes at Droitwich and in other directions has already established another record. At the Sir William Cook Memorial Home for Consumptives at Romsley Hill there are at present 60 male patients, and the treatment of 40 female patients at the same institution is just being commenced. The sum of £10,000 has been distributed among the hospitals and nursing societies of the city on account of the free work done by them. The institutions which have received the largest amounts are: General Hospital, £3,150; Queen's Hospital, £2,100; General Dispensary, £1,010; Children's Hospital, £800; Women's Hospital, £500; Jaffray Branch Hospital, £400; Eye Hospital, £350; Orthopaedic Hospital, £300; Lying-in Charity, Homoeopathic Hospital, Skin and Urinary Hospital, and Moseley Hall Convalescent Home for Children, £200 each.

Rebuilding of the Orthopaedic Hospital.

The general committee of the Royal Orthopaedic and Spinal Hospital, Birmingham, has intimitated in its annual report that the time has now arrived when the rebuilding of the hospital should be undertaken. The provisional scheme provides for the erection of a suitable building upon the present site, its equipment, an increase in the number of beds from 30 to 50, and the repayment of the mortgage debt on the out-patient department of £2,800. The cost is estimated at about £30,000. The treatment of orthopaedic cases now involves the performance of many operations, in which the most rigid asepsis is absolutely essential, and a building of the age and character of the present in-patient department is unsuited to the efficient performance of such work. The treatment of surgical tuberculosis, which forms a large proportion of the work of the hospital, requires a building with a more modern system of ventilation and lighting. The number of patients treated has scarcely been affected by the operation of the Insurance Act.

LIVERPOOL.

Opening of the Medical Session.

The number of students entered at the medical school this year constitutes a record, and is an increase of fully 20 per cent. on former numbers. Each year sees fresh developments in the amenities of student life at the Liverpool University. The beginning of the present session is marked by the opening of the Students' Union (Gilmour Hall), an institution which is destined to play an important part in bringing together the students of the different faculties and creating that *milieu* which is one of the most important factors in university life and education, though unmentioned in this curriculum.

A new chair—the Walter Myers Chair of Parasitology—has just been founded, and an appointment will shortly be made.

The Medical Institution.

At a meeting on October 16th, Mr. Robert Jones in a presidential address described the views held by the late Mr. H. O. Thomas, more especially on intestinal obstruction. His splints were familar to all, but, partly owing to his writings having been published privately, his work in other directions was too little known. Writing in 1884, he recognized the futility of the commonly advocated methods of treating intestinal obstruction—namely, by purgation enemata and milk diet. He saw that where a mechanical condition was the obstruction, no medical treatment could avail anything, but that in cases of functional obstruction it was possible by resting the bowel, by rendering the contents above the block fluid and non-irritating, and by relieving pain, to give a favourable termination to many cases. The treatment he advised was first to relieve pain by hypodermic injections of morphine, to allay thirst by the administration of water, and to withhold all food that would add to the contents of the intestine. Cases so treated might go on for from forty to fifty days. Resolution occurred by the patient passing first flatus, perhaps some small scybala, then a large pultaceous motion followed by watery evacuations. Mr. Thomas was particularly anxious for his cases at this stage, enforcing complete rest and allowing food to be given only very gradually and of such a kind as to produce as little intestinal residue as possible. The speaker also alluded to the views of Ochsner of Chicago, who had recommended lavage starvation, while he withheld catharties.

WALES.

Red Cross Work at Senghenydd.

The work of the Red Cross detachments in connexion with the Senghenydd Colliery disaster has won unstinted praise from all who have witnessed it. The Senghenydd Voluntary Aid Detachment was on duty within a very short time of the explosion, and other detachments from the neighbourhood quickly came to their assistance. A temporary hospital was organized under the direction of Dr. Ivor Davies, where first aid was given, and from which the men most severely burnt were transferred by special trains to the Cardiff Infirmary.

Dr. Dan Thomas, of the Bargoed Red Cross Brigade, was the medical man with a party which went down the pit on Wednesday, October 15th, and succeeded in bringing up eighteen men alive; the work of this party was very difficult and dangerous.

At a later date a party of Red Cross men with stretchers went down the pit with Colonel Pearson, senior Government Inspector of Mines, but the greater part of the Red Cross work was done at the surface in the temporary hospital and in the convoying of patients to their homes or to the Cardiff Infirmary.

The danger of the work in the pit is well shown by the fact that as late as October 21st an advance party of the repair gang were in serious danger from gas poisoning. One of the party carried a canary which it was expected would give a warning, but before any signs of distress were noticed in the bird several of the party were overcome. With the assistance of the Aberavon rescue brigade wearing the Draegar apparatus, the party was rescued. The men were treated in the temporary hospital, where all recovered.

Correspondence.

SPECIAL HOSPITALS.

SIR,—The publication of my presidential address (Section of Ophthalmology, Annual Meeting, Brighton), an editorial in the BRITISH MEDICAL JOURNAL on it, and editorial comments thereon appearing in the *Liverpool Daily Post*, have disturbed the equanimity of the staff of the Liverpool Eye and Ear Infirmary.

The address was a simple historical sketch of the development of ophthalmology in Great Britain, from chaos at the beginning of the nineteenth century, to its emancipation in 1878 from the thraldom of the general surgeon; the official recognition of it as a special science in 1879 by the formation of a separate Section of Ophthalmology; and the founding, in 1880, of the Ophthalmological Society of the United Kingdom. The sketch, showing how great is the debt ophthalmology owes to the British Medical Association, left the subject as it stood in 1880, and, as I was not writing a history of the practice of ophthalmology, consideration of eye and ear hospitals had no place in my thoughts.

The *principle* that ophthalmology was a distinct department of medical and surgical science being established, and the seal of professional approval thus placed on the founders of ophthalmic hospitals, any consideration of its progress must inevitably include them in a review of its practice. Editorial comment in this direction is clear and definite. We read:[1]

> The opposition [of the staffs of the general hospitals] led to the foundation of special hospitals, and financial considerations sometimes impelled the founders to associate the treatment of diseases of the ear with those of the eye, a combination which placed a serious impediment in the way of the growth of either.

The *Liverpool Daily Post and Mercury*, being a great newspaper, and ever alive to the needs of our city, accepted the dictum of the BRITISH MEDICAL JOURNAL, and applied it in a short editorial to the practice of the Liverpool Eye and Ear Infirmary, in the following terms:

> We in Liverpool seem to have been fond of double harness surgery, as is illustrated by our eye and ear hospital, and our skin and cancer hospital, in which a union of incompatibles has been attempted, with ill results to science and practice.

The editor of the *Daily Post and Mercury* gave to me the credit of desiring to dissolve, if possible, this union. In so far as my address was concerned, I cannot claim the compliment, for it was not written as a means to that end. But the question of special hospitals might well provide the theme for the next presidential address. My views on the subject have for the last thirty years been openly expressed—namely, that a special hindrance to the progress of ophthalmology and otology in Liverpool has been the existence of the Liverpool Eye and Ear Infirmary. Where advance has been made in either of these specialties it has been due to the initiative of individuals, and in spite of the Liverpool Eye and Ear Infirmary. If this controversy should terminate in the complete severance of eye and ear in hospital practice, it will be to the unqualified advantage of the citizens of Liverpool and of the medical profession.

As I have the progress of ophthalmology at heart, and would like to see Liverpool take a leading position in this special department of medical education, I willingly join issue as to the policy and practice of the Liverpool Eye and Ear Infirmary.

The point between us is simple: Are the statements (*a*) that "financial considerations sometimes impelled the founders—of special hospitals—to associate the treatment of diseases of the ear with those of the eye," and (*b*) that it was "a combination which placed a serious impediment in the way of the growth of either," correct and just statements? I believe they are wholly correct and just, and that the history of the Liverpool Eye and Ear Infirmary proves the contention.

The case for the staff of the Eye and Ear Infirmary has been stated in the columns of the *Daily Post and Mercury* by "F.R.C.S.", and by Mr. Hugh E. Jones[2] and Mr. Edgar Stevenson[3] in the JOURNAL.

[1] BRITISH MEDICAL JOURNAL, vol. ii, 1913, p. 266.
[2] BRITISH MEDICAL JOURNAL, vol. ii, 1913, p. 520.
[3] BRITISH MEDICAL JOURNAL, vol. ii, 1913, p. 772.

Your readers would, however, be deprived of a literary treat, and the future historian of a valuable piece of evidence, if the letter originating the correspondence was not also enshrined in the pages of the JOURNAL, and I crave space for its insertion. After perusal, no one will be surprised that the editor of the *Daily Post and Mercury* decided that further correspondence must be under medical supervision. The letter is as follows:

INCOMPATIBLES.

To the Editor of the *Daily Post and Mercury*.

Sir,—A leader under the above heading appeared in your issue for Monday, August 4th, and as one of those interested in the "incompatibles" you and Mr. Bickerton complain of, I should be obliged if you would allow me some space to answer it. In your leader you say that the association of diseases of the eye and ear in hospitals has been "to the considerable disadvantage of both," and further on, "they have no connexion—physiological, anatomical, or pathological."

On the first of these statements Mr. Bickerton has no right to speak, as I believe I am right when I say he is purely ophthalmic surgeon to the Royal Infirmary, and knows little, if anything, concerning the advantages or disadvantages of a combined hospital.

In regard to the second statement, it is merely ridiculous, as it has been proved that the eye and the ear are in communication through the tracts of the brain. These tracts are well known, and the knowledge of them completely upsets the "anatomical or physiological" part of your sentence.

Then as to the pathological connexion. There are hundreds of cases of eye disease which are undoubtedly due to disease of the ears; and, again, there are hundreds of diseases of the ear, or their complications—for example, cerebral abscess, labyrinthine disease, etc.—which it is impossible to diagnose accurately without an examination of the eyes, and it must be remembered that the complications of ear disease are the critical cases of aural surgery.

If any aural or ophthalmic surgeon attempted to act upon your statement, it would indeed be hard on the patients, as there would be many cases undiagnosed, and many deaths due to this lack of diagnosis. It is impossible for any aural surgeon to be first-rate in his work without a minute knowledge of diseases of the eye, and vice versa, and it is to the direct benefit of the patient to have a surgeon who is not such a "pure" specialist that he will miss a diagnosis which he could make with certainty by reference to the other of the two—ear and eye—when treating the one.

I know nothing about cancer or diseases of the skin, but should imagine they are connected in much the same way.—Yours, etc.,

F.R.C.S.

[The statements on which we commented were published by the BRITISH MEDICAL JOURNAL, which would be a more suitable medium for controversy on such a subject than our columns.—Ed. *D.P. and M.*]

The Honorary Secretary of the Liverpool Eye and Ear Infirmary not long since wrote of "gentlemen who prefer to hide their identity under *noms-de-plume*, and who then are sufficiently brave to make all sorts of insinuations without taking the trouble to make themselves acquainted with the facts." Perhaps "F.R.C.S." will bear that fact in mind before he again writes anonymously.

In his anxiety to defend "double-harness surgery," "F.R.C.S." in effect brings an indictment of culpable negligence (wholesale murder) against those responsible for the establishment of purely ophthalmic hospitals. The London public must be in sore straits, for there is not one single "eye and ear" hospital to be found in the metropolis. A recital of facts gives the *coup de grâce* to the fictions of "F.R.C.S."

1. The Royal London Ophthalmic Hospital, suggested October 1st, 1804, as the "London Dispensary for Curing Diseases of the Eye and Ear," was opened March 25th, 1805. It was the first special hospital established in England. Ear work was discontinued in January, 1808. Will "F.R.C.S." tell us why?

2. Fifteen hospitals for the exclusive treatment of diseases of the eye—excluding the Royal London Ophthalmic Hospital—were established in Great Britain between 1804 and 1832—namely, in London, Exeter, Bristol, Bath, Manchester, Liverpool, Plymouth, Norwich, Newcastle, Edinburgh, Birmingham, Glasgow, Brighton. To-day there are twenty-eight such special hospitals in Great Britain. In London there are five large special eye hospitals, accommodating 259 beds and 2 cots, but no mention is made in the pages of the *Medical Directory* of the existence in London of any hybrid hospital of the eye and ear type. An ear hospital is mentioned—founded in 1816; likewise a throat hospital—founded 1863; and five hospitals devoted to ear, nose, and throat—the earliest

founded 1838. Can "F.R.C.S." give an instance from the "hundreds of cases of eye disease due to disease of the ear," in which death due to lack of diagnosis—for want of an aurist—took place in any of the above hospitals; and can he get an ophthalmic or aural surgeon to endorse his statement?

The only eye hospital among these pioneer institutions of ophthalmology which has altered its title and practice is the one originally bearing the honoured name of the Liverpool Ophthalmic Hospital. John Gladstone, M.P.—father of the "Grand Old Man"—presided at its institution in 1820. Nineteen years later—1839—a member of the staff started a private "Institution for Diseases of the Ear," which he tendered to the town for adoption in 1840, and in 1841 advocated and secured its union with the Ophthalmic Hospital. The general arguments advanced for amalgamation were that "a multiplication of charitable institutions was an evil instead of a good, that it created a great expenditure of money which might be applied to more beneficial purposes," and two special arguments from the treasurer of the Ear Institution were "that if this institution were amalgamated with the Ophthalmic the greater part of its expenses would be saved to the public, and a great deal of valuable time to the gentlemen who formed the committee." These arguments sufficed, and the Liverpool Ophthalmic Hospital became the Liverpool Eye and Ear Infirmary, January 18th, 1841.

Not one word is to be found in the report of the meeting as to any professional advantage likely to accrue to patients through the amalgamation. The utmost the founder of the Ear Institution, who was also a staff surgeon to the Ophthalmic Hospital, could say was: "I think it may work as well for the public good in connexion with the Ophthalmic Infirmary as *it did alone*."

The specified advantages urged for the amalgamation are beyond controversy. They were of a commercial character: (1) Saving of expense to the public. (2) economy of the valuable time of the committee—probably also that of the professional gentleman attached to both institutions, though this is not stated. The history of the union of the Institution for Curing Diseases of the Ear with the Liverpool Ophthalmic Hospital is convincing proof of the editorial contention that "financial considerations sometimes impelled the founders to associate the treatment of diseases of the ear with those of the eye."

Mr. Hugh E. Jones's arguments are contradictory. He is "a strong advocate" for "double harness," but he has "never defended the practice of compelling one man to do work of different kinds." Is such compulsion the policy of the Eye and Ear Infirmary? He says the Infirmary "has been staffed for the last twenty-five or thirty years by pure specialists" . . . "some of whom nearly or entirely confined themselves to eye work." If this be a correct statement, who did the ear work? Will he name the pure specialists who "entirely confined themselves to eye work" during the last twenty-five or thirty years? I have known of but one member of the staff who developed into a "pure" specialist. I refer to the late Mr. George Stone, and he ceased to be connected with the Infirmary owing to the action of the committee, acquiesced in by the staff. If Mr. Jones had said certain members of the staff became sick of ear work *at the Infirmary*, and whenever possible passed it over to the junior members, his statement would be literally correct. The dispenser syringed the ears of the patients, to my knowledge, in 1881, 1882, 1883, and 1884.

Mr. Hugh E. Jones's letter is in its way a remarkable contribution. Ignoring the editorial comment in the British Medical Journal, that "to associate the treatment of diseases of the ear with those of the eye" was "a combination which placed a serious impediment in the way of the growth of either," he takes exception to the *Daily Post* accepting and commenting on that view, not on the ground that the statement was wrong, but because publication of it "was by implication a grave injustice to the Liverpool Eye and Ear Infirmary, and is calculated to lower that hospital in the eyes of the profession and public."

It is still more remarkable in that he himself advocates separation of the two specialties. Either the *Daily Post* contention is right or it is wrong. Mr. Jones is either wrong in condemning the *Daily Post* or he is wrong in hoping "that eventually a complete and separate staff of surgeons will be provided for each department." Mr. Jones's statement implying that the combination of the eye and ear is kept up because some of the staff, "from love of the work, long training, and the character of their private practice, find it impossible to relinquish either of the two specialties," seems tantamount to sacrificing the interests of the hospital to the exigencies of private practice.

Mr. Jones's would-be witty allusions to "bare oculists" and "bare aurists" are inconsequent. The term "bare oculist" is, historically, applicable only to a period and condition of medical education existing nearly a century ago, while on the other hand the term "bare aurist" is a creation of Mr. Jones.

If by it he distinguishes an individual attached to an ear and eye institution upon whom there is no obligation—by rule—to know ear work, but who is willing to do his best for patients suffering from ear diseases, then every member of the staff of the Liverpool Eye and Ear Infirmary is a bare aurist, and one bare fact will demonstrate this. When the "ear" was tagged on to the Liverpool Ophthalmic Hospital, neither the committee nor staff of that day—nor succeeding days—considered previous study of the ear a necessary qualification for appointment at their institution. The following rules applicable to appointment of surgeons and assistant surgeons at the Liverpool Eye and Ear Infirmary, are taken from the annual report for the year 1912, published in 1913:

Surgeons.

3. No gentleman is eligible to the office of surgeon who is not a doubly qualified practitioner, and who has not attended some ophthalmic institution for six months.

Assistant Surgeons.

1. No gentleman is eligible to the office of assistant surgeon who has not a registered double qualification, and who has not held an appointment in a recognized ophthalmic institution for six months.

It may be concluded that to have required some knowledge of the ear from applicants for appointments would have hampered the committee in their selection, and that they preferred to exercise their discretion as to adaptability of candidates. It should also be remembered that the medical men of that day had before them the experience of the Royal London Ophthalmic Hospital in discontinuing ear work, and they cannot have been unaware of the establishment of the Royal Ear Hospital in 1816.

Lord Beaconsfield once said, "It is much easier to be critical than correct." Mr. Hugh E. Jones draws on his imagination for his facts in stating that "Mr. Bickerton . . . honours the Liverpool Eye and Ear Infirmary by sending his specimens to the laboratory of that maligned institution to be cut, mounted, and examined, showing that he, at any rate, appreciates the value of the work done there." I have not sent any specimen to the laboratory of the Eye and Ear Infirmary. I send my specimens to Dr. Harcourt, the demonstrator of ophthalmic pathology to the Liverpool University, and I pay him for all work done for me. As Dr. Harcourt honours the Liverpool Eye and Ear Infirmary by being pathologist to it, Mr. Jones will have no difficulty in verifying my statement. I appreciate Dr. Harcourt's work so highly that should the Liverpool Eye and Ear Infirmary ever dispense with his services, my work will still be entrusted to him. The extinction of the Eye and Ear Infirmary to-morrow could not affect my practice in this respect. The Eye and Ear Laboratory Mr. Jones speaks of only came into existence in 1901, whereas my pathological specimens date from 1880.

Mr. Edgar Stevenson's letter deploring the temperate language used by Mr. Hugh E. Jones may be dismissed. It is pleasing to know that he and his colleagues are interested, and his suggestion that the policy of the *Daily Post and Mercury* is dictated by me is as flattering as it is ridiculous, and will be appreciated in the proper quarter.

That the Eye and Ear Infirmary has barred the way to progress in the sciences of ophthalmology and otology in Liverpool the following facts testify:

1. Candidates for appointments are required by the committee to attend to cases of both eye and ear disease, *though there is no rule to that effect in the general laws of*

the institution, nor any mention of training in otology, or even attendance at an ear hospital, being necessary. The following correspondence places this beyond controversy. The writer is now an ophthalmic surgeon in London.

Dear Sir,—As it is my present intention to devote myself exclusively to ophthalmic work, and with this intention am on the eve of leaving for the Continent, I should be greatly obliged if you could inform me whether the fact of being a pure ophthalmic surgeon would debar me from appointment to the Liverpool Eye and Ear Infirmary, in case a vacancy should occur at that institution in the future.—I am, yours faithfully,

H. H. Hornby, Esq., J.P.,
Chairman of the Eye and Ear Infirmary.

The Liverpool Eye and Ear Infirmary,
Myrtle Street, August 17th, 1897.

Dear Sir,—Mr. Hornby has handed me your letter of 12th inst. In reply, I write to say that the hon. surgeons and assistant surgeons of our Infirmary are required to attend to cases of both eye and ear disease. Candidates would certainly have to possess some knowledge of both branches.—I am, yours truly,

(Signed) Reginald Haigh, Honorary Secretary.

2. In January, 1911, a vacancy for an assistant surgeon occurred. Dr. Harcourt, F.R.C.S.Eng., M.D., M.Ch. Roy. Univ. Ireland, applied. He was already pathologist and bacteriologist to the Eye and Ear Infirmary—appointed 1907; had for three and a half years spent the greater part of each afternoon at that work, except about two afternoons, when he assisted in the out-patient work. He was a Liverpool ratepayer, and had for some years practically given up general practice in order to devote himself to the study of the eye. The appointment was given to a stranger to Liverpool. Some few months later Dr. Harcourt was appointed by the university authorities "Demonstrator of Ophthalmic Pathology to the Liverpool University," in which capacity he teaches qualified medical men the pathology of the eye in their preparation for the special diploma in ophthalmology. He has also been appointed ophthalmic examiner by the Liverpool Education Committee, and ophthalmic refractionist—with a salary—to the Borough Hospital, Bootle.

3. The Infirmary, therefore, does not obtain the services of men who have elected to make one or other of the specialties their life work. The celebrated oculists, Sir William Bowman and George Critchett in the past generation, and Sir Anderson Critchett (oculist to H.M. King George V), Sir John Tweedy (thrice President of the Royal College of Surgeons of England), Edward Nettleship, Priestley Smith, and the host of distinguished and world-renowned ophthalmologists in the present, would be ineligible for appointment to this "great medical charity," as Mr. Jones calls it. The same applies to the distinguished aurists, the late Joseph Toynbee, Sir William Dalby, and the numerous present-day exponents of the science of otology. Needless to say that the Liverpool specialists in ear, nose, and throat work—a legitimate combination—are excluded.

4. The pioneer of modern otology in Liverpool was Mr. George Stone, selected by Professor Politzer of Vienna to translate his work on *Anatomical and Histological Dissections of the Human Ear*, 1892. Mr. Stone suffered from ear disease in youth, and was cured. He became house-surgeon to the Eye and Ear Infirmary in 1876, and assistant surgeon in 1879, the year in which the subject of otology received for the first time, thanks to the British Medical Association, a distinct recognition in the proceedings of any medical congress in this country, and in consequence a great impetus in scientific investigation. Sir William Dalby, writing in 1890, said, "It is only of recent years that the progress of . . . aural surgery has reached such a point as to attract young surgeons of good abilities and prospects to devote their lives to its practice." Mr. Stone was one of the first of these, and, being a man of means, prosecuted his studies in Vienna for successive years under Professors Politzer and Gruber, and rapidly became recognized as a scientific aurist in this part of the country.

In 1885, a vacancy on the full staff occurring, the Chairman of the Liverpool Eye and Ear Infirmary Committee stated officially and publicly "that so long as Mr. Stone held his views upon the working of the institution—which were that the two branches should be separate and distinct, proposals which would entirely revolutionize the system upon which the institution had hitherto been worked and found to answer well—his appointment would be disadvantageous to the best interests of the Infirmary.' These remarks were obviously made with the intention of blocking the election of Mr. Stone.

An effort was made to save the committee from perpetrating this act. The late Major Cross and Mr.—now Sir William—Barrett, urged the appointment of both candidates, "so that there might be a specialist to attend to diseases of the ear," pointing out that "out of a total of 721 in-patients, only 20 were ear cases." The result is to be seen in the following announcement appearing in the columns of the press:

To the Governors and Subscribers of the Liverpool Eye and Ear Infirmary.

My Lords, Ladies, and Gentlemen,

It was my intention to seek election at your hands for the vacancy in the staff of honorary surgeons, caused by the elevation of Mr. T. Shadford Walker to the rank of honorary consulting-surgeon.

In the face, however, of the opinion of the Committee expressed at the annual meeting of the subscribers on Monday last, to the effect:

> That so long as I devoted myself almost exclusively to the treatment of ear cases, and held my views upon the working of the Institution—which were, that the practice of the two branches (the eye and ear) should be separate and distinct—my appointment would be disadvantageous to the best interests of the Infirmary.

And still holding to my views (which are in operation in London, Birmingham, Manchester, Edinburgh, and Glasgow, and the chief Continental cities), I have no alternative but to withdraw from my candidature.

And if in the position of Honorary Surgeon my adherence to those views would be detrimental to the interests of the Institution, they must also be if I remain on the staff as Assistant Honorary Surgeon, and I have, therefore, with much regret placed my resignation in the hands of the Committee.

Thanking those subscribers and friends who had promised to give me their support, I have the honour to remain, my lords, ladies, and gentlemen, your obedient servant,

George Stone.

61, Rodney Street, January 30th, 1885.

Exit the pioneer of scientific aural surgery in Liverpool from this "great" medical charity. Not only are pure specialists debarred, but a member of the staff who develops progressive ideas must clear out.* What inducement is there for a student educated at the Liverpool University to specialize in either ophthalmology or otology, well knowing that however proficient he might become in one or other subject, there would be no chance of a staff appointment for him at the "oldest special hospital" in his own city? I commend this point of view to the authorities of the Liverpool University.

5. The following rule as to assistant surgeons exists at the Liverpool Eye and Ear Infirmary:

Assistant Surgeons.

Rule 3.—They shall assist the surgeons in the attendance on out-patients and in the operations on in-patients. *They shall not* perform *any* operations without permission from the surgeons in charge, *and such permission may not be given to an assistant surgeon under twelve months standing.*

The italics are mine. In the rules of a score or more ophthalmic hospitals through which I have looked, including the Royal London Ophthalmic Hospital, Royal Westminster Ophthalmic Hospital, Birmingham, Manchester, etc., nothing approaching it can be found. It reflects no credit on the gentleman who framed it, on the medical staff who approved of it, or on the committee accepting it.

Imagine the position of assistant surgeons at the Liverpool Royal Infirmary, Northern, Royal Southern, and Stanley Hospitals, if bound by such a rule; and what must be the mental attitude of a senior staff which would for twelve months voluntarily deprive itself—by a general law—of the *surgical* services of an assistant surgeon?

The Eye and Ear Infirmary may be the oldest special hospital in Liverpool, but it is not the most progressive. St. Paul's Eye Hospital—following the example of the Royal London Ophthalmic Hospital—has taken the lead.

The importance of the subject is my excuse for this lengthy communication. Mr. Hugh E. Jones's letter is justification and proof of the statement in the *Daily Post*

* Ophthalmology was in 1878 declared to be separate and distinct from the department of the general surgeon. But this only signified a change in personnel, for the barrier to complete emancipation still remains in the eye and ear specialist.

editorial, that "the association of eye and ear is indefensible" in hospital practice. But, while he hopes "that eventually a complete and separate staff of surgeons will be provided for each department," he adversely criticizes those who would fain hasten the fulfilment of his hopes. Were he conversant with the early history of the hospital of which he is to-day a distinguished officer, he would value even adverse criticism if honestly conceived. "Publicity," wrote one of his notable predecessors, "should not and never need be feared nor shunned by the well-educated and honourably-minded practitioner. An institution like yours can only flourish, can only gain strength and stability, can only grow old in dispensing its many sterling blessings to the indigent classes of this great and multiplying community by *general* PUBLICITY."—I am, etc.,

Liverpool, Oct. 16th. THOMAS H. BICKERTON.

TURBINECTOMY.

SIR,—I wrote a fortnight ago with a view to helping Dr. Wilson to understand that what I meant when I said "removal of the turbinals" was not removal of a portion of the turbinals. This is the only sense in which I can be said to have "repudiated" the report of my remarks.

I willingly admit that my experience of the operation is not great. I am glad to say I have never performed it. But I have seen a good number of cases where it had been performed, and each of them had a dry naso-pharynx, though there was no other sign of nasal disease or predisposing constitutional condition present. This is my point, and this is why I said the only thing I did say on the subject—namely, that "pharyngitis sicca often occurs after removal of the turbinals"; and if Dr. Wilson has had different results from "carefully graduated" operations, or finds it extremely rare for atrophic changes (of which I did not speak) to follow turbinectomy with the spokeshave, that does not affect my observation.

If one were reduced to a choice between nasal obstruction and removal of the turbinals, the necessity for the operation might be maintained, though in that case the utility would have to be shown of conferring nasal respiration on a patient while taking away the organ whose function constitutes the chief reason why nasal respiration is worth having. But no such choice is forced upon us. I have yet to meet the case of nasal obstruction that cannot be amply dealt with without the sacrifice of these important structures.

On the question of terms. Uniformity in nomenclature is impossible to attain, but there are good reasons for following, in "turbinotomy" and "turbinectomy," the parallel expressions of "tonsillotomy" and "tonsillectomy."—I am, etc.,

Dublin, Oct. 20th. ROBERT H. WOODS.

EYESIGHT AND NAVIGATION.

SIR,—In your issue of October 18th Dr. Freeland Fergus states:

> So soon as ever a vessel appears on the horizon, a hypermetropic man will see it equally well with an emmetrope. I myself, with a dioptre and a half of hypermetropic astigmatism against the rule, have no difficulty in the matter whatever; it is purely a question of the velocity of light, not of the velocity of the vessels.

It is a fact well known to me, and no doubt to many ophthalmic surgeons, that patients with simple hypermetropic astigmatism against the rule can rarely be induced to wear distance glasses; they do not require them because, probably by some compensatory lid movement, they get quite good distant vision. To argue therefrom, however, that any hypermetrope can obtain vision as good as an emmetrope seems to me a little absurd, and I am disappointed that Dr. Fergus should lend his well-known authority to this statement. I quite fail to understand the argument with regard to the velocity of light and the velocity of vessels. The interpretation of either must depend on the presence of an efficient organ of sight.

Dr. Fergus also quotes in the same letter the case of a man with 5 dioptres of myopia who "did pilotage" for many a year. He will find, if he makes inquiry, that the pilotage was done by means of binoculars applied to the eyes, and not by the eyes themselves. I have reported similar cases in trawl skippers, who admitted that they would be no use without binoculars.

In my examination before the Sight Tests Committee of the Board of Trade I gave full particulars and percentages (see minutes of examination) of normal candidates rejected by their examiners before and after the addition of the yellow and purple skeins to Holmgren's test. I presume from your annotation of October 4th, "The Board of Trade Colour Vision Tests," that Dr. Fergus refers to this in his pamphlet. I also pointed out that only a small percentage of those rejected appealed, because in case of failure at the appeal examination they have to pay their own expenses to London and back. Consequently it is likely that normal candidates are permanently refused by the present methods of examination.

It seems to me that criticisms of the $\frac{6}{6}$ and $\frac{6}{9}$ standard, more especially from the shipping side, are founded on a complete misapprehension—namely, that $\frac{6}{6}$ means the best possible acuity of vision. After all, $\frac{6}{6}$ is only fair average vision, many persons easily obtaining $\frac{6}{5}$, $\frac{6}{4}$, and even $\frac{6}{3}$.

It must be admitted by every one that good eyesight is the most important requisite in seafaring life, and instead of the Board of Trade lowering its standard of vision in order to obtain candidates of a sort, it would be far safer and better to improve its methods of examination by giving to medical men what is medical men's work—namely, the diagnosis of normal vision. I presume that the Board of Trade would not employ medical men to examine their candidates in navigation, and I hold that lay examination of eyes is even more absurd.—I am, etc.,

Aberdeen, Oct. 19th. A. RUDOLF GALLOWAY.

ARTIFICIAL PNEUMOTHORAX IN A WORKING-CLASS SANATORIUM.

SIR,—To those interested in the subject of artificial pneumothorax as a treatment for pulmonary tuberculosis, but are doubtful of the possibility of using it for patients in a working-class sanatorium, owing to the prolonged time of treatment required, the following series of cases may be of some encouragement.

The numbers are very small, and the series only extends over the last eighteen months, but all the cases were very severe, most of them were febrile, and there was very little prospect that any one of them would recover. Of the 13 cases in which this treatment was attempted, in 4 pneumothorax could not be produced owing to the presence of pleural adhesions. Three cases—2 girls of 14 and 17 and a woman of 50—though their condition was much improved for some time, have since died. Of the remaining 6, 3 are still receiving injections, and all of them are able to do a certain amount of work. One man who had been ill for over two years, and most of the time in bed, has been working as a painter, eight hours a day, for a year. Another is working eight hours on a poultry farm, and 2 others are doing light farm work for several hours a day. One girl has taken a situation as a domestic servant, and the other is able to do light work at home.

With the possibility of giving patients suitable work under good conditions to follow up the treatment by artificial pneumothorax, it is our opinion that the employment of this method for working-class patients is most useful, and would be much more so if the idea of a farm colony to which patients were able to be drafted could be developed.—We are, etc.,

JANE WALKER,
Medical Superintendent.
ELEANOR G. SOLTAU,
Resident Medical Officer.

Maltings Farm Sanatorium, Nayland, Colchester.

THE SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS.

SIR,—Your correspondent, who suggests (p. 1041) that, instead of gas, liquids might be introduced into the pleura, will be interested to know that this has been done in Leeds for some time; paraffin has been used in several cases with various results. Two cases were described at Professor Saugman's meeting during the International Medical Congress in London this year, and others will be published in due course. Tincture of iodine may be, and

has in several instances been added to the paraffin; in all the cases nitrogen was introduced first.—I am, etc.,

Leeds, Oct. 20th. H. DE CARLE WOODCOCK.

THE ASYLUM SERVICE.

SIR,—In a leading article in the BRITISH MEDICAL JOURNAL of October 18th on the asylum service, it is suggested that assistant medical officers should agree on some temperate statement of their disabilities in view of the proposed Durham conference.

The correspondence which has already appeared in the JOURNAL indicates in its anonymity a difficulty in obtaining the considered judgement of a body of assistant medical officers, no machinery existing for such a purpose.

My object in writing is to invite communications from other assistant medical officers, and, if possible, to set up with them some machinery whereby a considered and authoritative statement of disabilities may be presented.

I am sure all assistant medical officers must be very grateful for the kindly consideration of their difficulties shown in your leading article.—I am, etc.,

F. J. STUART,
Senior Assistant Medical Officer, Northampton County Lunatic Asylum.

October 20th.

REX v. HAMILTON.

SIR,—The following comprise the committee of the above fund, and would be pleased to receive donations:

P. Daniel, Esq., F.R.C.S., 1a, Upper Wimpole Street, W.
S. R. Deane, Esq., M.R.C.S., Scothorne Villa, Lincoln.
Mrs. Moran, Mill Hill House, Barnes.
Miss Gallahar, The Shanty, Abinger Road, Bedford.
Dr. W. H. Gimblett, 86, Sutherland Avenue, W.
Dr. Dobell, The Terrace, Barnes.
Honorary Treasurer, H. Moran, Esq., Mill Hill House, Barnes.

The following are the subscriptions up to date:

	£	s.	d.
F. M. G., Chiswick	10	0	0
H. Somerville, M.R.C.S., Shamrock, Beds ...	0	5	0
J. W. Heekes, M.R.C.S., Barnes	1	1	0
Peter Daniel, F.R.C.S., 1a, Upper Wimpole St.	5	0	0
C. N. Poole, M.R.C.S., Wandsworth	1	1	0
Mrs. Moran, Mill Hill House, Barnes	5	5	0
Mrs. McIntosh, 20, Westmoreland Road, Barnes	5	0	0
C. Capper, Esq., 6, Leinster Av., East Sheen ...	2	0	0
Cecil Johnson, M.B., "Cricklewood," East Sheen	2	2	0
D. C. Dobell, M.B., The Terrace, Barnes ...	2	2	0
W. H. Gimblett, M.D.	2	2	0

—I am, etc.,

London, W., Oct. 21st. W. H. GIMBLETT, M.D.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examinations indicated:

D.P.H. (*Both Parts*).—W. J. Cran, W. M. Elliott, R. L. Gamlen, W. G. Hamilton, J. Johnstone, Rose F. Jordan, W. MacAdam, C. R. Macleod, A. MacMillan, G. Milne, J. Paterson, O. Shields, B. K. Singh, E. S. Taylor, J. W. Turner, H. G. Waters, E. C. Williams, A. J. Williamson, G. J. Wilson.

* Distinguished in the practical application of Pathology and Sanitary Science.

Degrees.

The following degrees have been conferred:

M.D.—K. Comyn, C. B. Heald, G. W. Twigg.
M.B., B.C.—R. Gamlin, A. E. Herman, A. C. Roxburgh, L. W. K. Scargill, G. A. Smythe.
M.B.—C. C. H. Binns, L. T. Rutherford, T. E. Osmond.
B.C.—R. S. Morshead.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following candidates have been admitted to the Fellowship:

H. E. Arbuckle, J. F. Bennett, J. D. Fiddes, P. L. Foote, McW. Henry, H. F. Holmden, H. C. Merserau, J. J. H. Nelson, A. B. Pestonji, R. F. Steel, H. M. B. Stratford, A. R. Thomas, S. H. M. West, H. B. Wyman.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examination indicated:

FIRST COLLEGE.—J. Cusack, L. Finnegan, P. J. Flood, W. F. Moorhead, W. H. Pierce, W. H. Sexton.

Obituary.

JOHN ADAM, M.A., M.D.,

DINGWALL.

THE many friends of Dr. Adam throughout the North of Scotland will receive the news of his sudden death with sincere regret. Although his health for some time past had not been robust he was able to do a fair amount of professional work. After spending the morning of October 18th visiting patients, Dr. Adam returned to his residence, and between two and three o'clock a patient called to see him. Mrs. Adam went upstairs to deliver the message, and her husband, who seemed to be in his usual health, said he would be down in a minute. His non-appearance took Mrs. Adam upstairs again, when she found the doctor lying unconscious on the floor of his bedroom. Medical aid was summoned, but despite every attention Dr. Adam never rallied, and he died a few minutes after midnight.

John Adam was the eldest son of the late Mr. Adam, Humberston, a well-known agriculturist in Ross-shire. He was educated at Dingwall Academy, and subsequently studied at Edinburgh University: there he had a distinguished career, and graduated M.A. in 1873. He then studied medicine, graduating M.B. and C.M. in 1876 and taking the degree of M.D. in 1881. Shortly afterwards he commenced practice in Dingwall, and continued to do so until his death. He was medical officer for several parishes, and discharged the important duties connected with this wide district with unflagging zeal, tact, and ability. In his professional capacity he was always at the call of duty, ceaseless in his attention to his patients; time and distance were seldom considered, and his unfailing urbanity and kindness made him welcome wherever he went. To the poor and needy his kindness was unfailing, and he often gave medical attention without any prospect of fee or reward.

Dr. Adam took a prominent part in the public life of Dingwall; for many years he was a member of the town council; he showed a great interest in education, and for eleven years was an active member of the school board. In 1334 he joined the Volunteer Force, and in 1904 attained the rank of lieutenant-colonel, and was senior medical officer of the Seaforth and Cameron Brigade. For many years he was surgeon to the Ross Memorial Hospital, an institution in which he took a great interest. Some years ago, under the strain of hard work, his health broke down, and he was presented with a handsome testimonial; it enabled him to take a lengthened trip to Africa, by which his health was restored.

Dr. Adam was a member of the British Medical Association, and a past president of the Northern Counties of Scotland Branch, and took a keen interest in its affairs. He was a strong opponent of the Insurance Act, and refused to allow his name to go on the panel.

Dr. Adam was 60 years of age, and is survived by Mrs. Adam and two daughters, to whom the sympathy of numerous friends in the North of Scotland is extended.

THOMAS WILSON, M.R.C.S.ENG., L.R.C.P.EDIN.,

WALLSEND.

THE death of Dr. Thomas Wilson, which took place, after a short illness, at Wallsend on October 18th, has closed an exceptional medical career. In the Tyneside area he was a most familiar figure, and was held in the highest esteem by all with whom he came in contact. He was born at Darlington in 1834, and was in his 79th year. After attending school at Darlington he studied at the College of Medicine, Newcastle. While attending lectures he acted as pupil-apprentice to Dr. Thompson at Jarrow. The face of Tyneside has altered vastly since those days. In order to reach his classes Dr. Wilson was often obliged to utilize a sculling boat, and not infrequently he got aground on sand-banks, for the Tyne, on which huge *Dreadnoughts* now float easily, was at that time very shallow in parts. It is now nearly fifty years ago since Dr. Wilson established himself in practice

at Wallsend. The growth of this busy centre of shipbuilding and engineering is coincident with his life in the district. It is reflected in his association with the public health service. On the establishment of the Wallsend Board of Health he was appointed part-time medical officer. Later, on the formation of the urban district council, he was retained as the medical officer, and more recently, when Wallsend became a borough, he continued as medical officer to the town council. It is only a little over a year ago that he resigned, and was succeeded by a full-time officer. The valued advice, however, of Dr. Wilson was still available, for he was appointed consulting medical officer. It will thus be seen that he passed through every phase of the public health service up to the time of his death. Dr. Wilson's activity and energy were always in evidence; he was an indefatigable worker, both in his public service and in his private practice. From the latter he retired about fourteen years ago. He was the senior medical referee in the country for the Prudential Insurance Company.

At one time he was an active politician and was a staunch Conservative. In his later years the turmoil of party politics ceased to have any charm for him. He was a devout and devoted member of the Church of England. He took great interest in the affairs of the British Medical Association, and for many years regularly attended the annual meetings.

Dr. Wilson's wife died three years ago. Her father, grandfather, and great-grandfather were medical practitioners, as were several other members of her family. His two sons and four daughters are all living. They are: Dr. Alfred Wilson, who carries on the Wallsend practice, and Dr. Thomas Wilson, now in practice at Gilgandra, New South Wales; the eldest daughter married Dr. Drury, of Halifax; the second, Mr. Arthur Swordy, of Newcastle; the third daughter, Dr. Donald Bremner Waters, of Walkeringham; and the youngest, Dr. William Stuart Milne (Federated Malay State Medical Service).

The funeral took place at the Jesmond Cemetery on Monday, October 20th.

THE LATE SIR JOHN BATTY TUKE.

A service in connexion with the funeral of Sir John Batty Tuke was held in St. John's Church, Princes Street, Edinburgh, on October 16th. The President and Fellows of the Royal College of Physicians attended, and there were also representatives from the Royal College of Surgeons, the University, and the Edinburgh and St. Andrews Conservative Association. Thereafter, the remains were conveyed to the Crematorium, Glasgow.

The friends of Dr. Samuel Poole, of Wolverhampton, will regret to hear that he died in that town on October 17th after a very short illness. A few days after his return from a holiday abroad some three weeks ago, he experienced symptoms which indicated the necessity of an operation on the gall bladder, and from this he never rallied. A Lancashire man by birth, Dr. Poole, after completion of his general education at Hutton Grammar School, became an undergraduate at Edinburgh, where in 1889 he received the degrees of M.B., C.M. A few years later he proceeded to the M.D. of the same university, and at a comparatively recent date acquired a diploma in public health from the Conjoint Board in Ireland. He began work as practitioner as an assistant in the Rhondda Valley, but had been resident in Wolverhampton for some seventeen years. At the time of his death his practice was large, a good deal of it lying among the less wealthy classes, by whom in particular his services will much be missed. His work included that of Poor Law medical officer and of public vaccinator for one of the districts of Wolverhampton, and he was also a medical referee under the Workmen's Compensation Act. He was a member of the British Medical Association, and outside his professional work Dr. Poole took an interest in Freemasonry, and at one time aspired to a position on the town council. Dr. Poole, who at the date of his death was in the 49th year of his age, was never married.

Medico-Legal.

ACTION AGAINST THE BRITISH MEDICAL ASSOCIATION.

Settlement in Court.

At the Bedford Assizes, on October 17th and 18th, Mr. Justice Rowlatt, sitting with a special jury, heard the case of Sloman *v.* The British Medical Association, Dr. Butters, Dr. G. H. Goldsmith, and Dr. S. J. Ross. The plaintiff, Dr. Herbert Sloman, L.R.C.P., M.R.C.S., sought a declaration that certain resolutions passed by the Bedford and Herts Division and the Bedford Division of the South Midland Branch of the defendant Association, being *ultra vires*, were null and void. He also claimed damages for libels alleged to be contained in a resolution dated October 1st, 1908, passed by the Executive Committee of the Bedford Division, and in a circular announcing the agenda for a meeting of the same Division to be held on June 20th, 1912, and in a resolution passed at that meeting. He also claimed damages for an alleged slander by Dr. Butters.

Mr. Hugo Young, K.C., and Mr. Alec Neilson (instructed by Mr. Guilford E. Lewis) appeared for the plaintiff; Mr. Hollis Walker, K.C., and Mr. H. H. Joy (instructed by Messrs. Hempsons) for the defendants.

According to a report in the *Bedford and County Record* (October 21st), Mr. Neilson, in opening the pleadings, said the plaintiff was Herbert Sloman, and the defendants were the British Medical Association, together with George Butters, George Harvey Goldsmith, and Stephen John Ross. The plaintiff claimed a declaration that certain resolutions passed by the defendant Association should be null and void, and of no effect, and were passed *ultra vires* of the Association. He also claimed damages for libel against the defendant, Dr. Goldsmith, and the Association, and for slander against the defendant Dr. Butters. By their defence all the defendants admitted that the resolutions were passed, but denied that they were passed *ultra vires*. As regards the libels and slanders, they admitted that the words were uttered, but said they were uttered on a privileged occasion.

Mr. Hugo Young, K.C., in addressing the jury, said the plaintiff had been for some thirty years a member of the British Medical Association, and his action was against individuals who had taken an active part in proposing and seconding certain resolutions. All the facts and documents were admitted. Herbert Sloman had been practising for a considerable time in Scotland, but thought he would return to England and practise. Through the Scholastic, Clerical, and Medical Agency his attention was drawn to an advertisement which had been inserted in a medical paper by Dr. Clark, who was practising in Bedford—namely: "For transfer a practice in a county town in the South Midlands, about one hour by rail from London. Established by the vendor about eleven years ago. Cash receipts for 1904-5-6 averaged between £250 and £300 a year, including appointment worth about £50 to £60 per annum. Clubs and dispensary. Well situated semi-detached house. Premium £350. The vendor is of opinion that energetic man could largely increase the practice. Vendor is relinquishing for private reasons unconnected with the practice." Plaintiff being willing to accept a practice in Bedford came and saw Dr. Clark. The result of the interview was that he said he was prepared to buy the practice, but as the books were not added up, and Dr. Clark said he wanted some days to get the books in order, plaintiff said that, subject to examination by an accountant, and all turning out satisfactory, he should be prepared to negotiate. On May 6th he wrote to Mr. Stocker, the representative of the agency, describing the circumstances, and suggesting that the visit of an accountant was necessary, adding that he understood that one-third of the fees arose outside Bedford. Dr. Sloman's offer to purchase the practice was entered upon with the greatest bona fides and desire to buy subject to investigation. On May 10th the accountant reported that the receipts in the day book for the last three years were: 1907, £100, appointments £38; 1906, £239, appointments £40; 1905, £166, appointments £67—being an average of £217 per annum. Included in the receipts for 1905-6 were sums of £96 12s. and £19 15s. from a patient now deceased. Taking that patient away reduced the average by £38 to £179 a year. The outside practice, it appeared, was connected with a branch surgery in a cottage at Wootton. That result was very unsatisfactory to Dr. Sloman, who, on May 18th, wrote to say that, as the value of the practice was so much less than he had been led to expect, and there was so much difficulty and uncertainty about getting a suitable house, and the personal introductions would be so difficult to carry out, he did not wish to go any further into the matter. Learned counsel said he did not think it germane to the inquiry to investigate the rights and wrongs of the case as between Dr. Clark and Dr. Sloman, but it was necessary to explain that Dr. Sloman had made arrangements, at great expense, to have his furniture sent from Scotland to Bedford, and he was left in the position that he was not able to buy the practice; he had no other offered to him at the moment, and he had decided to stop in Bedford and get what patients he could by letting it be known that he was willing to accept them. That was the beginning of what he might call a system of persecution by the other doctors against this unfortunate gentleman. It appeared to be suggested that no man had a right to come into Bedford and practise unless he bought somebody else's practice. Even if that were

a rule of the medical profession. It did not justify what had been done to this man. His attempt to buy the practice was perfectly bona fide, but he was informed by Dr. Clark and by Mr. Stocker that it was no use offering a less price than that which was asked.

The British Medical Association had an Ethical Committee for the purpose of investigating matters of etiquette among medical men. The Bedford Branch had also an Executive Committee, which was the local Ethical Committee. Dr. Clark, feeling a grievance against Dr. Sloman, on November 7th, 1907, made complaint to the Central Committee that Dr. Sloman in the previous May had promised verbally to sign an agreement to purchase his practice, and a few days later declined to do so. Since then he had come to practise near him (Dr. Clark), and in a position likely to injure his practice. As Dr. Sloman had not paid him the customary professional call, he thought it would be better that the correspondence should take place through a third party. Owing to some delay in getting a reply, Dr. Clark withdrew his complaint from the central authority, and said he should send it to the local committee, briefly stating the case on December 3rd, and that the one question he was placing before the committee was Dr. Sloman's ethical conduct in starting in opposition to him. Then followed correspondence on the mode of procedure, the essence of which appeared to be that the complainant should satisfy the committee that he had personally or by letter afforded the respondent an opportunity for explanation. On December 19th Dr. Clark wrote to Dr. Sloman asking him for an explanation of the conduct complained of, and in reply Dr. Sloman wrote that he failed to see that his conduct required further explanation than was given in his last letter to Dr. Clark. This was a letter of May 18th, which stated that "as the value of your practice is so much less than I had been led to understand, I do not want to go further into the matter." On January 9th Dr. Clark was written to by Dr. Cobb, the secretary, for a categorical statement of facts, and again in February. On February 17th he sent a long statement, but substantially it said that Dr. Sloman came to buy his practice but did not, and started a practice on his own account. On February 26th Dr. Sloman had sent in a detailed statement of his answers to Dr. Clark's allegations. Both parties having agreed to submit to arbitration, they were heard on February 27th before the Ethical Committee of the Division, and the following resolution was passed:

> We are of opinion that Dr. Sloman came to Bedford solely with a view to purchasing Dr. Clark's practice, that he broke off negotiations for the purchase of the practice because he found the value thereof, as reported by the accountant, was not satisfactory; that Dr. Sloman was fully entitled to break off the negotiations, but, having negotiated thus far, we are unanimously of opinion that Dr. Sloman unwisely offended against the recognized rules of the medical profession in immediately starting in practice in Bedford in close proximity to Dr. Clark.

That established his bona fides, but Dr. Sloman accepted the decision. There was no order in the resolution, but it simply expressed an opinion, and that was enough for him. He was anxious to put himself right with the British Medical Association, and took steps at once to do so under the rules. On March 22nd, Dr. Sloman wrote that he had been awaiting some suggestions as to how he might make reparations to Dr. Clark. His decision to start in Bedford was arrived at after consultation with other medical men, and his coming to Bedford was due to Dr. Clark's representations of his practice. They all felt that this relieved him from obligation to Dr. Clark. He was, of course, ready to make Dr. Clark an offer to buy his practice at a price calculated on the accountant's report, and he made this offer in order to show his disposition to make amends, and offer an apology to Dr. Clark for any inconvenience caused by an unfortunate error of judgement. Dr. Sloman was so anxious that no information as to the vendor's intentions or otherwise detrimental to Dr. Clark should become known, that as soon as the negotiations fell through he destroyed the reports and list of fees he had received. On March 26th, 1908, a general meeting of the Bedfordshire and Hertfordshire Division was held, and the minutes were as follows: "The report of the Ethical Committee was then read upon a case of disagreement between two members of the medical profession. The chairman then read a letter from Dr. Sloman in which he admits his error, and offers still to purchase Dr. Clark's practice or to agree not to attend any of his patients. It was then proposed by Dr. Coombs and seconded by Dr. Chillingworth:

> That the report be approved, and that one of the parties be held to have violated the rules of the Division in respect to professional conduct or the ordinary accepted rules of the profession, and that he be called upon suitably to apologize to the other, or to the members of the Division generally.

This, having been put to the meeting, was carried unanimously." Mr. W. G. Nash then proposed and Dr. Coombs seconded the resolution which, learned counsel said, was entirely *ultra vires*—namely, that Dr. Sloman should be called upon to fulfil his promise to purchase Dr. Clark's practice on the usual terms and apologize to him; that in the event of terms not being agreed upon, Dr. Sloman should undertake not to attend any of Dr. Clark's patients for the next three years. On April 1st plaintiff wrote to Dr. Clark to the effect that as the executive had found that he was wrong in commencing practice in Bedford after breaking off the negotiations, and he had intimated a wish to make amends by reopening negotiations to purchase at a price based on the accountant's report, he made an offer of £270. But, if Dr. Clark adhered to his decision not to sell it, he (Dr. Sloman) undertook not to attend any of Dr. Clark's patients in Bedford. Counsel added that plaintiff had not up to the present attended any of Dr. Clark's patients. In reply, Dr. Clark wrote that he was unable to give a definite answer; last May he was sanguine, and knew of a place to start practising in, but he was now married, and did not know of an opening. Other letters followed, and in one Dr. Clark intimated his willingness to accept £270 provided the accountant's figures were correct. The negotiations extended over a long time, but the parties seemed unable to come to terms.

In July, 1908, a proposal emanated from the Executive that the President of the South Midland Branch should be asked to act as arbiter in the matter of the negotiations.

On October 1st, 1908, the Executive Committee met, and a letter was read from Dr. Clark in which he stated that he was not anxious to sell his practice to Dr. Sloman, and the cause of his complaint was still going on. Thereupon, said learned counsel, the following resolution was passed:

> That this committee is of opinion that Dr. Sloman in coming to Bedford ostensibly to purchase a practice, and having obtained an insight into that practice, and negotiations having failed, the committee is still of opinion that Dr. Sloman violates the rules of professional conduct by remaining in practice in Bedford.

This could only mean that he came pretending to buy, and having obtained an insight into the business threw it aside, although by their resolution of February 26th they had declared their opinion that he came to Bedford solely with a view to purchasing Dr. Clark's practice. It was next resolved to send a copy of the resolution to each member of the Division. A greater slur upon a medical man could hardly be circulated, and that was sent out to the doctors in a halfpenny wrapper.

Mr. Walker, K.C., said there was no allegation of publication to any one but members of the Division.

Mr. Young, K.C., said he did not suggest there was, but it showed very little care. Nothing more was done for four years. The three years had run out, and plaintiff had not attended any of Dr. Clark's patients. On March 12th, 1912, the case of Dr. Sloman was brought up and discussed at the Executive Committee, as regards his being met in consultation. The Secretary was asked to obtain a copy of the ethical rules of the Association. An agenda was sent out in May with a notice that the Executive Committee, acting as the Ethical Committee, was of the opinion that the resolution passed at the Divisional meeting on October 1st, 1908, still held good, and the Chairman would move a resolution that no member of the Association shall meet in consultation anyone who had been guilty of unprofessional conduct, and on June 20th that resolution was passed on the motion of Dr. Butters. It was proposed by Dr. Nash and seconded by Dr. G. H. Goldsmith, that the Secretary send the resolution to the Central Ethical Committee according to Rule Z, and await instructions. These gentlemen were again anxious to circularize the documents, but their intention could not be put into action because it was pointed out by the central executive that the rule had no application. A letter was sent to the central Association stating that Mr. Sloman was found by the Executive Committee to be violating professional rules by remaining in practice in Bedford, but that certain members had been meeting Mr. Sloman in practice, and did not understand the meaning of the resolution. In reply a letter of June 26th, from the central to the local, stated that the circulation of such intimation to non-members, except in strict accordance with Rule Z (which the local Division had not adopted) would probably lead to legal proceedings, and the central committee strongly deprecated such circulation. In connexion with the rule which laid down the procedure (such as submitting a report of the whole facts to the Central Ethical Committee) there was a note: "The Central Ethical Committee desires to draw attention of the Divisions to the necessity of notices such as the above being circulated in sealed envelopes and marked "Private and confidential for the use of members of the So-and-So Division exclusively." But the local committee, having passed this resolution, did not refer it to the central committee before they circularized it, but had sent it out in ½d. wrappers on their own account, and when they referred to the central committee were told at once how wrongly they had acted.

Dr. Sloman wrote that he should be glad to know upon what grounds the charges formulated at the meeting on June 12th were passed, and in reply got an extraordinary letter, in which it was stated that so far as the writer knew no charges were formulated. It was merely a question as to whether the findings of the committee in the Division still held good. They could hardly be surprised, commented Mr. Young, that Dr. Sloman thought it was time to consult his legal advisers. On December 14th, 1912, they wrote to Dr. Goldsmith, Secretary of the Bedfordshire and Hertfordshire Division of the British Medical Association: "Sir,—I have been consulted by Dr. Sloman, of 65, Goldington Road, Bedford, relative to a series of resolutions which have been passed by the local Division of the British Medical Association reflecting upon his conduct, which originated as far back as February, 1908, when the complaint made by Dr. Clark, of Bedford, was brought before the meeting of the Executive Committee on February 27th of that year. I do not propose to enter into the various matters which have transpired, because they must be as well known to the Executive of your Association as they are to me, but I have in particular to call your attention to the fact that Dr. Sloman having in all ways complied with the wishes of the committee as expressed in the resolution of March 26th, 1908, and leaving aside the question as to whether the resolution was justified or

not, none of the subsequent resolutions appear to me either justified according to the rules of your Association, or by the facts, and that the matter having rested from the holding of the meeting on October 1st, 1908, to June, 1912, I cannot perceive the slightest justification or reason for the matter being pursued further by the resolution passed at the annual general meeting of that date. My present object is to obtain information so as to enable me to advise Dr. Sloman as to his rights in this matter. He is a member of the British Medical Association, and as such, I think you will admit is entitled to the information which I seek.

"Apart altogether from this, however, as a man accused he is entitled to know upon what grounds he is accused and has been judged, and I have to ask you, therefore, to be good enough to inform me as to any complaint which may have been made against him and upon which he has been adjudged to be guilty of unprofessional conduct at the various meetings which have been held of the Executive Committee and of the members of the Divisional Association from and after the meeting held on March 26th, 1908. If any complaints have been made in writing I ask you to be good enough to supply me with a copy of such writing, and if verbal, then will you be good enough to explain to me exactly what has been from time to time stated, and by whom.

"Dr. Sloman instructs me that he had no previous notice or warning that his conduct would be considered at the various meetings of the Executive Committee, other than that held on February 27th, 1908, and that no information has been given him which would have enabled him to defend himself, whilst as to the annual meeting held on June 20th, 1912, Dr. Sloman received—I presume in common with all other members of the Division—a notification distinctly libellous, unenclosed, in a halfpenny wrapper. I shall also be glad to know in what other respect you justify the proceedings of the Executive Committee and the officers in proceeding with a complaint extending over a period of five years."

In a postscript the writer added: "Since writing the above I have seen copies of letters written by Dr. Sloman to you, to which I must draw your attention and ask for compliance, as it seems incredible that there should be any delay or difficulty in affording the information which my client asks. Not the least important request is that for a copy of the rules of procedure of the committee in force when the resolution of February 27th, 1908, was passed, and since that date to the present moment."

The same date the solicitor wrote also to the Secretary of the British Medical Association, London, as follows: "I have been consulted by Dr. Sloman, of 65, Goldington Road, Bedford, relative to a series of resolutions which have been passed by the Bedfordshire and Hertfordshire Division of the British Medical Association, and I enclose herewith a copy of letter which I am to-day writing to the Secretary of that Division.

"It appears to me that my client has been subjected to a systematic persecution at the hands of this Association for the past five years, and whilst I am aware that the complaint made originated at the instance of Dr. Clark, of Bedford, who was not then and is not now, a member of your Association, the complaint being made against one who was and is a member, which in itself is contrary to the rules, I find that from time to time the matter was pursued in the most relentless manner, that resolutions were passed reflecting upon my client both professionally and socially, that these resolutions were circulated throughout the district amongst his professional brethren and generally became known throughout the district in which he sought to practise; that no previous intimation that his conduct was to be considered or that any complaint had been made was given to him when he could have been afforded an opportunity of defending himself and that the matter having been allowed to sleep from October 1st, 1908, until June 20th, 1912, the matter was brought up afresh at the annual general meeting of the members of the Division, when a further resolution was passed warning all medical men that my client was an unfit person to be met in consultation.

"I know as a fact that this matter has already been brought to the attention of the Executive of your Association in London, but despite this the officers of the Bedfordshire and Hertfordshire Division have been allowed to pursue the matter to the utmost limits of their desire to injure Dr. Sloman.

"As you will find in the letter which I have written to the Secretary of the local Division, I desire to know the grounds and complaints upon which the various resolutions have been passed regarding Dr. Sloman's conduct. Up to the present moment this information has not been afforded which in itself is contrary to the rules which govern the Association, and I trust that you will take such steps as may be necessary to influence the local Secretary to comply with my request, which you must admit is a reasonable one, not alone having regard to the fact that Dr. Sloman is a member of your Association, but also that his conduct has been considered and him condemned without previous notice and in his absence.

"The object of my request is that I may be enabled to advise Dr. Sloman as to the course which is open to him to pursue in order to vindicate his honour both professionally and socially.

"I need hardly point out that the effect of the resolutions being passed and circulated as they have been throughout the district has been to cause Dr. Sloman intense pain and injury. For my part, I am entirely unable to see what power either under the rules of the Division or upon the facts as they exist the local committee have had to pursue Dr. Sloman as they have done, and I shall be glad if you will refer me to the rules which govern their conduct.—I am, Sir, your obedient servant."

The only defence, commented counsel, that was practicable was that these resolutions were privileged. There could be no privilege, he submitted, where people professing to act under rules acted in a manner in no way justified by those rules, because their only protection could be that they were carrying out the rules. The moment arbitration was closed they were acting outside the rules, but four years later they raked the matter up again, after authorizing him to stay. He asked for considerable damages. It was not necessary to prove the loss of a farthing. If the jury thought a libel had been published and a slander uttered, they could give such damages as they thought fair to mark their sense of such conduct. He asked the jury to establish Dr. Sloman in Bedford and to say that he had acted right from beginning to end.

Evidence of the Plaintiff.

Dr. Sloman, in evidence, said in 1907 he was practising at Edinburgh, and for family reasons he disposed of his practice to come to Bedford. He was introduced to this practice at Bedford and interviewed Dr. Clark, and made up his mind to purchase the practice if the accountant's report were satisfactory. There were very material differences in the figures between those given in the advertisement and those given by the accountant, and he wrote declining. At that time he had brought his furniture to Bedford, and he looked round for a house to live in, and took one in Goldington Road, because that district was then developing. On August 28th he put up his plate. At that time he destroyed all the papers he had received regarding Dr. Clark's practice. He had never attended Dr. Clark's patients. He called on almost every medical practitioner in the town, and heard no complaint up to December 19th. On that date he received a letter from Dr. Cobb. He received a letter to attend a meeting on February 27th, and attended with Dr. Clark before the meeting. He thought that meeting ended the matter. In March, in accordance with the resolution of the Association, he reopened the question of purchasing the practice, and Mr. Hempson conducted the negotiations for him, but they could not come to terms. On June 15th Mr. Hempson wrote Dr. Clark to this effect, breaking off negotiations. He never knew his affairs were to be discussed in June or July. He received a notice of a meeting to be held on October 1st, but he did not remember any mention of his business being included. Between February, 1908, and October, 1908, no further information had been required of him. So far as he knew he had not offended against professional etiquette in the four subsequent years. No warning was given to him of the Ethical Committee having come to any fresh opinion; and he knew of no reason for the raking up of this matter except that some of the doctors were meeting him after they had promised they would not. The result was that doctors, instead of meeting him *sub rosa*, would not meet him at all. In one case another doctor declined consultation with him. He conferred with another doctor, and he made arrangements to talk with the first doctor. After the patient got well the other doctor took over the patient altogether.

At the conclusion of Dr. Sloman's evidence in chief the Court adjourned until Saturday morning.

The plaintiff, cross-examined by Mr. Hollis Walker, K.C., said the British Medical Association was the principal organization of the profession, and its decisions carried the greatest weight. It was concerned in upholding the honour and dignity of the profession and dealing with questions of medical etiquette. He had arranged to bring his furniture to Bedford before he had broken off negotiations with Dr. Clark. Referred to a letter from Longhurst and Skinner, dated May 22nd, stating that they had that day sent their foreman for the furniture, plaintiff was asked if the furniture was packed four days after the negotiations were broken off. He replied, "Possibly," but he had to get out of his house by the Scottish quarter-day, which was May 28th. He commenced practice on August 28th, having consulted other men, who said that under the circumstances they considered he was perfectly justified. It did occur to him that other people might take a different view, and on June 11th Mr. Stocker wrote: "I should like to have your assurance that you do not propose to practise there, as it seems to me that it would be hardly the correct thing to do after the length to which your negotiations with Dr. Clark went." He appreciated that. He did not reply to that letter. When he started practice he did not call upon Dr. Clark.

Why not?—Well, would you? (Laughter.)

Why didn't you?—Owing to what had gone before.

Where he started practice was within one-third of a mile of where Dr. Clark lived, and on the same side of the town. The house he took was about 400 yards from one of two houses that he had discussed with Dr. Clark. He was not aware until until December that Dr. Clark had started a complaint against him on November 7th, and he never had the accusation sent direct to him; he had only extracts sent by the secretary, and they conveyed to a certain extent what the accusations were. Before the committee he was heard partially, and had not a full opportunity of saying what he pleased. He had not officially complained that he was not properly heard. The finding of the committee on February 27th, 1908, was communicated to him at the meeting. Asked if he still said that the committee had nothing further to do with it, and why he wrote his letter of March 22nd, plaintiff said the Ethical Committee was one thing and the General Committee was another. He expected

them to deal with the question, and his complaint was that they never gave him instructions what he was expected to do. He expected there was something more for the General Meeting to do than merely receive the report.

On May 13th he wrote to Dr. Hartley, Chairman of the Division, stating that he had offered to buy Dr. Clark's practice, but certain points in the agreement required adjustment; so that a sale could not be reported. He was going to report because he had promised to make the offer, and been given to understand that he should report the purchase. He had not heard of a suggested arbitration before the meeting in June. Dr. Kinsey advised him to refer his case to the Central Board, but he did not remember that Dr. Kinsey advised him to tell his version to the Local Committee. He wrote to the then secretary that, in the event of the negotiations failing, he undertook not to attend any of Dr. Clark's patients while he was in Bedford for a stipulated period (which he had already done), and that the committee had no power to refer the case to arbitration without his consent. He did not know that this matter was coming up on October 1st, 1908. Dr. Kinsey did not advise him to go before the committee after the idea of arbitration had been given up. When a copy of the minute of October 1st was sent to him, he did not write and protest against it or appeal. He did not suggest to any of the members that they were actuated by other than a desire to do right to him. If he did not think they were actuated by a desire to do right to him, he did not say so because that meant litigation. From his previous experience of how these matters were heard, he considered there was no chance of getting justice from the Central Committee.

The Central Committee was not connected with Bedford?—Only through its chairman.

Dr. Kinsey was doing all he could to befriend you?—He appeared to be.

Did you think at that time he was?—I thought at first he was.

Did you think in 1908 he was doing what he could?—Yes.

Then why not appeal to a body which was presided over by a friendly doctor?—Because even at that date I had come to the conclusion that I could not trust them.

You could not trust the members of your profession?—No.

You have a poor opinion of doctors?—Some of them.

Not all of them?—Not all of them form the committee.

At any rate, from October, 1908, to 1912 you took absolutely no step whatever?—No.

Plaintiff said he was not aware that in those four years the Association did anything further in the matter, and he had nothing to allege against the co-defendants personally between those dates. In the interval there was some diversity of practice with regard to meeting him, and one would have wished that uniformity of practice should be adopted. Until the agenda paper of 1912 he was never officially informed that they would not meet him. Asked who was the proper body to deal with this question, plaintiff said he could not suggest a better body than the British Medical Association.

The Judge: Subject to a certain proviso. It was the proper body to deal with it in a certain way, but that is the trouble.

Plaintiff said that when he had a copy of the agenda he did not attend the meeting because he did not think he could throw any fresh light upon it. Dr. Kinsey asked him if he was going, and said he was going, but did not say for what purpose. He (plaintiff) did not believe that Dr. Kinsey was going in his interests. He did not protest immediately, because he was a poor man and knew what litigation meant. In his estimation it was no use protesting further to a medical tribunal. He had not protested against any of these resolutions until this action was brought. In July, 1908, he wrote to the Central Ethical Committee asking if there was power to compel him to go to arbitration without his consent, and that appeal was so far successful that that body admitted that he had carried out what he had undertaken to do, and said they had no power to require arbitration.

A lengthy correspondence was then read to the effect that various efforts were made to get the question referred to the arbitrament of the British Medical Association, and prevent a matter of intraprofessional interest becoming the subject of litigation in a public court.

Plaintiff was asked if he realized that he was charging three professional gentlemen with malice, and he said that as officials they made these propositions. He presumed that they had a certain feeling in their minds or they would not have done so, but as they had not spoken to him personally since, he could only judge by the resolutions. Dr. Goldsmith seconded the resolution in June, but he did not accuse Dr. Goldsmith of being actuated by malice toward him personally.

On the contrary, I think Dr. Goldsmith has been of very great assistance to you?—He was.

Do you say he was not honest in being of assistance to you?—I do not for a moment.

Counsel quoted from a letter by plaintiff to Dr. Goldsmith stating that the latter had treated him in a manly and gentlemanly way, and always placed all documents and letters at his disposal, and asked: That letter is true to-day?—Yes.

In re examination by Mr. Young, K.C., plaintiff said he accepted the terms of Longhurst and Skinner on May 9th or 10th, and on May 22nd they sent two vans to fetch the furniture. He had taken a house in Bedford provisionally. He was practising from August 28th to December 19th, and there was nothing to prevent Dr. Clark writing to him in the meantime. He never promised to purchase Dr. Clark's practice unconditionally; it was always subject to investigation and its turning out satisfactory. Asked what was the procedure adopted at the meeting on February 27th, plaintiff said they were ushered into a room. Dr. Clark was asked to give some explanation of what had occurred. Plaintiff was not allowed to cross-examine him. The remarks were not given on oath. Plaintiff gave his version, and asked to be allowed to question Dr. Clark to test certain statements he had made in his detailed accusation. At first there was a murmur from two or three that he should not be allowed to ask questions about statements which he was able to prove were absolutely false. He then appealed to the Chairman, who thought that he might hand up questions to be put through the chair. There were fifteen questions, but when five had been put, certain gentlemen murmured that it was quite sufficient, and they did not want to hear any more. He was given to understand that Dr. Hartley thought it was for plaintiff to report to the Division whether he (plaintiff) had bought or not bought the practice. After the lapse of years he did not think the Association had anything to do with condemning him or dealing with him.

Counsel quoted the minute of June 20th, 1912: "That this Division is of opinion that none of its members should meet in consultation any medical practitioner who has been found guilty of professional misconduct." It was said in the defence that the word was "unprofessional conduct."

Mr. Walker, K.C.: In the agenda the other expression is used. That is where the confusion has arisen.

This concluded the plaintiff's case.

The following account of what then took place is taken from a transcript of the shorthand writer's notes:

Mr. Justice Rowlatt: Now, Mr. Walker, this action is after all an action for libel. Take the resolution of October 1st, 1908, as the best instance of it, because the others are perhaps echoes of it. This gentleman is accused there, so it is said, of having only ostensibly come to live at Bedford, and with having set up in practice after he got an insight into Dr. Clark's practice. Of course, it may be considered that this is rather a nasty reflection. Now, your defence is not a justification.

Mr. Hollis Walker: No, my lord.

Mr. Justice Rowlatt: But it is privilege.

Mr. Hollis Walker: Yes.

Mr. Justice Rowlatt: And that means that the British Medical Association and these gentlemen say that, although it is not true that these gentlemen did that, they are not responsible for the injury done to him, because of the privilege attaching to the communication.

Mr. Hollis Walker: Quite so.

Mr. Justice Rowlatt: That may be a very nice question, but it appears to me at present that that resolution was passed without the plaintiff ever having been told that he was going to be accused of ostensibly coming to Bedford, and, after having obtained an insight into this gentleman's practice, setting up in competition against him. Nor does it appear clearly—I do not know what you will say about it—that there was any justification by inference or otherwise for the Branch passing that resolution. It just occurs to me whether the British Medical Association might not take the line that under those circumstances it was not a question of whether they could make a good plea of privilege. This gentleman has complained of what took place, and they hear now that their officials did the thing complained of—it may be said *ex parte* and without particular powers. Having heard that, Is there not any way by which peace with honour could be arrived at?

Mr. Hollis Walker: That is what the British Medical Association has desired, and that is why the Association desired that this matter should be reopened.

Mr. Justice Rowlatt: I do not want to keep any discussion of this kind up. I am here to try this case, but the medical profession is one of the greatest professions, and any organization that watches over the interests and the honour of the medical profession is an organization whose standing everybody would desire not to see questioned in any sort of way. Is it not for them to be great about the matter, and when they find that there has been some irregularity in the past to take a higher line than set up in the question of privilege?

Mr. Hollis Walker: What I think they are fighting now is, as has been said in court, the accusations made against their own honour. Acting for the British Medical Association, I say they would be very glad to accept your Lordship's suggestions, but they cannot do that at the risk of making it appear that they are acquiescing in the accusations against their honour as made by the plaintiff; that is the difficulty.

Mr. Justice Rowlatt: What is the accusation against their honour? It has been suggested that there has been a very insufficient appreciation of what is very distinctive in our own profession.

Mr. Hollis Walker: The accusation is about their persecuting a brother doctor for five years.

Mr. Justice Rowlatt: That might utterly be put aside. This is a great Association with a central organization, and I should have thought it was possible that the central body, the real governing body, might come down and say that there has been an irregularity locally which has no doubt caused a great deal of feeling, and has unfortunately led to things being said on one side or the other; now away with it; there has been that irregularity, and the thing can be put right.

Mr. Hollis Walker: I think that could be done in a moment if that were the attitude of the other side.

Mr. Justice Rowlatt: I think it ought to be.

Mr. Hollis Walker: If it were said that this matter, perhaps in a hurry or for some other reason, has been gone through irregularly.

Mr. Justice Rowlatt: They would not be giving too much away if they said that it was done without prudence.

Mr. Hollis Walker: And without protest.

Mr. Justice Rowlatt: With regard to it being without protest, that after all is a small matter.

Mr. Hollis Walker: That, I confess, is the difficulty, but I will speak to my learned friend in view of the suggestion your Lordship has thrown out.

Mr. Justice Rowlatt: A fight to a finish in a profession is always a pity.

Mr. Hollis Walker: Yes, my Lord.

Mr. Justice Rowlatt: It is a pity for both sides. It would be a great pity for you if you lose, and I am not certain it would not be a pity for him if he wins.

Mr. Hollis Walker: It would certainly be a pity for him if he loses.

Mr. Justice Rowlatt: Mr. Young, I think you might speak to Mr. Walker about it.

Mr. Hugo Young: I will speak to my client about it, my Lord. I have not the remotest idea what my friend is prepared to do.

Mr. Justice Rowlatt: Speak to your client, and then speak to Mr. Walker yourself.

(The counsel and parties having conferred).

Mr. Hollis Walker: My Lord, we have to express our gratitude to your Lordship for the opportunity you have given us. I am glad to inform your Lordship that the time has not been entirely wasted, because the result of the negotiations which have taken place between my learned friend Mr. Young and myself has been that we have been able to bring the case to a conclusion. The record will be withdrawn upon certain terms. Those terms involve my making, if your Lordship will allow me to do so, a few remarks in connexion with this matter. What I wish to say is this. The real matters which formed the gist of the plaintiff's complaint here were the minutes of October, 1908, and June, 1912. My Lord, now that we have had the facts gone into and certain evidence has been adduced, two things have become obvious with regard to that minute of October, 1908: one is that it was irregularly passed, and the other is that it was unfortunately worded. The wording was such as certainly to justify, perhaps to require, those who read it to think that Dr. Sloman, in coming to Bedford and in embarking upon the practice which he was then carrying on in Bedford had been guilty of something in the nature of a trick. That was not the finding of the previous minutes of February and March, and I wish to state publicly as regards the defendants they desire to say that the word "ostensibly" and the imputation that it conveys never ought to have been put in that minute at all; that the truth is that which is contained in the earlier minute, which is that Dr. Sloman having come to Bedford and entered into negotiations with Dr. Clark, was justified in breaking off these negotiations. It follows from that, I venture to think, that we ought to expunge that minute of October, 1908, and if we ought to expunge that minute we ought to expunge that minute which was the corollary of that minute—namely, the one of June, 1912. Therefore, one of the terms of this settlement must be that those two minutes of October, 1908, and June, 1912, should be expunged, and that those who expunge them should express, and they do through me express, their regret that those minutes ever appeared in the minute book at all. I hope that is sufficient to deal with that matter. That is as regards the past. Now, as regards the future: it is clear that Dr. Sloman was given to understand, and did understand in the earlier stages of this controversy, that if he refrained from attending any of Dr. Clark's patients for three years he would be doing all that the local Branch of the Association required him to do. I have never suggested, and would not for a moment suggest, that Dr. Sloman had not loyally fulfilled that requirement, and, that, being so, we think it right that it should go forth publicly now that as the sequel to these proceedings to-day, Dr. Sloman is entitled to practise on a par with the other medical gentlemen in Bedford, and that he is entitled to be met in consultation by other medical gentlemen in Bedford or anywhere else without any restriction whatever. I venture to think that that should put an end to a good deal of the feeling which has been engendered in this case, and one cannot help expressing the hope that it will enable Dr. Sloman to practise here in Bedford on amicable terms with his colleagues in the town. There is just one other matter that I should mention, and that is this: Dr. Sloman having come here and brought this action, in the circumstances the defendants feel that he ought not to be out of pocket by this litigation. Further, in the letters which I read this morning, which I think show a not uncompromizing attitude on the part of the defendants, they said that if it were made apparent to them that reparation was desired it should be made to the plaintiff. The defendants will pay the plaintiff his taxed costs and a certain sum of money to compensate him for any inconvenience he may have been put to or any damage he may have suffered by reason of the course which events took in the years 1908 and 1912. There is, if I may say so, an item on the other side of the account, and that is that some hard things have been said, perhaps in the heat of advocacy, of the defendants and of the Association. Those gentlemen are also in practice in Bedford, and have their own reputations at stake. I understand my learned friend is prepared to say that, while he does not withdraw the suggestion that they have acted irregularly, unfortunately, or carelessly, there is no imputation against their conduct of the serious kind adumbrated this morning. With your Lordship's permission, the record will be withdrawn on terms.

Mr. Hugo Young: I am personally grateful to your Lordship for intervening in this matter, because, of course, your Lordship has put, in a very short space and very emphatically, exactly what was the crux of the case, and that has brought us to terms. My learned friend rather thought that I opened this case in a vindictive spirit. I do not desire to say one word that should give rise to any thought of that kind. If I may say so of my learned friend, I think he has very honourably carried out the suggestions as to the basis of this settlement in what he has stated to your Lordship. There is only one other thing that I have to mention with reference to what my learned friend is doing, and which I have full authority to refer to because it was understood that I should, although my friend himself had a little reluctance in mentioning it, and that is that, in addition to the costs, there is going to be paid to the plaintiff the sum of £500. There are just two things I have to mention—I hope in the same generous spirit that my learned friend has done. In the first place as regards Drs. Ross, Goldsmith, and Butters, who are made personal defendants as distinguished from the Association, and the suggestion of their having been actuated by personal malice and ill feeling towards the plaintiff: my Lord, it appears to me that there is what I may call a malice in law arising out of the circumstances in which the resolutions were passed which would be sufficient to justify me in asking the jury for damages. I desire to say now that I withdraw my suggestion of malice beyond what I may call legal malice arising out of the circumstances. I withdraw the suggestion that any one of those three gentlemen who were personally made defendants were actuated by any personal animosity or rivalry as against Dr. Sloman. There is one other thing that has been said in relation to the British Medical Association. I do not know whether it makes it better or worse, but it was not said in chief: it was said under the stress of cross-examination by my learned friend that the British Medical Association were not to be trusted fairly to hear and fairly to adjudicate upon a matter if it came before them, and Dr. Sloman did certainly say that he was not prepared to trust them. Now, I have Dr. Sloman's authority for saying that he desires to withdraw any such imputation against the Association, of which he had been a member for a number of years. There is not the slightest doubt that it is an association which does very good work in the medical profession. There is no doubt that it commands the respect of its members and a very large body of the public. It would not be right to close this case without saying that any such imputation on them is unreservedly withdrawn. I am glad this matter has come to this termination. Personally I feel, although the settlement is with my client's full consent, that it is really very much better for him as well as for the defendants that it should not have been fought to a finish. I hope your Lordship will think we have done wisely and well in settling this matter, because sometimes people are apt to think that counsel persuaded them to enter into a settlement. I think this is a case in which we should have your Lordship's full approval that what has been done is the proper thing to be done.

Mr. Justice Rowlatt: I absolutely agree with it. I think this is an absolutely right and just settlement from both points of view. I am sure no one can have arrived at the conclusion, from what has passed in this court, that these three gentlemen who are defendants were actuated by any unmanly spite against a fellow practitioner or anything of that sort. As Mr. Young had pointed out, he could frame this action without going to that length. I do not think any one would hold the opinion that they were guilty of anything so mean as that. But an irregularity was committed in the earlier stages, as Mr. Walker has frankly admitted. That has now clearly been brought out, and the resolution was unfortunately, probably unwittingly, without sufficient thought, worded in a way that necessarily causes damage to Dr. Sloman. Now that appearing to be the case, the British Medical Association have proved themselves big enough, strong enough, and just enough to come forward, and from a lofty standpoint to say: Here is a humble practitioner who has had this irregular and unfortunate resolution to contend with; he shall amply be set right. I think that to take that course would certainly not diminish the prestige of the Association which stands already so high, but would, on the contrary, add to it.

R. Ehrmann and H. Wolff (*Muench. med. Woch.*, September 23rd, 1913) have examined the blood serum of gouty patients chemically, utilizing some modifications of the usual methods, and in view of the results obtained draw certain deductions of which the following are the chief. The serums of normal persons at times contains uric acid in measurable quantities, even during the period when a purin-free diet is being taken, but the quantities under a purin-free diet may be no greater, and may even be less, than in normal subjects under the same diet. The uric acid content of the serum of gouty patients (in contradistinction to the whole blood) is greater than the purin body content. The concentration of hydrogen ions in the blood of gouty subjects is at times higher than that of normal or diabetic (comatose) patients, and this confirms the statement that the alkalinity of blood decreases in gout.

Medical News.

THE Earl of Derby has become president of the twenty-ninth congress of the Royal Sanitary Institute to be held at Blackpool on July 6th to 11th, 1914.

The Legislative Council of Nigeria has voted £400 in response to Mr. Austen Chamberlain's appeal for £100,000 for the endowment of the London School of Tropical Medicine.

SURGEON GENERAL SIR R. HAVELOCK CHARLES, G.C.V.O., will, on October 29th, at 4 p.m., present the prizes at the Royal Army Medical College, Grosvenor Road, S.W., on the conclusion of the 106th session.

THE annual meeting of the Society for Training Teachers of the Deaf and for the Diffusion of the German (Pure Oral) System will be held at 33, Cavendish Square, W., on Wednesday next, at 3.30 p.m.

WE are asked to state that the public are invited to hear the address which, as announced last week, is to be given by Sir Gilbert Parker, M.P., at the West London Hospital Post-graduate College on Thursday next at 5 p.m.; tea and coffee will be served at 4.15.

THE National Association for the Prevention of Infant Mortality and for the Welfare of Infancy has arranged a second post-graduate course on the feeding and care of infants to be held from January 12th to 22nd, 1914. Further particulars can be obtained on application to the Secretary, 4, Tavistock Square, W.C.

THE council of the Royal Meteorological Society has awarded the Symons Gold Medal to Mr. W. H. Dines, F.R.S., in recognition of the valuable work which he has done in connexion with meteorological science. The medal will be presented at the annual meeting of the Society on January 21st, 1914.

THE fifth Norman Kerr Memorial Lecture will be delivered before the Society for the Study of Inebriety, by Sir Thomas S. Clouston, M.D., LL.D., on Monday, November 3rd, 1913, at 4 p.m., in the Hall of the Royal College of Physicians, Queen Street, Edinburgh. The subject is "The Clinical Aspects of the Study of Inebriety."

STEPS are being taken at Haslemere to raise an adequate fund for the permanent endowment of the educational museum established in the town by the late Sir Jonathan Hutchinson. The trustees under his will have expressed their readiness to maintain the museum for another year, and at the end of that period to hand over the freehold site, the museum, and its contents to a trust committee.

THE Medical Committee of the Royal Dental Hospital of London will be "at home" to all old students from 2.30 p.m. to 5 p.m. on Saturday, November 22nd. The various departments of the hospital and school will be open and specimens and cases of interest shown. The annual dinner will take place the same evening at the Hotel Metropole, Mr. Rees Price in the chair. Past and present students who desire to obtain tickets should communicate with the dean at the hospital in Leicester Square, W.C.

DUFF HOUSE, near Banff, formerly the residence of the late Duke of Fife, has been opened as an institution for the treatment of disorders of metabolism. The patients will be under the direction of the physicians in respect of diet, exercises, baths, etc. The senior physician is Dr. E. I. Spriggs, formerly assistant physician to St. George's Hospital, and the junior physician is Dr. R. Gompertz, formerly surgical registrar, King's College. The institution is provided with a laboratory and has the services of an analytical chemist and a consulting bacteriologist.

ON Saturday, November 1st, collections will be made throughout London on behalf of the Mothers' Day Fund, and on the following day the Lord Mayor, who has consented to receive donations to the fund at the Mansion House, will attend in State a service at St. Paul's Cathedral. The object of the fund is to extend the work already being done by various societies with the object of reducing infant mortality and promoting the well-being of surviving children. The methods employed are partly educational, partly nutritional, well-cooked dinners being served daily to expectant or nursing mothers at the cost of 1d. or 2d. a meal, or gratis if the mothers are exceptionally poor. It is hoped that the present endeavour, one thoroughly meriting support, will make it possible to continue to maintain the present mothers' dining rooms and to start others in boroughs where they do not at present exist. The arrangements are in charge of the Women's League of Service, 31A, Mortimer Street. The honorary secretaries of this league are both medical women—namely, Dr. Florence Willey and Dr. Barbara Tchaykovsky.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

RINGWORM asks if any ill effects, more particularly on the eyes, have been noticed from the glare of a Lodge tube, used in an *x*-ray apparatus for ringworm, for reverse current.

LETTERS, NOTES, ETC.

HERPES AND VARICELLA.

DR. JAMES BUSFIELD (Enfield) writes: In further support of the alleged connexion between shingles and chicken-pox (of which I must admit to having been somewhat sceptical) I should like to report the following: I attend a family with five grown-up daughters. The first, second, and third had chicken-pox when the third was an infant. On September 15th the second began with a typical attack of shingles; on October 2nd, seventeen days later, the fourth developed chicken-pox, and no other source of infection could be traced. The fifth was away from home until September 24th, and up to the present has remained well.

SHIP SURGEONS.

MARINE writes: If ship surgeons would follow the advice of "B.A., M.B." they have the matter of remuneration in their own hands. Salaries of £20 or even £25 a month are being given by the leading steamship lines if doctors stick out for it. Otherwise they only get £10 and poor accommodation. But other members of the profession should help. It is said that doctors taking a holiday cruise on tourist vessels go for their passage money, signing on for 1s. a month and providing their uniform. This is hardly fair to their colleagues; a little consideration on their part would end in all getting adequate recompense for their skill and time. Let me urge no one to accept less than £20 to £25 a month. Ship surgeons must be had and the matter is simply one of withholding our services until the payment is on a fair basis. I would also advocate the fee system being insisted on. No one, unless he has experienced it, can imagine the thousand and one trivial things a ship's surgeon is called on to do by passengers where his services are free.

TREATMENT OF CHRONIC ULCER OF THE LEG.

DR. G. ARBOUR STEPHENS (Swansea) writes: Dr. Winkelried Williams's kindly reference in his paper on the treatment of chronic ulcer of the leg to the introduction of calcium iodide by me deserves, I think, a little amplification. It is, on his own showing, the most supported treatment of all those mentioned; for, in addition to three named supporters, he adds, "and others," whilst there is also mentioned one anonymous authority who found it of no use in his one and only case. "J. D.'s" hypersensitive stomach, in view of the extensive use at the present day of calcium iodide, must be quite a curiosity. I am sorry Dr. Williams did not give it a trial worthy of the name, when he might have found the drug, especially combined with subcutaneous injections of distilled water as recommended in the BRITISH MEDICAL JOURNAL of April 5th, the best treatment of all.

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An Address

ON

CHRONIC INTESTINAL STASIS.

Delivered at the North-East London Post-Graduate College.

By SIR W. ARBUTHNOT LANE, Bart., M.S., F.R.C.S.,

SENIOR SURGEON, GUY'S HOSPITAL, LONDON.

You have done me the honour to ask me to speak about chronic intestinal stasis. In the time at my disposal it is obviously impossible to deal with this vast subject in all its aspects, and I will confine myself to stating as briefly as possible the conditions which result, both directly and indirectly, from it.

By chronic intestinal stasis I mean that the passage of the contents of the intestinal canal is delayed sufficiently long to result in the production, in the small intestine especially, of an excess of toxic material, and in the absorption into the circulation of a greater quantity of poisonous products than the organs which convert and excrete them are able to deal with.

In consequence there exist in the circulation materials which produce degenerative changes in every single tissue of the body and lower its resisting power to invasion by deleterious organisms.

Perhaps the best scientific confirmatory evidence I can put forward of the harmful effect of defective drainage, both of the body as a whole and of the several tissues which constitute it, has been afforded recently by the remarkable experiments of Carrel in the growth of living tissue, in which he has shown that tissues are immortal, and grow to the greatest advantage if the drainage of their toxic products is carried out effectually.

I have so frequently described the mechanical factors that bring about the intestinal stasis that I will refer but very briefly to them in this communication.

Owing to unsuitable diet in infancy and to the habitual assumption of the erect position, delay of faecal material takes place in the large bowel, or cesspool, of the gastro-intestinal tract, or, as it can be best described, the "general drainage system of the body." In consequence of this, new membranes or resistances to downward displacement are formed by the crystallization of lines of force upon the surface of the peritoneum along which strain is specially exerted.

The first membrane which usually forms is that fixing the large bowel on the left side to the pelvic brim. This tends to reduce the freedom of the passage of material through this section, and is a frequent seat of cancer later in life. I applied the term "the first and last kink" to the locality of this obstruction in the intestine, since it is usually the first to form, and it is the lowest obstruction that develops in the intestinal canal. This membrane frequently attaches the left ovary, and later may enclose it, rendering it cystic and producing an ovarian tumour.

Similar evolutionary membranes are developed on the surface of the peritoneum, which is reflected outwards from the caecum, ascending and descending colon. These are much exaggerated at the splenic and hepatic flexures. Membranes develop also between the transverse colon when prolapsed, the adjacent ascending and descending portions of the large bowel transmitting through them much of its weight. The acquired membrane which runs outwards and upwards from the caecum may anchor the appendix at some point in its length, frequently producing a kink or obstruction of its lumen. In such circumstances inflammatory changes ensue, which are comprised under the term "appendicitis." Obstruction at any part of the large intestine may result in inflammatory or cancerous conditions.

The accumulation of material in a large prolapsed caecum may result in great delay in the evacuation of the contents of the ileum, and considerable accumulation of material in the small bowel.

Or the obstruction of the ileum may be still further exaggerated in a more definite manner in two distinct ways, which may act separately or in association. If either affords a secure grip on the bowel the other is absent; but if one is only partially efficient both may be present, dividing between them the function of supporting the caecum directly and indirectly. I refer to the development of a membrane in the under surface of the mesentery attaching the small intestine at varying points on its surface and obstructing its lumen, producing what I called the "ileal kink." Or the end of the ileum may be controlled by a fixation of the appendix to the under surface of the mesentery of the ileum by acquired adhesions.

Both these developments are evolutionary, and are not inflammatory.

The accumulation of material in the small intestine drags upon and obstructs the duodeno-jejunal junction. In consequence, the duodenum is elongated and dilated, and especially in its first portion, where it is free and surrounded by peritoneum. Later the pylorus becomes spasmodically contracted because of the constant necessity of preventing regurgitation of the duodenal contents into the stomach. As a result the stomach becomes dilated by the accumulation of its contents.

The delay of the contents of the small intestine, and also of the duodenum and stomach, results in their infection by organisms and in the development of chemical changes in the stagnating material.

These changes, in addition to the mechanical effects already described, bring about an engorgement of the mucous membrane of the first part of the duodenum, which may end in ulceration and perforation; or a similar change in the mucous membrane about the pylorus and along the lesser curvature of the stomach, which may terminate in ulceration, perforation, and later in cancer; or an infection of the ducts of the pancreas, which may produce degenerative inflammatory changes and their consequences. Later, cancerous changes may result in the damaged organ, or it may produce infection of the ducts of the liver and of the gall bladder, which may determine the development of gall stones, cholecystitis, and later cancer; or it may be the source of acute or chronic diseases of the liver.

Associated with this condition of the gastro-intestinal tract there is occasionally a spasm of the orifice of the oesophagus which causes the accumulation of the contents of this tube. This has been described as cardio-spasm by Dr. Plummer, the distinguished physician of Rochester. The symptoms that result directly from the autointoxication of chronic intestinal stasis are:

1. Loss of fat.
2. Wasting of the voluntary and involuntary muscles.
3. Degenerative changes in the skin associated with alteration in its texture and colour, the development of pigmentation, especially in certain localities, and a more or less offensive character of the perspiration. The pigmentation is so marked in some cases as to leave little doubt that the patient is suffering from Addison's disease.
4. The temperature of the body in cases of uncomplicated stasis is subnormal, and that of the extremities is particularly so. In some cases the condition of the extremities is such that they become bloodless, so that no blood can be obtained by pricking the hand or foot. In such circumstances the patient seems to lose common sensation in the part more or less completely. There is no abrupt line of separation between this condition and so-called Raynaud's disease, of which it would appear to be a stage. Stasis always exists in Raynaud's disease. Occasionally the hands may be quite bluish in colour. Sometimes this blueness of the skin is more widespread, when the term "microbic cyanosis" is applied to it.
5. The mental condition is one of apathy, stupidity, or misery. This may become exaggerated into a state of melancholia, or even apparent imbecility. These patients are very liable to commit suicide. They sleep very badly, and awake feeling they have derived no benefit from their night's rest. Neuralgic symptoms and so-called neuritis are frequently present in varying degrees of severity. Epileptiform tic is not infrequently the result of intestinal stasis, as evidenced by its disappearance after colectomy. Headache is a very frequent feature, and may render the patient's life unendurable. One of the most serious symptoms which results from the damage to the nervous tissues by toxins is the want of control over the temper, which makes the sufferer very difficult to live with, and

leads to much misery and crime. It is a much more frequent cause of serious crime than is generally imagined.

6. The patient complains of so called rheumatic aches and pains in the muscles and joints, and often in the skin.

7. The thyroid gland wastes, so much so that in marked cases no evidence of its presence can be detected by the finger.

8. The blood pressure may be raised or depressed.

9. The breasts show very definite degenerative changes. These are most marked in the upper and outer zone, and especially in the left breast. Cancer readily develops in this condition of the breast.

10. The several organs prolapse and alter in shape, partly because of the loss of fat, partly because of the wasting of muscle fibre. These changes are illustrated very well by the acquired mobility of the kidneys and the prolapses and bends of the uterus.

11. The patient becomes breathless on exertion. This may be so marked as to be regarded as asthma, while it may also be produced by the distension of the stomach or intestines interfering with the action of the heart.

12. Most of the degenerative changes that affect the muscle of the heart appear to be due to autointoxication. An examination by the *x* rays shows frequently a dilatation of the left heart and of the aorta with degenerative changes in its coats. Dr. Jordan has demonstrated this condition very clearly, while Dr. James Mackenzie has elaborated the clinical aspects in his remarkable work on the heart which has revolutionized our knowledge of cardiac conditions. Associated with the atheromatous degeneration of the large vessels there are similar changes in all the smaller vessels.

13. The kidneys are liable to become affected by the abnormal strain thrown on them, and degenerative and inflammatory changes result which are roughly grouped under the term "Bright's disease."

14. The hair of the head loses its colour early in life and tends to fall out. A strange fact is the influence which the colour of the hair has upon most of the changes just described. The darker the hair, the more marked is the tendency to degeneration under the influence of autointoxication. In the case of red hair the objective symptoms are but slightly marked. It would seem to be a great advantage to have red hair, and this varies with the brightness of the colour and with the extent of its distribution. While the hair of the head tends to degenerate, hair grows excessively on places in which it is usually absent or inconspicuous, as on the cheeks, chin, upper lip, forearms, about the nipple and along the middle of the back. It becomes occasionally a source of much annoyance and distress to the patient.

15. The pancreas becomes infected directly by extension from the stagnating contents of the duodenum. This results in chronic induration, inflammation, and, finally, cancer of this organ. Pancreatic diabetes may also ensue.

16. In a similar manner the ducts of the liver and gall bladder are infected, and gall stones, cholecystitis, and cancer may be produced, besides many acute or chronic diseases of the liver.

17. Those diseases of the eye which are degenerative in origin are produced by and vary with the degree of autointoxication.

The indirect changes, or those that result from the lowered resisting power of the tissues to the invasion of organisms produced by autointoxication, can hardly be separated abruptly from all those conditions described as being caused directly by it.

The most obvious are:

(*a*) Infection of the gums causing the condition commonly described as pyorrhoea alveolaris.

(*b*) Tuberculous infection, when not produced by direct inoculation.

(*c*) Rheumatoid arthritis. This, like tubercle, cannot develop except in the presence of defective drainage of the gastro-intestinal tract.

(*d*) Infection of the genito-urinary tract, either directly or indirectly, through the blood stream, by organisms other than tubercle, producing nephritis, cystitis, pyelitis, endometritis, salpingitis, etc.

(*e*) Development of changes in the thyroid gland, whether as adenomatous tumours, general enlargement of the thyroid, or exophthalmic goitre.

(*f*) Still's disease.

(*g*) Infections of the skin of a pustular nature.

(*h*) Infection of the large intestine by organisms which produce the several varieties of mucous and ulcerative colitis.

(*i*) Ulcerative endocarditis.

I have chosen, then, merely a few obvious, typical, indirect results of the autointoxication of chronic intestinal stasis. The point of practical interest in connexion with these indirect results of stasis is that if the drainage scheme be made to work efficiently, or if, in other words, the delay of material in the small bowel be met effectually by mechanical means or by operative interference, the resisting power of the tissues of the body is such that they can destroy the organisms or the poison which produces these conditions if not too advanced or if cancer has not developed. For instance, nothing is more remarkable in the whole range of surgery than the result of removal of the large bowel in a case of rheumatoid arthritis. The transition is so abrupt as to be startling. The rejuvenation of the body and of all its constituent parts after such operative measures as render the drainage scheme efficient is the most satisfactory result of surgery known to us at the present time.

The treatment of chronic intestinal stasis and its results must vary somewhat with the stage which the condition has reached, and also with the nature and degree of the superadded indirect result should such be present also.

The treatment, other than operative, of the defective drainage scheme consists in the use of paraffin before each meal. This precedes the food in its passage along the canal, and facilitates the effluent. As it cannot be absorbed it renders the motions fluid, and ensures one or more evacuations daily. Its action as a lubricant is so remarkably efficient that it can meet many of the troubles that arise directly or indirectly from chronic intestinal stasis. Associated with the use of paraffin a spring support which presses on the abdomen below the umbilicus acts very effectually in stimulating the intestines to pass on their contents, in preventing the puddling in the ileum which produces distension of the duodenum and stomach, in keeping up the transverse colon, caecum, and other viscera which prolapse, and in exerting a constant pressure upon the veins in the splanchnic area, so preventing the accumulation of blood in this situation and keeping the brain well supplied with blood.

It is also advisable to put into the stomach as little food as is likely to decompose and become poisonous if it is delayed in its passage through the intestines, such as butcher's meat, etc.

Should these measures fail to afford relief of the objective and subjective symptoms, recourse must be had to operative measures. In those cases in which the delay in the ileum is due to an interference with its lumen by the pressure exerted by an appendix which, passing up behind it, is anchored to the mesentery of the ileum, the removal of the appendix at once restores complete freedom of passage to the contents of the ileum into the caecum.

It is because of the subsequent cure of the symptoms of duodenal ulcer from the relief of the effluent by the removal of a controlling appendix that it has been supposed that duodenal ulcer was produced by an infection of organisms from the appendix, as it is erroneously supposed to result from infection from the gums, etc. If the end of the ileum is controlled by the membrane which develops on the under surface of its mesentery in some cases, the freedom of passage of the ileal contents may be obtained by dividing this band.

It is in just such cases that much experience is required. When the controlling band is very narrow and very tense its division allows of the complete restoration of the mesentery to its original length. If after this operation the patient takes paraffin habitually and wears a spring support no recurrence of the band may take place—one must remember that the mere division of the band is of little service if the mechanical conditions which were originally responsible for its existence are allowed to persist.

My experience of this condition is that if the band is not very limited in its breadth and not very tense it is much wiser to short-circuit the patient by dividing the ileum and by putting it into the pelvic colon. This is particularly true of women. If the colon is loose and pendulous I always remove it down to the junction. I know that

regurgitation upwards from the ileo-colic junction is very likely to take place when the large bowel is loose and pendulous and easy of removal, while it very rarely does so if the large intestine is fixed fairly high in the abdomen, in which case its removal would naturally be more difficult. My rule is, therefore, to be satisfied with ileo-colostomy if it is difficult to remove the large bowel, and to remove it if it can be effected easily. This is a very practical and convenient rule.

I never perform gastro-enterostomy for duodenal distension even if there be ulceration, as it is both unnecessary and harmful. If, however, the ulceration has resulted in a considerable reduction of the lumen of the bowel, either by the great extent of the ulceration or because of its cicatrization, I employ a gastro-enterostomy, having first freed the ileal effluent by an ileo-colostomy, or by the other means already referred to. If the stomach be much dilated, because of chronic spasm of the pylorus, to such an extent that, after short-circuiting, the spasm cannot be met by washing out the stomach for several days, I perform gastro-enterostomy.

If the stomach be ulcerated and there be no suspicion of cancerous infection, in addition to a short-circuit, with or without colectomy, I do a gastro-enterostomy, in order to take the strain off the lesser curve by draining the stomach very effectually.

The only risk presented by the operations of short-circuiting and colectomy is that of adhesion of the intestines to one another, or to the abdominal wall, in such a manner as to produce a varying degree of obstruction. This is a risk common to all abdominal operations, and can only be reduced to a minimum by avoiding any unnecessary exposure or damage of the intestine, and by suturing the cut surfaces of peritoneum accurately together.

CASES.

The following cases were shown:

Case I.

O. M. B., spinster, aged 40, came under Dr. Murray Leslie's care suffering from general debility of four years' standing, accompanied by symptoms of mucous colitis with alternating constipation and diarrhœa. She had been treated with Plombières douches at Harrogate and elsewhere, but with no permanent benefit. There was marked yellowish-brown staining of the skin, which in association with the asthenia suggested the possibility of Addison's disease. There was definite pain and tenderness in the left iliac fossa over the sigmoid colon. Menstruation was irregular, and the patient complained of coldness of the extremities. She had suffered from indigestion since the age of 25. An *x*-ray examination was made by Dr. Jordan on March 29th, 1912. There was marked dropping of the stomach and transverse colon. The duodenum was elongated; there was considerable stasis in the colon, while the cæcum appeared to be impacted in the pelvis. Cultures of *Streptococcus faccalis* and of *Bacillus coli* were made, and a course of vaccine treatment was given, with slight general benefit, but no permanent improvement. On June 12th, 1912, the ileum was short-circuited into the pelvic colon.

The patient had a somewhat tedious convalescence, but is now perfectly well. There is no pain, no constipation, and the patient is able to walk many miles without fatigue.

Case II.

R. B., spinster, aged 38, had for some months been under Dr. R. Murray Leslie's care for chronic constipation and extreme asthenia of eight years' duration, which had gradually increased in severity; seven years before coming under observation an appendicostomy was performed, but without permanent benefit. Her physician felt that, unless her condition was improved in some way, her unhappy life could not be prolonged materially by further medical treatment. In September, 1905, the large bowel was removed to the splenic flexure. She gained in weight, being 8 st. before the operation and 9 st. 4 lb. some months later. After a time the dilatation of the stomach, which had not previously been apparent, gave trouble, and in December, 1906, the pylorus was freed from the under surface of the liver. She improved for a time, but the dilatation of the stomach was soon as bad as ever. In March, 1907, gastro-enterostomy was performed, with complete relief of the stomach symptoms. After a time the descending colon and sigmoid gave trouble and were removed in October, 1907.

The patient is now (eight years after the first operation) perfectly well. There is no constipation or abdominal discomfort, she is able to walk long distances, and can play as many as five sets of tennis without undue fatigue. She has required no medical attendance for the last two years.

Case III.

G. H., aged 11 (male), had had tuberculous disease of the hip since the age of 3. Two operations had been performed: he had had a discharging sinus for over a year. Six months before admission a large abscess was opened, swabbed out, and packed with gauze. There was on admission three inches shortening and marked flexion, adduction and internal rotation. He had much constipation and well-marked toxic signs. Ileo-colostomy was performed on April 28th, 1911, and marked evidences of stasis were found in the abdomen.

Improvement after the operation was rapid and continuous. His hip is now well and he has no pain or other disability. He is rapidly putting on weight and can walk long distances without discomfort.

Case IV.

K. H., spinster, aged 37, had been constipated since birth. She had attended several different hospitals during the last eight years. She was said to have mucous colitis, and appendicostomy was done. She had been in the habit of taking 6 minims of croton oil twice a week, and said that this usually opened her bowels once. She had well-marked toxic symptoms, and was very pigmented. *X* rays showed a five days' delay in the colon. She had been bedridden for some time. The operation of ileo-colostomy was performed in 1910. (No note of what was found.)

Now she looks and feels very well, and has worked as a general servant ever since her operation, by which she says she has been greatly benefited. Her bowels are open every day without an aperient. She is rapidly putting on weight.

Case V.

F. M., spinster, aged 34, underwent laparotomy in 1904. She had been constipated since 1903. Every sort of medical treatment had been tried, and she had been in the medical wards at Guy's Hospital twice. There was swelling of the ankles and feet. The bowels were open six times in five weeks while in the medical wards. She complained of abdominal pain, but toxic symptoms were not very well marked. *X* rays showed a delay of eleven days in the transverse colon.

The operation of ileo-colostomy and colectomy was performed in 1909. Very dense bands were present, and the right ovary was cystic.

Within three months of this operation she had two further operations to free adhesions. She had severe whooping-cough, and in February, 1910, developed a faecal fistula. An operation to close the fistula was performed in 1912. She is now doing her work as a hospital nurse; she has no discomfort of any sort, and says that in the opinion of her friends she looks ten years younger.

Case VI.

A. E., a married woman, aged 30, had been constipated ever since she could remember. She had been treated at five different hospitals. She had suffered severe abdominal pain for the last eighteen months. Toxic signs and pigmentation were well marked. The operation of ileo-colostomy was performed in May, 1911. She had abdominal pain at the beginning of 1912, and was then found to have a tender and full cæcum. Colectomy was performed in March, 1912. The colon was found full of hard masses. She made a good recovery.

She feels and looks very well; the bowels are quite regular every day; she eats well, and has no sickness. She feels much more cheerful than for years. She has gained 16 lb. in weight. She is very impressed with the difference in her hands and feet, which are now always comfortable and warm.

Case VII.

W. C., spinster, aged 24, had been constipated for many years. She had severe abdominal pain, and rheumatoid arthritis of both knees which was getting worse, and there was wasting of the right thigh. *X* rays showed extreme stasis in the large bowel. There was much tenderness over the right rectus and slight toxic symptoms. Ileo-colostomy was performed in December, 1911. There was a well-marked kink of the ileum and appendix.

Her general health is much better. She still has some pain in the knees, but the condition, according to her, has definitely ceased to progress. The bowels are open daily with paraffin.

CASE VIII.

A. F., spinster, aged 34, had suffered from slight constipation for ten years, and from severe abdominal pain for the last year. Toxic signs were not very well marked, but the patient had noticed the various symptoms getting worse for the last few weeks. Ileo-colostomy was performed in March, 1911. (No note of what was found.)

She was very well after the operation until about August, when she began to have some pain. A further operation was performed, and an adherent coil of small intestine freed. The patient was relieved. She now looks and feels perfectly well, and says she has no discomfort of any kind.

CASE IX.

H. C., male, aged 15, had had severe constipation needing enemata since he can remember. His general health was fairly good, but he had mild toxic symptoms. The tongue was very foul. *X*-ray examination showed a delay of forty-eight hours in the ileum. Large masses of faeces were felt in the caecum and ascending colon, which were only removed after five enemata. A diagnosis of ideopathic dilatation of the colon was made. At the operation, on June 9th, 1911, an enormously distended colon was found, together with a marked ileal kink, and masses of evolutionary adhesions. Ileo-colostomy was performed, and the patient made a rapid recovery.

He has enjoyed excellent health ever since, and has played football continuously during the last two winters.

CASE X.

T. I., male, aged 22, had had constipation, flatulence, and heartburn for seven years, and much mental depression. For the last six months he had experienced attacks of severe epigastric pain and distension. A swelling under the left costal margin appeared five months before admission, and had increased in size. Toxic signs were marked. *X*-ray examination showed some delay in emptying the stomach and a stasis of eighty-one hours in the colon. At the operation, on August 8th, 1912, a large tuberculous mass was found in the omentum, to which coils of intestine were adherent. The duodenum was dilated, and there was an ileal and duodenal kink. Ileo-colostomy was performed, and within two weeks of the operation the mass in the abdomen was no longer palpable. The patient has been following his employment since discharge, and is now in perfect health.

CASE XI.

C. F. J., male, aged 56, had begun two years earlier to have epigastric pain after food, accompanied by vomiting. These attacks occurred about twice a month. Dieting proved of no avail, and the attacks became more severe. For the last six months before admission he had been losing a good deal of flesh, and the total loss in two years had been 28 lb. Examination showed a dilated stomach and tender ileum. *X*-ray examination showed pyloric stenosis, ileal obstruction with a delay of thirty-six hours, and a stasis of ninety-six hours in the colon. At the operation, on March 18th, 1912, an old duodenal ulcer causing obstruction was found, and gastro-enterostomy was performed; at the same time, as there was an extremely well-marked ileal kink, ileo-sigmoidostomy was done.

The patient made an uninterrupted convalescence. He has been carrying out his work as a commercial traveller without a day's intermission since leaving the hospital.

CASE XII.

A. P., a married woman, aged 54, had been constipated for six years, and always had indigestion. She also had attacks of vomiting, and for the last few weeks severe pain in the abdomen. The skin was very pigmented, and toxic symptoms were well marked: *x*-ray examination showed duodenal distension and ileal stasis. After eighty hours bismuth had only reached the splenic flexure. At the operation, in August, 1912, the duodenum was found distended, and there was a marked ileal kink. Ileo-colostomy was performed. She now looks twenty years younger, feels very well, eats well, has no pain or vomiting, and is doing her ordinary work.

CASE XIII.

K. C., spinster, aged 44, when 7 years old had a tuberculous knee which discharged for eleven years. From 15 to 25 years of age she was able to do a little work, but was never strong. At 25 she went abroad owing to a breakdown in health, and she had phthisis, for which she was sent to Ventnor. She had very severe diarrhoea, and when 26 had to have an eye removed on account of an old injury. She began to have severe abdominal pain, diagnosed as due to ulcerative colitis, for which she was in bed many weeks. When 29 she had a severe pain in the right loin, and was given a belt for movable kidney. All this time she was passing large casts of the colon. When 37 she developed a goitre with exophthalmos, tremor, and severe palpitation, which continued for four years. Two and a half years ago she had another attack of colitis and was in bed four months. Last June she had another attack necessitating a long stay in bed. On admission she weighed 7 st., had a very tender colon, and the toxic signs were well marked. *X* rays showed very little, owing to the diarrhoea. At the operation, on December 16th, 1912, a marked ileal kink was found and extensive adhesions of colon. Ileo-colostomy was performed.

She made a rapid and complete recovery, and has been quite well since her discharge from hospital.

CASE XIV.

K. M., spinster, aged 44, had had severe constipation since the age of 14. Six years ago she was said to have colitis. She has had recurrent eczema, some vomiting and nausea, and suffered much misery. There was old arthritis of the right knee, and toxic signs were well marked. Blood pressure, 143 mm. Hg. *X* rays showed marked colonic stasis and considerable delay in the ileum. Ileo-colostomy was performed on April 15th, 1913. Great distension of the duodenum and an ileal kink were present.

The blood pressure one month later was 90 mm. Hg. Taken at the meeting, when the patient was considerably excited, it was 110 mm. Hg. Her general health is excellent and she has no discomfort.

CASE XV.

R. W., married woman, aged 45, had had severe attacks of constipation, abdominal pain and vomiting for two years, and had been much worse for seven months, during which time she had taken no solid food. There was marked pigmentation and much complaint of coldness of hands and feet. *X* rays showed a very dilated stomach and much colonic stasis. At the operation, on June 6th, 1913, the stomach and duodenum were found extremely distended, and there was marked ileal kink. Gastro-enterostomy and ileo-colostomy were performed. Convalescence was uninterrupted, and she is now perfectly well, doing her work, eating well, and putting on weight.

CASE XVI.

E. A. F., spinster, aged 42, had always suffered from constipation, which had been more troublesome for the last three years. She had severe indigestion, flatulence, and epigastric pains, some vomiting and some melaena. She had lost 1 st. in weight during the last six months. *X* rays showed pylorospasm and marked colonic stasis (eighty hours). At the operation, on March 11th, 1913, a dilated duodenum and an appendix controlling the ileum were found. Ileo-colostomy was performed.

After the operation the patient had pleurisy, which somewhat delayed convalescence. She is now perfectly well and has no discomfort of any kind.

CASE XVII.

M. H., spinster, aged 28, began to suffer from pain and swelling in the joints when 12 years old. She had chorea when 6, and again when 17. The arthritis spread to the large joints. She went to Harrogate and had baths and massage, with no benefit. She had typhoid fever when 19. She received electrical treatment and a nine months' course of Balfour treatment, but experienced no relief. Ten months ago the uterus was curetted, and she was given a course of vaccine treatment with *Staphylococcus aureus* obtained from the urine. She had a course of thyroid treatment, but continued to get worse. She had had considerable abdominal pain and vomiting, and had marked toxic symptoms. The finger-joints were stiff and in marked ulnar adduction, and the knees, elbows, and shoulders also were affected. She had not been able to sew for eighteen months. Pain in the joints lessened if no protein food was taken. *X* rays showed a delay in the colon of over 104 hours. Ileo-colostomy was performed on January 3rd, 1913. There was a marked ileal kink. As some regurgitation into the ileum occurred, colectomy was performed on May 12th, 1913.

Marked improvement in the joints followed the operation, and the patient was able to sew within three weeks of the ileo-colostomy. She is now doing her work and earning her living. She is rapidly putting on weight, and has no pain in any of her joints.

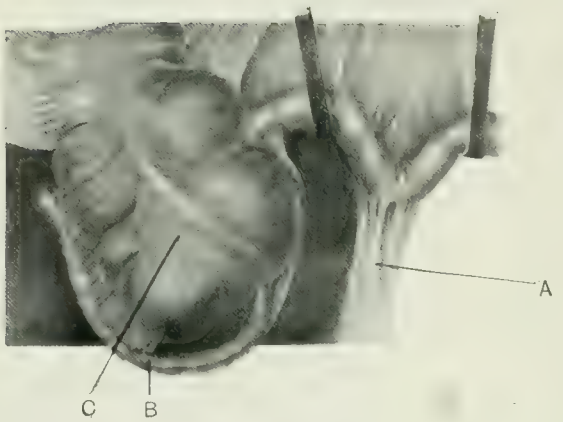


FIG. 1.

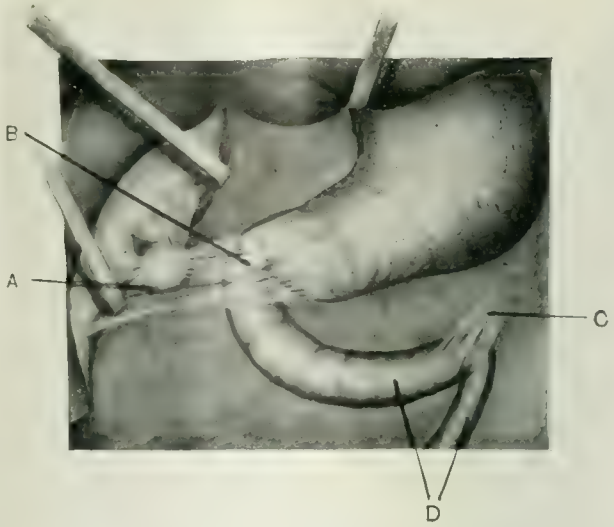


FIG. 2.

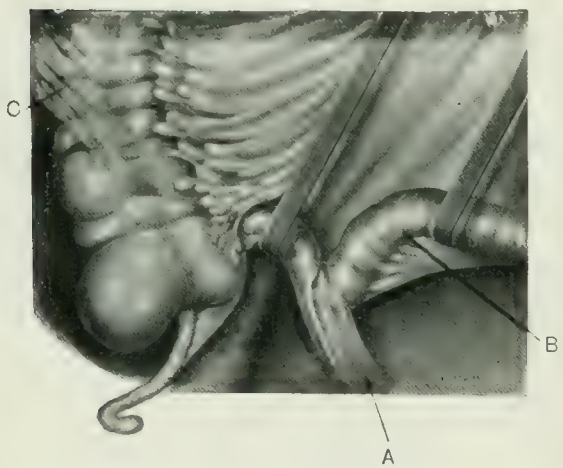


FIG. 3.

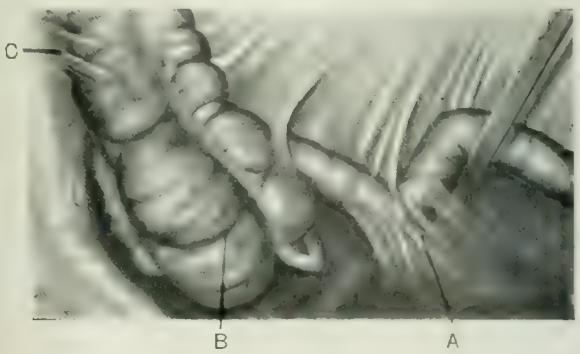


FIG. 4.

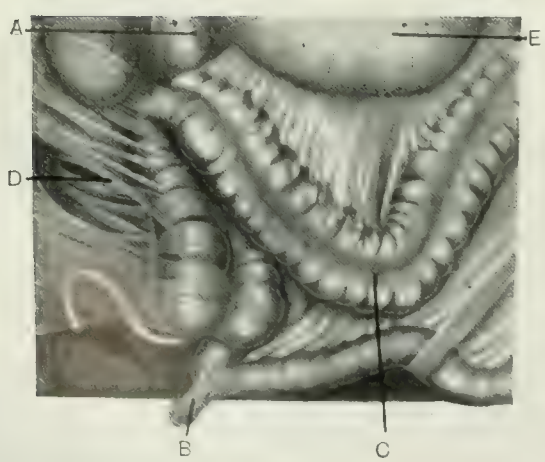


FIG. 5.

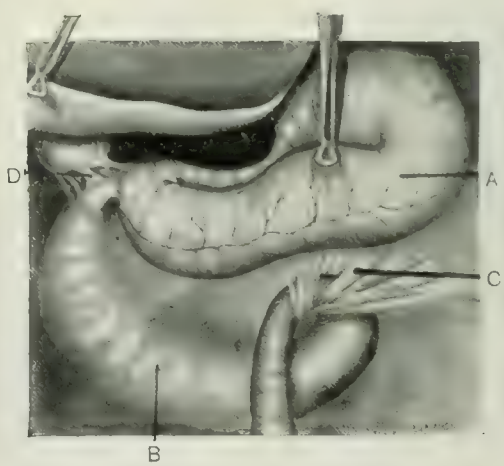


FIG. 6.

Remarks
ON
CHRONIC INTESTINAL STASIS

WITH REFERENCE TO CONDITIONS FOUND AT OPERATION AND THE MORTALITY.

MADE AFTER THE READING OF THE PREVIOUS PAPER.

(*With Special Plate.*)

BY

WM. SEAMAN BAINBRIDGE, A.M., SC.D., M.D.,

PROFESSOR OF SURGERY, NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL; SURGEON, NEW YORK SKIN AND CANCER HOSPITAL.

To Sir Arbuthnot Lane we are greatly indebted, for he has given to us a very clear view of the essential facts concerning stasis. He has evolved a most plausible theory as to its cause, and has pictured the far-reaching effects.

The cases he has presented are most convincing, especially so when we realize that they are not a small group of exceptions. We have seen seventeen patients to-day, many of them former human derelicts, now made over into useful and happy people.

During the past six years I have made five trips to England, and each time have studied the subject of chronic intestinal stasis. Every facility has been freely granted by Sir Arbuthnot for this work. Year after year I have seen his patients before operation, at the time of surgical treatment, witnessed his masterly technique, noted the history of the convalescent period, talked with staff and nurses and patients, and have seen a large number of the cases after an interval of many months.

Several times in the history of our profession Sir Arbuthnot Lane has blazed the trail into new fields, introducing radical methods of treatment, some of which have already become established as regular routine in surgical practice.

To aid this surgeon has come Dr. Jordan with his wonderful skill in *x*-ray diagnosis. Personally I have had many cases studied by very able men, but as yet we in America have not been able to equal his work. We are coming on, but Dr. Jordan is, I believe, to-day leading the way along this line.

With these two leaders here in London, with their work open to all, what can I add? However, a few facts from my personal experience may be of interest.

Intestinal stasis deserves our most serious consideration, and among the many questions which have naturally arisen in discussions of this subject, none is more important than the question of mortality.

STATISTICAL STUDY.

I determined to investigate the statistics for myself, and have carefully collected the following, taking all cases operated upon by Sir Arbuthnot Lane from Martha Ward at Guy's Hospital from May, 1909, to October, 1913.

OPERATIONS.

Short-circuits	54
Removal of colon	52

Out of these—

2 cases of short-circuit were done for rheumatoid arthritis.
1 for trigeminal neuralgia.
1 for tuberculous hip.
3 short-circuit cases returned with a diverticulum.
3 cases of removal of the colon were done on patients suffering from exophthalmic goitre.
4 from rheumatoid arthritis.

After operations for removal of colon 5 cases returned suffering from adhesions and had further operations.

After short-circuit operation 8 patients returned and had removal of the colon.

MORTALITY.

1909. (i) A patient, aged 48, died after removal of colon ten days after the operation, from sepsis.

1909. (ii) A patient, aged 68, died of shock after removal of large intestine for advanced carcinoma of the caecum.

1910. (iii) A patient, aged 24, died of sepsis after removal of colon, ten days after operation.

1910. (iv) A child, aged 7, with advanced hip-joint disease, died of peritonitis three days after a short-circuit operation had been performed. Condition very bad.

1910. (v) A patient, aged 36, died in the theatre while a short-circuit operation was being done.

1911. No death.

1912. (vi) A patient, aged 20, who had a colectomy done in 1909 and did splendidly until December, 1911. In January, 1912, she returned with pain and vomiting; she was operated upon and found to be pregnant. Persistent vomiting for six days after operation, accompanied by acute pain. She aborted eight days after the operation, and died of general peritonitis the next day.

1912. (vii) A patient, aged 40, had removal of colon for advanced malignant growth; was almost moribund on admission; died a week after the operation, of exhaustion.

1913. (viii) A woman, aged 43, had removal of colon for rheumatoid arthritis; did splendidly; joints and muscles improved, and pain very much less; died of a pulmonary embolism ten days after operation.

To make the investigation a very searching one all deaths, from whatever causes, occurring in this ward after short-circuiting or colectomy are included. This is obviously unfair when considering the mortality of stasis. We must exclude at least the two malignant cases—the moribund child and the case of abortion with sepsis. Further, it must be noted that successful partial excisions of the colon for growths are not included in our total list of cases. This leaves 54 cases of short-circuit, 52 of removal of the colon—106 in all. Four deaths—two from sepsis, one on the table, and one ten days after operation from pulmonary embolism. Thus the exaggerated statements of great mortality are not borne out.

DESCRIPTION OF SPECIAL PLATE.

Fig. 1.—No. 14. A, Lane's band. B, Four-inch appendix adherent for 3 in. from tip to outer side of caput coli. C, Caecum mobile.

Fig. 2.—No. 16. A, Adhesions around the pylorus to gall bladder and liver. B, Pylorus angulated and narrowed. C, Kinking at duodeno-jejunal junction. D, Duodenum dilated and jejunum collapsed.

Fig. 3.—No. 22. A, Lane's band. B, Dilatation of small intestine proximal to site of ileal kink. C, Jackson's membrane.

Fig. 4.—No. 26. A, Lane's band. B, Mobile caecum. C, Jackson's membrane.

Fig. 5.—No. 30, Ulcer of stomach. A, Dilated duodenum. Angulated duodeno-jejunal junction. B, Lane's kink. C, Prolapsed transverse colon. D, Jackson's membrane. E, Gastric dilatation.

Fig. 6.—No. 43. Ulcer of stomach. A, Dilated stomach extending below the umbilicus, due to cicatrized ulcer. B, Dilated duodenum. C, Duodeno-jejunal kink. D, Bands between gall bladder and pylorus.

[In the captions of the pictures the names in common use for various bands have been employed. It should be understood that these are not looked upon by the writer as constituting in any way separate entities.]

CONDITIONS FOUND AT OPERATING.

There are some who are very sceptical as to the conditions found at the time of operation. In order to meet this and establish the facts, it has been my custom in my own practice often to have an artist present as well as a stenographer at the time of operation to record exactly the conditions found.

In order to have such evidence of record as true as possible, I selected an artist who knew nothing but normal conditions. The artist was directed to picture what she saw that differed from normality, with enough of the normal in the neighbourhood to make it clear as to what part was being represented. The stenographer took down a description of the operation at the time. Later, the finished picture on the one hand and the stenographer's description of the operation on the other, form a very important part of the records of the individual case.

In some of the pictures, a selection from which is published to illustrate this paper, clear evidence will be seen that the picture portrays the exact condition of the patient lying on the table, and not the condition which would be present when the patient is occupying a perpendicular position. This goes a long way to prove the honesty of the drawings.

To sum up, judging from the experience in Martha Ward at Guy's Hospital and in my own cases in New York, the mortality in operations for cases of intestinal

stasis is astonishingly low. There is very little, if any, shock with the present technique; the much feared excessive thirst and persistent diarrhoea have not been borne out in our experience.

THE VISCERAL COMPLICATIONS MET WITH IN HYSTERECTOMY FOR FIBROIDS AND THE BEST METHODS OF DEALING WITH THEM.

BEING THE OPENING PAPER OF A DISCUSSION AT THE MEDICAL SOCIETY, LONDON.

BY SIR JOHN BLAND-SUTTON, F.R.C.S.,

SURGEON TO THE MIDDLESEX HOSPITAL.

TWENTY years ago abdominal hysterectomy for fibroids was performed by clumsy methods and attended by a high mortality. In the Middlesex Hospital, during 1892, the uterus was removed on account of fibroids three times; two of the patients died as a result of the operation, but in 1912 there were 71 abdominal hysterectomies for fibroids in the same hospital, and all the women recovered. A marvellous improvement in twenty years. To-day, hysterectomy for fibroids is a common operation, with a mortality varying from 1 to 5 per cent. in the hospitals of London, general and special.

I have chosen 1892 for comparison with 1912 because it was the year in which Baer, of Philadelphia, introduced the method now known as subtotal hysterectomy, and inaugurated a new era in the surgery of the uterus.

The technique of the operation varies very little with different surgeons, and I believe that the small mortality attending this operation can be further reduced. During the last ten years discussion has mainly centred around the subtotal and the total operation. I do not propose to discuss technique, but I believe some valuable information can be obtained by a consideration of the visceral complications associated with fibroids. So many of these tumours have been removed that there are surgeons who can count their hysterectomies in hundreds, and I believe that some useful facts can be collected if they would be willing to relate their experience in regard to the effects of fibroids on the circulatory system, the thyroid gland, the renal organs, and especially in relation to diabetes. These are conditions on the borderland of medicine and surgery. It will also be interesting to learn how surgeons deal with certain visceral lesions which occasionally complicate fibroids, such as cancer of the colon, injury of the ureters, and gall stones.

CARDIAC LESIONS.

Fibroids are often present in women suffering from chronic cardiac disease, and it has been maintained by several writers that uterine fibroids cause degenerative change in the muscular tissue of the heart. It is true that many patients with fibroids have valvular lesions, a consequence of rheumatic fever, and in many women who have been reduced to a condition of profound anaemia by a submucous fibroid the heart yields a loud murmur on auscultation. I have had careful observations made on the cardiac condition of women with fibroids, and there is nothing which can be described as peculiar to the influence of these tumours. It has been my practice for many years, in selecting house-surgeons, to choose officers who have filled a resident appointment under a physician. All patients with fibroids, before being set down for operation, are the subjects of a careful medical examination.

On a dozen occasions I have removed the uterus containing large fibroids, although the heart has furnished murmurs, clearly due to valvular lesions, when an examination by a competent physician has shown that compensation has been satisfactory and that an operation would not be attended with unusual risks. Indeed, in some instances the removal of a uterus big with fibroids from a patient with valvular disease will relieve an embarrassed heart. For example, a stout woman, aged 50, with a large ovarian cyst and a fibroid the size of a football, suffered from dyspnoea, due to a dilated heart and myocarditis. The anaesthetist would not risk a general anaesthetic, but we felt that if the tumours could be removed great relief would follow. The tumours were removed under an intradural injection of novocain. Convalescence was rapid, the cardiac symptoms disappeared, and the patient soon became robust, and has since led an active and useful life.

The heart is a very adaptable organ, and it is comprehensible, when we consider the size and vascularity of some fibroids, that the extra amount of work thrown upon it would lead to its enlargement. I believe that some cases of sudden death which occur within a few days of hysterectomy for fibroids happen in women the subjects of chronic, but unrecognized, disease of the heart. Some of these deaths are attributed to pulmonary embolism, but no death should be so assigned unless a *post-mortem* examination has been made and the embolus found.

On this occasion I do not propose to discuss fatal post-operative pulmonary embolism, except to remind surgeons that recorded statistics indicate its occurrence in 1 per cent. of women who submit to abdominal hysterectomy for fibroids. I have recently published evidence which indicates in no uncertain way that it is often due to the exuberant use of buried sutures for closing the incision in the abdominal wall.

THE THYROID GLAND.

From time immemorial it has been known that some mysterious relationship exists between the thyroid gland and the genital organs. No explanation has been found. The brilliant suggestion of Gaskell, in his fascinating account of *The Origin of Vertebrates*, that the mammalian thyroid is the representative of the uterine glands of a palaeostracan ancestor (of which the scorpion is a type), stimulates but fails to satisfy. To-day the matter is further complicated by the discovery of a relation between the hypophysis and the genital glands on evidence at which even the most practical surgeon cannot scoff.

On three occasions I have removed a uterus, containing fibroids, from women who at the time of the operation possessed goitres. I have been surprised on seeing the patients six months after the hysterectomy to notice marked diminution in the size of the goitrous thyroids.

In 1908 a spinster, aged 44, suffered from menorrhagia due to multiple fibroids, but she had exophthalmic goitre. It occurred to me that as the removal of the uterus for fibroids causes a goitre to shrink, such a sequel might be expected if hysterectomy was performed on this patient. After careful consideration I removed the uterus with the ovaries and tubes by the subtotal method. The operation was performed at the Middlesex Hospital, and lasted twelve minutes. Chloroform was used for the anaesthesia. Before operation the patient's temperature was 99° F., and the pulse-rate 130. Twenty hours after the operation her temperature was 102° F. and the pulse-rate 140, but the thyroid gland had markedly decreased in size and the eyeballs were less prominent. Forty-eight hours after the operation she was in a desperate condition. The temperature was 104° F., pulse-rate 180, and the thyroid gland had further diminished in size. The patient died fifty-six hours after the operation. A *post-mortem* examination was not permitted. This experience confirms the opinion that women with well-marked exophthalmic goitre are bad subjects for any operation.

DIABETES.

The presence of sugar in the urine is, as a rule, a contra-indication to hysterectomy for fibroids. The urine of all patients requiring hysterectomy who come under my care is carefully examined for sugar.

It is a serious responsibility to operate on a patient whose urine contains sugar, but the risk must be faced in exceptional cases. A widow, aged 43, passed sugar in the urine to the extent of 5 grains an ounce. She suffered from menorrhagia, her menstrual periods lasting on an average ten days, the excessive bleeding depending on a large submucous fibroid. The patient wished to remarry, and was deterred from doing so, not by the glycosuria but the menorrhagia. She wished to have the tumour removed, and was willing to face the risks. I performed subtotal hysterectomy. The operation was followed by a quick and uneventful convalescence: the patient married again, and was in good health three years after the operation.

The following case is more instructive. A married woman, aged 69, had a large uterine fibroid. There was free bleeding from the vagina at frequent but irregular intervals, which led me to suspect that cancer existed in the body of the uterus as well as a fibroid. The patient was diabetic, the urine contained 10 grains of sugar to the ounce. I performed subtotal hysterectomy in 1904. The uterus contained a large submucous fibroid and a cancerous mass the size of a tennis ball. The patient recovered. She was alive and well in 1912, eight years after the operation.

It is, I am sure, as a rule a wise thing to abstain from performing hysterectomy on diabetics, especially young women. I have gathered from facts related to me by surgeons that such operations are attended with a high mortality. In some cases hysterectomy has been performed without the surgeon suspecting diabetes until an abundant diuresis and the odour of the patient's breath, or the supervention of coma, led to an examination of the urine.

Before leaving the subject of diabetes in relation to hysterectomy there is one aspect of it which is worth consideration. A large amount of evidence has been accumulated which tends to show that there is some interaction between the hypophysis and the genital glands. In acromegalic women menstruation is suppressed, and in some of them the urine contains sugar. Experimental evidence has also been adduced which is supposed to prove that the hypophysis enlarges temporarily during pregnancy. Marek reported the following observation. A woman aged 26 was in the eighth month of pregnancy when she noticed that her gloves and boots became too tight. Her fingers thickened, and the rings on them had to be removed with a file. She became sleepy and thirsty; sugar appeared in the urine. Gradually she assumed the coarse skin, thick lips, and projecting lower jaw so characteristic of acromegaly. The child survived its birth, and in a few months the signs of acromegaly in the mother disappeared.

A large submucous fibroid produces similar changes in the uterus to those set up by the growth of a fetus. Glycosuria occurs with sufficient frequency, as a complication of normal pregnancy and of fibroids, to make it conceivable that the uterine changes incidental to the growth of the fibroid may influence the hypophysis, and thus be indirectly responsible for the glycosuria.

Some years ago it was the fashion to tell a woman who wished to have her uterus removed for fibroids that after the operation the skin thickens, and she would grow fat and coarse. Experience teaches that the reverse is true. Women with large submucous fibroids are more or less in a condition resembling chronic pregnancy. Such patients sometimes become gross and fat, and acquire a thick skin like acromegalics, but after a successful hysterectomy these unpleasant conditions disappear, as in Marek's patient.

We know nothing of the condition of the hypophysis in patients who have had the uterus removed for large fibroids. I hope pathologists who have an opportunity of inquiring into this matter will help us.

The Renal Function.

The close relationship of the uterus, bladder, and vesical segments of the ureters leads to many complications when the uterus is occupied by fibroids, and the changes which follow in the bladder, ureters, and kidneys, if the tumour is of such a size and shape as to cause retention of urine, are well known. The urine of patients with a large cervical fibroid, or a fibroid of the body of the uterus impacted in the pelvis often contains slight traces of albumin. This is not a contraindication to operation, and the albumin quickly disappears after the tumour has been removed. Some years ago systematic examinations were made of urine drawn from patients under my care within the first thirty-six hours after pelvic operations, such as ovariotomy and hysterectomy, and it was found in nearly every case to contain the colon bacillus. I am unable to offer any explanation of its presence. This is worth mention; obstetric physicians are unable to make anything better than a guess as to the mode by which the urinary system is invaded by the colon bacillus in that troublesome condition known as pyelonephritis of pregnancy. Chronic urinary troubles of septic origin do occur in association with uterine fibroids, but I have never seen anything comparable to the acute suffering which is sometimes seen in pregnant women when the colon bacillus invades the kidneys and ureters. One of the most serious accidents that happen in the course of hysterectomy is an injury to both ureters. This is serious enough when the accident is detected in the course of the operation, but is more unfortunate if it remain undetected until the nurse draws attention to the emptiness of the patient's bladder. No reliable estimate of the frequency with which ureters are injured in the course of hysterectomy for fibroids is forthcoming. British surgical literature contains few references, but it is only necessary to turn over the pages of the *Zentralblatt für Gynaekologie* to be satisfied that they are often cut. At the present time, when a ureter is injured in the performance of abdominal hysterectomy, the surgeon endeavours to anastomose the cut ends. Failing in this, he implants the proximal end in the bladder wall. Urologists do not approve of this: they insist that when a ureter is engrafted into the bladder it becomes sclerosed by chronic ureteritis, which narrows and finally obliterates its lumen. This sclerotic obliteration does not happen in every case. Lockyer, in removing a fibroid which burrowed between the layers of the broad ligament, wounded the bladder and divided the right ureter: he repaired the hole in the bladder and removed the kidney. During the twenty-four hours following the operation the bladder remained empty; Lockyer reopened the abdomen and found the left ureter cut; he engrafted its proximal end into the bladder through the wound which had been already sutured. Convalescence was retarded by a urinary fistula, but Lockyer's resourcefulness was rewarded, for the woman recovered, and was in good health three years later.

Many years ago I was present at a hysterectomy when a gynaecologist cut three inches out of a ureter, mistaking it for an adhesion. He tied the proximal end of the cut ureter with a silk thread. The patient, a middle-aged woman, recovered without an untoward sign and remained well. This led me to take a special interest in this method of dealing with a cut ureter. In 1909 I expressed the opinion that it is possible and probable that a ureter has been tied in the course of a hysterectomy, and the patient has recovered without any one having a suspicion that such an accident had happened.

Dr. J. D. Barney collected and classified the reports of 62 cases in which the ureter was injured. Of these, 16 were bilateral and 46 unilateral. The majority of the accidents occurred in the course of hysterectomy. He notes that sudden occlusion of the ureter by a ligature often produces no symptoms; sometimes it is followed by pain and tenderness in the kidney, which subside spontaneously. In some instances the accident is followed by hydronephrosis, and he reiterates the opinion, which I have already expressed, that there is strong probability that a ureter is often unconsciously tied in the course of hysterectomy. If gynaecologists would tell us how they treat cut ureters, this discussion would be justified, for if it is only necessary to tie the proximal end of the cut ureter the way out of an embarrassing accident would be greatly simplified.

Fibroids and Cancer of the Colon.

Fortunately uterine fibroids rarely contract adhesions to the intestines unless the uterus and Fallopian tubes have been the seat of infection, gonorrhoeal or puerperal. It is unusual for the surgeon to be hampered with bowel complications when he undertakes hysterectomy for fibroids, but he may have to deal with cancer of the sigmoid flexure of the colon or the upper part of the rectum. It has happened to me on several occasions, in the course of removing the uterus for fibroids, to find cancer of the sigmoid flexure. After completing the hysterectomy I excised the cancer in the colon and joined the cut ends of the bowel by an end-to-end anastomosis.

In a woman blanched from profuse and oft-repeated uterine bleeding, due to a cervical fibroid, I removed the uterus and its neck (total hysterectomy); whilst adjusting the intestines preliminary to closing the incision I detected a cancerous focus in the sigmoid flexure of the colon. The patient had sustained a serious operation, and in her weak condition I did not think it wise to excise the bowel. She made an excellent recovery and was kept under observation. Two months later I excised the growth and she

recovered easily from the operation and was alive and in good health two years later.

The growth of cancer in the colon is often slow and insidious, and there is a massive form of colic cancer which, during its symptomless stages, is indistinguishable, especially when the mass lies in contact with the uterus, from a subserous fibroid. The diagnostic signs are sometimes especially deceptive if there should at the same time be a few small hard fibroids in the uterus.

Sometimes I have undertaken an abdominal operation hoping to find an impacted fibroid, but have found a hard cancerous growth in the sigmoid flexure impacted in the pelvis, and the operation has ended in colotomy. In happier cases I have started on the operation with strong suspicions that the patient had a malignant mass in the bowel, but found an impacted fibroid. It is a most evil combination when a fibroid of moderate size occupies the uterus and a massive cancer of the sigmoid flexure adheres to it. I am not alone in such experience; some of my gynaecological colleagues have occasionally stumbled on a cancerous pelvic colon in mistake for a fibroid, and have assigned the patients to their surgical associate for the operation of resection.

Uterine Fibroids and Gall Stones.

Gall stones are common in women, so are fibroids, and it sometimes happens that women come under observation with the two conditions giving so much trouble that the surgeon is puzzled to know which should be dealt with first. On three occasions I have removed a calculous gall bladder in the course of hysterectomy for fibroids. In each instance the uterus was so large as to require for its removal an incision reaching nearly to the ensiform cartilage. In these circumstances the removal of the gall bladder was a simple operation. In one instance the inflamed gall bladder adhered to a large subserous fibroid. In two other instances of this combination I removed the gall bladder six months after the hysterectomy. The only definite rule which I think can be laid down in the matter is this: If a woman deeply jaundiced in consequence of a stone impacted in the common duct also suffers from a uterine fibroid which so troubles her as to make it desirable to remove the uterus, I should prefer to remove the stone from the common duct first, because it is well known that cholaemia predisposes to haemorrhage. Hysterectomy in a woman with persistent jaundice is an operation which would place her life in the gravest peril from post-operative bleeding.

The pelvic complications of uterine fibroids, such as ovarian cysts, pregnancy, pyosalpinx, inflamed appendix and the like, are so common and so well understood that they have no place in this discussion. We are anxious to obtain the experience of those who perform hysterectomy for fibroids, especially in relation to such complicating conditions as heart disease, goitre, diabetes, renal disease, and cancer of the intestine. Fatal accidents in technique (such as haemorrhage and shock) occur occasionally, like railway collisions and deaths from lightning, but post-operative deaths from heart disease, pulmonary embolism and injuries to the ureters will be fewer if we profit by the experience of those who have faced these difficulties. In this way the risks of hysterectomy for fibroids, though small, will be reduced, and, small as they are, I am sure we have not reached the irreducible minimum.

The annual dinner of the Anglo-American Continental Medical Society was held in Paris on Saturday, October 18th, at the Hôtel Majestic, with Professor Robert Saundby of Birmingham in the chair. The other guests were: Drs. du Bouchet, Castex, Desfosses, Galezowski, Lutaud, Field Robinson, and Mowat; and among the members of the club present were: Dr. Eugene Dupuy, Dr. Koenig, Dr. Leonard Robinson, Dr. Warden, Dr. Maguin, and Dr. Robert Turner (Honorary Secretary). After the loyal toasts had been duly honoured, the Chairman proposed the prosperity of the society, pointing out that it constituted a valuable link among Anglo-Saxon physicians practising on the Continent and the Mediterranean littoral, and served to maintain not only a friendly bond of union, but the professional traditions which are honoured alike in England and the United States. The toast was acknowledged by Dr. Leonard Robinson, who proposed the health of the Honorary Secretary, and congratulated him on his approaching marriage.

Remarks
on
THE TREATMENT OF SPASTIC PARAPLEGIA
(LITTLE'S DISEASE).

Being an Introduction to a Discussion in the Subsection of Orthopaedics of the XVIIIth International Congress of Medicine.

By E. MUIRHEAD LITTLE, F.R.C.S.Eng.,
Senior Surgeon to the Royal National Orthopaedic Hospital, London.

Pathology.

We are not now concerned with the pathology of spastic paralysis further than it affects our methods or proposed methods of treatment. It is well known to all of us that the causes are lesions from haemorrhage or disease, or developmental defect of the upper motor neuron affecting particularly the pyramidal tracts. Such abnormality may be visible to the naked eye, or only to be found by microscopic investigation. Cases of the latter kind have been recorded by J. H. W. Rhein and by S. Miura. The last named has shown by a review of the literature of the subject to what very various initial processes the brain lesions in cerebral diplegia may be due.

In this connexion it is well to remember that there are cases of hereditary or familial spastic paraplegia, which are generally progressive and can only be temporarily improved by treatment. If the statement of Pierre Marie that the centres in the cord constitute "une machine toujours sous pression," the manifestations of which are controlled and inhibited by the brain, be accepted, it is clear that an interference with the paths of the inhibitory impulses will release these manifestations, and that the spastic symptoms may be considered as a disorderly exaggeration of the normal muscular tone. Centripetal stimuli, whether sensory or other, are no longer controlled by the centrifugal inhibitory impulses, which either through central defects never originate, or, if originated, are unable to reach the anterior horns in the spinal cord.

Thus there is no longer any just proportion between the stimulus and the muscular contraction. The slightest centripetal stimulus in an extreme case will cause the most violent muscular contraction, not only of the muscle or muscles connected with its place of origin, but also of the whole muscle group or of many groups of muscles in many parts of the body.

As Küttner has so tersely put it, "The subcortical centres are continually spurred but not bridled."

Rationale of Treatment.

The lesion being, then, a radical one, incapable of true cure, the most that science and art can hoped to achieve is improvement, by attempting to restore the lost balance by interference at some point or points in the nervo-muscular combination.

There may be said to be too little (defect) weight in one scale of the balance. If we cannot restore equilibrium by adding what is lacking to the scale which kicks the beam, we can perhaps make the beam level by removing something from the overloaded scale.

Clinically, the manifestations of spastic palsy range from slight hypertonus, say, of the triceps cruris, to general rigidity of the limbs and of some of the muscles of the trunk and neck. Therefore it is clear that the amount of justifiable interference must vary greatly.

Historical.

Before proceeding to deal with the question of present-day treatment, it may not be out of place to review briefly past practice.

When in his lectures on deformities in 1843 W. J. Little described "universal rigidity of the muscular system, or of the flexor muscles only, in newborn infants," a disease which has since become known by his name, he limited his recommendations as to treatment to advising manipulations, instruments, counter-irritation of the spine, and tenotomy as a *dernier ressort* only when secondary structural shortening had supervened. He instanced as the

parts requiring section, "the adductors of the thighs, the hamstrings, gastrocnemii, and adductors of the feet." In suitable cases this treatment rendered good results, and it was for many years the usual treatment among orthopaedic surgeons, if we accept the phenomenal outburst of tenotomy by Jules Guérin, who divided sixty or more muscles at one sitting.

Among general surgeons, however, the treatment of spastic palsy received very little attention, and many physicians, and especially neurologists, condemned all operations, Gowers writing as lately as 1899, "The tendo Achillis is sometimes divided for the contracture of the calf muscles, but the operation is useless and ought not to be performed."

At the same time that the physicians deprecated operation, medical treatment of the disease was at fault, except in rare syphilitic cases where the results were doubtful. Dejerine wrote in 1892: "Les plus souvent, les enfants . . . sont condamnés à l'inactivité pour toute leur existence."

Nevertheless D'Heilly, by the use of potassium bromide, extolled by Charcot, obtained a temporary cessation of contracture, but the spasm returned on the administration of the drug ceasing.

Some writers have attributed to syphilis an important rôle in the causation of spastic palsy. For instance, Delbet tested 13 cases, and found the Wassermann reaction positive in all. On the other hand, H. R. Dean, who examined 330 inmates of the Wilhelmstift, an asylum for idiots at Potsdam, found 15 cases of congenital spastic diplegia, in only one of which was the Wassermann reaction positive.

Whatever part syphilis may have in the causation of these cases, there is no reason to think that antisyphilitic treatment can benefit them, seeing that the damaged tissues are beyond repair.

Recent Advances.

Within the last quarter of a century orthopaedic surgeons have much increased the scope of treatment. Instead of restricting surgical interference to tenotomy only of those tendons which are structurally shortened (secondary contraction), it is now recognized that spastic muscles and tendons may and often should be divided, lengthened, or ruptured.

In 1890 V. P. Gibney recommended and had performed tenotomy of spastic muscles, and maintained the corrected positions for months afterwards by means of splints, with a record of great improvement.

In 1891 A. Lorenz reported a case of a young man of 17 with marked contracture of the hamstrings and of the plantar flexors of the foot, which produced contraction of the knees and talipes equinus, and divided or excised ten tendons at one sitting. The patient, who before the operation could hardly stand up, was afterwards able to walk and to remain for several hours at a time on his feet.

In 1896 Vincent performed tenotomies in cases of spastic paralysis, and devoted great care to after-treatment by splints and walking apparatus and re-education, with good results; and in 1903 Robert Jones strongly recommended a similar method of treatment, comprising tenectomy and tenotomies, and tendon lengthening and transplantation. He wrote; "No opportunity should be lost of performing a tenotomy. Even in mild cases, where a spastic tendon is felt, let us ruthlessly divide it." He recorded good results and deprecated pessimism.

In 1904 Bastow reported good results in cases of diplegia after transplantation or elongation of the hamstrings.

In 1905 Lange, and in 1906 Hoffa, also recommended transplantation of tendons, following Codivilla, who in 1900 had strongly recommended this procedure.

Soulié, in 1907, had performed arthrodesis of the tibiotarsal articulation, and in 1909 P. Delbet, finding after tenotomies that the thigh was rotated inwards, did an osteotomy and rotated it out. The result reported—confirmed by Kirmisson—was good.

Treatment of Nervous System.

During the last five years the attention of surgeons has been directed more to the nerves and nerve roots than to the muscles and tendons.

In 1908 J. J. Nutt of New York proposed and practised an operation to which he gave the name of "intraperineural neurotomy." The sheath of the sciatic nerve was opened and separated from the nerve, the whole of which was divided and then sutured, and finally the sheath was sutured and the wound closed.

In the same year O. Foerster of Breslau proposed to adapt to spastic palsy the operation which had first been performed for pain by Sir William Bennett. On his suggestion Tietze divided several of the posterior nerve roots inside the spinal canal.

Modifications of this operation were proposed in 1910 by Guleke and by A. S. Taylor. The former recommended division of the roots outside the dura mater, while the latter advocated partial division of half of each of the roots supplying the regions affected, instead of complete section of alternate roots.

Allison and Schwab in 1909 introduced the practice of injecting alcohol into the nerves supplying the spastic muscles, thereby causing motor and sensory paralysis and peripheral degeneration of the nerve.

Stoffel in 1911 divided part of the fibres of the motor nerves supplying the muscles. Vulpius in the same year urged nerve transplantation in preference to rhizotomy.

Objectives of Treatment.

The immediate objects of surgical treatment may be stated to be:

Correction of deformity, and

Abolition or diminution of spasm, with the ultimate end in view of enabling the patient to place the limbs in such a position that he may use them properly, but before undertaking any treatment the surgeon must form an estimate of the mental capacity of the patient. If this seems to be normal or even approaching to normal, it is worth while to undertake thorough and long-continued treatment, in the belief that the patient's will power and intelligence will enable him to take advantage of every improvement. If, however, the patient is idiotic, there is little hope of his learning to use his muscles, and disappointment is nearly sure to follow treatment. In a case of doubtful intelligence it is desirable to give the patient the benefit of the doubt, and to undertake the treatment, always remembering on the one hand that parents generally overestimate the intelligence of these children, and on the other that improvement in the physical condition is nearly always accompanied by improvement in the mental condition, sometimes to a surprising extent. Almost all observers are agreed upon this point, and also in the opinion that treatment must be patient, prolonged, and persevering.

Age Suitable for Treatment.

The question as to the appropriate age for beginning treatment is answered differently by different surgeons. Some—for example, Froelich—would begin at 3 years old, while others—for example, Kirmisson—prefer to wait until the age of 7. It appears to me that the sooner correction and training can be begun the better; and I am disposed to agree with Froelich rather than with Kirmisson, for the somewhat complex acts of maintaining the erect position and of progression in it require the development of certain automatic paths and centres in the central nervous system, which paths are normally developed before the age of 3 years. Given fair intelligence, it is surprising how quickly a child will develop powers of walking erect, as soon as the surgeon has rendered the physical condition of the limbs suitable to the purpose. In a case of severe bilateral congenital varus, the patient, aged 5 years, had never walked, but although he was of poor intelligence, he was able to walk well less than a month after the deformity was corrected.

Recapitulation.

It will be seen from the following list that the means of treatment fall into two categories, which, however, are not mutually exclusive, because the employment of some of both categories may be advisable in any individual case. For instance, no one will deny the advisability of tenotomy of a structurally shortened muscle for the relief of deformity, although spasm in such a case may have been

abolished by one of the operations on the nervous system. Nor will it be doubted that after muscle and tendon operations have failed to produce a good result, more radical operations on the nervous system may be necessary and beneficial.

Manipulations Splints, etc. Walking instruments Tenotomy Tenoplasty Tenectomy Tendon lengthening Myorrhexis Myotomy Arthrodesis Osteotomy	Proceedings intended to counteract effects of disordered nervous influence.
Neurotomy (complete) Neurotomy (partial) Alcohol injection of nerves Nerve transplantation Rhizotomy *	Proceedings intended to prevent disordered nervous influence.
Re-education	Intended to develop and improve latent powers.

Selection of Methods and Classification of Cases.

The treatment to be adopted must vary with the degree of severity of the case, and in estimating this I have found it necessary to classify cases from a clinical point of view, leaving out of consideration whether the disease is a spinal paraplegia, a cerebral diplegia, or a hemiplegia.

Cases may be tabulated according to the muscle groups affected, roughly, as follow:

Where there is—

1. Foot contracture,
2. Foot contracture and knee contracture,
3. Foot contracture and knee contracture and hip contracture.

These are the three main groups, any one of which, or any combination of which, may be affected, but as a rule the more peripheral the group the more easily is it affected.

In Group 1, talipes equinus, from contracture of the great calf muscles, and varus from the contracture of the adductors of the foot, form the commonest deformity. If structural shortening has not taken place, by persistent steady pressure of the hands the deformity may be overcome and the foot forced into dorsiflexion. It will then generally be found that the sole has become flat, and that the varus deformity has been converted temporarily into valgus. In such a case, if the child is not idiotic, it can generally get about in a digitigrade manner, with some help, but the knees are generally flexed by the action of the gastrocnemii, even though there be no spasm of the hamstring muscles. The long-continued use of right-angled splints, if they can be borne, may result in the cessation of spasm of the calf muscles, or in its diminution to such an extent as to enable the heels to be placed on the ground. But such a result is rare, and it is hardly worth while to undertake tedious treatment on the chance of success, when the end can be well attained by other means. The objection offered by some surgeons to tenotomy is that talipes calcaneus is likely to ensue. For instance, Shaffer abandoned tenotomy on this account. Should calcaneus occur it can be remedied best by arthrodesis. It is, however, preferable to lengthen the tendon by open operation after the method of Anderson (so-called Z method), by which the amount of elongation can be regulated better than by the subcutaneous method. The limb, including the knee, should be maintained in the corrected position for weeks, by gypsum or other retentive apparatus.

In Group 2, in addition to the treatment of the ankle deformity, the spastic knee flexors have to be dealt with. Subcutaneous tenotomy is here out of place on account of the neighbourhood of nerve trunks, but we have the choice of open section, or lengthening, or tendon transfer, or myorrhexis, any of which will give a good result. In my personal experience I have found lengthening of the semitendinosus and semimembranosus and simple section of the biceps satisfactory, and I have never known genu recurvatum to follow the operation. This deformity is, however, regarded by Lorenz (who favours myorrhexis here as elsewhere) as a desirable result.

Tendon transplantation is, in my opinion, an unnecessary refinement, but some surgeons (for example, Lange) have preferred it. Whitman, with whom I agree, attributes its good effects "in a far greater degree to the removal of the deforming force than to the extending action of the flexor muscles."

In Group 3, in addition to the foregoing procedures, the deforming muscles around the hip have to be dealt with, and these are chiefly the adductor group, which produce that most disabling deformity, when severe, which causes scissor-gait. Simple tenotomy, myorrhexis, or partial excision of one or more of the group, will all give good results. My personal preference is for excision of an inch or more of the upper ends of the adductores longus and brevis, the gracilis, and even the pectineus and part of adductor magnus. There is remarkably little bleeding from spastic muscles, and the wound can be closed and sealed with collodion. As above mentioned, Delbet has performed osteotomy for internal rotation after operations on the adductors, but this proceeding can seldom be necessary. The tensor fasciae femoris can be divided if it causes fixed flexion of the hip. Gibney has excised the whole muscle and tendon.

Whatever particular way of overcoming the spasm of the adductors is followed, all authors are agreed on the paramount necessity of immediate correction and fixation in a position of full abduction; for instance, Sherman in 1899 fixed the thighs in abduction at 180 degrees.

When by the abrogation of the power of action of a muscle for a long time the centres in the cord have been given a rest, it often happens that with judicious care of the patient the spasm will not return, or not to an unmanageable extent, so that it can be controlled by appropriate portable instruments, and the patient may have fair use of his limbs.

Operations on the Nervous System.

If, however, the proceedings briefly above described, of which the objectives are the muscles, tendons, and bones, followed by careful training and manipulation, fail to diminish spasm permanently, recourse may be had to operations on the nervous system. Of these, neurotomy, partial or complete, alcohol injection of nerve, and nerve transplantation, have for their aim the cutting off temporarily or even permanently the spastic muscles from their nerve supply or sensory connexion with the spinal cord. Nutt's operation, and Allison and Schwab's, cause degeneration of the whole mixed nerve, including afferent and efferent fibres below the point of section, and, as regeneration will take at least a year, during that time the hitherto spastic muscles are at rest, as well as their cord centres, and the antagonistic muscles get a chance to develop.

Although Lorenz, who was one of the first to advise and perform neurotomy, no longer favours it, Allison and Schwab have reported some very good results, and the operation is certainly deserving of a more extended trial. In some situations, however, there may be a great difficulty in finding the nerve. Thus these authors reported that in one case the search for the obturator nerve was abandoned after one and a half hour's trial, and subsequently a second operation was necessary to locate it.

Partial neurotomy has been advocated, as before mentioned, by Stoffel, who attempts to divide the motor fibres only of the nerves, such as the crural, sciatic, and obturator in the nerve trunk before its division, and after electrical test of the exposed nerve. But he finds it difficult to do enough and not too much. Lange, Vulpius, Biesalski, and Lorenz have criticized the method adversely as uncertain and difficult. Vulpius is strongly in favour of nerve transplantation, a method which in his hands has given good results—namely, 50 per cent. successes. The operation is not an easy one, and has not yet been much practised except by its author.

Foerster's Operation.

There remains to be considered the brilliant advance made by Professor Otfried Foerster in 1908, which I have already mentioned. I shall deal with it briefly, because the Section will have the advantage of a report upon it by

* I have used the word *Rhizotomy*—derived from two Greek words—in preference to *Radicotomy*, which some German writers use. The latter is a hybrid, and I know of no argument in its favour.

Professor Küttner, who has had a large operative experience of the method.

The operation aims at breaking through or much weakening the sensory arc of the reflex circle on whose integrity the spasm depends. Unlike most of the other proceedings, it leaves the motor impulses and their paths and the muscles themselves untouched. This is an advantage in itself if the excitability of the cord can be reduced to normal.

The operation may be performed in two stages or in one, and the nerve roots may be identified and located either near their exit from the canal or at their origin from the conus medullaris. In favour of the two-stage operation, the avoidance of bleeding into the dural sac, and of the additional shock of manipulating the cord and nerve roots on the same occasion as the laminectomy, are cited, but if the use of adrenalin by injection before and swabbing during the operation is adopted, as advised by Hey Groves, there is, as it seems to me, no advantage in doing the operation in two stages, but the contrary.

As to the site of the section, I have found that although it is easier to identify the roots near their exit from the canal, it is by no means easy to distinguish the posterior from the anterior roots, although this might be facilitated by electrical tests; on the other hand, if the section be made near the origins of the nerves from the conus, while it is easier to tell posterior from anterior roots, it is less easy to identify the individual roots; but as the mistaking, say, the fifth lumbar for the first sacral is less serious than the mistaking an anterior for a posterior root, and as, moreover, the requisite number of roots can be divided near the conus, with less extensive removal of laminae than lower down (for the whole lumbar enlargement can be exposed by removal of three vertebral arches), there appears to be a considerable balance of advantage in favour of the higher operation, in which, too, the incision is better placed for avoidance of sepsis.

It is not to be denied that the operation is a serious one, but having regard to the hopeless nature of the very severe cases—for which alone Foerster would advise it—under other treatment, it is quite justifiable. Not only is the operation severe and a good deal of shock to be expected, but for some days after the operation the patients suffer acute pain and hyperaesthesia, which, however, passes off as the central ends of the nerve roots degenerate. Spasm may in some cases return, even when a large number of roots has been divided. Whether the fears expressed by some of secondary degeneration of the cord are justified, time will alone show. So far not much evidence of it is to hand.

As yet very few cases have, as far as I have been able to ascertain, been submitted to rhizotomy for spastic palsy out of Germany. Professor Foerster last summer recorded fifty-nine operations for Little's disease with eight deaths.

In a case operated on by myself in September, 1912, the results are very encouraging, and the child is beginning to walk, but the case is not yet ready for publication.

Foerster and all others are practically agreed that the operation is only justifiable in the worst cases, where the patient is not idiotic, there is not much athetosis or epilepsy, and where other treatment is hopeless.

Finally, but not of least importance, comes as a method of treatment re-education, without which good results are not to be obtained from any operation whatever. This re-education of muscles and will must be constant, patient, persevering, and measured in time more by years than by months.

After all has been done that man can do, there will be cases in which little improvement will be made, but, for all that, there is no need of pessimism, although it must always be remembered and impressed upon the friends that such cases may be improved but cannot be completely cured.

ACCORDING to a statistical report recently issued by the French Minister of the Interior, the total number of medical practitioners in France is 20,809. The departments in which the number of doctors is largest are the following: Seine, 4,393; Nord, 811; Gironde, 614; Rhône, 585; Bouches-du-Rhône, 575. The departments with the fewest doctors are the Hautes-Alpes, 29; Haut Rhin, 32; and La Lozère, 39. There are in France 2,848 dentists, 13,066 midwives, and 11,585 pharmacists.

HEREDITARY TRANSMISSION OF SARCOMA.

BY

J. S. MANSON, M.B., CH.B.EDIN.

LIKE many other diseases which have since been proved to be of environmental origin, malignant disease was long believed in a vague and indefinite manner to be hereditary. The success of modern research in discovering that the essential causes of many diseases hitherto believed to be hereditary were of an environmental nature, gave a gleam of hope that malignant disease would in due course fall into the same category. The present-day belief in the parasitic or at least environmental origin of cancer stimulates research workers to the discovery of its cause, and so to its prevention and cure.

The most recent addition to modern research has been the analytical study of heredity, and it is interesting to note that the question of heredity in malignant disease is again coming into prominence. Bashford[1] has discussed the relation of heredity to the frequency of cancer in man, and comes to the conclusion that the difficulties of the problem are too great to admit of a satisfactory result. He was hopeful, however, that numerous experiments with short-lived animals like mice would lead to some definite conclusion. His colleague Murray[2] states that it has been part of the original plan of the work of the Imperial Cancer Research Fund to study the hereditary factor in the problem of cancer, and he has already made an important contribution to the subject. He has shown that the incidence of spontaneous mammary cancer in mice of recent cancerous ancestry is nearly double that in mice of remote cancerous ancestry. The conclusion from this is that an acquired susceptibility to cancer has been transmitted, but no light is thrown on the origin of the disease itself.

As a small contribution to the study of malignant disease in man, I give the following account of the illness and deaths of a mother and two sons from sarcoma, which I venture to think justifies the title of this article.

CASE I.

The Mother.

S. P., the mother, was born in 1869, a native of Cheshire, the youngest of a family of one brother and four sisters. At the age of 22 she married E. P., who is still alive and well. Three sons were born: W. in March, 1892; T. in July, 1894; and C. in August, 1897. There was thus an interval of two years and four months between W. and T. and three years and one month between T. and C.

S. P. had always been a healthy woman. At the beginning of 1896 she noticed a small lump about the size of a bean on the left side of the neck. This grew slowly, until it reached the size of a marble. She consulted her doctor, who advised her to have several teeth extracted, and this was done. The swelling, however, continued to increase, and in August, 1897 (eighteen months after it was noticed), it had attained the size of a walnut.

On August 3rd, 1897, C. was born, and after this the tumour grew very rapidly.

On November 9th she was admitted to the Manchester Royal Infirmary. The following extract from the register of Manchester Royal Infirmary was kindly supplied by Mr. E. E. Hughes, the surgical registrar:

"S. P., admitted November 9th, 1897; discharged November 18th, 1897. Diagnosis: Lympho-sarcoma neck, left side. Result: Home *in statu quo*."

The growth continued to enlarge, and she died from exhaustion on February 21st, 1898, about two years after the growth was first observed.

CASE II.

The Sons.

C., the youngest son of the family, had always been a healthy lad. He consulted me in September, 1912, about a small growth on the left side of the neck. The growth was about the size of a walnut, movable and painless, the skin moving freely over it. I referred him to Mr. Roberts at the out-patient department of the Manchester Royal Infirmary, and he was admitted in November. A small piece of the growth, which had increased in size, was excised for microscopical examination. The report from the clinical laboratory stated that the section showed the structure of a round-celled sarcoma.

He was sent home, and the growth continued to enlarge, until it formed a fungating bleeding mass as large as a cauliflower on the left side of the neck. On February 17th, 1913, he died from exhaustion and haematemesis.

CASE III.

T., the second son in the family, consulted me in March, 1912, about some swellings on the *right* side of the neck. He had an enlarged right tonsil with some exudation on its inner surface. The swellings were evidently enlarged glands secondary to the

diseased tonsil. Local antiseptic treatment was applied to the tonsils and fomentations to the glands. The tonsil looked healthy after a month's treatment, but the glands remained enlarged. In April I sent him to see Mr. J. W. Smith, who thought the glands tuberculous, and on May 1st removed them at the Manchester Royal Infirmary. The patient then went to the country for a month and returned looking well, but there was some recurrence of the glandular enlargement on the right side.

On October 4th he was readmitted to the Manchester Royal Infirmary, and on October 7th the glands were excised. The pathological report on the glands removed in May and October stated that they showed only inflammatory enlargement, and in the subsequent history of this patient there was no recurrence after the second operation.

In January, 1913, the patient consulted me about bleeding from the right tonsil, which was considerably enlarged; on the left side of the neck, about the junction of the upper and middle thirds of the sterno-mastoid muscle, there was a small tumour about the size of a Barcelona nut. This was freely movable and painless. I referred him to Mr. Smith, who admitted him to his wards in February. The growth on the left side was excised and a portion of the tonsil removed and both submitted to microscopical examination. The report of this examination stated: "Section of tonsil shows changes of an inflammatory nature; there is no evidence of malignant disease. Section of lymph gland shows structure of a lympho-sarcoma."

After a stay at the Cheadle Convalescent Home he returned home, but the tonsil had so increased in size that there was difficulty in swallowing and obstruction to breathing.

Mr. Smith admitted him again in April and performed an extensive operation by resecting the lower jaw on the right side, removing the soft palate and enucleating the growth from the right pharyngeal wall. This was only a palliative procedure to prevent death by suffocation, as the growth was manifestly malignant and a radical removal impossible. The pathological report of April 25th states, "Section of tonsil is that of round-celled sarcoma." The patient made a good recovery from the operation and went to the convalescent home for a few weeks, returning home in June. On June 27th I made a differential leucocyte count, which gave: Polymorphs, 40 per cent.; small mononuclears, 33 per cent.; large mononuclears and transitionals, 25 per cent.; eosinophiles, 2 per cent.; an average of three counts gave 7,500 per c.cm.

The growth from the pharynx continued to grow rapidly and formed a large mass in the parotid region and below and behind the angle of the jaw on the right side. The growth on the left side recurred and increased to the size of a Tangerine orange before death, which took place on August 17th, 1913, from exhaustion.

Portions of both growths were removed *post mortem* and submitted to microscopical examination by Dr. J. P. McGowan, of Edinburgh, who reported them to be lympho-sarcomata.

In neither Case II nor Case III was there any sign of generalized enlargement of the lymph glands.

That there are some striking facts recorded in these three histories will be generally admitted. The main outstanding facts are the death of the mother from sarcoma, originating in the left side of the neck, and the deaths of her two sons from the same disease arising in the same region. This sequence and similarity, although not conclusive of an hereditary origin, strongly favours it in the absence of other known cause. Granting a strong element of heredity, the question arises, "What has been transmitted?"

The following are the pedigrees of the father and mother (Case I) of the two sons C. (Case II) and T. (Case III), founded on information obtained from the father, who is an intelligent man, and is anxious to be as accurate as possible.

FATHER'S (E. P.) SIDE.

W. P. Father of E. P., living, aged 66.
K. P. Mother of E. P., died, aged 60, of heart failure; she had two sisters, who died of cancer of the breast, one aged 45, and the other 67.

CHILDREN OF W. P. AND K. P.

W. P. Son, aged 4, died; diphtheria.
E. P. Son, living, aged 42; father of C. and T.
A. Daughter, living, aged 39; married, three healthy children.
A. Son, died, aged 2; scalds.
E. Son, living, aged 36.
M. Daughter, living, aged 34; married, 2 healthy children.

MOTHER'S (S. P.) SIDE.

T. W. Father of S. P., living, aged 89.
M. W. Mother of S. P., died, aged 54; consumption.

CHILDREN OF T. W. AND M. W.

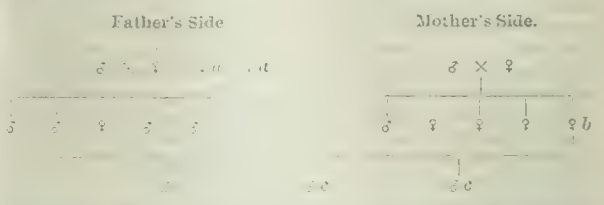
J. W. Son, living, aged 52.
F. W. Daughter, died, aged 28: consumption.
M. W. Daughter, living, aged 50, with three healthy children.
A. W. Daughter, died, aged 25; consumption.
S. P. Case I, daughter, died, aged 29; sarcoma.

CHILDREN OF E. P. AND S. P.

W. Living, aged 21.
T. Died, aged 19: sarcoma.
C. Died, aged 15; sarcoma.

It will be observed that T. W., the maternal grandfather of T. and C., is alive, aged 89, and he has no knowledge of any one dying of malignant disease either on his side or on that of his wife, M. W.

The paternal grandfather, W. P., is also alive and well, and he has likewise no knowledge of malignant disease on his side.



In this pedigree there is no evidence of malignant disease, except in the two paternal grand-aunts of C. and T., and in them it was cancer of the breast at an advanced age.

The sarcoma in Case I apparently arose *de novo*, and the following questions arise: Was this sarcoma an acquired character arising in response to some environmental stimulus, or was it a true germinal variation having its origin further back in the ancestry of the patient than can now be accounted for? Of course, neither of these questions can be answered with any definiteness, but such evidence as there is seems to point to its being a germinal variation.

In problems of heredity there is often doubt as to the similarity of supposedly transmitted characters, but in these cases the evidence is complete, clinically and microscopically, that the fatal growth in all three was of the same nature—namely, round-celled sarcoma arising in a lymph gland or lympho-sarcoma. Again, the anatomical site of the original growth in all three was practically the same—namely, the lymph glands at the junction of the upper and middle thirds of the left sterno-mastoid muscle.

If the mother, S. P., had had an extra thumb on the left hand, and the same characteristic had appeared in C. and T., the influence of heredity would have remained unquestioned, but then there are many instances of transmitted polydactylism, and but few of sarcoma. This comparison is further complicated by the fact that polydactylism appears at birth, is non-fatal, and does not hinder reproduction, while sarcoma appears later, is fatal, and may prove so before the reproductive age has been reached.

It will be noted that S. P. was pregnant with C. while actually showing marked signs of the disease.

If the growth in S. P. had been of environmental origin, say due to the *Spirochaeta pallida*, then C. might have been expected to show signs of the disease at birth or soon after, or to be immune to the disease (Profeta's law) certainly later than the age of 15, when he died of it. If the environmental agency had been, say, the tubercle bacillus, then although C. would not have expected to show signs of the disease at birth, yet it would have been very unlikely in the case of a later infection for the disease to have appeared in exactly the same anatomical site as in his mother and brother.

When the clinical history of T. is considered the evidence for germinal variation becomes strengthened. This patient underwent two operations for cervical adenitis on the right side. The glands on microscopical examination showed inflammatory reaction only, and there was no recurrence in these glands after the second operation. In January there appeared on the left side of the neck (the same side as in his brother and mother) a small tumour which proved on microscopical examination to be lympho-sarcoma, while a section of the enlarged tonsil only showed inflammatory reaction. In April the tonsil had become sarcomatous, and also the lymphoid tissue of the pharynx. Here again one lays stress on the side on which the disease commenced; if the sarcoma had commenced in the tonsil, and had appeared later on the left side of the neck, then the similarity between this and the other two cases would have been less, and the argument for genetic continuity correspondingly lessened.

It might be said by some, in arguing against heredity, that T. was infected from C., but against that we have the facts that T. was less in touch with C. than any other member of the household, and very much less than his brother W. Infectivity cannot explain the onset of the disease in T. and at the same time explain the immunity of the other members of the family, who were in constant and close contact with C. during the whole course of his illness.

It is interesting to observe that the law of anticipation enunciated by Dr. Mott with regard to the heredity of mental disease seems also to be at work here. C. died at the age of 15, and T. at 19—that is, 14 and 10 years younger than their mother respectively; thus the chance of propagating the disease, supposing males to transmit, was very small indeed.

It is generally stated that the heredity of malignant growths is best expressed as a susceptibility or tendency (Mansell Moullin[3]), and that such growths only occur in susceptible individuals when exposed to some influence such as chronic irritation. It is, however, interesting to note that the sarcoma in T. did not commence in the chronically irritated glands on the right side of the neck, which were removed by operation and did not recur, but commenced on the left side, as in his mother and brother.

Thus the evidence, so far as it goes, points to the conclusion that the sarcoma which arose in the mother was a germinal variation or sport which she transmitted as a dominant character to her two sons, T. and C.

While this provisional conclusion from data so slight may seem hazardous, yet with regard to the ultimate pathology of the disease it is worthy of consideration.

In any consideration of malignant disease much turns on the view as to whether it be local or constitutional in origin. If heredity be as strong a factor in the origin of sarcoma as the foregoing cases suggest, then the view that it is of local origin would place sarcoma among the local hereditary tissue changes, such as produce hereditary cataracts or moles, and would give some support to the theory of embryonic cell rests propounded by Cohnheim and others. If the alternative view be taken, then sarcoma—or at least lympho-sarcoma—might be added to the other blood diseases having a marked hereditary character, such as haemophilia, and perhaps pernicious anaemia (Gulland and Goodall[4]).

In the foregoing cases the evidence for a local origin is strong. In all the initial lesion was a small growth on the left side of the neck, which increased in size, and only affected the lymphoid tissue in proximity to it. There was no glandular enlargement in the axillae or groins, nor was there any sign of pressure on the bronchi from mediastinal growth. As no *post-mortem* examination was made in any of the cases, it is impossible to say whether the lymphoid tissue in the body cavities was affected or not. Again, in cases C. and T. it was interesting to note that there was little constitutional disturbance in spite of the rapid advance of the disease. Their appetites were good, minds clear, and both patients were out walking five or six weeks before death occurred. Such marked constitutional disturbances as occurred towards the end were due to pain and difficulty in swallowing and breathing from mechanical pressure.

The only evidence for a constitutional origin was the condition of the blood in Case III as revealed by the differential leucocyte count made on June 27th. This showed in a normal total count a diminution of polymorphs and an increase of lymphocytes and large mononuclears. This count is evidence of a general disease, and it bears some resemblance to that in the case of nodular leukaemia reported by Reid, Calwell, and Thomson.[5]

It is to be regretted that no blood examinations were made in Cases I and II, for they might have afforded additional evidence for comparing the disease in these cases with leukaemia. The latter disease is now practically regarded as a tumour in the blood, and it may also be strongly hereditary, although from that point of view it would be a very difficult disease to study.

In reflecting on heredity and tumours one cannot help thinking that the origin and growth of tumours are in some way related to a form of sex activity of either tissue or blood cells. Sex characters or analogous properties are present in the lowest protozoa, and are necessary for the rejuvenescence of the race, because organisms reproducing themselves normally by fission eventually degenerate and decay unless conjugation occurs.

While in differentiated multicellular bodies there are specialized germ cells and somatic cells, yet each may have latent some property of the other. Wilson[6] states:

> It must, however, be borne in mind that the distinction between germ cells and somatic cells is not absolute, as some naturalists have maintained, but only relative. The cells of both groups have a common origin in the parent germ cell . . . both have essentially the same structure, and both *may* have the same power of development.

From this it may be inferred that the tissue cells of the body have latent sex characters potentially present. If this be so, then, if these sex characters become active, the stimulus to reproduction is given, and a cell mass or tumour results.

The late Sir Henry Butlin,[7] in commenting on Professor Calkin's statement "that the cancer cell, so far as we know, undergoes no processes analogous to fertilization," wrote: "One can only say that if in the future no process analogous to fertilization is discovered in the life-history of cancer cells, it is evident that the import of the process of fertilization will have to be reconsidered."

The process of fertilization is essentially the fusion of complementary sex characters, and is too well established to need reconsideration. The difficulty is to associate the process with tumour growth. If any and every cell of the body has latent sex characters, it might be suspected that if these became active at all then such activity would be displayed more in the less than in the more highly specialized cells, and it is a broad fact that tumour growths are most common in connective tissue and epithelial cells, while the highly specialized parenchymatous cells escape.

In this speculation the origin of tumours is referred to the primordial sex characters of the cell which become latent in the specialization involved in the formation of multicellular bodies. These characters are likely to become active when the specialized function of the cell is decaying with the advance of age, or has been lowered by injury or irritation. The cells themselves, being a product of the parent germ cell, a heightened sex activity in certain tissue or blood cells may be present as an hereditary character, as seems evident in the cases here quoted. Further, the now well-known influence which radio-active rays have in producing sterility may, on this hypothesis, explain the action of these rays in arresting and reducing tumour growth.

I have to thank my friends, Mr. J. W. Smith of Manchester and Dr. J. B. Naden of Warrington, for their valuable help.

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[1] Bashford, Introduction Third Scientific Report Imperial Cancer Research Fund, pp. xi and xii. [2] Murray, Fourth Scientific Report Imperial Cancer Research Fund, pp. 114 et. seq. [3] Mansell Moullin, Bradshaw Lecture, Biology of Tumours, British Medical Journal, 1912, vol. ii, p. 1598. [4] Gulland and Goodall, *The Blood*, p. 101. [5] Reid, Calwell, and Thomson, British Medical Journal, 1913, vol. i, p. 1318. [6] Wilson, *The Cell in Development and Inheritance*, p. 122. [7] Butlin, Unicellula Cancri, British Medical Journal, 1911, vol. ii, p. 1396.

The first Italian Congress of Medical Radiology was held at Milan on October 12th, 13th, and 14th. On the initiation of the Society of Radiology, it was organized by a local committee of which the chairman was Dr. Parola. The Congress opened with an address by Professor Augusto Righi on the nature of the *x* rays, delivered to a large audience composed of specialists from every part of Italy, with a few from France and Germany. Four reports were presented—one by Professor Maragliano on intensive apparatus in radiological technique; another by Dr. Busi on the radiographic image of the skull; a third by Dr. Tandòja on the radiology of the intestine, and the last by Professor Bertolotti on *x*-ray and radium treatment in gynaecology. Each of these gave rise to animated discussions. Afterwards, communications to the number of ninety-four were presented. In connexion with the Congress there was an exhibition of apparatus. The second congress will be held next year at Genoa under the presidency of Professor Maragliano. It was decided that a monthly review, to be called *La Radiologia Medica*, should be founded. The editor will be Dr. Perussia, of Milan, who acted as General Secretary of the Congress. Dr. Busi, of Bologna, was elected President of the Society for the coming year.

A NEW METHOD OF DEALING WITH SCARS BY MULTIPLE INCISION AND THIOSINAMIN.

By A. H. TUBBY, M.S.,

SURGEON TO THE WESTMINSTER AND TO THE ROYAL NATIONAL ORTHOPAEDIC HOSPITALS.

Scar tissue is not only unsightly and inconvenient, inasmuch as it undergoes persistent contraction, and often renders useless a part otherwise functionally sound, and so gives rise to embarrassing deformity. Incidentally, it may be remarked that those wounds which have been the sites of septic infection have always appeared to me to be followed by persistent and troublesome scarring. I think this remark is applicable to some of the hideous deformities after burns, and to contracted and useless fingers after whitlows, even if they have not involved the tendon sheath.



Fig. 1.

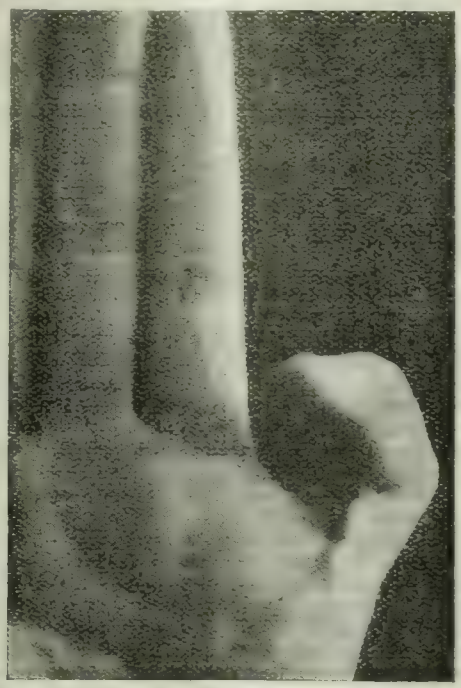


Fig. 2.

Figs. 1 and 2.—Contraction of the little finger in a girl, aged 18 years, following a lacerated wound. Condition prior to operation.

The method which is about to be described has been employed in scars of very considerable dimensions, in the axillae, in the groin, about the neck, at the wrist, and on the fingers. Having frequently failed to obtain any satisfactory result by excision of scar tissue, even if followed by extensive skin grafting, I have been not a little disappointed with the results. Therefore, I advise the following original method.

With a fine and strong-backed tenotomy knife a large number of multiple incisions are made transversely to the bands of keloid material. The incisions are placed close together, not more than one-tenth of an inch apart: and great care is taken that they should penetrate not only into the subcutaneous fat, but also extend one-quarter or half an inch into the neighbouring healthy skin. No attempt is made to arrest the haemorrhage except by pressure, and when bleeding has ceased, a solution of thiosinamin is vigorously rubbed in; and, if the scar tissue is very thick, a few drops are injected into the most prominent bands. I have had no hesitation in injecting, in children, 15 min. at a time, and in adults 20 min.: in only one case was there any effect on the heart. In that instance some slight cardiac collapse occurred for a few minutes; the patient, however, was over 60 years of age, and, happily, no permanent ill results followed.

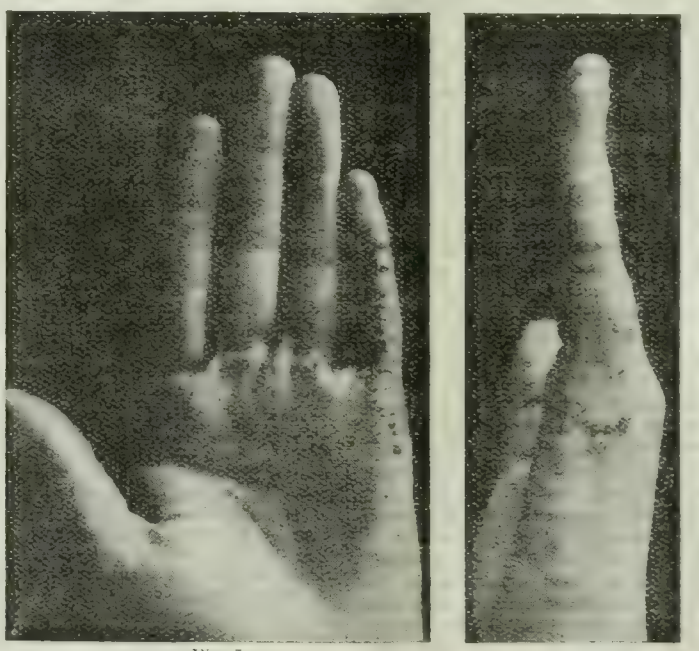


Fig. 3.

The same case fourteen days after operation. The dark transverse lines on the finger represent the scabs in the lines of the multiple incision. The finger is perfectly flexible and useful.

After the operation, the part is put up on a splint, in as much extension as possible, without tearing the soft parts, and is allowed to heal. This is accompanied by no excessive reaction and very little pain. I believe that the absence of these signs is due to the fact that the thiosinamin is not pent up within the tissues, but freely exudes through the incision. After ten or fourteen days the wound will be healed, and the mobility of the part is increased by 50 per cent. The operation is then repeated, and it rarely may be required three or four times. The result is most satisfactory; scars which have been tough, resistant, and, in the case of the fingers, wire-like, have become soft and supple, the part has regained its mobility, and its usefulness has been restored. I have carried out this method in over a dozen cases, and have been specially pleased with the results. It seems to me to be a method worthy

of an extended trial. Having ascertained the value of open incision with free application of thiosinamin in the form of fibrolysin in ordinary scar tissue I applied the method to the treatment of Dupuytren's contraction.

EIGHTY-FIRST ANNUAL MEETING
OF THE
British Medical Association.

Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF OPHTHALMOLOGY.

T. H. BICKERTON, President.

PRESIDENT'S INTRODUCTORY REMARKS.

THE PRESIDENT opened the work of the Section by reading an address on the influence of the British Medical Association in the establishment of ophthalmology as a special science. A full report of this was published on p. 213 of our issue for August 2nd. He then called on Mr. Hern to initiate the first discussion.

DISCUSSION ON SCHOOL CLINICS IN RELATION TO THE PREVENTION OF MYOPIA.

OPENING PAPERS.

I.—JOHN HERN, M.D., F.R.C.S.Edin.,
Ophthalmic Surgeon, Darlington Hospital.

WHAT is myopia, and how is it produced? It is an elongation of the eyeball in the antero-posterior diameter, and is probably produced by—

(*a*) Inherited tendency.
(*b*) Using the eyes for near vision.
(*c*) Congestion of the coats of the eyeball (especially the sclera), produced by hanging the head down.
(*d*) Compression of the eyeball on looking downward by the extrinsic muscles, especially the oblique.

Then how can it be prevented—or, at any rate, its *increase* be prevented, for this is the practical point of this discussion?

1. Correcting the myopia as early as possible; also the myopic astigmatism, if present, so that all strain may be removed and the eyeball allowed to develop in the right direction (that is, normal direction) as the child grows and the eye develops. This can only be done by one who knows the anatomy and physiology of the eye, and not by the optician.
2. Raising the desk and preventing stooping.
3. Using the eyes for distance as far as possible.
4. Having as perfect lighting as possible, for this not only enables the patient to see with less evolution of energy, but tends to improve the general health also, for we all know the healthy effect of the solar rays.

It is very important that myopia should not be allowed to increase. For the public services, railway companies, and many public works myopics are and will be rejected.

II.—A. F. MACCALLAN, M.D.Camb., F.R.C.S.,
Director of the Egyptian Government Ophthalmic Hospitals.

OPHTHALMIC SCHOOL CLINICS IN EGYPT.

AN elaborate system of ophthalmic inspection and treatment has been carried out during the last six years at the Government primary school at Tanta. This has been done at the expense of the Department of Public Health and by means of the ophthalmic staff of this administration. The measures adopted include the active surgical repression of trachoma, the correction of errors of refraction with the gratuitous provision of spectacles, the isolation and the treatment of cases of acute conjunctivitis. The methods of treating trachoma carried out at the school do not differ from those in use at the Egyptian ophthalmic hospitals; they vary with the stage of the disease, and my detailed descriptions are available in ophthalmic literature.[1]

Trachoma.—The number of pupils affected by trachoma in the school of about 400 pupils has only varied slightly during the period of treatment, and has remained about 96 per cent. As infection with the disease usually occurs during the suckling period, it is inconceivable that school treatment can influence the incidence of the disease. The more contagious cases of trachoma (stages 1 and 2 of the disease) in 1907 amounted to nearly 60 per cent. of the total number of pupils in the school. These cases have been reduced to about 7 per cent. in 1913. The completely cicatrized cases of trachoma (stage 4) in which a cure has resulted have been increased from 2 per cent. in 1907 to 55 per cent. in 1913. At the beginning of every school year (October) there is an influx of contagious cases of trachoma into the school, 55 per cent. of the first-year pupils being affected with trachoma of this nature at the beginning of the present session in October last. However, by the end of this session in June treatment had reduced this proportion to less than 9 per cent.

The number of pupils treated regularly was 130, or about one-third of the total number of pupils in the school; of this number about 81 per cent. were substantially benefited, as compared with 39 per cent. whose trachomatous conditions improved, although it was untreated. These untreated cases include the healthy cases and those trachomatous cases in which cicatrization had begun (trachoma stage 3) satisfactorily and in which the evolution of the disease might be expected to progress normally. Sixty pupils, or about half those treated, were subjected during the past year to surgical treatment of the trachomatous conjunctiva by scraping, grattage, etc. These operations were all performed at the local ophthalmic hospital.

Vision.—Estimation of the refraction was made by retinoscopy under atropin checked by subjective testing of all pupils who did not get $\frac{6}{9}$ vision and in whom the corneae were fairly clear. With the assistance, if required, of moderately strong spectacles (not greater than plus or minus 6 dioptres), about 47 per cent. of pupils were found to enjoy good vision and 16 per cent. fair vision, while 37 per cent. had bad vision.* This result is not unsatisfactory for Egypt; it shows that about 63 per cent. of the pupils in the school have sufficiently good vision to pass the visual acuity tests demanded previous to entering the Government service in a clerical position. Only seven pupils had more than 6 dioptres of myopia which has not increased during the time they have been under observation. In 5 of these cases both corneae were nebulous; in 2 cases there was no nebula, but pannus was evident to the naked eye.

The main cause of subnormal vision is opacity of the cornea. This opacity is partly the result of the invasion of the corneal tissue by trachoma, but is more generally caused by ulceration of the cornea due to acute conjunctivitis. In spite of the fact that about 50 per cent. of the pupils had opacity of one or both corneae, no evidence has been obtained in favour of the theory that myopia may be caused by this condition. In this connexion it is interesting to observe that the acuity of vision improves with stay in the school. If myopia was really caused by the corneal opacity, the prolonged use of the eyes at school would be followed by a startling depreciation of vision in a large proportion of those pupils with opaque corneae. The reverse, however, is the case.

Spectacles.—The number of pupils who have been ordered spectacles satisfactorily and who are now attending the school is 82. On the date of the final inspection 39 pupils were wearing their spectacles, and the supply of spectacles to 13 pupils was delayed by the maker; this leaves a difference of 30 pupils who had actually obtained spectacles, but who were not wearing them, either because they were broken or for other reasons. Besides the difficulty of keeping careless boys supplied with spectacles which they are constantly breaking, the constantly altering astigmatism is a difficult matter for the ophthalmic surgeon to deal with as, if cylinders are ordered, they must be frequently changed.

The beneficial effect on the pupils of the primary school at Tanta which has resulted from the ophthalmic treatment above described during the last six years has been so marked that the Public Health Department considers

* Good vision = $\frac{6}{6}$ and $\frac{6}{9}$ or $\frac{6}{6}$ and $\frac{6}{12}$ or $\frac{6}{9}$ and $\frac{6}{9}$. Fair vision = $\frac{6}{9}$ and $\frac{6}{18}$ or $\frac{6}{9}$ and $\frac{6}{24}$ or $\frac{6}{12}$ and $\frac{6}{18}$ or $\frac{6}{9}$ and $\frac{6}{18}$. Bad vision fails to attain any of the above standards.

that the system of treatment should be extended to the schools in other provincial towns where there is a permanent ophthalmic hospital. We find that it will be possible to give gratuitously the services of a young ophthalmic surgeon for the necessary period each day, and to provide the drugs required free of charge to the Ministry of Education, and without demanding additional credits for the purpose, in the following towns besides Tanta: Assiut, Mansura, Beni Suef, Zagazig, Sohag, Damanhur, Shebin el Kom, Minia, Fayum.

This can be carried out from January 1st, 1913, at all these towns except Fayum, where it can be carried out from January 1st, 1915. But the organization of a school clinic in Egypt requires the guidance of an experienced ophthalmic surgeon or ophthalmic inspector. The present staff of the ophthalmic inspectorate is insufficient to carry out this work, and an extra ophthalmic inspector will be required if the Ministry of Education accepts the advice and the advantages which the Public Health Department offers.

Inspection of Kuttabs.—An inspection of the pupils in forty-three kuttabs, or infant schools, at Tanta and Assiut has been carried out for several years by the ophthalmic staff of the Public Health Department. The premises were dirty, and the accommodation was insufficient to a degree which the ophthalmic inspectors considered to be detrimental to the eyes in a large number of schools. The proportion of pupils infected with trachoma at Tania was not very different from that at Assiut, being 93.5 per cent. at the former and 92 per cent. at the latter town. However, the proportion of pupils with the most severe stage of the disease (trachoma 2) was much greater at Tanta than Assiut—43 per cent. as compared with 21 per cent. This high proportion of severe trachoma at Tanta corresponded with a high proportion of pupils with bad vision —50 per cent., as compared with 25 per cent. at Assiut. The number of pupils blind in one eye was about 4 per cent. at each town. The investigation of the ophthalmic conditions in these kuttabs has been unaccompanied by any treatment or attempt at amelioration. There is no doubt that if money was forthcoming for the adoption of a regular campaign of treatment, the ophthalmic conditions could be revolutionized within five or six years.

[The statements in this paper were supported by a series of statistical tables.]

REFERENCE.

[1] Practical Medicine Series, 1911: *The Eye*, by Wood. The Yearbook Publishers, Chicago. *Trachoma and its Complications in Egypt*, MacCallan. Cambridge University Press.

DISCUSSION.

Mr. MADDOX (Bournemouth) said: Not only is the tendency to myopia hereditary, but also often the literary and bookworm tastes which lead to its increase. Prolonged occupation with fine near objects with both eyes, especially if conjoined with a stooping attitude, tends to produce and increase myopia in young people. It is certainly most important to prevent persistent stooping over work. The act of reading directs more blood to the eyes, and this, too, by increasing the contents of the globe, tends to stretch the sclera where it is already weak. About 25 years ago I suggested that there should be special schools for already short-sighted children, but those started since then have not been successful, partly because they were intended for the middle and upper classes and overlooked the dislike of parents to send their children to any school that seemed out of ordinary lines. The only way, I believe, would be to have a kind of side line in some large general schools, letting all be together except for study, and having, as masters for the short-sighted, men with bright minds and original talents capable of communicating knowledge with the minimum of bookwork and of evening study. I am glad that Mr. Bishop Harman has, during recent years, been carrying the campaign into Government schools, where the difficulties will probably be less.

Mr. T. HARRISON BUTLER (Leamington) said that all theories that myopia was due to mechanical causes, such as compression of the globe by muscles, congestion due to holding the eyes down, weight of the eyes, etc., had in most cases been disproved by experimental work in Germany. Clinical evidence was also against these views, because high myopia was found in children under school age, and was also not infrequently present in one eye only. High myopia with choroidal changes was more frequently found among the working than among the educated classes, according to recent German statistics. And yet high pressure in German schools had raised the myopia incidence to 50 per cent. in the professional classes. In Norway this had been reduced by the introduction of games. The real cause of myopia was an inherent distensibility of the sclera, which was increased by bad hygienic conditions and by the high pressure common in schools, more especially in the German gymnasia. Unfortunately a quarter of a century of prophylaxis in Germany had not had the remotest effect in reducing the incidence of myopia in that country. There was a form of myopia which was merely due to overgrowth in the length of the eye, and these cases did not alter.

Dr. J. A. WILSON (Glasgow) said: I feel tempted to ask the question, Does school work produce myopia? If we can answer this question in the affirmative, then we might reasonably proceed to consider school clinics and the prevention of myopia. As matters stand in this country we have but little reliable information as to the relative prevalence of refractive defects. At present in our school clinics we deal mainly with necessitous children who have been found to have defective visual acuity when tested by the ordinary test types. If we are to obtain data by which to estimate the prevalence of the various forms of refractive defects, then the inspection of school children will require to be done in a thorough and comprehensive manner, and from observations so obtained in succeeding generations of children we shall get information for comparison and deduction. Does school work *per se* produce myopia? Does convergence and depression, with slight lateral movements of the visual axes, with the associated muscle compression, produce or aggravate myopia? It can only do so by raising the intraocular pressure. And it comes to this: Does the muscle compression associated with convergence and depression of the visual axes raise the intraocular pressure and increase the size of the eyeball? We know that the part of the eyeball that yields is not the less resisting part, as in buphthalmia, but the more resisting, and this fact contraindicates increased pressure acting on healthy or normal eye tunics. The intraocular pressure varies with the general blood pressure, and the latter varies with physical exertion or sedentary habits. The habits of the scholar, student, or clerk are sedentary. There may be in school life conditions, other than muscle compression, capable of influencing the health or the development of the eyeball. Myopia is found in children who are under school age, and the myopia so discovered is usually high in degree, and this suggests that there are other cases of lesser amount that are not discovered. Moreover, myopia is sometimes found in illiterates, and therefore we have to admit that myopia does exist apart from school work. In 844 consecutive cases of myopia I find as follows:

School children	37	per cent.
Housewives and domestic servants ...	28	,,
Tradesmen and such like	18	,,
Clerks and other near workers ...	14	,,

These figures suggest that occupations involving much near work are not a cause of myopia. I have no figures of my own showing the increasing prevalence of myopia in the older scholars as compared with the younger, but as I have pointed out elsewhere, the near work of school years is an industry that is contemporaneous with the manifestations of heredity. In my cases there is evidence of heredity in 60 per cent. Heredity, then, is the principal factor in the etiology. From the presence of corneal opacities, keratitis is classed as the cause of myopia in 14 per cent. of the cases. Cataract in some form is present in 10 per cent. of my cases. I frequently find changes in the periphery of the lens in the form of punctate opacities or striae, in young people of 13, 14, 15, or 16 years of age. Apart from the ordinary fundus changes there is evidence that myopia is to a considerable extent either a disease or a condition produced by disease. It is a striking fact that when an eyeball is enlarged beyond what we consider the most useful size—

that is, emmetropia—then we frequently find evidence of disease, past or present. In my cases I find 65 per cent. are females; thus women are more liable to short sight than men. Women in many cases spend a large part of their time in the house, or work within a confined space. These people may be said to do a certain amount of near work, but I think it is necessary to draw a distinction between the convergence and depression of the visual axes in ordinary near work and the near work and other conditions associated with working in a confined space. A prisoner liberated from long confinement sees distant objects badly, but this is temporary, wears off in some weeks, and is probably accommodative in nature. There may be something in the female sex that disposes to myopia, or it may be that adaptation to near objects is evolved. I submit that there is not much evidence that school work *per se* is a cause of myopia. I think it will be time to consider the prevention of myopia when we are agreed as to the cause. Meanwhile we should correct it, encourage outdoor exercise, and give all the usual instructions.

Mr. Bishop Harman (London) said that in considering the prevention of myopia he declined to accept the hypotheses put forward as an explanation of the cause of the condition by certain German writers and experimenters: further, he said that the statistics of the incidence of myopia in Germany had no relation to the state of affairs in England. There was a vast amount of valuable material collected in England by private and public investigations, of which far too little use was made, and it would be well to take these into account before the method of educational treatment was considered. The theories of origin or cause of myopia, both negative and positive, that had been cited, were most unsatisfactory. Some of them were absurd. The attempt to show that there was no pressure caused by the extraocular muscles in convergence was untenable when they considered the soft growing eye of the child. The idea that the eye was suspended on the optic nerve in stooping, so that the globe was altered in shape, was ridiculous to any one who had studied frozen sections of the orbit. Further, he took exception to the term "malignant" as applied to myopia; there was no such condition—the term had a connotation in pathology that should not be ignored. Progressive myopia they knew, but even that did not necessarily imply liability to the disasters of myopia, for detachment of the retina was not definitely associated with any degree of defect. Granting the influence of heredity, and the influence of poor nutrition on susceptible subjects—and there was no doubt of the reality of these influences—to stop at these was to adopt the impossible attitude of the old theologians, whose mental vision was obsessed with predestination. But they were on sound ground when they recognized the extent of the influence of the long hours that the young child spent in school on close work, even when they were physically and mentally fatigued. Much had been done in London elementary schools to improve the condition of the children, and the results of medical inspection and school treatment were found to be effective, if only in that they had drawn attention to defective educational provisions, and secured removal of defects. Then they had in London an excellent system of classes for myopes. The difficulty with the parents mentioned by Dr. Maddox had been overcome by attaching these classes to the ordinary schools, so that the children were counted with the normal. The educational scheme had been so recently described by him* that he would not take up time in detail now. But he might say that there was no mystery in the method—it was merely a return to primitive methods in which the teacher was dominant, and not a lot of books. No pens and paper were used, but blackboards on which the children wrote free-arm fashion. Much was made of manual work which did not require the constant fixation of the eyes. And oral teaching was taken with the normal children. The method was a delight both to teacher and scholar, but for its success really brilliant and capable teachers were necessary. He would like to see this method of instruction adapted to all infant teaching, that is, for children under 7 years of age. He was sure that such methods would reduce the strain on the immature eyes of these little folk to a minimum, and correspondingly reduce the risk of myopia.

* *Proc. Roy. Soc. Med.*, August, 1913.

Dr. J. E. Weeks (New York City, U.S.A.) said: We must, I think, concede that myopia develops much more frequently in young individuals who do much close work, as school children, than in those who do very little close work, as observed in the American Indians. In infants, as we all know, myopia is present in less than 1 per cent. Myopia begins when vision for near objects begins—namely, at or before school life—and progresses ordinarily to the age of 15 or 20 years, except in the most serious cases, which may be progressive throughout life. While it may be, and probably is, a fact that there is an inherited weakness of the posterior part of the fibrous coat of the eye, it will also be found that many progressive myopes devote much time to close work and neglect their physical condition. They are often anaemic, suffer from errors of digestion, and are considerably below par physically; also there is astigmatism as well as myopia. These facts are sufficient to give us valuable suggestions regarding preventive measures. It is my custom to ascertain the conditions in each case, to limit the use of the eyes for close work to a few hours each day by daylight, to insist on much outdoor exercise and a liberal nutritious diet, and, probably more important than any one of the preceding, the careful correction of the refraction and muscle errors.

Dr. R. A. Reeve (Toronto) said he would like the opener of the discussion to say whether or not he was speaking of myopia existing after prolonged use of atropin or manifest myopia. He had not seen real myopia diminish. An important point was the full correction of the real myopia and the astigmatism, which latter was present in the large majority of cases and could not be ignored. As opposed to the view put forward by Dr. Butler, attention was called to a great mass of statistics collected and analysed by Dr. Risley of Philadelphia and duly recorded, the conclusion reached being that, as the result of better hygiene, including particularly the better and more general correction of myopia and astigmatism, the percentage of marked and progressive myopia showed a decided decrease.

Mr. Herbert Parsons (London) laid stress on the varieties of myopia. He had long been of opinion that there were cases of inherited myopia due to normal variations in the combinations of axial length of eyeball, corneal curvature, position of lens, and so on. These cases were often stationary. He saw no good physiological arguments in favour of the view that congestion of the head was a factor in the production of myopia. His own experiments on animals convinced him that contraction of the extrinsic ocular muscles had a very marked effect in raising the intraocular pressure. In cases of progressive myopia, whether of low or high degree, some congenital weakness of the sclerotic had to be hypothecated, but every effort should be made to guard against the ill effects of near work. He directed attention specially to the illumination of schools and factories, and to improvement of printed books, especially bibles.

Colonel Elliot (Madras) said that Dr. MacCallan's classification of trachoma was a most valuable one and so obvious that the wonder was that no one made it long ago. Trachoma was largely spread in India by the use of antimony paste, a cosmetic widely used by the more well-to-do classes. In the statistics of myopia among females allowance should be made for the preponderance of females in the population. He had never seen a myope become emmetropic, nor had he found that correcting the myopia and astigmatism carefully stopped all cases of myopia, especially in half-caste girls in India. Care of the general health, open-air exercise, stoppage of close work, etc., were all indicated. A factor in myopia which should not be forgotten was the tendency to stretching of the sclera. Hence the need for general hygiene. British Governments in tropical countries were awakening to their responsibility in connexion with the hygiene of the eye.

Dr. Marion Gilchrist (Glasgow) said that she agreed with Dr. Hern as to the tendency to myopia being hereditary, but she did not agree with him that myopic cases ever became emmetropic. She had never seen spherical myopia disappear in children. The causes of

myopia were heredity and wrong correction for refraction, adverse conditions for near work, and poor general health. The statement made by Colonel Elliot that myopia was more common in girls bore out these facts. Experimental results did not help much in this connexion. Girls nearly always got less outdoor exercise than boys. She commended to the notice of surgeons a new method of teaching sewing to children introduced by Miss Macbeth and Miss Swanson, of the School of Art, Glasgow. This method made the work most interesting to the children. Careful refraction work was the most important part of the treatment. Very bad refraction work was sometimes met with.

Mr. W. B. Inglis Pollock (Glasgow) said it was impossible to draw any conclusions from the experiments cited by Mr. Butler as they were so contradictory. In the experiments on intraocular tension reported at the recent discussion in the Royal Society of Medicine it was shown how much influence was exerted by the extraocular muscles. Mr. Butler's other statement, that malignant myopia was more common in the labouring classes, and Dr. Wilson's, as to the distribution of myopia among certain classes, were contradicted by nearly all other workers. The speaker was in complete agreement with all that Mr. Bishop Harman had said on the treatment of myopia. He had several cases in which myopia had decreased under treatment, which he hoped to publish.

Colonel W. G. Pridmore, I.M.S., said his experience in Rangoon and Burma differed from that of Colonel Elliot in Madras. The latter found myopia more common among girls than among boys. Boys in Burma were ambitious, and the aim of all was to get a Government appointment. For this they studied hard to pass their examinations, and often lived and studied in bad hygienic surroundings. He quite agreed with what had been said regarding refractions. It was disgraceful that this work should sometimes be done so badly. Even at some of the large hospitals refractions were done badly because they were left to novices. Refraction work was looked upon as drudgery, and shirked. This might account for the position of the optician, and be the reason why so many children were sent to them.

A CRITICISM OF THE SIGHT TESTS OF THE BOARD OF TRADE.

By F. W. Edridge-Green, M.D., F.R.C.S.,

Late Member of the International Code of Signals Committee; late Hunterian Professor of the Royal College of Surgeons.

The History of the Sight Tests.

In 1888–9 I wrote a number of papers on colour blindness, and the Board of Trade, being dissatisfied with its colour vision tests, appointed me on the International Code of Signals Committee, and asked me to give it an efficient test for colour blindness. The result of my investigations was that the Holmgren test was a very defective test, as it rejected many normal-sighted persons and passed a large number of those who were definitely colour blind. These statements aroused a storm of opposition, as the Holmgren test was at that time considered perfect. I pointed out that a properly constructed lantern test was a necessity and was infallible, and that names must be used in any test for colour blindness. Sir Lauder Brunton communicated a paper to the Royal Society, which was supported strongly by many Fellows, including Sir William Ramsay, but was opposed by certain physicists. The discussion turned chiefly on the practical point, and a committee was appointed, both the president and the secretary being physicists. The Board of Trade wished that I should represent it on this committee, but this the Royal Society refused, and did not publish my paper in the merest abstract. The committee, though it took my evidence, would not allow me to demonstrate cases to it. As is well known, the committee recommended the Holmgren test as an efficient test, and the physicist who was secretary of the committee became the adviser of the Board of Trade, and my connexion with the Board of Trade ceased.

As is always the case with new facts, the ineffectiveness of the Holmgren test began to be slowly recognized, and several changes have been made in it in accordance with suggestions made by me without any acknowledgement. All three test skeins were used in each case, and lately two fresh test skeins similar to the two first test colours in my classification test have been added.

In spite of this, the wool test became more and more condemned. In January, 1911, a departmental committee was appointed—

> To inquire what degree of colour blindness or defective form-vision in persons holding responsible positions at sea causes them to be incompetent to discharge their duties, and to advise whether any, and if so what, alterations are desirable in the Board of Trade sight tests at present in force for persons serving or intending to serve in the merchant service or in fishing vessels, or in the way in which those tests are applied.

Many of those who were directly connected with the wool test and were strong advocates of it were on the committee, whilst not a single one of those who had caused the change of opinion was appointed. The constitution of the committeee was severely criticized in the medical and shipping papers, and the Imperial Merchant Service Guild refused to give evidence before it on account of its constitution. This committee, like the previous one, though it took my evidence, absolutely refused to let me demonstrate cases to it, though I drew the attention of the President of the Board of Trade to this, and the letter was reproduced in the medical journals at the time. Even after this the cases were not examined. This attitude of attempting to decide a question without looking at the facts, though very common, is to me incomprehensible. Had my cases been examined twenty-five years ago a great many capable men would have been spared much injustice. The imperfect knowledge of the real facts of colour blindness shown by the committee will be evident to any one acquainted with the subject who reads the report.

It is absolutely necessary, in the interests of the mercantile marine and the nation, that a new and unbiassed committee should be appointed which would settle by a careful series of experiments the standard of form and colour vision required. This could easily be done by the methods which I have adopted—namely, by having the red, green, and white lights at the required distances and testing the men with these lights with and without neutral glasses. I find 25 per cent. of men are to a certain extent defective. All these would be detected when examined in this way. The committee could then decide what degree should exclude, and the test could be arranged accordingly. There is no difficulty whatever in testing the men in this way. If, for instance, we have a man who has slight shortening of the red end of the spectrum, a red light will not be visible to him when it is clearly visible to others not possessing the defect. All coloured lights, when diminished in size and intensity, appear white, but the point at which this occurs varies with different persons. One person in 500 may be able to recognize a red light when it is invisible to the other 499. What we want to know is whether a man is able to tell between the three lights—that is, name them—at the required distance. As long as the present methods are used the uncertainty, in which a man never knows whether he will be rejected for colour-blindness at his next examination when there has been previously no suspicion of the defect, will prevail.

The Board of Trade is rejecting men now whom I should not reject, as, on the most careful examination, I consider that their colour vision is sufficient for all practical purposes. Any one of the 19 per cent. which I should not reject are liable to be rejected by the present methods. The examinations ought to be in the hands of medical men, and not in those of sailors and physicists.

It is evident that the committee has not recognized how very defective a man may be and yet pass the official test of the Board of Trade with the ease and rapidity of a normal-sighted person. Most readers would gather from the report that the wool test detected all but a trivial number. This is not the case. In the *Lancet* of June 22nd, 1912, p. 1684, I have given an example of a very dangerous case of colour blindness which I examined for the first time in the presence of Professor F. T. Trouton and Professor A. W. Porter.

Examined with the official test of the Board of Trade, the examinee picked out and matched all five test colours —green, rose, red, purple, and orange-yellow—easily and correctly; he did not touch a confusion colour. Had I examined him by this test alone I should have passed him and had no suspicion that he was colour blind. Examined with the largest aperture of my lantern, measuring $\frac{7}{8}$ in. in diameter, at a distance of 20 ft., he called red A nothing and green; yellow, red; red B, white; neutral 1, green; and green, white and red. This test was the shortest of any I made, and lasted less than a minute, as I only asked the subject of it, at the most, to name fifteen lights.

It is evident that the committee was under the impression that very few cases could get through the wool test, and these only slight ones. The committee referred to border-line cases, "in which considerable difficulty has been experienced in determining whether the defects in the vision of the candidate will or will not interfere with his efficient watch keeping. These border-line cases represent much less than 1 per cent. of the candidates examined."

The following, extracted from the report, shows that the committee even suggested the possibility of dispensing with the lantern test altogether and going back to the wool test.

> We are not prepared to recommend that the lantern test should replace the wool test altogether. The two methods cannot be considered as testing precisely the same thing, but each is to some extent supplementary to the other. We recommend therefore that both the lantern and the wool test (as modified in accordance with our previous recommendation) should be used, at any rate for the present, in examining all candidates. A candidate who makes mistakes in either test should not be allowed to pass without a further examination unless the Board of Trade, on the report of the examiners, decide that such a further examination is unnecessary.
>
> When the two methods have been in use for a certain number of years—long enough to afford reliable statistical data—the number of cases in which candidates who have failed in one but have passed in the other should be tabulated, and the question of dispensing with one or other could then be considered.

The committee state that the wool test also possesses the great advantage that it can be carried through without the naming of a single colour either by examiner or candidate. This statement is absolutely incomprehensible to me. A sailor has to distinguish between the red, green, and white lights at sea. He has to name them mentally, and if he can do this correctly it does not matter what he can do with wools. The committee condemn a so-called practical test conducted afloat. It states such a test carried out in normal atmospheric conditions would probably fail altogether to detect candidates whose ability to distinguish between red, green, and white lights, under less favourable conditions of weather, is open to grave doubt.

I entirely disagree with this statement. When I have had a borderline case of colour blindness I have repeatedly tested him by actual lights, and in every case in which I have detected colour blindness by other methods, it was strikingly evident when tested with actual lights. A colour-blind person will, of course, see further in fine weather than when it is misty, but so will the normal sighted; the relativity still remains.

The belief in the wool test (in spite of the overwhelming majority of experts against it) is also shown by the opinions of individual members of the committee after the issue of the report. Mr. J. H. Parsons has stated in his book that the wool test is "sufficiently good," and has not even mentioned the lantern test. It is quite evident that the committee did not believe my statement that at least 50 per cent. of persons who were dangerously colour blind could pass the wool test even in its improved form.

Let us therefore compare these statements with one issued by the Board of Trade. The new tests came into operation on April 1st of this year.

> The total number of men examined in colour vision from April 1st to May 31st was 1,689, and of these 105, or 6.22 per cent., failed. Of the 105 failures, 55 failed in both the wool test and lantern test and 50 in the lantern test only. None failed in the wool test only.

The previous percentage of failures in colour vision was 0.8, which is very different from 6.22 per cent., nearly eight times the number being rejected and nearly 50 per cent. passing the improved wool test. The percentage was a little higher than 0.8 per cent. in 1912, being 2.22 per cent., but even this percentage is a little over a third of those now rejected.

It is interesting to note the results of the new tests as applied to men who had already passed the tests. The following is a statement by the Board of Trade:

> The total number of officers in possession of certificates of competency who were examined in the new tests during the period April 1st to May 31st, 1913, is 409.
>
> *Failed in Lantern Test Only.*—Six certificated officers failed in both local and special examinations; 2 failed in local examinations, but special examinations have not yet been held.
>
> *Failed in Wool Test Only.*—None.
>
> *Failed in both Lantern and Wool Tests.*—Three certificated officers failed in both local and special examinations; 1 has failed in the local examination, but has not yet been specially examined.
>
> Thus, 9 certificated officers have failed to pass the new test, and 3 having failed at local examinations are awaiting special examinations before a final decision is given.

Now, it must be noted that all these men had passed the Board of Trade test on one or more occasions previously, yet the number of rejections (nearly 3 per cent.) of certificated officers is nearly four times the percentage rejection of all cases, which for the total period since the introduction of the wool test is 0.8 per cent. It will be noticed that eight men failed in the lantern test only and passed in the wool test—that is, nearly 2 per cent.

Form Vision.

The committee has approved of the form vision test and the method employed, but has raised the standard. Whether this standard be too high or not will have to be ascertained by definite experiments based on a knowledge of the requirements.

The method employed is a very bad one. The letters are printed on canvas to which a piece of wood is attached. In the normal position this rolls up at the bottom, and has to be held down by a tag by the examiner. The objections to this kind of test are as follows:

The surface is liable to become yellow and crack, and the letters become distorted. It is very difficult to obtain a flat surface by the method used; in fact, when I was being examined, the surface was to a certain extent concave, and therefore an astigmatic effect was produced. I found I could read the letters better by tilting my glasses, so that the images formed of the test types on my retinae were astigmatic. The effect of this is that men having a defect of the eyes might read the test types better than a man without this defect. The arrangement of lighting was lateral and very defective, and as the daylight varies considerably men would not be examined in similar conditions.

The method to be adopted should be that which is employed by nearly every ophthalmic surgeon. The letters should be printed on a smooth white surface, preferably white porcelain. The letters should be the standard size—that is, the letter should subtend an angle of 5 minutes on the observer's retina, and each part of the letter should subtend an angle of 1 minute. I do not know whether the size of the letters I saw was correct; the letters, however, could be easily measured with the aid of a sextant. The illumination should be constant and free from all points of glare. It should be by diffused daylight when possible, the source of the light to be opposite the type and not placed laterally, as is the case with the Board of Trade. The lighting should be such that a normal-sighted person should be able to read all the letters at the required distances with the greatest ease.

The Lantern Test.

This lantern is an imperfect copy of my lantern (the official test of the navy), and lacks many of its essential features. It is a paraffin lantern, which shows one or two small lights simultaneously, which are reflected from a mirror. Its chief defect is that it lacks any means of regulating the luminosity of the light. Only two colours and white are used in the lantern, so that a man knows beforehand that he will only be shown these three lights. The method of having two lights is not a good one, and is one that I have carefully investigated. Change of colour due to simultaneous contrast is likely to cause the rejection of many normal-sighted persons, and those with slight and unimportant defects of colour perception. On

the other hand, in my opinion many colour-blind persons who have practised themselves in distinguishing between the three lights employed, particularly if with one of these lanterns or one of similar construction, whilst in reality very dangerous persons and liable to cause accidents at sea, will be passed.

It was thought that when the Board of Trade recognized that a lantern test was necessary it would have appointed as an adviser at least one of the large number who have had special experience of a lantern test. This was not the case; the ordinary examiners are sailors, and on appeal only those who have specially advocated the wool test and opposed the lantern test have been appointed. The extracts I have given from the report show how little the committee recognized the value and importance of the lantern test, and that they were not the right persons to construct a lantern test or to advise as to its use.

Dr. Edridge-Green concluded his remarks by moving the following resolution:

> That a recommendation be forwarded to the Council of the Association:
> That the sight tests of the Board of Trade are not satisfactory, and that an inquiry is urgently needed in the interests of the mercantile marine and the nation.

DISCUSSION.

Mr. Devereux Marshall (London) said he quite agreed with all that Dr. Edridge-Green had stated. The most unsatisfactory nature about the Board of Trade's methods was its extreme uncertainty. No one was safe. When first the lantern which had been introduced as the official test was adopted, it appeared to lack so many of the essentials that it was scarcely expected to do much, and yet its introduction had shot up the percentage of rejections from 0.8 per cent. to 6.22 per cent. This fact was remarkable, and showed how very wrong one of the results must be. He (the speaker) thought that one gave far too low a percentage of rejections and the other far too high a one, and there was no confidence to be placed in either result; but still any lantern, however inefficient, was better than no lantern. It was, indeed, a significant fact that, while many were rejected by the lantern and passed by the wools, not one person was rejected by the wools and passed by the lantern. Such facts could not but show to unprejudiced minds the extreme inefficiency of the wool test. What was wanted was a test to separate the dangerously colour blind from those who were normal, or whose defect was of such a nature that would be altogether negligible for the duties of a signalman. Many bad cases got through the wool test, and now it was very probable that among the large number rejected many were included whose colour vision, though not up to full normal, was yet quite efficient for all practical purposes. He strongly condemned not only the tests employed, but also the fact that laymen who knew nothing whatever about ophthalmic work or colour vision were the appointed examiners of the Board of Trade. In spite of Dr. Edridge-Green's enthusiasm on the subject, his statements were always made most deliberately and were never exaggerated. He begged to second the resolution proposed by Dr. Edridge-Green.

Mr. Bishop Harman supported the motion. On the matter of form vision, he said that very little observation was required to show that a test type was distorted out of all knowledge when the characters exposed were on an uneven surface. The different angles of reflection presented by such a surface made certain letters indistinguishable. He suggested that the "variable E test-type" he had shown would be particularly suitable for this work. On the point raised by the three-colour lantern test he had made some experiments with a colour-blind patient, and found that it was possible to distinguish between three effects when white was one; the patient had learnt to distinguish between them by the differences in luminosity. He was able to do this provided the illumination was fairly equal.

Mr. T. Harrison Butler (Leamington) spoke strongly in favour of the views put forward by Dr. Edridge-Green.

The President considered that the only possible way to bring pressure on the Board of Trade was for private members to ask questions in the House of Commons. He and many others had long since got tired of trying to approach the Board of Trade. No notice was taken of what was pointed out. He gave a short summary of the whole subject from his past experience.

Mr. J. Herbert Parsons (London) spoke, as a member of the departmental committee, very strongly in favour of the work done by that committee, and considered that many of the criticisms were unfair. He highly approved of the lantern and the methods used by the Board.

Mr. W. H. Brailey (Hove) pointed out some nautical inaccuracies made by the previous speaker.

On the resolution being put to the meeting it was passed with one dissentient.

DISCUSSION ON THE TREATMENT OF CHRONIC DACRYOCYSTITIS.

OPENING PAPERS.

I.—T. Harrison Butler, M.A., M.D.Oxon.

Dacryocystitis has aptly been designated the stepchild of ophthalmology, and for this reason I rejoice that the subject is to be discussed at this annual meeting, more especially as the last decade has witnessed a substantial advance in our knowledge of the best methods of treatment.

As long ago as the eighteenth century Anel invented a lacrymal probe and the syringe which in a modified form still bears his name. A little later Percival Pott used a lacrymal probe, and a syringe to irrigate the sac, but he gave up the probe because he found that the results he obtained were unsatisfactory. He says that

> The syringe, if used while the disease is recent, the sac very little dilated, and the mucus perfectly clear, will sometimes be serviceable. I have by its means injected a fluid through the sacculus into the nose, and in two or three cases the patients have got perfectly well.

In the same paper Pott anticipated Toti in attempting to make an artificial communication between the nose and the lacrymal sac. Thus in 1758 Percival Pott was treating dacryocystitis by methods which are now widely recommended as the best, and which with improved technique are those practised by many ophthalmologists to-day. But, unfortunately, as has happened in so many branches of surgery, the clear principles enunciated by Percival Pott were forgotten, and lacrymal surgery passed through a retrograde stage. Weber invented his knife for slitting up the canaliculus, an operation which practically destroys the capillary action of this fine tube, and it became the custom to force enormous probes into the nasal canal. This practice was no doubt due in some degree to the teaching of the illustrious Bowman, but it must be recollected that Bowman used the fine probes which bear his name, and cannot be held responsible for the use of the larger weapons which have caused untold suffering to countless unfortunates. In this connexion I advise you all to read a paper by Freeland Fergus, which will be found in the *Ophthalmic Review*, vol. xxviii, page 102. During recent years the introduction of Nettleship's and Lang's dilators, the perfecting of the lacrymal syringe, the development of the operation for extirpating the sac and dacryocystorhinostomy, together with the recognition of the relationship between dacryocystitis and diseases of the nose, have made the treatment of the disease much more satisfactory.

The subject falls naturally under two heads: Dacryocystitis in infants and children, and dacryocystitis in adults. I shall deal with the disease in children first.

There are three chief causes in children: Failure of the nasal duct to become patent, tuberculosis, and syphilis.

Mayou in his Jacksonian Essay (R.C.S., 1904) pointed out that the lacrymal duct at birth is filled with débris both from the sac and the canaliculi. In some cases this débris remains in the nasal duct and blocks it, and as it forms an excellent culture medium for micro-organisms an abscess

may form in the lacrymal sac. The organisms isolated by Mayou from these sacs were the gonococcus, the staphylococcus, the pneumococcus, and the Morax-Axenfeld diplobacillus. The treatment of these cases is easy and generally successful. The sac should be washed out daily with a mild antiseptic for a week or two, and if this is not successful a Bowman's or Ziegler's probe should be carefully passed once only under ether anaesthesia, and lavage continued till the passages are clear. It has been stated that simple pressure upon the sac carried out twice a day for a short time will often cure the disease. This is true, but personally I prefer lavage.

Igersheimer pointed out in a paper he read to the Ophthalmological Congress, held at Oxford in July, that congenital syphilis is a very common cause of dacryocystitis in infants and young children. I have not met these cases often, but bearing his remarks in mind, it will be well to keep this possible cause in view, and add appropriate antiluetic treatment to our local measures.

In older children tuberculosis of the lacrymal sac is a common condition. It is generally complicated by a peridacryocystitis. Such sacs should be excised early, otherwise the skin over the sac is apt to become implicated, and then successful treatment is difficult. The wound often heals badly, or rapidly breaks down again. Then the only method is to reopen it thoroughly, scrape away any granulations with a Volkmann's spoon, and pack the wound with iodoform gauze soaked in iodoform emulsion till it heals up from the bottom. This treatment has always succeeded in my hands, especially when it is aided by injections of tuberculin. In tuberculous cases the sac is often filled with a white pultaceous cheesy substance.

In adults the chief causes of dacryocystitis are: Endonasal disease, tuberculosis, trachoma, and the formation of a diverticulum which becomes closed off from the main sac. Tumour of the sac is very rare. I only know of two cases. One is recorded in Weeks's textbook, and the other occurred in my own practice. Both were sarcomata.

Endonasal Causes.—Kuhnt and Brunzlow state that in nearly every case endonasal disease is present and almost always in the form of chronic inflammation of the ethmoid cells. Brunzlow generally found the cells in a soft mushy condition. Definite ethmoidal suppuration is uncommon, and to this must be ascribed the fact that when we refer these cases to a rhinologist we almost invariably receive a report that the nose is normal. In some cases the inferior turbinal is distorted and pressed against the nasal wall or is atrophic, in others there is a general atrophic rhinitis. I think we must accept the fact that in the vast majority of our cases the disease depends upon chronic inflammation in the ethmoid cells and of the lining of the antrum of Highmore. How far this ought to influence our treatment is another matter which I shall discuss later.

Tuberculosis.—This is not uncommon in adults, and the remarks I have made above regarding the disease in children apply with equal force to adults.

Trachoma.—In the East dacryo-cystitis is exceedingly common, and it has been shown that the changes characteristic of trachoma are present in the sac. As the result of four years' experience in Jerusalem I cannot sufficiently emphasize the advice to excise the sac at once. These sacs are exceedingly friable and lavage is *absolutely fatal*, the passage of probes is *disastrous*. In a large percentage of cases the most gentle lavage bursts the sac and the septic fluid enters the surrounding tissues. If protargol be injected it often spreads over a wide area and produces indelible staining of the skin. In one of my cases an orbital abscess formed, followed by complete optic atrophy. The same result followed the use of a probe in the hands of a colleague.

Diverticulum of the Sac.—A firm fluctuating tumour is often noted in the site of the lacrymal sac. The fluid it contains cannot be expressed, but fluid injected into the canaliculi freely enters the nose. In other cases the fluid can be squeezed into the nose. When these sacs are dissected out a diverticulum is found. I showed one to the Midland Ophthalmological Society at the Nottingham meeting last year. The only possible treatment is excision of the sac with its diverticulum. There is generally no pericystitis and the operation is therefore easy. The diverticulum may contain a yellowish fluid or a white cheesy mass.

Treatment.

In all cases the nose should be examined both before and after the mucous membrane has been contracted with cocaine and adrenalin. Any obvious distortion of the inferior turbinal should be met by inferior turbinectomy. If there be a definite suppurative ethmoiditis or an empyema of the antrum of Highmore these conditions must be treated. Generally the ophthalmologist will refer these cases to an expert rhinologist, but many are quite competent to carry out the necessary operations unaided. If there only be present the chronic ethmoiditis described by Brunzlow I would "let sleeping dogs lie." The endonasal treatment is severe, very painful, and probably unsatisfactory. The result may be to light up a chronic suppurative process. It is also quite unnecessary. These patients do not complain of their chronic ethmoiditis, and it has no symptoms. The lacrymal trouble can be cured by simple measures.

Lavage.—In the absence of pus, if there be only a mucoid discharge, patient lavage will, as Percival Pott pointed out, often end in complete cure, but great patience is necessary both on the part of the patient and the surgeon. It is generally unnecessary to dilate the canaliculus more than once, if the small cannula which Messrs. Weiss have made for me be used. The ordinary lacrymal pipe is far too large. The sac must be well washed out *daily* for several weeks, and occasionally for several months. If pus be present lavage generally fails. I have a case now in which the fluid passes freely into the nose, and yet patient lavage has failed to check the secretion of pus, and I shall have to excise the sac.

Probes.—The question as to whether probes should be used is still a vexed one. Römer states that only 5 per cent. of the cases are cured by their use, and in my opinion these cases would be cured by lavage. The obstruction is generally due to swelling of the mucous membrane and to venous congestion, and it is very difficult to see how a probe can do otherwise than accentuate these conditions. If real fibrous or bony stricture exist there is probably serious endonasal disease, which should be met by endonasal treatment. Probing and the use of Stilling's knife will but rarely benefit these strictures. If a probe be used it should be a small one passed with the greatest care. I know of many patients who have been probed for years and have undergone intense agony, borne with exemplary patience, with the final result that eventually I have had to excise the sac. Some of them, too, have developed hypopyon ulcer.

Styles.—In spite of the warm advocacy of no less an authority than Mr. Priestley Smith, I can only regard the use of styles as unsurgical. It is true that in many cases a funnel-shaped passage is produced which is patent to the nose; but when the canaliculus has been slit up it rarely fulfils its function, and it is practically always full of micro-organisms only waiting for a corneal abrasion to produce a hypopyon ulcer.

Excision of the Sac.—In most cases of *suppurative* dacryocystitis the only way to cure the disease is to excise the diseased sac. If the patient be employed as a mechanic or in any trade in which he is liable to corneal abrasions, it is essential to do it at once. In one or two of my cases the practical loss of useful vision from a hypopyon ulcer has made me regret that I have temporized with lavage. Again, few working men can afford the time spent in lavage or probing. It is far better to excise at once and cure the case. Under favourable conditions, however, I try to postpone excision and try lavage, but practically always the end is excision.

Operation.—I have not time here to describe the operation of excision of the sac, but I would say that it may be an exceedingly difficult procedure, taxing the dexterity and anatomical knowledge of the surgeon to the uttermost. It is essential to remove the sac, the whole sac, and nothing but the sac. If a trace of diseased mucous membrane be left behind, or if a clumsy operation be done leading to the formation of contracting fibrous tissue, troublesome epiphora may result. A clean, well-executed operation does not cause epiphora. Local anaesthesia with cocaine or a similar drug and adrenalin makes the procedures easier, and if a correct technique be adopted it gives a painless operation. A full description of the

operation I adopt will be found in Mr. Devereux Marshall's small *Textbook of Ophthalmology*.

Toti's operation of dacryocystorhinostomy would seem to be an ideal method of treating the disease, were it not so difficult and complicated. The main principles of the procedure are shortly these: Toti exposes the sac, turns it back, and cuts a window in its inner wall. He now chisels out a piece of the adjacent bony wall of the nose and exposes the nasal mucosa. The nose is packed with gauze after removal of the inferior turbinate bone, if necessary, and, in some cases, of some of the ethmoidal cells. A window is cut in the nasal mucosa the same size as that in the lacrymal sac, and the edges of the two fenestrae are united by sutures. Toti claims that after this operation the natural drainage of the conjunctival sac is restored. Not only can fluid be freely syringed into the nose, but fluorescin instilled into the conjunctival sac appears in the nose. Although I practised for some years as a rhinologist I have not yet ventured to try this method. My experience of lacrymal sac extirpation, extending to some 50 cases, has given me a great respect for the difficulty of the operation, and I think that Toti's method would be always exceedingly difficult and tedious and in most cases quite impossible. The operation would be of considerable magnitude, involving much endonasal manipulation. It should only be attempted by those ophthalmologists who have a perfect mastery of the technique of nasal operations.

When a fistula has already formed, extirpation of the sac is the only method likely to cure the case, even when the original inflammation has quite disappeared.

Lacrymal Phlegmon.—When there is a definite abscess round the sac I think it is best to make a large incision down to the bone and pack the wound with iodoform gauze. When the inflammation has quite ceased the sac should be dissected out—an operation of very great difficulty. It is essential in all these dissections to avoid injury to Horner's muscle. If this be cut away the lower lid will droop, and this defect is hard to remedy.

It was suggested to me that in opening this discussion I should adopt a judicial attitude, but I have felt compelled to take up a very decided position against the use of the probe—a method found to be ineffective even in the days of Percival Pott. In doing so I think I shall encourage a better discussion than if I had merely mentioned the various methods without prejudice. Extirpation of the sac has in my hands led to satisfactory results, and none of my more recent cases have complained of any marked epiphora. Before I had thoroughly mastered the technique, and when I used a general anaesthetic, I had one or two cases of troublesome epiphora.

II.—Lieutenant-Colonel R. H. ELLIOT, I.M.S., M.D.

THIS paper deals with 900 consecutive cases of extirpation of the lacrymal sac performed during the last nine years in Madras. Though the larger number of these operations have been done by myself, quite a considerable number have been contributed by the twenty-four surgeons who have learnt our technique in the Government Ophthalmic Hospital. I lay special stress upon this, because so much has been written of the difficulties of the operation. In my opinion, these difficulties have been much exaggerated. I have not yet met with a single surgeon who was unable to acquire the necessary skill. Two further pieces of evidence will, I think, prove convincing—first, that in 78 per cent. of these 900 cases the sac was removed absolutely entire; and, secondly, that only 5, or 0.55 per cent., of them have returned for a second operation. It is to be borne in mind that 67 cases, or 7.4 per cent., were operated on in an acute or subacute stage, in which the difficulties of clean total extirpation are very greatly increased. Moreover, there is good reason to believe that in 3 at least of the above 5 cases, the recurrence of the trouble was due to a secondary distension of the canaliculi; these channels are not interfered with in the Madras technique. I think the small percentage of this complication justifies such an abstention.

Indications for Extirpation of the Sac.—The conditions of Indian practice are peculiar. Strong elements in the case are (*a*) the long distances travelled by the patients, (*b*) a poverty which makes protracted treatment impossible, and (*c*) a want of confidence in Western methods, which will not survive the strain of a prolonged and painful method of treatment. The conservative methods of treatment are therefore but seldom indicated. The conditions calling for their exhibition are (1) the absence of inflammatory or marked structural changes in the passages, and (2) on the part of the subject, the necessary courage, confidence, and perseverance, combined with the means and leisure to give the time required by the surgeon. In all other cases of dacryocystitis or lacrymal obstruction extirpation is indicated. The following conditions, which are very common in India, call urgently, in my opinion, for the radical operation: (1) Marked dilatation of the sac; (2) purulence of the sac contents; (3) evidence of past phlegmonous inflammation, or of past or present septic ulceration of that cornea, or of the cornea on the opposite side. In Madras we remove the sac in all cases of obstructive retention prior to performing any intraocular operation. If there is obstruction without retention we are content to temporarily block the canaliculi by means of two silk sutures, one passed through each lid in such a way as to include the tiny channel. These stitches can be removed as soon as the ocular wound is healed. Apart from the simplicity of this procedure, it has the great advantage of avoiding one of the most difficult classes of cases for extirpation—namely, those in which the sac is shrunken and very adherent to surrounding structures.

Anaesthesia.—In Madras we have relied on chloroform in preference to local anaesthesia. We do not deny that the operation can be painlessly, or nearly painlessly, performed in the majority of cases under a local anaesthetic, but we consider that the risks of chloroform administration in competent hands are very small in operations of such short duration as these; whilst the advantages to both patient and surgeon of the complete unconsciousness of the former are very great indeed. In this connexion I may mention that the average time taken over the removal of the sac in Madras is about seven or eight minutes. Many of my more skilful pupils perform the operation on easy cases in considerably less time than this, whilst I have once removed a sac entire in three and a half minutes, and a number of occasions in from four to five minutes. It may throw some light on this when I say that we have often run into double figures in the number of sacs removed on a single morning.

Steps of the Operation.—The patient's head is turned towards the light and his feet away from it, and the table is placed obliquely, so that the light illuminates the side of the face on which we are operating. The chief assistant stands on the patient's left, with the instrument table between him and the operator. On the latter's right are the assistant who steadies the head, and the anaesthetist.

The guide throughout the operation is the anterior lip or crest of the lacrymal fossa. This fact must never be lost sight of for a moment at any stage of the procedure. It is cardinal. The internal palpebral ligament is first defined by pulling the lid outwards. Despite what others have said, I hold that this ligament should never be divided, as I have seen deformity follow its division; the mutilation is also quite unnecessary. Cut boldly down on the anterior lip of the fossa, following its course with a crescentic incision, which runs first downwards and later downwards and outwards. Our average length of incision is 20 mm. Then insert a Müller's retractor, define the fascia which covers in the fossa, and divide this throughout the length of the skin incision, taking great care to cut this membrane as close to the crest as possible.

This is a very important point, as otherwise a fringe or apron of this fascia is left, which obstructs the view of the sac later on. Messrs. Arnold and Sons have made for me a small sharp elevator, which greatly facilitates this step of the operation. With the same instrument the sac is separated from its bony bed, internally and posteriorly; if not adherent, it may also be cleared with the elevator on the outer side as well, up to the point of entrance of the canaliculi into it. The dome of the sac is next seized with a pair of conjunctival forceps and drawn firmly downwards, whilst a pair of fine blunt-pointed scissors, curved on the flat, is used to free it from its upper attachments, working under the palpebral ligament for the purpose. The scissor points next divide the canaliculi and follow the sac down into the nasal duct. This duct is divided as low as possible, the sac being firmly pulled up for this

purpose. As large a probe as possible (Nos. 9 to 12 Theobald) is then thrust down the duct as far as it will go and followed by a red-hot, spindle-shaped cautery, thus ensuring the destruction of the mucous membrane. The cavity is now dried and examined, and the removed sac is carefully examined under water to ascertain whether any part has been left behind. Such left portions are then dissected out carefully, and, if necessary, a ball-shaped cautery is freely used over any doubtful spot. The dome of the wound (behind the ligament) is the region in which adherent mucous membrane is most apt to be overlooked; it is also the area in which inflammatory adhesions are most common and most firm. On inspection of a cavity from which the sac has been totally removed the clean appearance is characteristic: it suggests the appearance of the interior of the shell of a nut from which the kernel has been removed. It is a good rule that if in doubt one may be sure the cavity is not really clear. The wound is next flushed out with a 1 in 3,000 solution of biniodide of mercury and closed with three light silk sutures. An aseptic pad and bandage are then applied, the opposite eye being left free. On the seventh day the stitches are removed and the eye is released. In the last 200 consecutive cases failure of primary union has occurred in less than 2 per cent., despite the fact that acute and subacute cases are included with the chronic.

Difficulties met with during the Operation.

1. *Haemorrhage.*—This is a most troublesome complication, as it obscures the details of the operation; it can, in most cases, be eliminated by the injection of adrenalin solution (eight minims of a 1 in 4,000 solution) around the sac and into the skin covering it. If the incision be made too far in—that is, too far away from the canthus—haemorrhage is likely to occur from the terminal branches of the facial artery and of the angular vein. The vein is much more likely of the two to be divided. In either case the bleeding is easily arrested by touching the point with the cautery, which is always at hand during the operation. If the incision is carried close to the canthus there is no need to damage these vessels at all. Sometimes, and especially in acute or subacute cases, we meet with troublesome oozing. This can usually be controlled by firm pressure, exerted by means of sterilized wool swabs mounted on sticks; wetting these with 1 in 1,000 adrenalin solution is often helpful. A beginner must have a clear view, but I always teach an expert to ignore the bleeding if it proves difficult to stop, and to finish the operation by feel alone. This is quite easily done if the operator frequently establishes his bearings by feeling for the guiding anterior crest of the fossa.

Another source of embarrassing bleeding is ragged operating. The space we are working in is small, and every cut should be clean and purposeful. Niggling scratchy cuts make a confused wound, and are a fertile source of haemorrhage.

Lastly, bleeding may take place after the sac has been removed, either from the nasal duct, or due to a false passage having been made into the vascular cells around. The former can be stopped by the use of the cautery, the canal being plugged to the last moment before its introduction. Both, however, may be ignored, for once the sac is out, the amount of bleeding that occurs is of no real consequence, and is sufficiently dealt with by closing the wound alone. I have never seen the least harm come from it.

2. *Difficulty in Finding the Sac.*—When the sac is not dilated or distended, it is usually found to be covered by a strong fascia, which roofs in the fossa, and which appears to be a backward reflection from the tendo palpebrarum. This fascia is often dense, and when associated with a high nose-bridge and a deep-set orbit, it may lie nearly parallel to the median sagittal plane. On the contrary, a flattened type of face throws this fascial plane more into the plane of the face, thus rendering the wound shallower and the sac more accessible. The former condition obviously has the opposite effect. Both the depth of the wound and the plane of the sac tend to embarrass the operator, who may easily mistake the fascia for bone, slide over it, and burrow out into the orbit. The usual sequel of this by no means uncommon error is that the operator takes a lobule of fat for the sac, and only discovers his mistake when he floats it in water for examination. I have seen this accident happen on a number of occasions to quite good operators, before they had been warned of its possibility. It need never happen if, after a first clean skin incision, the wound is held wide open, the nasal margin of the groove well defined, and the dense fascia cleanly divided as close to the crest as possible. The sac is at once seen lying within its sheath of bone and fascia, and the sequel is then simple.

3. *Removal of Shrunken Sacs.*—Shrivelled, contracted sacs are the hardest to remove. In the Madras clinic I always reserve such for an operator till after he has learnt to quickly and neatly remove those which can be easily defined. The lacrymal fossa is opened in the usual way, and the contracted mass is excised freely, the operator erring on the side of removing too much rather than too little, especially on the outer side. One works more by feel than by sight, and keeps before one the dictum that, if in doubt, the whole sac has probably not been removed. I look on paraffin injection of the sac as tedious and unnecessary.

4. *Cases Complicated by Phlegmonous Inflammation.*—In Madras, if phlegmonous inflammation be complicated in a case of chronic dacryocystitis, we freely incise the lacrymal abscess, curette the cavity, and sponge out with a 1 per cent. solution of mercury perchloride. A month later we remove the sac. In so doing, and especially if a chronic fistula is present, we expect to meet with difficulty. We cut boldly down on the crest (our unfailing guide), open the sac freely, separate it by means of the elevator from its bony bed, seize it in the grip of a pair of fixation forceps, and freely excise it with a mass of surrounding tissue, keeping, however, as close to the sac as we can. The cautery is then used over any doubtful areas, to ensure that no diseased mucous membrane is left behind. The nasal duct is freely cauterized in such cases.

5. *The Presence of Deep Ulceration of the Cornea.*—As a complication of the case this makes it necessary to exercise great care to avoid any pressure on the eyeball during the operation. I have more than once seen the globe ruptured owing to a surgeon forgetting this rule.

The Results of the Operation.

1. The patient is protected from the two great dangers which always threaten the subject of a lacrymal obstruction. I refer to (*a*) septic ulceration of the cornea (usually pneumococcal); and (*b*) phlegmonous inflammation of the face (streptococcal in nature). Out of our 900 cases there are only two records of the destruction of the eye proceeding in spite of the extirpation—that is, 0.28 per cent.

2. The patient is, in the majority of cases, rendered much more comfortable. The removal of a source of constant irritation by the extirpation of the sac rids the whole lacrymal system of the previously existing state of inflammatory excitation. Our knowledge of the common nervous supply of the lacrymal gland, of the tear passages, and of the cornea and conjunctiva would lead us to expect such a result on physiological grounds. Clinical experience shows the reasoning to be sound, since the operation is practically invariably followed by an immediate diminution of the lacrymal secretion. In a large number of instances this happy result appears to be permanent. We have endeavoured to follow up the after-course of our cases, and have succeeded in doing so in 210 out of the last 700, or in 30 per cent. Dealing with these 210, 80 per cent. of them have been subsequently heard of doing well and pleased with the result of the operation, whilst 19 per cent. stated that the watering and other symptoms had not been relieved. It is significant, however, that though they were all asked to return to hospital, not one of them (40 in number) did so. The remaining 1 per cent. is accounted for by two cases in which extirpation failed to arrest the progress of a septic ulceration, with the result that the eye was lost in each case.

DISCUSSION.

Mr. C. Higgens (London) said he had come purposely to bring Dr. Toti's operation to the notice of the meeting, but the wind had been taken out of his sails by Mr. Harrison Butler, who appeared to know all about it. The speaker believed he had introduced the operation into this country. He made some remarks at the meeting of the

British Medical Association three years ago to the effect that there had been no improvement in the treatment of sac disease for forty years, which seemed to nettle Dr. Toti, for he sent him a report of his operation in two languages—French and Italian—which with a good deal of assistance Mr. Higgens was able to understand. He had performed the operation twice only, and assisted another surgeon to do one—not a very wide experience. The operation was troublesome, and took a long time, but the results were very satisfactory, and he hoped other surgeons would give it a trial. He wound up by saying that as the result of a long experience he had formed two very decided opinions—one, never slit a canaliculus if you can help it; the other, if you possess any probes or styles, put them away where you cannot find them.

Dr. John O. McReynolds (Texas, U.S.A.) said he felt that the Section would be interested not so much in his individual experience as in the prevailing practice in America. He would be perfectly safe in saying that, especially during the last decade, there had been a gradual but persistent and increasing tendency towards extirpation of the sac in all chronic suppurative cases. It was true, however, particularly in private practice, that good results were achieved in mild cases by judicious dilatation and lavage, and there would probably continue to exist sound and sufficient reasons for such procedure. The method of extirpation most frequently employed in America was essentially that which had been advocated and published by Müller of Vienna, and the operation was usually performed with the aid of local anaesthesia.

Mr. S. H. Browning (London) said he would like to suggest that vaccine treatment should be more frequently used, as the results were sufficiently satisfactory to justify this method of treatment. The commonest organisms present were the pneumococcus, streptococcus, staphylococci—chiefly *Staphylococcus aureus*—pneumo-bacillus, and also the influenza bacillus and various streptothrix infections. Of these, the most satisfactory as regards vaccine treatment were the streptococcal and staphylococcal. Then again streptothrix infections were probably much more common than was generally supposed; the speaker had during the last few years had 8 cases. The treatment of them was generally very successful, as expression of the concretion brought about a fairly rapid cure. He had never treated a streptothrix infection with a vaccine, but it had been reported to have been so treated with success. The pneumococcal infection did not react so well to vaccine treatment. The speaker here drew attention to influenza as a cause of chronic dacryocystitis, as lately he had had several cases due to this organism. It was important from the general medical point of view as well as to the ophthalmologist, as in several of these cases the patient had been found to be an influenza carrier. He had only had the opportunity of treating two of these cases with vaccines; one did well and the other was quite unaffected.

Dr. E. C. Ellett (Memphis, U.S.A.) said that, speaking from a very modest experience, it seemed to him that cases of simple epiphora had been relieved by Bowman's operation after the failure of other methods, without subsequent bad effect of any sort. A modified form of probing, under the name of "rapid dilatation," was advocated by Dr. Ziegler of Philadelphia, and consisted in the passage of a large conical probe. The speaker had had some favourable results from this method, as well as from the large Theobald probes. In cases of inflamed, suppurating, and dilated sacs, excision had given him the most satisfactory results. Unless cleanly done, there was sometimes a regeneration of the sac necessitating subsequent removal. He had seen one case in which the sac was presumably removed three times.

Mr. Maurice H. Whiting (Ealing) commented upon the dangers of operations on apparently localized swellings above the internal tarsal ligament. He mentioned two cases in which meningitis had followed interference. The operation was not always easy, and sometimes it had to be repeated.

Mr. W. B. Inglis Pollock (Glasgow) said that he was very gratified to receive the support of Dr. McReynolds and Professor Weeks to a statement he had made at the Birmingham meeting two years ago that there was a difference in the treatment of private and hospital patients. In the former excision was seldom required, as they took more trouble about early treatment than the latter.

Mr. Bishop Harman (London) said that he early learnt that there was a difference in the necessary treatment of these cases according as the patient was exposed to industrial risks or not. There was more in it than the promptness with which better class patients came for treatment. The poor would not be bothered with long-continued treatment, but would rather have the matter dealt with summarily, and that was the safer for them. The acute abscess should, he thought, be treated as any other abscess, and well scraped out; he had frequently succeeded in destroying once and for all the diseased sac by one scraping. The bony landmark for the excision operation was truly never to be missed, but he was also accustomed to insert a bent probe into the sac through the lower canaliculus. This made an even better guide. He also advocated the routine destruction of the canaliculi after the excision was completed, otherwise these structures remained like test tubes, full of microbes, and were the cause of the continuing epiphora. He commented on a manner of operation devised by the rhinologists who laid open the duct with the nose.

Mr. C. Wray (Croydon) said that the lacrymal crest was frequently difficult to trace, and therefore it was wise to pass a probe or strabismus hook via the lower canaliculus into the sac as a guide. He considered the operation should be done under a local anaesthetic, as some years ago a patient succumbed to the chloroform whilst adrenalin was being used. Specula, in his opinion, were unnecessary, and he had followed with every satisfaction the technique of Mr. Harrison Butler. Excision of the sac was perhaps too frequently performed; efforts should be in the direction of conservatism, and it might be wise to incise the anterior surface of the sac, on the point of a probe passed into the sac. A gold globe-headed style could then be passed through the incision, and could be removed at pleasure by the patient every day for the purposes of syringing. He always referred his sac cases to a rhinologist, but an efficient examination of the lower meatus, and the opening of the duct involved removal of the anterior end of the inferior turbinate bone; thus it should be distinctly understood that excision of the sac should not be undertaken lightly, as few patients would submit willingly to this somewhat formidable operation.

Mr. Devereux Marshall (London) thought that streptothrix in the canaliculus was far more common than was usually supposed. Clinically it could be distinctly recognized on account of the hard, full feeling of the canaliculus, from which purulent matter and solid particles could be expressed, while the fungus was easily seen microscopically. For the treatment of this condition it was never necessary to slit the canaliculus, for most of it could be scraped out, and the injection of mercury perchloride or some other efficient antiseptic would complete the cure.

The President summed up strongly in favour of the use of probes and styles, and condemned the excision of the sac. If anything required excising, he thought it was the lacrymal gland and not the sac.

SUPERCORNEAL SUTURES AND AN OPERATION FOR CONICAL CORNEA.

By Ernest E. Maddox, M.D., F.R.C.S.Edin.,

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By supercorneal sutures I mean such as are designedly laid over the face of the cornea, either nakedly or with the intervention of a small piece of sterile waxed membrane. Surgical teaching has generally forbidden the contact of a suture with the corneal epithelium,

end consequently an immense amount of ingenuity has been expended, notably by Kuhnt, on so making flaps as to strictly observe this rule, regardless of expense in laying bare very large areas of sclera. Specimens of Kuhnt's flap are shown in Figs. 1, 2, and 3. It was

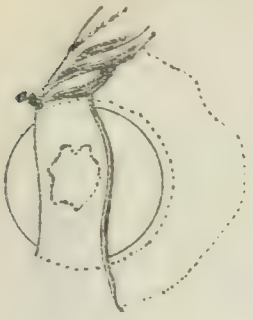


Fig. 1.

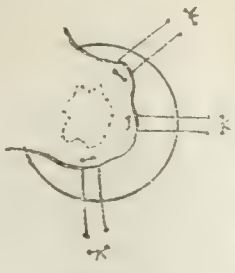


Fig. 1A.

with some misgiving, therefore, the first time that I infringed what seemed so wholesome a rule by laying sutures over the cornea on an occasion when to do so seemed the only alternative for excision in the case of a badly damaged eye. To my surprise, the cornea tolerated them perfectly, and I have learnt since that

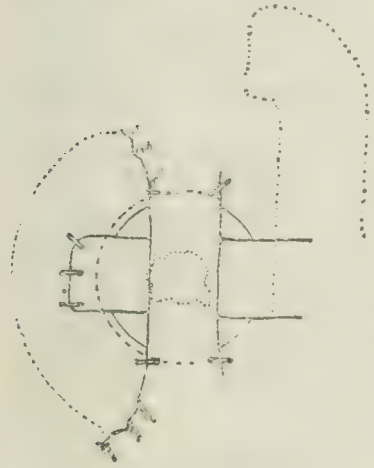


Fig. 2.

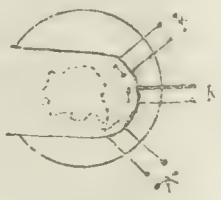


Fig. 2A.

they need not be feared, provided that the following simple rules be adhered to: (1) To let no knot come near the cornea; (2) no threads cross each other; and (3) none be used too thin or too tight. Should the traction be great the threads should be multiplied to lessen it. Moreover, Nature, by covering such threads with protective

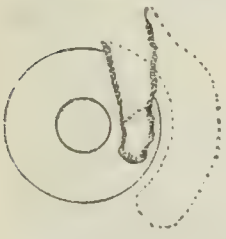


Fig. 3.

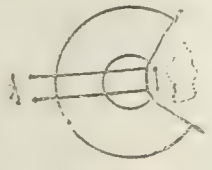


Fig. 3A.

mucus, teaches us to anoint or wax them ourselves instead, and thus anticipate her.

So far, I have found three uses for sutures of this kind: (1) To cover traumatic corneal lesions with conjunctiva; (2) as safeguards for cataract operations; and (3) for conical cornea. They should not be used when the sac is known to contain dangerous micro-organisms, or when the cornea is evidently devitalized. In the latter case I would suggest (when neither Kuhnt's nor Snellen's flaps are available) that a flap be cut as for supercorneal sutures, and then drawn completely over the cornea, and stitched beyond the opposite limbus, the contact of sutures with the cornea thus vanishing.

Figs. 1A, 2A, and 3A exhibit the same lesions as those seen covered by Kuhnt's flaps in Figs. 1, 2, and 3 respectively, and show how they can be covered, if they are traumatic ulcers, without leaving sclera bare, should the aid of supercorneal sutures be considered permissible in each case. For non-traumatic ulcers they are not so, since the cornea is of low resisting power.

As regards wounds of the cornea, some discrimination is necessary, different flaps being suitable for different cases. Those needing supercorneal sutures are, I would suggest, indicated for wounds which lie *parallel* to the limbus, as illustrated in Fig. 4, since their traction draws the lips of



Fig. 4.



Fig. 5.

the wound together. On the contrary, I should still prefer one of Snellen's side-traction flaps for *radial* wounds, as illustrated in Fig. 5.

Fig. 6 shows how a very complicated wound of the cornea and sclera may be covered by a flap held in place by one continuous suture, which also supports its base at *a a*, so as to lessen the traction on its margins. It was a case something like this that led me to use supercorneal sutures. I do not now, however, favour one long suture, since the strength of a chain is no stronger than its weakest link, and the first loop that cuts through loosens all the rest.

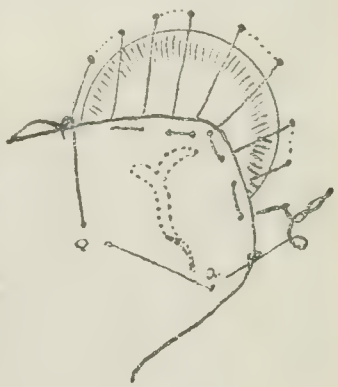


Fig. 6.

The second use of these sutures as safeguards for cataract extraction has already been described in the *Ophthalmic Review*, so I need not do so again. They will be found invaluable whenever an insane or obstreperous patient has to be relieved of his cataract, or when vitreous is half expected or has been lost in the other eye. I cannot help thinking, too, they might prove of service to those who practise the extraction of the lens in its capsule, since by drawing the suture tight after extraction of the lens, the toilet could be completed much more thoroughly than is done at present, even should a little vitreous have escaped.

We now come to the third use I have made of these flaps, namely, as an aid in operating for *conical cornea*. As I have so far only done this operation on four eyes, and two of them so recently as not yet to know their final visual acuteness, it would be premature to attempt anything like a clinical report. I will therefore content myself with describing the principle and details of the operation.

Its principle is this: After the excision of a bilanceolate piece of the cone, as already done by Bader, Higgens, Stanford Morton, and others, a flap, previously shaped and threaded, is immediately drawn over the cornea, so that its tension may act at right angles to the gap, thus not only drawing its lips together mechanically, but closing the door into the anterior chamber, by its own aseptic and healing under-surface. Moreover, the equal pressure of

the flap on the whole cornea, during the healing process, tends to restore its rotundity. This pressure is much more uniform and constant than any obtainable by tight bandaging, since the cornea can partly escape from the latter by turning upwards under the brow.

Some details in cutting the flap are of importance. After selecting that part of the limbus which lies nearest the cone, or preferably a little nearer the foot of the cornea, a radial fold of conjunctiva is taken up very softly in forceps, transfixed with a narrow Graefe knife, and cut upwards towards the limbus, so as to include in this apex of the flap some of the resistant episcleral tissue which surrounds the cornea. Before proceeding further, both needles of a single suture are passed through this apex of the flap, from without inwards, and not too near its edge. Were they to be passed in the reverse direction, from within outwards, the transverse portion of the thread would lie against the raw surface of the flap, and might eventually come to lodge in the corneal wound: hence the importance of this little point. The same two needles should now be made to pass through two tunnels in the conjunctiva beyond the diametrically opposite limbus, taking considerable care that the two threads shall come to lie on opposite sides of the centre of the cornea, and be equidistant from it when they are drawn tight, to prevent the flap from slipping sideways down one side or other of the cone. The bights of these two threads are now drawn loose and laid out of the way. Then, and not till then, should the main body of the conjunctival flap be disengaged from the sclera, till, when gently drawn forward with smooth forceps, it proves able to cover the cornea sufficiently or even wholly.

The ellipse is next cut, with knife, scissors, or both, the flap drawn over it, and the main suture tied. Such other similar supercorneal sutures are put in as may seem best for retaining the flap and broadening it out. In practice I sometimes find no cornea at all remains uncovered after this is done.

For two or three days the eye should be untouched and the other eye kept closed. After that a gentle daily lotioning by the surgeon himself, but safely by no other hand, is indicated. After about a week some or all of the stitches are cut through, but the flap by that time is no longer needed. The eye thereafter should be firmly but evenly compressed with lamb's-wool, under a Japanese crêpe bandage, for two or three weeks.

In my first case, published in the *Ophthalmic Review*, a corneal suture was also employed to unite the lips of the corneal gap, but in the last two cases I discarded this as unnecessary. The vision reported to me in this first case, eight months afterwards, was $\frac{6}{6}$ with +1 D. cyl.

In cutting the ellipse I have one little improvement to offer. It is to transfix the apex of the cone with a sharp lens hook before making the incision. It possesses the double advantage of steadying the cornea and of furnishing a landmark for the cutting. In two cases I snipped off the ellipse at one stroke with sharp curved scissors. This answered quite well and is extremely easy, though I think on the whole I rather prefer the use of a knife.

The conclusion arrived at is this, that though supercorneal sutures are not ideal, they are marvellously well borne: and though flaps made by their aid should not lightly replace those of the older kinds if it can be helped, yet they should have a distinct field of usefulness peculiar to themselves.

DISCUSSION.

Mr. Devereux Marshall (London) asked if the conjunctiva were drawn over the cornea, and, if it were, did it not produce a symblepharon?

Dr. Maddox said, in reply, that it always fell back again when the sutures were removed.

Dr. John Helen (Darlington) said he had learnt from Dr. Maddox some years ago the value of the conjunctival flap in cases of injury to the cornea (with the stitches stretched right across the cornea for days), and he had tried it in many cases with excellent results. This operation had not suggested itself to him, but he hoped to use it on the first available occasion.

NYSTAGMUS:

A REVIEW OF ONE HUNDRED CASES, CHIEFLY ORDINARY OR NON-MINERS' NYSTAGMUS.

By James Alexander Wilson, M.D.,
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Miners' nystagmus is a subject on which much valuable work has recently been done, yet its etiology remains in some obscurity, and the subject is still one for discussion.

Its advent seems to have been associated with the introduction of the safety lamp and consequent reduction of the illumination by which the miner labours. Simeon Snell, however, thought it was caused by strain of the orbital muscles. He argued quite plausibly from the nystagmus of the coal-miner looking upwards at his work, from the nystagmus of the pit bottom man looking upwards at the ascending and descending tubs, to the nystagmus of the compositor looking upwards at manuscript. All these, thus arranged, seemed to fit together and strengthen his conviction that strain of the orbital muscles was the cause of nystagmus.

Dr. T. L. Llewellyn states that "the collier need not and does not direct his vision upwards."[1]

Tatham Thompson,[2] in 1891, wrote:

> Neiden, Priestley Smith, and others have maintained that insufficient illumination and consequent imperfect stimulation of the retina, and therefore of the co-ordinating centres, is the principal factor.

Thompson supported this theory, and also thought it was applicable to ordinary or non-miners' nystagmus. The Ophthalmological Congress, held at Oxford in July, 1912, unanimously passed the following resolution:[3]

> That in the opinion of the Congress the character of the illumination is the chief factor in the production of miners' nystagmus.

The facts or associations of one variety of nystagmus should help us to understand another variety, and the subject should be studied as a whole.

The following are some details of 100 cases—mostly non-miners' nystagmus—that have recently come under my observation. The number is small, but I hope the details may not be without some value. The cases are consecutive ones, and only 10 per cent. of them are miners. This percentage may not represent the actual prevalence of these two varieties, but it suggests that miners' nystagmus forms but a small proportion of the total.

Age:

5 years and under	10	21 to 30 years	19
6 to 10 years	19	31 to 40 years	11
11 to 20 years	35	Over 40 years	6

Sex: Males, 52; females, 48.

Vision of 200 eyes—that is, taking the eyes singly:

$\frac{6}{6}$	2	$\frac{6}{24}$	18
$\frac{6}{9}$	2	$\frac{6}{36}$	35
$\frac{6}{12}$	17	$\frac{6}{60}$	21
$\frac{6}{18}$	12	Less than $\frac{6}{60}$	75
	Young children	18	

Excluding the young children, 89 per cent. of the cases have bad vision—that is, $\frac{6}{18}$ or worse.

Refraction—200 eyes:

Myopia and myopic astigmatism	81
Mixed astigmatism	23
Hypermetropia and hypermetropic astigmatism	65
Emmetropia	2
Unknown, or estimation impossible	23
Eyes shrunken, or wanting	6

In only a few cases is the ametropia small in amount. More than one half of these eyes have myopic refraction, and 10 cases are members of families in which there exists a strong hereditary tendency to myopia. There are 4 albinos in the series.

Cases with corneal opacities	21
,, ordinary cataract	2
,, anterior capsular cataract	4
,, optic atrophy	4
,, choroiditis	4
,, convergent squint	17
,, divergent squint	4

Some cases have more than one variety of these defects. There are 21 cases of squint in the series, and 6 cases have each an eye shrunken or wanting. In 2 cases an eye was lost before the nystagmus developed.

These associations are suggestive:

Occupations.—Scholars 40, housewives 16, labourers, etc., 9, miners 10, clerks 2, no occupation 5, young children 18.

Time of Onset.—Five years and under, 65; six to ten years, 21; eleven to twenty years, 7; over thirty years, 2; unknown, 5.

Movements.—Lateral 60, rotatory 22, vertical 6, oblique or irregular 12.

In several the movements are not always present, but are evoked by excitement, by hard work, or by looking upwards.

Here are two cases in some detail:

No. 99 is a boy aged 5 years, and the history obtained from his mother is that when he was two days old his eyes became severely inflamed, and began to discharge profusely. This condition persisted for three months, and during all this period his eyes were seldom open. When the inflammation subsided she observed that his eyeballs were unsteady, and this still continues, but the movements are now less severe than they were. Excitement or inspection by a stranger makes the movements worse.

He has opacities on both corneae, his refraction is hypermetropic astigmatism, and he has a slight convergent squint. While he was being examined lateral movements were obvious, but these were not constant. The movements are worse when he looks to the extreme right or left, but are not much influenced by other positions.

No. 48, Mrs. W., aged 30, has been affected with nystagmus since infancy. She is a thin, ill-nourished woman. Sometimes she complains of headache and giddiness. Her vision in each eye is—counts fingers at 3 ft. and in the right eye she has 16 D of myopia and in the left 20 D. She wears −16 D spheres and with these her vision is $\frac{6}{9}$. There are no corneal or lenticular opacities, and the fundi seem fairly healthy. The movements are lateral, of short range, and about 200 per minute. These are best seen in the dark room on looking at the disc by the indirect method. Objects looked at seem to her to be steady. When she looks upwards the movements take a wider range, but when she looks down, say, at the edge of the desk, the movements cease. When she throws her head backwards and to one side and looks at my ear the movements cease. When she assumes this attitude in the dark room the movements of the disc cease. She names colours correctly, but says she does not see well in dull light, and has "to light the gas early."

Other cases present the same phenomena.

Snell's theory of muscular fatigue cannot apply to these cases.

In some of my cases the refractive conditions could not be ascertained, but in all the others there are only two single eyes that can be said to be emmetropic, and no patient has both eyes emmetropic. If my cases are accepted as representative, then ametropia is the rule, and must be an essential factor in the etiology of ordinary or non-miners' nystagmus. In these cases the retinal images are ill-defined, feeble or imperfect. In the cases with corneal or lenticular opacities the retinal images must be more or less the same. In the cases with choroiditis or optic atrophy the images are not formed, or are not transmitted, or only imperfectly transmitted to the brain.

Velter, writing on insular sclerosis states[4]:

All parts of the visual pathway may be affected by the sclerotic changes.

Here again the transmission of visual impressions may be interrupted.

The amount of ametropia associated with miners' nystagmus is much disputed. Dr. Harrison Butler says[5]:

The incidence of errors of refraction is about the same as it is among normal miners—namely, 45 per cent. of my cases have an error of refraction.

Mr. Bernard Cridland says[6]:

I am convinced that refractive errors have no special connexion with the disease.

On the other hand, Drs. Browne and MacKenzie, in a review of 100 cases, say[7]:

Ninety per cent. had errors of refraction.

Dr. A. C. Norman says[8]:

In 200 cases I have found errors of refraction in upwards of 90 per cent.

Dr. T. L. Llewellyn[9] found 83 per cent. of ametropia.

If ametropia, or some equivalent, is essential in non-miners' nystagmus, then it must also be an important factor when it is present in the coal-miner; but the retinal images formed in the darkness of the mine can only be feeble or imperfect even when ametropia is not present, and so the latter may be less essential. *The feature that is common to ordinary and miners' nystagmus is imperfection of the retinal images;* these are feeble or ill-defined in the former, and feeble or faint in the latter.

There are several cases in which the movements are greater or more obvious in an eye that has the more defective vision owing to opacities, cataract, or squint, or in an eye that has the greater refractive error.

No. 54, a boy aged 9 years, has corneal opacities and low myopia. The left eye is the more myopic, has a slight convergent squint, and presents rapid lateral movements. The right eye occasionally shows slight rotatory or lateral movements.

No. 56, a girl aged 14 years, has corneal opacities and lateral nystagmus. The left eye has a slight divergent squint, and the movements are more obvious in this eye.

No. 63 is a man aged 36, formerly a policeman, but who for the last three years has been a coal-miner. A year ago he was struck above the right eye with a stone, and from this he dates the beginning of his complaint. His vision is: right eye, counts fingers at 3 ft.; left eye, $\frac{6}{9}$. He was sent to me as a case of monocular nystagmus. His right eye has obvious rotatory nystagmus, but on observing the left eye carefully it also is seen to rotate slightly. His right eye has 7 D of myopia, and his left eye 1.5 D of simple myopic astigmatism.

Lenoble and Aubineau[10] have sought to establish a grouping of symptoms or syndrome in which nystagmus is the principal and constant manifestation. They divide their cases thus: (1) Essential, or cases in which oscillation of the eyeballs is the only symptom. (2) Ocular oscillations associated with spasm of other muscles, stigmata of degeneration, and sometimes with intellectual enfeeblement or derangement. (3) The hereditary variety. They designate the whole syndrome *nystagmus-myoclonie.*

In my series there is intellectual feebleness in several cases, and the following are examples of hereditary nystagmus.

No. 1, a young woman, aged 24, has myopic astigmatism and lateral nystagmus. She says she was "born so." Her head also shakes. No. 2, the father of the above, has several dioptres of myopia and nystagmus. He is a miner, but says he has had the nystagmus from birth. He says he has two aunts and several cousins similarly affected, but these I have not seen. Another patient states that she has one brother and one sister affected as she is, but these also I have not seen. Two of my patients are brothers, both albinos, and both have pronounced hypermetropic astigmatism. The mother has brown hair and good vision. The father is fair-haired, but is not affected with nystagmus and formerly was a soldier.

Evidence of Spasm of the Accommodation.

Ohm[11] has occasionally seen miners' nystagmus combined with spasm of the accommodation. One of his cases, a miner aged 17, showed myopia of 4 D, but under atropine he had low hypermetropia. One case, on looking upwards, had myopia that ranged from 1.5 D to 6 D, and on looking downwards his refraction was +0.5 D.

Mr. Bernard Cridland says[12] "spasm appears to exist to a slight degree in a great many cases."

Snell's compositor affected with nystagmus was a young man aged 21, who had been working on night duty for six months, when suddenly objects seemed to be moving up and down. He had vertical nystagmus, his refraction was weak hypermetropia, and his vision was normal. He does not seem to have had spasm of the accommodation.

About the same time Mr. R. W. Doyne described[13] the case of a lad whose vision was below normal, but was raised to full vision by *minus* spheres. After a week's atropinization he was found to have about 1 D of hypermetropia, and the condition was considered to be one of spasm of the accommodation. Two years later he was again seen—now a telegraph clerk—when his vision was again defective, and under atropine the refraction was still hypermetropic. He developed an alternating convergent squint, and while one eye squinted the other was nystagmic. He also complained of occasional

diplopia. When one eye was closed and he was directed to follow an object outwards, the eye became nystagmic and did not turn outwards. When both eyes were uncovered and the patient directed to fix an object, one or other eye went into a position of extreme convergence and the before-mentioned symptoms of distress showed themselves. Under direct ophthalmoscopic examination the refraction was found to be constantly varying, but always myopic to some extent. Here, then, is a patient with spasm of the accommodation, occasional convergent squint, nystagmus, and diplopia.

The following are details of a case that came under my observation last year.

No. 58, a young woman aged 16, a photographer's re-toucher, came complaining of diplopia. Her eyes had been troublesome for a year, and they also troubled her when she was a schoolgirl. She is a large, well-nourished young woman. She had nystagmus, the movements being lateral, extremely rapid, and of short range. Her eyelids also exhibited short vertical movements. These movements of the eyeballs and eyelids, she said, were of some months' duration. She suffered from giddiness and headache. Her vision was: right eye = $\frac{6}{6}$; left eye = $\frac{6}{6}$; and with − 3 D she got $\frac{6}{5}$ in each eye. Her retinoscopy without a mydriatic and with the shadow unreversed was:

Right eye $+\frac{-3}{-3}$ Left eye $+\frac{-3}{-3}$

She had marked esophoria, and under the cover test the eyes came out to fix.

When I requested her to look at my finger from a distance of 2 ft. she did so for a few seconds, then an eye squinted inwards and she turned her face away.

She was ordered atropine ointment, and at the end of a week her vision was: right eye = $\frac{6}{6}$; left eye = $\frac{6}{6}$, and her retinoscopy now was:

Right eye $+\frac{+2}{+2}$ Left eye $+\frac{+3}{+3}$

but the diplopia and nystagmus persisted. She continued using the atropine for a few weeks, but less frequently, and then her retinoscopy was: right eye + 1.5, and left eye + 0.5. The movements of the eyeballs and eyelids were less severe, but became aggravated when she looked steadily at anything for a few seconds. The esophoria was still very marked, but changing; at one moment the streak of light formed by Maddox rods crossed at 7 degrees, and then swept off the board, as she squinted. There was also some slight vertical displacement, and she still complained of headache.

At this stage she contracted diphtheria, and was removed to a hospital for infectious diseases, where she remained for seven weeks. After an interval of three months she was again seen, when it was found that all her eye troubles had disappeared. Her vision was $\frac{6}{6}$ in each eye, her retinoscopy was low hypermetropia, the muscle balance was normal, and the eyeballs and eyelids quite steady. She was ordered + 1 D spheres for her near work. Here, then, is another patient with spasm of the accommodation, occasional convergent squint, nystagmus, and diplopia.

These two cases to my mind present the symptom-complex of nystagmus. Both had little refractive error, both had artificial myopia, and both were of short duration. I suspect they are not so rare as may be thought and probably are frequently seen with some of these manifestations wanting, or evoked only under certain conditions or positions. The following case may be of interest:

A girl, aged 11 years, was brought for treatment as she had been found defective under school inspection. Her vision was: right eye $\frac{6}{6} - 1 = \frac{6}{6}$, left eye $\frac{6}{6} - 1 = \frac{6}{6}$, and her retinoscopy, without a mydriatic, showed 2 D of myopia in both eyes. Her eyelids closed firmly every few seconds, and this seemed quite involuntary. While she was being examined in the dark room the right eye squinted inwards and the eyeballs moved laterally in an irregular manner. These manifestations lasted only a few seconds, but recurred. Under atropine her vision was: right eye $\frac{6}{6} + 1 = \frac{6}{6}$, left eye $\frac{6}{6} + 1 = \frac{6}{6}$, and her refraction was low hypermetropia. Her mother volunteered the information that she had been doing a large amount of sewing in the school.

Dr. Fromaget[14] has recorded 4 cases of latent nystagmus in which the oscillations of the eyeballs only occurred when one eye was closed and were absent when both eyes were open.

The tendency to fusion of images, in a certain measure, prevents squinting, and Fromaget thinks that there is an analogous function which prevents the production of nystagmus. Three of his cases had squint, and the reduced acuity of the squinting eye was sufficient to prevent nystagmus. The fourth case had no squint, but had corneal opacities, myopia, and probably only simultaneous vision. Mr. Doyne's case exhibited phenomena approximating those exhibited by Fromaget's cases.

One would conclude that binocular vision should even more effectively prevent nystagmus. The brain normally receives impressions from both eyes. The large number of squinters suggests a common basis of etiology or some causal relationship. It is also remarkable that so many of my cases began in infancy, a time when central fixation and binocular vision are only in process of being established. Hypermetropia is the normal condition in infancy, but it may be abnormal in degree, or associated with astigmatism. One of my patients, however, is a child 15 months old, and has 1.5 D of myopia.

The manifestations of ordinary and miners' nystagmus are practically identical, and one would anticipate at least a fundamental similarity in their etiology.

Dr. A. C. Norman says[15] that as the fovea centralis is not sensitive to a minimal stimulus,

> the miner instinctively moves his eyes so as to bring the feebly illuminated image upon some part of the macula other than the fovea centralis.

Dr. Edridge-Green[16] says:

> The fovea is blind when there is no visual purple in it, and this diffusion of purple into the fovea is caused either by light falling on an adjacent portion of the retina containing rods or by movement of the eye.

He thinks the rods are concerned only with the formation and distribution of the visual purple. In the fovea there are cones but no rods. These theories can only apply to miners' nystagmus. The ametropia of ordinary nystagmus does not imply absence of light, and the albino suffers from too much light in the eyeballs.

Mr. Maddox[17] states:

> Volition directs the eye and reflex action steadies it,

and in miners' nystagmus "this retaining power is lost." Reflex action implies a stimulus, and in nystagmus something is wanting, definition or brilliance of retinal images, or the transmission of retinal images, to the brain.

My cases are associated with squint, loss of an eye, opacities in the cornea or lens, or with ametropia, and these conditions in themselves, or apart from the nystagmus, were competent in most of the cases to render good or even fair binocular visual acuity an impossibility. Spasm of the ocular and other muscles seems to be, directly or indirectly, a consequence of bad vision or "imperfect stimulation of the retina."

Nystagmus is sometimes found in young people who do much near work, a condition suggesting that excessive use of the ocular muscles, especially the ciliary, is sometimes a factor in its production. The miner is an adult, and a more decided influence may be required to disturb a long-established function. In children the disorder may be more easily produced and perhaps the ametropia or other defect is equivalent to the darkness of the mine.

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DISCUSSION.

Mr. T. Harrison Butler (Leamington) said miners' nystagmus was not of the same type as that found in hereditary nystagmus and nystagmus due to corneal opacities. Miners' nystagmus was often one of divergence of both eyes together or convergence of both eyes, or one eye rose while the other fell. In ordinary nystagmus this was not the case. In miners' nystagmus the speaker found a slight preponderance of ametropia compared with the normal miner.

DISCUSSION ON THE QUESTION OF EXCISION OF THE EYE IN CASES OF INJURY.

OPENING PAPERS.

I.—Malcolm L. Hepburn, M.D., F.R.C.S.,

Assistant Surgeon to the Royal London Ophthalmic Hospital; Ophthalmic Surgeon to the Royal Free Hospital.

The injuries of the eye with which we are called upon to deal are as follows:

1. Irritating fluids or other foreign bodies causing injuries to the conjunctiva, sclerotic, or cornea, but without perforation. This includes infected foreign bodies, leading to permanent damage of the cornea and hypopyon ulcers.

2. Penetrating wounds caused by some sharp instrument or foreign body, leading to prolapsed iris, injury to the lens, etc., or retention of the foreign body within the eyeball.

3. Blows on the eye, causing:

(*a*) Complete rupture with wound in the conjunctiva.

(*b*) Subconjunctival rupture.

And in both cases with or without extrusion of contents of eyeball.

The question of excision of the eye in cases of injury covers a far wider field than appears at first sight; it always presents difficulties, and is not alone confined to the problem of sympathetic ophthalmia, which naturally suggests itself. The art of saving an eye is just as important as the question of excision, since many eyes have to be excised owing to the failure of methods of treatment which, if more successful, would have resulted in preserving them; and a well-balanced judgement in dealing with all cases of injury in order to avoid excision is as hard to acquire, in my opinion, as in deciding the question of excision itself.

For these reasons the subject divides itself into four parts—namely:

1. Question of excision of the eye immediately or within a day or two of the accident.

2. Question of the postponement of excision and the line of treatment to be adopted in the interval.

3. Indications for excision after temporizing for a certain period.

4. Question of excision of the eye when the presence of sympathetic ophthalmia has become definitely established.

With regard to the first of these questions, unless an eye is hopelessly damaged or commences at once to suppurate, I see no reason for immediate excision on the ground of fear of sympathetic inflammation; it is perfectly safe to watch an eye before deciding the question. In spite of the fact that an injured eye has no perception of light, this does not preclude an attempt being made to save it, provided it be not disfigured beyond repair, for to my mind a slightly abnormal appearance in an injured eye is preferable to the alternative of an artificial one however carefully made, and is not so readily detected by unskilled observers, while the expense and care connected with an artificial eye is beyond the power of many people, and the ultimate outcome is often a contracted socket which leads to permanent deformity. The ordinary surgical methods for closing the wound and shutting off infection by dressings, etc., must be carried out in the case of the eye as elsewhere, and I attach no special importance to the so-called dangerous area at this stage in the treatment.

If an eye has suppurated, the question whether excision or evisceration should be performed depends on the likelihood of the eyeball rupturing during the steps of the operation. If such an accident is anticipated, evisceration is the safer procedure, since the sheath of the optic nerve may be contaminated by septic material carried down into the orbit by the scissors, which can hardly fail to have come in contact with the pus on the surface. If necessary, excision may be performed later.

If the need for immediate excision be rejected and a policy of temporizing be decided upon, the ultimate justification of the decision depends on the treatment to be adopted in the intervening period, which is, I consider, of the utmost importance. It must be vigorous and without hesitation, since a policy of waiting for what one hopes may be a more favourable moment, often prevents the surgeon carrying out what he desires.

Little can be done with external non-perforating injuries to the conjunctiva, sclerotic, or cornea beyond those methods of treatment which are well known. In hypopyon ulcers thorough and extensive cauterization with the actual cautery, if necessary even into healthy cornea, must be immediately applied; carbolic acid, except in milder cases (and one can never tell whether one has a mild case to deal with or not) is of little use, and can never penetrate deeply enough owing to the coagulation of the tissues which provide an effective barrier against any further action, whilst often valuable time is lost. If in spite of this treatment the ulcer extends and especially, as is often the case, the tension is raised, the anterior chamber must be opened either through the base of the ulcer or through the limbus. When such eyes are excised they are lost through absolute glaucoma coming on owing to the iris first becoming adherent to the cornea at the original site of the infected area and subsequently being plastered along the whole of the posterior surface, thus obliterating the anterior chamber altogether; and I therefore incline to the view, which I am now putting into practice, of performing an iridectomy as soon as possible after deciding to open the eye. Communication must necessarily be established between the interior sterile part of the eye and the infected exterior, and I think an iridectomy adds but slightly to the risk and guards against the danger of secondary glaucoma. Those I have already done, and which have been some of my worst cases, show no serious complication as a result of operating on the uveal tract at this stage; and we must remember we are dealing here with desperate cases, where there is practically no fear of sympathetic ophthalmia.

In temporizing with penetrating wounds of the eye, with incarceration of the iris, wound of the lens, or retention of the foreign body within the eye, one must bear in mind that this class of case is most liable to lead to sympathetic inflammation; yet I consider there is seldom any indication for immediate excision. But the treatment in the intervening period must be carried out without waiting. In all cases expose the eye to the Haab magnet, no matter whether the results of an *x*-ray examination be positive or negative. If a foreign body can be brought forward into the anterior chamber and removed, the prognosis is always more favourable than when an attempt has been made to extract it at the posterior part of the eye and behind the lens.

Excise the iris freely if it is incarcerated, aiming at removing rather more iris tissue than less; it is far better surgery to do a wider iridectomy than seems desirable, or even repeated iridectomies, than risk a large permanent anterior synechia for the sake of a neat looking coloboma.

If the lens be injured and the lens matter is becoming opaque—not necessarily swelling up and coming forward—remove the lens substance by means of curette or washing out the anterior chamber at the earliest possible moment. Lens matter is a fruitful source of danger in any case, and is better let out at once. It may be necessary to repeat the process after a few days, and if it seems desirable I never hesitate to do it.

An injected eye never contraindicates this line of treatment, and I do not postpone operation on this account. In all probability the adherent iris or the lens matter is keeping up the irritation, and is only bringing the question of excision nearer. Although it has always been taught that it is inadvisable to operate on an eye until it is quiet, I think the cases we are here discussing constitute an exception to this rule. The only condition which leads me to regard the ultimate results of operative interference unfavourably is when the portion of adherent lens capsule or iris has a fluffy appearance indicating the presence of plastic exudate which may very easily cause reattachment, unless the division of the synechia can be accomplished without loss of aqueous, which is sometimes difficult.

With regard to the retention of a foreign body in the eye which cannot be removed, we are led to suppose that in these cases sympathetic ophthalmia is most likely to arise at some future time; and, indeed, this is distinctly the class of case to avoid temporizing with too long if the eye does not quiet down in a reasonable time; but I

believe it has yet to be proved that, if such an eye *does* quiet down within a reasonable time, and no operative interference through the vitreous cavity has been attempted, there is danger of the occurrence of sympathetic ophthalmia.

Blows on the eye with or without rupture of the conjunctiva occur at the thinnest part of the sclerotic just behind the limbus, and the complications arising are therefore much more difficult to deal with than in perforating wounds of the cornea. Prolapsed iris in this region often involves the ciliary body as well, so that a satisfactory excision of the prolapsed portion is impossible, and any attempt, so far from improving matters, only adds to the dangers. The lens is often dislocated either into the anterior chamber or vitreous, or beneath the conjunctiva, and operative interference directed towards its removal is attended with grave risks from infection and other causes. Moreover, my experience in these cases is that they take a very long time to settle down, much longer, indeed, than it is advisable to wait, and there is no treatment which appears to hasten their recovery, and most of them, I think, come to excision.

The third group relates to the indications for excision after waiting for a certain period, and as regards the length of time to allow for temporizing in this manner, it must be necessarily a matter of conjecture how long to leave an eye, and the limit of safety varies in different people. Roughly speaking, after six weeks or two months, if an eye is not quiet, one enters on a period of apprehension, and the question of sympathetic inflammation becomes uppermost in one's mind, but the precise moment when excision should be undertaken is very difficult to determine, and one must be prepared to face the situation of deciding to remove an eye which, if left alone, might conceivably have recovered. If there is no perception of light the decision is simplified, for I see no reason, after giving the case a fair chance and exhausting all the methods of treatment and operative measures already mentioned, for keeping in the head a blind, inflamed, useless, and probably painful eye. If, however, there is some useful vision, the problem is a very anxious and difficult one, and the indications for excision must be those which manifest themselves before the appearance of keratitis punctata in the *exciting eye*. When this sign shows itself, there is good reason for believing that the pathological processes which give rise to sympathetic ophthalmia have already become established and that the danger of the other eye becoming affected already exists, and although the eye ought to be removed at this stage, we can never be sure that we are really in time to obviate this danger.

The signs to which I attach most importance are:

1. Continued injection of the affected eye which has shown no evidence of abating during the whole of the temporizing period.
2. Sympathetic irritation. From a clinical standpoint, I draw no distinction between sympathetic irritation and sympathetic inflammation beyond that one is an earlier stage than the other.
3. A greenish semitranslucent appearance of the iris.
4. Hazy, indistinct, whitish reflex from the fundus.
5. Continued fluffy appearance of the lens capsule.
6. Tendency to lowered tension.

If any of these signs are present, I consider excision of the exciting eye should not be delayed very long. If the eye be removed at this stage, I do not think we need fear the development of sympathetic ophthalmia. I confess I am rather sceptical about the theory of remote sympathetic (I mean by that after several years' interval), as there are so many causes of cyclitis which may operate at any time independently of an injury, and which are indistinguishable clinically from sympathetic, that when once an eye has been excised, or has quieted down, and the interior of the eye shut off from infection, I see no ground for supposing the entry of the specific organism unless the wound be reopened.

The last division of this subject is the question of excision of the exciting eye when sympathetic inflammation has been definitely shown to exist by the presence of keratitis punctata in the sympathizing eye. Under these circumstances it is the generally accepted opinion that if there is vision in both eyes at this stage it is better not to excise the exciting eye, since the vision in this eye may eventually turn out to be superior to that in the sympathizing eye, and I think it would be a dangerous practice, in the present state of our knowledge, to depart from this rule. If, however, there is no perception of light in the exciting eye, it is best removed, since it is possible that its presence may be an additional source of irritation.

II.—R. Affleck Greeves, F.R.C.S.,
London.

When an injured eye is seen immediately after injury the question of its removal will depend on whether the damage to the eye is so severe as to preclude any possibility of preserving useful vision.

The development of panophthalmitis, or suppuration in the eyeball, which is the result of the introduction of septic matter through a perforating wound and necessarily an early sequela of injury, is in the same way an indication for the removal of the eye or its contents; an eye in which panophthalmitis has developed will never serve any useful purpose, phthisis bulbi being the inevitable result.

The question of the advisability of removing an eye some time after it has been injured is usually a more difficult matter. All will admit as an axiom, I think, that a blind, unsightly, and painful eye must be removed in all cases, but it is a different matter when the injured eye retains a measure of useful vision, or even when, though blind, the eye is not so disfigured as not to be preferable to an artificial one. By far the most important consideration in most cases of this kind is the possibility of damage to the sound eye through the development of sympathetic ophthalmitis if the injured eye be preserved.

And although there are certain important danger signals, of which the appearance of keratitis punctata in the injured eye is probably the most serious, sympathetic ophthalmitis is unfortunately not diagnosable clinically until the uninjured eye has become affected by the disease, the causative agent and method of spread of which are still matters of conjecture.

Histologically, however, the inflammatory changes found both in exciting and sympathizing eyes, examined microscopically, have been shown to conform to a definite type. These appearances are different from those found in other forms of uveitis, and that they are typical is shown by the fact that Fuchs, by mere examination of the sections of 200 eyes excised for injury, was able accurately to separate them into those which had given rise to sympathetic ophthalmitis and those which had not. In such eyes the whole uveal tract is found to be involved in the inflammation, the choroid being usually the seat of most inflammatory reaction. The choroidal infiltration begins in the outer parts of the choroid and is of a nodular character, the nodules being composed mainly of lymphocytes and epithelioid cells; in many cases giant cells are present too. Caseation never takes place, cicatrization being the final outcome of the inflammatory process. The ciliary body is always involved, which is what one would expect from the clinical manifestations, and, to a variable extent, the iris. There is usually well-marked plastic exudation in exciting eyes; but this is not so constant a feature in sympathizing eyes, and may not be a part of the true "sympathetic" process. Signs of inflammation in the optic nerve are inconstant.

These pathological appearances are of great interest and importance in that they tend to show that sympathetic ophthalmitis is a definite morbid entity, and essentially different from other forms of uveitis, and one can form an opinion from the examination of sections of eyes in which they are present as to what conditions are likely to give rise to sympathetic ophthalmitis. An important element is thus added to what is already known as to history and clinical appearances in these cases. With this in view I have looked up the records of all the cases at Moorfields during the past fifteen years in which these changes have been found in the excised eyes. In each case evidences of sympathetic inflammation developed in the uninjured eye either before or within a week of the enucleation of the injured one. The interval between the injury and the appearance of inflammation in the injured eye was never less than two weeks, and in the majority of cases not more than three months. In 1 case there was an interval of four years, and in 2 one of over twenty years. In the case where there was the four years' interval a history of

a second recent injury, six months before the other eye became inflamed, was obtained; but no such evidence was forthcoming in the other 2, in both of which the exciting eye was blind, and in one of which it was shrunken.

It seems possible, however, that a comparatively slight injury to an unhealthy and blind eye might be sufficient to cause a perforating wound, or at least to open a channel by which infection could enter the eye and yet might pass unnoticed. Perhaps the long interval between the injury and the onset of sympathetic inflammation recorded in some of the cases may be explained in this way.

In none of the Moorfields cases can a perforating injury be excluded, and in practically all of them there is a record of incarceration of the iris, ciliary body, lens capsule, or a combination of these, in the wound. The accompanying prolapse of one or more of these structures which occurs in wounds of the so-called dangerous area is probably the essentially dangerous element, and not the actual position of the wound. In two recent cases at Moorfields which developed sympathetic ophthalmitis the wound was strictly limited to the cornea, but in each case the iris was prolapsed and could not be freed. In a condition of this kind infection of the uveal tract can easily take place, and the delayed healing of the wound gives rise to a long period during which infection may occur; this may account for varying periods of onset.

It is noteworthy that although many eyes with retained foreign bodies have been enucleated at Moorfields during the past fifteen years, not one showed the typical appearances of sympathetic inflammation, nor did any give rise to sympathetic inflammation in the other eye. Intervals of from a few days to forty years between the entry of the body and the enucleation of the eye are represented, as well as various kinds of foreign body; of these, pieces of iron and steel are the most numerous, and in the case with the longest interval the body was a piece of glass. It would seem that retained foreign bodies are not dangerous *per se* from a sympathetic point of view, apart from the nature of the wound caused by the body in entering the eye, or by operative measures undertaken for its removal.

Leaving sympathetic ophthalmitis out of the question for the moment, the behaviour of an eye into which a foreign body has entered depends partly on whether the body is contaminated with organisms, and partly on the chemical nature of the body itself, as well as on the situation in which it lies. If septic, a panophthalmitis may be set up, rendering early removal of the eye or its contents necessary, or if the organisms are not sufficiently virulent for this, a less severe inflammation may be caused, which may eventually quiet down. Again, if the body is soluble in the intraocular fluids, chemically irritating substances resulting from its solution may set up inflammation; iron and steel are less irritating in this way than copper or brass. Particles of metal may become encapsulated, the eye quieting down, but siderosis bulbi takes place, and the sight of the eye is inevitably lost through degeneration first of the ganglion cells and nerve fibres, and eventually of the whole retina. Degeneration of the retina occurs quite early, and detachment is common.

Eyes with retained foreign bodies are often subject to intermittent attacks of pain, so that the eye becomes a nuisance, and sympathetic irritation may be set up in the other eye, a condition which renders removal of the exciting eye necessary. So that although they are probably not dangerous in the sense of causing sympathetic ophthalmitis, it not infrequently happens that it is advisable to enucleate these eyes with retained foreign bodies for other reasons. The lens is said to be more tolerant of foreign bodies than other parts of the eye; while foreign substances situated in the neighbourhood of the ciliary body are specially liable to give rise to persistent inflammatory trouble.

It is well-known that eyes in which panophthalmitis has taken place are not liable to give rise to sympathetic ophthalmitis, and various theories have been advanced to account for this fact. The same statement applies to eyes with perforating ulcers, and whatever the cause may be it is probably the same in both cases. The possibility of sympathetic inflammation as a sequela of a perforating ulcer cannot, however, be excluded; one of the recent cases at Moorfields was of this nature. In this case sympathetic inflammation in the sound eye followed five months after the perforation of a hypopyon ulcer, no operative measures of any kind having been undertaken. The exciting eye, being staphylomatous and blind, was excised: it showed the histological changes typical of sympathetic ophthalmitis.

Although the shrunken eyes, often containing bony choroids, which result from panophthalmitis, are not usually dangerous from the point of view of sympathetic inflammation, and when quiet are quite innocuous, they ought to be excised if fresh inflammation and pain should occur. An eye in this condition is liable to give rise in the other eye to the condition known as sympathetic irritation, by which term a train of symptoms, including photophobia, lacrymation, and fatigue of accommodation, is understood. This condition, although an absolute indication for removal of the exciting eye, is most likely a nerve reflex, and in no way connected with true sympathetic inflammation, which is not preceded by such prodromal symptoms. Enucleation of the exciting eye is a cure for the condition, and the excised eyes do not show the appearance typical of sympathetic inflammation. The cases at Moorfields in which eyes have been excised for sympathetic irritation only, bear out this view, and Fuchs's series of cases points to the same conclusion.

Old shrunken eyes, on the other hand, have occasionally, if rarely, given rise to true sympathetic inflammation, but as I have mentioned before, the question of infection through a fresh injury comes in here.

In all cases where sympathetic inflammation has occurred a long time after injury there has been a recrudescence of inflammation in the injured eye to begin with, and in view of this the safest course is to excise an injured eye which, after a quiet period, shows signs of fresh inflammation. The presence of keratitis punctata is, of course, a specially serious sign.

III.—S. H. Browning,
London.

Excluding those cases in which excision is necessary on account of the extent of an injury to the eye, probably more injured eyes are removed from fear of the development of sympathetic ophthalmitis than for any other reason. The consideration of the problem arising in such cases will be simplified by the preliminary consideration of the blood count in sympathetic ophthalmitis before going on to the application of the blood count to the prognosis in perforating injuries of the eye, whether accidental or the result of surgical procedure.

Gradle was the first person to study the blood count in perforating injuries of the eye, but his results were of very little value, because he did not sufficiently differentiate the various kinds of lymphocytes. For the purposes of his paper he divides the blood cells into polynuclears and mononuclears. This method, of course, totally destroys the value of a differential blood count, and, as I hope to show you presently, it quite masks the chief point of the count in sympathetic ophthalmitis, namely, the increase in the large mononuclear leucocytes. About the same time that Gradle was working at perforating injuries I was making differential blood counts of the blood of patients suffering from well marked sympathetic ophthalmitis. I found that there was a typical blood picture in practically every case. There was a marked increase in the number of large mononuclear leucocytes and some increase in the lymphocytes, while the polymorphonuclear leucocytes were diminished. The total white cell count did not vary much beyond the normal limits. The type of count which I found is shown in Table I. A normal differential blood count is shown for comparison.

Table I.

Average Normal Blood Count.

Polymorphonuclears	60 — 70 per cent.
Lymphocytes	20 — 23 ,,
Large mononuclear leucocytes...	2 — 5 ,,
Eosinophiles	2 — 4 ,,
Mast cells	0 — 1 ,,

Average Blood Count in Sympathetic Ophthalmitis.

Polymorphonuclears	54 per cent.
Lymphocytes	28 ,,
Large mononuclears	16 ,,
Eosinophiles	2 ,,
Mast cells	0 ,,

TABLE II.—*Blood Count in Protozoal Diseases.*

Disease.	Polymorphonuclears.	Lymphocytes.	Large Mononuclear Leucocytes.	Eosinophiles.	Mast Cells.
Malaria[1]	50.2 %	18.1 %	31.0 %	0.4 %	0.4 %
Malaria[2]	39.0 %	19.1 %	41.0 %	—	0.6 %
Syphilis	50.0 %	27.0 %	22.0 %	1.0 %	—
Agchylostomiasis[3]	48.7 %	14.4 %	13.3 %	23.0 %	0.6 %
Trypanosomiasis[4]					
Kala-azar[5]					
Sympathetic[6] ...	52.0 %	22.0 %	24.0 %	2.0 %	—

[1] Christophers and Stephens. [2] Bastianelli.
[3] Boycott and Haldan.
[4] "The leucocytes are normal as a rule with an increase of mononuclear cells."—Castellani and Chalmers.
[5] "An increase of the mononuclear leucocytes and lymphocytes."—Rogers.
[6] Price Jones and Browning.

In Table II are shown blood counts in some of the protozoal diseases, and the striking similarity between the blood counts in these diseases and that of sympathetic ophthalmitis can be noted. It will now be understood why I make such a point of the careful and exact differentiation of the various blood cells in the differential count in sympathetic ophthalmitis. At the time that he was making his blood counts Gradle was unaware of the fact that protozoal diseases give a typical count, and his method of classifying the blood cells clearly shows this. These tables suggest the hypothesis that sympathetic ophthalmitis is a protozoal disease. In my opinion there is other evidence pointing in this direction. The pathological appearances of sections of sympathetic eyes as described by Fuchs are suggestive of some part being played by a disease such as syphilis.

Salvarsan having been found of great benefit in other protozoal diseases besides syphilis, such as yaws, relapsing fever, trypanosomiasis, etc., the next procedure was to try the effect of treating patients suffering from sympathetic ophthalmitis with this drug. The result was encouraging, as not only was the eye condition at once relieved, but the blood count rapidly approached the normal. A large number of cases have now been treated at Moorfields Eye Hospital with "606" or "914," sometimes with complete success, at other times without permanent benefit. The results in general have been so successful that nearly all cases of sympathetic ophthalmitis at Moorfields are now treated with one of the salvarsans.

As I had almost invariably found that well marked cases of sympathetic ophthalmitis gave the typical protozoal count, I proceeded to investigate the time interval between the perforating injury and the appearance of a pathological count, also to determine whether the count could be used for the early diagnosis or prognosis of sympathetic ophthalmitis in cases of perforating injury of the eye.

For this purpose I examined the blood of a number of patients admitted to "Moorfields" with perforating injuries, and found that in many cases the blood showed marked changes at a time when there was still no other evidence pointing to the probable onset of sympathetic ophthalmitis.

One of the chief difficulties as regards the blood count in sympathetic ophthalmitis is that in some cases of well marked disease the blood count will remain normal for weeks and then suddenly show all the signs of a typical protozoal count. From this it will be obvious that a normal blood count does not exclude the possibility of sympathetic ophthalmitis supervening. I am of opinion, however, that the positive count, namely, an increase in the large mononuclear cells with some lymphocytosis is very ominous. As it is probable that in sympathetic ophthalmitis a systemic infection has already occurred before the pathognomonic eye changes appear, the blood count will afford a method by which this infection may be demonstrated before the sound eye becomes obviously diseased. The following case illustrates this point:

A man was admitted on September 12th under Mr. Lawford suffering from a perforating injury by a piece of steel in his left eye. The steel was removed the same day by the small magnet, a prolapse of the iris was subsequently excised. The injured eye did well. On September 20th, 1911, I made a blood count, and the following are the results of that and future counts:

September 20th, 1911.—Polymorphonuclears, 69 per cent.: lymphocytes, 23.5 per cent.; large mononuclears, 5.6 per cent.; eosinophiles, 2 per cent.

September 27th, 1911.—Polymorphonuclears, 71 per cent.: lymphocytes, 20 per cent.; large mononuclears, 6 per cent.; eosinophiles, 3 per cent.

These are normal counts, but after this we find a change, especially in the large mononuclears.

September 28th, 1911.—Polymorphonuclears, 62 per cent.; lymphocytes, 20 per cent; large mononuclears, 18 per cent.

September 29th, 1911.—Polymorphonuclears, 59 per cent.: lymphocytes, 28.5 per cent.; large mononuclears, 10.5 per cent.; eosinophiles, 2 per cent.

At this date the right eye was noticed to be sensitive to light.

September 30th, 1911.—Polymorphonuclears, 63 per cent.: lymphocytes, 12 per cent.; large mononuclears, 24 per cent.; eosinsophiles, 1 per cent.

Mr. Lawford, on account of the irritation in the sound eye, and as a result of the blood count, decided to remove the eye. As will be seen by the following counts, the blood returned to normal and the uninjured eye became quiet.

October 2nd, 1911.—Polymorphonuclears, 72 per cent.: lymphocytes, 14 per cent.; large mononuclears, 12 per cent.; eosinophiles, 2 per cent.

October 3rd, 1911.—Polymorphonuclears, 71 per cent.; lymphocytes, 18.5 per cent.; large mononuclears, 9 per cent.; eosinophiles, 1.5 per cent.

October 4th, 1911.—Polymorphonuclears, 62 per cent.: lymphocytes, 25.5 per cent.; large mononuclears, 5 per cent.; eosinophiles, 4 per cent.

The patient left hospital with the uninjured eye quite well, and did not develop sympathetic ophthalmitis.

In this case we have definite indication of an infection subsiding when the infective focus is removed. As a result of the cases which I have examined I am of the opinion that the blood count is of value in the diagnosis of sympathetic ophthalmitis following perforating injuries of the eye, but I wish to make it clear that I do not consider lymphocytosis *per se* the important point, but rather the increase in the large mononuclear leucocytes and only to a certain extent the increase in the lymphocytes. I think that the blood count shows the protozoal nature of the disease and the lymphocytosis recorded in Gradle's tables does not and cannot bring this point out.

In a paper read before the Heidleberg Congress last year on lymphocytosis in perforating injuries Franke states that lymphocytosis offered no diagnostic or prognostic value in sympathetic ophthalmia. His contention that lymphocytosis may be found in cases of old perforating injuries which had healed and remained quiet for several years, and in which there was no likelihood of sympathetic ophthalmitis occurring, is not supported by facts, for such a conclusion would make either lymphocytosis a normal condition, which is absurd, or a pathogenic one, which he denies.

Sattler, also at the Heidleberg Congress, recording his experience in his clinic at Leipzig, mentioned that he placed great value on the blood picture in the prognosis of sympathetic ophthalmitis. Purtscher and Koller, working under Fuchs, came to the conclusion that the blood picture was a valuable diagnostic aid.

Much work still remains to be done before any absolute decision can be arrived at, but the investigations which have been made and the results obtained suggest that a step forward has been made in the effort to determine the cause of sympathetic ophthalmitis and to find a means for its early diagnosis.

In conclusion I would suggest that differential blood counts should be made in all cases of perforating injuries and that in the event of a positive count, steps should be taken to prevent the occurrence of sympathetic ophthalmitis, whether by excision of the injured eye or by the administration of salvarsan: and also that salvarsan should be used in all cases of sympathetic ophthalmitis whether the blood count is typical or not.

My thanks are due to Mr. Lawford for permission to publish the above case.

DISCUSSION.

Dr. E. E. MADDOX (Bournemouth) said: While grateful for such admirable papers, and especially for the addition of salvarsan to our resources against the dire disease of sympathetic ophthalmitis, I cannot quite go so far as to accept that what used to be called the dangerous

zone "has no special importance." I should have thought that at least 90 per cent. of accidents resulting in sympathetic ophthalmitis affected the ciliary region, either in whole or in part, or at least communicated with it, by incarcerated iris, which acts as a channel of infection to it in the manner so well described by Mr. Greeves. Pending the rather slow discovery by pathologists of the real nature of sympathetic ophthalmitis, we are glad of the smallest clues which may act as finger-posts in our endeavours to advance the therapeutics of the disease. Some of the clinical facts are especially suggestive. (1) The penetration of the globe seems necessary for the great majority of cases, suggesting that some agent has been implanted, and, should it be a protozoon, it must be one of extremely common occurrence. (2) A staphylococcal infection seems to destroy the infective agent. (3) The extent of the injury bears but slight relation to the occurrence of sympathetic ophthalmitis. The minutest splinter of wood entering the ciliary body has been known to cause it, while extensive wounds may not do so. (4) When both eyes are operated upon simultaneously there seems to be more danger than usual of an inflammation resembling sympathetic ophthalmitis, though its true character is not proved. (5) It has always been recognized that a disorganized eye is more dangerous if it possess the qualities of tenderness and softness. The tenderness indicates merely that the ciliary body is inflamed. The softness led to the correlative belief that a hard eye is extremely unlikely to become the exciting one, so long as it remains hard. I am not so confident now as I used to be on this point, though still believing there is a good deal in its favour; and it raises the question whether we could not artificially harden some of these soft old eyes either by subconjunctival injections of dilute acid, on the lines of Fischer, or by the instillation of some reagent. Many years ago my friend Dr. Burdon Cooper brought to my notice pyridine as likely to be worth trial as a very penetrating antiseptic. We tried it together on some of my hospital patients, finding, however, its introduction too painful (though harmless) to be worth the rather slight antiseptic effect obtained. In three cases, however, an unlooked-for side-effect appeared—soft eyes became rapidly hard; and this might be worth further investigation. For small wounds of the ciliary region, such as that by the splinter already referred to, I have much faith in the thermo-cautery, provided it be followed immediately by a secure cover of conjunctiva drawn over the wound. Nitrate of silver in solution makes a good antiseptic for these cases after the use of the cautery, since it penetrates just about deeply enough without getting into the vitreous chamber.

Dr. John O. McReynolds (Dallas, Texas) said: The question of excision in cases of severe injury to the eye is certainly one of the most difficult as well as one of the most responsible problems presented for our solution. I have endeavoured to make a patient and careful study of the practical phases of the subject, and in addition to the published literature at my command I have taken the reports of various ophthalmic hospitals of America and Great Britain, and then I addressed a series of inquiries to a large number of American ophthalmologists requesting their views upon the important points still veiled in doubt. A part of my conclusions I herewith present. The definite cause of transferred ophthalmitis has not yet been determined. The minimum period of onset is very rarely indeed under ten days. The maximum period observed (by myself) was sixty years. The most frequent period was from four to eight weeks after the injury. It almost invariably follows a non-suppurative but plastic irido-cyclitis of traumatic origin. It has occurred with astonishing frequency after well executed intraocular operations, especially those for glaucoma and cataract, and that in the hands of our most skilful surgeons. With reference to foreign bodies retained within the globe, the patient should be thoroughly impressed with the truth that the danger lies not simply in the retention of the foreign body, but in the injury and infection inflicted in its flight. This is important, so that the patient should not be deluded into the sense of false security when a foreign body has been brilliantly extracted from the corpus vitreum. Foreign bodies long retained within the globe without signs of irritation may be successfully removed; but in every such case the patient should be informed that the traumatism consequent upon its removal may be such that an enucleation may become speedily imperative. The danger is always present when the inflammation in an injured eye refuses to subside; and if such an eye is sightless the preservation of the globe will not justify the risk involved. If the injured eye has vision and the irido-cyclitis continues to persist after four weeks without abatement, the extreme hazard must be clearly presented to the patient, and the surgeon's advice would depend upon the amount of vision present and the degree of irido-cyclitis. The presence of a blind injured eye in a child does not offer sufficient compensation in the possible development of the orbit to be worthy of consideration when a question of such gravity is concerned. A timely enucleation or complete evisceration will almost surely prevent the development of disaster. The popular notion as to the character and gravity of sympathetic affections is so entirely remote from the real importance of sympathetic ophthalmia that, inasmuch as we cannot possibly change the prevailing view, we should ourselves adopt a term which would be less confusing and more in accord with the pathological findings clearly established, and I would advocate the expression suggested by the late Dr. Charles A. Oliver, of Philadelphia—"transferred ophthalmitis."

Mr. Harrison Butler (Leamington) said much doubt had been thrown upon the question as to whether Fuchs's inflammation was really typical of sympathetic ophthalmitis. Deutschmann denied it, and he had succeeded in producing sympathetic ophthalmia in monkeys, from which he had isolated a diplobacillus. Perforated ulcers did not cause sympathetic ophthalmitis unless they had been operated upon. Copper was never tolerated in an eye.

Colonel Elliot, I.M.S. (Madras) strongly enunciated the danger of excising suppurating eyes. He had known meningitis develop as the result. He thought it very wrong to subject the patient to the risk of sympathetic ophthalmitis by trying to keep an eye which was dangerous. In the East the natives were very adverse to excision, and evisceration and optic ciliary neurectomy were useful operations in such cases.

Mr. Devereux Marshall (London) said that the question of excising suppurating eyes was one which always brought forth much argument. He himself had no fear of removing an eye in this condition. He excised every suppurating eye he could come across. It was true that he had seen meningitis follow the operation, and he had also seen fatal results occur from the same disease when the eye had not been excised. In both cases he attributed the development of this disease to the fact that the eye had not been excised soon enough, and he utterly failed to see how an eye full of pus retained in the orbit could be looked upon as a prophylaxis against a septic meningitis. If the eye to be removed was certain to rupture while it was being excised, then he preferred to eviscerate it, and when all septic material had been washed away, he then excised the sclerotic, which was, of course, in an infective condition. He highly congratulated Mr. Browning on the work he had done, and had had several cases under his own care successfully treated by the methods he advocated.

Mr. H. H. Taylor (Brighton) was fully convinced of the danger of excising suppurating eyes.

Professor Reeve (Toronto) thought excision was the best treatment.

Colonel Pridmore (Rangoon) said that they should never run the risk of allowing sympathetic ophthalmia to develop in children by leaving a dangerous eye. In adults it was somewhat different, and more conservative methods might be adopted for the patients were more under control. He expressed surprise at Colonel Elliot's remarks as to the danger of enucleating suppurating eyes. He had removed hundreds of them, and had never had any trouble, and he considered it the correct operation in these cases.

Mr. WRAY said so far no mention had been made of dionin in the treatment of wounds likely to lead to sympathetic. Its virtues might be all that was claimed, but it would be wise for ophthalmic surgeons to instil it into their own eyes before using the drug in strong solution on their patients. It caused acute pain. To him there seemed very little reason for removing the entire eye in cases of suppuration, and for some years he had performed evisceration in these cases. On one occasion he had removed a piece of metal from the iritic angle that had been in the eye for twenty-five years. The patient made an excellent recovery, with vision $\frac{1}{2}$. He had now under observation a patient operated on by another ophthalmic surgeon, in which sympathetic in a severe form had existed for about seven years. The case had been treated mostly by means of mercury; and as the pupils were practically closed the question of an iridectomy was rapidly becoming urgent, and an opinion as to procedure would be acceptable. As regards the general treatment of this and similar diseases, the main point seemed to be to get rid of the toxins and leave the unirritated tissues to deal with the bacteria. For that reason he recommended exercise in the open air, together with free potations of water and the use of mercury internally.

Mr. MAURICE H. WHITING (London) described a case of perforating injury of the globe, which was excised on the thirteenth day. Ten days later photophobia developed, with raised mononuclear blood count. The patient was treated with neo-salvarsan, and had no recurrence of the sympathetic symptoms. In view of such cases the injured eye might be left for as long as a week without danger. Mr. Browning's work in the laboratory was particularly valuable because it was so associated with clinical work. As a treatment for suppurating eyes he preferred evisceration followed by excision.

Dr. R. AFFLECK GREEVES, in reply, said that the pathological appearances of sympathetic inflammation had been found in the earliest cases. As to the two cases in which there was an interval of twenty years, the interval was between the occurrence of injury and the onset of inflammation; the injured eyes had not been excised. As to the encapsulation of organisms, an example was the tubercle bacillus; this might remain quiescent in encapsulated lesions for years. He had been struck with the frequency with which a low intraocular tension was recorded in the cases of sympathetic ophthalmitis at Moorfields. But on investigating the matter he had found that in eyes which developed sympathetic ophthalmitis after cataract extraction, the tension was almost always high. This was what one would expect with an incarcerated capsule and iris. Sympathizing eyes, too, often showed a raised tension. Injured eyes, from the nature of their condition, tended to have a low tension, and, again, the ultimate result of sympathetic inflammation pathologically was cicatrization, and consequently a low tension clinically. With regard to what Mr. Marshall had said as to a case in which a piece of glass was retained in an eye which preserved useful vision, this was possible with inert substances, but intraocular pieces of metal underwent solution, and so invariably caused retinal degeneration. So far as the speaker was aware, no one had published any statistics controverting Fuchs's statements, and in the speaker's own experience the nodular lymphocytic type of infiltration was characteristic of sympathetic uveitis, and eyes in which this process was going on showed appearances essentially similar, though perhaps differing in detail.

THE PERSISTENCE OF THE NERVE PLEXUS OF THE IRIS AFTER EXCISION OF CERTAIN GANGLIA.

By W. B. INGLIS POLLOCK, M.D., F.R.F.P.S.

(Abstract.)

THERE has been considerable controversy over the question of how far the post-ganglionic plexuses are independent of the central nervous system. The work of J. Mellroy has established the independence of the peripheral neurons of the retina, but so far the evidence as regards plexuses acted upon by efferent neurons is inconclusive. Fletcher could not find any local trophic centres in the retractor penis of the hedgehog after section of both the inhibitor and motor sets of nerve fibres, although he admitted his results were not conclusive. It appeared possible to find a solution of the question in the nerves of the iris since Brown-Séquard obtained a contraction of the pupil by light in the excised iris, and de Rupter dilatation by atropine in the excised eyeball.

My spare time during the last three years has been devoted to this work. To obtain a denervated iris the ciliary ganglion and the superior cervical sympathetic ganglion were both excised. The interval between the operation and the histological investigation varied, but fourteen days was found to be most satisfactory. Albino rabbits were employed for the entire series of experiments. Different staining methods were tested. The modified Cajal seemed for a time to give good results, but it had to be given up on account of the capricious staining.

Methylene blue was finally adopted according to the procedure of Hosch. Several experiments were described and evidence given that a motor plexus with nerve cells exists in the sphincter and dilator pupillae muscles.

The plexus persists after complete separation of the iris from the central nervous system by removal of the ciliary ganglion and the superior sympathetic ganglion. It may therefore be regarded as of the same nature as the plexuses of Auerbach and Meissner in the intestines.

[The paper was illustrated by lantern slides, and will be published *in extenso* in the *Archiv für vergleichende Ophthalmologie*.]

DEMONSTRATIONS.

MR. BISHOP HARMAN (London) showed:

1. "A Variable Test Type," especially adapted for use in school work. The test type had for its signs the block E, after the fashion of Hirschberg's test types, but only one sign was given for every grade of the test. The signs were mounted on turn-tables, so that their position could be varied indefinitely. In one model the whole were geared so that the movement of a milled head caused all to turn in different directions. The children were taught to regard the E sign as three fingers, turned up, down, to the right or left. The teacher should draw these signs in large size and teach the whole class "signal drill," showing the children how to stretch out three fingers of both hands in the position of the fingers of the E sign pointed to. After such drill vision testing was quick and sure. The test had the advantage that it called for the least mental response possible in an eye test. Further, it was impossible for it to be learnt by heart—a no small consideration in school work. The test had already had extensive use in London, and it had been found of particular value in work amongst defective and ignorant children. [These types will be found further described at page 1164.]

2. A "Typometer" for measuring the print of books. He said that the British Association's report on the influence of the print of school books on the sight of the child had stimulated interest in printing. The typographical scale of the minimum size type and interlinear space allowable in the books for children of different ages given in that report introduced the necessity for the accurate measurement of the types and print. This was not an easy performance with ordinary scales. He had had this measurer made for the purpose. It gave a simultaneous view of print and scale magnified three diameters. The scale was graduated to quarter millimetres, and twenty millimetres of print was exposed to view at one time. The typometer was made by Messrs. Dixey and Melson Wingate, of London.

3. A spectacle attachment for the use of presbyopes who habitually wore distance glasses. The attachment consisted of two small D-shaped lenses, with the required near vision correction set in a frame with a double bridge, set so as to permit the small frame to be slipped between the distance spectacles and the face, and remain securely in position. It provided a bifocal arrangement, which could be put on or removed instantly with the use of one hand only. There were no hooks or bars; the attachment stayed in position by reason of its shape alone. This was made by Messrs. Dixey and Melson Wingate.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

APPENDICITIS FOLLOWING TONSILLECTOMY.

In the Journal of September 27th Dr. Still mentioned in the discussion following Mr. Lockwood's paper, in the Section of Diseases of Children, on acute abdominal inflammation in children, the not infrequent association of tonsillitis with appendicitis. Instances of such occurrences were mentioned by Mr. Lockwood (Case 26) and Dr. Parry, and Dr. Bramwell also stated that appendicitis followed tonsillitis.

The following two cases seem to point to the fact that there is more than a casual coincidence between the two conditions, and this should not be surprising when we remember the fact that the tonsil and the appendix both contain a great abundance of lymphoid tissue. In both my cases the closest questioning did not reveal any suspicions of previous appendicular trouble, nor was there evidence of such seen during the operation for the removal of the appendix.

Case 1.—Male, aged 30; two large flat tonsils were enucleated with scissors under cocaine anaesthesia: all went well until the fifth day, when he was taken with abdominal pain. On examination there was well-marked pain, tenderness, and rigidity in the right iliac fossa. He vomited once shortly after the onset of pain; the bowels had acted normally the previous evening. The pulse was 88, and the temperature 99.2°; the fauces were healthy. Eight hours after the onset of these symptoms I removed a swollen, inflamed appendix presenting no adhesions, no kinks, no stricture, and no concretion, but containing an abnormal amount of mucous secretion. Recovery was uninterrupted.

Case 2.—Female, aged 13: two large tonsils were removed by enucleation, and adenoids also curetted under general anaesthesia. Again all went well until the eighth day, when she was suddenly seized with extremely acute and severe appendicular symptoms; operation was delayed until thirty-six hours after the onset, as the parents would not give consent. I then removed a sloughing gangrenous appendix; the peritoneal cavity also contained a quantity of foul pus, necessitating draining. The patient ultimately recovered after a hard fight.

In both cases the patients were treated with mouth washes and formaldehyde tablets, both before and after operation, and in neither case was there any undue faucial sepsis. As the appendix and tonsil are more actively functional during the earlier time of life, it is clear that cases like those quoted above should be looked for among children and young adults.

Brian Metcalfe, M.R.C.S., L.R.C.P.,
Liskeard. Honorary Surgeon, Liskeard Cottage Hospital.

EXOMPHALOS.

The mother, a primipara, aged 26, was quite well while carrying the child. The pelvic measurements were normal and the head could always be pressed into the pelvic brim. The urine was normal till two weeks before delivery, when it was tested for the last time. During labour the urine was solid with albumin, but this cleared up rapidly during the puerperium. The presentation was left occipito-anterior. The labour lasted eleven hours, and was concluded without instrumental interference. The child was full time, a well-developed male weighing 10 lb. The cord was once round the neck, but was not short, and was pulsating strongly at birth. The placenta was macroscopically normal. Protruding from the umbilicus into the base of the cord was a dark tumour, the size of an orange. The sac was dark and glistening, and coils of intestine could be seen. There was no other abnormality. The cord was ligatured and cut 4 in. from the hernia; cyanide gauze and a binder were applied. On the following day the child was taken by motor 30 miles to Plymouth, and was operated on twenty-eight hours after birth by Mr. G. F. Aldous at the South Devon Hospital. The sac was gangrenous and was excised; there were no adhesions, and the contents, which were healthy small intestine, were readily returned into the abdomen. The abdominal wall was sewn up in layers. The other viscera were not enlarged. The child stood the operation well; the bowels were open next day, and for a few days the outlook was promising. Death, however, occurred on the eighth day after operation from toxaemia. The frequency of this malformation is about 1 in 5,000 births, but usually the child is premature or some other abnormality exists. This child was full time and a particularly lusty infant. The condition is due to the persistent patency of the omphalo-intestinal canal, joining the yolk sac with the abdominal cavity. Normally this canal separates at the third month, and the loop of intestine till then present in the canal returns to the abdominal cavity. Treatment is by operation, but the mortality is high. Ahlfeld practises the repeated application, under anaesthesia, of compresses soaked in alcohol, retained by binders.

Salcombe. Daniel O. Twining.

A NEW SPECIES OF TREPONEMA FOUND IN THE GENITAL SORES OF RABBITS.

Having been shown a rabbit with a peculiar papulous sore of the penis at the Laboratories of the John Howard McFadden Research Fund, I undertook the examination of the serum expressed from this lesion by the dark-ground illuminator; for it was expected that this method would lead to the detection of spirochaetes or similar motile micro-organisms. This disease of the rabbit has already been described by E. H. Ross, first in the British Medical Journal of December 14th, 1912, page 1653 (footnote), and subsequently shown by him on various occasions under the name of rabbit (natural) syphilis.

The rabbit I examined had been inoculated by means of a common sewing needle, which had been contaminated with some of the virus of a spontaneously diseased animal. I was informed that the new penile sore first appeared twenty-five days after this inoculation. On two occasions serum from this sore was taken by means of a sterile glass capillary tube. Both times fairly numerous moving spirochaetes were detected by means of one of Leitz's paraboloid condensors ($\frac{1}{12}$ oil-immersion, compensation eyepiece, No. 18).

The new spirochaete appears to belong to the "pallida" group. Its length is roughly that of one and a half times the diameter of a rabbit's erythrocyte. Its curves are very close, the movements are slow and rotatory, not lashing. The number of curls varies between five and eight. In transverse section it appears to be slightly oval—an oval transverse section is also apparent in *Sp. pallida*, *Sp. dentium*, and in the various relapsing fever blood spirochaetes. Another feature in common with *Treponema pallidum* is the springy, elastic, constitution of this rabbit species of parasite; it is well known that the blood spirochaetes appear to be softer, more yielding, this being shown by the peculiar lashing, trypanosome movements they exhibit and by the positions and contours seen in fixed and stained specimens. The ends taper off into a fine point; no terminal flagellar process was seen in these specimens. A few so-called dividing forms were noticed, and presented the well-known appearance of a spirochaete double the length of a normal individual, with a thinner portion or waist in between.

It is intended now to make silver-impregnated specimens of the deeper layers of the sores, so as to investigate the etiological significance of these interesting spirochaetes. I am informed that it was the finding of intracellular parasites, which develop into spirochaetes in these sores, which led to the examination of this rabbit disease. In specimens stained by Giemsa's method, which were subsequently obtained by Ross, these spirochaetes show up faintly a light purple colour, the staining reaction making them apparently indistinguishable from *Treponema pallidum*. They retain their regular curled, corkscrew shape in fixed specimens. The finding of this spirochaete is a most interesting factor in the experimental study of rabbit syphilis.

H. Bayon,
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Government of the Union of South Africa.

THE ETIOLOGY OF BERI-BERI.

In view of the increased attention to beri-beri and the resuscitation of the "rice theory" of its origin, founded on what appear to be wrongly interpreted experiments on the feeding of fowls, and especially in view of new legislation recommended on the supposed cause of the disease by consuming decorticated rice, it may be well to record an obvious fact which appears to have been lost sight of by recent workers.

After a period of close observation extending over fifteen years in Shanghai and other parts of China, beri-beri is found to be common in institutions, such as gaols, charitable institutions, and schools, where large numbers of persons live together but comparatively uncommon among the general population; practically no difference obtaining as regards the food supply, at any rate as regards the kind of rice consumed, which is invariably decorticated by the same process in China. If beri-beri were due to the loss of something in the outer covering of the rice grain, why should the disease show such a marked proclivity towards persons closely aggregated in large numbers? Such are the conditions which make for the spread of infection.

Isolation of the sick and ordinary disinfection of clothing, etc., have little or no effect on an outbreak of beri-beri, but after disinfestation of body vermin and sulphur fumigation of quarters to kill bugs, etc., there are strong reasons for thinking that prevention of the spread of beri-beri is immediate and effective. This points towards infection by external animal parasites.

It is interesting to note that practically all new workers on this elusive subject are first attracted by the "rice theory," especially in view of other forms of peripheral neuritis, such as ergotism, lathyrism, and perhaps pellagra, being attributed to the results of parasitic growths on seeds. This, in fact, appears to represent the first stage of research, which is almost invariably given up when the idea is found untenable as a result of fuller knowledge. But to accept the "rice theory" as final and to advise governments to legislate against rice with a view to prevention of beri-beri is to discourage further research until, of course, such legislation is found to be futile. Meanwhile, trade may be damaged and the habits of the people unnecessarily interfered with.

Shanghai. ARTHUR STANLEY, M.D.Lond., M.O.H.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.

DEMONSTRATION.

THE inaugural meeting of this session was held, under the chairmanship of Dr. HOBBS CRAMPTON, on October 17th, at the London Hospital, by invitation of Dr. J. H. SEQUEIRA, who showed a very interesting series of cases from the skin department, including, amongst others, examples of (1) leprosy, (2) keloid on scars of herpes, (3) hydroa gestationis, (4) extensive iodide eruption, (5) urticaria pigmentosa, and (6) multiple sarcoma of Kaposi. He showed also a series of cases illustrating different stages of syphilis, including primary chancre of lip, and secondary ulceration of tip of nose, annular eruption, necrosis of nasal bones, and the immediate and ultimate results of salvarsan treatment. Dr. Sequeira discussed each case in detail as shown, and answered questions as to treatment and other points. At the conclusion of the demonstration a vote of thanks to Dr. Sequeira was moved in appreciative terms by Dr. LESLIE DUNN, and also to the Hospital Committee, and seconded by Dr. T. RUSHBROOKE. Dr. SEQUEIRA, in acknowledging, referred to the pleasure which these meetings annually afforded him in welcoming the visit of the Division, and to the readiness with which the treasurer and committee always extended the opportunity in granting the use of the board-room.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

AT a meeting on October 27th, Sir DAVID FERRIER, President, in the chair, Sir JOHN BLAND-SUTTON introduced a discussion on the *Visceral complications met with in hysterectomy for fibroids*, and the best methods for dealing with them. This is published in full at p. 1130. Among subsequent speakers, Dr. A. E. GILES expressed a belief that there was no connexion between fibroids and valvular disease of the heart, and that in cases of heart lesions there was no very great risk in the operation itself. He had not met with glycosuria as frequently as had Sir John Bland-Sutton, and had not seen pulmonary embolism in this connexion. Mr. DOUGLAS DREW spoke of the rapid fall in pulse-rate which followed operation on a patient in whom mitral stenosis occurred in association with a large fibroid, and also of another case in which rapid enlargement of the thyroid gland occurred after hysterectomy for fibroids. He had injured the ureter in two cases. In one he fixed the ureter into the bladder; in the other he ligatured its proximal end. Both patients recovered satisfactorily. Mr. HERBERT WATERHOUSE agreed in the main with the conclusions of the opener of the discussion, but believed that pulmonary embolism was due to the overuse of large retractors rather than to buried sutures. He thought that the symptoms of myocardial failure and hyperthyroidism were both attributable to a poison absorbed from the degenerating fibroids. Injury to the ureter was avoidable if care were taken to make sure of its situation, by dissection if necessary. Dr. C. HUBERT ROBERTS favoured implantation of the ureter into the bladder when the former had been injured. Mr. HERBERT PATERSON disagreed with the view that buried sutures caused pulmonary embolism. When carcinoma of the colon complicated thyroids it should be removed first, and the treatment of the fibroids deferred till occasion should arise. Mr. A. E. JOHNSON thought that if the ureter was damaged, proper treatment was to engraft it into the bladder, and if contraction developed later, to open the bladder and improve the graft. Dr. R. A. GIBBONS had come to the conclusion that when uterine fibroids were complicated by Graves's disease, operation should not be performed unless the tumour actually threatened life. He agreed that the ureter was more often divided than was usually thought. Dr. M. HANDFIELD-JONES thought that pulmonary embolism should more properly be ascribed to thrombosis of the large veins about the tumour rather than to thrombosis of small veins such as might follow deep suturing.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on October 17th, Mr. A. ERNEST MAYLARD, President, in the chair, Dr. JOHN M. COWAN reviewed the literature of *Auricular flutter*, dating it back to McWilliam's demonstration in 1887 that the application of an electrical stimulus to the auricle produced a premature systole starting at the point of stimulation, and set "the auricles into a rapid flutter, the rapidity of which largely depends upon the excitability of the auricular tissue and the strength of current employed. The movements are regular; they seem to consist of a series of contractions originating in the stimulated area and thence spreading over the rest of the tissue. The movement does not show any sign of inco-ordination; it looks like a rapid series of contraction waves passing over the auricular walls," and thus differed from auricular filtration, in which the auricular contractions were inco-ordinate, and much more frequent (500 to 600) and irregular. In 1905 Gibson and Ritchie reported a case, with polygraph tracings, of full heart-block, in which, with auricular contractions numbering 246 to 300, the ventricular beats numbered only 30; and in 1906 a similar case. Morrison, Hertz, and Goodhart also published similar tracings. In 1910 Jolly and Ritchie commenced investigations with the electrical polygraph, and, independently of others, isolated auricular fibrillation. They also examined the 1905 case of rapid auricular action, and found that the auricular waves were regular, numbering about 300, and diaphasic. They

suggested that this might be the same as McWilliam's auricular flutter. Further observations by Ritchie, Lewis, and others seemed to have established the identity of a new rhythm, and one that is not at all uncommon. Thirty cases had been published, and the speaker had found eight cases in his own collection, with polygraph tracings, and many more in which its occurrence seemed probable. A series of tracings illustrative of various types of auricular flutter was then demonstrated. Dr. Leonard Findlay, in a paper on the *Intestine as a pathway of infection to the tubercle bacillus*, with special reference to the part played by enteritis, detailed a series of experiments by himself, and drew from them the following conclusions: (1) Healthy rabbits can be infected by the ingestion of large amounts of bovine tubercle bacilli. (2) The bacilli can pass through the apparently intact mucous membrane and reach the mesenteric glands within a period of six days; this, however, does not frequently happen. (3) When infection occurs the intestine is invariably the seat of lesions, and thus tuberculosis of any organ, other than the intestine, is always a secondary infection when the bacilli have entered by the intestinal route. (4) Catarrh of the intestine does not favour the passage of the tubercle bacilli through the wall, but allows of a more constant and also of an earlier and more widespread infection of the bowel, and in this way facilitates dissemination. (5) Healthy rabbits can be infected by the ingestion of large amounts of the human tubercle bacillus. (6) Rabbits just recovered from intestinal catarrh develop tuberculosis more easily and much sooner after the ingestion of human tubercle bacillus. (7) With the human type of organism a local lesion, though always present, may be slight in comparison with the diseased foci in the mesenteric glands and lungs. (8) In digestion experiments with the human type of bacillus it would seem possible for the local intestinal lesion to heal and all trace of the portal of entry to be lost. (9) Apparently the best means of combating the spread of bovine infection in children, so long as removal of the source is not tackled, is the avoidance of everything likely to cause intestinal catarrh and the use of sterilized milk.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.

At a meeting on October 2nd Dr. L. A. Parry, in a paper dealing with the *Possibility of premature interment*, held that, although there was only one absolutely incontrovertible sign of death—namely, putrefaction—yet a combination of many well-known signs of death, even in the absence of putrefaction, made the diagnosis of death absolutely sure. One could assure those who had doubts on the subject that, provided various signs of death were very carefully verified, no doubt could remain in a trained observer's mind as to the absolute certainty of the absence of life, but he pointed out how seldom in this country careful observation was made. In the discussion which followed Dr. R. J. Ryle emphasized the importance of flaccidity and loss of tension in the eyes, and Mr. H. H. Taylor spoke of ophthalmoscopic examination as valuable. Loss of circulation in the retinal vessels immediately followed death. Dr. H. M. Galt pointed out that in this country the great safeguard was the length of time ensuing before burial; with reasonable care premature interment should be impossible. Dr. R. J. Ryle, in some notes on *Habitual inebriety*, agreed that it was rather an evidence of an unsound mind than a cause of it, but pointed out that this view was not correctly put in the common words, "Drink is a disease"; these obliterated the distinction between the voluntary actions of the inebriate and the involuntary actions of, for instance, a subject of epilepsy. As to the innumerable secret of advertised remedies, some cures might be found from all or most of them; but with regard to all of them, as also with regard to hypodermic injections of atropine and strychnine, it was probable that the treatment owed its efficacy to mental and not to pharmaceutical factors. The most important element in treatment in every case and under all methods was the personal impression made and influence gained by the medical attendant and its use in gradually encouraging and aiding the restoration of the patient's own will. The saying of Professor William James, that "The only remedy for dipsomania is religiomania," indicated by an exaggeration the same truth. The following were among the exhibits:—Dr. H. N. Fletcher: (1) A case of *Malignant disease of the mamma* in a middle-aged man: (2) a specimen of *Tuberculous kidney*, which had simulated renal colic by occurrence of attacks of intense pain and absence on repeated examination of tubercle bacilli in the urine. Dr. C. F. Bailey: A case of *Actinomycosis* of the cheek entirely cured by use of *x* rays after failure of large doses of potassium iodide. Dr. W. Broadbent: A specimen of *Cerebral haemorrhage in a child* following embolism during the course of ulcerative endocarditis.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

At a meeting on October 15th, Mr. R. G. Hogarth, President, in the chair, Mr. H. J. Gauvain gave an account of the views framed by him as the result of his experience as superintendent of the Cripples' Hospital at Alton on the subject of the conservative measures in the treatment of surgical tuberculosis. He laid great stress on the fact that tuberculous disease is a general disease with local manifestations, and therefore treatment to be successful must be general as well as local. As regards the general treatment, these cases were best treated in a special hospital which was situated in a locality climatically especially suitable to the cure of tuberculosis. If a marine spot were selected for the special hospital, it should be on the beach with a wide foreshore and facing the prevailing winds. The subsoil should be chalk or sand and stone. Of course suitable hygienic arrangements were essential, and the diet should be good, plain, ordinary food. Given suitable general and mechanical treatment, the use of tuberculin was limited, and should usually not be advocated. Among the adjuvant methods of treatment, Bier's treatment, *x* rays, and the "sun-treatment" as recommended by Rollier, were all useful in special cases. Heliotherapeutic measures had been very successfully employed at Alton. An attempt was now being made there to cure the worst cases of angular curvature by means of a system of extension and counter-extension, and encouraging results had already been obtained. After the deformity was corrected, the parts were immobilized in a plaster casing for the requisite period of time, this varying with individual cases. Before applying the plaster jacket on a suspended patient it was desirable to tilt the patient gradually to the vertical position to avoid syncope. When the plaster jacket was discarded a plaster positive of the patient's trunk was made, and on this a celluloid jacket was manufactured. In order to overcome the inflammable properties of celluloid, celluloid in solution in acetone was denitrated by the addition of a supersaturated solution of calcium chloride. The resulting mixture when dry was non-inflammable, but preserved the other essential physical qualities of ordinary celluloid. The solution was painted on to strips of muslin on the cast, and after drying a perfect celluloid casing was obtained and makes an ideal jacket. In dealing with abscesses by aspiration, the needle should be inserted as far from the abscess as possible and through a wide extent of healthy tissue. Thick, caseous material should first be liquefied by injecting a solution of thymol 1 part, camphor 2 parts, and ether 3 parts. When the pus was fluid and the abscess thin-walled it was the practice at Alton to inject a 10 per cent. solution of sterile iodoform in ether. This promoted sclerosis and fibrosis in the walls. It was of great importance to avoid sinus formation, as they were the most serious complications associated with tuberculous arthritis. The paper was accompanied by a lantern demonstration which included some cinematographic films.

HARVEIAN SOCIETY.

At a meeting on October 16th, Dr. Leonard Guthrie, President, in the chair, the following were among the exhibits:—Dr. G. A. Sutherland: A child three years after the removal of the left kidney for sarcoma by Mr. Burghard; for two years there was an apparent cure, but recurrence then took place. Mr. Gauntlett: A case of ulnar paralysis following the separation of the lower

epiphysis of the humerus. The nerve had been freed from the callus by which it was surrounded. Dr. DUNCAN FITZWILLIAMS: (1) A case in which a lipoma had been removed from under the parietal pleura; (2) a fibro-lipoma from under the deltoid; it had been attached to the capsule of the shoulder-joint.

Reviews.

OPHTHALMOLOGY.

THE second volume of Dr. M. L. FOSTER'S translation of ROEMER'S *Textbook of Ophthalmology*[1] appeared rather less than a year after the first volume, which impressed us favourably. It includes diseases of the eyelids, injuries of the eye, diseases of the vitreous, sclera, lacrymal organs, and orbit, glaucoma, and muscle errors. It differs from most ophthalmic textbooks, since it is in the form of lectures, and this goes far to account for its bulk. Although various theories and methods of treatment are described, as a rule Roemer lays down what he considers to be the correct course without discussing the views of others in much detail. A thorough explanation of the various theories which have been adduced to account for sympathetic ophthalmitis is given. In sympathetic ophthalmitis the Leber-Deutschmann theory of migration and the modified cilio-neural theory of Schmidt-Rimpler are discarded as unsatisfactory, as they fail to account for the facts of the disease. The theory the author advocates is that the disease is a specific metastasis, that it arises haematogenously, and is due to a specific metastasis from the eye first affected. This, he holds, has received adequate experimental support and affords a natural explanation of all the clinical symptoms. In describing the operations for glaucoma, iridectomy is given the premier place, then cyclodialysis, and finally sclerotomy, but no mention is made of trephining nor of Herbert's method of sclerotomy. A good deal of attention is bestowed upon the changes in the fluid contents of the normal eye. The final chapter of the volume deals with muscular anomalies. The third volume contains a chapter on the pupil and its normal and abnormal reactions, in which considerable attention is given to the action of the pupil in certain diseases of the central nervous system. The chapter or lecture on the extraocular muscles contains a full discussion of the diagnostic importance of paresis of the various muscles, and of the effects of injury, and such diseases as herpes ophthalmica. Next follows an account of the affections of the choroid, retina, and optic nerve. Considerable attention is given to errors of refraction and presbyopia. The account of colour vision is based on the Hering theory, and the author is apparently one of the few who still consider this theory either correct or adequate to explain the subject; the only tests mentioned for the determination of colour vision is the Holmgren, Stilling's tablets and Nagel's test. This is unusual in a German book, for it is so well recognized in that country what unreliable a test the former is. There is an appendix, written by Dr. M. L. Foster, on asthenopia and its causes. The three volumes which comprise this book treat very thoroughly of the subject of ophthalmology. The style is that of a teacher speaking to the students, and the matter is clearly and explicitly put and generally sound and correct. The book occupies a unique place in ophthalmic literature.

We welcome the seventh edition of *Diseases of the Eye*,[2] by G. E. DE SCHWEINITZ of Philadelphia. The first 200 pages contain a description of the examination of the eye, and a discussion of optics and refraction. Some of the illustrations are anything but artistic, especially those dealing with the examination of the eye. Figures 26, 27, and 28 might well give place to something a little more worthy of the book, and the passages in which colour blindness and its detection are dealt with might be rewritten with advantage. The chapter on glaucoma is good, and the modern operations of Lagrange, Elliot, and Herbert are well described. There is an article on the injurious effects of the arylarsenates; the amblyopia which has in some cases followed the use of soamin, orsudan, etc., Dr. de Schweinitz considers due to the aniline in these compounds and not to the arsenic, and he definitely states that salvarsan has no injurious effect on the optic nerve—a matter which we had supposed to be as yet unsettled. Almost all recent work finds a place in this volume, which is one of the larger textbooks, containing as it does nearly 1,000 pages. The book is too well known not to be familiar to most ophthalmic surgeons, and it justly occupies one of the first places in textbooks of eye diseases.

Surgery of the Eye,[3] a book of some 500 pages recently brought out by Drs. ERVIN TÖRÖK and GERALD H. GROUT, both of New York, is profusely illustrated with 509 diagrams of which 101 are in colour as well as two coloured plates, and the whole get up of the book is excellent. Detailed explanations are given of such operations as are described together with their indications. The introduction is written by Dr. Arnold Knapp, and in the first chapter—dealing with the general preparation and surroundings required for ophthalmic operations—nothing is lacking, so that a beginner will find all details for the performance of surgical work on the eye. Although the book is of fair size no mention is made of many of the operations which are more or less in general use. Good useful methods are given for dealing with every ordinary condition likely to be met with, and some of the newer operations are well illustrated and described. It is an advantage rather than otherwise for a beginner not to be confused with too many alternative ways, and those that are given here are really useful methods of dealing with the various conditions for which they were designed. The book can be recommended as an up-to-date volume on the surgery of the eye.

In Dr. KARGER'S work on the development of the spherical refraction of the human eye,[4] the whole question of the development of the three conditions of refraction—hypermetropia, emetropia, and myopia—is discussed at great length. The three conditions must, he says, be considered together, because they are not essentially different. Both long and short sight depend upon a lack of the correct balance between the corneal curvature and the length of the eye. The corneal refractive power varies within fairly wide limits, but corneae which are more or less curved than the average may be and are found in emmetropic eyes. Similarly a strongly curved highly refractive cornea may be found in a hypermetropic eye, and a cornea flatter than the average may be associated with myopia. Generally speaking, however, the hypermetropic eye is furnished with a flat cornea; myopic eyes have in most cases a sharply curved cornea. The average variation is about half a dioptre, but in exceptional cases it is much more. These two factors—axial length and corneal curvature—afford, the author contends, the necessary variable factors for natural selection and heredity to act upon; either of the two may be inherited from either parent. Among aboriginal tribes myopic individuals would, he argues, be at a serious disadvantage, and hence natural selection would tend to eliminate this form of refraction, and accordingly short sight is rare among savage tribes. Myopia is, on the other hand, not such a serious disadvantage among cultured races, and in some callings may even be an advantage. He concludes therefore that the higher the culture the greater will be the percentage of myopic individuals. In Dr. Steiger's opinion heredity and natural selection are the all-important factors in determining whether the refraction of an individual shall be hypermetropic, emmetropic, or myopic. He regards myopia as a single entity, and disapproves of any division

[1] *Textbook of Ophthalmology, in the form of Clinical Lectures.* By Dr. Paul Roemer, Professor of Ophthalmology at Greifswald. Translated by Dr. M. L. Foster. Volumes ii and iii. London: Rebman, Limited. 1913. (Roy. 8vo, pp. 277-571 and 572-892. 10s. 6d. net each volume.)

[2] *Diseases of the Eye: A Handbook of Ophthalmic Practice for Students and Practitioners.* By G. E. de Schweinitz, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania. Seventh edition. Philadelphia and London: W. B. Saunders Company. 1913. (Med. 8vo, pp. 980; 360 illustrations; 7 chromo-lithographic plates. 21s. net.)

[3] *Surgery of the Eye.* By Ervin Török, M.D., and Gerald H. Grout, M.D. London: Baillière, Tindall and Cox. 1913. (Roy. 8vo, pp. 515; 509 illustrations; 2 plates. 18s. net.)

[4] *Die Entstehung der sphärischen Refraktionen des menschlichen Auges.* Von Dr. med. Adolph Steiger. Berlin: S. Karger. 1913. (S. roy. 8vo, pp. 380; 15 figs. Mk. 18 unbound, Mk. 20 bound.)

into varieties, such as inherited myopia, school myopia, and pernicious myopia. He points out that two sisters may have myopia which they have inherited from myopic forbears, and yet one may have a normal fundus and the other serious changes in the choroid, and it may even happen that these changes are present in the sister who has the lower degree of myopia than the other. There is, he holds, no such thing as school myopia; the disease often advances with the increased age of the children, but this has nothing to do with the work the scholars perform. He severely criticizes the deductions which have been drawn from enormous masses of figures on the ground that statistics have been compiled upon such varying plans that they are useless for purposes of comparison. The results of those ophthalmologists who have examined schools without using a mydriatic are, he thinks, worthless. We do not think that anything is to be gained by attempting to avoid drawing a distinction between ordinary low grade stationary myopia and progressive myopia. One child inherits a faulty balance between axial length and corneal curvature determining a stationary myopia, which ceases when growth has ceased, while another child inherits a sclera which fails to withstand the strains imposed upon it and progressively elongates, whether he studies in school and college or works in the fields; high grade myopia, with fundus changes, is at least as common among the labouring classes as among the professional, and is by no means unknown among such uncultivated races as the Bedwân. There is justification for the author's refusal to entertain the theory advanced by Cohn that school work may be a cause of myopia. English boys often work as hard at books as German boys, yet myopia is quite the exception among English professional men, while in Germany it reaches 50 per cent. Half the German doctors, it is said, are myopic; we doubt whether even one-tenth of English doctors are so afflicted. If these statements be correct, it seems obvious that we have to do with a question of racial proclivity. Dr. Steiger's book, as a whole, is open to the criticism that all he has to say could have been condensed into 100 pages, and we have over 500. In some places his diction is so lacking in clearness that we feel that we may not have interpreted him correctly; 441 references are given at the end of the book, and by far the larger part of the work is devoted to the views of ophthalmologists, some of high others of little repute. The statistics compiled by the London County Council's medical advisers, Bishop Harman and others, are not even mentioned. The book is tedious, and the author adds little to our knowledge of the subject.

Dr. C. Adam, of Berlin, has produced an excellent atlas[5] showing the normal and pathological appearances of the retina, in coloured plates and with a magnification of about ten diameters. The pictures, drawn by Landsberg, are first rate, and have been very well reproduced and printed, rarely leaving anything to be desired. The greatest excellence of Dr. Adam's book, however, lies in the ample notes and explanations with which each picture is expounded, and in the pages of text with which the different series of retinal pictures are each introduced. Beginning with a short and clear account of the technique of ophthalmoscopy, and the way in which to correct the faulty methods that beginners are likely to employ, the author goes on to discuss the normal papilla and fundus, and the etiology and pathology of optic atrophy, optic neuritis, and the diseases of the retinal vessels, the retina, and the choroid. In each case the normal and the morbid anatomy of the part are given, in simple terms but very thoroughly, and always the main object of the book is kept in view—the use of the ophthalmoscope as an aid to diagnosis. The text is not burdened with detail, but clearly written and readily intelligible. The book is admirably got up and printed, and may be warmly recommended, not only to specialists in diseases of the eyes, but to all practitioners and advanced students who are not strangers to the use of the ophthalmoscope.

[5] *Ophthalmoskopische Diagnostik, an der Hand typischer Augenhintergrundsbilder. Mit besonderer Berücksichtigung der für die Allgemein-Medizin wichtigen Fälle für Aerzte und Studierende.* Von Priv.-Doz Dr. C. Adam. Berlin and Vienna: Urban and Schwarzenberg. 1912. (Imp. 8vo; 86 illustrations, 41 tables, 18 figures.)

MEDICAL GYMNASTICS AND ORTHOPAEDICS.

The treatise on medical gymnastics of Dr. Anders Wide,[6] which was published in Stockholm in 1896, had many readers in Scandinavian lands and was subsequently translated into the three chief European tongues. The French translation, by Dr. G. Falk, of the second edition which has just appeared, will no doubt also have a large circle of readers. Although this work is largely founded on the teaching of Ling, the author has found it convenient to adopt the nomenclature based on that used by Zander in his mechanical exercises, which Dr. Wide also recommends with the reservation that they should be combined with, but can never take the place of, massage. Nearly a century ago Ling divided gymnastics into four principal branches, namely pedagogic, military, medical and aesthetic, but although these four groups differ in the objects aimed at, the means employed have much in common.

There are three main divisions of medical gymnastics—the active, the passive, and the group of movements against resistance. Part I of the book is devoted to detailed description and discussion of the various movements and exercises, while Part II is occupied by a consideration of their application to different diseases. In the first part the descriptions and illustrations are necessarily familiar to all readers of books on Swedish gymnastics, and are adequate and clear. In the second part the author, after defining the extent of the usefulness of the method, warns us against some teachers of Swedish gymnastics abroad, who have applied it as the sole means of treating all diseases, even infectious fevers and malignant tumours. Then follow sections on the treatment of the circulatory, respiratory, digestive, genito-urinary, nervous and muscular systems; on constitutional and intoxication diseases and on those of the bones and joints. Finally, some fifty pages are devoted to consideration of the diagnosis and treatment of scoliosis. This subject, probably owing to want of space, is dealt with in a rather sketchy manner, and some causes of scoliosis, for example, anterior poliomyelitis, are not mentioned. Should a third edition of this popular treatise be called for, the author would be well advised to leave out discourses on etiology, pathology, and diagnosis of scoliosis, and utilize the space saved by amplifying the descriptions of manipulations and exercises and increasing the number of illustrations of them, for there is no deformity in which the selection of appropriate exercises calls for more discretion if good results are to be attained. The book has no index.

SURGERY FOR DENTAL STUDENTS.

In a handbook entitled *Surgery for Dental Students*,[7] Mr. Arthur Underwood has tried to define the surgical knowledge requisite for the examinations for the dental licence. Ten years' experience as examiner on the English Dental Board, and an official visit of inspection to all the existing British examinations, should be an efficient preparation for such a work. The authors also thought that a clearly written elementary treatise might not be unwelcome to the general student as an introduction to the study of surgery. This we think unfortunate, since it seems to have induced the authors to write at least as much for the general as for the dental student, and opportunities of explaining the text by reference to oral conditions have not been as much utilized as they might. For example, more is said on the subject of facial paralysis than is ever required of the dental student, and less on the oral manifestations of syphilis than he should know. In discussing chronic pharyngitis, it would have been well to point out that it frequently depends on a septic mouth, and in connexion with chronic inflammation of bone pyorrhoea alveolaris should have been mentioned. It is said that Hutchinson's teeth may be caused by some other affection than syphilis. We

[6] *Manuel de gymnastique médical et orthopédique Suedoise.* Par le Docteur A. Wide, Professeur à l'Université de Stockholm, Directeur de l'Institut gymnastique orthopédique. Traduit par le Docteur G. Falk de l'Université de Stockholm. Bruxelles: A. de Boeck. Paris: F. Alcan. 1913. (Roy. octavo, pp. 318; 100 figures, and 1 plate. 10 Fr.).

[7] *A Handbook of Surgery intended for Dental and Junior Medical Students.* By Arthur S. Underwood, M.R.C.S.Eng., L.D.S.Eng., late Examiner, Royal College of Surgeons, England; and Bayford Underwood, M.B., B.S.Lond., M.R.C.S.Eng., L.R.C.P. London: John Bale, Sons and Danielsson, Ltd. 1912. (F'cap. 8vo, pp. 252; 19 illustrations. 3s. 6d. net.)

should like evidence that this occurs even rarely, for the point is one of great interest. Like all Mr. Underwood's work, the book is written in an interesting and clear style. The chapters on pathology are especially good reading, and great care has been expended in sorting out the information given throughout the book. The dental student who masters its contents, and can apply the knowledge to his speciality, should not only satisfy the requirements of any dental examining board, but also give a good account of himself in daily practice.

Messrs. MILLS AND HUMPHREYS have also published a work on *Surgery for Dental Students*.[8] They have written solely for dental students and practitioners, and claim to meet all the requirements of the new curriculum of the Royal College of Surgeons of England and of the various licensing bodies both here and in America. The authors deal with surgical pathology in general and with diseases and injuries of the mouth and adjacent parts in particular. The work is open to the same criticism as that by the Messrs. Underwood—full advantage has not been taken of opportunities of illustrating general pathology by mouth conditions, and the influence of dental sepsis appears not to be fully appreciated. When we read that "chronic inflammation (of bone) is usually due to tuberculosis or syphilis, but occasionally to chronic irritation," we are inclined to suggest that in the jaw bones the reverse is the fact, that the chronic irritation of dental sepsis is the common causal factor, and tubercle and syphilis uncommon. We note that while Mr. Underwood would avoid alveolar drainage in the treatment of chronic antral suppuration at all costs, Messrs. Mills and Humphreys find it the most satisfactory method in the majority of cases. The book is well and clearly written, and includes all, not excepting "foot and mouth disease," that the dental practitioner is likely to meet with. It is unlikely that any dental examining board will require more of the candidate than is contained in its pages.

DYSENTERY.

Dysenteries: their Differentiation and Treatment,[9] a small book by Professor LEONARD ROGERS, deserves very careful study. The author has given special attention to the subject, and has from time to time advocated strongly the ipecacuanha treatment for the amœbic variety of the disease. Still more lately, applying Vedder's experimental work on emetine, he has opened up a very great improvement in the therapeutics of the condition, and has done inestimable service in advancing strong clinical evidence of its efficacy. Protozoal diseases present special difficulties in treatment, and amœbic dysentery is no exception to this rule. The expectation that a few doses of emetine would always cure dysentery, if ever entertained, is now being proved by experience to be too sanguine; it would appear that a fairly prolonged course may be necessary, and that even then relapses may occur. We would strongly advise those who have had little experience of dysentery to read this book. It is very simply written, and gives a very good account of the subject, including not only the amœbic, but also the bacillary and other forms of the disease. The last chapter of the work is devoted to sprue.

NOTES ON BOOKS.

MR. C. STRICKLAND, medical entomologist, Federated Malay States, has prepared a *Short Key to the Identification of the Anopheline Mosquitos of Malaya* for the use of medical officers and others. The key is concerned with fifteen species, which, in the author's opinion, comprise all those of importance for medical purposes. Attention is first directed to one part of the mosquito's anatomy and then to other parts, and it is believed that, with the aid of the diagrams given, the identification will be comparatively easy. The pamphlet, which is published by the Government Printing Office, Kuala Lumpur, will undoubtedly prove useful.

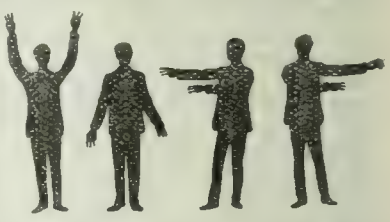
[8] *A Textbook of Surgery for Dental Students*. By G. Percivall Mills, M.B., B.S.Lond., F.R.C.S., Surgeon to the Royal Orthopædic and Spinal Hospital, Birmingham, and Humphrey Humphreys, M.B., Ch.B., B.D.S.Birm., L.D.S.Eng., Demonstrator in Dental Surgery, Birmingham Dental Hospital. London: Edward Arnold. 1913. (Demy 8vo, pp. 352; 57 figs. 12s. 6d. net.)

[9] *Dysenteries: their Differentiation and Treatment*. By Leonard Rogers, M.D., F.R.C.P., B.S., F.R.C.S., C.I.E., I.M.S., Physician to the Isolation Ward (Cholera and Dysentery), Medical College Hospital, and Professor of Pathology, Medical College, Calcutta. London: Oxford Medical Publications; Henry Frowde and Hodder and Stoughton. 1913. (Demy 8vo, pp. 345; 10 plates, 2 charts, 3 diagrams. 10s. 6d. net.)

MEDICAL AND SURGICAL APPLIANCES.

The "Signal" Vision Test Type.

MR. N. BISHOP HARMAN, M.B., F.R.C.S. (Ophthalmi: Surgeon, Belgrave Hospital for Children, London), writes: This test type has for its signs the block E after the fashion of Hirschberg's test types; but only one sign is given for each grade of the test. The signs are mounted on turntables, so that their positions can be varied indefinitely. In one model the whole of the turntables are geared together by a simple pulley arrangement, so that the movement of a milled head at the front bottom edge of the board causes all the signs to turn in different directions. In the simpler model the turntables have knobs projecting behind the board by which they are moved as required. This test is of particular value where it is desired to make a subjective test of vision with a minimum of error due to the "mental factor"—that is, in testing seamen, railwaymen, or other employees whose vision is a matter of importance. The test requires no knowledge of letters, only the minimum power of imitation. The test has already been in use for some time for testing school children with excellent results. As a school-vision test the children should be taught to regard the E sign as three fingers, turned up, down, to the right or left. The teacher should draw these signs on the class blackboard in large size and teach the whole class "signal drill," showing them how to stretch out three fingers of both hands in the position of the fingers of the E sign pointed to. After this drill vision-testing will be quick and sure. The test should be hung in full daylight (not sunshine), a monitor should stand beside the test holding a sheet of dull-coloured card, so as to cover all the signs below the one the child is looking at. The child should stand toeing a chalk line drawn at the distance of 16 ft. 6 in. from the test. The examiner sitting slightly behind the child will see both the sign and the signal of the child. The signs should be altered in position for each child by the monitor turning the milled head or one or two of the discs. Except that the test will get dirty, there is no objection to letting it hang in the class room, for it cannot be learnt by heart. On the back of each test card there is gummed a printed sheet with the instructions as above and a figure showing the manner of signalling with the arms and fingers. The test is made in excellent fashion by Messrs. Curry and Paxton, Great Portland Street, London, W.



SANITARY AND DOMESTIC APPLIANCES.

Irish Frieze.

THREE specimens of Irish frieze that have reached us are samples of the fabrics now being used by Messrs. M'Alery, of Belfast (27, Rosemary Street) in the making of ulster coats. They present variations in colour and slight differences in weight, but all alike offer, even when stretched, marked resistance to the passage of water, as also to that of air under pressure. Such cloth, even as it stands, would offer the wearer a high degree of protection both against cold wind and driving rain, and when its resisting power is further increased by lining it with tweed—as is the practice of Messrs. M'Alery—the resulting garment should be of a highly satisfactory kind from the point of view of those who wish to take all reasonable precautions against chills. Messrs. M'Alery have had long experience in the building of winter overcoats, and the cloths from which the samples in question were derived seem well calculated to maintain their reputation. The ulsters are made with deep collars and wind-proof cuffs, and the firm claims that they will wear for ten years. Patterns can be obtained on application.

LONDON SCHOOL OF TROPICAL MEDICINE.

Annual Dinner.

The annual dinner of the London School of Tropical Medicine was held at Princes Restaurant on Friday, October 24th, Dr. F. M. Sandwith in the chair. Among those present were Mr. Austen Chamberlain, Mr. Percival A. Nairne (Chairman of the Seamen's Hospital Society), Sir J. West Ridgeway, Viscount Milner, General Sir Reginald Talbot, Sir Patrick Manson, Sir Francis Lovell, Sir William Leishman, Sir Charles Pardey Lukis, Sir John Rose Bradford, Sir William Bennett, Sir R. Burnet, Sir Richard Havelock Charles, Surgeon-General A. W. May, Mr. H. J. Read (of the Colonial Office), Sir John Anderson, Surgeon-General Sir A. M. Branfoot, Sir E. W. Birch, Commander G. Hodgkinson, R.N., and Sir William Treacher.

Mr. Austen Chamberlain, the principal guest, proposed the toast of "The London School of Tropical Medicine." He said he supposed it was entrusted to him because it had recently been his good fortune to be connected from the outside rather intimately with the fortunes of the school. He was glad of the opportunity which was afforded him of saying what had been done with the funds which had been collected. He accepted the invitation of Mr. Lewis Harcourt to take the chairmanship of the committee to raise funds for the school for several reasons. The first reason, he need have no hesitation in saying, was a filial one. It was on the ground of his father's connexion with the school that Mr. Harcourt appealed to him, and it was primarily on account of his father's connexion with the school that he accepted the chairmanship of the committee. But that was not the only reason. The study of tropical medicine had in the past twenty or twenty-five years made giant strides, and in its advance our countrymen had taken a leading part. As the possessors of the greatest tropical and subtropical empire existing in the world Britons had a special obligation to the subject races of whose well-being they were the guardians. They had a like obligation to the young men of their own race who went out to other climes, leaving easier and certainly safer paths at home, carrying with them the honour of their country, doing her work, spreading her civilization, and increasing her reputation. Their country owed to them that at least she should do everything possible to minimize the risks they naturally had to run, and should show her appreciation of their work by striving to secure thorough research into the conditions of health and the cause of illness to which their labours rendered them particularly exposed. It was a matter of national honour and national pride that in so beneficial a movement the men who had taken so large a part in its initiation should be encouraged to carry on the work, and that this country should stand in the forefront of the pioneers and of the new learning which was being acquired. For the promotion of these ends they had organized an effort to collect a sum of £100,000, and they had succeeded in getting the not inconsiderable sum of over £70,000. Acting on the advice of the committee of management of the School of Tropical Medicine and of the head of the Seamen's Hospital, they desired in the first place to make an absolutely necessary extension of the buildings of the school. To that they had devoted £15,000; not an undue proportion of the fund to sink in bricks and mortar. The second object was to provide a fund for research. That they had been able to carry out by the kindness of Sir William Bennett in allocating to this purpose the legacy of £10,000 which the late Lord Wandsworth entrusted to his discretion. This object had been further served by strengthening the staff of the school. The third object of the committee and the subscribers was to obtain a moderate endowment for the school, which should place it beyond immediate want and prevent its being always hampered by lack of funds. For that purpose a sum which would produce an annual income to the school of about £1,400 had already been allocated, and additional funds had been obtained which would allow of another £400 a year. The last of the objects was one of some delicacy. Men sometimes returned from the tropics suffering from diseases peculiar to those climes, but with means insufficient to secure the attention of those with special knowledge of tropical medicine, which was confined to very few. They were anxious, therefore, to make some provision for cases of that kind, and owing to the help received from the authorities at the Seamen's Hospital they had been able to make arrangements for such patients. The large measure of success which had attended the appeal would never have been obtained but for the hearty co-operation of numberless persons. He had been touched by letters he had received from many tropical dependencies of the Crown, in which the writers sent small contributions. He took that opportunity of asking the gratitude of the company, and of recording his own in particular, to the City Committee. He was anxious to secure an adequate response from those great industries which depended for their profits on tropical and subtropical trade. Thanks to the London Chamber of Commerce in the first instance, and to the City Committee formed under their auspices in the second, the response from companies had exceeded his most sanguine expectations. From the great railway companies, the great banks, the great shipping companies, down to the humblest of the companies operating in our tropical dependencies, there were representatives in the list of subscriptions. It was unnecessary for him there to dwell upon the appreciation felt for work of the school by those who most immediately benefited thereby, and who were best able to judge of the results achieved. But he might give an instance showing how cordial was the response which was being made to the invitation issued to some of those tropical colonies by the Colonial Secretary for a contribution to their funds. When it was gently suggested by the Colonial Office to the Government of the Federated Malay States that in view of the importance of the school to them they might be willing to vote £500 of public money to the fund, a telegram was received in reply stating that in view of the importance of the work to them the unofficial members of the Council suggested that a grant of £5,000 should be made. Those who subscribed in this country need not therefore think that they subscribed to a work for an ungrateful few who could not appreciate what the school was doing. Great as had been the advance which tropical medicine had made in the last few years, he believed they had only scratched the soil so far, and that was a most hopeful and encouraging sign. The discoveries made were not final or conclusive; each opened up a new vista and new possibilities, and they were changing the whole of our mental attitude towards the problems of tropical disease, health, settlement, and development. Diseases which were once thought to be the inevitable concomitant of that development were now seen to be preventable. He hoped that if they had not done all that they tried to do, they had yet put the school on a sound footing and enabled it to pursue its work unhampered by daily anxiety as to means, and to bring its equipment and staff up to date.

The Chairman, in reply, bore testimony to the great efforts of Mr. Austen Chamberlain for the success of the fund, and said part of the scheme of endowment was the establishment of special beds, and it was intended that one of the wards in the hospital should bear the name of the "Chamberlain Ward." He was glad to be able to report that the school was in a fairly flourishing condition. They had the largest class of students they had ever had, and the greatest number of resident students.

Mr. James Cantlie and Dr. W. T. Prout, in the name of the subscribers, presented to Sir Patrick Manson two portraits of himself, in recognition of his work in connexion with the school. One of these portraits is to be hung in the school, the other is intended for Sir Patrick Manson's family.

Mr. Austen Chamberlain, in unveiling the portraits, said that it was owing to the inspiration of Sir Patrick Manson that the London and Liverpool Schools of Tropical Medicine sprang into existence almost at the same moment. Sir Patrick's friends asked him to accept the portraits as a testimony of their gratitude to him for his help and of their affection for him. They wished to recognize the honour he had done his country, and the splendid services he had rendered to medicine, to the empire, and to mankind.

Sir Patrick Manson having suitably acknowledged the gifts, the Chairman proposed the health of the guests, to which Sir John Anderson replied.

Viscount Milner submitted the toast of "The Chairman," who acknowledged the compliment.

During the evening the Chairman announced that, in response to a telegram which he had sent to Mr. Joseph Chamberlain on behalf of those present, he had received the following reply: "Thanks for your kind message. I wish you a pleasant dinner, and I congratulate you on the progress made. J. Chamberlain."

Extensions of the School.

A short account of the extensions of the London School of Tropical Medicine was given in the Journal of May 10th. As the result of a more recent visit we are able to supply some further particulars. A new wing has been added to the school. The new general laboratory provides accommodation for some 70 workers, and, in case of need, room can be found for as many as 120. Separate laboratory accommodation on a liberal scale is provided for tropical hygiene and sanitation, and for the breeding of disease-carrying insects. There is also a preparation room. In the middle is the director's office, so placed that he can overlook the different compartments on each side. Each table has a light to itself, in such a position as to afford the best illumination. These laboratories, which are on the ground floor of the new wing, are additions to the existing helminthological, protozoological, and entomological laboratories, and are said to be the most completely equipped of their kind in the kingdom.

Besides the extension of the working part of the school, additional accommodation has been provided for resident students. When the school was established it was felt by the founders that it would be a great convenience for students to live within its precincts, in constant touch with the laboratories and museums, the library, and the wards of the hospital. This arrangement obviously saves the needless waste of time caused by wearisome journeys to and from town every day. To this end, as a beginning, accommodation was provided for some twelve students. Unfortunately, the increasing demands for accommodation for teaching, especially in the special departments, made it necessary that some of the rooms built for residential purposes should be absorbed into the school. In this way the accommodation available for resident students fell in a short time from twelve to seven. This number of rooms was found to be too small, and on many occasions students wishing to live on the premises had to be refused for lack of accommodation. When plans came to be considered for the recent large additions to the school premises it was felt that this state of things should be remedied, and steps were taken to provide adequate accommodation which would probably fulfil the requirements of students for some years to come. Eighteen additional rooms were therefore provided, making a total of twenty-seven. Each resident student is provided with a comfortable bed-sitting room, and, in addition, has the advantage of a large and handsome mess-room, a comfortable library, and a smoke room. A certain number of bedrooms are set apart for women students, who have also a sitting-room of their own. Every resident is free to use the laboratory accommodation whenever he wishes. In a district such as that in which the school is situated, where suitable accommodation is extremely difficult to find, it is probable that students, when they know of the advantages offered them by having quarters within the precincts of the school, will utilize the rooms to the fullest extent.

A national narcotic law is being considered by the Finance Committee of the United States Senate. This bill regulates the manufacture, sale, dispensing, and distribution of narcotics. Under the provisions of the Act medical practitioners must register and pay an annual tax of 1 dollar, and when purchasing narcotics must make out a regular order form in duplicate, retaining a duplicate copy of such order for a period of two years. When the narcotics so ordered are received, the date of such receipt must be recorded in respect to each order. The dispensing or distribution of narcotics to his patient by the medical practitioner, dentist, or veterinary surgeon registered under the law, in the course of his professional practice and while personally attending such patient, would be exempt from any restriction whatsoever.

LEGISLATION FOR THE MENTALLY DEFECTIVE.

Quinquennial Festival of the Royal Albert Institution.

It is the custom of the Royal Albert Institution (Lancaster) for the Feeble-minded of the Northern Counties to hold its annual meeting each fifth year at the institution to enable its supporters to see for themselves the progress made in the interval. The ninth such gathering took place on October 21st, and excited more than ordinary interest in consequence of the recent passing of the Mental Deficiency Act. Amongst those taking part were the Earl and Countess of Derby, Lord Richard and Lady Moyra Cavendish, Sir James and Lady Crichton-Browne, Sir James and Lady Barr (Liverpool), and Mr. Arthur Hill Trevor and Dr. Hubert Bond, Commissioners in Lunacy.

Lord Richard Cavendish, as Chairman of the Central Committee, presided at the business meeting in the morning, and submitted the forty-ninth annual report, which showed a very satisfactory condition of the finances, the receipts for the last year amounting to over £30,000, an advance of more than £550 upon the previous year's total. The daily average of patients resident during the year had been 696, and the death-rate had been phenomenally low, representing a percentage of only 1.47 of the number under care. Research into the family history of 500 cases had been made by the Medical Superintendent (Dr. Archibald Douglas), showing heredity as the preponderant etiological factor in the mental condition. The most notable event of the quinquennium was the provision of the new farm colony, planned for the permanent residence of 40 of the older boys to be employed on the farm, which now consisted of 205 acres of good land. The new building for this purpose was subsequently opened by the Countess of Derby, and appreciation was expressed by the visitors of its pleasing, solid, and practical character.

In proposing a vote of thanks to Lady Derby, Mr. A. H. Trevor (Lunacy Commissioner) stated his opinion that the Mental Deficiency Act would not be at all detrimental to such voluntary institutions as the Royal Albert, which he trusted would still be maintained in a high state of efficiency. He also drew attention to the importance of an early amendment of the Education (Defective and Epileptic Children) Act of 1899; indeed, the success of the new Act mainly depended on the latter being made universally compulsory.

Sir James Barr, in seconding the vote of thanks, said that he thought more radical measures would have to be adopted to check the multiplication of the feeble-minded, and that the real danger came from the higher grade of the feeble-minded rather than from the most hopeless type.

At the luncheon which followed Lord Derby presided, as he did also at the public meeting in the afternoon. In the course of his speech at the latter he referred to the desirability of accommodation being provided at the Royal Albert for at least 900 cases, and to the anxiety of the central committee for funds to enable it to retain for life a considerable proportion of the inmates, as without proper supervision many even of the improved cases were apt to backslide.

Lord Richard Cavendish also urged the necessity of permanent care in the interests not only of the patients themselves, but of the community and the race.

Sir James Crichton-Browne followed with an address on the future of the Royal Albert Institution, pointing out that under the new Act greatly increased accommodation for the feeble-minded would be called for, and he foresaw an extended sphere of usefulness for the voluntary institutions which had for so many years been carrying on a beneficent pioneer work amongst the feeble-minded. These asylums should become the training colleges from which expert teachers, nurses, and officials could be supplied to the schools, homes, hospitals, and colonies to be created under the Act. It was the Royal Albert and other kindred institutions that must supply the precise and trustworthy knowledge as to the causation of mental deficiency which would serve as a guide to its prevention. Along with heredity attention must be given to other causes of mental defect, social as well as strictly pathological. Working out the best modes of dealing with the

weak-minded of varying classes was an important function of such institutions, and in his opinion the kindergarten, the workshop, and the farm colony constituted the tripod on which the education of the mentally deficient must rest.

Dr. C. Hubert Bond, Commissioner in Lunacy, in a paper insisting on the paramount importance of the continuous care of the mentally defective, pointed out what efficient service might be rendered in this respect by committees of ladies locally organized for the purpose.

The whole institution was open for inspection throughout the day, and specimens of the work of patients were also on view. After the annual general meeting long-service medals in gold, silver, and bronze were presented to various members of the staff by Lady Moyra Cavendish. Dr. Archibald Douglas, the Medical Superintendent, received a gold medal to mark the completion of his seventeen years' service in the institution.

After-care of the Feeble-minded.

A large and influential conference on this subject, organized by the National Association for the Feeble-minded, was opened on October 23rd at the Guildhall by the Lord Mayor of London. In the unavoidable absence of Lord Methuen, who had hoped to preside, the chair was taken by Sir Edward Bradbrook, and the council chamber was packed throughout the day with a large audience, consisting of members of committees of voluntary homes, county councils, boards of guardians, education committees and their officers, including medical inspectors and teachers of schools for defective children.

Sir William Chance read a lengthy paper on the Mental Deficiency Act in view of its coming into operation next year. He laid special stress upon the power of boards of guardians in dealing with defectives of the pauper class, and trusted they would do their best to obtain orders to enable them to make suitable provision on modern lines for those under their control. He thought that there would still be need for voluntary homes, and that local authorities would be glad to avail themselves of them when well managed and certified under the Act.

Miss Evelyn Fox moved a resolution calling, as a matter of urgency, for the passing into law of the Elementary Education (Defective and Epileptic Children) Act (1899) Amendment Bill, as otherwise the Mental Deficiency Act would fail in its operation as regards children, since the Act of 1899 had been only very partially adopted, though the probation of the special school ought to be universally applicable.

This was seconded by Dr. R. Langdon-Down, and supported by Dr. Melland (Manchester), and Dr. Shuttleworth. The last-named quoted the emphatic words which fell from Mr. Trevor, Commissioner in Lunacy, at Lancaster, that "the whole scheme of the Mental Deficiency Act hung upon the Act of 1899 being made universally compulsory." He also put in a plea for some consideration for the mentally deficient children of the well-to-do classes, in his experience not a negligible quantity. He trusted that efficient special schools which had been established by private enterprise to meet their needs would be recognized as "approved homes." The resolution was carried unanimously.

In the afternoon interesting papers were read by Dr. F. O. Spensley, Senior Assistant Medical Officer at Darenth, and by Mrs. Burgwin, Superintendent of London County Council Special Schools, on suitable occupations for the feeble-minded both in institutional and in school life.

Miss Dendy (Manchester) opened the discussion, and warned the audience not to think, in spite of the industrial success of voluntary institutions, that the feeble-minded could ever become self-supporting. There would always be the expenses of skilled instruction and supervision to be met.

Mr. E. A. H. Jay (London Education Committee) and others continued the discussion, and votes of thanks to the chairman and speakers brought an interesting conference to a close.

In the corridor surrounding the council chamber an extensive exhibition of the products of the labour of the feeble-minded inmates of the various voluntary homes was on view, and excited much interest.

THE BIRTH-RATE COMMISSION.

The falling birth-rate was among the subjects discussed at a conference held at Edinburgh on October 21st, under the auspices of the Scottish Council of Public Morals. A paper on the Birth-rate Commission, by Mr. James Marchant, the Secretary of the National Council of Public Morals, Holborn Hall, London, was read, in the author's absence, by Dr. J. W. Ballantyne. Among the explanations suggested by Mr. Marchant for the fall in the birth-rate, accompanied as it was by an increase in the population, were the high standard of living and love of pleasure, and the consequent shirking of parental responsibility, the higher education of women, and their wider entrance into industrial and professional pursuits, and even fear of the pains of parturition. The nation's alleged moral degeneration was frequently on the lips of preachers; and the most worthy desire to give the fewer children born a better chance in every way than the many had in earlier days was quoted with applause. Indeed, the stock of explanations was limited only by the ingenuity of the maker. A serious question was whether, behind the lower birth-rate, there was a lower degree of fertility. If it could be proved that only the weak and defective stock was ceasing to increase there would be little cause for complaint, but apparently the fall in the birth-rate ran through all the classes.

In Mr. Marchant's paper details were given of the private Commission on the Birth-rate established in this country. France, he stated, had gone a step further and had appointed a parliamentary committee to inquire into the national, social, and fiscal aspects of its declining birth-rate. Matters in France were indeed serious, even disastrous, for in the past year there had been an excess of deaths over births and a shortage of 34,000 lives, equal to a good-sized city. In this country the private Commission might not expect to do so much as a Royal one would have accomplished, but it was known that there was no likelihood of the latter being established for a long time to come, and, after all, the private Commission might do some things which the Royal one would miss, for the witnesses would be free to speak in private, and the Commission might thus get a nearer sight and insight into what was really taking place amongst the population. It would be less formal than a Government inquiry, and would be entirely free from all party bias.

The Chairman of the Commission is the Right Rev. Bishop Boyd Carpenter, K.C.V.O., D.D., and other members are the Bishop of Birmingham, the Duchess of Marlborough, Lord and Lady Willoughby De Broke, Lady Aberconway, the Bishop of Barking, the Dean of Westminster, the Dean of St. Paul's, the Right Hon. Sir John Gorst, LL.D. (Vice-Chairman), the Right Hon. Sir Thomas Whittaker, M.P., Sir J. Macdonell, C.B., the Ven. Archdeacon Sinclair, D.D., Principal A. E. Garvie, the Rev. J. Monro Gibson, the Rev. R. F. Horton, the Rev. F. B. Meyer, Rev. Thos. Phillips, Rabbi Professor H. Gollancz, Professor L. T. Hobhouse, Mrs. Bramwell Booth, Mr. A. G. Gardiner, Mr. Walter Heape, F.R.S., Mr. J. A. Hobson, Mrs. George Morgan, Mr. H. B. Grylls, and Mr. Robert Donald. The medical profession is represented by Sir A. Pearce Gould, K.C.V.O., Sir James Crichton-Browne, Surgeon-General G. J. H. Evatt, C.B., Professor G. Sims Woodhead, Dr. A. Newsholme, Dr. T. H. C. Stevenson, Dr. J. W. Ballantyne, Dr. C. W. Saleeby, Dr. Agnes Savill, Dr. Ettie Sayer, Dr. Mary Scharlieb, Dr. Florence Willey, Dr. A. T. Schofield, Dr. Major Greenwood, and Dr. F. Fremantle.

The inquiry is to be made in four directions. First, the extent and character of the decline are to be considered under such headings as the present British birth-rate and infantile mortality, general and classified according to income, occupation, province and county, urban and rural, and religion (if possible); statistics showing the proportion of sterile to total marriages (to find out whether smaller families or total childlessness is the cause of the fall); foreign statistics showing the extent of declining birth-rates, special attention being paid to France and the Jews. Secondly, the alleged causes of the decline are to be investigated, under the headings of physiological causes (for example, the effect of town life, etc., upon lateness of marriage, fertility, number of marriages), prudential motives, and methods of restraint (moral, mechanical, and

chemical). Thirdly, the effects of the decline of the birth-rate, whether due to natural or artificial causes, are to be searched out, under the headings of effects upon the children, upon the man and woman, upon married people, and upon home life. Fourthly, economic and national aspects are to be dealt with, and the Commission is to consider, for instance, the alleged results of a rapid increase of population in a country where the land is fully cultivated, of a permanent surplus of workers upon the condition of the working class (in the matter of unemployment, overcrowding, etc.) in the case of a declining or stationary population, and the alleged national danger of a disproportionate increase in other nations.

Dr. J. W. Ballantyne, who opened the discussion at the meeting in Edinburgh, spoke of the necessity which existed for such a commission. So tremendous a change in the vital statistics of a country as was represented by the fall of the birth-rate from 35 per 1,000 to 25 per 1,000 called loudly for scrutiny and investigation in a collective fashion. In some thirty years the population of Edinburgh had increased by about 100,000 persons, but the number of births in the city was now actually less than it was in 1881; then between 7,000 and 8,000 babies were being born annually, now there were only between 6,000 and 7,000. The fall was beginning to make itself felt in the board schools, where this year the enrolments were 748 less than last year, and last year had shown a decline on the preceding year. There were 57,000 houses in the city with a rental of less than £30 per annum, and from more than 32,000 of these houses no children set out to school in the mornings. In his inaugural address to the Edinburgh Obstetrical Society some seven years ago he had dealt with the subject of the falling birth-rate, and had then ventured to prophesy that the decline in the birth-rate would not be checked, but he had hardly been prepared for the amount or the persistency of the fall which had actually taken place. There was no doubt that the human race had now begun an experiment upon its reproduction, very much as in the past it had experimented upon its digestion and other bodily functions. No one could foretell the results, but one immediate and welcome result had been the appreciation in the value of infant life, before and after birth, which had followed upon the decrease in the number of babies arriving. They were now counteracting the fall in the birth-rate by keeping more of the babies in life after they were born and probably by bringing more of them safely to their birth. This plan could not, of course, succeed always, but in the meantime it was possible thus to maintain a sort of equilibrium so far as the number of lives in the nation was concerned. There was still much to be done, and the Commission would help to make this clear; it had to discover how many antenatal lives were being lost every year through miscarriages and untimely premature births; for this purpose a stillbirths registration Act was needed; the discomfort and even suffering which expectant mothers at present endured before their babies came into the world must be removed, and it was therefore necessary to make it possible for the married women working in factories and the like to stop their work a month or two before the expected date of confinement.

Dr. C. W. Saleeby continued the discussion, and dealt with the various subjects of inquiry to be taken up by the Commission; and Sir Thomas Clouston, who was in the chair, said that the remedy for the falling birth-rate must be a moral one, there must be a quickening of the conscience of the population; that quickening must be founded upon scientific and social facts, and in that direction rather than in that other of legislation help was to be sought for.

Other subjects discussed during the conference also had medical aspects. Thus, Professor J. Arthur Thomson, of Aberdeen, dealt with "sex-education," weighing the reasons for and those against experiments in sex-education in schools, and deciding that since instruction was given in regard to health and disease, it ought also to be given in regard to sex and the continuance of life. It should be carefully graduated for different conditions and ages, and that for boys should be different from that for girls. It should be linked on to nature study, botany, zoology, and physiology, and whether it was given by the head of the school, by the science teacher, by the school physician, or by lending booklets, care must be taken not to say too much.

ONE HUNDRED YEARS AGO.

THE PHYSIOLOGISTS IN 1813.

A WRITER in the *Medical and Surgical Journal*,[1] reviewing two works by Richard Saumarez, said "We do not profess to understand Mr. Saumarez's philosophy or physiology; this, however, may be owing either to our dulness, or to his having lived a century too soon." This was written, doubtless, in the November or December of 1813, for it appeared in the part of the *Journal* published on January 1st, 1814. If, therefore, the second alternative of the critic's explanation of his inability to understand Mr. Saumarez's philosophy or physiology was the correct one, we, living at the present day, exactly a hundred years later, ought to be in the happy position of fully appreciating it.

First, then, who was this Richard Saumarez, whose views on philosophy or physiology were adjudged to be a century too early in their appearance to receive a welcome with understanding? To answer this question we must travel back in time to about the middle of the eighteenth century and in locality we must go to the Channel Islands.

Guernsey may be said to have been the cradle of the Saumarez family, for Henry II gave to an early de Sausmarez the fief of Jerbourg in that island; and there we must imagine his descendants living and marrying with the folks of the place, and sometimes with those of Jersey, till the beginning of the eighteenth century, when we find a certain Matthew de Sausmarez playing his part there as a colonel of the militia (France threatening to be intrusive in these days). The colonel married Anne Durell of Jersey, and she brought him three sons who did honour to the family name; there was a second Matthew (whom it will be well to call the "younger"), a Philip, and a Thomas.

Philip (1710 to 1747) and Thomas (died 1766) both lived to work their way up in the Royal Navy to the rank of captain; there was much fighting going on in these years, chiefly against the French, and the brothers had their share, capturing 64-gun ships and distinguishing themselves in other naval ways and manners. It was Philip who changed the family name from de Sausmarez to Saumarez. Their brother Matthew (1718 to 1778), the "younger," seems to have remained at home in St. Peter Port, the only town in Guernsey. He was twice married, and by his second wife, Carteret le Marchant, he had several sons who kept up the Saumarez credit in the services; there was John, the eldest, an army surgeon ("who lived at the old house in the Plaiderie, near the town church in St. Peter Port"[2]); there was James (1757 to 1836), who saw much fighting in his long life, and rose to be Baron de Saumarez and an admiral, having been second in command at the battle of the Nile, and having won a great victory against heavy odds off Cadiz; there was Thomas (1760 to 1845), who entered the army, served in America during the revolutionary war, was knighted in 1795, and was advanced to the rank of general on the coronation of Queen Victoria; and finally, there was Richard (1764 to 1835), who went to London, became a student of medicine at the London Hospital, was surgeon for many years to the Magdalen Hospital, Streatham, had a large and lucrative practice in the metropolis, and wrote the works which drew from the perplexed critic in the *Medical and Surgical Journal* the suggestion that he (Richard) had, so far as his views on physiology were concerned, been born a century before the time.

Richard was neither in the army nor the navy; but he had the Saumarez fighting spirit, and Mr. D'Arcy Power, in the account he gives of his life,[3] says he was "a prolific and rather polemical writer." The blood of the brave old sea-dogs from whom he sprung was running in his veins; if he did not wield the sword he drove the pen, as the Surgeons' Company found to their cost in 1796, and if he did not fight the French by land or by sea, he waged a wordy war against Baron Anthelme Balthasar Richerand, the noted physiologist of Paris. Richerand (1779–1840) had published in 1801 a work entitled *Nouveaux élémens de physiologie*, which had been extraordinarily successful, not only in France, but also in England; ten editions

[1] *Edinburgh Medical and Surgical Journal*, vol. x, p. 132, 1814.
[2] *Dictionary of National Biography*, vol. i, p. 319, 1897.
[3] Ibid.

appeared in Paris between 1801 and 1833, and several English translations saw the light in London, Philadelphia, and New York. It was probably Dr. G. J. M. de Lys's translation from the fifth French edition which specially stirred up Dr. Saumarez and brought him into the arena in 1813, for Dr. de Lys's translation appeared in 1812. Dr. Saumarez, let it be known, had published in 1798 his *New System of Physiology*, a second edition had appeared in 1799, and a new edition in 1813; in 1812, too, his work on the *Principles of Physiological and Physical Science* had come out.

With these facts in mind, let us imagine Dr. Saumarez opening Dr. de Lys's translation of Richerand and reading there in the first sentences the following words: "It is a singular fact that in this country, which has given birth to some of the most important discoveries in physiology, there should not have been produced a single elementary or systematic work on the subject." We may well suppose that this son and brother of the old sea-dogs of Guernsey must have rubbed his eyes and read that sentence over again. "Not a single elementary (well, that may be true enough, mine was not elementary) or systematic (what does the man mean?) work! Why, what does he make of my two volumes with a thousand pages, second edition too, my *New System of Physiology?* What, for that matter, has he to say to my book of this very year, my *Principles of Physiological and Physical Science, comprehending the Ends for which Animated Beings were Created?*" There is no one so blind as the man who won't see. It was annoying; but he was asked to give the annual oration before the Medical Society of London in 1813, and that afforded him an opportunity of saying his word about Richerand and his *Physiology*, and striking another blow at his old abhorrence, the Brunonian system, that view of physical life which looked on it as consisting in a peculiar excitability. The easiest way nowadays to get an idea of Saumarez's opinions is to read his article contributed to the *Medical and Physical Journal* for November, 1799,[1] for it really contains in an abbreviated form most of the views he afterwards so strongly advocated. It is really an answer to a letter which had appeared in the September part of the *Journal* by "R. B. M." (whoever he was) on the subject of animal impregnation. In that letter the writer accepted Dr. Haighton's view that the formation of corpora lutea in the ovaria was the true test of impregnation having occurred, and that the contact of the semen with the ovaria was not necessary to produce that effect. More, he expanded it as follows: The act of coition induced impregnation, and the semen passing into the vagina was thence absorbed, and carried into the general system, where by its peculiar stimulus it produced those changes which happen after impregnation in the uterus, its appendages, and the breasts, the stimulus of the semen perfecting what the stimulus of coition had begun. The writer was ready for the objection that if impregnation was occasioned merely by a stimulus, how was it that females never conceived from any cause except the introduction of semen into the vagina? His answer was that whilst true conception could take place from no stimulus except semen, yet some of the changes consequent on impregnation might and did sometimes happen from stimuli of other kinds; and he instanced the finding of hair, teeth, and other fetal structures in the ovaries of women who had never had connexion. In them some unusual stimulus had caused a very imperfect kind of impregnation. These were the statements which Dr. Saumarez took up for criticism.

In attempting to estimate the value of the views put forward in the letter, and in Saumarez's answer to it, one must not forget that impregnation a hundred years ago was still a matter surrounded by mystery. It was not yet known how the semen fertilized the ovum. The spermatozoa had indeed been recognized by Hamm and Leeuwenhoek in 1677, but for long these seminal animalcules were regarded as parasites; and Richard Owen, writing in 1836, put them among the entozoa, and gravely stated that although no distinct organs of generation had been detected, there was reason to suspect that the spermatozoa were oviparous. Spallanzani, it is true, had shown by experiment in 1786 that the seminal particles were in all probability the fertilizing elements in the semen, but his discovery was not generally accepted until 1826, when it was confirmed by Prévost and Dumas. The views current when Saumarez took up his pen to answer "R. B. M." were those of impregnation at a distance and of fertilization by contact of the semen with the ovary. Unless this fact be kept in mind, it will be almost impossible to get the rest of the picture in focus; without it one can hardly understand the allusions to sympathy and the like which abound in Richerand's and Saumarez's writings.

Saumarez's refutation of one part of the letter writer's conclusion is powerful. "R. B. M." had stated that he believed with Haighton that the contact of the semen with the ovaria was not necessary for impregnation, and Saumarez proceeds to examine the process of fertilization as it occurs in vegetables and in the various types of animal life (snails, frogs, rabbits, etc.); he finds that in all the inferior order of animated beings the union of the semen to the ova is proved directly, and he asks why it should be denied to the higher classes. To say it does not occur in them is "the mere *ipse dixit* of your correspondent" (he is writing to the editor of the *Journal*), "unsupported by proof, refuted by analogy, arising from his ignorance of the true end for which the act of coition is designed." If we place for semen and ovaria the words spermatozoa and ova we know now that Saumarez was right in his belief, even although we are still forced to confess that we do not quite comprehend the mechanism by which some embryonic rudiments appear in dermoid tumours and teratoma of the ovaries.

He is not quite so fortunate in his refutation of the second statement—namely, that the formation of corpora lutea was the true test of impregnation having occurred; but this is due to his want of knowledge of the facts of ovulation, and especially of the important circumstance that ovulation occurs independently of sexual connexion. Still, so far as his information, aided by some experiments, took him, he was right in maintaining that the existence of corpora lutea was not the true and infallible test of animal impregnation; he was also correct in saying that the only certain test was the actual existence of one or more fetuses. We now know that the presence of corpora lutea in the ovaries simply means that ovulation has occurred, and that ova have been set free from the ovisacs; of course, one or more of them may have met a spermatozoon and been impregnated. Another fact has, however, emerged—namely, that the corpus luteum whose ovum has become fertilized undergoes changes which are different (in duration and degree, at any rate) from those which take place in the empty ovisacs of the ova which have missed impregnation; in other words, we are in possession of the knowledge of the corpus luteum of pregnancy. Saumarez, therefore, was partly right and partly wrong, and the writer whose views he was controverting was also partially right: the corpora lutea are of two kinds, those of menstruation and those of pregnancy; the latter are a sign that impregnation has occurred, the former are not.

It is rather difficult to grasp the views of a hundred years ago, for we can only with great concentration of thought divest our minds of more modern views of conception and fertilization; with an effort, however, we may follow Saumarez's statement, as given below, and we cannot fail to appreciate its correctness so far as it went. He said:

> The different changes which the several parts in the male and female undergo all tend to one end, namely, the immediate contact of the fimbriated extremity of the Fallopian tubes to the surface of the ovaria; that an union might take place between the fluid which the fimbriae convey and the ova (of a mucus-like appearance) which the vesicles discharge; that it is the semen which communicates the characteristic properties of the male; and the Fallopian tubes, the medium by which it is conveyed, in the same manner as the fluid which the vesicles discharge, contain and convey the characteristic properties of the female; that the fimbriated extremity of the Fallopian tubes is the immediate seat where this effect takes place; that the union of both constitutes *conception*, or the immediate reception of a *living principle*, in which the source and power of action essentially resides, and which participates the nature of both parents, by the combined action of whom it was produced.

Saumarez then proceeds to define his "living principle" negatively and more precisely:

> It is not the farinaceous matter of which the seed is composed, the animal gluten with which an egg is filled, or the atom of mucus in which the primordia of the embryo are

[1] Saumarez, R., *Med. and Phys. Journ.* London. Vol. ii, for 1799, pp. 242, 321.

contained, which constitutes the powers by the energy of which organization is elaborated and action ultimately produced; each of these bodies is a chaos in all its parts, a *rudis indigestaque moles*; the mere matter of which they are composed, when deprived of this living principle, undergoes the usual changes of decomposition and decay, by the processes of putrefaction and fermentation, and yields nearly the same materials by chemical analysis; it is the living principle . . . that constitutes the architect by which the machine is erected; it is the base on which the whole stands, it is the bond of its elementary parts, the cement that unites them in one whole. . . .

If Saumarez were living now he would pronounce that it is not the protoplasm of the cell, or its nucleus, or even its chromatin filaments which constitute the power by the energy of which organization is elaborated and action ultimately produced; it is the living principle. Life, therefore, he defined as the principle (that is, the efficient and primary cause) by the energy of which various species of matter are converted to one kind, under one system, so that the matter thus converted possesses the power of resisting the operation of external causes and of preserving itself from putrefaction and decay.

The power of life does not reside in the food, as some materialists would have us suppose, who think that "matter" can convert *itself* into different organs, in fabric most delicate, in action most extensive, in form most diversified," wrote Saumarez, waxing eloquent. "Equally absurd is the opinion of those pure defecated philosophers who suppose that the oxygenous matter which vegetables in the day are constantly discharging from the whole external surface of their foliage as urinous and dead, constitutes the principle of life, in which all power essentially resides." He has a hit—a specially hard one, too—at the Brunonian system, which proclaims life to be a forced, not an original state, making life the effect of action instead of action the effect of life, making life come out of the body instead of residing in it.

With these views so precisely put forward in 1799 and so fully described in the *New System of Physiology*, how could Dr. de Lys say that there was not a single elementary or systematic work on physiology in the country! It was indeed ultra-erroneous of him, we can imagine Dr. Saumarez saying, and not without cause; and then to make these offensive words the preface to Richerand's *Physiology*, that was doubly wrong of him. Look at the Frenchman's definition of life:[5]

> The term "life" is applied to an aggregate of phenomena which manifest themselves in succession for a limited time in organized bodies; combustion is likewise only a combination of phenomena. Oxygen unites with the substance which is burning, caloric is discharged from it. Affinity is the cause of these chemical phenomena, as attraction is the cause of the phenomena of astronomy, and in the same manner as the sensibility and contractility of living and organized bodies are the primary causes of all the phenomena which such bodies exhibit, phenomena which in their union and aggregate succession constitute life.

He is attributing vital phenomena to organization solely, saying that life presupposes organization. Oh, no doubt Richerand is the man and wisdom shall die with him, the "pure defecated philosopher" that he is.

But here we must leave our two physiologists engaged in fierce combat, like Professors Challenger and Sumerlee in the *Lost World* of the active imagination of our medical novelist of the present day. If the reader care to do it, he may by placing Saumarez's *New System of Physiology* and Richerand's *Elements of Physiology* side by side learn something of the weapons with which they fought; and if he will also read Dr. Saumarez's oration to the Medical Society of London—dedicated to the president, J. C. Lettsom, M.D., to the Council and Fellows—he will find what the orator thought, placed in small compass but with no lack of force, as the following sentence will show:

> The power, the nature, and the ends of life, or vitality, are so little understood, and have been so shamefully outraged by Richerand in a Physiological Book [note the descriptive epithet] which is in general circulation; that I have deemed it a duty to expose the wicked tendency of his opinions, and to put the subject on its true foundation,—briefly it is true, but, I trust, explicitly.

Now, was the reviewer right in the second of his alternative suppositions when he said that Mr. Richard Saumarez had lived a century too soon? If Saumarez were to suffer a reincarnation, if he were to spring, phoenix-like, out of his own ashes by the help of the "principle of life," would he find the medical world of to-day standing on his side in the battle or massed with Richerand the enemy? We think he would discover that the fight was still raging, that it had become a hundred years' war, and that, with his weapons modernized, he might still strike a blow at the "pure defecated philosophers." If he paid attention, he would get to know of experimenters who were, so it was said, just trembling on the brink of the discovery of how to manufacture a bit of living matter in the laboratory; if he turned his ear towards another quarter, he would hear a whisper from the presidential chair of the British Association, and might distinguish these words:[6]

> I have been called a "vitalist," and in a sense I am: but I am not a vitalist if vitalism means an appeal to an undefined "vital force" as against the laws of chemistry and physics.

He would find that many things had been discovered of which the philosophy of 1813, whether Richerand's or his own, had no inkling; but he would also perceive that there was still the same line of division, although the terminology was different, and that the "controversial pen" was even now a weapon in the hands of "disputatious men." No, Saumarez could hardly be said to have been a century before his time, and yet in a sense he was, for he had some ideas which were destined to have a very long life and which are not dead yet, nor even decrepit.

[5] *Elements of Physiology*, by A. Richerand, p. 1, London, 1812.

THE DEADLOCK IN THE INSURANCE QUESTION IN GERMANY.

THE representative meeting of the German medical profession called to consider the position brought about by the refusal of the Insurance Societies' Union to continue negotiations with the doctors met this week in Berlin, but the result has not been made public at the time we go to press.

The *Muenchener medizinische Wochenschrift* (October 21st, 1913) published the draft contract for service which was presented to the representatives of the Insurance Societies' Union, and also documents from the latter body, setting forth its reasons for breaking off the negotiations. From the latter it is abundantly clear that the difficulty lies not so much in the terms as in the insistence on the part of the doctors on the establishment of a general form of contract which shall be governed by the decisions of the local medical profession. It is alleged that the "collective contract proposed is nothing more or less than an organization or coalition dictation (Organizations- oder Koalitionszwang) to all medical men engaged in contract practice." The idea underlying the documents is that the societies object to the medical organizations requiring medical men holding contract appointments to come under their direct jurisdiction. The societies claim that this is practically intimidation, and propose to fight against this on principle. But a careful perusal of the documents shows that what the societies really object to is the trade-union principle of the Medical Federation and the Leipzig Union. The weakness of the ostensible ground of objection may be seen from the perusal of the contract, which provides for the safeguarding of the interests of all doctors, whether they belong to the organizations or not; or, in other words, for the same treatment of "non-union" as of "union members." An attempt is made to lay the blame for the breakdown of the negotiations on the shoulders of the doctors, because they refused the terms offered by the Union of Insurance Societies. But no mention is made of the fact that the terms which the doctors declined would have placed the whole control of the conditions of the service in the hands of the societies. Many fights have been waged within the past two or three years to reform the untenable conditions which the societies impose on their medical officers.

[6] BRITISH MEDICAL JOURNAL, ii for 1913, p. 688.

THE REJECTED DRAFT CONTRACT.

Draft Contract between the Head Union of German Works' Clubs (Betriebskrankenkassen) in Essen, on the one hand, and the German Medical Societies' Federation and the Union of German Doctors for the furtherance of their economic interests, in Leipzig, on the other.

ARTICLE 1.

The Club Doctors' contracts[1] shall be entered into on the part of the Insurance Societies either by the Committees of the individual societies or by the Committees of the Societies' Unions, formed in accordance with the paragraphs 406 and 407 of the Reichsversicherungsordnung; and on the part of the doctors by the local medical organizations, and in the event of a limited number of club doctors being engaged, by the local medical organizations in consultation with the individual doctors concerned. In the event of the admission of all medical men willing to give service, the Club Doctors' contract may be replaced by a legally binding recognition of the rules of the local medical organizations and of the contracts adopted by these organizations.

ARTICLE 2.

The form of negotiation between a society or a union of societies[2] and the doctors shall be determined by agreement between the society or the union of societies and the existing local medical organization.

Club doctors' contracts should be drawn when practicable on the principle of organized free choice of doctor. They may, however, when the local conditions require it, be drawn according to the "club doctor" system or the "district doctor" system.

ARTICLE 3.

Where organized free choice of doctor is determined on, non-members of the local medical organization, provided that they enjoy full civil rights and are prepared to recognize the accepted form of contract, shall be free to enter into the contract.

ARTICLE 4.

Medical attendance on the members of the Societies (as well as those members of their families which are also insured, where family insurance applies) who join the societies voluntarily, in accordance with paragraphs 176, 177 of the R.V.O. is not included in the contracts. The only exceptions to this are in very poor districts, and also when the number of such members of a given society is shown to be extremely small.

ARTICLE 5.

The remuneration for medical service shall be made either per attendance or on a yearly fixed scale (capitation or a fixed percentage of the annual earnings).

The scale shall vary according to the extent of the medical services to be rendered and the local conditions. When a fixed scale of remuneration is determined upon, special fees shall be accorded for extras, such as services which necessitate prolonged attendance, and which are recognized in the medical scale of fees and in accordance with local custom as demanding special fees.

As a general rule, the remuneration for medical attendance on insured persons whose yearly incomes exceed 1,800 marks, and on their insured dependants, shall be calculated per attendance. When, as an exception, a fixed scale is adopted for all insured persons, this must be so calculated that it corresponds to a fee of not less than 1.50 marks for a visit, and 1 mark for a consultation in the doctor's house.

Out-of-pocket expenses of the doctors must not be covered by contract. The extra fee for distance shall not be less than 1.50 marks per double kilometer (the journey there and back), and 40 pfennigs for the loss of time.

ARTICLE 6.

Private clinics of medical men undertaking contract practice shall not be excluded on principle from the places at which institutional treatment may be carried out.

ARTICLE 7.

The services of non-medical persons may only be utilized on the order of the doctor, or when in an emergency a medical man is not available.

ARTICLE 8.

In every club doctor's contract a Committee of Reference must be named for the determination of matters of common interest, and for the amicable settlement of disputes, arising out of the contract. The insurance society and the local medical organization shall elect three members each to serve on the committee. At least one of the medical members must be a club doctor. The Committee of Reference may be called together by either of the interested parties, namely, by the society or by the local medical organization, and also by any of the club doctors. If a settlement is not arrived at by the commission, the commission must form a court of arbitration. The chairman of the latter shall be a barrister holding the qualifications for the post of judge.

ARTICLE 9.

The club doctors' contracts shall commence on January 1st, 1914, and shall terminate on December 31st, 1918. Contracts entered into after January 1st, 1914, shall also terminate on December 31st, 1918.

ARTICLE 10.

Provisions must be included in those contracts in which organized free choice of doctor is included to protect the societies from excessive financial burdens through the action of the medical practitioner, not only in regard to the claims for fees, but also in respect to the prescription of medicines and the recommendation of sick pay. In the case of payment per attendance, if the society only undertakes to grant the regular benefits, the total sum of money to be paid to the doctors shall not exceed 22½ per cent. of the highest possible annual contribution; fees for travelling are, however, not to be included in these sums. The total amount which may be paid for extras may not exceed one-third of the fixed contract sum for the year. A medical court consisting of several members must be appointed to control the whole contract practice arrangements, especially in respect to the prescription of medicines, nutrients, and drugs, and the recommendation of sick pay, and this court shall have disciplinary powers and be empowered to alter the fees in favour of the societies and of the other medical practitioners.

The local medical organizations are required to hand over these functions to a body constituted *ad hoc*.

ARTICLE 11.

In the event of a settlement in the proceedings referred to in Article 2 between the societies and the local medical organization not being arrived at, a court of arbitration shall, after considering the arguments, decide between the parties.

The court of arbitration shall consist of three representatives of the affected society and three of the local medical organization. The director of the corresponding superior insurance committee (*Oberversicherungsamt*), or the President of the Provincial Court shall be invited to act as chairman, or to appoint another legal member to take the chairmanship. The parties concerned are empowered to add an additional member of the court in the person of a representative of the central organization which has drawn up the contract. The court of arbitration may be summoned by either party, and shall decide the question, even if one of the parties refuses to appear and take part in the proceedings. The court of arbitration, in arriving at a decision, is bound by the terms of the contract.

The findings of this court shall be legally binding on both parties, and shall be final. Each of the parties has the right to publish the findings.

ARTICLE 12.

The Head Union of Works' Clubs shall undertake to notify the Union of German Doctors by October 15th, 1913, which insurance societies have recognized this contract and have undertaken to abide by its terms, and conversely the Union of Doctors of Germany shall notify the Union of Works' Clubs by October 15th, 1913, which local medical organizations have recognized this contract and have undertaken to abide by its terms.

Both contracting parties undertake to induce the affiliated insurance societies and local medical organizations to accept the contract.

ARTICLE 13.

Insurance societies which do not recognize this contract shall not be supported in any manner whatsoever by the Union of Works' Clubs in the event of a dispute with the local or central medical unions which have recognized the contract.

Insurance societies which have recognized this contract, but which do not accept the findings of the court of arbitration, shall not be supported in any disputes with the local or central medical unions, and are liable, together with the Union of Works' Clubs, for any damages arising to the medical organizations from the non-acceptance.

[1] The term "kassenärtliche Vorträge" is translated by "Club Doctors' Contracts" as the nearest equivalent available.
[2] Reichs-Versicherungs-Ordnung (State Insurance Order).

ARTICLE 14.

Local medical organizations which do not recognize this contract shall not be supported in any manner whatsoever by the medical organizations in the event of a dispute with insurance societies which have recognized the contract.

Local medical organizations which have recognized this contract, but which do not accept the findings of the court of arbitration, may not be supported in any manner whatsoever in a dispute with the insurance societies. The protection of the medical organizations shall not be given to them. They are liable, together with both the medical organizations subscribing to this contract, for any damages to the insurance societies arising out of the non-acceptance.

ARTICLE 15.

All disputes and differences existing between the insurance societies and medical organizations recognizing this contract shall cease forthwith. In their place negotiations shall be opened on the basis of this contract, and, in the case of necessity, the court of arbitration shall be referred to.

ARTICLE 16.

Every participating insurance society and medical organization undertakes to further the contract negotiations to the best of their ability, so that at the latest the contracts which will come into effect on January 1st, 1914, may be signed on November 15th, 1913. Existing contracts shall be, as far as is possible, modified to fall into line with this contract in the interval.

ARTICLE 17.

This contract holds good until December 31st, 1918, and shall be automatically renewed for periods of five years, unless notice be given before June 30th of the last year of the contract. The parties to the contract must meet at latest in the month of March of the last year, in order to alter the contract should the experience at that time necessitate this, or to agree to a fresh contract.

LITERARY NOTES.

DR. JUDSON S. BURY has succeeded Dr. Brockbank in the editorship of the Manchester *Medical Chronicle*.

The first number of the *Indian Journal of Medical Research* appeared in July. It is edited by the Director-General of the Indian Medical Service and the Sanitary Commissioner with the Government of India, in collaboration, among others, with Sir Ronald Ross, Sir David Semple, Major S. R. Christophers, and Lieutenant-Colonel L. Rogers. The new periodical, which is to take the place of *Paludism* and the *Scientific Memoirs*, is the organ of the Indian Research Fund, the objects of which are "the prosecution and assistance of research, the propagation of knowledge and experimental measures generally in connexion with the causation, mode of spread, and prevention of communicable diseases." It will deal with every branch of research directly or indirectly connected with medical and sanitary science, including hygiene, sanitary engineering, sanitary laws, statistics, bacteriology, parasitology, and entomology. In short, it is intended to be a record "of what is being done in India for the advance of sanitary science in the widest sense of the term." As far as can be judged from the first issue, the *Indian Journal of Medical Research* is a valuable addition to the literature of tropical disease. A specially valuable feature in such a periodical is the clearness of the illustrations.

In the JOURNAL of August 23rd, p. 506, reference was made to the mediaeval practice of solemnly trying animals for misdeeds of one kind or another. This curious custom shows that the test of knowledge of right or wrong, which till quite lately was constantly—one might almost say automatically—applied by our judges in cases of murder when the state of mind of the accused was put forward in his defence, was in former days extended to animals. It survived in some places, as we learn from the *Chronique Médicale* of September 15th, till a comparatively modern day. A correspondent of our contemporary quotes the Abbé Galiani, one of that brilliant society of the *philosophes* whose teaching in a general way is represented in the famous *Encyclopédie*. Writing from Naples to Madame d'Epinay (whose name is familiar to readers of Rousseau's *Confessions*) under date August 27th, 1774, the abbé refers to "two dogs condemned to death by a legal tribunal and done to death by the public executioner for having bitten a child."

Perhaps the most readable contribution to the October number of the *British Review* is a slashing article on Mr. Bernard Shaw's *Androcles and the Lion* by Mr. J. E. Harold Terry. Its gist may be gathered from the following sentence:

> Mr. Shaw has been pleased to describe his latest achievement as a fable play. Feeble, we venture to suggest, would have been as apt as fable and pot-boiler more accurate than play.

Perhaps, in view of Mr. Shaw's uninspiring diet, the piece is to be regarded as an example of "vegetable degeneration," a subject which is treated of by Professor George Henslow. Among the other contents of an interesting number may be mentioned an article on the critic as destroyer by Robert Lynd (in which, by the way, the extraordinary statement is made in the face of a famous passage in *Don Juan* that Byron thought nothing of Keats); and one entitled "Olympic Games" by Mr. Nowell Smith.

L'Hygiène is always welcome, and the September number, both in respect of literary matter and illustrations, is well up to the high standard of excellence we have learnt to look for in this periodical. Dr. G. Linossier of Lyons discusses "alimentary anaphylaxis," which, being interpreted, means what are generally known as idiosyncrasies in regard to certain articles of diet. He says Besredka has shown that an animal in which anaphylaxis has been produced by a large injection of serum can tolerate another one without ill effect, provided that in the interval between them extremely small doses of the same serum have been administered. These preliminary injections bring about antianaphylaxis. Like results may be obtained in a person who is the subject of alimentary anaphylaxis by giving him, after a certain interval of privation, increasing doses of the injurious food substance. But if the recurrence of untoward effects is to be prevented, one must begin with extraordinarily small quantities—one or two drops of yolk of egg, a tablespoonful of *café au lait*—and follow up this rehabituation without interruption. The most serious accidents occur when, after long privation of the anaphylactizing food, it is again taken in considerable quantities without preliminary preparation by minute amounts. Dr. Maurice de Fleury writes on the hygiene of neurotic subjects, with special reference to prophylaxis. Dr. Pescher describes a method of "respiratory training" by means of bottles or combinations of bottles of increasing capacity fitted with tubes, the whole forming an apparatus to which the name of "spiroscope" has been given. Dr. Henri Meurisse contributes an interesting article on the use of dogs for the discovery and transport of the wounded in war.

We have often had occasion to point out the grotesque forms which Latin is often made to assume in medical writings. The other day we read in a contemporary a description of an operation for abscess of the labium *major*. In the JOURNAL of April 12th, 1913, p. 780, we gave a few other instances culled from various medical periodicals—English, American, French, and Italian—together with others from the political press to show that medical writers are by no means the only or the worst offenders. We note with interest that even in the Middle Ages, when every educated man was supposed to know Latin, the clergy were guilty of barbarisms as bad as any we have found in contemporary literature. The *Periodical* for October, speaking of Mr. A. L. Smith's *Church and State in the Middle Ages*, gives some examples. He refers to

> the bishop who fined a priest for having joined the sect of Catholics; the priest who confused Barnabas with Barabbas, and St. Jude with Judas; the other who translated *Iohannes ante portam Latinam* as "John who, leading the way, carried Latin into England"; a third who preached on our Lord using hyssop (*Dominus his opus habet*); a fourth who discovered a king called Busillis (*in diebus illis*); and the archbishop who first tried *in isto sacro synodo*, then being prompted with an *a*, tried *in ista sacra synoda*, then hearing his prompter say *o* and *a* tried *in isto sacro synoda*. Giraldus has pages of these stories, and attributes some of the evil to the displacement of the study of literature by the study of law.

In the same way much study of medicine by displacing the study of literature leads to indifference to grace of style or even of grammatical propriety even in our own language. How much more active is this influence in a language imperfectly learnt and generally almost wholly forgotten!

British Medical Journal.

SATURDAY, NOVEMBER 1st, 1913.

THE ASSOCIATION AND THE INSURANCE SCHEME.

TWO NEW COMMITTEES.

THE meeting of the Council of the British Medical Association on Wednesday last (October 29th) was prolonged, owing not only to the volume of the business it had to transact but to the importance of some of the points which arose and the interest they excited. The Insurance Act Committee presented a long report, and the matters to which reference is made arose out of it or in connexion with it.

One of these matters was the position of the Association in relation to those members who have not joined panels under the Insurance Act. Dr. Napier Jones, the representative of the Southern, South-Eastern, and Oxford and Reading Branches, speaking as a member who had joined the panel, expressed the opinion that it would be advisable to appoint a special committee to consider in what manner the Association can best promote the interests of members who have not entered into agreements with Insurance Committees, and moved a resolution to that effect. This was supported in a very able and temperate speech by Dr. Biggs, a member of the Council residing in South London. Mr. Verrall, after pointing out that the Insurance Act Committee, in his view, was appointed to watch the administration of the insurance scheme in the interests of all members, and had endeavoured to do so, expressed the opinion that in all the circumstances it would be wiser to appoint a special committee, as suggested by Dr. Napier Jones and Dr. Biggs, rather than delegate this side of the work to a subcommittee of the Insurance Act Committee, as that committee had suggested, even though twelve out of its twenty-three members were not on any insurance panel. The proposal was accepted, and the question of the constitution and mode of appointment of the special committee was then considered at some length; it was decided that to avoid delay the best course would be for the Council to proceed at once to constitute the committee. It was settled that it should consist of fifteen members, and that the Council should there and then elect nine, leaving the remaining six to be co-opted by this nucleus committee. It was considered desirable that two of the nine members then to be appointed should be serving under the Insurance Act, so that the committee might have the advantage of hearing their point of view. The seven members of the Association not on any panel who were elected were Drs. Beaton, Biggs, Buttar, Courtenay Lord, Montgomery-Smith, and Stevens, and Mr. E. B. Turner. The two who are on panels were Dr. Napier Jones and Dr. Hay (East London).

The Annual Representative Meeting this year, in view of the fact that the scope of the Insurance Act may be so extended as to include in its operations various additional matters—such as the treatment of children and dependants of insured persons, dental treatment, and hospital treatment—instructed the Insurance Act Committee to make a full report, so that the Association might be ready with its policy as to what a National Health Insurance Act should be, not merely from the point of view of the interests of the profession, but also from that of public health and the advancement of medical science. The Insurance Act Committee reported that after fully considering the reference it had come to the conclusion that the subject would entail so considerable an amount of investigation that the work could only be properly done by a committee devoting itself solely to it. It accordingly recommended that a special committee should be appointed by the Council, to consist of the honorary officers of the Association together with nine other members. The nine members elected were Dr. John Adams, Dr. R. M. Beaton, Miss Ivens, M.S., Dr. H. F. Oldham, Dr. L. J. Picton, Dr. F. J. Smith, Mr. E. C. Montgomery-Smith, Mr. D. F. Todd, and Mr. E. B. Turner.

The Council at this meeting also settled the notice convening the Special Representative Meeting on December 4th, and approved the publication of the alternative scheme which is printed in the SUPPLEMENT of this week.

THE ANTIVENEREAL CAMPAIGN IN GERMANY.

THE appointment of a Royal Commission to inquire into the prevalence of venereal diseases in the United Kingdom, their effect upon the health of the community, and the means by which these effects can be alleviated or prevented, seems to make it desirable to summarize shortly the work that is being done and the results that are claimed by the German Society for Combating Venereal Diseases (Die Deutsche Gesellschaft zur Bekämpfung der Geschlechtskrankheiten).

The society has been in existence for eleven years. It was founded by Professors Blaschko and Neisser in October, 1902, with the support and cordial co-operation of the medical and legal professions and of the commercial and other educated classes in the German Empire. In his report of ten years of work (1902-12) Professor Blaschko gratefully acknowledges the help he has received on all sides, and announces that the society has over 5,000 members*—workers and sympathisers—including persons in all ranks of society and representatives of many clubs and associations, municipal bodies, Poor Law guardians, hospitals, and Insurance Commissions, and women of every class. There are branch organizations in thirty-one of the larger towns, whose business it is to keep in touch with the head offices in Berlin, and, by means of lectures, lantern demonstrations, and monographs, to enlighten the darkness of the popular mind on these and kindred matters of hygiene: for it is clearly recognized in Germany that until this ignorance has been dissipated no measures, legal or other, have any chance of success. It is therefore the policy of this society to spread knowledge of a healthy scientific kind, and with this object in view it has held congresses in Frankfurt, Munich and Mannheim, at which questions of the greatest possible public interest and importance were thoroughly discussed, with the result that fresh efforts to instruct the youth of Germany on a still wider basis are shortly to be made.

* The annual subscription paid by a member is 2s.

The society can already claim some practical results. The reservations and strictures imposed by insurance legislation on all venereal patients have been removed mainly as a result of their representations, the number of available beds and special departments for the treatment of sufferers have been sensibly increased, and the objections formerly urged against the allotment of such cases to general hospitals have disappeared. The universities have established chairs of venereology, and have made the subject compulsory in the medical curriculum; special courses of lectures on sexual hygiene are given every term to students of other faculties, and even to the employees of both sexes in factories and workshops, by medical and other experts.

The Prussian Ministry in 1907 passed certain regulations designed to modify the stupid, overbearing attitude of the sanitary police in matters relating to the control of prostitution. These measures strictly followed the lines of procedure laid down in the society's propaganda, and harmonized with its views as to the impossibility of eradicating the traffic by force. At the present time an attempt is being made by the officials of the society to urge the Legislature to penalize more severely the keepers of brothels and those who knowingly or carelessly transmit any form of venereal infection, though the society holds that the orderly lodgement of prostitutes should not be considered an offence in the eyes of the law: it is also taking steps to establish a permanent extra-parliamentary Commission for the guidance of the Legislature itself in all matters relating to sex hygiene. Among the many tasks the members of the society have set themselves, that relating to the elimination of the quack and advertising chemist takes a prominent position, and the present uncompromising attitude adopted towards persons of this class must be largely ascribed to the revelations made by the society in its monographs and pamphlets. Not the least of its successes is the complete conquest made of the whole German press, which is now ranged entirely on its side, and prints, instead of the former dark insinuations which still further obscured the mind of the ignorant public, a frank and open summary of the opinions of the best known experts on many difficult and much debated hygienic problems. The awakening interest on all sides is being fed by publications in weekly and monthly medical and lay journals, and the society has an organ of its own which is sent free to all members, and keeps the head office and the various branches in intimate connexion with each other. A library of modern works on subjects connected with the society's work is at the disposal of any one requiring information for scientific purposes, and there is a large collection of wax models, lantern slides, pictures, and statistical tables which can be borrowed by duly accredited lecturers. So great was the success of an exhibition of these at a recent congress in Dresden, where medical men conducted parties and personally demonstrated the evil effects of venereal disease to over ten thousand of the public, that a scheme for the formation of a permanent transportable museum for the enlightenment of the inhabitants of all the larger towns of the empire is under consideration.

Over six million copies of warning leaflets suited to the youth of either sex have been issued by the society. They are designed to throw light on the hidden dangers of loose living; the information is compressed into ten short rules which can be digested by the least intelligent, and which are designed to contradict certain popular fallacies, as, for example, that it is harmful to a man's health to abstain altogether from sexual intercourse. Other leaflets for the guidance of parents in the instruction of their children can be had for a few pence, and monographs on topics of importance to the community by well known writers can be obtained by the score on payment of a small fee to cover cost of printing.

There is no doubt that the society is doing a most valuable service to the German Empire, and that we shall not be far wrong if, when the time comes, we institute a campaign on similar lines.

CHRONIC INTESTINAL STASIS.

The subject of chronic intestinal stasis and its surgical treatment has been so much before the profession recently that some impatience at return to it may be excusable. But we venture to think that the more such a difficult matter is discussed and the more extensively experience is recorded the sooner will it be lifted out of the realm of the controversial, and become established theory and tried practice, or otherwise. On another page will be found an address by Sir W. Arbuthnot Lane, the chief expositor of the subject, and also a short paper by Professor Seaman Bainbridge, of New York, on statistical studies of his own and Sir Arbuthnot Lane's cases. It is these papers which induce us to ask again for some serious attention to chronic intestinal stasis and its treatment.

Sir Arbuthnot Lane has already, with some frequency and persistence, called the attention of the profession to the long train of symptoms and signs of great range and variety which, he thinks, directly and indirectly result from chronic interference with the "general drainage system of the body." Surgeons, we know, are by no means unanimous in their acceptance of the theory or in their recognition of the sequence of events indicated by Sir Arbuthnot Lane. Whatever may be the first origin of the ileal band, or Jackson's membrane, or Payr's spleno-colic band or the sigmoid adhesions—whether inflammatory, evolutionary, or developmental—there can be no doubt that they are found and that each and all of them may interfere very seriously with the onward course of intestinal contents, and by damming back faecal material cause absorption of toxins with many attendant ill effects. There can be no scepticism or questionings of the truth that chronic obstructive symptoms follow from the presence of these bands. But when we are asked to go further and find that on the broad back of chronic intestinal stasis is laid such a burden as is indicated in the seventeen direct results and nine indirect consequences described in Sir Arbuthnot Lane's address many may perhaps feel that their scientific good nature is being strained. Hitherto, so far as we know, the profession has had to rely more or less on general statements that these things were so. Surgeons all over the world have read with interest his addresses, and should have had ample opportunity and fullness of time to record their experiences and check his results by theirs. We venture to hope that the publication of the details of the cases illustrating the address will lead to other publications, so that the whole body of the profession will be as convinced as the author of the accuracy of his observations, the soundness of his deductions, and the efficiency of the treatment he advocates. We are at present in want of further details as to the pathology of these cases. Professor

Bainbridge's impartial artist has depicted the bands, and the constrictions and dilatations they produce. It would be informing to learn something about the microscopic appearance of the colon and the bacteriology of its contents, and as to the rate at which a bismuth meal travels, say some two or three years after operation, and the nutritional conditions at that time.

The surgical treatment of chronic intestinal stasis may vary. Not every case requires an immediate complete colectomy. Thorough radioscopic examinations with the bismuth meal are necessary to locate the seat of the active cause of stasis; then removal of the appendix, cutting or separation of bands at one or other of the four corners of the abdomen, short-circuiting by ileo-sigmoidostomy, partial colectomy with anastomosis of the ileum and transverse colon (H. J. Paterson) are all surgical procedures to be considered before removal of the whole colon is thought of. We imagine that colectomy will be done only after many months' observation and treatment, and only in exceptional cases. It may be true that the only function of the colon is absorption of water, and that absorption may be completely carried out in the sigmoid and rectum alone (Hey Groves and Walker Hall), and it may be the case that persons who have parted with the colon appear to be none the worse, but indeed much the better for its absence. Nevertheless removal of the whole colon is not an operation to be undertaken without long and serious consideration, and the number of cases of chronic intestinal stasis for which colectomy is required must be, we hope, exceedingly small. Surgery is not concerned with finding out how much mutilation the human organism will tolerate, nor are its triumphs solely those of marvellous technique. A series of successful colectomies should not necessarily lead to more colectomies, but the knowledge obtained should in time result in the adoption of methods of greater conservatism.

What the actual results of the operative treatment of chronic intestinal stasis are we have an opportunity of learning both from the details of Sir Arbuthnot Lane's seventeen cases and from the statistics provided by Dr. Bainbridge. Perusal of the latter's paper will show that he is an enthusiastic supporter of the views of Sir Arbuthnot Lane. His enthusiasm is founded on repeated annual observations, and on the statistical study which he has made of, we presume, cases of chronic intestinal stasis only. The figures are taken entirely from one ward—apparently a female one—and extend over a period of three and a half years. The mortality-rate is astonishingly low, and the results in betterment of the health of the patients appear fully to justify the treatment. Statistics do not appeal to all, but the knowledge of personal friends restored to vigour and happiness weighs mightily, and probably that knowledge is in the possession of many of us.

TROPICAL MEDICINE.

The London School of Tropical Medicine may fairly be congratulated on the success of Mr. Austen Chamberlain and his committee in their efforts to raise a fund sufficient, in his own words, to put the school on a sound footing, and to enable it to pursue its work unhampered by daily anxiety as to ways and means. Nearly two-thirds of the sum asked for has been given in response to their appeal; and as the magnificent work done by the school for medical science and for the welfare of the empire is more and more appreciated, there is little doubt that the rest will in no long time be forthcoming. To those who, like ourselves, have followed the growth of the school from its small beginnings to its present state as a place fully equipped for the treatment of tropical diseases, for teaching and for original research in that province of medical science, its progress within the short space of fifteen years is little short of marvellous. Nothing that he has done has more strikingly shown the statesmanship of Mr. Chamberlain than the clearness with which he understood the intimate connexion between successful colonization of the tropics and the problems of disease. Politicians whose object is to keep themselves or their party in power, and who therefore make the capture of votes their chief aim—and unfortunately they form the vast majority of members of Parliament of all parties—have always treated public health questions as matters of unprofitable sentiment, and many have looked upon colonies as an indifferent parent regards his offspring—troublesome dependants to be turned adrift to shift for themselves as soon as possible. To the initiative of Mr. Chamberlain, inspired by Sir Patrick Manson, is due the birth of a "new learning" in science which has already been fruitful in results of the greatest importance to the natives of uncivilized or half-civilized climes which we have taken under our guardianship, and to those of our countrymen who find a sphere of work in those regions. And in the future it cannot fail to play a still greater part in the prosperity of the nation, and the consolidation of the empire which we have built up. It is sad to reflect how many lives that have been sacrificed in the centuries of struggle which went to the making of Greater Britain might have been saved by knowledge of the kind which has in our day been acquired by the labours of scientific pioneers, and which it is the function of the London School of Tropical Medicine to disseminate.

The hospital and school at the Royal Albert Dock is now the metropolis or "mother city" of a number of similar schools in other countries. Nothing need be said here of the immense development of the study of tropical diseases that has taken place in recent times; our own columns have borne witness to it year by year, and in every medical congress the subject now plays a conspicuous part. It must be a source of legitimate pride to every one of us that in this expansion of the empire of medicine our country has taken the lead.

Elsewhere we give a brief account of the recent enlargement of the London School of Tropical Medicine. The new buildings are now complete and in use. But it is not only in the provision of greater accommodation for students that the school has benefited by the fund raised for its development. The staff has been strengthened and the scope of the teaching has been enlarged. It has become increasingly evident that in order to deal with many of the epidemics and plagues which occur in the tropics reliance must be placed to a large extent on prophylaxis rather than on treatment. Hitherto no adequate provision has been made for the instruction of doctors who intend to seek a field of work in the tropics in the principal problems of sanitation which they are likely to meet. To remedy this deficiency the London School has established a distinct course of tropical sanitation, which will be conducted entirely independently of the ordinary courses in tropical medicine. It is proposed for the present to hold two courses of instruction in the year, each course extending over a period of two months; the teaching will be practical—that is to say,

it will consist of laboratory tuition and demonstrations. Dr. B. H. Webb, of Guy's Hospital, has been appointed bacteriologist and demonstrator, and will have charge of this special course. One of the new laboratories has been assigned for the purpose. It is proposed that two courses shall be given during the year, each extending over a period of two months.

The establishment of a definite and independent system of instruction in tropical sanitation is an important step in the development of the school. While much has been done in the discovery of factors concerned in the causation of tropical diseases, and the results of scientific workers have been imparted to many students, the most profitable application of these researches obviously lies in the direction of prevention. From what has been done by sanitation in Panama to make the isthmus a possible field of operation for engineering skill, which was previously made nugatory by the attacks of minute foes "horsed on the sightless couriers of the air"; in Cuba to stamp out a disease which claimed a large annual tribute of victims, and was always lying in wait for more; in Brazil for the cleansing of seaports which used to be breeding grounds of pestilence; in Egypt and elsewhere for the extermination of a scourge which is held to be accountable for the decay of whole peoples; and in Cyprus, with the help of Sir Ronald Ross, may be gathered what can be effected by well-directed efforts for the removal or suppression of the causes, direct and contributory, of disease. In scientific sanitation lies the hope of a healthier future for dwellers in tropical climes, and the London School of Tropical Medicine deserves the thanks, not only of this country, but of every nation which is striving to have "a place in the sun" of the tropics, for the good work it has already done, and for the new work which it has now undertaken.

WAR IN AUSTRALASIA.

From a telegram received from the New South Wales Branch of the British Medical Association it appears that the hope expressed early in the year that an understanding would shortly be reached with the friendly societies in the State has not been realized. The telegram indicates that in consequence of the rejection of the proposed agreement members of the profession in New South Wales have been compelled to send in their resignations of friendly societies' appointments, and that already 96 per cent. of the profession have taken that step. The profession in the State is prepared to fight to a finish, and, if necessary, itself to establish provident medical associations. The Prime Minister announced some time ago that a scheme of national insurance was included in the Government programme, and we gather that it is probable this scheme will now be launched. The position which, through the British Medical Association, the profession in Australasia has won is so strong that it looks forward with confidence to the issue of its struggle with the friendly societies. It turns to the profession in this country for support, and this we do not doubt will be loyally given. A Warning Notice with regard to friendly society appointments in New South Wales has been for some time issued by the Association through the Journal, and now extends to the whole State. The notice has been published at the request of the New South Wales Branch, given through the Honorary Secretary, Dr. R. H. Todd (British Medical Association Buildings, 30–34, Elizabeth Street, Sydney), and the Medical Secretary (429, Strand, London, W.C.) is also in a position to answer inquiries addressed to him. But there can be no hesitation in saying that no member of the profession in this country is justified in considering for a moment any application made by friendly societies in Australasia, and that it is the bounden duty of every one of us in the British Isles to refrain from being made a pawn in the game which the profession in Australasia is ready to bring to a successful conclusion if it receives the moral support of the profession at home.

ROYAL COMMISSION ON VENEREAL DISEASES.

The promise made by the Prime Minister on August 11th to institute an inquiry into the public health aspect of venereal diseases has been redeemed by the appointment of a Royal Commission with Lord Sydenham as chairman. The other members are Sir David Brynmor Jones, K.C., M.P., Mr. Philip Snowden, M.P., Sir Kenelm E. Digby, G.C.B., K.C., Sir Almeric FitzRoy, K.C.B., K.C.V.O., Sir Malcolm Morris, K.C.V.O., Sir John Collie, M.D., Dr. Arthur Newsholme, C.B., Chief Medical Officer to the Local Government Board, Canon J. W. Horsley, the Rev. J. Scott Lidgett, Dr. F. W. Mott, F.R.S., Mr. Ernest Lane, F.R.C.S., Mrs. Scharlieb, M.D., Mrs. Creighton, and Mrs. Burgwin. Mr. E. R. Forber, of the Local Government Board, will act as secretary to the Commission. It will be noted with some surprise that the Commission does not contain any representative of the Army Medical Department, which has a very extensive experience of venereal disease, and of the advantages of early hospitalization, and of modern methods of treating syphilis. The results of such treatment in the army are of special value owing to the complete disciplinary control of every case. We hope that it is not too late to repair this omission. Lord Sydenham, better known perhaps as Sir George Clarke, and as Governor, successively, of Victoria and Bombay, was originally an Engineer officer, and saw service in the Egyptian and Soudan expeditions; he was a member of the Special Committee appointed in 1904 for the reconstitution of the War Office after the South African war. The reference to the Commission is "to inquire into the prevalence of venereal diseases in the United Kingdom, their effects upon the health of the community, and the means by which those effects can be alleviated or prevented, it being understood that no return to the policy or provisions of the Contagious Diseases Acts of 1864, 1866, 1869 is to be regarded as falling within the scope of the inquiry." As long ago as 1899 Colonel Long presented a memorial from the British Medical Association and the Royal Colleges of Surgeons in England and Ireland praying for an inquiry. At the International Congress on Venereal Diseases held in Brussels in that year, resolutions were passed urging the governments of all countries to appoint commissions of inquiry, and condemning legislation of the nature of the Contagious Diseases Acts. Last year a discussion, extending over four meetings, took place at the Royal Society of Medicine; it turned on the importance of syphilis as an incapacitating disease, and as a producer of certain nervous disorders. In June last Sir Malcolm Morris published an article in the *Lancet*, asking for the appointment of a Royal Commission, and drawing attention to the fact that syphilis was not infrequently contracted innocently. A few weeks later a letter signed by the Presidents of the Royal Colleges of Physicians and Surgeons, the Regius Professors of Medicine in Oxford, Cambridge, and Dublin, and the President of the British Medical Association, together with some thirty leading representatives of the medical profession, was published in the *Morning Post*, and this appeal was formally endorsed by the Representative Meeting of the British Medical Association, which adopted a resolution expressing its sympathy with the recent appeal made in the press by Sir Thomas Barlow and his co-signatories in favour of a more candid recognition by the public of the dangers of venereal diseases. Lord Morley, in speaking at the dinner given by the Government to the International Medical Congress in August, said that there would be sheer moral cowardice in shrinking from a large

and serious inquiry into the extent, causes, and palliatives of this hideous scourge. During the Congress a joint session of the Sections of Dermatology and Syphiligraphy and of Forensic Medicine was held to discuss the subject, and two resolutions were then passed which were subsequently adopted at a plenary meeting of the Congress. These resolutions recognized the ravages wrought by syphilis on the health of the community, deplored the inadequacy of the existing means for checking its dissemination, and called upon the Governments of all countries (1) to introduce a system of confidential notification of the disease to a sanitary authority whenever such notification does not already obtain, and (2) to make systematic provision for diagnosis and treatment of all cases of syphilis not otherwise provided for. There can be no doubt about the importance of the subject, and the results of the researches of Dr. Noguchi demonstrated to the Royal Society of Medicine last week,[1] showing that the spirochaete of syphilis actually flourishes in the brain in general paralysis, and is present in at least some cases of locomotor ataxia, can only serve to strengthen the opinion that the dissemination of this disease, striking man down, as it does, long after his hot youth is past and afflicting the innocent as well as the guilty, urgently calls for concerted action. The paramount importance of syphilis, however, will not, we gather from the announcement made, be allowed to obscure the remoter dangers of gonorrhoea, which, as gynaecologists have now fully established, may be the cause of salpingitis and, in consequence, of sterility and prolonged ill health.

TWO NOTABLE ANNIVERSARIES.

In honour of the famous anatomist Bartolomeo Eustachio festal celebrations were held at his birthplace, San Severino nelle Marche, near Salerno, in September, under the patronage of the Minister of Public Instruction, Signor Credaro. They extended over nearly the whole of the month (7th to 25th), and a congress of medical men of the district was held on the 14th, 15th, and 16th. Among those who took part in the ceremonies were many of the leading men of science in Italy. A marble statue, towards the cost of which subscriptions were received from the King of Italy and the University of Rome, in which Eustachius was professor, was unveiled with appropriate rites in the Civil Hospital; a bronze bust by Ercole Rosa, the gift of the Marquis Luzzati, was also presented, with an appropriate speech by Professor Temistocle Della Vedova of Milan. The city of Rome has decided to affix a marble tablet to the anatomist's house in the Piazza SS. Apostoli; it is now the Palazzo Guglielmi. Little is known of the life of Eustachius. Authors differ as to the date of his birth, that usually given being 1520. In view of the recent celebration it seems possible that recent research may have fixed it as 1513. He began his professional career as private physician to the Duke of Urbino; then he went with Cardinal della Rovere to Rome, where he was professor of anatomy in the Sapienza. He died in 1574, when he was on a journey to Fossombrone, whither he had been summoned to the sick bed of the Cardinal. The name of Eustachius is now known to the profession mainly, if not solely, as the discoverer of the tube or, more correctly, trumpet (*tuba*) which bears his name. He was the first who made an accurate study of dentition. But an unkind fate denied to Eustachius the glory which he ought to have shared with Vesalius of being known as the reformer of anatomy. His *Anatomical Engravings* were completed in 1552, nine years after Vesalius's great work was first printed. They were engraved on copper by himself, and are said to be the first anatomical plates ever produced by this process. Though the text of the work is lost, the plates prove that Eustachius had dissected the whole body with the utmost diligence, and had spared no labour to give accurate views of the shape, size, and relative positions of the various organs. For some reason—probably because they were incomplete — the author did not publish them, and on his death in 1574 they found their way into the Vatican Library, where they lay hidden from the world for nearly a century and a half. When they were found they were handed over by Pope Clement XI to his physician, Lancisi, who published them in 1714. A more correct edition was published by the great Dutch anatomist, Albinus, in 1744. A parallel to this long loss of fine anatomical plates is found in the case of Leonardo da Vinci, whose drawings were found, centuries after his death, in the Ambrosian Library, Milan. They are now in the Royal Library at Windsor. Eustachius studied the intimate structure of organs by means of glasses, and he used other methods of examination, such as maceration of tissues in different fluids, injection, and desiccation. The figures show, as was pointed out by Lauth, that if Eustachius himself had been able to publish them, anatomy would have attained the state it reached in the eighteenth century two hundred years earlier. But they lay forgotten in the papal library, and thus celebrity has been gained by others whose names would otherwise have been known only by the verification of the discoveries of Eustachius. The other anniversary is that of Andreas Vesalius, who was born at Brussels on the last day of 1514. The medical profession and people of Belgium are preparing to celebrate the quatercentenary of the event. The career of the "Luther of Anatomy," as he has been called, is too well known to need rehearsing here. Disgusted by the controversies in which his new views involved him, he gave up his chair at Padua in 1544; and although he afterwards lectured, first at Pisa and then at Bologna, he gave up anatomy, and in a fit of passion threw his manuscripts into the fire. These included the edition of Galen which he used in lecturing, with numerous marginal notes of original observations; a volume of therapeutic formulae; many original notes on drugs; and a paraphrase of Rhases in which he collated the text of the Arab physician with the Greek writers. He accepted an offer of Charles V to become his chief physician, and continued to hold the same office under Philip. His brilliant career ended in darkness and misery. Whether he was denounced to the Inquisition for opening the body of a nobleman in which some flicker of life was supposed to remain, or whether he could no longer breathe the stifling intellectual atmosphere of the Madrid Court, is uncertain. At any rate, he went on a pilgrimage to the Holy Land, and on the return journey was shipwrecked on the island of Zante, where he died of starvation in 1564.

THE EXECUTIONER SURGEON.

Within the past few days Mr. Filson Young, writing in the *Pall Mall Gazette* on the death of the ex-hangman Berry, has made the curious suggestion that "death at the hands of the law should be regarded as a major scientific operation, and as such entrusted to the medical officer." We are doubtful if doctors will be duly grateful for this delicate suggestion. Molière, indeed, in the graduation ceremony at the end of the *Malade Imaginaire*, includes among the privileges conferred by the doctor's diploma the power *occidendi impune per totam terram*, but even he did not formally propose that they should serve as hangmen. Mr. Filson Young has tried to go beyond the great master of antimedical satire, but his joke is not altogether in good taste. Yet, silly as it is, some point might have been given to it had Mr. Filson Young known that in former days there were certain countries in which the public executioner practised surgery. It is not strange that the mediaeval executioner found the transition to surgery easy and alluring, for his practical knowledge of anatomy must have been considerable. To

[1] British Medical Journal, October 25th, p. 1100.

sever the head rapidly and neatly from the trunk of his kneeling victim needed skill as well as strength, and the executioner who bungled his blow ran the risk of being treated summarily by the spectators, who would express their appreciation of his blunder with that brevity and vigour with which the erring referee at a modern football match is not unfamiliar. But the mediaeval executioner's sphere was far from being confined to the cervical region. To lop off finger by finger, to amputate the hand and foot, to cut strips of skin off a prisoner's back, to stretch on the rack, to draw and quarter, all required some practical skill, which was turned to good account when the sentence had been executed, and the mutilations inflicted called for surgical aid. Kristian Carøe[1] has lately given a historic account of the executioner as a surgeon in Denmark. He was sometimes a kindly, religious man, who lived a retired life, and seldom associated with others than those of his own calling. Intermarriages in the families of executioners were, therefore, frequent, and successive generations of the same family adopted the calling. Whatever its drawbacks, monotony cannot have been one of them, for in addition to the duties already mentioned, the executioner had to burn offenders at the stake, bury women alive, or drown them in a sack, brand with a hot iron, manipulate the stocks, examine for witchcraft, expel prostitutes from the town, bury suicides, keep the streets and chimneys clean, and capture and kill stray dogs and swine. Yet this combination of occupations seems to have left him time to extend his activities yet further: and surgery became his hobby. Probably little would have been recorded of the part he played as surgeon had he not incurred the jealousy of his competitor, the bona fide surgeon or "bartskaer," whose complaints to the authorities of the illegitimate surgery of the executioners are frequently to be found in the State archives. Side by side with these complaints are petitions, accompanied by testimonials, from the executioner surgeon for leave to practise. In some cases it was refused, and in others permission was granted to set fractures, to reduce dislocations, and to treat external diseases, provided internal diseases were not tampered with. The features distinguishing an "external" from an "internal" disease do not appear to have been defined, though syphilis was regarded as an external disease: and the executioner was doubtless in no hurry to have the definition made. One argument frequently advanced by the executioner in his application for leave to practise surgery was his devotion to the poor, whose ailments he cured for little or nothing. But his practice was not always confined to the lower classes, and in 1638 the executioner of Glückstadt was even called in to attend Prince Christian, heir to Christian IV, who in 1627 had fractured his leg. In spite of varied treatment the wound constantly broke out afresh, and fistulae formed. The medical attendant to the Royal household, Henrik Kuster, in a Latin letter to a friend, complains bitterly of the affront to his profession in the favour shown to "a quack who is as little qualified to heal as to play on the lyre. . . . Who would be so shameless as to meet such a spawn of mankind in consultation? Alas, for those who fall into the hands of these quacks who are not fit to treat a louse!" But the Royal physician's gifts were evidently in the direction of a vigorous literary style rather than therapeutic; and his patient seems to have taken many years to find this out. Early in the eighteenth century Henrik Dreyer, an army surgeon, waged war on the irregular practices of contemporary executioners. Apparently he considered the claim to consanguinity of the two professions should be limited to a literal interpretation of the term. His attempt in 1718 to destroy the surgical practice of Margrethe Guldbrandsdatter, the executioner's wife and partner in practice, proved abortive; but five years later he secured the infliction of a fine on his competitor. The executioner's successor, Augustinus Pflug, was unfortunate enough to be murdered by his wife's paramour, and it fell to the lot of Dreyer to make the necropsy. His feelings on this occasion do not seem to have been recorded.

[1] *Medicinsk-Historiske Smaaskrifter*. Edited by Vilhelm Maar. Vilhelm Tryde's Forlag. Copenhagen.

ANCIENT INDIAN INITIATION INTO MEDICINE.

It is held by Professor von Oefele that the Hippocratic oath is of Egyptian origin, and was introduced into Greece by men who had gone to learn medicine in Egypt and had been obliged to submit to rites of initiation before solemn investiture with the powers of what we should call a qualified practitioner. A description of such an initiatory ceremony is given in the *Sushruta Samhita*, a translation of which by Kaviraj Kunja Lal Bhishagratna was reviewed in the JOURNAL of June 14th, 1913. Only students of the three "twice born" castes were accepted. The ritual was elaborate. A Brahman preceptor should initiate a disciple or student in the following way: "A square sand cushion or platform, measuring a cubit in length and breadth, should be laid out on a plot of smooth, level, and sacred ground under the benign influence of any auspicious phase of the moon or astral combination such as the 'Karanam,' etc., and in a direction of the compass which is held most auspicious to that end. The cushion or the platform should be plastered over with a solution of water and cow-dung, and blades of Kusha grass should be strewn over it. Then the gods, the Brahmanas, and the physicians should be worshipped with oblations of flowers, fried paddy, gems, and sun-dried rice. Then, having drawn straight lines across the Sthandilam, so as to meet the top of the furthest side of the square, and having sprinkled over them with holy water, the preceptor should lay down a blade of Kusha grass tied up in the form of a knot, known as the Brahmana, along the side of the sacred cushion to his right, and kindle the sacred fire close to his seat. Then, having soaked the twigs of the four sacrificial trees of Khadira, Palasha, Devadaru, and Vilva, or of Vata, Oudumvara, Ashvattha, and Madhuka, in curd honey and clarified butter, he should perform the rite of Homa, according to the rules of a Darvi Homa ceremony. Then libations of clarified butter should be cast into the sacrificial fire in honour of each of the gods and Rishis (celestial physicians), invoked by repeating the Svaha Mantra, and the disciple should be made to do the same." Having thrice walked round the sacrificial fire, and having invoked the fire god to bear testimony to the fact, the preceptor administered the oath in which parts of the Hippocratic formula can be recognized. Addressing the disciple he said: "Thou shalt renounce lust, anger, greed, ignorance, vanity, egotistic feelings, envy, harshness, niggardliness, falsehood, idleness, nay all acts that soil the good name of a man. In proper season thou shalt pare thy nails and clip thy hair and put on the sacred cloth, dyed brownish-yellow, live the life of a truthful, self-controlled anchorite and be obedient and respectful towards thy preceptor. In sleep, in rest, or while moving about while at meals or in study, and in all acts thou shalt be guided by my directions. Thou shalt do what is pleasant and beneficial to me, otherwise thou shalt incur sin and all thy study and knowledge shall fail to bear their wished for fruit, and thou shalt gain no fame. If I, on the other hand, treat thee unjustly even with thy perfect obedience and in full conformity to the terms agreed upon, may I incur equal sin with thee, and may all my knowledge prove futile, and never have any scope of work or display. Thou shalt help with thy professional skill and knowledge, the Brahmanas, thy elders, preceptors and friends, the indigent, the honest, the anchorites, the helpless and those who shall come to thee (from a distance), or those who shall live close by, as well as thy relations and kinsmen (to the best of thy knowledge and ability), and thou shalt give them medicine (without charging for it any

remuneration whatever) and God will bless thee for that. Thou shalt not treat medicinally a professional hunter, a fowler, a habitual sinner, or him who has been degraded in life; and even by so doing thou shalt acquire friends, fame, piety, wealth and all wished for objects in life and thy knowledge shall gain publicity." Some of these injunctions are excellent, and the promise of prosperity to be acquired by observance of them seems to show that the ancient Indian doctor had no panel or non-panel difficulties to contend against. The final touch, "Thy knowledge shall gain publicity," is quite modern.

THE HISTORY OF "SCRAPIE," SHEEP DISEASE.

Neither Sir James Murray's *New English Dictionary* nor Wright's *English Dialect Dictionary* give "scrapie," the disease amongst sheep which is causing so much anxiety among flockmasters on both sides of the Border at the present time. The expression "sheep-scrape" is found, but it has nothing to do with the disease; it simply signifies the bare place on a hillside where the turf has been scraped off by sheep's feet. "Scrapie," the disease, has its origin in the fact that one of the chief symptoms of the developed disease is the itchiness which causes the affected animal to rub itself against projecting surfaces as well as to bite at its wool. Sir Stewart Stockman, whose address to the flockmasters of the Borders at St. Boswells is noted elsewhere (p. 1183), has found a reference by Arthur Young in his *Annals of Agriculture* to what is now called "scrapie," but was then apparently named "the rubs." Writing of the year 1799, Young said: "I lost from 40 to 50 ewes by a complaint which has been for some years fatal to this neighbourhood, and called by the shepherds the 'rubs' or the 'rubbers,' from their seeming to rub themselves to death, by which some very capital flocks of Norfolk, in the vicinity of Bury, have lost several hundreds." The first mention of the disease under the name of "scrapie" seems to have been in 1853; it was then present, it has been thought, in a noted flock of half-bred Cheviot and Leicester sheep at a farm on the Borders which Sir Stewart Stockman calls A. A farmer in the neighbourhood at B bought two tups at the A sale and allowed them to run with his ewes; the ewes apparently did not contract the disease, but it appeared in 1856 in the stock got by these tups—that is, in their progeny when about 2 years old. It is this character of the disease and its late appearance which have led, no doubt, to the notion that it is hereditary. It is possible that it may be transmitted by congenital infection, but this, of course, is not the same thing as heredity; indeed, Sir Stewart Stockman has been able to assure the flockmasters that the malady is contagious, and therefore capable of being prevented. "Scrapie" is known on the Continent, in France and Germany, under different names, but foreign sources of information have very little to say about its pathology or its prevalence. It is stated, however, that it was brought into Germany by merino sheep, a statement of some importance when taken in association with the supposition that it reached England also through the merinos; it may, so far as is definitely known, have been introduced into this country either by the Saxon or the Spanish merinos or from quite another source. One other fact about the history of the disease which is of importance is its disappearance from Norfolk, after having been prevalent there at one time. A probable explanation is that the Norfolk farmers bred chiefly for the production of mutton, and that, as the disease does not appear before the age of two years, the animals were slaughtered before the "scrapie" age, and the risk of infection was in consequence greatly reduced or done away with altogether. Our present knowledge of the malady seems to point to its being exclusively an ovine disorder; there is, at any rate, no evidence that it has any bearing on human pathology, although, in view of what is now known of other diseases, it is hardly safe to be dogmatic.

PELLAGRA IN AMERICA.

A conference on pellagra, held at Spartanburg, South Carolina, on September 3rd, was attended by more than 200 doctors from various parts of the country. It was opened by Dr. W. P. Chapman, President of the Spartanburg County Medical Society. Dr. J. W. Babcock, head of the State Asylum for the Insane, introduced Dr. L. W. Sambon, who read an address in which he gave an account of his work on pellagra. He paid a tribute to the work of the Thompson-McFadden Commission in that city, and expressed his belief that pellagra would finally disappear entirely or be brought under control. Dr. McNeal read a report on observations in Spartanburg County, from which it appeared that although sporadic cases of pellagra had probably existed in the Nineties, it was in 1908 that the first case was verified. The disease was most commonly found among the women and children of the cotton mill villages of that section of the State. Poorly nourished people were not so immune as those in better circumstances. It had also been found that pellagrins were most numerous in communities where adequate means were not provided for the disposal of human excrement. The report stated that no specific cause of the disease had been recognized. During a discussion which followed, Dr. C. H. Lavinder recommended the establishment of sanatoriums for pellagra, and Dr. G. M. Niels, of Atlanta, speaking from his experience in treating the disease in Georgia, expressed the belief that good results would follow the administration of an abundance of protein foods. Dr. Sambon was entertained at an informal "smoker," which was attended by the Governor of the State and many leading citizens. Mr. Hearon, in responding to the toast "Spartanburg as a proper location for a national hospital for the treatment of pellagra," dealt with the endeavour made by that community to secure a hospital endowed by the national Government. Dr. Sambon complimented the American people on the great work of prevention accomplished in Havana, Cuba, and in making the Panama Canal a region habitable by white men. He criticized Great Britain as being too slow in making its tropical provinces fit places for white colonists. Dr. Siler said the United States should make appropriations for the investigation of unknown diseases and hoped the Government would establish a pellagra hospital at Spartanburg where the great research work started by the Thompson-McFadden Commission would be continued. Dr. J. W. Babcock, in speaking of pellagra as a national problem, estimated that there were 30,000 cases in the United States; forty States had recognized the disease within their borders; it was also prevalent in Panama, Porto Rico, the Philippines, and the Sandwich Islands. Pellagra was no longer a national but an international disease. Dr. J. Adams Hayne, Secretary of the State Board of Health, speaking on pellagra as a State problem, said a thorough investigation proved that it existed in every county of the State. Cases occurred also on the coast, according to Dr. Wilson of Charleston, and, according to Dr. Whaley of the same place, the disease was prevalent in North Carolina. Dr. Lavinder said that the pellagrin should be treated like the tuberculous sufferer. If he were removed from the endemic zone in the early stages, placed in more healthful surrounding and given plenty of nutritious food, he would recover permanently. It was the general feeling of the meeting that the Government should establish hospitals for the study and treatment of the disease. Senator G. W. Sullivan, of Anderson County, said that at the next session of the General Assembly he would introduce a bill and make a fight for a substantial appropriation. It was announced that Dr. Siler, head of the Thompson-McFadden Commission, would accompany Dr. Sambon and Mr. Ernest Schwartz, artist and entomologist, in the expedition to certain West India islands to investigate pellagra at the invitation of the several Governments.

THE TROMBONE AS A THERAPEUTIC AGENT.

THE power of music to soothe sufferers from some mental ailments is generally recognized. We read in Holy Writ how David played on the harp before Saul when the evil spirit was upon the King. Much has been written on the healing power of a concourse of sweet sounds, and some twenty years ago the St. Cecilia Guild was founded in London by the late Rev. F. K. Harford, Minor Canon of Westminster Abbey, with the object of testing the effect of music on the sick. Some experiments were made in one or two London hospitals, but the movement, which was actively supported by Sir Andrew Clark, soon came to nothing, owing mainly to indifference on the part of the public, and perhaps also to want of faith in some of the promoters. It was an interesting experiment and deserved a better fate. The music employed was soft, but it appears that loud sounds may be effectual in certain conditions. This may be gathered from what we read of the method used by Auguste Henri Jacob, better known as "Le Zouave Jacob," a healer of great notoriety in the days of the Second Empire, who recently died at the age of 85. He was a bandsman in the Zouaves of the Imperial Guard, and became noted for his skill as a player on the trombone. When he became conscious of his power as a healer the trombone was the instrument he used in treating the sick. So potent was his blast that patients crippled by rheumatism are said to have got up and walked after one application. It did not always answer, for Marshal Canrobert only succeeded in half raising himself from his bed. It may be asked when the remedy proved effectual whether this was the effect of the shock caused by the sound, or of a special charm in the instrument, like that in the lyre with which Orpheus made trees and stones dance to his playing; or if it was due to the sufferer's desperate efforts to escape from torture such as that which vexed the nervous system of Hogarth's "Enraged Musician"? In any case it might be worth while to make an experimental test of the trombone as a therapeutic agent. Possibly the bagpipe might also be tried, and we would suggest that it might be well to begin with a case of difficult micturition. Does not Shakespeare, through the mouth of Shylock, tell us that there are some who, "when the bagpipe sings i' the nose, cannot contain their urine"? The Zouave Jacob was more single-minded than most faith healers, for he never took fees. This fact saved him on the many occasions when he was prosecuted for illegal practice. He lived by the sale of his photograph. For a long time before his death he had been forgotten except by a faithful few.

THE CINEMATOGRAPH IN SANITARY EDUCATION.

THAT the cinematograph exercises a very far-reaching influence over the mind of the public has for some time been a recognized fact; and for this reason it constitutes an excellent medium for the spread of information, imparted in the manner that appeals most strongly to the taste and imagination of the man in the street. It does this more effectually than books or lectures, for, as Horace said long ago, "Segnius irritant animos demissa per aurem, Quam quae sunt oculis subjecta fidelibus." There is every reason, therefore, to congratulate the proprietors of the Electric Palace, Marble Arch, who, at the instigation of the Public Health Committee of the Marylebone Borough Council, introduced into the course of their ordinary programme on October 23rd, 24th, and 25th, a striking series of photographs illustrating the part played by the common house-fly as a carrier of disease. The film showed every stage in the development of the fly, from its birth in a heap of garbage to its death in the food prepared for human beings; and whilst affording the audience an opportunity of learning the various ways in which contagion may be spread by these insects, gave a most realistic picture of the insanitary conditions prevailing in many large towns. This experiment on the part of the Electric Palace opens a new sphere of usefulness for the cinematograph, which may possibly become a powerful ally of the doctor in his crusade against disease and dirt.

A TUBERCULOSIS SCHEME FOR A RURAL COUNTY.

THE county tuberculosis officer has put forward a scheme for the treatment of tuberculosis in the administrative county of Hertford. As this county is mainly agricultural, containing a population of 311,284 persons, scattered over an area of 404,523 acres, the scheme may be of value as a guide in other similar counties. It proposes the establishment of a central dispensary in Hertford, and four branch dispensaries in a corresponding number of the larger towns of the area, and seven visiting stations, to be increased later on if need be, conveniently situated in seven other districts. It is also proposed to establish an institution to which non-pulmonary as well as pulmonary cases would be admissible, and where sanatorium as well as hospital treatment would be obtainable. Of its 140 beds, 60 would be regarded as sanatorium beds for early cases of pulmonary tuberculosis, 40 as beds for acute and advanced cases of this disease, and 20 as children's beds; the remaining 20 beds would be used partly for keeping cases under observation, and partly for the treatment of adult cases of tuberculosis other than phthisis. A motor ambulance would be provided for taking the patients to and from this institution, and examination of suspected sputa would be conducted gratuitously. Tuberculin treatment would be commenced at the sanatorium, and followed up at the dispensaries, the same methods of administration being adopted in both instances. The organization of a care committee is also included in the scheme.

THE AUSTRALASIAN MEDICAL CONGRESS.

THE Australasian members having expressed a strong desire that the parent Association should be represented at the Australasian Medical Congress promoted by the Branches of the Association in Australia and New Zealand, to be held in Auckland in February next, the Council accepted the recommendation of the Finance Committee that the invitation should be accepted and that one of the honorary officers be asked to act, and at the request of the Council its Chairman, Dr. Macdonald, consented to accept the duty. In concluding its last annual report the Council of the New South Wales Branch expressed the satisfaction with which it noticed the steady growth of the influence of the Association in public matters in which the medical profession is concerned, and the recognition afforded to it by the Government and public bodies. During the year it had been consulted on medical matters both by the State and Commonwealth Governments. The proposals which are now taking definite shape in several States of the Australasian dominions for the institution of systems of national insurance will give particular significance and value to Dr. Macdonald's visit. He has been Chairman of the Council throughout the whole of the agitation in this country with regard to the insurance scheme, and will be able to advise our Southern brethren from his experience of events in this country, and his intimate acquaintance with the provisions and administration of the Insurance Acts. His visit, we do not doubt, will tend to draw closer the bonds of union, and help still further to consolidate the influential position which the Association has attained in Australasia. As the congress in Auckland begins in February, it will be necessary for Dr. Macdonald to leave England shortly after the Special Representative Meeting.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

WALES.

Voluntary Aid Arrangements at Senghenydd.

At the time of the colliery disaster which occurred on Tuesday, October 14th, there were eleven Glamorgan County voluntary aid détachments organized in the Senghenydd district, ten from the British Red Cross and one from the St. John Ambulance Association. Two of the local doctors—namely, Dr. P. T. Burke of Abertridwr and Dr. Philip James of Senghenydd—are commandants of detachments. The Glamorgan County Association's lady vice-president for the district is Miss Sybel Corbett of Pwllypant, who is also a lady chairman of the British Red Cross Society in Glamorgan, and under this lady, with the consent and approval of Lord Merthyr of Senghenydd, on behalf of the colliery authorities, the voluntary aid arrangements were organized, and Lord Merthyr further gave his consent to any reasonable disbursements that might be required for the sufferers. Lieutenant-Colonel Sheen, R.A.M.C.(T.), county director of voluntary aid in Glamorgan, acted, at Miss Corbett's request, in an advisory capacity. Superintendent Davidson, of the St. John Ambulance Association, rendered much valuable assistance.

Details of Organization.

The organization was divided into two parts, the pithead arrangements and a temporary hospital established in a hall in the village known as Aberdare Hall. The pithead arrangements were in charge of Mrs. P. T. Burke and the temporary hospital in charge of Mrs. Philip James; both these ladies command voluntary aid detachments. Associated with them in medical charge were Dr. Burke at the pithead and Dr. James at the temporary hospital. These two gentlemen, with Drs. Donaldson, Watson, Richards, Mackenzie, and Thomas, provided a continuous medical service day and night. Dr. Ivor Davies, of Cardiff, who also commands a voluntary aid detachment, was associated in the care of the temporary hospital, where he was on duty practically continuously for the first three days following the disaster.

The principal duties of the voluntary aid workers were preparing food and stimulating drinks for the exhausted rescue parties and in caring for any injured, and particularly for those "gassed"—that is, suffering from carbon monoxide poisoning.

The pithead stations were three: the "York Cabin," a small hut close to the top of the shaft, used as a food station; a carpenter's shop, also close to the shaft, used as a first-aid and food station; and rooms in the colliery offices near by used as a food station. The temporary hospital was equipped with half a dozen beds, and two fully trained nurses were engaged for day and night duty. From the temporary hospital, also, was sent out such voluntary aid assistance as might be required by those living in the village. All the stations were distinguished by large printed labels on their doors, and duty rosters were also posted on the doors showing dates, names, and times of going on and off duty. A record was also kept of casualties attended to and of those fed.

With regard to who should do the work, the principle was followed of first calling upon those members of voluntary aid detachments who lived in or near Senghenydd; others were summoned (by telegraph when necessary) from Cardiff and adjacent places as required. There was naturally a little confusion at the outset, but the work soon settled down and was conducted in an orderly, disciplined manner.

The pithead work was particularly arduous, going on day and night. At the temporary hospital there were three or four cases; more on the first three days, as all the rescued men were brought there, but the majority were able to leave in a few hours.

Observations upon Cases Treated.

A considerable number of the 489 men brought to the surface two hours after the explosion suffered from burns, shock, and the effects of the after-damp poisoning. These were treated by the before-named local practitioners, and afterwards either walked or were assisted to their homes. Several of the more seriously injured were taken by special train to Cardiff and thence to the King Edward's Hospital. One died on the way and three have since died at the hospital and one at home. One of the most distressing deaths was that at the pithead of a man who came to the top with a cageful of mates. They were at once surrounded and congratulated by their friends. This proved too much for one poor fellow. He was given a bottle of water, and after drinking gratefully from this fell to the ground, and upon examination was found to be dead.

Eighteen men were subsequently rescued nearly twenty-four hours later. These were found, some conscious, others unconscious, lying near many dead bodies. The rescued men were first treated in the mine and then brought to the surface. All showed the usual effects of carbon monoxide poisoning, notably the cherry-red colour of the skin. Artificial respiration and administration of oxygen had to be resorted to in several cases for a considerable time. In this connexion it may be mentioned that in some cases, owing to marked rigidity of the arm, Schäfer's method of artificial respiration was found to be the most suitable, and permitted the administration of oxygen at the same time.

All were taken to the temporary hospital afterwards, but, with the exception of three, were not detained. One of the patients left at the hospital suffered from repeated attacks of cardiac failure and acute pulmonary congestion. He responded well to the usual treatment and oxygen, but unfortunately pneumonia set in later, from which he has been making a slow recovery. Almost all have showed erythematous patches, very sharply outlined and of a bright red colour. These were situated for the most part upon the back and buttocks, and attended with considerable swelling, and in some instances oedema. These patches were intensely painful, and when situated upon the buttock made lying impossible on the side. They were also painful to touch, but invariably were anaesthetic to painful impressions. In almost all cases the hair follicles stood out prominently in these patches of erythema.

Many of the rescued men suffered from peripheral neuritis, affecting the feet in most instances, but the arm in one leading to wrist-drop. A curious mental condition characterized by stupor and restlessness was observed in many.

A full account of the clinical aspect of the cases and subsequent progress will be published in due course.

The Red Cross in Civil Life.

This would seem to be the inception of a movement which is likely to be of great service in giving first aid in cases of national disaster, and to afford valuable training of a practical character to members of voluntary aid organizations. In other nations such use of voluntary aid from Red Cross Societies and other bodies is well established and utilized. It requires financial assistance and co-operation between employers of labour and others on the one part and voluntary aid organizations on the other. If established, it cannot fail to be of great benefit to the community.

LONDON.

London County Council.

Increased Remuneration of Asylums Medical Officers.

Only a week ago it was reported in the British Medical Journal (October 25th, p. 1112) that the Metropolitan Asylums Board proposed to increase the remuneration of assistant medical officers in the hospitals under its control. One of the reasons given was that the scale in the London County Council's asylums service was higher. At the meeting of the London County Council on October 28th, however, the Asylums Committee reported that it had adopted an increased scale of remuneration. The committee stated that it had experienced lately great difficulty in securing the services of assistant medical officers, and it had become apparent that steps must be taken to improve and render more attractive the positions of the assistant medical staff in the London asylum service. The scale of remuneration for assistant medical officers had not provided hitherto an annual increment for any grade except the first. The fifth and sixth assistants received £170 a year each, the fourth £190 a year, the

third £210 a year, and the second £250 a year, in each case with board, lodging, and washing, valued for superannuation purposes at £90 a year. The first assistant received an annual salary of £310 a year, rising by £25 a year to £410, with the same residential emoluments. The amended scale now adopted was as follows: First assistant medical officer, commencing salary £350, rising by annual increments of £25 a year to £450; second assistant medical officer, £290, rising by annual increments of £10 a year to £330; third, £250, rising by £10 a year to £280; fourth, £220, rising by £10 a year to £250; fifth assistant medical officer, and all appointments under, £200, rising by annual increments of £10 to £220. The salaries included board, lodging, and washing in each case. The committee stated that the present expenditure on salaries for assistant medical officers amounted to £11,535 a year, and the amended scale involved an immediate increase of £1,620, or just over 14 per cent.

Treatment of Tuberculosis.

Owing to pressure of other business the Council again deferred consideration of the question of the treatment of tuberculosis in London. Supplementing its observations as to dispensary provision, residential accommodation, finance, etc., the Public Health Committee submitted a further report as to arrangements for the residential accommodation of uninsured persons. The Committee remarked that, as the result of legislation passed last session, the position of the Metropolitan Asylums Board in relation to the provision of accommodation had materially altered, and, as reported last week, the Local Government Board had expressed the opinion that the Council could now deal with the Asylums Board as with any other sanatorium-providing authority. In addition to accommodation which could be provided by the Asylums Board, there were no doubt a number of beds at hospitals and sanatoriums available for London patients, and existing provision, if found insufficient, would doubtless be augmented by the authorities concerned, if they were satisfied that the Council would enter into arrangements with them for its use. The committee invited the Council to express the following opinion:

> That any comprehensive scheme for dealing with the treatment of tuberculosis in London shall provide that the Council shall make arrangements with the Metropolitan Asylums Board, with hospitals, and with sanatoriums, for the provision of the residential accommodation required for London uninsured patients suffering from tuberculosis: and that it be referred to the Public Health Committee to consider and report whether adequate provision can be made in this manner, without the Council being called upon itself to own and manage institutions.

Major Levita gave notice of an amendment expressing the opinion that the Council should not act as a financial intermediary between the Local Government Board and either the Insurance Committee or the borough councils, and should leave the local health authorities, with the Metropolitan Asylums Board and other institution-providing bodies, to deal with tuberculosis under the same administration as at present efficiently dealt with other diseases.

The London Insurance Committee wrote drawing the attention of the Council to the fact that the authorities of the Mount Vernon Hospital at Hampstead desired to dispose of the institution, and suggesting that the hospital should be acquired, if possible, for the treatment of insured persons in London suffering from tuberculosis. The Public Health Committee advised the Council to decline to purchase the institution and to direct the attention of the Metropolitan Asylums Board to its impending sale.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

OPENING OF THE WINTER SESSION, BELFAST.

THE opening address of the new session was delivered at Royal Victoria Hospital on October 21st by Dr. John C. Rankin, assistant physician in charge of the electric department. The chairman of the visiting staff, Sir William Whitla, presided, and the medical staff, a number of friends, and the students were present.

Dr. Rankin offered a cordial welcome to the students on their return to a new session's work. Taking as his subject the textbook division of the order of study of disease, he showed how the conception of disease varied from age to age. The "demon" etiology of the early middle ages gave way to the anatomical etiology of later years, when the study of anatomy became general and dominated the lines of thought. Claude Bernard's work next introduced the physiological element, and the belief that abeyance or perversion of function was the strongest factor in the causation of disease. Koch's postulates brought in the reign of the microbe, but this phase had been succeeded by the study of immunity and biochemistry: and now the physicists were again altering the conception of etiology, and as yet the last word had not been spoken. In dealing with diagnosis, Dr. Rankin referred to the difficulties of the new terminology which a medical student had to master, and dwelt on the necessity of clearness of diction, of accuracy in the use of terms, and of care in note-taking. Clinical observation had by no means been superseded by modern scientific methods: they were complementary to each other. In discussing the difficulties of prognosis, it was pointed out that careful examination, prolonged study of the case, and accurate diagnostic reasoning all made for reliable prognosis, but that in many cases the outlook could not be given, except in vague and general terms. Finally the lecturer gave a brief sketch of the many forms of treatment; the physiological explanation of auto-suggestion and hypnotism; the doctrine of internal secretions and of Wright's vaccines; Wassermann's reaction and the enormous boon of Ehrlich's chemiotherapy; the rise to supremacy in certain departments of electricity, formerly the Cinderella of medical treatment; the ionic theory, and the influence of radium—all these were briefly passed in review, and the lines and potentialities of future treatment suggested.

WORKHOUSE HOSPITAL CHARGES.

At the last meeting of the Celbridge Board of Guardians a letter was received from the secretary of the Society for Promoting Protestant Schools in Ireland, with reference to the claim of nine guineas, being at the rate of half a guinea a day, made by the master for the maintenance in the workhouse fever hospital of a girl from the Celbridge Collegiate School. He pointed out that this charge was excessive, especially as the girl belonged to a family in humble circumstances, and was in the collegiate school through winning a scholarship, and he suggested that the fees should not exceed those charged in, say, the Adelaide Hospital, Dublin. The master explained that he based the charge on a letter received recently from the Local Government Board, containing an instruction that all expenses, including even the salaries of workhouse officials, should be taken into account in calculating the charges to be made against patients who were able to pay. The Board ordered the master to communicate with the Adelaide Hospital authorities as to what their fees would be in such a case. Most of the Dublin hospitals take in private patients for one guinea a week, and the charges in nursing homes are as low as three guineas and in some cases two guineas a week.

MONAGHAN SANATORIUM.

The Local Government Board has finally approved of the conversion of the County Monaghan Fever Hospital into a sanatorium for the county, and of the transfer of the County Fever Hospital to the disused fever hospital at Kilnacloy. The work of renovating both buildings is to begin at once.

IMPROVEMENTS AT COUNTY ANTRIM INFIRMARY.

At the last monthly meeting of the committee of management of the County Antrim Infirmary it was reported that various improvements, made possible by the success of a bazaar held in Lisburn some two years ago, had been completed. Electric lighting has been introduced throughout the building, the power being derived from an engine and an accumulator controlled by an automatic switchboard. In the operating theatre the lamps are on a double circuit and are provided with a two-way switch, so that in the event of any failure in the primary circuit the lighting of the theatre can be instantly continued by switching them on to the secondary current. A further safeguard is provision of a means of turning the whole

load on to the generating engine should the battery circuits ever fail. The operating theatre has been enlarged and fitted with ceiling as well as wall windows; its approaches, too, have been improved and electrical heating supplied for the sterilization of instruments and dressings. An electric lift has been installed in the well of the main staircase and will enable patients to be taken to and from the operating theatre with a minimum of labour and absence of shaking. It accommodates a stretcher and three persons, in addition to the patient. It is duly caged in and armed with all safety devices, while to ensure adequate power at all times a "cut-out" which places the lift during movement in direct connexion with the batteries, has been added to the switchboard. The improvements in the mortuary include the provision of a marble table and tiling of the walls. The walls of the out-patient department have also been tiled and new seats provided, while the old-fashioned windows in the women's wards have been replaced by modern sashes. The bazaar funds have also covered the expense of laying special mains to each ward, so as to enable the *x*-ray apparatus to be used therein when required, and of tiling and reshelving the hospital sculleries.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Insanity in Glasgow.

The annual report regarding the certification of lunatics in the Parish of Glasgow, which has been prepared by Dr. Carswell, the certifying physician, shows a marked decrease in insanity, especially among males, during the past year. The number of persons certified insane was 46 fewer than in the previous year and 67 fewer than in 1911, and it was also below the average for the two periods 1901–5 and 1906–10. Dr. Carswell attributes this decrease to the industrial prosperity, which, he thinks, enables working people to provide for weak-minded relatives without recourse to public institutions, and also enables others to be employed who, if unemployed, might find their way to asylums. During the year, 1,116 cases were dealt with; 527 were certified as lunatics (376 for the first time) and 546 were not certified, while 43 were under observation at the close of the official year. The insane cases were therefore 49.1 per cent. of the total, the lowest figure yet recorded. Dr. Carswell comments on the great value of the probationary system in the observation wards. The medical aspect of the illness is thereby emphasized, and it is the more readily realized by patients and their relatives that this provision is made for the mentally sick on similar lines to that provided for the bodily sick. The result is that patients come to receive treatment in the observation wards as willingly as into a general hospital. Since the opening in 1904 of the new hospital 5,571 patients have been admitted, and no difficulties have occurred in connexion with the reception of the patients on a purely voluntary basis. Apart from any question of medical treatment, the fact of voluntary residence must have had an important influence conducive to recovery. Dr. Carswell draws attention to the general correspondence between the death and lunacy rates, and adds that the figures for the last three years seem to justify the view that there exists a definite relationship between the occurrence of insanity and the prevalence of physical diseases.

"Scrapie," the "New Disease" among Sheep.

Some weeks ago[1] it was stated that it was proposed to ask Sir Stewart Stockman, chief veterinary officer of the Board of Agriculture and Fisheries, to give an address on "scrapie," the so-called "new disease" among sheep, at some convenient centre on the Borders. The address was given, on the invitation of the Yarrow and Ettrick Pastoral Society, at St. Boswells on October 23rd. Mr. Donald Maclean, M.P., presided, and there was a large attendance of flockmasters. Sir Stewart Stockman was able to find a reference to "scrapie" as far back as 1853, so that it was hardly a "new" disease, but there had been some degree of secrecy in regard to it, making it therefore "new" to the flockmasters who had been unlucky enough to buy infected animals. It was possible, but by no means proved, that it had been introduced into the country by merinos. It seemed only to affect sheep, but was restricted to no particular breed, although it had been most frequently met with in half-bred sheep of the Cheviot and Leicester cross. Active symptoms did not appear except in animals more than 18 months old, although some French writers stated they had seen it in sheep of only 10 months; it might appear at any age after 18 months. The malady, which lasted from three to four months, presented three stages. In the first, which lasted about three weeks, the symptoms were intermittent and required to be looked for; the animal frequently changed its position, it drank a good deal of water, rumination took place in the upright position, the pupil was dilated and the look fixed, the bleat was sometimes trembling, and grinding of the teeth was well marked. In the second stage, which carried the disease to about the sixth week, twitchings of ears, eyelids, lips, shoulders, and thighs were noticeable; there was straining and the passing of small quantities of faeces and urine; the animal was excited, but if chased would suddenly fall down, lie for a few minutes, and then get up again and move away. Towards the end of this stage, itchiness began along the back towards the root of the tail. In the third stage the itching got more intense, and extended to the sides, shoulders, and limbs. The animal constantly rubbed itself (hence the name "scrapie") against fixed objects and pulled at its wool with its teeth; but the skin showed no scurf or other appearance of scab. As the itching became still more severe, the animal appeared as if demented; rumination was irregular; thirst was intense; there was rapid emaciation, weakness in the hindquarters, sometimes taking the form of actual paraplegia; and finally small abscesses might appear under the skin, probably from infection of the abrasions caused by the constant rubbing. When "scrapie" was established on a farm the losses from it were often 4 per cent. per annum, but might be as high as 19 per cent. Sir Stewart Stockman was firmly of the opinion that the disease was directly or indirectly contagious, or it might be both. The explanation of its eradication from some farms in Norfolk seemed to be the late age of its development, the sheep having been slaughtered for food before the "scrapie" age was reached; whether it would suit the Border farmers to breed for a time for the butcher would have to be considered. There was certainly no cure for the disease known at present, and prevention therefore was the chief thing to be aimed at. Apparently the pasture did not become infected, or, if it did, the infection was of short duration. If a stock were badly infected, the best plan would be to build up a new flock gradually whilst the old one was being got rid of, and to keep the two separate during the process; it would be important to prevent any tups which had run with the affected flock being put with the new flock; indeed, since one tup might infect a large number of ewes, it seemed advisable to destroy him after the season if he had been used for affected or suspected ewes, and to start with a clean ram for the next season. It was suggested that with all sheep sold by auction for breeding purposes there should be a guarantee that they did not come from a farm where "scrapie" existed. Then if a farmer had the disease in his flock or was in doubt about it he could enter his sheep for sale as slaughter sheep. Mr. W. M. Barrie of Sundhope, Yarrow, in the discussion which followed the address, expressed the opinion that if a man sold sheep for breeding purposes, ewe lambs or gimmers, he should have them marked with a keel, as a guarantee that they were from a clean and healthy stock, and that very drastic measures should be taken with the man who neglected or falsified this guarantee.

[1] British Medical Journal, September 20th, p. 765.

The trustees of the Zunz Bequest have made a donation of £500 to the Chelsea Hospital for Women, in addition to the sum of £10,000 which they have promised towards the rebuilding fund.

During the year ending March 31st, 1913, the sum of £328,318 14s. 1½d. was received by the excise authorities for patent medicine labels, being an increase of £461 on the preceding year. The amount received for the year ending March 31st, 1911, was £325,646 4s. 7½d.

Correspondence.

EYESIGHT AND NAVIGATION.

SIR,—May I, relying on the courtesy which you have already shown to me, trespass a little further on your space to offer a few suggestions by way of a reply to my friend, Dr. Galloway of Aberdeen? Being the possessor of a hypermetropic astigmatism of nearly two dioptres against the rule, I have some experience of the conditions which that involves, and I must say that I am not aware of any power that I have either by the movements of the eyelids or of the eyeballs or of the lenses in my eyes which at all acts in a compensating manner. No matter what I do, my vision remains one letter of $\frac{6}{18}$ with each eye till I put on my spectacles, when it at once becomes $\frac{6}{6}$. In testing patients, I have not found that an astigmatism against the rule allows of materially better vision than one of a similar amount with the rule.

In the second place, I have to remark that I have recently learnt that the pilot with five dioptres of myopia whom I saw a considerable number of years ago, is still navigating, and I am informed by one of his colleagues that he does not to any great extent avail himself of binoculars. If Dr. Galloway would be good enough to place three-dioptre convex lenses in front of his eyes, provided these are emmetropic, he will I think be able to distinguish most objects that must be picked up by seafaring men, such as can-buoys, at the distance of a mile, or a vessel at 4 or 5 miles. As already said, however, I do not think that a myopic person, notwithstanding these facts, should be entrusted with navigation.

Perhaps a trifling myopia of half a dioptre would not make much difference, but any considerable amount I regard as precluding a man from service at sea.

Then as regards the velocities of ships approaching each other. No matter what the distance of the vessels may be, the time taken by light to travel from one to the other is an inconsiderable part of a second. Thus, if they are twenty miles apart when they first see each other, the time which light takes to travel between them is about 9,300th part of a second. It makes no difference whether the person who is on the look-out be emmetropic or hypermetropic, the retina will be disturbed at the end of that short space of time. I think it possible that the retina in an eye which is highly myopic will not undergo any definite change which will give rise to localization, but unquestionably a retina in a moderately hypermetropic one is affected, and that to such an extent as to cause sensation and the accompanying projection. As a matter of fact, just now there are probably hundreds of men engaged on the look-out at sea who are hypermetropic. It is only the Royal Navy which up till now has insisted on emmetropia, and even there, if we examine officers of about 40 or 45 years of age, I would be surprised if we do not find a fair number of hypermetropes amongst them. Certainly in the mercantile marine there are a large number of men on the bridge as masters and mates who have a not inconsiderable amount of hypermetropia.

I have called the sensation by which an officer distinguishes, say, another ship on the horizon the form sense, for want of a better name. It might, perhaps, be better to call it the perception of the difference of background, or perhaps even the light difference sense, with which no doubt it is very intimately associated. Personally, I do not suppose I ever begin to consider the problem as to whether a vessel approaching me has to clear me or I to clear it till the distance between us is, perhaps, less than two miles. There is, of course, no reason why I should not consider the problem sooner, but as a matter of fact I do not think anybody navigating a boat such as mine ever troubles about that question till the vessels are much nearer than two miles; certainly an officer in charge of an ocean-going liner would have made up his mind long before that short distance was reached whether he had to clear the other vessel or the other vessel had to clear him. Supposing that they are ten miles from each other, and each travelling at the velocity of twenty miles an hour, that means that they will be abreast in a quarter of an hour. Even for the distance of two miles the time that it would take them to be abreast would be three minutes. A few seconds is all that is required by a competent officer, emmetropic or hypermetropic, to make up his mind which has to clear the other according to the rules of the Board of Trade, and give the quartermaster any order that may be necessary. It takes only a second or two to put a wheel hard over in either direction. As already said, there are a very large number of hypermetropic men in the mercantile marine just now, and I feel sure that the Royal Navy is depriving itself of many useful officers by insisting on emmetropia. A few dioptres of hypermetropia makes no difference whatever.

Let us briefly consider the case of two other objects in rapid motion approaching each other. I mean motor cars. Does Dr. Galloway think that a hypermetropic chauffeur will have any difficulty whatever in seeing another car approaching, although the time may be only a few seconds instead of minutes, or does he think that a hypermetropic chauffeur has any difficulty in seeing say a stone on the road which he may be approaching at from forty to fifty miles an hour, or would he have any difficulty because of his hypermetropia in knowing that he had overrun a small animal such as a rabbit? Does he propose to put all chauffeurs out of employment who have slight hypermetropia? It would be quite as rational to do so as to put men out of employment in a seafaring line who are moderately hypermetropic. These latter see distant objects quite as clearly as does the chauffeur the small object at a nearer distance.

Let me refer once more, and that briefly, to my own case. I have nearly two dioptres of hypermetropic astigmatism, and I think about one dioptre of spherical error as well. Now for night navigation I have to take off the glasses which give me $\frac{6}{6}$. Lenses such as these reflect from about 15 to 20 per cent. of all incident light, and where the initial quantity is very small, the light reflected by the lenses makes all the difference between seeing at night and not seeing. Yet without my glasses I have no difficulty whatever in picking up landmarks, buoys and other vessels just as well as any one else. I have narrated in full some circumstances in proof of this in my evidence before the Committee, to which I would very respectfully direct Dr. Galloway's attention. In keeping a watch at night I am no good whatever with glasses on, but I see perfectly with them off, unless when it comes to be a case of reading the compass card, which, of course, I cannot do without my correction. The same sort of thing happens in motoring at night. Many chauffeurs find that they are much better without a glass plate in front of them.

The plain truth is that the look-out duties of navigation do not require emmetropia. In my opinion they have almost nothing to do with visual acuteness, but they have to do with a light sense disturbance of a definite shape on a definite area of the retina and the consequent projection. As a matter of fact, hypermetropes for many generations have navigated without the slightest difficulty or without the slightest risk to the travelling public, and are still doing so. I am not at present prepared to advocate that a man with a high degree of hypermetropia should be allowed to navigate unless he has passed satisfactory trials at sea, but a man with a moderate degree is essentially safe. All the same, within the last few days I have seen a farm grieve who, since I cut him for cataract, has been able to do all the work on his farm without any correcting glass at all; yet the refraction error is such that it requires a spherical +10 to give him emmetropia, as he has something like $\frac{1}{12}$ of visual acuteness. That man, however, without any correction, is absolutely able to plough, to drive a cart—and that without collisions—and to do all the work general on a farm. Whether this is an exceptional case or not I cannot say, but the explanation of the case is that he has got a light difference sense which I think may be called the form sense and a sense of projection. The fact remains that visual efficiency for labouring work and also for the look-out at sea does not seem to be a function of what I, speaking strictly, call visual acuteness.—I am, etc.,

Glasgow, Oct. 27th. FREELAND FERGUS.

SECONDARY X-RAY RADIATIONS IN MEDICINE.

SIR,—In Professor Barkla's paper, published in your issue for October 11th, there appears the following passage:

"Attempts had been made to utilize the action of secondary rays by placing against the body plates or

leaves of metal, so that either the Roentgen radiation after passing through a portion of the body fell on these plates, or first passed through the plate or the powdered metal. It should be remembered, however, that a layer of tissue of the thickness only in the neighbourhood of one hundredth of a millimetre was affected by these soft rays."

Professor Barkla is obviously here referring to the corpuscular radiations given off from the surface of the metal, having in view, no doubt, the fact that these particulate rays are the only ones directly concerned in the production of ionization, and consequently of chemical and physiological effects. It must be remembered, however, that a fluorescent—and characteristic or specific—radiation is also given off in considerable amount, which penetrates to a depth determined by the particular metal employed as an "intensifier." This fluorescent radiation, being of the *x*-ray or *gamma*-ray type, produces no direct effect, but it gives rise to flying electrons in the tissues precisely in the same manner as does the primary beam.

Suppose, for example, that in the case of a lupous patch within the nose a silver plate is placed behind the lesion. A cross-fire effect takes place, and ionization occurs in the diseased part, as a result, (*a*) of electrons set free by the primary beam, and (*b*) of electrons generated by the specific radiations from the silver plate, proceeding in a direction for the most part opposite to that of the exciting beam. To secondary rays so utilized I have applied the term "anadrastic."

On the other hand, where a powdered metal—for example, precipitated silver—is sprinkled on a diseased surface—that is, between the *x*-ray bulb and the lesion—secondary rays proceed in the same direction as, or in company with, the exciting rays; for such the term "syndrastic" is appropriate. In this case, also, the electronic disturbance in the tissues is the result of primaries *plus* secondaries, and the intensifying effect is manifest not merely throughout a distance of $\frac{1}{100}$ mm., but, in the case of silver, through an "effective therapeutic range" of about 1 cm.

Where an *x*-ray beam passes through any substance, the speed of the electrons which it liberates is determined by the "hardness" of the exciting rays. To produce a marked physiological effect it would appear from clinical observation that speed is of more importance than numbers. That is to say, hard rays, which are but slightly absorbed, and give rise to comparatively few electrons of high velocity, are more effective therapeutically than easily absorbed radiations setting free a large number of slowly moving corpuscles. Hence, when using anadrastic or syndrastic secondary rays, we must choose a metal which gives off a reasonably penetrating specific ray. Nothing having an atomic weight less than silver is of much use, and probably substances of still higher atomic weight—such as tin and barium—might be employed with profit.

In the case of the above methods of secondary ray therapy, it should be noted that we do not seek to use the corpuscular rays from the substances employed as intensifiers, but only their fluorescent radiations. To utilize directly the corpuscular rays given off by a metal, it is necessary, on account of their extremely short range, to deposit particles of the substance chosen actually within the cells to be attacked. The only certain method of accomplishing this which we at present possess is by driving in metallic ions—a method of limited applicability. Since 1911 I have persistently advocated ionization with zinc or silver previous to *x*-ray radiation of rodent ulcer, and I am pleased to see that this method has now been taken up by many electro-therapeutists, with reported success.

The choice of a metal for intracellular deposition is of no importance so far as the production of corpuscular rays by the primary beam is concerned. The penetrating power of the released electron depends solely on the hardness of the exciting *x* ray. But it must not be forgotten that the substances so introduced themselves give off *x* rays of characteristic type, which also contribute their quota to the production of electrons. Hence, within limits, the higher the atomic weights of the metals employed, the more rapid will be the electronic movements produced by their secondary fluorescent radiations.

The treatment of cancerous tumours by selenium or colloid copper should be closely watched by all interested in secondary ray therapy. From the strictly radiological point of view it matters little whether or not these substances are in themselves curative, so long as they prove to be selectively deposited within the cells of malignant growths.

Those interested in the history of the application of secondary rays to therapeutic uses, I would refer to my papers on the subject as follows: British Medical Journal, October, 1911; *Proceedings of the Royal Society of Medicine*, Electro-Therapeutic Section, March, 1912; *Journal of the Roentgen Society*, July, 1913.—I am, etc.,

Darlington, Oct. 13th. F. Hernaman-Johnson, M.D.

FIBROSITIS AND MUSCULAR RHEUMATISM.

Sir,—Dr. Luff's account of fibrositis, in the Journal of October 4th, is very interesting. Under the heading of "Massage and Exercise" reference is made to the method of applying it to joints, which should be done in as gentle a manner as possible, but no reference is made to exercise.

I am now 40, and seventeen years ago had an attack of subacute rheumatism, from which I completely recovered. Since then I have taken all kinds of active exercise, and am in the habit of taking a cold bath every morning followed by smart friction with a rough towel, and then exercises of the Swedish type. Climatic conditions leave me unaffected, owing, I think, to the fact that I harden myself by the means already mentioned. But after exercises, whether of the active or the Swedish type, I find some temporary aching in my knee-joints, which soon passes off; also, on bending my knees, I get the fine crepitus apparently due to villous synovitis described by Dr. Luff in so able a manner.

Am I, then, to understand that I am to give up all exercises owing to this fact, such as tennis, golf, bicycling? I have always supposed they were good for me. Surely with some men it is impossible to keep fit without exercise; and even if it should cause a certain amount of temporary pain of a mild character, it is better than becoming fat or flabby, which I should have thought would have only increased the tendency to fibrositis.—I am, etc.,

October 11th. Medicus.

THE CAUSE OF RHEUMATOID ARTHRITIS.

Sir,—It is certainly a novel theory to attribute rheumatoid arthritis to lack of perspiration; the next thing, probably, in connexion with the tuberculin craze, is to assign excessive perspiration as a prominent factor in the etiology of phthisis.

If Dr. Middleton desires to form a dispassionate estimate of the value of Continental treatment in arthritic conditions it will repay him to visit Bad Pöstyén (near Vienna) in Hungary, where, as a British physician, he will be hospitably received by the Bad directorate. The reputation of Pöstyén is founded on the unique character of the natural thermal sulphated water and the natural thermal sulphurous mud, for as Sir H. Weber and F. Parkes Weber rightly say in their standard work, there are no naturally hot peat baths, and but few places can boast of a hot mud supply. Both the water and the mud have a temperature of 140° F., and the latter especially, which has a very complex constitution, possesses a high degree of radio-activity. The mud is found in great abundance as a sediment from the springs, and is therefore essentially a natural product. At this unique spa hundreds of "enfeebled pain-racked patients" can be seen undergoing the treatment, with wonderful results, as the late Sir T. Spencer Wells testified in the British Medical Journal in 1888, after visiting the place. He wrote . . . "But the most remarkable effect of the Pöstyén treatment as a whole is the removal of chronic exudations, especially those about joints and tendons, which have caused the so-called spurious ankylosis."

Finally, I would point out to Dr. Middleton, that there is a local museum—and not a small one either—filled with crutches, with the names of their late owners attached, tangible evidence of what can be accomplished "abroad" in the case of chronic "enfeebled pain-racked patients."—I am, etc.,

Cairo, Oct. 2nd. T. Gerald Garry, M.D.

ON DOSES IN THE NEW "PHARMACOPOEIA."

SIR,—I have been somewhat surprised that Dr. Leftwich's letter appearing in your issue of October 11th has not excited a wider discussion. "One name, one dose" would be a very convenient arrangement. The fact that so many of us get into the habit of prescribing only a limited number of drugs is partly the result of, and partly the cause of, our forgetting the doses of many preparations. Personally I hate innovations, but any one who looks at a table of doses of the present *Pharmacopoeia* must see that a reform is necessary, and Dr. Leftwich's suggestion of prefixing "per" and "sub" to the names of the stronger and weaker liquid preparations respectively is a very good one. It would be interesting to know whether manufacturing chemists would be opposed to the necessary alterations in strengths of tinctures, etc. —I am, etc.,

W. K. BREWER, M.R.C.S., L.R.C.P.

London, N.W., Oct. 28th.

SPECIAL HOSPITALS.

SIR,—Wherever the title "Liverpool Ophthalmic Hospital" occurs in my letter of last week (pp. 1114, 1115) it should read "Liverpool Ophthalmic Infirmary."—I am, etc.,

Liverpool, Oct. 25th. THOMAS H. BICKERTON.

TREATMENT OF NEURASTHENIA.

SIR,—Perhaps you will allow me, as an answer to the many members who wrote asking for my views as to the treatment of neurasthenia, whom I could not answer individually, to refer them to the advertisement of my book entitled *A Doctor's Discovery*, on p. 7 of the advertisement sheets of this issue of the JOURNAL, where they will find all they desired.—I am etc.,

Hawick, Oct. 29th. JOHN HADDON, M.D.

Public Health AND POOR LAW MEDICAL SERVICES.

THE BOARDING OUT ORDER, 1911.

A CORRESPONDENT, a Poor Law medical officer, writes that on June 30th last he received from his guardians a fee of 2s. 6d. for visiting and reporting on boarded-out children in his district. During the quarter ending September 30th he visited in a similar way the same children, and the guardians have paid him a fee of 1s. only for each child. He wishes to know if the guardians have a right to reduce these fees from 2s. 6d. to 1s.

*** By the Boarding Out Order of 1911 the Local Government Board abolished the quarterly visit required of district medical officers, for which they were entitled to a fee of 2s. 6d., so that from that time it became no longer part of the duties of Poor Law medical officers to make these visits. The visits made, therefore, by our correspondent during the June quarter of 1913 were not necessary, and the guardians may have paid the usual fees forgetting the above Order. It would seem that they have now discovered their mistake, and have accordingly reduced the fee. Any fees paid now for such work could only be claimed on a special contract with the guardians. As they paid a fee of 2s. 6d. for this work during the June quarter of 1913, it might be held that by so doing they had tacitly entered into a contract to pay for this work at the old rate, and our correspondent might be able to demand the same payment for the work during the last quarter. But this is a legal point, and it would be best to consult a solicitor before sueing the guardians.

THE Clinical Congress of Surgeons of North America will meet in Chicago on November 10th, when the President-elect, Dr. George Emerson Brewer, of New York, will be formally installed, and will deliver the annual address. The presidents of the American Medical Association and the Canadian Medical Association are expected to be present, and to deliver brief addresses. On November 13th a special meeting will be held, at which the cancer problem will be discussed by prominent surgeons and laymen representing various organizations.

Obituary.

JUST LUCAS-CHAMPIONNIÈRE,

MEMBER OF THE INSTITUT DE FRANCE AND OF THE ACADÉMIE DE MÉDECINE; HONORARY SURGEON TO THE HOTEL-DIEU.

To many in this country the news of the sudden death of Dr. Just Lucas-Championnière will bring a keen sense of personal loss. He had made many visits to us, and at each visit had won new friends by his open-heartedness and geniality, and the undimmed youthfulness of his spirit. As a surgeon he will be remembered on two accounts. The first is that he was the first French surgeon to study, appreciate, practise, and advocate the principles of antiseptic surgery as enunciated by Lister in the early days when he was professor of surgery in Glasgow. The second is that he was an innovator in the treatment of simple fractures. As a man he will be remembered especially as one who put into practice what many preach—the international brotherhood of science and of medicine—and his sentiments in this respect did not in any way diminish his loyalty to France and her great traditions, but rather helped by giving him the greater opportunities to spread them abroad.

Just Lucas-Championnière was the grandson of one of the leaders of the war in La Vendée and the son of a member of the medical profession who practised in Paris. He received his school education at the Collège Rollin, and, after passing with distinction through the ordinary course of medical study in Paris, became in due time interne. After serving this office he went abroad, and from London was attracted by the growing fame of Lister to Glasgow. He saw and understood, and returned to France in 1868 to proclaim that a new era in surgery had dawned. He met with indifference, with ridicule, with opposition, and finally with the retort that others had used carbolic acid as a surgical dressing. But he had the root of the matter in him, had grasped the principles for which Lister fought, and lived on through the antiseptic period into that of asepsis, with which he never brought himself to be in full sympathy. His affection and admiration for Lister were touching, and one of his last public acts was to head the deputation of French surgeons who, during the recent International Medical Congress in London, laid a wreath on the bust of Lister in the Hall of the Royal College of Surgeons of England.

The history of his study of the treatment of fractures of the long bones may perhaps be related in his own words. In the address he delivered before the Cardiff Medical Society in 1909 he recalled the spirit of the method which served as a clue to guide him. "It is, in fact, true," he said, "that each successive step can be traced in the history of my various trials and investigations, and in the order in which my various applications of the method succeeded one another, I began by lessening the degree of immobility; next I did away with it altogether; next I began to use movements at an early stage; then I began to use them immediately after the injury; finally, I made use of massage—that is to say, of a method of mobilizing the muscles, joints, and even the bony fragments. It was necessary to define the indications and the limits of this special form of movement. Thus it was that years of observation and experiment led me to establish the bold practice of methodical therapeutic mobilization." His final views on the treatment of fractures by massage and mobilization were embodied in a volume which was reviewed in the JOURNAL of July 23rd, 1910; if it has not carried conviction to all surgeons, every reader has recognized the enthusiasm of the author, the large collection of striking facts and observations he brought together and the charm of the style in which they were related.

Lucas-Championnière, as surgeon to the Paris hospitals, was actively engaged in teaching for the greater part of his life, but he found time to edit the *Journal de Médecine et de Chirurgie Pratiques* founded by his father. It is now in its eighty-fourth volume, and the last number—that for October 25th—is almost completely occupied by an essay from his own pen on gymnastic methods, written as a commentary on the proceedings of the recent congress on physical education. In it he urges the medical profession to take in hand the duty of directing the

movement in favour of systematic physical exercises recently so warmly taken up in France. In 1875 he paid a second visit to Lister, then in Edinburgh, and published a book on antiseptic surgery, which gave an admirable account of its principles and their application. To the Lister Jubilee Number of this JOURNAL (December 13th, 1902) he contributed a historical article on scientific surgery, in which he traced the history of Lister's work, and concluded with the following tribute to his influence: "Lister has not only given us a method while destroying the errors of the past. He has given an example. He has shown us the road of discoveries by teaching us to examine with more independence the works of the past, in order to submit them to the scientific law which alone assure definite progress."

Some years ago Dr. Lucas-Championnière's health gave way, and his friends noted with regret his physical frailty and diminished buoyance of spirits when he attended the annual meeting of the British Medical Association in 1908 in Sheffield. At that meeting he read a paper on the treatment of fractures by mobilization and massage, in the Section of Surgery, and the University of Sheffield conferred upon him the honorary degree of D.Sc. Later on he appeared completely to have regained his old vigour, and few men have borne the burden of seventy years more lightly than he when in London last August. In 1911 he discharged with success the duties of the office of President of the Society of Surgery, which met that year in Brussels.

In 1876 he wrote a prize essay on trephining in relation to cerebral localization, and afterwards gave much attention to the subject of prehistoric trephining. He had been invited to give an address on the subject on October 25th at the annual public meeting of the five Academies which form the Institut de France. On October 22nd Dr. Lucas-Championnière was reading his essay to a Committee of the Institute, when towards the end of his task he suddenly collapsed. Some of his colleagues immediately went to his assistance, but death took place almost immediately. The essay, it is announced, will be published by the Institute.

JOHN LINTON, M.D., F.R.C.P.,

FORMERLY PHYSICIAN TO THE ROYAL HOSPITAL FOR CHILDREN, EDINBURGH.

THE death occurred on October 25th of Dr. John Linton, one of the oldest members of the Royal College of Physicians, Edinburgh. On retiring from practice eight years ago, Dr. Linton went to reside in Kinghorn, where the quiet of country life proved congenial to his simple tastes.

He was educated at George Heriot's Hospital and Edinburgh University, where he graduated M.D. in 1861. He commenced practice in 1861, and for some years he assisted Matthews Duncan. He became a Fellow of the Royal College of Physicians of Edinburgh in 1865, and at the time of his death he was the senior Fellow on the roll of attendance of that College. In 1868 he was elected physician to the Royal Hospital for Sick Children, a post which he occupied till 1879. At that time he commenced to build up a very large practice, in which he became so engrossed that holidays or any other relaxations were dismissed without consideration. It was chiefly as an obstetrician that he attained his great popularity, and his skill in this department, with his knowledge and love of children, made him the friend and adviser of numberless families. His kindness to the poor was proverbial. The question of payment for services rendered did not appeal to him, and no experience of ingratitude altered his inclination to go about doing good. His extreme gentleness and the kindliness of his manner made his presence in the sick-room a joy to his patients. His tall figure, so well known in Edinburgh, readily attracted attention. His practice was a very large one, and it has been calculated that during the forty-three years of its active continuance he brought no fewer than 10,000 babies into the world; he had attended as many as 460 confinements in one year. His busy life prevented him making many contributions to medical literature, but he joined both the Edinburgh Obstetrical Society and the Medico-Chirurgical Society in 1863, and in the *Transactions* of the former there appeared at least one paper from his pen—that in which he recorded (on May 13th, 1874) "a case of suppuration of dermoid cyst after delivery."

The love and affection of his patients was to him more than money, and his death will be mourned by thousands of those who had reason to remember his kind and sympathetic deeds. He did not marry till late in life; one of his two daughters predeceased him by a few months, her death being greatly felt by him.

JOHN THOMAS HARTILL, J.P., M.R.C.S., L.R.C.P.,

FORMERLY PRESIDENT OF THE STAFFORDSHIRE BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

THE regretted death of Dr. J. T. Hartill in the last week of September brought to an end a career of much personal success and public utility.

He was born in 1847, and received his general education at Queen Mary's School, Walsall. Subsequently he joined St. Bartholomew's Hospital, London, where his work as a student brought him both the Wix and the Bentley prizes and proved a true presage of his after-life. He took the diplomas of M.R.C.S., L.R.C.P., in 1869, and joined his uncle and brother at Willenhall, where he remained in practice to the end of his life. Within three years of his arrival in the town he was appointed medical officer of health for the Short Heath district, and in 1889 he received a corresponding appointment in Willenhall itself. These appointments he still held at the time of his death; he was also surgeon to the post office, to the education authorities of the district, and to the police. The position that he enjoyed in the esteem of his colleagues is sufficiently indicated by the fact that in 1885, while still quite a young man, he was elected to the office of President of the Staffordshire Branch of the British Medical Association, and again chosen to fill that post some six years ago. He was also at one time President of the Medical Benevolent Society of Birmingham, and was appointed to the Commission of the Peace for the county of Stafford as far back as 1890. He remained in active work until the beginning of this year, when his health showed signs of failure, and was not restored by a prolonged rest on the south coast of England and elsewhere. On September 22nd he was seized by acute pneumonia, and died the following day.

While in good health, Dr. Hartill, in addition to professional work, exhibited an active interest in everything that concerned the welfare of Willenhall. For a good many years he acted as churchwarden of St. Giles's Church, and was one of the recognized leaders of the Conservative Party in the county. He also contributed in no small degree to the success of the movement which eventually led to the establishment of the Wolverhampton Eye Hospital, and among other publications contributed to our own columns a valuable paper dealing with complications met with during labour, basing his statements on the history of 2,000 consecutive cases of pregnancy.

Dr. Hartill was married, and is survived by his wife, one daughter and four sons, one of the latter being in practice at Abbot's Langley, in Hertfordshire. Dr. Hartill's practice had been carried on by different members of his family for eighty-seven years.

ARTHUR BRISTOWE CARPENTER, M.A., M.B.Oxon.,

SENIOR MEDICAL OFFICER TO THE CROYDON GENERAL HOSPITAL.

CROYDON and a large circle of friends have recently suffered a great loss by the death of Dr. Arthur Carpenter, of Wykeham House, Bedford Park, Croydon. He was a son of Dr. Alfred Carpenter, who took a very active part in the work of the British Medical Association a quarter of a century ago.

Dr. Arthur Carpenter received his early education at Brighton, and later won scholarships at Winchester and New College, Oxford. In 1876 he entered as a student at St. Thomas's Hospital, and several years later held the post of house-surgeon and house-physician to that institution. In 1883 he became M.A., M.B.Oxon., and settled in Croydon. He married Miss F. Jones, a daughter of one of the leading citizens of Exeter, who, with five daughters, survives him. Up to within a few days of his death he continued to attend to his duties at the Croydon General Hospital, although suffering great pain, borne by him with a stoicism of which few are capable. For some time he was chairman of the medical committee of the hospital, and filled the position with conspicuous and characteristic

ability, to the admiration and sincere appreciation of the members of the staff. His kindliness, keen sense of fairness, natural courtesy, and geniality will long be remembered with affectionate regard by his colleagues, and some of those who have known him intimately for many years will remember him as the ablest and most satisfactory chairman that has ever presided over the medical committee.

By scarcely any one was the extent of his sufferings known, or even suspected, but it was patent to all, even to the most unwilling eyes, that he was suffering from a disease that must soon prove fatal. It would be no exaggeration to say that few men have imbibed as he did the lofty ideals of Winchester, and to the early influences of that school we are indebted for one of the finest characters that has graced the local profession for over a quarter of a century. To the end he retained his love of the classics, but such was his modesty and self-effacement that not one in a hundred of his friends knew that he obtained his scholarships both at Oxford and Winchester for mathematics, and very few indeed were even aware he had ever taken a prize.

In the religious and scientific life of Croydon he had taken an active part, and thus endeared himself to a circle quite outside that of his profession. His funeral took place from St. James's Church, at which he had acted as churchwarden for many years. The interment was at Bandon Hill Cemetery, Wallington, and was attended by a large number of the principal inhabitants of the borough, and by the leading members of the profession residing in the district. Being a composer of repute and master of the Surrey Bellringers' Association, a muffled peal was rung over his grave. This will never be forgotten by those who heard it, and more than one listener was heard to remark that the "beauty of the bells" was in harmony with the refined and beautiful character of the man. During the service a muffled peal was rung on the bells of the old parish church, and again in the evening for an hour and a half.

JAMES DODD SWALLOW, M.D.,

CLAPHAM.

AT his residence in Clapham Park, S.W., on October 11th, Dr. James Dodd Swallow passed peacefully away, in his seventy-eighth year. He was long a well-known and popular figure in the neighbourhood of Clapham, where he had been in active practice for nearly fifty-two years.

He was born at Henley-on-Thames in 1836. He was first apprenticed to Mr. George May of Reading, Surgeon to the Royal Berkshire Hospital; afterwards he entered at St. Thomas's Hospital, then situated in the Borough, where he had a very distinguished career. He was surgical dresser to the late Sir John Simon, whom with his other teachers he held in the greatest regard, his favourite remark in speaking of them being, "There were giants in those days."

Dr. Swallow graduated M.D. at St. Andrews University in 1862, and also became a Member of the Royal College of Surgeons and Licentiate of the Society of Apothecaries. At the close of his hospital work, the Treasurer of St. Thomas's wrote of him: "Dr. Swallow was one of our best students." To show the character of the man and his determination to succeed it may be mentioned that during his student days, finding his resources exhausted, he went as dispenser in the evenings to a surgeon in the East End of London, in order to earn the wherewithal to support himself while carrying on his studies.

Dr. Swallow first set up in practice in Kennington Park Road, where he quickly attracted a large clientèle; subsequently he removed to Clapham, where he remained in active practice up to the time of his death. During the long period of his professional life he devoted himself entirely to his work, and built up a very extensive practice; this necessitated his refusing many honours and appointments which might have been his. He was, however, for some time honorary secretary of the South London Medico-Ethical Society. Amongst the appointments he retained at the time of his death were those of surgeon to the Royal South London Dispensary, the Linen and Woollen Drapers' Institution, and the London City Mission. He also at one time did a good deal of rectal surgery as a member of the staff of a small hospital which was swept out of existence many years ago by the cutting of new streets in the West Central district. He was greatly interested in medical charities, and had been for many years the honorary local secretary of the Epsom Medical College and the Royal Medical Benevolent Fund.

His loss will be felt deeply by all with whom he came into contact, for he was greatly esteemed on account of his sympathetic nature and kindness of heart. In many ways he was the type of what a general practitioner should be—the trusted friend of his patients as well as their medical adviser, entering whole-heartedly into their joys and sorrows. He was ever ready to help any of his professional brethren who had fallen on evil times, and one of the last cheques that he signed was on behalf of a colleague who had suffered much financial loss on account of the Insurance Act.

Dr. Swallow made several contributions to the medical journals, notably one describing the third case of appendicitis operated on by Sir Frederick Treves, which occurred in his practice, and was reported by him in conjunction with that surgeon. He was always keenly interested in the advances of medicine and surgery, and so lately as last winter gave a lecture and demonstration on radium and its possibilities. Dr. Swallow worked hard to the last. He was out seeing patients on the morning of the day he was taken ill with abdominal obstruction. An operation was performed by Mr. Makins, the senior surgeon of his old hospital, but he died from toxaemia four days later. He suffered great pain, which he bore with fortitude and resignation, and was devotedly attended by his old friend and fellow student, Dr. Joseph Lees, and by his son.

Dr. Swallow was twice married, and leaves a widow, one daughter, and three sons, the eldest of whom—Dr. Allan Swallow—has been associated with him in practice for the last twenty-four years. He also has a nephew in the profession—Dr. F. M. Swallow, of Bourne End, Bucks.

The funeral took place at Norwood on Wednesday, October 15th, when a large concourse of medical men, friends, and patients assembled at the graveside to pay a last tribute of regard and affection to one who was universally respected and esteemed.

DR. HORACE DIMOCK, of Stretham Manor, in the Isle of Ely, and also of Wisbech, Cambridgeshire, was found dead in his bed at the former place about noon on Monday, October 27th. He had been seen by his sister about 8 a.m. the same morning, and had then said he was about to get up. He had gone to bed the previous evening about 9 p.m., after complaining that he had not been able to sleep for three nights. Dr. Dimock, an Ely man by birth, commenced his medical education at Cambridge, where he graduated B.A. in 1903, completing it at St. Thomas's Hospital. He obtained the diplomas of M.R.C.S., L.R.C.P. in 1907, and in the same year proceeded to the M.A. of his university, and also took the degrees of Bachelor of Medicine and Bachelor of Surgery. Later he served St. George's Hospital as resident anaesthetist, and Addenbrooke's Hospital, Cambridge, as senior house-surgeon. On the Friday preceding his death Dr. Dimock had appeared before the magistrates at Wisbech to answer a charge of criminal libel based on information laid by Dr. Henry Meacock, chairman of the Isle of Ely Division of the British Medical Association. It was indicated that the alleged libel had taken the form of a post-card bearing printed matter addressed to Mrs. Meacock; but after a purely formal opening of the case the hearing of it was adjourned until October 31st, and Dr. Dimock, who strenuously denied the allegations made against him, was remanded on his own bail of £200, and two sureties of £100 each. In this area all the resident medical practitioners with the exception of Drs. W. and H. Groom refused to join the panel, and the Insurance Commissioners suspended the panel system in the area for two years, meantime appointing Drs. W. and H. Groom to attend to the needs of all insured persons within it. A little later on Dr. Dimock (whose home was some twenty miles from Wisbech) agreed to join them, and, like them, was appointed a medical insurance officer with a right to private practice.

DR. EUGENE FAUNTLEROY CORDELL, who died at his house in Baltimore on August 27th, aged 70, was a man of remarkable gifts, which he used unselfishly for the benefit of his fellows. He founded and financed the Home for Widows and Orphans of Physicians, and took the chief part in establishing a fund for the widows and orphans of doctors. He also helped to found a home for incurables and a fund for the University of Maryland, in which he was professor of the history of medicine and also librarian. He gave much time and devotion to the study of the history of medicine, in which he was recognized as an authority. He was the author of the *Medical Annals of Maryland* and of a *History of the University of Maryland* and many other writings on historical subjects. He was formerly editor of the *Maryland Medical Journal*. Dr. Cordell had a lofty ideal of his profession in regard to scientific and literary culture. His ethical standard was of the highest, and in his life he was an example of the best type of physician.

COLONEL CHARLES SEYMOUR, late of the Army Medical Staff, died at Wimereux on August 28th. After taking the diplomas of M.R.C.S. and L.S.A., as well as the M.B. and C.M. of Aberdeen University in 1876, he entered the army as surgeon on August 4th, 1878, becoming surgeon-major on August 4th, 1890, lieutenant-colonel on August 4th, 1898, and colonel on June 21st, 1905; and retiring on April 12th, 1908. He served in the Soudan expedition in 1885–6, first at Suakin, and afterwards in the Frontier Field Force; was present in the action at Giniss, and received the medal with a clasp, and the Khedive's bronze star.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are: Dr. J. Bonet y Amigo, professor of obstetrics and gynaecology in the medical faculty of Barcelona; Dr. Reginald H. Fitz, formerly Hersey Professor of the Theory and Practice of Physic in the Harvard Medical School, visiting physician to the Massachusetts General Hospital, and joint author with Dr. H. C. Wood of a standard textbook of medicine, aged 70; Dr. Edwin Bayard Harvey, for many years secretary to the Massachusetts State Board of Registration in Medicine, aged 79; Dr. Nathan Jacobson, professor of clinical surgery in the College of Medicine of Syracuse University; Professor Otto Lange, head of the eye department in the Ducal Hospital of Brunswick, aged 60; Dr. Jules Ogier, head of the toxicological department and laboratory of the Paris Institute of Forensic Medicine, aged 60; and Dr. Eduard Schaer, professor of pharmacy in the University of Strassburg, and one of the foremost notabilities of his speciality in Germany, aged 70.

THE estate of the late Mr. J. A. Nunneley has been declared at £55,556, the net personalty being £49,605. With the exception of a few bequests, the estate is left to his widow, with remainder to the Leeds General Infirmary and the Royal Mineral Water Hospital, Bath, in the proportion of two-thirds and one-third respectively. Mr. Nunneley, who died at Bath in August, took up his residence there after a long and distinguished career at Leeds, where he was for many years on the staff of the General Infirmary and of the School of Medicine. In the former his special work was ophthalmic surgery, and in the latter lecturing on anatomy.

A SALE of work in aid of the Trained Nurses' Annuity Fund was opened by the Countess of Lytton at the Caxton Hall, Westminster, on October 23rd. Mr. Montague Price, Chairman of the Council, who presided at the opening ceremony, said that the fund was founded in 1874 by Lady Bloomfield for the purpose of assisting nurses who, through sickness or old age, found themselves deprived of their means of livelihood. By the year 1887 there were as many as ten annuities fully endowed; and at the present moment the fund provided pensions ranging from 5s. to 10s. a week to thirty nurses whose health rendered them unfit to follow their most arduous and exacting calling. There were still, however, over sixty applicants awaiting vacancies on the books; and capital was urgently needed to found these additional pensions. It was hoped that the present sale, which was the second of its kind held in aid of the fund, would help to reduce this deficiency. The sale comprised all the articles sent in competition for the prizes offered by the *Nursing Times*, as well as many beautiful specimens of needlework contributed by nurses and their friends and sympathizers.

The Services.

THE NAVAL MEDICAL SERVICE.

DISTRIBUTION OF PRIZES.

THE course of instruction of the newly-entered acting surgeons at Haslar was brought to a close on October 17th by the distribution of prizes and commissions by Lady Meux, wife of Admiral the Hon. Sir Hedworth Meux, Commander-in-Chief, Portsmouth. The distribution ceremony took place in the museum of the hospital in the presence of a large assembly of relatives and friends. Surgeon-General J. J. Dennis, R.N., presented the following report:

The grand total of the marks obtained on this occasion includes those first obtained at the examination on entry; secondly, those obtained at Greenwich; and, thirdly, those obtained at Haslar.

One of the three Admiralty prizes is awarded for the group of subjects studied at Greenwich and the remaining two for the subjects studied at Haslar.

Special commendations are as follows:

Acting Surgeon G. F. B. Page, for obtaining highest marks at both the Greenwich and Haslar examinations and for being first in the Greenwich and one of the Haslar groups, though by the regulations taking only one prize.

Acting Surgeon A. M. Henry, for being first in the second Haslar group.

Acting Surgeon F. C. Wright, for being second in the second Haslar group and for the consistently good work he has done throughout the examinations.

Acting Surgeons Henry and Page, for the zeal and ability they have shown in the performance of their ward duties.

In the examinations all the acting surgeons succeeded in obtaining pass marks and in the majority of instances by a substantial margin.

The gold medal has been gained by Acting Surgeon A. M. Henry, formerly of Guy's Hospital, who obtained the highest aggregate marks in the London, Greenwich, and Haslar examinations.

The silver medal has been gained by Acting Surgeon G. F. B. Page, formerly of Edinburgh University, who takes second place.

The group prize for the subjects in which instruction is given at Greenwich is awarded to Acting Surgeon G. F. B. Page, of Edinburgh University.

The prizes for the subjects in which instruction is given at Haslar are awarded as follows:

Group 1.—Acting Surgeon A. M. Henry, of Guy's Hospital.

Group 2.—Acting Surgeon F. C. Wright, of St. Bartholomew's Hospital.

The order of seniority, as determined by the sum of the marks obtained by each acting surgeon at the London, Greenwich, and Haslar examinations, is as follows:

	Marks.		Marks.
A. M. Henry	3,810	D. G. Arthur ...	3,173
G. F. B. Page, M.B.	3,669	A. Simpson, M.B. ...	3,135
P. L. Gibson, M.B., M.A.	3,266	H. E. Y. White, M.B.	3,113
A. J. Patterson ...	3,238	M. Meehan	2,984
W. A. S. Duck ...	3,216	D. P. H. Pearson ...	2,966
F. C. Wright ...	3,211	I. S. Gabe	2,892
B. E. P. Sayers ...	3,195	A. J. Tozer	2,731

Following the reading of the report, the prizes and commissions were presented by Lady Meux, and at the conclusion of the distribution Surgeon-General Dennis voiced the thanks of the company for the Commander-in-Chief's presence and for Lady Meux's kindness in presenting the awards, remarking that the circumstances in which the recipients had been handed their commissions would impress on them the high ideal that was expected of them.

WELSH DIVISION TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS STAFF TOUR.

A PARTY of officers assembled at the Abernant Hotel, Llanwrtyd Wells, Breconshire, from October 17th to 22nd, to carry out a Royal Army Medical Corps tactical scheme prepared by the head quarters staff of the Welsh Division. It involved the visiting of the hilly country from Builth Wells to Newbridge-on-Wye, Llanafan and Abergwesyn as far as Ystradffin, Rhandir-mwyn and Llandovery. The general idea was that "Westrick" (a country representing Wales and its Marches, with its

capital at Shrewsbury), after defeat at sea, had been invaded by a Continental Red army. The Red troops were advancing from the Cardiganshire coast by way of Lampeter and Tregaron on the left and of Llandovery on the right, and one Red column had reached Llanwrtyd Wells on October 17th. The operations were arranged to indicate the difficulties of transport of wounded and supplies in mountain warfare over a country indifferently furnished with railways and first-class roads.

The newly-appointed Commander of the Welsh Division, Major-General the Hon. J. E. Lindley, visited the area of operations on October 21st, and Colonel J. C. Culling, D.D.M.S. Western Command, joined the tour on October 19th.

The following officers of the Welsh Division took part in what proved to be an instructive and pleasant tour:

Directing Staff: Colonel Arnallt Jones, K.H.S., V.D., Assistant Director of Medical Services, Welsh Division; Lieutenant-Colonel C. A. Young, R.A.M.C., D.A.D.M.S., Welsh Division; Major R. M. Woodley, R.A.M.C., Adjutant School of Instruction, Cardiff: and Major W. de L. Williams, D.S.O., General Staff Welsh Division.

Officers of the R.A.M.C.(T.): Lieutenant-Colonel C. Averill, Sanitary Officer, Welsh Division; Lieutenant-Colonel A. L. Jones, and Lieutenant Ackland, of the 3rd Welsh Field Ambulance: Lieutenant-Colonel Collins, 2nd Welsh Field Ambulance: Major C. T. Green, Major Howard Jones, Captain Ashley Bird, and Lieutenant T. Thomas, South Wales Mounted Brigade Field Ambulance.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Philip Walker Studentship in Pathology.

AN election to this studentship, which was founded for the furtherance of original research in pathology, will take place next year in January. It is of the annual value of £200, and is tenable for three years. Its holder need not necessarily be a member of the university, nor a legally qualified practitioner of medicine. If the work done by the student is of exceptional promise the studentship may be extended for a second period not exceeding two years. Further information concerning it may be obtained on application to the University Registry, Oxford.

Degrees.

The following degrees have been conferred:

D.M.—A. T. Waterhouse, G. H. D. Carpenter.
B.M., B.CH.—G. W. Carte.

ROYAL COLLEGE OF PHYSICIANS IN IRELAND.

AT the annual meeting of the President and Fellows of the Royal College of Physicians of Ireland, held on St. Luke's Day, October 18th, the following officers were elected for the ensuing year:

President.—Dr. Charles E. Fitzgerald.
Vice-President.—Dr. James Craig.
Censors.—Dr. James Craig, Dr. T. G. Moorhead, Dr. A. Nixon Montgomery, and Dr. T. Henry Wilson.
Representative on the General Medical Council.—Sir John Moore.
Treasurer.—Dr. H. T. Bewley.
Registrar.—Dr. T. P. C. Kirkpatrick.

In the evening a large company of Fellows and guests were present at the St. Luke's Day dinner in the College Hall. Dr. James Little proposed the toast of "The Guests," to which the Lord Chancellor of Ireland and the President of the Royal College of Surgeons in Ireland responded.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examinations indicated:

FIRST COLLEGE.—J. Michaelson, A. A. Lamaletie, V. Mahadevan, C. Pullan, W. Jackson, J. H. Brown, A. Morrison, S. Ponniah.
SECOND COLLEGE.—H. G. Anderson, J. S. Durward, C. J. Middleton, J. H. Bain, H. Ellison, O. G. Evans, V. A. Rankin.
THIRD COLLEGE.—C. F. Pereira, J. V. Duffy, A. G. McKee, W. MacLeod, A. G. Bee, W. H. Wray, T. W. Drummond, J. K. Garner, W. Spence.
FINAL.—J. B. Wilmnn, J. B. Aickin, C. S. Ogilvy, W. Bannatyne, Emma C. Fisher, S. D. Bridge, B. J. Hattam, Winifrid M. Doran, M. P. Power, J. W. McCagie, V. Mahadevan, C. Dolan, H. E. Rose, R. H. Thomson, R. E. N. Martyn-Clark, J. N. Clark, M. V. Walsh, J. R. Smith.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—†W. Alcock, †A. C. O. Brown, *W. S. Hyde, †W. E. Masters, †L. C. Smith, *†W. V. Tothill, †C. G. Waddington.
MEDICINE.—†C. Duncan, *W. H. Lister, †S. E. Murray, *†C. G. Waddington, *†A. H. Willson.
FORENSIC MEDICINE.—A. C. O. Brown, D. Schonken, J. D. Schonken.
MIDWIFERY.—A. C. O. Brown, G. B. Holroyd, W. V. Tothill, A. K. C. Wyborn.

* Section I. † Section II.

The Diploma of the Society has been granted to Messrs. W. Alcock, C. Duncan, S. E. Murray, W. E. Masters, and W. V. Tothill.

Medico-Legal.

AN UNREGISTERED PRACTITIONER.

IN the case of Rex *v.* Freitas, at Gloucester, an unregistered practitioner who pleaded guilty to various offences was sentenced to ten months' imprisonment with hard labour.

The proceedings in the police-court were briefly noted in the JOURNAL of July 26th, p. 211. According to the fuller report published in the *Dean Forest Mercury* of July 18th, it appears that in May last the Cinderford and District Friendly Medical Aid Association was in need of a medical officer. An application for the post was made by a person who gave his name as Jose Manuel de Freitas, of 15, Douglas Street, London. He said he was on the *Register*—his qualifications being M.B., C.M.Edin.—but that he would have to write to the General Medical Council to have his address altered; as it was then Demerara, British Guiana. He was appointed, and two days later entered upon his duties, which continued until June 5th, when he was paid £39 5s. for fees.

Up to this point no difficulty appears to have arisen; but the approaching confinement of a patient appears to have created some trouble. To enable him to attend he required certain instruments, and he made application to the secretary of the association for money wherewith to buy them in Gloucester. Having procured £4 10s. he left for Gloucester on June 5th. On June 6th he wrote to the secretary of the association saying he had been unable to procure the instruments, and was obliged to stop in London owing to the illness of his child: and that he could not return for a week. He invited the secretary to get a substitute to do his work for a week. A little later he wired, "Child dead. Absolutely distracted." When arrested in London in the early part of July he said that he had not yet bought the instruments and offered to return the money. He was committed for trial.

At the Gloucester Assizes on October 28th Mr. Justice Coleridge heard the case. According to a report which appears in the *Times* of October 29th, the prisoner was charged with forgery of a death certificate. He was also charged with having fraudulently converted to his own use money entrusted to him for the purchase of surgical instruments by the Cinderford and District Friendly and Medical Aid Association, and with having obtained from the association the sum of £37 by false pretences.

The Hon. Reginald Coventry prosecuted. The prisoner was represented by Mr. Wilfrid Price.

Mr. Coventry said that the prisoner had answered an advertisement for a post as doctor to the association. One of the officials stated that the prisoner worked for the association for three weeks without any complaints being made by the patients whom he attended.

Detective Sergeant Hayman, of Scotland Yard, said the prisoner was one of the worst characters he had ever met. He lived by fraud and on the immoral earnings of women. Complaints had been made to Scotland Yard that the prisoner had defrauded a lady at Bradford of over £1,300, and a gentleman at Forest Hill of £100. He carried on several businesses as a doctor, but the witness could not find that he had any medical qualifications. There was a real Dr. Freitas on the *Medical Register*. The detective also said that the prisoner had falsely represented himself as an officer in a foreign regiment, and as the son of Baron de Freitas, Prefect of Corsica.

Mr. Price, on behalf of the accused, said that he had acted in a fit of sudden temptation and frenzy.

Mr. Justice Coleridge passed sentence as stated.

A BEQUEST to Huddersfield Infirmary, of the value of £1,000, is included in the will of the late Captain Thomas Jessop of Honley.

THE Marquis of Linlithgow has accepted the presidency of the Congress of the Royal Institute of Public Health to be held in Edinburgh next July.

THE usual monthly meeting of the Executive Committee of the Medical Sickness, Annuity, and Life Assurance Society was held at 429, Strand, London, W.C., on October 17th, Dr. F. J. Allan in the chair. The claim account presented showed a slight margin against the society, and from figures to hand it would appear that the claims will be heavy for the whole year. New proposals were up to the average, and the proposals for additional benefits showed a steady increase. The sixth quinquennial valuation since the inception of the society in 1884 will take place this year. Dental surgeons are eligible for membership. All information can be obtained from the secretary, Mr. Bertram Sutton, 33, Chancery Lane, London, W.C.

Medical News.

THE Earl of Aberdeen was on October 25th unanimously elected Lord Rector of St. Andrews University.

THE Belgian Academy of Sciences offers a prize of £700 for an effectual remedy for epilepsy. The competition is open to all.

IN aid of the Royal Dental Hospital, which is in urgent need of funds, a performance of Mr. Maugham's play "The Tenth Man" is to be given at the Royal Court Theatre, Sloane Square, W., on the evening of Wednesday, November 19th, by the Strolling Players. Tickets, the price of which varies between 1s. and 10s. 6d., can be obtained on application to the Secretary of the Hospital, 32, Leicester Square, W.C.

A QUARTERLY meeting of the Council of the National Federation of Ophthalmic Opticians was held in Leeds on October 21st, Mr. R. Chalmers (Sunderland), President, occupying the chair. Thirty local secretaries for the Federation were appointed. The attention of the Council was drawn to the fact that a member of the Federation had used the Federation initials after his name on his business card. The Council directed a letter expressing its disapproval to be sent to the member.

IT is expected that the Home Office Committee on First Aid Certificates will report very shortly. It consists of Dr. W. N. Atkinson, Inspector of Mines for the South Wales district (Chairman), Mr. G. Alfred Lewis, Secretary of the Colliery Managers' Association, and Mr. Thomas Richards, M.P. Its instruction is to report what, if any, first aid certificates besides those of the St. John and St. Andrews Associations should be recognized by the Home Office for the purposes of the grant of mine managers' certificates and other purposes under the Coal Mines Act, and on what conditions.

IN the JOURNAL of July 19th, page 132, a report was published of a preliminary meeting which had been held to discuss the advisability of establishing a medico-psychological clinic in London. A further meeting is to be held at University College on Wednesday next, when Lord Sandwich will take the chair at 3 p.m. in the botanical theatre. At this meeting the objects of the scheme will be explained and an appeal made for subscriptions to provide a sum of £1,000 for the provision of a house and its equipment as a clinic for the treatment of patients by psychotherapy. Further particulars can be obtained from the Secretary, Miss J. Turner, 14, Endsleigh Street, W.C.

THE Alliance of Honour, which has for object the promotion of purity, chivalry, and manhood, is to hold a special meeting at the Central Hall, Westminster, on November 6th, as a "send-off" to a series of corresponding gatherings during the winter in various parts of London. The chair will be taken by Sir Robert Anderson at 7.30 p.m., and the proceedings include an organ recital, some songs by the choir of the society, numbering some 500 male voices, and short addresses from the Rev. Prebendary H. Webb-Peploe, Mr. E. Smallwood, L.C.C., the Rev. F. W. Macdonald, Mr. Silas Hocking, the novelist, and others. Early application for tickets should be made at the headquarters of the Alliance, 112, City Road, E.C. This association has the support of clerics of all denominations, and its long list of vice-presidents includes the names of many well-known medical men.

A MUSEUM is being arranged in connexion with the sixth International Dental Congress to be held in London, August 3rd to 8th, 1914, under the patronage of the King. The museum, which is divided into eleven sections, will comprise: (1) Specimens showing the evolution of tooth forms and of the dentition of man, histological preparations and exhibits illustrating the chemical composition and physiological action of the saliva; (2) specimens of morbid conditions of the teeth, palate, gums, and jaws, photomicrographs and cultures of oral micro-organisms, new bacteriological apparatus and appliances; (3) specimens of teeth, gums, and jaws affected by pyorrhoea alveolaris, exhibits of various new methods of "inlaying" cavities and of "crowning" teeth; (4) radiographs of the normal and diseased dental tissues; (5) exhibition of articulators, of methods of "pressure casting," and of modern forms of continuous-gum work; (6) models showing abnormalities in position of the teeth, and appliances for their correction; (7) specimens illustrating methods of dealing with surgical conditions of the teeth and jaws, including cleft palate, hare-lip, fracture and resection of the jaws: (8) specimens illustrating the history and evolution of anaesthesia; (9) photographs, charts, diagrams, and statistics of school clinics; methods of the instruction of the public in the principles of oral hygiene; (10) instruction forms, charts, diagrams, specimens, and demonstration models used in relation to dental education; (11) historical objects of interest (books, instruments, pictures, etc.). The chairman, Mr. A. Hopewell-Smith, will be happy to forward the regulations and application and entry forms for all exhibitors who will write to him at the International Dental Congress Office, 19, Hanover Square, London, W.

AT the annual dinner of the Bolton Medical and Medico-Ethical Society on October 22nd Dr. G. H. Parker, ophthalmic surgeon to Bolton Infirmary, was in the chair, and a considerable number of laymen were present as guests. The toast to the society was proposed by Mr. A. H. Burgess, surgeon to the Manchester Royal Infirmary, who, in the course of his remarks, expressed the view that in the early future Bolton, in common with other towns close to Manchester, would have to do more of its own surgical work, and accordingly to enlarge its infirmary. In proposing a toast to the inhabitants of Bolton, the future of this town was discussed by Dr. J. L. Falconer, who foresaw the abolition of Bolton's smoke cloud through the substitution of electricity for steam in its manufactories. The future of the empire, he thought, lay in cultivating a more ideal spirit in urban life and in getting men to devote themselves to the service of towns: the toast was acknowledged by Mr. T. Taylor, M.P. That to the guests, coupled with the names of Sir Thomas Fliteroft, Mr. Burgess, and Canon Chapman, was given by Dr. E. R. Devereux Mothersole, who drew attention to the fact that, for the first time in its history, the society was entertaining as a guest one of its own members; the honour of knighthood recently conferred on him was a source of pleasure to all his colleagues. Musical honours were accorded to the toast to the chairman, on the proposal of Dr. F. R. Mallett, who suggested that central and local authorities should go further than they had yet done and make some return for the great amount of work thrown on specialists by the Education and Insurance Acts. In the course of the evening there was sung by Dr. J. Johnston an amusing song, composed by himself, on the subject of the National Insurance Act, the good and bad points of which from the point of view of the medical profession were brought out in a series of three-rhyme, twelve-line verses, each ending with a chorus.

THE second annual report of the King Edward VII British-German Foundation has been issued. The fund was primarily established to assist British citizens in Germany and German citizens in Great Britain in moments of difficulty. In this way 218 cases were dealt with last year, of whom 116 received permanent allowances, the others being helped by grants or loans for such special purposes as convalescent treatment, payment of pressing debts, repatriation to Germany, and emigration to British colonies. The fund, however, was so considerable that it was found possible to make donations to benevolent institutions in this country which include persons of German nationality in their charities: as the special work of the fund develops these subscriptions may be discontinued. On the other hand, it is hoped to carry on the policy outlined in the resolution adopted at the first joint conference of the two sections of the foundation held at Sir Ernest Cassel's house in London in September, 1912. This resolution resolved that a certain proportion of the surplus funds of the German section should be used to enable British subjects to attend or visit universities, schools, institutes, or business establishments in Germany, and that a certain proportion of the surplus funds of the British section be employed in enabling Germans to attend or visit universities, schools, institutes, or business establishments in the United Kingdom. It is intended that in this way to assist men of promise who do not possess private resources, enabling them to pursue a course of study abroad, and at the same time to give them an insight into the customs and characters of the inhabitants of Great Britain and Germany respectively. Under this arrangement seven British subjects have proceeded to German universities, one of them, Mr. A. Cowe, M.B., Ch.B., of Edinburgh University, being engaged in the study of neurology and gynaecology, while five studentships have been awarded to Germans to pursue their studies in this country. The second joint conference of the two sections was held in Berlin on October 25th. The British deputation consisted of Sir Ernest Cassel, founder of the fund; Mr. Geoffrey Drage, chairman of the executive committee; Lord Redesdale, vice-chairman; Sir Henry Babington Smith; Sir Charles Behrens; Mr. Felix Cassel, K.C., M.P.; and Dr. Schuster.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

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2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

INCOME TAX.

DEVONIENSIS is in partnership with a practitioner who pays a certain amount of annual interest on a loan. A portion of the partnership assessment is charged at 1s. 2d. in the £ in respect of this interest. Is this correct, or should the charge at 1s. 2d. be made on the individual partner liable to payment of the interest?

*** Section 19 (5) of the Finance Act of 1907 restricts the allowance granted to "earned incomes" in such a way as to leave chargeable at 1s. 2d. the amount from which the "individual entitled to relief" is authorized by law to deduct income tax. Reading this subsection with that portion of the same Act which abolished the right to a separate assessment of partnership shares, it would appear that the assessment in question is correctly made. As "Devoniensis" points out, it seems strange that he should be liable in respect of a sum which has so distinct a reference to his partner's private affairs: but even if the total duty should not be apportioned between the partners before payment, "Devoniensis" would subsequently be entitled, as between his partner and himself, to require an equitable adjustment of the matter.

ATTENDANCE OF MEDICAL WITNESSES AT INQUESTS.

H. E. G. asks: (*a*) What length of notice a medical man ought to get before giving evidence at an inquest and (*b*) whether such notice should be in writing.

*** (*a*) When it appears to the coroner that the deceased was attended at his death or during his last illness by any legally qualified medical practitioner, the coroner may summon such practitioner as a witness. There is no specified length of notice to be given, and the coroner may either in his summons for the attendance of such medical witness or at any time between the issuing of that summons and the end of the inquest, direct such medical witness to make a *post-mortem* examination of the body of the deceased. As a rule the earliest possible notice of the time of holding an inquest is given by the coroner's officer to a medical witness, but in some cases, especially when other facts than those originally reported to the coroner come to his knowledge immediately before the inquiry, the notice is necessarily short.

(*b*) Although it is not the universal practice to issue a written or partly written and printed summons form to medical witnesses it is common to do so, and the wording ("the coroner may in his summons" and "the issuing of that summons") of the section of the Act governing the summoning of such witness suggests that summoning should be by the issuing of a summons form.

ANSWERS.

CHOLELITHIASIS.

A QUESTION inserted in the JOURNAL of September 27th having brought no answers, we have obtained the following note from a surgical contributor: If it is quite certain that the common duct is patent—this is indicated by the presence of bile in the stools—and if it may be taken as certain that there is no malignancy in any part of the biliary passages, the cause of the persistence of the biliary fistula may be that mucous membrane of gall bladder and skin are continuous. A plan, found repeatedly successful, is to destroy the mucous lining of the fistula for an inch at least inwards from the skin surface by means of the thermo-cautery or a sharp spoon (the former preferred), with immediate suture by silkworm gut. The patient should be put to bed for ten to fourteen days while the plan is being tested. This may be done twice if required. If failure to close the fistula again occurs, the only alternative now left is to remove the gall bladder. Of course, it is presumed that there are no more gall stones in the bladder or duct.

LETTERS, NOTES, ETC.

REX *v.* HAMILTON.

DR. W. H. GIMBLETT (86, Sutherland Avenue, Maida Vale, W.), whose appeal giving the name of the committee formed to raise a fund to reimburse Dr. Hamilton was published last week (p. 1118), acknowledges the following additional subscriptions:

	£	s.	d.
Mrs. Staples (Strawberry Hill)	3	3	0
Dr. E. W. White (London)	2	2	0
Mrs. Forsyth (Barnes)	0	10	0
Mr. G. Newall (Barnes)	2	2	0
Mrs. Forcett (Barnes)	5	5	0
Dr. Bishop (Barnes)	1	1	0
Mr. P. Cooke, L.D.S. (Barnes)	2	2	0

SALVARSAN.

WE have received an appeal from Dr. Dreuw, of Berlin (Potsdamerstrasse 31A), urging the importance of all cases of death after salvarsan, or of untoward results following its use, being recorded, and asking that copies of reports of any such cases may be sent to him.

FORCIBLE FEEDING.

MR. FRANK MOXON, M.B., B.S. (London, W.) writes: Forcible feeding in connexion with the "suffrage" prisoners is for the purpose, I take it, of preventing them dying of starvation, and of compelling them to serve their term of imprisonment. It has failed in its purpose, and is therefore useless as a purely medical procedure. If this be so, then the continuance of forcible feeding is a torture, and as such should not receive the support of medical sanction. If a prison doctor confesses the treatment to be useless to effect its object, is he bound to continue it on the order of a Government lay authority?

WE have also received a letter from Dr. F. N. Grinling (Newcastle-on-Tyne), who argues: "All who think on the question must see that the demand for the "vote" is the legitimate and inevitable outcome of the movement for the higher education of women, which, at this time of day, few, excepting obscurantists such as Sir Almroth Wright, would care or dare to condemn or contemn." He desires to appeal to the profession, and to ask from it an expression of opinion deprecating resort to forcible feeding.

CURE BY LAUGHTER.

MR. E. MUIRHEAD LITTLE (London, W.) writes: To the cases quoted in your "Literary Notes," p. 879, and those given by your correspondents, Drs. Monod and de Havilland Hall, may I add the well known one told of Dr. John Radcliffe (died 1714)? The story goes as follows: An important patient appeared to be in danger of suffocation from a tonsillar abscess, and Radcliffe adopted the elaborate device of ordering two of his own servants to eat hasty-pudding in the sick-room. Probably the patient was too ill to object to what must have seemed an unusually outrageous proceeding, even for the eccentric Dr. Radcliffe. Following his secret instructions, the men soon began to quarrel and to throw the pudding all over one another's faces and liveries. This very broad joke caused the patient to laugh and the abscess to burst, and all then went well. Perhaps similar incidents have happened and been recorded ever since quinsy and laughter began.

EARTH CLOSETS.

THE leaflet describing how satisfactory earth closets may be economically constructed, to which reference was made in in our issue for August 9th, has now been published. Its author is Dr. Herbert Jones of Hereford. It is published by our contemporary, the *Medical Officer*.

COPYING PENCILS.

MESSRS. L. AND C. HARDTMUTH request us to draw attention to the fact that they are now paying special attention to the production of "Mephisto" pencils. Memorandums written with them can be copied in the press, and the writing does not smudge. The leads are of two qualities, one soft and one hard, both being easily pointed, and the latter sufficiently strong for duplicating purposes when carbon paper is used. For this reason the firm thinks the pencils may be specially useful to medical men in connexion with panel work.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers

The Bradshaw Lecture

ON

HYSTERIA IN SOME OF ITS ASPECTS.

Delivered at the Royal College of Physicians, November 4th, 1913.

By T. R. GLYNN, M.D.Lond., F.R.C.P.Lond.,

Professor of Medicine, University of Liverpool; Consulting Physician, Royal Infirmary, Liverpool.

Mr. President, Fellows, and Gentlemen,—It is my first pleasant duty to thank you, Sir, for the honour you have done me in inviting me to give this, the Bradshaw Lecture. I only hope my theme is worthy of the occasion. It may be that I should have selected a subject more intimately related to recent advances in medicine, for in these days of accurate definition and of fruitful pathology my subject is out of fashion, since hysteria is wellnigh incapable of definition, and is without pathology or pathognomonic symptoms. Modern research and speculation, far from throwing clearer light on its problems, have rather tended to render them more obscure, and, instead of introducing greater harmony into our conceptions of the disease, have served to create more doubt and dissension.

Charcot's views on the nature and symptoms of hysteria have been rigorously criticized by various authorities during the last twenty years, and undoubtedly this criticism has been wholesome, for, as Babinski points out, the term "hysteria" was too loosely employed, and was made to include any disorder for which another name could not be found. Moreover, though his assertion that Charcot's stigmata are but the consequence either of autosuggestion or of unconscious suggestion on the part of the physician is too extreme, it has served a good purpose in calling attention to the importance of exercising care in the examination of suspected hysterical patients.

There is much that is bewildering in the many hypotheses of different teachers as to the nature of hysteria; but there is a considerable degree of uniformity in one direction, namely, the abnormal suggestibility of the hysterical, a mental peculiarity of practical moment in its bearing on the production or modification of symptoms, and on methods of treatment.

Happily it is not expedient that I should, in the limits to which I confine myself in this lecture, discuss the various hypotheses—physical, physiological, and psychical—that have been advanced to explain the nature of the disease. I imagine that Janet's theory of a restricted field of consciousness appeals to most, as it explains a number of hysterical symptoms, the anaesthesias, the restricted fields of vision and the amnesias, in a reasonable and convincing manner. The ingenious theory of Breuer and Freud, of the effect of latent mental trauma on the mind, claims respectful attention, but their contention that this subconscious shock is always of a sexual character is repellent and cannot be accepted without further investigation.

But the symptoms of the hysterical are not entirely psychical; there is in the great majority, as Sir James Paget pointed out, evidence of disturbance in the circulation. "I think," he says, "there is no constitution in which nervous mimicry is so commonly found as in patients who are said, perhaps truly, to have a bad circulation. Chiefly these are marked by being habitually cold-footed . . . but in some the feet, after being cold all day, flush in the evening, and in others become red, and even painfully hot. Such variation in the state of the blood vessels in a part seem to tell of nervous disorder overrunning from the cerebro-spinal into the vasomotor nervous system." Dr. Savill amplified Sir James Paget's views, and held that all the symptoms of hysteria pointed to instability of the reflex and other nervous centres, particularly of the neuro-vascular system. In support of his hypotheses he refers to the sudden pallor at the onset of hysterical syncope, to the chilliness amounting almost to a rigor in some other paroxysmal attacks, to the tendency to flushing. My experience leads me to support these views. Frequently, indeed, do the hysterical complain of flushing, tingling and burning sensations, perhaps of painful heat everywhere but in the feet, which remain icily cold, or of an unconquerable tendency to blush on the slightest provocation. A psychical theory seems hardly capable of explaining these symptoms; moreover, it does not account for certain other more obvious and remarkable phenomena of a physical character occasionally related to hysteria — nutritional and trophic disorders similar to those at times met with in organic diseases of the nervous system. As examples of the trophic affections I have met with in hysterical patients I will briefly refer to two cases.

A young lady with a very neurotic family history at the age of 12 had hysterical chorea and some months later hysterical paralysis of one foot. At this period and subsequently she exhibited the typical stigmata of hysteria with spontaneous somnambulism. A little over two weeks later she lost all her toe-nails and most of her finger-nails. They were detached one by one painlessly, without any alteration in the appearance of the finger or of the nail about to be cast off. Just before a visit to me she had lost the nails of her little fingers. One night the nail of one finger came off, and next day the nail of the other. Although she had no nails on her toes, and the raw matrix was exposed, she walked well, and her mother said she was sure her daughter did not feel pain. The surface of the hands and feet were analgesic, and the left hemianalgesia and other stigmata persisted. Some months later she had an affection of the skin slightly vesicular in character in its early stages (according to her medical attendant, Dr. Matthews, of Waterloo, Liverpool), and appearing in crops on the back, chest, and limbs, fading in a few days and being succeeded by fresh crops, unattended by discomfort or constitutional disturbance. Moreover, at this period she became deaf. I found that it was impossible to make her understand by shouting, and loud noises behind her were unnoticed. This passed off and she became deaf to certain notes on the piano. She could hear middle F, but not the neighbouring F sharp or G.

A girl aged 12, at the end of a term at school, suffered from hysterical paraplegia, and rapidly recovered under rest and massage, but six weeks afterwards the paralysis returned, and she was again put to bed. On the morning of the day after she was found with much of her hair out, or coming out. She went to bed with a good head of hair, and lost most of it in a few hours. There had been no febrile disturbance and nothing apparently was wrong with the scalp.

These nutritional disorders have been noticed by so many independent observers in association with hysteria that I think there can be but little doubt they are occasionally due to it. Gilles de la Tourette, and Pitres, and Galeome recognize the sudden loss of the nails and hair as an occasional rare and hysterical phenomenon.

Féré[1] noted a curious trophic trouble of the hair in an hysterical patient. During the premonitory period of a crisis the hair was in no way abnormal, but after the fit all the hairs were split at their extremities; this condition occurred after every attack.

For Babinski the condition required to make a symptom an hysterical one is that it be reproduceable by suggestion and be capable of removal by persuasion; all other accidents, even the slighter manifestations due to vasomotor disturbance, are to be regarded as the fruits of fraud. Now the physical accidents in these cases could not be produced or removed by suggestion, and I am confident were not created by trickery. The nature of the more curious nutritional disorders — the spontaneous shedding of the nails and hair—exclude such a possibility, neither could the idea of deception be entertained with regard to the affection of the skin in the first case. She was very young, happy in her surroundings, fond of school and games; she made light of her illness, and resented the fussy sympathy of her mother. I have met with two other cases of eruption in hysteria, both erythematous; in one the skin in the neighbourhood of the eruption was anaesthetic, and in the other the rash appeared immediately after an hysterical fit. In one of several cases of hysterical oedema an obstinate monoplegia was attended with marked muscular atrophy, but the patient after a while made a good recovery.

I will now briefly refer to Charcot's stigmata and the precautions I have exercised in examining after his method patients suspected of being hysterical; afterwards I shall

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sider hysteria as I have met with it in association with ner diseases.

I have always avoided putting any questions to such patients which could possibly influence them or their replies. I have found that much is to be gained by securing closure of the eyes, not only because it ensures temporary blindness to subsequent procedures, but also because some information may be gained from the behaviour of the closed eyelids, as in the great majority of the hysterical—probably over 80 per cent.—although there may be no tremor of the hands, there is more or less tremor of the closed eyelids, a vibration readily felt by a finger laid lightly over them. I have next tested the common sensibility of the skin by gently pricking. I have found that, as a rule, the expression of the patient is a sufficient guide in this direction. One side of the forehead may be pricked without causing any sign of discomfort, while the same operation on the other side is attended by flinching. Similar caution is exercised in investigating the sensibility of other parts, whether of the surface or mucous membranes. If no expression of pain follows pricking of either side, it may be necessary to put some such questions as: "What do you feel?" or "What am I doing?" and similar inquiries may have to be made in conducting the more delicate examination by cotton-wool or brush. The behaviour of the patient is usually sufficient to indicate to what extent there is sensibility of the conjunctiva, or how far the faradic current causes discomfort.

I can only briefly refer to the visual stigmata. Restriction of the visual field and dyschromatopsia are undoubtedly of great value. In one or two patients the fields of vision have been so reduced that the subject of the disorder complained of blindness. I exhibit charts of the visual fields of two patients, both of whom stated that they had lost the sight of one eye.

In hysterical dyschromatopsia I have occasionally found that, contrary to the rule, the field for blue has been more extensive than for red, as in the chart exhibited. I also show another perimetric chart of interest. In this it will be seen that the visual field of one eye is much narrowed and of the other nearly normal, while its fields for colour are remarkably reduced. Monocular diplopia was present in many of my cases, and I have more frequently met with macropsia than micropsia; the former has sometimes been very marked; one hysterical lad to whom I showed a sixpenny bit pronounced it a five-shilling piece. I need not dwell on the fact that Charcot's stigmata may be wanting in the hysterical accidents of children, or that they are sometimes but few in number in older persons, and found only after careful search. Frequently, indeed, the only evidence of defective sensibility of the skin to be brought to light is a little analgesia of one side of the forehead, or of the back of a forearm. With this, however, there will probably be restriction of the visual fields, and though the loss of sensibility be slight the restriction will be the greater on the side where the sensation is impaired, and thus the correctness of the observation is confirmed and the veracity of the patient established.

In testing the olfactory sense I have occasionally found that an hysterical subject could inhale strong ammonia through a nostril without manifesting discomfort, an indication that the common sensation of the lining membrane of the nose was impaired.

In some instances the mental state of a patient, the psychical stigmata, furnishes valuable information, as in the following case: A girl of 11, liable to migraine, and overworked at school, became unduly quiet and forgetful. Her nights were disturbed by terrifying dreams, and when a little poorly from a cold or toothache, she suffered from hallucinations, seeing rats and other animals in her room. There was some tremor of the closed eyelids, and a little loss of sensibility over the left side of the forehead and the back of the left forearm. Again, in traumatic cases especially, the repetition of dreams relating to an accident is very suggestive of an hysterical condition.

I have only met with one or two typical examples of hysterical amnesia. One of these was a girl who, when admitted and for many days after, could give no particulars of herself or of her illness—we learnt that she had been frightened and had fallen down in a hysterical fit a week before she entered the hospital. In a little over a fortnight she was able to give a clear account of her past up to the time of the fright; after this there was a hiatus in her memory covering three weeks.

The history of an hysterical fit or some other paroxysmal form of hysteria, if obtainable, furnishes a valuable indication, and almost of equal significance are the syncopal attacks, the various modified crises, half faints, choking sensations, spells of vertigo, confusion, and weakness. These fragmentary paroxysms are, relatively to the complete seizures, much more common in men than in women. I have found that almost four-fifths of the men suffering from traumatic hysteria complained of transient giddiness, dimness of sight, and confusion. Dr. Buzzard long ago directed attention to the significance of defective plantar reflexes in hysterical paralysis. In my experience these reflexes are often lessened in hysteria in the absence of paraplegia, and not infrequently particularly diminished on the side where the sensibility of the surface is the more deficient. I found the plantar reflexes absent or much diminished in 81 of 112 cases of traumatic hysteria. I may say that I have never met with true ankle clonus in an uncomplicated case of hysteria.

Hysterogenic zones, when present, are necessarily unequivocal signs of hysteria. In 1867 I saw a case of hystero-epilepsy with hysterogenic zones in St. Bartholomew's Hospital, under the care of the late Mr. Luther Holden. It is described in the third volume of the reports of that institution as "an anomalous affection of the nervous system." The patient, a boy, had a lipomatous tumour at the back of his neck; every time this lump was touched he had a convulsion followed by "clownism," in which he turned head over heels; next he became maniacal and delirious, and lastly crowed like a cock and barked like a dog. Some years afterwards I met with a very similar case, also in a boy. In the last stage of a fit he crawled about on the floor, biting the carpet as if attempting to pick up something with his teeth. The milder hysterical ebullitions of ordinary hysteria excited through hysterogenic zones would be of greater clinical value were these areas more frequently present.

Frequently the victims of hysteria exhibit no very obvious signs of the affection. They complain of neuralgic pains, sleeplessness, giddiness, nervousness, and so forth. When in such instances the stigmata are found a new light is cast on the nature of the case. Doubts that were perhaps entertained as to the reality of complaints are removed, for the subjective symptoms are found to be consistent with the objective, and acquire a genuine significance.

In examining the subjects of what is popularly termed "nervous shock," with symptoms so often of an entirely subjective nature, the greatest assistance is afforded by conducting the investigation after Charcot's method. In this way hysterical and neurasthenic cases are readily differentiated and clinical data are furnished for a positive opinion. Out of 160 cases of nervous shock I have examined, 112 were suffering from hysteria or hysteria combined with neurasthenia, and 48 from simple neurasthenia. Of the hysterical cases, only 17 were females and 8 were boys, for the large majority of subjects under examination were labourers seeking compensation under the Workmen's Compensation Act.

The case of a boy of 11 was of special interest, as it simulated meningitis. After a blow on the head he complained of violent headache and vomiting, rigidity of the neck, and partial ptosis, more marked on one side. Certain of the hysterical stigmata were present, and the plantar reflexes were absent. In a few days he made a good recovery.

The presence of Charcot's stigmata points to the existence of an hysterical condition, but does not indicate that the actual symptoms are necessarily dependent on this disorder.

In certain subjects any affection attended with pains and sleeplessness or leading to deterioration of health may give rise to and be attended with hysteria, and some affections, organic and functional, show a particular proneness to occur in association with the disease by reason of some predisposition common to both—age, sex, and constitution. In many instances the presence of the functional disorder may not lead to any difficulty of diagnosis, but in its recognition an explanation may be found of certain symptoms—obscure pains and sleep-

lessness—and the diagnosis thereby be rendered more complete. In other cases the presence of a complicating hysteria may, particularly in a hurried examination, lead to error. I have met with two instances where patients with disease of the middle ear attended with hysteria were sent into the hospital as cases probably of intercranial abscess. One was a man of 24. He complained of excessive giddiness and had fallen several times. His temperature was slightly raised. He had much headache, with partial loss of power of the right leg and arm, and was unsteady in walking. The pupils were normal, and there was no optic neuritis. On the other hand, there were plenty of hysterical stigmata. The other was a boy, aged 12, under the care of Dr. T. R. Bradshaw. He had suffered from otorrhoea for some years, and recently complained of headache and had fits. The fits proved to be hysterical. The only evidence of hysteria in this patient, other than the characteristic fits, was absence of the faucial reflex. I have known the headache of hysteria to be mistaken for that of uraemia in a young woman with renal trouble who happened to be hysterical, and an hysterical fit to be regarded as a uraemic convulsion in another case of kidney disease. A girl with indications of lead poisoning, a history of colic, and a blue line on her gums, with partial hysterical paraplegia, was sent to the hospital as a case of lead palsy.

I might multiply these instances almost indefinitely, but must turn to the systematic consideration of my subject of hysteria as I have met with it in association with epilepsy, chorea, chlorosis, Graves's disease, stomach disorders, diseases of the heart and nervous system.

The neuroses, epilepsy and hysteria, frequently coexist in the same individual. About 20 per cent. of the epileptics I have met with presented the stigmata of hysteria, and in a majority of these there were other more demonstrative symptoms of the disorder. In four instances the epileptic attack towards its termination presented all the features of an hysterical crisis. Sir William Gowers has drawn attention to these complex forms of convulsion. A girl aged 13 had suffered from fits for many years, in which she bit her tongue and hurt herself in falling; at the time of admission she had rhythmical spasm of one corner of her mouth; in the hospital she had an epileptic fit, at the termination of which she screamed, struggled, and pulled her hair. A girl aged 19 was brought into the hospital in an insensible condition. The day after she had convulsive attacks characterized by tonic and clonic spasms and biting of the tongue, and later by rigidity of the limbs with opisthotonos, purposive movements, and screaming. In my experience it is more common to meet with cases where epileptic and hysterical fits in the same individual occur independently. I have notes of 8 cases of this description. I will only cite two in illustration. A young woman aged 22 had suffered from epilepsy from the age of 15, the fits occurring as a rule on rising in the morning. In the hospital she had a fit in which she fell and cut her head; she also had many other attacks unattended with loss of consciousness in which her limbs became rigid. A woman aged 27 had been liable to fits for thirteen years; in them she bit her tongue and passed urine. She also had attacks in which she only partially lost consciousness, and screamed and struggled. She was warned of the approach of the latter by a choking sensation and giddiness, but the epileptic seizures were not preceded by any aura. As far as could be ascertained the epilepsy in the majority of these cases was the earlier to develop. In 9 of the remaining 12 cases of epilepsy the symptoms, besides the stigmata pointing to hysteria, were neuralgic pains, headaches not connected with the fits, palpitation, sleeplessness, vivid dreams, tremor, and pain over the heart.

Chorea is at times associated with hysteria, and that these neuroses should occur together in the same individual would seem probable, for either may be excited by the same proximate cause, a violent emotion or rheumatism, though in the case of hysteria the latter plays a less active part; moreover, both diseases are found in those of a neurotic temperament.

The recognition of hysteria rested not only on the presence of the stigmata, but also on the existence of other manifestations. In both disorders similar forms of mental trouble may be met with, as a tendency to undue emotional excitement, fretfulness, loss of will power, stupidity, terrifying dreams or transitory visual hallucinations. I have, therefore, not regarded any of these phenomena as hysterical in origin. I have collected 104 cases of chorea from my hospital notebooks—96 of Sydenham's chorea, 25 of which were complicated with hysteria, and 8 of hysterical chorea: I include rhythmical spasm and coarse tremor under this term.

Dr. Bristow, in his *Theory and Practice of Medicine*, treating of chorea, states: "Impairment of sensation is observable in many cases and its degree is more or less in relation to the severity of the convulsion or to the amount of paralysis present, occasionally the anaesthesia is on one side and may be absolute." In the 25 cases I refer to the defective sensibility of the skin was generally associated with lessened sensibility of the mucous membranes, conjunctiva and tongue, with, when the fields of vision could be taken, restriction of the visual fields and achromatopsia, and often with defective faucial or plantar reflexes. In 3 cases where there was complete hemianaesthesia the chorea was of medium severity with no pronounced paralysis.

In one, a girl of 17, together with the movements of typical chorea there was rhythmical blinking of the eyelids at the rate of 80 per minute. Another, a girl of 20, complained much of pain and tenderness on the top of her head, and in the right iliac fossa, the side of the anaesthesia, and occasionally of retention of urine.

In a third the hysterical chorea immediately followed ordinary chorea. This patient, a girl of 16, had suffered from rheumatic fever and chorea, and after being two months under my care was discharged from the convalescent ward, but was again admitted in two days stating that the St. Vitus's dance had returned. On this occasion all the limbs underwent rhythmical jerks while in bed, the hands at the same time being pronated and suspinated at the rate of sixty times a minute. The movements were more marked on the right side, the seat of hemianalgesia.

A child of 13 with ordinary chorea had extreme photophobia, with hysterical stigmata. A girl of 15 had the typical barking cough of hysteria and was, for a time, a nuisance in the ward. A boy of 16, a typical degenerate, was admitted with chorea limited to the upper extremities and face, and with his legs closely flexed against his abdomen. He also could not, or would not, speak, and had not done so for three months. There was a history of fright, but not of rheumatism. In the hospital he complained of headache, writing with a shaking hand, and answered questions in the same way. There was some grimacing and twitching of the lips, but the tongue was protruded normally. Charcot's stigmata were present. At the end of a week he had much improved. He spoke sensibly and his legs assumed a normal position, but after a visit from his friends he had what appears to have been an hysterical fit. His legs returned to their former position and he became silent. In a day or two he had again improved and was quite talkative. The irregular movements continued a little longer, but under rest, massage, and cold sponging he was well in a month.

A boy aged 12 came across his father hanging in an outhouse. His shrieks were heard by his friends, and he was found in what appears to have been an hysterical fit. For weeks afterwards he was sleepless and nervous, and would not be left alone, and at the end of two months was attacked with what appeared from his doctor's description to have been ordinary chorea. Two years afterwards, when 14 years of age, he came under my care with a relapse of the convulsive movements, but this time the chorea did not seem to be of the ordinary character. There was no grimacing, the tongue was protruded and withdrawn in a natural way, the irregular movements were limited to the arms and hands, and were of the usual choreic character, but there was also well-marked vibratory tremor of the left hand, associated with left hemianalgesia. He took his food, when not watched, with perfect ease, and his limbs were at times quiet for an hour or more.

A married woman, aged 23, was admitted as a case of chorea. She stated that as a child she had suffered from St. Vitus's dance and rheumatism, that she had been worried at home, and had had some difficulty in using her hands and in walking for about a month. She complained also of pains over her heart and in her back, of headache and sleeplessness. There were inco-ordinate movements of the

upper limbs when she used them, but only then, also some tendency to slight rotatory movement of the legs when she walked. She walked feebly, as there was considerable loss of muscular power of both legs. Many hysterical stigmata were present. It seemed to me that in these two cases the chorea was simply a subconscious revival of the former attacks, and that they were hysterical in origin, for it is likely that hysteria is capable of creating a clinical picture of true chorea.

In the remainder of the 25 cases there was in the majority some symptom or symptoms other than the existence of the hysterical stigmata suggestive of hysteria. Neuralgic pains and tender spots in 10; vomiting without apparent cause in 2; aphonia in 2; semi-hysterical attacks and globus hystericus in 4.

Few manifestations of hysteria are more typical of the affection than the rhythmical tremors and spasms, and I venture to wander from my subject to refer to one case of salutation spasm. A girl aged 11, who two months previously had suffered from ordinary chorea, was admitted into the hospital for rhythmical nodding movements of the head due to the action of the sterno-mastoids. Synchronously with these there were rhythmical contractions of the muscles of the abdominal wall and of the first and second fingers of both hands. Her gait was interrupted by regular bowing movements of the head and trunk. There was left hemianalgesia and other stigmata.

I also exhibit a few tracings from cases of hysterical rhythmical tremor, and two photographs of patients with glosso-labial hemispasm—one of a little girl, the other of a man aged 60, in whom the spasm was associated with a complete hemiplegia and hemianaesthesia.

Rheumatism, typhoid, influenza, tuberculosis, and other specific disorders are recognized as antecedent causes of hysteria. At times, however, hysteria may develop during the course of these diseases and complicate them. A woman, aged 38, complained of pain and swelling of her ankles, knees, and wrists. She sweated profusely, and her temperature ranged between 100° and 102°. Under salicylates the rheumatic symptoms were relieved, but though there was no evidence of joint trouble she still lay almost motionless, and complained of much pain in her knees and over the heart, also of broken sleep and vivid dreams. On examination, there was much tremor of the right hand with loss of muscular power, complete right hemianaesthesia, loss of the senses of smell and taste on the same side, great hyperaesthesia of both knees and of the left breast. The left breast was the seat of a hysterogenic zone, pressure there causing her to tremble, choke, and weep.

A young woman, aged 21, was admitted with pain and swelling of one elbow, both knees, and one ankle, and a temperature of 101°, and with evidence also of slight mitral trouble. She moreover complained much of headache and tenderness on the top of her head, of pain over the heart, and flatulence. On several occasions she had attacks when, according to the nurse, she was choking and could not breathe.

Another girl, aged 25, came in with slight pyrexia and swollen ankle-joints. She had been ill for a week, and during that time had suffered much from headache and vomiting. The latter was at first put down to her medicine, but it continued in the absence of all physic, and was only checked after she had recovered from the rheumatism, and had been convalescent a week. The usual hysterical stigmata were present.

A girl, aged 20, was carried into the ward, as she appeared to be unable to stand alone or walk. As a child she had suffered from rheumatic fever and chorea. She had been laid up about a fortnight before admission. There were indications of slight rheumatism with some fever, and a little effusion into one knee-joint, but there was great loss of voluntary muscular power in both legs, with absence of the plantar reflexes, and hypaesthesia. She also complained of constant headache and pain in the back and of something rising from the left groin to the throat, causing choking sensations.

A lad of 19 came under my care suffering from subacute rheumatism, and also complaining of shortness of breath occurring in spells. He stated that he had been ill about a week and could hardly sleep at night owing to difficulty of breathing. His respirations on admission were 35 to a minute, and at times considerably quicker. There was no cyanosis or wheezing. The lungs and heart were perfectly normal. Well-marked hysterical stigmata were found. He made a rapid recovery. I looked upon the case as one of hysterical dyspnoea, a not uncommon manifestation of hysteria to which Sir Samuel Wilks directed attention.

Another patient, a girl of 20, while barely convalescent from acute rheumatism, developed an hysterical knee. The joint remained exquisitely painful and tender after all the local signs of rheumatism had gone. She also complained of sleeplessness, noise in the ears, and choking sensations. The usual hysterical stigmata were present.

A young Greek girl, during the first week of a mild attack of typhoid, developed hysterical symptoms. She had what was called a "faint," and this was followed by prolonged shaking and trembling without her temperature of 101 rising. Subsequently she talked nonsense and for a time refused to take food. The disease progressed favourably, but the headache characteristic of the early days of typhoid never left her. Her sleep was much disturbed and she was unduly irritable. While convalescent she developed an hysterical paraplegia. The end of this case was so exceptional and tragic that I will narrate it.

She next suffered from hysterical anorexia, and the year afterwards from spasm of one arm. For this she was isolated in the country with a nurse, and after a while recovered. A year later, as she seemed perfectly well, she was sent to a school abroad to finish her education. She was a clever girl, and her letters home and her behaviour at school seemed to indicate that she was perfectly happy. However, while engaged one afternoon with others in study, she suddenly rushed to an open window, threw herself out, and was instantly killed. As far as could be ascertained she had been in her usual spirits that day, and nothing had happened to provoke or worry her.

I hesitate to attribute this act to hysteria, as mental degeneracy may have been associated with it. At the same time many observers, as Le Grand-du-Saule, Gilles de la Tourette,[2] Huchard and Pitres, have met with suicide in the victims of this disorder. Pitres,[3] on suicide in the hysterical, states: "It is quite evident that the suicide of the hysterical is, in general, the result of sudden impulse, and not of a comedy played by simulators to render themselves interesting or alarm those about them."

A man, aged 28, during the third week of typhoid, although the temperature was falling and the pulse-rate coming down, complained of sudden pain in the abdomen and over his heart, and oppressed breathing. There was much tremor of the hands, and closed eyelids, and involuntary clonic spasms of the frontalis muscle. The hysterical stigmata were well marked, and in two days the symptoms above described passed away.

A woman, aged 26, suffered from typhoid of moderate severity. During the whole course of the disease she complained of headache and pain in the epigastrium and vomiting. Her sleep was much disturbed by dreams, and she was worried by hallucinations. All this time her temperature was moderate, and her pulse not over 80. General anaesthesia was noted with absence of the plantar reflexes. These stigmata remained during convalescence, when the fields of vision were taken and found to be much restricted.

Chlorosis is, for obvious reasons, very frequently associated with hysteria. I find that out of 164 cases of chlorosis, 45—rather more than 25 per cent.—were hysterical. As general nervous disturbances—sleeplessness, headache, giddiness, neuralgic pains, and indigestion—are often associated with this disease, it is difficult to determine how far an hysterical condition may be responsible for such symptoms when they are present. In the great majority of the cases where the hysterical stigmata have been found it has seemed to me that the above nervous symptoms are intensified. The sleep tends to be disturbed by terrifying dreams, the headache is severe, and perhaps associated with tenderness of the scalp: the gastric pain and vomiting are often marked. In 20 out of the 45 there was much headache, as a rule vertical, with restlessness at night and vivid dreaming; 18 suffered from more or less obstinate vomiting and gastralgia. The symptoms in many of those patients so closely resembled those of gastric ulcer that, for a few days, they were treated as cases of this disease; 5 had hysterical fits in

some form, 8 exhibited fine tremor of the hands; 4 complained much of pain and tenderness over the lower part of the spine, and 3 of great weakness of the legs, in 2 of these amounting to a partial paraplegia of an hysterical nature, with defective sensibility over the limbs and absent plantar reflexes. Two developed hysterical anorexia.

In Graves's disease I have found the hysterical stigmata present in about 35 per cent., and in a few symptoms which could be fairly set down to hysteria. One, a woman, seemed to develop exophthalmic goitre and hysteria together after a fright. She had several mild hysteroid fits in the hospital. Another suffered from marked loss of power of the legs, with analgesia of their surface; and another, after a squabble with a nurse and a bad night, had a fit and was delirious for a short time. In a third there was much more tremor of the left hand than of the right, and the left side was the seat of a hemianalgesia. The case of a fourth was singularly complex, as she, together with Graves's disease and hysteria, exhibited symptoms of disseminated sclerosis—nystagmus and volitional tremor.

Sir Clifford Allbutt, in his lucid and interesting Goulstonian Lectures on the Visceral Neuroses, devotes a chapter to neuralgia of the stomach as it is met with in those who are predisposed from their neurotic tendency to neuralgic pains and such nervous troubles as migraine and asthma, but he only briefly refers to the gastralgias of the hysterical. In about three-fourths of the cases of simple gastralgia I have met with in young women there has been evidence of hysteria in the presence of the stigmata, and in a few there have been other symptoms of this disease as well.

It is not likely that the hysteria was only accidentally associated with the gastralgia, and the fact that they were found together in so many instances negatives this assumption. Moreover, the hyperaesthesias and pains are just as characteristic a feature of hysteria as are the anaesthesias; indeed, Oppenheim[3] states that pain is never absent in hysteria. Savill estimates that pain of some kind occurred in four-fifths of his cases of hysteria. This, I think, is nearer the mark.

In 35 cases of hysterical gastralgia there was a history of migraine in 10, of liability to ordinary headaches in others; one was a somnambulist. Besides various hysterical stigmata, a few presented other symptoms of hysteria—for example, hysteroid fits in 3, rhythmical tremor in 1, partial paraplegia in 2. In 2 there was a hysterogenic zone over the epigastrium, a light touch causing vomiting, tremor, palpitation, and faintness. Many of these patients were anaemic, but are not included among the chlorotic cases above referred to. In most of these cases the diagnosis was made with fear and trembling, and not a few, for a day or two, were treated as cases of gastric ulcer. In 25 other patients the stomach symptoms still more closely resembled gastric ulcer, insomuch as gastric pain and vomiting followed the ingestion of food. Two of these women came in with a history of haematemesis, and in the hospital thin serous blood-stained fluid of alkaline reaction was vomited, or more probably hawked up with some retching.

I have been guilty of a digression, but must ask your pardon if I transgress still further and refer for a moment to that serious hysterical affection, anorexia. The ages of fifteen patients I have seen with this disease varied from 14 to 22, and one was a woman of 44. Certain of the hysterical stigmata were present in all, and in one there was oesophageal spasm. The middle-aged woman suffered from incessant vomiting associated with distaste for food and great emaciation, and it was, perhaps, rather a case of hysterical vomiting than of true anorexia nervosa. Another subject of the disease may be referred to as it is of exceptional interest, the victim of the disorder being a boy. He was 11 years of age. His father was asthmatic and his mother had fits of some kind. He was very intelligent, but of an irritable, nervous disposition. For six months he had refused ordinary food, only taking biscuits and a little water. Next he became mute, then had fits, in which his friends said he arched his back and jumped like a salmon. When I saw him he was terribly emaciated. Another case is also of special interest. A young lady, aged 15, for several months lived on cakes and water, and for a great part of that period attended a neighbouring school. Medical advice was procured after a while, and she was put to bed under the charge of a nurse. She was reduced to a skeleton, the skin was wrinkled and dry, the abdomen retracted, the extremities cold and blue and the pulse feeble. The nurse failed to make her take more food, and two days after my visit she became insensible, was looked on as dead and was measured for her coffin. Fortunately her medical attendant, Dr. Wylie of Seaforth, happened to call, and found that though she had been apparently dead for two days, her body was not cold, and that there was feeble shallow respiration. Stimulants were given and forcible feeding resorted to, and she eventually recovered. Two of my patients died, one was a girl of 13 who was taken to a nursing home when she was hopelessly weak; the other was a woman of 22, who, under isolation and other prompt measures, recovered, but within a year suffered from a relapse. On this occasion her mother would not consent to her removal. She was treated at home and died.

I found the hysterical stigmata in 23 per cent. of my cases of gastric ulcer in young women—that is, in patients with a history of haematemesis or melaena, and in some of these there were other hysterical symptoms. In one or two the vomiting was particularly frequent, in others there was a history of slight hysterical fits. One patient, who had previously vomited blood and fainted, was a fortnight after this accident sent to the hospital under the idea that she had suffered from a further haemorrhage, as she had fainted again. No blood, however, was vomited, and no melaena followed. A further fit in the hospital was distinctly hysterical. In several there was tremor or much headache and sleeplessness; in many neuralgic pains in the head, chest, and back; in one retention of urine.

The relation of hysteria to heart disease is of special interest. Such hysterical affections as pseudo-angina, or simple pain over the heart, and palpitation, dyspnoea, and syncope, when the heart is normal, arouse fears of cardiac disease in the patient, and worry the medical attendant till he lights on the explanation of the symptoms; and when these hysterical accidents occur in cases where there are signs of organic heart disease they are likely to cause the patient's condition to appear more serious than it is. Further, as nervousness, sleeplessness, and pain are usually associated with hysteria, the symptoms due to heart disease tend to be aggravated. A fireman, aged 25, was treated for heart disease, and kept in bed for three months in a hospital; he had slight mitral regurgitation with perfect compensation, but suffered from angina-like attacks, the pain over the heart extending to the left arm and shoulder with a sensation of suffocation. He also had occasional crises characterized by choking feelings, giddiness, and palpitation, as well as cramping pains in the stomach and vomiting. There was much fine tremor and other stigmata. A woman, aged 30, had mitral stenosis, but not pronounced, as the pulse was of good volume, and the right ventricle not dilated. Up to an attack of influenza she had led an active life; after this illness she broke down, suffering from pains about the left side and head, sleeplessness, and shortness of breath. Her lungs were quite healthy, but her respirations, even when in bed, were 30 or more for two or three days. She exhibited many signs of hysteria, and, like the previous patient, was soon relieved.

A girl aged 20, with slight mitral stenosis, was liable to attacks of angina, with the usual hysterical characteristics; she was a somnambulist, and her father suffered from true angina.

A girl of 17, with well marked mitral disease, was sent to the hospital as a case of cerebral embolism, as her left arm had become suddenly weak after a faint; the paralysed limb was anaesthetic, and there was also left hemianalgesia and other stigmata. The rapid and perfect recovery of the arm in four days proved, if proof were wanting, that the affection was hysterical. A middle-aged single woman, with aortic regurgitation, who complained of preternatural pulsation in the epigastrium, had been kept three months in bed, half-starved, and dosed with potassium iodide, under the idea that she had an aneurysm. Positive indications of this affection were wanting. She was hysterical and neurasthenic, and did well under a different line of treatment. I have notes of 18 cases of

heart disease complicated with hysteria, but must not further refer to them. I will only say that in 13 out of the 18 sleeplessness due to restlessness or pain was a prominent symptom, and tended to aggravate the condition of the patients; 4 of the 18 were males between the ages of 18 and 30. The remainder were females from 16 to 35, with one exception, a woman of 45.

The alliance between functional and organic diseases of the nervous system claims much closer attention than I can give. As Charcot affirmed, neurasthenia is often found united with hysteria, particularly in men as a result of traumatisms and in women at the menopause. As regards the former class, he considered that neurasthenia was the first to evolve under the influence of the sudden violent shock, and that later the physical and mental depression prepared the way for hysteria.

My experience in the examination of men who have met with accidents leads me entirely to agree with this statement, for not a few of these subjects in a month or two after an accident, become worse rather than better, and on examination prove to be hysterical. It is difficult sometimes to estimate how far symptoms belong to hysteria or neurasthenia. In some traumatic cases, however, the neurasthenic symptoms are pretty definite—namely, psychical asthenia, characterized by diminished power of attention, want of energy, muscular weakness, constant headache or pressure in the head, and backache.

The frequent association of hysteria with the mental stigmata of degeneracy has led to the misconception that the hysterical were necessarily deceitful, that they lied for the sake of lying, that they were simulators and charlatans. As Janet [1] points out, though their mental condition tends to be modified in certain directions (as memory, will, power of attention), and their disposition becomes mobile and contradictory, their character, as the character of every one, depends upon their primary intelligence and their early surroundings and education. If time permitted I might refer to cases illustrating the occasional association of hysteria and obsessions.

I must say but little of hysteria as a complication of organic nervous diseases, and shall only refer to it as an occasional adjunct to structural diseases of the spinal cord. Dr. Buzzard directed attention to the relation of hysteria and insular sclerosis, with special reference to diagnosis, to the tendency for "functional symptoms to be mixed up with those belonging to organic change," and to the temporary intervals of improvement. Hysteria is probably more frequently associated with disseminated sclerosis than with any other affection of the cord, and this to some extent is accounted for, since this disease is frequently met with in early life and in women. For a similar reason hysteria is likely to occur in hereditary ataxia. I do not think I have met with more than half a dozen cases of this affection, but two of these—boys between the ages of 14 and 18—were distinctly hysterical. Young people with vertebral caries, too, are at times hysterical. A girl under my care had caries in the dorsal region of the spine with spastic paraplegia and an hysterical monoplegia of an arm. On the other hand, in that very common disease, locomotor ataxy, occurring as it does in adults, hysteria is more rarely found as a complication. I have only notes of four cases where it was present, and two of these were aged 30 and 34.

The recognition of hysteria in these cases accounted for certain symptoms not directly due to the organic disease, and in a few instances there was evidence that temporary improvement followed and depended on mitigation of the hysterical condition. I will only refer to one of several cases which warrants this assumption. A boy of 17 came under my care with such symptoms of disseminated sclerosis as nystagmus, intentional tremor, and also great weakness of the legs, especially the right; he was unable to walk, and he staggered and dragged the right foot. He was a degenerate with badly-shaped head, jug-handle ears, and supernumerary nipples. He had been out of work some time and was in a miserable physical condition. He suffered from occasional attacks of faintness and vomiting. There was anaesthesia of the left forearm and right leg and restriction of the fields of vision. He was treated by massage, faradic current, and cold sponging. He was soon able to walk well, and in two months left the hospital apparently in good health. At this time the only evidence of hysteria was some restriction of the visual field. He afterwards enlisted, and at the end of two years was discharged owing to some return of his old trouble. At the age of 20 he again came under my care with the former symptoms of disseminated sclerosis. His gait was spastic, but he walked fairly well. There was now complete anaesthesia of the left side of the face and left leg. He again improved under treatment, and left the hospital to seek light employment.

And now, Mr. President and gentlemen, I must bring this lecture to a close. None can be more sensible of its defects than myself. If it should fail in arousing a little more interest in the study of hysteria as it appears in association with other diseases, the want of success in this direction will be due to my incapacity rather than to the nature of my subject.

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[1] *Hystérie*, par le Dr. Voronoff, p. 65. [2] Gilles de la Tourette, *Traité de la hystérie*, vol. i, p. 541. [3] Oppenheim, *Textbook of Nervous Diseases*, translated by Alexander Bruce, vol. ii, p. 1061. [4] *Leçons du Mardi*, 1888-9, p. 457.

THE RATIONAL TREATMENT OF CHRONIC BACILLARY DYSENTERY;

AND THE ADVANTAGES OF ENEMATA OF SILVER GELATOSE.

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ACUTE bacillary dysentery is essentially an inflammation of the mucous membrane of the large bowel, and the causative organisms are limited to the intestinal tract, except in a very few acute instances in which they invade the blood stream. In early cases the serum and saline treatments are usually effective in dealing with the toxaemia and congestion of the mucous membrane, and commonly subdue the disease before much lasting damage has been done.

Cases of chronic bacillary dysentery in which extensive ulceration has already been produced before the patient comes under skilled treatment are much more difficult to deal with. I have frequently found the saline treatment do more harm than good, while in one large Calcutta hospital, where several hundred cases are treated yearly, the mortality from this distressing disease is about 40 per cent. In fact, I know of no common tropical disease in India at the present time which is more difficult to deal with successfully, with the single exception of the terrible kala-azar. Contrary to the experience of some other writers, I have not had good results with stock Shiga dysentery bacillus vaccines, as recommended by Forster, and, owing to the great toxicity of Shiga's bacillus, they require to be used with caution. Sensitized dead dysentery bacillus vaccines, I think, promise better, but I have not yet been able to try them. Occasionally I have obtained good results with an autogenous dysentery vaccine, but in other cases even this failed, while the method is obviously not of general applicability, as, apart from the time and expense required to carry it out, there are few laboratories in the tropics.

In short, it may be said that the treatment of chronic bacillary dysentery is in a very unsatisfactory state at the present time, especially as compared with the formerly intractable amoebic variety of the disease.

THE CHARACTER AND DISTRIBUTION OF THE BOWEL LESIONS AND THEIR BEARING ON TREATMENT.

An analysis of considerably over one hundred *post-mortem* examinations made by me in Calcutta during the last twelve years has brought out a fact which appears to be of great practical importance in connexion with the problem under consideration. I refer to the very marked contrast in the distribution, as well as in the character, of the bowel lesions in acute and chronic fatal bacillary dysentery respectively. These features of the disease are fully described and illustrated in my recently issued small work on dysenteries, and I only need here refer to the points of importance in practice.

Briefly it may be said that in fatal acute bacillary dysentery the whole length of the large intestine and the lowest part of the ileum are uniformly involved in

a fibrinous inflammation of the mucous membrane, with only superficial ulceration, if any. Death results early from the absorption of a lethal dose of toxin, aided by the shock induced by the acute affection of such a large extent of the mucous membrane of the bowel.

On the other hand, in examinations after death from chronic bacillary dysentery—including in that category all those in which the disease has lasted from one month up to a year or more—the lesions are, in my experience, nearly always limited to the lower portions of the large intestine, and in the exceptional cases in which they extend above the descending colon they are comparatively slight in the upper part, although they involve the whole of the mucous membrane of the lower half of the large gut. Moreover, the character of the lesions is quite different from that of cases in which death has taken place in the early acute stages of the disease. In the chronic cases extensive depressed, and often serpiginous, ulcers are found on a generally thickened bowel wall, with small islets of remaining mucous membrane between them, which as a rule no longer shows the acute fibrinous deposits of the early stages. In this class of case the strength is steadily sapped by the frequent discharges of blood and mucus and the loss of absorptive powers, and although the early toxic and febrile stage has been survived—probably largely on account of the lesser extent of the bowel involved—the tendency of the disease is to run on for months, unchecked by the numerous drugs poured into the stomachs of the unfortunate patients.

The very frequent limitation of the lesions of chronic bacillary dysentery to the lower half of the large gut, as opposed to the general involvement in acute fatal cases, was new to me; but the important bearing of this fact on the treatment of the chronic disease is evident. Any drugs given by the mouth have to traverse the whole length of the gastro-intestinal canal down to the lower part of the large gut before they reach the seat of the disease. When they do arrive in the descending colon and sigmoid the irritability of the ulcerated mucous membrane is not likely to allow them to remain long in contact with the diseased parts before being expelled in one of the numerous stools. In short, but little can be expected from medicines given by the mouth, except perhaps from large doses of bismuth, some of which might help to coat and protect the ulcers.

Indications for the Use of Medicated Enemata in Chronic Bacillary Dysentery.

The very distribution of the lesions which is so inimical to the action of remedies administered orally is, on the contrary, of the greatest assistance to the action of enemata containing active drugs; for the lower half of the large intestine is much more readily and effectually reached in this way than the upper portion. The question of treatment, therefore, resolves itself mainly into one of ascertaining which are the best remedies for rectal administration.

One of the most frequently used and effective of these is silver nitrate, which was advocated in chronic bacillary dysentery by Stephen Mackenzie in 1882, and since used by many others, especially in the United States, although not so much in the tropics, probably on account of its failure in the numerous chronic amoebic dysenteries of warm climates. Silver nitrate, however, has two serious disadvantages in practice. The most important of these is that it is precipitated by both chlorides and albuminous substances, so that its action is very uncertain. Secondly, when used in sufficient strength to be likely to exert marked antiseptic and astringent properties, in the presence of salts and albumin, it is apt to be very painful.

Experimental Investigation of the Action of Various Silver Compounds and Other Antiseptics on the Dysentery Bacillus in the Presence of Salts and Albumin.

The foregoing considerations led me to undertake an investigation with a view to ascertaining the substances most likely to be useful in the treatment of chronic bacillary dysentery by means of medicated enemata, especial attention being directed to the numerous organic combinations of silver which have been so largely used in the treatment of inflammatory conditions of the urethral and conjunctival mucous membranes. The details of these experiments will appear in the second number of the *Journal of Indian Medical Research*, so only the results need be mentioned here in so far as they bear on the practical treatment of the disease. Each substance was tested against Shiga's bacillus in two sets of dilutions—one dissolved in water, and a second in which half the diluting fluid was sterile broth containing both chlorides and albumins. The importance of the second set will be evident from the fact that whereas silver nitrate killed the dysentery bacillus within five minutes (the time adopted in all the tests) up to a dilution of 1 in 10,000, yet in the presence of a little broth it failed to kill in a dilution of 1 in 100 in one experiment, and 1 in 500 in another, being at once precipitated by the broth.

On the other hand, I found that those organic silver compounds which were not precipitated by broth had a much more marked action against the dysentery bacillus in the broth series of tubes than had silver nitrate, although less active than the latter in water. Of the organic silver substances silver gelatose (albargin) gave the best results in broth, killing the Shiga bacillus in five minutes up to dilutions of 1 in 500 and 1 in 1,000 respectively in two trials. Nargol came next, acting up to 1 in 500. Protargol and mercurol (mercury nucleate) were nearly as active, but it would not appear to be advisable to inject large quantities of a mercury compound into the bowel in emaciated dysenteric subjects. On the other hand, argentamin had little action, while collargol, ichthargan, and argyrol were practically inert in the presence of broth, as were copper sulphate and cuprol (copper nucleate).

A second series of experiments was carried out in a similar manner with certain antiseptics, with the following results: Cyllin was active in broth up to 1 in 2,500. Iodine, dissolved with the aid of iodide of potassium, and izal both proved effective up to 1 in 1,000, but lysol was less active in the one test made. Permanganates, with or without the addition of a little dilute sulphuric acid, quinine bisulphate, and boracic acid, all proved to be nearly inert in the presence of broth.

It would thus appear that under the conditions noted albargin was the best of the silver compounds tested, being closely followed by nargol and protargol, while cyllin, iodine, and izal were the most active of the other antiseptics tested.

The Practical Application of the above Investigation.

In making use of the foregoing data in the treatment of chronic bacillary dysentery we are first confronted with the differential diagnosis of this class from more especially the amoebic form. The clinical differences are dealt with in my book, but they are not sufficiently characteristic and constant to enable them to be completely relied on for diagnostic purposes. Of greater value is the absence of pathogenic amoebae from the stools after repeated examination, as they may not be found at a single attempt in chronic amoebic disease. The isolation of the dysentery bacillus is a much more difficult procedure, even when a well equipped laboratory is available, and often fails in experienced hands in chronic bacillary cases, as subsequently verified *post mortem*. Fortunately we have a simple clinical test for excluding the amoebic variety in the use of emetine, for if 1-grain doses of this drug given hypodermically on three or four successive days has no effect on the disease, amoebic infection may safely be excluded and the case treated as one of chronic bacillary dysentery in the absence of signs or microscopical evidence of other rarer forms of lower bowel disease.

During the last few months I have treated a number of non-amoebic cases in the light of the above experiments, with sufficiently promising results to deserve record so as to allow of others giving them a trial in intractable chronic bacillary dysentery.

Dysentery Cases Treated with Enemata of Albargin or Silver Gelatose.

My experiments having shown albargin to be the most effective of the organic silver compounds against the dysentery bacillus in the presence of salts and organic matter, I proceeded to try it in dysentery cases other than the amoebic variety. The results have been distinctly promising, while the solution has the great advantage of being

painless, and usually easily retained for a sufficient length of time to have a good chance of exerting its disinfectant and astringent properties. The following brief notes will serve to illustrate the effects of albargin in different types of cases.

CASE I.—*Acute Bacillary Dysentery Resisting Purgative Treatment, but Cured by Three Albargin Bowel Washes.*

An Indian Christian male, aged 38, admitted for suspected cholera, but proved to be a case of acute bacillary dysentery. From eleven to seventeen stools daily, containing much blood and mucus. No improvement after eight days' treatment with castor oil and opium, followed by salines. One pint of albargin of the strength of 1 grain in 1 oz. (approximately 1 in 500 solution), given as an enema, and increased to 1½ pints on each of the following two days. The evening temperature, which had been rising to 99° and a little over, fell to 97°; the blood disappeared at once, and the mucus finally after six days, by which time the stools had become reduced to one or two healthy motions daily, and he was on solid food. He was discharged four days later, and came to see me several times during the next three months, and has remained well. The rapid improvement after the failure of other treatment in a severe case, which was threatening to become chronic, was striking.

CASE II.—*Chronic Bacillary Dysentery of Eight Months' Duration Rapidly Cured by Albargin.*

European female, aged 17, admitted for chronic dysentery for eight months without intermission. No amoebae found on repeated examination of the stools, which contained blood and mucus and numbered three to four daily, being passed with griping pains. History of fever at first, but none now. Treated with castor oil emulsion and bismuth salicylate for five days without improvement. Then one and a half pints of one grain to the ounce albargin solution given as an enema on three successive days, and retained for from fifteen to thirty minutes without pain. The blood and mucus disappeared after the second injection, and one healthy stool was passed daily during the following week, although solid diet was given two days after the last bowel wash. No relapse occurred, and she has been seen repeatedly during the two months following her discharge from hospital and has remained in good health. Such a rapid recovery after eight months' suffering is very encouraging

CASE III.—*Severe Bacillary Dysentery in a Young Child Cured by Albargin.*

A European child, aged 2½, had been treated for severe dysentery, with up to twenty stools a day, for twelve days with castor oil, emetine, and saline enemata. No material improvement had resulted and the condition of the child was becoming serious. Captain Green-Armitage, I.M.S., now asked me to see the case, and I advised that 8 oz. enemata of albargin of the strength of 1 grain to 1 oz. should be given. Improvement began after the first injection, and shortly after a second, four days later, no further blood or mucus was passed, but a third was given as a precautionary measure. The child rapidly picked up and was discharged cured two weeks after the commencement of the albargin treatment. The absence of pain after the injections in so young a child is of interest, as well as the immediate improvement after the failure of other treatment.

The foregoing cases will suffice to illustrate the value of the new treatment in certain cases of bacillary dysentery, while the following is a brief summary of the results obtained in a consecutive series of all the cases so far treated in my ward. They number twelve, including those already recorded above. Four acute cases of less than two weeks' duration on admission were all rapidly cured by from three to five albargin enemata, although two of them had suffered from other attacks within the previous few months. Of the 8 chronic cases 5 were of from one to four months' duration, 1 of eight months and 2 of sixteen months. Of these 8 cases, one patient left hospital two days after the treatment was begun, so should be excluded. One of sixteen months' duration improved considerably, but the drug failed to cure him, and he is still in hospital. The remaining 6 were cured, from three to five injections being given in 5 of them, while a larger number were required in the sixteen-months' case, who had previously been treated unsuccessfully with nargol enemata. As all these cases had resisted the usual treatment with castor-oil and salines for an average of seven days (mild cases clearing up under purgative treatment not being given bowel washes), these results are distinctly encouraging, and are certainly better than I have previously obtained in similar cases by older methods.

Lastly, it should be mentioned that albargin bowel washes failed to do good in two patients, who were subsequently found to have pathogenic amoebae in their stools, although on their admission amoebae had not been found, so that the silver gelatose appears to be useless in amoebic cases, although of great value in bacillary dysentery.

I have not yet been able to test the value of the other antiseptics which my experimental investigation show to be worthy of trial in non-amoebic dysentery. The main object of this communication is to draw attention to the principle that medicated enemata are clearly indicated in the treatment of chronic bacillary dysentery, owing to the lesions being usually limited to the lower half of the large intestine, and consequently easily reached by bowel washes.

GASTRIC TETANY IN THE ADULT.

BY

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IN 1869 Kussmaul drew attention to the occurrence of tetany in cases of chronic dilatation of the stomach. Since that date about sixty cases of a similar nature have been recorded in adults. In the majority the dilatation of the stomach was due to the cicatrization of a chronic ulcer in or near the pylorus, but in a few tetany has been observed to follow dilatation of the stomach due to other causes than ulceration. Thus, in a case recorded by Trevelyan, it occurred as a complication in a carcinomatous stricture of the duodenum, and in a case recorded by Fleiner it was associated with a sarcomatous growth of the stomach, one attack being immediately fatal. Also, tetany has ensued from dilatation of the stomach due to twisting of the duodenum, pressure of an enlarged gall bladder, and pressure on the duodenum by a pancreatic cyst. The most prominent feature of this disease is the occurrence of a tonic spasm of the muscles of the upper and lower limbs, but sometimes intermittent spasm of the jaw, neck, and back muscles is present; these attacks last from a few minutes to half an hour, and disappear as suddenly as they came. During their continuance the patient is unable to open the mouth or to swallow, and in several instances opisthotonos was a well-marked symptom.

In other cases the tetany is followed by convulsions that closely resemble epilepsy, the fits are usually repeated in rapid succession. In typical cases the wrists and elbows are partially flexed, and the forearms strongly pronated; the fingers are bent over the thumbs, flexion being most marked at the carpo-phalangeal joints; the palms are hollowed by the approximation of the thenar and hypothenar eminences, and therefore the hand becomes cone-shaped (the accoucheur's hand). In the lower extremities the legs are rigidly extended, the heels drawn up, the soles of the feet turned inwards, and the toes are bent downwards and adducted. The patient often complains of pain while the spasm lasts, and the affected parts are blue and cold. The deep reflexes are much increased, the superficial reflexes may also be exaggerated, and the muscles react very readily to the interrupted current. The patient generally remains quite conscious during an attack. The breathing is quickened, the pulse full and regular. The temperature is at first often depressed, but in fatal cases it often rises to 108 F. before death. The pupils are often contracted, but react both to light and accommodation. Cutaneous sensibility rarely undergoes any decided alteration, but in two or three of the recorded cases transient hyperaesthesia was observed. Retention of urine usually occurs, and the urine often contains a small quantity of albumin. Occasionally a trace of sugar or acetone is present. Delirium, rise of temperature, excess of albumin in the urine, coma with dilatation of the pupils, and the presence of tetanic or epileptiform seizures are all evil signs. In almost every case the first attack is soon followed by several others. The duration of the spasm may be from four or five minutes to several hours, but it may remain almost constant for two or three days. It often follows an attack of vomiting or diarrhoea, and a spasm may sometimes be induced by percussing the epigastrium, by passage of a stomach tube, or by pressure on the main artery of a limb. Sometimes patients have

premonitory symptoms, such as tingling and creeping sensations along the arms and down to the finger-tips, associated with headache and often a feeling of nausea.

Etiology.

The disease was originally attributed by Kussmaul to an excessive loss of fluid from the circulation, produced by the vomiting, but this theory is not now generally accepted. Hyperchlorhydria, which usually accompanies chronic ulcer of the stomach, is thought by some to be the cause, but as tetany has been present in cases of dilatation of the stomach due to cancer and external pressure on the pylorus—conditions not usually accompanied by excessive acidity of the gastric juice—it is improbable that an excess of acid is the cause of these nervous phenomena. The most probable cause is the absorption of some poison produced in the dilated stomach by bacteria. This theory of autointoxication is supported by the fact that gastric lavage gives temporary relief. Also, in cases of tetany associated with dilatation of the large intestine, which is analogous to dilatation of the stomach, irrigation of the bowel causes the tetany to disappear and the accumulation of faeces is followed by its reappearance. Another point in support of this theory is the well-known fact that in cases of poisoning by certain convulsants such as strychnine, a spasm can often be induced by slight forms of peripheral irritation; and it has already been noticed that in these case of tetany the mere percussion of the skin over the epigastrium was sufficient to induce an attack. The occurrence of albuminuria in connexion with gastric tetany is of interest. Both Blazicek and Hoffman have recorded cases in which the kidneys presented signs of Bright's disease after death, but in others the organs appeared normal to the naked eye. It is very probable, however, as Soltau Fenwick has suggested, that the albuminuria is sometimes the result of congestion of the kidneys consequent upon the failure of the respiration, while in other cases it may probably be due, as Trevelyan has suggested, to the excretion by the kidneys of the poisons absorbed from the stomach.

In a case of gastric tetany on which Halliburton and McKendrick made observations, the vomit contained acetone, hydrochloric, acetic and butyric acids, but no sarcinae. The patient was a man about middle life who had had gastric ulcer when a young man. The stomach was markedly dilated. The urine during the tetanoid seizure contained a trace of albumin and also acetone. After the cessation of the spasm these substances passed away and gave place to a trace of sugar. Fluid was prepared from the gastric contents after the cessation of the tetanoid seizure during the convalescence of the patient. A cat was anaesthetized with A.C.E. mixture, and 5 c.cm. of the solution, equal to 20 c.cm. of the original gastric fluid, injected into the external jugular vein. No spasms or convulsions were produced; whether these would have occurred had not the animal been anaesthetized it is impossible to say. There was considerable slowing of the heart and a large fall of arterial pressure. The pressure slowly recovered its original height, but the heart beat faster than before the injection.

After the blood pressure had regained its original height the vagi were cut, and soon after 5 c.cm. of the tetany fluid were again injected. The response was almost negative. The main fall of blood pressure was therefore due to an action on the cardio-inhibitory centre. The tetany fluid was acid, giving the colour tests for hydrochloric, and, in view of the fact that the acid substance or substances might cause the fall in blood pressure, the original fluid was injected, as before, into the external jugular vein, after neutralization. The injection only produced a slight fall of pressure. After section of the vagi there was a similar slight effect as a result of the injection. In another experiment to ascertain the effects of the injections of free hydrochloric acid of the same strength as that of tetany fluid, the result was an insignificant fall of pressure not abolished by section of the vagi. They therefore concluded from the results of these three experiments that the tetany fluid contained a substance much more poisonous than the hydrochloric acid itself, but which was distinctly acid in reaction. They also injected into animals the gastric contents obtained from patients in health or suffering only from mild dyspepsia. The gastric contents were prepared in the same manner as that used in the former experiments. The effect was an insignificant fall of arterial pressure whether the vagi were cut or not, and the slight fall was about equal to that produced by dilute hydrochloric acid. They concluded that the only plausible theory was that of autointoxication. It seems to me very probable that the organic poison responsible for these nervous symptoms is frequently present in the stomach of persons affected with pyloric or duodenal obstruction, but that its absorption is prevented by the integrity of the columnar epithelium. When this natural barrier is injured, or partly removed by the employment of a tube, or by a very severe attack of retching, the convulsive agent is enabled to gain immediate access to the circulation and to exercise its toxic effects upon the central nervous system. The thyroid and parathyroids, by the formation of an internal secretion which renders this toxin harmless, are probably very often responsible for protecting cases of gastric toxaemia from tetany. This theory is supported by the fact that tetany frequently follows removal of the thyroid and parathyroids, and also by the frequent association of gastric toxaemia with an enlargement or hyperplastic condition of the thyroid.

The following case, admitted to the London Temperance Hospital under the care of Dr. Soltau Fenwick, is interesting:

A man, aged 58, was admitted with a severe attack of tetany. For six weeks before admission he had suffered from attacks of vomiting every two or three days, accompanied by severe pain. The tetany lasted for six hours after admission, every muscle in his neck, trunk, and limbs being in a state of rigid contraction; his temperature rose to 102.8° F., and he was unconscious. A few days later he had another attack. Dr. Fenwick diagnosed simple pyloric stenosis and suggested gastro-jejunostomy. Mr. Paterson, on opening the abdomen, found the stomach greatly dilated, and a very tight pyloric stricture, caused by the scar of an old ulcer; he therefore performed gastro-enterostomy. The man is now in perfect health and can eat and digest anything. Since leaving the hospital he has almost doubled his weight.

I have been able to collect the records of thirty-nine instances of the disease. Of this number twenty-four were males and fifteen females. The average age at which the disease appeared was 42, the youngest patient being 20, and the eldest 66. In the great majority of the cases the symptoms of gastric disease had existed for many years prior to the onset of the nervous affection, and in only three instances out of the entire number for a period of less than twelve months. Out of nineteen cases in which an accurate account of the *post-mortem* examination is recorded, eleven exhibited a dilated stomach due to the contraction of a chronic ulcer in the pyloric region. In one case the pylorus was greatly contracted from the cicatrization of a chronic ulcer, but there was not much dilatation of the stomach; in two cases the gastric dilatation was dependent upon the cicatrization of an ulcer in the first portion of the duodenum. In one case cancer of the pylorus coexisted with chronic ulcer, but in another case a large growth, evidently cancer, was found at the pylorus. In only two cases was the increase in the size of the stomach found to depend upon simple atony of its walls. From these facts it is therefore evident that in the majority of these cases dilatation of the stomach was a long-standing affection, and owed its origin to the presence of a chronic ulcer in the pyloric region. In the majority of the cases the nervous symptoms consisted of a tonic contraction of the muscles of the hands, forearms, feet, and legs, but in a few, tetanic contraction of the jaw and body muscles were present. In three cases seizures of an epileptiform nature were present.

Treatment.

Out of the 39 cases recorded only 11 recovered, so that it must be admitted that the treatment has been far from satisfactory. Every drug, from calomel to the latest antiseptic, has been tried. Oddo recommended calomel as a purge every other day, and benzonaphthol in ½-grain doses every two hours as an intestinal antiseptic. Boas recommended the use of diuretics. Gibb used in the treatment of his cases hypodermic injections of morphine and atropine; internally he gave liquor arsenicalis, liquor hydrargyri perchloridi, and sodium salicylate; he also gave a purgative consisting of calomel, podophyllin, and extract of belladonna with magnesium sulphate first thing in the morning. Pratt, in the treatment of his case, washed out the stomach with 2¼ pints of lotio acidi borici.

and injected morphine hypodermically. Oxygen was also administered, and ether injected hypodermically. Gordon administered 30 grains of potassium bromide and 15 grains of chloral hydrate, but as this had no effect he then gave chloroform, which gave relief for a short time. Numerous authorities recommend gastric lavage, but this is a rather dangerous procedure, as passing the stomach tube, even a soft one, very often induces a severe attack of tetany. Others have advised the patient to take a large quantity of water, followed by an emetic, but I cannot find any case recorded in which this treatment has been successful. The only treatment up to the present that has given hopeful results is operation, but even this has not always prevented a recurrence of this grave disorder, as quite a number of cases have had attacks of tetany during the week following the operation. Rectal feeding for a week before the operation would, in my opinion, overcome this difficulty. The patient should have a dose of calomel and then a saline purgative every morning. Fifteen ounces of peptonized milk should be given by the rectum every six hours, and the bowel should be kept well cleansed by giving a saline or soap enema once every twelve or twenty-four hours, and about an hour before the rectal feed. Oral sepsis must be avoided by daily washing the mouth and cleansing the teeth and gums, and in order to prevent parotitis, at one time a serious complication in cases where rectal feeding has been necessary and food by the mouth had been prohibited, the patient should have a rubber teat to suck. By the above method the attacks become less frequent and less severe, and tend to disappear usually about the third or fourth day of treatment.

A CASE OF ACUTE DILATATION OF THE STOMACH OCCURRING IN THE COURSE OF AN OPERATION FOR DUODENAL ULCER.

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A. M., a miner, aged 47, for many years had symptoms pointing to the existence of a duodenal ulcer. At 9 p.m. on October 5th, 1913, the ulcer perforated whilst he was walking, some 200 yards away from his house, and he had difficulty in getting home. He did not vomit. He was sent to the Royal Infirmary, where I saw him at 4 a.m. on October 6th, that is, seven hours after the sudden attack.

There was no difficulty or doubt about the diagnosis, but three features of the case were noted as unusual.

1. The abdomen had not the extreme board-like rigidity generally present in such cases; indeed, for a case of ruptured ulcer, the abdomen was rather lax.

2. There was abdominal respiration and very little movement of the chest—in contrast to the usual fixity of the abdomen in such cases of recent peritonitis.

3. The pupils were widely dilated.

A hypodermic injection of morphine ¼ grain and atropine $\frac{1}{150}$ grain was given, and the patient operated upon without delay.

The abdomen was opened by a vertical incision through the middle of the right rectus muscle extending from the costal margin to a point an inch below the umbilicus. The diagnosis was confirmed, a chronic duodenal ulcer, with a perforation at its centre like the punch-hole in a tram ticket, being found about half an inch from the pylorus. There was lymph on all the adjacent peritoneum, but not a great quantity of extravasated fluid. The stomach was empty and small. The hole in the duodenum was closed with a catgut purse-string suture reinforced by a row of silk sutures.

The operation was simple and easy in every way but one. There was no occasion to use retractors to overcome rigidity of the abdominal wall, and gastro-enterostomy was not necessary. The only trouble arose from the difficulty in administering the anaesthetic satisfactorily. Anaesthesia was induced with chloroform (he appeared to be an alcoholic man, and he struggled a good deal), and it was kept up with ether, given by the open method, throughout the operation. The patient was all the time a bad colour and the respiration was entirely abdominal, the chest movements being scarcely perceptible. Fortunately the patient was not stout, there was no distension of the abdomen, and there was very little muscular rigidity. I was therefore able to complete the operation in spite of the excessive abdominal movement. The pupils continued to be widely dilated. I sutured the abdominal wall with a first layer of continuous catgut, and had sewn up about two-thirds of the peritoneal wound when I noticed that the upper part of the abdomen was distending. In less than half a minute the stomach was bulging into the lower part of the wound and the distension increased so rapidly that the suture had to be unlaced. The stomach dilated more and more until it became drum-like and very tense. It appeared to be anchored at the pylorus and the cardiac extremities, because, as the distension increased, it rolled upwards, bringing the greater curvature forwards. The veins on the stomach became very prominent and enlarged. I did not see any distension of the duodenum, and the lower part of the abdomen did not increase in size. A stomach tube was passed by the mouth, and immediately there was a rush of gas through the tube, and the distension disappeared. The stomach then became firmly contracted and not greater in diameter than a piece of large intestine. The muscular contraction was extreme and there was no peristaltic wave. It contracted in sections, there being alternating white rings and intervening portions more naturally coloured. The venous engorgement of the stomach also disappeared entirely. At the same time the respiration became quiet and wholly thoracic, the complexion became pink, the pupils contracted, and the whole aspect of the patient changed. Less than five minutes elapsed between the beginning of the distension and recovery. The patient did well, and has not differed in his after-progress from other cases of ruptured duodenal ulcer.

The points which impressed me were:

(*a*) Before the operation: (1) The abdominal respiration. (2) The dilated pupils.

(*b*) During the operation: (1) The continuance of the dilatation of the pupils. (2) The increase of the abdominal respiration.

(*c*) After the acute dilatation set in: (1) The rapidity of the distension. (2) The extreme venous engorgement of the stomach. (3) The quickness of the recovery. (4) The simultaneous disappearance of the abdominal respiratory movement, of the dilatation of the pupils, and of the engorgement of the veins.

Acute dilatation is the expression used when we speak of these cases, but acute distension would, perhaps, convey a more accurate impression of what takes place. It was obvious that there was great internal pressure, because the stomach was smooth on the surface and extremely hard, and the gas was forcibly ejected through the oesophageal tube. The manufacture of the gas took place in the stomach only, and the distension was as rapid as could have been produced by means of gas injected by a Higginson's syringe. The size of the veins indicated a very vascular mucous membrane and suggested increased secretion. The association of respiratory and vasomotor irregularity would point to an affection of the medullary nerve centres as being a possible cause.

UNDER the will of the late Mrs. Anne Sutton of Derby the Derbyshire Royal Infirmary and the Derbyshire Hospital for Sick Children receive bequests to the value of £3,000 and £500 respectively.

THE Roman Anthropological Society has decided to form an Italian Committee for the study of eugenics. The president is Professor Giuseppe Sergi and the members of the committee are Professors Corrado Gini, Giovanni Mingazzini, and Alfredo Niceforo: the secretary is Dr. Umberto Saffiotti. The committee will study the factors that may determine the progress or decadence of races, in the psychical as well as the physical aspect. To that end it will carry out researches on the normal or pathological inheritance of characteristics, on the influence of the environment and mode of life of the parents or their offspring, on the importance of the conditions of the organism during the act of reproduction, and on the influence of the mode of life or of the environment on the development of the new organism. The office of the Committee is in the premises of the Società Romana di Antropologia, Via del Collegio Romano, 26, Rome.

DUPUYTREN'S CONTRACTION SUCCESSFULLY TREATED BY OPEN INCISION AND (THIOSINAMIN) FIBROLYSIN.

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The treatment of Dupuytren's contraction by the methods hitherto described has proved, in too many instances, a great disappointment both to the patient and the surgeon: and, looking back on our cases, we have often had reason to feel somewhat vexed with the results. Many means have been tried, and have not, it must be admitted, stood the test of experience. The subcutaneous method of William Adams gave good results, but in very few cases, and those were very early and comparatively slight in degree. In the pre-aseptic days, incision and dissecting out of the affected bands was followed by great scarring of a keloid character, and the last condition was worse than the first. This method was therefore abandoned for a time in favour of the subcutaneous operation.



Fig. 1.—Side view of right hand prior to operation.

In the year 1904[1] I published details of a method of incision and clean dissection of all the affected fasciae, meaning by all, that not a single portion of the dense white tissue was left behind, and that the dissection was extended freely and widely into the pearly white lustrous normal palmar fascia. In some instances I have had much reason to be gratified by the result. My best result was achieved in a man aged 50, the subject of acquired syphilis in his youth. There were, however, several cases in which tough linear scars or bands of fibrous tissue reappeared after the operation, and the finger was not freely mobile. Having noted the success of the open incision and application of thiosinamin in the form of fibrolysin, in resistant scars in other places, I applied the method to the hand.

Incidentally I have had the opportunity of making sundry observations upon the nature of the scar tissue. The view has been advanced that the affection may be of bacterial origin, and I was so fortunate as to obtain the assistance of my friend and colleague, Dr. Hebb, of Westminster Hospital, in the examination of the fibrous tissue taken from the palm. In three instances it was found that both aërobic and non-aërobic bacteria were entirely absent, and no culture whatever could be made from the tissue. These few observations seem to me to point to the fact that Dupuytren's contraction is nothing more than a localized fibrositis, occurring in a part which is subjected to pressure, sudden strains, and blows, and is indicative of a fibroid change associated with that arterial hardening inseparable from advancing years. It is noteworthy that occasionally we find an instance in the female sex, especially in those who have done much housework, but I have never seen it in females of the upper and middle classes.

In two striking instances I have met with Dupuytren's contractions in both hands, and a simultaneous fibrous condition of the plantar fasciae.

To resume the question of treatment: An Esmarch's bandage is applied round the arm, a longitudinal incision is made over the most prominent portion of the band in the palm, and, if necessary, cross incisions are made at the other end. Flaps are then dissected out and turned back; this is, perhaps, the most difficult part of the operation, as the skin is closely adherent to the affected fasciae, and great care is necessary to avoid button-holing. The flaps are held back, not by metal retractors, but by a thread of silk passed through each one and tied at the back of the hand. The digital nerves are then localized at the roots of the fingers, and, having due regard to their integrity, every portion of the affected fascia is dissected away. It is necessary to be careful at those places where it is adherent to the sheath of the tendon, and it is advisable to leave a very thin film of sheath in order to prevent adhesion of the tendons to the skin of the hand. The Esmarch's bandage is now loosened and any haemorrhage is arrested by pressure and the application of hot water. Fibrolysin is now poured on the open wound and thoroughly well rubbed in for two minutes, and in those cases in which the fibrosis has been extensive a couple of drops are injected at five or six spots around the margins of the dissected area. Where the fingers are not extensively involved, the nodules may be dissected from them and fibrolysin applied in the same way. Where, however, the area is so extensive and the skin is so puckered



Fig. 2.—Front view of right hand prior to operation.





Figs. 3 and 4.—The condition of the same hand two years after the operation. The fingers are perfectly supple and useful.

and adherent that satisfactory dissection is impossible, I have divided the bands subcutaneously and stirred up the nodules freely by inserting a tenotomy knife into the scar tissue and turning it round many times. If fibrolysin is then injected, it seems that such trauma is followed by the disappearance of the nodules, precisely in the same way as occurs in the treatment of ordinary scar tissues in the skin. The flaps in the palm are then most carefully sutured with horsehair, particular care being taken to adjust them at the junctions of the cross-incisions with the main one. The hand is then put up with the wrist and fingers in the fullest possible extension on a malleable iron splint for fourteen days.

An ideal result is usually obtained; by ideal I mean a perfectly soft and supple palm, without any scar tissue in it, and with free mobility of the fingers (Figs. 3 and 4). In every case, however, the results of this treatment have proved infinitely superior to those following either the subcutaneous section, or open dissection without the use of thiosinamin (fibrolysin). And it is my belief that the method now described will prove a lasting success.

[The illustrations are taken from the case of W. H. A., aged 43 years.]

REFERENCE.

1 *Trans. Amer. Orthop. Assoc.*, vol. xiii, p. 152.

CHRONIC INTERSTITIAL NEPHRITIS IN CHILDREN:

A BROTHER AND SISTER AFFECTED.

By HUGH BARBER, M.D.Lond.,

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On at least one occasion previously chronic interstitial nephritis, or granular kidney, has been recorded in two children of the same parents. This is of exceptional interest in a rare disease, the etiology of which is so obscure. Of the three following cases the notes of the first two refer to a brother and sister. The former was under observation for the comparatively long period of seven and a half years, and the diagnosis was confirmed *post mortem*. The third case was only diagnosed at the autopsy.

CASES I AND II.

Family History (notes taken in 1911).—The mother has had nine children, all living, the eldest 30 years the youngest 9 years old; the first six are quite healthy and well developed, three of them are 6 ft. high. The seventh child (Case II), aged 14 years, is much undersized and stunted: the eighth child (Case II), aged 12 years, is small, but less obviously infantile; the ninth child, aged 9 years, is quite healthy, and is several inches taller than either Nos. 7 or 8. The mother volunteers the information that she was not well during the time she was pregnant with Nos. 7 and 8; but she is unable to recollect any definite symptoms, except that she was tired with overwork. A Wassermann reaction taken from the mother in 1913 gives a negative result. The father appears to be quite healthy; no history of syphilis. One specimen of urine has been obtained from each of the other children, and all were free from albumin.

CASE I.—J. L., male, first attended the out-patient department of the Derbyshire Royal Infirmary in 1905 (aged 7½ years). He had not had scarlet fever, nor any other disease. It was noted that his growth was stunted, and that he had not grown normally in the last two years. Urine, specific gravity 1010, albumin present. In 1911 there was little change. The low specific gravity of the urine and the albuminuria had continued since the time of the first observations. At this time (age 14 years) he was 4 ft. high, and weighed 3 st. 6 lb. (average height at 14 years in artisan class 4 ft. 9½ in., and weight 6 st.).[1] The want of development was very noticeable; he appeared to be about 7 or 8 years old, the external genital organs were not developed, there was no hair anywhere on the body; mentally he was quite sharp, but uneducated. There were no bone deformities: the skin was dry; the face had an earthy pallor, but he was not markedly anaemic; there were no evidences of congenital syphilis, unless perhaps a little scarring round the mouth. The urine (taking an average of many weeks) had a specific gravity of 1003 to 1006, was acid, very pale, and contained 1 part per 1,000 of albumin (not varying at all markedly with rest or exercise). The quantity of urine passed was about 6 pints per diem. There were no casts or other abnormalities; there was never any oedema. The heart appeared to be normal, the aortic second sound not accentuated; the pulse tension was quite low, and the arteries not thickened. The chief symptoms were intense thirst and polyuria. He had, at times, attacks of headache and vomiting. A course of treatment with thyroid extract was without benefit. There was little or no change until towards the end of 1912, when his mother reported that he did not seem so well in himself. On January 4th, 1913, he attended, when he seemed dull mentally, and rather tremulous. He was admitted: he appeared rather puffy, but was not obviously oedematous: the optic discs showed some signs of old neuritis, being pale, rather blurred, and the vessels thin. He only passed about 10 oz. of urine in twenty-four hours for the first two days (containing 2 parts per 1,000 of albumin, no blood, but a few hyaline casts), convulsions developed, and uraemic coma supervened. A Wassermann test was negative. He died five days after admission, aged 15 years.

Post-mortem Examination.—The kidneys were very small, the right weighed 120 grains, the left 220 grains; the capsules stripped quite easily, there were no cysts, the surface was irregular or "granular," pale but slightly mottled; the cortex was narrow, the blood vessels were not unduly prominent. There was no dilatation of the pelvis of the kidneys or of the ureters. Microscopically there was an extreme degree of interstitial nephritis, the walls of the arterioles were obviously thickened, and the lumen narrowed. The heart weighed 4½ oz.: the wall of the left ventricle was a little hypertrophied (½ in. thick at the base), the valves were normal. The aorta was elastic and quite healthy. The brachial artery was elastic, not thickened, and microscopically appeared quite normal. The thyroid, suprarenals, brain, pituitary body, pancreas, liver, and other organs were quite healthy. The testicles were quite undeveloped, but apparently not diseased. There were no bone deformities, nor evidences of old rachitis or tuberculous disease.

CASE II.—H. L., female, first attended the out-patient department in December, 1911, aged 12 years, had suffered from thirst, headache, and some backache for about one month. The mother stated that she had always been delicate, but had no definite disease except an abscess of the thigh in 1906. The mother suggested that she thought the child had the same complaint as her brother. A specimen of urine was obtained, which showed specific gravity 1004, one part per thousand of albumin, but no blood or casts. There was little, if any, change for twelve months. In January, 1913, she was admitted, aged 13 years, height 4 ft. 1 in., weight 3st. 9 lb. She appeared much undersized; there was no hair anywhere on the body; the breasts showed no signs of development; there was nothing striking about the complexion; there were no bone deformities. The heart was normal, pulse low tension, arteries not thickened, maximum systolic blood pressure less than 100 mm. Hg (this was taken on several occasions). The urine has been between two and three pints per diem in quantity, the specific gravity between 1008 and 1012, the albumin about one part per 1,000, and no casts or other abnormalities noted. The thirst is present, but not very marked; there are no other symptoms except the retarded growth. The fundus of the eye is normal.

Six and a half years ago she was admitted to the Royal Infirmary for a "cold abscess" in the right thigh, which was incised. She made a good recovery, but it is noted in the report that the urine was examined four times; albumin was present on three occasions, and the specific gravity was constantly 1010.*

CASE III.

H. S., male, aged 16 years, much undersized but not obviously infantile, was admitted for an operation for genu valgum, which condition had developed fairly recently. The urine, examined as a matter of routine, showed specific gravity 1014, but albumin was not detected. About ten days after the operation he became drowsy, gradually comatose, and died. *Post-mortem* examination (February, 1912): The kidneys were very small, weight 300 grains each; the capsules stripped easily, there were no cysts; the surface was pale and "granular," the cortex very thin; there was no dilatation of the pelvis or the ureters. Microscopically there was interstitial nephritis. The heart, aorta, and other organs were normal.

REMARKS.

The above cases illustrate several points of interest with regard to this obscure condition. From a clinical point of view the intense thirst and polyuria of Case I were most striking. It has been noted in other such cases, but at first sight it suggested the picture of diabetes insipidus, although the constant albuminuria proved that the kidneys were diseased. The stunted growth, obvious in all three cases, has usually been noted, but it was stated in a recent discussion[2] on this subject that a true infantilism, which was certainly present in Case I, and I think also in Case II, had only been recorded on three occasions previously.

The insidious nature of the onset of symptoms is well illustrated by Case II. A urine with low specific gravity and albuminuria were noted in a routine examination of the patient in 1906; but although the mother had Case I under her charge, it was not until 1911 that she noticed symptoms which suggested that the girl (Case II) was affected similarly. Case III illustrates the occurrence of bone deformities, which have been recorded before, and also the insidious nature of the complaint, for albumin

* Case II died of uraemia in March, 1913.

was not detected in the routine examination of the urine, and the diagnosis was only made *post mortem*.

High arterial tension and consequent changes in heart and arteries have usually been present in these cases, and have been regarded by some as constant. They were not recognizable in a case recorded recently,[2] and in Cases I and II above they were not present to any appreciable degree clinically, in spite of the fact that they were carefully sought for. There were some signs of retinal changes in Case I, and microscopically the walls of the arterioles of the kidneys were distinctly thickened: but considering the extreme degree of fibrosis of the kidneys and their minute size, in conjunction with the comparatively long duration of the symptoms, any changes present would seem unaccountably slight. Dr. Sawyer[4] suggests one year as an average duration of symptoms in similar cases, and notes three years in the exceptionally longer ones; but this boy had obvious symptoms, which hardly varied at all over a period of seven and a half years.

Pathologically the condition appears to be similar to other forms of interstitial nephritis, although the capsule of the kidney was not adherent in either fatal case.

In diagnosis, when the symptoms are obvious, one would suppose that cystic disease of the kidneys would be the only condition to exclude.

That so rare an affection should be met with in two children of the same parents is of extreme interest from an etiological point of view. It would seem to confirm the view that such cases may be due to some intrauterine infection, or that heredity plays some part. In these particular cases neither the results of the Wassermann tests nor any other findings would seem to indicate syphilis. In Dr. Sawyer's cases the affection was more frequent in girls. I do not know whether the suggestion has been made that a *Bacillus coli* infection might produce this disease. The right kidney in Case I was more affected than the left, which has been noticed in *coli* infections. There was no dilatation of the pelvis or ureters, which, present in some cases, has suggested gravel or calculi as a disposing cause.

I am indebted to Mr. Luce for leave to publish Case III, which I only saw *post mortem*.

REFERENCES.

[1] Allbutt and Rolleston's *System of Medicine*. [2] *Proc. Roy. Soc. Med.*, Dr. Miller, December, 1911. [3] Ibid. [4] Chronic Interstitial Nephritis in Children. *Birmingham Review*, 1905, Dr. J. E. H. Sawyer; also *St. Thomas's Hosp. Rep.*, 1906.

YEAST INFECTION IN CHILDREN.

BY

ROBERT CRAIK, M.D.Glasg.

EALING, W.

An infant, 4 months old, was said to be always crying. It was a big child, but thin, pale, and peevish-looking, and sucking a comforter. It had been ailing for about two months. There was a history of frequent motions, which were seldom watery, but often jelly-like. The mother's milk had been scanty from the beginning, and after the first fortnight breast milk was given at night only. During the day a mixture of barley water and cow's milk was used. Examination revealed little beyond an inflammation of the perineal region. The mouth showed no sign of stomatitis.

A swab from the tongue and a loopful of freshly-passed motion were smeared on malt extract agar. After twenty-four hours, at 37° C., the latter showed confluent colonies of the thrush fungus along its whole length. Only a few discrete colonies appeared on the smear from the mouth. Appropriate treatment soon gave a satisfactory result.

Stomatitis due to the thrush fungus is familiar to every one, and even a marked attack may not greatly upset an infant. The source of infection is the mouth of the mother or nurse, and a comforter is often the carrier. Along with stomatitis or following it, or, as in this case, without definite stomatitis, the fungus may be associated with troublesome intestinal catarrh and be present in the motion to the number of one million cells per gram.

On culture media the organism often appears in its yeast conidial form only, and may be mistaken for a saccharomyces. Thus, on isolating it from inflamed gums, Mr. K. Goadby named it *Sac. neoformans*. On meeting with it in a case of sore throat, Mr. A. G. R. Foulerton named it *Sac. tumefaciens albus*, and described it at length.[1] Grown in litmus milk or beer wort at 20° C. to 22° C. for a week, it appears in chains of elongated cells, with yeast conidia round the septa. The common form in London ferments maltose, but neither saccharose nor dextrin. Less common is one which ferments the three. Both forms liquefy glucose gelatin within one month, but they never ferment galactose, lactose, or raffinose. In textbooks it is still sometimes stated that the nature of this fungus is not understood. The work of Roess, Hansen, and Zopf set the matter at rest twenty-five years ago, and the latter named the organism *Monilia albicans*. Since then a French mycologist has referred it to a higher group of fungi, but it is certain that the organism with which he worked was not the common thrush fungus at all. Moreover, his work has not been confirmed.

REFERENCE.

[1] Experimental Blastomycosis, *Journ. Path. and Bact.*, 1899.

SALICYLIC IONIZATION IN ACUTE PERICARDITIS.

BY J. S. MACKINTOSH, M.D., M.R.C.S., L.R.C.P.,

HAMPSTEAD.

The value of salicylic ionization in some forms of pleurisy has already met with some appreciation by the profession. The following case apparently shows that it is also useful in acute pericarditis.

A thin, delicate girl, aged 18, developed acute rheumatism after a quinsy, and in the course of the attack acute pericarditis appeared. The pain was severe, the patient spent the whole of one night in a position of complete orthopnoea and was quite sleepless. The next day salicylic ionization was tried, the active electrode in the form of a pad soaked in a 2 per cent. solution of sodium salicylate being placed over the precordium and the indifferent electrode on the back. A current of 40 milliampères was used for about half an hour, and had not run many minutes before the patient declared herself eased. At the end of the session the patient lay back on her pillow and slept soundly. The ionization was repeated on subsequent days, and the symptoms of pericarditis gradually subsided; aceto-salicylic acid was also being taken by the mouth. It is difficult to believe that the great and rapid relief afforded in this case was due merely to tissue-ionization by the galvanic current or to its moral effect. The patient was a favourable subject for the treatment, the thinness of her chest-wall offering a reasonable expectation that the salicylic ions could be made to penetrate to the requisite depth.

The benefit of salicylic ionization in joints the subject of acute rheumatism or sprain is well established, and the resemblance between the pathology of the pericardium and that of the synovial sac of a joint is an axiom of pathology.

Fracture of the clavicle, especially when incomplete, is not always easy to detect in the newborn. Sometimes it is not betrayed until the callus around the seat of fracture causes pressure effects. Dr. Azema, of Toulouse (*Bulletin de la Soc. d'Obstét. et de Gynéc. de Paris, etc.*, May, 1913, p. 530), has noted two instances of this condition, though in one there was strong evidence that the injury occurred a few days before delivery. The possibility of intrauterine fracture has always to be taken into account. Dr. Azema likewise reports a fatal case of osteo-myelitis developing in the fractured bone through infection from an inflamed umbilicus. *Post-mortem* examination revealed an umbilical abscess not communicating with the peritoneal cavity and general peritonitis. In this case an obstetrical fracture of the clavicle became infected from a focus elsewhere, a common seat of infection, which was noted at birth and treated appropriately by the medical officer and nurses of the maternity clinic in Toulouse where the child was born.

EIGHTY-FIRST ANNUAL MEETING
OF THE
British Medical Association.

Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

J. Taylor, M.D., F.R.C.P., President.

DISCUSSION ON SLEEP AND THE TREATMENT OF SLEEPLESSNESS.

OPENING PAPERS.

I.—Sir George Savage, M.D., F.R.C.P.

I purpose briefly considering first the theories of sleep, because, though I shall have to own that I do not think we really can speak of any one thing which can be considered to be the compelling cause of sleep, yet, by studying the conditions of sleep, we may better understand its disorders. I shall content myself, then, rather with speaking of conditions than causes of sleep. In reference to sleep we must also consider allied states and their modifications.

When I was thinking over the subject, I sought for some definition or some distinction between sleep and insensibility and unconsciousness; but I have failed to find any satisfactory one. These states resemble in some way the differences between a living and a dead process; they depend on similar organic states. It has been said that the lowest forms of animal life do not require sleep. This, I think, is begging the question, for with them there must be rest and rhythm in their lives, and that is what sleep really is in the higher animals. Sleep is certainly essential to men, and depends on the complete rest of some parts of the higher nervous system. The brain can no more rest as a whole than can the heart; but parts of the brain can and do constantly rest, and our first consideration must be as to what part is chiefly concerned. Both inference and experiment point to the so-called highest intellectual centres, the centres of association, which are found in the frontal lobes. The idea that these lobes are chiefly affected has been borne out by experiments on animals, who have been kept for considerable periods without being allowed to sleep, till, in fact, they died of exhaustion. And in such animals certain degenerative changes were found in certain cells in the frontal areas. This, however, does not seem to me to be anything more than an experiment. In hibernating animals, also, changes in the cells have been reported during the period of hibernation. I think, too, one may learn something from dreams to confirm this. We all recognize the fleeting nature of dreams, and that they are associated with the times just before sleep and just before awakening. In dreams, too, the impressions on the intellectual side are very ephemeral. We recognize that the recollection of the dream is almost certainly lost unless one awakens oneself completely immediately after the dream. I am a great dreamer. If I have a dream that I wish to recall, I rouse myself and repeat the subject of my dream aloud, and then I can remember it on awaking. Otherwise the intellectual centres involved in this dream, and also involved in sleep, have no permanent record of what has passed.

As might be expected, there have been chemical explanations of sleep, but I cannot think that any real physiological product, similar to what has been called hypnotoxin, has been proved to be an efficient agent to produce sleep. Most of the other explanations are, directly or indirectly, dependent upon the nature or quality of the blood supply. I would say, then, that sleep, normal sleep, depends upon a healthy supply of healthy blood and a normal condition of the nerve cells, more particularly those of the frontal lobes. We recognize that the sudden loss of blood causes insensibility, and that pressure on both carotids will also induce sleep. Therefore I must say my sympathy is greatly in favour of the explanation that blood supply has most to do with sleep. Durham, of Guy's, fifty years ago—when, in fact, I was a student at the hospital—performed some experiments which seemed to prove that in sleep the brain was anaemic, and that with restoration of bodily function there was increased vascularity in the brain, and that the brain, in fact, was at a higher temperature when in function than when at rest. The trend of feeling certainly nowadays is to confirm the observations of Durham. I was surprised to find how little more real information we have on this subject: and I referred to one of the biggest and most important books on physiology, and I did not even find a reference to the subject in the index. I referred later to the author, who very kindly gave me several authorities, whom I consulted, and among them he spoke of the contribution to the physiology of sleep by W. H. Howell, of St. John's Hospital, Philadelphia. These investigations were chiefly carried on by means of a plethysmograph. He was able by this instrument to watch the relationship which existed between sleep and the circulation, more particularly in reference to skin circulation. Arterial tension was seen to fall slowly before the onset of sleep and continued to sink until deep sleep was reached, and then only began to rise towards the waking period. The charts produced by this instrument were very interesting, as showing not only the general curve, but also intermediate curves which represented sensory or bodily stimulation which occurred during sleep, and which remained, one may say, in the subconscious area. The whole of the skin is, as it were, flooded during sleep, while the brain is blanched. It was interesting to find that there was this increase in the skin, but that no similar increase seemed to occur in the internal viscera. The temperature of the brain and of the bowel was said to be the same. It does not follow that sleep depends only on brain anaemia. At one time it was thought rather to depend on venous congestion. But allowing that there is a degree of anaemia, probably the vasomotor system is involved, and Dr. Howell looks to the investigation of this vasomotor system as leading to the vascular changes which are undoubtedly present.

Leonard Hill writes that he considers the vasomotor centre as the hub round which turns the wheel of a man's active mental life. One has to recognize, as I said, not only the quantity but the quality of the blood, and therefore one may quite readily admit that there may be a venous congestion leading to malnutrition of the cells, which leads to sleep as certainly, or almost as certainly, as simple anaemia. That there are changes of a more or less active type in the nerve cells and their processes is probable, but the explanations are theoretical and are incapable of actual proof, and therefore I leave them. While fully recognizing that sleep may depend on several conditions, blood supply is one, and a specific state of nerve cells is another; and hence in treating sleep disorders, we have first and foremost to recognize that insomnia is a symptom that may be associated with varying conditions, and is not a disease in itself. I shall do my best to suggest, and not to explain.

One question that may be raised is the necessity for sleep at different ages and under different vital conditions. Some here, in this centre of schools, may wish to discuss the number of hours that growing children should sleep while their education is going on. I have elsewhere expressed strong views on the need of prolonged sleep under such conditions. We all eat and drink more than we require, and I believe we could do with less sleep than we take. But sleep is a pleasant pastime, and is better than fussing objectlessly. The early riser is, like some teetotalers, filled with flatulence and self-righteousness. Sleeping readily falls into regular habits, and it is well to establish a good habit. Sleep differs greatly in quality. Sir Arthur Helps describes a city where sleep of various colours might be obtained; and I would here say that dreamful sleep may, after all, be as restful as dreamless sleep. I do not say that all dreamful sleep is restful, but that many persons' sleep is dreamful and yet their sleep is restful and refreshing. I myself have had several opportunities of timing my dreams, so that I know the dream process is after all a brief one, and only represents very

short intervals in long periods of unconsciousness. One constantly hears patients complaining of never sleeping, and yet when under observation they are found to have slept for a good many hours. I found personally, after I had a repeater watch, that my nights which I thought disturbed were really very full of sleep. I found frequently that though I believed I had been awake I had been asleep for hours together. Though dreams may not interfere with sleep restoration, yet dreams occurring in mental disorder are frequently exhausting.

I shall refer to some special forms of unrefreshing sleep. For example, I constantly meet with patients, generally women, and, I think, generally women in whom there is some reproductive organ trouble, who tell me that they have no restful sleep, that they are insensible and mere logs, that they awake tired and unrefreshed. In these cases often there are other symptoms, which I have called visceral anaesthesiae. They eat, but, they say, without any desire or appetite; they perform all functions without interest; and on the moral side they are apathetic, without, as they say, "love for God or man." With restoration of menstruation, or the restoration of some other bodily function, sleep once more becomes normal, and health is generally restored. Healthy sleep depends on healthy conditions of the body, but also on primary healthy conditions of the brain.

To put it, then, simply, there must be a proper quantity of healthy blood supplied in regular manner to healthy nerve cells. Nowadays I see a great many sufferers from so-called brain anaemia. This is doubtless a symptom which may be present in neurasthenia. But in most cases I have failed to substantiate that diagnosis. It often delicately covers our ignorance.

I have not time nor inclination to go into all the states which may be associated with sleeplessness, but I would make a very strong point as to the relationship of sleeplessness to certain toxic causes. In my experience one of the most marked signs of nervous disease following influenza is sleeplessness: and again, one of the most alarming symptoms in a neurotic woman after delivery is loss of sleep. Sleeplessness as associated with painful diseases and that due to active disorder in circulation as seen in heart disease need not be considered here. It is a common symptom in most forms of insanity; in many it is the one first noticed and first complained of. In mania it is generally present, and may lead to rapid exhaustion without any special complaint made of it by the patient. It is generally associated with muscular restlessness and sensory disorders. It seems, in many cases of acute mania, as if there might be a hypnotoxin, or something of the sort, that leads to a further mental disorder. The pulse often in these cases is rapid, and I have known the active symptoms vary directly with the pulse-rate. Here, then, sleeplessness is associated with sensory and vascular disorder, depending on vasomotor and central nerve complications. In melancholia we may have active sleeplessness with a morbid increase of arterial tension. This is often met with at the menopause and in gouty and senile relationships. Or we may have a persistent but quiet sleeplessness with feeble circulation and a tendency to venous congestion. In these cases one thinks the sleeplessness is more dependent on imperfect circulation and toxic conditions than on simple anaemia, and I think the treatment of the two states of melancholia must differ essentially. In general paralysis of the insane we get two forms: in one there is sleepiness, and in the other exaltation instead of sleep, the patient saying he has discovered that he can do without sleep. In various forms of delusional insanity the will power is unusually strong, so that in consequence of some "phobia" the patient keeps himself awake for many nights together. A larger and larger number of cases of acute insanity are attributed to toxic causes, and in such cases there is a restless sleeplessness with increased blood pressure.

I have felt that the subject cannot be fully considered without reference to sleepiness as a disease. That this, too, has a vascular origin is made clear, I think, from the cases in which it occurs. The somnolence met with in some cases of early general paralysis is remarkable, and I have often wondered if Dickens, in "the fat boy" in *Pickwick*, had come across a somnolent general paralytic. Dr. Mott has pointed out similar vascular changes in general paralysis and in sleeping sickness, though he indicates other differentiating changes. With advanced years or with degenerating vessels you often get sleepiness and a dream-like mental state. Sleepiness, of course, may depend on true toxic causes, whether the toxin is from without or from within.

Now as to the means of overcoming sleeplessness. The most common is the use of sedatives or hypnotic drugs I am glad to find that patients themselves have got a healthy dread of their use, fearing the establishment of a drug habit. Drugs have to be used in many cases, however. I would lay down a few rules, the result of my experience.

First, I would say avoid the opiate series, especially in neurotic subjects, as much as possible. In giving sedatives or hypnotics, vary them; also intermit their use, substituting some harmless drug as a placebo. Sir Samuel Wilks, many years ago, at a meeting of this Association, when speaking on the same subject, compared drugs to prize-fighters, saying that a prize-fighter might deliver a blow carrying insensibility for, say, a couple of hours, while another prize-fighter might cause loss of consciousness lasting for four hours; and, similarly, a stronger prize-fighter might produce more or less permanent insensibility. In the same way, he said, drugs might produce sleep-unconsciousness, for periods varying in duration and in depth. Drugs are necessary in many cases, but time will fail me to give any full experience of them separately. I must just give the result of my general experience. The bromides have, to some extent, lost favour, but in many cases I still use them, and often in large doses. In acute or grave delirium, alone or combined with chloral, I constantly give them. The orthodox administration in all epileptic and allied conditions still holds its ground, yet I would impress upon you—referring once more to Sir Samuel Wilks's dictum—that bromide is a "striking" remedy. Chloral alone I rarely give, and I find its use almost abandoned for the more refined drugs, such as sulphonal and veronal.

I have warned you against the opiates, but, at the same time, I admit that they have their value, which is almost priceless in some diseased conditions. I have said that in all conditions of bodily pain they are serviceable, and I also find that in acute mental pain they are of great value. Active agitated melancholia is often relieved by small repeated doses of tincture of opium. I find that in patients past middle age with melancholia opiates are very often useful. Some, I believe French alienists give very large and increasing doses of this drug, and I have seen a few remarkable results following very large doses, which have been gradually reached and later have been gradually reduced. But in all these cases there must be remembered the danger of establishing a habit. At present the sulphonal and veronal series is most in favour, and there is no doubt of their value. But there are some patients intolerant of them, and we shall learn that from experience.

Hydrotherapy is so special a subject that I can only say that in many cases such treatment is of service. In asylums formerly the Turkish bath was introduced by Lockhart Robertson, and the wet pack was found of use. Prolonged hot baths were also found to be very valuable. But somehow the lunacy authorities looked upon the wet pack as "restraint," and the very word "restraint" in connexion with an asylum was considered scandalous, so they are very rarely used. Yet I have a very great belief in their efficacy in some very acute cases.

Besides the wet pack, Turkish baths, and general hydrotherapy, a simple and very effective means of treatment is the mustard bath. By making a strong infusion of mustard and adding it to a hot bath in which the patient is kept for from a quarter of an hour to half an hour—in fact, till the skin becomes reddened—will produce sleep almost invariably. One has to watch the effect upon the skin, as some patients react much more readily than others to such stimulation.

The general idea that the derivation of blood from the brain tends to produce sleep, and that therefore food causing a flow of blood to the stomach was useful, has long been recognized. I constantly recommend some slight stimulation with light food in sleepless cases. I have found that stout, or something of that sort, is more useful than almost anything else. More recently I have been in the habit of

recommending patients who complain of sleeplessness of the type in which they went to sleep easily but woke early, and then did not fall asleep again, to have a "thermos" with some hot fluids, such as meat extract, by the bedside, so that without the trouble of having to light any lamp and warm food they have got it ready to hand. And in reference to this I may now speak of the use of stimulants. As in the case of opiates, there is always a danger in recommending patients to take stimulants regularly and habitually. I find, however, that a mild stimulant, a "night-cap" if you like, has distinctly beneficial effects. One experience, however, which I find is pretty constant, is that many of these patients who wake early, if they take a stimulant on going to bed, fall off to sleep at once, but wake almost sooner than they would otherwise have done, and therefore little good has been gained unless they take a stimulant again.

Besides drugs and hydrotherapy, electrotherapy has some advocates, but I fear that I am not in a position to speak about it in any way.

There is, I regret to say, nothing new in what I have so far said. Regarding hypnotism and hypnotic suggestion, I can only give the results of a limited experience. I trust, however, that some are here who have individual experience, and will speak later.

But I can give some facts which may be worth remembering. I have found hypnotism produced by what I have called modified "hush-a-by baby" in some children very effective. I remember one excitable child whose father was a brilliant but neurotic scholar. This child would lie awake for hours imagining, almost visualizing, fairy fancies. She was thin, restless, and unable to fix her attention. Her bodily and mental development were interfered with. I suggested that her mother should gently press on her eyeballs while quietly telling her to go to sleep. This took half an hour the first night, but gradually the time got shorter, and within a fortnight the child went to sleep on word of command. From that time forward she grew normally and healthily, and I saw her many years afterwards a perfectly healthy person. In other cases I have known suggestion remove morbid dreads of going to sleep, and thus restore health to the mind. In one very interesting case there was a lady suffering from distinct melancholia, with marked ideas of unworthiness and hypochondriacal fancies about her bowels. But she complained most bitterly about her disturbed nights; she said that no sooner did she lay her head upon the pillow and close her eyes than a whirl of miserable thoughts seemed to, in endless chain, rush through her mind. Her physical health improved: menstrual functions, long absent, returned; yet the dreadful nights caused her great depression. I suggested a trial of hypnosis, and the doctor in charge nightly caused profound hypnotic sleep, which almost at once relieved the night terrors, and the patient rapidly recovered and has remained perfectly healthy ever since.

I have referred to the cases in which the patients, generally women, complain of unrefreshing sleep. They say they are insensible for hours together, but wake unrefreshed. I have seen remarkable results from hypnotic suggestion in such cases; the sleep became refreshing, and the patients once more felt the reality of life. I believe sleeplessness due to alcoholism and to drug habits have also been thus satisfactorily treated.

Now what, after all, are you expected to discuss? First, any physiological facts confirming or modifying the theory of brain anaemia as a cause of sleep; again, as to the production of hypnotism and its uses. Next, the normal healthy amount of sleep required by children. The most important point, really, comes to this: Patients come to you complaining of sleeplessness; what are you to do? General therapeutics must first be considered, and with this, modification of surroundings and habits. I am not fond of prolonged bed rest, except in cases of marked malnutrition. Change of travel and motor riding are useful. One has to find out whether the person is better by the seaside or not, some people being unable to sleep by the sea. In others I find that sleeplessness is a common symptom of persons getting into higher elevations. Individual peculiarities have to be considered, and I may mention a personal experience, which is, that in my Hampshire cottage, if I lie with my head to the south and my feet to the north, I cannot sleep; but with my head placed in the other direction I sleep satisfactorily. I believe, however, that this is not altogether exceptional.

And now, gentlemen, recognizing the emptiness of my paper, I leave it for you to fill up.

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I presume that no one will wish to deny that sleep is a biological necessity among the higher vertebrates, and that they are endowed with an instinct to put themselves to sleep periodically. Miss Manaceine has demonstrated in her experiments on young puppies that deprivation of sleep is more rapidly fatal than deprivation of food.

That cerebral anaemia is an accompaniment of sleep has been proved, and we all accept it as a fact. It is favoured by dilatation of the cutaneous blood vessels, and warmth of the skin is therefore an important inducement to sleep. Practical experience teaches that fatigue also is conducive to sleep; but, on the other hand, we know that excessive fatigue provokes insomnia. We may therefore conclude that the earlier products of fatigue are hypnotic, but that the later products are productive of restlessness. Now the products of fatigue have so far proved somewhat elusive. With the exception of sarcolactic acid, which is formed during muscular exertion and is shown by so simple an experiment as a game of tennis to be rather stimulating, the only other product of which we are certain is carbon dioxide, and one naturally asks the question whether sleep may not be directly due to poisoning of the nervous system by carbon dioxide. My suggestion is that this is actually the case, and this is the main thesis I submit for your consideration this morning.

Everybody has experienced the soporific effect of a stuffy room. Warm-blooded animals retire into their stuffy holes to sleep or curl themselves up in such a way as to bury their noses in some soft and perhaps hairy part of the body. Birds tuck their heads under their wings, and man instinctively buries his face in the bedclothes. I always sleep with my head immediately under a wide open window, but my sleep is always delayed on a windy night until the face becomes buried in the bedclothes more than usual. An old gentleman in disposing himself for an afternoon nap covers his face with his handkerchief.

With the object of testing the truth of my hypothesis I have caused sleepers to inhale oxygen by conducting it to their faces in a gentle noiseless stream through an indiarubber tube from an oxygen cylinder, without allowing the stream to play directly on the face of the sleeping person, and the result is that he is invariably wide awake after thirty or forty respirations.

The interest of this particular Section of the Association, however, is centred in the state of the neurons during sleep, and Lugaro's observation that the gemmules are protruded during chloroform anaesthesia raises the question whether there is such universal diminution of synaptic resistance as to allow ingoing stimuli to become diffused in the nervous system, so that they do not arouse consciousness, or whether there is an increase of synaptic resistance to stimuli.

With the object of deciding between these two views, I have recently been investigating the anaesthesia of sleeping persons, and I have found that it is similar to the anaesthesia described by me some years ago as occurring especially in acute confusional insanity, a mental disorder which, as I hope to prove at the International Medical Congress, is due to increased resistance at the synapses.

There is evidence that the anaesthesia of sleep is due to synaptic resistance in that it can be overcome by repeated stimulation. If an area of anaesthetic skin, say just above the elbow, of a sleeping person be pricked with a pin several times in succession, he ultimately wakes up, and will give the information that he only felt one prick.

What conclusions are to be drawn from these observations? Anaesthesia is found in patients suffering from toxic conditions of various kinds, such as acute fevers, septicaemia, the insanities due to poisoning by antitoxins formed during convalescence from these fevers, the early stages of chloroform anaesthesia, etc. My suggestion,

therefore, is that at least one factor of sleep is a temporary poisoning of the nervous system by carbon dioxide. Incidentally the cerebral anaemia would assist in the process.

Such a view raises the question whether any of the hypnotics act by depriving the nervous system of oxygen. It is well established that alcohol uses up the oxygen of the organism, and I take this opportunity of asking those more qualified to speak on this subject than myself whether paraldehyde, amylene hydrate, sulphonal, trional, veronal, medinal, isopral, urodonal, proponal, opium, and a host of other hypnotics, act wholly or in part by depriving the nervous system of oxygen or poisoning it with carbon dioxide. Some of them probably act directly on the synapses. Chloral undoubtedly does so, for we know that it is converted into chloroform in the system, and my observations on chloroform anaesthesia have led me to conclude that this is produced by increasing synaptic resistance.

Patients suffering from diseases in which there is deficient oxidation—such as anaemia, heart disease, nasal obstruction, etc.—sleep soundly, whereas patients suffering from fever, in which, presumably, chemical changes and oxidation take place too readily, suffer from insomnia. In Cheyne-Stokes respiration the patient sleeps during the apnoeic phase, but partially awakens during the latter half of the respiratory phase. Moreover, Dr. Leonard Hill has demonstrated the beneficial influence of oxygen in reducing fatigue and therefore its soporific effect.

On my hypothesis the restlessness of insomnia would be regarded as a cause rather than a result, the tossing from side to side allowing the patient to disturb the bedclothes and to inhale too much oxygen to allow him to sleep. It is not that he is restless because he cannot sleep, but that he cannot sleep because he is restless. Restlessness is a very common symptom of nervous disease, and is probably the reason for the insomnia in a large number of cases. Subsequent speakers will doubtless throw light on other cases.

I ought to say before concluding that the details of the chemistry of sleep, even on the present hypothesis, are not quite so simple as I have represented them to be for the purposes of this discussion. For instance, it is well known that a day in the open air is very productive of sleep, and this would at first sight militate against my suggestions; but the mere fact that a person who, for example, comes straight from a long ride in an open motor car is persistently inclined to yawn is sufficient evidence that in some obscure way the nervous system has been deprived of oxygen. Yawning is unmistakable evidence that the organism is craving for oxygen.

DISCUSSION.

Dr. Constance E. Long (London) said: It is not my intention to discuss either the nature of sleep or the pathological factors underlying insomnia, but to advocate the use of hypnotism as a psychic means of reaching the psychic disorder. Hypnotism is artificially-induced sleep, and it has been proved beyond dispute that most normal persons are capable of being hypnotized did they wish it, hence it is a remedy of very wide application; it is, moreover, free from depressing effects, and in every way a perfectly safe remedy in the hands of those who know how to use it and when to apply it.

One must recognize three classes of patients:

1. Those who are not hypnotizable.
2. Those who fear its use lest they should be subjected to undue influence.
3. Those who, when hypnotized, do not lose consciousness, and hence believe the process is useless to them.

In the first class are those persons who resist consciously or subconsciously. The proud boast that "whoever may be hypnotizable I am not," does not always protect an individual, but any definite resistance very greatly militates against the chances of success, just as prejudice militates against the reception of new ideas.

In the second class the fear of undue influence soon passes. It is easy to show that a hypnotized person is much less under the influence of another than a person narcotized by drink, or under the influence of love, or even that of a clever advertisement. The man who yields to his doctor's persuasion to undergo an operation is not yielding his judgement, but yielding to it, in preferring the opinion of an expert to his own; so he can be persuaded to give himself to hypnotic treatment, but not if his family physician, in jealousy or ignorance of the boon this treatment offers, announces it to be dangerous. This is what Freud so graphically describes as "spitting into the field of operation."

In the third class, it is found by experience that light hypnosis, where consciousness is retained, is often the most fruitful for curative effects, the patient's reason, joined to his greater susceptibility, acquiescing in the suggestions made.

It is impossible to promise beforehand how deep a degree of hypnosis can be obtained in any subject, and the physician must be prepared for any degree. I have never failed to gain at least this admission from a patient, that they have "felt rested, and have risen from the couch refreshed." Before attempting to hypnotize them, I make such a suggestion to them in their waking state, and after the séance, if nothing further is obtained, I tell them it is a "good beginning"—and so it is, although deep sleep at the start, with loss of consciousness, is naturally much more impressive to the patient, and satisfactory to the physician. If patients are at all amenable and patient, deeper degrees of hypnosis are invariably obtained in subsequent treatments.

I practised hypnotism for a year before I used it definitely in the treatment of insomnia. I cannot now see why it took me so long to find its value therein, since it is sleep its very self, although sleep used for purposes of increasing suggestibility.

Patients rouse up from it rubbing the eyes, stretching, yawning, and reacting just as from natural sleep, and this is often true also of the lighter degrees. At first my patients used sometimes to complain of feeling drowsy after they had left me. This I soon found to be due to faulty technique, and adopted the plan of suggesting that at the word of command they wake up refreshed, and ready for the next duty or pleasure.

At first, when I wanted to induce hypnosis, I chose an hour when sleep is easily wooed, such as after luncheon or dinner, or at bedtime. I soon found this to be very inconvenient and unnecessary, for any one in whom one can induce sleep artificially, can be made to receive a suggestion of its recurrence at night. I found it useful to employ a phrase which I borrowed from Dr. Lloyd Tuckey, "This is a *prelude* to good sleep." One can harp upon this string without rousing the patient's resistance, for, in reply to the suggestion "You are now sleeping," he might oppose it mentally with the words, "But I am not." If sleep comes, one is in a position to say, "I told you so"; if not, stress is laid upon the complete psychic rest, and the way is still open to obtain the desired theme which follows the prelude, namely sleep.

It is impossible to injure a patient by hypnotism, if suitably administered. When giving hypnotics we always proceed with caution, selecting the drug we believe to be suitable to the patient's condition. Where pain is present, we choose a hypnotic with an anodyne effect. Where psychic or somatic excitement is the cause we endeavour to reduce the reflex excitability of the cord or lower the arterial tension, for which we have such drugs as bromides and nitro-glycerine. These things are often insufficient—this discussion proves them so—for whatever part of the organism we may reach with drugs, we do not thus reach the underlying psychic factor. For deeper psychic disturbances hypnotism may not suffice; in such cases a psycho-analysis should be used.

The fear of sleeplessness is, perhaps, its most common cause. The unaccustomed wakeful hour so worries a patient that he has another in thinking about it, and by fear invites a repetition of it on future nights. He loses his psychic calm. To such persons we find it difficult to say in direct words, "You are making a mountain out of a molehill," and, indeed, we should defeat our own ends by such a speech, and another doctor would be called in. But in the process of hypnotism our genuine sympathy with our patient's trouble seems to be flashed into his consciousness, and we are able to suggest that "This state of rest in which you are now lying is equal to, or better than, deep sleep," and so bring about a psychic calm in which sleep can take root.

One of my cases illustrates this. I had a young patient of 21, who told me no matter how sleepy she felt before undressing, she always became wide awake on getting into bed, and remained so till about 4 a.m., nor could she sleep in the daytime to make up for her lost hours at night. She did not appear to me to be suffering greatly from the effects of sleeplessness, and circumstances made me unwilling to begin hypnotic treatment, so I gave her tonics, change of air, baths, packs, altered her diet, and treated her with hypnotics, all to no purpose, and at last I used hypnotism. Suggestions had to be made to all the members of her family, who by this time doubtless began to think me incompetent; they had to be restrained from advising her to sleep at night, and making tender inquiries in the morning. After six or eight hypnotic treatments she was sleeping quite normally, and I regained my lost prestige.

I had great success in the case of a woman of 62—a very able, highly-cultured, busy person, who suffered from bouts of terrible sleeplessness, so great that from time to time she had become a victim to alcohol and morphine. Ten years ago I pulled her through an alcoholic breakdown, and three years ago was sent for, to find her in a very curious condition, which I found to be due to the abuse of sulphonal. In this instance I used hypnotic suggestion to help her to overcome the habit, and she struggled through, retaining her sleeplessness more or less, for which I made no special suggestion. A year ago she came to me for chronic bronchitis, and complained again of sleeplessness and a temptation to take hypnotic drugs. This time I gave her hypnotic treatment for insomnia, with magical effect. Six treatments confirmed her in good habits of sleep. The suggestion made was "Six or seven hours of sleep at night," to which she responded, and the improvement is still maintained.

I have used hypnotic suggestion repeatedly to allay sleeplessness and anxiety before an operation with quite good success; and most young children can very readily be put to sleep by this means. In fact, as Petersen says, "The method is a natural one. We have been subject to its influence before our birth, through maternal impressions, so also in our early childhood." Bernheim says, "The mother is the most beautiful illustration of suggestive power."

One might multiply successful cases indefinitely, and add to them others where the attempt at hypnotic suggestion has completely failed, but it is abundantly clear that any one who can be hypnotized ought to be capable of being made to sleep, in the absence of contraindications. Hypnotism can be used in combination with drugs; a drug in itself is a "vehicle for suggestion," and bromide and suggestion may accomplish what the one could not achieve without the other. Almost every physician has known an aperient pill act as a hypnotic under a mistaken impression on the part of a patient. I have several times found that a tabloid of trinitrin, or thyroid extract, both of which I am in the habit of asking a patient to take "when in bed" at night, has been subconsciously accepted as a sedative, and has acted as such. I have sometimes wondered whether some of the good success I have attributed to nitro-glycerine should not in reality be credited to suggestion after all.

Hypnotism is available for use in cases of hysterical pain, but, in cases of pain due to organic disease, I should personally select other hypnotics. I cannot do better in closing this paper than quote Münsterberg, who says:

> To believe in psychotherapy ought never to mean that we have a right to make light of other means which may help towards the treatment of disturbances in equilibrium.

Dr. ROBERT JONES (Claybury) was convinced that loss of sleep when continuous could, and had, caused death, and he submitted sleeping charts of patients under his care where recovery took place with the return of natural sleep, but in others death occurred when sleep was unattainable. Young children needed as a general rule twelve hours' sleep, and growing boys and girls up to the age of 16 the opportunity of ten hours' sleep. The statistics of the Lunacy Commissioners showed that no less than 3,000 cases of insanity occurred each year under the age of 20 years in this country, and the same statistics showed an increase of insanity among boys under 15, and an increase among girls between the age of 15 and 20, many of whom suffered from insanity through overpressure and a deficient amount of sleep. There were insufficient hours of sleep in our best public schools. The physiological causes of sleep were still obscure, although vascular anaemia was its accompaniment. Sir George Savage had asked for some physiological facts, and the speaker was able to state that a recent case under his own care in the Claybury Asylum, who had a large hernia cerebri after an operation, showed a definite diminution in the tumour, as measured by a pair of millimetre callipers, whilst the patient was asleep. During sleep there was a diminution of all the activities of the body—cardiac, vascular, respiratory, and reflex. Lépine had suggested a temporary shrinking of the protoplasmic ends of the neurodendrons, thus causing an interruption of nerve currents and a suspension of the functions of the dendrites. Lugaro, on the other hand, after injecting Cox's fluid into the carotids, and, as he thought, fixing the cell processes in the state they were in at the time, accounted for sleep by the expansion of the gemmules on the cell processes. Leonard Hill had stated his belief that the essence of sleep physiologically was the cessation of sensory stimuli from without—or from within—which usually in the waking state excited consciousness, and that the exhaustion of the nerve cells increased the resistance to the spread of these stimuli. The speaker believed that this was brought about by some synaptic dissociation between the sensory stellate cells or the granules and the terminal arborizations of the pyramids above them. He could not assent to the carbon dioxide theory as the cause of sleep without further proof, as consumptive persons, in whom carbon dioxide must accumulate, were known to be light sleepers, and the suggestion of bilaterally symmetrical areas of anaesthesia over the legs and arms in sleep appeared to correspond to no known nerve distribution, and he would require further proof in regard to the pinpricks carried out by Dr. Stoddart, who had taken no notice of the punctate and non-punctate origin of pain in his experiments. The causes of sleeplessness were many, and he would like to divide them into physical and mental. He was quite certain that internal toxaemia was a cause, and that aperients duly administered would procure sleep. He had used a scheme of dietary suggested to him by Sir Lauder Brunton and Dr. Brunton Blaikie with the view of modifying the "intestinal flora," and he found this treatment in some cases very successful. In others he tried the rest treatment; but whilst the patient was in bed it was desirable to supply the equivalent of muscular exercise by massage. His experience of hypnosis was unsatisfactory, probably because it was difficult to apply it in the insane, and in only one case was it hoped to have been of assistance—that was in the case of a man who was suffering from recurrent insanity in consequence of alcohol, but he reappeared in the asylum in spite of post-hypnotic suggestion as to drinking. He remembered the warning of Sir Thomas Clouston at one of the British Medical Association meetings in regard to hypnosis. He found opiates to be the best relief to mental pain in elderly persons, and he had also prescribed dry wines or stout, but always in association with some unpalatable food, such as raw meat juice or malt extract. He was interested in the fact that the heavier the molecular weight of the alcohol the more toxic as well as the more hypnotic the effects, and amylene hydrate was for this reason a very useful sedative. He found some of the analgesics, such as the antipyrin group, to be useful sedatives in some cases of general paralysis as well as in the cardiac and gastric crises of locomotor ataxia. The Turkish bath had yielded very good results in his experience. He had used the methane group also, and the explanation of Meyer and Overton that these were soluble in the lecithin of the film plasma of the neurons was probably correct, although Winterstein's experiments seemed to show that it was through a deoxidizing effect upon the neurons that sedatives owed their value. It was believed that, *intra vitam*, a live neuron was not chemically able to take on the staining of methylene blue after being immersed in a weak solution of morphine, whereas a control cell not so immersed took on the blue stain, showing a capacity for taking up oxygen in the one and a deoxidizing process in the other. He felt convinced that the increase of insanity in young persons—an increase which the Lunacy Commissioners' Report

bore out as compared with ten years ago under the same census—pointed out a definite relation to insufficient sleep. In these competitive educational days, when boys, and perhaps especially girls, were being pressed, sleep was more than ever necessary. The theory was accepted that the recuperation of the neuron only took place during sleep, and it was imperative to produce artificial sleep if natural sleep could not be obtained. The most significant suggestion for continued health was to "break the habit" of sleeplessness.

Dr. James Jamieson (Melbourne) said that after a considerable personal experience of sleeplessness in varying degrees and much thought on the subject, he had come to the meeting with a sense of having a lack of positive knowledge about sleep and its disturbances. He had now the further feeling that he would leave the meeting with no great increase of that knowledge. Leaving aside any discussion of the physical or physiological conditions, antecedent to or accompanying sleep, he thought that for practical purposes a fair definition of sleep would be a lowering or loss of consciousness, resulting chiefly from a lessening of peripheral stimulation. It would follow that in most instances loss of sleep was due to the persistence or increase of peripheral stimulation. These cases, though important enough, did not by any means cover all, and especially many of the worst cases, where a mental element was present and where the loss of sleep was due to worry or excitement of any kind; and these cases very readily resisted treatment, because it was not easy, or perhaps possible, to remove the cause. The loss of one night's sleep made the loss of another, and still another, probable, because the patient was in dread of its recurrence. To one source of trouble and worry another was added. Dr. Jamieson said he was sure that much harm had resulted from the popularizing of the term "insomnia," which to the average lay mind conveyed the notion of some mysterious and inveterate disease of the nervous system. The harm done by the adoption of this belief was greater even than in the case of the uric acid theory, which had the effect of manufacturing hypochondriasis only, while the acceptance of the insomnia doctrine easily led up to such mental trouble that the only outlet for the unfortunate subject of sleeplessness was found in suicide. In connexion with the origin and management of sleeplessness, reference was often made to coldness of the extremities, and especially of the feet, as a frequent cause of sleeplessness. But it should also be noted that overheating of the feet before going to bed, by keeping them too near a fire or the placing of a very hot bottle in contact with them, might have a similar effect. A glow, even amounting to tingling, might be induced, which might again result in disturbance of sleep for the greater part of the night. The question of habit was an extremely important one in persistent cases of sleeplessness, and among other curative endeavours some measure calculated to break the habit might readily prove of extreme value. Just as the loss of one night's sleep made further loss easier, so the attainment of a restful night after a series of restless ones might break the morbid sequence and favour recovery. In that way a dose or two of some good hypnotic, such as veronal, might produce a lasting effect. Sometimes change of place and surroundings might act in a similar way, and Dr. Jamieson related a case in which the sleepless habit, relieved merely by an occasional sedative dose, was summarily broken by such a change, good sleep being got immediately and continuing not only at the hill resort tried, but after return home.

Dr. Thomas Johnston (Hove) said that the observations of some of the previous speakers pointed to the fact that the occasional use of alcohol or of drugs helped to induce sleep. The use of hypnotism, on the other hand, was considered as too dangerous to be used. In the speaker's opinion there was a great deal more danger in advising the use of alcohol, veronal, bromides, or opium, than in a properly conducted treatment by suggestion.

Mr. Herbert Shore (London) remarked that fear of sleeplessness amounted in some cases to an obsession. Dubois had referred in his *Psychic Treatment of Nervous Disorders* to the injurious effects of the fear of insomnia, pointing out that it sometimes dominated patients. The dread of sleeplessness might in many cases do more harm than the actual loss of sleep itself.

Dr. M. D. Eder (London) said it was a surprise to find hypnosis and suggestion regarded as dangerous while hypnotics and alcohol were apparently harmless. Suggestion was no more dangerous in the proper hands than a surgical operation carried out by surgeons. Suggestion was no more successful in all cases than other methods of treatment. In many cases he had found that psychoanalysis would alone bring permanent relief. It gave a reply to the question of why the patient did not sleep and thereby relieved the symptoms.

Professor R. J. Anderson (Galway) said that experiments had been made in a French laboratory which seemed to show that in animals sleeplessness caused the development of a protein which could be found in abundance in the cerebro-spinal fluid of a dog if it were kept awake for six days. The cerebro-spinal fluid of a sleepless dog, if injected into a normal dog, would cause sleep. The serum was said to have a like effect.

Dr. T. A. Williams (Washington) said: Even although the general trend of the discussion is that the function of sleep is cyclical, little help is given by this conception to the clinical treatment of sleeplessness. The main therapeutic interests must centre upon the cause which disturbs the sleep rhythm. It is a great help to conceive the causes as (1) somatic, (2) psychologic. How a bodily function like sleep can be disturbed by a psychic phenomenon like an idea is comprehensible enough when we recollect that peripheral stimuli are the main sources of sleep disturbance. (This statement must be qualified to exclude those peripheral stimuli which do not demand constant readjustments of attention; for a monotonous series of stimuli favours the onset of sleep.) The sensory experiences which are stored as memories, are tantamount to new peripheral stimuli when attention is kept upon them, more especially when they arouse a disturbing emotion such as fear or anxiety. When to these is added the fear itself of not sleeping, we are in face of a preeminently psychological situation interfering with sleep. As to the mechanism of this interference we cannot be sure; but the researches of Crile, Cannon, and others regarding perturbations of the internal secretion by emotion must be kept in mind in our inquiry. Labilisers like the secretion of the adrenals and of the thyroid are not likely to conduce to repose of nervous function; and the anxiety-emotions which arouse the flow of these secretions form part of a vicious circle made more vicious by the increased secretions they cause. The advocacy of hypnosis against sleeplessness must confine itself to these psychogenetic causes. It is amongst such cases that my experience mainly lies; and both reason and practice tell me that far more desirable, even when unobjectionable, than getting rid of an effect like sleeplessness by directly suggesting its disappearance in hypnosis or otherwise, is the ascertaining preparatory to getting rid of the cause of the anxiety which interferes with sleep. I say this, not from any fear of the imaginary dangers of hypnotism, which are due merely to a superstitious belief in its special power and efficacy—a kind of transmutation, as it were, into a pseudo-scientific shibboleth of the mediaeval doctrine of the evil eye—I say it because my experience shows, on the contrary, the superiority of the method which relies for success not upon making an impression upon the patient in order to increase his suggestibility, but upon giving the patient a better knowledge of himself in order that he may get rid of the false ideas (suggestions) which interfere with the proper adjustment to circumstance. As to the alleged sexual origin of such anxieties, a case has been quoted by a previous speaker which is of a type often urged in support of that doctrine; but in my opinion the efficient factor in the situation was the fact of an annoyance, jealousy, and not the fact that such annoyance in this case had a sexual tinge. Business worries, etc., in themselves are capable of producing anxiety; the method of clinical investigation of such cases is, of course, analytic, and psychological at that; but I am far from admitting the numerous connotations asserted and implied by many of those who call

themselves psycho-analysts. More particularly do I protest against the implications and deductions emanating from the hypothesis of a "subconsciousness," and particularly the crude dictum that during hypnosis the appeal is to a "subconscious mind." Before accepting such facile psycho-pathology, let those interested read the article of Babinski on hypnosis, and Münsterberg's chapter on the subconscious. Regarding the possibility that a falling of blood pressure is the cause of sleep, based upon observations that such fall occurs before sleep, it must be remembered that the increase of sleep may itself be the cause of the fall of blood pressure, perhaps by the participation of pressor centres in the sleep process. We can conceive that the mechanism is either direct through depressor nerves or indirect through the internal secretions.

Dr. CRICHTON MILLER (London) said he was astonished that the CO_2 theory should be resuscitated. Those of cerebral anaemia and blood pressure needed no resuscitation; yet even here there seemed to be a good deal of loose thinking. In relation to blood pressure the brain was in no wise analogous to any other organ in the body, being supported in a fluid medium enclosed in an inexpansible box. It therefore followed that the pressure of the fluid being equal in every direction was self-compensating. Still all knew that variations in the systemic blood pressure produced brain changes, and it was necessary to recognize that these did not take place by direct mechanical pressure. Probably pressure on the venous exits had a great deal to do with it, and therefore it was easy to imagine that the changes spoken of as changes in blood pressure were, in the brain, represented by a slowing of the blood stream, and consequent retardation of cerebral metabolism. If one could get away from the term "cerebral anaemia" and substitute for it "cerebral stasis," the conception of this very important factor in sleep would be more accurate. One speaker referred to the importance of reducing blood pressure in those who had hypertension. That was, of course, very important, but he should also have mentioned a smaller, yet not inconsiderable, class of insomniacs in whom it was necessary to raise the systemic blood pressure to ensure sleep. The neurasthenic with marked hypotonus would not sleep long on trinitrin, and might have a splendid night after a dose of pituitary extract. In the cerebral circulation was to be found the paramount physical feature of sleep. There were two very important points in connexion with the administration of hypnotic drugs; they should be administered with the definite object of establishing a sleep habit, and in some patients this was all that was necessary to cure the insomnia. A large number of patients took hypnotic drugs with a fixed preconception that each dose was making them more and more dependent on the drug, and less able to sleep naturally. In other words, the pharmacology of the opiates dominated the popular conception of all hypnotics. It was doubtless important to learn to do without hypnotics, but too much could be made of the danger of hypnotics. A number of his patients were in the habit of taking a small dose—say of veronal—when they went to bed, and then of taking another if they did not sleep. This was an extremely pernicious habit, yet one that was encouraged by many doctors. It involved indecision, self-observation, and apprehension. It would be better for them to have both their doses at the beginning and have done with them, or else take only one and know that there was no further dose to be decided about. In regard to the psychic treatment of insomnia, he was in entire agreement with Dr. Constance Long.

ON THE OCCURRENCE OF MICROCOCCI IN THE BLOOD AND CEREBRO-SPINAL FLUID OF TWO CASES OF MANIA.

BY

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THERE is a tendency at the present day to ascribe to every disease a bacterial origin, a tendency which has been felt in psychiatry as in other branches of medical science, although perhaps to a lesser degree. A considerable amount of work has been done on the bacteriology of insanity, notably by Italian observers; so far, however, few facts have emerged which have gained general acceptance, for the results of one worker have rarely been confirmed by those who have followed in his steps. It is desirable, therefore, that as many cases as possible should be put on record in which a bacteriological examination of the blood has given a positive result.

Bianchi and Piccinino in 1893 described a short bacillus as occurring in the blood in cases of acute excitement. Ceni (1900) found the common pathogenic micro-organisms in the blood in only a few cases, and these could be traced to secondary infection. Cappelletti (1899) encountered micrococci in the blood, but only shortly before death and in *post-mortem* specimens. Kazowsky (1899) found the *Staphylococcus pyogenes aureus* in the blood and cerebro-spinal fluid of a case in which there was extensive ulceration of the colon.

Lewis Bruce succeeded in isolating a streptococcus from the blood in several cases of acute mania, and, by means of the agglutination and complement deviation tests, demonstrated the presence of probable antibodies to this organism in a considerable number of similar cases. In many of the cases reported in the literature there is a regrettable lack of detail regarding the staining and cultural characters of the organisms described; often there is nothing but the bald statement that a streptococcus or bacillus was found. In the present cases we have endeavoured to make the description as detailed as possible, so that if the same organisms be encountered again they may readily be recognized. In both of the cases a micrococcus was isolated from the blood and cerebro-spinal fluid; the organisms resembled one another in some of their cultural characters, but differed fundamentally in that one was Gram-positive and the other Gram-negative.

CASE I.

C. S., female, aged 45 years, was admitted in a state of acute excitement with confusion. The attack had commenced five days previously. There was nothing worthy of note in the personal or family history.

On admission the temperature was subnormal, the eyes glazed, the conjunctival reflex at times absent, the pulse feeble and irregular, the deep reflexes exaggerated, and the superficial diminished. The most striking features were, however, well-marked katatonia, together with complete universal anaesthesia, and pronounced Cheyne-Stokes breathing, the respirations attaining to a maximum of 60 to the minute. The mental state was one of acute excitement, accompanied by confusion, amnesia, disorientation, and auditory hallucinations. The excitement, however, soon became less, and the patient passed into a typhoid state, in which the physical symptoms completely overshadowed the mental ones. The condition was one of dull apathy, from which she could be aroused only with difficulty. The temperature remained for the most part subnormal, but once or twice rose to 100° F. There was a well-marked leucocytosis, ranging between 16,000 and 24,000, with a percentage of polymorphonuclear cells of 86 per cent.; it fell to 12,000 a day or two before death, which took place three weeks after admission.

Shortly after admission a bacteriological examination of the blood was made. The usual technique was adopted: the skin of the forearm was carefully sterilized with iodine, the needle of a serum syringe was introduced into the median basilic vein, and 10 c.cm. of blood withdrawn, which were distributed between three flasks of broth. An abundant growth was obtained, which was readily sub-cultured on to agar. This growth proved to be a pure culture of a micrococcus. It was a typical diplococcus, growing in pairs, there was no indication of a capsule, and it stained well with the ordinary aniline dyes, but was completely negative to Gram's stain. The total number of Gram-negative cocci is small, the best-known examples being the meningococcus, the gonococcus, and the *Micrococcus catarrhalis*, from all of which the present organism was sharply differentiated by its cultural characteristics. In addition to the above, several varieties of Gram-negative cocci resembling the *Micrococcus catarrhalis* and inhabiting the nose and accessory sinuses have been described by C. J. Lewis.[1] The blood culture having proved positive, the cerebro-spinal fluid was examined in the same way, and with a similar result, a Gram-negative diplococcus being again isolated, and displaying exactly the same cultural characteristics.

Cultural Characters.

The organism grew well on broth, but whilst the broth itself remained clear, a flocculent deposit fell to the bottom of the tube. On agar there was a vigorous growth, the colonies being round, white, translucent, discrete, and sharply defined. The most striking feature of the growth was the tenacity with which it adhered to the surface of the agar: it was only with the greatest difficulty that the colonies could be detached from the medium by means of a platinum wire. On gelatine there was no growth and no liquefaction. The organism grew well in litmus-milk, growth being accompanied by clotting and marked acid production. On potato there was a feeble yellowish-white growth. The fermentation reactions, together with those of the organism obtained in Case II, are shown in the accompanying table. The organism was kept growing for ten weeks by subculturing on agar, at the end of which time it died out. It showed no involution nor degeneration forms.

Cultural Characters of the Organisms described compared with those of the Chief Gram-negative Cocci.

Organism.	Gram's Stain	Gelatine.	Glucose.	Lactose.	Saccharose.	Maltose.
Case I ...	Negative	No growth	Acid and gas	No change	No change	No change
Case II (*ante mortem*)	Positive	Growth	Acid, no gas	No change	No change	No change
Case II (*post mortem*)	Positive	Growth	Acid, no gas	No change	No change	No change
M. catarrhalis ...	Negative	Growth	No change	No change	No change	No change
Meningococcus ..	Negative	No growth	Acid	Acid	No change	No change
Gonococcus ...	Negative	No growth	Acid	Acid	No change	Acid

Case II.

E. M., female, aged 48 years, was admitted in a condition of very marked confusion. She was extremely resistive, apprehensive, startled by any sudden movement, showed a slight degree of katatonia, and appeared to have hallucinations of sight. She gradually passed into a condition of stupor, which bore a distinct resemblance to the mental state of the first case. As regards her physical condition there were rhonchi in the lungs, the superficial and deep reflexes were very brisk, and the temperature was irregular, frequently reaching a height of 103° F. On admission she had a leucocytosis of 17,000, which gradually fell to normal.

She never emerged from her condition of confusion, came to assume a profoundly toxic appearance, steadily lost strength, and finally died at the end of six weeks. Throughout the illness she was treated with an autogenous vaccine prepared from the organism described below, but without any benefit; she did not react to the treatment in any way.

Her blood was examined bacteriologically on two occasions, and her cerebro-spinal fluid once, and each time the same organism was obtained. This time the micrococcus showed a decided tendency to grow in clumps, but in the thin parts of the film a diplococcal arrangement was evident. It stained well with the ordinary stains, and was strongly Gram-positive.

It grew well on agar, broth, and blood serum. The colonies on agar were on the whole discrete, but showed a tendency to run together; they were larger and more opaque than in the preceding case. There was also growth on gelatine. The other cultural characters of the organism are shown in the table. The cultural and microscopical characters of the organism isolated from the blood were identical with those of the one from the cerebro-spinal fluid, except that the growth of the latter on agar was somewhat yellower than in the case of the former.

At the *post-mortem* examination a culture was made from the heart blood, and an organism isolated which was identical in cultural characters with that obtained during life, but was distinctly larger, and tended to assume the staphylococcal form.

The brain was hardened and examined microscopically. Changes highly characteristic of toxic infection were present in the cells of the cerebral cortex. In almost all the large pyramidal cells there was a great increase of pigment. With this exception, many of the cells were apparently normal. Others, however, showed varying degrees of dissolution: in these latter the Nissl granules had partially or completely disappeared, the nucleus was pale, swollen, and pushed to one side, the protoplasmic processes were atrophied, and in some cases the cell was reduced to a mere ghost.

We have therefore two cases of toxic insanity in which a diplococcus was isolated from the blood and cerebro-spinal fluid on more than one occasion. In the one case the organism was Gram-negative, did not grow on gelatine, produced acid and clot in milk, and acid and gas in glucose; in the other the organism was Gram-positive, grew on gelatine but without liquefaction, produced no change in milk, and acid alone from glucose. A number of similar cases showing leucocytosis and other indications of toxaemia were examined bacteriologically, but in every case with a negative result.

The etiology of insanity is still wrapped in obscurity, but there is an increasing mass of evidence to show that many of the acute psychoses are due to a toxaemia and even to a bacteriaemia. It is to be hoped, therefore, that a bacteriological examination of the blood will be made in as many of these cases as possible.

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[1] C. J. Lewis. The Micro-organisms present in Suppuration of the Accessory Sinuses of the Nose. *Journ. of Path. and Bact.*, vol. xvi, 1911.

THE PRESENT POSITION OF PSYCHO-ANALYSIS.

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The work of Freud in psychology has been compared by one of his disciples to that of Darwin in biology. It is not a parallel upon which I shall insist further than to touch upon one or two resemblances. The popular view of Darwin's work—that he proved man came from monkeys—is like the travesty of Freud's, sometimes heard, although, of course, not in such an assembly as this, that he cures hysterical patients by asking them a lot of nasty questions.

There is, however, ever a core of truth in the popular view, as Freud himself has been careful to point out. Breuer and Freud's first publications traced hysteria to some mental shock or trauma, very frequently to one experienced in childhood—and most frequently, Freud added later, of a sexual nature. The painful event becomes buried but its effect is not lost: the stream of emotion, the affect, to which it gave rise, not being normally and fully discharged at the time, undergoes conversion into some physical phenomenon. Whenever the trauma is revivified, whether directly or symbolically, the undischarged affect, in its converted form, manifests itself. This is the hysterical symptom. "The hysteric, to a larger extent, suffers from reminiscences."

The case which served as the starting point for their work was that of a girl the subject of very severe hysteria. She was one night watching by the bedside of her father, to whom she was devotedly attached and who lay ill, awaiting the arrival of a surgeon from Vienna. As she sat in great distress of mind, with her right arm stretched over the back of her chair, she seemed to see a black snake drawing near the patient. She wanted to drive the reptile away, but she seemed paralysed: the right arm was "asleep," and as she looked at it the fingers seemed changed into small serpents. She tried to utter a prayer, but speech failed her; at last she managed to utter some words in English. The whistle of the locomotive bringing the surgeon broke the spell. The next day, as she put her hand into some bushes, a bent twig reawakened the snake hallucination and the right arm became stiff. This recurred whenever any object that more or less resembled a snake provoked the hallucination: the hallucinations became more and more frequent, and finally there developed paresis of the right arm. In the subsequent hysteria she was unable during a period of one and a half years to speak or understand anything in her native tongue, but could only speak and understand English.

It was from the investigation of this and other cases that Breuer and Freud found, "to their great astonishment, that single hysterical symptoms disappeared forthwith

and without return when one succeeded in completely awakening the memory of the determining incident and conjuring up therewith the affect that accompanied it, the patient at the same time describing as fully as possible the occurrence and finding also words for the affect."

As an instance of symbolic conversion may be mentioned the case of a woman who had, at the age of 15, suffered from piercing pain in the brow, which came on again during analysis; then it transpired that her strict grandmother used to give her a most "piercing" look when she suspected something amiss with the girl.

This "shock" theory should have no more than a historical interest for us; the theory and the particular method of treatment (catharsis) have been long since abandoned by Freud, whose further experience led him to regard the shock as simply one of the many conversions elaborated by the patient for his self-defence. Such self-defence is the outcome of complex psychical mechanisms. It is the work of psycho-analysis to break up these complex phenomena into their simplest elements—this is the justification of the term. These primary elements exist as unfulfilled wishes or aspirations in the unconscious. They have as such never penetrated into consciousness, but are nevertheless dynamically active, becoming manifest only in their various disguised forms. Freud holds that every psychic act arises first in the unconscious. Whether it shall pass into consciousness or not depends upon the "endopsychic censor"; the censor represses ideas arising in the unconscious which are out of harmony with the individual's general civilized trend of life. Freud thus deposes the conscious from the high place in psychology, much as the theory of hormones has deposed the brain from its former high place in physiology. Those wishes, fancies, impulses which are prevented from entering consciousness are termed by Freud "repressed." So far there is general agreement among all who practise psycho-analysis. Jung and Adler, with whose views I shall deal, hold to Freud's technique—the interpretation of dreams, of sayings, of doings, writings, by the method of free association; they subscribe to the whole importance of the unconscious. Jung seems to include in his "unconscious" Freud's endopsychic censor, whose place in Freud's system is not very clear, for "the censor" seems to have one eye on the civilized and the other on the primitive individual.

The next question is as to the nature of the elements which have been repressed. Here we come to Freud's celebrated theory of the neurosis as due to a disturbance of the sexual function.

Freud postulates a gradual development of the sexual instinct in man, beginning in infancy and reaching finality in the adult. This orderly development may be interrupted at any stage, when there will result a "fixation" of the sexual life of the individual in whole or in part, at this stage. The cause of the fixation is to be sought in the reaction of the environment upon the ground plan of the individual. In one case the organism may be unduly sensitive, in the other the environment may be unduly severe. Any want of harmony between these two elements will result in the fixation of the individual. As a typical instance of such fixation Freud has signalled out the Œdipus myth with its awe-inspiring tale of the retribution that falls upon one who, albeit unconsciously, has committed incest with his mother and slain his father. Freud writes: "According to my now numerous investigations, the parents play the chief part in the psychical life of all who later become psycho-neurotics. Love towards the one, hatred towards the other of the parents is invariably part of the matter of the psychical impulses formed at that period which become so important for the symptomatology of the later neuroses. More fortunate than Œdipus, we have succeeded (those of us who are not the subject of a neurosis) in freeing ourselves of our sex impulses towards our mothers and of jealousy towards our fathers. Like Œdipus we live in unconsciousness of the desires, so horrible to our morality, which nature has forced upon us."

That Freud's sexual theory of the neuroses should have aroused so much opposition is very easy, for me at least, to understand. Indeed, as a rule, I should discredit the capacity or the sincerity of those who would accept it without much cogitation and, possibly, without some preliminary opposition. I first came across Freud's work in 1905, and my resistance was so strong that it was not until several years later, after further experiences in psychotherapy, that I could return to Freud's writings without prejudice. The reception that Freud's views have been accorded is not unlike that given by the scientific world to Darwin. Perhaps more fortunate than Darwin, Freud had not a Huxley content to do all the fighting and none of the investigation. Thus Freud has been forced to make good his theories by the criticisms they have provoked amongst his own followers.

To-day the chief part in treatment consists in overcoming the resistances which the patient evinces towards realizing the more primitive phantasies and desires which are in conflict with his consciously moral attitude towards life. The more deeply you dig down towards these primitive roots, the greater become the resistances. They are shown in manifold ways—inability to speak, inability to remember, giggling, shame, attempts to rationalize emotional processes, headaches, and the occurrence of any other fresh symptoms—all these are attempts on the part of the unconscious to prevent the more painful questions being broached. These resistances are never overcome by *telling* the patient, every process in psycho-analysis must be a self-revelation, must be experienced. The analyst only holds the mirror.

When these resistances have been overcome, when the patient's mind lies mapped out, as it were, then begins what Freud calls sublimation. By sublimation is understood the transmutation of those one-time sexual energies which in the life of the individual had been fixed to infantile sexual desires and are now set free into other activities—religious, cultural, social, aesthetic, and so on. The channels into which these activities are to be directed in each case will depend upon the nature and extent of the complexes which have now become conscious.

Psycho-analysis cannot be regarded as complete until this synthesis is achieved, although how far sublimation or re-education can be effected in any case depends, first, upon the completeness with which the resistances have been overcome; and, secondly, upon the general level of the patient's intelligence and morale.

The objections which Jung and Adler, two of the first and foremost of Freud's followers, bring against the sexual theory of the neurosis are, of course, not the result of mere prejudice. They both accept what must be regarded as the most important part of Freud's work—his theory of the unconscious and his technique of analysis, the possibility of resolving complex mental phenomena into simpler components.

For Jung the elements into which Freud attempts to break down the psyche do not go far enough. He objects to the sexual theory of the neuroses as too narrow, nor will he admit any fixation in Freud's sense. He raises some other objections, but these are the principal counts. He agrees—every man has an Œdipus complex and every woman an Electra complex, for every boy has felt loving impulses towards his mother and every girl towards her father. Since these incest phantasies are to be found in every one of us they cannot be regarded, he says, as the chief factor of the neurosis. True, the neurotic produces these phantasies, but he simply makes use of them as more props to defend himself. It is of the nature of the neurotic to throw the blame, as it were, on to some one else. The neurotic has not, argues Jung, really incestuous desires, but pictures himself unconsciously as tormented by incestuous phantasies. The essence of the neurotic is, says Jung, his impossibility to adjust himself to life—he turns away from reality. The neurotic turns away from every piece of work, every new adjustment to life, and throws himself back into the past. It is easier to go back to the old paths than to go forward to new unexplored ground. There is no fixation to any particular period in the development of sex life, but he turns back at any time to anywhere—the particular period being conditioned by the circumstances of the moment and the patient's past life. Jung postulates for each individual a given quantum of psychical energy, which is usable in different channels. During the first months of life the whole of that energy is normally available for growth, but given a "sensitive predisposition" even the infant may turn away from the necessary adjustment—he frets and cries from an inner maladjustment, as it were. As the child progresses fresh calls are made

upon this psychical energy, for movement, for speech, and towards the third year or so the first stirrings of sex make their demand. One must suppose that some portion of the original psychic energy of man has become finally adapted to definite channels and cannot be reconverted into general energy. Thus it is, for instance, with movement, whilst there must remain an ample portion of the sex life available for reproduction. But there remains a large amount of what one may call floating energy which can be spent in sex or in other activities—work of some kind or other. It is the business of psycho-analysis, to see that this floating energy is used up in the normal activities of life.

Adler is also dissatisfied with the sexual theory of the neurosis; he also says this does not go far enough. When analysed, the final element of the neurotic consists for him in the want of harmony between his inordinate desire for power and the recognition of his real weakness. The sexual disturbance is only a particular function of this more general condition. The neurotic is always led by a self-created Will-o'-the-wisp—he is always, in a conception borrowed from Vaihanger, picturing himself in "As If"—in a world of fiction; but the neurotic rejects Vaihanger's qualification to combine with the fiction thought towards some practical end. The neurotic woman, unconsciously accepting the European male valuation of the two sexes, acts "as if" she were male, strives to reject the essential feminine rôle. Her reaction against marriage, whether it takes the extreme form of locking herself in a room, or the paralysis of a leg, or the common forms of frigidity and inability to suckle children, is due to her unwillingness to play the inferior part, to be woman. In the neurosis of the male Nietzsche's will to power is the fiction that leads the patient to his destruction.

Then Adler returns, by a devious track, to Freud's original trauma theory; only for Adler it is a physical trauma. He states that every neurotic patient will be found to have suffered from some incapacitating disease—strabismus, rickets, diarrhoea, otorrhoea, or what not. He is thus physically below the normal, and seeks to compensate himself by an overwhelming ambition to seem great, and in his imagination the neurotic fashions himself like unto a god.

Freud has not overlooked this will to power and this dual sexuality. He has described it in some of his original dream analyses. Indeed, any one who carefully analyses a dream by the technique Freud has given us is bound to find instances. Freud, however, disputes the universality of this "guiding fiction" and of bisexuality—it is a product of the disharmony, not its cause.

This very imperfect summary—for time does not permit me to do justice to any of the authors—will but serve to show that of psycho-analysis it may be said it still moves. I hope also that it will serve to show that the really basic work of Freud, the dynamic functional activity of the unconscious, and the effect of the conflict between the repressed tendencies and the rational conscious self, have been startlingly confirmed by all those who have employed these methods in the treatment of the psycho-neuroses.

What, after all, most interests us here as physicians is the successful treatment of our patients. I think there can be no doubt in any unprejudiced mind that in Freud's psycho-analytic method we have the most hopeful way of dealing with these patients. As in many departments of medicine, practice has outrun theory; Freud, Jung, and Adler have all made invaluable contributions towards an explanation of the fact discovered by psycho-analysis. But in a quest which covers the whole field of man's psychical activities it were vain to expect that we should have yet reached finality in philosophical theory. I confess that none of the views I have sketched seems to quite fit in with my own conception of man's ultimate psyche, but my conviction that Freud has given us a torch wherewith to explore the dark caverns of the mind of man, is, I am sure, but an echo of the impression that all must experience who have travelled along Freud's road to the unravelling of the unconscious.

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THE TREATMENT OF ALCOHOLISM BY SUGGESTION.

By H. E. Wingfield, M.D.

Until comparatively recent years prolonged detention in the inebriate home was the only recognized method of dealing with the sufferer from alcoholism. Then came an era which still flourishes, though not so vigorously as it did, of quack treatment by drugs.

But, however slowly acknowledged, treatment by suggestion had definitely begun in the late eighties, and has gradually but certainly established its claim as a remedy, so that here one may fitly take note of what this treatment can and what it cannot do—and, indeed, treatment of any kind, so far as it has been penetrated. If we consider the nature of the disease, it is only too clear how little, comparatively, we can achieve.

The mischief at the root of every case of true alcoholism is the same—a complete inability on the part of the patient to absorb alcohol in moderation. The different forms of the drink malady are divisible into three main classes.

(*a*) *True Dipsomania.*—The patient has recurrent attacks of craving, usually preceded for some days by premonitory symptoms. He may in a few rare cases resist the craving and take no alcohol; but, whether the struggle be successful or not, the craving recurs at more or less regular intervals with fatal certainty. A few of these dipsomaniacs—a very few—can drink in moderation between their attacks.

(*b*) *Pseudo-dipsomania.*—In these cases craving occurs only after the taking of alcohol, and alcohol only will induce an attack. Speaking generally, the pseudo-dipsomaniac has only a limited tolerance for alcohol, and a few days' indulgence makes him so ill, often from gastric catarrh, that he leaves off spontaneously.

(*c*) *Chronic Alcoholism.*—It has often appeared to me that the majority of chronic alcoholics are really pseudo-dipsomaniacs with a marked tolerance for alcohol. They drink in excess for long periods, and, as Dr. Hare puts it, their toleration of alcohol is a measure of their intolerance of its withdrawal. It is with these patients that a sudden severance from all alcohol almost certainly causes delirium tremens.

It may safely be said that, so far, no treatment has been discovered which will in the slightest degree modify the actual neurosis which makes the patient incapable of moderate drinking, to whichever class he belong. The case of the true dipsomaniac is a peculiarly terrible one, since not even abstinence between the attacks will prevent their onset; but, fortunately, true dipsomania is by far the rarest form of the disease.

With regard to the other two classes, though we cannot in any way help the patient to drink in moderation, we can assist him to abstain completely. Whichever form of treatment is adopted, whether it be detention in homes, drugs, or suggestion, the aim is essentially the same—simply and solely permanent total abstinence. In every case when the abstinence is broken, even by one glass, the result is practically invariably a relapse.

It is a little startling to meet cases who have been secluded in inebriate homes at great expense for long periods, who break down on the very day of their release. Yet I have seen several of these, including one who was in a home for three years. Just think of it! Three whole years' loss of freedom to ensure a power of abstinence that a single glass could overthrow! To me it has always appeared almost monstrous that such a system should be applied, with such a certainty of wasted time, on the dim off-chance that at the end the man may remain a complete abstainer, as he rarely does for more than quite a short time. This proceeding could, I think, be justified only if the chances were greatly in favour of complete inhibition. But in that case the results would have to include 50 per cent. of cures, and, as is well known, they cannot approach this total. Notwithstanding this, I hold strongly that in

certain conditions detention for quite long periods may have a better effect than anything else. Where environment is a powerful factor in the disease, as it is with the slum dweller, a change to better surroundings may do wonders. Hence the great and undoubted success of Lady Henry Somerset's homes at Duxhurst. Every effort is made that the patient on leaving should depart to some fresher and pleasanter environment than that complicated with former experience.

The voluntary inebriate homes, in which the patient can go if he wishes, and where the usual stay lasts six weeks or under, must also be considered. The best known in this country is the Norwood Sanatorium, under the charge of Dr. Hare. The records of treatment and results given in his book on alcoholism deserve to be read by everyone interested in the disease. The volume is of an unusual practical value. The results, I should say, are better than they seem, for many of the patients have no intention whatever of remaining total abstainers, so they ought not to be counted as failures, since they cannot be treated without this resolve.

I need say nothing of treatment by drugs. The effect of drugs is purely temporary; and, though they are exceedingly useful in emergencies and in ending an outbreak of drinking, they cannot bring about a state of permanent abstinence.

In treating an alcoholic by suggestion one must first stop his immediate drinking, a sober state being necessary to the beginning of serious treatment. I may refer to Dr. Hare's book for methods of doing this.

Next, one must make certain that the patient really and earnestly desires to become an abstainer. The business of the physician is simply to give him power to keep his resolution; he can only help the man to help himself. It is essential that the sufferer should realize fully the absolute necessity of total abstinence in the future. It is comparatively easy to convince those patients in whom an attack follows the first glass or two. But, with those who can drink in moderation for days, and even weeks, before the attack is induced, this is often a very real and formidable difficulty. They assent to the statement that they must either totally abstain or drink to excess, but in too many cases with a fatal mental reservation. It is quite useless, I repeat, to attempt to treat a patient at all unless he will resolve to do his best.

Personally, I always make my patients put themselves in charge of some one who will look after them during the first three or four days of treatment.

The chronic alcoholic is best kept in bed, not only whilst giving up his alcohol, but for some time longer, for the cutting off of the alcohol is apt to be followed by a period of considerable weakness, which I have seen last for two and even three weeks.

The duration of the dipsomania does not in my experience much affect the prognosis.

Some of my most successful cases had drunk for long periods. One who remained an abstainer after his treatment until his death, four and a half years later, had drunk for twenty-eight years.

Nor does the failure of other methods indicate an unfavourable subject. The case above mentioned had tried almost every known treatment; but all had failed, though he had abstained for six weeks after Normyl treatment.

Any discoverable exciting causes of these attacks, such as exhaustion from overwork, home worries, etc., must be eliminated or minimized, if possible. Many are neurasthenics, and require treatment accordingly.

The method of suggestive treatment which I generally use in treating patients is of the very simplest kind. Nearly all cases (210 out of 216) I found readily hypnotizable to some degree. Of the six whom I could not influence, it is remarkable that five had suffered at one time or another from more or less severe head injury.

Having induced hypnosis, a process which occupies as a rule from two to three minutes, I suggest:

1. Absence of all craving.

2. That the patient will no longer feel so worried over the things which usually start the attacks, if I can discover what these exciting causes are.

3. A dislike for alcohol.

4. That the patient will find it comparatively easy to resist, and will be able to refuse drink without an effort; that he will never debate, if asked to take alcohol, as to whether he shall, but will instinctively repulse it.

5. Increased confidence in himself, and a cessation of haunting ideas of liquor. I have sometimes successfully suggested that alcohol shall make the patient ill. In one case, however, the patient drank notwithstanding, preferring to vomit every glass he took, rather than to take none at all.

I see the patient every day for a week, when I repeat and reinforce the suggestions. He generally feels safe enough to be alone after the third day; and, if he is in earnest, he will not say he feels safe until he really does. I see him usually twice during the ensuing week, and then, if possible, at longer intervals of a month, six weeks, or two months for an indefinite period.

I have learnt by experience certain main facts as regards results of treatment: First, the great majority of cases are not immediately and unassailably made into total abstainers. They do frequently have a relapse after some time. But experience has again shown me that this is generally no bar to eventual improvement if the patient is seen and treated for his relapses as they occur. What one finds is that the intervals between the lapses get longer and longer, unless, as happens occasionally, some overwhelming cause of great mental stress should induce a sudden succession of attacks with short intervals. But even these are not hopeless; they recover under perseverance. The improvement to be looked for is gradual, often through a series of relapses, but still, in very many cases, sure and unmistakable.

Owing to the fact that so many patients get gradually lost to sight, it is impossible to give any but the most general results. As a rule, as I have said, the patients relapse after a variable time; but it is precisely here that, it appears to me, one of the chief advantages of the method is most apparent, for the patient can be treated when he does relapse. Of course, some do not relapse at all, and others do not for some few years. But the point which I cannot emphasize too strongly is the fact that these relapsing cases are not hopeless, but can be successfully sustained. Indeed, I regard them as the one outstanding commendation of hypnotism over all other methods of treatment.

It would be of little use to give details of the number of cases and their results, for too many have been lost sight of to make it possible to draw general conclusions. However, of 216 cases which I have seen, all but 24 showed some improvement. Of the 24, 6 were unhypnotizable; 5 of these, curiously enough, had severe head injuries. The results have varied from total abstinence from the earliest treatment up to date to relapses after three or four months.

In general, as far as I have been able to ascertain, the relapses become more and more infrequent under treatment. To take an ordinary case: a gentleman, aged 46, who had been scarcely free from alcoholism for at least fourteen years, was a patient some three and a half years ago. After seven months he relapsed; and had two more relapses during the ensuing twelve months. He has had no sign of relapse now for twenty-six months.

The slight improvement cases may be illustrated by one whom I think fairly typical. Aged 44, with a strongly-marked alcoholic history on his mother's side, he came to me in 1908. He had suffered since he was 26 (for eighteen years), and for the last four years had never existed more than five weeks without an attack. Usually the intervals lasted between three and four weeks.

He was treated for a week in February. His first relapse occurred in May, the next in September, but the third relapse did not occur until the May following, and was comparatively slight. He has since had relapses of a few days after intervals lasting from eight to eleven months. His last breakdown happened thirteen months ago, so I hope that his intervals will increase still more.

To give another case. Mr. X., aged 55, had drunk persistently since he was 18 years old. His bouts, up to eleven years ago, were generally at intervals of between one and two months, and usually lasted eight days. Eleven years ago he met with serious misfortune, and since then the attacks had been far more frequent, only a few days intervening. Had he been more tolerant of alcohol, I think there is no doubt he would have been a chronic alcoholic; at any rate, he was next door to one. Treated three years

ago, he had no relapse for eleven weeks, when a slight attack broke his progress. A second and third occurred within the first eighteen months. He then had a fourth relapse after an interval of thirteen months, but has had none since. I hope in his case, too, that the improvement may continue.

Case III concerns Mr. X., a man of great intellectual power, aged 41. He had suffered from pseudo-dipsomania for thirteen years. I was told that he would not consent to be an abstainer. I found that his attacks had been for five years almost continuous. When I thoroughly explained his condition to him he resolved to be an abstainer. Immediately after treatment he undertook an extremely exhausting project, and had a relapse seven months later; but since then (nearly two years ago) he has been free from any failure.

Case IV is that of Mrs. S., aged 55, who had been a pseudo-dipsomaniac many years—probably fourteen. She had scarcely ever been released from her malady for nearly six years. Treated two years ago, she had a rather severe relapse four months later, due apparently to a very severe attack of metrorrhagia. Suggestions to regulate the menstrual period were made, which appear to have been partially successful. Since then she has had a very slight lapse (ten months later), during which she drank three glasses of brandy and soda, but stopped of her own will.

In a few cases the improvement is very fleeting, relapse occurring in a few weeks. These patients sometimes blame the physician, but fortunately think that some one else may be more successful. I have no doubt that they improve again under a new influence. I have had several cases who had been treated by quite competent workers, but who came to me and refused to go to their original medical man. These cases have been successful, but I have no doubt that their original physicians would have succeeded equally well but for the caprice of the patient.

I should like here to record one case which is, I think, almost unique:

Mr. F., aged 52, with a bad family history, had been a combined chronic alcoholic and pseudo-dipsomaniac for many years, and for nine years had been steadily deteriorating. He had incurred severe head injuries nine years before. He drank in great excess, and was often violent. After being treated three years ago, he had one bad relapse, and two others of much less severity, in the first twenty months. Since then he has had none. But the most astounding thing about him is that he now drinks beer in strict moderation, and has done so for many months, without any sign or symptom of an attack. I have not allowed him to touch spirits.

This is the only case of the kind I have ever encountered.

I have also seen two cases of dipsomania—one of seven and a half, and the other of four years' standing, which are perfectly well, cured by the removal of insomnia. Both were ladies and both can drink in moderation, like any one else. In neither case was there ever any relapse in the way of an attack.

The first was rather a striking case, for she had never slept without alcohol and drugs for seven and a half years, and was so exhausted when she came to see me that she could only sit and cry. She was readily hypnotized, and I told her she would sleep nine hours that night without either alcohol or drugs. She did sleep nine hours, and has had good nights ever since, during some three years.

The other case also recovered after the first treatment.

In a case of menstrual dipsomania also, which I saw six years ago, the result has been an actual cure. The periods used to last ten days, and were very irregular and accompanied by great depression. The patient being under hypnosis, I suggested they should commence every fourth Saturday, endure Saturday, Sunday, and Monday, and then cease. The suggestion was exactly fulfilled. Since then there has been no relapse, and she is apparently cured, for she can drink alcohol like other people.

In conclusion, however, I can only repeat that no method can "cure" the true alcoholic, if "cure" must mean the conversion of a neurosis-afflicted patient into a normal human being with ability to take or abstain at will and without disastrous consequence. But treatment by hypnosis excels by its power to strengthen the sufferer in a necessary renunciation, to maintain his resolution throughout existence, to succour and renew him even after a fall, thus presenting to him hope and courage—possibilities of a recreated life of work and happiness.

DISCUSSION.

Dr. Crichton Miller could not help feeling that, after classifying his cases, Dr. Wingfield treated them very much on the same lines, and in that the speaker could not follow him. The chronic alcoholic was an individual in whom a habit of craving for alcoholic euphoria and of alcoholic indulgence had been established. For his treatment the first essential was restraint, for during the period of enforced abstinence the resistance of the association-paths gradually rose. If, during this period of enforced abstention, treatment by hypnotic suggestion could also be applied, it was probable that one would be able to attain results in three or four months which would otherwise take a year or even more. The pure dipsomaniac, on the other hand, was a totally different type. For him restraint was useless, because his indulgence did not depend on opportunity or temptation; it was psychogenetic. Probably the case Dr. Wingfield mentioned of a man who had been under restraint for three years and then drank on the day of his liberation was a pure dipsomaniac, hence the futility of restraint in his case. The pure dipsomaniac was an individual with an abnormal psychic reaction to the exigencies of his environment. The very important class of premenstrual dipsomaniacs was typical of this class. One such dipsomaniac would for three weeks in every month sit down at a table where alcohol was offered and consumed without the faintest desire to indulge, and yet at a given moment the craving came on her and if she could only get hold of methylated spirit she would drink it. Such a case was eminently a case for psychotherapy. As for drugs, he was convinced of the value of strychnine and atropine injections for the purpose of eliminating the craving during the period of psychic treatment, and until that treatment had got a hold of the patient and had implanted new aspirations and inspired new self-confidence.

Dr. Fisher (New York) said that many of the phenomena of dipsomania resembled those of epilepsy, for instance, especially the premonitory indications of an approaching attack, which might be either a sense of depression or of exaltation, just as in epilepsy; or, again, the attack might come on suddenly without warning. Its prognosis also bore some resemblance to epilepsy in so far as it was never possible to be sure of a cure even though several months had elapsed since the last seizure. In both conditions, too, cessation of attacks often occurred independently of any treatment. Emotional causes, in the speaker's experience, had at times had an influence in causing dipsomania; the shock, for instance, of some domestic loss, etc., was a case in point.

A CASE OF EXTENSIVE AMNESIA OF REMOTE DATE CURED BY PSYCHO-ANALYSIS AND HYPNOSIS.

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On April 24th, 1913, the patient, a man aged 38 and married, was brought into King's College Hospital suffering from the effects of a fainting fit, which had followed upon the strain of giving evidence as plaintiff in a law suit. Dr. W. Aldren Turner examined him and came to the conclusion that he was suffering from functional amnesia with some tendency towards dissociation of personality, and invited me to undertake the further investigation of the case. The patient's history showed a series of lapses of consciousness on different occasions, following on periods of mental stress and entailing a dimness or slight loss of memory for events immediately preceding the attacks.

1. At the age of 2½ years he fell from a linen basket, carried by a nurse-girl on her head, upon the stone floor, with resultant bleeding at the mouth and concussion.

2. In 1893 (aged 18) he fainted in his office, and showed a slight loss of memory upon recovery.

3. In 1896 (aged 21) he went down to stay with his prospective father-in-law at S——, and was found in the bathroom unconscious. He was ill in bed for a week. His memory for this event was very vague.

4. In 1900 (aged 25) his really serious loss of memory occurred. One evening towards the beginning of February while taking off his boots he suddenly became unconscious, and on regaining consciousness it was found that he had entirely lost his memory for all the past events of his life since September, 1897, that is, for a period of two years and five months. During the two or three months just before this attack he had been greatly worried and overworked fighting the directors of a company of which he had been appointed manager.

He was taken to a well-known nerve specialist, who advised rest and complete change of occupation, and up to the time of undergoing treatment from me during May, 1913, he had almost completely failed to recover any of these lost memories. When I saw him the last thing he could remember prior to his amnesic period was attending a friend's wedding in September, 1897.

I interviewed his wife and mother, and obtained from them as full details as possible of his past history, and especially of the events occurring between September, 1897, and February, 1900. According to his wife's statement, this period of memory loss corresponded exactly with the time during which he had been concerned with the business scheme which had caused him so much worry those few months just preceding his loss of consciousness in February, 1900. As manager of a certain company, he had come into conflict with the directors, who were missionaries, mainly because of his disinclination to mix business and religion. He was also especially antagonistic to a man, whom I will call X., who had been brought in as secretary, and was continually interfering with his plans. Another man towards whom he felt intense aversion was the managing director, Y., who towards the end threatened that he would have the patient's name "erased" from the door as manager. His wife told me that this did eventually happen, just before his loss of consciousness in February.

He was married in June, 1898, and lost his memory for this event with the others.

When he loses consciousness he falls and remains unconscious for about half an hour. On coming to, he stretches and complains of cold, and later on goes to sleep. His father suffered from similar attacks, and on one occasion was aphasic for an hour.

The patient on seeing me referred at once to the attack of 1896 as probably having something to do with his more serious attack of amnesia in 1900, and volunteered the information that he had been greatly worried just about that time by the serious business troubles of his father, which he explained to me in some detail.

In his last attack, in April, 1913, he had amnesia for the events of the previous two or three months, but this disappeared almost immediately.

Although the history of the case suggested epilepsy or some other injury of the brain as a contributory cause, it appeared to me that the main trouble was functional—that is, produced by mental causes, and therefore presumably curable by mental means. On the base of the results of a preliminary psycho-analysis I formed the theory that the lost memories included a *worry complex* which had become so disturbing that it was *repressed*—that is, the mind turned mechanically away from it, taking advantage of the temporary lapse of consciousness to do so, or perhaps the worry itself joined forces with an innate or acquired cerebral feebleness to bring about both the unconsciousness and the amnesia.

This complex had carried with it all other memories relating to the same period of the patient's life. If this unconscious complex could be once more dragged up into consciousness, it would lose the power it at present had of disturbing the mind, and the patient would then be less liable to such attacks in the future, since at present the unconscious memories formed a centre of attraction, and tended to drag down later memories connected with worry of a business nature. It is at least conceivable that a repressed sexual complex underlay the worry complex of 1900, perhaps dating from early childhood. Unfortunately the short time at my disposal did not allow me to test this possibility as it deserved, and, although the results I obtained in this direction were inconclusive, a more thoroughgoing psycho-analysis, such as I hope to be able to carry out in the near future, might have furnished sufficient evidence to bring the case into line with those numerous ones to which the theory of Sigmund Freud has been found to apply.

Psycho-analysis, in the form of word-association tests, was tried for three days. All the association times were longer than normal (normal = 1 to 2 seconds), but some were especially so, being as long as 20 to 30 seconds. These were the associations given with the stimulus words that bore upon the submerged business worry. Only one or two vague memories were recovered by this means, but from a scientific point of view the results were interesting.

On Wednesday, May 14th, I put the patient into the *hypnoidal state* (using a metronome), and gained the memories from September 1897 to Christmas 1897.

On Friday, May 16th, I tried *hypnosis*. The patient lost consciousness in five minutes, and proceeded to give a detailed account of whatever part of the amnesic period I chose to ask him about. His memories were in many cases charged with strong emotion, and, as he himself remarked, they seemed to be those of yesterday. After he had talked for three-quarters of an hour I gave him the post-hypnotic suggestion that, after waking up, when I should say to him, "Now, you remember all that you were describing to me in that chair just now, and will continue to remember them," he would remember them. I then woke him up, and he remembered nothing of what had taken place during hypnosis: but when, ten minutes later, I said the words just quoted, he sat up in his chair, looked at me in a surprised and somewhat startled way, and remembered everything.

On Saturday, May 17th, he still retained these memories, but now experienced a difficulty in realizing that he had ever been without them.

On Monday, May 19th, I psycho-analysed him with the same words that I had used previous to the hypnosis, and now got very different replies. The hypnosis had evidently broken down much of the previous *resistance*, but an interesting point was that this second psycho-analysis succeeded now in overcoming still other resistances, thus seeming to conflict with Freud's view that hypnotism, while overcoming some resistances, increases the stubbornness of those which it does not succeed in subduing.

In the accompanying table are given a few selections from the psycho-analytic results obtained with "significant" words:

Many other associations were equally significant, but for reasons of confidence cannot be quoted here. The results carry their own explanation with them, and confirm the theory which I had formed at the commencement of the treatment. The analysis of the patient's dreams pointed to the same conclusion. The general

Stimulus Word.	Reaction before Hypnosis.						Reaction after Hypnosis.	
		Secs.		Secs.		Secs.		Secs.
Newbury	Races ...	17.0	Nr. Henley	4.2	Town ...	18.0	Chemist ...	5.1
X (name)	Lancashire	14.0	Manchester	2.4	Fabric ...	6.0	Raises a lot of notions, *e.g.*, materials, individuals, "that swine at the — Company," etc. ...	28.0
Y (name)	M.P. ...	4.8	M.P. ...	5.4	Music ...	7.0	Z (name) [a fellow director] ...	8.0
Erased	Memory...	15.6	Memory...	20.0	Blot ...	14.2	Name ...	4.4
Suddenly	Thought	3.2	Illness ...	15.0	Thought	12.8	Action of falling ...	3.0
Door	Garden ...	9.8	House ...	12.0	House ...	5.0	Brings up half-glazed door with narrow glass panels (the door of the company's office, from which his name had been erased) ...	30.0
Snake	Individuals	22.0	Wood ...	9.4	Cunning ...	26.6	X (name) ...	2.0
Desk	School ...	14.4	School ...	5.1	School ...	3.2	Desk at place where he had worked before joining the company over which he had experienced so much worry ...	30.

impression that I gained while treating the case was that psycho-analysis prepared the patient's mind for hypnosis, and made the latter much easier of attainment than it otherwise would have been, and that a combined method of treatment, in this order, is far superior to the use of either separately.

The treatment seemed to do the patient good, quite apart from the actual recovery of his past memories. His mind had obviously gained in stability and placidity, and he left the hospital on Friday, May 23rd, apparently cured.

DISCUSSION ON VERTIGO.

OPENING PAPER.

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VERTIGO: ITS SIGNIFICANCE AND TREATMENT.

The term "vertigo" admits of so many different interpretations that it is most important to decide in what sense we intend to make use of it for the purpose of this discussion. In the most strict limitation of its use it is reserved to denote a condition in which there is a sense of rotation of the subject affected, or of surrounding objects. It seems to me that the discussion is likely to prove more useful from the practical, as opposed to the scientific, standpoint if we allow ourselves the licence of including under the term all conditions in which there is a sense of instability and insecurity, irrespective of whether there is an actual sense of rotation by the patient or of surrounding objects. The time at our disposal will, however, only permit of our considering the conditions which are capable of inducing the more severe feelings of insecurity, so that many others which induce minor degrees of instability must be excluded for this reason.

It is to be hoped that the conditions that have been selected for discussion will be considered the most important, and that although it has been necessary to include far more than is at all desirable, in view of the small amount of time that can be devoted to the subject, we may rely on the different speakers to limit their remarks in such a way that each of them will deal with some special aspect of the subject as far as possible, and thus contrive to make the discussion fruitful.

The experiences of different observers must of necessity vary according to the particular class of cases that they are brought into contact with most frequently, so that I am quite prepared to find that my experience is at variance with that of others who are to take part in the discussion.

Some defect in some part of the aural apparatus is, in my experience, the most common cause of the more severe forms of vertigo for which a patient seeks advice. The essentials to the diagnosis of aural vertigo are tinnitus or deafness, or both, as accompaniments. In the majority of cases both of these conditions obtain, but when only one of them is determined without the other, tinnitus is the more constant. Some other abnormal sensations that may be experienced, with or without deafness, are a full feeling in the head round the region of the ear, or a sensation of pulsation, instead of one of the sounds that constitute tinnitus.

It must be left to the aurists to say what they consider essential to the diagnosis of affection of the labyrinth, for their methods of arriving at a correct diagnosis of this condition have reached a high state of perfection. I must confess, however, that I am not infrequently at a loss to recognize why certain cases of vertigo are not regarded by them as belonging to this group.

Neurasthenia is not infrequently induced in the subjects of this variety of vertigo, which becomes aggravated in consequence of this, and in such cases it becomes essential to treat the nervous exhaustion, as well as the aural affection, if success is to be secured.

Neurasthenia may induce symptoms which simulate vertigo, however, of aural origin, for tinnitus may accompany the giddiness. It is more usual for the subjects of neurasthenia to suffer from hyperacuity of hearing rather than any defect of this sense, as is the rule in aural vertigo.

The order of onset of the symptoms may assist us in solving the problem, for many other symptoms due to nervous exhaustion may precede those which suggest any disturbance of the labyrinth. In this class of case the symptoms referred to the ear are bilateral, as opposed to their being most commonly unilateral in cases of aural vertigo. The sound is often referred more generally inside the skull, rather than specially to the ears.

Arterio-sclerosis of the cerebral vessels may also induce a train of symptoms associated with giddiness that may lead to confusion between this condition and vertigo of aural origin. It has been my experience to meet with cases in which the patient has been condemned as suffering from arterio-sclerosis when aural vertigo was really responsible for the symptoms. As aural vertigo is commonly met with in the subjects of arterial sclerosis, neither the state of the blood vessels nor that of the blood pressure can be accepted as unequivocal proof that the vertigo has its origin in the state of the cerebral circulation, as opposed to its being due to changes in the labyrinth associated with arterial degeneration of its vessels.

Changes of posture are capable of aggravating the vertigo in both classes of cases, so that it may not be possible to derive much useful information from this consideration. Headache, or a general feeling of fullness in the head, are important, but it must be remembered that the addition of neurasthenia to aural vertigo may equally well account for headache and other morbid cephalic sensations. A full feeling in the ears, with or without a sense of pulsation, may be complained of, as in aural vertigo; but this is bilateral, not unilateral, as is so usually the case in aural vertigo. A full, bursting sensation, which is felt in the head generally, is often an obtrusive symptom, and any sound or pulsation that is experienced is also referred to the head generally and not specially to one or both ears.

The absence of impairment of hearing favours the graver diagnosis, but it must be remembered that the subjects of aural vertigo may come under observation when there is as yet no gross evidence of impairment of hearing. A sense of rotation of the subject or of surrounding objects would weigh in favour of the aural origin of the vertigo, in spite of the fact that there may be the other signs that favour the view that it is due to arterio-sclerosis of the cerebral vessels.

Apart from the fact that vertigo and concomitant symptoms prove warnings that the subject is ripe for a vascular lesion of the brain, giddiness may be the immediate precursor or the accompaniment of hemiplegia, irrespective of whether this be due to rupture or occlusion of a cerebral vessel. In a special, though rare, group of cases vertigo occurs without paralysis, and yet with a suddenness of onset that makes it almost certain that it must be of vascular origin, in the absence of any concomitant symptoms to justify the belief that the labyrinth or cerebellum can be at fault, and in which it would seem not unreasonable to suspect a limited vascular lesion in the region of the vestibular nuclei in the pons as responsible for the phenomena, although I am unable to supply proof of this, as I have not been fortunate enough to secure an autopsy in any case of the kind.

The clinical picture presented by arterio-sclerosis of the cerebral vessels may raise the suspicion that the symptoms are due to intracranial tumour, and so closely may the two conditions simulate each other that it may require a considerable amount of experience to avoid errors in diagnosis, both in the absence of optic neuritis and in the presence of arterial and albuminuric changes in the retina. The state of the retinal vessels is all-important, as is the state of the arterial system in general, the state of the blood pressure, and the condition of the urine. Sclerosis of the blood vessels, a high blood pressure, and a condition of the urine which points to the existence of granular kidney, are all points that must weigh in favour of the vascular affection as opposed to tumour.

Ocular Vertigo.—The question as to whether vertigo that is due to ocular defects is ever so pronounced as to be confounded with the more severe varieties that are due to gross intracranial disease, or that due to aural affection, must be left largely to the ophthalmologists to answer. It may, however, perhaps be permitted for me to say that, while there can be no doubt that this question must be answered in the affirmative in so far as acute paralytic

affections of the eye muscles are concerned, I am a little sceptical as to how much of what is put down to errors of refraction is justified where severe vertigo is under consideration.

Gastric and hepatic vertigo can certainly be of sufficient severity to be confounded with that of aural or cerebral origin, and, inasmuch as vomiting may be the outcome of the vertigo induced by these latter causes, some care may be needed if errors in diagnosis are to be avoided. We must naturally rely on the existence of other evidences of hepatic or of gastric derangement. The order of onset of the symptoms is, of course, important, for in these cases gastric symptoms antedate the others, including vertigo; whereas, when the vertigo is cerebral or aural in origin, vertigo occurs before nausea or vomiting is experienced, and the abdomen is free from pain, except in so far as may result from the strain of vomiting. The detection of any positive signs of gastric or hepatic derangement on examination of the abdomen, and the absence of any distinctive signs that can be regarded as clearly indicating affection of the brain or labyrinth, must complete the diagnosis.

Vertigo in epilepsy is especially liable to be confounded with that which is aural in origin.

In trying to decide which condition is responsible for the vertigo much reliance has to be placed on whether or not consciousness is lost, but it is sometimes far from easy to decide this point. The suddenness with which a patient may be hurled to the ground by an attack of aural vertigo may result in so much mental confusion that it is difficult for the person to be sure that consciousness has not been lost for a brief period of time, so that many other things may have to be taken into consideration before we can be reasonably certain of the correct diagnosis. It is only in the absence of convulsions that any difficulty can arise, as convulsions do not form part of the clinical picture of aural vertigo. There is not the same tendency for the giddiness to persist on return of consciousness in epilepsy, as is the case in the subjects of aural vertigo after they have regained full possession of their faculties. The sphincters are never relaxed in cases of aural vertigo, as may happen notably with the sphincter of the bladder when the attack is due to epilepsy. There is also not the same tendency to fall off to sleep after the attack, as may happen in epilepsy, but this feature is so often absent in otherwise typical cases of epilepsy that we cannot place much reliance on its absence in our attempts at differential diagnosis.

More important than this is the question as to whether tinnitus is a symptom, and if so, under what circumstances this manifestation obtains. The existence of tinnitus naturally suggests the probability that the attack is aural in origin, but before allowing this symptom too much weight in diagnosis, it is necessary to remember that it may also be the precursor of an epileptic attack. When this is the case, however, the tinnitus only occurs as an aura, and does not persist in the intervals between the attacks; whereas when it is a symptom of aural vertigo, although it may be accentuated for some time immediately preceding the attack of vertigo, it persists in the intervals between the attacks, even if only in diminished intensity, as compared with the degree of tinnitus experienced just before the attack. The same may be said of deafness or of a feeling of fullness in the ears which may usher in an attack of epilepsy, neither of which persists in the intervals between the attacks. Deafness, like tinnitus, may be accentuated just before an attack of aural vertigo, but it is also to be determined, even if only in moderate degree, in the intervals between the attacks.

A study of the behaviour of the tendon-jerks and of the superficial reflexes, although so important in the diagnosis of epilepsy when convulsions form part of the clinical picture, is not likely to be of much assistance, as these phenomena are not likely to be altered in any characteristic way in the class of case of epilepsy without convulsions that is liable to be confounded with cases of aural vertigo.

Vertigo as a symptom of intracranial tumour is most likely to be met with as at all a prominent symptom when the tumour is situated in the cerebellum or its vicinity, although it is open to question as to whether this symptom is due to any destructive effect of the cerebellum itself, or whether it is due to interference with the vestibular nerves or their nuclei in the pons. It is only in the absence of optic neuritis that real difficulties in diagnosis are likely to arise in this class of case, as a rule; but even with optic neuritis it is not always easy to be sure, in the subjects who have reached an age when arterio-sclerosis may exist, as to whether this condition with or without concomitant renal affection is to be held responsible for the retinal changes that have been determined, or whether they are to be ascribed to increased intracranial pressure induced by a tumour. When it is remembered that definite evidences of renal disease may be absent in many of these cases, and that there are some in which signs of general arterio-sclerosis are also but slightly if at all marked, it will be readily understood that the diagnosis is not always easy.

The most common seat of a tumour which induces vertigo as one of its symptoms being in the vicinity of the cerebellum, where it can so readily interfere with the vestibular nerves and their connexions, it naturally follows that deafness is liable to result in such cases, and this possibility of aural vertigo is raised as an alternative diagnosis. The existence of facial paralysis in conjunction with the deafness and in the absence of suppurative disease of the middle ear, is reliable evidence of gross intracranial mischief, as such paralysis of the facial nerve never occurs in cases of aural vertigo, except when there is suppurative disease of the middle ear. Paralysis of any other cranial nerve would be even stronger proof in the same direction, for although, as in cerebellar disease, nystagmus may be a feature of aural vertigo, the ocular nerves are never paralysed, as may occur in the case of a tumour in the vicinity of the cerebellum. Assistance may be forthcoming from an investigation of the trunk and limbs, for even in the absence of any definite paralysis in those regions, the superficial reflexes may be altered in a manner that clearly denotes that gross intracranial disease, rather than aural vertigo, is to be blamed for the abnormalities determined. In this connexion it cannot be too strongly insisted that exaggeration of the tendon-jerks is of no value in the differential diagnosis, as a highly irritable state of the nervous system may be induced in the subjects of aural vertigo which permits of exaggeration of the tendon-jerks without its being necessary to invoke gross organic intracranial disease to account for this state of things. It is otherwise when absence of the tendon-jerks or true ankle clonus can be determined, as these conditions cannot be induced by aural vertigo; and the same may be said of absence or blunting of the abdominal reflexes on one or both sides, and of the extensor type of plantar reflex (Babinski's sign).

Vertigo in General Diseases of the Nervous System.

Disseminated sclerosis is the general disease of the nervous system, organic in nature, which most often occasions vertigo, for, although deafness is not uncommon in tabes, this state of things is seldom accompanied by vertigo. Although rarely so severe, it may be a very pronounced symptom in disseminated sclerosis, and may, alone or accompanied by vomiting, for the time dominate the clinical picture, and thus overshadow other manifestations of the disease.

Nystagmus is common to this affection and to aural vertigo, but diplopia, so frequently complained of by the subjects of disseminated sclerosis, finds no place in the uncomplicated clinical picture of aural vertigo. Apart from deafness, if paralysis of any other cranial nerve is determined, this would naturally at once exclude the possibility of uncomplicated aural vertigo; but, apart from the ocular defects that are met with, it is extraordinary how rarely paralysis of any of the other cranial nerves is met with early in the clinical history of cases of disseminated sclerosis—that is, at a time when diagnosis would be at all likely to be difficult.

Defects of vision, with or without confirmatory evidence as determined by the ophthalmoscope, in the shape of optic atrophy, defective action of the sphincters, notably that of the bladder, with a tendency to incontinence of urine, and alterations of the tendon-jerks and superficial reflexes in the manner met with in organic affections in which the pyramidal system is implicated, are amongst the most important evidences on which a diagnosis of disseminated sclerosis can be based.

Tumour of the cerebellum is liable to be confounded with this disease, and a correct diagnosis between the two

is especially important, because operation for relief of intracranial pressure, or in the hope of removing the supposed tumour, is apt to be recommended in such cases.

Did optic neuritis occur at all frequently in disseminated sclerosis the diagnosis might become very difficult at times; but happily this state of things must be rare. Retro-ocular changes and pallor of the disc are the rule in disseminated sclerosis, without any signs of what could be confounded with the papillitis of an intracranial tumour. Nystagmus is common to both affections, as is paralysis of ocular and other cranial nerves; but whereas these are only liable to be involved in notable degree on one side in tumour in the vicinity of the cerebellum, their affection is more likely to be bilateral and at random in cases of disseminated sclerosis.

In uncomplicated affection of the cerebellum the tendon-jerks and superficial reflexes supply valuable information, for the evidences of implication of the pyramidal system so constantly met with in disseminated sclerosis are not forthcoming. Similarly, sensory changes are not induced, and the sphincters are not affected. In all these considerations, however, the fact that a tumour in the region of the cerebellum may also implicate the pons must not be lost sight of, so that due weight must always be given to this possibility in our deliberations.

Treatment.

How important it is to arrive at a correct diagnosis as to the cause of vertigo is evident when we recall the fact that a line of treatment that is indicated by one class of case may prove actually harmful in another. We have but to contrast the treatment called for in neurasthenia with that which is imperative in arterial sclerosis, or that which may be indicated in a case of intracranial tumour as contrasted with what should be done in a case of disseminated sclerosis, to make the truth of this abundantly evident. If further proof were needed, we have but to think of the futility of medicaments when glasses to correct an error of refraction are what are really needed to put an end to the vertigo, and to remember that, although treatment directed to the stomach and liver may do good in certain cases in which, although not the primary cause of the vertigo, disorder of their functions are tending to aggravate the condition, such treatment cannot cure the vertigo when the brain or labyrinth and not the stomach is really at fault. Trephining or energetic treatment by mercury and potassium iodide may be urgently called for where valuable time is being lost in the treatment of a vomiting that is central and not peripheral in origin.

Among the affections considered there are only two the confusion of which is not material in so far as treatment is concerned—aural vertigo and epilepsy—for bromide is the drug on which most reliance has to be placed in the treatment of either of these affections. While recognizing that removal of the cause is of primary importance in the treatment of any disease, this is far from possible in many cases of vertigo, and treatment directed with this object in view is often far from successful. It therefore becomes necessary to alleviate the symptom as best we can in the presence of the cause in many cases, and this may be all that can be done, or such measures may only be necessary until the treatment directed towards the removal of the cause can effect this end, or modify the deleterious consequences that have resulted.

Rest and the avoidance of movement of the head are important elements in the treatment, as movement so often aggravates vertigo. Sedative drugs play an important rôle in the treatment of all cases except when the eyes are at fault, and no drugs are so useful as the bromides. In my experience they must be given the first place in the treatment of aural vertigo, in so far as drugs can effect any good, and are to be regarded as superior to quinine in the treatment of this affection. Moreover, I have not been able to satisfy myself that the treatment of this condition by hydrobromic acid is as effective as when one of the bromide salts is used.

It has to be borne in mind that, in addition to the real cause of the vertigo, associated factors may be in operation tending to aggravate the condition. Thus an error of refraction may increase the tendency to vertigo in the subject of aural vertigo, and the same may be said of dyspeptic troubles, constipation, and the like. Furthermore, the patient suffering from aural vertigo may tend to fall into a condition of neurasthenia, which increases the tendency to vertigo, and which may call for active treatment on lines best calculated to re-establish the general tone of the nervous system. Thus I have known the most marked improvement in the vertigo of aural origin after a "rest cure" in patients in whom it had proved rebellious as long as the neurasthenia had been allowed to go untreated. I must not make it possible for it to be said that I have insulted an audience of the kind that I am addressing by referring to wax in the ear as a cause of vertigo and its removal the only thing needed to effect a cure, and I must leave it to the aurists to tell us what operative measures are feasible and permissible in so far as affections of the labyrinth are concerned in causing vertigo.

DISCUSSION.

Mr. Sydney Scott (London) said he had been invited to speak from his experience as an otologist. Vertigo was a very wide topic — its causes were manifold. The neurologist investigated the cause in the central nervous system, working peripheralwards, while the method of the otologist naturally commences at the periphery, thence the research was carried centralwards. At Queen Square both systems of inquiry were in vogue. The speaker laid stress on the necessity of thoroughness and accuracy in examining the external auditory meatus and tympanic membrane, even in simple cases of "wax in the ear." As one instance he cited the case of a well-known medical man, who was unable to practise for several weeks and was put to considerable expense on account of vertigo caused by a piece of cerumen, which had been reported to have been removed, but which he dislodged from the sinus of the meatus, where it lay wedged against the lower part of the membrane. If the tympanic membrane were intact the investigator would direct attention to the nose, pharynx, and Eustachian tube. It seemed rather surprising, and might be significant of an often overlooked cause, how frequently one Eustachian tube was found obstructed in patients complaining of vertigo. To ascertain the state of the middle ear it was necessary to listen through an auscultatory tube for the sound of impact of air in the tympanum. The well-known method of auto-inflation and that of Politzerisation might fail to give reliable information, and then the Eustachian catheter was invaluable. Even the catheter had its limitations, and it was sometimes puzzling to tell whether the sound of inrushing air in the case of a constricted tube was due to weak air entry into the tympanum, or to the impact of air against the walls of the Eustachian tube. The "thud" produced by inflating the unobstructed tube was unmistakable, but it was another matter when catarrh existed. As for cases of vertigo in which there was no cerumen, no middle-ear suppuration, and no Eustachian obstruction, the patient was tested in respect to the hearing and vestibular functions. Tone range appreciation was determined for each ear, by means of the Bezold-Edelmann apparatus, supplemented with the steel monochord. As a rule, loss of appreciation for low tones, borne by air, with fair appreciation for high tones, were found in obstructive deafness, adhesive processes in the middle ear, and oto-sclerosis. But sometimes the same responses to tests were found in cases of auditory nerve tumours. Appreciation for low tones, with loss of appreciation for high tones, was of course still recognized as a usual sign of a common form of senile deafness, often called "nerve deafness," but curiously enough, this complex was not usually found in deafness produced by gross lesions of the auditory nerve. In the latter conditions, the signs were often anomalous, particularly in unilateral lesions, showing their knowledge of the matter was far from complete. Finally, the examiner's attention was directed to the vestibular apparatus. Rotation, caloric, galvanic, and compression tests were applied in turn. These tests, and the pointing tests so carefully elaborated by Bárány, represented the special methods at the disposal of otologists for investigating the causes of vertigo and allied symptoms. When the cause had been ascertained, the indications for treatment might be obvious. Of special interest to the aural

surgeon were the infective diseases of the labyrinth. It might be of the utmost importance to recognize the significance of vertigo when it was produced by a fistula of the semicircular canal or by pus in the labyrinth, for these were the most frequent and immediate precursors of leptomeningitis due to ear disease. Such meningitis could be prevented by timely surgical intervention and drainage of the labyrinth, or the meningitis even might be arrested by removing the cause, and providing for free escape of cerebrospinal fluid through the labyrinth (*Arch. of Otology*, 1908, Scott). When one remembered the complacency with which many patients regarded the slighter degrees of middle-ear suppuration, which might progress in a quiet, almost unrecognizable form unless specially sought for, it was not surprising that the cause of vertigo was so often missed. That the diagnosis was not always obvious was shown by the frequency with which true labyrinthine vertigo was attributed to "hysteria," "neurasthenia," disseminated sclerosis, or "gastric influenza." Fortunately they had a system of investigation which should enable them to exclude such diseases; but there remained a class of case which he sometimes saw labelled "auditory vertigo," in which no defect of the auditory apparatus could be discovered. The neurologist and ophthalmologist would agree that some of these cases must be due to causes at present unknown. As to the cases of recurrent vertigo associated with defects of hearing and tinnitus without any signs of disease of the tympanic membrane or middle ear, the speaker thought many of these were due to degenerative changes. In some Wassermann's reaction for syphilis was positive. Haemorrhage into the labyrinth was very rare. In many cases recovery from the Menière symptom-complex was probably spontaneous and in spite of drugs. Nevertheless, he knew of nothing better than the bromides in the non-syphilitic cases, though he did not regard them as specifics. He believed they acted indirectly, by rendering the patient less sensitive to labyrinthine disturbances during the period which sufficed for spontaneous recovery. The destruction of the non-suppurating labyrinth was rarely called for to cure vertigo, the great disadvantage being the total loss of hearing it necessarily produced. Still there were cases in which such a sacrifice did seem justified.

Dr. HARRY CAMPBELL (London) confirmed Dr. Risien Russell's remarks as to the difficulty of diagnosing between vertigo due to labyrinthine disease and that due to sclerosis of the cerebral vessels. He referred in this connexion to the fact that Dr. Bonnier had described, in cases of granular kidney, changes in the vessels of the cerebral meninges and labyrinthine membrane similar to those found in the kidney. In such cases the vertigo might be due to the condition of the labyrinth rather than to that of the cerebral vessels. That eyestrain was competent to produce vertigo was shown by the fact that the artificial defect of refraction produced by lenses, or the artificial insufficiency of the extrinsic muscles produced by placing a prism in front of one eye, might each produce marked vertigo. He appreciated Dr. Russell's remarks as to the difficulty often experienced in diagnosing between aural vertigo and epileptic vertigo and the rules he had formulated for diagnosing between them. The vertigo met with in cerebellar tumour was due, not to involvement of the cerebellum, but of the vestibular nervous apparatus. It was important to remember that aural vertigo might result from indirect involvement of the labyrinth, from irritation in the meatus and mid-ear. Thus not only might vertigo be removed by removing a mass of hardened cerumen from the meatus, but by inflating the mid-ear in cases of Eustachian obstruction. Though one naturally looked for help in cases of aural vertigo from electro-therapeutical treatment, there was at present little evidence that it had been effective. In cases of vertigo with excessive blood pressure means should be taken to lower the pressure.

Dr. LEONARD GUTHRIE drew attention to vertigo in early life. Children rarely complained of vertigo, even when suffering from cerebellar tumour. As a rule, one could only surmise the existence of vertigo from the patient's difficulty in maintaining equilibrium. In young infants one had not even this assistance. As possible instances of aural vertigo in young children he would mention spasmus nutans, gyrospasm or nystagmus and head-nodding, common in infants between the fifth and twelfth month. The fact that in such cases nystagmus only occurred, or was exaggerated, on steadying the head, and also that the head-rolling ceased when the affected eye was covered, suggested that objective vertigo—that is, the sensation that surrounding objects were in motion—was the cause. The nystagmus, in fact, was comparable to that seen in any person looking out of the window of a train in motion. Such children were usually hypersensitive to sound, which, again, suggested an aural origin. An analogous condition was seen in head-rolling in infants of similar age, which, as Dr. Still had pointed out, was in 15 of 29 cases due to latent mid-aural catarrh. In children past infancy, night tremors, associated with a sensation of falling from a height, were examples of labyrinthine disturbance. Similar vertigo sensations occurred by day, and caused the patients extreme alarm. Tonsils and adenoids were often present in such cases, but, as Dr. Russell had mentioned, the best treatment was by bromides. The aura of migraine was sometimes auditory, and also the epileptic aura.

Dr. ALDREN TURNER said: I propose to confine my remarks to one aspect only of this subject—namely, the occurrence in some cases of aural or labyrinthine disease of attacks having some of the features of an epileptic fit, and to consider briefly whether these attacks are minor labyrinthine vertiginous seizures to which a loss of consciousness is superadded, or whether they are epileptic. Sir William Gowers originally drew attention to these attacks in his well-known work on the *Borderland of Epilepsy*. He showed that the resemblance was only to the minor form of that disease, and that the likeness was seen in suddenness, swiftness, and brevity of the attacks, in loss of consciousness, and in a tendency to their occurrence during sleep. In a survey of a large number of cases of chronic internal ear disease which have passed through my hands I found cases in which attacks occurred which differed from the vertiginous attacks characteristic of Menière's vertigo. These atypical seizures were of short, almost momentary duration, were characterized by temporary loss of consciousness, and were usually accompanied by a fall. In some cases they were the feature of the disease throughout the period of observation, in others they occurred in common with ordinary vertiginous attacks without loss of consciousness. Sometimes the attack terminated with vomiting. In 2 cases, a family predisposition to epilepsy was given. In all an examination of the ears showed old-standing disease either of the middle or the internal ears or a combination of both. In 4 out of the 6 cases there was nothing in the features of the attacks, as described, to lead one to say that they were either minor epilepsy or minor labyrinthine vertigo, to which a momentary loss of consciousness was superadded owing to the suddenness and intensity of the seizure. There were 2 cases, however, in which the border-line between vertigo with loss of consciousness and true epilepsy seemed to be crossed. In one of these patients, an old-standing case of bilateral deafness and tinnitus, with occasional vertiginous seizures, attacks developed after fifty years of age, in which consciousness was lost, the patient fell suddenly, and the tongue was bitten. The onset of the seizure was preceded by an exclamation of "Oh! Oh!" There was nothing in the mental condition suggestive of epilepsy. The attacks were permanently arrested by aid of the bromides. The second patient, who suffered from unilateral labyrinthine disease, had attacks of loss of consciousness, which terminated with twitchings about the mouth and lower jaw. That this was a case of true epilepsy in association with aural disease was probable, from the fact that when a young woman she had suffered from "faints" for some years, in which consciousness was lost. From this it would seem as if minor labyrinthine vertigo may, in some cases, be associated with a momentary loss of consciousness, and in other cases in which a predisposition to epilepsy may exist, may actually give rise to attacks having some of the convulsive features of the epileptic fit. I would suggest that it is more in harmony with present knowledge to classify these attacks as "epileptoid symptoms," and to regard them as one of the groups of the so-called "reflex epilepsy," in which the excitation to the

seizure is a temporary periodic disturbance of the internal ear in cases of old-standing labyrinthine disease. We may see in consequence in certain cases attacks of Menière's vertigo assuming features indistinguishable from minor epileptic attacks, in respect of the loss of consciousness and the fall, but as far as the observations permit, distinguishable from true epilepsy by the absence of the mental and physical stigmata of that disease.

Dr. Shore asked Dr. Russell as to the prognosis in cases where the lesion was primarily labyrinthine, and whether, with the onset of complete deafness, the vertigo was relieved.

Dr. Colin Russel asked Dr. Risien Russell whether he did not think that some cases of vertigo were purely cerebellar in origin.

Professor R. J. Anderson (Galway) said that injury to the cortex of the cerebellum might produce a change in the co-ordination (so called) of the muscles of the limbs. There was sometimes an increase of action of the extensor group and a delay of the flexor group. After a time the effects might pass off and a new lesion of the cortex might induce like symptoms. The optic thalamus was regarded by some as an important factor (a deep centre of sensibility) that might bring about the hyperextension and delay in contraction of an opposing group.

Professor J. B. Bradbury said that, speaking as a general physician, he thought that the stomach was often the cause of vertigo, and that in certain diatheses—gouty vertigo was very common, although he admitted that arterial changes might play a part. He thought that antisyphilitic treatment was often successful.

Dr. Grainger Stewart (London) said vertigo was not often associated with nystagmus of organic origin, except in cases where the cerebellum was implicated. It also occurred in cases with very fine, rapid nystagmus, which was only detectable on ophthalmoscopic examination. In acquired nystagmus, on the other hand, such as miner's nystagmus, vertigo was one of the most constant and distressing features, and occurred in over 80 per cent. of the cases. Vertigo due to arterio-sclerosis was very common and was generally thought to be due to the raised blood pressure. This was true in many cases, but careful examination revealed the fact that in some it was due to a lowering of the blood pressure, usually in cases whose normal pressure was 140 to 160 mm. The effect of lowering the blood pressure in such cases was disastrous, as the patient complained of vertigo, fullness in the head, and great lassitude. But, apart from arterio-sclerosis, variations in blood pressure were frequently responsible for vertigo. In these cases the cause might be found in the absorption of by-products of intestinal digestion or in individual susceptibility to various proteins. He agreed with Dr. Russell that bromide was the most serviceable drug, and that, as a rule, it lessened the discomfort if it did not remove it.

Dr. Ashley W. Mackintosh thought that Oppenheim's statement that attacks of vertigo occurred in almost every case of disseminated spinal sclerosis was an overstatement of the frequency of the symptom. In 110 cases examined by the speaker vertigo was complained of in 25. It was of great importance to remember that vertigo might be a very early or the first symptom of the disease. Illustrative instances were given. In one case the only symptoms for three months were attacks of vertigo, occurring two or three times daily, of such severity as to make the patient fall. The speaker threw out the suggestion that in some instances the vertigo might be related to the nystagmus, and therefore of ocular origin; it was very suggestive that vertigo and nystagmus was so frequently combined. As regards treatment, he agreed that bromide was the most valuable drug, and thought that the addition of belladonna often increased its effect: in some cases large doses of hydrobromic acid appeared to be more useful than bromide. In two cases lumbar puncture was performed with no result.

The President, Dr. James Taylor, congratulated the Section on the discussion. He expressed his thanks to Dr. Russell for directing attention to vertigo of auditory origin as contrasted with the vertigo of purely neurasthenic origin. He also referred to sea sickness as probably originating in disturbance of the labyrinth, and pointed out that the remedies useful in that disorder were those referred to as successful in the treatment of vertigo. Dr. Taylor also referred to the difficulty in distinguishing in many instances between cases of cerebellar tumour and cases of disseminated sclerosis, and he agreed with Dr. Bradbury in recognizing the importance of the treatment of diatheses. He congratulated the Section on the very interesting and suggestive contribution of Dr. Guthrie to the discussion in dealing, as it did, with vertiginous conditions so little known as those in children.

TRUTHS ABOUT MENTAL HEALING.

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The belief that mental disturbances are caused by "possession" is by no means extinct, although it no longer takes the crude form illustrated by the Egyptian skull in the British Museum, off which a piece has been sawn to let out the evil spirit. But the belief of some students of the morbid psyche is hardly less metaphysical than that of the exorcisers of the Middle Ages. Those cast out a devil by a shibboleth of words; nowadays it is done by a tapping of the subconscious or dual personality—a shibboleth of ideas.

It is supposed by some that a second self or subconscious mind can be reached in a superior manner by what is piously called "suggestion," as if suggestion were not a means of introducing ideas practised daily and hourly by everybody. As a matter of fact, the inculcation of ideas by the psychological process called suggestion is reprehensible rather than advantageous where a constructive and rational directing of thoughts and feeling is desired.

Suggestion.—The man in the street—and as regards morbid psychology few medical men are yet in a better position—if he ever thinks about it at all, probably thinks that suggestion is either "claptrap and twaddle" or something marvellous and mystical, or like the old electric fluid of our fathers, almost like something you could put in a bottle and take before going to bed. Even physicians have been heard to speak of "giving a little suggestion." Actually, suggestion is merely the process of getting an idea accepted by the mind of the subject, by slipping it, as it were, past the guard of his attention or criticism. This may be done in various ways. For instance, it may be done indirectly when the subject's attention is lulled, as by a political harangue or theological exordium.

Ecclesiastical Suggestion.—The faith-healing cults really act by suggesting the disappearance of inconveniences. Each of them, of course, removes symptoms in cases where there is a false idea at the root of the trouble, because each, if successful, removes the false idea.

The very distinct advantage, however, which one of these cults has over many other methods of suggestion is that its teachings are positive though they appear negative. It not only removes a false idea, but it fills up the hole again with a positive belief that all is well. This is obviously more efficacious than methods which merely aim at the removal without substitution of the false idea. The suggestive power is, of course, further tremendously strengthened by the religious aspect. The fault of this cult's procedure in its application to nervous disorders, even apart from the obvious danger of misapplication to physical disorders, is that it substitutes for the original distorted thinking or false idea an equally false, unreasoning, and treacherous optimism.

For instance, a prominent business man in one of the larger southern cities was attacked recently by the condition which precedes and leads to arterio-sclerosis. A specialist ordered certain exercises and a dietary, but the real estate man adopted Christian Science. He believed himself to be cured, being possessed by the idea that "God is all: God is Good: All is Good." Hence his natural business caution was replaced by an unreasoning

and happy-go-lucky optimism. Result: Rash speculation' financial ruin, and suicide in six months. Of course, there are many suicides of persons who have not embraced faith-healing cults, and one might argue that this man might have committed suicide in any case, but I wish to point out that such cases can now be prevented by modern psycho-pathological methods, and that the inefficacy of the procedure employed by this man is clearly shown by the considerations in this article. His blind faith was tantamount to hiding his head from calamity, so that when he could no longer hide from it it overwhelmed him. The rational procedure would have been to have fitted his psyche to prevent or avoid the catastrophe which he had seen months before.

Suggestion of any kind is a very crude measure at best and does nothing to build up self-mastery. It weakens rather than strengthens the resistance to incoming ideas or habits in the future. It makes one dependent upon the behest of another. It is a morphine of the soul.

Not only so, but it is inadequate to remove symptoms when compared with the superior analytic and synthetic methods we now possess.

Here is a case which shows inadequacy of crude "suggestion."

CASE I.

A North Carolina boy was afflicted by what is called a "barking and roaring" tic. When he sat down he would utter a series of barks, and at the same time the trunk would double up. The attacks had begun suddenly three months before in the middle of the night after he had eaten sandwiches sent by his parents from Washington and had been thinking despondently about how nice it would be to be back there. He had also been thinking a good deal about his inside for which he had been much doctored. This patient had been treated by electricity, which he was assured and no doubt believed, would cure his trouble. Then by direct suggestion, and finally by the powerful suggestion of the strongest medicine known, a drug obtained from some remote country and guaranteed to cure. All these methods proved utter failures.

In this case it is plain that the suggestion used hurled itself against the symptom only. The method was wrong because the very prescribing for the "affliction" bolstered up some false idea that was responsible, while trying to eradicate its result.

Psychotherapy.—Opposed to the irrational and haphazard methods we have just examined is the real psychotherapy. It is a science dependent neither upon "suggestion" (though it sometimes avails itself of this method as a short cut to save time in selected cases), nor upon morbid anatomy (though the diagnostic knowledge of this branch of medicine is a prerequisite to its efficient practice). Neither does it rely upon the domination of the weak and ailing by a stronger will. And the mere development of confidence in the doctor is not its secret. If any proof of this last fact were needed I could cite very many cases where both doctor and patient have marvelled at the failure in spite of complete faith in the doctor. The North Carolina boy case above cited was just such a case.

The real psychotherapy is rather a method of scientific psycho-analysis and synthesis, a dissection of the mental tendencies until the real root of the fault is detected, followed by a putting of them together pointing in a new direction, so to speak, and keeping them pointed in this healthy direction by frequent adjustment of vacillations, and the seeing that the patient's own will is used in the effort. It takes time and much skill as well as knowledge of psycho-pathology. Its *rationale* may be illustrated by two cases, the first of which shows the effect of a correct analysis, the second that of psychological drill. In the first, only enlightenment was necessary; in the other (to save time) mainly the second was used.

CASE II.

A young newspaper reporter in Paris some years ago had suffered ever since he could remember under a vague, uneasy, haunting sensation or fear. He was not afraid of anything in particular; it went deeper than that. The fear in him was chronic. He was keen minded and intelligent, realized perfectly what the matter was, and tried every method he could think of to overcome it. He put himself through the most arduous tasks and dangerous feats. For instance, he had gone out alone and earned his living with his hands, sometimes in places where he had to, and did, hold his own with the roughs of steamships and lumbering. Briefly, he had tried and accomplished everything of which he imagined that he could be afraid but with no result. The sensation of fear always remained, haunting and troubling him whatever he was doing. When he was in good health and spirits, and interested and busy, it was not so bad: when he was under par the volume of his fear always increased, until sometimes it almost made his life unbearable. Finally, after twelve years of the struggle, and run down by a long period of overwork and insufficient sleep, his resistance broke, and he went down before one of the most terrible of all mental maladies, "paroxysmal fear," in which the sufferer crouches, shivering, with a feeling as if a human hand were gripping him across the chest, and with scalp prickling at the slightest sudden noise, a helpless prey to great waves of fear which go surging through him.

This account is mainly that of the patient himself.

At this stage he was seen and treated by no less than three so-called specialists. The method of each was the same. He was suggested *ad nauseam* by every means the imagination could devise. But the result was, as in the case of the North Carolina boy above, an utter failure.

Then he was taken in hand by a skilled psychotherapist. Two of his questions led at once to a revelation of the secret of the malady. It was discovered that as a child his life had been almost a nightmare. He had been sent, upon his parents' death, at the age of 4, to live with an uncle whose chief delight seems to have been, partly perhaps through a love for bullying, and partly because he thought he was "hardening" the child, to continually frighten the wits out of him. He had been chased out of the house and up to the top of a tree naked in the snow when he was only 5: he had repeatedly been thrown out far into the sea, over his head, and pulled out just in time to save him from drowning before he was 6. A customary and frequent (almost weekly) form of punishment had been to snatch him up out of his sleep in the morning, and begin to thrash him without warning and before he was thoroughly awakened. The result of ten years of this treatment followed as simply and as inevitably as the night follows the day. Fear became chronic, not fear of anything in particular, but the abstract sensation of fear dissociated from any immediate cause.

The method of treatment was simple. The patient was placed in a passive state to increase his receptivity. The first step was to give him sleep. This was induced by the psychotherapist while the patient was in bed. Nights of sound sleep followed the suggestion. No attempt was made, as had been before, to insult his intelligence by trying to make him believe that the thing that was torturing him did not exist. He was, on the other hand, enlightened as to both its nature and its exact cause. As soon as his tired brain grasped the situation, which was not for several days, and he realized that the abnormality he suffered from was not a sign of degeneracy but logical and inevitable, though horrible, growth, he recovered, and to satisfy himself spent the next two nights wandering about in the roughest parts of the most vicious slums of the city, seeking causes of offence.

The cure in this case looks at the first glance something like the method of suggestion. But the point is that what seemed like "suggestion" (the use of the hypnoidal state) was merely a part of the treatment rendered necessary in this particular case by the fact that the patient's mind was so exhausted by the struggle he had been through that it would not of itself grasp new ideas. In other words, what constitutes the whole stock in trade of the suggestioner was here simply selected as the appropriate instrument with which to open a puzzled, weary mind in order that there might be let therein the enlightenment of the real psychotherapy.

The second illustration concerns the North Carolina boy referred to above. Here, because there was not time, there was no attempt to delve completely into the mental life of the patient, but it was deemed sufficient to rectify the physical manifestation of his mental disorder, whatever its precise nature might have been. And note well that this was done by physical means. There was no attempt (such as had been made by the previous suggestioners) to bludgeon in, by mental suggestion, a sort of panacea, a cure-all, like the belief of the Christian Scientists, and thus reverse the whole trend of his mentality without the least attempt to discover either what the matter was or how it arose. This patient was placed in a reclining chair. The muscles of the abdomen were pointed out and their activities explained to him, and he was taught how to voluntarily move them and by doing so counteract the spasms which were making his life unbearable. Two days' drill sufficed, and the patient was and still remains cured.

But many other medical situations are to be met by psychotherapy, and only by that. Even pain is a symptom which may be purely psychological, in which case only psychotherapy can remove it. The failure of empirical suggestion and the success of rational psychotherapy in such a case is well illustrated by what follows:

CASE III.

A woman, aged 28, whom I saw in February, 1911, with a physician to whom she was referred by a country doctor in the preceding June, had had a chill, after which she cried.

The next day she felt very weak, and the next day she had pain in the knees—she thinks only in the left—with hyperaesthesia. There was also, she says, tenderness of the lumbar spine, and later on in the groin and hip. She was treated by massage, and for four months was relieved. About Christmas time these pains recurred when her sister visited her. There were then nausea and persistent dull pain in the knees which caused her to groan in her sleep.

Examination was negative, except that there was great hyperaesthesia of both knees and one arm. Also the right abdominal reflex was absent and the abductor reflex was exaggerated on the same side. I decided that the case was psychogenic, and that afternoon attempted psychanalysis to seek the origin of the psychalgia. I found two suggestive incidents, one being the visit of a sister on the second occasion, the other being the fact that when first attacked her brother had a severe hysteric spell. He had consumption, which she feared. Another fact perhaps significant was that she had been two weeks in a newspaper office during its change of ownership -alone with the man in charge much of the time.

As she could stay in Washington only a short time, I concluded that it would be better to remove the effects of whatever had been the source of the hysteric symptoms by psychomotor discipline than to try to pursue psychanalysis, which might be unfruitful in the short time at her disposal.

As the least approach toward the patient's knee would set up a spasm of terror during which abductors, hamstrings, and extensors went into spasm, I began a course of gradual habituation, first to the approach of a person's hand towards the knee, later to manipulation of the patellar region followed by pressure on it. A sister attended her in hospital and helped her to accomplish these exercises several times each day. In this way she taught herself in a few days to control the muscles around the knee-joints so as to prevent them contracting when her knee was touched. The pain ceased when the spasm did, as it was in part maintained by the latter. Then her alarm vanished, as there was no reason for it, and she was satisfied that her pain lay in her own power to control. The dangers of self-possession by fear, in conjunction with the mental vacuity engendered by lack of occupation, were explained to show the source of false fixed ideas regarding disease, and she was told how to avoid them. She returned to Virginia in a week well, and has remained so for nearly two years.

Even chronic pain in the abdomen may be psychological: in the case which followed a spasm of the muscles, although it had begun as a reaction to an inflamed appendix, it had remained as a psychological habit, which only psychotherapy could remove.

Case iv.

The patient had had a dull pain since an attack of appendicitis six years before, but had gone on working in her dairy in spite of it, until it wore her out. After this a spasm of the iliac muscles supervened. She declared herself nervous because she suffered so intensely. She would start at noises, and could not sleep after excitement, so that she gave up visiting her friends. The only neurological signs were the hyperaesthesia and spasmodicity in the right iliac region.

Treatment.—I taught her to inhibit the spasm by drill, and assured her that the hyperaesthesia would disappear as a result of the operation which Dr. Stone had performed three weeks before. But as the spasm had become a habit, and gave rise to pain by stretching the muscles, she would have to learn to control it by means of a series of exercises in muscular inhibition, which I showed her how to perform. She made quick progress at first, but relapsed on account of a physical depression, which I found to be due to disordered metabolism from the egg and milk diet which her recumbent posture did not enable her to metabolize. When this was rectified the psychomotor discipline was again persevered with, and she returned home almost well two weeks after I saw her.

In the following case suicide was prevented by one interview after failure of sanatorium treatment.

Case v.

The patient, a farmer's son aged 24, having tried to drown himself and having taken laudanum, was sent to a sanatorium. Toward the end of his stay—seven weeks—he crushed and swallowed an electric light globe. He was therefore removed, and immediately drank laudanum again. He was then brought to a doctor in Washington, who placed him in a general hospital and called a neurologist, who at once began to analyse the why of the lad's impulse to kill himself. Less than two hours sufficed to ascertain the cause, which was, in short, that he felt dispirited, and hence ill all the time, because of nagging of the family and others. Too shy to assert himself, he had for a year sunk into solitary dullness, which made him a laughing-stock. The result was that the least correction, or even suggestion about the farm work, would be taken as an insult. The cause of this attitude towards his surroundings was his own shame at his erotic practices. He became ultra-scrupulous, and this led to the solitariness which aggravated his tendencies. He believed that now something was wrong with his brain, but he felt that if that could be cured he would be content to live.

On this basis a full explanation was made of the harmlessness of his habit, and the mechanism of his difficulties was explained and means for their overcoming were outlined. As a result he went home within two weeks, and is now working cheerfully on his mother's farm, and actually going into society, his family having been instructed how to help him instead of harming as they formerly did.

This case may be supplemented by that which follows:

Case vi.

A young business man was led to contemplate suicide by a period of prolonged overwork, culminating in a rupture of an engagement which had lasted six years. He was lacrymose, agitated, trembling by fits and starts; he would rush from the table suddenly with the desire to kill himself, or break into tears without provocation, especially when with his family. At his work he appeared comparatively calm, but it was only by an intense effort, which further debilitated him. He had lost 40 lb. in weight. His relatives exhorted him to buck up, forget it, or sometimes chaffed him about it all. This only aggravated his distress, which a progressive insomnia kept augmenting. The treatment used was to convince him of the need of distraction from his painful ruminations and that this could be done only by hard physical work, which would at the same time increase his resistance to painful memories by removing the weak irritability of his nervous system. He was sent to the country two or three times before the right kind of place was found and before he learnt to arouse himself from the bodily lethargy and mental concentration upon his troubles. Eventually the right place was found, where wood chopping, farm work, kept his mind occupied and restored him physically. He now feels better than he has for ten years, and is again at the head of his business.

The love-sickness of this patient was only one of the factors in the case, as it is frequently the outstanding feature of a nervous breakdown. It is very wrong to meet it lightly. The proper analysis of the situation should always be undertaken and the co-operation of the patient enlisted toward overcoming the troubled mental state. There is practically always some physiological fact concerning which the patient needs enlightenment.

In children psychotherapy of the soundest kind may be quite simple and rapid. Nowhere is the unwisdom of crude suggestions more manifest, as the suggestibility of the child is so tempting.

Case vii.

A boy, aged 8, was seen with Dr. A. R. Tynes, at Staunton, Va., in the autumn of 1911. The preceding May he developed what his parents called hallucinations, which occurred when he was alone only, for he would go errands and play about if he knew he was in sight of any one at all. There were no night terrors, although he feared going to bed alone, and his mother or father always accompanied him upstairs. Whenever he was alone a spell would occur. The hallucinations were accompanied by a loud cry and a twisting backward of the neck and contortion of the body. He was very rarely still, wriggling about nearly all the time in an excitable fashion. His father and maternal uncle are declared to have had similar attacks in childhood. But it could not be ascertained that the parents had not spoken of some of these before the boy. The mother was over-anxious, hysterical and very uneasy when the boy was out of her sight, of which the boy was well aware.

Examination revealed no physical signs of disease of the nervous or any other system. In anamnesis, I found him a sensible little fellow, and I ascertained that it was a snake which he usually saw, although sometimes a wild beast would be seen. His shout was really the name of the animal he saw. He could not describe the snake, except to say its head was like an eel. He remembered well the first such occasion of fright, and the creature then was not a snake, but a rooster. He declared that he was never actually afraid of any animals. Indeed, on one occasion, wearing a red sweater, he chased a bull away with stones. On another occasion he went into the cellar to look for the bogey-man. He said that his only fear was that of being whipped by his father when he was naughty, and that of this he was "not very frightened."

I could not, in the short time at my disposal, penetrate the psychogenesis completely, but my questions soon showed that the hallucinations were not true ones; for when I asked the boy if, when he looked round, there was really an animal jumping on his shoulders, he had to reply, "No"; and that he never actually saw, heard, or felt what he feared. He then spontaneously declared: "I reckon my imagination gets away with me." "Why do you not look round each time you fear the animal behind you?" He said, "It does not give me time to think of it; it comes so quickly sometimes; and I shout and run before I can recover myself." When asked, however, he said he was not easily startled as a rule.

Familiarity with the mechanism of terrors of children enabled one to interpret this boy's case as a phobia against being alone, produced by the foolish anxiety of his mother. Hence, this affective state was an induced one, produced by the idea of some "dreadful consequences" which might occur to

a little boy when not protected by his elders. But the morbid reaction had become a habit, so that even though the initial cause were suppressed, training would be required to overcome the facile inductibility of the terrors. Inhibition of his undue impulsivity should also be undertaken.

Accordingly the following procedures were outlined, and the reason for them clearly explained to the boy and his father. Firstly, he must gradually accustom himself to go out alone, first for half a block, then for a whole block, and finally round the corner. While doing this, he could hold himself in hand, his attention fully awake to the need of manly behaviour and the importance of recovering from his timidity. Secondly, he must learn to go to sleep without any one else in the room, remembering what a nuisance is a boy who cannot forego keeping one of his parents constantly at home in the evening. Thirdly, he was shown exercises in slow movement and mobilization, by which he could suppress the wriggling tendencies of his limbs and body. His mother should be dealt with rationally, too. I have recently heard from Dr. Tynes that the boy remains well.

CASE VIII.

Another case was that of an only girl, aged 8 years, who was sent to a Washington sanatorium because of numerous grimaces and gestures. She was treated there for a month for chorea, and returned home, the movements having ceased, but suffering from insomnia and nervousness. At 9 years old I found her a well-nourished, sensible child, apt to stammer and talk rather fast. Though somewhat severely managed she was not unhappy, but she wished to study and grow up. The source of her movements proved to be the results of early teaching. She had been told that people live by breathing air, and that which they expire is hurtful to others. According to her teaching, to hurt others was wrong, and to palliate this injury she made a movement with her lips in token of a "healing kiss." For the same reason it became her habit to touch inanimate objects so that she might not injure or destroy them by walking on them. These procedures belong to the class of mental manias which Janet has called manias of expiation. In movement they approach the tics, into which they gradually blend, and had they not been arrested comparatively early (as they were by the promise to the child that she should return home as soon as they ceased) they would have developed into merely outward signs of their original purposes.

With regard to the insomnia and difficulty of study these appeared to have been provoked in the child by the open fear of the parents, and my first task was to explain to them that the child's morbid state was due to induction, and to warn them of the evil consequences of unwise solicitude. The child was sent to school in the ordinary way, and the result has justified expectations.

Some might explain the case as a "fear wish" reaction of the Œdipus type in relation to the parents.

In this child, however, a painful complex (which was of a mental rather than sexual character) had resulted in psychogenetic symptoms. This plain mechanism of fear of bodily harm from without seems to be a much more fundamental feeling than is that concerning the relations with others termed sexual. Even the natural hedonic effects of childhood, which are of the same class as those of later sexual activity, do not of themselves give rise to perverted health. I believe this perverted affectivity arises from induction—if not directly from without, then through observation of family and social life. The child's avidity to behave as a grown-up is not sufficiently realized. The shame he feels at the ridicule with which his attempts are so often met causes him to keep them to himself in half shame.

These cases show how simply are managed situations which, if allowed to develop, produce psychoneuroses which require months of hard work for their cure in adult life. It would take too long to describe fully a case where character difficulties make the therapeutics most arduous.

The following case was one of singer's cramp and pen paralysis in a psychasthenic young woman:

CASE IX.

At the age of 19 a girl had received, after a concert, an anonymous letter which created shame when she sang in public thereafter. Her anxiety to be a successful singer, in conflict with this shame, produced a pharyngeal cramp, in consequence of which she had to give up singing for some years. Fear of laryngeal tuberculosis also played a part in this. Some years later, a period of stress and poor health, combined with hyperconscientious efforts to do full credit to a difficult clerical post, led to writer's cramp. She was sent to me two years later after various unsuccessful medical and orthopaedic attempts had been made to cure her. She was in despair at being unable to write, as she had to make her living, and although she had persevered, she could not face an audience in solo, so that her earnings as a singer were insignificant. After six months of most arduous treatment she became able to write perfectly with both left and right hands, and the singing cramp was greatly improved. She has already taken a clerical position and a choir position once more. In this case the chief difficulty was to overcome the patient's false belief in a physical disease, first in the hand, then in the shoulder, later in the constitutional state due to a hypothetical tapeworm, and finally belief in a cerebral defect of neurasthenic type not psychological in mechanism. Eventual success in removing these beliefs led to the fruitful practice of gymnastic and caligraphic exercises, which before that had only aggravated her disability.

Occupational neuroses are conspicuously in need of rational psychotherapy. Nowhere is crude encouragement and suggestion more likely to arouse the patient's antagonism, with consequent failure to cure. Nowhere does a thorough analysis of the psychological situation better repay the physician. A most striking case I reported to the International Congress of the Industrial Accidents at Rome in 1909, published in the *Medical Record*, October, 1909. I give merely a short abstract.

CASE X.

A paymaster was obliged to sign over 200 cheques a day. After an attack of "grippe" his signature had become a little uncertain, and one day it was refused by the bank. Dread of losing his position further augmented his difficulty, but he consulted me early, and one interview placed him in the way of cure after a few weeks' absence from work. His hardly legible scrawl at that time contrasts sharply with the bold and clear signature two and a half years later. The steps in the treatment were: (1) Discovery of the cause, (2) removal of the besetment, and (3) correction of the awkward position of the hands and the excessive rigidity of the muscles of the arm. This last was accomplished by gymnastics designed to give free movements and by the frequent practice of free writing in smooth, large, round hand a little at a time.

CASE XI.

After bruising his back by a fall from a car, a railway brakeman remained for six months very lame and the sensibility of the lower limbs appeared to be lost. His tint had become sallow and he was dyspeptic and emaciated; he was sleepless, sad, and cried much. The neurologic examination (reported with the case) showed that there was no destruction of the nerve elements. The disability was shown by psycho-analysis to be a function of the false fixed idea, induced by the belief derived from his environment, that such symptoms as he showed could and should follow such injuries as he had had. One sitting sufficed to begin the correction of this false notion, and he himself completed the persuasion, and was able to return to work in a month, as I had predicted.

SUMMARY.

In the popular mind psychotherapy is largely suggestion, an appealing to the subconscious or second self, especially efficacious during hypnosis. As a matter of fact, there is no subconscious mind; what does happen is that a set of nerve currents are set up within the brain of which a person is unaware, because his attention is upon other currents elsewhere in the brain. The impressions of which he was unaware the time they occurred may, however, resurge in memory, be then attended to and become conscious as we call it.

Hypnosis is merely an especial and emphatic situation of appeal; a similar emphasis is procured by a religious ceremony, a startling or noble spectacle, an impressive manner or imposing apparatus, or by impressions conveyed during solitude. The important factor in all this is, however, the idea which slips in in virtue of the person's attention being occupied elsewhere. It is suggestion.

The secret of rational psychotherapy is based upon an understanding of sympathetic order of the patient by his doctor, in order that the patient may be led to understand himself; aloofness will not succeed. The doctor must have experience of the situation himself, even if this is vicarious; then the patient must be made to see right, not by suggestion, but by true conviction. The attitude of the old German blacksmith was a sound one, when he said: "I will not be convinced only by my own convixion"; that is, he was not going to swallow any one's say-so, when he could think it over for himself.

True psychotherapy does not expect the patient to accept the doctor's authority; it expects him to study the situation and reach his own conclusions upon the data revealed to him by his doctor.

THE estate of the late Sir Duncan McCormick Hilston, formerly Inspector-General of Hospitals and Fleets, and Honorary Physician to the King, has been declared at a value of £8,056.

THE third Cuban medical congress will be held at Havana in December. The General Secretary is Dr. Francisco M. Fernandez. In connexion with the congress there will be an exposition of pharmaceutical preparations and other objects appertaining to the practice of medicine.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE OPERATION OF CHOICE FOR THE REMOVAL OF NEEDLES.

The method to be described, which I have developed and always practise now, is so simple, expeditious, and effective that, once utilized, it will be adopted always and generally, for a little consideration will force the conclusion that such is the obviously sound method, seeing that one's objective is under view. By the ordinary uncertain methods the object is not seen, and one must grope in the dark and more or less trust to good fortune. By this plan the operation, instead of being a thankless and unwelcome one, will be regarded rather with pleasure.

By my method the needle is removed under the fluorescent screen. The part involved is first prepared, wrapped up in a sterile cloth, and the necessary instruments are taken to the *x*-ray room. The sterile cloth is spread out on the table and the hand is rested thereon. The *x*-ray tube is below the table—the most generally useful position for this and other purposes—and the screen is used from above. The first thing to do is to localize the needle by the rays, and when this has been done pressure is applied by the surgeon's finger over either extremity of the same, and the end of the needle associated with the greater movement is that nearer the surface, and therefore the point of attack. The rays are then switched off and the light on, the finger of the surgeon still marking the site just found, which is noted. In this region a syringeful of 1 per cent. eucaine solution containing a drop of adrenalin is injected. In a few minutes an incision can be made with the centre over the point of the needle, and the lips of the wound are held apart by a Sims forceps, which manœuvre serves the double purpose of keeping open the wound and arresting bleeding. The light is now turned off again and the rays switched on, when it will be found that a fine-nosed artery forceps can be passed through the wound straight to the near end of the needle and caused to grasp the same, when it is straightway extracted from the part. During this manipulation the fluorescent screen is held above the field of operation by an assistant. The wound is then stitched up in the light. Thus, the needle is located and extracted in the dark by the aid of the rays, the rest of the manipulations being conducted in the light.

By this simple method, which I have used in a large number of cases with complete and gratifying success, there is no prolonged and fruitless search, the minimum of injury to the part, immediate localization, unerring grasp and certain removal, and at the end a trifling wound. The plan has only to be tried to exclude all others, and is infinitely superior to the practice of operating in the light by the aid of skiagrams.

The same principle may be adopted for the extraction of other metallic bodies, including bullets, even in the case of the brain.

I have tried many methods for the extraction of needles, but there is none to compare with this. Difficult cases that previously used to take an hour or more are now a matter of a few minutes, most of which time is occupied in anæsthetizing and incising, very little being taken up by the extraction. The great advantage is that the forceps can be passed straight and unerringly to the end of the needle and caused to grasp the same at once, making the operation certain, clean, quick, and harmless. The point I would insist on is this, that the only proper place in which to perform this operation is the *x*-ray room under the direct guidance of the rays, so that we can see where we are and what we are doing; and not in the surgery by the aid of radiographs. Indeed there are so many operative interferences now in which the *x* rays are indispensable, that every modern department should be adapted not only for diagnostic and therapeutic, but operative purposes.

Kimberley, S.A. G. S. Thompson, F.R.C.S.Eng.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

BERMONDSEY INFIRMARY.

A CASE OF BILATERAL GANGRENE OF THE LEGS FOLLOWING CONFINEMENT.

(Reported by G. D. Eccles, M.R.C.S., Resident Medical Officer.)

Deeming bilateral gangrene of the legs to be a rare complication of pregnancy, I submit this case, the history of which is as follows:

The patient, a woman aged 38, was admitted on June 23rd, 1913, two days after a normal delivery of a twelfth child. Her only symptoms, beyond a feeling of weakness, was some slight pain in her chest on the right side, accompanied with some dyspnœa.

Condition on Admission.—Her body was well nurtured, and she did not appear at all distressed. All her systems were normal, with the exception of some scattered râles at both bases of the lungs. The uterus was about 4 in. above the pubes; there was a trace of albumin in the urine, but no sugar (catheter specimen). Her temperature was 100.2°. She was unable to suckle her infant, no milk being secreted. There were no signs of phlegmasia alba dolens.

Progress.—On July 3rd, ten days after admission, she complained of the left foot and leg becoming blanched, cold and painful, at frequent intervals. From July 3rd to July 10th there was some local improvement, but dusky patches were appearing over the skin of the foot, which continued to be quite cold and numb. On July 12th the condition became aggravated, and gangrene, simulating more the dry type than otherwise, was manifest.

Operation.—On July 15th the limb was amputated through the middle of the thigh, well above the external limits of the spreading gangrene. Ether anæsthesia was used. A noticeable point was the small amount of bleeding which occurred. The majority of the vessels were thrombosed.

After-Progress.—Subsequently the flaps sloughed; but in spite of the fact that there was no pulsation in the left femoral artery the stump generally remained healthy. On July 20th loss of circulation was noticed in the right lower extremity, and gangrene up to the knee rapidly became evident. Unfortunately the patient refused to have the limb amputated, although the desirability of such was repeatedly pointed out to her, before extensive gangrene had occurred. Subsequently there was loss of pulsation in the right femoral artery, but just as in the left limb that had been amputated, there was a distinct line about 3 in. below Poupart's ligament, above which the skin appeared quite healthy.

Result.—The patient's general condition up to the time of her death remained remarkably good, she being possessed of an excellent appetite, and taking great interest in her own affairs. Resource to morphine was frequently made, so as to ease her pain and promote sleep. Death took place suddenly on September 28th, about twelve weeks after the first appearance of gangrene. Towards the end ulceration occurred over those parts which were subject to pressure. The temperature was rarely above normal, except from July 23rd to August 4th, when some slight hypostatic congestion of both bases occurred.

Post-mortem Examination.—The uterus was much enlarged, and showed signs of subinvolution; also there was marked arterial and venous thrombosis. Both external iliac and common iliac arteries as far as the bifurcation of the aorta were blocked by a continuous thrombosis, whitish-brown in colour and evidently of some standing; the remaining organs showed no signs of coarse organic disease.

Remarks.

The following points appear to me to be of interest:

1. The rarity of such complication following a confinement.

2. Occurrence of both venous and arterial thrombosis, the latter being especially marked.

3. The fact that circulation was present: in that the upper part of both limbs were comparatively healthy, although the thrombosis extended well above the origin of those vessels which usually effect the collateral circulation.

4. The patient's general excellent health for twelve weeks in spite of her condition, and the absence of any temperature due to septic absorption.

I am indebted to Dr. Bell, Medical Superintendent, for permission to publish this case.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF MEDICINE.

At a meeting on October 28th, Dr. SAMUEL WEST in the chair, Sir WILLIAM OSLER, Bart., F.R.S., in a communication on *Congenital syphilis of the liver*, said that of diseases of the liver one could be separated off as truly splenic in origin—that is, a disease characterized by a progressive enlargement of the spleen, which might last for years and seemed to be consistent with good health over a prolonged period. There were also associated recurring attacks of anaemia, sometimes of acute onset; and there was a final stage showing ascites, jaundice, and cirrhosis of the liver. Recurring haemorrhages from the stomach and bowel were also seen. That permanent cure followed removal of the spleen, even when the disease had existed for years, and after jaundice and signs of cirrhosis had come on, was the best evidence of the splenic nature of the disease. Of the cases which he had operated upon one was still alive fourteen years after the operation, though his symptoms had existed ten years previously. Another was alive after seven years, though at the time he had jaundice and signs of enlarged liver. Another was alive five years after operation. Surgical records showed similar cures by removal of the spleen, not only in adults but in von Jaksch's acute splenic anaemia of infants. The difficulty in distinguishing this condition had been due to the variety of maladies associated with a big spleen and anaemia; the name "Banti's disease" should be reserved for the type of cases he had just described. Some cases of chronic infective endocarditis began with the clinical picture of splenic anaemia. His intention in this paper was to call attention to a group of cases of syphilis of the liver in which the splenomegaly and the anaemia were so dominant that the liver condition was liable to be overlooked and the diagnosis of Banti's disease made. He saw a woman, aged 22, with signs of fever and pleurisy on one side, a very large spleen, anaemia, ascites, and an irregular liver tumour. The leucocytes were so much increased that leukaemia was diagnosed; there was 1 white cell to every 25 red in the field. She died in hospital after a week's illness, and well-marked syphilis of the liver was found. The left lobe was greatly enlarged, the right lobe divided and fissured with fibrous bands. An identical picture might be presented by acquired syphilis, and Sir William described such a case, in which quick recovery followed the administration of potassium iodide. The special case he wished to relate was that of a boy aged 11 at the time of his death, who had been under observation six or seven years. At first his condition looked like ordinary splenomegaly; there was no anaemia. Two years later the nature of his illness was evident, for he had a syphilitic node on one shin, arthritis of the knee, a slightly enlarged liver, and some jaundice. Towards the end of his illness the spleen practically filled the left side of the abdomen. The liver was not palpable in the mid-line, but under the costal border, along the nipple line, a smooth tumour could be felt and the fingers placed into it. It descended on inspiration. The boy had increasing ascites, for which he was tapped; he had vomiting, bleeding from the gums, he became anaemic, and had bloody stools. At the last he had severe vomiting, the spleen was greatly reduced in size, and he died. The liver (exhibited) showed almost complete disappearance of the left lobe, and there were numerous bands of connective tissue through the substance of the organ, and much liver substance was replaced by connective tissue. In two places small gummata could be seen. He believed such cases were more numerous than was usually supposed.

Dr. ESSEX WYNTER spoke of one case which he showed before the Clinical Section two years ago. When the patient died a week or two ago the liver weighed 80 oz., and was broken up into large lobules by coarse strands of fibrous tissue. No spirochaetes had been found in the liver. He exhibited microscopic sections stained with silver and pyrogallic acid. Dr. PARKES WEBER pointed out that in some of these cases there was a period of irregular fever, and syphilis might not be thought of, as the symptoms suggested some septic infection. Dr. ROBERT HUTCHISON did not consider the condition was very uncommon in inherited syphilis manifested in later childhood: he had seen 3 or 4 such cases. A closely simulating class of case was that where an illness began with a large spleen in early childhood without any conspicuous anaemia, and in which there seemed to be good health until puberty, when gastro-intestinal haemorrhages were apt to set in and prove fatal. Another similar type of case was the meta-spleno-megallic type of hypertrophic cirrhosis. It was difficult to define Banti's disease: he preferred to regard it as a convenient syndrome of cases, which, however, differed in their ultimate pathology. Dr. DALTON said he had watched for eight years the case of a lady, now aged 33 years, who had a large spleen, recurrent jaundice, bile in the stools, but no anaemia, and her liver had not become enlarged. It did not correspond with Banti's disease, and syphilis was not suspected. She had high fever and haemorrhage from time to time. Dr. GIBSON (Oxford) described his discovery of streptothrix organisms in cases of Banti's disease—that is, in 5 out of 300 cases. Sir WILLIAM OSLER, in reply, said that by working at the subject year by year one came to the conclusion that there was a separate entity associated with progressive enlargement of the spleen, which might last for years, with recurring attacks of anaemia, the development of ascites, jaundice, and cirrhosis of the liver. Sometimes the development of gummata was associated with an oscillating temperature.

Dr. POYNTON, Dr. ARMSTRONG, and Dr. NABARRO gave a paper entitled "A Contribution to the Study of a Group of Cases of Chronic Recurrent Diarrhoea in Childhood." In this condition the first illness was a gastro-intestinal attack in influenza, associated with measles, whooping-cough, or bronchopneumonia. There might be some vomiting, but diarrhoea predominated. The motions might be green or blood-stained, and much mucus was passed. Nourishment was badly taken, but there was often a craving for water. Recovery was slow and tedious. Though previous to the illness the child may have taken the ordinary food for its age well, the least departure from extreme caution now brought on an exacerbation of symptoms; and there was great liability to relapse after apparent recovery, such relapse being seemingly intractable. These children were soft, anaemic, and very weak on the legs, abdomen large and tympanitic, and in bad cases there was a striking infantilism. Diarrhoea was not always constant; there might be constipation associated with meteorism and cardiac failure. The stools were often quite colourless, but jaundice had not been found. The authors had recorded nine such cases. In one, appendicostomy was done, the intestine washed out, and four ounces of paraffin injected, with marked improvement. Necropsy twenty-four hours after death showed the appendicostomy had been successful; there was no peritonitis nor excess of free fluid. The intestines were not distended, but the large intestine was dotted about with areas of acute congestion, the caecum and appendix sharing in this change. There was a general thickening of the small intestine. The stomach was congested, especially at the pyloric end. The lymphatic glands were large and firm, apparently fibrous, pancreas normal, but liver very large, pale and soft, showing much fatty change. The heart was very small.

Dr. GOSSAGE and Dr. BRAXTON HICKS dealt with two cases of non-cancerous tumour of the stomach.

SECTION OF PSYCHIATRY.

At a meeting on October 28th, Sir GEORGE SAVAGE, President, in the chair, Dr. J. W. F. COLE demonstrated a case of *Pellagra* with insanity. The patient was a woman who, three days after admission to a mental hospital, developed an erythema on the bridge of the nose, and this rapidly spread over certain parts of the face. Three weeks later the affected area was covered with a dry, yellowish-brown stain. The scaly surface had a clearly defined red margin, was very symmetrical in distribution, and resembled in every respect a case of severe sunburn. The backs of the hands were deeply pigmented, and the epidermis was very rough and coarse. She had a dysenteric form of diarrhoea, but no stomatitis. Her reflexes were definitely exaggerated, but ankle clonus was absent. Her mental condition was difficult to distinguish from dementia praecox. The rash was now disappearing, and with it the

mentality was improving. She had been in the asylum on and off four years, but the rash had not previously appeared. Dr. CHARLES A. MERCIER read a paper entitled, "What is Insanity?" He said there existed a vague notion of what was meant by insanity, but the fact that this notion had not been satisfactorily reduced to words showed that the concept was unprecise. Insanity and unsoundness of mind were not convertible terms. Each included much which was not in the other; in fact the two things coincided for only part of the way. Insanity was a disorder not only of mind, but of conduct; giddiness, epileptic auræ, claustrophobia, agoraphobia had nothing to do with insanity. No one dare call a man insane until he had examined his conduct and found it disordered. And in speaking of disorder of conduct he did not mean "disorderly conduct," in the police-court sense. But disorder of brain function might be added to the concept, making it a three-fold matter; also disorder of metabolism deserved a place, making it four-fold. Each of these concepts was right in its own connexion; confusion ensued from giving all the concepts the same name. If insanity meant disorder of conduct and mind alone, then insanity was a symptom of disorder of brain function. If insanity meant disorder of conduct and mind *plus* disorder of brain function, and if these three were correlated disorders from which the patient suffered, then the three disorders constituted the disease insanity. But if these three were correlated with some wider disorder, such as alcoholic poisoning, myxoedema, gout, specific fever, Graves's disease, this three-fold disorder was a subdisease of the wider disease. When insanity was a symptom only, he argued that it was expedient to speak of it as delirium, reserving the name "insanity" for cases in which what was meant by it was a disease.

Section of Diseases of Children.

AT a meeting on October 24th, Dr. LEONARD GUTHRIE, President, in the chair, the following were among the exhibits: Dr. C. E. ZUNDEL: (1) A case of infantilism in a girl, aged 13 years, who was 3 ft. 6 in. in height, and weighed 2 st. 10½ lb. According to the mother, she had not grown since she was 5 years old. (2) A second in a boy aged 13 years, who was 3 ft. 6 in. in height, and weighed 2 st. 1½ lb. He had diabetes insipidus, and drank on the average 14 pints in the day. Dr. E. A. COCKAYNE: (1) A case of *Constriction of the arm by amniotic bands.* The patient was a girl, now aged 3½ years. Though there were two constrictions, one on the upper arm and the other just above the wrist, they were in the intrauterine position, at the same level. (2) A case of *Hemiplegia with a very extensive nævus*, in a girl aged 1 year 4 months. The nævus affected the skin of the scalp, face, arms, legs, and part of the trunk. Dr. J. PORTER PARKINSON: A case of *Multiple rheumatoid arthritis* in a boy. The Wassermann and von Pirquet's reactions were negative. Dr. T. R. WHIPHAM: (1) Three cases of *Under-development.* In one of them, a girl aged 18, there were signs of hyperthyroidism. Dr. WHIPHAM: A case of *Enlargement of the liver and spleen associated with jaundice.* The patient, a girl aged 6 years, was born with jaundice, but this had disappeared at the end of six weeks, to reappear in February of the present year. Lately the liver, which in May reached to the level of the umbilicus, had decreased in size, and the jaundice had been gradually getting less. The Wassermann reaction was negative. Dr. LEONARD GUTHRIE: A case of *Congenital insufficiency of ocular and facial movements.* The condition was regarded as an unusual form of myopathy affecting muscles supplied by the third and seventh nerves. Dr. LANGMEAD: A case of *Cretinism* in a female child aged 6 months. Its appearance was characteristic, though two phenomena — namely, markedly incurved little fingers, congenital morbus cordis—were more commonly associated with Mongolian imbecility. Dr. E. BELLINGHAM SMITH: A case of (?) *Cerebellar encephalitis* in a child aged 8 years, which had been admitted to hospital with symptoms resembling those of cerebro-spinal meningitis. It was put on potassium iodide gr. v t.d.s., and the symptoms at once began to improve, the child being now practically well. Dr. PORTER PARKINSON: A specimen of a neoplasm of the sigmoid flexure from a boy aged 5 years. A section prepared from it seemed to present the characters of a carcinoma. Dr. J. D. ROLLESTON: A specimen from a case of *Diphtheria* adherent to the posterior surface of the epiglottis, and which constituted a continuous tubular cast extending to the bifurcation of the trachea and passing into each of the bronchi. Dr. F. G. CROOKSHANK: A skiagram of a case in which the spinal column terminated at the twelfth dorsal vertebra in a small bony boss, the rudimentary legs being seemingly not innervated. Mr. DUNCAN FITZWILLIAMS: A specimen of extrapleural lipoma from a child aged 6 years. The patient had been shown to the Section on January 24th, when it was considered by most to be hernia of the lung. On operation it was found to be a very soft lipoma at the root of the neck, which communicated by a narrow isthmus growing down behind the subclavian artery, joining a much larger portion lying within the thorax outside the parietal pleura.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on October 24th, Dr. T. WARDROP GRIFFITH, in a presidential address dealing with the progress of knowledge relating to *Diseases of the heart*, pointed out that Laënnec was not the first to conceive of the possibility of using the ear to diagnose the diseases of the body, for a reference to it had been made by Hook in his *Method of Improving Natural Philosophy*, published in 1705. Laënnec taught that the second sound of the heart was due to contraction of the auricles, and it was not until this doctrine had been held for some ten years that Turner of Edinburgh urged that this sound must have some other cause. Turner's view was shown by James Hope, through a remarkable series of experiments conducted in 1830 and 1831, to be correct, and the way was thereby paved for a correct interpretation of the second sound of the heart by Bouillaud and Rouanet. It was Corrigan who first provided clear conceptions of the results of regurgitation through the aortic valves and had shown how to diagnose the condition with certainty. On the other hand Corrigan was wrong in thinking that the condition had not been referred to in the writings of others, for Corvisart gave an excellent description of it as also had Bertin and Laënnec. It was true that these writers had not specifically mentioned the fact that the valves were incompetent, but this had been definitely stated by Allan Burns as being the cause of death in a girl of 16 years of age. The cause of the jerky pulse in so far as it was directly associated with the lesion of the valve had been with perfect accuracy described by Corrigan, but it appeared to the speaker that his explanation had been grievously misunderstood and distorted by others. The paper, which was illustrated by a lantern demonstration, included a review of the principles of the polygraph of Mackenzie and of the electrocardiograph of Einthoven. The following were among the exhibits:—Mr. G. CONSTABLE HAYES: A case of *Syphilitic disease of the tonsil*, with glandular enlargement, simulating sarcoma. Mr. WALTER THOMPSON: A patient with extensive *Rodent ulcer* of the shoulder.

LIVERPOOL MEDICAL INSTITUTION.

AT a meeting on October 23rd, Mr. ROBERT JONES, President, in the chair, Mr. G. F. R. SMITH, in a note on the *Aseptic technique of the anæsthetist*, urged the advantages of preparation of the patient's mouth before all operations and the importance of sterilizing all apparatus used during administration of anæsthetics; the anæsthetist himself should wear a sterilized overall, cap, mask, and gauntlets. Mr. R. C. DUN agreed as to the advantages of the method, especially in operations on small children, where the anæsthetist was of necessity close to the field of operation. Mr. THOMAS GUTHRIE, discussing *Enucleation of the tonsil*, said he preferred the guillotine operation, introduced by Sluder in America and Whillis and Pybus in this country, for the great majority of cases. The method, however, failed in a few cases of

very adherent tonsil, and in those he employed blunt dissection and a snare. In cases of pure hypertrophy of the tonsils in children tonsillotomy was still the operation of choice, provided that not more than the capsule and a thin layer of tonsil tissue were left behind. In such cases a tonsillotomy, properly performed, was almost always sufficient, and was a less severe operation than enucleation. Bleeding after the two operations was, as a rule, about the same in amount, but there was certainly more risk of troublesome haemorrhage after enucleation than after tonsillotomy. When repeated inflammatory attacks had occurred and the tonsil was grossly diseased or was forming the portal of entry for glandular or systemic infection, enucleation was the only scientific and satisfactory operation. Mr. ADAIR-DIGHTON, in a paper on *Suppurative disease of the labyrinth*, reminded members that it was one of them—namely, Mr. Edgar Stevenson—who had introduced labyrinthology into England as far back as 1896. The speaker was of opinion that no operation, however small, should be undertaken upon the ear without first testing the condition of the labyrinth by Bruning's methods. Dr. PANTLAND HICK mentioned a case in which a successful differential diagnosis of cerebellar abscess had been made by the Bruning tests. Dr. WARRINGTON said that whilst the nervous mechanism of the vestibular nerve and its relationships to the outer group of cells and oculo-motor muscles was clearly known, the manner in which different kinds of stimuli excited the several semicircular canals and so caused nystagmus in different directions was difficult to follow so as to be able to apply readily in practical work. Further simplification of the technique was desirable, especially when it was necessary to examine persons who were ill with intracranial complications. Dr. Warrington alluded to the rarity of cerebellar abscess compared with suppurative disease of the labyrinth, and urged the importance of diagnosis *inter operationem*. Mr. E. M. STOCKDALE said suppurative middle-ear disease attacked the labyrinth in two positions: (1) The region of the promontory; (2) the external semicircular canal in the region of the antrotympanic passage. Total deafness on the affected side would suggest invasion in the cochlear region, and if the auditory apparatus was intact the application of the caloric test would decide whether the semicircular were active or not. If an erosion of the external canal was found during operation, it was usually advisable not to interfere with it. The radical mastoid operation on rare occasions was performed on patients suffering from meningitis. A preliminary lumbar puncture was most helpful in doubtful cases. Death from meningitis following a radical mastoid operation and due to lighting up a latent labyrinthitis, although it might occur, was extremely rare.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

AT a meeting in Liverpool on October 17th, Dr. FOTHERGILL, President, in the chair, Dr. OLDFIELD (Leeds) described a case in which *Bilateral ovarian cysts* had been removed during the third month of pregnancy without interruption thereof. Both ovaries were entirely removed. No signs of other ovarian tissue could be found in the pelvis. For pregnancy to continue after removal of both ovaries was contrary to experimental evidence. Dr. DONALD (Manchester) read the notes of a case of *Puerperal pyaemia* which continued five months in spite of lantol and vaccines. At one time the patient developed all the signs of pelvic thrombosis, but none could be discovered on operation. The following were among the exhibits: Dr. FOTHERGILL: A specimen from a case of *Caesarean hysterectomy for fibroid*. The fibroid was on the anterior wall of the uterus, low down, and completely prevented the passage of the child's head. Caesarean section was performed, thereby saving both mother and child. Dr. GEMMELL (Liverpool): A *Fibromyoma* complicating the puerperium. The child was born without any difficulty, but symptoms of sepsis occurred on the third day, and necessitated the removal of the necrosing tumour. Dr. FLETCHER SHAW (Manchester): A specimen of *Perithelioma of the uterus* which occurred as a polypus, the size of a hen's egg, protruding from the external os. Two years previously the exhibitor had removed a simple fibroid polypus from the same uterus.

Reviews.

ALBINISM IN MAN.

A FURTHER section of the *Monograph on Albinism in Man*,[1] by Professor KARL PEARSON and Messrs. NETTLESHIP and USHER, has been issued, and it is hoped that its publication may be completed in the near future. The present instalment comprises Part II of the text, an atlas consisting of photographs illustrating various microscopic and macroscopic characters in human and other albinos, another atlas consisting of pedigree plates, and a supplementary volume describing in detail the pedigree figures, concluding with an analytical bibliography of the subject, in which 700 titles are cited, the vast majority of the papers having been examined by the authors. The typographic excellence of the works issued from Professor Pearson's laboratory is well known, and it is sufficient to remark that the volumes under notice maintain that standard, the pedigree plates being especially admirable.

The first section of the text is a careful study of the albinotic eye. It appears that the colour of the iris in albinos is affected by the brightness of the light under which it is examined, by the direction of the light, by the thickness of the iris, in some cases by the existence of a certain amount of pigment in the posterior epithelium, and the presence, frequent in albinos of dark races but much less frequent in Europeans, of some pigment in the iris itself. With respect to the refraction, it is found that astigmatism is more frequent and of higher degree in albinos than in pigmented persons. The principal cause of the poor sight of albinos is an absence or deficiency of pigment in the retinal epithelium, or, if not an absence of pigment, then a lack of one of the two colourless bodies that are necessary for its production. There is no evidence of defective light or colour perception. In the next section the characters of the hair are discussed. It is shown that there is some relation between red hair and albinism, the former being decidedly more frequent in albinotic than in normal stocks. The microscopic characters of different samples of hair are described in considerable detail, and the broad conclusions which emerge from the whole study are: (1) That incomplete albinism of the hair covers a very wide range; (2) that there is a very slight link between albinism of the hair and eyes in many incomplete and perhaps some complete cases; (3) that further knowledge of the differences between fundamental types will come rather from chemical than microscopic research, but that such inquiries ought to differentiate between the classes of hair dealt with not only by their macroscopic appearance but also by the microscopic test of the presence or absence of granular pigmentation.

In the next two chapters the albinotic eye of animals other than man and the seasonal variations of winter white animals are discussed. The former chapter describes a wealth of histological material, and in the latter is a chronological account of the observed changes in the coat colour of the Norwegian variable hare. The authors found no evidence to support the suggestion made by Carron du Villards that the pigmentation of the eye in this animal also undergoes seasonal changes.

The last chapter in the volume describes the effect of crossing albino Pekinese spaniels with black Pomeranians, and analyses the results, the conclusion being reached that no simple Mendelian hypothesis will cover the facts as regards albinism. The second section of this chapter, which is concerned with the heredity of shape of head and muzzle in Pekinese and Pomeranian crosses, has no direct connexion with the subject of the monograph; the reasons adduced for its inclusion—namely, that it seemed desirable to publish under one cover all the work so far done by the authors on dogs, and that the rules of heredity which extend to one character will not be less applicable if applied to a second—do not appear to us convincing.

As will have been gathered, this monograph covers a vast amount of ground, and will indubitably take its place as the classical authority on the subject of albinism. Its

[1] *A Monograph on Albinism in Man*. By Karl Pearson, F.R.S., E. Nettleship, F.R.C.S., F.R.S., and C. H. Usher, M.B., B.C. Drapers' Company Research Memoirs, Biometric Series VIII and IX, Text and Atlas, Parts II and IV. London: Dulau and Co., Ltd. 1913. (Double roy. 8vo, Part II, pp. 265–524, Part IV, pp. 159. 30s. and 21s. net respectively.)

defects or, to speak less ungratefully, the lack of complete enjoyment the reader will experience, are a consequence of the somewhat disjointed character of the text frankly acknowledged in the preface. This is partly an effect of multiple authorship and partly due to the necessity, owing to the lack of human material, of devoting a large amount of space to the study of non-human albinism. A candid reader will, however, recognize that, although this heterogeneity diminishes the ease with which the book can be read, comparatively little of the matter could have been omitted without loss. With the exception of the last ten pages (those dealing with shape of head and muzzle in dogs), which have, in our opinion, no right to insertion in a work on albinism, however interesting they may be in themselves, it cannot be denied that all the researches published are relevant. In truth a work of this sort tends to suffer in virtue of its merits. It is so complete, so carefully documented, that the ordinary reader is bewildered by the multiplicity of details.

An exhaustive book slumbers on the shelf of a reference library, and enables an exploiter of others' knowledge to acquire cheaply a reputation for scholarship. Such may be the fate of this monograph on albinism, and the possibility should render all who value original work specially anxious to pay a tribute to the years of labour, the patience and the acumen which have gone in the fashioning of the present treatise.

THE PATHOLOGY OF TUMOURS.

The first monograph of a projected series of textbooks of pathology under the editorship of Professor Boycott has been written by Dr. Charles Powell White, of Manchester. There is much need for pathological textbooks dealing with various departments of an ever-growing subject, books which, while not of the inflated size of special treatises, are more comprehensive than separate articles in one textbook, and yet have the advantage of the latter in being co-ordinated. If the succeeding monographs preserve the high level attained by this book success is assured for the series. The title of his volume is *The Pathology of Growth Tumours*,[2] and Dr. White introduces his discussion of tumours proper by a consideration of the factors that make for variation of organ and cell growth. The phenomena of regeneration and grafting of tissues are briefly but lucidly assembled. From a study of hypertrophy in general we are led to a review of the causes operating in progressive hypertrophy of an organ as a whole beyond the needs of the organism. Such a condition confined to a portion of an organ constitutes, according to the author, a tumour. The broad distinction is then drawn between simple and malignant tumours, in that the former are localized hypertrophies of tissues, whilst the latter are proliferations of particular cell groups. Thus the transition between fixed tissue proliferations is gradual, but no attempt is made in the subsequent discussions on tumour causation to push this point of view too far by arguing for any common operative factor. The classification of tumours here adopted is convenient—teratomata or organ tumours, tumours of particular tissues, and tumours of particular cells, though the author is careful to point out that such an arrangement is merely a classification of types, for there are intermediate stages and complex associations that fail to fit into any rigid system. The various types of tumours are dealt with individually in a concise manner. The microphotographs to illustrate the histological characters are on the whole successful, but they probably will not convey to the general reader quite so clear an impression of the salient points as well-executed drawings would. The two chapters on origin and causation of tumours are particularly praiseworthy. There is perhaps nothing new in them, but the theories and facts are summed up and critically examined in a masterly and instructive fashion. The portions dealing with the origin of teratoma and the effects of irritants in the production of neoplasms may be cited as illustrations of this, though in connexion with the latter, general agreement may not be accorded to his conclusions, and some of his views will undoubtedly have to undergo revision as the result of Fibiger's recent experiments in the production of gastric cancer in rats. The conclusions, too, regarding the frequency and distribution of cancer are probably not based on sufficient information to allow of generalization, and one or two minor points in the book are not in accordance with opinions usually held, but these do not detract from the general excellence of a monograph which, from its conciseness, lucidity, and critical exposition of the subject, is to be cordially commended.

[2] *The Pathology of Growth Tumours.* By C. P. White, M.D., F.R.C.S. Textbooks of Pathology, edited by A. E. Boycott, M.A., M.D. Vol. I. London: Constable and Co., Ltd. 1913. (Med. 8vo, pp. 247; 86 illustrations. 10s. 6d. net.)

VENEREAL DISEASES.

The second edition of the *Manual of Venereal Diseases*,[3] written by members of the Royal Army Medical Service, is a great improvement on the first, chiefly owing to the work of Major L. W. Harrison, who has rewritten most of the chapters on pathology and treatment. The new edition is of special importance as it embodies the newer forms of treatment which have been carried on at the Military Hospital, Rochester Row, where the surgeons have greater facilities as regards treatment, and can follow up their cases with more regularity than those engaged in civil practice. The chapters on pathology and treatment form the best part of the book, and are clearly and concisely written, but the clinical aspect of syphilis is less fully dealt with. The methods of examination and differential diagnosis of the *Spirochaeta pallida* are well described. The "granules" or spores seen by Balfour and O'Farrell are mentioned, but there is no reference to the stages in the life-history of the microbe of syphilis described by Maclennan, Ross, and McDonagh. The method of culture discovered by Noguchi and others is mentioned and also the preparation of Noguchi's "luetin," the diagnostic value of which for syphilis is confirmed by Major Harrison. A detailed account of serum diagnosis is given, the original technique of Wassermann being regarded as the most reliable; the Hermann-Perutz reaction is considered as a useful preliminary test, as it never gives a positive result when the Wassermann is negative. As regards treatment, much attention is given to salvarsan, as was to be expected, as Majors Harrison and Gibbard have done excellent work in this department at the Military Hospital, Rochester Row. Their latest scheme of treatment is two or three intravenous injections of 0.6 gram salvarsan given during nine or ten weeks, with intramuscular injections of mercurial cream during the intervals between the injection of salvarsan. If symptoms recur or the Wassermann reaction becomes positive again this course of treatment is repeated. The authors wisely remark that patients treated by salvarsan should be kept under observation as carefully as if treated by mercury alone. Major Harrison regards the contraindications of salvarsan as less absolute than was at first supposed, owing to improved technique and more careful observation. He considers that the cranial nerve paralyses and "neuro-recurrences" are syphilitic in nature and not due to arsenical poisoning, and states that they do not occur in other diseases treated by salvarsan. This is still open to question; at any rate such effects appear to be more common since salvarsan was introduced. A short account of mercurial treatment is given, the authors preferring intramuscular injections of mercurial cream given in conjunction with salvarsan. We cannot quite accept the statement that "since the introduction of salvarsan the treatment of syphilis by mercury alone may be said to have practically ceased." This may be so in military hospitals but is certainly not the case in civil practice, where mercury is, we believe, still regarded as the fundamental treatment of syphilis, and salvarsan is looked on as an auxiliary drug the ultimate value of which remains to be proved. The remaining chapters of the book, dealing with soft chancre and gonorrhoea, are sound and practical, and include the recent method of treatment of gonorrhoea by hot sounds. The authors consider that vaccines are useful in certain gonorrhoeal conditions, but that they cannot replace local treatment. In conclusion, we can recommend this book as one which contains much valuable matter concerning the treatment of syphilis and gonorrhoea, recording as it does the results of wide experience and unusual facilities for the observation of cases.

[3] *A Manual of Venereal Diseases.* By Sir Alfred Keogh, Colonel Melville, Sir William Leishman, Major Pollock, and Major Harrison. Second edition. London: Henry Frowde; Hodder and Stoughton. 1913. (Med. 8vo, pp. 334; 16 figures: 14 plates. 10s. 6d. net.)

A translation has been published, with the title *Syphilis and the Nervous System*, by Dr. C. R. BALL,[4] of Minnesota, of the second edition of NONNE's book. The account of the subject is particularly strong on the pathological side. At the same time Dr. Nonne has a very extensive clinical experience to draw upon, and is able to illustrate many of his points by quoting cases or statistics derived from the abundant material that comes before him at the Eppendorf Hospital in Hamburg. The book is further enriched by a good many quotations from the very copious literature of the subject, though the translator has omitted a good many of these, and has in addition cut down the size of the volume by leaving out a number of the case-histories that are rather a feature of the German original. The translation is divided into eighteen chapters in which the special forms of lues of the nervous system are separately considered; syphilitic basilar meningitis and syphilis of the base of the brain—common and fairly well characterized forms both of them—are particularly fully treated. Dr. Nonne has written special chapters on his "four reactions" given by syphilitic patients, and on salvarsan therapy. His "four reactions" consist in (1) a positive Wassermann reaction in the blood, accompanied, as a rule, by an increase in the pressure (over 150 mm. of water) of the cerebro-spinal fluid in the dural sheath; (2) a positive "phase I" reaction (increase in the amount of globulin contained in the cerebro-spinal fluid, estimated by precipitation with hot saturated $(NH_4)_2SO_4$ solution); (3) lymphocytosis in the cerebro-spinal fluid, measured by use of the Fuchs-Rosenthal counting-chamber; (4) a positive Wassermann reaction in the cerebro-spinal fluid. The "phase I" reaction, according to Nonne, occurs exclusively in syphilitic patients affected with organic disease of the nervous system. Syphilis can be regarded as cured only when the "four reactions" are negative; the author adds that Fournier's dictum, "Syphilis does not die, it only sleeps," still remains generally true. As regards salvarsan treatment, he expresses himself with some reserve, but admits that it acts more rapidly than mercury and potassium iodide; he thinks that the three drugs should generally be used in combination. For tabes dorsalis and general paralysis salvarsan is no more valuable than mercury and iodide. The book is well got up, but very heavy to hold in the hand; the illustrations are excellent. The translation has been fairly well made, though the form "gummi" as the plural of gumma (pp. 21, 24) is not a very happy effort on the part of the translator. The book may be warmly recommended to neurologists and syphilologists.

BACTERIOLOGY.

WITH the exception of a few addenda, the second edition of Dr. GORDON's translation of Abel's *Laboratory Handbook of Bacteriology*[5] is identical with the first. New matter is added in the section on spirochaetes, and there is a good and concise account of the serum diagnosis of syphilis. Mention is made of the use of dark ground illumination for the microscopic recognition of spirochaetes and other organs, but too little detail as to technique is given to make the information of much guidance to the beginner. To the pages on the tubercle bacillus some few excerpts from recent articles have been added, but the general treatment of this subject gives the impression that the writer is culling his information at second hand, and is not personally experienced in the more difficult technique which falls beyond the scope of the student's classroom. But in most respects the student will find the advice contained in the book to be concise, thoroughly sound, and eminently useful.

Professor GRÜNBAUM'S *Essentials of Morbid Histology*[6] is intended to follow the lines of Professor Schafer's well-known *Essentials of Histology*, and we think it will earn popularity. The main features are the excellence, variety, and abundance of the illustrations. We say this with no disparagement of the text, which is concise, well calculated to give the student a good preliminary grasp, and, we take it, written round the illustrations with the understanding that further data must be obtained from lectures and textbooks. Professor Grünbaum must have a particularly good supply of histological specimens for demonstration purposes, and we appreciate his enterprise in reproducing from originals rather than following the common example of copying the stereotyped, diagrammatic, and often misleading illustrations which are far too frequently handed on in slavish fashion from one textbook to another. He is particularly skilful in the task, the difficulty of which can only be appreciated by those who have attempted it, of selecting from a microscopic specimen the typical field for illustration. His picture of an endothelioma is one out of many good examples, and we may say in general that the illustrations give at a glance the diagnostic impression which in practice usually demands more or less lengthy microscopic search.

[4] *Syphilis and the Nervous System.* By Dr. M. Nonne. Authorized translation from the second German edition by Dr. C. R. Ball. Philadelphia and London: J. B. Lippincott and Co. 1913. (Med. 8vo, pp. 428; 98 figures. 18s. net.)

[5] *Abel's Laboratory Handbook of Bacteriology.* Second English edition. Translated from the fifteenth German edition by M. H. Gordon, M.D. With additions by Dr. H. C. Houston, Dr. T. J. Horder, and the Translator. London: Oxford Medical Publications, H. Frowde, and Hodder and Stoughton. 1913. (Fcp. 8vo, pp. 254; 5s. net.)

[6] *The Essentials of Morbid Histology.* By Albert S. Grünbaum, M.A., M.D., F.R.C.P., D.P.H. London: Longmans, Green, and Co. 1912. (Demy 8vo, pp. 236; 22 coloured plates, 139 figures. 7s. 6d. net.)

NOTES ON BOOKS.

MR. BERNARD HANCOCK, in his pamphlet, *Problems for the Married*,[7] deals frankly yet reverently with some delicate but highly important questions. Assuming that there are a number of married people who require, and are willing to accept, guidance in such intimate matters, we think that few who share the author's conviction that the use of mechanical means to prevent conception is immoral and pernicious, will find anything to quarrel with in this little essay. The objections to neo-Malthusianism could not be more temperately stated, nor the alternative policy of mutual sacrifice and abstention, where necessary, more attractively set forth.

The number of the *Tropical Diseases Bulletin* issued on September 30th (vol. ii, No. 7) contains abstracts on malaria, sleeping sickness, and relapsing fever. Some of those, especially those dealing with sleeping sickness, are of great interest. The question of the part big game plays in the spread of the disease in Nyasaland and Rhodesia is a burning one at the present time, and much work is being done on the subject. An experiment carried out by Taute, who injected himself with trypanosome blood from infected animals, would seem to be a very rash one, but, fortunately for him, nothing happened.

Messrs. Smith, Elder and Co. have issued popular editions of two more of the charming books of travel which Sir FREDERICK TREVES has written during the last few years. One of these is *Uganda for a Holiday*,[8] first published in 1910. Starting from Mombasa he travelled up country by the Uganda railway, made the voyage round Lake Victoria Nyanza, and visited the source of the Nile. His account of the climate in the uplands of British East Africa round about Nairobi is inviting—no mosquitos, no malaria, and a perfect English summer all the year round. Of Uganda, however, he had to say that though the climate was agreeable it was not a white man's country at a level below 5,000 ft. The volume was reviewed more at length in our issue of December 10th, 1910, and in that for November 23rd, 1912, we had the opportunity of reviewing *The Land that is Desolate*,[9] the other volume of which a popular edition is now issued. This is an account of a tour in Palestine, and gives a picture of that country which will, perhaps, not stimulate any latent desire to visit it. Both volumes are well printed in large type, and appear to contain reproductions of all the original photographs which added so much to the interest of the books when they were first issued.

The collection of 350 tables which constitutes Dr. LEFTWICH'S book on *Tabular Diagnosis*[10] is undoubtedly, as he claims, "quite unprecedented." The plan adopted is to contrast two diseases which present certain points of similarity. The matter is arranged in three columns; on

[7] *Problems for the Married.* By Bernard M. Hancock. London: John Bale, Sons, and Danielsson. (Pp. 11. Price 3d.)

[8] *Uganda for a Holiday.* By Sir Frederick Treves, Bart., G.C.V.O. London: Smith, Elder and Co. (Med. 8vo, pp. 244. 6s. net.)

[9] *The Land that is Desolate.* By Sir Frederick Treves, Bart., G.C.V.O. London: Smith, Elder and Co. (Med. 8vo, pp. 292. 6s.)

[10] *Tabular Diagnosis: an Aid to the Rapid Differential Diagnosis of Diseases.* By Ralph Winnington Leftwich, M.D. London: Edward Arnold. 1913. (Cr. 8vo, pp. 365. 7s. 6d. net.)

the left the subjects, such as history, age, sex, and the like, are printed in heavy type, and opposite to these the modifications presented respectively by the diseases under consideration are printed in columns headed by their names—for example, Table 155 contrasts scrotal hernia and hydrocele: opposite "*Onset*," under "Scrotal hernia," we get "sudden," and under "Hernia," "slow": opposite "*Impulse on Coughing*," in the former condition, "present," in the latter, "absent." In his introduction the author says he makes no claim to what he calls the "somewhat laboured elegancies of style which characterize so many medical works": the disclaimer is superfluous in a book of tables, but those who have much medical reviewing to do might not think there is occasion to find this particular fault with modern medical writers. In giving reasons in favour of his book he says it should be preferred to an encyclopaedia, not only because it is more handy, but because "it is by no means always true that everything can be found in these colossal works. The omissions in some of the articles are almost incredible." He tells the reader that he has inserted several signs which are little known, not because they are really rare, but "because they are so often unrecognized." Finally he makes a few remarks on the value of bacteriology and radiology which would be justified if these useful methods were put forward as rivals and not as auxiliaries to other and older means of investigation. The tables have been compiled with care, and should prove of use to those who seek their aid, but there are several "incredible omissions," such as the absence of any reference to glycosuria under acromegaly (dealt with in the first three tables), of malingering except under the single head of epilepsy, of chronic alcoholism apart from general paralysis, and of any form of glycosuria except diabetes. The numbers in the index refer to the pages and not to the numbers of the tables, but as there is only a difference of four, Table 350 being on page 354, a certain risk of confusion might have been avoided by the use of only one set of numbers.

Dr. Woods Hutchinson has produced an extremely readable book upon *Common Diseases*.[1] It appears to be addressed to the laity, and conveys a great deal of interesting and valuable information in an easily intelligible and very readable form. The very titles of the chapters are lively and suggestive, ranging from "The Passing of Pills and Powders," "Home Doctoring," "The Advantages of Adipose," and "Consider the Liver" to "The Unwisdom of Worry," "Sea Sickness," and "The Prevention of Old Age." The author traces to a survival of the superstition which regarded all disease as the result of demoniacal possession the decided preference of ignorant patients for bitter and nauseous medicines, such as might be considered well calculated to "drive out" the intruder. He suggests that the fact that in the spring of the year, when game was scarcest and his little hoard of nuts and berries exhausted, primitive man was driven to eat bark, roots, and leaves, may have originated the common rural practice of submitting oneself to a course of medicine in the vernal months. He endorses the opinion that the popular repute of clover tea as a "blood purifier" is due to the fact that the leaf of clover with its three leaflets has been taken as a symbol of the Trinity. In the chapter on "Dyspepsia" the author, with justifiable indignation, rebuts the prevalent belief in the proneness of his countrymen to that affliction. "There is nothing," he roundly declares, "the matter with the American stomach. . . . The most serious malady that the stomach can suffer from is emptiness, and that, thank Heaven! the American stomach has never experienced, and never will—no matter whom it has to eat to fill itself." Dr. Hutchinson is a chivalrous advocate of the claim to grateful recognition of the human liver. It has, he says, this much in common with great genius, that "it has always been misunderstood and estimated at far below its real worth and dignity." Assuredly, it will not be the fault of Dr. Hutchinson if the vogue of the liver as a drawing-room topic does not in the near future surpass even that of the vermiform appendix.

[1] *Common Diseases*. By Woods Hutchinson, M.A., M.D. London, New York, Toronto, and Melbourne: Cassell and Co. 1913. (Cr. 8vo, pp. 458. 6s. net.)

THE will of the late Mrs. Emma James of Eastbourne directs the payment of £3,000 to the Nottingham Hospital in memory of her husband, of £1,000 each to the Princess Alice Memorial Hospital, Eastbourne, and the Cancer Hospital, Brompton, and of £500 to the City of London Hospital for Diseases of the Chest, Victoria Park.

THE INSURANCE STRUGGLE IN GERMANY.

THE SPECIAL GENERAL REPRESENTATIVE MEETING OF THE MEDICAL PROFESSION.

A short meeting, but one momentous for the medical profession in Germany, was held on Sunday, October 26th, in Berlin. It decided, for the reasons stated below, that on and after January 1st, 1914, the insured population of Germany—Dresden, Hamburg, and Berlin excepted—shall not receive treatment through the insurance societies unless the latter meet the demands of the profession or the Government sees fit to intervene. The cities of Berlin, Hamburg, and Dresden were, for special reasons, excepted. The position of the profession in Berlin is explained in the last part of this article. The meeting on October 26th was held under the chairmanship of Dr. Dippe, President of the National Federation of Medical Societies, and 458 representatives of 384 medical societies, empowered to speak on behalf of 21,207 doctors, attended.

The Chairman, in opening the proceedings, sketched the history of the negotiations between the representatives of the Federation of Medical Societies, acting with the Leipziger Verband and the Union of Insurance Societies. The negotiations were initiated by the manager of a large Leipzig firm, who suggested that an attempt to come to a friendly agreement with the societies would, in all probability, be crowned with success. This suggestion was made in August, and a conference was arranged to be held between Drs. Hartmann, Dippe, Kulme, and Herzau, representing the doctors, and the President of the Union of Insurance Societies (Justizrat Wandel) and Herr Heinemann, the secretary. This was held on September 10th, and in the morning things developed well, and the proposals of the doctors met with every encouragement from the other side. After dinner, however, the tone of the insurance societies' delegates changed, and difficulties were raised. The result was a request by the societies for a written scheme from the doctors. This scheme took the form of the draft contract published in the Journal last week (pp. 1171–1172). The doctors were given to understand that a reply would not be forthcoming until September 30th. In the meantime the insurance societies attempted to clinch as many contracts for the coming year as possible, and to counter this move the Leipziger Verband informed all medical men engaged in contract practice, as well as other members of the profession, that negotiations were in progress, and that meanwhile it was in the interest of all concerned to refrain from entering into any form of agreement with an insurance society. The fact that the doctors were warned against committing themselves appears to have irritated the insurance societies, and on October 1st they signified their inability to agree to the terms offered; a door, indeed, was left open for further negotiations, but matters did not wear a very hopeful aspect. A telegraphic reply was sent suggesting a further conference, and on October 5th this second and final conference was held. At it the doctors made it quite clear that should an agreement not result, a general strike would certainly follow. The position was put clearly, and all misunderstandings were removed by explicit explanations. It was not until further telegrams had been sent by the doctors demanding a definite reply, that on October 12th a final refusal to accept the doctors' terms reached Leipzig. Dr. Dippe appealed to those present very seriously to consider the present position. It was, he said, a question of "now or never" to uphold the dignity of the profession, and to claim the right so to regulate the services of those of its members who were engaged in contract practice, that the work might be carried out without debasing the calling and damage to the public.

Dr. Hartmann (Leipziger Verband) thereupon proposed the long and strongly worded motion set out below. In moving it, he said that for thirteen long years the club doctor had struggled for an improvement in the conditions of service, and unless a strong position was taken up, the chances of rendering the life of the insurance doctor even tolerable would be lost for ever. The terms of the resolution were as follows:

> Since the five federated unions of the insurance societies have refused to come to an agreement with the representatives of the doctors in regard to the peace suggestions submitted, in which the doctors have made the utmost possible concessions in their favour, the doctors forming the German Federation of Medical Societies and its administrative department, the Leipziger Verband, find no other way open than to take up the fight which has been forced upon them against the insurance societies on the day on which the new sickness insurance takes effect. They have taken up this position unanimously and in the certain knowledge that nothing has been left undone to protect the participants in social insurance against an undoubtedly severe blow. Their honest attempts have been wrecked by the obstinacy and arrogance of the leaders of the insurance societies and their best intentions shattered. For these reasons the Special Representative Meeting of the German medical profession, held on October 26th at the Rheingold in Berlin, at which 384 medical societies were represented by 458 delegates, voicing the opinions of 21,207 members, declared it to be the bounden duty of every medical practitioner and of every local medical organization not to enter into any compact with any insurance society from this date onward, and unconditionally to decline to carry out contracted medical attendance on old as well as new insured members of the societies. It is, however, only the contract medical service which is to cease: the interest in the health of the insured persons must in no way be lessened. The patients are to receive the unrestricted assistance of their doctors in the future as heretofore, only without the intermediation of the managers of the insurance societies. Power can be given by the supervising authorities to the insurance societies, in the event of the impossibility of compliance with the demands of the doctors, to pay over a lump sum to the insured persons, in the place of giving them free medical treatment. They shall exercise this power until such time as the medical organizations receive a certain assurance that the club doctors can again follow their calling independently, without lay interference and under acceptable conditions. The German Federation of Medical Societies will determine when this has been achieved, and it will not come to this determination until the conditions of contract practice without exception even in the smallest village or in the most outlying district have been regulated to the full satisfaction of the united profession. If, under these circumstances, the basis of social insurance and sickness insurance itself suffers, and the autonomous government of the participant of the insurance should be endangered, the responsibility must be borne by the leaders of the unions of the insurance societies, as a result of their frigid refusal of the proffered hand of peace.

Before this motion was put to the meeting, Dr. Hartmann made some very stringent remarks regarding a certain number of "blacklegs" who, he declared, must be brought to their knees. After a short discussion, and after numerous telegrams and letters supporting it from various medical societies had been read, the motion was carried by an overwhelming majority. The number voting in favour was 454, and against 4. These latter represented only 164 out of the 21,207 members.

The Union of Insurance Societies has since published in the German lay press a document which purports to contain the union's counter-proposals. Its terms are completely at variance with those briefly sketched in a letter from the secretary of the union to the Leipziger Verband. But in spite of this change of front it is noteworthy that, in the new terms, the agreements which the societies offer to the doctors are to be made directly with the individual practitioners and not collectively through the organizations. Obviously this is another illustration of the policy of attempting to break up the union of the profession.

THE POSITION IN BERLIN.

While the affairs of the medical profession generally have been confided into the hands of the Federation of Medical Societies and the Leipziger Verband, the practitioners in Berlin have preferred to regard their difficulties as of a somewhat special kind, and have accordingly elected to negotiate independently through the agency of the Central Union of Insurance Doctors of Berlin (Zentralverband der Kassenärzte von Berlin). The negotiations have been conducted by Sanitätsrat Dr. Albert Moll on behalf of the medical practitioners. Herr v. Gostkowski, of the chief insurance office, has acted as intermediary between the doctors and the insurance societies. The history of the negotiations is long, but in its essence may be roughly restated in a few words. Herr v. Gostkowski appears to have held out promise of a mutually satisfactory arrangement being reached if the demands of both parties were taken into consideration in the drafting of "principles" which should govern the conditions of medical service. It is, however, fairly clear that the insurance office rather tended to favour the insurance societies, for it is notorious that the profession does not find favour with official boards, be they central or local in Germany. Dr. Moll therefore found it necessary to take up a very firm attitude and to press for what may be termed the "minimum demands" of the practitioners of Berlin. The societies and perhaps Herr v. Gostkowski also misunderstood the nature of these conditions and dealt with them as if they were proposals which would be capable of modification in bargaining. It is, therefore, not surprising to find that upwards of thirteen different draft proposals were submitted to Dr. Moll before he felt justified in accepting the terms. It is alleged that during the negotiations an embarrassing and dilatory method was adopted by the insurance office. When a definite principle was pressed home by Dr. Moll as being extended, it was incorporated in the draft, more or less as desired, but at the same time another point previously agreed upon would be altered in favour of the insurance societies, as a sort of *quid pro quo*. Dr. Moll was not to be deluded by these manœuvres, and he and Herr v. Gostkowski were closeted together for a considerable time, until the objectionable clauses were recast. The "principles" have been accepted by Dr. Moll and ratified by the union, save in so far as the Berlin Tramways Society is concerned. Medical practitioners who accept service with this last-named society are warned that they will not be allowed to hold any other contract practice appointment. These principles are embodied in forty-four clauses, which have been published in full in the current number of the *Berliner Aerzte-Correspondenz*.

The first group deals with the general arrangements. Medical service is to be supplied by what is termed the "Doctor system," under which a limited number of medical practitioners will be elected on to the staff of each insurance society, and the patients will have the right of choice from among the medical officers of the society to which they belong. The right to obey the mandate of the medical organizations is not to be interfered with by the terms of the contracts between the societies and the medical officers. Similarly, the societies preserve for themselves the right of grouping their societies together to form unions of societies.

The second group of principles deals with organization. The medical officers of each society shall form a medical society, which will elect its own executive. A "Complaints Committee" must be formed, consisting of members of the medical societies other than members of the executive committees and representatives of the insurance societies in equal numbers. A bare majority will suffice to carry a motion; in the event of an equal number of votes being cast the resolution will be declared lost. An appeal will lie to a Committee of Arbitration, consisting of the chairman of the chief insurance office of Berlin or his representative and three representatives each of the doctors and of the insurance societies. Each member will be required to nominate two deputies. Further, there will be a Selection Committee, comprised of three doctors, one employer, and two insured persons. The chair of this committee is to be taken alternately by a doctor and a member of the insurance society, the first chairman being selected by lot.

The third group deals with the appointment of medical

officers. The principle underlying these provisions is that the interests of the present holders of office shall be upheld so far as is expedient and practicable. When fresh selections have to be made, the financial position of the practitioner is to be taken into consideration, as also his age, length of residence in the district, and other personal circumstances. It is hoped that when financial sacrifices have to be made in connexion with any appointment, the brunt of the loss will fall on those who can afford it, rather than on the poorer or less successful practitioners, provided always that the medical officer shall be shown to be suitable from a professional point of view. Arrangements are made also for the appointment of specialists. Canvassing for a post will disqualify the candidate.

The fourth group of principles deals with the duties of the medical officers. These provisions are very numerous, and include provisions dealing with disciplinary control (vested in the medical committee), and others regulating the rights of the patients, with the view of preventing abuse.

The fifth group of principles deals with remuneration. The capitation fee is to be 5 marks, but this is not to include night visits, attendances on confinements or abortions, treatment for persons who have only a legal claim for sickness benefit without medical benefit, and the treatment of families of insured persons. Special arrangements are to be made for each of the foregoing. Fines of a defined value are to be incurred in certain circumstances, also defined.

The last group deals with the periods of enforcement of the principles and of the contracts. The agreement is to last until the last day of 1918, but contracts between the doctors and the societies may be terminated by six months' notice terminating on a quarter day.

From the above summary it will be seen that while the medical officers of the societies will be required to enter directly into contracts with the insurance societies, the terms may be settled by the medical organizations. The danger, however, exists that the terms of the contracts will vary materially in the different societies. The provisions as to administration, disciplinary control, choice of the staff, etc., are believed to be sufficiently definite practically to exclude any overriding of the doctors or oppressive treatment by the insurance societies. Lastly, it may be pointed out that, while the doctors aimed at a capitation fee of 5s. 6d., it has been recognized that the 5s. agreed to is not unsatisfactory, and is, at all events, an improvement on what the contract practice medical men have been obtaining in the past.

FRIENDLY SOCIETIES IN NEW SOUTH WALES.

History of Recent Events.

In the Journal for last week, p. 1176, it was stated that a telegram had been received from the New South Wales Branch of the British Medical Association, indicating that in consequence of the rejection of the agreement with the friendly societies in New South Wales proposed by members of the profession in the State, they had been compelled to send in their resignation of friendly societies' appointments, and that already 96 per cent. had taken that step. Our correspondent in Sydney, writing on September 30th, brings the story down to that date, and his account of what has happened will be read with interest. We feel confident that the appeal contained in his last paragraph will be cordially and loyally responded to in this country:—

Negotiations have been in progress for some considerable time between the New South Wales Branch of the British Medical Association and the friendly societies with a view to the readjustment of the terms of the contracts entered into between the lodge doctors belonging to the Association and the lodges. Some twelve months ago a conference was held under the presidency of Mr. Flowers, the Vice-President of the Executive Council of New South Wales, at which representatives of the Council of the New South Wales Branch of the British Medical Association, and of the various orders of the friendly societies were present. After a long discussion an arrangement was concluded on the question of a wage limit. It was agreed that members joining lodges after a certain specified date whose incomes did not exceed £208 per annum at the time of joining should be entitled to attendance until their income rose to £312 per annum. It was also provided that in cases of hardship, such as when a member had a large number of persons depending on him for support, special exceptions might be made.

Further advances in the rates of remuneration in city and country were agreed to. It was understood that the representatives of the friendly societies were to submit these matters to their respective orders with a view to getting them approved. The new terms of contract practice have been embodied in what is called the Model Lodge Agreement, and the idea is to introduce this agreement all over this State. In some districts the new agreement has been adopted, but not in all, and the friendly societies consider that the terms and conditions laid down by the British Medical Association are too drastic. They are not disposed to agree to them, and are anxious to have another conference on the matter.

As a result of conferences between the Council of the New South Wales Branch of the British Medical Association and its city and country members it has been decided to insist on the Model Lodge Agreement being enforced, and a further conference with the friendly societies has been refused. Moreover, in response to a request by the Council, all the members who hold lodge appointments have forwarded their resignations to the General Secretary, and these are to be sent to the friendly societies concerned as a means of insisting upon and obtaining the general adoption of the common agreement. The terms of the resignations are as follows:

Dear Sir,—The New South Wales Branch of the British Medical Association desires that the common form of agreement approved by the conference between representatives of the New South Wales Branch of the British Medical Association and of the friendly societies of New South Wales, held in Sydney on September 14th and 27th, 1912, shall be adopted for use at a date not later than January 1st, 1914. In order that the existing agreement between us may terminate automatically on December 31st, 1913, and thus smooth the way for the adoption of the common form of agreement, I have been requested by the Association to take the necessary steps to terminate the same. I therefore tender you my resignation as medical officer of your lodge by giving you three months' notice, as from October 1st, 1913, and at the same time beg to request that your lodge will reappoint me under the terms and conditions contained in the new agreement, which is enclosed herewith.—Faithfully yours, etc.,

———, Medical Officer.

The attitude taken up by the British Medical Association is that the Friendly Societies' Association has already agreed to the conditions, except as regards country doctors, and in a letter to the latter organization it is stated that it is understood that there should be no alteration except by mutual consent of the terms and conditions for a period of five years commencing on January 1st, 1913. Referring to the pending resignations of the lodge doctors, the letter states:

"You will gather that the medical officers of these lodges wish to retain their positions under the new terms and conditions, and it is hoped, for the welfare of all concerned, that the lodges, many of whom are now working under terms and conditions identical with those of the common form of agreement, will find them acceptable."

The Friendly Societies' Association at Casino, a town in the northern part of this State, some time ago refused to accept the common lodge agreement, and for some time past has been employing medical men who are not members of the British Medical Association. A circular letter has been sent out by this Friendly Societies' Association to all the lodges in this State, suggesting the establishment of medical agencies in England, on the Continent, and in America for the purpose of securing first class medical men, with a board of control of ten members to represent each part of the State. The expense of this, it is suggested, could be met by an annual contribution of 1s. from every friendly society member in New South Wales. In this way, it is said, sufficient money would be raised for all requirements. Where lodges are working in harmony with their medical men it is suggested that no alteration should be made. The Friendly Societies' Association of New South Wales has also taken the matter of the British Medical Association ultimatum

into consideration, and is calling a special meeting to discuss it.

Medical men in England are urged to take note of these facts and to beware of accepting appointments to lodges in this State without being fully assured that the appointments which they are accepting are approved by the New South Wales Branch of the British Medical Association.

THE MOTOR SHOW FROM THE MEDICAL MAN'S POINT OF VIEW.

FRESH FEATURES AND HOW TO REGARD THEM.

By H. Massac Buist.

The twelfth yearly motor-car show that opens at Olympia, Kensington, on Friday, November 7th, under the patronage of the King, has many features of interest to the medical man. Some present temptations he will be well advised to avoid; for the doctor, perhaps more than any other class of motor user, wants nothing in the guise of an experimental or insufficiently tried development in the equipment of his car. True, he has a right to be as keen in his quest of luxury as any, for he has to use his machine at all hours and in all weathers; and it is precisely for that reason that with him reliability is, or should be, ever a foremost consideration. While a large number of medical men have already gained a wide motoring experience, others have yet to take to the use of the car. It is therefore opportune briefly to discuss the main points of view from which medical men will approach this exhibition.

Price.

At the outset the price limits for a complete vehicle may be taken as ranging from below £200 to about £500 as a maximum. A few years ago that would not have given a very wide choice. But to-day it means that the higher sum specified is more than sufficient to procure a car capable of developing a maximum of 50 h.p., weighing at least a ton and a half, and equipped with all the latest devices for starting the motor by electrical means and lighting the car on the same principle. Indeed, this year the exhibits can be grouped conveniently into price and power classes by the medical inquirer who sets out with a fixed sum in his mind. In regard to this I have often observed that men have subsequently repented of their choice between three or four cars they had in mind when the final decision has been taken merely on the point of pounds instead of guineas, or of a few pounds one way or the other. When it comes to a close matter like that, the final choice should be made always by a personal consideration of other points than price. Value should be set against value to see whether the dearer or the cheaper article by a narrow margin will suit the individual better. Moreover, there is only one man who can satisfactorily decide which is the best car to suit a given medical man—himself.

To Avoid being Misled.

When, as is generally the case, the class of car sought is determined by what the purchaser can afford, the best practice is to allow about ten pounds in the hundred above as well as below the sum finally decided on; in other words, a £40 range for investigation, as it were, in the case of the £200 machine, a £60 range in the £300 class, and an £80 range in the £400 to £500 class. Further, when considering price, do not be misled by catalogue engine rating. Treasury horse-power taxing, or even engine dimensions, because the motor manufacturers of the world employ very many different systems of construction. Thus, one maker's 12-h.p. car with a high speed, high compression engine of the most modern sort, will give more actual horse power than another's 25-h.p. vehicle of low compression, narrow range of working revolutions, and possibly three and four times the volume.

In regard to demonstrating as a means helpful to enable one to judge performance, there are pitfalls for which one should be on the look-out. In the case of a demonstration car, you want to know whether the carburettor has a larger jet orifice than in the vehicle as it will be supplied to you; also what amount of petrol it is using. Observe systematically the manner in which it is demonstrated to you; also whether the driver is manipulating the clutch when he is showing what can be done on the direct drive, and whether the clutch has been oiled so that it will slip somewhat. In some cases you can disregard the speedometer on the demonstration car. I have come across more than one that has been adjusted to register higher than is correct. When hill-climbing qualities are being displayed, be careful to observe how you approach each rise. There is no credit in climbing any rise without changing gear if you have to rush at it, any more than there is in demonstrating fast speed qualities on the flat if the machine has to take a long time to get into its stride. As a careful user of the vehicle yourself, in both those circumstances of service you would not rush round corners and blind turnings, therefore you would have to be changing speed continually if the car were yours. The medical man, indeed, should be particularly mindful not to succumb to the top gear or through-drive mania when he is making up his mind concerning the choice of any particular car. On the contrary, he particularly wants a machine the gears of which will be easy to change, and the motor and clutch details of which will not cause a jerk every time the gears are changed, whereby the machine is racked and tyres are destroyed.

Some Practical Advice.

The journeyings of a medical man are not confined to main routes. Accordingly many doctors are limited as to the size of car they can take by the necessity of negotiating tortuous and narrow country lanes, such as call for an ample wheel-lock and a limited over-all length of car, also, in many cases, for a wheel-track of not too great width. The car, however, should be always proportionately wide for its size and height from the ground if it is to be stable and safe on the road. Under this head mistakes of design have been made in certain light car patterns that are too narrow, and the centre of gravity of which is accordingly too high.

Another feature to which attention should be drawn is the design of the brakes. The rubbing surfaces should be of proportionately large area, and the means of application should be easy, so that only a light touch is needed by foot or hand, with no consequent skidding or squeaking sounds; in point of fact, these are by no means eliminated yet from certain constructors' brake systems. Means of adjustment should be accessible; on the other hand, a type of brake that is always in need of adjustment should be avoided, and one chosen that makes ample provision for wear, so that no appreciable degree of wear occurs for lengthy intervals. If the brakes are coarse of action the owner will be running up an unnecessary tyre bill.

The Era of Electric Car Lighting.

We have had electric car lighting systems for years as accessories to the equipment of the vehicle. The keynote of the 1914 programme of the middle and small powered car makers is the incorporation of electric car lighting systems in the initial design of the chassis as part and parcel of the entire scheme, not only to enable the purchaser to receive better value for money by obtaining the vehicle and all such accessories for an inclusive sum, but also because the scheme allows the dynamo machine and other details to work under the best conditions, and so to reduce wear and tear to the minimum, and ensure a maximum degree of reliability. Many failures of electrical apparatus in the past have been due to the fact that chassis designers have made no provision for it. It has therefore had to be tacked on to the car as best the accessory maker can contrive, a mode which certainly does not provide a fair chance of testing the machine.

To-day, fortunately, the medical man has not to buy that sort of machine, for on quite a number of cars of moderate price electric lighting systems are part and parcel of the standard equipment. I would notice particularly under this head the 12-h.p. Rover model, which is sold complete as a four-seated vehicle with the famous Leitner dynamo and Rotax electric lighting equipment for £350. Again, all but the smallest Star types are standardized with dynamos and electric lighting sets, as are the 16 and 20-h.p. Darracq models, and the 16–22 h.p. Napier four-cylinder chassis, which is sold with C.A.V. electric lighting set. Another system, again, is the provision as standard in the design of the chassis of means for working the electric lighting dynamo, which

can be fitted, together with all equipment, for an inclusive extra cost of only £10, as in the case of the Belsize product, wherein batteries, side and tail lamps are, in any case, provided as standard. In other words, there is no reason why the medical man, even on a small-powered car of low price, should be without the advantages of electric lighting equipment to-day. Even on the 10-h.p. four-cylinder Singer light car a complete electric lighting set is included for the cost of 190 guineas. It is hardly necessary to say that all electrically started cars are supplied as standard with electric light.

The Mechanical Starting of Engines.

The movement for the production of mechanical engine starters has made great progress during the year. Yet it would be misleading to imply that in this country we have arrived at the age of the mechanical engine starter as part and parcel of car equipment. On the contrary, it is rather the exception than the rule. As was the case with electric lighting systems until quite recently, so with electric engine starting devices to-day; the attitude of the average motor manufacturer is, in effect, that he is willing you should have such a device fitted to your chassis as an extra, for though he admits that the apparatus is likely to work satisfactorily, he is not yet willing to standardize and guarantee it. What is commonly called the process of "speeding up," however, is so much in evidence at this show as to leave little room for doubt that a year hence it will have become the rule to fit engine starting devices as standard and the exception not to do so. Among the higher priced cars, the special six-cylinder Daimler chassis is furnished as standard with a C.A.V. friction contact electrical engine starter that gives six ampères at twelve volts: while the six-cylinder Sheffield-Simplex chassis is standardized with the American U.S.L. system, whereby the ordinary flywheel is replaced by the armature of the dynamo. The six-cylinder Lanchester chassis is standardized with that firm's adaptation of the Delco system, with which the Cadillac Company inaugurated the whole movement two years ago. From Italy comes a new 35-h.p. Lancia chassis on which the Rushmore electrical engine starter is standardized, while the small six-cylinder Delaunay-Belleville chassis is also equipped with electrical engine starter, as are all the Métallurgique types, save the smallest of the series.

If we come to consider cars sold as complete motor vehicles ready for the road within the price limits specified in the opening portion of these notes, however, the choice of cars with electric starting equipment is narrow. At the top of the list is the 30-h.p. Cadillac, which has now proved its pioneer system in the hands of over 33,000 owners during the period of over two years and has just received well-earned recognition from the Royal Automobile Club in awarding it the Dewar Trophy for 1913–14 for the most meritorious performance in any of its officially conducted trials of cars and car apparatus towards the development of the movement. The Oaklands six-cylinder, an American car that has been on the British market for about a season and which is of a moderate price, is fitted with a Delco engine starter, as is the new six-cylinder American Hudson car and the American Hupmobile with the Westinghouse system, while from Scotland comes a remarkable vehicle in the 15.9-h.p. Arrol-Johnston car, supplied as a complete four-seated vehicle with electrical engine starter and lighting set for £360. Another outstanding proposition is an American one brought forward by the Willys-Overland Company that has been two seasons established in this country; it offers a 25-h.p. four-cylinder car complete with all accesories and the Gray and Davis system of engine starter for £275. This is possible by reason of the scale of the enterprise. In America the manufacturing year begins earlier than in Europe. Between last August and the end of July next the Willys-Overland factory at Toledo is being run on a scheme calculated to result in the production of 50,000 of these complete vehicles. The American Mitchell and Krit cars have also electric engine starters, as has the White.

Features of Manufacturing Policy.

The tendency for European manufacturers to exploit fewer types grows apace, the majority of the British makers confining their activities to the manufacture of three models at most, whilst several have come to the one-model proposition. In the expensive high-powered cars the Sheffield-Simplex firm has abandoned two of its types and makes a 30-h.p. six-cylinder chassis only this year; while in the middle size the Rover Company no longer makes the 18-h.p. vehicle, but, instead, concentrates entirely on the output of the 12-h.p. model. Wolseley, Napier, Sunbeam, Austin, Deasy, Standard, Swift, Vauxhall, Arrol-Johnston, and Argyll are among the concerns that make three types apiece only. On the other hand, Clement-Talbot adds a fifth model to its programme in a nominal 15-h.p. four-cylinder chassis with a piston travel 10 mm. longer than the 12-h.p. type but the same cylinder bore.

In the main, however, the elimination of programmes concerned with the production of several models per firm is accompanied by increase of output, chiefly concerned with one type out of the series. Hitherto America and Britain were almost singular in the fact that the majority of their motor-car manufacturers have their own body works. By distinction the more general practice in France and on the Continent is for motor engineers to produce chassis only. Hence most British concessionaires of foreign cars have in the past had to standardize some one type of body on the most popular size chassis for marketing in England.

The Trend of Continental Effort.

A fresh policy is inaugurated in the case of the Italian industry, however, by the enterprise of its pioneer motor manufacturing firm, the Fiat Company, in bringing its products within purse range of that public which has not hitherto been able to afford such machines. For this season it has embarked on a minimum output of three thousand 12 to 15-h.p. four-cylinder light car chassis of 80 mm. cylinder bore by 120 mm. piston travel, to be sold complete with four-seated body, hood, screen, lamps, and other details for £375, the feature of the policy being that in details of design the vehicle exactly reproduces the distinctive Fiat constructional practice.

If we turn to the French industry it is to find that the now thoroughly reorganized Darracq enterprise brings forward a three model programme of cars rated respectively at 12, 16, and 20 horse-power, each of the four-cylinder sort, and all supplied as complete vehicles within the purse range indicated for the medical man. These cars, moreover, are the first machines hailing from a French factory for the design and production of which a British motor engineer, Mr. Owen Clegg, is responsible. Hence in constructional details they are particularly suitable for home service. The two lower powered models have the underhung worm drive, the newest fashion being followed in having half elliptic rear springs hung below the back axle. The De Dion programme is quite notable for two features, the first being that small four-cylinder models are now available at prices at which it was formerly possible to obtain only single or two-cylinder types. The other feature is that the eight-cylinder, V-set motor, which this firm has pioneered in car practice, and which has quite distinct qualities of service, including extraordinary flexibility, is now brought within the range of the medical man by the introduction of a 24-h.p. model. In another category, too, is the exhibit by the Peugeot firm of a four-cylinder 6-h.p. "Baby," which is probably the smallest light car on the market. It is retailed, completely ready for the road, for £170, having been improved in various features, as by the provision of a third forward speed, while still retaining the original feature of a double bevel back axle, whereby two speeds are available there.

Turning to Germany, we find that one of the three pioneer houses in that country—the Adler firm, represented in this country by Morgan of Old Bond Street and Long Acre—introduces a 9-h.p. block-engined, four-cylinder water-cooled light car, sold complete with two-seater body, either of the tandem or the side-by-side sort, for 200 guineas. Thus from abroad some very notable propositions are being introduced in various classes.

This year the Ford Company follows the example of the Studebaker Corporation—that has marketed the Flanders and E.M.F. cars, and which this year introduces a six-cylinder Studebaker model complete, with electrical engine starter—in absenting itself from the exhibition.

THE CYCLE OR LIGHT CAR.

In the British section it is plain that there has been a big development in what is styled the cycle or light car department. In this connexion, however, it falls to note that sundry manufacturers—as instance Humbers—are not showing their cycle-cars at this exhibition, but are holding them over for introduction at the Cycle-car and Motor-cycle Show, which will follow it at a week's interval. The Swift Company, on the other hand, supplements its two new four-cylinder car models by the latest edition of its two-cylinder cycle-car, which has now been improved in sundry details—as instance the substitution of a pressed steel frame for the tubular sort formerly used and the furnishing of an H-section front axle in place of the tubular sort. In other words, in this case the cycle-car characteristics have been eliminated, motor-car practice alone being exploited now. The price of the vehicle is £140. It employs a car form of power transmission through gearbox to rear live axle; whereas the 10-h.p. Pilot light car is wellnigh exceptional among vehicles displayed at this show in exploiting the friction mode of power transmission. The Standard four-cylinder light car, which has now been in the service of the public for a season, is shown with a few slight improvements that make it still better value for money, the price complete being £195. In the class above this a notable policy is the introduction by the Humber Company of a 10-h.p. model sold as a four-seater vehicle complete with screen, lights, and rainproof hood for £250. The Belsize small car has been improved in minor details.

CARS OF QUALITY NOW AVAILABLE.

A feature this year is that the 10-h.p. Austin car, which embodies a great deal of the firm's distinctive constructional features, is now brought within the range of the medical man of moderate means, in that the chassis price complete with tyres is £260. The Siddeley-Deasy Company introduces a 14-h.p. light car which is incidentally interesting in that this is the first four-cylinder vehicle in which the Daimler-Knight double-sleeve valve engine is produced as a one-piece casting. The novelty in this chassis, however, will be found, as in the case of the new 20-h.p. Daimler car, in the back portion, the worm-driven back axle and three-speed gear-box being a unit combined with a torque tube and radius rods, so that many joints are eliminated from the construction, and the whole of the drive from the road-wheels is transmitted to the midmost cross-frame members. In both these vehicles the back suspension is on the cantilever spring system initiated by Lanchester. In the case of the Daimler car the foot-operated expanding brake works on a rearward extension of the overhead worm shaft in the back axle. The Napier Company introduces its new 16 to 22-h.p. four-cylinder model which has an increased bore measurement in combination with valves set on the slant and other improvements which make it an appreciably more powerful model.

ADVANCE MAINLY CONFINED TO DETAILS.

The Star Company's policy of middle-priced cars now embraces the fitting of electric lighting sets as standard, in combination with prow-shaped coolers and sloping dash. In the main, however, general mechanical advance is represented chiefly by further simplicity and by making full use of the better metals now available for manufacturing, as instance the 12 to 16-h.p. Sunbeam car, which comes under the machines below £400 in price complete with body; in this there has been no re-designing of the springs, but very much improved riding is achieved by using chrome-nickel steel for those members. Straker-Squire uses chrome-vanadium steel for the springs. A great deal of attention has been devoted by makers to isolating their cars from engine vibration by supplying slightly flexible drives of one system or another as between clutch and gearbox and as an addition to the universal joints ordinarily furnished to those details. Again, it is becoming a very general practice to make the gate and the change-speed lever extensions of the gearbox proper, thereby entirely isolating those details from effects of frame flexion.

I propose next week to deal individually with certain exhibits at the show, ranging from big vehicles, which nevertheless come well within the £500 price limit, such as the complete 16 to 20-h.p. four-cylinder Wolseley and the new Cadillac model with electrically controlled two-speed back axle, and electrical heating for the carburettor to ensure the petrol vaporizing readily in the coldest weather. All the driver has to do is to touch a switch on the switchboard on the dash and in thirty seconds the carburettor is at boiling heat. Yet the amount of power used only represents the equivalent of keeping the tail lamp alight for about an hour and a half. The loss is replenished to the batteries a few minutes after the engine has been running.

THE LUNACY AND MENTAL DEFICIENCY ACTS.

CONSTITUTION OF A NEW BOARD OF CONTROL.

ON November 1st the Mental Deficiency Act, 1913, came into operation "as respects the constitution of the Board of Control, and the appointment of the secretary, officers, and servants of the Board." In all other respects the Act does not come into operation till April 1st, 1914.

In due course the names of the three paid Commissioners, including the Chairman appointed by His Majesty, were published on the first day of the month as follows: Sir William Byrne, K.C.V.O., C.B. (Assistant Under Secretary of State for the Home Department); Arthur Rotherham, M.A., M.B. (Medical Superintendent of the Darenth Asylum); and Miss Mary Dendy (Hon. Secretary of the Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded).

The existing Lunacy Commissioners are, by virtue of their office, paid Commissioners of the new Board of Control, which came into being on November 1st. It will, therefore, be composed as follows:

Sir William Byrne, K.C.V.O., C.B. (chairman),
Dr. C. H. Bond,
Dr. E. M. Cooke,
Dr. S. Coupland,
Miss Dendy,
Mr. B. T. Hodgson,
Mr. S. J. F. Macleod, K.C.,
Dr. F. Needham,
Dr. A. Rotherham,
Mr. L. L. Shadwell,
Mr. A. H. Trevor.

The four unpaid Commissioners will be appointed later.

Sir William Byrne was a member of the Royal Commission on the Feeble-minded.

The Act gives powers for the appointment of fifteen Commissioners, of whom not more than twelve shall be paid. At present the Government proposes to appoint eleven paid Commissioners only. This would seem to leave four unpaid Commissioners to be appointed. These appointments have not yet been made. As there is nothing in the Act to show what will happen to the four unpaid Lunacy Commissioners, it is possible that some of these may be continued in office on the Board of Control.

The powers and duties of the Commissioners in Lunacy under the Lunacy Acts, 1890 to 1911, will be transferred to the Board of Control "as from the commencement of this Act"—that is, presumably, from April 1st, 1914.

If this be so, then apparently both the Lunacy Commission and the Board of Control will exist concurrently during the next six months, after which the Lunacy Commissioners will only exist as an entity separate from the Board for any purposes (if there are such) which do not come within their powers or duties under the Lunacy Acts, but it would seem that for all practical purposes they will be merged in and their duties transferred to the Board of Control.

It seems clear that the Board now constituted must forthwith appoint an Administrative Committee under Section 22 (5), to which will be entrusted certain powers and duties enumerated in the Schedule to the Act—namely, the supervision of local authorities, certification and approval of premises, provision and management of State institutions for dangerous defectives, administration of grants, and other administrative duties that may be assigned to them, all being powers and duties of the Board under this Act.

No doubt the newly-appointed paid Commissioners will be members of this executive committee, but it can hardly be doubted that there will also be a strong representative

of the existing Lunacy Commissioners, as otherwise the formation of a single Board based on the existing Lunacy Commission—instead of a new and independent body, as originally proposed—would seem to have no object. The retention of the Lunacy Commissioners as the foundation of the enlarged Board of Control was strongly advocated by the medical profession, and it will certainly hope to find them well represented on the Administrative Committee, which will have so much to do with the shaping of the work under the Act, in which their experience will be most valuable.

Among the first duties the Board will have to undertake will be the drawing up of regulations under the Act for the approval of the Secretary of State, and the appointment of inspectors and other officers.

The duties of the Board include, in addition to those already mentioned, the exercise of general supervision, protection, and control over defectives; the supervision and inspection of institutions and homes, and all arrangements for the care, training and control of defectives therein: and the visitation of defectives, whether in institutions or homes, under guardianship or in single care. It will also be required to take such steps as may be necessary for ensuring suitable treatment for cases of mental deficiency, and to report to Parliament.

The whole conception of guardianship is a new one, and it may be expected that the Board of Control will early devote itself to the consideration of the way in which this method of dealing with defectives may be best carried out.

In more than one place in the Act stress is laid on the study of methods of treatment, and we may expect that this will be a matter to which attention will early be given by the Board.

The general supervision of defectives will probably be found to involve much more than inspecting them in institutions or even under guardianship, and for this purpose it will probably be found useful for the Board to have the co-operation of some voluntary body which can act in harmony with it, especially in regard to such matters as are not specifically dealt with by the provisions of the Act.

THE TUBERCULOSIS CONFERENCE IN BERLIN.

[From our Special Correspondent.]

It is exactly eleven years since the first conference on tuberculosis took place in Berlin, and the Kaiserin honoured the eleventh conference, opened at Berlin on October 22nd, with a lengthy visit. Professor Léon Bourgeois, who was prevented from presiding by illness was represented by Professor Landouzy of Paris.

Some very interesting figures were given by Dr. Bumm, the President of the Imperial Bureau of Public Health, in his opening address. There are now in Germany 147 public sanatoriums with about 16,000 beds, 27 institutions for children with pulmonary phthisis, 22 for those suffering from tuberculous osteitis and arthritis, 103 for scrofulous children, 17 "forest" schools, 222 special hospital departments, and 1,500 tuberculosis departments. He went on to give credit to England for the first efforts made to constitute compulsory notification of the disease—a procedure which had aided every antituberculosis measure throughout the civilized world, so that it was computed that the death-rate from the disease in England, Germany, France, Belgium, and America had been diminished during the last fifteen years by about a third. He announced that the precepts of Koch with regard to the high infectivity of advanced pulmonary cases were now generally appreciated in Berlin, and that an institute was about to be erected near that city for the segregation of such cases, and that accommodation for 500 patients—to be increased eventually to 1,000—was to be provided at an estimated cost to the metropolis of £425 per bed.

Tuberculosis and Man.

To the chief discussion, which was on tuberculosis and man, an excellent paper was contributed by Shennan of Edinburgh. In it he stated that the death-rate from tuberculosis in Scotland was highest during the age periods 25–35, whereas in England it was highest between 35 and 45. In Scottish towns there was no relation between the mortality from the disease and the number or density of the population. The speaker was of opinion that the hypersensibility engrafted by a primary infection was of the greatest importance with regard to reinfections, which he maintained were conveyed mainly from external sources, and not from pre-existing foci in one body. The majority of pulmonary and glandular cases were the result of air-borne infections, and there was no evidence of a direct involvement of the lungs from deep-seated cervical tuberculous glands, though manifest phthisis in children was very often a sequel to tuberculosis of the bronchial glands. The right lung was more frequently infected than the left.

Professor Hamburger of Vienna spoke on the debt which the study of human tuberculosis owed to experimental medicine, and his conclusions were shortly that our scientific knowledge of the disease was almost entirely founded on laboratory researches. He urged that every experiment to be of value must conform with clinical and anatomical findings, and, as the direct result of this observance, he announced that critical experimental investigation had brought us considerably nearer of late years to a solution of the problem of predisposition, and had very largely confirmed the accurate observations and conclusions based on them by a bygone generation of physicians. The foundations of the pathology of tuberculosis were laid in the discovery of its experimental infectivity and the investigation and demonstration of the infecting agent itself. It was research, too, that we had to thank for defining the differences between human and bovine tuberculosis, and for establishing the now generally recognized fact that infection was mostly aerogenous, and that most patients contracted the disease during childhood. The work on immunity, the benefits that may be expected to follow a specific treatment, the revelation of the tuberculous nature of many otherwise undiagnosable diseases would have been impossible without inoculation experiments in animals.

Dr. Mach, of Hamburg, announced the departure of a tuberculosis expedition to Jerusalem, whose object it was to investigate tuberculosis as it affected respectively the Arab and the European, and it was hoped that much profitable information would thereby accrue to those who were interested in the hygiene of the colonies.

Dr. Hamel (Berlin) followed with some interesting statistical observations. In Germany one-fourteenth of the adult mortality from tuberculosis was directly due to tuberculosis of other organs—for example, meninges, glands, bones and joints, etc., whereas this applied to one-half of the deaths under 15 years. The ratio rose to four-fifths in England, Scotland, Sweden, and Norway.

Professor Petruschky (Danzig) read a paper comparing the typical course of chronic tuberculosis with that of syphilis. The primary stage was the glandular adenitis: the secondary, a stage of metastasis of tuberculous material; the tertiary, the stage of local tissue necrosis. Pulmonary phthisis of the adult was almost always a metastasis of the glandular disease which had existed latent a long time, and this statement was also applicable to so-called surgical tuberculosis, which was usually the result of metastases from some central glandular focus. It followed from this that the alleviation or cure of the central focus should always accompany the local measures employed.

The Surgical Treatment of Pulmonary Tuberculosis.

The second subject for discussion concerned the surgical treatment of pulmonary tuberculosis, and the paper by Professor Brauer of Hamburg probably contained the most important announcements made at the Conference. He divided his paper into two sections: (1) The measures for the treatment of the tuberculous primary focus: (2) the methods of dealing with horrible complications or secondary symptoms. After discussing briefly resection of portions of the lung and the surgical opening in certain circumstances of large tuberculous cavities, he turned to the question of chief interest for the moment—namely, the treatment of pulmonary tuberculosis by artificially induced collapse of the lung. This was, he said, attained by one of two methods according as adhesions were present or not. In the first case some form of plastic operation was undertaken on the thoracic wall: in the second an artificial pneumothorax—a procedure the value of which in certain cases had lately come to be

recognized—was produced. If the cases were carefully chosen and the technique perfect, the operation was easy and comparatively free from danger. The following are some of the extrapleural plastic operations which he recommended: (1) The circumscribed adjustment of the thorax, the purpose of which is to counteract the existence of a tendency of the lung to shrink (circumscribed thoracoplastic operations of Quincke and Carl Spengler). (2) Brauer's own extensive extrapleural thoracoplastic operation introduced into practice by Friedrich. (3) Schede's intrapleural thoracoplastic procedure. He claimed that experience had taught that the extensive extrapleural operation he recommended was the best and least disfiguring and least dangerous of all the operations for producing complete pulmonary collapse. The so-called "pillar resection" described and practised by Eden and Wilms was frequently followed by an aspiration pneumonia of the lower lobe, and was not to be recommended except in very special cases. The indications for extrapleural plastic operations as a whole must always be controlled by a careful study of the symptoms present in each case, possible complications, and, above all, the condition of the other lung. Partial collapse and immobilization of the lung could be produced by separation of the adherent apex, just as well as by the partial extrapleural thoracoplastic manœuvres of Quincke and Spengler. The resulting super-apical cavity should be filled up with fatty tissue (Tuffier, Paris), or with injections of paraffin (Baer, Davos), which Brauer characterized as a dangerous but often exceedingly useful procedure. The lower portions of the lung could be brought to rest by division of the phrenic nerve, and Sauerbruch, Ochiecker, and others had shown that this was a useful adjunct to the extrapleural operations.

TUFFIER of Paris followed with an explanation of his method of introducing fatty tissue for the obliteration of cavities produced by operations; and BAER of Davos cited the results of 8 cases in which he had used paraffin injections for the same purpose. He insisted on the importance of producing the first pneumothorax by dissection, which excluded any danger, and described the operation for clearing and separating the diaphragm, pointing out that "filling" of cavities was really unnecessary, as everything depended on the degree of separation effected.

Dr. STAUB of Davos reported a case of pulmonary phthisis with cavity formation, which, in spite of the presence of advanced tuberculosis of the peritoneum and intestines, had markedly benefited in a very short time after the thoracoplastic operation and subsequent injection of a paraffin-bismuth-iodoform mixture. By a second case he showed that a preceding thoracoplasty with clearing of adhesions would greatly increase the chances of success of a subsequent direct opening of a large cavity.

(To be concluded.)

ROYAL MEDICAL BENEVOLENT FUND.

AT the October meeting of the Committee twenty-four cases were considered, and grants amounting to £181 made to eighteen of the applicants. Appended is an abstract of the cases relieved.

1. Widow, aged 48, of M.R.C.S., L.R.C.P. Practically unprovided for at husband's death eighteen months ago, and is endeavouring to support herself by taking boarders. Two daughters, aged 18 and 9, the elder earning 12s. 6d. a week as a clerk, the younger at an institution. Relieved once, £10. Voted £10.

2. Daughter, aged 61, of late M.R.C.S. Was one of nine children at the death of her father fifty years ago, and for many years supported herself and helped her mother by acting as governess or school matron. Income only a few shillings a week, and is no longer able to obtain remunerative work. Voted £10.

3. Widow, aged 70, of M.D.Glasg. Lost her husband six months ago, and finds that, owing to depreciation in investments, her income will be less than £10 a year. No children or relations able to give permanent help. Voted £18.

4. Widow, aged 55, of L.R.C.P., L.R.C.S.Edin. Lost her husband a few months ago after an illness lasting several years, during which she supported the family by taking lodgers. Five children, of whom four are still at school and the eldest has just obtained a bursary at a university. Voted £12.

5. Widow, aged 50, of M.R.C.S. Quite unprovided for at recent death of husband from new growth, but hopes to support herself by obtaining paying guests. Voted £10.

6. L.S.A., aged 55. Has a very small practice in a London suburb, but has broken down in health, and is ordered a holiday which he can ill afford. Voted £5.

7. Widow, aged 51, of M.D.Edin. Lost her husband some months ago after a long and painful illness which quite exhausted his small savings. Receives 5s. a week from a stepson and takes a lodger. Voted £10.

8. Widow, aged 46, of L.F.P.S.Glasg. Supported herself for several years after her husband's death as a school matron, but was obliged to give up her post on account of progressive deafness. No income, and dependent on a widowed mother whose means are very small. Asks for assistance to cover the expenses of sending her only son in for the examination for a second mate's certificate. Relieved once, £10. Voted £10.

9. Daughter, aged 68, of late M.R.C.S. Was a nurse for many years, and now has a pension of £20 a year from another society. Relieved three times, £36. Voted £6.

10. Widow, aged 73, of M.R.C.S. Receives an old age pension and slight help from her children, but asks for assistance towards expenses incurred through chronic ill health. Relieved eight times, £95. Voted £12.

11. Daughter, aged 51, of late M.R.C.S. Has a small house at a low rent, letting rooms in the summer and making sweets in the winter. Relieved twice, £20. Voted £12.

12. Daughter, aged 41, of late F.R.C.S. Has a stiff right shoulder joint, which makes it very difficult to obtain regular and suitable employment. Relieved seven times, £84. Voted £12.

13. Daughter, aged 54, of late M.R.C.S. Used to be a nurse, but suffers from chronic glaucoma, and is now quite unable to support herself. Slight help from relations. Relieved five times, £45. Voted £10.

14. Widow, aged 73, of M.R.C.S. Receives an old age pension and 5s. a week from a charitable society. Relieved once, £12. Voted £9.

15. Widow, aged 47, of M.D. Assists at a boarding-house kept by a widowed sister but receives no salary, and asks for help towards small expenses unavoidably incurred for her boy aged 14. Relieved fourteen times, £151. Voted £5.

16. Widow, aged 64, of L.R.C.S., L.R.C.P.Irel. Has a situation as cook, but finds the work so hard that she is obliged to give it up. Proposes to live with a son earning a small weekly wage and having five children. Relieved once, £5. Voted £12.

17. Daughter, aged 71, of late M.D. Is an inmate at a home for incurables, but has no means to meet small unavoidable expenses. Was an annuitant of this Fund until elected to the home. Voted £6.

18. Daughter, aged 58, of late M.R.C.S. Is almost blind and entirely dependent upon a friend and the help given by this Fund. Relieved three times, £22. Voted £12.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 11, Chandos Street, Cavendish Square, London, W.

LITERARY NOTES.

To the collection of *Alte Meister der Medizin und der Naturkunde*, now in course of publication at Munich by Professor Gustav Klein, has just been added an edition of the *Gynaecology* of Thomas of Brabant, prepared by Dr. Christoph Ferckel of Leipzig. Thomas of Brabant, who is better known by the name of Thomas of Cantimpré, was born near Brussels in the beginning of the thirteenth century. He became a Canon Regular of the Order of St. Augustine, in the Abbey of Cantimpré near Cambrai, and about 1232 entered the Order of St. Dominic. He studied at Cologne under Albert the Great, and afterwards at Paris. Thence he proceeded to Louvain, where he devoted such time as was left to him by his functions as Prior to teaching. He died in 1263—according to others, in 1280. His learning was very extensive, and he left books on hagiography, and a treatise on natural history (*De Naturis Rerum*), which had a great vogue in the Middle Ages. The first book of this treatise is devoted to the anatomy of the human body, and it is certain parts of that book that have now been published by Dr. Ferckel as a treatise on gynaecology. It consists of the chapters XLV (*de mamillis*), LIX (*de matrice*), LX (*de virga genitali*), LXX (*de hominis semine*), LXI (*de impraegnatione mulieris*), LXXII (*de infusione animae rationalis et unde anima*), LXXIII (*de virtute nascitiva*), LXXIV (*de partu et arte obstetricandi*), and LXXV (*quot modis nascuntur pueri*). Thomas's work is a compilation of numerous authors from Aristotle downwards. But it is to Avicenna, and consequently to Galen, that are traceable the theories on the relation between the male and female semen, and the considerations on the blood-forming and seed-forming organs, and on the regenerative power of these organs. The book owes nothing to the famous *De Secretis mulierum* of Albertus Magnus, nor has that treatise exerted any influence on the German

treatises of obstetrics published in the sixteenth century under the title *Von dem Gheimnissen der Weiber*. These, again, have no connexion with the *De Secretis*. The plates in the work of Thomas of Brabant are very beautiful, although they have little to do with gynaecology. They show the influence exerted by Thomas's work on the illustration of scientific books in the Middle Ages. Dr. Ferckel has already given proof of wide erudition in these matters in his edition of the *Fasciculus Medicinae* of Johannes de Ketham, published at Leipzig by J. A. Barth in 1911.

Dr. Heinrich Roos was a Wurtemberger who served in the Grande Armée in the Russian campaign of 1813. His recollections, which were published in the original German in 1832, have recently been translated into French by Mme. Lamotte, and published with a preface by M. T. de Wyzewa. They give a vivid picture of the sufferings of the French troops, and incidentally of the difficulties with which the medical officers had to contend. Thus he says:

> At Lyasna there was established a Wurtemberg lazaret the medical officer in command of which was well known since the campaigns on the Rhine. I found him who used to be very jovial in a very melancholy state of mind. He had gloomy forebodings as to the issue of the war, and could not resign himself to the privations which he had to endure. Moreover, he thought that his promotion had been delayed, and he lived unhappily with his wife. Finally, most of the patients who had been left with him died, whether on account of the very serious form of diarrhoea by which they were attacked, or because everything necessary for their treatment was wanting. Moreover, there was nothing available for the support of the convalescents. He had neither meat nor strengthening drinks to give them. Only scanty rations of bread and flour were distributed as in a besieged town. I learnt later that my *confrère* was ordered to rejoin the army with the convalescents and to place his patients in safety at Smolensk. Disappointed in his hopes, unable longer to bear the privations to which he was condemned, he did *what many others had already done or were to do later*; he made an end of himself by cutting his throat with a bistoury.

We get a casual glimpse of the handiwork of Napoleon's favourite surgeon, Larrey, who was a great amputator of limbs. On a march along the Kologha, Roos and his comrades came to a camp pitched near the Abbey of Kolotskoi:

> Between the Abby and the camp there was on the left of the road a ditch full of legs, arms and corpses. We concluded that Larrey and his colleagues had been at work there the day before.

On the battlefield of Borodino Roos saw a young Russian suddenly rise from among the corpses strewn about, rub his eyes, look about him in amazement, and slowly rise to his feet, as if the first rays of the sun and the movements of people going to and fro had awakened him. Then he went off in a direction where it seemed likely that he would meet with few people, without any one thinking of stopping him. Roos thinks it probable—and his opinion was shared by all who witnessed the incident—that the young man had on the previous evening fainted either from the shock of a cannon fired close to him, or a shell which had ploughed up the ground beside him, and that he had passed the night insensible in the midst of the dead. Many of the Russian wounded were carried to a small village in the neighbourhood; subsequently this was set on fire, and Roos saw their skeletons and calcined limbs. The author described an extraordinary wound which he saw at Mojaisk. A chasseur had received from a Cossack a lance thrust of such violence that it penetrated the orbit at the internal angle and enucleated the eye, which was seen absolutely intact, hanging outside the orbit by its muscles and the optic nerve. There was only a slight oozing of blood. The man remained on his feet, but complained of fearful pain. The eyeball was stained with earth. It was washed, replaced in the orbit, and held in position by means of cold compresses. The author never learnt the issue of the case.

One of the heaviest penalties which the white race, from the beginning, has had to pay for its occupation of the tropics has been the terrible mortality amongst its children. Thanks to modern investigation of tropical diseases, the annual death-rate is no longer so great as was formerly the case; but the rearing of European children in the East is still attended with considerable danger, and too frequently is a source of suffering to the child himself and of anxiety to his parents. The October number of *The Child* contains an interesting article on this subject by Dr. G. Montagu Harston, whose long experience of child-life in the East renders him peculiarly fitted to speak with authority upon the problems connected with it. Dr. Harston has much practical advice to give to Europeans whose lot has been cast beneath the Southern Cross; but it may all be summed up in his earnest injunction to parents to keep their children under their own personal supervision instead of leaving them to the care of ignorant native nurses, no matter how devoted the latter may be. The question of repatriation is dealt with at some length, and the author writes with sympathy and insight on what he calls with truth "the real white man's burden in the tropics . . . the separation of parent and child," before which all others sink into insignificance. The October number of *The Child* also contains a reprint of Mr. John Burns's presidential address at the Conference of the National Association for the Prevention of Infant Mortality in August last; whilst Dr. J. E. Wallace Wallin has contributed an interesting article on the relation between ear diseases and mental deficiency, and Dr. Maximilian P. S. Grosszmann has written upon the classification of exceptional—in other words, abnormal—children.

Montaigne is one of the great mockers at medicine, though with that curious inconsistency so often seen in those who gibe at doctors, he was credulous as to the therapeutic virtues of healing springs, and took considerable pains to test their efficacy. But though the doctors could not cure disease he professed to believe that they could produce it. In Florio's translation of the Essays (Second Book, Chap. XXXVII) there is the following interesting passage:

> The Baron of *Caupene* in Chalosse and I, have a benefice, which is of a very large precinct, situated at the feet of our Mountains named *Lohontan*. It is with the inhabitants of that corner, as it is said to be with those of the valley of *Angrougne*. They leade a kind of peculiar life; their fashion, their attire, and their customes apart and severall. They were directed and governed by certaine particular policies and customes, received by tradition from Father to Child: Whereto, without other Lawes or Compulsion, except the reverence and awe of their custome and use, they awefully tie and bound themselves. This petty state had from all antiquity continued in so happy a condition, that no neighbouring severe judge had ever beene troubled to enquire of their life and affaires, nor was ever Atturny or Petty-fogging Lawyer called for, to give them advise of counsell; nor stranger sought unto to determine their quarrels or decide their contentions; neither were ever beggars seen among them. . . . After this corruption or intrusion of law (they say) there ensued presently another mischiefe of worse consequence, by meanes of a Quacke-salver, or Empirike Physition that dwelt amongst them, who needes be married to one of their daughters, and so endenizon and settle himselfe amongst them. This gallant began first to teach and instruct them in the names of agewes, rheumes, and impostumes; then the scituation of the heart, of the liver and other intrailes: A Science until then never known or heard of among them. And in stead of garlike, wherewith they had learned to expell, and were wont to cure all diseases, of what qualitie and how dangerous soever they were, he induced and inured them, were it but for a cough or cold, to take strange compositions and potions: And thus beganne to trafficke not only their health, but also their deaths. They sweare, that even from that time, they have apparently perceived, that the evening Sereine or night-calme bred the head-ach and blasted them; that to drinke being hot or in a sweat empaired their healths; that Autume windes were more unwholesome and dangerous, then those of the spring-time: And that since his slibber-sawces, potions and physicke came first in use; they finde themselves molested and distempered with Legions of unaccustomed maladies and unknown diseases; and plainly feele and sensibly perceive a generall weakenesse and declination in their antient vigor; and that their lives are nothing so long, as before they were.

Montaigne's opinion seems to have been that of Cato, who foretold that Rome, which had done very well without doctors for six hundred years, would be ruined by the introduction of Greek medicine.

The *Chronique Médicale* quotes *sous toutes reserves* an uncomplimentary remark made on his doctors by Louis XVIII when he felt his end near: "Allons, finissons-en, Charles attend (*charlatans*)." The pun is poor enough, but it probably gave the dying man some comfort to utter it. The doctors, it is said, pretended not to understand.

British Medical Journal.

SATURDAY, NOVEMBER 8TH, 1913.

WHOLE-TIME CLINICAL PROFESSORSHIPS.

THE recommendation of the Royal Commission on University Education in London, to the effect that the clinical teaching in a university medical college should be given by whole-time professors, lends special interest to the announcement that the medical school of Johns Hopkins University, Baltimore, has resolved to bring this system into force, and has obtained the funds necessary for endowing certain clinical professorships. The General Education Board founded by Mr. John D. Rockefeller has appropriated the sum of 1,500,000 dollars for the purpose of so endowing certain clinical professorships in the medical school of the Johns Hopkins University that the occupants of these chairs may devote themselves entirely to clinical teaching and research and refrain from engaging in private practice for fees. The fund is to be called the William H. Welch Endowment for Clinical Education and Research, in recognition of the great services which Dr. Welch, who is the Professor of Pathology in Johns Hopkins University, has rendered to the cause of medical education in America.

In the course of an interview published in the *Baltimore Sun* on the day on which the gift was announced, Professor Welch said that the Johns Hopkins Medical School welcomed enthusiastically the opportunity created by this gift to inaugurate a great reform in the organization and teaching of the main clinical branches. The suggestion to place the main clinical chairs upon a university or full-time basis originated, he said, with Dr. L. F. Barker, now Professor of Medicine in Johns Hopkins University, in an address delivered before the Johns Hopkins Alumni Association in Chicago, before he was called to the chair of medicine at Johns Hopkins, and a correspondent, whose authority to speak will be generally recognized, tells us that Professor Barker, when called to the chair at Johns Hopkins, asked to be placed upon a salary and whole-time basis—a request which could not then be complied with owing to lack of funds. Mr. F. T. Gates, chairman of the General Education Board, in an official statement has explained that the consideration which weighed with that Board in resolving to make the gift was that the medical faculty of the Johns Hopkins University had became convinced that it was as important that the clinical subjects should be cultivated and taught by men freed from the distraction involved in earning their living through private practice, as that biology, anatomy, physiology, pathology, and pharmacology, should be placed in the hands of men devoting their entire time to teaching and research in those subjects. The trustees of the Johns Hopkins University and the Johns Hopkins Hospital and the medical faculty of the Johns Hopkins University united in asking the General Education Board for funds to enable them to reorganize the departments of medicine, surgery, and pediatrics, so that the professors and their associates in the clinics and the laboratories should be able to devote their entire time to that work. In making the gift the General Education Board placed no restriction upon the freedom of any of these men, who will be in a position "to do any service that either science or humanity demands." They will be free to see and to treat any one, whether inside or outside the hospital, but they will accept no personal fee for any such service. Men engaged in private practice will still be able to work in the dispensary, in the teaching of students and in the cultivation of the specialties.

The purpose is to secure for the departments of medicine, surgery, and pediatrics—perhaps one or two other departments may be added later if funds are provided—a staff of teachers devoting their whole time to the work of the medical school and hospital, and thus standing in the same relation to those subjects as do the teachers of the underlying sciences and university professors in general. To enable them to do this they will be paid such salaries as will make it unnecessary for them to engage in practice for the sake of a livelihood. While unrestricted as to seeing private patients, any professional fees for such service will go to the hospital or university to further teaching and research along the lines contemplated.

The professors affected by the new scheme are Dr. L. F. Barker, Professor of Medicine, Dr. W. S. Halsted, Professor of Surgery, and Dr. John Howland, Professor of Pediatrics; and we are told on Dr. Welch's authority that they are in sympathy with the proposed change, and that it is hoped and expected that it will be found possible to retain them in their present positions. It would not be worth while, Dr. Welch pointed out, to establish full-time professorships of the clinical branches unless the medical school were in a position to furnish opportunities to the incumbents of these offices for their work in the way of hospital and laboratory facilities and a staff of well-trained and capable associates and assistants likewise on a full-time basis. There would, he stated, still be room and need in the medical school and hospitals for teachers and physicians partly engaged in private practice. Moreover, the teaching of the specialties would not be affected by the new plan, and the time was far distant, even if it should ever come, when it would be deemed necessary or desirable to place the specialties upon a full-time basis. He believed the change would result in a great gain for patients in the hospitals, for students in the school, for graduates seeking advanced training and opportunities, and would promote the science and art of medicine. The change, he believed, met the greatest pressing need of higher medical education. It is calculated that the income from the fund will render it possible to pay salaries of about £2,000 a year to the heads of the three departments. Altogether about twenty members of the existing staff will be affected, since the plan contemplates the payment of associate professors and assistants on a whole-time basis.

The decision of the Johns Hopkins Medical School will undoubtedly have weight with the Departmental Committee appointed to consider the steps which should be taken to give effect to the scheme of the report of the Royal Commission on University Education in London, and to recommend, after consultation with the bodies and persons concerned, the specific arrangements and provisions which may be

immediately adopted for that purpose. The task of this committee, which is now in session, is difficult and complicated in many directions, but most of all on the medical side. It has to help the medical schools of London to change with the changing times without sacrificing the good points of the London system, which have in some respects been followed at Johns Hopkins. Moreover, as the correspondent to whom we have already referred points out, the new system advocated by the Royal Commission and now adopted at Johns Hopkins has dangers of its own. It will be a triumph of university statecraft if the Departmental Committee can evolve a scheme adapted to the peculiar needs and traditions of London, which will preserve the old in vigorous life while grafting upon it all that is good in the new.

THE IDEAL TUBERCULIN.

The rapid appearance of textbooks on tuberculin treatment and the no less rapid progress of its use in practice would lead to the conclusion that the method has become an established branch of therapy. The recent discussion at the International Congress and a critical study of the more important works on the subject will make it evident that this is by no means the case.

It is increasingly obvious that a wide divergence of opinion exists amongst equally skilled observers, and, although many enthusiasts have made very positive assertions as to the action of tuberculin, there is as yet no real understanding of the process by which the healthy cell protects itself against the action of the artificially injected preparation, while the tuberculous cell appears to be incited to produce immunizing or toxic substances. The present state of ignorance on these and many other points is emphasized by Dr. R. W. Allen in a paper recently contributed to the *Journal of Vaccine Therapy*.[1] He points out that the evidence with respect to the action of such substances as lysin, agglutinin, precipitin, and opsonin is too conflicting to warrant a definite verdict, and that metabolism in a tuberculous subject is in all probability profoundly perverted. This latter problem has not been studied with the minuteness that it would appear to call for, and in the face of so much uncertainty on so many vital points the routine use of tuberculin is, he thinks, neither scientific nor justified, and should only be employed by those who are "well posted" in bacteriology, the problems of artificial immunization (as at present known), and with large clinical knowledge of all forms of tuberculosis.

The varied experience disclosed by practical workers may be attributed either to the employment of defective tuberculin or to unskilful use. Dr. Allen indulges in some very sweeping conclusions as to the manner in which tuberculin therapy has been employed in the past, but he does not indicate the data on which his assertions are founded. He contends that the ideal tuberculin has not yet been discovered, and that to fulfil the necessary conditions it must not be capable of inciting an excessive secretion of toxic bodies by the tissue cells, leading, on the other hand, to formation by the cells of bodies antagonistic to the bacteria. On the ever-present question of the recognition of secondary infections he speaks with a degree of confidence that may not be universally shared, and maintains that by the use of "appropriate doses of the suitable vaccine at appropriate intervals" it may be possible to distinguish between the physical signs set up by tubercle bacilli and other organisms respectively. An open tuberculosis must always be subject to secondary infection by many varying forms of micro-organism, and it cannot be admitted that precise knowledge of their action in the presence of the tubercle bacillus is as yet established.

We have had occasion to review many works by English, American, and German authors upon tuberculin treatment during the last few months, and it must be confessed that the practical outcome of their writings is disappointing. In spite of the elaborate investigations conducted in our own and foreign medical schools, the treatment of any individual case must be more or less of a leap in the dark. In the great majority of early cases there is a marked improvement for a time, but the number of patients who have made recovery of a permanent character does not appear to be much greater than under the pre-tuberculin methods of enforced hygiene. Although this may be due, as Dr. Allen would have us believe, to indiscriminate use of imperfect materials, it is nevertheless manifest that the ideal tuberculin has not yet been found, and that the method of its action on healthy and unhealthy cells respectively has not been satisfactorily worked out.

[1] Vol. ii, No. 8, 1913.

THE SANITARY AWAKENING OF INDIA.

The Director-General of the Indian Medical Service has contributed to the current number of *Science Progress* an article on the sanitary awakening of India, the keynote of which is the necessity of obtaining the active co-operation of the people themselves in the sanitary campaign; this cannot be won until they have learnt to understand and to have faith in the principles on which preventive measures are based. He describes in broad outline the present policy of the Government of India, in the shaping of which he has had an important share. This policy may be summed up as centralization in investigation and decentralization in administration. The facts related will for the most part be known to those who have followed recent developments of preventive medicine in India as recounted in the Journal from time to time, but read as a continuous story the impression they produce is the more striking since Sir Pardey Lukis is able to set out the plan as a whole, and explain the underlying motives by which each part of it has been inspired.

Decentralization is necessary, owing not only to the multiplicity of detail and the varying conditions in different provinces of India and in urban and rural communities in the same region, but also in order that public opinion may be prepared to accept the reforms which in their broad features have been laid down by the central executive. The policy of decentralization of administration has involved reorganization of the sanitary services. The central Government has undertaken to provide twelve deputy sanitary commissioners—three to Bengal, two each to Madras, the United Provinces, and Behar and Orissa, and one each to the Punjab, the North-West Frontier Province, and Burma. The fact that 75 per cent. of the population is engaged in the cultivation of the soil shows the importance of such appointments for large areas mainly rural. Nine of these appointments will be open to officers recruited in India; the remaining three will be held by officers of the Indian Medical Service. In addition, 143

municipal health officers are to be appointed, the central Government paying half the salary in each case, according to a principle the value of which has been tested in England.

Mr. Sivasawmy Iyer said recently that the sanitary consciousness of the people themselves has been aroused, which is of good augury for the educational policy the Government of India has adumbrated. Last February it resolved to take preliminary steps designed to prepare the way for instituting instruction in domestic hygiene as part of the school curriculum, and it is recognized that this will necessitate giving teachers a special training in hygiene. The co-operation of the Indian Council of the St. John Ambulance Association has been obtained, and it is hoped that through its provincial branches it will be able to arrange for instruction in the schools, not only in domestic hygiene but also in first aid. The instruction must be adapted to the special conditions, and in one respect at least the children will have an object lesson, for quinine prophylaxis by the regular administration of the drug during the malaria season is stated to be "a practical measure of proved utility and easy application" to school children, though difficult to carry out for adults in the thorough way necessary for success.

The organization of inquiry into general principles, including laboratory researches and field investigations and the experimental application of the results in small selected areas, has been improved and extended. In this central work the Government of India assists by means of direct inquiries, and indirectly through the General Malaria Committee and the Indian Research Fund Association. The committee, which was the outcome of the Malarial Conference at Simla in 1909, has since held similar conferences in Bombay (1911) and Madras (1912), and has summoned a fourth to meet at Lucknow in January next, where during the same month the third All-India Sanitary Conference will be held. The committee maintains at the Central Research Institute, Kasauli, a central medical bureau, under the charge of Major Christophers, consisting of a museum, a laboratory, and a reference library. Classes of instruction for medical officers and subordinates were instituted in 1911, and the number attending has risen from 18 in 1911 to 64 this year. The classes are held twice a year, and the last two were given at Delhi by Captain Hodgson, who was making a malarial survey for the assistance of those responsible for the selection of the site for the new imperial city.

The Indian Research Fund Association, founded in 1911 for the prosecution of research into the nature and prevention of diseases prevalent in India and the dissemination of knowledge so acquired, carries out its work through a scientific advisory board which directs and correlates the researches of working committees to which special lines of investigation are assigned.* Such investigations are now in progress into the causes and incidence of kala-azar, plague, relapsing fever, cholera, and dysentery, and an inquiry has been instituted into the question whether it is possible to fix definite bacteriological standards for drinking water in India, and as to the most suitable methods of water analysis, and of conveying water to distant laboratories, which has been found to present practical difficulties, especially in the hot weather.

Two years ago Major S. P. James, I.M.S., was sent by the Research Fund to the endemic area of yellow fever in Central America, with instructions to study the route which will be followed by ships from the Panama Canal to India, and to report on the special precautions which the opening of the canal might make it advisable to take in India. The result of his inquiries was reassuring, inasmuch as he reported that the immediate danger to India did not seem to be as great as was originally anticipated, owing to two circumstances. The first of these is that very thorough precautions are taken at Honolulu, the first port of call for the trans-Pacific voyage to the East; the second is that the usual route from Honolulu to Hong Kong passes northwards into latitudes not as a rule favourable to the life of the mosquito, so that there is little likelihood of the introduction of infected mosquitos into Indian ports. Vigilance will nevertheless be necessary in India, and the exact character of the precautions which should be observed is now under consideration; meanwhile an active survey of the chief Indian ports, to ascertain whether the extermination of *Stegomyia* or the reduction of its numbers is practicable, is being made by specially selected officers who have undergone a preliminary training by Mr. Howlett, the Imperial Pathological Entomologist. The preliminary reports show that *Stegomyia* is essentially a domestic mosquito bred in small collections of stagnant water within house limits, so that its extermination is largely a question of home sanitation. But this observation only serves to give increased force to the demand for the provision of a continuous water supply to the poorest parts of towns, in order to obviate the necessity for water storage in houses.

Methods of sanitation found suitable in Western countries cannot always be directly applied with success in India, and care must be exercised even in the application of a method found useful in one part of India to another part. This is well illustrated by the experience of the effect of jungle clearance on the prevalence of malaria. It was found that in Lower Bengal there was a close connexion between over-vegetation and the intensity of malaria. This observation has led the Government of Bengal to carry out an extensive experiment in jungle clearing from the neighbourhood of inhabited areas, and Sir Pardey Lukis believes that in low-lying districts, if systematic clearing of jungle is accompanied by the provision of a pure water supply, "water tidiness," conservation of the natural enemies of the mosquito, and the distribution of quinine, it may be possible to achieve wonderful results in rural areas, where financial considerations and the physical conditions of the country render an elaborate drainage scheme practically impossible. As evidence of the interest taken in the scheme, it is stated that a Coronation Anti-malarial Society, founded at Jessore by Rai Jadunath Mazumdar Bahadur, intends to work in villages on the lines indicated. On the other hand, recent investigations in India by Perry and in Malaya by Watson appear to have proved that the method is useless in hilly tracts intersected by ravines.

The general impression left by the perusal of Sir Pardy Lukis's interesting and informing article is that the Government of India has now taken the question of sanitary inquiry, research, and administration seriously in hand, and that Government, when once it has been brought to realize that it has a duty in any direction, has not commonly shown itself easily diverted from the policy it has laid down.

* A review of the first number of the *Journal* published by this association was published in the issue of the BRITISH MEDICAL JOURNAL for October 11th, p. 942.

OCHLOCRACY IN WISBECH.

The Insurance Act Committee, acting on behalf of the British Medical Association, decided at its meeting on November 6th to ask the Home Office to hold an inquiry into all the facts connected with the alleged persecution of the late Dr. Dimock by the medical profession in Wisbech. This course has been taken because there seems to be no means by which the motives of the people of Wisbech and the surrounding district in rioting in the town and attacking the residences of several medical men can be elucidated by an action in a court of law. Since Dr. Dimock's death, in the circumstances mentioned in our issue last week, odious insinuations have been made by public rumour, reproduced in the press, against certain medical men in Wisbech.

It is clear that they have been readily accepted without verification by many people in Wisbech, and the town was given over to mob rule. The reports published in the newspapers may have suggested the conclusion that the rioting was the spontaneous outcome of generous sympathy with a much-wronged man, stimulated by speeches made at an open-air meeting The tone of these speeches would seem to have been prejudiced and injudicious, but the meeting dispersed without any violent acts. In the rioting which occurred later, men from neighbouring villages are alleged to have taken a considerable part—a fact, if it be a fact, which would point to some previous organization. The rioting, which was mainly directed against Dr. Meacock, became so serious that the Riot Act was read, and the Town Council eventually asked Dr. Meacock to absent himself temporarily from the town, on the ground that his personal safety could not be guaranteed. This course he consented to take in the interests of law and order, and to diminish the embarrassment in which the custodians of those elementary public rights found themselves.

Dr. Meacock and his colleagues have been held up to public obloquy, and as they have been unable to appeal to the courts have taken an early opportunity of placing their profession and the public in possession of the facts justifying the course which they were impelled to take. This Dr. Meacock has done in the letter published at page 1256, and his statement places upon the whole incident a complexion very different from that conveyed by some of the reports at first published in the newspapers. The majority of the medical men in Wisbech—there were, we believe, only two exceptions—in the exercise of their private judgement refused to take part in the working of the Insurance Act. In this they were within their legal and professional rights. The Insurance Commissioners thereupon suspended the panel system for two years, and the late Dr. Dimock accepted the invitation of the Insurance authorities to assist in the working of the Act. He was informed that he was acting contrary to the expressed desires of his profession, and in these circumstances he could scarcely be expected to have received a cordial reception from medical men in Wisbech. It does not appear, however, that he was in any respect unfairly treated by them, and though he was not at once placed on the staff of the local hospital, which is conducted on the general lines of a cottage hospital, every facility was afforded him for the admission of his patients to the hospital. Many were, in fact, so admitted, and he performed numerous operations at the institution during his residence in Wisbech. Shortly after his arrival in the town, anonymous communications were received through the post by residents in Wisbech. They were couched in terms calculated to suggest that they were written by friends or patients of Dr. Dimock. They alleged that he was being persecuted, and made charges of professional incompetence against other medical men in the town. After this had gone on for some time the communications Dr. Meacock quotes were received, one of those quoted by him being addressed to himself and the other to the secretary of the local hospital. As will be seen, both communications made disgraceful accusations against the recipients, and were in other respects altogether of a disgusting character. It will, we believe, generally be felt, not only by members of his own profession but by every man of honour, whatever his calling, that Dr. Meacock was bound to take the matter up and endeavour to stop what appeared to be a campaign of calumny against his professional and private reputation. The note addressed to him which he has quoted in his letter followed, as has been seen, on a long series of anonymous communications sent through the post, and all apparently written in a peculiar capital letter script. The notes quoted by Dr. Meacock in his letter were in type-writing, apparently cut out of larger sheets, and gummed on to cards which were enclosed in envelopes. With the assistance of the police evidence was obtained which convinced Dr. Meacock's legal advisers that there was strong *prima-facie* evidence for associating the writing and posting of these anonymous communications with the late Dr. Dimock. Acting on the advice of counsel, Dr. Meacock then laid a criminal information, and Dr. Dimock was arrested in due course of law. He was removed, we are informed, in a railway omnibus to avoid any undue publicity, and every facility was given to him to obtain bail, which was shortly forthcoming. The ensuing proceedings before the magistrates were of a formal character, and the evidence of the accusers and of the defence was not gone into. Evidence would, no doubt, have been tendered at the next meeting of the court, but before this took place Dr. Dimock died in circumstances which are now the subject of an inquiry by the coroner. It is not to be expected that this inquiry will be directed to anything beyond the actual cause of Dr. Dimock's death, as the circumstances connected with the action for criminal libel, which he would have had to defend had he survived, would not appear to directly concern the object of the coroner's inquiry.

The facts as now made public show that Dr. Meacock only consented to move when the calumnies circulated against him became altogether intolerable, and we leave it to the sense of all fair-minded persons to say whether he could in justice to himself have adopted any other course. The death of Dr. Dimock has stopped his remedy by an action in a court of law, and the proposal made by the Insurance Act Committee to the Home Office seems to be the only way in which substantial justice can publicly be done.

The next session of the General Medical Council will begin on Tuesday, November 25th, at 2 p.m. We are glad to learn that Sir Donald MacAlister, who was suddenly seized with acute gastric symptoms on October 28th, and was for some hours in a condition which caused great anxiety, is now making satisfactory progress, although it may be some weeks before he is able to return to work.

THE PROFESSION AND THE INSURANCE SOCIETIES IN GERMANY.

Our special correspondent in Berlin, in commenting upon the great meeting of the representatives of the medical profession in Germany, held in Berlin on October 26th, points out that the struggle is now engaged between two large bodies, an amalgamation of medical societies on the one hand, and an amalgamation of insurance societies on the other. On the medical side the Leipzig Medical Union, he says, has been the moving spirit. The business instincts of the representatives of the federated insurance societies have led them to reject even the most moderate of the medical demands, including, for example, free choice of doctor by the insured person. This obstinate attitude and the high-handed proceedings of the amalgamation of friendly societies rendered any agreement impossible, and so entirely destroyed any desire for conciliation that questions relating to the method and amount of remuneration, and the appointment, where necessary, of a combined committee of doctors and insurance authorities to consider local conditions and other matters in dispute, were not even discussed. The failure to compromise has led to the amalgamation of the commercial (Betriebs-) and urban (Orts-krankenkassen Verbände) societies' unions, and the war has now become general. The doctors have determined on their part not to negotiate with isolated societies or any local combination of them, but only with the whole united body of insurance societies, and the general medical meeting called at Berlin, under the auspices of the National Federation of Doctors (Aerztetag) was designed largely to bring that association into closer touch with the valiant union of Leipzig practitioners. The proceedings were opened in turn by the president of the federation, Dr. Dippe, and by Dr. Hartmann of the Leipzig union, who has devoted so much of his time to fighting questions of general interest and importance on behalf of the doctors. The speakers who followed were unanimous in promising the support of those whom they represented in town and country, and the general feeling was one of the most optimistic determination to stand shoulder to shoulder in this fight for freedom and the ethical position of the medical profession in Germany for all time The meeting agreed that, notwithstanding the hostile determination of their organizations, patients must not be allowed to suffer untreated while the fight lasted, and the proposal to give them treatment outside the insurance scheme was readily passed. Such, then, is the present position, and both sides appear determined not to yield. It is most unlikely that the society's union will find enough blacklegs to accept engagements, in spite of the advertisements promising secured annual incomes of £600 for ten years to practitioners coming in on its terms which are daily appearing in the columns of the press. In these circumstances it is not unlikely that the Government will have to take measures to settle the dispute under paragraph 370 of the Imperial Insurance Regulations, which ordains that when the societies are not in a position to furnish efficient medical treatment for their members, these latter must receive compensation in equivalent cash payments. A member would then employ his own medical attendant, and rank accordingly with him as a private patient. From the medical point of view such a contingency would be regarded with the utmost equanimity, whereas the societies would probably suffer a considerable financial strain, which after a time they would be unable to bear. Everything now depends on the maintenance of unity and cohesion in the profession, and if every doctor does his duty and is content to sacrifice for the moment his own personal advantage in the interests of the common weal, ultimate victory is assured.

SHIP SURGEONS.

Several decisions of direct importance both to ship surgeons and to ship owners were reached at its last meeting by the Subcommittee of the British Medical Association which is charged with the duty of safeguarding, so far as it may, the interests of medical men serving in the mercantile marine. One of these decisions authorized the chairman of the Subcommittee to secure the insertion in our columns of a warning notice in respect of any shipping company offering to its surgeons anything less than a salary which the Association considers should be regarded as a minimum. This salary is £10 a month, and it would be well if actual or prospective ship surgeons not only declined to accept anything less than this sum in any circumstances, but if they also supplied information as to the offer of any lesser sum, either by communication with the Subcommittee itself at the head quarters of the Association, or with one of the medical men appointed by it to act as official correspondents at sundry seaports. A list of these correspondents, together with an account of the meeting of the Subcommittee, will be found at page 396 of the Supplement to this issue. The correspondents at present number seven, and are in touch with the ports of London, Liverpool, Glasgow, and Southampton respectively. No doubt later on the number of ports at which correspondents are appointed will be increased. The Subcommittee also invites information from ship surgeons on any matter of interest to them generally, and hopes that all practitioners who ever accept such appointments will forward their names, with a view to the compilation of a ship surgeons' register. At the same meeting the Subcommittee came to the conclusion that ship surgeons ought not to be expected to supply gratuitously certificates relating to the National Insurance Act, and that on board ship the ordinary rules of professional secrecy should be preserved in respect both of crew and passengers; in other words, information as to the nature of a case should be withheld from the captain unless it be one falling within the quarantine regulations of any port to be visited, or other legal obligations. It was also agreed that shipping companies should be urged to adopt a fixed scale of fees for medical attendance on first and second-class passengers, and thereby avoid any necessity for the subjecting of such charges to the approval of the commander of the ship concerned.

URGENT ELECTION OF PANEL COMMITTEES.

We have received by the courtesy of the Insurance Commissioners (England) two circulars, numbered 30 I.C. and 31 I.C., explaining the effect of the provisional regulations, bearing the official date October 27th, for the election of Panel and Pharmaceutical Committees in England and Wales. The circulars are dated October 31st, and though they do not bear any indication of the persons to whom they are addressed, we understand that a copy of the circular with reference to the election of Panel Committees has been sent to every registered medical practitioner on a panel in England and Wales. It does not seem to have been received by non-panel practitioners, although they are, or may be concerned to some extent. The circular does not embody the regulations, the recipient being informed that he can purchase them through any bookseller for 1½d. or obtain them from Messrs. Wyman and Sons, Fetter Lane, London, E.C., for 2d., post free. The inconvenience due to this cause is mitigated as far as possible by reprinting them in the Supplement for this week, which ought to be in the hands of all members of the Association at latest on Saturday. It will be noted that if it is desired to take action to nominate candidates for election it will be necessary to write at latest on that day (Saturday, November 8th) to the Commissioners for nomination forms, as such applications

will not be received later than noon on Monday next, November 10th, and no nomination will be accepted unless made on the prescribed form. If twenty practitioners on the panel list, or one-third of such practitioners (whichever number be the smaller), desire to submit a scheme for the election of the Panel Committee other than that proposed by the Commissioners, there will be a little more breathing space, as such scheme need not be submitted until Wednesday week, November 19th. Such a scheme must set out the principles of the alternative method desired, and may provide for the election of practitioners by districts in a county. Those submitting such a scheme must divide the panel list into groups, showing in which group each practitioner is placed. The electors will be the practitioners on the panel list for the area, and at least three-quarters of the members of the Panel Committee must be practitioners on the panel list. The remainder may be any qualified practitioners, whether on the panel list or not. Where the number of practitioners on the panel list does not exceed twenty, as is the case in one county and nine county boroughs, there will be no election, but all the practitioners on the list will constitute the Panel Committee. A committee thus constituted may, if it so desire, co-opt other medical practitioners, up to a number not exceeding the number of practitioners on the panel. Without desiring to be captious, we think it necessary to protest against the way in which the Insurance Commissioners have conducted this business. Their office has now been at work long enough to make the plea of extreme pressure of business untenable. The regulations are dated October 27th, but only reached us on November 3rd, and we were not able to purchase them that morning; we desire to thank the Commissioners for supplying us with copies, but it seems clear that the regulations ought to have been made and issued at least a month earlier, and at once placed on sale. As it is, far too little time is left for their consideration. Why the Commissioners should hustle practitioners on the panel in this way is a little difficult to understand, and appears to demand some explanation. We submit, further, that if the circular was not to be forwarded to non-panel practitioners it would have been only proper to have issued the regulations at a date which would have rendered it possible for them to obtain the information through the medical journals at an earlier date.

STATE SICKNESS AND ACCIDENT INSURANCE IN RUSSIA.

A law of insurance against disease and accidents was approved by the Czar of Russia last June. The exact date when it is to become operative has not yet been determined, but the law has already begun to be partly applied in St. Petersburg. The insurance extends to all workers except casual labourers. The administration is carried out through a sick fund divided into sections, which are managed by general meetings composed of delegates elected by the working men and industrial employees. Medical assistance includes first aid in cases of unexpected disease and of accidents, and in case of childbirth; drugs also are to be supplied. Sick pay is given to those qualified to receive it in the proportion of one quarter to two-thirds of the daily wage, and the maximum duration of payment is from twenty-six to thirty weeks. For pregnancy and childbirth there is assigned a subsidy which varies from the half to the whole of the daily wage, and lasts for two weeks before and two weeks after the birth. During that time the woman must abstain from work. In case of death the funeral expenses are paid. Workers contribute to the insurance fund 1 to 3 per cent. of their wages. This tax is levied by the employers, who on their side contribute two-thirds of the sum contributed by workers. Assurance against accidents falls entirely on the employer. The fund from which pensions are payable to the victims of accident and to their families is administered by committees of masters. The Government does not contribute to the expense, but reserves to itself the right of applying the law.

THE PRINCE CONSORT AND HIS DOCTORS.

In the life of the fourth Earl of Clarendon, by Sir Herbert Maxwell, which has recently appeared,[1] there is (vol. ii, p. 253) a letter addressed to the Duchess of Manchester, under date December 17th, 1861, in which reference is made to the death of the Prince Consort. In it there is the following passage: "It is sad to think, but I fear it is true, that he had not the benefit of the best medical aid. Holland and Clark are not even average old women, and nobody who is really ill would think of sending for either of them. Jenner has had little practice and experience, and they would have been all (*sic*) if Palmerston had not written a letter of such fierce remonstrance that Watson was sent for. But Watson (who is no specialist in fever cases) at once saw that he came too late to do any good, and that the case had got too much ahead to afford hope of recovery. . . . One cannot speak with certainty, but it is horrible that such a life *may* have been sacrificed to Sir J. Clark's selfish jealousy of every member of his profession." We think Sir Herbert Maxwell would have done well to omit this letter, which scarcely does credit either to the judgement or the good feeling of Lord Clarendon. The long trust reposed in Sir James Clark by Queen Victoria is a sufficient proof that he scarcely deserved the name of old woman. In 1861 he had retired from practice, and both he and Sir Henry Holland were present at the sick-bed of the Prince Consort, in virtue of their official position, to give counsel rather than active assistance. But that a man with Lord Clarendon's opportunities of knowing the facts should have made such a statement as that Jenner had had little practice or experience is certainly remarkable. It is true that in 1861 Jenner had had little practice at Court, but he had had a very large experience of disease, and in particular of the disease which caused the death of the Prince Consort. At the beginning of 1847 he began a detailed investigation at the London Fever Hospital. He made notes of a thousand cases, and the outcome of his researches was, in his own words, "to prove incontestably, so far as induction can prove the point, that the specific causes of typhus and typhoid fevers are absolutely different from each other." To William Jenner belongs the credit of having placed on an impregnable basis of fact Louis's suggestion that two distinct diseases had been confused under the name of "continued fever." The papers in which he expounded this doctrine were published in the *Monthly Journal of Medical Science* (1849) and in the *Transactions of the Royal Medical and Chirurgical Society* (1850). When he attended the Prince Consort he was recognized as the leading authority on typhoid fever in this country. Leaving all this out of consideration, it is difficult to understand how Lord Clarendon should have believed that a case of such importance could have been entrusted to the care of a man of little practice or experience.

PHARMACOPOEIAL REVISION.

At the International Congress of Pharmacy recently held at the Hague a proposal that an International Pharmacopœia Bureau should be formed was discussed. A committee was appointed to study the question and to draw up a scheme for the establishment of such a bureau to be submitted to the International Pharmaceutical Federation. The committee is composed of seven members, representing Great Britain, the United States, Germany, France, Holland, Belgium, and Switzerland.

[1] *The Life and Letters of George William Frederick, Fourth Earl of Clarendon, K.G., G.C.B.* By the Right Hon. Sir Herbert Maxwell, Bart., F.R.S., D.C.L., LL.D. In two volumes. London: Edward Arnold. 1913.

Most of the members are associated with the revision of their national pharmacopoeias. The English representative is Professor H. G. Greenish, joint editor of the *British Pharmacopoeia*, and the American, Professor J. P. Remington, editor of the *United States Pharmacopoeia*. The work of the bureau would be the collection and examination of all literature relating to pharmacopoeial revision and the experimental investigation of new drugs and preparations. Doubtless the existence of such a bureau would tend to encourage the work already begun in the direction of the unification of pharmacopoeias.

THE TEMPORARY PROVISION OF SANATORIUM BENEFIT.

The Local Government Board, the London County Council, and the Metropolitan Boroughs are busily engaged in an endeavour to come to some mutual arrangement whereby the powers entrusted to them can be used to the best advantage. In the meantime the number of insured persons who have complied with the prescribed regulations and are now entitled to sanatorium treatment increases daily. Although no permanent scheme has yet been formulated, a great deal is being done locally to meet the demand. A useful pamphlet dealing with the subject from the practical side has recently been issued by Dr. B. C. Stevens, Medical Officer of Health for Barnes and Tuberculosis Officer for Mortlake, in which he sets forth under distinct headings the chief points of interest to those who may be responsible for carrying out a tuberculosis scheme. The routine procedure of notification, inspection, and advice as to the appropriate means of treatment in each case is fairly simple, and it is satisfactory to note that the objections on the part of individuals have not been found to stand in the way of rational treatment. The insured person, passed by his Insurance Committee for sanatorium treatment, is too often under the impression that he is going to be entertained in a first-class hotel, and the writer of the pamphlet is of opinion that the provision of large sanatoriums will foster this idea. Of all parts of the machinery for dealing with tuberculosis, the dispensary is regarded by Dr. Stevens as the most important. It is there that the exact conditions of each patient can be ascertained and appropriate rules of conduct instilled. Records can be kept, ambulant treatment can be applied where it seems to be the only practical method, and tuberculin can be injected. Of the latter, however, Dr. Stevens speaks without enthusiasm. He restricts his practice to the smallest doses, producing no reaction, and gives such injections on a Saturday in order to gain the advantage of a Sunday rest. He considers that the grounds of isolation hospitals might easily be made available for temporary dispensaries, and the wards, which do not appear to be in such demand as they formerly were, as sanatoriums for a small number of patients. One of the greatest practical difficulties is the question how to deal with the patient who believes himself to be cured and insists on discharge. No power exists to detain him, and the only course that can be pursued in the public interest is to keep him in view by means of notification. The prevention of the spread of the disease is of more importance to the community that the curing of the affected patient, but it is increasingly evident that it can only be effected by the cordial co-operation of the authorities concerned.

THE ROYAL COMMISSION ON VENEREAL DISEASES.

The Right Hon. Robert Farquharson, whose experience gives special interest to his opinion in the letter published elsewhere, wields the hammer of Thor against the composition of the Royal Commission on Venereal Diseases and the reference to it. He strongly supports the suggestion we ventured to throw out last week to the effect that the composition of the Commission is defective inasmuch as it does not contain any representatives of the medical departments of the military forces of the Crown. We referred last week to the army only; but the experience of the navy would be not less valuable, for the Medical Department R.N. is charged with the preservation of the health of some 200,000 men employed in the service of the Admiralty afloat and ashore. In the Royal Navy special steps have been taken in recent years to diminish the number of cases of venereal disease, and so check a serious drain upon the efficiency of the service. Health lectures, attendance upon which has been made compulsory, have been instituted, and the most modern methods of diagnosis and treatment have been introduced into the naval hospitals. The daily average sick from this cause, which a few years ago was about 1,000, has already been reduced, and there is reason to hope that the reduction will be progressive. The medical departments of both services have special facilities for keeping cases under observation, so that the result of treatment can be tested after varying periods of time, and are also in a position to judge of the effect of education in these subjects upon young men drawn from various classes of society. We cannot associate ourselves with the severe attack which Dr. Farquharson makes upon some members of the Commission, for we believe that if any good result is to follow from the inquiries of the Commission it is essential that all views should be represented, and that sentimental and even theological objections should have their champions. Nor can we think that he is right in his contention that legislation of the nature of the Contagious Diseases Acts is likely to produce the desired effect. The evidence obtainable from foreign countries where such measures are still in operation does not favour the conclusion that police measures are of any real value.

THE FRIEDMANN TUBERCLE EMULSION.

The mystery of Friedmann's emulsion and the obscurity in which he has hitherto thought fit to cloak both its preparation and indications for injection have at last been lightened by the publication of a paper by him in the *Berliner klinische Wochenschrift* of November 3rd. The public sale of the remedy, which was excused only a month or two ago by Friedmann's friend and supporter, Dr. Schleich (the inventor of local infiltration anaesthesia), on the ground that the emulsion contained living bacilli, and did not, therefore, lend itself to general use, is now to be permitted, and full directions and indications for use are to accompany each packet. Friedmann defines his remedy as a living non-virulent preparation of the turtle's tubercle bacilli, entirely atoxic, even in high doses, to all mammalia, including man, and prepared by prolonged passage methods and subculture. The preparation is sold in four different ampoules, distinguished by the colour of the glass—green, blue, yellow, and red. The green and blue contain 0.5 c.cm. of the emulsion in weak and strong concentration respectively, the yellow ampoule 1 c.cm. concentrated, and the red 2 c.cm. concentrated emulsion. Four types of injection are described—a single intramuscular injection in mild pulmonary cases, and in severe cases of mixed infection with cavity formation. For the various forms of lupus, corresponding changes in the method of injection are rendered necessary. Another type is the so-called "simultaneous injection"—that is, intramuscular and intravenous at the same time—which is indicated in all forms of "closed" surgical tuberculosis, adenitis, urogenital and intestinal cases, and in cases of pulmonary phthisis in which dyspnoea is a prominent symptom. The isolated intravenous injection is advised when an infiltration caused by a previous intramuscular injection begins to swell, redden, or become painful. Such an injection is said to prevent the formation of an abscess. The following rules are given: (1) Fresh injections must on no

account be given as long as the slightest trace of infiltration from a previous injection persists. (2) When lesions are healing, however slowly, fresh injections should not be made. (3) The date of preparation is printed on each ampoule, and the contents must not be used more than forty-eight hours after the allotted time has expired.

THE NOBEL PRIZE FOR MEDICINE.

The Nobel Prize for Medicine, which amounts this year to £7,948, has been awarded to Professor Charles Richet, of Paris, for his work on anaphylaxis. His sphere of intellectual activity is very wide. Dr. Richet has been one of the pioneers of serumtherapy. Among other writings he has produced a dictionary of physiology, a book entitled, the *Poisons of the Intellect*, a treatise on general psychology, another on war and peace, besides many novels and poems. He has also given attention to aërostatics. He was for a long time editor of the *Revue Scientifique*. He is also keenly interested in psychical science, having been President of the Society of Psychical Research in 1905. He has also been President of the Society for Arbitration between Nations. Professor Richet, who is the son of Alfred Richet, a member of the Institute of France, has been professor of physiology in the University of Paris since 1887. Professor Richet was the delegate of the French Government and the Faculty of Medicine of Paris to the Annual Meeting of the British Medical Association in Montreal in 1897, and then delivered an address in French on the work of Pasteur and the modern conception of medicine (British Medical Journal, 1897, vol. ii, p. 693).

AN OUNCE OF EXPERIENCE.

If panel medical officers in the early future find that the Insurance Commissioners are much more reasonable than heretofore in the matter of mileage, it seems not improbable that they ought to ascribe this fact to the readiness of one of their colleagues in the Ullswater district in seizing on an opportunity, and to the pluck of Sir Robert Morant in exposing himself to an experience of—in his case—a very unusual kind. This statement is based on an assumption of the correctness of an account recently given by the *Pall Mall Gazette* of a certain twenty-four hours passed together by the doctor in question and Sir Robert Morant.. During a visit of the latter to his neighbourhood the doctor tackled him on the subject of mileage, and, finding mere argument unsatisfactory, suggested that the Chairman of the Insurance Commissioners should accompany him on all the visits that he paid during the following twenty-four hours. Sir Robert Morant accepted, and as a result spent the day with the doctor in a motor car, visiting both private patients and insured persons. The day's round was sufficiently long to leave Sir Robert Morant with a good appetite for dinner and no disinclination for bed, but late at night came a call to an insured person who had already been visited during the day, and this time it was necessary to traverse Ullswater lake in a motor boat. Would Sir Robert come? Of course he would, for he had bargained for a full day's experience. A midnight trip in a motor launch up Ullswater, under a full moon, in the summer time would appeal to most people, but on this particular night rain clouds were swirling around the mountain tops and bursting in drenching torrents, while the lake itself was lashed into a turbulent sea. The motor boat beat up the lake against wind that "shricked adown each ghyll and mountain gorge as if a demon rode upon the blast." It was buffeted by gale and wave, dived into the trough, and came up dripping so often that even oilskins were of little avail. Indeed, Sir Robert Morant had to lend a hand to save the fittings from being swept overboard by the invading waters. The visit to the patient completed, all the party returned after a day which for the doctor was of a very ordinary kind, but was probably a novel experience to Sir Robert Morant. Not all panel medical officers carry on their work in country districts so wild as that of Westmorland, but panel medical officers and all medical men alike who do their work in the country are frequently exposed to great hardships during night expeditions, and Sir Robert Morant by this time probably realizes for himself that it is not well to cut things too fine in the matter of mileage allowances.

THE NEW DIRECTOR-GENERAL, A.M.S.

The appointment of Surgeon-General Arthur Thomas Sloggett to be Director-General of the Army Medical Service, in succession to Sir Launcelot Gubbins when the latter vacates the appointment, has been approved by the King. Surgeon-General Sloggett has seen service in most of the wars, little and great, in which this country has been concerned since he entered the Army Medical Service in 1881, and is at present the senior surgeon-general on the active list. He served on the Indian frontier in 1884, he was senior medical officer with British troops on the expedition to Dongola in 1896, was mentioned in dispatches, promoted to surgeon-lieutenant-colonel, and received the Egyptian medal with clasp. He was senior medical officer of the First Brigade of the British Division of the Nile expedition in 1898 and was dangerously wounded, being shot through the chest, at the battle of Khartoum. He received the medal and clasp with the Egyptian medal. In the South African war he was in charge of the Imperial Yeomanry Hospital, and was afterwards P.M.O. to a general hospital and commandant of the Deelfontein district. He took part in the operations in the Orange Free State in April and May and in the Transvaal in June and July, 1900, and again in the operations in the Transvaal, Orange River Colony, and Cape Colony down to May, 1902. He was mentioned in dispatches and received the Queen's medal with three clasps and the King's medal with two clasps, and was made C.M.G. From 1903 to 1908 he was P.M.O. of the Home and London districts, and in the latter year was appointed Director of Medical Services with the British Army in India, the appointment he now holds. He was made C.B. in 1910 and appointed honorary surgeon to the King in 1911.

INSURANCE ACT SUBDEPARTMENT.

The Council of the British Medical Association, at its meeting on October 29th, decided to establish a permanent subdepartment of the Medical Department, to be named the Insurance Act Subdepartment, and will appoint a secretary for the subdepartment to be named the Assistant Medical Secretary (Insurance). An advertisement inviting applications for the appointment, and indicating its duties and the salary attached to it, is published at p. 65 of the advertisement columns this week. Applications must be received by the Medical Secretary of the British Medical Association, 429, Strand, London, W.C., not later than Monday, November 24th. The application should be accompanied by not more than three recent testimonials, and canvassing is not allowed.

The Royal Institute of Public Health has accepted the offer of Professor William R. Smith to present annually a gold medal of the value of £20 for conspicuous services rendered by medical officers of health or other medical officials—naval, military, or civil—within the British empire, overseas dominions, or spheres of British influence. The award will be made upon the nomination of a special committee, to the official who in its opinion shall have rendered the most valuable services in any department to the cause of public health. It is proposed to make the first award next year.

Ireland.

(FROM OUR SPECIAL CORRESPONDENTS.)

REPORT OF THE IRISH MILK COMMISSION.

THE Irish Milk Commission published its report last week. It was appointed by the Lord Lieutenant "to inquire into the alleged scarcity of milk in certain parts of Ireland, where it exists, its causes, the effect on public health, and the remedies; and also to inquire into the dangers of contamination and infection of the present milk supply, and the best means to be adopted to guard against these dangers."

The Commission held fifty-six meetings for the purpose of taking evidence, and the witnesses examined were representative of all classes; much of the evidence has been published in these columns from time to time. The report, which is unanimous, is divided into two parts: (1) The milk supply; (2) the purity of the milk supply.

The Adequacy of the Milk Supply.

The question of supply is divided, again, into three parts—the cities and large towns, the smaller towns, and the rural districts. In the case of the cities and large towns the problem is not urgent, as there is no actual scarcity, but an important recommendation is made that city and urban authorities should be empowered to contribute from the rates towards the cost of establishing milk dépôts for infants, the object being the supply of humanized sterilized milk for infants at a cost within the reach of persons of limited means, should the mother be unable to suckle her child; the milk is made up in bottles, each of which contains one meal, according to the age of the infant. It has been claimed for these dépôts, which do not enter into competition with the private trader, that they have been the means of reducing infantile mortality. In the case of smaller towns there is, at least in winter, "a partial scarcity more or less acute." It is suggested that the work of the various local agencies already operating should be extended, and if these fail the report recommends that urban or health authorities should be empowered by the Local Government Board to open experimentally one or more dépôts in the towns for the sale of milk only at the local rate. It is not intended that the local authority should enter into competition with the traders, but simply that it should supplement their sales. The great problem, however, has been to find remedies for the scarcity of milk in the country. It appears that the dietary of the peasantry has during the last twenty years entirely changed—much for the worse; whereas formerly they lived on milk or buttermilk and oatmeal, they now use tea and baker's bread. The Commission emphasizes the need of popular instruction as to the value of milk as a food, and suggests ways in which knowledge on the subject could be spread. The creameries have often been blamed as a chief cause of this scarcity of milk in rural districts; and the Commission proposes to utilize the creamery system as a means of supplying milk for domestic purposes. It is suggested that persons in a rural district should organize a "milk club." for the chief difficulties in receiving a supply of milk are the fitful demand for it, the scattered condition of the population, and the lack of organized means of distribution. Useful recommendations are also made whereby winter dairying may be made profitable, one of these being the improvement of the cows by the keeping of milk records and the formation of cow-testing associations. The use of goats is also considered and suggestions are made for the improvement of the strain through cross breeding.

The Purity of the Milk Supply.

The report deals at length with the question of eliminating tuberculosis among cattle. Next in importance to the stamping out of tuberculosis among cattle is the necessity of preventing the use of infected milk, not only on account of tuberculosis but also typhoid fever, infantile diarrhoea, diphtheria, and scarlatina. The report points out that the law in its relation to the dairy trade takes no cognizance of the typhoid or diphtheria carrier, and the following recommendations are made, and in each case illustrated by examples showing their necessity.

That if the milk of a particular dairy is suspected of causing typhoid or diphtheria, the public health authority of the district in which the outbreak occurs shall have power (*a*) to take the necessary steps to ascertain if there is a typhoid or diphtheria carrier in the family or employment of the milk seller, and, pending the result of investigation, to suspend the sale of milk from that dairy; and (*b*) to go at once without a magistrate's warrant to the farm of the supplier and require all persons in his employment to give facilities for tests to be made, failing which the authority should have power to forbid the sale of the milk of that supplier within their area. We recommend also that any dairy hand known to have suffered from either typhoid fever or diphtheria should be obliged to comply with such requirements as the public health authority may consider necessary for the purpose of ascertaining if he be a carrier of disease. If such person declined, he should be debarred from employment in the production or handling of milk.

We recommend further that the public health authority should have power to stop the sale of milk from any dairy in their district if there is epidemiological evidence that it is the vehicle of infection, notwithstanding that (*a*) there is no disease in the family or among the employees of the dairyman; (*b*) that no disease carrier may be discovered on or in connexion with the premises; and (*c*) that no other source of infection can be traced.

The use of the long tube baby's bottle is condemned. Its use is illegal in France, and the Commission thinks its use in the United Kingdom should be forbidden by law.

The Commissioners are very strong in their observations on the responsibility of magistrates who impose nominal fines in cases of infringements of the Dairies, Cowsheds, and Milkshops Order of 1908, and also in cases of milk adulteration. The report suggests in the latter case that the law should be amended by making it obligatory to impose progressive fines as under the Margarine Act.

One very important recommendation of the Commission is that means should be provided for the bacteriological examination of milk for the detection of tubercle bacilli, as is the case in most large English and Scottish cities. It is proposed that central stations shall be equipped and placed in charge of competent persons in Dublin, Belfast, and Cork.

Among other subjects dealt with in the report are the sterilization and pasteurization of milk, the effect of temperature on milk, dried milk, and condensed milk.

The concluding portion of the report is devoted to a lengthy review of the action taken by municipal, urban and rural authorities to enforce the Dairies Order, and the Commission recommends a remodelling of existing arrangements.

We suggest, therefore, that the unit of administration should be the county or the county borough, which, after consultation with the Department of Agriculture, should divide the administrative area into a number of districts, mainly on the basis of cow population, and should appoint a whole-time veterinary inspector (who should be a qualified veterinary surgeon) to each district. A scale of salary should be drawn up also in consultation with the Department; one-half the salary should be payable by the county authority out of the rates; and the other half should be paid from Imperial funds through the Department, on the same principle that the State now contributes towards the cost of county veterinary inspectors. The Department should have power to withhold the State contribution, or part of it, if the work of veterinary inspection were inadequately carried out. On the appointment of veterinary inspectors, existing officers should be given the preference, and existing officers who were not reappointed should receive some compensation. Attached to a county or group of counties there should be a chief inspector appointed by the Department; he should be paid wholly by the State and be responsible to the Department; but would, under the instructions of the Department, advise the county authority on all veterinary questions, and should have power to act as supervisor over the district veterinary inspectors. Each district veterinary inspector should be responsible for all matters relating to the health of cattle in his district, the condition of cow-byres, and the administration of the Dairies Order generally. He should also act as a local officer for the enforcement of the Diseases (Animals) Act.

CHARGES AT WORKHOUSE FEVER HOSPITAL.

The question of charges for maintenance in a workhouse fever hospital, mentioned last week, was the subject of an action brought at the Omagh Quarter Sessions at the suit of the Irvinestown Board of Guardians against the Clerk of the Petty Sessions of Trillick to recover £35 due for the maintenance of his three children in the fever hospital while suffering from scarlatina. The defendant tendered £6, being the average cost in the Union for the period that the children had been patients. Dr. Lipsett, for the plaintiffs, contended that they were empowered to charge the full amount of the maintenance of the children including the cost of nursing and attendance. His Honour expressed the opinion that the plaintiffs were charging a

very large amount, and, as a compromise, he suggested the payment of £15. This suggestion was accepted by the plaintiffs, and a decree for the amount was given.

Tuberculosis Act in Ireland.

The question of tuberculosis in cattle has been considered by a committee of the Monaghan County Council, in consultation with its veterinary inspectors and a veterinary inspector from the Department of Agriculture. Some difference of opinion existed amongst the members as to the necessity of the Tuberculosis Act, but when it was pointed out that there was a danger of cattle being stopped at English ports, it was decided to put the Act in force in the county; this aspect of the case seems to appeal in a more practical manner than that of the spread of tuberculosis among the inhabitants.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

The Inclusive Fee in Medicine.

Quite at the end of the report of the Business Committee of the General Council of the University of Edinburgh (see page 1258), discussed at the meeting on October 31st, there is printed a document on the inclusive fee in medicine from the point of view of the School of Medicine of the Royal Colleges, Edinburgh. It was not referred to at the meeting of the council probably because discussion on the matter was deprecated in view of the work of the committee which is at present considering the whole question. At the same time the statement, which is from the pen of Dr. Shennan, has an importance which justifies its being made more widely known. The statement, after giving a brief history of the School of Medicine of the Royal Colleges, Edinburgh, since its origin in 1505, and recent statistics, pointed out that the facts set out made it evident that the extramural school had played an important part in establishing the Edinburgh Medical School, and was still a prominent factor in maintaining its position. The assistance afforded by this school in teaching the undergraduate should not be lightly regarded, and could not easily be dispensed with. If an inclusive fee in medicine were established, it would presumably be collected by the university authorities, and this would tend to result in students taking all their classes within the university, particularly if official advisers of studies were appointed who would bring pressure to bear upon the students. The School of Medicine of the Royal Colleges would thus, for practical purposes, cease to exist. The reduction in the numbers of medical students attending the extramural classes, and the consequent diminution of the income derived by the lecturers from teaching qualifying courses, would tend to interfere with the initiation of courses upon new subjects, which, as already shown, had been hitherto a marked feature of the school's activities.

Another result would be the abolition of the healthy rivalry which has existed between the university and the extramural school, which has been one of the beneficent products of the freedom of choice hitherto afforded students of attending classes either intramurally or extramurally. Further, the supply of trained teachers which has been so well met in the past by this school would, to a great extent, cease. These results would react very unfavourably upon post-graduate teaching and research, which are generally recognized as being all-important factors in maintaining the vitality of leading centres of medical education. Post-graduate teaching would suffer from the diminution in the number of competent and experienced teachers; and research would suffer from the lack of men who are masters of their own subject, and who consequently should be cognizant of the directions in which research is necessary, and competent to guide it, so as to produce the best results.

It may be added that it and a statement on the same subject from the point of view of the universities were considered and approved at a meeting of the subcommittee of the conference of the General Councils of the Universities of Glasgow and Edinburgh held at Perth on June 21st of this year.

Annual Meeting of Edinburgh Post-graduate Teachers in Medicine.

The annual meeting of the lecturers who form the teaching staff of the Edinburgh Post-graduate Vacation Courses in Medicine took place in the Senate Hall of the University on October 31st. Professor Harvey Littlejohn, the Chairman of the Executive Committee, presided, and many of the lecturers attended and took part in a discussion regarding the courses for the autumn of 1914. A considerable number of matters were discussed with the object of preventing overlapping in the classes and of enabling various subjects of study to be dealt with in groups; and the Chairman promised on behalf of the Executive Committee that full consideration would be given to them in preparing for next autumn's courses. It was mentioned that the number of individuals attending the courses in 1913 was 111, and that no fewer than seventy-eight lecturers had taken part in the teaching. Undoubtedly the large size of the body of available teachers has had much to do with the remarkable success of the post-graduate courses in Edinburgh during the past eight years. The list of the names of the graduates attending during the autumn of 1913 shows that seventeen out of the 111 were women doctors. An analysis of the countries from which the post-graduates have come has already appeared in the Journal (vide October 4th, p. 887).

Memorial to the late Dr. George A. Gibson.

It will be remembered that soon after Dr. G. A. Gibson's lamented death it was decided that the attempt should be made to found a suitable memorial to him (vide Journal, February 8th, 1913, p. 308); and on October 30th the executive committee which had been appointed was able to report to a meeting of the subscribers the successful issue of the undertaking. The meeting was held in the Hall of the Royal College of Physicians, and Dr. J. J. Graham Brown (the President of the College) presided. The committee reported that a sum of £1,135 had been subscribed, and it was stated that replies were still coming in. The appeal had been widely responded to, as was shown by the number of individual subscriptions, which was over 400. The committee made the following recommendations: (1) That a lectureship should be instituted, to be called the "George Alexander Gibson Lectureship"; the lectureship to be held triennially, and the honorarium therefor to be fixed at £100, or such sum as the trustees shall determine from time to time. (2) That a sum of £900 be placed in the hands of the Royal College of Physicians of Edinburgh, to be held in trust for the above purpose. And (3) that the surplus of the fund subscribed should be applied for some purpose which might be agreeable to Mrs. Gibson, and that any of the surplus not required for this latter purpose should also be handed over to the lectureship trustees. On the motion of Dr. G. A. Berry, seconded by Sir Robert Philip, the above recommendations were approved. It was stated that the first lectures would probably be given in the spring.

Presentation to Sir George Beatson.

On October 29th the superintendent and past assistants and house-surgeons of Sir George T. Beatson, M.D., K.C.B., met in the board-room and presented to him a handsome rose-bowl and ornaments, as a recognition of their high appreciation of his services, on the occasion of his retirement from the active staff and his appointment to the honorary consultant staff of the institution.

Gift to Queen Margaret College, Glasgow.

On October 25th, at a meeting in Queen Margaret College, Glasgow, the diploma of the late Dr. Elizabeth Blackwell, the first woman placed on the British *Medical Register*, was presented to the college by Miss Barry, the adopted daughter of Miss Blackwell. Mrs. J. W. Napier made the formal presentation on behalf of the donor, and Miss Melville, mistress of the college, in accepting the diploma, reviewed the career of Miss Blackwell, who received her diploma on January 23rd, 1849, and was placed on the *Medical Register* in 1859. She was one of the pioneers of medical schools for women in Great Britain, and, after a long and honourable career, chose Glasgow as her resting-place. Miss Melville thanked Miss Barry in the name of the college for the unique and

historic gift, and Principal Sir Donald MacAlister, who was also present, tendered thanks on behalf of the university of which the college was a part. He stated that Miss Blackwell was admitted to the *Medical Register* as soon as there was one on which her name could be placed, no obstacles having been placed in the way of her admission.

Glasgow Maternity Hospital.

The Glasgow Maternity and Women's Hospital was opened in 1908, and in 1911 the gynaecological wards were added, making it the most completely equipped hospital of its kind in the country. The support extended to it by the public was insufficient for its work, however, and the directors have been obliged to close for the present the gynaecological wards until the whole debt on the hospital, amounting to upwards of £28,000, has been cleared off. The hospital ministers annually to about 5,000 women, of whom the majority are married women of the poorest class. It is the only school for obstetric training in the West of Scotland and its educational work is indispensable. For several years the directors have made repeated attempts to raise the sum of £110,000 spent on site and buildings, and have succeeded in obtaining over £80,000, but the annual subscriptions are far short of the hospital requirements. A determined effort is now being made to clear off this incubus of debt by a bazaar held on the last three days of this week.

Glasgow Corporation Housing Scheme.

One phase of the housing question which has become very acute in Glasgow was discussed at a special meeting of the Town Council on October 31st. The Health Committee is tackling the slum properties, and the City Improvement Committee has brought forward a scheme to provide modern houses of a better type. The scheme provides for the erection by the corporation, on its own ground, of eight tenement blocks of two-apartment houses and seven blocks of three-apartment cottages. The tenement part would cost close upon £10,000 and the cottages £6,540. The tenement part of the scheme has been approved, but the cottage part was defeated by the narrow vote of 40 to 39.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

School Clinics for Manchester.

At the monthly meeting last week of the Manchester City Council the following motion was carried:

> That with a view of dealing effectively with cases of physical defect and disease amongst children in Manchester schools, the Education Committee be instructed to submit to the council a scheme for the provision of school clinics in accordance with the recommendations of the chief medical officer to the Board of Education.

The proposer of the motion described a school clinic as a school hospital for the treatment of various diseases that prevailed among school children and a health centre where the education of the children and their parents in matters of hygiene was undertaken. He said it was little use inspecting the children for disease if no steps were taken to get that disease removed. The hospitals and dispensaries of the city were too far from the homes of the children, and the character of the treatment was unsuitable. What was wanted was a school hospital directly under the Education Committee, where the whole of the child's life could be recorded up to the time of its leaving school, its health safeguarded, and that of every other child that came in contact with it. A single central institution in Manchester to deal with the problem would reproduce all the evils of the present hospitals. Neither was there any need to go to any great expense, as small clinics could be dotted about the town and treatment given by doctors who resided in the district. Sir T. T. Shann, the chairman of the Education Committee, said there were 120,000 children to be looked after in the schools, and if the plan were started it must be done properly. Special doctors and special dentists would be required, as ordinary practitioners could not give the time to the work. A subcommittee had already been formed to consider the question, the idea being to try three or four small places in the city. The proposer of the motion said his object was simply to strengthen the hands of the Education Committee, and if the chairman would give an undertaking to report at an early date he would withdraw his motion. This undertaking not being forthcoming, the motion was pressed to a division, when 42 voted for it and 34 against.

Action for Libel by the Manchester City Coroner.

An extraordinary amount of public interest has been roused in Manchester in connexion with some remarks attributed to the Manchester city coroner in his summing up to the jury at an inquest on a cyclist who had been run down and killed by a motor car. Dozens of letters have appeared in the press charging the coroner with unfairly favouring the driver of the motor, and a meeting of protest has been held. Notice of motion was given in the Manchester City Council requesting the Home Secretary to consent to the reduction of the coroner's salary by £200 a year, but the coroner sent a long letter to the Lord Mayor, which was printed and sent to each member of the council, in which he replied in detail to the charges made against him, and the council decided to refer the matter to the Town Hall Committee for consideration and report. An attempt to press the motion, of which notice had been given, was defeated by a large number of the members of the council remaining in an ante-room so that there was no quorum. Dr. Gibson complains that the *Manchester Guardian* gave an incomplete and therefore misleading report of his summing up at the inquest, and it is now announced that he has commenced legal proceedings for libel against the *Guardian* in respect to its notes and references to the case.

LONDON.

London County Council.

The Treatment of Tuberculosis.

The London County Council on November 4th debated for four hours the reports of the Public Health Committee on the treatment of tuberculosis in the metropolis, notes of which have appeared in the last two issues of the British Medical Journal. The Council first considered the report as to the dispensary treatment of uninsured persons (British Medical Journal, October 25th, p. 1111), and the recommendation of the Committee as to the financial basis of the provision for treatment of this class of case.

After some debate on the general question, in the course of which it was pointed out that the formulation of a comprehensive scheme for London had been under consideration by the Council ever since the Insurance Act was passed in December, 1911, the following motion was proposed by Mr. Rawson:

> That the recommendation be referred back to the Committee with instructions to ascertain whether the metropolitan borough councils desire local dispensaries to be under the sole control of the borough councils or the London County Council.

An amendment, that steps be taken to arrange another conference with the Local Government Board, was lost by 45 votes to 32, and the original motion was then put to the vote and defeated.

Mr. A. L. Leon moved an amendment to the Public Health Committee's recommendation in the following terms:

> That the Council, whilst regretting that a scheme has not been made earlier, is of opinion that no scheme for the treatment of tuberculosis in London can be comprehensive or satisfactory while the Council is prevented from dealing with the provision of dispensaries by the premature action of the Local Government Board in approving partial and local schemes in London; and that the Board be asked to cancel all consents given for the erection of dispensaries, and to make an order enabling the Council itself to provide and administer (itself or through borough councils) all dispensaries required, one-half of the expense to be defrayed out of the county fund as expenditure incurred for general county purposes, and one half to be defrayed by the Government.

Mr. Leon advised the Council, since the Local Government Board had taken a line which deprived the Council

of authority, to wash its hands of dispensaries schemes and confine itself to provision of sanatoriums. It was a matter for keen regret that the Local Government Board should have allowed a number of dispensaries to be started in different parts of the metropolis without regard to the needs of London as a whole. It would be impossible to co-ordinate and make available the highest medical skill and knowledge existing if the borough councils were to be the units for dealing with the tuberculosis question. The Public Health Committee had conferred with the authorities of twelve large hospitals, and all were very anxious to fall in with a scheme, but they made it an essential that the Council should be the one centralizing authority for London. In some boroughs there were no hospitals, and there were cases where a borough council had refused to act with a hospital, and vice versa.

Mr. F. Briant, who seconded, said that no more serious blow could be struck at a comprehensive policy than to leave hospitals out of a tuberculosis scheme. The whole of the teaching hospitals had passed a resolution, in which they emphasized the importance of the administration being in the hands of the London County Council. If the borough councils declined to have anything to do with the hospitals, very unsatisfactory results would ensue. Of 730 people treated at St. Thomas's Hospital dispensary, 340 required special surgical treatment, and this was not available at an ordinary tuberculosis dispensary.

Mr. J. A. Dawes, M.P., Chairman of the London Insurance Committee, said the time for moving the amendment had passed: six months ago it might have been acceptable. The Council ought to have been in possession of the views of the Local Government Board at a much earlier date; the Board had taken a most unfortunate line. Rather than have any more delay the Council had better pass the scheme and try and induce the borough councils to adopt suitable measures for their respective areas. Nothing could be more unfortunate than to have twenty-nine areas, each in a ring fence, but that was what matters had come to. He did not think the hospitals made it an essential condition that the County Council should be the authority; they would try and make the best of a bad job. He did not like the scheme, but in the interests of tuberculous persons it should be adopted. The County Council was still the authority for residential purposes, and this might give it some power, and the monetary control was worth having.

Mr. O. E. Warburg hoped that the County Council would be able to maintain a proper balance between dispensaries, hospitals, and local medical officers of health.

The amendment was lost by 34 votes to 20.

Debate then took place on the question of equalizing the cost of tuberculosis treatment throughout the metropolis so that boroughs where the phthisis-rate was high and was accompanied, as would usually be the case, by a low rateable value, should receive financial assistance. Amendments to secure this were defeated by considerable majorities.

Mr. Gilbert Johnstone moved an amendment, that in view of the fact that the London Insurance Committee had resolved to make representations to the Treasury as to the inadequacy of the sums available for sanatorium benefit in respect of insured persons, the Council was of opinion that no comprehensive scheme could be carried out adequately unless provision were made for meeting the full cost of the treatment of insured persons out of the Insurance Fund or by the Government.

Mr. J. A. Dawes pointed out that the only deficit as to which the Insurance Committee made representations was in respect of residential treatment, and the shortage was due to the fact that the British Medical Association had been able to secure the allocation of 6d. a head to the doctors for domiciliary treatment. There were sufficient funds to provide for dispensary treatment.

The amendment was carried by 42 votes to 22.

The recommendation of the Committee as amended was then agreed to in the following form:

> That any comprehensive scheme for dealing with the treatment of tuberculosis in London shall provide for a contribution being made by the Council from year to year towards so much of the cost of the dispensary treatment of uninsured persons in the City of London, and each metropolitan borough, as would otherwise fall on the local rate, after taking into account the promised grant from the Imperial exchequer, provided that such contribution (1) shall not exceed 50 per cent. of such cost; (2) shall be made in the first instance from a date to be fixed hereafter by the Council: and 3) shall be conditional upon the Council being satisfied with the local scheme in force in such area and upon the arrangements and the expenditure being annually submitted to and approved by the Council. Whilst by the above proposals ample funds will be provided to meet the cost of dispensary treatment for uninsured persons, in view of the fact that the London Insurance Committee has resolved that representations shall be made to the Treasury as to the inadequacy of the sums available for defraying the expenses of sanatorium benefit in respect of insured persons suffering from tuberculosis in the county of London, the Council is of opinion that no comprehensive scheme can be carried out adequately unless provision is made for meeting the full cost of the treatment of insured persons out of the Insurance Fund or by the Government.

Residential Accommodation for Uninsured Persons.

On the report of the Public Health Committee with regard to residential accommodation for uninsured persons (British Medical Journal, November 1st, p. 1182), and its recommendation that the Council should make arrangements with the Metropolitan Asylums Board, with hospitals, and with sanatoriums without the Council owning or managing institutions,

Major Levita moved an amendment to the effect that the Council should not act as a financial intermediary, but should leave it to local health authorities, the Asylums Board, and other bodies to deal with tuberculosis. He criticized the proposed arrangements on the ground that at every stage of the disease except one the borough councils were to deal with tuberculosis. It would be irritating to the hospitals to find that as long as a man went to a dispensary he was under one set of authorities, but when the disease needed sanatorium treatment he came under another authority. The borough councils were the proper authorities to deal with health matters. It was estimated that 400 beds were required for uninsured persons; the hospitals were not full, and he was not sure that existing institutions could not deal with residential treatment now that the Council, at the request of the Insurance Committee, had provided for insured persons.

The amendment was lost, only five voting in its favour.

The debate continued on the main question on the line that the County Council should not delegate to the Asylums Board the provision of accommodation. Mr. J. A. Dawes said that although the Asylums Board had done its best to help the Insurance Committee out of a serious difficulty, the institutions it had provided were not entirely suitable, for it had none of the smaller sanatoriums required. As a matter of fact, the Asylums Board had no more institutions suitable for dealing with tuberculosis than had the County Council.

The Committee's recommendation was then agreed to.

Mount Vernon Hospital, Hampstead.

The Council next considered the recommendation of the Public Health Committee in regard to the impending sale of the Mount Vernon Hospital at Hampstead, in which the Committee expressed the opinion that it was desirable for the institution to be preserved for the treatment of insured persons suffering from tuberculosis, but advised the Council itself to decline to purchase, and to direct the attention of the Metropolitan Asylums Board to the impending sale.

Dr. Courtauld said the institution was not suitable for any other purpose than hospital treatment of tuberculosis, and it would be unwise, if not impossible, for the Council to enter upon the conduct of a hospital. The institution was unsuited for a sanatorium because it had only two and a half acres of ground and so did not provide opportunities for graduated exercise and labour. It would be far too miserable and depressing a place to be used as a home for advanced cases; these should be put in small cottage hospitals rather than in a big institution in which it would be difficult to persuade patients to stay. It would be undesirable to use Mount Vernon for hospital cases, because when things had settled down it would probably be found that there was sufficient provision in London for hospital patients. There were vacancies for male patients in the wards of Brompton Hospital—a thing that had not happened for a very long time. The majority of the large teaching hospitals were

willing and even anxious to extend the accommodation in their wards for hospital cases. The hospitals were the obvious places to which these persons should go, and it was not incumbent on the County Council either to acquire or advise any other body to acquire such an institution as Mount Vernon, for the reception of hospital cases. These were difficult and complicated, and required special forms of diagnosis and treatment such as could not be obtained in the ordinary sanatorium, but only in the large special, fully equipped hospitals. It was one thing for the Council to manage a sanatorium which only required a medical superintendent and one or two assistants, but quite another thing to run a special hospital requiring a specialist staff and a large specialist organization, which the Council would have very great difficulty in bringing together. He moved an amendment to omit the words referring to the purchase of Mount Vernon, and the communication to the Metropolitan Asylums Board.

Mr. J. A. Dawes said that the London Insurance Committee had represented to the Public Health Committee that Mount Vernon should be retained as a hospital to accommodate certain classes of cases. It was one of the four specialist hospitals of London, and if it were closed there would be a shortage of accommodation. The Insurance Committee thought this building would be specially valuable, because it would be easy for friends to visit patients there.

The amendment was carried by 52 votes to 30, and the recommendation of the Committee as amended was then approved.

Canada.

[FROM OUR SPECIAL CORRESPONDENT.]

Medical Examinations.

The results of the first examination under the new Canadian Medical Act have been announced by Dr. R. W. Powell, registrar. Seventy-one candidates presented themselves at the examination. Forty-four were successful, eight were referred back to the council, having failed in not more than two subjects, and nineteen were rejected. The address of the registrar is 180, Cooper Street, Ottawa, Ontario.

Winnipeg.

A monthly bulletin is issued by the Medical Officer of Health for the City of Winnipeg, Dr. A. J. Douglas. From that dated October it appears the death-rate for September was 11.2, compared with 12.7 for the corresponding month in 1912; the population in November, 1911, was estimated as 166,553, and in December, 1912, as 184,730. This rapid increase must be attributed to immigration, probably chiefly of persons in the prime of life, and the low death-rate must not be taken as convincing proof of the existence of good sanitary conditions. The infantile death-rate appears to have been 231 in September, 1911, and 184 in the same month of 1912. This is a noteworthy reduction, and may be taken as evidence of good work done by the public health department. The rate was still high, however, and though no explanation is offered it may perhaps be found in those local conditions which also produced 67 cases of typhoid fever in September, 1912, and 60 in September, 1913. In 1913 the month was not very hot, the average maximum temperature having been 67° F., and the highest recorded temperature 83.4° F. Dr. Douglas gives an extract from a health bulletin issued by a life assurance company exhorting all and sundry to help health departments. This is a novelty perhaps, but all in the way of business. "There are people," we are told, "to their discredit be it said, who object to the necessary expenditure incurred in such precautionary and preventive work," and the impeachment must be admitted on both sides of the Atlantic. The company quotes a calculation to the effect that the entire hygienic regeneration of the Panama Canal region "has been accomplished at a cost of 1 cent per day per individual, less than the cost of a daily paper." It then quotes an "eminent physician" who asserted that the only way to get efficient sanitation is to put an autocrat in charge. This is how it has been done in Panama, where there is a very short shrift for careless livers or conscientious objectors.

Special Correspondence.

PARIS.

Tuberculosis in France.

Though the passing of the law making tuberculosis a notifiable disease in France has given rise to much controversy, a study of the figures regarding the prevalence of this disease almost inevitably leads to the conclusion that the law in question is thoroughly justified. The number of deaths in France assumed to be due to tuberculosis during the year 1910 was 85,088, a figure which may be compared with the 220,095 deaths which were due to diseases already notifiable at that date. This ratio as it stands is large, and the real ratio may safely be concluded to have been larger still when the many deaths ascribed to chronic pneumonia and chronic bronchitis, or entered as due to unknown causes, are taken into consideration. In many of these cases the tubercle bacillus probably played an important part. The late Professor Brouardel used to put down the number of deaths in France due to tuberculosis at not less than 150,000 a year. It is a startling figure, and in a country like France, where the birth-rate is declining, it was obviously necessary to seek some means of arresting the loss from tuberculosis. In the year 1910, it may be noted, the tuberculosis mortality-rate in France was nearly a third higher than in the previous year in England—namely, 21.7 per 1,000 as against 14.6. The French rate, indeed, was materially higher than the same rate in Germany, Spain, or Italy, in all of which countries the rate was in the neighbourhood of 16.5. So far as Paris itself is concerned, one cause of this heavy mortality from tuberculosis is, no doubt, the fact that the greater part of the population lives right in the centre of the city, whereas in London the majority of workers at least sleep in the suburbs. In Paris, on the contrary, of some 25,000 persons who work by day in the suburbs, the majority sleep in the city. In addition, the concentration of population in relation to superficial area has increased in Paris from 318 persons per hectare in the year 1896 to 370 persons per hectare at the present date. This figure is over twice as high as the corresponding figure for London. The proportion of open spaces is also relatively low as compared with London; and over 12,000 families, each numbering six individuals, live in homes consisting of a single room. In Lyons, where, under the influence of the antituberculosis dispensary, a system of notification of cases, their careful supervision, and disinfection of premises has been in use for some years, the tuberculosis mortality-rate fell between the years 1906 and 1911 from 36.5 per 1,000 in the former year to 26.1 per 1,000 in the latter year.

BUDAPEST.

Notification of Tuberculosis.

The Hungarian Minister of Public Health has issued an order making certain cases of tuberculosis notifiable under the Contagious Diseases Act of 1876. The order is preceded by a statement setting forth the various steps that have been taken by Government and by private bodies in Hungary to secure co-operation between the public and the authorities in lessening the prevalence of tuberculosis and towards disseminating knowledge of the fashions in which it is commonly contracted. Notification is everywhere made compulsory in the case of persons dying of pulmonary or laryngeal phthisis, or from discharging tuberculous glands, or tuberculosis in bones. Such cases are also to be notifiable in towns and cities where there are municipal health officers, if the patients either change their residence or are sent to hospitals for treatment. They are also notifiable if the patients live either in densely populated localities, or in public institutions, orphanages, boarding-houses, or hotels, or are employed in cafés, restaurants, bakehouses, or other like places where food is prepared or if they are either school children or school teachers. The notification is to be made by the medical man in charge of the case, and also by the head of the household, or head of the business where the patient is employed. In the case of schools it is the school medical officer and the

school teacher who will notify. The steps following notification are disinfection of the rooms previously occupied by the patients when these have died, as also of all bed-linen and clothing used by them, and in the case of persons who change their dwellings disinfection of the rooms left vacant. The disinfection is to be performed by trained persons, and no fee is to be charged. Bed-linen is to be boiled in soap and water and afterwards soaked in a solution of soda. Whitewashed rooms are to be re-whitewashed, and those which are papered or painted are to have the paper or paint scraped off around the patient's bed. The rest of the wall-covering is to be rubbed with bread-crumb to a height of 7½ ft. from the floor, the bread-crumb being carefully burnt subsequently. Floors, window frames, and furniture are to be washed with caustic solution, or, in the case of polished furniture, with either corrosive sublimate 1 in 1,000 or an 8 per cent. solution of carbolic acid; such furniture is then to be exposed to the sun for two or three days. Floors of earth are to be flooded with a fresh solution of lime. Ordinary books and newspapers are to be burnt, but if regarded as of special value may be re-used after heating in an oven for an hour. Medical officers of health are to visit cases notified when the notifications relate to living persons, and, after explaining to contacts how to avoid infection, are to leave with them pamphlets, in which stress is laid on the fact that tuberculosis is curable if treated in an early stage. Endeavours are also to be made to persuade patients living in dwellings unsuitable for their proper treatment to put themselves under the control of a tuberculosis dispensary. If the patient is the breadwinner of the family, the latter is to be assisted by allowances in money, fuel, and food. The medical officer of health must take action on notifications received from unauthorized persons or those of an anonymous character. Persons failing to obey the rules are to be subjected to a fine. The preface to the order emphasizes the desirability of all authorities doing their work of protecting the public in such fashion as to interfere as little as possible with the freedom and feelings of the patients and their friends.

Correspondence.

WHOLE-TIME CLINICAL PROFESSORS AT THE JOHNS HOPKINS MEDICAL SCHOOL.

SIR,—The Rockefeller General Education Board has announced that it has given a sum of £300,000 to the Johns Hopkins Medical School for the purpose of so reorganizing the departments of medicine, surgery, and pediatrics that the professors and their staffs will completely withdraw from paid practice in order to devote their entire time to the care of patients, teaching, and research in their respective departments.

With the acceptance by the Johns Hopkins Medical School of this offer is inaugurated a new departure in medical education which is likely to have a far-reaching influence. Eight years ago, when Professor Barker was called to take charge of the medical department on the resignation of Professor Osler, he asked to be placed upon a salary and a whole-time basis, but the funds were not available. Since then the plan has been much discussed in America, particularly by the younger, more progressive men, and the scheme was strongly urged in Mr. Flexner's report on medical education to the Carnegie Institution. In this country the suggestion has been warmly received in some quarters, and it is one of the proposals in connexion with the reorganized University of London.

In making the gift the Rockefeller General Education Board has placed no restriction upon the freedom of the clinical professors, who are free to see or treat any one inside or outside the hospital; but for such service they are to accept no personal fees. At present the men affected by this change are Dr. Barker, Dr. W. Halsted, and Dr. John Howland.

Of these, Dr. Halsted, who has been in charge of the surgical department since the opening of the hospital in 1889, has never been deeply involved in private practice. He has been an ideal hospital surgeon, in whom have met the singularly happy combination of experimental, pathological and practical worker. It is not too much to say that his methods of work have had a more profound influence than any other man in the extensive development of American surgery during the past quarter of a century. Dr. John Howland has only recently taken charge of the new separately built clinic for children's diseases. For Dr. Barker, the real suggester of the scheme, the change involves a very serious financial sacrifice, as he has become one of the most popular consultants in the United States. It is stated that the salaries have been fixed at £2,000 a year. At present involving only three departments, it is understood that the change will be made later in all the clinical chairs.

One of the most gratifying features of this large endowment is the announcement that the name of Dr. William H. Welch is to be associated with it. No man of his generation in the United States has so deeply influenced the profession, not only by his administrative ability and his stimulating work in pathology, but much more by a personal, unselfish devotion to its highest interests.

What is likely to be the outcome of this novel departure? It is an experiment which time alone can settle. In the modern clinic arrangements must be made for the care and cure of patients, for the teaching of students, and for research. Will it be to the advantage of the director of such a clinic to cut off his affiliation with the profession and the public? It may be good for the reputation of the school and at the same time be very bad for the professor himself and for his students. The danger would be the evolution of a group of clinicians, the boundary of whose horizon would be the laboratory, forgetful of those wider claims which he has as trainer of the young, the leader of the multiform activities of his profession, the interpreter of science to his generation, and the counsellor in public and private of the people, in whose interest the medical school exists. There are risks in a life of clinical and laboratory seclusion, though it has a great attraction and appeals to many men. One thing is certain—there is a widespread feeling of the necessity for change, and the profession will watch with the deepest interest the progress of this experiment at the Johns Hopkins Medical School.—I am, etc.,

November 5th. W. O.

THE ASYLUM SERVICE.

SIR,—The *Journal of Mental Science* for October contains the interim report of a committee appointed in November, 1911, by the Medico-Psychological Association to inquire into the status of British psychiatry and the "conditions of service of assistant medical officers." This report is of much value, and it emphasizes in its detailed facts the views which you recently expressed in a leading article in the JOURNAL under the above heading. Permit me to quote from the interim report:

> The committee is of opinion that the statement of facts now submitted demands the earnest attention of the Medico-Psychological Association, of public authorities, and all interested in the welfare of the insane.

I quote this paragraph to show that in the opinion of this committee something of the nature of united consideration, and possibly of combined action, is necessary in order to remedy existing defects. One appreciates the action of the Durham County Asylum Committee in seeking to approach similar authorities upon the question of calling a conference, but even if such a conference were held it could hardly be regarded as sufficiently authoritative. The subject is too large; it has too many technical bearings to be adequately considered by even the most keen and interested representatives of asylum committees, and I think that any merely unilateral consideration of one or two points—assistant medical officers' pay, for instance—would be an insufficient result of the present opportunity. I would suggest that the British Medical Association and the Medico-Psychological Association should unite forces in this matter and arrange for a conference which would include representatives of "all interested in the welfare of the insane." Public authorities having the control of asylums, Lunacy Commissioners, medical superintendents, assistant medical officers, asylum workers, members of Parliament interested in the State control of asylums, should all be represented, and it is conceivable that even the Home Secretary might respond to an invitation. The findings or resolutions of such a conference would carry weight, and they might be

the beginning of a new order of things in regard to British psychiatry.

Regarding the question of the pay of assistant medical officers, I would suggest that these gentlemen can, if they please, force this question to an issue quite satisfactory to themselves. In the report I have referred to it is stated that the average salary of second assistant medical officers is £176 a year, with average age of 31 years, and of first assistant medical officers, salary £235 a year, and average age of 36 years. These are miserable salaries for gentlemen of experience, and if assistant medical officers would only combine or band themselves together under the British Medical Association, I am confident that it would be a simple matter to compel authorities to pay much higher salaries. I should like to see the scale of pay for assistant medical officers ranging from a minimum of £250 a year up to £450 or £500, according to promotion or service.—I am, etc.,

November 4th. EX-A.M.O.

THE ROYAL COMMISSION ON VENEREAL DISEASES.

SIR,—The appointment of a Royal Commission on venereal diseases has come as a surprise to me, and perhaps to others, for my impression, rightly or wrongly, has been that the severity if not the numerical frequency of these affections has diminished of late, and that the apparent increase is due to the suspension of the Contagious Diseases Acts in India and our seaport towns and military stations, and the substitution of the modern panacea, salvarsan, whose uncertainties and dangers have been so effectively exposed by Ernest Lane, for the continuous and long-continued dosing by mercury, as advocated by Jonathan Hutchinson.

My object in writing, however, is not to discuss the necessity for this legislative action, or the evidence on which it is founded, but to join you and others in a protest concerning the composition of the Commission. A body largely stuffed by credulous clerics and sentimental women, whose opinion may be predicted in advance, and from which serving members, either combatant or medical, of our public services are carefully excluded, can hardly command public confidence. Certainly it does not command mine. All reference to the Contagious Diseases Acts has been ruled out: but there were good points in these much-condemned measures which might give rise for reflection, and it is interesting to note that the New York authorities have adopted something suspiciously like them.

What else can be done to protect the public it is hard to say. But I may warn the Committee that any attempt to impose notification, with its attendant isolation, will be strenuously resisted. In conclusion, there may be some controversy about the propriety of admitting the public to the Commission's deliberations. The Select Committee of which I was a member sat with open doors, but I would suggest that there might be a compromise, to exclude the public when the procedure is being arranged and the report framed.—I am, etc.,

R. FARQUHARSON, P.C., M.D., LL.D.

London, S.W., Nov. 5th.

THE WISBECH RIOTS.

SIR,—Having been accused by various sections of the press and public of having persecuted the late Dr. Dimock, having had our houses attacked by a howling mob, and ourselves assailed by every objectionable epithet imaginable, I think it is high time to correct some of the inaccuracies which have appeared in print.

In the first place, the late Dr. Dimock never received any persecution from the profession in Wisbech. Having come to Wisbech under conditions to which professional exception had been taken by the British Medical Association, the members felt it incumbent upon them to consult that Association. A letter couched in the most courteous terms was sent to Dr. Dimock asking him to meet the local Division of the British Medical Association to discuss the matter. This letter was forwarded; no reply whatever to this communication was received, the request contained in it being entirely ignored. Such being the case, the profession had no alternative than to leave Dr. Dimock to pursue his own course.

It is stated that Dr. Dimock had no one to give his anaesthetics at the hospital; on the contrary, his colleagues, Drs. W. and H. Groom and Dr. Price, gave him every assistance.

After being in the town only forty-eight hours, Dr. Dimock applied to be put on the honorary staff of the hospital; this application was not entertained by the committee, on the ground that it was irregularly preferred. Notwithstanding this fact, however, he had the free run of the hospital; he could admit and operate upon any one he chose; in fact, on several occasions the other members of the staff actually afforded facilities, so far as concerned their own patients, to make room for Dr. Dimock's patients, and at the time of his death he had more patients in the hospital than any other doctor in the locality.

As regards the 300 anonymous letters alleged to have been received by Dr. Dimock, the doctors in Wisbech absolutely deny that any of these were sent by them, nor have they any knowledge of the authors: I much doubt the truth of this statement and would like to challenge the executors to produce them. The police state that they had no complaints at any time from Dr. Dimock concerning the matter.

Is it a fact that his brass plate was pulled down and damaged? Again I doubt the truth of this statement: it is not within my knowledge or that of the police. I do know, however, that some month before Dr. Dimock moved into his new house he put up a brass plate and removed the same himself.

Was the gate of his back garden thrown off its hinges and his door smashed? I have never heard of this nor have the police. How could Dr. Dimock be called up at night on the telephone on repeated occasions to attend cases which did not exist when he had not got the telephone installed?

As medical men of old standing, we were well aware that the greatest asset Dr. Dimock could have had was public sympathy engendered of persecution, and it was for this reason, as well as for our own feelings as men of honour, that we decided from the first to treat him with every courtesy from a distance. We certainly did not welcome him, nor could we be expected to assist or recognize a man who absolutely refused to allow our own stablemen and chauffeurs to contract out with their own masters for medical attendance under the Act.

Soon after Dr. Dimock arrived in the town many prominent citizens began to be bombarded with anonymous post-cards, and the matter was at once placed in the hands of the police.

There has been considerable comment on the fact that proceedings were taken by arrest. This was done against my own wish and on the advice of counsel and the police. The superintendent of police had instructions from the chief constable to effect the arrest as unostentatiously as possible and with every consideration; these instructions were carried out, an omnibus being provided. I have not hitherto heard of an arrest being made by telephone, as it is now suggested should have been the course to adopt in this case.

Were we justified in taking proceedings? Although some twenty post-cards, most annoying, libellous, and insulting, had been received by various people, we did not seriously consider the step until the following two cards were received in envelopes:

> Dr. Meacock got one of the hospital nurses in trouble (name of nurse). It was cleverly hushed up and she quietly left, but I know he is paying her 10s. a week.

> Two of Bray's servant girls in his house had to leave in the family way. One was named ——— and the other one ———.

On the latter card was drawn the most filthy and disgusting sketch it is possible for human mind to imagine. Mr. Bray is the secretary of the local hospital.

Had we sufficient evidence? We were advised that it was of the strongest possible nature, and that there could be no escape. Dr. Dimock was actually detected by the police on more than one occasion under circumstances which could leave no reasonable doubt but that he actually posted some of these cards himself. The report of the handwriting expert was beyond all doubt; there was also abundant other evidence of a corroborative nature.

Since the proceedings were instituted I have been informed that when Dr. Dimock was a student at St.

Thomas's Hospital a fellow student living in the same house was the recipient of similar letters in the same writing; these letters are now in my possession. Is it likely for one moment that we should have started these proceedings without being properly advised by counsel and the police, knowing full well that we were laying ourselves open to an action for, in all probability, £5,000 damages or more?

In conclusion, I would state that the very disgusting and filthy nature of the communications made it necessary for us to take action in the interests of our own honour and that of the defenceless women involved, as well as in the interests of public morality.

Although I personally swore the first of the several informations (and probably still more would have followed), I should like to state that we acted throughout under the guidance of the police.

It is greatly to be regretted that the untimely death of the deceased has prevented the case for the prosecution from coming to light, the consequence being that Wisbech has been given over to riot and myself and others have suffered no small pecuniary loss and irreparable damage to our reputations.—I am, etc.,

November 5th. H. C. MEACOCK.

*** Dr. Meacock published a letter giving some of the facts stated above in the *Daily Mail* of November 5th. On the previous day our contemporary had published the following letter from Professor Sims Woodhead of Cambridge:

To the Editor of the "Daily Mail."

SIR,—I have followed with keen interest the melancholy history of the Wisbech panel. I have taken no sides in the matter, but I feel I must now intervene in the interests of the living, and I would ask that those who now blame the Wisbech non-panel doctors will suspend judgement until the whole of the evidence is placed before them.

I have just seen some of the most startling and conclusive evidence possible that the Wisbech doctors, who are accused of persecuting the late Dr. Dimock, have themselves been subject to the foulest slander, and it is imperative that the death of Dr. Dimock should not be allowed to interfere with the holding of a thorough inquiry now that criminal proceedings have perforce fallen to the ground. The doctors will otherwise have no opportunity of clearing themselves of the gravest charges. An inquiry is demanded by all the members of the profession concerned.

Cambridge. G. SIMS WOODHEAD.

It was, we understand, anticipated that the matter would be raised at the meeting of the Isle of Ely Insurance Committee on November 7th, and that Dr. Meacock, who is a member of that Committee, would be present. The meeting takes place too late for its proceedings to be noted in this issue.

EYESIGHT AND NAVIGATION.

SIR,—I must thank Dr. Freeland Fergus for the very full and interesting account of his beliefs in regard to the subject of this letter. In his communication of October 18th Dr. Fergus stated that he had "a dioptre and a half of hypermetropic astigmatism against the rule," and in my reply of October 25th I endeavoured to explain how he might have good distant vision in spite of this error. In the JOURNAL of November 1st he rejects my explanation after a practical trial, but at the same time says he is "the possessor of a hypermetropic astigmatism of nearly two dioptres," and "I think about one dioptre of spherical error as well." My explanation of the former condition does not, of course, fully explain the latter.

I freely admit that there are "probably hundreds of men engaged on the look-out at sea who are hypermetropic," and I admit also that I have safely motored with a hypermetropic chauffeur at the speed of "forty to fifty miles an hour." The mistake lies, I think, in Dr. Fergus's personal belief that I have set up as my standard emmetropia, and that the same standard applies to the marine and Royal Navy Services. He says: "It is only the Royal Navy which up till now has insisted on emmetropia"; also, "the plain truth is that the look-out duties of navigation do not require emmetropia."

The Royal Navy standard is full normal vision in each eye, tested by Snellen's types. The Board of Trade standard (which was to have been compulsory on January 1st, 1914, but which has, unfortunately, been recently modified) is $\frac{6}{6}$ in one eye and about $\frac{6}{9}$ in the other. Now, neither of these standards is a test for the presence or absence of emmetropia. Instead of insisting on emmetropia in my examination before the Sight Tests Committee, I believe that I erred on the side of leniency. In the Minutes of Evidence the following questions by the chairman, the Right Hon. A. H. D. Acland, were in reference to the proposed new form vision standard above mentioned; the answers were by myself.

1393. And in your opinion the new standard is not too high?—No, I do not think so.

1394. Are you satisfied with it?—Yes, I am satisfied with it to this extent—if the test is to be applied by medical men. I am not satisfied with it if the test is to be applied by laymen. Laymen could not exclude cases with a *manifest hypermetropia of 2 D* and over, which should be rejected.

It is a question of the amount of total hypermetropia present and the accommodative power of the particular person. I believe that 2 D of manifest hypermetropia—which was merely a suggestion on the spur of the moment—is too high an error to admit, for I have reported[1] an engine driver with this amount of manifest hypermetropia, who, at the vigorous age of 45, had to retire from mainline duty on account of failing accommodation, being quite unable to fall back on the special sense of Dr. Fergus, which rescues the hypermetrope, and refuses to help the myope even of low degree—anything over "half a dioptre."

I am acquainted with Dr. Fergus's aphakic farm grieve, doing his usual round with an uncorrected hypermetropia of 10 D; but let us put the question in dispute to a crucial test in this way: If my esteemed colleague will trust himself for a short motor journey at forty to fifty miles an hour, on an unknown road, with an aphakic chauffeur who has an uncorrected hypermetropia of 10 D, and if he should happily survive to tell the tale, then I shall believe in the special hypermetropic sense which he postulates. In the meantime I hold that his statement which induced me to start this correspondence still stands in need of revision and modification—namely, "So soon as ever a vessel appears on the horizon, a hypermetropic man will see it equally well with an emmetrope."—I am, etc.,

Aberdeen, Nov. 1st. A. RUDOLF GALLOWAY.

THE INSANITARY FROCK COAT OF THE MEDICAL MAN.

SIR,—The coming of the motor car has greatly modified the traditional dress of the medical man. It has largely abolished the frock coat and silk hat; I still, however, see this garb in wear by medical men in certain places. Such a coat, double breasted, and often covering a double-breasted vest, is to my mind out of date for a medical man who visits many sick-rooms and perhaps hospital wards. It is too loose, too sweeping in its skirts, often worn too long a time owing to its cost, and should be sent to the old-clothes man. A short cut-away coat, single breasted, and single-breasted vest of twilled cloth or serge, not too dear, easily thrown away or sold, would be a better garment for the practising doctor. The silk hat would disappear and the bowler hat of felt would come in. Thus on sanitary grounds, the so-called "doctor's livery" would follow the old gold-headed stick once part of a physician's equipment. How often in the tropics, when I saw a well-turned out army medical officer coming to duty in his well-cut white calico uniform, have I thought how scientifically good was the dress. In cold countries such an outfit would be impossible, but anyway let the frock coat disappear.—I am, etc.,

GEORGE J. H. EVATT, M.D.,
London, W., Nov. 3rd. Surgeon-General.

THE EXECUTIONER SURGEON.

SIR,—My attention has been drawn to an article in your issue of November 1st, in which, commenting on my suggestion in the *Pall Mall Gazette* that "death at the hands of the law should be regarded as a major surgical operation, and as such entrusted to the medical officer," you refer to it as a "silly joke."

No one who read what I wrote has the slightest warrant for using this expression; I said—what I hope will before long be the common opinion of all enlightened

[1] *Ophthalmoscope*, May, 1908, Case 2.

persons—that the haphazard method of entrusting this most solemn of all acts of the State towards the individual to the discretion of an ignorant artisan is unworthy of a civilized community. I never suggested, as you imply, that the doctor should be the hangman. I do suggest that, if we still employ the barbarous machinery of the gallows, the methods used should be strictly and scientifically controlled by a scientific expert; or that, when we become a little more civilized and treat State execution not as a punishment but as a cure, it should be administered by merciful hands and by the methods of which advanced science has placed us in possession.

It is strange, indeed, that the paper to treat this as a joke, and a silly one at that, should be the chief organ devoted to the science and enlightenment of the medical profession.—I am, etc.,

London, W., Nov. 3rd. FILSON YOUNG.

*** Mr. Filson Young does not tell us how "the major scientific operation" of executing a criminal is to be carried out; he only said that this duty should be entrusted to the medical officer. We are sorry to be assured by the author of this suggestion—which we cannot but regard as offensive—that it is made seriously and is not, as we imagined, a silly joke.

MALPOSITIONS OF THE UTERUS.

SIR,—In the discussion on displacements of the uterus, recorded in the BRITISH MEDICAL JOURNAL of October 18th, one factor in its causation was not referred to—namely, loss of power and elasticity in the abdominal wall. When there is this loss we get the first step to enteroptosis, in which the pelvic organs share. Many a prolapse might be hindered in its downward progress if the patient were taught to apply a well-fitting corset or belt, and before lacing up to pull upwards the loose, flabby wall hanging often in folds over the pubes and groins. When the wall is thus drawn up and supported the lymph drains away from the fatty or muscular tissues and elasticity is restored, partially or complete.

Surgical measures are seconded by this means, and the patient is put into a more comfortable condition. But the corset must fit well, and the wall of the abdomen be drawn up effectively before lacing in. This does not entail tight-lacing if the right pattern is used.—I am, etc.,

London, N.W., Oct. 21st. L. FRAZER NASH.

FIBROSITIS AND MUSCULAR RHEUMATISM.

SIR,—Dr. Tivy's letter in the JOURNAL of October 11th giving his personal experience is very practical. He found no relief in salicylates, and in a much milder condition I have noticed this result, and thought lemon juice (lemonade) between meals of use.

Somewhat similar is a form of rheumatism (or is it gout?) in which, with muscular discomfort elsewhere, a hip-joint is affected, perhaps both, and the knee-joint also accompanied by crural neuritis of the anterior portion of the thigh, extending to the calf. The disorder is not unbearable, but being worse at night disturbs sleep, preventing rest on the side. This condition of neuritis has been known to benefit much from cycling. I have personally found this to be so, and a heavy, elderly man who had had it badly (he called the neuritis "sciatica") told me that cycling had relieved him for years, and was his remedy. The exercise without carrying the weight of the body relieves the condition, and is the most agreeable of remedies: friction, even without any application, is of much service, and the clothing by day and by night must be warm. The small sciatic nerve, and the branches of the lumbar plexus, seem to be those affected. "Medicus," who asks whether he should discontinue exercise for his rheumatism, should surely not do so.—I am, etc.,

Hove, Nov. 3rd. E. DUKE, M.D.

SIR,—I am much obliged to "Medicus" for his letter in your issue of November 1st. The time allowed me for the opening of the discussion on fibrositis and muscular rheumatism necessitated the abbreviation of my remarks, and I must therefore apologize that I really made no reference to the subject of exercise.

I can assure "Medicus" that there is no necessity for him to give up any of his exercises. The fact that he gets some temporary aching after the exercises, which soon passes off, is a matter of no importance, and certainly does not contraindicate the employment of exercise.—I am, etc.,

London, W., Nov. 4th. ARTHUR P. LUFF.

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

General Council's Half-yearly Meeting.

AT the statutory half-yearly meeting of the General Council of Edinburgh University, held in the Old University on October 31st, a large part of the business was related to medical matters.

After the re-election of two assessors in the University Court (Dr. D. F. Lowe and Mr. D. D. Buchan), Principal Sir William Turner (the Vice-Chancellor) returned to the chair, which he had temporarily vacated, and the report of the Business Committee was considered.

The late Sir John Batty Tuke.

A sympathetic reference to the death of Sir John Batty Tuke, formerly the representative in Parliament for the combined constituencies of Edinburgh and St. Andrews, was read, in which the following sentence occurred: "During the ten years he filled this position his frank, genial manner, his wide knowledge of educational matters, and of his own special subject, won him the respect of his fellow members and gave him an influence which was greatly to the advantage of his constituents. Returned as a Unionist, he never became a strong party politician, but was ever ready to attend to the interests of his country and of his constituents, to whatever party they belonged." It was agreed that a copy of the minute should be sent to Lady Tuke and the family.

Inclusive Fee in Medicine.

Mr. John B. Clark (the Convener of the Business Committee) explained that the matter was at present under the consideration of a special committee of the University Court, and that it was desirable that the matter should not at this stage be discussed in Council.

Changes in and Additions to the University Staff.

These included the appointment of James Ritchie, M.D., to be the first occupant of the Robert Irvine Chair of Bacteriology, of William Russell, M.D., to be the first occupant of the Moncrieff Arnott Chair of Clinical Medicine, and of Theodore Shennan, M.D., to the new lectureship in morbid anatomy. The Council had, what might be called, a more personal interest in these appointments, for all the three gentlemen were members of its Business Committee.

Clinical Teaching and Pathology.

Sir William Turner made reference to the agreement which had been come to between the University and the Royal Infirmary regarding clinical arrangements and pathology, and spoke with satisfaction of the result obtained by the careful inquiry, which had occupied many months. He said that the agreement not only included joint action in regard to the teaching of clinical medicine, clinical surgery, and clinical gynaecology, but it also included a closer relation as regarded the work of the pathological department. He did not think that there had been any arrangement connected with the medical schools which was likely to be more beneficial than that come to in the summer of this year. The details of the new arrangement were given in this JOURNAL recently (August 16th, p. 434, and October 18th, p. 1039); but the following paragraph referring to appointments has not previously been noticed. It is this: "The appointment to Chairs of Clinical Medicine is made by the University Court from a leet of two sent up by a Joint Selection Committee, consisting of three members of the court, three infirmary managers, and the Principal of the University as chairman. In future, appointments in the infirmary to the posts of assistant physician, surgeon, or gynaecologist are to be made from a leet of two made by a Selection Committee of seven, consisting of the two University representatives on the Infirmary Board, one each of the representatives of the Royal Colleges of Physicians and Surgeons on that Board, and three other members of the Infirmary Board, the final appointment being by the Board." In this quiet fashion a momentous change has been effected in the mode of election of medical men to these various infirmary posts.

UNIVERSITY OF GLASGOW.

General Council.

The statutory half-yearly meeting of the General Council of the University of Glasgow was held on October 29th.

Poll for the Election of Assessors.

The first business was the election of two assessors to represent the Council in the University Court in room of Mr. John Hutchison, LL.D., and the Rev. John Smith, D.D., whose term of office had expired. Each of these gentlemen was proposed for re-election. Dr. A. N. McGregor proposed Dr. James A. Adams for one of the vacancies and Dr. Peter Paterson seconded. On a vote, the figures were: Dr. Adams, 71; Mr. J. Hutchison, 40; Dr. Smith, 40. A further vote between the two lowest was: Mr. Hutchison, 69; Dr. Smith, 31. A poll was demanded, and this will proceed in due course. It may be noted that a circular has since been issued to the members of the Council by Messrs. Hutchison and Smith stating that the movement to displace one of them by a member of the medical profession is uncalled for.

The report of the Business Committee on the proposed draft ordinance dealing with the preliminary examination reaffirmed the view that the standard of the preliminary examination in medicine should be raised as soon as practicable to that of Arts and Science, and that the time had come when "science" might with advantage be accepted as an alternative for one of the two languages hitherto insisted upon by the General Medical Council. The Inter-University Conference at Perth had concurred in these views, and the committee suggested that a representation thereanent be made to the Court and to the General Medical Council. The report was adopted.

Inclusive Fee in Medicine.

On the subject of the inclusive fee in medicine, which had also been under consideration at the Perth conference of the four universities, the Business Committee expressed the opinion that the information gathered tended only to strengthen the position hitherto maintained by the Council that no sufficient experience of the working and effect of an inclusive fee in other Faculties had yet been gained to warrant its adoption in the much more difficult case of medicine. The Committee recommended that the Council transmit the report of the Perth conference to the University Court with a renewed representation in favour of delay in the institution of an inclusive fee in medicine, and this recommendation was adopted by the Council.

UNIVERSITY OF CAMBRIDGE.

The following degrees have been conferred:

M.C.—H. L. Attwater.
M.B., B.C.—T. E. Banister and W. C. D. Maile.
M.B.—O. de Burgh Marsh.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A comitia was held on Thursday, October 30th, Sir Thomas Barlow, Bart., K.C.V.O., President, being in the chair.

Announcement.

The President announced that Mr. Frank Caldicott had been elected Jenks Scholar.

Admission of Members.

The following gentlemen having passed the required examination were admitted members of the College: John Rupert Collins, M.D.Dubl. (Cheltenham), Reginald Robert Elworthy, M.B.Lond., L.R.C.P., George Graham, M.D.Camb., L.R.C.P., John Athelstan Braxton Hicks, M.D.Lond., L.R.C.P., and Charles McMoran Wilson, M.D.Lond., L.R.C.P. (Hastings).

Licences.

Licences to practise physic were granted to 105 candidates who had passed the necessary examinations.

Communications.

The following communications were received: (1) From the Secretary of the Royal College of Surgeons of England dated August 2nd and October 15th, reporting proceedings of the council of that College on July 31st and October 9th respectively. (2) From the Clerk of the Privy Council, dated October 2nd, with enclosures relating to the International Health Bureau established at Jerusalem, and asking for observations upon the subject. After some discussion it was resolved that the substance of the communication and the correspondence in connexion therewith should be printed and distributed to the Fellows. (3) From Mrs. Edward Walker, of Wimbledon, offering for the acceptance of the College an original prescription of Gregory's powder. The gift was accepted with thanks. (4) From Mrs. J. G. Curtis, of Chatham, Mass., U.S.A., notifying that she had sent to the College, in accordance with the wish of her late husband, certain papers of the late Dr. Greenhill. The receipt of the papers was acknowledged with thanks.

A report dated October 7th was received from the Committee of Management. The Committee recommended that the Central London Ophthalmic Hospital should be recognized for the course of clinical instruction in ophthalmic surgery.

After some further formal business the President dissolved the comitia.

Examination in Psychological Medicine.

In the report of the comitia held in July last the fact was omitted that it was then announced that Dr. W. Rees Thomas, a member of the College, had passed the additional examination (open to members only) in psychological medicine. This was the first occasion on which this examination has been held.

Medico-Legal.

ALLEGED CANVASSING BY FRIENDLY SOCIETY.

Vice-Chancellor Dudley Stewart Smith, K.C., at a sitting of the Lancashire Chancery Court at Liverpool, on November 3rd, commenced the hearing of an action in which Dr. Youatt of Prescot applied for an injunction restraining Thomas Wright and a large number of other defendants from procuring, or attempting to procure, by means of canvassing or touting, persons to become his patients, or from doing acts which, if done with the plaintiff's sanction and acquiescence, would render him liable to a charge of infamous conduct in a professional respect within the meaning of Section 29 of the Medical Act of 1858.

The facts of the case, as submitted by Mr. Jessel, K.C., who, with Mr. E. Ackroyd, appeared for the plaintiff, were that on the passing of the Insurance Act some question arose in the district as to how the doctors were to be remunerated for their services in connexion with children who were not of an insurable age. Special arrangements had to be made and negotiations took place between the local friendly societies and the medical practitioners. The former, however, thought the doctors were asking too large a fee per head, and ultimately the various societies formed an association, the committee of which were the defendants in the present action. In April of this year the association appointed a certain doctor to act as the medical attendant for the juveniles, and parents were informed of the fact. When it was explained to him that if he accepted the position he would be liable to the censure of the General Medical Council, he refused to take up the duties. Some little time later the association drew up a scheme for the purpose, counsel suggested, of sowing dissension among the doctors in a very ingenious method. On April 28th a meeting was held, at which it was decided that only one doctor practising in Prescot should be employed, and they selected the plaintiff, the method of selection being by ballot. Members were told broadcast to send their children to that particular doctor, and that, counsel submitted, was clearly canvassing. In consequence of this the rumour got about that the plaintiff had assented to the arrangement, but as a matter of fact the first he heard about it was a complaint by four *contrères*, who said it was a breach of medical etiquette for him to allow people to canvass for him in that way. Dr. Youatt immediately took steps to repudiate the arrangement, which had been come to entirely without his consent, and spoke very emphatically to the secretary of one of the societies, but could not get any redress. Ultimately it was found necessary to bring this action, and he (Mr. Jessel) would like to say that it was not damages they wanted, but a vindication of the position they had taken up. They desired to have an injunction, or declaration, in such a form as would show that that particular method of inviting patients to go to doctors was one which could only be described as canvassing. Honest and bona-fide recommendation could not be objected to, but they desired to prevent the kind of solicitation the defendants, they alleged, had been guilty of. Having referred to a number of legal authorities on the subject Mr. Jessel pointed out that the employment of canvassers on the sanctioning of their employment by a doctor had been held by the General Medical Council to be infamous conduct in a professional respect, and if the plaintiff had accepted the patients sent by the societies he would have been ratifying the systematic solicitation of patients, and would have been liable to be charged with unprofessional conduct. Evidence was then called.

Dr. Alfred George Bateman, General Secretary of the Medical Defence Union, said he had personally conducted cases of alleged unprofessional conduct, in respect of touting and canvassing for patients, before the Medical Council. In his opinion, if Dr. Youatt had authorized the selection of himself under the circumstances existing in the present case, he would have been liable to be reported to the General Medical Council as guilty of infamous conduct in a professional respect. Even without having authorized his selection, if he had accepted the position his conduct would have been equally infamous. Speaking as a professional man, it was the duty of the plaintiff when the resolution came to his knowledge to repudiate it as publicly as possible and let his colleagues know he had repudiated it, and take steps to prevent further mischief arising out of it, legal or otherwise.

The Vice-Chancellor: I do not know what else Dr. Youatt could have done than he has done in this case. Knowing what he has done, could you say he was guilty of unprofessional conduct?

The Witness: No sir, certainly not, because his very repudiation showed he knew nothing whatever about it; that he did not acquiesce in any shape or form, and therefore he could not be guilty.

Cross-examined by Mr. Maberly, who (with Mr. Barker) represented the defendants, the witness admitted that it was in consequence of a combination of the doctors that the plaintiff ceased to attend the members of the friendly societies. He failed to see the slightest necessity why the association should select a particular doctor to attend the juveniles as private patients, which he understood was to be the case. Mr. Maberly: The object of the doctors was to force payment from these societies at the rate of 8s. 6d. per patient?—Yes. In your view they were perfectly justified in arranging amongst themselves that not one of them should attend members of these societies?—Perfectly. And when one of the societies sought to do the best it could in the discharge of its duties to its members by suggesting that they should go to a particular doctor they were committing a wrong?—I think so.

Dr. Alfred Cox, Medical Secretary of the British Medical Association, stated that if the plaintiff had authorized the appointment of himself as medical attendant to the juvenile members of the societies in the circumstances of the case his conduct would have been most improper and would have subjected him to a charge of infamous conduct in a professional respect. It would, in his opinion, have been equally improper if, after being appointed without the least knowledge or consent on his part, he had accepted the position.

In cross-examination, he agreed that the managers of the friendly societies had a duty to discharge to their members, but they were not justified in advising them to go to a particular doctor. Mr. Maberly: Previous to this there had been four doctors on a rota who attended the members of these friendly societies?—Yes. Instead of four, would it have been wrong, in your opinion, if they had appointed two?—It would have been less beneficial to the patients for whom they held the duty. Professionally would it have been wrong if two had been appointed to do the work which four had previously done?—I will not go so far as to say it would have been wrong. Do you say it would have been wrong if one was appointed to do the work which four had previously done?—If the appointment had been made in a perfectly honourable and above-board way. No, but this was not. In answer to further questions, the witness expressed the opinion that it was a dereliction of duty on the part of the societies if they forced people to go to one particular doctor when they had the choice of four.

At this point the court adjourned until the following day.

On November 4th Mr. F. C. Larkin, of Liverpool, gave evidence to the effect that if the plaintiff had accepted the position of exclusive medical man after patients had been canvassed for him, and had attended those patients in that capacity, he would have been guilty of very improper conduct. In cross-examination Mr. Maberly suggested that Dr. Youatt could have got out of his difficulty by refusing to see patients sent by the friendly societies, and the reply of the witness was to the effect that patients would resent being interrogated as to whether they were members of a friendly society or not before being treated.

Dr. Leonard Youatt, the plaintiff, in the course of his evidence, said that prior to April of this year he attended a certain number of friendly society patients, as did also four other medical men in Prescot. During 1912 a large proportion of the adult members came under the Insurance Act, but, in reference to the uninsurable patients—adults and juveniles—the doctors thought it necessary to make a new contract, owing to the conditions having changed. They asked 8s. 6d. a year for juveniles, but this was only granted for three months, when the rupture occurred. The first intimation he had of the appointment of himself as medical attendant for the juveniles was on May 1st, when a professional colleague rang him up on the telephone, and told him that the talk in the town was that he had "sold the other doctors" by taking the juvenile members of the societies. He did not authorize the passing of the resolution in the slightest degree, and the members knew it was most objectionable to him. It would have been objectionable to him to have been so elected, because he should be in danger of being hauled up before the General Medical Council to account for his conduct. In fact, he had been already told by his medical colleagues in the town that if he had acquiesced in the actions of the friendly societies he would have been charged before the General Medical Council.

In cross-examination, Mr. Maberly asked whether the witness could not have prevented the resolution taking effect by putting up a notice intimating that he would not attend juvenile members of the societies. The witness replied that such a notice would have seriously affected his position, and he would have been £20 or £30 out of pocket during the last three months. He had accounts ready to send out to insured patients whom he thought he could legitimately attend. He would defy any one to frame a notice which would sift out the patients without doing him harm. If he adopted counsel's suggestion, it would be very soon rumoured in Prescot that he refused to attend any children. This, he added, was the worst trick ever played on him.

Dr. S. Morris Green, of Prescot, stated that it was put to him that Dr. Youatt had "sold the doctors in Prescot," and had accepted terms behind their backs. Along with a colleague, he rung up the plaintiff, who came round and denied all knowledge of the arrangement.

For the defence Mr. Maberly remarked that the case was one of some importance from the point of view of the liberty of the subject, the members of friendly societies having been brought up against a brick wall which the doctors had erected around them. The societies undertook to find medical attendance for juveniles, and, in the exercise of their duty, had made such arrangements as they could make to meet the difficulty. The doctors, in order to raise the tariff from 2s. to 8s. 6d. in respect of juvenile members of these societies, decided to boycott the societies altogether, and refused to attend any of their members. As between the doctors themselves that might have been a measure which they considered necessary for their own protection, but when they sought to push it to such lengths that outsiders must be bound by it, and were not free to go to any particular doctor, the position became altogether untenable. The doctors said it was inconvenient for them to protect themselves, but they were the primary cause of the inconvenience by insisting that people should pay this enormous difference between 2s. and 8s. 6d.—enormous having regard to the financial position of the people. The resolution passed by the societies simply advised their members to send their children to a particular doctor: it was purely an internal matter for the societies, and if the particular doctor did not like it, all he had to do was to refuse to act. Counsel went on to say that the fear that Dr. Youatt would be condemned by the General Medical Council was altogether chimerical: if there was any risk in the matter the doctor must undertake it as a consequence of the attitude which he and his colleagues had taken up. His Honour was asked to support a boycott of the tightest description, and he thought a court of law would hesitate long before doing anything of the kind. It was a sort of strike to raise wages, and he submitted that the circumstances gave the doctors, who were the real authors of the trouble, no right of action.

Evidence was then called, the general effect of it being that in the performance of their duties the societies had to provide medical attendance for their members, and the attitude the doctors took up led to the passing of the resolution appointing Dr. Youatt. The witnesses denied that there had been canvassing of any kind.

Having heard the legal arguments of the respective counsel, His Honour intimated that as the matter was of considerable importance, he would reserve his judgement.

EXPENDITURE INCURRED BY A LOCUMTENENT.

AT a recent sitting of the county court at Truro, judgement for the defendant was given in an action brought by a jobmaster against a medical man who, until about a year ago, carried on a practice in that locality. The claim was for the supply of carriages to a locumtenent, who for some time carried on the work of the medical man in question, and it was supported by a statement that on a previous occasion a similar claim had been paid without demur. The defence was to the effect that the locumtenent had been supplied with a bicycle with which he ought to have been able to do the whole of the work required of him, and that he had no authority to employ carriages at the defendant's expense. The charges for cabs used by the previous locumtenent had been paid, as in this instance the need for their use was not created by any fault on the part of the locumtenent, but on neither occasion had the jobmaster any sound reason to suppose that in engaging the carriages the locumtenent was acting as the agent of his principal. The court took the same view, and without calling on the defence to produce witnesses gave judgement accordingly.

Public Health AND POOR LAW MEDICAL SERVICES.

DUTIES OF M.O.H. UNDER THE TUBERCULOSIS REGULATIONS.

C. C. S.—The Public Health (Tuberculosis) Regulations, 1912, provide for the notification to the medical officer of health of all cases of tuberculosis, pulmonary or otherwise. Article XII of the Regulations require that upon receipt of a notification the medical officer of health, or an officer of the local authority acting under the instructions of the medical officer of health, shall make such inquiries and take such steps as are necessary or desirable for investigating the source of infection, for preventing the spread of infection, and for removing conditions favourable to infection. In a circular letter from the Local Government Board, dated December 20th, 1912, the Secretary of the Board states that for the purpose of carrying out the requirements of Article XII a visit to the home of the patient will generally be necessary, and that the medical officer of health will doubtless avail himself of the co-operation of the notifying practitioner.

UNFIT FOR HABITATION.

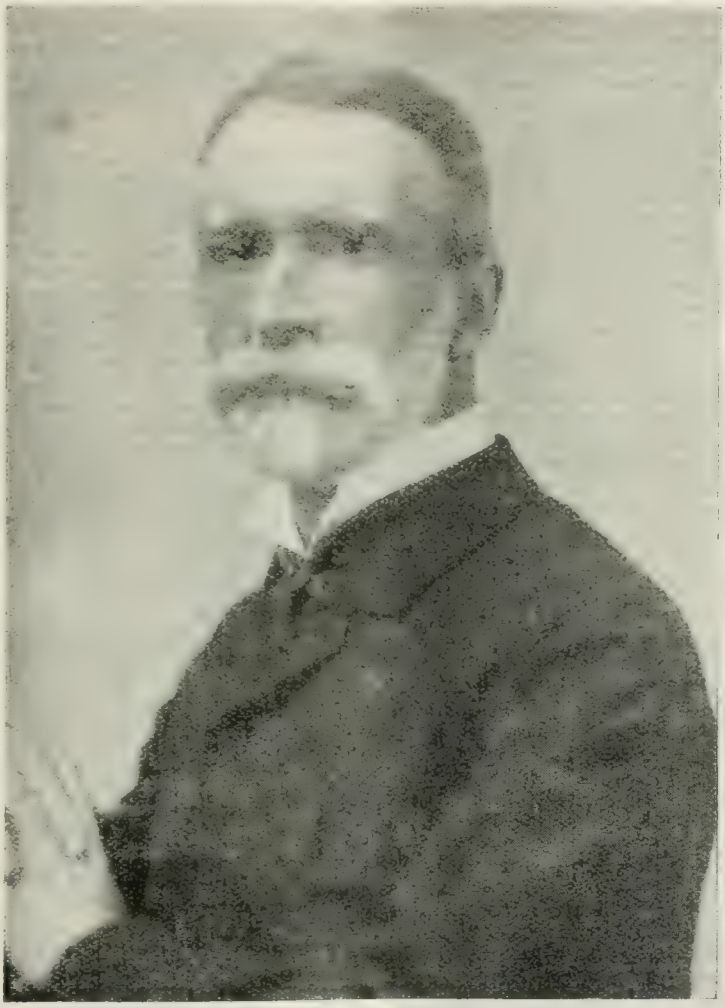
W. R. S.—There does not seem to be any section of the Public Health Acts which states that a habitation without a proper approach to it is insanitary and therefore liable to be closed. Cesspools are not regulated by the Public Health Acts unless they become a nuisance, when they can be dealt with either under the Public Health Act, 1875, or under the Public Health Acts Amendment Act, 1907. Where the model by-laws are in force a cesspool must be at a prescribed distance of a house (usually 40 ft.) and of a water supply (usually 80 ft.), and must be emptied at stated intervals (usually three months). We cannot find any section of the Public Health Act which prohibits the placing of a cesspool in close proximity to a footpath or public highway.

Obituary.

EDWARD NETTLESHIP, F.R.C.S., F.R.S.,

CONSULTING OPHTHALMIC SURGEON TO ST. THOMAS'S HOSPITAL, AND CONSULTING SURGEON TO THE ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.

THE news of the death of Mr. Edward Nettleship at his home near Haslemere, on October 30th, caused very great regret to the many friends and old pupils who esteemed him as a man and respected him as a scientific surgeon and investigator. His health gave ground for much anxiety a few years ago, but after an operation to which he submitted he was restored to activity. He attended the recent International Congress of Medicine in London, and though he looked perhaps prematurely old, seemed to be in good health. To most of his colleagues his death came as a great surprise and shock. As an ophthalmic surgeon he was very widely known both within and beyond the frontiers of Great Britain, the reason being that, while he had a very large private practice, he never flagged in the interest he displayed in following up the more scientific side of his profession.



MR. EDWARD NETTLESHIP.

Edward Nettleship, who was born at Kettering on March 3rd, 1845, was one of the six sons of Mr. Henry John Nettleship, solicitor, of Kettering, by his marriage with Isabella Ann, daughter of the Rev. James Hogg, master of Kettering Grammar School. His eldest brother was Henry Nettleship, who died in 1893 after holding the Corpus Professorship of Latin at Oxford with great distinction for fifteen years; the second son, J. T. Nettleship, who died in 1902, was well known as an animal painter, and as one of the first students of Browning poetry. The next brother was R. L. Nettleship, Fellow and Tutor of Balliol, who died in 1892. Edward Nettleship received his early education at the Kettering Grammar School; from there he went to the Royal Agricultural College, Cirencester, and afterwards to the Royal Veterinary College, from which he took the diploma of M.R.C.V.S. in 1867. He had at the same time been attending the medical course at King's College and the London Hospital, and took the diploma of L.S.A. in 1867. He became a Member of the Royal College of Surgeons of England in 1868 and a Fellow in 1870.

From May, 1871, to August, 1873, he did excellent work as Curator of the Museum and Librarian of the Royal London (Moorfields) Ophthalmic Hospital. For several years up till 1878 he was surgeon to the South London Ophthalmic Hospital, and for a short time he was ophthalmic surgeon to the Hospital for Sick Children, Great Ormond Street. From 1878 till 1895 he was ophthalmic surgeon and lecturer on ophthalmology to St. Thomas's Hospital. In 1882 he was appointed surgeon to Moorfields Hospital. This appointment he regretfully resigned in 1898 owing to the pressure of private practice which made it impossible for him to continue to give the requisite time to the full discharge of the duties it involved, for he was never one to stick to office unless he were fully able to do all and more than all that was required of him. From 1895 to 1897 he was President of the Ophthalmological Society of the United Kingdom, of which society he was not only an original member, but one of the most energetic of its founders in 1880. He was President of the Ophthalmic Section of the British Medical Association in 1897, and in 1909 he delivered the Bowman Lecture of the Ophthalmological Society. He acted as one of the members of the Government Departmental Committee on Sight Tests in 1910, the report of which was issued in 1912. His *Text-book on Ophthalmic Surgery* has been through many editions, and has for many years been one of the best known works for London students. There was no branch of ophthalmic science in which he was not keenly interested and upon which he has not left his mark. He was a good operator, and most capable and careful in diagnosis. No one could be with him without being struck with the extreme care with which he investigated any case. To hear him get a history from a patient was in itself an education. He loved working out family histories, and the amount of work he did in this direction after he had retired from active practice was infinitely greater than many a successful man has done in the whole course of his lifetime. If his papers were to be removed from the *Transactions* of the Ophthalmological Society, and from the *Reports* of the Royal London Ophthalmic Hospital, their value and size would be seriously reduced. It was only last year that he had the honour of being elected an F.R.S.

His name will be handed down to posterity as a master, and very few have attained anything like his ability in collecting and marshalling facts. Scarcely ever was a rare case seen or reported but Nettleship had details about the condition ready at hand if opportunity arose for their production. His death is a loss to the whole ophthalmic world, and will be deplored by workers in every civilized country in the world.

To the general scientific reader Mr. Nettleship's work on heredity made a strong appeal. Modern work on inheritance can be roughly arranged under one of three headings: (1) Biological and experimental; (2) mathematical and statistical; (3) genealogical. Mr. Nettleship's name is most closely associated with researches falling under the third category. Few who have not themselves attempted to trace a pedigree through several generations have any conception of the labour involved

and the demands made upon the patience and acumen of the genealogist; the difficulties culminate when it is desired to trace out the pedigrees of deceased persons, whose relatives are not always able or willing to give information, and to disengage the significant pathological facts from a mass of irrelevant detail. For the task he undertook Mr. Nettleship was peculiarly well equipped. Dealing as he did mainly with the inheritance of ocular diseases, the classification of those subjects he was himself able to examine was sure to be exact, and in the sifting of information derived from others his perspicuity and intellectual thoroughness served him well. The result was that Mr. Nettleship attained the first rank among medical genealogists: indeed, it is doubtful whether he has ever been surpassed in this respect; Galton's range was wider, but, within his chosen field, Nettleship can challenge comparison even with Galton.

Mr. Nettleship's most striking achievement in this respect was his pedigree of the descendants of Jean Nougaret, justly described by Professor Punnett as "one of the most remarkable pedigrees that have ever been got together." This paper, which was communicated to the Ophthalmological Society in 1907,[1] deals with the hereditary transmission of congenital night blindness. The disease occurred among the descendants of a man born in 1637, and some 600 of them had been traced by Cunier seventy years ago. As the result of his inquiries Mr. Nettleship was able to extend the pedigree to ten generations, comprising more than 1,800 persons; 129 affected persons distributed among 60 sibships were described, the disease passing without a break from parent to child. Second only to this remarkable achievement are his pedigrees of congenital cataract; 19 of the family trees figured in Mr. N. Bishop Harman's monograph[2] were the work, wholly or in part, of Nettleship. One pedigree—that of the S. family—deals with instances of lamellar and discoid cataract, together with cases of retinitis pigmentosa, and comprises more than 275 individuals in six generations. The cataract affected more males than females, was usually transmitted through the father, and in all but two cases descent was continuous. On the other hand, the retinitis pigmentosa descended discontinuously, generally through the mother, who was herself normal.

Another family in the series, known as the Nettleship-Ogilvie-Johnson case, comprises 288 persons in seven generations.

The limits of space preclude us from even naming the whole of Mr. Nettleship's contributions to the study of inheritance; a few of his more recent papers are cited in the footnote,[3] and a joint memoir by Nettleship and Lidbetter was noticed at length in the JOURNAL of July 12th last.

Of recent years Mr. Nettleship was much engaged in the study of albinism, a memoir upon which, by Professor Karl Pearson, Mr. Usher, and himself, is now in course of publication. This work, which is reviewed elsewhere in this issue, is probably destined to rank as the classical treatise upon the subject. It contains numerous examples of his genealogical skill; twenty-eight of the pedigrees are his work, and much of the text was either written by him or inspired by his wide and accurate knowledge.

Mr. Nettleship was interested in every aspect of genealogical study, and a keen critic of the methods of representation. As an interesting example of his knowledge of minutiae, we may quote a letter published in the April number of the *Eugenics Review*. A committee had proposed that the classical symbols denoting males and females might advantageously be replaced by squares and circles. Nettleship disapproved of this suggestion, and wrote as follows:

> Although the history of how the square and circle came to be used as signs for the sexes in the construction of charts is more academic than practical, it may be observed that these forms have probably been adopted from the signs used to indicate notes of music. The earliest pedigree in which I remember to have seen the square was constructed by Dr. Pliny Earle to illustrate the occurrence of colour blindness, and published in the *American Journal of Medical Sciences*, vol. ix, p. 345–354 (1845). In that chart the ordinary notes for music were used without explanation for females, solid blacks (crochets) for affected, large open "circles" (in fact, oval semibreves) for normals; the males were squares—open for normals, blacked for affected. Earle's diagram suggests that at the time he wrote he was unable to get any printer's symbols capable of use for his purpose, except those employed in printing music. This fragment of history does not affect the merits of the question at issue in its practical aspect, and it could not be quoted as in any way weakening the position of those who favour the retention of the classical biological symbols.

The mastery of detail which this quotation illustrates characterized the whole of Nettleship's genealogical work.

To those who delight in the applause of the multitude the field cultivated by Nettleship offers few attractions; it is safe to say, however, that his work will still be known and prized long after many brilliant dissertations on heredity which now excite discussion have been relegated to the dust of an upper shelf.

Sir ANDERSON CRITCHETT, President of the Ophthalmological Section of the Royal Society of Medicine, writes:

The death of Edward Nettleship inflicts a heavy blow on British ophthalmology, for although he retired some years back from the active practice of his profession, he continued to take a keen interest in ophthalmic science, and made many valuable contributions to the medical journals and to the *Transactions* of the Ophthalmological Society, especially with reference to the part played by heredity in eye disease. The keynote of his useful life was thoroughness. Ever interested in new theories and fresh practical suggestions, he declined to accept them till they had been weighed in the balance of personal experience, and I know that his chief pleasure in the possession of a well-earned leisure was that it enabled him to devote his energies to the patient and laborious accumulation of valuable facts and statistics which he could not otherwise have achieved. The high estimation in which his work was held by his colleagues was shown some years ago when they founded in his honour "The Nettleship Prize," and in this dark hour of sorrow there is comfort in the reflection that the endeavour to secure this eagerly sought distinction will keep his memory green throughout all time. The rumour that he had been struck by a mortal illness only reached us recently, and came with a severe shock, for, although we had noticed a growing weakness and emaciation, we little thought that the end was so near, for he had been present at the meetings of the Ophthalmic Section of the International Medical Congress, taking part in the discussions, and was my honoured guest. Nettleship's death breaks another link in the chain which binds me to the old days at Moorfields forty years ago, and I know that my feeling of deep regret at his irreparable loss will be shared by all who knew him.

Mr. T. H. BICKERTON (Ophthalmic Surgeon to the Liverpool Royal Infirmary) writes:

In Edward Nettleship we have lost one of the most indefatigable workers it has been my privilege to know. He must surely have believed that "life is always interesting when you have a purpose and live in its fulfilment." While not a striking man in the ordinary sense of the term, he yet possessed a distinctive personality not easily forgotten. Quiet, reserved, self-contained, I do not think I ever saw him in a hurry. He once told me that he acquired his methodical habits from his association with Jonathan Hutchinson. I wish I had more fully acquired Mr. Nettleship's habits of scrupulous accuracy and industry when acting as his clinical assistant to the Great Ormond Street Hospital for Children in 1880. A glance at his Bowman Lecture on some hereditary diseases of the eye in 1909 stamps him as one of the "men of science"; to quote Sir Ray Lankester, "willing and anxious to receive and verify tangible demonstration of a fact." As a recorder of facts, in reference to the science of ophthalmology, I doubt if there has been his equal in his generation. It is difficult to point to any branch of this department unassociated with his name. Edward Nettleship and the establishment of ophthalmology as a special science in this country are inseparable; for he was secretary to the first

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[1] *Ophthalm. Soc. Trans.*, 1907, xxvii, 269.

[2] *Treasury of Human Inheritance*, Pt. IV, pp. 126, etc.

[3] On Heredity in the Various Forms of Cataract, *Roy. Lond. Ophthal. Hosp. Rep.*, 1905, xvi, 179. Additional Cases of Hereditary Cataract, ibid., xvi, 389. Some Hereditary Diseases of the Eye, *Ophthalmoscope*, 1906, iv, 493. Some Points in Relation to the Heredity of Disease, *St. Thom. Hosp. Gazette*, 1910, xx, 37. A Pedigree of Congenital Night Blindness with Myopia, *Trans. Ophthal. Soc.*, 1911-12, xxxii, 21. Some Unusual Pedigrees of Colour-blindness, ibid., 309. A Pedigree of Presenile or Juvenile Cataract, ibid., 337. A Pedigree of Heber's Disease (with A. H. Thompson), *Proc. Roy. Soc. Med.*, 1912-13, vi, Ophthal. sect., 1-7.

Section of Ophthalmology established by the British Medical Association in the year 1879 (Cork), and secretary to the Ophthalmological Society of the United Kingdom when founded in 1880. He was a student and a worker to the last, and his example has left its impress on his pupils and colleagues.

HENRY FRANKLIN PARSONS, M.D.Lond., D.P.H.

By the death of Dr. H. Franklin Parsons which occurred on October 29th, at his residence in Croydon, the world of science and the public health service of the country has lost a distinguished representative.

He was born at Beckington, Somerset, in 1846, and at an early age entered St. Mary's Hospital as a student. From the beginning his career was a record of success. He took several prizes at the University of London; the prize in botany at his matriculation in 1863, first class honours in biology at the preliminary scientific examination in 1864, the exhibition and the gold medal in physiology, histology, and comparative anatomy in 1865, and the gold medal at the examination in public health in 1876. He had served as examiner for the London University in hygiene and State medicine, and for the diploma in public health of the University of Cambridge—the latter appointment he continued to hold at the time of his death.



Dr. Henry Franklin Parsons.
(Photograph by Maull and Fox.)

For a short time Dr. Parsons was in general practice, but in 1874 he was appointed Medical Officer of Health for the combined districts of Goole and Selby. Here he commenced that sustained study of public health which ceased only with his death. The character of his work in Yorkshire, and of his annual report on matters affecting the health of his district there, attracted the attention of the central health authority, and five years later he was appointed a medical inspector of the Local Government Board. He then had as his colleagues the late Sir George Buchanan, the late Sir Richard Thorne, Sir William Power, the late Mr. J. Netten Radcliffe, and the late Dr. Ballard—distinguished pioneers in etiology and epidemiology in relation to public health administration. His connexion with the State medical department only ceased, after thirty-two years' service, in 1911, when he retired under the age-limit regulation of the Civil Service.

Dr. Parsons possessed an extraordinarily retentive memory, as well as a capacity for work which was insatiable; once interested in a subject he never lost touch with it. Early he was interested in botany; he took the silver medal for this subject at the Apothecaries' Hall in 1865, and his presidential address to the Croydon Natural History and Scientific Society in January of this year was on plant growth and soil conditions. His garden at his house in Croydon was a source of continual joy to him.

The fact that his public health career started in a district where the problems of water supply were insistent, soon bore fruit in a paper on rural water supply, communicated to the *Sanitary Record* in 1876. Thenceforward the relation between geology and water supplies never ceased to interest him, and he became one of the most reliable authorities on this subject. He was a Fellow of the Geological Society. In 1899, as member of the Departmental Committee appointed to inquire into the organization and staff of the Geological Survey, he prepared a special memorandum for this Committee on the utility of the Geological Survey in relation to questions of public health and sanitary administration coming under the cognizance of the Local Government Board. In the Annual Report of the Medical Officer of the Local Government Board for 1900–1 he wrote a report on geological considerations in relation to public health and sanitary administration. In 1902 he was appointed as a member of the Advisory Committee with reference to the work of the Geological Survey, and he continued to serve on this Committee until his retirement from the Local Government Board.

He was actively concerned in housing problems, and he advised the Local Government Board on the medical points arising in connexion with local by-laws. He gave evidence on the subject of building by-laws in rural districts before the Select Committee of the House of Commons on the Small Holdings Bill in 1906, and before a Select Committee of the House of Lords on the Movable Dwellings Bill in 1909. He served on an Interdepartmental Committee on the medical inspection of children in public elementary schools, and as to the provision of meals for children in public elementary schools, 1905; and he attended on behalf of the Local Government Board the International Congress on School Hygiene in London in 1907. For many years he acted as the Board's medical adviser on matters connected with isolation hospitals, and his *Report on Isolation Hospitals*, presented to Parliament in 1912, was completed after his retirement from office. He was a member of the Departmental Committee appointed to inquire into the manufacture and use of water gas; its report was presented to Parliament in 1898. He was appointed by the Home Secretary on a committee to prepare a draft of regulations under Section 7 of the Cremation Act, 1902.

His reports to the Local Government Board covered a wide range of subjects; among them may be mentioned reports on slop closets and trough closets (1890); on nuisances arising during the transport of manure from towns to agricultural districts (1891-2); on small-pox among rag sorters (1881 and 1886); and on rag flock in relation to the dissemination of disease (1885). His report on disinfection by heat (1884) was a landmark in the subject; he concluded that there was no sort of disinfector or disinfectant that would rank with heat, and that of all methods of applying heat the use of high-pressure steam was by far the most generally available.

Among his epidemiological reports, those in 1891 and 1893 on the influenza epidemic were presented to Parliament. That on epidemic diseases in England and Wales during 1909 affords a valuable insight into the natural history of these diseases. He was a constant attendant at the meetings of the Epidemiological Society, where his contributions to the discussions were much appreciated. He was elected President of that society (1899–1900), and his presidential addresses dealt with "Half a Century of Sanitary Progress and its Results," "Comparative Mortality of English Districts."

After his retirement from the Board he continued at work on subjects which specially interested him, but this work was done in circumstances in which a less gallant spirit would have succumbed. Shortly after his retirement he consulted his old hospital friend, Mr. J. E. Lane, senior surgeon of St. Mary's Hospital, concerning a swelling near the ankle, and on his advice suffered amputation through the thigh. In 1912 his wife died suddenly, a few days after starting with him on a holiday to complete his convalescence; serious sickness attacked other members of his household. In the course of the

present year growths of like nature with that which had affected his tibia occurred in the bones of the skull; yet, even when he was unable to read or write, he continued to dictate the subject-matter of two books he had in hand—on the isolation hospitals of England, and on English municipal sanitary administration.

On the retirement under the age-limit regulation of the Civil Service of Sir William Power from the office of Medical Officer of the Local Government Board in January, 1908, Dr. Parsons, who had served as First Assistant Medical Officer since 1899, was not appointed to the vacant office. It is a matter of regret that, notwithstanding the distinguished character of the multifarious works he had undertaken in the public service of the country, he received none of those honours from the State which usually fall to the lot of civil servants of the higher grade who have during many years served their country with distinction.

HENRY WALTER KIALLMARK, M.R.C.S.ENG.,

FORMERLY VICE-PRESIDENT, METROPOLITAN COUNTIES BRANCH.

MR. HENRY WALTER KIALLMARK, formerly of Pembridge Gardens, Kensington, died at Ditchling, Sussex, in the last week of October, in the 81st year of his age. Mr. Kiallmark, one of the few remaining men who have proved content with the possession of the membership of the Royal College of Surgeons to the end of their careers, received his medical education at University College Hospital, and served a period of office as house-surgeon. The early part of his professional career was passed abroad, and for a considerable period he was in the service of the Ottoman Government as an army surgeon. On his return home he settled down in general practice, and for some twenty-five years was a well-known figure in Kensington. Civil life and the cares of practice did not, however, extinguish his interest in military matters, and for a prolonged period he contributed materially to the prosperity of the Volunteer movement in the county of Buckinghamshire; he served in the Royal Bucks Hussars as surgeon, and eventually retired with the rank of Surgeon-Lieutenant-Colonel. He also held a commission in the Army Medical Reserve. He took a keen interest, indeed, in all forms of professional work, being a frequent attendant at meetings of the Harveian, Pathological, Obstetrical, and Royal Medical and Chirurgical Societies, and of those of the Kensington Division of the Metropolitan Counties Branch of the British Medical Association. Of pleasant manners, sound judgement, and a somewhat retiring disposition—preferring to work than to speak—he attained considerable influence in his district, and did work the value of which was so generally appreciated that he was at one time honoured by election to the position of vice-president of the Branch. He continued to live in Kensington for some time after he had given up professional work, and to prove in various ways his undiminished interest in the welfare of his profession and of institutions connected with it, such as Epsom College and the Royal Medical Benevolent Fund, on the committees of both of which he had a seat. A few years ago he gave up his London residence, and since then had lived at Hove, until he went to Ditchling late in August last. In recent years many of his old friends had lost sight of him, and it is not improbable that after a severe fall which he had some time ago he felt little inclined for visitors. Nevertheless, when in his bath-chair on the sea front at Brighton he seemed always glad to meet an old friend, and the attractiveness of his personality is evidenced by the fact that many of those who had kept in touch with him and were present at his funeral, were very much younger than himself. The interment took place at Kensal Green Cemetery on October 27th, the coffin being draped with the Union Jack, and laden with many wreaths.

FREDERIC DALE, J.P., M.B.CAMB., F.R.C.S.ENG.,

CONSULTING SURGEON, SCARBOROUGH HOSPITAL.

WE regret to record the death at Scalby, near Scarborough, on October 25th, of Dr. Frederic Dale, in the 57th year of his age. He had not been entirely well for some months, and on several occasions had complained of shortness of breath, but he had continued his usual mode of life, and his death, which took place shortly after his return from a day's shooting, was totally unexpected.

Dr. Dale, a member of a family well known in the neighbourhood of York, received his general education at St. Peter's School in that city, and commenced the study of medicine at Caius College, Cambridge, where in 1877 he graduated B.A., and figured very creditably in the Natural Science Tripos of that year. He then entered the medical school of St. George's Hospital, and after acquiring the diplomas of M.R.C.S., L.R.C.P. in 1879, graduated M.B.Camb. in the following year. After this he studied for a considerable time in Paris and Vienna, and in 1882 became F.R.C.S.Eng., and in 1883 proceeded to the M.D. of his university. Eventually he joined an uncle who was in practice in Scarborough, but before doing so served a term of office as House-Surgeon at Manchester Royal Infirmary, and also assisted in the teaching of anatomy at Cambridge.

At the time of his death he had been settled in Scarborough for some thirty years, and for many years previous to his death had occupied a position of prominence both in professional circles and in civic life. He was for long on the staff of the Scarborough Hospital, where he devoted himself more particularly to ophthalmic and aural surgery, and on his reaching the superannuation age a year or two ago was appointed honorary consulting surgeon. The Ida Convalescent Home was another of several institutions which were indebted to him for work in professional and other connexions. By these, as well as by his many friends and the patients forming his large practice, his presence will much be missed. Apart from professional occupations Dr. Dale was an active worker in the Conservative cause, and for some time held the post of Ruling Councillor of the Scarborough Habitation of the Primrose League. He was placed on the commission of the peace for the North Riding of Yorkshire some twelve years ago, and carried into his magisterial duties the same energy that he displayed in connexion with all other work that he undertook. The greater part of his professional life was passed in Scarborough itself, but a year or two ago he went to live a few miles out of the town at Scalby, though he still carried on his practice in Scarborough.

Dr. Dale was married, and is survived by his wife and by a son and a daughter.

REV. WILLIAM SMITH, M.A., T.C.D., L.R.C.P.I.,

FORMERLY CHAPLAIN TO THE LIVERPOOL ROYAL INFIRMARY.

MANY generations of residents at the Royal Infirmary, Liverpool, will hear with unfeigned regret of the sudden death of the Rev. William Smith, who for forty-seven years held the post of chaplain to that hospital. Mr. Smith was on his way to attend morning service on Sunday, October 26th, when he collapsed, and, though medical assistance was quickly at hand, it proved of no avail. The funeral, which took place on October 29th, was attended, either at the church or subsequently at the Anfield Cemetery, by many of his old friends and colleagues, together with representatives of the Infirmary nursing staff.

William Smith received his education at Trinity College, Dublin. He took the degree of B.A. in 1859, and that of M.A. in 1862. He was ordained deacon in 1860 and priest in the following year. After holding curacies in Liverpool he was appointed chaplain to the Royal Infirmary in 1865, a post which he occupied until June last year. It was his great ambition to have completed fifty years of service, or to have died in harness, but failing health and old age—he was 77 at the time of his death—compelled his regretful resignation a year ago. During the early years of his chaplaincy he studied medicine, and took the diploma of L.R.C.P.Irel. in 1874, and this gave him an additional interest in the patients to whom he was called upon to minister spiritually. He was a quiet and unassuming man, who required to be well known before his fine qualities could be appreciated, and it is to be feared that now and then one or other of the many young medical men with whom he came in contact, judging superficially and acting thoughtlessly, may have treated him with less respect than his office, his years, and the character of the man himself should have commanded. But he bore no grudge, recognizing that "boys will be boys," and many an old resident at the Liverpool Royal Infirmary carries with him pleasant recollections of the deceased chaplain's kindly sympathy and, paradoxical though it may seem, his cheery pessimism.

In his leisure moments Mr. Smith was a skilful photographer, being well known among Liverpool amateurs for the excellence of his stereoscopic transparencies.

Mr. Smith leaves a widow and daughter to mourn his loss; the death some years ago of his only son was a severe blow, from which he took long to rally.

H. CRITCHLEY HINDER, M.B., Ch.M.Syd.,

SURGEON TO THE PRINCE ALFRED HOSPITAL, SYDNEY.

Dr. H. Critchley Hinder, M.B., Ch.M.Syd., one of the best known surgeons of Sydney, died on September 14th, in his forty-ninth year. Some five months ago he was operating on a case of pyosalpinx, when he pricked his finger. A low form of septicaemia set in, which gradually developed into septic endocarditis, and, after a great deal of suffering, he sank into a comatose condition and died.

He was born in the Hawkesbury District in New South Wales forty-eight years ago. He was one of the first medical students at the Sydney University Medical School. He graduated in 1889, and was appointed a resident medical officer at the Prince Alfred Hospital. He then entered on general practice, and was shortly afterwards appointed assistant surgeon to the hospital. He had been on the surgical staff of this hospital ever since, and at the time of his death was second in seniority on the full staff. He was also a lecturer in clinical surgery for many years. Dr. Hinder was one of the first members of the committee of the Western Suburbs Cottage Hospital, established in 1894, and was senior consulting surgeon to this institution at the time of his death. He was also honorary consulting surgeon to the Parramatta District Hospital. He was one of the founders of the Sydney University Medical Society, and frequently contributed papers at its meetings. He was also a frequent contributor to the columns of the *Australasian Medical Gazette*.

He was President of the New South Wales Branch of the British Medical Association in 1909, and was a member of the Council of this Branch for many years. He was vice-president of the Section of Surgery at the meeting of the Australasian Medical Congress in Adelaide in 1905, and also at the meeting in Melbourne in 1908.

He was a keen lawn tennis player, and presented the Hinder Shield for competition to the University Lawn Tennis Club. He was also an enthusiastic motorist, and was the owner of one of the first motor cars imported into Sydney.

As a lecturer at the hospital he was most popular with students, and never regarded it as too much trouble to assist the younger members of the profession. The general esteem in which he was held was testified to by the very large and representative gathering at the funeral. He leaves a widow (who is a sister of Dr. Antill Pockley, the president of the last session of the Australasian Medical Congress in Sydney in 1911) and five children, for whom the greatest sympathy is felt.

PROFESSOR LEDOUBLE,

TOURS.

Professor Ledouble, who died on October 22nd, of asphyxia caused by carbonic oxide, was born in 1848, at Rocroy (Ardennes), and first thought of a military career. With that object he gained admission to Saint-Cyr, but, changing his mind, he studied medicine at Tours, where he had a distinguished career. After doing his duty in the war of 1870 he pursued his studies in Paris, where in 1873 he gained the coveted appointment of interne. While working in the Paris hospitals he, with the collaboration of Garnier, published the clinical lectures of Professor A. Richet on fracture of the leg. After graduating with a thesis on "genital kleisis," which was awarded a medal by the faculty, he returned to Tours, where he was appointed surgeon to the local hospital in 1878. After practising surgery for some time he was appointed Professor of Anatomy, and thenceforward gave himself up to that subject. He was a brilliant teacher, but was apt to speak over the head of the average student.

He gained great fame by his researches in comparative anatomy. The results of these were embodied in various works—*Traité des variations du système musculaire de l'homme* (1897), *Traité des variations des os du crâne* (1903), and *Traité des variations des os de la face* (1906). As a synthesis of his researches he formulated a law of morbid predispositions, according to which every ill-formed organ, and those adjacent to it, are more liable to disease than others. In embryology he established a law of correlative development, but in an inverse sense, of the face and the skull; and a law of contemporaneity of anatomical variations, according to which, when several anatomical variations occur in the same subject, those are seen mainly in organs which have the same embryological origin, and of which the development is synchronous.

In another field he tried novel writing and poetry, but he is best known for his work on Rabelais. He tried to prove that the author of Pantagruel was one of the first, if not the first, to give public demonstrations, and that he was the rival of Vesalius. Ledouble was also the author of a treatise on Bossuet, in which he maintained that the Eagle of Meaux's treatise, *De la connaissance de Dieu et de soi-même*, is the first work on human anatomy and physiology written in French distinguished by its order, clearness, and simplicity. Ledouble's work was recognized by a number of academic prizes, by election as Associate Member of the Academy of Medicine (1893), and by the decoration of the Legion of Honour. His heart was wholly in his work; he cared nothing for social activities, and lived more or less apart from his fellows.

LOUIS WICKHAM, M.V.O., M.D.,

PHYSICIAN TO THE HÔPITAL SAINT LAZARE, PARIS.

We regret to announce the death of Dr. Louis Wickham of Paris, whose name is well known by his work on the therapeutic properties of radium and the methods of its application. Born in 1860, he studied medicine in Paris and took his degree with a thesis on Paget's disease. At the St. Louis Hospital he worked under Vidal, Besnier, and Fournier, and thus became at once one of the most distinguished dermatologists and a specialist in syphilis. He was appointed Physician to Saint Lazare, a position for which he was peculiarly fitted by his previous studies. He was entrusted by the Ministry of the Interior with a mission to study the working of the departments of skin disease in England and Scotland. He began his researches on radium in 1905, and after a year of laborious work, foreseeing the future of that therapeutic agent, he asked for the creation of a biological laboratory of radium. There, in conjunction with Dr. Paul Degrais, he investigated the use of radium in the treatment of angioma, keloid, cancer of the skin, and other cutaneous affections, and especially its value in the treatment of visceral cancer. The Académie twice awarded him prizes for his researches (the Barbier Prize and the Benjamin Godard Prize). His results were embodied in a work in which he had the advantage of the collaboration of Dr. Degrais: on its publication it was at once translated into English and German. The English translation, which appeared in 1910, was the work of Dr. S. Ernest Dore. An introduction was contributed by Sir Malcolm Morris, who described Dr. Wickham as "the true pioneer in the new region now gradually being opened up of the therapeutic application of radium." He added: "It is scarcely too much to say that, but for the judicial temper brought by Dr. Wickham to the study of the problem, radium, whatever potency of healing it holds in itself, would have been relegated, as other remedies have been, to the limbo of charlatanism." Dr. Wickham's reputation attracted numbers of foreigners to his clinic and his laboratory.

For a considerable time before his death his health had been unsatisfactory, but he would not give up his work, and even on the sick-bed from which he was never to rise he continued to give advice to patients. He was a member of the Victorian Order, and shortly before his death he was decorated with the Legion of Honour. In private life he was a man of most amiable character and of strong family affections.

We regret to record the death, on October 20th, of Dr. John Stewart Milne, of Hartlepool, while still in early middle life. A Hartlepool man by birth, and the son of a schoolmaster of some distinction, Dr. Milne proved an apt pupil, and as an undergraduate at the University of Aberdeen won much credit in the faculties both of arts and of medicine. In the former he graduated M.A. in 1902, and five years later became M.B., Ch.B., being awarded

meanwhile the Keith Gold Medal in Surgery. Nor was his academic success confined to his student days, for in 1908, when he proceeded to the M.D., he was awarded "highest commendation" for his thesis. In Hartlepool he settled down some fifteen years ago, after serving for a year as house-surgeon at Aberdeen Royal Infirmary. At the time of his death he was a member of the staff of the Hartlepool Infirmary, and the possessor of an excellent practice. Apart, too, from the position which he occupied as a medical man, he was well known as an active member of the town council, and as a keen student of the early history of the neighbourhood. A man of considerable erudition and much industry, he devoted a good deal of his spare time to architectural and antiquarian subjects, and was the author of several publications bearing more or less directly on the history of medicine. Among them was a book supplying a careful description of the surgical instruments used in Greek and olden times, which was published in 1907, while he had also contributed to various papers articles on the instruments used by the Graeco-Roman anatomists in dissection, and with the methods employed by medical men of the same period in the treatment of fractures. His last work, a paper prepared for the History of Medicine Section of the recent International Congress, discussed the knowledge possessed by Galen in regard to the anatomy of muscles. Dr. Milne's funeral was attended by a gathering representative of all classes of the community.

DR. KEITH NORMAN MACDONALD, who died at his house in Edinburgh on November 1st, was a man of many interests. He was L.R.C.S.Edin., and L.M. of 1858, an L.R.C.P.Lond. of 1863, an M.D. of Erlangen of 1869, an M.R.C.P.Edin. of 1875, and he was elected a Fellow of the same College in 1876, and finally he was an M.D. of St. Andrews of 1886. He saw medical Government service in British Burma, where he was Civil Surgeon at Prome; he was formerly surgeon to the Fife County Prison, and Resident Medical Officer to the Ge-to Hospital, Edinbane (in the Island of Skye); and his affection always went out to the Highlands of Scotland, and especially to Skye. His versatility and literary leanings were well seen in the books and papers which came from his pen; for he wrote books on *Death and How to Divest it of its Terrors* (1875), on the *Practice of Medicine among the Burmese* (1878), an *Historical Sketch of the Progress of Medicine from the Earliest Times* (1879), and on *The Races of Mankind* (1884). He also wrote practical observations on European life in India, in the *Indian Medical Gazette* in 1867, on the supposed predisposition to phthisis among the inhabitants of the West Highlands of Scotland, and on chronic eczema of seven years' standing cured without arsenic, in the *Edinburgh Medical Journal*. But music, and especially Highland music, was very near his heart; a good violinist himself, he wrote on the *Macdonald Bards from Mediaeval Times*, and *In Defence of Ossian*, and was the author of the *Gesto Collection of Highland Music* (1895), and the *Skye Collection of Reels and Strathspeys* (1887) in which are to be found many ancient melodies which might otherwise have been lost for ever. He was buried in the Dean Cemetery, Edinburgh, on November 4th. He leaves a widow, a son, and three daughters.

THE untimely death of Lieutenant-Colonel RITCHIE, which took place with startling suddenness, has closed an interesting medical career. He was a man of keen mental ability and wide outlook, full of sympathy, ever ready to help a brother. He was born in Birmingham in 1862, and educated at St. David's School and at Glasgow University, where he graduated in 1884. Three years later he entered the Royal Army Medical Corps, and in 1898 went out to West Africa, where he saw service. In 1898-9 he was present at the operations in Sierra Leone, and received the medal with clasp. During the South African war he took part in the operations in the Orange Free State in April and May, 1900, and subsequently in the operations in the Transvaal and at Diamond Hill. Later in the same year he was engaged in the operations in the Orange River Colony, including the actions at Wittebergen in July, and and afterwards in Cape Colony, south of the Orange River, and again in the Transvaal from March, 1901 to May, 1902. He was mentioned in dispatches, and was awarded the Queen's medal with four clasps and the King's medal with two clasps. He served also in Singapore and the Punjab and in Malta. His contributions were: The Fever of West Africa (*Glasgow Medical Journal*, 1898), Personal Experiences in the South African War (*Journal*, Malaya Branch, British Medical Association, 1903), The Evolution of the Medical Practitioner (ibid., 1906). Colonel Ritchie returned from India this year to retire and reside in Helensburgh, which he loved so well. On October 4th he went to visit his sister-in-law, Mrs. Ewing, at Uddingston, and in her company proceeded to Blantyre Priory, on the south side of the River Clyde. They were both deeply interested in examining the historical surroundings when the colonel slipped on the edge of the steep embankment and disappeared. On medical examination he was found to be unconscious and seriously injured about the head. He was then conveyed to St. Elizabeth's Nursing Home, Glasgow, where he was trephined by Dr. McRae, but succumbed to his injuries, notwithstanding the best skill and attention. Colonel Ritchie is survived by Mrs. Ritchie, to whom the sympathy of numerous friends here and abroad is extended. The funeral took place at the crematorium at Maryhill.

SURGEON LIEUTENANT-COLONEL JOHN O'NEILL, Bengal Medical Service (retired), died in London on October 15th. He was born on July 31st, 1848, went through the medical school at Queen's College, Cork, and took the degrees of M.D. and M.Ch. in the Queen's University of Ireland in 1870. Two years later he entered the navy, in which he served for some three years. He entered the Indian Medical Service as surgeon on September 30th, 1875, becoming surgeon-major after twelve years, and surgeon-lieutenant-colonel after twenty years' service; he retired on April 7th, 1896. While in the navy he served in the Ashanti war of 1873-4, receiving the medal granted for that campaign, but saw no active service in India, where most of his time was spent in civil employ in the Sanitary Department of the Punjab. When the great cholera epidemic of 1883 broke out in Egypt, a year after the British occupation, the Egyptian Government borrowed the services of eight or ten surgeons from the Bengal Army for cholera duty, and Surgeon O'Neill, as he then was, went as senior medical officer of the contingent.

MAJOR JAMES MOIR, late of the Royal Army Medical Corps, died recently at Langleys, Felixstowe, aged 53. He was educated at Aberdeen, where he took the degree of M.B. and C.M. in 1883. He entered the army as surgeon on January 28th, 1886, became surgeon-major on July 28th, 1898, and retired as major from July 28th, 1906, when he entered the Reserve of Officers for the R.A.M.C. He served in the South African war of 1900, in the Cape Colony, north of Orange River, was present in the action at Ruidam, and gained the Queen's medal with three clasps.

The Services.

THE ROYAL ARMY MEDICAL COLLEGE.

ON the afternoon of October 29th the prizes at the Royal Army Medical College were distributed by Surgeon-General Sir Havelock Charles, G.C.V.O. Among the large company which assembled to do honour to the occasion were the Director-General of the Medical Department, Royal Navy, Surgeon-Generals Donovan, Sir David Bruce, Evatt, Whitehead, Macnamara, Sir Francis Trevor, Sir Charles Cuffe, Sir James Porter, Sir A. Bradshaw, and many others, including Major Sir Ronald Ross, Lieutenant-Colonel P. J. Freyer, Dr. Galloway, Mr. Barker, and Dr. Mott.

The Deputy Director-General (Surgeon-General W. Babtie, V.C.) opened the proceedings by calling upon the Commandant to read his report, whereupon Colonel Skinner (Commandant) reviewed the session, the one hundred and sixth of the junior class of the college and the twenty-third held in London. After referring to the Seventeenth International Congress of Medicine, the naval and military section of which held its meetings at the college, he said there had been some changes in the staff. While regretting the completion of tenure of their appointments, they of the college wished God-speed to Major W. S. Harrison, lately Professor of Tropical Medicine,

and to Major J. C. Kennedy, Assistant Professor of Pathology, with the hope that their talents, so long devoted to the college, might find fields fruitful of discovery awaiting the application of their highly-trained energies. On the other hand, they welcomed their successors, Lieutenant-Colonel O. L. Robinson in the chair of Tropical Medicine, and Major S. L. Cummins as Assistant Professor of Pathology. He had nothing but praise for the young officers who composed the class just closed, for they had been most assiduous and attentive, while those who had gained prizes had done remarkably well and in two cases brilliantly: for instance, the winner of the Fayrer and the Marshall Webb medals had gained over 90 per cent. of marks in those competitions. He then read the names of those who had gained prizes, as well as those who came second, as follows:

The Herbert Prize:		
Highest total of marks ...	Lt. R. B. Price, R.A.M.C.	565/700
Proxime accessit	Lt. H. C. D. Rankin, R.A.M.C.	536/700
Hygiene:		
Parkes Memorial	Lt. R. B. Price, R.A.M.C.	153/200
Proxime accessit	Lt. A. K. Sinha, I.M.S.	151/200
De Chaumont	Lt. A. L. Urquhart, R.A.M.C.	144/200
Proxime accessit	Lt. H. C. D. Rankin	142/200
Pathology:		
Fayrer Prize	Lt. S. S. Sokhey, I.M.S.	181/200
Proxime accessit	Lt. N. M. Mehta, I.M.S.	160/200
Tullock Memorial	Lt. R. B. Price, R.A.M.C.	168/200
Proxime accessit	Lt. A. L. Urquhart, R.A.M.C.	164/200
Surgery:		
First Montefiore	Lt. A. Seddon, I.M.S.	80/100
Second Montefiore	Lt. H. C. D. Rankin, R.A.M.C.	75/100
Tropical Medicine:		
Ranald Martin Gold Medal.	Lt. A. K. Sinha, I.M.S.	86/100
Proxime accessit	Lt. R. B. Price, R.A.M.C.	84/100
Administration:		
Marshall Webb Prize ...	Lt. H. C. D. Rankin, R.A.M.C.	[illegible]
Proxime accessit	Lt. R. B. Price, R.A.M.C.	[illegible]

Sir Havelock Charles distributed the prizes with a few appropriate words to each recipient, and in his address which followed advised and encouraged the young officers as to their course in life, directing his remarks more particularly to those whose careers would lie in India. It was, he said, often asked why in life the race was not always to the swift nor the battle to the strong; the reason was that some men had not the tact and judgement to avail themselves of the chance when it offered. They failed through lack of character. The greatest of all assets was character. He was present at a similar meeting to that thirty-one years ago, and though he could not recall that any address was given on that occasion, he remembered that on his way up to town he travelled with Sir Joseph Fayrer, whose advice he asked as to how to get on in India. After looking at him for a few seconds Sir Joseph said, "Do what you are told; don't grumble; go where you are ordered." (Hear, hear.) Young men going to India would have troubles like every one else, like the panel doctor as well as the medical man in Harley Street; but they should remember Sir Joseph Fayrer's advice; and, further, they should strive to prove themselves thoroughly reliable—a most valuable characteristic for every officer. They were going to what he considered the most interesting country in the world, and he gave them the wish of the Persian poet, who said, "May the sweet waters of contentment spring up where'er you place your feet."

Surgeon-General Babtie thanked the General Officer Commanding the London District for the interest he had shown in the Corps by his presence on this occasion, and called for a vote of thanks to Sir Havelock Charles, which was given by acclamation.

General Sir Francis Lloyd, Commanding the London District, thanked the Deputy Director-General for giving him the opportunity of letting the company know his appreciation of the work done by the Royal Army Medical Corps, and spoke in sympathetic terms upon the cordial relations springing up between them and the rest of the army.

The proceedings then closed, and the company adjourned to the Mess, where the officers of the Corps were at home.

TERRITORIAL NURSING.

At a meeting of the executive committee of the Territorial Force Nursing Service of the City and County of London, at the Mansion House on October 30th, under the chairmanship of the Dowager Lady Dimsdale, it was reported that the rolls of the nursing staffs of the four general hospitals of the Territorial Force in London were quite complete, the number of nurses who could be mobilized at a few hours' notice in case of emergency being 484; the number of soldier patients for whom accommodation was in view was at least 2,000. Miss Goodhue was re-elected honorary secretary.

Medical News.

THE International Congress of Hydrology just held at Madrid decided that the next meeting should take place two years hence at Lyons.

M. DURANDEAU, of Angoulême, has bequeathed £2,000 to the Pasteur Institute for the foundation of a prize for researches on the cure of meningitis.

THE Hunterian Society will hold a clinical afternoon meeting on Wednesday next at the London Hospital. All members of the profession are invited to attend.

THE new buildings of the Radcliffe Infirmary, Oxford, will be opened by the Chancellor of the University, Earl Curzon of Kedleston, on November 26th, at 2.30 p.m.

THE out-patient department and a portion of the wards of the new King's College Hospital at Denmark Hill will be opened for the reception of patients on Monday, November 10th.

THE second annual dinner of the Beit Memorial Fellows took place at the Trocadero Restaurant on October 31st, Dr. Edridge-Green being in the chair. Mr. Otto Beit and Sir James Kingston Fowler were guests on this occasion.

MEMOIRS sent in competition for the prize offered by the Belgian Academy of Sciences to the discoverer of a means of curing epilepsy will be received up to October 15th, 1915. The prize is of £70, not of £700, as stated in the JOURNAL of November 1st.

A FUND has been opened with a view to establishing at Cheltenham College a memorial to the late Dr. Edward Adrian Wilson, who shared the labours and tragic end of Captain Scott on his expedition to the South Pole. Subscriptions will be received by the Rev. P. W. Unwin, the College, Cheltenham, or by Mr. John A. Pruen, Merrow, Guildford, Honorary Secretary of the Cheltonian Society.

OWING to the lamented death of Professor Hervieux, the sixth congress of the Association of French-speaking Doctors of North America, which was to have been held this year at Montreal, did not take place. The meeting will take place at Quebec in September, 1914, under the presidency of Professor A. Rousseau. The general secretary is Professor A. Vallée, the general treasurer Dr. A. Lessard. The following questions are proposed for discussion: Nephritis; industrial accidents; Canadian mineral waters; altitude stations of Canada; the drinking waters of Canada.

THE body of the late Mr. Edward Nettleship was cremated at Woking on November 3rd. A funeral service held at Shottermill Church, near Haslemere, on November 4th, was attended by among others Mr. J. A. Barlow, representing his father, the President of the Royal College of Physicians, Sir Charles Lyall, Sir Henry Cotton, Professor Bateson, Mr. Makins and Mr. J. B. Lawford (of St. Thomas's Hospital), Mr. Holmes Spicer (of Moorfields Hospital), Professor Karl Pearson, and Canon Selwyn, D.D. The wreaths included one from the staff of St. Thomas's Hospital and another from that of the Moorfields Hospital.

A CLOCK tower, erected in Burdett Road, Mile End, in recognition of the public work of the late Dr. Stanley B. Atkinson, was formally taken over by the Stepney Borough Council on November 3rd. Dr. Atkinson, who died some three years ago while still under 40, was a student of St. Bartholomew's Hospital, and held degrees in medicine from the University of London, and in arts and law from the University of Cambridge. He was also a barrister-at-law, and the author of a good many publications on medico-legal subjects. For some time he held a seat on the Central Midwives Board, and for many years was a member of the Stepney Borough Council, the Mile End Board of Guardians, and the Metropolitan Asylums Board.

THE Lady Priestley Memorial Lecture of the National Health Society will be delivered by Professor William Stirling of Manchester, in the house of the Royal Society of Medicine, on Thursday, November 27th, when Sir

James Crichton-Browne will take the chair at 5 p.m. The subject chosen for the lecture is health, fatigue, and repose, and it will be illustrated by experiments and lantern slides. The society holds courses for women training as sanitary inspectors and health visitors and also for voluntary health workers. Dr. J. E. Squire, C.B., commenced a course of twelve lectures on tuberculosis on Monday last. Further particulars can be obtained from the Honorary Secretary, 53, Berners Street, London, W.

WITH the co-operation of the Massachusetts Society for the Prevention of Cruelty to Animals, the Faculty of Medicine of Harvard has organized a course of free public lectures on the treatment of animals, to be given weekly at the medical school. How complete the programme is may be gathered from the following list of subjects: The protection of domesticated animals; our increased knowledge concerning the nature of animals' diseases; the dangers of live stock traffic; stable ventilation; modern operative methods applied to veterinary surgery; the relation between human and animal tuberculosis; the protection of animals from infectious diseases; the diseases and care of poultry and the pig; the diseases and care of the dog and cat; the diseases and care of the horse and cow; rabies and glanders; and the relationship between human and animal diseases in the tropics.

THE twenty-fourth Annual Cookery and Food Exhibition, which was opened by Princess Marie-Louise of Schleswig-Holstein, was held at the Royal Horticultural Hall, Westminster, from October 28th to November 1st; the entries numbered nearly 3,000, or one-third more than last year. The exhibition was more than usually interesting, and gave good proof of the national movement towards improvement in every branch of domestic science. The numerous groups of exhibits included every class of cookery, from the elaborately decorated creations of well-known chefs to the simple meals prepared by school children and pupils from the London County Council Cookery Schools. Specimens of naval, military, and vegetarian cookery were also on view, and one section was entirely given up to invalid fare prepared by nurses, who were called upon to give further evidence of their skill in tempting the capricious appetite of their patients by means of prettily arranged trays for the sick room. Another interesting feature of the exhibition was the suite of model kitchens in which practical demonstrations and competitions were carried on daily; whilst an army field wagon with all the appliances for the preparation of food, such as has been used during the Balkan war, attracted considerable attention.

THE autumn dinner of the Irish Medical Schools' and Graduates' Association took place on October 30th under the chairmanship of Dr. William Douglas; the special feature of the evening was the presentation of the Arnott medal to Dr. P. P. Garland. The presentation was made on behalf of the council by Dr. Jocelyn Swan. The medal commemorates Sir John Arnott, and the council may pick out for the honour of receiving the medal any Irish medical man it deems to have distinguished himself by some achievement in connexion with the study of medicine or by some heroic act. On the present occasion the medal was awarded in recognition of the gallantry displayed by Dr. Garland when serving on the West Coast of Africa. An officer was wounded by a poisoned arrow, and Dr. Garland, who subsequently received the C.M.G., promptly treated the wound by sucking it, thereby saving the patient's life but imperilling his own. Among the various toasts proposed during the course of the evening that to the services was given by Dr. Shepherd-Boyd and acknowledged by Lieutenant-Colonel Moorhead, I.M.S., while the toast wishing prosperity to the association was proposed by Dr. M. J. Bulger and duly acknowledged by the President, with whose name it was coupled. The toast to the guests, who included as usual many ladies, was acknowledged by, among others, the Rev. Monsignor Johnston, who preached at the special service for Catholics held during the meeting of the British Medical Association in Brighton, and with whom many members subsequently established a very pleasant acquaintance. He had some excellent stories to tell of meetings with Irishmen in various parts of the world. The present officers of the association are: President, Dr. W. Douglas; chairman of council, Dr. Jocelyn Swan; honorary secretaries, Dr. Gordon Holmes and Dr. W. J. Corbett; provincial secretary, Dr. Shepherd-Boyd; and honorary treasurer, Dr. W. P. Cockle.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

ANSWERS.

THE PROPHYLAXIS OF ACUTE NASAL CATARRH.

PERSONAL EXPERIENCE writes from Bombay in reply to "Puzzled" to recommend sea bathing or regular attendance in a swimming bath as a simple prophylactic of nasal catarrh.

LETTERS, NOTES, ETC.

REX *v.* HAMILTON.

DR. W. H. GIMBLETT (86, Sutherland Avenue, Maida Vale, W.), whose appeal giving the names of the committee formed to raise a fund to reimburse Dr. Hamilton was published on October 25th, p. 1118, acknowledges the following subscription, in addition to £52 3s. already announced:

	£	s.	d.
Dr. Abernethy (Barnes)	2	2	0

METASTATIC SARCOMA OF LUNG.

DR. W. HARDMAN (Bisham, near Blackpool) writes: Dr. Muirhead Martin's interesting case of acute sarcomatosis of the lungs reminds me of a somewhat similar case, the history of which I recorded when a student in London over forty years ago. A man had an enlarged testicle removed. Shortly after he married, and in the following four years had three children; then he began to suffer from shortness of breath, and was admitted into hospital, and in three or four weeks he died. The lungs were studded with large lumps of encephaloid. The chest symptoms would have been very misleading had we not known the history of the testicle, and the nature of its enlargement. He was a strong, healthy, massive man, in apparently the prime of life, and the symptoms developed almost suddenly.

BORIC ACID AS A URINARY ANTISEPTIC.

DR. GEORGE V. PEREZ (Puerto Orotava, Teneriffe) writes: I see in the BRITISH MEDICAL JOURNAL of September 13th, p. 653, in the report on urinary antiseptics, the prominent place allotted to boric acid administered by the mouth. As long ago as 1884 I employed it very successfully when resident medical officer at the French Hospital in London (see *Lancet*, July 19th, 1884). My experience of the drug was quoted in several works on therapeutics of that time, but lately my priority in connexion with the use of boric acid as a urinary antiseptic seems to have been forgotten. Now that it is coming very much to the front again I hope I may be excused for bringing the above facts before your notice.

CURE BY LAUGHTER.

DR. ALEXANDER FRANCIS (London) writes: The bursting of a quinsy by laughter is no uncommon occurrence. So well established is this fact that some years ago when I was called in consultation to see a lady who was supposed to be *in extremis* with a quinsy I said to the patient, "If only I could make you laugh, your trouble would be over." The idea of laughing under such painful circumstances was too much for her gravity, and relief was instantaneous. I was myself once tortured by a quinsy, and for two days had been unable to speak or open my mouth. On Christmas morning I received a comic card which forced me to laugh. Immediately I astonished my nurse by saying that it was all over, and I wanted something to eat. There is a well authenticated story of a certain high personage who was about to die from an abscess in his throat. His relatives were summoned, and took a last tearful farewell. When all had left the room a pet monkey, who had been watching the proceedings, approached the dying man, and likewise shed tears. The situation was so ludicrous that the patient was compelled to laugh, and obtained instant relief.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

An Address

ON

THE DEGENERATION OF THE NEURONE IN THE LIGHT OF RECENT RESEARCH,

ESPECIALLY IN RELATION TO SYPHILIS AND GENERAL PARALYSIS.

Delivered at Birmingham at the Inaugural Meeting of the Midland Medical Society, Session 1913–14.

(With Special Plate.)

By F. W. MOTT, M.D.Lond., F.R.C.P.Lond., F.R.S.,

pathologist to the london county asylums.

Mr. President and Gentlemen.—Allow me to thank you for inviting me to follow the long list of distinguished members of our profession who have had the honour of giving an address at the annual inaugural meeting of the Midland Medical Society. I must first ask your permission to extend the title of my address in order to limit the scope to a subject in which I have long been interested —namely, the relation of syphilis to the degeneration of the neurone, especially in general paralysis, which, owing to recent discoveries and the importance of the subject, particularly at the present time, necessitates a fuller discussion than other causes of degeneration of the neurone.

Degenerations of the Neurone.

The term "neurone" implies a nervous unit—that is, a nerve cell and all its branches. The nervous system is made up of countless millions of nervous units, each one existing as an independent organism in contiguity but not in continuity. The neurones are genetically and trophically independent cellular organisms arranged in functionally correlated systems, communities, and constellations. There are two types of neurones, one in which the axis-cylinder process leaves the grey matter and acquires a medullated sheath—this is the first type of Golgi; the other, the second type of Golgi, in which the axis-cylinder process does not leave the grey matter. The nutrient and supporting tissues—namely, the blood vessels, lymphatics, and neuroglia tissue—make up the histological elements.

Degeneration of the neurone may occur from an inherent lack of durability of certain correlated functional systems, as occurs in certain diseases which affect members of families at the same age in life and often in generation after generation—for example, Huntingdon's chorea, hereditary ataxy. Degeneration of the neurone may result from direct injury, from local extension of inflammation or ischaemic softening due to obstruction of the blood supply by vascular occlusion; the degeneration that results therefrom is secondary. But when, for whatever cause, nervous tissue disappears, the neuroglia always reacts by a nuclear and fibrillar proliferation—a law formulated by Weigert in 1890. The replacement of the nervous tissue by the neuroglia tissue causes a "sclerosis." But it is hardly necessary to remind you that the term "sclerosis" in the sense of a neuroglia proliferation being the primary cause is incorrect; the sclerosis is the effect, not the cause. Certainly there is a primary gliosis due to embryonic tissue taking on active growth, but the destruction of the neurones in syringomyelia is not caused so much by the gliosis as by haemorrhages occurring in the glial tissue.

Now we recognize a certain number of primary degenerations of the nervous system characterized by insidious onset, progressive character, and a tendency sooner or later to a fatal termination, generally hastened by intercurrent disease or secondary microbial infections due to complications. I will put on the screen a slide to illustrate some of these primary degenerations. A pure primary decay of the neurone has been termed by Sir William Gowers "abiotrophy." Many of these conditions of abiotrophy are associated with chronic inflammatory changes, and it is very difficult to say how far these cause the decay of the neurone or are the result of it; certainly a proliferation of neuroglia tissue may result from simple atrophy and decay of the neurones, but a perivascular lymphatic infiltration with lymphocytes and plasma cells are evidence of a reaction to the poison.

Now there are two diseases which I have studied for many years in which this perivascular cell infiltration, together with neuroglia proliferation, is particularly marked and more or less universal in the central nervous system. They are the diseases caused by two specific protozoal organisms—the *Trypanosoma gambiense*, the organism which causes sleeping sickness, and the *Spirochaeta pallida*, the organism of syphilis.

Sleeping Sickness.

When I first published an account of the histology of sleeping sickness, fourteen years ago, I pointed out the close similarity in the histological changes of the central nervous system to syphilitic meningo-encephalitis. I will show you now on the screen slides illustrating this, also one of experimental sleeping sickness. You will observe that the same perivascular infiltration with lymphocytes and plasma cells occurs in sleeping sickness, in syphilitic meningo-encephalitis, and in general paralysis of the insane (Figs. 6, 7, 8, 9, 10). In the last-named disease we have as Noguchi says, a parenchymatous meningo-encephalitis.

The knowledge of the cause of sleeping sickness began with the discovery by Castellani of the *Trypanosoma gambiense* in the cerebro-spinal fluid of five cases of sleeping sickness in Uganda, and the importance of this discovery is best shown by Sir David Bruce's acknowledgement in the fourth volume of the Sleeping Sickness Commission:

> This *most interesting discovery* of Dr. Castellani's, which was due to his introduction of the method of centrifuging the cerebro-spinal fluid in his search for streptococci, has been of the utmost value to the present Commission. It put them at once on the right track, and led to the easy and rapid elucidation of the hitherto mysterious disease. Without knowledge of his observation they might have worked for months in the dark, and, in truth, they might even have returned to England still ignorant as to the true cause of the disease.

Castellani had already given it as his opinion that a streptococcus was the cause of the disease, he believing that the trypanosome, like the *Filaria perstans*, was an accidental concomitant. If he had been able to extend his observations he might have changed his opinions. I mention this because a letter appeared in the *Times* disputing Professor Ehrlich's right to give any credit to Castellani for the discovery of the cause of the disease.

A large number of specimens of brains of cases of sleeping sickness were sent to me to examine by the Commission, and I could add little or nothing to my original description of the histological changes found in two cases of Manson which were in Charing Cross Hospital. I never succeeded in finding the trypanosomes in sections, but I have seen them in brain smears; the trypanosomes were always found in the cerebro-spinal fluid by Sir David Bruce.

Now the trypanosome of sleeping sickness is, comparatively to the *Spirochaeta pallida*, a large organism, and therefore it is not surprising that no one before Noguchi was able to find the specific organism of syphilis in the brains of general paralytics; although to my mind the facts which had already accumulated since Fournier pronounced this disease to be parasyphilitic seemed to be overwhelming proof that if there were no syphilis there would be no general paralysis.

Clinical and Etiological Facts supporting the Syphilitic Origin of General Paralysis and Tabes Dorsalis.

(1) A history of syphilitic affection, usually of a mild form as regards secondary and tertiary symptoms, can be obtained in as large a proportion of cases of general paralysis as in obvious syphilitic skin lesions. (2) A correlation of the incidence of syphilis and the incidence of general paralysis in the two sexes according to the social grade. (3) In 60 cases of the juvenile form of general paralysis I found evidence of congenital syphilis either in the family history or signs on the body of the patient in nearly every instance, and in not one could it be excluded. In the juvenile form the sexes are equally affected. Mental stress, alcoholism, and sexual excesses, the previously attributed causes, can be excluded. (4) I showed

that Fournier was right in asserting that tabes and general paralysis pathogenetically were one and the same disease, affecting different parts of the nervous system, for I collected 70 cases of tabo-paralysis, and I found that some began as tabes and ended in general paralysis; in others the spinal and cerebral symptoms started simultaneously; while again in others it began with optic tabes and ended in spinal tabes or tabo-paralysis. About 10 per cent. of cases of tabes end in tabo-paralysis. (5) The most convincing proof of the syphilitic nature of general paralysis was Krafft-Ebing's inoculation of nine paralytics with no history and no signs on the body, none of whom were capable of reinfection. In all my very large experience I have never seen a primary sore or secondary eruption on a paralytic.

This chain of circumstantial evidence was strong enough for most neurologists, and eminent authorities such as Sir David Ferrier, Dr. Drummond, and many others were convinced, as I was, that if there were no syphilis there would be no tabes or general paralysis.

The Search for the Specific Organism in the Brain.

Then came the discovery of the *Spirochaeta pallida* of syphilis by Schaudinn, and the successful inoculation of anthropoid apes by Metchnikoff, Hoffmann, Neisser, and others, which was extended to other animals, such as apes and rabbits. This was followed by the introduction of the Wassermann reaction, and the blood of persons who were reacting to the syphilitic organism was shown to have complement fixation. It was soon found that general paralytics invariably gave the reaction in the most marked manner, and later Plaut showed that the cerebro-spinal fluid gave a positive reaction in 96 out of 97 cases, the serum giving it in every case. Indeed, the cerebro-spinal fluid was much more certain to give a positive reaction in general paralysis than in syphilis of the nervous system. My assistant, Dr. J. P. Candler, has found that 98 per cent. of paralytics give a certain positive reaction of the fluid, and the results have been already confirmed in over 200 cases by *post-mortem* examinations.

The introduction of the ultramicroscope led us to look for the spirochaete in the cerebro spinal fluid in a number of cases, but we did not meet with success. I also made a great number of preparations of sections of the brain by the Levaditi method, but, like Minea and Marinesco, who examined 30 cases of general paralysis, I was unsuccessful in finding the spirochaete. I therefore concluded that in all probability there was a latent granular form, and in the fourth volume of the *System of Syphilis*—"Syphilis of the Nervous System"—I put forward this view, supporting it by the fact that I had seen in smear preparations of condylomata enormous numbers of chromidian granules; likewise in sections of syphilitic papules, where only a few spirochaetes were seen. I have observed these granules. But my main argument was based upon the important observation by Leishman that the spirillum of tick fever exists in a granule form in the cells of the body of the tick, and he could cause these granules to develop into spirillary forms. Again, Neisser was able to infect monkeys with the marrow of bone of infected animals, although the most diligent search showed no spirochaetes. Noguchi himself thinks there may be a granule form; in fact, his culture experiments seem to indicate such. Moreover, Balfour and O'Farrell have stated that they have observed a shedding of granules after acting upon spirochaetes with salvarsan. The paper published in February by Noguchi and Moore, in which it was shown that Levaditi silver-stained preparations of 70 cases of general paralysis showed spirochaetes in 12 of them, was an epoch-making discovery.

When I was at the Rockefeller Institute in April Noguchi was good enough to give me one of these preparations, which left no doubt in my mind of their existence. Since this discovery by Noguchi we have a new conception of the disease on the sure ground of direct observation, yet there are still many facts unexplained; nevertheless, all the evidence points to the fact that the term "parasyphilis," meaning a post-syphilitic affection, must be superseded by the term *parenchymatous syphilis*. Noguchi has examined another 130 cases of general paralysis, and in this second series he found the spirochaetes in 36, making in all 48 out of 200. In 6 cases he examined fresh brains by means of the ultramicroscope, and in one of these he found spirochaetes. In 12 cases of tabes he found the organism in one only. Marinesco and Minea have reported that 1 case out of 26 yielded a positive result by the silver method. This case showed nests of spirochaetes, as many as 60 in one field of the oil-immersion being counted. I throw on the screen a photomicrograph of a specimen sent me by Professor Marinesco (Fig. 5).

Marie, Levaditi, and Bauchowski have reported 3 positive results out of 30 cases of general paralysis by the silver method. In a more recent publication they claim to have shown that spirochaetes are constantly present in the brains of general paralytics dying in seizures. They emphasize the importance of a systematic examination of all the convolutions of the cortex until a positive result is obtained. They do this by sections, by films prepared from an emulsion of the cortex and subsequent examination by the Indian ink method or the silver method of Fontana. They found spirochaetes in all the 7 cases examined. They observe that if one can localize the muscular epileptiform seizures a guide will be obtained of a focus of spirochaetes in the neighbourhood of the portion of motor area affected. I show a preparation kindly sent me by M. Marie (Fig. 4). Forster and Tomasezewski obtained 2 positive results out of 4 cases in which the material was taken from the patient by the Neisser-Pollak puncture method and examined by the ultramicroscope.

Noguchi's Experimental Observations.

Before referring to my own observations I will give a summary of Noguchi's experiments relating to the transmission of the *Spirochaeta pallida* obtained from the brains of general paralytics to the rabbit, and the experimental production of syphilitic encephalitis in this animal.

Noguchi inoculated the testicles of thirty-six rabbits with the emulsion of six different specimens of brains of general paralytics in the fresh state. At the end of ninety-seven days in one case and a hundred and two days in the other a small but typical induration of the testicle and scrotal skin occurred. In the first case the spirochaetes were few, in the second they were abundant. It is interesting to note how slow was the development as compared with the transmission by infection made with material obtained from a chancre or secondary lesion; in the latter case the lesions generally appear after an interval of four to six weeks, rarely two months elapse.

The Existence of the Parasites in the Parenchyma of the Nervous System in Relation to their Resistance to the Action of Drugs.

This interesting observation of Noguchi may be correlated with the many facts which seem to point to the specific organism that produces general paralysis being either a form which has been modified by the widespread use of mercury or modified by passing through the bodies of individuals who have acquired resistance. A number of instances of infection have been reported which seem to point to the possibility of a specific organism; the most convincing being that of Brosius, in which seven glass-blowers were infected, four of whom ten years later suffered with tabes or general paralysis. Certain it is that the average time after infection in general paralysis and tabes is ten years, and the signs and symptoms of the disease externally manifest in the form of skin and bone lesions are, as a rule, either absent, mild, or obscure; whereas in syphilitic brain and cord disease the great majority of the cases occur within the first four years after infection, the greatest percentage occurring in the first and second years. Whereas the signs and symptoms of the latter are coarse and obvious and with generally well-marked skin eruptions amenable to treatment, the former—the so-called parasyphilitic, or, as I shall prefer to call them, parenchymatous syphilitic disease—are late (quaternary) and comparatively unamenable to treatment. Is this because they are mercury-fast organisms, or is it because they exist in a latent granular or intracellular form in the parenchyma of the nervous system, where they cannot be attacked by the drugs such as arsenic, mercury, and antimony? By analogy this does not seem improbable, seeing that in sleeping sickness when once the trypanosome has invaded

the nervous system, atoxyl and other arsenical and antimonial preparations which are intravenously injected fail to kill the parasite and arrest the progress of the disease. Moreover there is other evidence in favour of this conclusion. Arsenic is not found in the brain when large quantities of arsenic have been taken in cases of poisoning; it has not been found in the fluid after injection of salvarsan intravenously. The late Professor Goldmann has shown that the choroid plexus intercepts dyes which have been injected intravenously in large quantities—namely, 100 c.cm. of a 1 per cent. solution of trypan blue—whereas 1 to 2 c.cm. of 0.5 per cent. solution injected by lumbar puncture stains the whole cerebro-spinal axis except the cortex, penetrating and staining all the neurones. This, as I shall tell you later, has led to the idea of a new method of treatment, not by injecting weak doses of salvarsan or neo-salvarsan intrathecally, for this would be a most dangerous proceeding; to kill the parasites you might kill the neurones and the patient.

The only case of trypanosomiasis Ugandensis that I have heard of as having recovered was a Sikh whose brain was sent to me for examination. He lived five years after infection and was treated for a long time—eighteen months—with atoxyl, then with mercury, for he became intolerant of arsenic and had contracted syphilis. Three years after infection his fluid was examined by Sir David Bruce and found free of trypanosomes, and he showed no signs or symptoms of sleeping sickness: he died two years later. I examined his brain and found no signs of perivascularitis or neuroglia proliferation—histological changes which were present in every case, 30 in all, that I had previously examined, and which during life had exhibited the characteristic lethargy.

These facts show that the presence of the trypanosome in the central nervous system is necessary to produce the meningo-encephalitis characteristic of the disease, although to my mind it is possible that toxins may pass into the central nervous system along perivascular and perineural lymphatics, as Orr and Rows have shown experimentally.

Further Experiments of Noguchi.

Noguchi has shown that the central nervous system of monkeys and rabbits is very resistant to syphilitic infection, even when the virus is introduced directly into the cerebral substance. Most animals remain in perfect health during an indefinite period after the intracerebral inoculation of *Spirochaeta pallida*. Noguchi conceived the idea that it was necessary to sensitize these animals by repeated intravenous injections with dead and living spirochaetes; this he did for five months. At the end of this time he made an intracerebral inoculation or subdural insertion of an emulsion of minute particles of testicular syphiloma of the rabbit, rich in spirochaetes. Twelve sensitized and 4 normal rabbits were employed, all of which remained healthy for two months; then some of the sensitized rabbits showed symptoms. The animals were killed and 3 of those which had been sensitized showed cerebral changes not unlike those of a syphilitic meningo-encephalitis. For my own part, I am doubtful whether these experiments prove very much one way or the other as regards the production of general paralysis in animals.

Personal Observations.

I will now refer to the recent work concerning the existence of the spirochaete in the brains of cases of general paralysis which has been done under my direction at Claybury; also I will endeavour to demonstrate the difference in the pathogenesis and histology of syphilitic meningo-encephalitis and general paralysis and syphilitic meningo-myelitis and tabes dorsalis. I will also compare the histology of sleeping sickness, a trypanosome infection, with the syphilitic spirochaete infections, and the deductions which can be made therefrom. Lastly, I will call your attention to an inquiry into the incidence of general paralysis in the different parishes and districts of the County of London.

Spirochaetes in the Brains of General Paralytics.

Having failed to find the specific organism in sections stained by the Levaditi method after a diligent search of numerous sections from numbers of cases—in this search I was aided by my assistant Mr. Charles Geary, Dr. Fisher, and Major Fink—I resolved to adopt the Indian-ink method (Burri); and by this method I soon obtained apparently positive results. I say apparently, for it must be admitted that delicate curled filaments may be mistaken for spirochaetes, and unless these spiral forms have been observed in the living state moving on the dark-ground microscope convincing proof of the presence of spirochaetes would be wanting. Yet I feel convinced they were, in the light of further researches by the Fontana method and the ultramicroscope.

I have thought that active pullulation of the specific organisms might be associated with epileptiform seizures, and in support of this I may observe that I have found that unilateral convulsions of a severe nature were at the necropsy associated with a great wasting of the corresponding hemisphere. For example, I have found after prolonged right-sided seizures a marked speech affection and a hemiparesis; at the *post-mortem* examination the left hemisphere has in some instances of this kind weighed as much as 100 grams less than the right. In the light of recent researches of Noguchi it is probable that the active development of the spirochaetes leads to the production of toxins which cause a rapid destruction of the neurones in two ways: Firstly, by the direct destructive effects of the toxins on the neurones; and secondly, by irritation and proliferation of the cell elements of the perivascular lymphatic sheaths, the capillary endothelium, and the neuroglia cells, the perivascularitis and capillary changes causing blood stasis and destructive effects on the neurones secondary to these inflammatory changes.

But to return to the demonstration of spirochaetal foci in the brains of paralytics. Having this hypothesis of association of active proliferation of the specific organism and the onset of seizures I wrote an encyclical letter to the superintendents of all the ten asylums asking them to forward me the brains of patients who just prior to death had had seizures, and from these brains, which numbered in all eleven, I obtained by the Indian ink method spiral forms in 8 cases. Of 7 cases dying at Claybury in the ordinary routine and not selected, in 3 spiral forms were found (vide photomicrograph). Portions of all these eighteen brains were fixed and stained by Noguchi's modified silver method and sections made; so far specimens from eight brains have been examined, but without results; indeed, the fibrils in many of the specimens are stained, as well as in Levaditi preparations.

My assistant, Mr. Geary, has now succeeded in staining films with the Fontana-Tribondeau silver method, and we have obtained excellent results in 3 cases; in one of these—a brain sent from Horton, which was comparatively an early case—numbers of spirochaetes were found in film preparations (vide photomicrograph) of the second frontal convolution, but from no other of many regions examined. This shows the truth of Marie, Levaditi, and Bauchowski's observation that all the convolutions of the cortex require to be examined systematically. The spirochaetes of this case four days after death were also observed moving, it is true only sluggishly, by means of the ultramicroscope. Spirochaetes were not found in films from the second frontal when the brain was received: but twenty-four hours later, when the substance was soft and a certain amount of decomposition had occurred owing to invasion of other organisms, they were found in abundance in this one region.

Seeing that fetal tissues containing a great abundance of spirochaetes are generally decomposed and contain numbers of other organisms, as also chancres and the enlarged lymphatic glands, it is possible that the secondary microbial invasion by aërobic organisms may possibly favour in some way the development of the non-aërobic specific organisms, as we know is the case in tetanus. Certainly my experience teaches that pneumonia, dysentery, septicaemia, and other intercurrent secondary microbial infections are especially liable to be associated with seizures, not necessarily generalized, but often unilateral in character.

Further experiments and observations which I am now making will, I hope, help to decide whether the hypothesis of a latent granule form, which under favouring circumstances develops into a spirochaetal form with production of toxins, is true or not. The great difficulty is that the search for spirochaetes in the brain is like looking for the proverbial needle in a haystack; not finding does not

mean non-existence. The investigation is attended with great technical difficulties, and there is still much to be done before we can fully understand the pathogenesis and pathology of these late syphilitic diseases of the nervous system.

INTRATHECAL INJECTION OF PATIENTS' SERUM AFTER SALVARSAN TREATMENT.

In respect to the early acute infection of the central nervous system, I may mention that I recently had under my care a case of gummatous meningo-encephalitis. Infection occurred in February last, and, in spite of intramuscular injections of salvarsan and mercury, severe cerebro-spinal symptoms set in in September. The cerebro-spinal fluid showed a great abundance of lymphocytes, and a spiral form which resembled a short spirochaete was found in one of the Indian-ink preparations of the centrifuged deposit. As I could not find spirochaetes moving with the dark-ground illumination this is not claimed as convincing proof. The cerebro-spinal fluid, like the blood, in this case yielded a very marked complement fixation. He subsequently received an intravenous injection of 0.4 gram neo-salvarsan with great improvement, but the greatest improvement resulted from an intrathecal injection of serum taken one hour after another dose of neo-salvarsan had been administered; subsequent to this the fluid became less positive, and the lymphocytosis disappeared.

The serum was tested for arsenic and yielded no result; the legitimate conclusion being that the action of the serum is due to the presence of antibodies in the blood and not to the arsenic. But seeing that I have found that intravenous injections and even intramuscular injections of salvarsan may convert a positive Wassermann reaction of the fluid in general paralysis into a negative reaction, and thus account for the improvement, it is necessary that the serum of another individual who had received an intravenous injection of salvarsan should be injected into the lumbar subarachnoid sac before it could be claimed that the antibodies in the serum were the cause of the improvement. Dr. Swift, of the Rockefeller Institute, who claims to have obtained very hopeful results by this method of treatment in tabes dorsalis, said at the International Medical Congress that he had done this with equally satisfactory results. If this be true it would appear that mercury and arsenic are spirillocidal either by causing the development of antibodies or by furthering their spirillocidal action. Dr. George Robertson, of Morningside Asylum, from his experience, does not claim to have attained a cure, and is quite judicial in his statement regarding the effect of this treatment in general paralysis, for he says:

> Although success has not been obtained there are hopeful indications, for it appears that the disease process, if not suppressed, is at least touched in half the cases. The decrease in the lymphocytosis, the diminution in the intensity of the Wassermann reaction, and its disappearance for over a year in some cases are hopeful signs of the most convincing character.

Dr. Fisher, of the Rockwood Hospital, Kingston, Canada, who for some months past has been working under my direction at the Pathological Laboratory, Claybury, had the idea of treating general paralysis by this method, and in the spring of 1912, by the kindness of the superintendent, Dr. Ryan, Dr. Fisher took 7 cases of advanced general paralysis and rendered the blood negative to the Wassermann reaction by repeated intravenous injections of salvarsan. Then, under rigid antiseptic precautions, he withdrew 15 to 20 c.cm. of blood from the median basilic vein of the patient's arm, placed this in a cool chamber for one hour, separated the clot, and centrifuged the serum for half an hour in sterile tubes. Next he performed lumbar puncture, and withdrew cerebro-spinal fluid of an amount equal to that of the serum to be injected, which is slowly introduced, being kept at the body temperature. The patient is allowed for one hour to lie flat on his back without a pillow, and with the foot of the bed raised. This treatment was repeated every week for the first three months, then every two weeks for the next four months. No untoward symptoms occurred in any of the cases under treatment, and he has learnt that the cases have greatly improved, and apparently there has been an arrest of the symptoms so far.

In the Oliver-Sharpey lectures which I delivered at the Royal College of Physicians of London in April, 1910, I gave many reasons from experiment and observation why it seemed probable that the cerebro-spinal fluid functions as the lymph of the brain. I also pointed out that, inasmuch as normally it contains no proteins or cell elements, if microbial invasion occurred it tended to spread rapidly because the fluid normally contained no bactericidal action nor leucocytes capable of combating microbes. These experiments of introducing serum of patients, which presumably contains antibodies, rest therefore upon a scientific basis if my conclusions are correct. At the same time it is difficult for the serum to arrive at the crannies in the cortex by injecting it by lumbar puncture into the subarachnoid space, for Goldmann's researches with trypan blue show that the cortex is unstained when the dye is introduced by lumbar puncture. He found, however, that the cortex is well stained when the dye is introduced by trephining the calvaria. It is possible that by repeated injections, as in Dr. Fisher's experiments, the antibodies may reach the cortex by lumbar puncture. Goldmann's work, however, shows the desirability of trying the method of introducing the serum directly into the subdural or subarachnoid space of the cortex. Unfortunately, I have not the authority to try this in my capacity of pathologist to the London County Asylums.

DESCRIPTION OF SPECIAL PLATE.

Fig. 1.—Spirochaete in smear of condyloma stained by Giemsa (× 1,800).

Fig. 2.—Spirochaetes from a smear of brain in a case of general paralysis; stained by Fontana silver method (× 1,400).

Fig. 3.—Smear of brain of general paralytic, stained by Indian ink method showing spirochaete (× 1,550).

Fig. 4.—Section of brain stained by a silver method from a preparation by Professor A. Marie (× 1,740). Many spirochaetes are seen in the field, but only one in focus.

Fig. 5.—Section of brain of general paralysis stained by the silver method, showing spirochaetes, one in focus: preparation of Professor Marinesco (× 1,550).

Fig. 6.—Section of the brain of general paralysis, showing small vessel with perivascular cell infiltration (× 350).

Fig. 7.—Small vessel of the brain in cerebral syphilis, showing perivascular cell infiltration (× 250).

Fig. 8.—Section of the brain from experimental sleeping sickness, showing small vessel with perivascular cell infiltration (× 250).

Fig. 9.—Section of the brain from human sleeping sickness, showing small vessel with perivascular cell infiltration (× 350).

Fig. 10.—Section of brain in general paralysis, showing longitudinal section of vessel with active proliferation of plasma cells (× 750).

Preparations 6, 7, 8, and 9 stained by polychrome blue.

THE WASSERMANN REACTION.

I have already mentioned that in practically every case of general paralysis a positive Wassermann reaction is obtainable in the cerebro-spinal fluid, whereas not more than 50 per cent. of the cases of tabes yield a positive reaction. Why is this? In my opinion the reaction in the cerebro-spinal fluid is evidence of the existence of the parasites or their toxins in the central nervous system. I consider that it is the toxins produced by the active generation of the parasites which cause the reaction, the degeneration of the neurones, and the active proliferation of the lymphocytes, plasma cells, and neuroglia cells. For several reasons I consider it is a reaction of the neurones which gives rise to the euglobulin in the fluid that serves as a complement fixative. First, because the toxins of other specific organisms—for example, tubercle—give rise to lymphocyte, plasma cell, and neuroglia proliferation without producing complement fixative in the fluid. Secondly, because some cases—in fact, the majority of cases of cerebro-spinal syphilis, even cases with active meningitis and enormous numbers of lymphocytes in the fluid—nevertheless give a negative Wassermann reaction, and there is no complete parallelism between lymphocytosis and degree of complement fixation. The experiments of Levaditi and Yamanouchi, however, show

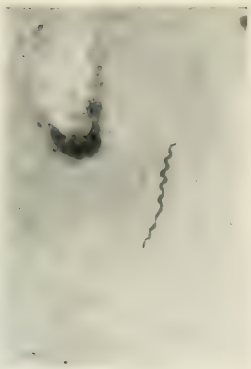


Fig. 1.

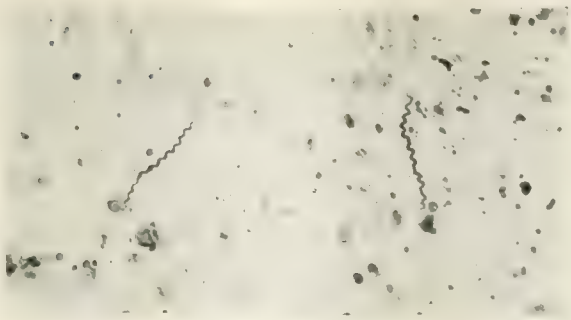


Fig. 2.

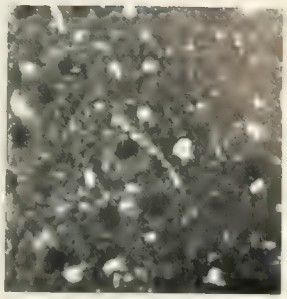


Fig. 3.

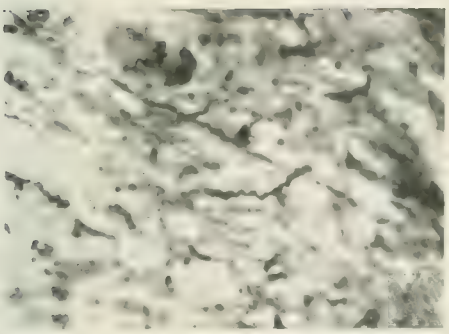


Fig. 4.

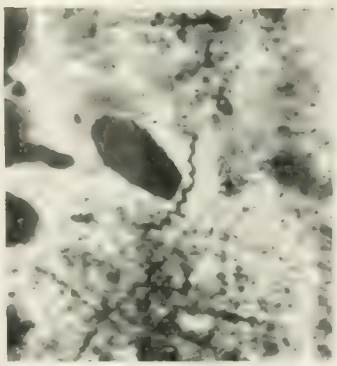


Fig. 5.

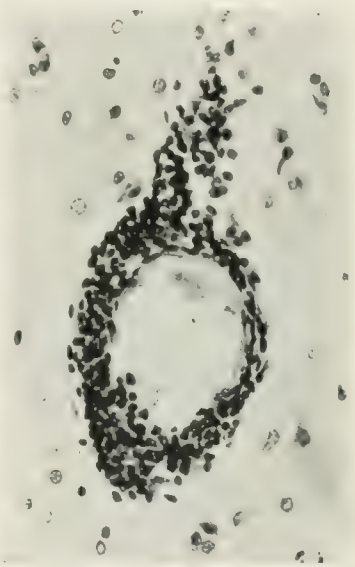


Fig. 6.

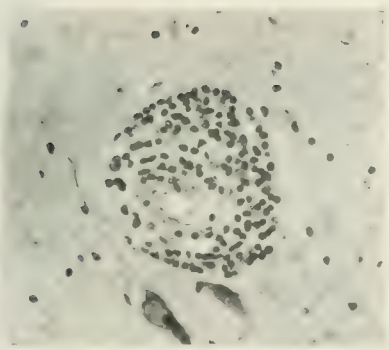


Fig. 7.

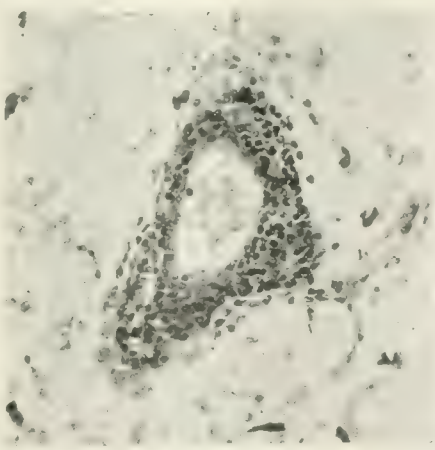


Fig. 8.

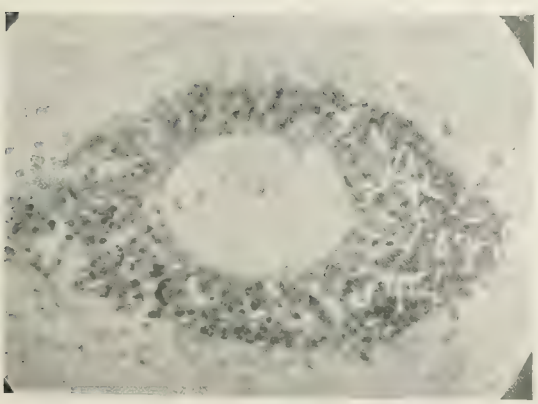


Fig. 9.

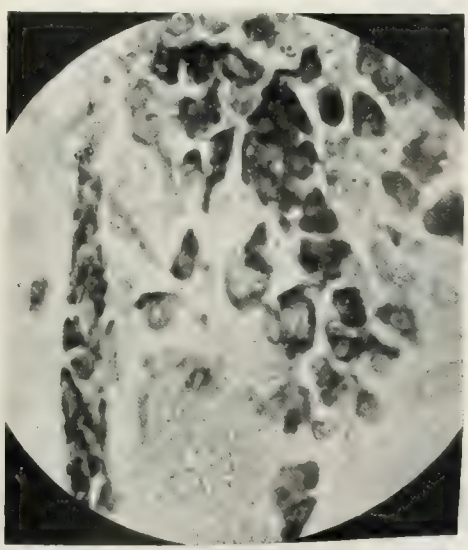


Fig. 10.

that it is the toxin of the spirochaetes, and not the parasites themselves, which induces the typical lymphocyte and plasma cell reaction. Thus they introduced a small portion of infected cornea of a rabbit containing abundant spirochaetes into the anterior chamber of the eye of a healthy rabbit, and they observed a characteristic cell reaction in the cornea of the normal rabbit before there was an invasion by spirochaetes. This experiment shows that a localized nest of spirochaetes in the cerebro-spinal axis or even outside the central nervous system, provided the toxins can be conveyed by lymphatics, can set up the characteristic cell reaction in the perivascular spaces of the nervous system, each fresh dose of toxin leading to a remission of symptoms and decay of nervous structures.

We know that normally the choroid plexus does not let this toxin pass into the cerebro-spinal fluid any more than it does the antibodies, for the blood may give a very strong reaction in cases of syphilis, and yet the cerebro-spinal fluid not show the slightest trace of reaction. Now the cerebro-spinal fluid in great part is secreted by the choroid plexus into the lateral ventricles; consequently fluid withdrawn from the lateral ventricles should give a less marked reaction than that withdrawn by lumbar puncture, for the latter would have been in contact longer with the nervous tissue. Acting upon this hypothesis, I asked my assistants, Dr. Candler and Mr. Mann, to examine a number of cases to test its validity. In 38 cases the fluid was withdrawn as soon after death as possible from the lateral ventricles and by lumbar puncture; the result obtained in all the instances was to show that the fluid obtained by lumbar puncture was from two to ten times as strong in linking up complement as that from the ventricles. Doubtless if the fluid could be obtained as it was secreted during life into the lateral ventricles no specific globulin would exist in it.

Tabes being a much slower decay of the neurones, and limited to the posterior spinal afferent neurones in the great majority of cases, presumably is occasioned by small doses of toxin finding entrance to the posterior columns by limited and defined channels: indeed, it is conceivable that the syphilitic toxin may arise in lesions of the thoracic or abdominal aorta which, passing along the lymphatics of vessels, gain access to the lymphatics of the spinal cord, the circulation of the lymph being along the course of the afferent roots. This seems probable from the experiments of Orr and Rows, who have, by tying celloidin capsules containing microbial toxins on the sciatic nerve, produced a perivascularitis in the posterior columns with degeneration of exogenous afferent systems like those of tabes. Possibly the perivascular lymphatics of the carotids may convey toxins or even the specific organisms to the fronto-central region of the brain in cases of general paralysis. This is a not improbable source of infection, for if skin lesions of syphilis are rare in this disease, syphilitic nodular fibrosis of the aorta is extremely common.

Comparison of the Lesions of Syphilitic Disease of the Brain and Cord in Early Stages after Infection with those Occurring Late, on an Average Ten Years after Infection.

In both there is the same perivascular infiltration with lymphocytes and plasma cells; this is the reaction to the toxin produced by the parasite. In syphilitic brain disease there is also an endarteritis, sometimes localized, sometimes universal, and it is the blocking of the vessels by this inflammatory condition, especially when associated with thrombotic occlusion, which occasions the symptoms of so varied and obtrusive a character and sudden in onset. So also in focal meningo-myelitis the localized decay of neuronic structure giving rise to paraplegia is due to obliterative endarteritis more than to the meningeal and perivascular inflammatory changes. If the vessels are not damaged extensively remarkable curative results by specific treatment are obtainable. The Argyll Robertson pupil so characteristic of tabes and general paralysis is not seen.

In general paralysis examination of the vessels of the brain seldom shows any evidence of endarteritis; if there is any extensive vascular inflammation it is in the capillaries, where undoubtedly the endothelium undergoes active proliferation and budding; the reason for this cannot be the toxin circulating in the blood, otherwise the endothelium of the arteries and veins would show it. Probably the specific toxin is in all the interstices of the nervous tissue wherever the cerebro-spinal fluid irrigates; thus it comes in contact with the capillary endothelium and excites its active proliferation, with capillary blood stasis, a histological condition that is especially characteristic of general paralysis.

I have met with a few cases of syphilitic brain disease which have terminated in typical general paralysis, and Straussler has reported several. A striking feature of general paralysis and the most consistent naked-eye phenomenon, which is not seen to anything like the same degree in syphilitic brain disease nor in sleeping sickness, is the granular condition of the ventricles, especially the fourth ventricle. This indicates the prolonged existence of an irritant toxin in the cerebro-spinal fluid. The greater the wasting of the brain the more pronounced is this change. The wasting of the fronto-central convolutions and of the whole cerebral cortex, but to a less degree, is a characteristic feature of this disease (general paralysis) as compared with syphilitic brain disease. Doubtless this is in part due to the vascular changes, but inasmuch as in sleeping sickness the perivascularitis and meningitis may be as extensive as, and even more universal and extensive than, in general paralysis, it must be concluded that there is also in this disease a primary and progressive decay of the neurones, owing to the continuous action of the toxin sensitizing the nerve cells and causing them to react to such a degree that the normal metabolic equilibrium is destroyed and degeneration ensues, so that we have, as Noguchi asserts, a parenchymatous encephalitis.

The Incidence of General Paralysis in the Population of London.

If it could be assumed that 2 to 3 per cent. of persons who acquired syphilis developed general paralysis it might help us to estimate approximately the extent of syphilis in a population; for inasmuch as general paralysis is a disease fatal within a few years of admission to the asylum, accumulation of cases suffering from this disease does not occur, consequently the death-rate per annum is about equal to the admission-rate. I will throw on the screen a lantern slide showing the incidence of general paralysis in the general admissions to the London County Asylums during the years 1911–12 from the parishes north and south of the Thames, east and west; I will point out the main results which these tabulated statistics show.

North of the Thames—West-end parishes. Total population equals 1,376,083. Male admissions 1,183; of these 205 were general paralytics, so that the percentage of paralytic male admissions is 17.3. Female admissions 1,236; of these 31 were general paralytics, so that the percentage of paralytic females is 2.5. So that general paralysis is seven times as frequent in males as compared with females in West-end parishes north of the Thames.

North of the Thames—East-end parishes. Total population equals 1,282,911. Male admissions 930; of these 123 were paralytics, so that the percentage of paralytic male admissions is 13.2, against 17.3 in the West-end parishes north of the Thames. Female admissions 981; of these 34 were general paralytics, so that the percentage is 3.4 in eastern parishes north of the Thames, against 2.5 per cent. in the West-end.

In West-end parishes north of the Thames we will find that 1.75 per 1,000 residents were admitted in the two years, and of these 9.7 per cent. were general paralytics. In East-end parishes north of the Thames 1.49 per 1,000 were admitted in the two years, and of these 8.2 per cent. were general paralytics.

In West-end parishes south of the Thames the results obtained are somewhat different, for both males and females have a higher percentage of general paralytics in the western parishes; however, this quite accords with the character of the population in Wandsworth and Lambeth.

In the western parishes the total population is 777,321. The male admissions are 537; of these, 97 are paralytics, a percentage of 18.3. The female admissions are 641; of these, 20 are general paralytics, percentage 3.1. Both male and female incidence of paralysis are high.

In the eastern parishes the total population is 1,066,989. The male admissions are 741; of these, 102 are paralytics, a percentage of 13.7. The female admissions are 825; of these, 23 are paralytics, a percentage of 2.7.

The western parishes are higher in both male and female paralytics; in the former 10 per cent. of the total admissions are paralytics, to 7.9 per cent. in the latter.

These facts entirely agree with what we know of the incidence of general paralysis in the two sexes from practice—namely, the lower we go in the social scale,

the more common becomes this disease in the female sex; whereas general paralysis is common to all grades of society in the male sex, it is very rare in the better and respectable classes of females in all grades of society. Probably these statistics give a rough idea of the relative prevalence of syphilis in the two sexes.

We may conclude, therefore, that syphilis is comparatively commoner in the West End among males and comparatively in the poor East End among females. Seeing that a very considerable number of paralytics in the West End do not come into the county asylums, it may be assumed that the ratio of six males to one female is well under the mark.

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THE RELATION OF THE INTERNAL SECRETIONS TO THE FEMALE CHARACTERISTICS AND FUNCTIONS IN HEALTH AND DISEASE.

A PAPER INTRODUCTORY TO A DISCUSSION ON THE SUBJECT AT THE OBSTETRICAL AND GYNAECOLOGICAL SECTION OF THE ROYAL SOCIETY OF MEDICINE.

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[*Abstract.**]

In dealing with the problems under discussion it will be best, I think, first to outline the more purely morphological and physiological aspects. I shall do this briefly, for I have already this year, in the Arris and Gale Lectures,[1†] gone somewhat fully into the details of this part of the subject. Afterwards I shall indicate what I believe to be the associated pathological conditions to be recognized, and in some cases the methods whereby they may be treated.

PART I.

MORPHOLOGICAL AND PHYSIOLOGICAL CONSIDERATIONS.

At the commencement it is essential that we consider how far the internal secretions are concerned in producing the feminine characteristics and ensuring the full development of the genital organs. Afterwards I shall support with experimental evidence my statement that the internal secretions of the ovary alone are not the sole factors in the preservation of the integrity of the genital functions once these have been fully established.

PRODUCTION OF THE FEMALE CHARACTERISTICS AND FUNCTIONS.

What is it that makes a woman a woman? With our present knowledge it appears probable that, although the potentiality to produce femininity exists in the earliest stages of segmentation of the ovum, this potentiality is directed towards the future development and correlations of the endocrinous glands which are to control the sexual evolution of the individual.‡

It may be stated most emphatically that the ovaries alone are not responsible for the female characteristics. This is not mere conjecture, for it was first well shown by Bulloch and Sequeira[10] that the suprarenal cortex is largely responsible for the secondary sexual characteristics. Most of the evidence, however, in regard to the influence of the suprarenals has been obtained from pathological phenomena which will be discussed later.

We know less of the actual influence over the secondary characteristics of the other organs of internal secretion, but there is a large body of evidence gradually accumulating which tends to show that the pure female and the pure male are produced by all the internal secretions, probably acting in association with that of the gonads.

We must next consider the influence the endocrinous glands exert on the secondary development of the female genital organs and their functions in the individual perfectly formed in regard to the genitalia and secondary characteristics. This part of the subject is one which in its pathological aspect constantly confronts us in our clinical work.

Although the genitalia may be normal morphologically at birth (primary development), they only become functionally active at puberty (secondary development) if the whole endocrinous system is in perfect harmony and acting efficiently. Thus, thyroid or pituitary insufficiency may cause the genital organs to remain infantile; and, as we shall see later, disease of these structures may cause retrogression in the genitalia even after they have functionated normally. Further, it is known that the gonads and uterus remain under-developed until the thymus atrophies at the time of puberty. At this period of life, owing to the withdrawal of the thymus secretion, as some authorities think, the genital organs begin to develop. Other investigators, however, believe that it is the development of the gonads which causes retrogression in the thymus. The probability is that both views are correct; for experimentally it is found that removal of the ovaries leads to hypertrophy of the thymus, even after atrophy has occurred in the normal course of events. Likewise removal of the thymus in male guinea-pigs is said to be followed by a rapid development of the genital glands (Paton).[17]

MAINTENANCE OF THE FEMALE CHARACTERISTICS AND FUNCTIONS.

It follows logically that the factors which give rise to femininity and the normal development of genital activity should also be chiefly concerned in the maintenance of the female characteristics and functions. I shall adduce further evidence to show that this is so when we consider the pathological aspect of the subject under discussion. Here the normal processes at work may be described.

That the ovary alone is not solely responsible for the changes which occur or for the integrity of the genitalia is shown by many facts, both experimental and clinical. It is well known, however, that the removal of the ovaries in young animals tends to produce sometimes adiposity and almost invariably overgrowth of the skeleton; the animal is never stunted, nor do masculine characteristics develop. The uterus, however, remains infantile and does not undergo secondary development. So, also, it is certain that if the female genital glands be removed during adult

* The paper will be published in full in the *Proceedings* of the Royal Society of Medicine.

† These lectures may be read in conjunction with this paper, which is in part an attempt to apply the experimental findings to clinical practice.

‡ The word "developmental" may be used in connexion with two periods or stages in the development of the genital organs. The first stage is during fetal life, when the organs are originally formed; and the second is at puberty, when full anatomical and physiological development takes place.

life the uterus retrogresses and becomes atrophied. Some years ago Hick and I[5] showed that the primary change is in the musculature, and not in the endometrium. This change is the obvious evidence of the ovarian function in regard to the uterus. Atrophy of the uterus can, however, be prevented for a time if an ovarian graft—especially an autogenous one—be made when oöphorectomy is performed. It is found experimentally that the follicles in grafts always degenerate, but that the interstitial cells remain unchanged for many months. The success of grants depends on the technique employed. Thin grafts buried in a vascular site do much better than thick grafts in avascular areas. When finally the graft disappears the uterus atrophies. It is obvious, therefore, that the integrity of the uterus depends, so far as the ovary is concerned, on the interstitial cells. But Crowe, Cushing and Homans,[8] Aschner,[9] Biedl[6] and others have shown that the same degree of uterine atrophy—and also, it is said, ovarian atrophy—may supervene after partial removal of the pituitary body. Which portion of the pituitary is supposed to be concerned is not clear from the contradictory statements given. It is possible that the divergent opinions result from the belief that the pituitary body consists of two separate organs with different functions. I believe, however, that the pituitary body is *one organ*. In spite of the histological differences seen in the various parts we must remember that all the epithelial elements are derived from the same source—Rathke's pouch.

Further, I have shown that removal of the thyroid alone produces an intense degree of atrophy in the uterus. The ovaries, however, do not retrogress; on the contrary, there appears to be increased activity, especially in the follicles.[4] In pregnancy, also, we know that the ovaries, the thyroid, the pituitary, and the suprarenals are all concerned in the changes that take place locally and generally. The corpus luteum in the ovary appears to assist in the implantation of the ovum, especially in rodents. This effect apparently is less pronounced in the human subject. The thyroid is especially active in early pregnancy, and the suprarenals and pituitary in the later stages. The changes in the pituitary are shown by very remarkable modifications in the staining reactions of the cells of the anterior lobe. These structural alterations are doubtless essential to the changes in the maternal metabolism, but it is unnecessary here to discuss the chemical details.

In addition to the facts mentioned concerning the local effects of the removal of the ovaries, pituitary, and thyroid on the genital organs and their functions, we have very definite and precise information as to the general effects produced. And since the removal of the ovaries is an experiment some gynaecologists perform on the human subject with regularity and without a qualm—indeed they defend it by saying when they perform oöphorectomy the bad results are not worth considering—I am sure we should give this aspect of the subject special consideration, since we are not all of the same mind as to the needless removal of the genital glands.

In the first place, I would call attention to the well-known fact that women as well as animals vary very considerably in the reactions that occur after oöphorectomy. Age, individual variations in ovarian activity and in the correlations with other endocrinous glands, habits of life, health, and so on, all play an important part in the result.

We might also include psychical effects, because they are related to the functions of the internal secretory system as a whole; but these effects are difficult to estimate in animals, so I shall not discuss them until we come to the consideration of the pathological disorders of the internal secretions in women. Since, then, there are these individual variations, it is somewhat difficult to create a quantitative standard, and this is, I think, the reason of so many divergent opinions in regard to the value of the ovaries. We can, however, recognize the qualitative changes with no small degree of precision.

In animals oöphorectomy produces the following alterations in the general metabolism:[*] There is a marked retention of calcium, which is, of course, a phenomenon normally associated with senility. The phosphorus excretion is much increased, as is the nitrogen. These observations I shall refer to again in discussing ovarian insufficiency in the human subject.

When we come to examine the other endocrinous glands after oöphorectomy in animals we find somewhat different changes according to the order to which the animal employed for experimentation belongs. I have elsewhere alluded to the normal morphological differences found in the organs of internal secretion in different animals.[4] The cat is the most convenient of the commoner animals used in laboratories, in that its endocrinous glands more nearly resemble the human than do those of the rabbit and other rodents. In this animal we find marked changes in the anterior portion of the pituitary and in the thyroid after oöphorectomy. In the thyroid there is a great increase in the colloid collections. In the anterior lobe of the pituitary there is a marked eosinophilia which I have discussed elsewhere, and have described as representing an increase in secretory activity.[4]

We must not consider, however, that our experimental results are final in regard to the human subject until they have been verified by *post-mortem* evidence in women, or by the evidence of disease. Rapid progress to this end would be assured if pathologists would make a routine practice of removing all the organs of internal secretion during *post-mortem* examinations, and of examining histologically the material obtained. Meanwhile laboratory experiments have this effect at least: they give us indications for clinical observation which so often leads to a complete vindication of the laboratory results, and so to settled knowledge.

PART II.

Pathological and Therapeutical Considerations.

In considering the relation of pathological conditions of the internal secretions to the genital organs and their functions I shall follow as far as possible the arrangement adopted in describing the physiological processes—that is to say, I shall first discuss the derangements in the normal development of the genital organs and their functions, and subsequently the derangements associated with the maintenance of these functions.

Derangements in the Development of the Genital Organs and their Functions.

1. *Imperfect and Irregular Primary Development of the Genitalia.*

Primary maldevelopment of the genital organs may result in the following conditions:

(*a*) Under-development of the ovaries and uterus, which may otherwise be perfectly formed.

(*b*) Under-development or imperfect development of the uterus with normal development of the ovaries.

The first of these conditions is usually associated with what is known as asexual ateleiosis, the cause of which is due, no doubt, to some general disorder in the endocrinous system. At the present time we have no definite knowledge on this matter, but it is hardly possible that genital under-development with ateleiosis can be due to primary ovarian insufficiency alone in view of our experimental evidence.

The second class of case, in which the ovaries are normal while the rest of the genitalia are imperfectly developed or even assume male characteristics, is interesting if only because some of the conditions met with are liable to be confused with those in the first class.

It is probable, however, that in the presence of normal ovaries imperfect development of the uterus and incomplete union of the Müllerian ducts, with the various associated abnormalities which may be found, are due to some local structural irregularities which are, as yet, not fully understood.[3] But where the genitalia, apart from the ovaries, assume the male type, and, in fact, give rise to the condition known as hermaphroditismus femininus, we have some definite evidence of the influence of an internal secretion not produced by the genital glands on this condition.

2. *Irregular Secondary Development of the Female Genitalia and Characteristics.*

By secondary development of the genital organs and female characteristics I refer to the changes which

[*] In his recent work on the organs of internal secretion, under the title of *The Regulators of Metabolism*, Paton calls attention to the fact that only observations conducted over a length of time can have any value, and assumes that none have been made. But, as is evident in various parts of his book, he has not made a first-hand study of the literature, for my experiments, of which he makes no mention, were conducted over far longer periods than he suggests as being necessary.

normally occur at puberty. The onset of the functional activity of the ovaries and the associated secondary sexual characteristics which become evident at this time change the girl into a woman.[1] Since the advent of puberty itself is dependent on the general metabolism, which is influenced by the internal secretions, we can easily understand how disorders of the endocrinous system influence the phenomena associated with this period of life.

(*a*) *Precocious Puberty.*—This is an extremely interesting phenomenon, wholly dependent, as far as we know, on disturbances in one or other of the endocrinous glands. It is probable, of course, that a lesion in one organ affects the others, but with this we are not at the moment concerned. In the first place, it is important to remember that the results produced by tumours and hyperplasias in the organs of internal secretion other than the gonads are not the same in the different sexes. So that while suprarenal hypernephromata in *male* children are practically always associated with precocity of the sexual organs and secondary characteristics, in female children with suprarenal hypernephromata the sexual organs are not precociously developed, for the tendency is rather to produce in them the characteristics of the male—a deep voice, enlargement of the clitoris, hirsuties, and so on. It is true that cases of precocity in females with these suprarenal lesions have been described, but it appears to me that pubic hirsuties with over-development of the clitoris—a masculine transformation—may have been wrongly interpreted into excessive development of the female external genitalia, as was certainly done in Orth's case.[16] Bulloch and Sequeira,[7] however, report the case of a girl, aged 11, whom they describe as precocious, and in whom menstruation existed. But I do not think the evidence submitted is sufficient to justify the statement as to *female* precocity, especially in view of the facts that she only commenced to menstruate at the age of 10, and that subsequently she had much hair on the lips and chin.

It is probable, therefore, that the view I have stated is the correct one; indeed, I fail to understand how it can be otherwise when we consider the evidence at our disposal as to the masculine metamorphosis that occurs with these same lesions in the suprarenals in young adult women. Most of the cases of suprarenal hypernephromata observed in children have occurred in girls. In the case of a boy, who died at the age of 5, recorded by Linser,[17] there was precocious development of the genital organs with sexual activity. Likewise it is interesting to note that tumours of the pineal in boys always lead to sexual precocity, but do not do so in girls.

It is difficult to interpret this curious sex selection in regard to these lesions in different organs, but certainly it appears at first sight as if both the pineal and suprarenal cortex influenced the production of male characteristics. We must remember, however, that we have no reliable evidence as to whether tumours of the pineal give rise to excessive or decreased secretion, but the above suggestion does not necessarily depend on an increased secretion from the pineal in the circumstances mentioned.

Although the foregoing facts concerning the suprarenal cortex and the pineal are negative in regard to sexual precocity in girls, I have dwelt on them as it is necessary to clear the ground in this matter, for most clinicians seem to be under a misapprehension, since they conclude that corresponding lesions produce sexual precocity in either sex. This, as I have endeavoured to show, is not so except in regard to lesions in the gonads. Indeed, to come to the point, it appears probable that nothing in regard to lesions in the endocrinous glands except certain tumours and hyperplasia in the ovaries will give rise to true sexual precocity in the female. Many such cases are on record. A typical example is that related by Lucas:[11] A girl, aged 7, had markedly precocious development with menstruation. A solid ovarian tumour of doubtful nature was removed, and the signs of puberty thereupon gradually disappeared. It follows, therefore, that unlike sexual precocity in boys, this phenomenon in girls is *only* associated with tumours or hyperplasia of the gonads.

(*b*) *Delayed Puberty.*—Delayed puberty may be due to a variety of causes, such as bad feeding, unsuitable occupation, chlorosis, and so on, in which it is difficult to trace a primary cause in the internal secretions: at any rate, one need take no account of them in the treatment of such cases. But there is a large number of instances in which the organs of internal secretion are primarily at fault. As already stated, the internal secretions of the ovary mainly produce their effects in correlation with other internal secretions: and the full development of the genitalia, therefore, is dependent on the general metabolic conditions prevailing under the influence of all the endocrinous glands. So that, strictly speaking, one cannot consider under-development of the ovary as a primary factor in delayed puberty, although, undoubtedly, it may be found to be under-developed as a correlated condition. Practically, it appears that the thyroid and pituitary, in association with the ovaries, are the factors most concerned in the final development of the female genital organs. It will easily be understood how important a matter it is that all cases of delayed puberty—both in major degree where the patient remains childlike altogether, and in the minor degree where she is well developed in every particular except in regard to the genital functions—should be carefully taken in hand at the earliest possible moment. These patients are frequently obese, consequently this condition has been considered to be a primary cause of delayed puberty. This is not so; both conditions are dependent on the same cause.

Many cases can be treated successfully with thyroid extract, and some with pituitary extract in large doses. Extract of the whole gland should be prescribed.

There appears to be little chance of effecting full development of the uterus after the age of 20 years. This, at first sight, appears to be a somewhat curious fact, for one might think that if a uterus can be, and normally is, roused into activity after fifteen years of primary inactivity, ten more years of quiescence would make no difference. It must be remembered, however, that the body metabolism alters rapidly after the eighteenth year of life, when the development of the skeleton is practically completed: so that, unless genital activity be aroused during the period of change, it is impossible sufficiently to control the metabolism, which has become rearranged, in order to produce the effect desired.

Derangements of the Fully Established Female Characteristics and Functions.

Derangements of the Sexual Characteristics.

The secretions of the endocrinous glands which have produced the normal female continue subsequently to act in the same way—passively, no doubt—and it is only some extensive alteration in the structure and function of certain units of the internal secretory system which can bring about an alteration in the female sexual characteristics once they have been determined, and the genital organs have become functionally active. So far as we know, the withdrawal of any one secretion will produce no change. There must be some overgrowth in those parts of the endocrinous system, apart from the genital glands, which normally produce masculinity—a potentiality which appears to be concentrated in the suprarenal cortex, the pituitary body, and probably in the pineal. Apert[1] has asserted that masculine characteristics may be produced in women by simple ovarian tumours. But, as Glynn[11] points out, there is no evidence in the cases reported that the suprarenals were examined, or, I might add, the pituitaries and pineals.

In adult women, before the menopause, the changes towards masculinity associated with suprarenal hyperplasia and neoplasia may be most marked. Menstruation ceases, the breasts shrink, hair grows on the face, the voice deepens; and last, and not least, profound psychical changes have been known to occur, a previously gentle woman becoming rough and aggressive. A number of such cases have recently been collected by Glynn.[11 11a]

With acromegaly, too, I have seen a somewhat similar change. In one case menstruation ceased, the skin became coarse, the voice deep, the breasts shrunken, and last, and most interesting of all, the clitoris hypertrophied until it resembled a small penis. We know that in the male acromegaly (hyperpituitarism) at first gives rise to increased sexuality, so that the reverse obtains in the female in whom there is a tendency towards masculinity. In the case of the internal secretions of the pituitary, therefore, we see evidence of a difference of sex stimula-

[1] It has already been mentioned that the uterus may be malformed owing to local pelvic conditions, with full development of the ovaries. In such circumstances puberty occurs, although the uterus may be functionless.

tion in the male and the female, just as we saw it in connexion with the suprarenals and pineal.[9]

These, then, are the main facts in connexion with the maintenance and alteration of sex characteristics in the adult female.

Derangements of the Genital Functions.

In considering derangements of the fully established functions I shall take in order each of the chief organs of internal secretion and endeavour to show how they are individually related to the various disorders met with. In some cases we have to take into account certain correlations; especially is this so where the ovary is concerned.

Primary disorders of the endocrinous organs may be considered as giving rise to insufficiency or excess of the normal secretions.

Ovarian Insufficiency.

Ovarian insufficiency occurring during the active sexual period is rare as a primary disorder, except when produced by operative interference. As we have already seen, when the ovaries are removed experimentally definite changes occur in the general metabolism, in the uterus and in the structure of the other organs of internal secretion: and these changes appear to be more prominent in the higher than in the lower mammals.

From observations made on the human subject there is no doubt that a similar train of events follows complete oöphorectomy. In addition, however, there are frequently to be noticed psychical phenomena, which are doubtless dependent on the general disturbance of the metabolism: but marked individual variations exist in the symptoms produced just as normally there are considerable variations in the femininity and sexuality of different women. Unfortunately, those who have asserted that oöphorectomy is of small moment to the patient have failed to make good their scientific position in the matter by the exercise of a discretion that appears obvious in view of what has been said regarding individual variability. If one were to gauge, and in many cases it would not be difficult, the degrees of femininity and ovarian activity in the patient, it might be possible to assert that in those cases in which these were obviously in abeyance little disturbance of the metabolism would result: and, consequently, it might be justifiable in such cases to remove the ovaries with a fibromyomatous uterus or with infected tubes. But unless such a scientific distinction, which undoubtedly does exist and accounts for the individual variations after oöphorectomy, be made, it does not seem right blindly and systematically to remove the genital glands.

It is more or less generally supposed that the natural menopause occurs in women as the result of an ovarian insufficiency. Undoubtedly there is ovarian insufficiency sooner or later, but it has always seemed to me that the symptoms produced depend for their severity on the correlations that exist between all the internal secretions, on the uterine changes which prevent the monthly excretions, and, lastly, on individual variability as to sexuality and to the stability of and capacity for readjustment in the endocrinous system. That the phenomena associated with the natural menopause partly depend on ovarian insufficiency is proved by the onset of similar manifestations in most women after oöphorectomy. That they are related to the coincidental uterine atrophy is proved by the fact that women may suffer from these same symptoms after removal of the uterus alone. Also, I have seen monthly molimina which reminded one strongly of some of the symptoms of the menopause in women in whom there was congenital absence of the uterus or malformation sufficient to prevent menstruation, together with functional ovaries. Finally, the natural menopause varies in its severity in different women, just as does the artificial; but probably chiefly according to the extent of the femininity, which is accentuated by ovarian activity.

The main types of menopausal phenomena to be observed clinically may be classified as follows:

1. Psychical.
2. Vasomotor.
3. General metabolic.
4. Gross changes in the endocrinous glands.

Thus we may observe:

1. Mental irritability or instability.
2. Flushing with sweating, cardiac distress, and intestinal movements.
3. The deposition of fat and the retention of calcium salts in the tissues.
4. Excessive changes in the endocrinous glands, especially the thyroid and pituitary body. One of my patients died of exophthalmic goitre one year after the removal of both ovaries for malignant disease. Myxœdema, which recent views associate with previous excess of secretory activity in the thyroid, also usually occurs after the menopause. The changes in the pituitary are less noticeable, but the deposition of fat may be the result of what is known as carbohydrate tolerance, due to hypopituitarism. This condition is always seen in the disease known as dystrophia adiposo-genitalis.

It must be remembered, of course, that the phenomena mentioned above are classified clinically. They are all primarily due to disturbances in the endocrinous organs.

The information required before we can speak with certain knowledge about the changes at the menopause is considerable. Work must be done on the normal age changes in the endocrinous glands, and especially the changes that occur at the menopause: and the metabolism before, during, and after the menopause must be worked out in a number of cases and compared. But however little we know about the metabolism of, and the structural changes in, the glands of internal secretion at the natural menopause, we recognize the fact that the more gradual the onset and completion the less the general disturbance. Many women, of course, have prolonged and distressing menopauses, but in some, at least, I am inclined to think that the menopausal retrogression is spasmodic rather than continuous. The cases of the natural menopause in which the disturbance is great are undoubtedly those which occur suddenly, and for this reason the artificial menopause is liable to be more serious than the natural.

There seems, too, to be some relation between the severity of symptoms and the age of the patient. In this respect, I believe, the natural often differs from the artificial menopause. When it occurs in young women (35 to 40 years of age) naturally, or pathologically as in superinvolution of the uterus, the symptoms are usually slight. Possibly this is because the genital functions in such women have never been predominant. When the natural menopause occurs in elderly women (50 to 55) the symptoms are often severe. On the contrary, the artificial menopause usually produces far worse effects in young women than in those over 45 years of age, the degrees of femininity being equal.

To complete the picture of ovarian insufficiency it is necessary that we should turn for a moment to the question of the ovarian secretions in pregnancy. It was first shown by Fränkel[10] that destruction of the corpus luteum in the early stages of pregnancy inevitably caused abortion in animals. Hick and I[11] and others have confirmed the importance of the ovarian secretions in the implantation of the ovum in rabbits. But this does not hold good to the same extent in the human subject, for both ovaries have been removed as early as the sixth week of pregnancy without producing abortion. In such cases the question of the entire removal of the ovary is easily settled by the subsequent history of the patient. At the same time it is almost certain that the initial implantation of the ovum could not occur in the absence of the secretion of the corpus luteum. And, indeed, such insufficiency may be the cause of many early abortions.

It has been suggested that during pregnancy ovulation does not occur, and that the internal secretions of the ovary, apart from that of the corpus luteum, are in abeyance. I do not think there is any real evidence in support of these statements. Nevertheless, if such were the case, it might indicate that ovarian insufficiency during pregnancy threw a considerable strain on the other organs of internal secretions such as the thyroid and anterior lobe of the pituitary, and, in fact, might be the original cause of some hyperplasias in these structures.

When we consider the treatment of ovarian insufficiency, the question of ovarian transplantation naturally first crosses our minds. Experimental and operative evidence goes to show that autogenous grafts alone are of service. In rabbits, grafts from one animal to another have been

The thymus *appears* to take no part in the regulation of sex characteristics, in spite of its supposed influence over the formation of the skeleton. Further investigations may, however, prove that it is so concerned.

shown to be effective, but only for a short time. Professor Tuffier of Paris has found that, in the human subject, only autogenous grafts are of any use at all. Ovarian transplantation, therefore, can only be employed in *mitigation* of the artificial menopause. That is to say, autogenous ovarian grafts may be of value in women under 40 years of age in whom both ovaries have been removed; but they can be employed only in those cases in which the lesion is not malignant. Thus there is a very restricted field for this method of treatment, especially when we remember how rarely it is necessary entirely to sacrifice the whole of both ovaries in other pathological conditions. In the circumstances indicated, however, I believe it to be a most valuable and even imperative procedure. When a graft is made, it is better, I think, to use a thin, flat, or wedge-shaped piece of ovary without the cortex, in order that the extensive raw surfaces may quickly obtain attachment and an efficient blood supply be established, and that by the removal of the cortex cyst formation in the follicles, which is otherwise inevitable, may be avoided. Recently I saw Professor Tuffier of Paris implant an ovary. He simply buried the *whole* ovary in the anterior abdominal wall. This appears to me a very bad technique, for the reasons indicated above. In any case, as far as we know, the menopause is only postponed and thereby mitigated by ovarian implantation.

Excessive Ovarian Secretion.

The clinical effects produced by excessive ovarian secretion may be discussed under two headings:

1. Effects on the sexual functions, characteristics, and psychology.
2. Effects on the general metabolism.

It must not be forgotten that the effects mentioned in the first group are chiefly dependent on alterations in the general metabolism.

1. An excessive ovarian secretion leads to an increase in sexual activity both locally and generally. The local effects may be seen in an increased and prolonged menstruation. This condition occurs chiefly in girls about and just after puberty who indulge in masturbation or are sexually insane, in unmarried women over 30 years of age, and in women whose married life is a failure from a sexual point of view.

Before long it is probable that we shall find that injections of suprarenal and pituitary extract may be employed to control the effects of excessive ovarian secretion, and in these circumstances operation will not be called for.

2. An excessive ovarian secretion affects the metabolism in the opposite way to oöphorectomy, and one of the most important metabolic disturbances is the abnormally large excretion of calcium salts. In the non-pregnant woman this is a matter of no importance so far as the skeleton is concerned, but it possibly accounts for some of the nervous and muscular irritability, which are constant features of these cases. In pregnancy and lactation, however, there is a large demand for calcium over and above the amount necessary for the normal maternal metabolism, and, as a result, softening of the bones may occur. This condition is known as osteomalacia. Such cases are not common in some localities, and personally I have not seen a case for many years. This disease used to be treated by removal of the ovaries, and many patients were cured. A few years ago Bossi, of Genoa, suggested the injection of suprarenal extract as an alternative to oöphorectomy. Apparently many cures have been effected by this treatment, and also by the injection of pituitary extract. So that it may be argued that there is insufficiency in these organs, as well as an excess of ovarian secretion; and this, indeed, is quite possible. Be this as it may, substitution of other extracts is a great advance on removal of the ovaries in the treatment of osteomalacia; and the success thus obtained indicates the line of attack that will probably be followed in the future in regard to all those diseases of the endocrinous glands in which there is an excessive secretion. That is to say, metabolically antagonistic extracts will take the place of removal of portions of the diseased organs.

By way of further illustration I may here mention that, as I suggested some time ago, the injection of pituitary extract is an excellent method of treatment in hyperthyroidism. Suprarenal and pituitary extracts counterbalance the action of the ovaries and thyroid and lead to calcium retention, which, as we have already seen, is a normal function of the suprarenals and pituitary. It is probable that both portions of each of these structures are concerned in the result.

Thyroid Insufficiency.

Thyroid insufficiency always causes a decrease in or the complete cessation of the function of menstruation, according to the degree of insufficiency. I have already alluded to the complete atrophy of the uterus which follows thyroidectomy in animals; and it will be remembered that I pointed out that in my experiments the ovaries were not found to undergo atrophy, but rather to show increased activity. Apparently in the human subject atrophy of the uterus is never complete with pathological insufficiency of the thyroid, not even with myxoedema; for I have known a patient, who had had this condition for some years, not only to menstruate, but to conceive after the administration of thyroid extract.

It is, however, the disturbances arising from minor degrees of thyroid insufficiency which chiefly come under our notice as gynaecologists. Delayed menstruation has already been discussed. Secondary amenorrhoea and scanty menstruation, the latter often associated with dysmenorrhoea, are very frequently seen with thyroid insufficiency. The patients are obese, lack energy, and have deficient sexuality. There is another menstrual disturbance—namely, mastodynia—which sometimes occurs regularly each month before the onset of menstruation, in which I have found thyroid extract of great service; and in consequence of this I believe that the condition may be indirectly connected with thyroid insufficiency. If thyroid extract be given from about the twenty-fourth day of the cycle till menstruation is established this function may come on earlier than usual, with relief of the pain in the breasts. There is a natural aversion from prescribing thyroid indiscriminately, but in these minor degrees of insufficiency thyroid extract is the one preparation which will cure the patient. I have seen quite remarkable results in a number of cases. I always order the preparation—usually 3 grains of the dried gland—to be taken only on going to bed at night. If given in this way and not during the day the patient never suffers from ill effects.

With regard to pregnancy, it is well known that normally the thyroid gland enlarges in the early stages, but I need not here go into the causes of this. It shows that increased thyroid activity, which, I believe, takes the form of a storage of colloid, is required. A marked degree of insufficiency, such as is seen in myxoedema, almost invariably leads to sterility. Cases have been recorded in which pregnancy has occurred in minor or variable states of this disease; and in such circumstances a notable improvement may be produced in the general condition, the thyroid becoming more or less active.

There is one more point in regard to thyroid insufficiency and pregnancy which requires some comment. Nicholson[15] promulgated the view, which has been taken up by many others, that eclampsia was due to thyroid insufficiency in pregnancy. I conducted a series of experiments—reported elsewhere[1]—to find out how far this was true; and I came to the conclusion that neither metabolically nor actually was there any real evidence in support of Nicholson's view. Indeed, it appeared to me that the animals in the later stages of pregnancy were considerably less affected than those which were not pregnant. I have accounted for this curious fact by assuming that in the later stages of the development of the fetal thyroid its secretion may be conveyed to the mother. The thyroid, of course, has a most important part to play during pregnancy, but I do not think it has anything to do primarily with the causation of eclampsia.

Excess of Thyroid Secretion.

It is a common experience to meet with an excess of thyroid secretion in connexion with pelvic lesions, and we must be careful to distinguish between those cases which are the result of genital affections and those which are the cause of them. It is certain that after the menopause the thyroid normally undergoes some retrogression, after, perhaps, a period of minor hyperthyroidism; and it is probable that removal of the ovaries leads, eventually a

all events, to the same condition in the majority of cases. But, as I have mentioned, acute exophthalmic goitre may intervene. Experimentally it is seen that a considerable increase in the colloid formation follows oöphorectomy, but it is probable that this is a different condition from Graves's disease. At the same time we really know far too little about exophthalmic goitre—especially in its relation to simple goitre and to myxoedema, with which it not infrequently alternates—to speak definitely on this question. Excessive thyroid secretion may act on the genital functions in two ways. First, it may stimulate them to unusual activity, or, secondly, the general metabolism may be so upset that the genital functions cease. I am quite certain that there is a condition of hyperthyroidism which produces excessive menstruation, and which is totally unassociated with any of the symptoms of exophthalmic goitre. This condition is usually seen in girls about puberty usually just before and during menstruation. It may be that the excessive activity is due to the incomplete functional development of the ovaries; but, whatever the cause, there is not infrequently menorrhagia. I have, however, seen this same enlargement of the thyroid with amenorrhoea. This paradoxical phenomenon is easily explained on the supposition of ovarian insufficiency, and an inability of the thyroid in some cases, in spite of its enlargement, to meet the deficiency. When there is menorrhagia I have found that it can always be controlled by calcium lactate.

The relation of excessive thyroid secretion to conception and pregnancy is very interesting, and much has been written on the subject. I think there can be no doubt that excess of thyroid secretion, except that seen in connexion with exophthalmic goitre, does not interfere with fertility. It would be strange if it did, since we know there is an increase of thyroid activity during the early months of pregnancy, and possibly throughout. But it is no less a fact that women with marked exophthalmic goitre rarely become pregnant, and if they do the disease is aggravated. I remember one patient who had suffered from exophthalmos for some years, yet she had had several children, but there had always been haemorrhage *post partum*—an occurrence which has frequently been noted in these cases. She consulted my colleague, Mr. Thelwall Thomas, and he removed one half of the thyroid gland, with the result that there was marked amelioration in her symptoms. Shortly afterwards she became pregnant again, and Mr. Thomas referred her to me for observation and treatment. She became somewhat worse than she had been since her operation, so I gave large doses of calcium lactate and ordered rest. She went comfortably to full term, and there was no haemorrhage *post partum*. I advised her not to nurse the child, which was normal. She improved very considerably after parturition, and is now, so far as I know, in good health. I think it is most important that these patients should be given large doses of calcium salts if they become pregnant, as there is such an excessive excretion of lime salts in this disease, and so much danger of haemorrhage *post partum* and even *ante partum*. Infundibulin should be given immediately after labour, to prevent bleeding.

Pituitary Insufficiency.

We have seen that, like the thyroid, the pituitary is actively concerned in the proper development and the maintenance of the genital functions. Consequently, as we would expect, insufficiency of secretion is associated with amenorrhoea or scanty menstruation. I have already mentioned the fact that various investigators claim for different portions of the pituitary body different functions, and I have stated my belief in the unity of the whole gland. Patients with pituitary insufficiency are always obese and dull, and it is often a difficult matter to say whether the thyroid or the pituitary, or both, be at fault. Sometimes it is quite impossible to make sure, and in such cases one can only try first one and then the other extract. I have occasionally given both together, for we know from experiments that a very intimate connexion exists between these two organs. If it be true that there is atrophy of the ovary with pituitary insufficiency, as described by Cushing, it would probably be useful to give both pituitary and ovarian extract together. I have shown that ovarian atrophy does not occur with thyroid insufficiency in adults, and therefore I am somewhat sceptical as to the findings of Crowe and his co-workers, already alluded to, in regard to the ovaries with pituitary insufficiency. Sometimes the condition of the skin may help one in forming an opinion as to which gland is at fault. If it be dry and rough one would suspect the thyroid, if fine and smooth it is more likely that the pituitary is at fault. I have come across no case recorded in which a patient suffering from a major degree of pituitary insufficiency has become pregnant. As already mentioned, pituitary extract appears to act as well as suprarenal extract in osteomalacia, so that it is possible that there is a minor degree of insufficiency of the pituitary body in this disease.

Excess of Pituitary Secretion.

We have seen that an excess of pituitary secretion, such as occurs in acromegaly, produces masculinity, and while in the male this may give rise to excessive sexuality, in the female it causes amenorrhoea and loss of desire, as is only natural if masculinity be produced. The amenorrhoea may be spasmodic, for acromegaly tends to improve for a time and then again to retrogress. Cushing[9] has shown that eventually acromegaly (hyperpituitarism) changes into dystrophia adiposo-genitalis—a condition of pituitary insufficiency. The effect of excessive pituitary secretion must, therefore, necessarily tend to produce sterility. A case, however, has recently been recorded[12] in which a woman suffering from acromegaly conceived after having been treated, before becoming pregnant, with ovarian extract, which was believed to have improved her general condition and to have caused the appearance of menstruation. I have myself seen an improvement with the reappearance of the menses take place in acromegaly under ordinary circumstances. So that it is difficult to say with certainty that pregnancy resulted in the above case from the treatment with ovarian extract.

Suprarenal Insufficiency.

This condition has only received clinical recognition in Addison's disease, in which there is an extensive derangement of the metabolism. The amenorrhoea that is found in this disease is probably due partly to the general disturbances and partly to uterine atrophy. I know of no record of a proper *post-mortem* examination of the genital organs in this disease. Experimentally I have found a moderate grade of uterine atrophy with suprarenal insufficiency.

We have already seen that the administration of suprarenin has been successfully employed for osteomalacia. This, as I have pointed out, may be not only because suprarenin is antagonistic to the ovarian secretion, but also because in this disease there may be suprarenal insufficiency, a supposition which is supported by the fact that in one case in which I produced experimentally suprarenal insufficiency in a rabbit the bones of the fore-legs became bowed. Further, in most of the animals operated on there was an enormous increase in the urinary excretion of calcium. It appears, therefore, that the secretions of the suprarenals are of great importance during pregnancy in assisting the absorption and retention of lime.

Excess of Suprarenal Secretion.

There is little to add to what has already been said concerning the sex changes that occur in adult women with suprarenal cortical hyperplasia. Amenorrhoea is a constant phenomenon, and pregnancy never occurs in well-defined cases. At present we have no remedy for suprarenal hyperplasia, but in the future some treatment may be forthcoming for the minor degrees of this condition, and this will probably be of the nature of an antagonistic combination of secretions. That there are many cases of slight hyperplasia which go unobserved seems probable, for it is a question whether the shame of a moustache or pride in masculinity has the greater weight with some women. I have such a case under observation at the present time. The patient is aged 19, her menses have ceased, and she has a masculine voice and appearance. The growth of hair on the face alone is required to complete the picture.

Thymus Insufficiency.

This, so far as we know, is natural after puberty. It is possible that in cases of early retrogression of the

thymus sexual precocity occurs. It is difficult, however, to know which is the cause and which the effect. Further clinical investigations should throw light on this question.

Excess of Thymus Secretion.

In the condition known as status lymphaticus there is abnormal persistence of the thymus, and since the secondary or pubescent development of the sexual organs is associated with retrogression of the thymus there is under-development of the genital organs with amenorrhœa if the thymus persist. Individuals with a persistent thymus usually die early, and I do not think the condition has as yet been considered at all seriously from the genital point of view. Retrogression of the thymus might be assisted, if the view be true that development of the genitals causes retrogression of the thymus—a question which has already been discussed.

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EPIDEMIC CERVICAL ADENITIS.

BY

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DURING the spring we had in Leeds a long-continued epidemic of influenza of a moderately severe type. Side by side with this there had been in some districts numerous cases of mumps, diphtheria, and measles, but amongst the cases of illness there were some which could not be fitted with a diagnostic label. The obscurity attaching to them is now removed to some extent by the descriptions given in the article which appeared in the JOURNAL of June 14th, 1913, p. 1282, entitled "An Epidemic characterized by Adenitis, Tonsillitis, and Cardiac Complications."

I cannot say how many cases I have seen—perhaps twenty, thirty, or more in all—for at first they fell into that long list of undescribed conditions which we all meet with; and it was only when some half-dozen cases of more than ordinary severity were seen that one took special notes with a view to arriving at an exact diagnosis. These were as follows:

CASE I.—*Cervical Adenitis and Tonsillitis.*

The first case that arrested my attention was a girl of 12, who in April, 1913, had a swelling at the angle of both jaws and in the triangles of both sides, with a red rash, limited to the neck, which completely disappeared after half a day. There was slight swelling of both tonsils, an œdematous uvula, a white-coated tongue, and a temperature which never was higher than 101°, a pulse of 110, stiffness of the neck and shoulder muscles, malaise, nausea, complaint of palpitation and pain at the pit of the stomach. One is almost ashamed to write that the diagnosis varied between rheumatism, influenza, German measles, mumps, and diphtheria. Rheumatism because a brother and sister suffered from heart disease, the result of this affection, and because of the stiffness from which the girl herself suffered; influenza because it was prevalent; German measles because of the rash; diphtheria because it, too, was then in evidence, but a swab cleared this up; mumps because three cases had occurred in the near neighbourhood. All were excluded and the diagnosis was left blank. The most prominent signs and symptoms were the cervical adenitis, which persisted for more than a week after the acute symptoms; the rapid heart action, which persisted for three weeks; and the later debility.

CASE II.—*Cervical Adenitis, Measly Rash, and Tonsillitis in an Adult.*

This patient, seen in April, 1913, was a lady of 35, who had a large swelling at the angle of the left lower jaw, and the same on both sides of the sterno-mastoid muscle, accompanied by a measly rash on the neck, chest, and hands, which appeared suddenly and disappeared suddenly within two days. The tongue was coated white and the tonsil on the left side was large and purple red. There was great stiffness of the muscles of the neck. The pulse was 120, and palpitation was complained of. The temperature rose to 103° on two days. There was nothing suggesting quinsy. One morning she said she was sure something had burst in her mouth, and she complained of a salty taste for two or three days. After this the tonsil decreased in size and the swelling on the jaw also disappeared. The stiffness remained long after all acute symptoms had gone. The swelling of the glands along the sterno-mastoid muscle did not go till four weeks after its first appearance, and convalescence was not established till this time. The exhibition of the hypophosphites and Fowler's solution seemed to hasten the disappearance of the enlargement.

CASE III.—*Mild Cervical Adenitis.*

A boy of 7 was suddenly seized in March, 1913, with a temperature of 101°, headache, slight sore throat, and enlarged glands on both sides and in both triangles. He got rapidly well on 5-gram doses of sodium salicylate, but the glandular enlargement remained for over fourteen days, much to the anxiety of the parents, who feared acute tuberculosis. The boy ultimately got quite well.

CASE IV.—*Adenitis with Moderately Severe Tonsillitis.*

A girl of 11 had stiff neck, enlarged glands at the angle on both sides, swelling in both anterior triangles, enlarged tonsils, especially on the left side, and on this side there was a patch of yellow which it was thought might be diphtheria. A swab gave a negative result, and the child soon got well as far as the acute symptoms were concerned. The temperature was never higher than 102°. The glands in the anterior triangles did not go away till the girl was up and moving about.

CASE V.—*Very marked Glandular Enlargement with Severe Constitutional Symptoms.*

A girl of 13 was taken ill with headache, stiffness of neck and shoulders, temperature of 103°, sickness, vomiting, large swelling at the angles, in the triangles, tender tonsils, and œdematous uvula. Under time and treatment the mouth symptoms, swellings at the angles, and the sickness and vomiting cleared away, but the swelling of the glands remained in the triangles till the child was able to be out—some three weeks after the commencement of the illness. Earlier in the year four brothers (she was the only girl in the family and slept alone) and the father and mother were all laid up with influenza.

CASE VI.—*Enlarged Cervical Glands, Tonsillar Abscess, and Palpitation.*

A woman of 25 was seized in May, 1913, suddenly with pain in the throat, stiff neck, enlarged glands at the angles and in both triangles, epigastric pain, suffocating feeling, palpitation, and a temperature of 103° in the armpit. On examining the mouth the tonsils were swollen and red, but more particularly on the left side (by a strange coincidence the left side is nearly always the more severely affected), which was bulging. On the third day this swelling burst and discharged pus and blood, and left a ragged opening. The heart was 140, and the first sound in the mitral area was not clear; but this was not seriously considered, for the patient is somewhat "nervous." This may have been a mistake on my part, and the heart condition may have been part of the general disturbance. The swelling at the angles of the jaw rapidly subsided, but in the case of the glands along the sterno-mastoids the subsidence only took place gradually and only after a few weeks. The convalescence was prolonged.

In all the cases the tonsils played an important part, and they may have been the seat of entry of infection. I can now recall several cases of a mild nature having occurred in families, so that the disease may be of a nature which is communicable from person to person; and I now see cases in which stiffness along the sterno-mastoids is complained of, and on examination tender glands are discovered near the muscle. Are they late cases of the kind now under review? They disappear on being treated with organically combined iodine and massage.

THE will of the late Mr. Walter Whitehead, consulting surgeon to the Manchester Royal Infirmary, has been proved at £176,892 net. Among the bequests are £250 to the North Wales University College, and an annuity of £20 to the Manchester Royal Infirmary for the Bradley scholarship.

WE learn from the *Australasian Medical Gazette* that in order to promote research in cancer Mr. John Grice, a member of the Melbourne University Council, has offered a sum of £1,000, to be spent at the rate of £125 a year, to establish a scholarship for work at the University and the Melbourne Hospital. The State Government makes an annual grant of £1,000 to the University for research purposes, and the Minister of Education recently conferred with Dr. MacFarland (the vice-chancellor) and Dr. J. W. Barrett, and agreed to raise the amount to £1,125 for three years, so that the extra £125 could be devoted to cancer research during that period.

TREATMENT OF GONORRHOEAL EPIDIDYMITIS BY BIER'S METHOD.

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THE treatment of epididymitis is at all times a tedious affair, wearying to the doctor but infinitely more so to the patient. In a public service such as the army and navy, where every hour's delay is so much time lost to the State, it is especially important that every means should be adopted to avoid protraction in the treatment of disease. After some little experience I have been led to believe that the best results are obtained by a combination, where possible, of existing methods with Bier's passive congestion, modified to meet the requirements. The treatment can be used in all chronic and a great many acute cases. By this means the period of disease is in almost every instance reduced by nearly half as compared with existing methods alone.

Method of Application.

In applying passive congestion to a testicle for the treatment of gonorrhoeal epididymitis, all that I use is a strip of lint 1½ in. wide, a fine piece of rubber tubing, and a pair of Spencer Wells forceps. The cord on the affected side is encircled just above the testicle by the strip of lint, which is continued round between the two testicles along the median raphe of the scrotum. Over the lint is applied the rubber tubing, which is tightened to the required extent and secured by artery forceps. (The required extent being such that no pain results after the application; instead, the patients describe a comfortable warming sensation with immediate relief of pain.) Pain after application implies that the tubing is too tightly applied, and suggests that it should be loosened. A few moments after adjustment the enclosed tissues assume a purple colour resembling a ripe plum. The treatment is applied for an hour the first day, where possible, increasing daily up to as much as eight hours. But in some very acute cases half an hour will be all that the patient can stand at first (vide Case II). Where practicable, however, it will be found that the duration of disease is in inverse ratio to the length of daily application of treatment.

The following series of six cases may be of interest:

CASE I.

G. C., aged 26, came on the sick list on April 3rd, suffering from gonorrhoea. On April 14th he developed right epididymitis, which was at first treated by bed, the ordinary initial purge, subsequent urinary antiseptics and diuretics, together with local applications of lotio plumbi cum opio.

On April 24th, as little or no improvement took place, treatment by passive congestion was commenced. The application in this case was applied for an hour the first day, increasing daily up to as much as eight hours.

On May 2nd all pain and tenderness had disappeared; treatment was therefore discontinued.

The patient had to remain on the list until May 7th for treatment of the urethral discharge.

He was thus under treatment for epididymitis altogether from April 14th to May 2nd—eighteen days—during the latter eight of which only was he treated by Bier's method.

CASE II.

G. T., aged 29, was admitted to the sick list on April 9th, suffering from gonorrhoea and acute right epididymitis. On April 10th passive congestion was applied for two hours. On April 11th, however, as there was slight pyrexia with pain in the back, the treatment was temporarily discontinued. It was recommenced on April 14th for half an hour, and continued systematically until April 20th for increasing periods of time. Then all swelling and tenderness had disappeared. Seven days' continuous treatment, in this case, sufficed for a cure.

The cause of the initial pyrexia and pain in the back was perhaps due to an over-zealous primary application of treatment, two hours proving more than the patient could stand.

CASE III.

B. T., aged 26, was admitted to the sick list on April 3rd, suffering from gonorrhoea and right epididymitis. The routine application of lotio plumbi cum opio, alternating with fomentations frequently applied to the testicle for two days, did not relieve the pain. On April 5th, therefore, treatment by passive congestion was commenced, which was continued until April 9th, when all pain and tenderness had disappeared. Some slight thickening, however, remained for some few days longer. In this case a cure was effected after four days' trial when other treatment had little effect.

CASE IV.

R. C., aged 19, came to me on May 5th suffering from gonorrhoea and right epididymitis. On May 6th Bier's treatment was applied for one hour, and continued with increasing but intermittent applications until May 19th, when all signs of the inflammation had vanished. In this case thirteen days' treatment were necessary to effect a cure. This was the most obstinate one of the series, due, I fancy, to the fact that the treatment was irregular and not a daily routine.

CASE V.

W. H. T., aged 28, was a case of chronic gleet, in the course of which the patient developed an acute attack of epididymitis. From the first this case was treated by passive congestion, and it cleared up entirely in six days (from May 12th to 17th), when all signs of inflammation had subsided.

CASE VI.

The last case was a patient aged 20, who suffered from gonorrhoea and right epididymitis. He came to the sick quarters on May 19th. For the first two days the ordinary methods of treatment were tried, when, by request of the patient, the special treatment was carried out, at first for an hour daily and then for longer periods, with very satisfactory results. On May 26th there was but slight thickening of the globus major and very little tenderness on deep palpation. The treatment was thereupon discontinued, after but five days of passive congestion.

Taking at random the records of four other cases treated by the ordinary orthodox methods, we get the following comparative table, though in both cases the patients had to attend subsequently for treatment of their urethral discharge:

Cases Treated by Usual Methods.	Length of Treatment.	*Cases Treated by Passive Congestion.*	Length of Treatment
Case I	17 days.	Case I	9 days.
Case II	24 ,,	Case II	7 ,,
Case III	11 ,,	Case III	4 ,,
Case IV	10 ,,	Case IV	13 ,,
	—	Case V	6 ,,
Total	62 ,,	Case VI	5 ,,
		Total	44 ,,

Taking the aggregate number of days for the first four cases in each instance, we get 62 days' sickness in the first series as compared with 33 days in the second. This means a saving of 29 days, or in other words, a week's extra work per man, which in Government employ is a fact not to be despised.

The primary application was always made with extreme care, the manipulation of an acutely inflamed epididymis being necessarily painful; but in all cases directly the bandage was in position the cessation of pain was instantaneous.

Unfortunately, owing to recent lack of material, I have been unable to give this method a more protracted trial, but I venture tentatively to put it forward as a suggestion for further trial in large institutions. In all these cases, of course, the strictest care was taken to ensure that the patient remained confined to bed, and the ordinary routine as regards general treatment was carried out.

THE French Society of Exotic (or Tropical) Medicine has passed a resolution calling on the French Government to take steps to prevent the spread of opiomania in France and to destroy existing hotbeds of the habit. The Society asks that the use of opium be forbidden in France and in the colonies to officers, military and naval, under severe disciplinary penalties. It is further urged that the Government of Indo-China should take the necessary steps for the gradual suppression of the opium trade in conformity with what is being done in adjacent countries, and that it should rigorously enforce the measures already adopted. The principal of these are the exclusion of opium smokers from public offices; teaching in schools and in lectures, and leaflets addressed to the public pointing out the dangers of opium; and the establishment of hospitals for the treatment of opiomaniacs. The society further calls on Colonial governors to take the necessary steps to ensure that cocaine, morphine, alkaloids derived from opium, as well as preparations described as "anti-opium," shall be allowed to pass the Customs only when consigned to European pharmacists. These pharmacists must enter the import and export of these drugs in a special register open to inspection.

EIGHTY-FIRST ANNUAL MEETING
OF THE
British Medical Association.

Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF TROPICAL MEDICINE.

Lieutenant-Colonel Sir WILLIAM LEISHMAN, F.R.S., President.

DISCUSSION ON DYSENTERY.

OPENING PAPERS.

I.—S. R. DOUGLAS, M.R.C.S., L.R.C.P.,
Assistant Director Inoculation Department St. Mary's Hospital; Late Captain I.M.S.

NOTES ON AMOEBIC DYSENTERY FROM PAPERS PUBLISHED DURING THE PAST YEAR.

Up to the year 1907 the generally accepted life history of the amoeba causing dysentery was that described by Schaudinn. The most notable point in this description was the formation of small spore-like cysts instead of what is common in many other amoebae—a large cystic stage. This amoeba was named by Schaudinn the *Entamoeba histolytica*.

In 1907 Viereck described the life history of an amoeba found in cases of dysentery, which he named *Entamoeba tetragena*, from the fact that well-marked cysts containing four nuclei were formed. This amoeba he believed to be distinct from *E. histolytica*, and to constitute a further pathogenic species.

At the present time many observers—for example, Darling and Wenyon, believe that Schaudinn's description of the life history of the amoeba causing dysentery is erroneous, and that the true life history of this organism is that described by Viereck. Darling and James have also investigated another amoeba, the *Entamoeba minuta*, described by Elmassian, and believe it to be a stage in the life history of *E. tetragena*. Lastly, Darling and Ornstein have come to the conclusion that *E. nipponica* is also a form of *E. tetragena*.

There are, however, observers—for example, Craig, Ornstein, and James—who believe that there is a pathogenic amoeba having the life history described by Schaudinn, and that there are at least two pathogenic amoebae—the *Entamoeba histolytica* and *E. tetragena*.

The situation has been admirably summed up by Fantham, who gives his verdict in the following words:

> Recent research strongly suggests that the life cycle of *E. histolytica* described by Schaudinn is inaccurate as regards the exogenous cycle—probably degenerative and associated with minute spores—recorded by him. The correct reproductive cycle of *E. histolytica* seems rather to be the formation of four nucleate cysts, as discovered by Viereck for *E. tetragena*. If *E. histolytica* must stand, its life history would not be that recorded by Schaudinn, but that first described by Viereck, and the species named *tetragena* must then drop. At present, however, it would be presumptuous to dogmatize on such a difficult subject.

Darling states that by feeding young kittens on mucus from dysenteric stools containing cysts of *E. tetragena* symptoms of dysentery are constantly produced: but if, however, no cysts are present, the kittens are not infected, as the adult forms of the entamoebae are destroyed by the gastric juice; apparently the injection into the rectum of dysenteric mucus, even if it contains no cysts but only active amoebae, infects the kittens. The disease runs an acute course, and frequently ends in the death of the animal.

Wenyon, also using kittens, was able to carry the infection through four passages without any apparent loss of virulence; he also found on *post-mortem* examination that the mesenteric glands were invaded by the amoebae, which were seemingly feeding on the gland tissue, and in one case he found four abscesses in the liver, pus from which contained many amoebae. The amoebae obtained from stools of infected kittens were in every way similar to those obtained from the dysenteric stools of infected men.

With regard to the cultivation of the pathogenic amoebae, practically all observers—Craig, Darling, Wells, Wenyon, etc.—are agreed that these protozoa have never been grown on artificial media, those cultures which have been obtained being of a non-pathogenic variety and frequently air-borne.

During the past twelve months several cases of amoebic dysentery have been reported occurring in patients who have never left France. For instance, Paviot and Garin report such a case from Lyons, which they state is the fourth that has come to their notice from this locality, and in searching the literature they find cases have occurred from time to time in France, Germany, and the British Islands. Chauffard, Rouget, Galliard and Brumpt, and Morestin also report such cases from France during the past year. In view of these cases, it appears probable that cases may be occasionally overlooked owing to too great a stress being placed on the fact that the patient has never left Europe.

Legrand collected from the literature 45 cases of abscess of the brain occurring in patients suffering from dysentery. Examination of the pus and sections of the walls of these abscesses had been made in several of these cases and had revealed the presence of numerous amoebae, whereas cultures failed to reveal any bacteria. The situation of the abscess was usually in the cerebrum, the cerebellum being affected only in one case. The symptoms produced by such abscesses were the usual ones of a somewhat acute abscess of the brain. This complication was invariably fatal.

Carini has reported 2 cases in which the wound made for evacuating the pus from a liver abscess became phagedenic; pus taken from the phagedenic areas showed numerous amoebae. Both patients were in a very cachectic condition. Dagorn and Heymann also reported a somewhat similar case in which a small cutaneous abscess appeared in the neighbourhood of the operation wound; on examination of the pus obtained from this abscess numerous amoebae were found.

Treatment.

In June, 1912, and in the following months of that year, Lieutenant-Colonel Rogers, I.M.S., published several papers giving accounts of cases of amoebic dysentery and its complications treated with subcutaneous injections of the soluble salts of emetine. The results obtained by this treatment were very successful, the symptoms of dysentery rapidly disappearing, hepatitis resolving, and even although an abscess had formed in the liver a cure was obtained by simple aspiration when emetine was administered. Such results have been abundantly confirmed by French, English, and American observers, so that we appear to have in emetine a very active specific against the pathogenic amoebae.

Rogers, in his first paper, mentions that Vedder found that cultures of amoebae were rapidly killed by solutions of emetine salts, even in dilutions of 1 in 100,000, and on consulting Vedder's work one finds that several other facts are given which I am mentioning somewhat fully, as Rogers failed to do so.

Vedder, having shown that solutions of fluid extract of ipecacuanha had no specific bactericidal power on dysentery bacilli, then proceeded to investigate if amoebae were affected by this drug. As cultures of pathogenic amoebae are unobtainable, he used cultures isolated from tap water or the stools of a healthy man, and found that fluid extract of ipecacuanha had a very high amoebicidal action which varied markedly with the different extracts used.

Vedder then proceeded to investigate the amoebicidal action of the various constituents of ipecacuanha, and found that emetine even in strengths of 1 in 100,000 sterilized his cultures, and that another alkaloid—*cephaelin*—was equally amoebicidal. Further, he showed that ipecacuanha which had been treated to remove the emetine—the ipecacuanha sine emetina of commerce—had no deleterious effect on the cultures. He then proceeded to investigate the physiological effect of both emetine and cephaelin on dogs, and found that emetine, even in doses of 0.5 grain, had no emetic or depressant action on these animals, cephaelin

however, in doses of 0.1 grain caused violent vomiting and marked depression. He concluded his paper by saying, "If further experiments show that emetine has no marked emetic or depressant action and a constantly high amoebicidal action, we have a drug which may prove as active an agent against amoebic dysentery as quinine is against malaria."

In the past emetine has been given frequently as a substitute for ipecacuanha with markedly good results. The first mention of this was in 1813, when Magendie and Pellitier recommended its use. Lomax Bardsley, in 1829, obtained good results with emetine in some forms of dysentery and chronic diarrhoea. More recently Tull Walsh, in 1891, used a compound of emetine with mercuric iodide with good result in cases of dysentery in India.

That this very effectual remedy passed from the ken of medicine was most probably due to the difficulty of diagnosing the difference between amoebic and bacillary dysentery, but now that Vedder has shown by a series of scientific experiments that emetine is capable of killing amoebae and has no deleterious action on the body, that Rogers had applied the results of these investigations to the treatment of man, and has found a simple method of administering the drug, and that the differential diagnosis between amoebic and bacillary dysentery can be readily and in most easily made, we have a treatment that should be successfully applied to nearly every case of acute and chronic dysentery and those complications which are due to the pathogenic amoebae. Whether this treatment is a radical one, as is claimed by Rogers, can only be solved by time and further careful experiments on animals.

II.—J. Graham Willmore, M.R.C.S., L.R.C.P., and A. Harold Savage, M.B., B.C.Oxon.

(From the Laboratories and Hospitals of the Conseil Sanitaire Maritime et Quarantenaire d'Egypte.)

THE DIAGNOSIS AND TREATMENT OF EPIDEMIC BACILLARY DYSENTERY.

After tracing the history of dysentery in the Eastern and Western hemispheres from the sixteenth century, and showing what a potentiality for evil it exhibited, the authors continued as follows:

In 1910, at the meeting of the British Medical Association in London, a paper was read by Dr. Ruffer and one of us[1] describing the preparation of a multivalent antidysenteric serum, and setting forth the results gained from its trial administration in a preliminary series of cases of epidemic dysentery. Statistical tables were drawn up which showed the decrease of the mortality instant on the introduction of the serum treatment and other minor advantages accruing therefrom. In the present paper we propose to give a short account of this treatment in a further series of 227 cases, in which the presence of bacillary infection—often coincident with amoebic—was demonstrated. In view of the confusion that appears still to exist as to the classification of the different varieties of dysentery, perhaps the most satisfactory, as it is certainly the simplest, is that based on the etiology. We consider it wiser to confine ourselves to this, without attempting a classification on clinical grounds into gangrenous, acute, chronic, etc. By this means the cases are divided into three main groups: (1) Bacillary; (2) amoebic; (3) the combined, in which both types are represented in the same individual. This appears to be all that is necessary as far as the practical issues of treatment and prognosis are concerned.

In 1910 we divided the bacillary cases according to the type of germ or germs which we considered to be responsible for the disease; our diagnosis was based on the data furnished by the isolation of the specific germ or germs from the stools, and by the agglutination reactions of the patients' serum against them and against stock cultures. In some cases the diagnosis was made by both proceedings, in others by one or the other singly. Later experience has convinced us that to attempt further to classify than to prove that bacillary infection of some kind or another is or has been present, is a refinement of analysis, which, while multiplying the difficulties of the technique, not only serves no useful purpose, but may even be a source of positive error. The isolation of any given germ—bacillus A, for instance—from the stools is proof positive that the patient is actually suffering from the effects of that germ, or that he is at best a source of danger to his neighbours. This, however, does not exclude the possibility of other bacilli being present and missed, either from errors in technique or from intermittence in excretion. Further, this procedure is in all instances laborious and often in chronic cases a matter of extreme difficulty. It behoves us, then, to search for some other means of arriving at a positive diagnosis, an end which is, perhaps, the most easily sought by availing ourselves of the various serological tests, especially the agglutination reaction of patients' serum. In the paper read on this subject in 1910 in London it was pointed out that the agglutination test, while most valuable, has serious limitations as a method of diagnosis; the chief disadvantage is the uncertainty as to whether a reaction which is positive for one germ denotes actual or past infection with that germ, and in cases where it is positive for more than one germ, whether these results are to be interpreted as denoting contemporaneous or subsequent infections by those germs. It has been our practice during the last three years to test the serum of every patient against four types of bacilli, in dilutions of 1 in 20 and 1 in 40. In the lower dilution it is the exception rather than the rule to find a serum agglutinating one type of bacillus only, if it agglutinates at all, the agglutination is usually multiple. Table I shows the agglutination reactions of 100 consecutive cases in dilutions of 1 in 20 and 1 in 40.

Table I.

Negative throughout	18
Shiga only	1
Flexner only	16
Tor only	10
87 up (lactose fermenter)	7
Shiga and Flexner	0
Shiga and Tor	6
Shiga and 87 up	2
Flexner and Tor	3
Flexner and 87 up	3
Tor and 87 up	6
Shiga, Flexner and Tor	6
Shiga, Tor and 87 up	4
Flexner, Tor and 87 up	5
Shiga, Tor, Flexner and 87 up	13
	100

An attempt to overcome this was made by heating these multi-agglutinating serums to 56° C. for half an hour[2] before applying the test; by this means we hoped to remove the coagglutinins as recommended by Nègre and Raynaud in the case of *melitensis* and *paramelitensis*, and confirmed by Crendiropoulo. To our disappointment we found that this proceeding, while materially adding to the time required, a matter of no small importance when one has to deal with an epidemic, resulted in a general diminution of the agglutinating power of the serum for all the bacteria equally—that is, it had no eclectic action; this was confirmed by further experiments on agglutinating serums produced artificially by the injection of cultures into animals.

As is well known, the injection of a given germ—*B. coli*, for instance—into one animal may give rise to agglutinins affecting Bacillus A, B, C, D, E, etc. In most instances *B. coli* will be agglutinated in a higher dilution than the others. Unfortunately certain bacilli, particularly those belonging to the mannite fermenting group of dysentery bacilli, cannot be distinguished in this manner, and it then becomes necessary to eliminate the heterologous agglutinins by saturating the serums with their respective bacteria. This procedure gives probably as accurate a result as any serological test, but the time and labour required for its performance obviously put it out of court as a routine in times of epidemic. As to the complement deviation test, Crendiropoulo,[3] working in 1909, found that it was not possible to differentiate between the different dysenteric infections by this method.

Shiga also shows that his serum and that prepared from Flexner's bacillus contained the same sensibilisater, though it must be added that Gryglewicz[4] in Poland and Dopter[5] in France claim to have done so. We are at present conducting further experiments on this point. To resume: Our routine practice for the past years at Tor, therefore, has been to plate out the stools of every case on special differentiating media (either MacConkey or on borated lactose cochineal agar of our own preparation), and at the same time to test the serum of every case for its agglutination reactions against four main types of

dysentery bacilli. The plating of the stools is necessary owing to the fact that agglutinins may not be present in the patient's blood, for two reasons, namely, (*a*) the infection may be of too recent a date; (*b*) the patient's organism may be so completely prostrated as not to respond to the stimulus of the antigen, a condition present particularly in moribund old men.

If, then, a bacillus is isolated from the stools, or if a positive agglutination reaction is obtained for one or more bacilli, we have been in the habit of considering the case as one in which bacillary infection is present, but owing to the "overlapping" of agglutinins as above described, one is not justified in attempting any definite opinion as to the nature of that infection; all that one can say is that the case is one of bacillary dysentery and that treatment by a multivalent serum is indicated. While we are fully aware that this method is open to theoretical criticism, yet we have found it the only practical one in routine work, and it is upon this that we have based our classification in Table II. A point in connexion with the differential diagnosis between gangrenous bacillary and amoebic infections is worth mentioning. These latter show all the symptoms of toxaemia, such as utter prostration, fever, aphonia, cold extremities, collapse, petechial haemorrhages, vomiting, etc., which one is accustomed to associate with severe bacillary infections, and which, in fact, have often led to the cases being sent to the hospital with the provisional diagnosis of cholera. The difficulty is heightened by the fact that the most careful search may fail to reveal any amoebae in the stools, whilst the blood may give a positive agglutination reaction for bacillary dysentery.

This is just the type of case in which, as explained above, the agglutination test fails, in that the positive reaction may be due to either past bacillary infection or present insignificant (that is, benign) bacillary dysentery. Examination of the stools by Schaudinn's method (vital fixation in sublimate alcohol, clearing in iodine alcohol, and staining with iron alum haematoxylin) may throw light on the real nature of the morbid process by revealing the presence of an occasional encysted amoeba or so-called "spore," which cannot be distinguished in the ordinary way. But considerable experience is needed to carry out and interpret this procedure correctly, and in any case Schaudinn's results have been subjected to a good deal of criticism by Hartmann, Hunter, Müller, and others. Failing this, diagnosis must be based on the clinical signs and on the entire failure of the serum to afford any relief. At autopsy reason for the absence of amoebae is given by the presence of an enormously thick, black wash-leather-like slough, which entirely covers the interior of the gut, replacing mucosa, submucosa, and often the entire muscular wall as well. It is only when this is removed or sections of the gut wall made that the amoebae are discovered underneath, infiltrating the subjacent tissues and the neighbouring lymphatics; none are to be found in the gangrenous mass itself.

Table II indicates the classification of cases according to their etiology, with figures from the previous year appended, to show the progressive diminution in the general mortality-rate since the introduction of serum treatment. In addition to the amoebic and bacillary infections, lateral-spined bilharzial ova were found in 12 cases in the stools; in one or two they were the only discoverable cause to which the dysenteric symptoms could be attributed, and the disease was therefore considered to be genuine bilharzial colitis. (These patients were treated, with apparent benefit, with large rectal injections of petroleum lamp oil.)

The *Balantidium coli* was found in 32 cases, of which it was associated with amoebae in 23, and with bacilli only in 9. In no case of genuine dysentery have we ever found it alone, and in view of this and of the fact that we have often found it in the stools of simple (non-dysenteric) diarrhoeics, we are rather sceptical of its claim to be regarded as a cause of genuine dysentery.

Parasitic worms—ova or adults—were present in nearly every specimen examined. The commonest were *Ascaris lumbricoides*, taenia, *Trichocephalus trichiurus*, *Rhabdonema intestinale* (embryo), and among Egyptian pilgrims only, *Ankylostoma duodenale*.

The table calls for a word of criticism. In 1908 a large number of cases, recognized as bacillary upon clinical grounds and by the absence of amoebae in the stools—a diagnosis confirmed only too often at autopsy—were treated with monovalent Shiga serum. In spite of the fact that this was given in large doses no improvement was noted in the majority of cases so treated, and the general mortality rate remained unchanged. That this was due, not to any inherent defect in the serum, apart from its being monovalent, was evidenced by the fact that in the few cases in which the Shiga bacillus was isolated, striking benefit accrued from its administration. Further, we have found that the two monovalent serums (from the Pasteur and Milan Institutes) which we have tested on animals in the laboratory confer a very high degree of protection against Shiga's bacillus or its toxin. *Per contra*, the results of animal experimentation are in complete accordance with our clinical experience at Tor in demonstrating the entire absence of any such antitoxic value for other dysentery bacilli. Cases of infection by Shiga's bacillus are extremely rare at Tor, although they do occur occasionally; this is evidently the explanation of the disappointing results obtained in our early work. We are aware that certain French authorities—notably Vaillard and Dopter—still insist on the efficacy of a monovalent Shiga serum in the treatment of all cases of bacillary dysentery, even when it is due to infection by a member of the mannite-fermenting groups of bacilli; but from all the evidence that we can gather they seem now to stand practically alone in this contention. In 1909 a small quantity of mixed different monovalent serums was tried, purely as an experiment, upon 12 selected cases, all of whom recovered; for that year, therefore, apart from the small number treated, the figures must be excluded from

TABLE II.

	1907.	1908.	1909.	1910.	1910–1911.	1911–1912.	1912–1913.
Total pilgrims	43,271	29,446	20,333	16,736	25,550	11,880	16,551
,, deaths ...	427	336	254	113	265	225	88
Per cent. mortality ...	1 (—)	1.14	1.25 (—)	0.67	1	1.9 (—)	0.53
Total dysentery admissions	—	155	212	138	328	199	75
Total dysentery deaths ...	—	82	134	45	71	139 (53) (70)	9
Case per cent. mortality	—	53	63.	32.6	21		12
Total serum-treated cases	—	0	ϕ 12	91	173	0	54
Deaths among serum cases	—	—	0	15	30	—	7
Case per cent. mortality	—	—	0	16.5	17.3	—	12.9
Cases in which Bacillary Infection only was Present.							
Number of serum-treated	—	—	ϕ 12	72	111	—	22
Deaths among these ...	—	—	0	7	19	—	2
Case mortality per cent.	—	—	0	9.7	17.1	—	9
Number not serum-treated	—	—	196	2	76	—	4
Deaths among such ...	—	—	134	1	20	—	2
Case mortality per cent.	—	—	70 (—)	50	26.3	—	50
Total bacillary cases ...	—	—	208	74	187	—	26
Mixed Amoebic and Bacillary.							
Number serum-treated ...	—	—	0	19	62	—	32
Deaths among these ...	—	—	0	8	10	—	5
Case mortality per cent.	—	—	0	42.1	16.1	—	15.6
Number not serum-treated	—	—	4	4	28	—	8
Deaths among these	—	—	2	4	6	—	0
Case mortality per cent.	—	—	50	100	21.4	—	0
Total mixed infection	—	—	4	23	90	—	40
Amoebic.							
Number of cases ...	—	—	—	41	51	—	4
Deaths	—	—	—	19	16	—	0
Case mortality per cent.	—	—	—	45 (—)	32	—	0
Perforation, general peritonitis, etc.	—	—	—	—	6	—	0
Per cent.	—	—	—	—	12	—	0
Dysentery death-rate (per cent.) compared with total death-rate	—	25	52.8	40	27 (—)	62 (—)	10.26

NOTE.—We have thought it necessary to use as low a dilution as 1 in 20, since were a higher solution only to be used, probably many undoubted cases of bacillary infection would be missed; we have often seen an initially low index rise to a very high one as the case progressed without any serum or vaccine treatment. This is of importance in view of the desirability of (1) giving the serum where indicated; (2) not wasting an expensive drug in conditions of enteritis due to some other agent, such as tubercle or bilharziosis. At a convenient time all the serums that were positive for the lower dilutions were tested up to the limit of their titre.

a comparative review of the situation. The results for 1910 have already been described and discussed in a previous paper. The further series which we propose to analyse may be divided into two groups:

The first between December, 1910, and March, 1911.

The second between the end of November, 1912, and mid-January, 1913.

In the period comprised between the first two dates 432 pilgrims were admitted to the dysentery hospital at El Tor. Of these, 328 turned out to be genuine dysentery, while the other 104 comprised an *olla podrida* of every conceivable illness of which acute diarrhoea is a symptom (from cholera to the abdominal type of malignant tertian malaria). Among these 328 there were 71 deaths, giving a total percentage mortality of 21.

In 1911–12 no serum was available, owing to the fact that the one of us responsible for its preparation was engaged during the summer and autumn of 1911 in cholera work. During this campaign (1911–12) there were 199 admissions for dysentery, with 139 deaths—percentage mortality, 70.

In 1912–13 serum was again available: in this year there were 75 dysentery admissions, with 9 deaths—mortality 12 per cent.

In considering these figures allowance must be made for this fact that in 1911–12 there were practically no Egyptian pilgrims, while in 1912–13 the Turks, who are most susceptible to the disease, were in great part prevented from making the pilgrimage owing to the Balkan war. Upon comparing, however, the figures for the previous three years, it will be seen that the reduction in the death-rate instant upon the introduction of the serum treatment cannot be entirely fortuitous.

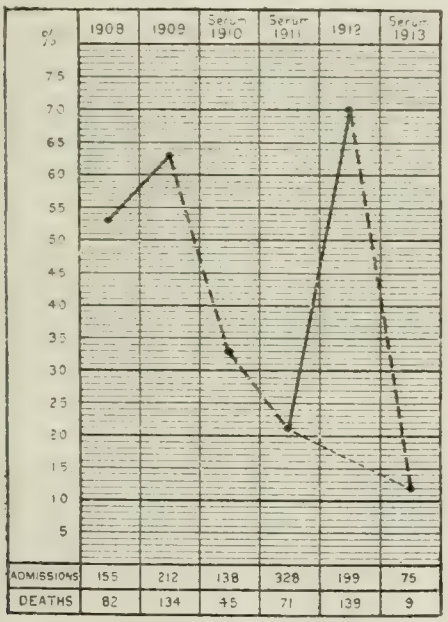


Chart showing dysentery mortality-rate par cent. for the years 1908-13.

TABLE III.—*Mixed Amoebic and Bacillary Cases.*

	Deaths.	Mortality Percentage.
1910:		
19 cases serum treated	8 ...	42.1
4 cases not serum treated	4 ...	100.0
1910-11:		
62 cases serum treated	10 ...	16.1
28 cases not serum treated	6 ...	21.4
1912-13:		
32 cases serum and emetine	5 ...	15.6
4 cases emetine only	2 ...	50.0
4 cases neither emetine nor serum, as they arrived after the camp was closed.		

In 1912–13 emetine was first used in the treatment of cases where amoebae were shown to be present, whether alone or in conjunction with bacillary infection.

We may, perhaps, quote the following case under the care of Dr. Barthas at Tor as demonstrating the necessity for accurate diagnosis, the specific action of the serum on the bacillary moiety of the disease and its entire absence of any effect on the amoebic moiety.

(Translation from Dr. Barthas's Report.)

Boy, 13 years, admitted December 9th, 1912, with all the symptoms of acute dysentery. Onset four days previously. For the last two days abdominal pain of extreme violence. Reflex anuria. Numerous stools containing blood and mucus in abundance.

9th.—Emergency injection multivalent serum 60 c.cm.

10th.—Condition same, no improvement. Examination of stool showed amoebae in great numbers. (NOTE.—No dysentery bacilli in plates. Blood negative.) ½ grain emetine in the morning; ½ grain emetine in the evening. (This dose, large for an adolescent, was well stood. No vomiting or nausea.)

11th.—Extraordinary improvement. Stools faeculent. No blood. Pain much less. ½ grain emetine.

12th.—Pain gone. Stools faeculent. ½ grain emetine.

13th.—Stools formed. Cured.

This brilliant observation has an original and interesting sequel; all went well until December 17th. That day, thanks to the connivance of his neighbours (cases of bacillary dysentery), the boy took from them and ate a large quantity of bread; during the following night he had ten stools with muco-purulent sloughs, violent colic, and prostration.

19th.—Condition same, in spite of ½ grain of emetine; examination of the stools revealed *no amoebae* but Shiga's and Flexner's bacilli.

21st.—100 c.cm. multivalent serum.

22nd.—General improvement.

23rd and 24th.—40 c.cm. multivalent and 20 c.cm. Milan monovalent Shiga serum—that is, 60 c.cm. each day.

25th.—Marked improvement.

26th.—Marked improvement.

27th.—Formed stools.

A point which impressed one of us (A. H. S.), in charge of the clinical side of the dysentery hospital at El Tor in 1911, was the large number of deaths from nephritis. Many of these occurred in patients who had received massive doses of serum; and we at first thought the serum was not wholly innocent in this connexion, particularly where acute pulmonary oedema was a complication. This opinion was supported by the very appreciable rise which took place in the albumin content (as determined by the Esbach albuminometer) of the urine passed during the twenty-four hours that immediately followed the initial dose of serum, without any attendant diminution in the volume of urine excreted. It may be added that in the (unfortunately) limited number of cases in which it was tried this rise of albumin was observed only in patients suffering from albuminuria antecedent to the first injection of serum; in no case did the serum appear to provoke an albuminuria from previously healthy kidneys. A careful analysis of the autopsy register, however, sufficed to dispel the idea that nephritis was more frequent in serum-treated than in non-serum-treated cases; while the following experiment, repeated in ten individuals, also tended to refute the supposition that a nephritis was harmfully influenced by serum treatment.

Thanks to the kindness of Professor Schmidt, of Kasr-el-Aini, Cairo, we were supplied with serums from two rabbits, which contained precipitins specific for albumins of human and equine origin respectively. Two samples of urine from the same nephritic patient were taken—namely: (1) From the entire quantity passed in the twenty-four hours previous to the first injection of serum; (2) from that passed during the twenty-four hours immediately following it.

These were then filtered through a Berkefeld candle (which may possibly have removed some of the albumin), and we concluded from these experiments that the increased albuminuria after the administration of serum was due to the rapid elimination of the latter, and not to any exacerbation of the existing nephritis.

The clinical routine was as follows:

Immediately on entering the hospital the patient was given a dose of castor and almond oils, and a few cubic centimetres of blood were taken aseptically from the median basilic vein. The stools were examined microscopically and plated out. If amoebae were found to be present emetine was at once given (this last remark applies only to 1912-13). According to the data furnished by the blood reactions and the stool plates appropriate serums were administered. In 1911 multivalent and different monovalent serums were used. In 1912-13 multivalent serum only was employed, with the exception of a few doses of monovalent Shiga serum in cases where Shiga's bacillus was isolated from the stools. In urgent cases stimulants were given, and treatment with multivalent serum and emetine was initiated immediately after the blood was taken without waiting for the results of the laboratory examination. With regard to the quantity of serum

to be injected, later experience tends to confirm the opinion that the best results are obtained from the administration of very large doses—from 80 to 120 c.cm.—injected either deeply into the subcutaneous tissues of the flank and abdomen or intravenously; this procedure is entirely without danger. Moreover, anaphylaxis is less likely to occur after a massive initial dose, followed by decreasing repeat doses, than it is after a small initial dose. Secondly, the cases treated arrived at the hospital saturated with dysentery toxins, which had to be neutralized before the beneficial effect of rest and appropriate diet could be brought into play. In 1913 a comparatively small quantity of the multivalent serum was used, supplied by the Lister Institute, which is recommended to be given in doses of 20 c.cm. Without entering into any discussion as to the relative potency of the Lister serum and the authors', trials of this serum in the dose recommended by the Lister Institute and the dose which we habitually employ led to absolutely parallel conclusions and furnished no less striking a plea in favour of the massive dose. These doses are repeated twice daily or at longer intervals, as the patient's condition demands, during not longer than ten days after the first dose.

It was often noted that the patient exhibited marked improvement for a few hours following the injection, only to relapse when the effect had presumably worn off. Such cases should be injected repeatedly until the improvement becomes permanent. In such a case it may be noticed that whereas at first injections may be necessary every few hours, later, injections may be only required at intervals of some days. Another advantage which, in our opinion, accrues to this method, is that among patients who have thus been thoroughly saturated with the serum, relapses, when convalescence has once definitely set in, are practically unknown—at least we cannot call to mind any such failure. This point is of considerable importance as regards carriers. Dr. Warnock, the Director of the Government Hospital for the Insane at Abbassia, in a private letter to one of us (J. G. W.), states that in asylum epidemics in England practically all "cured" cases later relapse and become carriers. This seems to be his experience also at Abbassia, where cases of dysentery are continually occurring, and are treated with, at the most, one or two injections of 30 c.cm. of multivalent serum. In mild and especially early acute cases, 40 to 60 c.cm. were sufficient; but, unfortunately, such cases at Tor are very rare. The first and most appreciable result of an injection is an improvement in the patient's general constitutional condition, which becomes apparent in a few hours. One or two cases improved so rapidly that, from being apparently moribund on admission, they were able within a few hours to enjoy with impunity a meal, the bounds to which were set by the dictates of prudence rather than by the appetite of the patient. The improvement in the character of the stools takes place much later, and in the chronic and gangrenous cases may not be apparent for many days. The physician should not be discouraged in this event, and especially should not discontinue the treatment, with the idea that it is doing no good. It should be remembered, as numerous autopsies in pre-serum days at Tor only too clearly showed, that in these cases the entire mucosa of the large gut, and often some 3 ft. of the lower end of the ileum, may be the seat of a coagulation necrosis, which has destroyed the superficial layers and replaced them with a bright green or blackish-green diphtheritic false membrane. This dead tissue must be got rid of; as in diphtheria the injection of serum is followed by an improvement in the patient's condition and expulsion of the membrane by coughing, so in bacillary dysentery the passage of sloughs is not incompatible with a critical amelioration of the disease.

Death, when it occurs, is due to poisoning by the absorption of toxins secreted by the bacillus, and never to the local effects of the latter. In contrast to the destruction of tissue seen in amoebic dysentery, in the bacillary variety ulceration is always comparatively superficial, and never gives rise to perforation and peritonitis, or to liver abscess.

For the above reasons the strict limitation of diet necessary in amoebic dysentery is inadvisable, while particular attention should be paid to the heart, lungs, and kidneys.

Prophylaxis consists in free administrations of serum and stimulants, discouraging a dorsal decubitus, and the most scrupulous attention to securing an aseptic condition of the mouth. Once bronchopneumonia is well established no treatment seems to have the least effect in averting a fatal issue; it is mere waste to inject serum.

It occasionally happens, after the patients have recovered under serum treatment from all immediate danger, that convalescence is retarded by an intermittent diarrhoea, with or without mucus and mucopus, which serum appears to be unable completely and permanently to control. If such a case come to autopsy, be it for dysentery or intercurrent disease, the large intestine is often found entirely denuded of its mucosa and of a bright red colour, showing where the false membrane above mentioned has sloughed away leaving what is practically a large granulating wound, on which are small patches showing all stages of the morbid process. The condition is very similar to that seen in large superficial burns of the skin. It is obvious that this surface not only is functionless, but is in any case extremely irritable and an excellent door for the entrance of secondary infecting bacteria. No one in his senses would expect a granulating wound of the skin of such superficies to heal up in a few days, even though it be kept comparatively aseptic. How, then, can a similar wound in the intestine, continually bathed in septic material, be expected to heal more rapidly?

Treatment in these cases must aim, obviously, at supporting the patient's strength, securing as aseptic a condition as possible of the intestinal contents, and giving the inflamed bowel as much rest as possible. As regards treatment by medical means, it may be laid down as an axiom that the fewer drugs that are given the better. It is conceivable that this class of case would offer a fair field for vaccine-therapy, and, in fact, we tried it in 1910 with apparent success; our experience was limited, however, to one or two very obstinate cases convalescing from gangrenous bacillary dysentery (*B. tor* isolated), one who ultimately recovered completely. We did not give it a more extended trial, as our multivalent serum was on probation, and we did not wish to obscure the main issue by introducing elements of polytherapy. Reliance at present must be placed, therefore, essentially on an appropriate dietary, which should be appetizing and combine a maximum of concentrated easily digested nourishment with a minimum of residue. Milk fulfils none of these desiderata: it is bulky, most patients loathe it after a certain time, it leaves a hard massive residue of undigested casein. Citrated milk is, in our experience, little better, whilst most of our patients flatly refused to take it. Yaghûrt, on the other hand, was always taken with the greatest avidity, being in one form or another the staple diet of many Oriental peoples; while examination of the stools showed it not to be completely digested, it had an undoubted effect in arresting the putrefaction of the intestinal contents, and never gave rise to the meteorism and colics which were so often seen in the days of the plain milk diet. The yaghûrt may be supplemented in severe cases with albumin water, expressed raw meat juice and lean raw meat pulp given in warm (not hot) soup or beef-tea: later thick purées of potatoes, peas, or lentils, well strained gruel and porridge, lightly cooked chicken and fish, preferably made into a cream with potato purée, light omelettes, soft white cheese, etc., may be added to the dietary. Sugar should be given freely, and is conveniently administered in the form of malted milk. Feeds should be given often, and only a small quantity allowed at a time; nothing very hot or very cold should be allowed. Stimulants should be given freely when their use is absolutely indicated, but alcohol in any form is to be avoided as much as possible. As far as local treatment is concerned, lavage with any solution stronger than physiological saline or linseed tea is, in our opinion, to be condemned. We particularly dislike the much vaunted injections of silver nitrate. In any case, we use lavage, as a rule, only in cases of post-dysenteric constipation.

NOTE.—Yaghûrt must be prepared with the greatest care. It has been our practice to buy in Suez at the commencement of the pilgrimage season several samples of Leben Zibad and to inoculate them into sterilized milk. That which gave the softest and most homogeneous curd was then plated out on MacConkey or lactose cochineal agar, and pure cultures obtained of a large lactic acid producing bacillus and a long streptococcus (? *S. lebensis*). These were then inoculated into sterilized milk ("Natura" brand)—the Australian condensed milk is unsuitable—and each batch of yaghûrt, prepared in covered sterilized jars in an incubator at 37° C., was inoculated with a flamed spoon from the preceding one. The curdled milk prepared from the various so-called lactic acid tablets on the market should, in our opinion, never be used.

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THE MORPHOLOGY OF THE INTESTINAL AMOEBAE OF MAN.

The clear separation of the various amoebae and entamoebae from one another is one of the most difficult problems facing the protozoologist who is interested in human pathology. I venture to think, from a considerable experience of these organisms, that until some satisfactory method of cultivating them has been discovered it will be impossible at times to distinguish between these various entamoebae.

It is well known, in the case of free living fresh-water amoebae, that it is possible, by the simple procedure of altering the quality of the water, to produce marked changes in any individual amoeba. Accordingly it is to be expected that the characters of the entamoebae inhabiting the human intestine will vary with the alterations in quality of the intestinal contents, which change considerably from time to time in density, alkalinity, composition, etc. A failure to recognize this fact has been partly responsible for the creation of numerous species of entamoebae from the human intestine.

Another factor which has had a similar result has been the assumption that the entamoebae should be uniform in appearance at every stage of their life-history. Quite recently Darling has drawn attention to the fact that the pathogenic entamoeba of man passes through a life-cycle in which an active multiplication stage alternates with a stage of encystment, and that as encystment approaches the entamoeba gradually assumes a type which may be very different from that of the actively multiplying entamoeba; so much so that the encysting forms have been supposed by Elmassian to represent a distinct species and have been called by him *Entamoeba minuta*. It cannot be too strongly emphasized that the creation of new species of entamoebae from single cases is full of the utmost danger and is bound to lead to further confusion.

A third point which has not been sufficiently recognized is that many of the entamoebae escaping from a human intestine are in a degenerative condition or are actually dead. A failure to appreciate this, according to Hartmann, led Schaudinn into the extraordinary error of regarding the degenerating forms of the pathogenic entamoebae as belonging to a species distinct from others which were not degenerating in the same preparations. Another illustration of this type of error is the *Entamoeba undulans* described by Castellani. If one examines fresh preparations of *Trichomonas* from the human intestine it will be noted that after a while many of the flagellates undergo a peculiar change whereby the three anterior flagella disappear, and the large one attached to the border of the undulating membrane first detaches from the membrane and is finally cast off completely, so that one has left merely a mass of protoplasm which performs amoeboid movements. These movements are often very peculiar, for a long finger-like pseudopodium is thrust forth, and this passes in a kind of wave-like manner down the side of the body till it finally disappears at the opposite end. Another is then produced, and it behaves in a like manner. These pseudopodia are produced in rapid succession every few seconds or more slowly. Again, the whole margin of the now amoeboid organism may move as an undulating membrane. This margin is most probably the remains of the retracted undulating membrane from which the flagellum has become detached.

The description given by Castellani of his *Entamoeba undulans* is a very good one if applied to these altered *Trichomonas*; and to any one who is well acquainted with the behaviour of *Trichomonas* outside the body there cannot be any doubt that he was dealing with this flagellate and not with an entamoeba at all, especially as no evidence was produced to exclude the possibility of the so-called *Entamoeba undulans* having been derived from flagellates which were present in the faeces at the same time.

It would thus appear that the greatest caution is necessary, in the present state of our knowledge, in deciding whether any entamoeba showing some morphological peculiarity is or is not a new species. Two fairly well-defined types of entamoebae are now known. One is the pathogenic entamoeba, known variously as *E. histolytica*, *E. tetragena*, etc. In typical cases of dysentery, in which the stools are small, consisting of blood, mucus, sloughs, and comparatively little faecal matter, the majority of the entamoebae usually are of a fairly definite type. There is the clear ectoplasmic layer enclosing the more liquid endoplasm in which the comparatively small nucleus and food vacuoles lie. Very frequently red blood corpuscles are enclosed. The nucleus in the living entamoeba may be clearly visible or may be seen with difficulty. In the latter case the failure to detect the nucleus may be the result of its having broken up after the entamoebae have left the body; in other cases it is due to a poverty of refractile chromatin granules. In well-fixed and stained specimens the same distinction of ectoplasm and endoplasm can be made out, and more details of the nuclear structure distinguished. There is a definite nuclear membrane, upon the inner surface of which chromatin granules are arranged. These granules are generally small and fairly uniform in size, but occasionally they become massed together into several larger and more irregular clumps. The nuclear membrane is continued within the nucleus as the linin network of fibres upon which some very fine granules are seen. At the centre of the nucleus a granule can usually be distinguished, and surrounding this a clear area limited by a ring of granules, which represents the inner limit of the linin network.

According to Hartmann the central granule of the nucleus represents a karyosome with centriole and a kind of cyclic growth takes place whereby the granule consisting of little else than the centriole increases in size by the deposit of chromatin material round it till the whole or nearly the whole of the clear area is filled up to the ring of granules. A decrease in size then takes place by the passage of the chromatin into the outer parts of the nucleus till finally the clear area is formed again and the centriole alone occupies its centre. I have not actually followed this process, but in stained specimens the size of the central granule varies considerably. When the central granule or karyosome is large it is by no means always possible to distinguish a centriole within it, and that one is always present is more of an assumption than anything else and is largely dependent upon the view that this centriole represents the centrosome which must necessarily be present for purposes of nuclear division.

The type of nucleus just described is that which is usually seen in the entamoebae from cases of amoebic dysentery. On the other hand many of the entamoebae in the preparations will be found to have nuclei of different types, but in which one or other of the features of the typical nucleus is shown. Thus in some no central granule or karyosome will be seen and the whole of the interior of the nucleus appears to be made up of a uniform linin network; in other cases the central clear area will be shown, but no granule within it. The thickness and distinctness of the nuclear membrane varies very much, so much so that at times it may be extremely difficult to be sure that a membrane is present. It may be that sometimes it is absent. The amount of chromatin upon the inner surface of the membrane varies also. On some occasions one or more large masses are present and these appear to represent the whole of the chromatin stock of the nucleus—at other times there may be only a few small granules so that the nucleus is very poor in chromatin material.

It would be quite illogical to suggest that such differences correspond to different species of entamoebae, and it seems to me that such a test as the distinctness or indistinctness of a nucleus as a guide to a differentiation of the entamoebae is quite inadequate. Not only is the nucleus of the entamoeba subject to wide variations, but the cytoplasm is equally variable. As explained above, the typical entamoeba, as seen in dysenteric dejecta, has a distinct ectoplasm, but this is not shown uniformly by all the entamoebae, for in many of them there is no clear distinction between these two layers, and further, those forms of the entamoebae which are about to become encysted again have no very definite ectoplasm. The pre-encysting forms, further, may have the cytoplasm charged

with chromidium, which occurs in the form of small round masses, rods often of a spindle shape, or irregular clumps. Chromidium in one form or another is often seen in the cytoplasm of degenerating entamoebae.

If we turn now to the non-pathogenic *Entamoeba coli* we find an entamoeba with a much vacuolated cytoplasm, having little or no tendency to separation into ectoplasm or endoplasm, as in the typical pathogenic form. The nucleus, which is usually larger in proportion to the size of the entamoeba than in the *Entamoeba histolytica*, has a definite nuclear membrane which, in my experience, is not necessarily thicker than that of the pathogenic entamoeba. The chromatin is arranged as coarse irregular granules upon the inner surface of the membrane, and there is a linin network which usually extends right up to the karyosome occupying the centre of the nucleus. This karyosome is sometimes comparatively large, having a diameter equal or greater than half that of the entire nucleus. At other times it is smaller, and occasionally a clear area surrounds the karyosome, as is the case with the nucleus of the pathogenic entamoeba.

Entamoeba coli, or what is presumably this entamoeba, occurring in the healthy intestine, may sometimes have a very definite ectoplasm and simulate very closely indeed the typical pathogenic form. In such cases, are we to assume that we are dealing with a mixed infection of the pathogenic and non-pathogenic entamoebae in the healthy intestine? Till we know more about the appearances of the pathogenic entamoebae in the healthy gut, and of the non-pathogenic entamoebae in the ulcerated dysenteric intestine, it will be impossible to answer this question with any degree of certainty.

The encysted forms of the entamoebae are more readily differentiated than the free entamoebae themselves. The *Entamoeba coli* has a cyst, most usually, though not invariably, spherical, and having a diameter of about 15 μ. Within the transparent cyst there is a single mass of protoplasm, containing one, two, four or eight nuclei, according to its stage of development. In actual examination of faeces the overwhelming majority of cysts have eight nuclei, and are readily recognized as the cysts of *Entamoeba coli*. These cysts, however, are again subject to many variations. The commonest is the occurrence within the cytoplasm of a large vacuole, which may be of such a size that it pushes the nucleus right against the cyst wall. This nuclear displacement appears to retard nuclear division, for cysts with a large vacuole rarely have more than two nuclei—the division into four, though it may occur, and then into eight, seems to be prevented in some mechanical way by the hampering effect of the large vacuole. What is the ultimate fate of such a cyst is not known. Again, the cysts, instead of being spherical, may be distorted, and even elongate structures with the length of one diameter twice that of the other. The surface of the cyst may be crinkled and creased so that at first sight in stained specimens one may have the impression that one is dealing with an irregularly shaped unencysted entamoeba containing eight nuclei, and conclude that it is an instance of schizogony, which is supposed by some to occur in this entamoeba. Another and important variation is that of the size of the cyst. The usual diameter is about 15 μ, with slight variations above and below this limit. Very rarely I have come across cases in which a rapid encystment of the entamoebae is going on, with the result that cysts of all sizes are produced, from large ones fully 18 μ in diameter down to small ones about 9 μ. These small cysts may contain one, two, four or eight nuclei, as the large ones, but usually the nuclear multiplication ceases at four. In such cases it may be impossible to distinguish some of these smaller cysts from those of the pathogenic entamoebae which have a maximum of four nuclei and are generally smaller than the cysts of the non-pathogenic entamoebae. It might be urged that in these cases I was dealing with a mixed infection, but a study of the preparations and the various gradations in the sizes of the cysts shows such a view to be improbable.

The pathogenic entamoebae become encysted in cysts which have a diameter of about 10 to 12 μ. Within each cyst is usually a single mass of protoplasm containing four nuclei. Sometimes a medium-sized vacuole occurs in the protoplasm and one or two deeply staining rods, which are generally termed chromidial bodies, which have been formed by an aggregation of the chromidium granules of the encysting entamoeba. In my experience the cysts of the pathogenic entamoebae are not subjected to the same extent of variation as are the cysts of the non-pathogenic forms. In other words, the pathogenic cyst is more constant in appearance. On the other hand, I know of no method by which it would be possible to distinguish one of the smaller cysts of *Entamoeba coli* from a cyst of the pathogenic entamoeba. Fortunately, these abnormally small forms of the cysts of *Entamoeba coli* are of rare occurrence, so that, as a rule, there is little difficulty in distinguishing the cysts of the two entamoebae.

I have refrained from mentioning any of the other entamoebae which have been described from the human intestine for the reason that I do not consider they have been sufficiently studied to justify their recognition as distinct species. From time to time, however, I have found in the human intestine amoeboid organisms which differ very markedly from the usual entamoebae. These are mostly very small amoebae, having a diameter of 3 to 10 μ. They have a cytoplasm with no marked ectoplasm, and a nucleus which is of the type of that of the free-living non-pathogenic *Amoeba limax*. There is a nuclear membrane upon which there is no chromatin, while the centre of the nucleus is occupied by a large karyosome, holding apparently all the chromatin of the nucleus. Are these small amoebae necessarily distinct from the entamoebae? I have noted in some cases of large infections of what is undoubtedly *Entamoeba coli* every gradation in size of the entamoebae, from forms with a diameter of 20 to 25 μ down to minute organisms of a diameter of 5 μ or even less. A further noticeable feature is that some of the smallest forms show the typical *Amoeba limax* nucleus. Here, again, there is a difficulty, for if the small forms with the *limax* nucleus are in reality *Entamoeba coli*, then in those cases in which one finds large numbers of small amoebae all having this type of nucleus one may still be dealing with a stage in the life-history of *Entamoeba coli*, and not with a distinct amoeba. Such problems cannot be settled by the mere examination of stained preparations nor by inoculation experiments with possible mixed infections, and they probably will not be settled till some method has been devised by which pure cultures of these intestinal entamoebae can be maintained for study, and used for infecting animals. In this paper I have done little to clear up the confusion surrounding this important group of protozoa, but simply indicated some of the difficulties which I myself have encountered in attempts to follow out their histories and separate them from one another.

DISCUSSION.

Major W. S. HARRISON, R.A.M.C., said: By far the most frequent form of dysentery in the army in peace time is amoebic dysentery, though we do get some cases of one of the bacillary forms. I propose to deal only with the diagnosis and treatment of amoebic dysentery. This causes not only florid dysentery in the popular acceptation of the term, but also a very large proportion of the chronic tropical diarrhoeas. Quite a number of patients with amoebic dysentery never have had an acute attack with the appearance of bloody mucus in the stools, but in all one gets some history of irregularity of the bowels with griping at times. The irregularity may consist in occasional attacks of diarrhoea with intervals of constipation, or the patient may never pass a solid stool; profuse watery stools are, however, unusual as a regular feature. In most of the cases, even when the patient denies that he has passed bloody mucus, one can find it on examination. One can usually find a tender spot somewhere along the colon, the most frequent places being the caecum, the sigmoid, and the region of the two flexures, and in a thin subject it is often possible to determine that there is some thickening of the colon over these areas. Those patients whose disease is located in the neighbourhood of the caecum run serious risks of having their appendix removed if they get into the hands of a surgeon who is not familiar with tropical disease, and even sometimes when he is.

If the history and symptoms point to amoebic dysentery it is not necessary or desirable to wait until amoebae are

found in the stool before making a diagnosis. Amoebae are often very difficult to find in chronic cases, although the effect of treatment is to show that they were probably present; in acute cases they are easily enough discovered, there is nothing easier in medicine.

My present routine is to examine the freshly passed stool for amoebae and also to make cultures from it. If the culture does not show the presence of one of the dysentery bacilli and the history and symptoms are sufficient, I assume that amoebic infection is possibly present, and I commence giving emetine in doses of ¼ to ½ grain daily. In addition I irrigate the bowel with saline, followed by saline containing quinine. The effect of emetine on amoebic cases is nothing short of marvellous; frequently patients will tell one that after the very first dose they lost the incessant discomfort in the belly from which they had suffered for months or even years. In liver abscess emetine is of the greatest value, many cases which one might confidently say had gone on to pus formation subside under the influence of the drug. I see no reason why, when abscesses are small, they should not be absorbed; once one has destroyed the only living organism in them they are so much sterile material. When the abscess has been opened the effect of emetine or ipecacuanha is again very striking, especially in cases where the patient is pouring out pus in floods and is visibly wasting day by day. A few doses of ipecacuanha or emetine under these conditions usually reduces the quantity of discharge so rapidly that one might be tempted to think that there was a block in the drainage.

I usually keep up the use of emetine for ten days, then go on with ipecacuanha for two weeks, giving it in 20-grain doses daily; the preliminary treatment with emetine seems to produce a tolerance for ipecacuanha, and one rarely then gets vomiting even when the drug is given as an uncoated bolus. Whilst the bowel is being irrigated, and emetine or ipecacuanha given, the symptoms of dysentery are often in abeyance, and one may feel some doubt as to whether the patient is really improving. A sign to which I attach the greatest importance is gain in weight; a cachectic dysentery case who is recovering will gain weight at something like a pound a day. I have seen very few cases of amoebic dysentery which did not respond to the use of ipecacuanha or emetine. Some very old cases take time, and they occasionally relapse several times in the course of the treatment, the relapse being foretold by a slight rise of temperature and by an increase in abdominal discomfort. Where there is no response at all to treatment, or where, in spite of keeping the bowel symptoms in abeyance, the patient continues to waste, one may feel fairly confident that the large gut will be found to be severely contracted at the *post-mortem* examination.

With regard to Captain Douglas's paper, I have seen one case of phagedaenic ulceration round an appendicostomy wound with amoebae in the pus. The preparations of emetine vary a good deal in the amount of local irritation which they produce; emetine, according to personal experience, is rather stimulating than otherwise in its general effects.

With regard to the paper of Drs. Willmore and Savage, it is often assumed that practically all bacillary dysentery is due to either Shiga or Flexner bacilli. I have, however, come across cases of bacillary dysentery due to other germs, in one case to *paratyphosus* B; this was a fatal case with great ulceration of the big gut. Two cases with frequent acute relapses were apparently due to Morgan's bacillus, and one to a germ which at first resembled Morgan's bacillus but later took on the power of slowly fermenting lactose.

Lieutenant-Colonel Molesworth, I.M.S., stated that in the Madras General Hospital emetine hydrochloride had been used with very great success in the treatment of cases of amoebic dysentery, both acute and chronic. The usual dose was from ½ to ⅔ grain, up to nine injections during a week. The vast majority of all the cases was the amoebic form; bacillary dysentery was rarely seen. In liver abscess also the use of emetine chloride, either subcutaneously or orally, had met with success, especially given previous to operation. It most certainly reduced the patient's temperature, improved the cachexia, and gave the patient a better chance in the subsequent surgical procedure.

Lieutenant-Colonel A. Leahy, I.M.S. (ret.), said: More than twenty years ago I had the opportunity of treating over 100 cases of acute dysentery by the administration of a saturated solution of magnesium sulphate. This method of treating the disease was first brought to my notice by a short article in an American work on therapeutics, written, I believe, by Professor Wood. The results of my treatment of these cases of acute dysentery were very gratifying, and were embodied in a paper published in the *Lancet* in 1890. I then believed, and laid it down as a rule, that this method of treatment was only applicable to acute cases. However, time and the experience of others have proved that this method of treatment is also useful in certain chronic cases. I regret I was unable to be present when Captain Douglas read his valuable paper to-day. The second point on which I should like to say a few words is the intimate connexion which exists between dysentery and liver abscess as cause and effect. I have always thought that all cases of single liver abscess are invariably preceded by an attack of dysentery, that in all probability such abscesses are infective in their origin, and never occur without a previous attack of dysentery. One case remains particularly clear in my memory, and I think it illustrates this well. [All the cases I treated in 1890 on careful inquiry elicited a history of a previous attack of dysentery.] A young man, aged 27, had an attack of acute dysentery for which he was treated by his physician in Calcutta. He rapidly got well, and all bowel symptoms passed away. He was sent to Darjeeling. After he had been there a few days his temperature began to rise, and he suffered from malaise. There were no bowel symptoms, and he returned to Calcutta at the end of the week. There he consulted me. I found he had a daily rise of temperature. It began to go up about 2 or 3 p.m., and reached 101°, remaining up until 7 p.m., when it subsided. His tongue was foul, but he had no pain, no rigors, no symptoms whatever pointing to implication of the liver, and his bowels were quite normal. He was put on quinine, and I saw him daily for a week, during which his condition remained the same. One evening I was summoned and found him complaining of intense pain over the region of the liver. This was the only symptom he had. There was no tenderness, no swelling, and no rigors. However, three days later he had a rigor, and I found some slight oedema of the skin over the epigastrium. Chloroform was given, and I explored the liver with an aspirating needle. Typical liver pus was found and evacuated into the bottle of the aspirator. This bottle had been previously carefully sterilized, and the contents were sealed up in it and sent to the professor of bacteriology, who examined them and reported the pus to be that from a liver abscess, and crowded with amoebae. Two days later I cut into the abscess, treated it in the usual way, and at the end of the month the young man went to Europe cured. This was more than twenty years ago, and I met him the other day in the City quite well. I submit the history of this case shows the connexion between a previous attack of dysentery and the subsequent formation of an abscess. I think this illustrates cause and effect. It is not difficult to imagine the ulceration of the mucous membrane, the closing of the blood vessels by thrombosis, and the passage along blood clots and lymphatics of such motile bodies as the *Amoeba coli*. Once in the substance of the liver they infect it, and you have all the conditions favourable to the formation of an abscess.

Colonel Sir William Leishman thought the Section had every reason to congratulate itself on having had an interesting and profitable discussion. The papers of Captain Douglas, of Drs. Savage and Willmore, and of Dr. Wenyon had covered a wide field, and had shown in striking form how great progress had been made of late in the study and in the treatment of dysentery. It had also, to his mind, furnished yet another example of the great importance of early and accurate diagnosis, in order that the treatment appropriate to the amoebic or bacillary type of the disease might be commenced without delay. The results which Drs. Savage and Willmore had shown of the treatment of the bacillary form with a multivalent serum appeared to him very striking, and had done something to raise serum-therapy from the disfavour it had of late fallen into; at the same time, he hoped further work in vaccine treatment would be undertaken.

DISCUSSION ON THE CAUSES OF INVALIDING FROM THE TROPICS.

OPENING PAPERS.

I.—G. BASIL PRICE, M.D.Lond., M.R.C.P., D.P.H.

IN discussing the causes of invaliding amongst those resident in tropical and subtropical regions considerable variation may be expected to occur both in different countries and amongst different classes of European residents.

I. Some factors relating to health and disease are fairly constant for each country and season, such as: Average temperature and thermic influence; humidity of atmosphere; elevation of different districts; the persistence of endemic disease, prevalence of mosquitos and malaria during certain seasons: the insanitary conditions associated with Eastern and primitive life: the prevalence of infective disease such as tuberculosis and malaria amongst native populations.

II. Other factors influencing the health of Europeans of necessity vary greatly, such as:

1. *The location of the individual*, whether living in centres of modern commercial life such as Calcutta, Madras, Shanghai, Hong Kong, etc., where the conditions of life closely approximate those of Europe, or living amongst primitive peoples on the outskirts of civilization, working amongst races not yet emerged from the slough of ignorance on health matters. This condition of ignorance means impotence to check, toleration and indifference to the presence of disease, often accompanied by direct antagonism to measures calculated to meet such need. It is therefore difficult, if not impossible, to circumscribe and check those causes of suffering and death which at times produce such fearful mortality.

2. *The habits of the individual*, particularly with reference to the adoption and practice of the usual well known safeguards to health, to the taking of sufficient exercise, to the use of a suitable dietary, and avoidance of the abuse of alcohol.

3. *The individual idiosyncrasy*, under the heading of which I place temperament, liability to catch disease, reaction to humidity, high average temperatures, thermic influences. The possession of mental equilibrium and stability and of common-sense are essential qualities for life in the tropics, and are individual factors which are impossible to gauge with accuracy in candidates for foreign work and residence. Therein lies one of the difficulties in eliminating the possible "failures," since no indication of such weakness may be indicated whilst resident in the homelands, either by a consideration of the family or personal history or physical state. It is impossible to apply similar tests and conditions as will be encountered in tropical and subtropical residence.

The section of European residents with which I have been asked to deal is the missionary section, and before suggesting any conclusions I desire to give some of the evidence on which my views are based.

During the last few years I have been collecting such statistics as are available with regard to missionary lives: and, under the authorization of the Association of Medical Officers of Missionary Societies, of which I was the honorary secretary, about 2,000 printed forms were issued to English missionaries in all parts of the world to try and gather evidence on the causes of invaliding, retirement, and death. I am very grateful to the minority who returned these forms, and particularly to the many medical missionaries who in the midst of their busy and arduous lives kindly contributed valuable details. The salient facts, mainly of a reliable character, were thus given on some hundreds of lives, covering the years 1890-1908.

The Church Missionary Society, through its medical advisers, Dr. Charles F. Harford and Dr. Leopold Hill, very kindly placed at my disposal all their valuable medical statistics, which have been carefully recorded and systematically collected for many years. My grateful acknowledgements are due not only to these gentlemen, but also to Dr. Andrew Jukes, Dr. Hulme Griffith, and Miss Eva Morton, for their labours in reducing the mass of all these statistical records to a less bulky form, which was capable of being assimilated into and affording facts for this paper.

A total of 1,479 lives are dealt with, of which 1,051 are obtained from the Church Missionary Society records, and are therefore reliable and due to systematic collection by the society's medical examiners.

Causes of invaliding in 428 lives were collected by my forms of inquiry. The causes of death based on these same records have been already dealt with by me in a paper read before the Association of Medical Officers.

The total of 1,479 lives were distributed as follows:

TABLE I.

	Total Lives.	Men.	Women.
India	533	245	288
Ceylon	65	32	33
China	394	162	232
Japan	105	29	76
Africa—			
North, Algeria	20	12	8
Egypt, Palestine, Arabia	71	19	52
West, and Nigeria	65	34	31
Central and East, and Uganda	152	79	73
South	31	25	6
Madagascar	14	5	9
Persia	29	10	19
Total	1,479	652	827

I had also some returns from Spain, West Indies, Central America, South America, Labrador and Northern Canada, New Guinea, Samoa, but the numbers were too small to be worth analysis. Analysing the causes of invaliding in the case of the lives included in Table I the following facts emerge:

India.

The Church Missionary Society lives number 379 (188 men, 191 women), of whom 93 were invalided, or 24.5 per cent. Among the other societies 154 were invalided (57 men, 97 women). Altogether, therefore, there were 247 cases of invaliding, which in 203 were due to the following causes:

TABLE II.

	Per Cent.	
Nervous conditions of a neurasthenic type	20.6	25.4
Mental disorder of acute type	4.8	
Enteric fever	16.6	
Malaria	13.3	
Dysentery	6.4	
General debility	4.8	
Pulmonary tuberculosis	3.2	
Cardiac disease	3.2	
Anaemia	3.2	
Small-pox	1.6	
Gall stones	1.2	
Eye conditions	1.2	
Blackwater fever	0.8	

The remaining 44 cases were isolated cases having no particular bearing on life in the tropics.

The prominence of "nerve strain" and neurasthenic conditions is worth noting, and whilst this was the terminating phase before invaliding, it must be remembered that illness—chiefly malaria or bowel disorder of a comparatively light character—had occurred in probably many of these previously, and were factors in inducing both this condition and others, such as general debility, anaemia, and functional cardiac conditions. This question of "nerve strain," occurring as it does in connexion with work in other countries, will be commented on as a whole.

Ceylon.

The Church Missionary Society contributed 56 lives, of whom 3, or 5.3 per cent., all men, were invalided. Other societies contributed 9 lives invalided (7 men, 2 women), making a total of 12 (10 men, 2 women). Among these, nervous breakdown accounted for 5, malaria

for 2, enteric for 1, and dysentery for 1, and appendicitis, diabetes, and throat trouble for the others. The numbers are too few to analyse further. It would appear that Ceylon was a healthy locality.

China.

In this country the missionary lives numbered 394 (162 men and 232 women), and supplied 203 cases of invaliding, which are analysed in Table III.

TABLE III.—*China.*

Causes.	North (58 cases).	Central and West (79 cases).	South (66 cases).	Total (203 cases).
	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Neurasthenia	44.8	17.7	15.6	25.0
Insanity	5.1	12.6	7.5	8.8
Enteric and para-typhoid	13.8	7.6	7.5	9.8
Malaria	8.6	11.4	15.0	11.8
Dysentery	5.1	7.6	3.0	5.9
Tubercle, pulmonary ...	5.1	8.8	18.0	10.8
Typhus	—	5.0	—	1.9
Sprue	—	2.5	4.5	2.9
Small-pox	—	3.8	—	1.4
Anaemia	—	—	3.0	0.9

It is interesting to note the decidedly larger proportion of "nerve" cases which occurred in North China; perhaps some cause for this may be found in the drier atmosphere and also long periods of monotonous sunshine, which tends to promote at first increased mental and physical activity, but afterwards leads on to nervous irritability—a condition often hastened or exaggerated in many cases by the long-continued political unrest in that country, with the frequent reign of mob law and scenes of violence. Insanity, characterized by mania, religious delusions, or melancholia, has unhappily occurred in all parts of China, but is most marked in Central China according to these figures. Tuberculosis, pulmonary in all but two cases, comes third on the list of most prevalent causes for invaliding, the usual cause being contact with infected cases; this disease will again be referred to. Enteric fever produces nearly 10 per cent. of cases. Paratyphoid was reported in 2 cases. From remarks made as to suspected cases of enteric abroad, it is an interesting problem whether strains of typhoid germs do not differ in various parts of the world; and, if this is the case, whether local strains would not better be used for antityphoid inoculation when landing in a country rather than be given in the homeland. One case of sprue was reported from North China, where it is generally considered non-existent, but the boundary between North and Mid China is a somewhat vague one. Malaria is decidedly more prevalent in South China and Central China, and comes second in order of importance as to invaliding.

Japan.

In this country, whilst the general conditions for health seem good, "neurasthenia" is even more prominent as a cause for invaliding than in China. The Church Missionary Society gives records of 105 lives. Of these 17, or 16.1 per cent., were invalided (6 men and 11 women), and of this number 14 were due to neurasthenic conditions—that is 81.25 per cent. The other causes were: 2 apoplexy and 2 from gynaecological conditions. Of course the numbers are too small to base any general statement on them, but they are interesting as far as they go. It has been suggested that the inhalation of monoxide fumes from charcoal stoves in the Japanese houses may partly contribute to the nerve and head symptoms met with in missionaries, but also the constant occurrence of earthquakes and electrical disturbances are contributory factors in nerve conditions.

Africa.

Africa has been divided up into North, with which I have included Algeria, Egypt, Palestine, and Arabia; West, including Nigeria; Central and East, with Uganda; South. The figures are unfortunately small, but enteric fever is present as a definite cause in North and South, absent in Central and West Africa. Malaria is the cause of 75 per cent. of invalidings in West Africa, blackwater fever and malaria 40.4 per cent. in Central Africa, where also occur isolated cases of tick fever and sleeping sickness. Neurasthenia again is prominent as a cause in North, Central, and South Africa. Old age is given as a cause in 25.8 per cent. in South Africa. The total number invalided was 134 (79 men, 55 women). The causes of invaliding are analysed in Table IV.

TABLE IV.—*Africa.*

Causes.	North (39 cases).	West (12 cases).	Central (52 cases).	South (31 cases).	Totals (134 cases).
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Neurasthenia ...	25.0	8.3	21.1	22.5	20.8
Malaria	10.0	75.0	19.2	9.6	19.4 } 29.1
Blackwater fever ...	2.5	—	21.2	3.2	9.7 }
Enteric	18.0	—	—	12.9	8.2
Dysentery	10.0	—	1.9	—	3.7
Small-pox	2.5	—	1.9	—	1.5
Cholera	2.5	—	—	—	0.7
Mediterranean fever	2.5	—	—	—	0.7
Anaemia	—	8.3	9.6	—	4.4
Pulmonary tuberculosis	—	—	—	12.9	3.0
Old age	—	—	—	25.8	6.0
Typhus	—	—	—	3.2	0.7
Tick fever	—	—	1.9	—	0.7
Sleeping sickness ...	—	—	1.9	—	0.7
Mania	—	—	3.8	—	1.5
Heart disease ...	—	—	—	6.4	1.5

Madagascar.

The records of lives invalided only total 14 (5 men and 9 women). Malaria is very prevalent, occurring in almost epidemic form at times. Enteric is met with, and the only interest of these few figures depends on the fact that 5 were invalided for valvular heart disease, 2 for nervous breakdown, 2 for enteric, 2 for malaria. Most of the missionaries live at an elevation of about 5,000 ft., and the combination of elevation and prevalence of malaria seems to predispose towards arterio-sclerotic valve defects. "Malagasy heart" is, I believe, a well-known local condition recorded by French physicians there, and from the observations I have been able to make on returned missionaries from Madagascar I believe the condition to be an arterio-sclerotic one, with mural weakness. Dr. C. J. A. Moss of Madagascar, a medical missionary of long experience there, has stated in a recent paper published in the *Journal of Tropical Medicine and Hygiene*, that valvular disease is common among the natives, and is probably due to strain and hard conditions of life, and not to acute rheumatism, which he does not believe exists in the island. He also refers to 85 missionaries examined by him during his residence; 12 had cardiac trouble, 4 being due to valvular defects, and 8 degenerative, the result of malarial fever. Of 16 cases of missionaries who retired, invalided home, 5 had heart disease, 4 from malaria, 3 from neurasthenia, and one each from pulmonary tuberculosis, anaemia, asthma, and mental weakness. Most of these are, I think, included in my 14 cases.

Persia.

In this country the lives are only 29, of which 5 were invalided—neurasthenia, typhus, remittent fever being the causes.

Comparative Health Statistics.

In addition to the foregoing statements, as regards the Church Missionary Society statistics, I have worked out the average years abroad of missionaries for each sex, periods of invaliding at home, the percentage of invalided

for each country, and the incidence of disease. The comparative risks to health based on these figures are shown in the following tables:

TABLE V.—*Church Missionary Society Records.*

	Number of Recorded Lives.			Percentage Invalided.	Percentage of Incidence of Disease.	Percentage Free of Disease.
		Men.	Women.			
East Africa, Uganda ...	125	60	65	40.0	88.0	12.0
West Africa, Nigeria ...	65	31	34	18.5	86.1	13.9
Arabia, Egypt, Palestine ...	71	19	52	26.7	77.5	22.5
Persia	29	19	10	17.4	65.6	34.4
India	379	188	191	24.5	73.6	26.4
Ceylon	56	25	31	5.3	75.0	25.0
Southern China	123	40	83	8.1	65.9	34.1
Central China	98	31	67	20.4	69.39	30.61
Japan	105	29	76	16.1	61.9	38.1
Total	1,051	433	618	17.4	73.7	26.3

* Average.

From this table it will be seen that Egypt, Arabia, East, Central, and West Africa, are on the whole the countries which offer greatest risks to health.

TABLE VI.—*Chief Causes of Invaliding.*

Chief Causes of Invaliding.	India.	China.	Japan.	Africa.
	Per Cent	Per Cent.	Per Cent.	Per Cent.
CLASS I.				
Nerve conditions of a neurasthenic type	20.6	25.0	81.25	20.8
Insanity	4.8	8.8	—	1.5
CLASS II.				
Enteric fever	16.6	9.8	—	8.2
Malaria	13.3	11.8	—	19.4
Dysentery	6.4	5.9	—	3.7
Pulmonary tuberculosis ...	3.2	10.8	—	3.0
Small-pox	1.6	1.4	—	1.5
Blackwater fever	—	—	—	9.7
Percentage due to Class II diseases (largely preventable)	41.1	39.7	—	45.5

I have just had sent me by Dr. Leopold Hill, medical examiner to the Church Missionary Society, a record of 100 invalidings—men 35, women 65—in that society from 1908–12. He has unfortunately been prevented himself from attending to-day and giving a full report of these records. I have not had the time to analyse carefully the statistics, but find as to causes of invaliding the following figures emerge:

	Per Cent.
Neurasthenia	28
General debility	9
Anaemia	7
Enteric	7
Malaria	4
Bowel disorders	4
Colitis	2 = 8
Dysentery	2
Heart trouble (chiefly valvular)	3
Pulmonary tubercle	2
Tubercle of kidney	1
Sprue	2

The slightly lower incidence of enteric is probably due to the general practice of inoculations which has during the last few years been introduced.

CONCLUSIONS.

1. That a missionary's work involves great risks to health.

2. That capacity for "nerve strain" is a real factor to be considered in passing candidates to go abroad, and therefore it would be wise to exclude those who have any decided taint of mental instability in their family history, also those of highly nervous temperaments. The impulsive, enthusiastic, but easily depressed person will not stand the strain of the conditions inseparable from a tropical life and work, unless they have also a leaven of common-sense, humour, and good self-control. Isolation, overwork, under-staffing of stations, the heavy incidence of minor illness which does not immediately necessitate invaliding, the possible experience of scenes of violence and alarm (especially during recent years in China), will try the most placid or callous temperament, and largely accounts for the heavy incidence of this class of disease—that is, 20 to 80 per cent. of invaliding.

3. The prominence of a large class of infectious diseases calls for note, since an average of 42 per cent. of invaliding is due to them. Against this latter class many safeguards can be taken; small-pox should never occur if revaccinations were enforced. Enteric fever should be greatly diminished with wider and more frequent recourse to inoculation and extended knowledge as to methods of infection amongst the laity.

Malaria and blackwater fever can be more nearly controlled if more persistent efforts were made to efficiently teach all who go abroad the facts so universally acknowledged as to malarial prevention. Referring to the section I represent, many societies do not even yet see the necessity for any systematic instruction on health and hygiene for their missionaries, whilst they insist on a too long course (as it seems to the writer) in theological studies, if health and life have to be sacrificed for it.

4. The frequent appearance of pulmonary tubercle—due generally to infection abroad—points to the necessity for eliminating by medical examination all those who may from their family or personal history have shown predisposition to the disease.

5. Most of the lives considered in the above statistics are select lives, the examinations by many of the societies being as strict as for a large insurance policy, but the need for such medical criticism and elimination of the unfit still needs emphasizing to certain other societies and associations.

Enteric and Tuberculosis Cases.

In regard to enteric fever, I have details of 133 cases, occurring in 69 men and 64 women in the following countries: India, 77; China, 26; North Africa, Egypt, Syria, 11; Persia, 6; and under 5 in South Africa, Ceylon, Japan, South America, Bahamas, and Spain. The proportion of these cases which occurred at various periods of service are shown in the following table:

Period of Service.	Deaths from Enteric, 54.	Incidence of Enteric, 133 (with recovery).
Within first 3 years	48.1 per cent.	51.9 per cent.
Within first 5 years	65.4 per cent.	62.9 per cent.
Within first 6 years	70.0 per cent.	70.3 per cent.

Forty of the cases occurred after six years and 5 in persons who had served from fifteen to thirty years. The conclusion is obvious:

1. All persons going abroad should have knowledge as to the usual modes of infection by this disease.

2. The general practice of inoculation with antityphoid vaccine should be carried out every three years, if possible, for most countries, especially China, India, North Africa, and Palestine.

There is one question I should like to suggest in order to elicit information. Is there any brief negative phase following inoculations during which the patient is more liable to contract the disease if exposed to infection? I know of a few isolated cases where missionaries, going abroad immediately after inoculations, contracted enteric within a few months.

Tuberculosis.

Pulmonary tuberculosis comes third in order of frequency in China, and seventh in India as a cause of invaliding, whilst occasional cases occur in other countries. This would not be remarkable had there not been by process of medical examination an elimination of susceptible persons, though it must be owned some

societies are less strict in their medical regulations than others as regards this disease. The Church Missionary Society had in their records of 1,051 lives only 7 cases of such invaliding—occurring in 4 men and 3 women—and 5 deaths from the same cause: in one case only was it recorded that there was family predisposition. The other societies contributed 32 cases of invaliding and 42 deaths. These 39 cases occurred in 18 men and 21 women, the average age of the men being 42.2 and of the women 34.4, while the lengths of service were 12.4 and 7.5 years respectively. All the cases were pulmonary except 2, these being spinal tuberculosis and peritoneal.

In 33 per cent. of those invalided for tuberculosis there was a decided family predisposition or direct earlier personal infection. This percentage might have been higher had details been afforded in the other 22 cases. An interesting question arises as to whether there is a permissible limit of tuberculous infection, such as a past history of tuberculous glands, in a candidate applying for foreign work and residence amongst races where tubercle is known to be prevalent. Certainly, I believe, no case of reputed recent healed pulmonary tuberculosis should be passed, provided the diagnosis was fully established; nor where there was a strong and near family history of tuberculosis, especially if occurring on both sides of the family. When the family history is only slightly affected one would be guided by the condition of the candidate, and perhaps accept only for a non-tuberculous sphere of work, if such can be found.

I fear the gaps in this paper may be great, and much more information is, of course, desirable; but I must ask for some forbearance, as, apart from the valuable and systematic Church Missionary Society statistics, no attempt had been made by other societies to record what one might term vital statistics of missionary lives, and therefore there has been considerable difficulty in this initial effort, in gathering together the evidence on which are based conclusions which I hope will lead to further discussion.

II.—Colonel R. J. S. Simpson, C.M.G., A.M.S.(ret.).

1. Materials.

The materials used for the consideration of this problem have been the Army Medical Reports from 1886 to 1895, 1896 to 1905, and 1906 to 1910. The numbers invalided per 1,000 of strength over each of these periods have been compared. These three periods correspond fairly well to three stages in the development of our knowledge of the causes of disease, and therefore with our ability to deal with them by hygienic measures.

In the army, practically all the cases to be invalided from foreign stations are first of all sent home, where each case is reconsidered after further treatment. Those remaining unfit are "finally discharged." We have, then, practically parallel and comparable records of those temporarily invalided and of those finally discharged.

2. Standard.

We are first of all faced by the necessity of finding some standard by which to measure the results at any given station. We cannot use the United Kingdom, because there is no temporary invaliding, and as regards final discharge the conditions are not similar. Not only is there a considerable amount of permanent invaliding among young soldiers who have never been abroad, but there is also the invaliding among men who have returned from abroad in the usual course of duty but in whom a disease contracted abroad has only become of serious import after their return home. So that the invaliding debited against foreign stations is slightly less than it should be, while the home rates are slightly increased.

The only method is to compare groups of diseases at the whole of our foreign stations, but here again we are hampered by the great variations in the populations exposed; in some of the smaller stations an accidental small increase in the number of cases results in an unduly large increase in the ratio, even over a period of five years. Again, in India since 1907 men have been sent to the hills instead of being invalided home, which has reduced the temporary and permanent invaliding since that year.

Details have only been given for the quinquennium 1906–10, but the previous periods show the same characteristics, as will be seen later in the case of India.

3. Invaliding due to Tropical Disease.

Temporary Invaliding.—The average of the ratios per 1,000 for all foreign stations for *all diseases* between 1906 and 1910 was 24, of which 8 were due to *tropical diseases*, which is usually malarial fever. This was only important at the following stations:

Mauritius—causing	67	per cent.	of the	total invaliding
W. Africa	,, 53	,,	,,	,,
S. China	,, 30	,,	,,	,,

The percentage relation is important in these three stations, which have small garrisons; both sides of the comparison are affected similarly.

Permanent Invaliding.—The average of the ratios at the same stations for the same period was—for *all diseases* 9.2 per 1,000, and for *tropical diseases* 0.25.

From Mauritius 10.7 per cent. of the total invalids were discharged finally on account of malarial fever; in no other station was the proportion so great.

In India between 1907 and 1911, both inclusive, the following were the actual numbers of cases invalided permanently for tropical disease.

Enteric fever	21
Kala-azar	3
Beri-beri	4
Malaria	18
Dysentery	1

or a total of 47 cases in five years on an average strength of about 72,000 men. It is surprising to find how few cases are invalided for dysentery, hepatitis, enteritis, or diarrhoea.

Debility holds a comparatively high place in the tables. This term, like "anaemia," really conceals facts. Many of the cases are subsequent to acute or recurrent disease, and should be recorded under that heading. But, even including all cases of debility and anaemia with the tropical diseases (which is, of course, not correct), the total still remains insignificant among the causes of permanent invaliding. The total loss by death and invaliding is a different matter.

4. Invaliding due to Non-Tropical Disease.

The more important diseases causing temporary or permanent invaliding are, in order of magnitude, these:

Temporary.	*Permanent.*
Tropical diseases.	Nervous and mental diseases.
Nervous and mental diseases.	Tuberculous disease.
Unnamed diseases.	Diseases of special senses.
Tuberculous disease.	Valvular and functional diseases of the heart.
Diseases of special senses.	Unnamed diseases.
Valvular and functional diseases of the heart.	

("Unnamed diseases" includes all those not specifically shown here. "Special senses" here includes the eye.)

The predominance of nervous and mental diseases is distinct; of those sent home 85.5 per cent. are finally discharged. The commonest forms of disease are epilepsy, melancholia, and delusional insanity. In India, between 1907 and 1911, of the total permanent invaliding for these diseases:

Epilepsy accounted for	...	23 per cent.
Melancholia accounted for	...	21 ,,
Delusional insanity accounted for	...	17.5 ,,
Altogether 61.5 per cent.		

Neurasthenia is not recorded frequently among the men, perhaps less frequently than it might be. It attracts attention among officers, but this is, perhaps, not more than a part of the general increase in the community, as it is by no means infrequent among officers whose only service has been at home.

Tuberculous disease is for practical purposes tubercle of the lung. The incidence, death, and invaliding rates for tubercle at our foreign stations for the decade 1895–1904 were examined some years ago, and the conclusion arrived at was that, taking the United Kingdom as the standard, variations due to local conditions at the various foreign stations were surprisingly small, especially as regards the aggregate of the death and invaliding rates. Since then

the invaliding rate has risen, because now every man is invalided as soon as the disease is diagnosed.

South China and Ceylon showed a definitely higher rate than any other foreign station during the period 1906–10.

Diseases of the special senses are almost entirely those of the eye (errors of refraction) and ear (middle ear). In India during the period 1907-11, of the total permanent invaliding under this head, 19.3 per cent. was due to refractive error, 53.5 per cent. to diseases of the middle ear, or a total of 72.8 per cent.

Predisposition and antecedent infection are, then, important factors in the causation of diseases included in the groups referred to above.

Valvular and Functional Diseases of the Heart.—In India in the period 1907–11, of the total permanent invaliding for diseases of the heart and circulation, valvular disease accounted for 64.4 per cent., functional disease for 22.1 per cent.—in all 86.5 per cent.

In relation to valvular disease, rheumatic fever is not uncommon at any station. Many of the cases of functional disease are really the sequelae of acute disease, and are not cardiac in origin. Of the less frequent diseases:

Digestive System.—Hernia and defective teeth are the most important. A few cases of sprue are included here.

Organs of Locomotion.—Malformations of the feet (congenital) and diseases of the joints (acquired) are the most important.

One may say, then, that an appreciable part of the invaliding for non-tropical diseases is due on the one hand to congenital structural defects which are not influenced to any great extent by a tropical environment, and on the other, to antecedent infection or to that aggregate of partially known qualities which we call predisposition.

5. Relation between Temporary and Final Invaliding.

There is a comparatively close agreement between the order in which the different stations appear when placed in series according to the magnitude of the ratios for temporary and permanent invaliding respectively ($r. = 0.5901 \pm 0.122$). So that the temporary invaliding from a station is a fair indication of what permanent loss may be expected.

6. Relation between Invaliding for Tropical and Non-Tropical Disease.

It is interesting to inquire how far statistics support the general impression that a tropical environment influences the incidence and severity of non-tropical diseases as far as this is shown by invaliding.

Arranging the foreign stations in two series in order of magnitude of the invaliding ratios for tropical and non-tropical diseases, we find a very strong resemblance between the two series, with an approximate correlation coefficient of 0.75. Hence we are justified in saying that the invaliding-rate for non-tropical disease on the whole rises and falls with that for tropical disease; or, putting it another way, at most stations the relative magnitude of the invaliding ratio depends on all classes of disease, not only on that for tropical disease.

The important question here is whether this rise in non-tropical disease, with an increase in tropical disease, is determined by coexisting and antecedent tropical infection or whether it is the result of other factors. One knows, as a matter of fact, that as cases are invalided for the more important disorder, many cases invalided from infective stations for non-tropical disease also suffer from some tropical infection, and in a good many cases this has increased the severity of the non-tropical disorder. In addition to this experience of the individual case, we may compare ratios in a large population at different periods of increasing knowledge of hygiene and improvement in methods of prevention, as in the case of India over the three periods 1886–95, 1896–1905, and 1906–1910. Using the ratio per 1,000 of invalids sent home during the decade 1886–95 as a standard, we obtain the following ratios:

	Invalids sent Home.	Finally Discharged.
1886–1895	100	53
1896–1905	134	58
1906–1910	70	31
1911	30	26

The rise in the period 1896–1905 is due to the South African war, while part of the decrease in the last quinquennium is due to the policy of sending men to the hills instead of home; also during the last period there was a very great reduction in venereal disease. But the increase and decrease in each group of diseases is fairly regular over the different periods. Hence, the conclusion that those conditions which influence the prevalence of tropical disease also influence the prevalence of non-tropical disease is supported by the statistics available.

Comparing these different periods and comparing the different foreign stations for the same period with the United Kingdom, one sees that the same diseases are numerically important in temperate as well as tropical stations, and that the only difference is in degree, not in kind.

7. Conclusions.

(*a*) Tropical diseases of themselves produce only a relatively large temporary invaliding.

(*b*) The temporary invaliding from a station for causes other than tropical disease, taken generally, rises and falls over the whole of our foreign stations with the invaliding for tropical disease.

(*c*) The important causes of invaliding, temporary and final, are in order of importance:

Nervous and mental diseases.
Tuberculous disease.
Diseases of the special senses, including the eye.
Diseases of the heart, functional and organic.

(*d*) These are the same causes which are effective in Great Britain and almost in the same order.

III.—William F. Law, M.D.Dub.,

British Guiana.

The observations to be set forth are based on work done in British Guiana, which was confined to no particular class, but included Government officials, employees on sugar plantations, business men and their families. If it is admitted, as most do, that the white races are unfit for permanent residence in tropical countries, it follows logically that Europeans who go to these climates return at more or less regular intervals, if they are to maintain their health and energy for work. There are some apparent exceptions to this rule, but they are few. The primary cause of invaliding is climatic; it is the unpreventable factor that comes into the great majority of cases.

My views on this point are not in agreement with those of some distinguished workers, notably Colonel Gorgas, who is quoted by Dr. David Thompson, in a paper recently read before the Society of Tropical Medicine and Hygiene, as saying that "the work on the isthmus will demonstrate to the world that the white man can live and work in any part of the world, and that the settling of the tropics by the Caucasian will date from the completion of the Panama Canal."

I maintain that, although Colonel Gorgas's brilliant work on the isthmus of Panama has shown how much can be done by energy and organization, there is, on the contrary, every reason to believe that, even if all tropical diseases were wiped out, climate would still remain a powerful enemy to the settlement of tropical countries by the Caucasian.

Apart from climate, by far the most fertile source of invaliding in British Guiana is malaria, which accounts for nearly three-fourths of the temporary invaliding, and is an important element in bringing about permanent disability. The disease is, indeed, so common that it is treated with too little respect. People often get what we familiarly term "a touch of fever," without lying up at all, or do so for at most a day or two. This accounts for many recurrences, and it is well to emphasize the fact that invaliding, both temporary and permanent, would be less if after every attack, no matter how slight, rest for a day or two and continued use of quinine were looked on as essential.

Dysentery and enteric fever are, perhaps, the only other acute diseases deserving of notice as causing any special invaliding. In our towns and at sugar plantations the former is certainly not common, though a few cases do occur. It is more in evidence amongst the few Europeans who work in the interior at gold digging or on timber grants.

Enteric fever, which was formerly a very rare disease, has within the last ten or twelve years become comparatively common in Georgetown and on some sugar estates, and the amount of invaliding from this cause is becoming considerable, if not alarming.

Blackwater fever we see little of; yellow fever has been absent from the colony since 1888; plague, cholera, and beri-beri are unknown; and the trypanosome has not yet visited us. Filariasis and intestinal parasites, though extremely common amongst our working classes, are practically absent from our European population.

Nervous disease is, perhaps, next to malaria the most frequent cause of prolonged and permanent invaliding. It is not so much that the lesions are grosser, involving the locomotor system, as that the so-called functional derangements vary from mere nervous irritability or slight mental depression to acute melancholia with suicidal tendency. These are mostly to be found in persons occupying responsible positions, such as heads of departments, professional men, managers of estates, and business men.

Heavy work of a responsible nature is not easily borne in the trying conditions of tropical life, and frequently leads to the condition commonly spoken of as "nervous breakdown." In British Guiana we see a great deal of this; possibly our low-lying country, with its constant moist heat, is favourable for its development. Be the cause what it may, we know that when the placid man becomes nervous and irritable, or when mental depression takes the place of the usual cheeriness, the sooner that individual goes for a good long leave to a better climate the better.

Valvular disease of the heart is not more common than in England, possibly less so, owing to the total absence of acute rheumatism, but still heart affections figure largely amongst the causes of invaliding, being, perhaps, next in importance to nervous diseases. The term "tropical heart" has been used by some writers, but I do not think there is any condition of the heart peculiar to the tropics. A weakening of the heart muscle, accompanied by a greater or less degree of dilatation, very frequently follows attacks of acute disease, just as it will in any country, but the point seems to be that it takes less to produce this condition in a tropical than in a temperate climate.

Anaemia as a cause of invaliding must also be mentioned. A great deal of it, due to intestinal parasites, is met with in British Guiana amongst the labouring population, but amongst Europeans this is extremely rare, and in this class the condition must be ascribed chiefly to climatic influences and malarial fever.

Strain of work is not infrequently overlooked by writers, who seem to think that life in the tropics is mostly one of comparative ease and luxury. Few Europeans are capable of as much work in a hot climate as at home, and yet they are not uncommonly called to do more. Little wonder that breakdown occurs.

Speaking generally, it may be said that the abuse of alcohol is not greater in British Guiana than in England, but its effects are more rapid and serious. It is not a question of actual drunkenness, which is rare, but the habitual free use of alcohol which stops far short of intoxication. The climate is to blame for much of the over-indulgence of this sort.

To epitomize the conclusions drawn from my experiences, it would appear that permanent invaliding is most frequently demanded in cases of nervous disease, heart affections, and obstinate anaemias; whereas temporary invaliding, if of sufficient duration, will, as a rule, set right an otherwise healthy person suffering from malaria, enteric fever, dysentery, or other acute disease. Particular stress is to be laid on the qualification in the last sentence, as I have so often seen men, particularly overseers and junior officials, who, perhaps, could ill afford long leave, go home for two or three months after severe malarial fever, only to be laid up again by serious recurrences immediately after return to the tropics.

I would conclude by remarking that more attention to early symptoms, particularly with regard to slight malarial attacks, is required; in malarial countries the regular daily use of quinine as a prophylactic is a necessity; longer rest after acute malarial attacks have passed off should be insisted upon; longer leave to temperate climates when such is needed; fairly frequent return to temperate climates, even in the absence of acute illness; great caution with regard to the use of alcohol; careful selection of candidates for work in the tropics.

DISCUSSION.

Colonel Sir William Leishman, F.R.S. (President) called attention to a branch of the subject which had not so far been mentioned, and which might perhaps be thought to be excluded by the wording of the title of the discussion. This was the advice which should be given to those invalided from the tropics in respect of their return thereto. In the speaker's opinion tropical physicians had few graver decisions to make than in many of these cases, where a man's whole career might depend on whether he was advised that he should never return to the country from which he had been invalided. In some cases, he thought, such advice was hardly justifiable on our present knowledge; and he was familiar, as many others must be, with instances in which the advice, by stress of circumstances, had been disregarded and the individual had nevertheless returned to his station and enjoyed good health for many years. He hoped, therefore, that some of those who followed would speak on this branch of the subject, especially in connexion with blackwater fever, sunstroke, and neurasthenia. On the points raised by Dr. Price in connexion with the prophylactic use of antityphoid vaccine, he might answer in the light of his experience with this vaccine in the army. The advantage of employing a local strain of *B. typhosus* for the preparation of a vaccine appeared to him purely theoretical, and he had no evidence in support of this proving a useful modification. Reinoculation, in his opinion, should be carried out after a lapse of two and not of three years, since immunity rarely extended to this latter period. As regards the danger of a negative phase, he believed strongly, and on good evidence, that this was, with the present system of dosage, purely imaginary.

Dr. C. F. Harford (London) pointed out that there was a special difference between the military and missionary statistics, the latter including women as well as men. Both classes, however, might be regarded as selected lives. As one who had been for eight years physician of the Church Missionary Society, and was familiar with most of the individuals from that society quoted in Dr. Price's tables, the result of his general observations led him to conclude as follows: Bowel disorders he regarded as directly or indirectly the most important cause of invaliding, and apart from severe nerve troubles the most serious. Enteric fever undoubtedly had been the most serious cause, but with the employment of antityphoid inoculation it was lessened. Sprue was again a common and serious cause of invaliding. Colitis had proved to be very persistent and often difficult to deal with, whilst intestinal parasites were probably more commonly associated with intestinal disorders than was generally recognized. Bowel disorders seemed to be most prevalent in China and India. Nervous disorders, the speaker thought, were in many cases the result of fevers and bowel disorders, but there were special climatic causes, especially in Japan, which contributed to produce neurasthenic symptoms. They might be partly due to the electrical conditions of the atmosphere, partly due to difficulties of the language and to the strange surroundings of foreign lands which constituted nervous strain to those unaccustomed to them. Fevers seemed to be the most common cause of invaliding in Central Africa, and he would place first in importance blackwater fever and, especially in Uganda, tick fever. Malta fever also had to be reckoned with. In regard to women's diseases, he had noted a special prevalence of fibroid tumours in China and Japan. Troubles connected with the climacteric also had to be remembered, especially neurasthenic in character. Arthritic troubles of a serious character he had noted, especially in cases from the Punjab, but he did not desire to lay stress on this. Tuberculous cases would appear to be chiefly due to infection. As regards the figures of invaliding from different countries in Dr. Price's tables, he thought that the very favourable figures for Ceylon were probably accidental. He also thought that Egypt should not be included with Palestine or Arabia. As to the return to the tropics of those who had suffered from blackwater

fever, each case should be treated on its merits. Professor Koch had advised that if a man had blackwater fever he should, as soon as possible after the fever was over, start taking small doses of quinine until he got back to the regular prophylactic dose, and that if he continued this he might continue to reside in the country where he had contracted the disease. This the speaker believed to be good advice. If the individual had an exceptionally severe attack with cerebral symptoms or any tendency to suppression of urine, then he should not return. If, however, the attacks were not exceptionally dangerous and the patient could and would take quinine prophylactically, then he might return.

Dr. DUNCAN WHYTE (China) said that the importance of contact infection in the causation of tuberculosis was pronounced, as shown by the fact that all the missionaries referred to by Dr. Price had been examined for tuberculosis before they were sent abroad, yet the percentage invalided home from this cause varied from 3 per cent. in Africa and India to 18 per cent. in South China. For the proper safeguarding of the lives of Europeans in South China, where tuberculosis was so rife amongst the natives, it was desirable that the household servants should be carefully examined. Beds should not be made and food should not be prepared by servants who were expectorating tubercle bacilli, or yet by those who were possibly typhoid carriers. In regard to the prevention of invaliding from neurasthenia, one contributory cause of this condition was over-stimulation of the optic nerve by glare, which could be minimized by the use of dark glasses. An effort should also be made to secure that hypersensitive people were not allowed to go to the tropics. It was well to select for the tropics a man who had a nervous system sufficiently blunted to be able to tolerate fairly well the glare, and sometimes the noise, associated with residence in the tropics.

Major W. S. HARRISON, R.A.M.C., said that during recent years there had been a very great reduction in the total numbers sent home from the army in India on account of tropical disease. Part of this reduction was due to a general improvement in the health of the army, part of it to more effective treatment, and a part to the more extended use of hill stations. It had been learnt that it was quite possible to treat in hill stations a large number of cases which would otherwise be invalided, but there nevertheless remained a portion which had to be sent home. With regard to enteric fever, from 3.6 to 6 per cent. of those admitted were formerly sent home, and 0.4 per cent. were finally discharged. Now 1.7 per cent. of the patients were sent home, and 1.3 per cent. were finally discharged. This apparent increase in the percentage of those finally discharged was probably due to the invaliding of carriers (as a matter of fact, the percentage only represented 3 cases). For dysentery 4.5 per cent. of those admitted used to be sent home, but now only 1.5 per cent. were thus treated; at the same time, the numbers of those finally discharged had been reduced from about half per cent. of admissions to less than a tenth per cent. Malarial patients used to be sent home at a rate of, approximately, 1 per cent. of cases: now 0.1 per cent. only were sent home. These improvements had been accompanied by a reduction in the case mortality of typhoid fever from 22 to 13 per cent., and of malaria from 0.2 to 0.09 per cent., while the case mortality of dysentery had remained stationary at about 3 per cent. These figures showed that where hill stations were available it was quite possible to deal with most of the principal tropical diseases without sending the cases home. There remained, however, a considerable number of patients who required change to England; this was especially in regard to cases of dysentery and tropical diarrhoea. Here the quality of the food was of such importance that change to a country where decent food was available became in many cases absolutely necessary. Neurasthenic conditions and the sequelae of heat-stroke always called for a return home. The speaker had been particularly struck with the high proportion of neurasthenics among the officers, either primary in origin or following such ailments as chronic bowel disease. It was difficult to sort them out from the statistics, since so many cases were shown among the primary causes, but there was no doubt that once a patient developed marked neurasthenia he would go steadily worse if allowed to remain in a tropical climate. When the neurasthenia had been severe and prolonged, only very few cases could safely be allowed to return to the tropics without risk of a second breakdown.

Dr. M. CAMERON BLAIR (Nigeria) said neurasthenia was a matter of class, and it was not surprising that officers should suffer more than the men: the latter were and always had been accustomed to living in a crowd, whereas men of the officer class, who had been accustomed to their own quarters at home, were liable to be quartered with other men in the tropics. Neurasthenia really signified repression of the feelings which by want of expression disturbed the mental balance. Officers' work in the tropics all too often signified a lonely life without opportunity of an outlet for overcharged conservation of force. Cardiac dilatation was largely due to the strenuous work the officer had to do sitting up half the night perhaps writing, in a exhausted state, the reports of the day's work. Malarial fever was rarely treated effectively, and this accounted for men at home suffering from recurrent attacks. An attack of malarial fever meant a three months' course of quinine treatment after discharge from hospital. If a patient after recovery from blackwater fever had a sound heart and sound kidneys there was no reason why he should not return to the tropics provided he submitted to proper anti-malarial treatment. Quinine should be administered in solution or intramuscularly, not in tabloids hopelessly hard and indigestible.

Dr. MALCOLM WATSON (Federated Malay States) said that his experience had been that women in particular appeared to suffer more than men from life in the tropics, apart from any disease, and it took the form of neurasthenia; a change for a month each year to a hill station seemed to prevent this. With regard to men, neurasthenia was often associated with loss of weight, and increase in the weight would benefit this condition just as noticeably as it did with acute nervous troubles which found their way into asylums in England. The question of invalids returning to the tropics seemed to depend on the part of the tropics the man returned to. If he had suffered from blackwater fever he could go to a less malarious place, and if the place were at all malarious small doses of quinine were of infinite value. When the speaker was in Panama recently the authorities were good enough to supply him with figures relating to the invaliding from the zone. They showed that the same diseases were on the list as in other countries. It was not surprising that neurasthenia and insanity should figure largely when the "hustle," the blasting, and noise incident to the tremendous undertaking represented by the work at Panama were duly considered.

SOME RECENT OBSERVATIONS ON SPRUE.

By JAMES CANTLIE, M.B., F.R.C.S.,
London.

IT is disappointing that sprue, in common with many other intestinal disorders, seems but slowly to emerge from a mere detail of signs and symptoms and empiricism in treatment. Dr. P. Bahr has made a careful study of sprue in Ceylon, and it is hoped an advance may be anticipated as the result of his labours; and Dr. Castellani has given us information concerning intestinal fungi which is interesting, and may prove of supreme practical value.

It is not my intention to recount the signs and symptoms of sprue, which have been repeated in many publications, but to draw attention to a few points concerning which, in speaking to colleagues of sprue, I find seemed unnoticed and unpublished.

1. Temperature in sprue. A continued fever coming on in chronic sprue cases almost certainly indicated the last and fatal stage of the disease. Fever is not a characteristic of sprue: in fact, a temperature a degree or so below the normal is the rule. If, however, in long-standing cases, it may be of some years' duration, an increase of temperature varying between 100° F. and 102° F. obtains, a fatal issue may be anticipated in a month or two. Quite recently, however, a chronic case came under my care in which fever was present before I saw the patient, and life-

was prolonged for four months afterwards. Such cases are quite hopeless; I have never seen a patient with continued fever of over 100° F. recover. It would appear as if a toxin had developed which the tissues were incapable of keeping in check.

2. Neuralgia of the anus is a late development in sprue, and I have seen it only in fatal cases. At times a fissure or small ulcer may be present at the anus, but not infrequently the most careful search fails to discover any local lesion. It is common in sprue to meet with an itch anus accompanied by some dryness and discomfort, but this is quite different from the acute suffering referred to. The presence of this disturbance renders the last few weeks of the sprue patient's life miserable in the extreme.

3. Tetany. Within the past eighteen months I have met with 6 cases of muscular spasm of a general and severe character in cases of sprue of long duration and when accompanied by pronounced anaemia. I have never had my attention drawn to this condition, during a long experience of the disease, until lately, nor have I seen it prominently referred to in the literature. At first I believed the tetanic spasms were due to the medicinal treatment being used, but this was subsequently disproved. In 2 cases the spasms were present before the patients came under my notice. The tetany begins usually in the legs and hands; it is referred to by the patients as "cramp." The fingers are flexed and pressed firmly against the thumb or doubled up in the palm of the hand so rigidly that it is impossible for either the patient or doctor to separate them. Not only are the extremities involved, but the muscles in the neck, face, chest, and abdomen become involved. Fever is usually present, the temperature rising as high as 103° F. The symptoms may become alarming, the circulation becoming affected, as shown by the congested features, intermittent pulse, and cardiac distress. In severe cases the patient may become unconscious for some minutes, and death seems inevitable. I have never, however, seen a patient die in this state. The attack may last a few hours or one or two days, the symptoms gradually subsiding. These attacks do not imply a fatal issue to the malady.

4. Sigmo-rectal trouble is not an uncommon sequel to long-standing sprue, as it so frequently is in cases of chronic dysentery and colitis. This is a condition I have dealt with in previous papers, and need not be again referred to here. Shortly stated, the narrow sigmoid flexure is prolapsed into the rectum for a distance of an inch or two: the invagination leads to congestion and thickening of the parts. By digital examination per rectum, a large tender mass may be felt at a point as high as the finger can reach, at the upper end of a ballooned rectum, or it may be only by the sigmoidoscope that the lesion can be diagnosed.

The protruding sigmoid when seen can be made out to be swollen, congested or ulcerated, and covered by a slimy mucus as it oozes from the lumen of the bowel. When this stage is reached in sprue, as in colitis and post-dysenteric states, large quantities of mucus, occasionally stained with blood, comes away in the stools. As a rule, the frothiness, pallor, and bulk of the stool so characteristic of sprue disappear; in fact, the signs and symptoms of sprue would seem to disappear, including even the soreness of the tongue, and the condition becomes one of sigmo-rectal abnormality, consisting of prolapse of sigmoid, thickening of bowel, consequent obstruction, accompanied by the mucous discharge attendant in stricture of a mucous channel. As in strictured urethra mucus collects behind the seat of the lesion, so in the bowel mucus, but to an amount corresponding to the size of the bowel to the size of the urethra, obtains. The treatment when mucus becomes the most noticeable feature of the stools in cases of sprue must be altered, for the actual disease has changed to one of a local lesion at the seat of the sigmo-rectal pylorus.

Treatment.

As regards treatment, I have lately used collosol argentum (Crookes)—a solution containing the metal silver in a colloid state. This is a preparation by Professor Crookes of silver in which the actual particles are of extreme minuteness and exhibit, under ultra-microscopic conditions only, marked "Brownian" movement. Bacteriological tests show that the *B. coli communis* is killed in ten seconds, and no microbe is known that is not killed in laboratory experiments in six minutes. Being non-toxic, the dose can be increased from 1 to 2 or more drachms twice or thrice daily. In several cases of sprue I find that in from 76 to 118 hours stools lose their frothiness and their bulk, and a fairly solid motion can be anticipated showing the presence of bile. This has occurred even in the last stages of sprue when the temperature was over 101° F. and when death was anticipated.

As regards diet I adhere to the meat treatment of sprue, and when recurrences take place and persist I advocate for three days nothing but milk, three days nothing except meat, and three days a strict farinaceous diet: but no mixture of these on any account. Strawberries continue to hold their position as a curative agent. When the short strawberry season is over, ripe gooseberries (not in pies) in quantity, or raspberries or the juice of blackberries (brambles) do almost if not quite as well. As a medicine, powdered cuttlefish bone with native carbonate of soda is a remedy which has stood the test of some thirty years, and retains its position. When the disease alters its features and the sigmo-rectal pylorus becomes the seat of trouble, sea-water enemata answer well, as in similar conditions of post-dysenteric lesions and long-standing colitis.

DISCUSSION.

Major W. S. Harrison said he had seen one case of sprue with marked tetany. It was the tetany which brought the patient under notice. He had had diarrhoea and wasting for some time, but he was a stupid man, and took no notice of it until the tetany developed. With regard to the sore mouth, he had noticed that when a patient got an intercurrent attack of acute diarrhoea the mouth symptoms improved; when the stools got more into the characteristic sprue condition, and especially when they became solid, the mouth symptoms recurred. Acting on this, the speaker washed out the bowel with normal saline—3 pints daily—whenever mouth symptoms were present; it certainly seemed to keep down the mouth symptoms, but these recurred as soon as the washing out was discontinued. It looked as if the sore mouth was due to the absorption of some poison from the large gut.

PHLEBOTOMUS FEVER AND DENGUE.

By Lieutenant-Colonel C. Birt, R.A.M.C.

The subject of phlebotomus, or sandfly fever, was last discussed by this Section at the meeting of 1910. Since then considerable advances have been made in our knowledge of the extension of this infection and of the habits and distribution of the phlebotomus throughout the world. It will be recalled that in the year 1908 Doerr proved by experiment that the summer febricula which year by year attacked the Austrian troops stationed in Bosnia and Herzegovina is of specific origin. This fever is ushered in with chilliness, but not with the severe rigor characteristic of ague: the temperature rises rapidly to 101° to 103° F., and falls by lysis about the third day. Severe frontal headache, flushed face, suffused conjunctivae; pain and tenderness in the eyeballs, back, calves of the legs, and epigastrium; anorexia and vomiting at times; constipation, but sometimes diarrhoea; slow pulse and leucopenia, are the chief symptoms. Second attacks are uncommon, hence the incidence is greatest among newcomers.

Similar febrile ailments had been reported in the records of our army and navy in the Mediterranean stations for nearly 100 years. They were attributed to solar influences, climate, intemperance, disorders of the digestion, and so forth, though in the Army Medical Report of 1853 doubt was thrown on these alleged causes, since such conditions existed elsewhere without fever arising.

On combining the successful experimental results of Austrian, English, and Italian investigators, it is found that (1) the subcutaneous injection of blood or serum withdrawn during the first twenty-four hours of sandfly fever, excited the disease nineteen times; (2) inoculation with the filtrate obtained by passing such diluted blood through a germ-proof filter induced the infection fourteen times;

(3) and that feeding experiments with infected sandflies were successful on twenty-one occasions.

Phlebotomus major (Annandale), called *P. perniciosus* by Newstead, is the common sandfly of Malta. *P. minutus* is widely distributed in sandfly fever localities; specimens of this variety have been sent recently by Captain Loughman, R.A.M.C., from Aden, where for many years the infection has been prevalent among our troops; hence it is probable that both these flies transmit the disease in addition to *P. papatasii*. Marett found that the sandfly breeds in caves and in the interior of rubble walls in Malta. Howlett discovered them in heaps of bricks and other rubbish in India, and also in the damp algal muddy material from the sides of an open reservoir.

The existence of the phlebotomus and of the infection has been reported recently in Portugal, South of France, Italy, Corsica, Sicily, Greece, Palestine, Egypt, Soudan, Aden, Persian Gulf, Ceylon, Mexico, German East Africa, and India. In the Army Medical Report of the year 1911 it is stated that there were 1,393 admissions on account of sandfly fever among the European troops stationed in India. Phlebotomi have been captured in many parts of Europe, Africa, Asia, and in North, Central, and South America. Fuller details are given in the *Transactions* of the Society of Tropical Medicine and Hygiene, 1913, June, vol. vi, No. 7, pp. 243–256.

Sandfly fever occurs every summer year by year, but dengue breaks out in sudden epidemics at intervals of many years; hence the nature of the latter may not be recognized at first, since the local practitioners are often unacquainted with the disease. The outbreak in Calcutta in 1912 gave rise to a discussion as to the character of the infection on this account. In Malta there are annual summer epidemics of sandfly fever among our troops, but the last occasion on which they were attacked with dengue was in the year 1881. The rapid dissemination of the dengue infection throughout a community and the presence of rashes in about 70 cent. of the cases distinguish a dengue from a sandfly fever epidemic. No eruptions have been observed in the Maltese, Italian, and Chitral phlebotomus fever.

The causation of dengue has been investigated by Graham, Carpenter, and Sutton, and by Ashburn and Craig. Inoculation of healthy persons with the blood of dengue patients gave rise to dengue eight times. Inoculation with filtered infective blood induced the disease twice. Inoculation with the salivary glands of an infected culex originated the ailment once. Infection has been conveyed by infected culices eight times and once by an infected stegomyia. Graham protected families from dengue by mosquito netting. E. H. Ross extinguished epidemics of dengue in Port Said by exterminating the mosquitos. Stitt prevented the spread of infection from 200 dengue patients by enclosing them in mosquito-proof wire cages.

Blood withdrawn after the first day of sandfly fever is no longer infective, but the blood of dengue patients in the second to the fifth day of the fever excited the disease. Phlebotomi are unable to transmit sandfly fever until six days after feeding on a sandfly fever sufferer on the first day of his illness, but dengue has been conveyed by mosquitos immediately after sucking infective blood; and the virus survives in them for twenty-seven days. An attack of sandfly fever does not confer immunity against dengue, and vice versa.

The stegomyia was regarded by Legendre as the transmitter of dengue in a widespread outbreak at Hanoi in 1910. Davidson noted that this mosquito was present everywhere in Brisbane during the dengue epidemic of 1911. That there is some connexion between dengue and yellow fever has often been observed. In Bermuda in the year 1863 there was an autumn outbreak of dengue, which was followed by an epidemic of yellow fever. In Malta in 1881 both dengue and yellow fever attacked our troops.

There is a close resemblance between the sandfly, dengue, and yellow fever infections; they are all caused by a virus which circulates in the blood, and is able to pass through a bacteria-proof filter; the onset of the fever is similar in many instances, and during the first two days of the illness it may be impossible to distinguish between the ailments. Even later a diagnosis on clinical grounds may be unattainable, for atypical cases of dengue and yellow fever—and they are numerous—may bear every likeness to phlebotomus fever.

If we refer to Finlay's account of his classical experiments on the transmission of yellow fever, which have not always received the attention they merit on the part of subsequent investigators in this field (they were published in the *Journal of American Medical Sciences*, October, 1886, and September, 1891, and in the *Edinburgh Medical Journal*, 1894), we find that he induced attacks of fever which resembled dengue or sandfly fever in 14 out of 88 people who had been bitten by stegomyiae infected with yellow fever. He placed the mosquitos on the subjects of his experiment two to five days after they had sucked the blood of yellow fever patients in the second to the fifth days of their illness. The incubation period of the fever thereby set up varied from five to twenty-five days. The comparative mildness of the symptoms he evoked may be explained by the fact that the virus undergoes elaboration in the body of the stegomyia; the longer its stay the more potent it becomes. This was shown by the French and American commissions on yellow fever. The sting of a stegomyia fifty-seven days after it had sucked yellow fever blood induced a severe attack of yellow fever, whereas the bites of insects which had been infected for shorter periods, in several instances set up dengue-like illnesses.

It is now recognized that dengue and yellow fever occur sporadically. In Jamaica and Bermuda a dozen or so cases of short fevers are met with among our troops every year, in which blood cultures, microscopical and serological examinations are negative. In both these islands culices and stegomyiae are abundant, and phlebotomi are absent. It is probable that these febrile ailments are caused by mosquitos. The writer investigated six cases of fever in which the pyrexia lasted from five to ten days, in Malta before the advent of the sandfly season. In all, 5 to 10 c.cm. of blood remained sterile permanently; the serum reactions and microscopical examinations for parasites were negative; leucopenia and slow pulse were observed in every instance. Mosquitos were numerous, hence it is reasonable to suppose that they were the conveyors of the infection, since in every epidemic of yellow fever and dengue cases are numerous in which the symptoms are restricted to those above mentioned. He would name such attacks "mosquito fever."

DISCUSSION.

Dr. G. C. Low (London) said that the differential diagnosis of yellow fever from other diseases was not an easy one. Weil's disease, acute yellow atrophy, infectious and other jaundices, had all to be considered. Further, yellow fever might occur in a malarial individual, and this further complicated the diagnosis. The origin of sporadic cases of the disease had never been satisfactorily explained, and there were many points in the epidemiology of the disease still requiring solution.

Dr. FLEMING JONES (New Guinea) said that if he had to depend upon one symptom only in the differential diagnosis between yellow fever and other tropical fevers, he would rest upon the rising temperature and the falling pulse. He was speaking from the standpoint of an experience of many hundreds of yellow fever cases, and while he knew that there were many other important symptoms—still, that, in the speaker's mind, was the most important.

DISCUSSION ON FILARIASIS.

OPENING PAPER.

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In opening this discussion I think it may not be out of place, first, to briefly review the literature of human filariasis for the past year—from July, 1912 to July, 1913. A considerable amount of work, some of it of a very interesting nature, has been accomplished in this time, and, though much still remains to be done, yet our knowledge of the subject as a whole has advanced considerably. Several papers dealing with the geographical distribution of *Filaria bancrofti*, *F. loa*, and *F. perstans* amongst the natives in the French possessions on the West Coast of Africa may be mentioned (Thiroux,[1] Cazanove,[2] Leger,[3] Morotte and Morvan,[4] and Ouzilleau[5]). Ouzilleau has

also studied the distribution of *Filaria volvulus* in the region of Mboma, one of the two head waters of the Ubangi, a tributary of the Congo, and has suggested that this parasite may be a cause of elephantiasis in those regions. Such a statement cannot be accepted without confirmation and more definite proof than the author brings forward in his paper. It certainly does not appear to be a likely hypothesis.

As regards the filariae found in the South Sea Islands, Fülleborn[6] contributes a very interesting paper giving the results of his researches in those parts. His examinations showed that a very high percentage of the inhabitants of some of the islands of the Bismarck Archipelago and German New Guinea were infected with filariasis (*Filaria bancrofti*), and that the larval or embryonic forms in these areas, in contradistinction to those of Samoa, Fiji, and other places, possessed a well-marked periodicity. Why this should be so is very interesting, and will be referred to later.

Another paper[7] by the same author deals exhaustively with the morphology and differential diagnosis of the different human microfilariae. The points of distinction between the embryos of *Filaria loa* (filariologists are now agreed that Manson's *Filaria diurna* embryos are the larval forms of *Filaria loa*, and must therefore be known by that name) and *Filaria bancrofti* are well brought out, as are also the various anatomical structures of the embryos. Foley[8] has also contributed a paper on the same subject, having obtained his material for his studies from a detachment of Senegalese soldiers quartered in Algiers. Many of these were filariated, three species of filaria—*F. bancrofti*, *F. loa*, and *F. perstans*—being met with. By a series of tables and diagrams the differences between the larvae of the first two species are shown at a glance.

Next coming to diseased conditions produced by *F. bancrofti*, Low[9] has described in detail the pathology of a filarial chyluria case. At the autopsy it was found that the milky fluid which was passed during life and was present in the bladder after death was coming not from the thoracic duct, but from the lymphatics of the kidney and bladder. The condition was really a lymphuria, and hence not a proper chyluria, so the author has suggested the use of the term "filarial lymphuria" for such cases. Wise[10] has investigated various purulent conditions of the lymphatic system, and in conjunction with Minett has also studied filarial abscesses. Their observations make it clear that the filariae, by damaging the tissues, may allow the ingress of organisms, which in turn set up purulent foci, either localized, or, if the main lymphatics are involved, diffuse.

A fairly large number of papers on elephantiasis have also appeared. Kondoleon[11] and Rosanow[12] propose new operations for the treatment of this condition, while Madden, Ibrahim, and Ferguson[13] have pointed out that the operation of lymphangioplasty suggested by Handley fails to effect anything but a very temporary improvement in elephantiasis of the legs. Pelletier[14] and Müller[15] write on the operative technique adopted in elephantiasis scroti, the latter bringing forward some new modifications which he believes will prove useful in the ordinary operation. It is worthy of note that many of the cases of elephantiasis, on which the operations mentioned above were performed, were non-tropical ones, this indicating that the condition is commoner out of the tropics than is generally supposed, and may be due to some other cause than the filaria.

Filaria loa infections have had much study bestowed upon them. Leiper[16] has discovered the intermediate host of the parasite, finding that the development or metamorphosis of the embryos takes place in the salivary glands of *Chrysops dimidiata* and *C. silacea*. He has further obtained a slight and abortive development in *Haemapota* and *Hippocentrum versicolor*, genera allied to *Chrysops*, but all efforts to obtain infection in species of *Tabanus*, *Glossina Stomoxys*, *Cimicidae*, and *Culicidae* have failed. The development is very similar in nature to that which takes place in the embryos of *F. bancrofti* in the mosquito, fully metamorphosed specimens eventually appearing. These finally erupt from the gland in which they have developed, and then must make their way to the proboscis and so back to man, though this latter step has not so far been actually noted.

In addition to the work done upon the differentiation of *Filaria loa* embryos from those of *F. bancrofti*, Meinhoff[17] and Low[18] have followed up the clinical histories of cases and have added some very valuable information as to the length of time of the infection and the presence or absence of embryos in the peripheral blood. These points will be referred to again later.

Little has been done on the other filariae of man, namely, *F. perstans* and *F. demarquayi*, and no further advances have been made as to the respective intermediate hosts of these parasites.

As regards future work on *F. bancrofti*, the most promising path of investigation probably lies in the epidemiology, many important points still remaining to be cleared up. As regards the non-periodicity of the Fijian and Samoan filariae, Bahr[19] has suggested that this may be due to the habits of the intermediate host, *Stegomyia pseudoscutellaris*, which is a day-feeding mosquito. The solution of this problem does not appear to be one of very great difficulty: other islands must be examined and compared and the intermediate hosts determined, both in those in which the filariae are periodic in their habits, as well as in those in which they are not. Such an investigation must necessarily be a prolonged one, and will take up a considerable amount of time, but it should prove to be one well worthy of adoption.

Low[20] has already pointed out, for the West Indies, that the geographical distribution of *F. bancrofti* differs very greatly in many of the different islands; in Grenada, for example, practically none of the inhabitants being infected, although the conditions would seem to be perfect—climate, proper intermediate host present—for its spread. Here, again, there must be some factor present preventing the development of the parasite in its intermediate host, but what that may be is quite unknown. Low-lying flat places, such as British Guiana and Barbados, have very much heavier infections than the mountainous islands, such as St. Lucia, Grenada, and St. Vincent; but then, again, St. Kitts, which is mountainous in the interior, although its town (Basseterre) is flat, shows a very heavy infection, quite as heavy as that of British Guiana. Even in the districts and different parts of these islands, and far more so, of course, in the tropical regions of the different continents, this unequal distribution of the parasite may be met with. In some cases it may, of course, be due to the absence of the proper intermediate host, but in others, such as those I have just mentioned, that is not the cause. What it may be due to and why it should exist perhaps future investigators may be able to determine.

Further, the question of hyperfilariation is one worthy of consideration. Why, for example, should a person harbouring many filarial embryos in his own peripheral blood not be constantly reinfected by the mosquitos which he himself must be constantly and regularly infecting. One would have thought that in such instances hyperfilariation would have occurred, but apparently it does not. Does this mean there is a struggle for existence even amongst the filariae?

The constancy of the numbers of embryos in the peripheral blood for long periods of time is also interesting. For making accurate observations on these points, I have suggested that measured quantities of blood only should be used, and have myself taken 20 c.mm. as a standard quantity. Death of embryos must be constantly going on in the blood, as otherwise their numbers would become so excessive as to seriously interfere with the circulation. What becomes of them and where do they go? Possibly leucocytes may ingest them, but even granting this, it is not easy to see how the numbers destroyed should be so regular as to maintain a more or less average constancy amongst the number remaining. That they may all disappear, and that quickly, from the blood stream, is seen where lymphangitis and other inflammatory conditions kill the parent worms, or at least prevent the ingress into the blood of the young embryos. This would indicate that the life of the embryos in the peripheral blood is not probably a very long one, and soon comes to an end if the breeding females are removed. Against this view, however, are Fülleborn's interesting experiments of injecting uninfected dogs with the embryos of the dog filariae. These were recovered up to long periods afterwards, and were even found to have increased in length. Similar

experiments on monkeys with *F. bancrofti* embryos might prove useful.

More work is also required on the pathology and pathological anatomy of the diseased conditions produced by *Filaria bancrofti*. Investigations by Wise (loc. cit.) in British Guiana, and by Bahr (loc. cit.) in Fiji have helped us very much in this respect, and these observations, added to my own, all tend to show that this species of filaria is by no means a harmless parasite, but one that may be the starting point of the most serious pathological lesions.

As Bahr has pointed out, the destruction and fibrosis brought about by the presence of the worms in the lymphatic glands is a very real one, and certainly must lead to an increased difficulty of the passage of the lymph through those affected. In a paper of my own, already referred to,[9] I have tried to demonstrate that the blockage of the intra-abdominal glands which drain the lymph from the lower limbs is an easy one, and as these are a favourite site of the filariae, in my opinion this accounts for the frequency of elephantiasis of the legs. An accurate study of the lymphatic system is requisite, of course, to appreciate these points.

Death of the adult filariae seems to be a fairly common event, and when this occurs calcification of the remains is by no means an infrequent event. In other instances the dead body of the worm seems to act as a nidus for the growth of organisms, and then it may become the starting point of various septic and purulent conditions. In sections I recently made from calcified filariae taken from the neighbourhood of the hilum of the kidney one could see that the parasites were really contained in definite lymphatic vessels, the walls of which were enormously thickened and fibrosed. This again indicates a marked degree of toxicity even in a parasite, which, when death overtook it, became calcified, and this again indicates that these parasites act as irritants, setting up inflammatory changes, changes which are evidenced by small-celled infiltrations and final fibrosis. Probably none of them are harmless, and the degree of damage done will depend largely on the sites in which they are lying—that is, whether these are important or not.

These few remarks, then, indicate that much of interest still remains in the pathology and pathological anatomy of filariasis due to the *F. bancrofti*.

The same may be said of the symptomatology and pathology of *Filaria loa* infections. Here, though we have advanced enormously in the last few years, much still remains to be done.

One of the most peculiar features in many cases of *Filaria loa* infection is the prolonged absence of embryonic or larval forms from the peripheral blood, and this even although there is strong evidence of a fair infection with adult forms. I am now following up a series of such cases, and some little time ago published an interim report upon them (loc. cit.). A reference to this paper shows that some still have no embryos in their peripheral blood four years and even longer after their original infection.

One however does not give up hope of their ultimate appearance, as Meinhof (loc. cit.) has recently described a case where Calabar swellings appeared in 1905, then the first adult filaria was seen six years after that, and embryos appeared in the peripheral blood eight months after that—that is, almost seven years after the original infection.

This case, with Case v of my series—a patient who has been away from the endemic area for five and a half years, and yet has numerous *loa* embryos in his blood—indicates how long and protracted the infection may be.

Another point illustrated by Case v is that a patient may be infected and act as a carrier, and yet be unaware of this, none of the usual clinical signs of the disease having shown themselves. This is rare, but it leads one to ask what are the evidences of infection with *Filaria loa*. I have already entered into this in a paper on *Filaria loa* published in the *Journal of Tropical Medicine* in 1911, but for convenience may repeat what I wrote then here. "In coming to a diagnosis that a case is one of *F. loa* infection, four points should be attended to:

(1) The actual presence of the worm. Has this been seen or has one been extracted? If so, of course the diagnosis is complete.

(2) The presence of diurnal (*F. loa*) embryos in the peripheral blood.

(3) The actual presence or history of Calabar swellings.

(4) Eosinophilia with no explainable cause."

An examination of Case v's blood in the first instance would have shown a marked eosinophilia which would have made one suspicious. One would, on finding this, have examined the faeces and then the blood, and the embryos would have been found.

Personally I discovered the infection when really looking for embryos on the off-chance, as the patient had been in an endemic area. It is important to note, of course, that when eosinophilia is found with apparently no cause the night and day blood should both be separately examined. *F. bancrofti* must also be excluded.

I shall not enter here into the various theories that have been proposed from time to time to explain this peculiar absence of embryos—males only present, immature females, and so on. The hardest to explain are undoubtedly the cases where adult female filariae full of embryos have been removed from the eye or other tissues and yet no embryos were found in the peripheral blood.

Points in the pathology of *Filaria loa* infections also require clearing up. We do not know, for example, why the worms cause the peculiar fleeting swellings generally known by the name of Calabar swellings. Sir Patrick Manson's idea was that they might be due to the mature female giving birth to a brood of young embryos, and this may be so. His experiment of drawing off serum from one of these swellings, and finding embryos in it, was vitiated of course by the fact of the patient having embryos in the blood at the same time. On account of this one cannot be sure that he had not taken blood up when introducing the needle into the swelling. This experiment will have to be repeated on cases of Calabar swellings with no embryos in the peripheral blood—quite a common occurrence.

The presence of *Filaria loa* in the system produces a very marked eosinophilia, quite as much or even more marked in some cases than that produced by *F. bancrofti*. The whole subject of helminthic eosinophilia is one requiring close attention, and it should form a very interesting piece of research work for some young and active investigator.

Another point of interest is that *F. loa* does not seem to produce abscesses like its neighbour *F. bancrofti*. What becomes of the former when it dies? Is it always aseptic and simply absorbed?

As regards *F. perstans* and *F. demarquayi*, work for the future includes the findings of the intermediate hosts of these parasites. Wellman has incriminated the *Ornithodorus moubata* as a host for the former, but so far no one has confirmed this.

Filaria volvulus, now called *Onchocerca volvulus*, is a parasite about which we know very little. Its life-history is quite unknown. How it gets into man and how out of him is a mystery. Ouzilleau's work on the subject has already been mentioned, and his idea that the parasite may have something to do with the production of elephantiasis is one, as I have said, that requires accurate confirmation.

I think I have shown, then, in these somewhat brief remarks, that there is a fruitful source of investigation awaiting anyone who wishes to take up the subject of human filariasis, and I hope that what I have said may be the means of stimulating a very interesting discussion on the subject now.

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DISCUSSION.

Dr. Duncan Whyte (Swatow, China) confirmed the views of Dr. Low as to the absence of hyperfilariation. Patients in whom the number of microfilariae in 20 c.mm. of blood had been counted at a certain hour of the night showed no increase in that number five or six years later, although there seems no reason to doubt these persons had been often bitten, during the intervening years, by mosquitos whom he had himself infected. Dr. Low had given no definite information as to the duration of life of microfilariae in the blood stream, and Dr. Duncan Whyte thought it worth while reporting that (in three filariasis patients from whom elephantiasis scroti had been removed) the microfilariae could be found in the peripheral blood for from a week to ten days afterwards. The "patchy" distribution, both of filariasis patients and of elephantiasis cases, to which Dr. Low had drawn attention in the West Indies, had also been found in different parts of South China. The reason for this still awaited discovery. It was a verdict of "not proven" that should be brought in on the question of the possible pathogenicity of the *Filaria bancrofti*. It seemed very probable that this filaria was the cause of elephantiasis, but the arguments used to prove this were of the same kind as those that were used ten years ago in an endeavour to incriminate *Filaria perstans* as the cause of sleeping sickness. The discovery of trypanosomiasis as the cause of this condition had shown that *Filaria perstans* must be exonerated. An open mind must be preserved, lest the discovery of some other cause of elephantiasis should be missed.

Dr. R. Fleming Jones (New Guinea) remarked that a point which had often occurred to him in connexion with elephantiasis and filariasis, and which had been mentioned by Dr. Duncan Whyte, was the patchy distribution of elephantiasis. In British New Guinea he found an average of 7 per cent. of blood infection with microfilariae (*F. bancrofti*), and yet he got nearly all his cases of elephantiasis from one small district. The suggestion of symbiosis at once occurred. Something more than filarial infection alone would seem to be indicated.

Dr. P. H. Bahr (London) gave a demonstration of specimens collected in Fiji, first dealing with the occurrence of the mature parasite in the tissues, its fate therein, and secondly, with the development of the filaria in the mosquito. He stated that adult filariae were found most commonly in Fiji in the lymphatic glands. He had put out for exhibition a male and a female specimen, which had been determined by Dr. Leiper as typical *F. bancrofti*. In the glands in which adult filariae occurred several changes were noted; these were shortly (1) giant cell formation and (2) fibrosis. He did not think the irritative effects of these parasites on lymphatic tissue was sufficiently realized. They appeared to exert this effect in a two-fold manner—first, by their presence as a foreign body, and, secondly, by the toxin and by excreta. It was probable that in the natural course of events the filaria living in the abdominal lymphatics and glands caused no acute symptoms, and after its death became calcified. Its calcified remains, again, acted as an irritant, and further increased the amount of fibrosis. These calcified filaria had now been found commonly in almost every lymphatic gland of the body, the testes, epididymis, and tunica vaginalis; and, curiously enough, they were common in the lymphatics of the kidney substance and the perirenal fat. Their effects on lymphatic vessels were also marked; blockage in these could take place in three ways: first, by mechanical blockage; secondly, by surrounding fibrosis; and, thirdly, by a proliferative process of the endothelium of the vessel wall. These gland changes were seen not only in the glands inhabited by filariae, but also in lymphatic glands in the course of the lymphatic stream. In these glands were also found marked giant cell formation and fibrosis, and also by areas of hyaline tissue, which was probably stagnated lymph. Lymphatic tissue so extensively damaged was much more liable to secondary invasion by septic organisms, and even by the tubercle bacillus itself. Filarial abscesses, of which the filaria was the primary and the streptococcus and staphylococcus the secondary cause, were extremely common in Fiji, and such cases had been lately described by Wise and Minett in British Guiana. As for the pathology of lymphangitis, it was a local disturbance, and microfilariae were found in the gland substance in the immediate proximity; the lymph abstracted was generally sterile. Some specimens he exhibited showed the extraordinary degree of development attained by the microfilariae of Fiji; no periodicity took place in its intermediary host, *Stegomyia pseudo-scutellaris*, while other specimens showed that the larval forms died out in *Culex fatigans*, when these were fed simultaneously under exactly the same conditions. In *Culex fatigans* a very few developing filariae lived to enter the proboscis. *Stegomyia pseudo-scutellaris* was a day-biting mosquito, and the lack of periodicity of the embryo in the blood of man seemed to be a distinct adaptation of the habits of its favourite intermediary host—*Stegomyia pseudo-scutellaris*. The mode of development agreed in the main with that described by Low, James, and others. In reply to questions, the speaker added that the irritant effects of filaria on tissues was probably local and general. In response to the general toxaemia a general eosinophilia was produced, and disappeared when the filarial infection ceased. Lymphangitis came on periodically because the filaria had definite breeding seasons and the emission of microfilariae only took place at definite periods, causing the lymphangitis. The patchy distribution of filariasis was well marked in Ceylon. Perhaps the chemical composition of the water in which the mosquitos are bred had something to do with the capacity of the mosquito for acting as intermediary host. Humidity and temperature had a great influence on the rate of development. In Fiji in the cold weather the cycle in the mosquito took three weeks, in the hot weather only ten days. Microfilariae disappeared from the blood after an attack of lymphangitis; this fact explained the absence of microfilariae from the blood in cases of marked filarial disease. Besides this fact many adults (as many as twenty-four) were found in the lymphatic gland without corresponding presence of microfilariae in the blood.

Professor Wasielewski (Heidelberg) suggested that a chemical effect might be produced by the filariae, and have something to do with the lesions present in filariasis.

Dr. Cameron Blair (Nigeria) referred to the periodical attacks of filarial fever, and to lymphangitis. Dr. Bahr believed this was due to definite breeding season for the parent filaria and the birth of young embryos set up the lesion.

Dr. Malcolm Watson (Malay States) referred to the "patchy" distribution of filariasis, and mentioned that Dr. Bahr had suggested that the chemical composition of the water in which mosquitos bred might have something to do with it. If so, this was analogous to *Anopheles* carrying or failing to carry malaria infection, as pointed out by Christophers.

Dr. Low, in replying to the discussion, said that he would deal with the many interesting points raised seriatim. He had noted the same thing as mentioned by Dr. Duncan Whyte as regards the infection occurring in families—namely, some members heavily infected, others not. As regards the etiology of elephantiasis, this was a subject that had always given rise to much discussion. Personally, he believed the filaria was the primary cause, though he admitted that other causes might act. Gonorrhoea, for example, was the chief cause of stricture of the urethra, though traumatism could equally well cause it, and this should be remembered. Many of the opponents of the filarial theory for elephantiasis had not studied the anatomy of the lymphatic system in detail, and he referred them to a recent paper of his own on chyluria. Why the Fijian microfilaria did not develop well in *Culex fatigans* he could not say. It certainly did in China, the West Indies, and Australia. Dr. Bahr's theory of adaptation of the parasite to the intermediate host habits, though interesting, was not absolutely conclusive. In *Filaria minutis* of the dog the microfilariae were present in the blood by day as well as by night, though the carrier was a night feeder. Professor Wasielewski's suggestion of a chemical effect being produced by the filaria, and having something to do with the production of the lesions, was a very interesting one, and probably a correct one. Answering the remarks of Dr. Malcolm Watson, Dr. Low commented on the absence of malaria in Barbados, and gave an explanation of it. Anophelines and other mosquitos also acted as hosts, as as well as *Culex fatigans*. Salvarsan had been used in the treatment of filariasis, but so far as he (Dr. Low) knew, was of no use. Answering Sir William Leishman, Dr. Low said that he believed the adult female *Filaria loa* removed were fertilized, thus indicating that males were present. Temperature and humidity were of the greatest importance in the development of the filaria in the intermediate host.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A COMMENT ON TWO RECENT ARTICLES ON HELMINTH INFECTIONS IN MAN.

To the October issue of the *Practitioner* Mr. J. A. Kay contributes an article entitled "A New Ovum and its Miracidium," based upon a case of urinary bilharziosis in South Africa. Associated with numerous typical terminal-spined schistosome ova were other oval bodies $\frac{1}{250}$ in. by $\frac{1}{750}$ in. containing embryos. These bodies are believed by the author to be ova and miracidia of a new trematode. From the figures and description given I have not the slightest hesitation in affirming that the bodies do not bear the slightest resemblance or relation to either ova or miracidia of a trematode. They are certainly not even of helminthic origin. The case is one of accidental parasitism of the bladder by an infusorian or is another instance of faulty technique. The figures and portions of the description might best be accounted for perhaps by the presence of *Rotifers* in the water used to dilute the urine.

In the British Medical Journal this year there is recorded an apparently indigenous case of filariasis in Devon. As this would have been the first occurrence in Britain, and consequently a record likely to become extensively quoted, I obtained some slides from the author. The "filariae" are minute filaments of cotton-wool which have contaminated the freshly-made blood films. It is to be hoped that the above cases will not find their way into the textbooks. "*Filaria gigas*" is a familiar instance of the manner in which such records may thus become stereotyped, in spite of repeated repudiation by workers on helminthology.

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FATAL PURPURA FOLLOWING SCARLET FEVER.

The interesting case of fatal purpura following scarlet fever reported by Drs. Biernacki and Dykes in the Journal of October 11th, p. 903, is probably an example of the type to which Henoch gave the name of purpura fulminans. I say probably, because though the case corresponded to Henoch's description in the rapidity of ecchymosis formation, entire absence of haemorrhages from the mucous membranes and rapidly fatal course, an absence of haemorrhages in the internal organs which was characteristic of Henoch's cases, could not be verified owing to the lack of an autopsy.

It is a remarkable fact that of the 65 cases of purpura fulminans now on record 18 have followed scarlet fever. Two examples of purpura fulminans have recently been published, one by Dr. T. McCririck and myself conjointly,[1] and the other by Dr. McCririck alone.[2] In our conjoint case the recent occurrence of scarlet fever was possible though not certain, and in Dr. McCririck's case the purpura developed in the third week of a mild but undoubted attack of scarlet fever. In both our cases, as in Henoch's, nothing was to be found *post mortem* but marked anaemia of all the organs. Both resembled the case of Drs. Biernacki and Dykes in the inflammatory character of the purpuric areas and the appearance of threatening gangrene as well as in the preservation of mental faculties until the end. The blood count differed considerably in each case.

Grove Hospital, S.W. J. D. Rolleston.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

NORTH-EASTERN HOSPITAL, TOTTENHAM.

A CASE OF SPONTANEOUS FRACTURE OF RIBS IN A TUBERCULOUS INSANE PATIENT.

(By J. B. Slattery, M.D., Assistant Medical Officer, Metropolitan Asylums Board.)

For the reasons stated at the end, the following case seems worth placing upon record.

The patient, an imbecile aged 23, was a fairly well-nourished, strongly built, though undersized individual, with a well-shaped thorax, who was treated in bed for pulmonary tuberculosis. There was breaking down of both upper lobes, with much secondary infection and irregular temperature.

One day he had an alveolar abscess in the left lower jaw. There was external swelling, which increased after extraction of the tooth and was incised. Some days later another abscess swelling appeared lower down in the neck, and then still another, with one over the parotid. Owing to the character of the patient treatment was difficult. But these abscesses healed.

The following week another abscess swelling appeared in the lower lumbar region. It was superficial, and healed after incision. The temperature remained very irregular, however, and the patient became distinctly more ill and weaker.

One morning eleven days later he complained of pain in the chest, indicating the lower ribs on the right side. On examining him I found the sixth and seventh ribs on the right side broken just outside the nipple line. There was slight swelling and no bruising. Next morning, on again examining the chest, the seventh, eighth, and ninth ribs on the left side were found broken at almost exactly corresponding points. On the right side the swelling had increased and extended below the ribs, while on the left side slight swelling only could be noticed. There was no other external sign. Injury due to any roughness in handling or to other external cause could be absolutely excluded. He was continuously under observation, and had trustworthy nurses. He got rapidly weaker and died in a few days.

Post-mortem Examination.

The conditions in the heart, lungs, and pleurae were only such as might be due to the tuberculous and secondary lung infections. In the pleurae there were some adhesions, but these were not recent. But there was some recent peritonitis, and outside the peritoneum, between the spleen and the ribs, was a collection of pus and clotted blood. On the right side of the chest the sixth, seventh, and eighth ribs were eroded at points about 1½ in. from the junction with the rib cartilage and the sixth and seventh were broken. Pus had tracked downwards between the abdominal muscles and formed a collection in the abdominal wall external to the peritoneal cavity. On the left side the seventh, eighth, and ninth ribs were eroded and broken, and the sixth had an eroded area with a small collection of pus between it and the skin. In the right kidney were a few minute abscesses, but in no other part could I find any collection of pus, nor, indeed, any coarse lesion that had not existed for some time. There was nothing further in the case that need be mentioned here.

[1] *Brit. Journ. Child. Dis.*, 1910, vii, p. 58.
[2] Ibid., 1912, ix, p. 154.

Apart from any clinical interest in the facts, it may be desirable to have such cases on record. This will be more obvious to those familiar with the medical work of institutions, and particularly of institutions with insane patients, in most of which, probably, the fractured rib is a dreaded source of trouble. As a matter of fact, the occurrence in an institution recently of an obscure case, possibly of similar nature to the above, and in which, as one would expect, the question of trauma arose, impels the publication of this brief note, though it refers to a case not recent.

Reports of Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

At a meeting on November 5th, Dr. John Playfair, President, in the chair, Dr. Ninian Bruce, in a paper on *The suprarenal glands*, said the action of adrenalin was to stimulate the myo-neural junctions of the sympathetic nerves, also the heart, and the various secreting glands of the body. Its primary function was thus to maintain cardio-vascular tone. The development of these adrenalin-secreting cells was from the same primitive nerve cells, which became the nerve cells of the sympathetic ganglia; the two sets of cells were thus closely related both in their development and in their function, but the chromaffin cells were predominant, as was shown by the fact that removal of the suprarenals was always fatal, while section of the entire sympathetic (as could be done in the cat) was not so. Prolonged stimulation of the splanchnic nerves of the sympathetic produced a temporary exhaustion of adrenalin in the suprarenals. With regard to the pathology of the glands, this had hitherto been largely concerned with Addison's disease, but it was now being recognized that in many other diseases the functional efficiency of the suprarenals was an important factor—as, for example, in acute infective conditions—in poisoning by vegetable and metallic irritants, and in physical conditions such as fatigue. He suggested that cases of sudden death in diphtheria were due to a complete, though possibly only temporary, exhaustion of the suprarenals, and that the asthenia in influenza, typhoid fever, etc., might be due to a less grave degree of inadequacy. Addison's disease was the most chronic of all suprarenal affections, but in some cases it was much more acute than in others. He cited one case which was rapidly fatal, in which pigmentation developed in eleven days from the onset of asthenia, and another, which ran to a fatal end in three days without the appearance of any pigmentation, in which one suprarenal was completely caseous, while the other was healthy. Cases of sudden death in exophthalmic goitre, after operation on the thyroid gland, might be due to a superposed inadequacy of the suprarenals. The treatment of these different types of suprarenal exhaustion by adrenalin was a difficult problem. The action of adrenalin was only temporary, and its exhibition would require to be continuous where the suprarenal inadequacy was persistent. Dr. Byrom Bramwell said that in 1876 he had reported a case of Addison's disease, produced by destruction of one suprarenal body. In cases of Addison's disease without suprarenal disease he favoured the view that lesions in the semilunar ganglia or extensive caseation of the mesenteric glands might be the cause. Cases of Addison's disease without pigmentation occurred, just as in fevers the skin eruption might be absent. He was doubtful as to the case of acute Addison's disease with a course of three days, as described by Dr. Bruce. Symptoms of asthenia had probably existed for some time previously. He was not convinced by the suggestion that sudden death in diphtheria was due to an acute and complete suprarenal exhaustion. He did not agree with the view that the pigmentation occasionally present in cases of exophthalmic goitre was due to and was a sign of suprarenal inadequacy. Professor Caird said that in two recent cases where subcutaneous salines were being given, he had added adrenalin to the solution, and was satisfied that benefit had accrued. Dr. Claude Ker said he was chiefly interested in the prospect of adrenalin rendering service in heart failure during diphtheria. In his hands it had failed by whatever method of administration tried, no doubt because a continuous action was not obtained. He would try the method suggested to Dr. Bruce by Sir Lauder Brunton—injection high up in the rectum. He, like Dr. Bramwell, was sceptical as to the dominant part ascribed to the suprarenals in heart failure in diphtheria, and referred to the gross lesions that were present both in the heart muscle and the nerves. Dr. Berry Hart suggested transplantation of suprarenals as a means to secure a permanent additional supply of adrenalin. Dr. Aitchison Robertson suggested feeding with the gland as a means of administration.

ROYAL SOCIETY OF MEDICINE.

Section of Ophthalmology.

At a meeting on November 5th, Sir Anderson Critchett, President, in the chair, the President made sympathetic reference to the death of Mr. Edward Nettleship: it had brought a loss not only to the society, but to the world of ophthalmology. Mr. G. Coats, in a paper on *Disease in the animal eye*, described a form of keratitis characterized by the presence of a superficial vascular opacity in the cornea. It was of long duration, and had no evident association with distemper or other general illness. It sometimes occurred in more than one member of the same litter. The human condition which it most nearly resembled was trachomatous pannus. In a case of retinal degeneration following distemper the changes were peculiar in that the bipolar cells of the inner nuclear layer were chiefly affected. They were probably due to the presence of a circulating toxin with a specific affinity for the retinal bipolars, analogous to the specific action of nicotine on the ganglion cells. Examples of choroido-retinal degeneration in a dog, raccoon, wolf, wild sheep, ferret, wallaby, and hyaena were shown. The raccoon appeared to be an albino, yet a little pigment was present in the epithelium of the ciliary body and anterior part of the choroid, showing that pure albinism could not be diagnosed without a microscopical examination. The raccoon also showed nystagmus, a condition occasionally described in the lower animals. A case of choroiditis, cyclitis, and keratitis in a bear, and one of anterior choroiditis in a peccary were also illustrated. Two instances of canine irido-cyclitis were reported. The first was of plastic type, and was peculiar only in its occurrence in the dog, in which animal the condition appeared to be rare; the second, also in a dog, was characterized by an enormous thickening of the iris, due to infiltration with mononuclear cells of a special type. Posterior synechiae and other features of plastic iritis were absent. The cause of the irido-cyclitis was obscure in both instances. Mr. Charles Wray, in a paper on *Obstruction of the lacrymal duct and its treatment*, said it was a mistake to remove the sac when syringing failed without attempting to cure by means of styles, or styles and probing combined. It was not unlikely that ectropion and its sequelae might follow excision. Too much was heard of the satisfactory and immediate results, but too little of bad ones and of recurrences. The author treated his cases in the following way: He injected cocaine by Mellen's method, and instilled a drop into the conjunctival sac. A Bowman's probe was then passed into the sac, and the point pushed forward under the palpebral ligament. He then cut down on the guide, taking care to note the click of the knife on the probe. So far the procedure was quite painless. He then placed crystals of novocain in the sac, and had recourse to probing. At times, if the stricture was impermeable, he forced a passage through the posterior wall of the duct. A piece of strapping was then placed just below the sac, so that the style when introduced did not press on the skin. A special style—gold-plated, and obtainable from Courlander, of Croydon—was then passed; and the latter was so constructed that when a piece of strapping was placed on its arms it could not move. Whilst it was *in situ* argyrol, 5 per cent., was used three times a day, or such other application as might be desirable. Later, when a firm-edged fistula had formed, the patient was instructed to irrigate the sac three times a day, passing the style at night and taking it out in the morning. To cure the fistula it could be dilated, and, whilst stretched, all the cicatricial tissue cut away, after which the edges of the wound were brought together and covered with collodion.

HALIFAX AND DISTRICT MEDICAL SOCIETY.

At the first meeting of this society, on October 20th, Dr. Hughes, the newly-elected President, said it was very difficult in ordinary practice to collect the necessary material for a presidential address. He had no startling cure to describe in either medicine or surgery. Though it was more usual to describe one's triumphs in practice, it was often more profitable to reflect on failures or mistakes. Cases often remained undiagnosed through neglect to make careful examination. Such cases were liable to drift to other practitioners, who, by examining the urine, the chest, or the ears, or one or other of the organs, were able, having arrived at a definite diagnosis, to supersede the mere "rep. mist." line of treatment. It was their duty to do for those who confided in them all that they should clamantly demand for themselves in similar circumstances. Cases of young children about 5 years of age complaining of pain in the hip and legs might be cited as an example. They could walk fairly easily and bend the joints painlessly. The diagnosis too often was rapidly decided—"growing pains" or rheumatism. The careful man, however, stripped the child and found commencing curvature of the spine. Rest in bed and a Sayre's jacket would then be advised, with almost certain success. Such cases cropped up in practice after prolonged treatment or non-treatment at other hands. Another type of case, also connected with the spine, was liable to be mistaken for rheumatism if clinical examination were deficient—the case, for example, of a person, generally about 18 years of age, complaining of a stiff neck and some difficulty in swallowing. A casual examination of the throat revealed nothing, but a proper examination with good illumination and the aid of the finger would reveal a bulging forwards of the posterior pharynx; thus this "rheumatism" turned out to be disease of the cervical vertebrae with a retropharyngeal abscess. Another easily avoidable mistake might occur in the case of old people with chronic "winter bronchitis." Such persons turned up year by year—they were told to "wait till spring," and left the surgery with a supply of chlorodyne, ammonium carbonate, and squills. On some occasion they did not improve, and this was explained as due to their growing older, but the application of the stethoscope would have disclosed indications of one or both sides of the thoracic cavity being full of fluid. Passive effusion was liable to be overlooked if the patient could go about or did not have any pain, yet the cough and breathlessness were due to the patient gradually becoming waterlogged. Again, there were cases in which a patient had been known to be treated for many years for "the change," the abdomen not having been examined. Another opinion was taken and a huge ovarian tumour removed. It was never safe to rely on a patient's own diagnosis; it generally led to disaster and confusion. With some patients anything wrong about the anus was called "piles." On the patient's diagnosis cases had undoubtedly been treated by the familiar remedies for piles, whereas a complete examination subsequently disclosed fistula, or fissure, or even carcinoma. A woman of any age who had unaccountable nausea and vomiting, especially on Mondays and Fridays—days usually dedicated to washing and cleaning up—should be examined for a displacement of the uterus. An obstinate tickling cough could often be cured by taking the precaution to examine the ears for wax and removing it if present. A minute's use of the stethoscope would save many errors in diagnosis, and indicate the right lines for treatment. Simple explanations were missed for want of similar care in observation. In quite young children just starting school, otherwise unaccountable epilepsy could often be cured by the use of spectacles. The case of a call to a child in the night might be taken: the doctor was told that this child was in a fit, that it was "mad over schooling," and "all its larnin' goes to its 'ead." If it were ordered to be kept from school for a time the fits ceased, but soon reappeared when school was resumed. Such cases were often due simply to eyestrain, but for want of a sufficient examination the condition was not relieved. How often did the doctor examine a patient's urine in a case of carbuncle? Local treatment was adopted, the carbuncle recurred, and later an examination of the urine settled the unsuspected cause—diabetes. Again, if a pregnant woman continued with the usual sickness after the third month, it was always wise to examine the urine. This sickness was often ascribed to the pregnancy, also even the oedema of the legs, when actual nephritis was the cause. The precaution of examining the urine was calculated at times to save life.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

At a meeting on November 5th, Mr. R. G. Hogarth, in a presidential address, gave an account of some medical men who had practised in Nottinghamshire in early days. One of them was John Arden, who practised at Newark from 1349 to 1370, and eventually became the King's surgeon. He was renowned for his treatment of fistula in ano. Another was John Jones, of Aspley Hall, who in the sixteenth century drew attention to the value of Buxton water. Robert Thornton and Charles Deering were other renowned doctors, though their fame rested more on their work as historians than as medical men. Nottingham boasted of another physician appointed to royalty—in Dr. Taylor, who was physician to George II. The foundation stone of Nottingham General Hospital was laid by John Smelley in 1781. It was opened in 1782 with 44 beds.

MEDICO-PSYCHOLOGICAL ASSOCIATION.

At the autumn meeting of the Northern and Midland Division of the Medico-Psychological Association of Great Britain and Ireland, on Thursday, October 23rd, Dr. J. F. Dixon in the chair, Dr. T. Arnold Johnston, in a paper on the position of *Pathology in mental hospitals*, dealt with the relation of the medical superintendent and the medical officers to laboratory and research work and to the ordinary routine duties of an asylum. The "incubus of routine," he thought, stifled ambition, and the medical officer needed encouragement and training to obtain his help in laboratory work. The pathological department ought to cover ordinary sick-room work as well as special mental hospital conditions. There was need of a system of educating and interesting the medical officer: of a series of centres for the higher technical forms of laboratory work, and of an interchange and collating of proved research facts and their application to treatment. A paper by Dr. MacPhail, on the *Cerebro-spinal fluid*, which was read in his absence, dealt with the results of an estimation of the amount of albumin in the cerebro-spinal fluid derived from a series of cases of various forms of mental disorder. The observer used 5.5 c.cm. of the fluid diluted with an equal quantity of water—the fluid being obtained by lumbar puncture. The amount of albumin present was found to vary within wide limits, the lowest being 0.03 per cent. and the highest 0.3 per cent. General paralysis always showed an increase. He considered the test of value in all classes of mental diseases, and had found that the greater the amount present the more serious was the prognosis of the case.

In the sixth annual report of the council of the Society of Tropical Medicine and Hygiene it is stated that during the year 1912 and to the end of the financial year ending March 31st, 1913, the society has continued to prosper, and great interest has been shown in the papers communicated, all of which have resulted in interesting discussions. During the year 64 candidates were admitted as Fellows, making the total 787 since the formation of the society. As a result of deaths and resignations this number has, however, been reduced to 608, at which it at present stands. The treasurer's report is also very satisfactory, showing a substantial balance for the year under discussion.

A duel of a somewhat unusual kind has recently been fought in France. A journalist had said that Toulon was an active centre of opium eating, and that this vice was general in the navy. This sweeping accusation was vehemently denied by a medical officer of the navy, Dr. Rapue, who in the course of his rebuttal said: "To treat as a national danger a vice which is peculiar to some snobs and degenerates is not to do a service to the French navy, but to discredit it." The journalist responsible for the charge challenged the doctor, and after eight bouts was badly wounded in the wrist. For a French duel this was a severe encounter, and it is evident that the accusation was keenly felt. We hope the French navy is duly grateful to its medical champion.

Reviews.

SIR FELIX SEMON'S COLLECTED WORKS.

In Sir Felix Semon's *Forschungen und Erfahrungen, 1880–1910*,[1] we have in two handsome, well-bound, and well-printed volumes the *opera omnia* of one who is acknowledged by his confrères in all countries as a *maestro di color che sanno*. The reading of these interesting tomes brings back the memory of already half-forgotten, far-off things and battles long ago, when this doughty wielder of the laryngeal mirror and the pen was wont to drink delight of battle with his peers. Sir Felix Semon, with his well-known frankness of character, would be the first to acknowledge that he agreed with Browning's hero who exclaimed, "I was ever a fighter," for the motto he has himself chosen to put at the head of his work is "Leben heisst ein Kämpfer sein."

Those were strenuous days at the end of last century, when we were wont to pronounce each other orthodox by apostolic blows and knocks, but we must remember that when Sir Felix took up the special department of laryngology it was the despised Cinderella of the medical sciences, and that it required as a champion one who shared Charles Kingsley's dictum that any life which is not a struggle is not worth living. How valiantly the cause of laryngology was espoused by Semon has been testified to by many authorities on many occasions. Amongst others Dr. McBride, in delivering the first Semon Lecture, states that "partly by his writings, but chiefly by his personality, he has done more in the public service of laryngology than any other man living or dead—Garcia, Türck, and Czermak possibly excepted."

It must not be for a moment thought that these collected works are all or chiefly of a disputative character. It is only intended to suggest that, in maintaining his own views, Semon does so with a vigour and a tenacity which we can but admire, especially as the present generation appear to have fallen on days where there is less contest—shall we say, less enthusiasm?

These two volumes will form part of the library of the laryngologist for all time. Everything in them is worth reading, and on two subjects it is difficult to imagine they can ever be eclipsed. The first subject is the Innervation of the Larynx, and the second is the Early Diagnosis and Operation of Laryngeal Cancer. Semon's researches on the first subject can never be forgotten, even if his conclusions may require some modification. That the enthusiasm he gave to the subject of cancer of the vocal cords was abundantly necessary, is shown by the neglect the public and the profession still display in the matter of early diagnosis of persistent hoarseness.

Another reason why Semon has done well to publish his collected works is that he has the pen of a ready writer. That he should be able to speak so gracefully and fluently in a language which he learnt after he was qualified has always been a wonder of medical society in London. This accomplishment will be forgotten, but the memory of his literary skill is enshrined in these pages, and outside the comparatively restricted field of laryngology these two volumes will be sure to be referred to in the far-off future for their wonderful pen pictures of Garcia, the discoverer of the laryngoscope; of Morell Mackenzie, the founder of British laryngology; of Virchow, and of others. The Semon Lectureship of the London University, founded by his colleagues and friends, will keep his name alive while London lasts, and in these two volumes he has himself raised a monument more enduring than brass. We wonder how many laryngologists who attended the recent Congress of Medicine will leave a record half as noteworthy? The rising generation of throat surgeons would do well to turn to these volumes and note their extent, their vigour, their variety, their scientific spirit, and their literary finish; and in these days of slackness they might do worse than lay to heart the words at the head of the preface—"Life is calling to you; be a man."

[1] *Forschungen und Erfahrungen, 1880–1910: Eine Sammlung ausgewählter Arbeiten.* Von Professor Dr. Felix Semon, K.C.V.O., Fellow of the Royal College of Physicians, etc. Zwei Bände. Berlin: A. Hirschwald. 1912. (Roy. 8vo, pp. 680, 676; 5 plates. Mk. 32.)

DISEASES OF CHILDREN.

The large volume entitled *Diseases of Children*[2] edited by Drs. Garrod, Batten, and Thursfield, is an example of what has come to be known as a "system"—that is to say, it is the work of a large number of separate authors, each with particular experience of the subject for which he makes himself responsible. Twenty-two authors, all with the exception of Dr. John Thompson and Dr. J. S. Fowler, of Edinburgh, representatives of London schools of medicine, have united themselves in the work. As is stated in the preface, "they have been encouraged to aim at a comprehensive and authoritative account of the present state of our knowledge of the diseases of children, set forth with a completeness which they believe has not yet been attempted in this country." In undertaking such a task the authors and editors assume a very great responsibility, because there can be no doubt that a work in which so large a number of authors have been associated will be accepted generally as representative of the present state of our knowledge of diseases of children in the British Isles, and especially in London.

The general plan of the book does not differ from that of many others which have been published during the last twenty years. After a few introductory chapters there follow articles upon diseases of the newborn, and diseases of nutrition, and diseases of the several systems in order. Short chapters are also devoted to rheumatism, tuberculosis, congenital syphilis, and the "infectious diseases." The only departure from precedent is that room is found for an article in which Dr. Still groups together some of the conditions in which oedema is from time to time met with in practice. It is quite possible that in spite of the enormous advance in knowledge of disease in childhood the old arrangement remains the most serviceable, but it is well to realize its disadvantages. It is difficult to see why a special chapter should be devoted to rheumatic or tuberculous infection and not to that by the pneumococcus. Search in the articles devoted to diseases of the pericardium, peritoneum, joints, kidneys, and so forth will no doubt disclose some account of the various manifestations of pneumococcal infection, but we find no presentment of it as a whole.

More serious in a book designed for the use of general practitioners is the absence of a connected account of the enormous progress which has been made in the speciality of orthopaedics. For example, scoliosis—surely a common occurrence in childhood—finds no place in the index at all, and seems to be mentioned only under rickets. We should have liked, too, to have found an article dealing with the general hygiene of infancy and childhood, and possibly some information as to the various climates and health resorts of the British Isles in their relation to the health of children.

The individual authors have interpreted very variously the nature of the task entrusted to them. In many of the articles very complete and judicious reference is made to the literature bearing upon the subjects discussed, while the authors' own views are rightly emphasized. For example, we can imagine nothing better than the article upon diseases of the circulatory system contributed by Dr. Poynton. He has been completely successful in giving a clear explanation of what is new, and of presenting what is old in the new light shed on it by modern experimental work. Similarly, the articles by Dr. Batten on organic nervous disease and diseases of muscle, by Dr. Garrod on disorders of metabolism and diseases of the ductless glands, and many others in the book will be accepted as authoritative statements of the present state of knowledge whether the work concerned was done in this country or elsewhere.

On the other hand, the classification, etiology, pathology, symptomatology, and treatment of the diseases of nutrition and digestion are condensed into very few pages, and Dr. Hutchison does not seem to have considered it necessary to discuss a great deal of recent work. Dr. Cautley makes a few references, not always very clear, to Continental work. "Spasmophilia has been ascribed to whey," he says. "Possibly this intolerance is of the nature of anaphylaxis." May this not lead to some confusion between the work on

[2] *Diseases of Children.* By various authors. Edited by A. E. Garrod, F. E. Batten, and H. Thursfield. London: E. Arnold. 1913. (Roy. 8vo, pp. 1199; 182 figures, 2 coloured plates. 30s. net.)

spasmophilia of Finkelstein and others and the observations of Hamburger on the anaphylactic phenomena which the protein of the cow's milk may produce? Even the small amount of work upon such subjects which proceeds from this country is not adequately related. The work of Lane-Claypon upon the so-called ferments of milk, although it has been everywhere accepted as authoritative, so far as we have observed, is not mentioned.

As we have ventured to indicate, the book, as often happens in the case of such combined efforts, is unequal, but we have no doubt that it will deservedly meet with a favourable reception, for taken as a whole it is by far the most complete account of diseases of children which has yet appeared in this country.

THE LAMSON CASE.

IT is more than thirty years ago since the profession was shocked by the cruel and sordid murder committed by George Henry Lamson,[3] a medical practitioner, by means of the comparatively rare and little known poison aconitine. The trial must remain a textbook case because it was the first occasion on which this poison was made the subject of a judicial inquiry in a British court, and especially on account of the excellent and convincing evidence adduced by the late Sir Thomas Stevenson, the eminent toxicologist.

The victim of the crime was a youth, aged 19, named Percy Malcolm John, a cripple suffering from complete paralysis of the lower extremities, the consequence of angular curvature of the spine; he was the only surviving brother of Mrs. Lamson, and was entitled on his majority to a sum of about £3,000, of which Mrs. Lamson would be entitled to half should he die before reaching that age. Lamson, who was the son of the American chaplain at Florence, claimed to be a Doctor of Medicine of the University of Paris (to which his right was denied by the Dean of the Faculty, see JOURNAL, 1882, vol. i, p. 23), and appears in the British *Medical Register* for 1879 as L.R.C.P.Edin., L.R.C.S.Edin., June 3rd, 1878, where his address was given at Rotherfield, Sussex. According to the *Medical Directory* he had served as an assistant in the French Ambulance Corps during the war of 1870–71, and under the British Red Cross in the Servian war of 1876–7; there was evidence in the affidavits sent to the Home Office that he was in charge of a hospital at Bucharest in 1877–8; he claimed to possess the Orders of the Star of Roumania and of the Medjidie, but as he had used a false testimonial from Professor Sir George Humphry (see BRITISH MEDICAL JOURNAL, *loc. cit.*), and made a false claim to the M.D.Paris, the L.R.C.P.Lond., and the D.P.H.Cantab., it is impossible to attach complete credence to his statements. At one time he passed as a man of character and respectability, as shown by the affidavits which were sent to the Home Secretary after his sentence; but at some time, variously dated as 1878 or 1879, he fell a victim to the morphine habit, and the only excuse to be found for his criminal conduct is that his moral sense, powers of judgement, and self-control had been destroyed. According to the affidavit of the medical superintendent of the Bloomingdale Asylum for the Insane in New York, the criminal's grandmother, grand-uncle, and aunt were all inmates of the asylum and died there.

The facts of the crime may be briefly stated. Lamson was in serious financial difficulties, having had several executions in his house, and had obtained cash for a worthless cheque. On November 24th he purchased 2 grains of aconitine at Allen and Hanbury's, and on December 3rd he visited the school at which Percy John was a boarder, bringing with him a cake, some sweets, and a box of gelatine capsules. He had an interview with the boy in the presence of Mr. Bedbrook, the schoolmaster, and produced the cake, of which he gave the boy a piece and ate some himself; he showed the box of capsules, and recommended them as an American invention enabling nauseous medicines to be taken with ease; filling one of the capsules with sugar he shook it and gave it to the boy saying, "Here, Percy, you are a swell pill taker; take this and show Mr. Bedbrook how easily it may be swallowed." Immediately after doing this Lamson hurried off to catch a train for the Continent; he had obtained some more money by cashing another worthless cheque, and did, in fact, leave that night for Paris. Ten minutes after he had gone the boy complained of being seriously unwell, and said he felt "just the same as he did after his brother-in-law had given him a pill at Shanklin." He complained of soreness of the throat and of great pain, so that the medical man called to his assistance injected morphine, but he died at 11 o'clock the same night. The *post-mortem* examination was performed by Mr. Thomas Bond, the expert constantly employed by the Home Office, and the vomit, stomach contents, and viscera were carefully reserved for further examination and analysis. This material was handed over to Dr. Stevenson, Lecturer on Forensic Medicine and Toxicology at Guy's Hospital. The facts as reported in the press threw grave suspicion on Lamson, and on December 8th he gave himself up at Scotland Yard, when he was taken into custody and charged with the crime. He was brought before a police magistrate at Wandsworth and remanded, but so soon as the report of the case appeared the assistants of Messrs. Allen and Hanbury remembered selling the aconitine, and were able to afford material assistance to the prosecution by proving that this poison had been supplied by them to Lamson, whom they identified. The trial began at the Central Criminal Court on March 8th, 1882, before Mr. Justice Hawkins, afterwards Lord Brampton, and lasted six days. No witnesses were called for the defence, but after an impartial statement of the case for the prosecution by the then Solicitor-General, Sir F., afterwards Lord Herschell, and a lucid summary of the evidence by the judge, the jury found a verdict of guilty, and sentence of death was pronounced. An attempt was made on behalf of the prisoner to show that he was insane, and a number of affidavits were sent to the Home Secretary, Sir William Harcourt, of which the general tenour has been already explained, but it is somewhat remarkable that the President of the United States cabled to the Home Secretary to grant a postponement of the execution in order that these documents might be duly considered. The prisoner was duly respited from April 2nd to April 28th, when, no sufficient cause having been found for interfering with the execution of the sentence, he was hanged by Marwood at Wandsworth Prison, and his body buried within its precincts.

The case is memorable on account of the full description of the symptoms from which the murdered lad suffered and from the care with which the poison was identified by Dr. Stevenson, but at the time a good deal of attention was drawn to the facilities with which virulent poisons might be obtained by any one assuming the name of a medical practitioner. The judge, in his summing up, expressed the hope that the law would be strengthened, and to this suggestion the jury added a rider to that effect to their verdict. In consequence the Home Secretary addressed a circular to various authorities asking them to express their views on the sufficiency of the existing regulations. In an article in this JOURNAL (vol. i, 1882, p. 467) the law was lucidly explained, but it was stated that the statute was constantly violated in the interests of trade and in disregard of the public safety. It was pointed out that the statute directed that a poison register should be kept, and that Section 17 applied to every one to whom the poison was sold, whether a medical man or not: in this case no record had been kept of the sale of aconitine to Lamson, whose name, when published in the newspapers, recalled the transaction to the memory of the assistants who sold him the poison, yet they at first thought atropine and not aconitine had been sold. The JOURNAL called for more careful attention to the law and for the prosecution of those who neglected its provisions. In the *Pharmaceutical Journal* of the same period there is published a correspondence between the Home Secretary and the Council of the Pharmaceutical Society, but the editorial remarks, on the whole, defended the existing system and omitted all reference to the fact that no entry had been made in the register of the sale of the poison. Later a bill for the amendment of the Sale of Poisons Act was announced by Mr. Mundella as about to be introduced into the House of Lords, but nothing came of it. We are not sure that further legislation is needed, but we

[3] Notable English Trial Series. *Trial of George Henry Lamson.* Edited by Hargrave L. Adam. Edinburgh and London: William Hodge and Co. 1913. (Med. 8vo, pp. 192; 5 illustrations. 5s. net.)

may express the hope that greater care is shown to comply with the law than appears to have been the case thirty years ago.

CLINICAL LABORATORY HANDBOOKS.

THE type of book to which *Laboratory Methods*,[1] by the Drs. WILLIAMS, belongs has become increasingly familiar of recent years. Its object is laudable, for it aims at making each practitioner familiar with ultra-clinical tests so that he may carry them out himself, instead of referring to the opinions expressed by others. No object could be deserving of more praise, but when the method the authors have chosen to carry out their purpose comes to be considered, we fear it must be said that they have not chosen the best, for no practitioner who has been unfortunate enough to have been trained on a faulty curriculum would really be made any more efficient by endeavouring to bring himself "up to date" by studying this work. It would be far better if the authors, in common with others who have essayed the same task of "improving" the general practitioner, had spent time and money in seeking to send practitioners who, by reason of the rapid advance made in laboratory methods, felt they were falling behind in the race, back to their medical schools to take out courses under fully trained expert teachers. We have only to turn to Chapter VII. on the detection of common poisons, to find grounds for this criticism, for the subject is dismissed in nine pages. We quote from it: "Sulphonal, trional, etc. Either drug heated in a test tube with powdered wood charcoal develops a characteristic odour—ethyl mercaptan. If this odour is not familiar to the physician, he should run a control test, using sulphonal instead of 'X'." This quotation will show how impossible it is to give technical knowledge of a large number of complex and difficult problems in a volume of small calibre. Much information contained in its pages on the sputum, urine, stomach contents, etc., is what is accepted by the profession, but any practitioner who is so earnest in his work as to wish to keep abreast with advances in medicine could surely be relied upon to develop unassisted the homely devices recommended by the authors, would be disposed to read larger and more authoritative works than this one, and would be able to distinguish problems, the solution of which might be reasonably undertaken by a general practitioner, from those which assuredly should be left alone by him and handed over to some one who by a life's devotion to the subject had made himself an authority. It would be far better for a practitioner to submit many of the difficult problems such as are given in this book to some expert, even though he resided in some distant centre, than to endeavour to settle the difficulty on the spot himself.

The volume *Clinical Laboratory Methods*,[2] by Dr. R. S. MORRIS of St. Louis, in no way belies its title. It is a handbook for use in a clinical laboratory, and concerns itself mainly with six subjects—the examination of the urine, of the gastric juice, of the faeces, sputum, blood, and puncture fluids. There is no attempt made to introduce clinical matter, either to the glorification of laboratory diagnosis or to the belittling of mere clinical investigation. The author has made free use of the works of writers whose names are known all over the world as first-rate authorities on their special subjects of laboratory investigation. Dr. Morris has done good service, because he has extracted from more ambitious volumes just those methods which have proved of most service, neglecting those which, though of interest to physiological chemists, are hardly of practical value in the investigation of disease. His design was to produce a book useful to medical students and practitioners, but the compass of the volume is such as really to make it more valuable as a reference book for those whose time is more or less given to laboratory investigation. Few men outside the pale of long experience of laboratory methods would care to trust themselves to carry out the investigations planned by Rowntree or Geraghty to estimate the functional activity of the kidneys, or Kjeldahl's method of determining the total nitrogen excretion. The reader, however, may neglect these ambitious excursions and find the volume full of simple methods of investigation. He will also be grateful for the admirable section on the intestinal parasites.

[1] *Laboratory Methods, with Special Reference to the Needs of the Practitioner.* By B. G. R. Williams, M.D., assisted by E. G. C. Williams, M.D. With an Introduction by Victor C. Vaughan, M.D., LL.D., Professor of Hygiene and Physiological Chemistry, University of Michigan. London: Henry Kimpton. 1912. (Med. 8vo, pp. 204; 43 illustrations. 10s. net.)

[2] *Clinical Laboratory Methods: A Manual of Technique and Morphology designed for the Use of Students and Practitioners of Medicine.* By Roger Sylvester Morris, A.B., M.D., Associate Professor of Medicine in Washington University, St. Louis, etc. New York and London: D. Appleton and Co. 1913. (Med. 8vo, pp. 563; 46 figures. 12s. 6d. net.)

NOTES ON BOOKS.

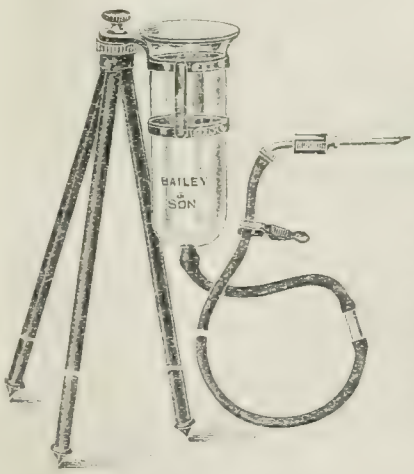
THE *Amateur Gardener's Diary and Dictionary*[6] consists as to the first part of a diary giving five or six pages to the month; on the right-hand page are spaces for notes on each day, on the left suggestions as to sowing and planting and cultivation. It will be useful to all amateur gardeners, but particularly perhaps to the week-ender who is often perplexed to know which of many things that should be done in the very limited time at his disposal it is best to do first. The second part consists of a series of notes, arranged in alphabetical order, on many of the plants most commonly grown, and on certain gardening operations and materials. The information is very condensed, but will carry the amateur a long way.

In the preface to his little *Manual of Medicine*[7] Dr. A. S. WOODWARK says that he has written it in the hope of supplying a vade-mecum for the student clerking in the wards or out-patient department and a convenient reference for the busy practitioner. It is an attempt to compress the substance of a good many books, for it includes not only the ordinary pathology, symptoms, diagnosis, and treatment of the textbook of medicine, but the details of clinical investigation such as are usually practised in the wards of hospitals. As might be expected where so much is attempted, there are many omissions, and each part may in this way be open to criticism, but, taking it as a whole, we may congratulate Dr. Woodwark on having successfully attained his object.

MEDICAL AND SURGICAL APPLIANCES.

Apparatus for Intravenous Injection of Salvarsan.

MR. LEONARD MYER, F.R.C.S. (London, W.), writes: In using the ordinary outfit for the intravenous injection of salvarsan one is dependent on an assistant, who may not be a very efficient one. Messrs. W. H. Bailey and Son have made for me a special apparatus which does away with the necessity for all assistance. Its chief feature is the adaptation of a portable photographic tripod with a special holder and glass container. There are also one or two other smaller improvements—a needle which is specially bent to prevent the pulling of the point of the needle against the wall of the vein, and also to facilitate its introduction. The outfit is quite cheap. The apparatus is useful for intravenous injection generally, including that of normal saline in collapse and ether for anaesthesia; also for subcutaneous infusion of saline, rectal infusion, or irrigation of the colon after appendicostomy.



[6] *Amateur Gardener's Diary and Dictionary, 1914.* London: The Cable Printing and Publishing Company, Ltd. (Fcap. 8vo, pp. 227. 1s. net.)

[7] *Manual of Medicine.* By A. S. Woodwark, M.D., M.R.C.P. Oxford Medical Publications. Edinburgh, Glasgow, and London: Henry Frowde and Hodder and Stoughton. 1912. (Cr. 8vo, pp. 420; 3 plates. 10s. 6d. net.)

THE MOTOR SHOW FROM THE MEDICAL MAN'S POINT OF VIEW.

POINTS ABOUT CARS AND PRICES.

By H. MASSAC BUIST.

HAVING dealt in general terms last week with the outstanding features and general tendencies of the Motor Show as it is calculated to appeal to the requirements of the medical profession, some of the main features of certain cars displayed may be summarized under a scheme whereby they are classified in groups according to the prices of the complete vehicles, the limit being set at £500. For the purposes of contrast in the limited space at disposal, examples alike of distinctive and conventional constructional practice are given. Wherever possible the equipment included in the price is specified. In some cases this is what is barely necessary to drive the car on the road, while in others it is of an absolutely complete character. As there are hundreds of makes of cars on the market, it is, of course, impossible to deal individually with every example, and the mention of a car in the following paragraphs does not necessarily mean that in the writer's opinion it is well suited to the needs of medical men who have to submit their automobile to very hard usage. In the light or cyclecar section we are to look for the introduction of still other models at the Motor-Cycle and Cyclecar Show, which will succeed the current exhibition that closes at Kensington on Saturday night. The Motor-Cycle, Cyclecar, and Cycle Show will be opened to the public there on November 24th instant.

THE £475 ELECTRICALLY LIT WOLSELEY TYPE.

There has been no occasion to remodel in any essentials the 16–20-h.p. four-cylinder Wolseley car which has achieved the distinction of finding the widest popularity of any motor vehicle yet produced in a British factory, in that something in the neighbourhood of four thousand of these machines have been produced in the last manufacturing year, and an increased rate of output will be maintained this year, by reason of continued concentration on a three-model programme, the two larger vehicles being six-cylinder machines. The outstanding features of the four-cylinder Wolseley are the degree of refinement achieved in combination with the quality to withstand hard wear and tear, these vehicles having long since earned a high reputation in the hands of the medical profession in this country. The bore measurement is 90 mm. and the piston travel 121 mm., giving a volume of 3.180 c.cm. The gearbox is, of course, of the three-speed sort, and the clutch is of the many disc type. Rudge-Whitworth detachable wire wheels are standard, together with hood, screen, complete electric lighting power, generating plant and set of lamps, and so forth, the body being of uncommon ample proportions. The price of the complete vehicle is £475. The rear springs are hung from the back axle. The compressed air starter, which the firm introduced last year on the six-cylinder models, is now available as an extra on the four-cylinder sort, and has a Dermatine compressor valve. Moreover, a pedal is substituted for one of the hand controls for the distributor.

A £475 SIZAIRE-BERWICK 20 H.P. CHASSIS.

A new make of car introduced to Britain at this show by the firm of F. W. Berwick is the four-cylinder nominal 20-h.p. Sizaire-Berwick machine of 90 mm. bore measurement by 160 mm. piston travel, with four-jet carburettor, clutch of the many disc type, four-speed gearbox, bevel driven back axle and Rudge-Whitworth detachable wire wheels, sold in chassis form at £475. Some distinctive features of the construction of this vehicle are that the valves have proportionately large mushroom heads and thin stems that are each guided quite up to the head, so that they are shielded from the exhaust gases. The light steel pistons are machined out of the solid. Hollow connecting rods are employed, as well as gudgeon pins of large diameter. The flywheel is original in that it is a composite one, fashioned of three light members balanced individually, then bolted together. The back end of the car frame is of bridge formation to clear the axle, from which the long flat half elliptic springs are hung, neither torque nor radius rods being employed.

THE £475 SELF-STARTING SIX-CYLINDER HUDSON.

From America comes the Hudson 25-h.p. six-cylinder car built on European lines with the cylinders cast in threes, the bore measurement being 87 mm. and the piston travel 127 mm. This machine has the mixture fired in the cylinders—as well as the car lighted and the engine started—by the Delco electrical apparatus. The gearbox is of the three-speed sort, the bevel drive is employed in the back axle, and the clutch is of the many disc type. The machine is supplied as a seven-seated car with one-man hood, luggage-grid, tyre-carrier, clock, speedometer, electric signal horn, and all lamps, for £475. The constructional features may be described as following well approved European practice.

THE £450 FOUR-SEATER 15-H.P. NAPIER.

The Napier firm this year supplies its three-speed 15-h.p. four-cylinder bevel driven model, with wooden wheels, five-seated body, hood, and screen, for £450 complete. The four-speed worm-driven model with Rudge-Whitworth detachable wire wheels costs £45 more, while there is introduced this year a 16–22-h.p. four-cylinder type, with 7 mm. larger bore measurement, the same piston travel, a plate instead of a many disc type of clutch, to retail as a complete vehicle for £550, the chassis price being £450. The cheapest of these three models is, of course, the lowest priced Napier that has ever been offered to the public.

THE £450 FIVE-SEATER 19.9-H.P. VALVELESS.

The two-stroke system of engine construction is illustrated by the Dodson exhibit of a two-cylinder 19.9-h.p. valveless car having a bore measurement of 127 mm. and a piston travel of 140 mm., giving a volume of 3.546 mm. It is fitted with a four-speed gearbox, worm-driven back axle, the firm's own carburettor, and is supplied with hood, screen, horn, number plates, three lamps, and spare Shrewsbury-Challiner rim for £450. There is a 15-h.p. model supplied with the same equipment for £20 less. These engines are built by David Brown and Sons, of Huddersfield, and have six working parts apiece—two piston rods, two connecting rods, and two crank shafts. These cars are now furnished with longer wheelbase, also improved silencing, while the stroke measurement of the larger type has been increased by half an inch. The firm also markets Belgian built Sava cars of 14–18 and higher horse-power, the chassis price of the one named being £293.

THE £424 SIX-CYLINDER DELAGE COMPLETE CAR.

Delage set a notable lead to the European motor industry a couple of seasons ago in introducing a 15.9-h.p. six-cylinder car designed to bring this principle within the range of the motorist of moderate means. As the result of some seasons' experience with this system the type is shown with some improvements, as instance the furnishing of a larger oil reservoir, the provision of an extra bearing to the crankshaft to stiffen it and eliminate periodic vibrations, the employment of chain drive for camshaft and magneto machine, and the enlargement of the water space round the exhaust trunk. Compression taps are fitted, but there are no radius rods now, the drive and torque being taken through the forward end of the long back springs. Larger exhaust pipes and silencer are furnished. This machine is further notable in that all six cylinders are cast in one piece, the bore measurement being 65 mm. and the piston travel 130 mm. The vehicle is sold with two-seater body for £424, or for four-seater body for £447.

THE £410 12-H.P. TALBOT MODEL.

The Clement-Talbot Company markets three models that come within the price range under consideration. All are four-cylinder cars with the casting done in pairs, and are equipped with four-seater bodies. The 12-h.p. type is sold with hood, screen, horn, and electric lighting set for £410, in which condition the new 15–20-h.p. model of 10 mm. longer piston travel is marketed for £460. The 20–30-h.p. four-cylinder model is sold with five-seater body, but without hood, screen, horn, or electric lighting set, for £495. The design of the pistons has been improved to reduce to a minimum the likelihood of any ingress of oil and consequent formation of carbon deposit. A gear pump, immersed in oil and driven from the cam-

shaft, forces lubricant under a pressure of 15 lb. to the square inch to all the engine bearings save the gudgeon pins, which are lubricated by splash. A valve locked in position prevents the manufacturer's adjustment of the oil pressure being unintentionally disturbed. The springs are in all cases calculated for the precise form of body fitted.

The £390 Four-cylinder Austin Car.

The 10-h.p. Austin car, embodying most of the firm's distinctive constructional features, having a bore measurement of 76 mm. and a piston travel of 89 mm., magneto ignition, Claudel carburettor, cone clutch, four-speed gearbox, bevel-driven back axle, detachable wood wheels, 9 ft. wheelbase, smart four Phaeton body of streamline form, one-man hood, double folding wind-screen, spare wheel, Lucas head-lamps and generator, three paraffin lamps, speedometer and all necessary tools, is sold complete for £390. Artillery wooden wheels are employed in combination with a stout section rim particularly suitable for the colonies. If the flanges are not made of ample proportions for overseas service, they are apt to be dented by impact with stones, thereby preventing the beads of the tyre coming away from the flanges when it is required to change pneumatics.

The £390 Five-seater Sunbeam.

The 12–16-h.p. four-guinea tax four-cylinder Sunbeam, of 80 mm. bore measurement by 150 mm. piston travel, with four-speed gearbox and bevel driven back axle is sold with five-seater body for £390. This pattern now enters on its third year, and is a type of car that has made much latter-day motoring history. It is furnished with sundry improvements, including the setting of the gearbox back 3 in. further from the flywheel to furnish a longer shaft and enable the two universal joints to be supplemented by a pair of metal discs sandwiching a rubber one, which is very effective in isolating vibration in that region of the car. The cooling surface has been slightly increased, the diameter of the steering wheel is 1½ in. more, and the steering column is provided with a substantial support from one of the cross-frame members. There has been no occasion to redesign the suspension, but it has been much improved by the use of chrome nickel steel springs. The coachwork has also been greatly improved, the front seats being mounted to slide on rails and lock in any position, so that they are adjustable fore and aft to suit users of any physique. Ingenious patented means are also employed for preventing body rattling or creaking. The details of the work of constructing the doors should be examined. This machine, of course, gives fully 37-h.p., and is fitted with the latest pattern Claudel carburettor, which gives improved acceleration in combination with greater economy. The larger size of nominal 16–20-h.p. engine rating, having a 90 mm. bore and 160 mm. piston travel, is sold with five-seater body for £535, that price including a Rotax-Leitner dynamo electric lighting set.

The £385 15-h.p. Standard Car.

Apart from the 9½-h.p. four-cylinder light car mentioned last week, the Standard firm produces a 15.6-h.p. model of 79 by 121 mm. engine measurement, which is now fitted with a four-speed gearbox, and sold with four-seater body, five lamps, hood, screen, horn, and fifth detachable steel wheel and tyre for £385. The stoutly designed gear-shafts are borne on ball bearings, while the control on the gate-quadrant principle is so arranged that the hand-brake lever is on the inner side of the gate to facilitate the fitting of streamline bodies as well as to simplify the scheme of working the gear rods and levers. There has been no occasion to make any change in the 20-h.p. type, which, with five-seater body and the same equipment, costs £100 more. These vehicles are very conscientiously designed and manufactured at Coventry under the personal supervision of Mr. Cyril Maudslay.

The £375 15–20-h.p. Armstrong-Whitworth Chassis.

The world-famous engineering firm of Armstrong-Whitworth markets its smallest chassis of 15–20 nominal horse-power for £375, the motor having a bore measurement of 80 mm. and a piston travel of 135 mm., so that the volume is 2,710 c.cm. The clutch is of the many-disc sort, the gearbox giving four forward speeds. A worm-driven back axle, detachable wire wheels, Zenith carburettor and dual ignition are employed. There is also a Colonial model at the same price with 2½ in. more ground clearance. The purchaser selects his own coachwork details for fitting to the chassis. A quite new model introduced this season is also a four-cylinder vehicle of 20–30-h.p. rating, the bore measurement being 90 mm. and the piston travel 150 mm., and the chassis price £500. The carburettor is bolted directly to the block engine casting, thereby obviating the likelihood of air leak. Very light cast-iron pistons are used, the connecting rods being of high tensile nickel steel. The five bearing crankshaft is of proportionately large diameter. The clutch needs no oiling. Any liability of the change speed lever to jamb in action under frame distortion is obviated by carrying it on an arm from the gearbox.

The £375 N.B. Four-seater.

Apart from the 20–40-h.p. Nazarro cars that cost £495 for the chassis, Newton and Bennett are the British concessionaires for the 15–24-h.p. S.C.A.T. car, which sells with five-seater body, detachable steel wheels, four-speed gearbox, disc clutch, rainproof hood, wind-screen, lamps, horn, and a combination pneumatic N.B. engine starter and tyre inflator, for £465, the bore measurement being 85 mm. and the piston travel 130 mm. There is also the 12–h.p. Italian-built N.B. four-cylinder car of 70 mm. bore by 140 m.m. piston travel, sold, with four-seater body, hood, screen, lamps, horn, and the firm's mechanical engine starter, for £375. This has also detachable steel wheels, bevel-driven back axle, and four-speed gearbox. The clutch is of the plate type; motor, clutchpit, and gearbox being combined on the three-point suspended unit principle. The clutch needs no lubrication. The clearance of the car is comparatively high, being 9½ in. The engine starter is produced under the Harper patents, and has been proved serviceable for some seasons past. It is simple, consisting of a small modification in the gearbox that enables the driver, by a single pull at the gear lever, to start the engine from his seat. There are no free wheels or working parts in operation while the car is running. The device consists of three parts.

The £350 Electrically-lit Rover Four-seater.

The Rover car is made in one type only—a 12-h.p. four-cylinder vehicle of 75 mm. bore measurement by 130 mm. piston travel, marketed complete with four-seater body, rainproof hood, wind screen, fifth wheel and tyre, signal horn, and Rotax-Leitner dynamo and electric lighting set, for £350. If only a two-seater body is required the price is £331. This is one of the few middle-sized cars I know so designed that a three-speed gearbox, with all the consequent gain of quietude, strength, and simplicity, is sufficient for all conditions of service. The design and the manufacture have alike been proved right over a period of two years. The back axle is worm-driven. Neat ventilators are now furnished to the front seats for use in hot weather, while the purchaser has the option of six inches longer wheelbase. Longer wearing qualities and smoother action have led to the use of an endless belt for driving the fan behind the cooler. The petrol tank is no longer part of the dashboard but is fitted independently of it, so that it can be removed when necessary. It may further be noted that a Colonial model using Sankey steel detachable wheels, a straight front axle, stouter springs, gear ratios to suit the larger wheels and tyres, a 4 ft. 8½ in. track, and overhead in place of underhung worm, is marketed as a four-seater for £25 more than the model for European service.

The £333 11–16-h.p. Adler Car.

Apart from the 200-guinea light car referred to last week, the Adler programme includes an 11–16-h.p. water-cooled four-cylinder car of 67 mm. bore by 110 mm. piston travel, giving a volume of a fraction of 1½ litres, which sells, complete with four-seater touring body, tyres, tools, but without lamps, hood, or screen, for £333. The 14–18-h.p. size also comes within the range of car under consideration, the price, including the same details of equipment, being £395. In this case the bore measurement is 75 mm. and the piston travel 118 mm., giving an engine volume of 2,080 c.cm. Four-speed gearboxes and bevel driven back axles are employed in both cases. The mechanical details of the models remain as before.

SUNDRY DE DION-BOUTON TYPES.

The De Dion Company, which for many years has numbered many medical men in its *clientèle*, acquired its reputation among them primarily through its provision of one and two cylinder cars, which, though of quite low prices, proved thoroughly satisfactory vehicles for professional purposes. Comparatively recently it has extended its programme, and, as was pointed out last week, it now includes four-cylinder chassis at prices not far off those formerly charged for the lower powered cars, and a 24-h.p. chassis with an eight-cylinder engine, vended at a sum probably not above that which a good many medical men are prepared to spend. The De Dion-Bouton chassis of the four-cylinder sort that come within the price stipulated by the average medical man are the 8–10-h.p. three-guinea tax model sold at £221; the 12-h.p. 3-guinea tax type at £275, the 14-h.p. 4-guinea tax size at £310, and the 18-h.p., having a bore measurement of 80 mm. and a piston travel of 140 mm., at £372. If a body of a plain sort is needed, coach-work and fittings should be procurable for another £100. The smallest model named is quite a new pattern, having a bore measurement of 56 mm. and a piston travel of 120 mm. The four-cylinder motor has a two-bearing crankshaft of proportionately large and heavy design. Cast steel pistons are used. Engine, flywheel pit, and gearbox are bolted up to form a unit.

THE £300 FOUR-SEATER 10-H.P. BAYARD.

The 10-h.p. four-cylinder French-built Bayard car, with 65 mm. bore measurement and 120 mm. piston travel, is introduced with four-seater body, three-speed gearbox, bevel driven back axle, Sankey detachable steel wheels, Solex carburettor, rainproof hood, wind-screen, fifth wheel and tyre, and five lamps, for £300. The 14-h.p. model that comes under the four guinea tax, having a bore measurement of 80 mm. and a piston travel of 130 mm., as well as a four-speed gearbox, sells with similar equipment of proportionately larger size for £385. The gear control is on the gate change principle in this particular model. In these vehicles the propeller shafts are enclosed in steel torque tubes. A still lower priced model is a four-cylinder 8-h.p. chassis, which is sold with two-seater body and without a spare wheel or tyre, but with all other necessary equipment, for £232, fixed wire wheels being employed.

THE £295 12-H.P. GLADIATOR.

The French-built four-cylinder 12.1-h.p. Gladiator car of 70 mm. bore by 110 mm. piston travel is sold as a two-seater complete with hood, screen, dicky, five lamps, horn, and spare wheel, or rim, for £295. The constructional practice embraces the firm's cylindrical three-speed gearbox and its own carburettor; otherwise, the car more or less follows out the conventional motor engineering practice of the day.

THE £285 SELF-STARTING HUPMOBILE.

The feature of the 15–18-h.p. four-cylinder Hupmobile car for 1914 is that it is fitted as standard with the Westinghouse electric engine starter and car lighting outfit, four-seated body, English made rainproof hood, double-jointed wind-screen, electric horn, tool equipment, detachable rims and a spare, together with Michelin tyres, for £285. The chassis in the main follows conventional constructional practice.

THE £265 FOY-STEELE CAR.

The firm of Jarrott introduces a two-seater model, 14.3-h.p. four-cylinder Foy-Steele car of 76 by 127 mm. engine measurements, with three-speed and reverse gearbox, bevel driven back axle, five lamps, horn, hood, and screen, complete for £265, the price of the four-seater being £315. These machines were introduced to the market last year.

THE £230 11.9-H.P. PHOENIX.

The 11.9-h.p. four-cylinder Phoenix car comes under the three-guinea tax, having a bore measurement of 69 mm. and a piston travel of 100 mm. It is sold complete with hood, screen, five lamps, signal horn, tools, detachable spare wheel, tyre, and two-seater body with doors, for £230, the policy of the firm being out of the ordinary in that such a detail as the number plates are included in the fixed price. This machine has a worm-driven back axle, magneto ignition, Stewart carburettor, three-speed gearbox, and 8-ft. wheelbase, while the width of the body is sufficient to render it possible for the car to accommodate three persons seated abreast. The shoe-shaped bonnet, accessible from three sides, and radiator in front of the dashboard is employed. For £55 more this vehicle is supplied with 18 in. longer wheelbase and a body to seat four or five persons, together with one-man hood and collapsible luggage carrier.

THE £225 10–12-H.P. BELSIZE TWO-SEATER.

The four-cylinder water-cooled 10–12-h.p. Belsize car of 69 mm. bore measurement by 130 mm. piston travel is sold complete for £225, the purchaser now having the option of worm or belt-driven back axle. A feature of this car is the unit system of combining the motor, clutch, and circular gearbox carried in a trunk which supports the clutch, and which is bolted at its forward end to the back of the crank-case. A practical point is that it is easy to withdraw the gearbox with its foot-brake from the rear end of the trunk, a coupling between the gear shaft and the clutch shaft being furnished to this end. The valve tappets are now adjustable, and springs have been introduced to keep them up to the heels of the stems, thereby making for silence of action. The engine is oiled under pressure, and a single tapered form of spring is furnished to the back of each of the rear main springs to act as a shock absorber. The price includes two-seater body, lamps, horn, tool kit, hood, and wind-screen. The 15.9-h.p. model is sole as a four-seater for £360, the equipment including electric dynamo for lighting the car, together with accumulators, lamps, and switches.

THE £225 15–18-H.P. BUICK CAR.

From America comes a price proposition in the 15–18-h.p. four-cylinder water-cooled Bedford chassis of bore and stroke measurements each of 95 mm., with magneto ignition, Zenith carburettor, leather cone clutch, Baker rims, three-speed gearbox, bevel-driven live axle, sold complete with London-built Bedford two-seater body, five lamps, horn, speedometer, spare rim, hood, screen and number plate, for £225.

THE £220 10-H.P. TURNER TWO-SEATER.

The 10-h.p. four-cylinder, block engine, water-cooled Turner car of 60 mm. bore measurement by 100 mm. piston travel with three-speed gearbox and worm drive, has a channel steel frame and two cross bearers carrying the subframe that supports the motor and gearbox. The back axle is now of the enclosed tubular type, while the ignition is fixed, therefore there are no levers on the steering column or wheel. The standard equipment provides waterproof hood, two acetylene head-lights, the side and tail lights being of the oil sort. The radiator is of pointed design and the rear springs are of the inverted quarter-elliptic type, wire wheels being fitted. The firm also introduces a new 12-h.p. model of 69½ mm. bore measurement by 120 mm. piston travel, sold as a two-seater for £275.

THE 200 GUINEAS FOUR-SEATER BRITON CAR.

The four-cylinder Briton cars are built at Wolverhampton, the 10-h.p. variety having been introduced a year ago, since when the firm have found it necessary to concentrate the major portion of its work on the output of this type, which is supplied with four-seater streamline body, an engine of 68 by 120 mm. dimensions, gate controlled three-speed gearbox, three lamps, signal horn, hood and screen, for 200 guineas. A two-seater type is marketed with the same fitments for 175 guineas.

THE £200 9-H.P. HILLMAN LIGHT CAR.

The British-built 9-h.p. four-cylinder Hillman light car of 60 mm. bore measurement, with a piston travel twice as long, is sold complete, with two-seater body, hood, screen, five lamps, horn, spare wheel and tyre, for £200. The firm's other enterprise is the production of a 13–25-h.p. six-cylinder model of the same engine dimensions, having a bevel instead of a worm-driven back axle, but retaining the other mechanical features, including detachable steel wheels, three-speed gearbox, leather cone clutch, Solex

carburettor, magneto ignition, and sold with four-seater body complete for £480, including a spare wheel and tyre. This is the smallest British-built six-cylinder car.

The 190 Guineas Morris-Oxford Light Car.

The Morris-Oxford two-seater light car, which has been familiar on the roads during the last twelve months, has been considerably improved in detail for 1914, and is marketed complete with hood, screen, five lamps, horn, and a spare wheel without a tyre, for 190 guineas, the bore measurement being 60 mm. and the piston travel 90 mm. A White and Poppé carburettor is employed, together with magneto ignition, clutch of the many disc type, three-speed gearbox, worm drive, and Sankey detachable wheels. The wheelbase has been lengthened to 7 ft. 6 in., so that there is room for the fitting of a dicky seat if required, while the track has been widened to 3 ft. 8 in. The stronger back springs are now underslung, and the back axle has been modified in details of design. A complete worm wheel is now used in connexion with the steering details, and the braking has been improved.

The £190 8–10-h.p. Marlborough Car.

The French-built 8-10-h.p. four-cylinder Marlborough car of 59 mm. bore by 100 mm. piston travel, having magneto ignition, Claudel carburettor, multiple disc clutch, Sankey detachable wheels, three-speed gearbox, bevel-driven back axle, spare wheel and tyre, two seater body, hood and screen, is sold complete for £190. The stranded cables formerly used for the side-by-side brakes on the back wheels are replaced by rods provided with convenient adjustments.

The £168 Calthorpe Minor Two-seater.

The four-cylinder water-cooled block engine, 10–12-h.p. Calthorpe Minor car of 62 mm. bore by 92 mm. piston travel with magneto ignition, Zenith carburettor, Hele-Shaw plate clutch, three-speed gearbox, steel detachable wheels, bevel driven back axle, body, lamps, hood and screen is marketed at £168. A 12–15-h.p. model, with four-seater body, a bore measurement of 69 mm., a piston travel of 125 mm., and detachable wire wheels, retails at £299. The cooling is by the natural circulation of the water, a pressed steel frame being employed in both cases. The smaller model retails with coupé two-seater body for 190 guineas.

The £150 Pilot Light Car.

The 10-h.p. four-cylinder Pilot light car, employing the friction form of power transmission and thereby differing radically from conventional constructional methods, is marketed with wire wheels, final chain drive, fixed Bosch magneto ignition, Zenith carburettor, and two-seater body for £150. The carburettor can be adjusted to run on benzole for those who do not object to that form of motor fuel. This vehicle is staged on Stand 21 by Friction Cars Ltd. Its engine is the four-cylinder water-cooled Chapuis-Dornier engine which has a bore measurement of 60 mm. and a piston travel of 110 mm., so that it comes under the three-guinea car tax and has a volume of 1,245 c.cm., otherwise approximately a litre and a quarter. The lightness of the vehicle enables it to have a ready acceleration, which is further assisted by the mode of power transmission through friction drive, so contrived that there are what would be called five forward speeds.

Coachwork and Accessories at the Motor Show.

As on the occasion of former Shows, so in connexion with this one the Coachwork and Accessories sections contain a number of important displays each by specialists. It is impossible, however, to review these in detail. Suffice it that coachwork is in the main developing along rational lines. It can scarcely be said that any fresh degree of engineering talent appears to have been introduced to the problem of motor body construction this year. Progress is instead revealed chiefly in the direction of employing better proportions and making more ingenious use of the space available, as instance the 16-h.p. Leon Bollée car with a new streamline Connaught torpedo two-seater phaeton, having two extra seats The movement towards the furnishing of wider doors, particularly in closed carriage work, is illustrated in the six-cylinder Siddeley-Deasey limousine-landaulette of the Connaught-Davenport type, having domed roof and frameless glass windows. The firm introduces a 16-h.p. four-cylinder Leon Bollée car of accessible design. Morgan specializes in medium sized bodies for doctor's work, including ingeniously contrived coupés; while a new design of four-seater coupé-cabriolet on a 15–20-h.p. Vinot chassis is shown by Alford and Alder. There is only one wide door on either side of this vehicle, the near side front seat being constructed to fold up and revolve. The scheme of the windows allows plenty of light to flood into the vehicle on both sides. Standard coachwork has been very appreciably improved by the majority of the British manufacturers.

Among the novelties in the tyre and wheel section is the new twin Dunlop detachable wire wheel that will fit existing single detachable wire wheel inner hubs, and the spokes of which are ingeniously set so that each rim is a driven member without the aid of intermediate bands that set up unnecessary stresses and which provide harbours for stones and so forth. This firm, in common with sundry other leaders in the tyre industry, announces appreciable reductions in the cost of its pneumatics without change in the quality or quantity of the material; or of the workmanship. The Avon Indiarubber Company of Melksham, Wiltshire, introduces a "Sunstone Special" type of pneumatic with extra thick tread, providing the maximum rubber at the point of contact with the road. The surface of this tread is flat, with narrow, clean-cut, transverse grooves. There is also a square type of tread with fluted ridges on its wearing surface. A number of tyre makers, including the Continental firm and the Spencer-Moulton concern, exploit the policy of marketing what are called oversize tyres, otherwise pneumatics of proportionately large section made to fit existing rims that hitherto have only accommodated tyres of smaller section. This method is claimed to provide more luxurious riding, and in spite of the slight initial increase of cost, to achieve economy of wear.

Small Harvey-Frost tyre vulcanizers for the use of private motorists on the pioneer system of this sort are introduced variously under the title of the "Car" and of the "Baby" vulcanizer. The system of operation remains the same, but the scope of their employment has been materially increased by a new attachment introduced to enable internal repairs to covers to be readily and quickly carried out. The device consists of a hollow aluminium mandrel, into which steam is conducted through a pipe screwed to an adaptor at the top of the vulcanizer, the pipe also serving as a supporting column. The instructions issued by the firm are simple, and the developments now incorporated in the instrument will doubtless lead to its being more widely employed in private service. Another ingenious invention is the Triplex safety glass for windows and screens that is built up of three-ply of glass sandwiching two films of celluloid. It does not break like ordinary glass, but merely "stars" when hit by stones.

LONDON MEDICO-PSYCHOLOGICAL CLINIC.

A meeting to inaugurate the London Medico-Psychological Clinic for the treatment of nervous diseases, an account of the objects of which was given in the British Medical Journal of July 19th, was held on November 5th in the Botanical Theatre of University College. Lord Sandwich, who was in the chair, expressed his belief in the immense power exercised by the mind over the human body. He said that, although he knew nothing of medical or surgical science, he had had great experience of healing. During the South African war he had received some sixty wounded officers into his country house, and during the whole time he was at home there had never been a doctor or a nurse in the place. He himself had acted in both capacities towards his guests, and he had been both surprised and gratified by the successes he had obtained. He went on to say that there were few serious maladies that he had not treated with success, and he believed he could say with truth that he had never failed to relieve people in agonies of pain. He had attended people in palaces, in cottages, in hospitals, and in homes; and his patients had included a Hindu monk in his monastery, a Mohammedan in his mosque, and a Hindu princess who had travelled

300 miles to see him. He had often been asked to explain his power, but he had nothing to explain: he could only say what happened. He was convinced, however, that many other people besides himself possessed it, if not to the same extent at least in a lesser degree, and in the proposed clinic there would be an opportunity for them to exercise it with great usefulness.

Dr. Constance Long said that many doctors had successfully practised psychotherapy, but up to the present there had been no provision of this kind of treatment for the poor. The object of the medico-psychological clinic, therefore, was to provide and equip with suitable apparatus a small place where treatment by psychotherapy might be obtained by the poorer classes, and where inquirers would be provided with opportunities for study and investigation. The patients would include people suffering from depression, insomnia, loss of sensation, the drug habit, morbid attention to bodily ailments, and many other manifestations of ill health for which no adequate provision existed at the present moment; whilst the treatment would consist of persuasion, suggestion, re-education, psycho-analysis, induced sleep, and even hypnotism. It was particularly important for the public to understand that the clinic would not be in opposition to orthodox medicine, but supplementary and complementary to it, and that it was hoped to join forces with medical practitioners in a suitable building. For this purpose it was proposed to rent a small house in a quiet neighbourhood within easy reach of University College. The expenses of such an undertaking would probably amount to £1,200 or £1,500, of which £350 had already been subscribed. The clinic, at the beginning, would be for out-patients alone, but it was confidently hoped that before long it would be possible to consider the provision of a certain number of beds for the accommodation of the more serious cases.

Dr. Spearman, Professor of Psychology at University College, said that there could be no doubt that science would gain from the foundation of the new clinic. There was a growing interest in, and demand for, psychotherapy which could not be disregarded. Some years ago the foundation of a department for the study of psychotherapy had been greeted with derision, but to-day the laughter had died down, and the knowledge that had been gained remained.

Dr. Maurice Craig said that the new clinic would supply a long-felt want in England. With the exception of one in Liverpool, there was at present no hospital in England where a patient suffering from incipient mental disorders could be taken in and treated in the proper way. The usual fate of such patients, therefore, was that they were left to struggle on as best they might until they were ready to be admitted into lunatic asylums, though a little timely rest and proper treatment such as they would now receive at the Medico-Psychological Clinic would probably have restored them to their full mental and physical vigour. These unfortunates were by no means invariably the derelicts of society, but were frequently very highly endowed and gifted persons, and for this reason he regarded this particular form of preventive medicine as being of the very highest importance to the race.

We have received the following letter with reference to Lord Sandwich's speech:

To the Editor of the British Medical Journal.

Sir,—It has been impossible to ignore the press notices of the inaugural meeting of the Medico-Psychological Clinic. It is distressing to the committee to find that a great deal of misunderstanding has arisen, and we feel bound, in justice to ourselves, to the pioneers of psychotherapy, and to the supporters of our movement, to dissociate ourselves entirely and absolutely from the occult powers Lord Sandwich claims for himself.

Lord Sandwich has expressed his sincere regret to the committee for the misunderstanding he has caused, and this terminates his association with the clinic and the committee.

We profess nothing but ordinary medical knowledge, acquired in the ordinary way—we have no gift or method not open to every practitioner. It is our belief that the clinic will attract cases of threatened nervous breakdown in a stage at which preventive measures may avert calamity. It will offer a place of study for medical practitioners who wish to acquaint themselves with practical psychotherapy. The whole of the healing art was cradled in superstition. In the minds of many psychotherapy is still tinged with charlatanism, and from this the clinic will help to dissociate it.

We feel sure that the profession will appreciate to the full the difficulties and delicacy of the work we have in hand, the dangers to be avoided, and prejudices to be overcome, and we trust that it will join with us in aiding a work which must of necessity be the object of adverse criticism and unavoidable misconceptions in its early stages.—We are, etc.,

Hector Munro.
J. M. Murray.
John Spencer.
Constance E. Long.

11, Endsleigh Street, W.C.,
Nov. 10th.

THE TUBERCULOSIS CONFERENCE IN BERLIN.

[From our Special Correspondent.]

(Concluded from page 1240.)

National Insurance and Tuberculosis.

This, the third great discussion at the Conference, was opened by Dr. Kaufmann, the President of the Imperial Insurance Board, who said that the first State sanatorium was opened in 1895; towards the end of 1912 there were 39 such institutions, with 3,512 beds for men and 1,358 for women. In that year alone over 50,000 cases of pulmonary phthisis were treated at a cost to the State of about a million sterling. Of this large number of patients, 92 per cent. were so much improved that permanent invalidity was not to be feared for them; of the cases treated successfully in 1907, 57 per cent. were still in a position to earn their own living at the end of 1912. The practical benefits, such as the great saving of expense to the invalidity funds, and the return to health of the patients themselves, were not the only ones, for it was to be remembered that patients who left these sanatoriums to return to their homes carried with them a sound knowledge of hygiene and prophylaxis, which the majority of them could be relied upon to practise and impart to their families. In addition to the institutions for patients with obvious tuberculosis, there were others for those in the first stage, in whom tubercle bacilli had never been found—these were conducted by the insurance authorities under the name of "Forest Homes for Convalescence." Besides the sanatorium and forest homes there were the dispensaries, spread like a net over the Empire; it was their duty to alleviate the hopeless and incurable cases, and to supervise the sanitary conditions of the homes of such patients, and through the Insurance Boards supply what might be necessary in the way of bedding, contributions to rent, etc. At the present time particular attention was being given to such patients as were infectious to their relatives, and too advanced for any hope of improvement by sanatorium treatment. It had not been considered advisable to segregate them in special institutions, and, for the present, they were being tended in the special departments of general hospitals, or in hospitals for consumption where these existed. Tuberculous children were placed in special homes and asylums by the insurance organizations, and those suffering from lupus also came in for a share of insurance benefits, of which the special lupus institute, recently built and opened at Giessen in Hesse, was an earnest of more to come.

The next speaker, Dr. Lee K. Fraenkel, of the Metropolitan Life Insurance Company of New York, stated that many private insurance societies in his country were beginning to take an active part in the campaign against tuberculosis. His own company, for instance, did not allot all the dividends to its members or shareholders, but reserved a portion for sanitary prophylactic measures among the insured, and he believed that by this means there had been a considerable reduction in the compensation paid for death and disease.

Dr. Fraenkel's point was further emphasized by Dr. Koehler, who maintained that it was not only the duty but to the interest of the insurance societies to further such prophylactic measures by all the means in their power, inasmuch as fully 20 per cent. of all the death payments made by them were due to tuberculosis.

Tuberculosis amongst School Teachers.

This subject was introduced by Dr. Altschul (Prague), who deplored the scarcity of statistics and demanded an international census which should embrace teachers both in the State and elementary schools, and be concerned only with cases certified as tuberculosis by medical men. A doctor should be attached to every school of every denomination, and every intending teacher should undergo a qualifying physical examination, which ought to be repeated once a year. Every infected person must be suspended from his office of teaching, and provided for and treated at the public expense until his recovery was assured.

The Mortality of Children from Tuberculosis.

Dr. Behla (Berlin) said that the mortality of children from tuberculosis had not sensibly diminished, although the total deaths in Prussia from the disease since 1876 had been reduced by one half. Frau Dr. Monneron-Tissot reported on the results achieved in the institutions of Aisillous, Lucerne, and other places to which children with a mild tuberculosis or a tendency to the disease had been lodged for four of the summer months annually. This valuable prophylactic measure had now been in operation for six years, and the results produced by good food, fresh air, and sunshine had been remarkable. The average increase of weight was from 5 lb. to 6 lb., the increase of chest measurement 3 c.m. to 4 cm., and the haemoglobin increment 9 per cent. and over.

The Early Diagnosis of Pulmonary Phthisis.

Professor Rosin (Berlin) had some interesting remarks to make on this subject. The physical examination of the apex of the right lung in healthy normal individuals showed in a great percentage a considerable variation in the physical signs, which if discovered in the left apex usually indicated pathological changes. The normal variations, therefore, sensibly increased the difficulty of the diagnosis of tuberculosis in the right apex, and indicated the use of more delicate methods of diagnosis in such doubtful cases. The causes of the respiratory variations were to be sought in the anatomical situation of the right upper bronchus, which had a tendency to curve upwards, and also in the adhesions not infrequently present in this situation. These conditions had more than once been responsible for an erroneous conclusion and mistaken treatment.

Tuberculosis and Pregnancy.

Dr. Carol Herda stated that in regard to pulmonary tuberculosis the dangers to women who became pregnant were due to the inefficiency of costal respiration which almost entirely replaces abdominal as the uterus enlarges, and to the absorption of nutrient material from the circulation by the fetus. It would seem, furthermore, that compression of the abdominal circulation by the enlarging uterus led to a diminution of blood supply to the lungs, while Koch and Behring had shown experimentally that the protective substances in the organism were also diminished during pregnancy. The speaker therefore was of opinion that in badly nourished individuals, in the stage of early pulmonary infiltration, the pregnancy should be artificially terminated if only of a few weeks' duration, but should not be interfered with if several months had elapsed since conception, as the resulting loss of blood, etc., would be more dangerous than the natural termination. In well nourished individuals, on the other hand, in this stage there was no indication to induce abortion, and the course of the disease would not be influenced by allowing the pregnancies to reach full term under careful surveillance in a sanatorium. When abortion was considered justifiable the patient, he thought, should be artificially sterilized at the same time. Women who were in the second stage, with haemoptysis, cavities, infarcts, or infiltration of a whole lobe, were in great danger if they became pregnant. In these cases the indication was, in his opinion, to produce abortion and sterilize as early as possible after conception, but the responsibility for the procedure should always be shared with a gynaecologist. The speaker hoped that before long there would be a special home for pregnant women with tuberculosis.

Treatment of Human Tuberculosis with Reptilian Bacilli.

Professor Moeller (Berlin), after referring shortly to Friedmann's work with turtle bacillary emulsion (see p. 1248 of our last issue), stated that he had tried the effects of a preparation of the slow-worm tubercle bacillus on man thirteen years ago, but had abandoned it because he found that his results with Koch's tuberculin were not improved upon, and because he believed that it was very much more dangerous to treat patients with living than with dead bacilli.

In connexion with the Conference Dr. Friedmann and Dr. Schleich demonstrated some cases which had been treated with the preparation in Dr. Krauss's clinic. The latter followed the demonstration with some valuable remarks, the gist of which appears to have been the statement that no ill results from its injection had as yet been notified, and that a thorough and searching investigation of the claims made for it should be undertaken throughout Germany.

Tuberculosis and Milk.

This subject was dealt with by Dr. Heymanns (Ghent). He maintained that cows with tuberculosis of the udder always yield an infectious milk, whilst in those with a "closed" infection elsewhere on the body the secretions were not infected. If the closed lesions of tuberculous cows broke down and became open, not only their own milk might be infected, but also that of all the other cows in the stable. Contaminated milk was by far the most prolific source of bovine tuberculous infection in man, and every infected cow should therefore be absolutely excluded from the milk supply. It had not yet been shown that bovine tubercle bacilli could in ordinary circumstances be converted into the human variety.

Tuberculosis and Compulsory Notification.

Dr. Glasenapp (Aachen) read a paper advocating the compulsory notification of all cases of pulmonary or laryngeal tuberculosis: (1) When tubercle bacilli had been found in the sputum of the patient; (2) when such a patient changed his abode. The notification should be made by the visiting physician through the landlord, or by any other person who had tended the case. A subsequent disinfection, at the public expense, of every room and object that had come in contact with or been used by the patient should be insisted on in every case.

LITERARY NOTES.

According to the *Glasgow Herald* of November 8th, Sir Donald MacAlister, in addition to his many other accomplishments, is a poet. Shortly before he became Principal of Glasgow University, he published a little book of verse which he entitled *Echoes*. The pieces showed not only a facility of versification, but a wide and varied linguistic accomplishment, for the verses are rendered from or into "braid Scots," French, German, Norse, Welsh, Romany, modern and classical Greek, and Low German. A second edition of this interesting little volume is on the point of being issued by Messrs. MacLehose.

The October number of *Lewis's Quarterly List of New Books and New Editions* contains the works which have been published and added to the Medical and Scientific Library during July, August and September. Amongst the new books are Gordon's Hyde Lecture on *The Place of Climatology in Medicine*, and Lee's Bradshaw Lecture on *Incipient Pulmonary Tuberculosis: Diseases of the Stomach*, by G. R. Lockwood: Poynton and Pain's *Researches on Rheumatism*. Amongst well known books which appear in new editions may be mentioned *Gray's Anatomy*, Muir and Ritchie's *Bacteriology*, and Binnie's *Operative Surgery*: this contains upwards of 100 new illustrations.

A collection of Whistler stories, gathered by Don C. Steitz, has recently been published by Harper and Brothers. Among them is the following:

Whistler had a French poodle of which he was extravagantly fond. The poodle was seized with an affection of the throat, and Whistler had the audacity to send for the great throat specialist, Mackenzie. Sir Morell, when he saw that he had been called to treat a dog, didn't like it much, it was plain,

But he prescribed, pocketed a big fee, and drove away. The next day he sent post haste for Whistler. On his arrival, Sir Morell said gravely: "How do you do, Mr. Whistler? I wanted to see you about having my front door painted."

The same story is told of Meissonnier and Nélaton, and doubtless of many others. What tenacity of life there is in these venerable "chestnuts"! It would be as easy to determine what song the sirens sang as to trace them to the fountainhead. The root of many stories which *volitant per ora virum* in club smoke-rooms may be found in the *Golden Ass* of Apuleius, and as this was founded on a Greek original many centuries earlier, it is not unreasonable to suppose that the cave men told these tales to each other on the dark winter nights. It is the same with phrases. "Wait and see" is found within inverted commas in a letter from Mr. Chamberlain to Labouchere in the year 1885!

In the November number of *Knowledge*, Dr. Louis Robinson tells us the story of our chin: why when we lost our big canine teeth, it did not degenerate like that of the elephant, but developed in order to give us room for our tongue, which, when we speak fast, has to make more than five hundred different movements in a minute. He has traced the evolution of the muscles which cause those movements from the time when, as in monkeys, they formed a thin strand seated in a pit, to the present day when they are divided and subdivided and actually attached to two small tubercles of bone specially developed for the purpose. These are absent in the lowest races, in young children, and, in so far as can be ascertained, in deaf-mutes. The evolution of man's lower jaw is also traced, and photographs of a large selection of the hundreds of casts of jaws, taken during the course of Dr. Robinson's researches, are used to illustrate his discoveries.

In the November number of the *Cornhill Magazine* Mr. Stephen Paget, in an article entitled "Lister," compares the face and character of the revolutionizer of surgery with that of Pasteur, from whom he got his inspiration:

> Recalling the two faces, one would like to have a portrait of Pasteur by Rembrandt and a portrait of Lister by Raeburn. There was in Lister's face a wonderful purity, and the utmost refinement of soft lines and delicate colouring; it was full of thoughtfulness, gentleness, and dignity. Often, it had the look of a man rather lonely, rather tired; but tired of hearing his own praises sung, not tired of work and thought: a man who had done too much for the world to care much for anything that the world could do for him. But most of all, it was a quiet face: not impassive or expressionless, for it was quick to show little changes, and he had a way of smiling which had more meanings than are conveyed by laughter: but the quietness of his face, and of his voice, were in the very nature of him. He was not incapable of anger, but he had none of Pasteur's tempestuous wrath with his opponents: he could do all that he wanted with silence, or with a few words of quiet irony or measured censure. Even if he had cared for fighting in debates, print, and correspondence, he would still have denied himself that pleasure: for his work was in the making; he was feeling his way, year in year out, toward the improvement of it. He had set himself to advance the whole science and art of surgery, not by controversy but by incessant observation, experiment, and experience; he must work out his facts quietly, anticipating nothing, always judging his own method, always looking for faults in himself, every inch of the way.

Unlike Lister, Pasteur had a long struggle with poverty. His sensitiveness to criticism was also very keen. When fame came to him his health was already undermined. His stern experience of life was written in deep lines on his face.

The system of leasehold marriage now advocated by some social reformers as a means of regenerating society seems, like most new things, to be of respectable antiquity. Adrien de Valois, called Valesius, historiographer in ordinary of France, and one of the most learned men of the seventeenth century, says that in his day there was in the King's library a contract of marriage made in the year 1297 between two persons of noble family containing the following clauses: (1) The contract was to be binding for seven years; (2) if at the end of seven years the contracting parties were satisfied with each other they reserved the right to renew the lease; (3) if they separated at the end of the period contracted for they were to divide share and share alike the children, male and female, born as the result of their marriage during the said period of seven years; (4) if by chance the number of children was uneven, lots were to be drawn to decide to whom the odd child should belong. It is curious that, in these days, when so much is heard about marriage, limited liability and otherwise, none of the reformers seem to be aware that every conceivable form of arranging the union of the sexes has at one time or another been tried, and monogamy has been accepted among civilized peoples as on the whole the most satisfactory. The existing state of things may therefore be regarded as the survival of the fittest.

Medical writers are often singled out for ridicule for their uncouthness of style. This judgement is rather sweeping, for an impartial judgement would, we think, find the English of the average clergyman or lawyer to be no better. Nor is the pure well of English undefiled to be found in the ruck of novelists and general writers. It would take us too far to discuss the causes of the low position which medical writers as a class hold as stylists. It is alleged that there is little room for style in medical writing. Doctors who speak to doctors have to deal with purely technical matters, and therefore have to express themselves in language not understanded of the people. The barbarous terminology with which they are so often reproached is an inevitable consequence of the birth of new ideas and the discovery of new facts for which new expressions have to be found. That a little more trouble might be taken to construct new terms than laying hold of the first likely-looking word met with in a Greek dictionary and forcibly marrying it to a Latin or possibly even an English word may be admitted. But that does not alter the fact that new terms are a necessary result of the progress of knowledge. Passing from words to diction, we may quote what Sir James Barrie says in *An Edinburgh Eleven*:

> When Mr. R. L. Stevenson's *Memoir* of the late Mr. Fleeming Jenkin was published, Tait said at great length that he did not like it; he would have had the sketch by a scientific man. But though scientists may be the only men nowadays who have anything to say, they are also the only men who can't say it.

That scientific men can write with a sense of literary grace which is not to be found in many professional scribes, is shown by the instances of Huxley, Sir Thomas Watson, and many others. Not long ago Sir A. T. Quiller-Couch, lecturing at Cambridge on the writing of English, quoted the editor of a mining paper in Denver, Colorado as laying down the law that all niceties of language are mere "frills," and that all one needed was to get there, that is, to say what one wishes in one's way. On this "Q" made the comment that just there lay the mischief. They must, he said, carve out the intaglio sharply, neatly, if they would impress its image on other men's minds. And the man who used what he called "jargon" did not get there at all. "Jargon" he described as the use of circumlocution rather than short, straight speech, and of "vague, woolly abstract nouns" rather than concrete ones. As "awful examples" of jargon he chose two from deliverances by the Home Secretary and the Chancellor of the Exchequer. Mr. McKenna gave as a reason for releasing a woman from prison that the attempt to feed her forcibly "would probably entail death in her existing condition." On this "Q" asks if any one would tell him how any one could kill or, as the Home Secretary preferred to put it, "entail death" on a woman in a non-existing condition. More amusing, and also more instructive, is the following extract from Mr. Lloyd George's oratory:

> With regard to Mr. Noel Buxton's questions, I cannot answer for an inquiry which is *of a private and confidential character*, for although I am associated with it I am not associated with it as a Minister of the Crown. . . . Those inquiries are of a *very careful, systematic, and scientific character*, and are being conducted by the ablest investigators in this country, some of whom have reputations of international character. I am glad to think that the investigation is *of a most impartial character*.

It must, says "Q," be a comforting thought that an inquiry of a private and confidential character was also of a very careful, systematic, and scientific character, and, besides being of a most impartial character, was conducted by men of "international character," whatever that might happen to mean. What was an international character, and what would they give for one? That way of talking, he adds, while pretending in the mouths of Cabinet Ministers to be pontifical, is really not reputable speech at all, but jargon—"a timid, a pompous way of walking round the target instead of hitting it." It will be remembered by readers of that delightful book, Cobbett's *English Grammar*, that most of his examples of inaccuracy of style are taken from Kings' speeches.

British Medical Journal.

SATURDAY, NOVEMBER 15TH, 1913.

THE EFFECT OF THE INSURANCE ACT ON COLLIERY AND WORKS PRACTICE IN SOUTH WALES.

The special difficulties which have attended the operations of the Insurance Act in South Wales have frequently been referred to in these columns, but we make no apology for returning to them, not only because of their urgency, but because careful consideration will show that what affects Wales to-day may easily be a danger in England and Scotland to-morrow.

As in most other mining and industrial areas, a large proportion of the South Wales population has for generations arranged for medical attendance on contract terms, which included the worker and his dependants. Over many a mile of the Welsh valleys such a thing as a doctor's bill was unknown. The doctor was nearly always remunerated by deductions from wages, and the amount was paid to him by the employer. The deductions in some areas were at the rate of so much a week for each worker, but in the majority of areas the deduction was 3d. in the £1 of wages, the doctors thus sharing in the prosperity of the workers as they have always had to share in their adversity. Often during strikes and lock-outs, and such episodes as flooded mines or explosions, the doctor has gone for weeks, and even months, without payment. The poundage system was on the whole satisfactory so far as the money was concerned, but for years a special danger has been growing up side by side with the growth of that labour and socialistic spirit which is so strong among the South Wales workers to-day. The tendency of the workers to demand a greater share in fixing their wages, hours of labour, etc., led in many areas to a demand to control the funds raised by the deductions from their wages, and in this way to control the doctors. In many areas committees of workmen were appointed, who attempted, with varying success, to persuade the employers to hand these funds over to them. Where they were successful in this demand, the committees next claimed the right to appoint and dismiss all doctors and assistants, and to pay them—not according to the number of workmen choosing them—but at fixed and in most cases wretchedly inadequate salaries. Those who best know the cheerless surroundings of the average colliery village—the hard, rough, and often unpleasant work of the colliery and works doctor, and his heavy responsibility as regards accidents, will most sympathize with the resentment which such insidious attacks on the independence of the profession aroused. In some areas the doctors were defeated, and there are several places—such as Aberdare, Rhymney, Tredegar, and Ebbw Vale—where salaried doctors are employed under the control of lay committees. These, being old-established systems, are protected by the "Harmsworth Amendment," and do not come within the purview of this article, except in so far as their existence is no doubt to blame for the spread of the idea of a salaried service. In some few cases the salaries are not inadequate; but it may be said that such is the insecurity of tenure and the feeling of dependence on the whims and prejudices of committees, that there are probably few holders of these posts who would not, if they had the chance, regain their independence even though it entailed a monetary sacrifice.

In other areas the profession has succeeded in warding off the imposition of lay control and salaried appointments, but only at the cost of increasing vigilance and strenuous fighting. It may be said that never since the Association was reorganized and the ethical machinery and Warning Notice established has the South Wales and Monmouthshire Branch been free from a fight against one or more of these pernicious schemes. The doctor in most parts of England and Scotland has little idea of the feeling of dread—sometimes almost of despair—with which the Welsh colliery doctor views the miners' "schemes." Just before the Insurance Act came into force the profession seemed to have got into a better position. Except with regard to the few well-established schemes, the workmen were finding it very difficult to get medical men to take these appointments. The Insurance Act has, in a totally unexpected way, greatly intensified the difficulties of the situation, and rendered the establishment of schemes more easy. This is due to the attitude taken up by the Welsh Commissioners in regard to such schemes, an attitude which it is well to note has received no encouragement from the English or Scottish Commissioners. The Welsh Commissioners have, however, as has often been explained in the Journal, interpreted Clause 15 (3) of the Insurance Act, 1911, in a way which entirely discounts the promise so often made or implied by the Chancellor of the Exchequer when he was endeavouring to persuade medical practitioners to accept service, namely, that where the panel system was accepted and worked properly those taking part in it should have the preference, since it was, so to speak, the normal system. Where schemes are in operation the profession is undoubtedly at a serious disadvantage. The scheme can use the insurance money in bulk in a way which is not open to the individual doctor. The scheme can use the powerful pressure of the trade union. It can and does canvass. It has no scruples about medical etiquette. It is a purely business affair dealing in cheap medical attendance.

The attitude of the Welsh Commissioners has led to an epidemic of schemes based on the desire to get hold of the money paid by Insurance Committees in respect of insured workers, and use it for subsidising the medical attendance of the dependants. There are several schemes in operation to-day in Wales in which a number of insured persons and their dependants are being attended by salaried doctors, under the absolute control of a lay committee, at a total cost of little if anything more than the money paid by the Insurance Committee on behalf of the insured workers alone. The men's officials collect the names of a large number of workmen, who are tempted by the chance of getting their dependants treated for little or nothing. They then apply to the Insurance Committee to be "allowed to make their own arrangements" collectively, and no difficulty has been placed in their way by the Welsh Commissioners, and certainly not by those Insurance Committees which are dominated by the miners' interest. It is quite easy to figure out that

if, say, 4,000 workmen can be got to come into a scheme of this kind the scheme will have a handsome nucleus of some £1,400, which, with little or no addition, may well be used to secure a salaried service, of a kind, on the workmen and their dependants also. Is it surprising that the temptation which has been almost thrown in their way by the Welsh Commissioners has proved very attractive to bodies of men who lay much more stress on getting doctors under their control and getting them cheap than on offering such terms as will tempt energetic and competent men to take up their abode in the uncongenial surroundings of the average Welsh mining or industrial district? It is, however, an injustice to blame the workers as a body except for their apathy. It is difficult for bodies of untrained laymen to put a proper estimate on skilled professional work. Price rather than quality is very likely to appeal. Only wider experience will teach them that an indifferent medical service can never be really cheap. The initiative in these matters nearly always comes from the trade union officials, few in number but very influential and greedy of power. The general body of workers simply acquiesce. The so-called "mass meetings" and "ballots" by which many of these schemes have been jerrymandered into existence are often ludicrous in their unreality.

It is a sorry story, only redeemed by the grim determination of many of the best all-round colliery doctors in Wales to be starved out of the principality rather than submit to the imposition of committee control and salaried appointment. Stories could be told of battles at heavy odds which are greatly to the credit of our Welsh members. Throughout the valleys of Glamorganshire and Monmouthshire in particular the fight is now going on, and will be determined largely by the success or otherwise of the attempts now being made by some of the schemes, which are in a moribund condition, to secure a wholesale transfer of patients from individual doctors to themselves. There is no doubt that strong personal pressure is being brought to bear on many a workman who, if left alone, would prefer to retain the services of his old family doctor. There is, we regret to have to add, little doubt also that doctors connected with some of these schemes are laying themselves open to charges of complicity in canvassing, which the Association will not fail to press on the attention of the General Medical Council if proper evidence is forthcoming. It will probably be news to some to be told that in a considerable number of districts, owing to the resistance to the imposition of a scheme, the doctors have been unable during the whole of this year to secure payment of any kind for the dependants, and have had to live on the moneys received from the Insurance Committees in respect of the insured workers.

We wish to enlist the sympathy of members of the Association on behalf of their Welsh colleagues, for they well deserve it, but we wish also to point out that such an example as the Welsh "scheme" affords is very likely, if the schemes prove successful, to be a temptation to collective bodies of English and Scottish industrial workers.

It is essential, therefore, that these schemes should be defeated, in the interest both of the public and of the profession. It must be plain to every member of the profession that self-respecting medical men of the best type—and the best type is needed in these industrial areas—cannot be induced to accept the humiliating conditions, the precarious tenure, and the insufficient remuneration offered by most of these schemes. Therefore the medical service for these bodies of workers must inevitably deteriorate. No responsible person with a knowledge of local conditions could encourage a promising young practitioner to accept a post in connexion with one of these schemes. There are plenty of other posts far more attractive. The inevitable deterioration in the professional and social status of the Welsh colliery surgeon is a lamentable prospect from the professional point of view, but it promises to be disastrous to the workers of Wales. A heavy responsibility for encouraging this state of things will rest on the workers' leaders who are favouring these schemes, but a still heavier responsibility lies at the door of the Government officials, who have weakly given way to the ignorance and greed for power of these leaders, although they must realize that this weakness must ultimately be detrimental to the insured and their dependants. It is not so many years since young members of the profession were "warned off" going into the Army Medical Service, with the result that that service went steadily down in public and professional estimation until the War Office took action. Is this history going to repeat itself in connexion with Welsh industrial practice? Will those who have the power to prevent it take action now or deliberately ride for a fall?

THE SCIENTIFIC WORK OF THE ASSOCIATION.

The Council, at the suggestion of the Science Committee, has issued a circular letter to the honorary secretaries of Divisions and Branches in the United Kingdom inviting them to consider the ways in which the scientific work of the Association at the periphery can be extended. The last Annual Representative Meeting asked the Council to increase its efforts to encourage the Divisions to hold more scientific and social meetings, and the circular letter now issued is the first step taken in fulfilling this instruction. It is suggested that Branches should form Science Committees in their areas to organize the scientific meetings of the Branches and to assist the Divisions in carrying out their scientific work generally by advising as to the best way of arranging for such meetings, and in particular by preparing lists of speakers willing to give addresses or demonstrations on special subjects, instituting special local inquiries, as, for example, into the hygiene of local industries and conditions, and, where deemed desirable, establishing courses of post-graduate lectures.

A good deal has already been done in many Branches in this respect, and the present action of the Council is intended not at all to disturb the arrangements which have proved efficient, but rather to encourage those Branches and Divisions which have not yet given the subject full consideration to take it in hand. The Edinburgh Branch has for some years held clinical meetings which occupy a whole day and have been very well attended. The general plan of these meetings has included a loan exhibition of pathological specimens, at which the lenders attend and give explanations—demonstrations chiefly of surgical cases—during the afternoon, followed by a clinical meeting at which cases are shown and briefly explained, the whole winding up with a dinner in the evening, the scientific and social aspects of the Association's work being thus very suitably combined.

In the North of England Branch the lead has been taken by the Newcastle-on-Tyne Division. From a

memorandum drawn up by Mr. R. J. Willan, F.R.C.S., Honorary Secretary of the Division for scientific meetings, we learn that such meetings have been held by the Divisio for the past ten years. For the first five years an all-day meeting was held at the Newcastle-on-Tyne Infirmary about the end of June in each year, and its popularity encouraged the Division in 1908 to hold monthly scientific meetings throughout the winter; their success has led to their being continued each year since. The general plan is that the meeting lasts from 3.15 to 6 p.m., and the time is filled by five demonstrations, each lasting half an hour, the proceedings being interrupted for a quarter of an hour for tea. The meetings are managed by an executive committee consisting of four members—one each for medicine, surgery, special departments, such as throat and ear, ophthalmology, gynaecology, and dermatology, and one for pathology, with the honorary secretary. This committee draws up a provisional scheme, choosing subjects of special interest at the time which lend themselves to clinical or pathological demonstration, and then selects the most suitable person to give each demonstration. As a rule, about one-third of each meeting is given up to medicine, about one-third to surgery, and about one-third to special departments, but the whole of one meeting held in the College of Medicine is devoted to pathology. Each demonstrator is kept strictly to his allotted time of thirty minutes, and is asked to devote ten minutes to a general explanation, and the remaining twenty minutes to demonstrating. Hitherto one meeting has been held at the College of Medicine, Newcastle-on-Tyne, and the other four at the Royal Victoria Infirmary. This year it has been found desirable to increase the number of meetings to six by arranging for one at the Northumberland County Asylum, Morpeth, when the medical superintendent, Dr. T. W. McDowall, will demonstrate a series of cases illustrative of incipient insanity. At the other five meetings, one of which will be held at the College of Medicine and the remainder at the Royal Victoria Infirmary, the subjects of the demonstrations vary from a demonstration of the Wassermann test and another on acidosis in diabetes and other diseases, to the diagnosis of intestinal obstruction and the treatment of simple fracture, and again from experience of the Insurance Act to hospital management. The working out of the detailed arrangements to ensure the smooth working of the demonstrations throws a great deal of responsibility upon the honorary secretary, but he has been rewarded by the interest shown in the meetings and by the large attendance. In future it may be possible to arrange for some of the clinical meetings hitherto held at the Royal Victoria Infirmary, Newcastle-on-Tyne, being held in other towns within the area of the Branch, and in that case part of the responsibility of providing interesting demonstrations would be put upon the shoulders of the members of the profession in the locality.

The Birmingham Branch has for a good many years past held once a month an afternoon clinical meeting at which short papers are read and demonstrations given. These meetings are well attended by members residing not only in Birmingham itself but in the Divisions included in the Branch. In addition the Branch has a clinical and pathological section which meets in the evening once a fortnight during the session; it is open to all members of the Branch, but owing to the hour of meeting is mainly attended by those residing in Birmingham.

Many other Branches and Divisions, as reports of their clinical and scientific proceedings published in the JOURNAL from time to time prove, give a great deal of attention to arranging clinical meetings, and it is often deemed desirable, especially where the work is organized by the Branch, to arrange to hold these meetings in different towns in the area following a more or less regular order.

The different ways in which the objects in view have been attained in different localities are sufficient proof that the utmost elasticity is desirable, and is allowed under the rules of the Association; the large measure of local autonomy permitted, and of local initiative encouraged by the rules of the Association amply provide for this elasticity. The needs of different districts vary, and the ways in which they may best be met still more.

As will be observed, the managers of these meetings, both in Newcastle and Edinburgh, have settled down to the plan of arranging a series of practical demonstrations. This is quite in accord with the marked tendency towards objectivity to be observed in the trend both of modern medical education and in the work of medical congresses, whether general or special. The didactic lecture and paper is giving way to the practical demonstration. Medical practitioners engaged in every class of practice more and more find it necessary to do things—to undertake detailed physical examinations demanding manipulative skill, or to make chemical and bacteriological investigations—and they want to see how the manipulations and processes are carried out. The Association, by its annual meetings, which have themselves experienced the effect of this modern tendency, has for many years afforded most valuable opportunities for seeing as well as hearing to those of its members who find it possible to attend them, but all members cannot, and the Branches and Divisions can fill the gap and extend the work by bringing the information and experience, as it were, to a man's door.

To work out an adequate scheme and to keep it going requires some special organization, and the plan evolved after much experience at Newcastle seems to afford a useful model. Any scheme must enlist the sympathies and energies of both seniors and juniors, as has been the case in Newcastle, where the sympathy of Mr. Rutherford Morison and other senior members of the medical school has been given form and substance by the energy and enthusiasm of Mr. Willan.

RECORDS OF PRACTICE UNDER THE INSURANCE ACT.

On several recent occasions reference has been made to the importance of medical men whose practice includes attendance on insured persons keeping a record of all work of this kind they do, but the matter is of such importance that we recur to it again. The record should not only be accurate, but full—that is to say, it should include every item of work of whatever nature which is necessitated by the acceptance of a contract of service to give medical benefit under the Insurance Act. The keeping of records is not only part of the contract into which every panel practitioner has entered, but it is very much to his own interest that it should be strictly observed.

The completeness and accuracy of these records are, for certain definite reasons, of very great importance, primarily to those who are co-operating in giving effect to the Act, but indirectly to the whole of the medical profession. It is fairly certain that sooner or later—and probably sooner rather than later—attempts will be made in one of two directions—

either to reduce the capitation fee at present paid, or to force panel medical men to attend the dependants of insured persons for some trifling addition to it. It is conceivable that these attempts will be unaccompanied by any serious endeavour to prove their justice, but probably they will be more or less directly based on statistical data derived by the official actuary from the records which reach the hands of the Insurance Commissioners. In anticipation of such actuarial report, pessimists will, no doubt, be disposed to argue that it does not matter what it suggests, since the events of last year prove that interested persons will probably not scruple to make deductions from the figures which cannot really be supported from them, and are not drawn by the actuary himself. Optimists, on the other hand, may urge that panel medical officers need not necessarily accept any conclusions based upon the actuary's statistics, whether rightly or wrongly, nor, whatever the arguments adduced, allow themselves to be forced into agreeing to accept terms which do not seem to them fair. Nevertheless it remains true that it is of great importance that the statistics not only shall present as few openings as possible for the drawing of inaccurate conclusions inimical to medical men, but shall also make it quite obvious to any unbiassed individual that the aggregate amount of work done by a panel medical officer must be—as in fact it is—very great. This, however, can only be the case, or in other words, the statistics will only on analysis yield results of this character, if the records placed in the hands of the actuary are absolutely complete, for the actuary, though he will do his work with perfect honesty according to the rules of his profession, will presumably be precluded from making any allowance for work which is not recorded, even when other sources of information lead him to believe that it must have been done.

The Plender report is almost forgotten, and it has, indeed, no direct bearing on the new conditions, but it may be taken as an illustration of the kind of way in which an actuary will handle the statistics of attendances and payments now accumulating for the information of the Insurance Commissioners. It is the business of an actuary to analyse the statistics put before him without reference to extraneous considerations, and it is not part of his duty to make allowances for the indisposition of hard-worked men to keep complete records. It is, of course, conceivable that such allowances may be made by the Commissioners, or by responsible Ministers, when they come to consider the actuary's report, and to put upon it their gloss in appealing to the public and to Parliament, but the history of the use made of the Plender report offers no support for this belief. On the contrary, it rather suggests that no such allowances will be made, and that in the interpretation of the figures the construction least favourable to the medical profession will be adopted and noised abroad in the press and from the platform. There were fallacies in the Plender report obvious to medical men, but it had the merit from the point of view of friendly societies and their allies of making certain deductions apparently indisputable. It covered all the medical work ostensibly done in certain towns and their immediate neighbourhood by the practitioners residing therein, as also by public institutions and Poor Law medical officers; in fact, it purported to include the whole of the medical services received by the individuals forming the population of these towns, with the exception of such as were rendered by medical men living in other areas. It classified the work done by medical men under the following headings: (*a*) Visits to patients' houses and attendances at surgeries; (*b*) operations and other services (including maternity) for which special fees were charged; (*c*) certificates and reports; (*d*) work done as medical officers of health, as district medical officers, or tenants of part-time hospital appointments; (*e*) in connexion with inquests; (*f*) in various miscellaneous capacities, and (*g*) under capitation contracts. In respect of the work done at patients' houses or at doctors' surgeries, the number of visits and attendances was supplied, but the return as a whole considered the work solely from the point of view of the income which it brought in, less a deduction for bad debts. The actuary set out separately the receipts from persons inside the towns and those outside, and also supplied information as to the cost of drugs, the salaries of assistants, of dispensers and nurses, and various other items which would have to be subtracted in order to reach a conclusion as to what was the net income of all the medical men in these towns before charging rents, rates and taxes, and the expenses of locomotion, but abstained from suggesting any conclusion in regard to most of this material. In respect, however, of the gross income derived from the populations, the actuary estimated that after making a deduction for bad debts, it was equal to 5s. 6d. a head in 1910, and 5s. 7d. in 1911, and he was careful to emphasize the fact that in the case of approximately 59 per cent. of the gross population of all five towns, the charges which were paid, or should have been paid, included the cost of medicine. In regard to income arising from certain items of work, the actuary was still more specific. Taking that derived from contract work and adding to it that from visits to patients' houses and attendances at surgeries, he suggested that after making a deduction for bad debts, the gross income of all the medical practitioners in the five towns was equal to 4s. 1¾d. a head of the population. The implied suggestion, of course, was that since, when all classes of patients were taken into consideration, the income of the medical men in these towns from the sort of work now covered by insurance payments was only about 4s. 2d. a head, the capitation fee then being offered for attendance on insured persons was ample.

In any statistical analysis of the amount of medical benefit given under the Insurance Act, the conclusions of the actuary may very likely be used to prove, if possible, the same fact the other way about—namely, to show that in respect of the payments made the work that has actually been done has been small. The Commissioners will be able to tell the actuary the gross amount that has been paid, and it rests with panel practitioners to see that the amount is correctly distributed over the true number of attendances, using that term to include every visit of the doctor to the patient, or of the patient to the doctor. In dealing with their private patients many practitioners "throw in" many small services which they render them in the course of the year, but in dealing with insurance patients nothing at all should be thrown in. Even the shortest interview with an insurance patient—for the purpose, for instance, of renewing a certificate, or of repeating advice already given—which involves professional responsibility of any kind whatever should be included in the record of work done, and duly entered.

Another point worth noting is that in any report on the returns made under the Insurance Act it will not be possible for the actuary to show the aggregate income of all the medical men in any single town, much less that of all the medical men in several towns. This being the case, those who use any such

report as we are contemplating, for the purpose of fighting the medical profession may very probably refer back to the Plender report with the object of suggesting that, apart from their income as panel practitioners, medical men who are in charge of insured persons receive considerable sums from other sources and so influencing public opinion against whatever medical claims may then be made. This is a further reason why panel practitioners should do everything in their power to secure that any fresh actuarial report shall give as true and complete an account as possible of the labour and responsibility thrown upon them, and thus shame their opponents out of any attempt to make out that they are adequately, or more than adequately, remunerated.

NEW REGULATIONS FOR MEDICAL BENEFIT.

The full text of the new draft regulations which the Insurance Joint Committee, acting conjointly with the Insurance Commissioners, under the powers conferred on them by the National Insurance Acts, 1911 and 1913, have issued this week, is printed in the Supplement, together with the draft form of agreement between the medical practitioners and the Insurance Committees, in districts where the method of payment selected is by capitation. The explanatory memorandum issued by the Joint Insurance Committee is also reproduced. The new draft regulations differ materially in order and arrangement from the regulations now in force, which were issued last December, and differ also in many points in substance. All the documents have been subjected to a detailed scrutiny by the special Subcommittee appointed by the Insurance Act Committee, and a communication will shortly be addressed to the Divisions and Local Medical Committees. Representations will also be made on certain points to the Insurance Commissioners. Meanwhile we would strongly urge all practitioners, especially those who are working under the Insurance Acts, to read the Commissioners' explanatory memorandum printed at p. 423 of the Supplement, and to study most carefully the terms of the proposed agreement, comparing it with the relevant clauses of the draft regulations.

PANEL COMMITTEES.

One of the minor peculiarities of the National Insurance Act is the extent to which it necessitates the use of the word "committee," and probably in no other connexion has this term been so hard worked. In the Act and regulations alone it is applied to some half-dozen different bodies, and in any discussion ranging over the general subject of health insurance its repeated use is so inevitable that only by close attention on the part either of the speaker and audience, or of writer and reader, as the case may be, can confusion as to the particular committee in question be avoided. The newest body to bear this title is the "Panel Committee." The regulations as to the institution of these new committees, published in the Supplement to last week's issue, were considered by the Insurance Act Committee of the Association at its last meeting, and this week the Medical Secretary has addressed a letter on the subject to the secretaries of all Divisions, and of Local Medical Committees in England, Scotland, and Wales. The question of the constitution of the Panel Committee, of the work it is to do, and of the method of its election, is of considerable importance to all medical men, and there is no doubt that the fashion in which the Commissioners have hustled them in dealing with it will be resented. As things are, medical men in all insurance areas will have to act with promptitude if they are to take any practical part in the formation of these committees, of which 140 seem to be in view for England and Wales. Any registered medical practitioner may be nominated as a candidate for membership of a Panel Committee, but three-quarters of those elected must be panel practitioners, and only panel practitioners can vote for candidates. The Commissioners seem originally to have intended that the membership of the Panel Committee should be determined at an election conducted by themselves, but this plan has probably proved nugatory in most areas, for the regulations made it necessary that applications for nomination papers should be received by the Commissioners on or before last Monday (November 10th), and at that date a large proportion of all panel practitioners had probably not had time to make themselves acquainted with the conditions of election. The regulations, however, also allowed of the Panel Committees being constituted by other methods if schemes relating to them were submitted to the Commissioners by November 20th, and approved by them, and it is to be hoped that in all areas full advantage will be taken of this possibility. A scheme forwarded for the approval of the Commissioners must be submitted by not less than one-third of the panel practitioners in the area, or by twenty of them, whichever is less, and must be accompanied by approved evidence that the scheme has been brought to the notice of the new body of electors in the area. It is desirable that the membership of the Panel Committee and of the Local Medical Committee of any area should be as far as possible identical, for, though the work to be done by Panel Committees is in part not work hitherto done by Local Medical Committees, there are many points upon which both must be consulted. Moreover, the Commissioners possess the power, if they think fit to exercise it, of extending the duties of a Panel Committee, and it is conceivable that they might do so in a way which, if there were great differences in the personnel of the committees, would render clashing of their work possible. As will be seen by a study of the new draft regulations published in the Supplement this week, both the Panel Committee and the Local Medical Committee must be consulted by the Insurance Committee as to the terms of the draft agreement proposed to be made with medical practitioners willing to undertake to give medical treatment under the Act; as to any alterations in the terms of service; as to the drug tariff and any revision of it; as to any income limit proposed to be fixed; and as to rules with regard to the administration of medical benefit. Both committees have also the right to make representations to the Insurance Commissioners with respect to all the arrangements proposed to be made by an Insurance Committee for the administration of medical benefit. The Panel Committee will have power, by a notice in writing to the Insurance Committee, to dispute the right of any insured person to receive medical benefit under the arrangements made by the committee on the ground that the income of that person exceeds the income limit, and that he is not entitled to be exempted. Arrangements for assigning an insured person to a practitioner must be made with the Panel Committee by the Insurance Committee. With regard to accounts, where a capitation system has been adopted, the Panel Committee must be consulted as to the payments made to the practitioners on the panel, and will have power to inspect and revise accounts, and to investigate any alleged excessive ordering of drugs. The Panel Committee will be represented on the Medical Service Subcommittee and on the Joint Service Subcommittee. This new subcommittee is composed of medical and pharmaceutical representatives and representatives of insured persons, with a neutral chairman and vice-chairman; to this committee will be referred any matter which has been referred to the Medical Service Subcommittee and, in its opinion, involves questions relating to a person supplying drugs or appliances or to a practitioner on the panel. The Panel Committee will also have certain powers with regard

to inquiries relating to practitioners; it will be entitled to make representations to the Commissioners, calling upon them to hold an inquiry relating to a practitioner, and will be entitled to appear at the inquiry by its clerk or any other person duly authorized for the purpose. It will be seen also that the Panel Committee is to be consulted in regard to any further records which it may be proposed to require practitioners to keep. With regard to the election of Panel Committees it is to be noted that in areas in which the proportion of panel to non-panel practitioners on the Local Medical Committee is already three to one, schemes for the appointment as members of the Panel Committee of the members of the Local Medical Committee *en bloc*, either by postal vote or by a vote taken at a meeting, could be put forward. In areas in which the proportion of panel to non-panel practitioners on the Local Medical Committee is not at present so high, the same principle could be carried by co-opting a sufficient number of members to bring up the proportion to the required height. If the constitution of a Local Medical Committee does not allow co-option, it can be represented to the Commissioners that it is desirable that the two committees should be similarly constituted, and that when the present Local Medical Committee goes out of office—which will usually be at the end of this year—it is proposed to bring its composition into line with the required composition of a Panel Committee. In areas in which none of these plans is deemed suitable, and where ordinary elections are to be held—an adequate number of nominations having been duly forwarded by November 20th—panel practitioners would be well advised to secure election of a certain proportion of their non-panel colleagues, choosing as far as possible those who are already serving on the Local Medical Committee. When, again, the panel in the area is so small that its members *ipso facto* become under the regulations the Panel Committee for the area (this is the case, subject to the approval of the Commissioners, when the total panel does not exceed twenty practitioners), the Committee should be urged to exercise its right of co-opting members to the extent of one-third of its number, and select men who are on the Local Medical Committee. Finally, it is to be noted that the regulations do not bind the Commissioners to proceed with ordinary elections, even when an adequate number of nominations have been received, but leave it open to them to substitute any schemes of election which are submitted to them and of which they approve, and that in regard to areas from which emanate neither an adequate number of nominations, nor alternative schemes of election, they can arrange for the work of the Panel Committee to be done by a body of their own choice.

THE GERMAN INSURANCE DIFFICULTY.

SINCE the special representative meeting of the German medical profession on October 26th an attempt has been made by the managers of the insurance societies to influence public opinion, through the channel of the daily press, against the doctors, but their appeal does not seem to have been either very well timed or ingeniously carried out. No fresh development has taken place, and the position remains, that the profession of Germany as a whole has undertaken to fight the societies to the bitter end. The exceptions are Berlin, Hamburg, and Dresden, where the medical organization does not feel strong enough to face the opposition of the societies, and in Würtemberg, where the doctors have already succeeded in getting all that they have claimed. Dr. Mugdan, a member of the Reichstag, writes in the *Vossische Zeitung* of November 4th, laying stress on one aspect of the matter, noted in our previous report, but to which he thinks the German public has not attached sufficient importance. The new Imperial Insurance Order contains a paragraph (370) which provides that in the event of any societies failing to come to a satisfactory agreement with a sufficient number of doctors, the insured may receive a lump sum of money in lieu of medical attendance and drugs, etc., or of medical attendance alone. The societies would like the insured to believe that they would not suffer from this arrangement: but Dr. Mugdan shows that a careful analysis of the new paragraph makes it quite clear that only under the most favourable circumstances will the insured receive as much as 6 marks a week during illness; that there are certain somewhat complicated formalities to be fulfilled; that the money will only be paid out on a certain day and at a certain time of day, and always for a period which has elapsed. It will therefore become necessary for the sick person to find money to pay the doctor before he gets the money back from the insurance society, either in part or in full. Dr. Mugdan suggests that the doctors will certainly require immediate payment in all cases save emergencies, and thinks that they might follow the example of the lawyers, and demand part payment in advance as a sign of good faith. It is possible for the societies to attempt to injure the doctors by referring a very large proportion of patients to hospitals for treatment. What the hospitals and other charitable institutions will say to this, experience alone will show, as the contributions of the insured patients do not cover the costs of such patients. Dr. Mugdan considers that the doctors would do fairly well by the arrangement contained in paragraph 370, but that the patients would soon find out the disadvantage.

THE PART OF MEDICINE IN HISTORY.

THE fact that medicine may throw valuable sidelights on history by showing how the acts of rulers are determined by their bodily condition has frequently been asserted in these columns. As Carlyle somewhere says, it is all very well to exhume a document signed "Carolus Rex," but what a true historian would like to know is the condition of health and temper, as well as more directly political circumstances under which "Carolus Rex" appended his sign manual to letter or deed. Historians in general take a vast amount of trouble in unravelling Court intrigues, but miss the important part played by the health of monarchs and ministers. Lord Chesterfield said with truth that great events are often really due to much smaller causes than the jealous regard of writers for what is called the dignity of history allows them to admit. M. A. Corlieu tells us that in 1871 when passing through the galleries of the Louvre he stopped by chance before the bust of Charles IX by Germain Pilon. This gave him the idea of seeking for the causes of the death of that monarch with the special purpose of discovering whether the bloody sweat was a legend or a fact. From the official records of the autopsy M. Corlieu was able to establish that this bloody sweat was in fact purpura haemorrhagica, and that the king died of phthisis. M. Duruy, to whom he sent his memoir, said in his reply: "Good service would be rendered to us historians if all the *tragical* deaths of important personages were made the object of serious medical study. As regards Charles IX I have substituted in my book phthisis for the famous bloody sweat. This is more prosaic, but the official record of the autopsy does not allow us to maintain the tradition." The correction does not seem to have been made, however, but it is interesting to find a man like Duruy, who was Minister of Instruction under the Empire, as well as a distinguished historian, expressing the opinion that "pathology lies at the bottom of a part of history." Encouraged by this opinion Corlieu made a number of researches, the results of which he embodied in a book on the deaths of the Kings of France from Francis I to Napoleon III, published in 1892. Dr. Cabanès some years ago published a very interesting book on mysterious deaths in history, and more recently Dr. James Rae has made a careful study of the deaths of

English kings. We need only refer to the attention that has lately been given to the death of Napoleon. But medical histories of the lives of those who have in any way influenced the destinies of nations would be more valuable than mere records of the last illness of princes and potentates. A knowledge of the part played by disease in the doings of the men who make history would reveal the secret springs of many actions which are not understood by the ordinary historian.

PSYCHOLOGY IN EUGENICS.

At the November afternoon meeting of the Eugenics Education Society, held at the Grafton Galleries on November 6th, Mr. W. MacDougal, Reader in Mental Philosophy at the University of Oxford, read a paper on psychology in the service of eugenics. Major Leonard Darwin was in the chair. Mr. MacDougal said that, although it would be generally conceded that eugenics had to find one of its principal supports in general biology, it had to rely also upon psychology, conceived as the empirical study of the mind. Hitherto eugenics had been rather backward in proclaiming psychology as its nearest relative among the sciences, but that was because psychology was still in the early stage of its development. The study of the peculiarities of the individual mind was the branch of psychology from which eugenics had most to hope, for it was the study of this branch—psychognosis or individual psychology—which gave a knowledge of mental heredity. Francis Galton himself had realized the necessity of the study of the mental qualities of individuals. There were three principal directions by following which mental tests could give the exact knowledge needed as a basis of eugenics. One such experimental method might be applied to the problem of analysis of the complex mental powers used in ordinary life. Another was the application of mental tests for the purpose of detecting, and as far as possible measuring, any differences of mental endowment there might be between various classes or strata of the population. The third principal line of application of psychological experiment in the service of eugenics was the direct attack on the problems of mental heredity. These three lines of investigation would converge more and more, would mutually aid one another, and in a few years would achieve results which would give a firm foundation in fact, the thing which was most needed as the basis of eugenics. At the close of the lecture, Major Leonard Darwin in a short speech referred to a recent report issued by the Home Office, in which the conclusion was drawn, after a series of psycholgical tests of criminals, that the main differentiation between criminals and other members of the community lay in defective intelligence. He looked to such psychological tests becoming, as the lecturer had suggested, of the greatest importance in criminology in connexion with eugenics, and he hoped that they would help to distinguish between criminals who might be released with safety, and with hope of reform, and those who were absolutely destined to return to prison if once they were allowed to go free. It might be worth while to consider the devising of some plan of segregating criminals on whom punishment had no deterrent effect from those who might be expected to reform.

SIR THOMAS CLOUSTON ON ALCOHOLISM.

On November 3rd Sir Thomas Clouston delivered the fifth Norman Kerr Lecture in the hall of the Royal College of Physicians, Edinburgh. Dr. Leslie Mackenzie, in the absence of Dr. Mary Scharlieb, president of the Society for the Study of Inebriety, occupied the chair, and the lecturer took for his subject "The Psychological and Clinical Aspects of the Study of Inebriety." The lives of the great men of the past did not, he said, give much guidance in regard to the moderate use of alcohol; it was known to Socrates, Solon, Alexander the Great, Moses, Julius Caesar, St. Paul, Mahomet, Francis Bacon, Shakespeare, Goethe, Napoleon Bonaparte, and Darwin, and was in common use in their time; none of them except Mahomet abstained from its use, and none but he laid down any definite rules against it. There was no reason whatever to suppose that Homer, Goethe, or Shakespeare were in the least aided in their greatest efforts by the physical stimulus of wine: neither were Milton, Wordsworth, Tennyson, Browning, or Sir Walter Scott; but "given a certain quality of brain, with keen imagination and high artistic faculty, it needs great audacity to contradict the experience of Burns, Edgar Allan Poe, Swinburne, and Omar Khayyam, as to the stimulating effects of alcohol on poetic fire and conscious happiness." The psychological examination of the effects of alcohol showed that it tended to affect the emotional and the volitional faculties more than the intellectual: further, the habitual use of alcohol in any degree beyond the strictest moderation certainly tended to bring on the signs of old age before their time. There was an extraordinary want of knowledge among the public, and especially among young men of all classes, as to its real effects, and as to the risks which should make men careful about it. Sir Thomas Clouston said that the statistics at Morningside Asylum showed that better social conditions lessened excessive drinking: at any rate, hurtful drinking was more common among the poor than the rich, and added this pregnant remark: "A certain poorness of brain quality was largely the cause both of the poverty and of the excessive drinking in many of the cases." From amongst a number of practical conclusions which Sir Thomas Clouston drew, the following may be picked out: Anything approaching excess in the use of alcohol was always deteriorating and dangerous to body and mind. The chief action of alcohol was always on the higher and more regulative of the mental faculties; it affected the finer muscular co-ordination even in moderate doses: its pleasant personal and social effects could only be safely obtained in fully developed healthy men with a reasonably good nervous heredity, and taken in strict moderation: to the female sex it was especially dangerous; the period of adolescence was also a danger-time, and it should not be taken then at all; a nervous constitution of brain and a bad nervous heredity implied a special susceptibility to its evil effects, and persons, therefore, with this constitution should practise total abstinence: and mental disease and defect would diminish if alcoholic excess did not exist. In relation to medicine, alcohol in excess predisposed to and caused many forms of bodily disease and reduced the chances of recovery in all bodily diseases, whilst certain of its bad effects on the brain were probably harmful to descendants. Scientific facts suggested that there would be a reduction in the mischief produced if no drinks containing more than 18 per cent. of absolute alcohol were used except for medical purposes. New legislation was required for those people who suffered from an uncontrollable craving for alcohol; it was also needed to reduce the temptation to its use. Sir Thomas Clouston closed with a word or two of hope. The excessive use of alcohol had undoubtedly diminished in the last hundred years among the educated, the reasonable, the well-off, and the self-respecting parts of the community in all civilized countries. On the motion of the Master of Polwarth, seconded by Sir Alexander Simpson, a vote of thanks was accorded to Sir Thomas Clouston for his lecture.

BACK-TO-BACK HOUSES.

One of the most important alterations in the law relating to the housing of the working classes which was made in the Housing, Town Planning, etc., Act (1909) was in the procedure relating to the closing of uninhabitable

dwellings. Under the Housing of the Working Classes Act (1890) a closing order could only be made by a court of summary jurisdiction, and an appeal against such an order could be made at quarter sessions. Under the Act of 1909, however, a closing order can only be made by a sanitary authority, from whom an appeal may be made to the Local Government Board. During the year ending March 31st the Board considered 75 appeals relating to 343 houses. Of this number 44 were abandoned, 3 were upheld, and 12 relating to 63 houses were dismissed after inquiry. An important decision has recently been given by the Board with respect to thirty back-to-back houses in the rural district of Chesterfield which had been formally closed by the district council on the representation of the medical officer of health, Dr. Herbert Peck. The requirements of the council to make the dwellings habitable were the conversion of the privies to water-closets, the paving of the back-yards, the general repair of the houses, and the making of each pair of front-and-back houses into one through house. The owner of 14 houses was willing to comply with all the requirements except that of making the dwellings into through houses, though he offered to put in what he considered to be efficient ventilators. The district council would not accept this offer, and the owner appealed to the Local Government Board against the order of the Council. An inquiry was held in July on behalf of the Board, and evidence was brought by the owner as to the acceptance by the Sheffield Corporation of special ventilation arrangements in back-to-back houses in that city. For the district council Dr. Peck asserted that unless the back-to-back type was altered the houses could not be considered fit for habitation. In his last annual report he had shown that during the past five years the death-rate from all causes in the back-to-back houses was considerably more than double that recorded in the rest of the parish in which the houses are situated, and that the infant mortality-rate was equal to 469 per 1,000, compared with 126 per 1,000 in the parish as a whole. These figures are quite in accordance with those found by observers elsewhere. After considering the question for several months the Board has confirmed the closing orders made by the district council. It is, perhaps, too large an assumption that the Board will consider a back-to-back house uninhabitable solely because it is of back-to-back type, but the Chesterfield decision will assist medical officers of health in deciding whether they shall take into consideration the fact of a particular house being of that type when making a representation of the unfitness of a house for habitation.

SPORTS OR NATURE?

"MAKE the boy interested in natural history if you can: it is better than games; they encourage it in some schools. I know you will keep him in the open air." Such were Captain Scott's last instructions to Lady Scott concerning the education of their son. These words will strike many parents and many schoolmasters. The general idea amongst the fathers of boys and their masters is that it is almost, if not quite, as important that youth should excel in cricket and football as that it should receive a suitable mental education. In its true sense education, we all admit, means more than iambics and arithmetic, and the training of the body is more important than the acquisition of the grammatical rules of a dead language. Our public schools and numerous private institutions turn out splendid young fellows and their subsequent young manhood is quite as much the better for sports as for learning. Yet there is another side to the question. Already when *Tom Brown's School Days* appeared, its author, so eminent an authority on the subject, hinted in his introduction that the public schoolboy was growing too much the slave of routine even in sports, and quite recently monthly magazines and books by schoolmasters have brought similar charges against public schools. One main objection is the tyranny of the conventional sports; boys are made to don the flannels, and obliged to "play" their games at stated hours. To many youthful souls the sport in consequence is not "play" at all. It is work rather than recreation. The games, too, go on week after week, term after term, with a regularity which some boys find monotonous. "Latin—cricket—cricket—Latin" was a summary of school life once delivered to us by a member of our profession who had growing boys, and who admitted that Latin was not so overdone as in the days of his youth, but who dreaded lest his boys' view of life might be the supremacy of county cricketers and the hero-worship of a 'varsity stroke. Indeed, fashionable sires have admitted that their view was precisely the same, and from their point of view they are not wrong, for lads *fruges consumere nati* seldom make the least use of any classical and mathematical learning they may have acquired, whilst it is all to their advantage to join in sports in adult life. But most boys have to earn their living, and sports which gave them stamina in their school days will be out of the question when the duties of their calling allow little leisure, and the emptiness of their purses forbid subscriptions to cricket and rowing clubs. Schoolmasters cannot be expected to fail in their duty by encouraging the loafer—the most objectionable type of lad in any school. Yet possibly the pedagogue may develop a system which will not give his pupil the false idea of life often instilled into his heart by routine sports almost as irksome as routine lessons. He may teach him to learn the regularities and the irregularities of nature, without being made a dreamer, nor need he be taught that natural history means the extinction of rare species by birds'-nesting and butterfly hunting.

STATE CHILDREN.

THE annual meeting of the State Children's Association was held at 24, Park Lane on October 28th, the Earl of Lytton in the chair. In giving a summary of the work done since the last report was issued, the chairman said that the term "State children" meant those who by accident, neglect, or the death of their parents were placed either temporarily or permanently in the care of the State, and were therefore to be found in workhouses, barrack and industrial schools, prisons, reformatories, and other institutions of which the atmosphere and conditions were unsuitable to their healthy life. The object of the association, he said, was to provide for these children conditions of life and education approaching as nearly as possible to the normal life of the child in its own home, and therefore its first business was to remove all children from such institutions, and by legislation and through the administrative action of boards of guardians and other bodies to prevent other children from entering them in the future. The figures in the report issued in January last showed that out of 82,000 children who were entirely dependent upon the rates, no fewer than 22,401 were still in workhouses or workhouse infirmaries. In spite of all the efforts of the association these figures have for years remained very much the same. One encouraging circumstance, however, was, Lord Lytton said, the increase in the number of children boarded out with private families; they now numbered 11,000, a higher figure than the association had ever been able to report before. This was due very largely to the boarding-out order for which the association had pressed so strongly, in the belief that the system of boarding out with families was the proper way of dealing with children who had lost their own homes. A provision inserted in the Children's Act now enabled the boarding-out principle to be applied to child offenders, and up to the present this innovation had proved entirely satisfactory. With regard to child offenders, however, there was still much to be done, as the provision of the children's

courts did not by any means meet all the requirements of the case. What was, he thought, really wanted was a procedure that was altogether different from that of the police court, and it was for this reason that the association welcomed the establishment of the little commonwealth which had recently been started in Dorset. Lord Lytton concluded by saying that the association was anxiously awaiting the proper classification of mentally deficient children, in order that provision might be made for keeping them apart from adults and subjecting them to careful training in small numbers. Speeches were afterwards made by Canon Carnegie, Mrs. Nott Bower, and Sir Albert Spicer, M.P. The latter in the course of his speech referred to the draft Institutions Order, and said that one of the greatest tasks in the work of the association had been to induce boards of guardians to take their children out of the workhouse. In the month of August an altered form of the order had been issued by the Local Government Board, with a statement that the President would be willing to receive suggestions; with regard to the regulations concerning children there were two points which called for special attention. The association had asked the President to give consideration to the proposal to allow guardians to keep children in the workhouse until they were 5 years old, and also the proposal to allow another two years from the date of the issue of the order in which to remove boys and girls from workhouse surroundings. It earnestly hoped that children might not have two more years of workhouse life.

THE FRIEDMANN DEMONSTRATION.

Our special correspondent in Berlin writes that the professional interest in Friedmann's emulsion, which for the last few months had shown evident signs of flagging, has once again become acute, owing to the demonstration recently given in Professor Kraus's clinic in connexion with the International Tuberculosis Conference. This demonstration, although it was poorly attended, is now being actively discussed in medical circles, and regret is expressed that the firm (Haase and Co., Berlin-Weissensee) authorized by Dr. Friedmann to produce and sell his remedy is not yet in a position to manufacture it in bulk, so that only very small quantities are at present available. Professor Schleich, Dr. Friedmann's most devoted adherent, was the moving spirit of the meeting, and showed some cases of surgical tuberculosis successfully treated in Berlin. Among these were: (1) A man who, after removal of one testicle for tuberculosis, developed a similar affection of the other, for which the surgeons advocated castration—three injections saved the patient from this fate; (2) a severe tuberculous infection of the hip-joint, with sinus formation, had cleared up after the injections, and had remained well for four years; (3) a case of tuberculous knee-joint; (4) tuberculous disease of the bones of the foot, which had remained well for two and a half years; (5) tuberculosis of the metacarpal bones; and several other cases. One of the most striking of these was that of an Englishman who for twelve years had suffered from tuberculous disease of the left shoulder-joint, and who had undergone resection of the joint in London five years ago. This patient came to Dr. Friedmann in great pain with complete ankylosis of the joint and a discharging sinus in the centre of the resection scar. Two intramuscular injections and one into the sinus were given; the sinus healed and the disease, as shown by a comparison of radiograms before and after treatment, came to a standstill. Professor Schleich concluded his demonstration with the observation that Friedmann's emulsion marked a great advance in conservative treatment, and that he himself, during a period of a whole year, had only once found it necessary to resort to the knife, and that was for the purpose of opening an abscess. The next demonstrator was Professor Erich Müller, who had brought 18 cases of pulmonary, laryngeal, bone, and glandular tuberculosis as evidence of successful results. He was followed by Dr. Hans Thalheim, who out of a very large clinic had brought 16 cases of pulmonary tuberculosis, and who put forward the following claims for the Friedmann method: (1) The specific toxic symptoms of tuberculosis, such as weakness, headache, dyspepsia, pains in the chest, fever, night sweats, loss of weight, cough, and haemoptysis, are under all circumstances abolished by the injections. (2) The objective pulmonary signs are soon improved, especially the crepitations. (3) The power to work, and the appetite are restored, and a feeling of well-being and an increase in weight are experienced. (4) Previous injections of tuberculin appear to hinder the process of repair by Friedmann's remedy. Dr. Thalheim was of opinion that the sources of repair were the infiltrations following the injections, and that in them the protective substances were generated, and thence they reached the diseased part of the organism. It followed therefore, if this hypothesis was correct, that the process would come to an end on formation of an abscess and eventual evacuation, and it should therefore be the aim of the physician to prevent this at all costs. Dr. Immelmann then showed a series of radiograms designed to prove that the clinical improvements were the result of histological repair, and Professor Kraus, in whose clinic at the Charité the demonstration had been given, made some observations which, on the whole, were distinctly optimistic in tone. He admitted that all the patients treated by injections in his clinic had very soon shown subjective improvement in their symptoms, but he was not yet in a position to vouch for more than marked amelioration of the toxic manifestations. The most important and surprising statement he made was that he had never yet seen anything approaching these effects with tuberculin. The last speaker was Dr. Friedmann himself. He stated that it was with a heavy heart that he had allowed the sale of the emulsion to the profession in Germany to become general, and emphasized more strongly than ever the necessity for observing the indications he had postulated, with special reference to the intervals and dosage of the injections, maintaining, however, that there was no case of tuberculosis in which the injections were contra-indicated. The remedy was absolutely innocuous in itself, as was proved by the fact that not a single one of all the children he had injected prophylactically more than two years ago—children who from their surroundings might reasonably be expected to develop the disease—had come to the slightest harm in that time. He closed with the oft-repeated injunction to adhere to the indications.

THE PROFESSORSHIP OF PHYSIOLOGY AT OXFORD.

The Waynflete chair of physiology at Oxford was founded under the ordinances made in 1877 by the University Commissioners, and was held by Sir John Burdon-Sanderson from 1882 until he became Regius Professor of Medicine in 1895, when his friend and former pupil and assistant, Francis Gotch, was appointed to succeed him in the chair of physiology. The lamented death of Professor Gotch last July created a vacancy which has now been filled by the election of Dr. Charles Scott Sherrington Holt Professor of Physiology in the University of Liverpool. Professor Sherrington therefore again succeeds Professor Gotch, for he was appointed to the Liverpool chair when Gotch gave it up to accept the corresponding chair in Oxford. It is interesting and perhaps significant to note that each of these distinguished physiologists has been particularly devoted to the study of the physiology of the nervous system. Burdon-Sanderson gave to it the last years of his life; Gotch was occupied with it during the whole of his career as a physiologist; and the same may be said of Professor Sherrington, who has thrown a new light on many of its most difficult places, but has perhaps raised even more problems than he has solved. It is in this way

that the progress of knowledge is achieved, and we may confidently hope that his future researches in his new sphere of work may be as fruitful of answers and questions as those which have added so much lustre to the medical school of Liverpool.

THE ROYAL SOCIETY.

At the anniversary meeting of the Royal Society to be held on December 1st, Sir Archibald Geikie, who has served as president for the customary period of five years, will vacate that office, and the Council recommends for election in his place Sir William Crookes, O.M., D.Sc. The first discovery of major importance made by Sir William Crookes, who was born in 1832, dates back to 1861, when by the application of the then new method of spectrum analysis he discovered the element thallium in a seleniferous deposit from a sulphuric acid manufactory at Tilkerode in the Hartz mountains. The first indication of its presence was afforded by the occurrence of a single brilliant green line nearly coincident with one of the inconspicuous lines of the spectrum of barium. The green colour suggested to its discoverer the name "thallium" (from θαλλός, a budding twig) for the new element. His attention was given from an early stage of his career to the study of radiations, and his name is a household word as the inventor of the Crookes tube. He has received the Royal, Davy, and Copley medals of the Royal Society, and has thrice given the Bakerian lecture. He received the honour of knighthood in 1897, the distinction of the Order of Merit in 1910, and the value and importance of his discoveries have been recognized by many foreign scientific societies. He is the editor and proprietor of the *Chemical News*. Among the medical members of the Council recommended to be elected on December 1st are: Professor W. M. Bayliss, Professor F. Gowland Hopkins, Professor G. Elliot Smith, and Professor J. Lorrain Smith. It is proposed that the Secretaries, Sir John Bradford, K.C.M.G., M.D., D.Sc., and Professor Arthur Schuster, D.Sc., should be re-elected.

FORMATION OF NEW BRANCHES FOR KENT, SURREY, AND SUSSEX.

A SCHEME for the rearrangement of the South-Eastern Branch together with the Surrey Divisions of other Branches as three Branches for Kent, Surrey, and Sussex, coterminous with those counties respectively, having been approved by the Divisions, the Branch, and finally by the Council of the Association, will come into force this day, Saturday, November 15th. Preliminary meetings have been held this week at Maidstone for the county of Kent, at Croydon for the county of Surrey, and at Brighton for the county of Sussex, at which the Branches have been constituted by the election of officers and by the adoption of the organization and ethical rules.

METHODS OF A FRIENDLY SOCIETIES FEDERATION.

An advertisement appeared a short time ago in the *Manchester Guardian* offering an appointment as medical officer to a friendly societies' federation. From information supplied it appears that the friendly societies' federation is forming a medical institute to represent all the friendly societies in a town of over 22,000 inhabitants. In the federated societies there were 500 uninsured adults, 670 juveniles, and 3,500 insured persons, and it is stated that these numbers would be greatly increased by the addition of the wives and families of the friendly societies' members. The salary offered was a minimum of £300 a year to commence with, maternity cases to be paid for at a rate to be decided upon, and it was added that the salary would be increased in proportion to the number of insured persons transferred—that is to say, as we understand, transferred from the lists of practitioners on the panel in the same town. A two years' agreement was suggested, after the expiration of which period the appointment would be terminable by six months' notice on either side. The name of the town does not appear to have been disclosed, but it was suggested that a deputation would meet the appointed doctor at a place to be mutually arranged. It was candidly added that the doctor accepting the post would have to expect the opposition of the local doctors, but would receive the hearty support of the friendly societies and the active co-operation and assistance of the medical institutes of the neighbouring towns, and also, it was stated, the support of the general public. The secrecy observed was stated to be due to the opposition of the British Medical Association. The incident shows the methods to which a friendly societies' federation is prepared to resort. We are sanguine enough to hope that the lure will be spread in vain before the eyes of any self-respecting member of the medical profession.

MR. AUSTEN CHAMBERLAIN has received from the Secretary of State for India a contribution of £500 towards the enlargement and endowment of the London School of Tropical Medicine. The fund now amounts to £71,276.

PROFESSOR F. LOEFFLER, who since 1888 has occupied the chair of hygiene in the University of Greifswald, has been appointed Director of the Koch Institute of Infectious Diseases at Berlin in succession to Professor Gaffky.

ON Thursday, November 20th, Dr. H. Bayon, research bacteriologist to the Government of the Union of South Africa, will deliver a lecture illustrated by lantern slides at the Royal Society of Medicine, 1, Wimpole Street, W., at 5 p.m., on the leprosy problem of the British Empire, including the clinical and bacteriological aspects of the disease, and will make remarks on the clinical characters of syphilis among natives.

WHAT HAS THE ASSOCIATION DONE FOR THE PROFESSION?

WE have received from a respected member, vaguely aware that the British Medical Association has rendered incalculable services to the profession, a request for a statement "in a paragraph this week," of what these services have been, in order that those who are now asking, What has the Association done for the profession? may be judiciously answered.

We must respectfully and regretfully, but firmly, decline to make the attempt. In the first place, the thing could not be done in a paragraph, nor in many paragraphs; and in the second place, an account of all that the British Medical Association has done for the medical profession, at home and in the Dominions, would need months of research if it were to be made complete.

We can only jot down a few of the things done for the profession by the Association which immediately occur to the mind when this surprising question is asked.

Medical Acts.

The Association, though then numerically a very small body, played a large part in obtaining the first Medical Act (1858), and, as a larger body, the chief part in obtaining the Medical Act of 1887. These Acts are not perfect, but what should we be without them?—an unorganized mob.

Public Health Acts.

The Association had a large share in the formulation of the public health laws, stimulating and informing public opinion and safeguarding medical interests.

Public Health Service.

The Association was the father of the public health service. It fought long and persistently for the due recognition by the State and by the public of the leading place which the medical profession must occupy in such a service. Its perseverance has been rewarded at almost all points, and the justice of the last of the main principles for which it has contended—security of tenure for medical officers of health—is now generally acknowledged by public opinion, though the Legislature is still laggard in giving universal application to it.

Vaccination.

The Association has steadily maintained its opposition to the whittling away of the protection afforded to the public health by compulsory vaccination, and has never accepted that monstrous abnormality of catch-vote politics—the conscientious objector.

The Military Services.

The good work done by the Association for members of the profession in the military services of the Crown is well recognized by them. We need only instance the fact that it was due to the persistent advocacy of the Association, through ill report and good, that the medical service of the army was constituted a Royal Corps, with proper status and pay, and with adequate authority and facilities for discharging the important and multifarious duties which modern conditions of science and warfare impose on those responsible for safeguarding the health of the fighting man and treating him efficiently when suffering from the injuries and diseases which he must encounter in the service of his country. The organization of the Royal Army Medical Corps was easily and without question extended, when the Territorial Force replaced the Volunteers, to include the civilian practitioners who offered their services to the new citizen force and assured to them at once a proper position in the scheme.

Medical Science.

The Association has defended the right to apply the experimental method so fruitful in other sciences to physiology and pathology, and has itself contributed directly to the advancement of medical science by annually voting a sum amounting to from 15 to 20 per cent. of its net surplus, at the time when its financial affairs were most prosperous, for scientific research, and has maintained the vote in spite of the serious calls upon its financial resources during the last few years. By its scholarships and grants it has given encouragement to a host of inquirers, many of whom are now among the leaders in experimental medicine. It has also encouraged clinical investigation, the record of clinical experience, and the dissemination of clinical and scientific information through its annual meetings—it will meet next year in the university city of Aberdeen under the presidency of the Emeritus Professor of Surgery, Sir Alexander Ogston, and in 1915 in the university city of Cambridge under the presidency of the Regius Professor of Physic, Sir Clifford Allbutt—through the clinical and scientific meetings of its Branches and Divisions—a subject dealt with more at length elsewhere in this issue (p. 1316)—and through its JOURNAL, which brings every week on to every member's table a critical review of every advance in theory and practice made throughout the world. Whether he reads it diligently or not is a matter beyond the Association's control. You may lead a horse to the water but you cannot make him drink. Certain it is that a man who turns away from the stimulus of other men's thoughts and observations, and supinely imagines that his recollections of the students' lecture room, supplemented by his own necessarily limited experience, are sufficient, will presently find himself elbowed out of the way by the eager crowd of younger and more ardent spirits. Some men seem content to stagnate in a backwater out of the stream of progress, and only just the other day one of the gentlemen who want to know what the Association is good for and never read the JOURNAL also wanted to know what salvarsan was good for, and had just heard of ionization because some one had cured a rheumatic joint for him by that therapeutic method.

The Insurance Act.

The introduction of the Insurance Bill in 1911 brought about a crisis in the affairs of the medical profession in Great Britain the like of which it had never before had to face. The Association accepted the principle of State insurance against sickness, but stood forward as the champion of the profession against the imposition of terms and conditions impolitic, unjust, and injurious alike to it and to the public. In spite of many adverse circumstances, both in the political world and within its own borders, the Association succeeded in winning over public opinion, and compelled the attention and gained the sympathies of the majority of members of the House of Commons, with the result that the Government, after vowing it would never consent, consented to so modify the scheme that many of its most objectionable features were eliminated. The modifications obtained by the efforts of the Association with the goodwill of the medical corporations, but without any active support from them, established the principle of the free choice of doctor by patient and of patient by doctor, ousted the control of the friendly societies over medical affairs, and gave to the profession a representation on the administrative bodies instituted by the Act which, though numerically inadequate, has yet been so effectually used to make the medical case known, that the enemies of the profession and its own socialistic wing are now anxiously considering how to diminish the influence thus exerted. The Association also obtained a definition of the services to be rendered in respect of medical benefit by members of the profession who accepted work under the Act; it established the principle that the so-called sanatorium benefit must include domiciliary treatment under a separate estimate; and, finally, to make a long story short, it caused the rate of remuneration to be raised 50 per cent. above the original offer. Any one who has taken the trouble to read the articles upon the struggle now in progress between the amalgamation of medical associations and the amalgamation of insurance (friendly) societies in Germany, will have realized that, thanks to the Association, the profession in this country has started from a position more advantageous than that now sought by and denied to the profession in Germany.

The respect inspired by the political activity of the British Medical Association may, in fact, be estimated by the bitterness of the attacks made upon it by newspapers possessing political and ethical standards, such as those that actuate the *Daily News and Morning Leader* of London.

The Future.

Everybody, we believe, agrees, except those who desire to become salaried members of a State medical service, taking their orders from a knot of bureaucrats in London, Cardiff, Edinburgh, or Dublin, that the positions won in the first campaign of the long controversy before us can only be retained, to say nothing of achieving any advance, if every assault is vigorously repulsed, and every mine promptly uncovered. To these tasks the Association has set itself, and it will accomplish them if, but only if, it has the whole-hearted support of its members. It needs all the men it has and more recruits, and it needs more money. We want more of the courage and the constancy of our fathers, who, though a small band, did not flinch from their duty to the profession and to their successors in it.

Conclusion.

The half has not been told.

DR. FRANCISCO M. FERNANDEZ, a member of the Cuban Chamber of Representatives, has introduced a bill providing a pension of £180 a year for every physician and surgeon of Cuban birth who has attained the age of 60 and is in straitened circumstances. The pension may also be granted to doctors under 60 years of age who are incapacitated from following their profession and gaining their livelihood. The preamble of the bill sets forth the grounds for the proposal as follows: "The doctor is the man whose services are most abused and least rewarded, with few exceptions; and, besides, those who devote themselves to this profession expose their lives at every moment. Besides the risks they run and the serious responsibilities they undertake, it is among them that there is the highest death-rate." Though it may be feared that Dr. Fernandez's bill will never advance beyond the stage of an academic proposition, yet we congratulate him on his endeavour to secure some recognition for the work of men whose treatment by the State and public authorities can scarcely be called generous.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON AND MIDDLESEX.

LONDON COUNTY COUNCIL.

Control of Massage Establishments.

THE Public Control Committee reported to the London County Council on November 11th as to the details of the proposals for the control of massage and similar establishments recently adopted.[1] The Committee stated that nursing homes were proposed to be included, but at the same time it was only right to say, with regard to the great majority of nursing homes and many establishments providing other forms of treatment, that there was no suggestion as to their being carried on in any other than a proper manner. It was sometimes alleged that nursing homes were carried on by unqualified persons or with an insufficiently qualified staff. As to this the Committee was not in a position to judge, and it did not consider it to be the duty of the County Council to interfere in such a matter. Consequently this point had not been dealt with in the present proposals. The Committee felt that the principle of registration was the best that could be adopted, the right of appeal to a court of summary jurisdiction being given. Special means must be taken to deal with attempts at evasion by adopting trading descriptions other than those specified by the Council. Furthermore, if the proposed legislation was to be effective severe penalties must be imposed. The premises to be registered were to comprise those used as nursing homes, or for the purposes of massage or manicure, or for administering curative treatment by light, electricity or baths or other similar treatment. All Poor Law institutions and such hospitals and other premises as might be defined by the bill or otherwise were to be exempt from registration. Where the registration authority had reason to believe that the title of a business had been adopted as a cloak to the carrying on of a disorderly house its officers should have a special right of entry, subject to regulations. The penalties provided were £50 and a daily penalty not exceeding £20 for a first offence, and the same maximum penalties with or without a term of imprisonment in respect of a second or subsequent offence. In the case of a company it was provided that proceedings might be taken against all or any of the directors as well as against the company. The Committee also proposed the following clause:

> It shall be an offence for any person or company knowingly to advertise, or print or publish an advertisement of, any owner or occupier who has been struck off the register.

Mr. Salmon moved an amendment to make borough councils the authorities for carrying out the proposed legislation, on the ground that they already exercised powers under the Disorderly Houses Act.

In reply, Mr. P. C. Simmons, Chairman of the Public Control Committee, said there was no similarity between this work and the powers exercised by the borough councils under the Act mentioned. The proposal was one for registration, and this obviously was best carried out by a central authority. The power of inspection was also needed; for lack of this evidence could not be obtained in suspicious cases. It was impossible to persuade Parliament to give the police power to register massage establishments. The work must be carried out in a judicial manner, and evidence must be heard. There must be uniformity throughout London. The only object of these proposals was that the genuine should remain and the evil be rooted out; such a policy had nothing to do with the work under the Disorderly Houses Act. It was admitted that some of the establishments to be dealt with were perfectly legitimate.

The amendment was lost by 43 votes to 19, and the proposals of the Committee were then approved.

Administration of the Mental Deficiency Act, 1913.

The Council debated at considerable length a proposal by the General Purposes Committee that for the purpose of administering the Mental Deficiency Act, 1913, the Asylums Committee be abolished as a statutory committee and that a new committee be appointed to co-ordinate the asylums work and the care of the mentally defective under one administration. Persons having special knowledge and experience of the care of defectives would be co-opted, and the Council would have direct control of expenditure, which it had not at present in regard to the Asylums Committee.

Members of the Asylums Committee, without distinction of party, protested against the proposal. They complained that the majority of the members of the Council took little interest in the very trying and arduous work of the asylums; there were at the present time twelve vacancies on the Committee, although the various subcommittees were very hard pressed. They objected to financial control by those who were not acquainted with asylums work, and feared that party spirit, hitherto excluded from asylums administration, would be introduced. The Asylums Committee suggested that a subcommittee of its body should deal with mental defectives.

Mr. Ernest Gray, chairman of the General Purposes Committee, declared that the members of the Asylums Committee were taking a narrow view. This was the first time it had been suggested that the child and the adult mentally defective should be brought under one control. There was no more difficult problem in the whole field of medical science than the determination of the line between the various classes of mental defect, how the strain was carried on from generation to generation, what were the causes and what the results of the operation of certain causes. If one committee had charge of the adult, that committee must also watch the succeeding generation of children. The Council now had an opportunity that every social reformer had been wishing for.

Several amendments aiming at postponement having been rejected, the Council decided, by 69 votes to 48, to proceed with the scheme.

Basis of Medical Treatment Grants.

It was reported to the Education Committee of the Council on November 12th that the Board of Education has decided to make grants for medical inspection as well as treatment, and when satisfied that the provision was adequate and the working efficient to pay a grant at the rate of one-half of the expenditure, and otherwise either to pay at a lower rate or to withhold the grant. The effect of the change is that whereas the grant last year represented only 28 per cent. of the total expenditure, the Board is now prepared to pay at the rate of 50 per cent. The points which the Board will take into consideration in deciding the quality of the school medical work are the inspection of the groups prescribed by the code, the following up and treatment of cases of defect found in the course of medical inspection, the co-ordination of the work with the general public health service, and the organization of school medical work as an integral part of the education system.

MIDDLESEX COUNTY COUNCIL.

Treatment of Tuberculosis.

It was reported at the last meeting of the Middlesex County Council that a number of applications had been received from non-insured persons suffering from tuberculosis for institutional treatment. Hitherto sanatorium treatment had been limited to insured persons, but the Public Health Committee stated that sufficient progress had now been made for it to be possible to begin the treatment of non-insured persons. Seeing that insured persons contributed towards the cost of sanatorium benefit, it would only be equitable that a contribution towards the cost should be made by non-insured patients, the amount being considered in each case on its merits. The Council passed the following resolutions:

> That where the Council thinks it advisable, the treatment of non-insured persons suffering from tuberculosis be undertaken at hospitals, sanatoriums, and dispensaries by the County Council upon the basis of a contribution being made, where possible, by the patient towards the cost of maintenance or treatment.
>
> That institutional treatment be undertaken only so far as accommodation is available at any of the hospitals or sanatoriums under the control of the County Council, or to which it has agreed to send patients.
>
> That the Public Health Committee be authorized to sanction the above treatment and to settle the amount of the contribution, if any, in each individual case.

[1] BRITISH MEDICAL JOURNAL, October 25th, p. 1111.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

The Housing Problem in Dublin.

The general public in Dublin are much surprised at the attitude of the Chief Secretary towards the demand for a Viceregal commission of inquiry into the question of the housing of the working classes in Ireland. When the demand was first made Mr. Birrell suggested that a private inquiry should be held: last week he received deputations on the subject from the Women's National Health Association, the Housing and Town Planning Association, and the Dublin Citizens' Association; all pressed strongly for the appointment of a Viceregal commission as the only means of obtaining trustworthy evidence of the facts, and of fixing the responsibility for the appalling state of affairs which undoubtedly exists, as shown by the information supplied by the Registrar-General. In Dublin in 1911, there were 21,133 one-room tenements, containing a population of 69,000; in Bristol, with a nearly equal population, there were only 3,700 one-room tenements, containing 5,000 persons. In Dublin the percentage of the population living thus is 26 per cent. compared with 1.5 per cent. in Bristol, 5.6 per cent. in Edinburgh, and 13.2 per cent. in Glasgow. It was suggested that the inquiry should apply to the whole of Ireland and not to Dublin alone, but the other Irish towns are in a much better position than Dublin. Limerick has only 7.9 per cent. of its population in one-room tenements, Cork 4.7 per cent., Londonderry 3.1 per cent., and Waterford 2.9 per cent. The death-rate, the infant mortality-rate, and the tuberculosis death-rate are all much higher in Dublin than in the other cities mentioned. Mr. Birrell freely admitted the evil and the need for a remedy, but devoted himself chiefly to giving reasons why he preferred an inquiry by a committee of the Local Government Board to a Viceregal commission. The latter method would, he said, be more costly and would involve greater delay: he admitted, however, the advisability of making the inquiry public. Since then a Committee of the Local Government Board has been appointed to investigate housing conditions in Dublin, and is to start work on November 18th. It is generally considered that this is not a satisfactory compliance with public demands, as the Local Government Board is to some extent responsible for the present conditions in Dublin. Political reasons are suggested for the refusal to satisfy the public demand for a Viceregal commission.

School Clinics.

Last week a meeting was held in the Mansion House, Dublin, under the auspices of the Irishwomen's Reform League, for the purpose of discussing the need of school clinics and medical inspection of school children in Ireland. Dr. Edward Magennis presided, and in introducing the subject said that in Ireland more importance seemed to be attached to the young of animals than to the young of the human being; the country was about a century behind the times in this respect.

Dr. Marion Andrews (Belfast) proposed the first resolution, as follows:

> That this meeting of the Irishwomen's Reform League calls upon the Government to pass into law at the earliest possible date a measure providing for the adequate medical and dental treatment of all children attending Irish primary schools and of infants below school age. That copies of this resolution be sent to the Prime Minister, the Chief Secretary for Ireland, Mr. John Redmond, Sir Edward Carson, Mr. William O'Brien, and Mr. Ramsay Macdonald.

She said that at the present time all over England and Wales the elementary school children were being medically examined and their major defects remedied. The ideal should be healthy children in sanitary schools, and by means of various philanthropic associations much might be done to carry out this ideal, with the hope of some time receiving Government assistance in the work. The National Board had awakened to the fact that bad teeth were at the root of a great deal of ill health, and had allocated a certain sum of money to be spent on dental treatment. The Treasury had agreed to provide £1 for every £1 subscribed by the public. The first offer of this grant was made for the last financial year, and more than four-fifths of the grant went back to the Treasury. Something had been done in Belfast, where a dental clinic had been started in connexion with the Children's Aid Society.

The resolution was adopted, as was also the following:

> That this meeting of the Irishwomen's Reform League calls upon the Government to pass into law as soon as possible a measure adapted to Irish conditions, providing for the feeding of necessitous school children.

Scarlatina in Belfast.

At the meeting of the City Council on November 3rd, the Chairman of the Public Health Committee (Dr. Thomson) drew attention to the prevalence of scarlatina, and said that the incidence of the disease had been steadily increasing during the last three years; 378 cases of infectious diseases had been notified during the last five weeks, as compared with 286 in the previous five weeks, and 235 in the corresponding period of last year. The large majority of these cases were scarlatina. Dr. Thomson said that it was practically impossible to control the spread of the disease when it had developed to a certain extent, and everything had been done that could be done. We appreciate the difficulties of the situation, but doubt whether these words will carry conviction to the educated and restless voters of the present day. The Purdysburn Fever Hospital has had a succession of singularly able resident physicians, many of whom have since been elected to scientific and responsible posts. Why not take a leaf out of the American book, and choose the best three of these young men available; grant them a liberal salary for a year or two years: give, say, £1,000 towards a research fund, and instruct them to present a conjoint report on their work? The problem that is before the public is as follows: A large and commodious fever hospital was built in a magnificent site—if distance from town does not count as a drawback; it is conducted in the most liberal manner, and costs the city many thousands a year. As are all fever hospitals, it is an expensive institution to maintain: and yet scarlatina has been steadily increasing, and people are becoming alarmed. The older methods have failed; let us see what can be done by younger minds, with a modern scientific training, and free to carry out their investigation by modern methods. The expense would be little more than the fifth of one year's upkeep of the hospital itself.

Old Age Pensions and Insurance.

At the last meeting of the Limerick Board of Guardians Dr. McDonnell, resident medical officer, reported that the male hospital was overcrowded. The master said that since the inception of the Insurance Act the number of inmates in the hospital had increased from 15 to 20 per cent. He had no doubt that malingering was going on. One of the guardians said that as a magistrate the people came to him with papers to sign, and he afterwards found that they were malingering. Dr. McDonnell explained that at this time of the year there was always overcrowding in the hospitals. On former occasions he fell back on the fever hospital for accommodation, but at present the fever hospital was full. Judging from the number of certificates issued, he did not think there were so many insured persons in the workhouse as had been suggested; if the overcrowding was due to legislation at all, it was rather to the Old Age Pensions Act. The master disagreed with this view, and it was decided that he should furnish a weekly return showing the number of insured persons in the hospital.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Proposed Eugenics Education Society in Edinburgh.

At the close of the conjoint meeting of the Medico-Chirurgical and Obstetrical Societies on October 29th, when Major Leonard Darwin gave his address on "The Need for Eugenic Reform," and entered a plea for the formation of a Eugenics Education Society in Edinburgh, a short conversation took place on the subject, and a provisional committee was nominated to consider the

advisability and the feasibility of the suggestion. Sir Thomas Clouston consented to act as convener of the committee, and among the members nominated were Professor Cossar Ewart, Dr. Berry Hart, Dr. J. W. Ballantyne, Dr. Clarkson, Mr. Smith (of Merchiston School), Dr. A. J. Brock, and Mr. Orr (actuary). It is understood that the provisional committee met on November 7th, when various opinions were expressed regarding the proposal to form such a society in Edinburgh, and that it was finally decided that a circular should be drafted to be sent to clergymen, medical men, alienists, educationalists, actuaries, and others who may be interested, in order to gauge the amount of support which the proposed society was likely to receive.

The multiplicity of medical and scientific societies in Edinburgh is felt by some to be an objection to the hasty formation of a new one. The Royal Society, the Medico-Chirurgical, the Obstetrical, the Royal Medical, the Botanical, the Scottish Microscopical, the Odonto-Chirurgical, the Pharmaceutical, and the numerous clubs (for example, the Pathological) have so occupied the days of the week as to leave but small room for another scientific association. Further, attempts at race betterment in Edinburgh have been more particularly directed towards the improvement of the hygiene of the child after birth and of the infant before birth (by caring for the expectant mother), and eugenics as defined by Major Darwin ("the benefiting of posterity through the agency of heredity") do not touch these methods of post-natal and antenatal hygiene. At the same time eugenics is "in the air" at the present time, and several people feel that there should be some organization in Edinburgh which would give an opportunity for full discussion of the problems of heredity as they apply to social conditions, and especially to infant welfare.

Testimonial to a Medical Ex-Provost.

Dr. Stone, who was provost of Montrose during 1909–12, was on November 8th presented with his portrait in oils, painted by Mr. Fiddes Watts, A.R.S.A., in recognition of his services to the community and as a tangible token of the respect and esteem in which he is held in the town and district. The presentation was made by Captain Stansfeld of Dunninald Castle, and was suitably acknowledged by Dr. Stone. The ceremony took place in the Municipal Buildings in the presence of a large company of ladies and gentlemen.

New South Wales.

The Small-Pox Epidemic.

Our special correspondent in Sydney writes under date September 23rd: The epidemic of small-pox still drags on, and each day from five to ten new cases are reported to the Health Department. At the first outbreak of the disease the Federal quarantine authorities quarantined the metropolitan district of Sydney, with the result that business has been hampered and serious loss incurred, specially by the smaller retail houses. Efforts have recently been made to induce the authorities to suspend the quarantine restrictions, and the Board of Health has issued the resolutions passed at its meeting recently as follows:

That the Board of Health has now at its disposal the experience gained by its medical staff in 700 cases of small-pox which have occurred during the present epidemic in Sydney.

The Board is satisfied from such experience that the disease now present in Sydney is an exceedingly modified form of small-pox, mild in its nature, and with no tendency to change its type and become more virulent, and in this view they are supported by the writings of Castellani, Chalmers, and others.

That the danger of it becoming epidemic in the other States of the Commonwealth is negligible, seeing that compulsorily vaccination laws have been in force there for very many years past.

That the Board has by its strong advocacy of the effectiveness of vaccination as a protective measure succeeded in inducing more than one-half of the population of Sydney and suburbs to protect themselves in this manner.

That sea quarantine, which is admittedly the most effective form of quarantine possible, has proved itself ineffective in preventing importation of this type of small-pox to Sydney.

Therefore, land quarantine, which is of very little effective value in dealing with large communities, cannot be considered satisfactory or necessary.

That, in conclusion, the Board is of opinion that the proclamation issued by the Federal Government quarantining Sydney should be withdrawn, as it is unnecessary, and while in existence is injurious in many respects to the State of New South Wales in particular and to the Commonwealth in general.

In the House of Representatives on September 18th the question of the advisability of removing the quarantine embargo on Sydney was discussed, and the following motion was submitted:

That, with a view to putting an end to the suffering, sacrifice of human life, and the commercial, industrial, and domestic stagnation in the State of New South Wales resulting from the proclamation and administration of the laws governing small-pox epidemics, this House is of the opinion that the proclamation should be cancelled, and that isolation, combined with sanitary reform, the true enemy of small-pox, should be substituted for the present injurious methods.

In the course of the debate on this motion a great deal of nonsense was talked, specially by the antivaccinationists, as to the number of deaths which had occurred as a result of vaccination, not to speak of the number of persons who had lost their arms in consequence of the operation! Eventually the debate was adjourned for a fortnight.

Some interesting facts have been made known as to the experience of the health officers of the value of vaccination as a preventive of small-pox in the present epidemic in Sydney. Of 700 cases of the disease which have been sent to quarantine so far, in only two instances had the patients undergone apparently successful vaccination more than twelve days and less than ten years before contracting small-pox. In both cases mentioned the success of the vaccination was considered doubtful by the medical officers of the department who had examined them. In a number of instances persons who had been in contact with individuals previously sent to quarantine suffering from small-pox had developed the disease about fourteen days after the removal of the first patient, although they had been vaccinated. In all these cases, however, the vaccination had either completely failed or had resulted simply in "mulberry reactions." One striking instance of the value of vaccination was furnished by a member of the staff of the Health Department. Every member of the staff, with one exception, had been vaccinated when the outbreak of the disease first occurred. The exception was one of the disinfectors, who neglected to comply with the instructions given to him. He was the only member of the staff who eventually contracted the disease and had to go into quarantine.

The Vaccination Bill.

The Vaccination Bill was submitted to Parliament by the Premier last week. While it apparently makes vaccination compulsory, its provisions in this respect are nullified by a "conscientious objection" clause. Under this bill all children born after October 1st next must be submitted to vaccination within twelve months of birth and again between the age of 10 and 11 years. When the child has passed his or her twentieth year he or she must submit to vaccination before reaching the age of 21. Persons physically unfit to undergo vaccination may obtain an exemption certificate without difficulty. A conscientious objector, however, may get a certificate of exemption by making a declaration on oath before a magistrate. Persons who defy the Act are liable to a fine, but the total penalties in respect to each person or child must not exceed ten pounds. The governor by proclamation may divide the State into districts to facilitate vaccination. On the appearance of small-pox or any disease suspected to be that in any district, the whole or part of that district may be quarantined and subjected to cleansing and disinfection. The Board of Health were to appoint public vaccinators in each district, but the vaccination certificates of private practitioners will be recognized. But an extraordinary provision is introduced here, that no practitioner is to be allowed to use lymph which has not been obtained from the Government. Penalties for any breach of the Act are imposed in the shape of imprisonment for not less than three months or more than twelve, without the option of a fine, or a fine not exceeding £20. This bill is meeting with severe criticism even before it has been seriously debated in Parliament, and at present it does not appear probable that it will be passed, at any rate in its present form.

India.

[FROM OUR SPECIAL CORRESPONDENTS.]

Vaccination in Bombay.

The Sanitary Commissioner with the Government of Bombay reports that during 1912–13 the number of primary vaccinations was 710,592 and of revaccinations 70,939, the respective increases as compared with the preceding year being 18,419 and 2,247. Throughout the districts the percentage of successful vaccinations, excluding the "unknown" results, was 97.99. Of the total number of persons primarily vaccinated, 5,894 were Christians, 537,795 Hindus, 123,617 Mohammedans, 1,641 Parsis, and 41,645 persons of other castes. The age details are compiled for three periods—namely, under 1 year, between 1 and 6 years, and above 6 years. The number in each age-period primarily vaccinated was 559,221, 128,799, and 22,572 respectively, while the successful operations for the same age-periods were 514,423, 115,400, and 9,584. The expenditure on vaccination amounted to Rs.376,586, as compared with Rs.353,706 in 1911–12. During the year 775,587 doses of lymph were distributed, as against 673,812 in 1911–12 —641,975 to vaccinators of the Presidency, 22,415 to vaccinators in Sind, 31,175 to medical officers, and 80,022 to native States. The total cost of the Vaccine Institute at Belgaum was Rs.36,578, as against Rs.34,508 in 1911–12, the excess being due to an increase in the director's pay and allowances, a greater number of stable attendants, grain compensation, and travelling allowances to the staff. The cost per dose of lymph amounted to 8.71 pies, as against 7.26 pies in 1911–12. Consequently, allowing 4 per cent. interest on the capital cost of buildings, the cost dose works out at 11.22 pies. No instances were reported of any disease having been communicated through vaccination.

The All-India Sanitary Conference.

The services of Captain R. A. Needham, I.M.S., Health Officer, Simla, have been lent for a period of three months to the Government of India Sanitary Department, in connexion with the next All-India Sanitary Conference, to be held at Lucknow next January.

The Milk Supply.

One of the chief difficulties which confront the authorities in framing new regulations with regard to the milk supply is that stringent rules are bound to affect the price. At the recent agricultural conference at Poona, Dr. Mann showed that the Kirkee Military Farm can place unadulterated first-quality milk in Bombay at a moderate price. The ultimate solution will probably be found in the removal of the milch cattle stables from congested and populous parts of the city. Everything should be done to encourage the growth of country dairies and to discourage the keeping of cattle for commercial milk production in the city. There is a project already on foot for the establishment of an up-to-date dairy in Salsette for the supply of good and pure milk.

The Health of Bombay.

A grim record of the ravages of disease in the Bombay Presidency during 1912, which was a singularly black year so far as the public health was concerned, is contained in the annual report on the working of the sanitary department. Plague and cholera were the two baneful factors which accounted for the heavy death roll, which was not less than 125,000 in excess of the previous year's record, the total mortality from all causes showing a death-rate of 34.88 per mille, as against 28.35 in 1911 and a decennial mean of 32.00. How much the material happiness of India depends on a good monsoon is shown by the fact that the chief explanation of this high rate of mortality is to be found in the irregular and spasmodic rainfall, which set up climatic conditions peculiarly favourable to the spread of epidemic disease and to the prevalence of sickness amongst infants and children. Cholera, which was peculiarly rife in Bombay City, was widely prevalent during the year, and the deaths from this dreaded malady alone numbered 64,505, a figure which has hardly been approached since the famine year of 1900. Mention is made in the report of the encouraging results obtained in the treatment of cholera by the internal administration of potassium permanganate, and, though the limited scope of the experiments so far undertaken does not admit of any definite conclusions being formed, every facility will be accorded in future for an extended trial of this mode of treatment. A leading Bombay newspaper cordially endorses the opinion expressed in the Government resolution of the Sanitary Commissioner's report, that no opportunity should be lost of testing the value of any remedy that is likely to be of use in dealing with a scourge which is annually responsible, in the Bombay Presidency alone, for the loss of a quarter of a lakh of human beings.

The Lord Hardinge Hospital at Dharampur.

The Lord Hardinge Hospital at Dharampur in the Simla Hills was opened by His Excellency the Viceroy a few days ago. In the course of his speech he said that he hoped the hospital had before it a long and useful career, and that within its walls health might be restored to the sick and hope to the hopeless.

Hong Kong.

In the annual report for the year 1912 of Dr. Francis Clark, Medical Officer of Health for Hong Kong, the outstanding feature is a careful description of an outbreak of plague of unusual severity. It is attributed by him largely to the overcrowding brought about by between forty and fifty thousand Chinese choosing the colony as a refuge during the political disturbances in China. It is noted that in the experience of the colony the drain rat, or *Mus decumanus*, remains infected with plague practically throughout the year, while infected house rats are only found during times of unusual prevalence of the disease among human beings. The way in which many of the older houses of the colony are built—namely, with hollow walls constructed of soft bricks—makes them ideal homes for the *Mus rattus*, or house rat. Short of such heroic measures as the total destruction of all these houses there is no remedy. A few cases of primary pneumonic plague occurred, but there was no plague among the European community, although sixteen Chinese clerks residing in offices in the European quarter succumbed to the disease.

It is estimated that the population was 467,777, the vast majority being Chinese. In this community the death-rate was 26.33 per 1,000, while among the non-Chinese it was 14.51 per 1,000, the general death-rate being 25.67. Comparatively few of the births among the Chinese population are registered, and reasons are put forward for believing that two-thirds of the children born die in infancy. Among the Chinese community the deaths from phthisis amounted to 8.1 per cent. of the total deaths, as against 10.0 in 1911 and 10.3 in 1910. Efforts to stop a habit, inveterate among the lower class Chinese, of spitting in public places are being made by the distribution of leaflets, lectures, and other means aiming at spreading knowledge of the danger of the habit, and it is hoped that, coupled with improvements in the sanitary conditions of native dwellings, the net result will be to reduce gradually the death-rate from phthisis, despite the fact that in many of the most densely populated districts the soil is waterlogged during the greater part of the year. At present the phthisis mortality-rate of the colony as a whole is nearly double that of England and Wales. During the year special attention was paid to antimalarial measures, which have been carried on more or less actively for over twelve years. They now include attempts at destruction of larvae and abolition of places favourable to mosquito life, the proper channelling of streams, the administration of quinine to school children in certain districts, and the free distribution of a pamphlet entitled *Advice concerning Mosquitos and Malaria*. The subject of hygiene is part of the curriculum of all schools in the colony. Despite these facts, the tables in the report reveal an increase rather than the reverse in the gross mortality from malaria between the years 1903 and 1912. No doubt, however, the population has greatly increased, and in certain selected classes, such as European troops

and the police force, there was a considerable drop in the number of admissions to hospital from malaria in the year 1912. There was also a marked fall in the number of deaths from beri-beri, this being possibly due to the steps that have been taken in regard to it during the past few years. These have consisted in the distribution of circulars to all large employers of coolie labour calling their attention to the fact that beri-beri is produced by the consumption of white rice as the staple article of diet with an insufficiency of other food, and advising that beans should be supplied with the rice when fresh meat or fresh fish cannot be provided. The report affords internal evidence of the difficulties with which the sanitary authorities of the colony have to contend, and to the amount of energy and thoughtfulness with which the task is performed.

Correspondence.

WHOLE-TIME PROFESSORSHIPS.

SIR,—May I suggest a plan which will, I think, as far as English medical schools are concerned, allay "W. O.'s" fears that the appointment of whole-time professors of medicine may do harm in certain directions?

Suppose a general hospital with a medical school has 230 medical beds. If such a school desired a full-time professor, could get him properly paid and could find a suitable man, an easy arrangement would be to have four physicians, three would have fifty beds each, would go round their wards as now with their house-physicians and clerks doing clinical teaching and from time to time giving clinical lectures or demonstrations. They would have nothing else to do except the usual committee work which is part of the running of a medical school; they would be relieved of systematic lectures; they might or might not be paid some honorarium and a part of the student's fees as now, but they would be allowed to do private practice.

The other physician would be the full-time professor, not allowed any private practice. He would have charge of the remaining beds—80, or more if the total medical beds was over 230. His position in his wards would be precisely that of his colleagues in theirs, except that he would probably visit them oftener as he would have more beds. He would have house-physicians and clinical clerks, would teach at the bedside, and would give clinical lectures or demonstrations in rotation with his colleagues. In addition, he would give the systematic lectures, and unless his beds were very numerous he might see out-patients one day a week. Either he or his assistants would hold classes for teaching clinical clerks the elementary work of a clinical laboratory. He would be expected to devote the rest of his time to investigations either in the wards or the clinical laboratory, of which he would be the head, and in which there would be assistants under him. This would be a large and well-equipped laboratory. Further, he would superintend all medical research carried on in the wards or laboratory by senior and post-graduate students.

Such a professor would certainly not be cut off from affiliation with the profession; he would be constantly meeting his colleagues at the hospital, he would meet other physicians at the medical societies, his colleagues being interested in medicine would frequently visit his laboratory to see the latest in laboratory work. There is no fear that the students would become clinicians whose horizon is bounded by the laboratory, for every clinical clerk would, if his period of office were, say, six months, do three with each of two of the four physicians so none could clerk to the professor alone. Then, as now, the best clinical teachers would draw the largest bedside classes and the more able students with them on their rounds; this would breed a healthy competition between the professor and his three colleagues.

I know many say—Have a professor, but let him do some practice, then you would not have to pay him so much as if he did none. I feel sure this is a mistake; if once any private practice is allowed it will be impossible to limit it should the professor be popular, and if he does it his professorial work will either be thrust upon assistants or not done properly. He cannot be allowed only a little practice, for directly he practises his expenses amount, for example, house rent, rates, motor car, etc. Further, permitting him private practice will be unfair to his colleagues, who will not have the high sounding title of professor.

Lastly, while there are many hospital physicians and teachers to whom private practice is congenial, who like it and are made better physicians by it, there are also able men to whom it is uncongenial, and who would if the opportunity offered like to earn their living by work in the hospital. The first class will probably always be much the larger, but I think that the appointment on the lines indicated of a few full-time professors from among the second would be of great advantage to the students, to those wanting to investigate, and to the prestige of English medicine.—I am, etc.,

November 10th. W. H. W.

THE CRAZE FOR APPENDICECTOMY.

SIR,—Everyone must have noticed the present craze for removing the appendix. I do not, of course, refer to operations for acute appendicitis, or to "interval" operations on patients who have had definite acute attacks, but to the indiscriminate removal of the appendix for all sorts of abdominal aches and pains, or even for mere chronic ill health. I think it is high time that we took stock of the position, and asked ourselves whether these incessant appendicectomies are justified by their results.

One can distinguish, I think, three sorts of cases in which the removal of the appendix is constantly being advised or performed with doubtful justification. There are, first, cases of so-called "appendix dyspepsia"; secondly, cases of chronic pain or discomfort in the right iliac fossa; and thirdly, cases of vague ill health, in which the patient (to use the clinical slang of the moment) "looks toxic," and in which it is supposed, on more or less speculative grounds, that an unhealthy appendix may be the source of the "toxæmia."

Now as regards the first of these groups I suppose no one will deny that cases of chronic dyspepsia do exist in which the symptoms disappear after appendicectomy. I venture to say, however, that, *pace* some surgeons, it is extremely difficult to tell beforehand the cases in which this will happen, and one constantly sees patients who have undergone this operation on account of dyspeptic symptoms, but without any real relief.

The results of removing the appendix for chronic pain or discomfort in the right iliac fossa are, I should say, even less satisfactory. Every physician (naturally they do not return to the surgeon) must see large numbers of patients who still complain of their old pains in the "appendix region," in spite of the fact that their appendices are now reposing in bottles, or wherever else the surgeon deposits the trophies of his skill. I believe that in a large number of these cases the pain or discomfort was not due to an unhealthy state of the appendix solely, or even at all, but to a local catarrh of the colon or to muco-membranous colitis. It is true that in such cases the appendix may be found "unhealthy" (how often, by the way, does a surgeon admit that an appendix *is* perfectly healthy?), but it does not follow on that account that it was the cause of the symptoms.

The removal of the appendix merely because a patient is in a condition of vague ill health is a still more speculative proceeding. It is at best a mere gambler's throw. Sometimes it succeeds, although it must be remembered that every such operation entails of necessity a more or less prolonged rest, to which a large part of the subsequent benefit may really be due, but quite often, as any one of any clinical experience will admit, it fails. Sometimes, indeed, it leaves the patient worse than before.

The fact seems to be that some "chronic appendices" are as harmless as an extinct volcano, whilst others may be as potentially dangerous as a powder magazine, and the difficulty is to tell, without exploration, the one kind from the other. It may perhaps even prove that this is impossible, but I cannot doubt that by pooling our experience we would get nearer some working hypothesis than we seem to be at present. What is wanted is that surgeons should publish the end results of these operations in the same convincing way as they have published the results of their operations for gastric or duodenal ulcer. We want also the testimony of the family doctor into whose hands the patients pass after the surgeon has done with them.

With information from these sources we would know better in which cases to advise appendicectomy with some reasonable certainty of benefit, and would avoid those indiscriminate operations which are rapidly becoming a reproach to our profession.—I am, etc.,

London, W., Nov. 7th. ROBERT HUTCHISON.

EXERCISE IN FIBROSITIS.

SIR,—I can endorse the views of your correspondents in regard to the value of exercise (of course within judicious limits) in the treatment of subacute and chronic fibrositis.

In this short communication I should like to emphasize the efficacy of resistance exercise for the purpose of stretching the fibrous tissue involved. I think we are apt rather to overlook the inherent quality of the fibrous tissue to contract after the proliferation resulting from fibrositis, and to palliate the pain or aching by rest and a soothing line of treatment, when gentle tension or stretching of the fibrous tissue would speedily cure the ailment by liberating, presumably, the pressure of the contracted tissue on sensitive nerve ramifications, just as we relieve or cure an obstinate sciatica by stretching the nerve. When in practice at Harrogate I not infrequently obtained the best results in various forms of fibrositis by maintaining a guarded and gradually increased tension on the fibrous tissue for some minutes at a time, and repeating the sustained tension several times after resting intervals. Of course this procedure induced some slight temporary aggravation of the local discomfort; but this is generally followed by relief and often by ultimate cure. Sometimes a patient can himself efficiently practise tension by executing the necessary movements; and when he can do so the relief is often more gratifying than that afforded by the stretching of a manipulator, for he can resort to it more frequently. The efficacy of tension is increased when the movements are performed in a hot bath.

The stiffness of the elderly and many of their fibrositic aches and pains are sometimes quite quickly cleared up by autotension, which is the basis of all the exercise cures. Unfortunately the elderly are apt to allow their fibrous tissue to take on unchecked its senescent tendency to shrink; whereas the evils resulting therefrom may be considerably postponed by judicious training in resistance exercises. For this purpose any one can devise various forms of autotensive exercises which can be followed up in the unoccupied minutes of the day's work. I can also recommend from personal experience the systematic use of Holsworthy's well constructed resistance exerciser, to be obtained from the inventor, 224, Watling Street, Church Stretton, Salop,—I am, etc.,

Farnham, Nov. 10th. GEORGE OLIVER.

THE ROYAL COMMISSION ON VENEREAL DISEASES.

SIR,—In your last issue, under the above heading, my old friend and teacher, Dr. Farquharson, makes use of the words, "Salvarsan, whose uncertainties and dangers have been so effectively exposed by Ernest Lane," from which it might be inferred that I am antagonistic to the treatment of syphilis by that remedy. Had Dr. Farquharson read a communication of mine to the annual meeting of the British Medical Association in 1911 (BRITISH MEDICAL JOURNAL, September 23rd, 1911), and another to the Royal Society of Medicine last year, he would realize that I am a staunch advocate of that treatment, in proof of which I may state that in my wards at the Lock Hospital injections of salvarsan are now being administered at the rate of about one thousand a year.—I am, etc.,

London, W., Nov. 9th. J. ERNEST LANE, F.R.C.S.

SIR,—The publication of Dr. Farquharson's letter on the above subject in your issue of November 8th leads me to add a few further remarks which I hope will meet with your approval. Like my old friend and colleague, I was much surprised when I read the announcement of the formation of this Royal Commission, and my first thought was, What more can be done in this well thrashed-out and loathsome subject? Surely the medical profession is giving it the most careful study, and is best qualified to decide upon the most useful measures to be adopted both as regards treatment and sanitation. It cannot be imagined that a Commission with any idea of decency or common sense could advocate notification, although it might appear at first sight to be the only available recommendation as a result of the inquiry, and it is more than probable that faddists, if there be such on the Commission, would support such procedure. The strongest evidence could be brought against it, and whilst on this subject, I think I might as well report the following interesting case. Many years ago I arranged to vaccinate the baby of a young and very respectable married couple on a certain day, but mercifully for me, and indeed for the cause of vaccination also, I had to postpone doing so until the following week, and I then found it covered with an undoubtedly secondary rash. I think I was justified in not telling either of the parents, and for their mutual happiness I hope they never knew it.

The Contagious Diseases Act did a good work in proving that in our garrison towns (London excepted) it produced a marked diminution of cases, and of this I had very clear personal evidence at Windsor: but surely no stronger evidence could be adduced of its benefit than that it met with the approval of many of the local clergy, for it was believed that it had an excellent moral effect on young girls in saving them from entering on a downward course. But sentiment and political capital stepped in successfully to have the Act rescinded, and though I was strongly in favour of it, I realized that it had many drawbacks, and fully appreciated the sentimental objections which, when brought under public notice, were bound to win the day. This Act, however, will not be taken into consideration, and then I would ask, What is left for this Commission to do? I cannot agree with Dr. Farquharson in his applying the term "sentimental" to women on this Commission, for they must be very strong-minded indeed to allow themselves to serve on it when a subject most distasteful to people of nice mind must be discussed, nor do I believe they quite realize to what they will be subjected.

As to the severity and prevalence of the disease in the present day I cannot believe that any cases can be seen so horrible as those often admitted into the Female Lock Hospital when I was a resident officer there in 1858-9, and the increase of temperance amongst civilians and soldiers since that time must have tended to diminish its prevalence. When one looks back over the last fifty years what a comfort it is to see the great change that has come in our London streets by the almost entire absence of the wretched women who, after nightfall, used to haunt the precints of the barracks and public-houses. Prostitution, clandestine and public, is one of the sad but inevitable conditions of large cities, and with regard to the disease in question the second commandment appears to be especially applicable.—I am, etc.,

ARTHUR B. R. MYERS,
Brigade-Surgeon Lt.-Colonel (late Brigade of Guards).

London, S.W., Nov. 10th.

SIR,—In the Right Hon. Dr. Farquharson's letter to you on the above subject the following sentence appears: "But I may warn the Committee that any attempt to impose notification, with its attendant isolation, will be strenuously resisted."

In my opinion, a statement of this kind should not be made at this stage, when the Commission is occupied with the general considerations of the subject. As a Privy Councillor, one might have expected that Dr. Farquharson would have hesitated before publishing what has the semblance of being of an intimidatory nature. Does he expect the Commission to regulate its deliberations in accordance with his views, and, if so, is respect to be paid to his utterances, whilst those of others are neglected or abandoned? If it is insisted upon by others that notification is the most powerful administrative instrument for the control and prevention of venereal diseases, and that any alternative provision recommended by the Commission will be strenuously resisted, is the Commission to act upon this gratuitous dictation and imperil its decision by not finding in accordance with Dr. Farquharson's warning? It would be more helpful if those interested in the question were to furnish the Commission with their reasoned opinions and logical deductions than to publish dogmatic assertions without any elaboration.

Personally, I am convinced that notification is the most powerful administrative remedy the Commission could

devise. It need not be attended by isolation. No doubt isolation, as ordered by the Scotch Privy Councillors in 1497, would, if generally adopted, eradicate the disease, but national prejudices and economical considerations render such extreme action impossible.

Notification would enable every patient treated for venereal disease to receive a document from the medical officer of health setting forth the dangers of the disease to the patient, the risks of conveying it to others, and the fact that any one found so doing would be prosecuted for committing a criminal offence. There would be no real publicity in this procedure. Publicity would only exist in those cases in which it was possible to trace the infection to its source and the culprit was prosecuted for his criminal offence. Ignorance could not be pleaded in these circumstances, and any exposure to which the individual might be subjected would not deserve our sympathy; certainly we should not permit our sympathy to blind us to the fact that the individual wilfully and with full knowledge of the consequences of his misconduct diseased another person; voluntarily risking prosecution. Rather should we appreciate the retarding power which fear of prosecution and exposure would possess in preventing the spread of these destructive diseases.

Notification of venereal diseases exists in other countries. In Norway it had, I believe, the best results. In this country the Insurance Act provides that patients suffering from sickness consequent upon their own misconduct are not entitled to sickness benefit. An approved society will not pay sickness benefit on a certificate notifying that the insured person is suffering from venereal disease. There are several instances of certificates of this kind being written by medical officers. Here we have what may be accepted as a precedent for an infinitely better, more justifiable, and essential notification—namely, that of venereal disease.—I am, etc.,

SEYMOUR STRITCH,
Member of the Board of Governors, Westmoreland Lock Hospital, and formerly Resident Medical Officer.

Dublin, Nov. 10th.

SIR,—Your correspondent, Dr. Farquharson, is to be congratulated on having the courage of his convictions. It is certainly curious that there are no members of the public services on the Commission on Venereal Diseases, especially as the names of one or two such suitable men so readily occur to the mind. But I believe that otherwise, as to the personnel of the Commission, he is unduly pessimistic. As has been frequently pointed out, the racial degeneration caused by these diseases is due not only to the fact that a large number who voluntarily run the risk of contracting them suffer, but to the fact that their action involves the infection of numerous innocent women and children. Now this being the case, it would seem that the old Contagious Diseases Acts erred, not on the side of practical wisdom but of sentimentality. They controlled, it is true, a few women mostly of the unfortunate class, but had so much regard for the rights and privileges of the ordinary citizen that they let the married purveyor of disease severely alone. As it happens, I have the pleasure of the acquaintance of the three ladies on the Commission, and I also know one of the clerics, and I may say that from what I know of their views this regard of immorality as being proper and natural to man, and this sentimental desire that licence dangerous to the race should parade unquestioned and undealt with under the vaunted name of liberty, forms no part of their mental equipment.—I am, etc.,

H. B. HANSON.

London, N.W., Nov. 8th.

*** The Royal Commission on Venereal Diseases held its first meeting on November 7th, when it was decided that the future meetings of the Commission should be held in private, and that a summary of the evidence given at the meetings should be issued to the press weekly.

THE IDEAL TUBERCULIN.

SIR,—The leading article in your issue of November 8th draws just attention to our ignorance of the mode of action of tuberculin on the healthy and on the tuberculous organism. From its birth this child of genius would appear to have been little understood. Koch himself gave it to the world with a belief in its action so totally erroneous that it led to the disasters of the early tuberculin era. At the present time the mechanism of the immunizing response is explained away by different authorities on the simple plan of hypothecating some substance in the blood which may or may not exist. The real enemies of tuberculin are its devoted and inspired disciples, who write and speak as if our present knowledge of this agent has passed into the permanent practice of medicine. So far from the last word having been said, our knowledge of tuberculin is at its beginning, and if that knowledge is to be extended it must be by careful observation and by clinical experiment.

The design of tuberculin treatment is to induce an immunity in the patient to tuberculin which should approximate to an immunity to tuberculosis. The ideal tuberculin is that which will most easily attain this end. It must approximate in its chemical composition to the infecting bacillus and yet be not identical with it, otherwise the organism which had failed to resist the one could not reasonably be expected to give an immunizing response to the other. Again, the tuberculin should not be widely different from the living tubercle bacillus which is infecting the patient; thus if the tubercle bacillus produces an exotoxin and an endotoxin, and if a patient be treated with a tuberculin containing exotoxins alone, his immunity to the endotoxins will not be affected. On the clinical side it is certain that all who have had any experience of different tuberculins report excellent results in some cases and indifferent results in others. This discrepancy may be due, in those patients who do not do well under treatment, to the tuberculin employed not sufficiently approximating in its chemical constitution to the tubercle bacillus in the patient's body.

An attenuated living culture of the infecting bacillus, or an autogenous tuberculin for every patient might represent the ideal, but would be difficult of attainment. On the other hand, it occurred to me in 1911 that, if the above hypothesis were correct, a tuberculin containing as many different varieties of the tuberculous toxin as was practicable might yield more uniform results. Since that date I have been using a polyvalent tuberculin the composition of which was given at the National Conference on Tuberculosis in August last. The results since 1911 at the St. Marylebone Tuberculosis Dispensary in selected cases of pulmonary tuberculosis are such as would lead one to ask for a more extended trial of polyvalent tuberculin. The formula is:

Tuberculin, Koch	0.025 c.cm.
Bovine tuberculin	0.025 ,,
Vacuum tuberculin	0.025 ,,
Bovine vacuum tuberculin	0.025 ,,
Tuberculin T.R.	0.05 ,,
Bovine T.R.	0.05 ,,
Bacillary emulsion	0.033 ,,
Bovine bacillary emulsion	0.033 ,,
Polygenous bacillary emulsion	0.034 ,,
T.O.A.	0.35 ,,
P.T.O.	0.35 ,,

In each c.cm. of pure polyvalent tuberculin.

—I am, etc.,

HALLIDAY SUTHERLAND.

London, W., Nov. 6th.

VOICE AND SPEECH TRAINING.

SIR,—I understand that, owing to pressure of work, Professor Keith is unable to comply with my request to open up the question of normal healthy breathing in relation to speech which has formed the subject of the report of the University of London Voice Training Conference Subcommittee No. I (BRITISH MEDICAL JOURNAL, August 30th, 1913). In the belief that a satisfactory solution of the whole problem might have been reached, I can only regret that Dr. Keith has not afforded an opportunity of full discussion.

At the present time so much attention is being devoted to improving our national physique that, for efficient instruction to be imparted to the young, teachers must themselves possess accurate and efficient knowledge of right methods both of breathing and singing as well as of physical exercises.

I have no hesitation in saying that, up to now, in this country the whole subject of voice training is in a state

of chaos, all kinds of contradictory and misleading views being promulgated, and I submit that the report, which I wish as briefly as possible to comment upon, is not likely to lessen the existing confusion.

First let us turn to the concluding paragraph (p. 558), which I quote:

In the breathing of repose the tonus of the broad muscles of the abdomen is such as just to admit of the necessary bulging forward, which is determined by the downward displacement of the abdominal contents by the contracting diaphragm. In breathing for voice this tonus is increased. . . . The effect of this hardening of the abdominal wall checks the outward bulging (which is no longer necessary), and by steadying the lower part of the chest takes a share in the control of expiration.

Now what exactly does this mean? If the diaphragm be "contracting," such contraction must indicate an inspiratory phase. Next we are told that "hardening of the abdominal wall checks the outward bulging," which, if it "is no longer necessary," presumably should not take place. "Hardening" *can* only result from contraction of the musculature of which the abdominal wall is composed, whilst further we learn that the contracting diaphragm in its descent is checked by a contracting abdominal wall. Truly, as Paley would have said, "a contest of opposite improbabilities!"

Turning now to the footnote by Professor Sherrington on "Reciprocal Innervation" we read that:

The inspiratory and expiratory muscles are mutually antagonistic. There is reason to believe that, like other antagonistic groups, they obey in their relations the rule of reciprocal innervation, that is, when the motor centres of the inspiratory muscles are discharged (*activated*), those of the expiratory are *inhibited*; and conversely. (The italics are mine.)

The portion of the concluding paragraph quoted above is thus a contradiction in direct terms of Professor Sherrington's explanatory note. Several years ago Professor Sherrington instituted a series of brilliant researches on the reciprocal innervation of antagonistic limb muscles. I carefully followed this work in the hope that some day he would direct his attention to the muscles of the trunk, and particularly to those concerned in respiration. Up to now, however, I am unaware of any published work of his dealing with the interaction of diaphragm and abdominal muscles.

As long ago as 1906, as the result of numerous observations and experiments, I was led to the conclusion that the respiratory neuro-muscular mechanisms must inevitably follow the general law of reciprocal innervation, and in a Cambridge M.D. thesis presented during the year 1907–8, amplified later into a monograph on The Diaphragm in Man (*St. Bartholomew's Hospital Reports*, vol. xliv, January, 1909) I published the following.

Page 161: The diaphragm . . . enters into direct associate action with certain of the thoracic and spinal muscles: in expiration it is antagonized by the muscles of the abdomen; in deglutition it aids the buccal, pharyngeal, and œsophageal muscles, and in phonation the laryngeal. These muscular actions are co-ordinated by means of neurons of association, whereby the nerves of the diaphragm are caused to enter into definite nerve systems or combinations in order to effect the required movements. So, too (page 210) in certain of the mammalia, for example, the rabbit, whose respiration is allied to that of man, there is active contraction of the abdominal muscles. Without movement of the abdomen an animal cannot breathe properly. In other words, just as we see in other parts of the body direct interaction between opposing groups of muscles, the one group being unable to contract without corresponding lessening of resistance on the part of its opponents, so in expiration the abdominal muscles are the direct antagonists of the diaphragm. The diaphragm can only contract by overcoming the resistance of the abdominal muscles: when the abdominal muscles contract, the diaphragm is temporarily inhibited. . . . Similar antagonism takes place between the inspiratory and expiratory sets of thoracic muscles.

In the view of the committee the tonus of the abdominal muscles "in breathing for voice is increased," and by steadying the lower chest they "share in the control of expiration." This again cannot be reconciled with Professor Sherrington's note that "when the motor centres of the inspiratory muscles are activated those of the expiratory are inhibited, and conversely."

We have now to search for the origin of the extraordinary statement concerning the abdominal "check" to the contracting diaphragm. The first indications may be found in a statement by Professor Keith (British Medical Journal, August 29th, 1908, page 591):

At the commencement of the act of inspiration the muscles of the belly wall are felt to harden and regulate the descent of the viscera, thus antagonizing the diaphragm; their tension is felt to increase as they again push up the viscera, replacing and antagonizing the diaphragm.

In other words, diaphragm and abdominal muscles each pushing against the other during the whole of the respiratory act.

In various editions of his book on *Voice Training in Speech and Song*, Mr. H. H. Hulbert has published various views on this same point. They run like this:

1. 1905 Edn., page 26, under "Breathing for Voice Production," we find "By drawing in the front wall of the abdomen, the organs are fixed in the arch of the diaphragm; this is the first step to be taken." Any reader who will try to breathe in accordance with these directions will find that the "first step" is also the last, since breathing (except extremely shallow upper thoracic) under such conditions is a physical impossibility.

2. 1908 Edn., page 24, "Breathing for Voice": "During inspiration the front abdominal wall should be kept quite still, that is to say, the abdominal muscles should not be actually contracted or relaxed, but in a condition of tonicity."

Also page 22. "If the protrusion of the front abdominal wall is prevented while the diaphragm flattens (!), the ribs are raised and are carried outwards, and both the lower part of the chest and the upper part of the abdomen are increased in size from side to side and from before and backwards."

3. The third and latest change of opinion, for which Mr. Hulbert as one of the signatories must be held responsible, is expressed in the concluding paragraph of the report. Here we discover that the abdominal wall *hardens* in order to check outward bulging (which is no longer necessary).

As a matter of fact, none of these three views are correct. Expansion of the thorax vertically—that is, from base to apex—is of the most vital importance in expanding: (*a*) indirectly, the apex of the lung, and (*b*) directly, in causing descent of its root, together with a main movement of the lower lobe in a downward and forward direction. "Ideal breathing" can never happen if, instead of expanding the chest in its three diameters, it is expanded in two or less by cutting out the most important factor—namely, complete diaphragmatic descent. The combined contraction of diaphragm and abdominal muscles advocated in the report, whilst excellent for purposes of parturition or defæcation, can under no circumstances be recommended for the production of efficient vocal tone.

The report goes on to say: "In health, respiration, properly carried out, brings the whole lung into activity, and in ordinary quiet breathing this process is (largely) automatic." I would say to this that with ordinary quiet breathing only a small proportion of the total lung capacity is brought into play, and the whole lung cannot be brought into activity without adequate diaphragmatic descent. Finally, as I have said elsewhere:

In order to breathe correctly the entire mechanism of respiration must be used, and not a part only. Medical men, therefore, should, when advising their patients, look to it that the three diameters of the chest are expanded fully, inasmuch as many people imagine that they are taking a complete breath when they are only partially expanding the chest.

There are other points in this report to which I might refer, were it not that I fear to make my remarks too long. I feel strongly, however, that it is a matter of national concern that the rising generation should be taught right methods of breathing. If this were done diseases due to defective aëration of the lungs could undoubtedly be minimized, and so a further step would be taken towards early prevention of our national scourge consumption.—I am, etc.,

London, S.W., Oct. 20th. J. F. Halls Dally.

EXPERIMENTAL OBSERVATIONS ON THE CAUSE OF DEATH IN ACUTE INTESTINAL OBSTRUCTION.

Sir,—Mr. D. P. D. Wilkie's paper on the above subject which appeared in the Journal of October 25th must have interested all surgeons who are frequently called upon to treat these emergencies; but whilst I pay a willing tribute to the ingenuity of his experiments, I cannot allow the conclusions he draws therefrom and some of his statements to go unchallenged. When the result of laboratory experiments is at variance with clinical experience, I have always found it the safer rule to trust to the latter only; the former come into line in time.

I should hardly have thought that any present-day surgeon of experience thinks it necessary at operations for acute intestinal obstruction to "take measures, in addition to relieving the obstruction, to remove the toxic content which fills the afferent bowel and to prevent it from flooding the empty efferent bowel, by which it is greedily absorbed." If surgical interference is made in time, this can be entirely neglected, whilst if not in time, this elaborate toilet will not save him, but rather subtract from his few remaining chances.

The experiment of the high and low intestinal obstruction is occasionally to be observed clinically. A gall stone ulcerates through into the first part of the duodenum; it obstructs the lumen near the proximal side of the duodeno-jejunal flexure. Acute symptoms follow, even to the occurrence of copious faecal or black vomit. The symptoms suddenly cease, and a few days later the same symptoms, only less urgent, manifest themselves. An abdominal exploration reveals the gall stone now in the lower ileum; it is removed; the patient's recovery is immediate and permanent. The intestine may with safety and with certainty be left to deal with the "highly toxic contents" in its own way and at its own time. I have never seen, I confess I had never even heard of, the loop of a strangulated hernia or its afferent bowel being washed out or otherwise cleared to prevent the absorption of its contents by the efferent bowel. What conclusion is forced upon us by this great mass of clinical experience? It is that, however toxic the contents may be, they are not absorbed by the intestinal veins, at least not in a noxious state.

In fact, I have in practice proceeded a stage further. In conditions of acute intestinal obstruction, where the cause was not removable at the time owing to the extreme condition of the patient, but offered a good prospect of successful removal in a few days, I have contented myself with draining the peritoneum in the neighbourhood and giving morphine. It is almost incredible how the severe symptoms abate; the patient becomes quite comfortable in the interval between the two operations, in spite of the fact that no attempt has been made to relieve the obstruction. In one patient that I assisted Mr. Cardew with—including the days of "acute obstruction," the interval, and the days following the second operation—there was no passage of the "bowel contents" for ten days, yet in the last seven of these, after drainage of the peritoneum, etc., there was not the slightest sign of toxaemia. The advantage of operating through the original and uninfected wound is obvious.

To take analogous cases, for example, acute suppurative pyosalpinges—cases which, by the way, are frequently mistaken for acute intestinal obstruction, owing to the absence of rigidity and temperature. I have seen many of them admitted into the General Hospital, Cheltenham, in such a state that any prolonged operation, such as the removal of the distended tubes, would mean certain death. It has been the practice of my colleagues and myself for some years to content ourselves at the time with simply placing a large drainage tube down to Douglas's pouch—a procedure taking five minutes—and removing the offending structure at leisure after an interval varying from three days to three weeks. I do not remember any case being lost where this was done, and yet on admission they were far the most acute. One case under my colleague Mr. Holmes was said to be "moribund."

The upshot of all this is that the seat of the absorption of toxins is the peritoneal cavity. I have already published my views as to how they get there.[1] To put them briefly: In health organisms permeate through the intestinal wall into the peritoneal cavity, a trap specially designed to receive and annihilate them, with its own excretory apparatus, the liver and intestines, so arranged that their poisonous excretions are not admitted into the systemic vessels. In disease such as intestinal obstruction the number and virulence of the organisms in the afferent intestine are increased enormously, permeation of these into the peritoneal cavity is excessive, and throws an increased strain upon the peritoneal excretory machinery, as evidenced by the copious vomiting, fatty degeneration of the liver cells, dryness of the tissues, etc., for a detailed explanation of which I must refer readers to my papers. In my statement that the peritoneal cavity is infected most experimental pathologists are against me; but clinical experience, as shown by the above cases, is in my favour. "The peritoneal exudate is sterile," they say. I remember the time when laboratory experiments "proved" that the hands could be made "sterile" by various methods; nevertheless in practice surgeons found it safer to use gloves. Things are not always so sterile as they seem.

I take exception to Mr. Wilkie's statement that the higher reaches of the intestine contain fewer organisms than the lower, for clinically one knows that a gastro-jejunostomy requires much greater care to avoid infection of the peritoneum than a lateral anastomosis of the colon or ileum. I suggest that the reason for this is that a great many more varieties of pathogenic bacteria are to be found in the upper intestine than in the lower, where they fail to survive in the struggle for existence with the habitual dwellers of the latter, with which the host has a sort of working agreement. "But culture tubes fail to show their presence." That only suggests to me that the fault lies with the material of which the culture medium is composed: it is not a suitable one. Bacteriology is, after all, still a young science, and has not yet discovered the kind of bait which will attract every kind of organism in the intestine. The difference, then, between the symptoms of high and low obstruction (after all only one of degree) will be accounted for by the larger number of foreign organisms which permeate into the upper reaches of the peritoneal cavity: Nature in her wisdom has thought fit to partly innervate this region directly from the medulla itself: the call on the excretory machinery is, therefore, more instant and urgent, and the symptoms, the evidence that this machinery is working, are more severe.

I should be glad to know from Mr. Wilkie what exactly he means by "peritonitis" in conclusion 5. If he means inflammation of the peritoneal membrane, then what is the mechanism by which such an inflammation kills? Is it by the absorption of toxins into the systemic vessels or by reflexly causing cardiac inhibition?—I am, etc.,

Cheltenham, Oct. 29th. JOHN HOWELL, M.B., F.R.C.S.

[1] BRITISH MEDICAL JOURNAL, September 21st, 1912; *Lancet*, October 25th, 1913; and *Trans. Med. Soc. of London*, 1915.

RADIO-ACTIVE EXHIBITS AT THE SAN FRANCISCO EXHIBITION.

SIR,—The Special Commission appointed in Germany to prepare the Exhibition of "Radio-activity" in San Francisco, 1915, heartily invites the co-operation of those interested in England in radio-active research, and in all branches of industry—mining, radio-active springs, apparatus, etc.—connected with radio-activity. According to our present scheme the exhibition (for which a special house will be built) will contain the following departments:

1. Historical review (discovery of radio-activity—Becquerel, Roentgen, fluorescence, absorption of light, etc.).
2. Extraction of radium and other radio-active elements—mining, chemical process, etc.
3. Radio-active ores.
4. Physical properties of radio-active matter.
5. Chemical properties of radio-active matter.
6. Biological properties of radio-active matter.
7. Radio-active therapeutics (external and internal), cancer research.
8. Means of measuring radio-activity.
9. Radio-active springs (models, etc.).
10. Metamorphosis produced by radio-activity according to Ramsay and others.
11. Geography of radio-activity.
12. Scientific and popular lectures; courses and practical work.

I do not need to dwell on the importance of the proposed exhibition, but I should like to accentuate the fact that only a hearty co-operation of the nations principally interested—Germany, England, Austria, and France—can secure a result worthy of the great purpose.—I am, etc.,

Dr. C. ABEL-MUSGRAVE,
Chairman, German Commission (permanent office, Palast Hotel, Wiesbaden).

6, D'Aubigny Road, Brighton, Nov. 6th.

NATHANIEL ALCOCK MEMORIAL FUND.

Sir,—Some months ago you were kind enough to insert an appeal for subscriptions in aid of the family of the late Professor Alcock. Owing to his early death, he had been unable to make any provision for his family, and it was felt that the most appropriate form of memorial to his memory would be a fund to enable his three daughters and one son to receive an adequate education. A list of the subscriptions received to date is given below. Since we desire to close the fund before Christmas, in order that it may be invested and the proceeds applied to the object mentioned above, we should be glad to receive any further subscriptions to the fund as soon as possible. Contributions may be sent to either of the undersigned. Cheques should be crossed "Alcock Memorial Fund."—We are, etc.,

E. H. Starling,
Institute of Physiology, University College, London, N.W.

A. D. Waller,
Physiological Department, University of London, South Kensington, London, S.W.

November 7th.

List of Subscribers.

	£	s.	d.
Dr. H. K. Abbott	10	0	0
Rev. T. K. Abbott	20	0	0
Professor Adami, F.R.S.	10	0	0
Mrs. Alcock	10	0	0
Anonymous	500	0	0
Anonymous	50	0	0
Anonymous	0	12	6
Mrs. Ashe	5	0	0
Miss Ashe	0	10	0
Professor Bainbridge	1	1	0
Mrs. Baines	5	5	0
Dr. J. W. Barrett	2	2	0
Mrs. B. M. Bates	10	0	0
Professor Bayliss, F.R.S.	20	0	0
Dr. Wallace Beatty	2	2	0
Professor Boycott	5	0	0
Sir J. Broadbent	10	10	0
Dr. Burch, F.R.S.	2	0	0
Mr. W. Burridge	1	1	0
Mrs. L. M. Carver	100	0	0
Miss Dorothy Carver	50	0	0
Miss E. M. Carver	5	0	0
Miss Gertrude Carver	50	0	0
Professor Cash, F.R.S.	2	2	0
Professor Cathcart	1	1	0
Lord and Lady Courtney	50	0	0
Dr. W. Cramer	10	0	0
Sir William Crookes	10	0	0
Professor Cushny, F.R.S.	5	0	0
Dr. H. H. Dale	5	0	0
Mrs. Davies	1	1	0
Mr. R. Newton Davies	2	2	0
Mr. S. Arthur Davies	0	10	6
Professor H. R. Dean	1	1	0
The Dean of Durham	10	0	0
Dr. Ellison	1	1	0
Dr. Funk	2	2	0
Captain Gatney	1	0	0
Miss Gore	0	10	0
The Misses Gore	2	2	0
Mrs. F. A. Green	1	11	6
Mr. W. H. Clayton Greene (annual subscription)	5	5	0
Right Hon. Viscount Haldane, F.R.S.	25	0	0
Dr. J. S. Haldane	5	5	0
Dr. A. D. Hall	5	0	0
Professor Halliburton, F.R.S.	10	10	0
Dr. Hartley	2	2	0
Professor Vandell Henderson (20 dollars)	4	0	0
Mr. Albert Hill	20	0	0
Mrs. Berkeley Hill	50	0	0
Miss Florence Hill	1	0	0
Professor Leonard Hill, F.R.S.	10	10	0
Mr. Maurice Hill	200	0	0
Mr. M. D. Hill	5	0	0
Mrs. Holland	10	0	0
Sir Victor Horsley, F.R.S.	10	0	0
Mr. A. Hurd	5	5	0
Dr. Kennaway	1	1	0
Mrs. Kingsmill	5	0	0
Miss C. A. Kingsmill	25	0	0
Miss E. E. Kingsmill	25	0	0
Rev. Dr. Kingsmill	30	0	0
Dr Laird	0	10	6
Dr. Levy	2	2	0
Mr. Carvill Lewis	20	0	0
Dr. J. Little	5	5	0
Dr. Locke	5	5	0
Dr. Haynes Lovell	1	0	0
Dr. Luff	2	2	0
Dr. Roche Lynch	1	1	0
Professor Macleod	2	0	0
Professor Marshall	1	1	0
Dr. C. J. Martin, F.R.S.	10	0	0
Lieut.-Col. McCreery	5	0	0
Dr. McNeight	2	2	0
Dr. Menzies	3	3	0
Dr. J. H. Milroy	1	1	0
Professor T. H. Milroy	2	2	0
Dr. Moorhead	2	2	0
Dr. Mott, F.R.S.	3	3	0
Professor Myers	3	0	0
Mrs. Frazer Nash	1	1	0
Dr. George Oliver	3	3	0
Mrs. Oliver	50	0	0
Professor Osborne	5	5	0
Mr. H. Page	5	5	0
Mr. William Page	5	0	0
Mrs. Penrose	10	0	0
Dr. Pringle	20	0	0
Professor Purser	21	0	0
Mrs. Ramsden	20	0	0
The Misses Rhys	20	0	0
Dr. Roaf	5	0	0
Dr. L. Rogers	2	2	0
Sir Edward Schäfer, F.R.S.	10	10	0
Professor Schryver	3	3	0
Dr. Sheppard	5	0	0
Prof. Sherrington, F.R.S.	3	3	0
Dr. Sikes	1	1	0
Dr. Sutherland Simpson	5	0	0
Professor Lorrain Smith, F.R.S.	2	2	0
Professor Spearman	1	1	0
Dr. Spencer Scott	100	0	0
Dr. Spilsbury	2	2	0
Dr. Spriggs	1	1	0
Professor Starling, F.R.S.	10	0	0
Professor and Mrs. Peter Thompson	2	2	0
Dr. May Thorne	10	0	0
Professor Trouton, F.R.S.	25	0	0
Dr. Vernon	2	2	0
Mr. S. Wadsworth	20	0	0
Professor and Mrs. Waller	25	0	0
Mr. Harry Walters	10	10	0
Dr. Willcox	30	0	0
Sir Almroth Wright, F.R.S.	15	15	0
A Friend	5	0	0
Total subscriptions received to date	£2,010	15	0

ACUTE DILATATION OF THE STOMACH.

Sir,—The carefully reported case of acute dilatation of the stomach, occurring in the course of an operation for duodenal ulcer, that is narrated by Mr. Richardson in the British Medical Journal of November 8th (p. 1202) is of particular interest to those who have maintained, in spite of no little gentle ridicule, that in certain conditions gas distending the stomach is neither derived from fermenting food materials, nor swallowed from the air.

Many of those who have paid attention to the subject are convinced that, oftentimes, such gas is dissociated from the blood circulating in the stomach walls, and "secreted" into the cavity of the viscus. In these cases the gas appears usually to be imprisoned by spasm at the pylorus and at the cardia, that is relaxed when acapnia, from lowering of the CO_2 content of the blood, becomes marked, or may be inhibited by those purposive attempts at "swallowing" which, when perpetuated as a "habit," are dignified by the name of "aërophagia."—I am, etc.,

London, W., Nov. 8th. F. G. Crookshank.

YEAST INFECTION IN CHILDREN.

Sir,—Dr. R. Craik, writing in the Journal of November 8th about a case in which he identified the "thrush parasite" in the faeces of an infant, makes the following statement with reference to the organism in which he is interested:

> On culture media the organism often appears in the yeast conidial form only, and may be mistaken for a saccharomyces. Thus on isolating it from an inflamed gum, Mr. K. Goadby named it *Sac. neoformans*. On meeting with it in a case of sore throat, Mr. A. G. R. Foulerton named it *Sac. tumefaciens albus*, and described it at length.

In a similar irresponsible passage Dr. R. Craik deals with the work of an unnamed "French mycologist," who, according to Dr. R. Craik, was entirely wrong as to the identity of the organism with which he was working. "It is certain that the organism with which he worked was not the common thrush parasite at all." It may be that it is taking the matter too seriously to remind Dr. R. Craik that something more than bald assertion, unsupported by any statement of fact, is required when criticizing the work of others. But it may be mentioned that *Saccharomyces neoformans*, described by San Felicé at some time about the year 1894, was certainly not the common thrush parasite; and in stating this I have the advantage of having examined cultures of the yeast received directly from Professor San Felicé. Also Dr. R. Craik's statement, so far as it refers to my own work, is wholly inaccurate, and, if it had been made with any authority, would have been very misleading. If Dr. R. Craik will consult the paper which he quotes (the title of the paper happens to have been "On the Pathogenic Action of the Blastomycetes," and not "Experimental Blastomycosis," as Dr. Craik writes) he will find that pages 38 and 39 are occupied by some consideration of the "thrush parasite," which was described, in accordance with nomenclature current in 1899, when the paper was written, as *S. albicans* (vulg. *Oidium albicans*), and that the "yeast forms" and the "mycelial forms" of the parasite were referred to in some detail. If Dr. Craik will turn to page 49 of the same paper he will see it stated expressly that "mycelial forms" of *Saccharomyces tumefaciens* do not ever occur in growth on artificial media. And on reference to page 59 he will see that I was at some pains to explain that certain "pseudo-mycelial" forms which were seen in the granulomata which resulted from the inoculation of rabbbits with the yeast did not represent a true mycelium, but were produced by degenerative changes in short chains of the yeast cells. Dr. R. Craik's statement as to the identity of *Saccharomyces tumefaciens albus* is, in fact, a purely imaginary one.—I am, etc.,

London, W., Nov. 8th. Alex. G. R. Foulerton.

DR. LEFTWICH'S *TABULAR DIAGNOSIS*.

Sir,—I am far from complaining of a review which describes the tables in this work as having been "compiled with care," but, in the example given (Table 155) there is a misprint which as given would show want of care. The table contrasts scrotal hernia with hydrocele, and the reviewer is made to say: "Opposite onset we get under scrotal hernia 'sudden', and under hernia 'slow'; opposite impulse on coughing, in the former condition, 'present', in the latter 'absent'". The second heading "hernia" should, of course, have been "hydrocele," but in these hurried times the mistake may be charged to me, so I hasten to put the matter right.

As to "laboured elegancies of style," I did not disclaim them; I said that those who liked them could fill them in for themselves. Again, it was not "signs" that I described as "rare only because they are often unrecognized," but diseases.—I am, etc.,

November 8th. The Author.

THE ANNUAL MEETING AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

SIR,—This meeting will take place on Thursday, November 20th. One cannot call it a meeting of the Members of the College, as the Members are gradually but surely becoming alienated from their College by the persistent refusal of the Council to acknowledge the just claims of the Members for representation, and by the utter contempt with which the Members are treated when they do attend. The College of Surgeons does not consist merely of the Council or of the bricks and mortar in Lincoln's Inn Fields, but it does consist of its Fellows and Members all over the wide world, and it is by their steady plodding and persevering industry and skill that the College bears its great name all over the civilized globe, and not due to the mere handful of men on the Council. The Members are trusted with the vote for their country. Why are they refused a vote for their own College?

What has the Council done for the Members in the recent trying ordeal through which we have been and are still passing under the confiscatory Insurance Act?

I notice that the Council, in conjunction with the Royal College of Physicians, has withdrawn the embargo against the use of the title of "Doctor." Will they protect their Members and licentiates in the event of any of the universities commencing legal proceedings for the illegal use of medical titles?—I am, etc.,

Putney, S.W., Nov. 10th. A. S. MORTON, M.R.C.S.Eng.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE ANNUAL REPORT.

THE annual report of the Council for the year 1913, which will be presented to the meeting of Fellows and Members at the Royal College of Surgeons, Lincoln's Inn Fields, on Thursday next, November 20th, at 3 p.m., has been issued. The agenda of the meeting will be supplied by the Secretary of the College on application to him on or after November 17th.

RECORD OF THE YEAR'S WORK.

The three resolutions passed at the annual meeting last year are set out. The first approved and endorsed the action of the Council in reference to the National Insurance Act; the second demanded the admission of Members to direct representation on the Council; and the third expressed the regret of the meeting that the Council did not call a special general meeting of Fellows and Members to consider the National Insurance Act. In its remarks on these resolutions the Council expresses its satisfaction that its action referred to in the first resolution had met with the approval of the meeting. In regard to the second resolution, the Council does not think it necessary to make any statement supplementing what was set forth in the annual report for the year 1907.

National Insurance Act.

Reference is made to further meetings of the Joint Committee of the Royal Colleges of Physicians and Surgeons, the Society of Apothecaries, and the Medical Faculties of the universities. On November 13th, 1912, resolutions were passed objecting to the provisional regulations of the Insurance Commissioners as being of a nature to interfere with the rights and independence of medical practitioners, calling attention to the necessity of the tribunal which has to deal with matters affecting the professional conduct of medical practitioners being composed of members of the medical profession, and expressing the opinion that, since the carrying out of the provisional regulations is left largely in the hands of the Local Insurance Committees, it would be unwise to agree to accept them, so long as the insured persons represented on these committees be a large majority. A fourth resolution was passed urging the establishment of tuberculosis centres in connexion with hospitals to which medical schools are attached. Owing chiefly to the late period of the parliamentary session, it was not deemed that any useful purpose would be served by presenting a memorial. The Insurance Commissioners have notified the Council that resident medical officers at hospitals are not required to insure under the Act. An inquiry was received from the London Medical Committee in regard to the attitude of the College toward medical practitioners who might become members of a registered trade union. At its meeting in April the Council replied as follows:

That, inasmuch as there is nothing in the charters or by-laws to prevent a Fellow or Member joining a registered trade union, the formation of such a union by members of the medical profession does not in itself appear to the Council to be a matter to which they can raise objections; and that the view which the Council might take of the conduct of any Fellows or Members in joining such a union, or taking part in its affairs, would depend on the objects with which it is formed and the methods it adopts to attain such objects.

Primary Examination for the Fellowship.

Certain alterations that have been made in the regulations relating to the physiological portion of the examinations for the Fellowship, are detailed, and it is stated that the new regulations will be carried out at the examination to be held in May, 1914.

Licence in Dental Surgery.

Candidates for the licence in dental surgery will in future be required to pass the preliminary science examination before proceeding to study for the second professional examination.

Diploma in Tropical Medicine and Hygiene.

The short title of the diploma in tropical medicine and hygiene has been altered to "D.T.M.and H.England."

The Title of "Doctor."

Attention is drawn to the fact that the by-law of the Royal College of Physicians objecting to the assumption of the title of "doctor" has been amended.

Prizes.

The Jacksonian Prize has been awarded to Mr. Francis Willoughby Goyder, M.B., F.R.C.S., for his essay on the embryology and treatment of cleft palate; and the Triennial Prize and John Hunter Medal to Dr. W. Blair Bell for his essay on the anatomy, physiology, and pathology of the pituitary body. Fleet Surgeons R. C. Munday and E. Sutton have received the Sir Gilbert Blane Medals.

Schiff Home of Recovery.

Mr. G. H. Makins, C.B., was appointed the representative member of the College on the Managing Committee of the Schiff Home of Recovery. This home was founded and endowed by Sir Ernest Frederick Schiff "for the reception and accommodation of poor persons of either sex who are suffering from wounds, the result of accident or operation, which still require surgical supervision and nursing, and who have been under treatment for the accident or operation as in-patients at one of the following London general hospitals: Charing Cross Hospital, Guy's Hospital, King's College Hospital, the London Hospital, Middlesex Hospital, St. Thomas's Hospital, and University College Hospital."

Portraits.

A replica of the portrait, by the Hon. John Collier, of the late Sir Henry T. Butlin, Bart., has been presented to the College by Lady Butlin. The College has acquired a portrait of Mr. Pennell Hawkins, Master of the Company of Surgeons in 1778, painted by Zoffany.

Centenarian Member.

The congratulations of the College were sent to Surgeon-Major H. B. Hinton, of Adelaide, South Australia, on his attaining the age of 100 years.

The Central Midwives Board.

The report of Mr. Golding-Bird (who has been reappointed a member of the Central Midwives Board) for the year 1912 stated that the chief matter of interest dealt with arises from a complaint from a midwife of a circular issued by the Chesterfield Division of the British Medical Association, setting forth the conditions under which practitioners of the district would be prepared to attend to a maternity patient in response to a summons of a midwife. The Central Midwives Board regretted the publication of this document to its midwives, and stated that where a midwife had obeyed the rules of the Board she had discharged her duty to the patient. The Board stated that it had no authority over medical practitioners, and had forwarded the correspondence to the Privy Council.

The statistics of the Board showed that 35,210 midwives were now on the roll, of whom only 1,813 had passed the examination; 45 midwives had resigned, 91 had been struck off the roll as the result of the hearing of penal cases, and in 8 cases the sentence has been postponed or the hearing adjourned.

Finance.

The balance sheet of the College shows an improvement over previous years. On the expenditure side there is a decrease of £1,508. This is partly due to a decrease of £120 in respect of examiners' fees and of £885 in respect of half of the expenses at the Examination Hall. Various items show smaller decreases. The total amount of expended moneys is £22,261. The income of the College has increased by £539 from last year, it being £26,379, giving a balance of income over expenditure of £4,117, which is the largest balance in any one year since 1887-8.

Museum.

No alterations of consequence were undertaken in the museum during the past year. A large number of new specimens were added, and various parts of the collection rearranged and recatalogued. Mr. Alban Doran has completed a catalogue of and guide to the gynaecological series and has prepared a descriptive catalogue of the large collection of obstetric instruments. Good progress has been made in the work of the Conservator in the ostcological department of the museum. The aim of this department has been to provide material from which the skeletal development of past generations of the inhabitants of this country may be studied in such detail as to enable the question whether the present race is degenerating or not to be answered. A number of valuable additions has been made to this collection, all of which have been carefully studied and classified. The museum has been visited by an increasing number of students and others. Various classes have been admitted to the museum, and while it is felt that the College has conferred a material service to the community by admitting these classes, the demands for admission have been so great, that it will become necessary to exercise a strict supervision on the number, in order that the value of these visits may not be impaired.

Examinations and Diplomas.

Of 240 candidates examined for the Fellowship, 75 passed and no less than 165 were referred at the First Examination, 118 presenting themselves for the Final, 63 passing, 46 being referred for six months and 9 for a year: 334 candidates were examined in Anatomy and Physiology by the Conjoint Board, 190 passing, while 144 were referred: 617 were examined at the Final in Medicine, 225 being referred: 697 in Surgery, 295 being referred, and 569 in Midwifery with 190 rejections: in the Public Health Diploma 74 candidates presented themselves for the first part, 25 being referred and 44 approved at the second part of the examination, 11 being referred: 6 candidates were examined for the Diploma in Tropical Medicine, 2 being referred: out of 176 of the candidates for the Licence in Dental Surgery examined in General Surgery 64 were referred, and out of 165 examined in Dental Surgery 52 were referred.

The Honorary Secretary of the Society of Members of the Royal College of Surgeons of England informs us that Dr. Oldfield had, on behalf of the society, given notice of the following motion, which had been ruled by the President to be out of order on the ground that the meeting has no power to give authority for the appointment of a committee as proposed:

> That a committee be forthwith appointed to inquire into the financial position of the College of Surgeons of England, and into the expenditure of its moneys by the Council during the past three financial years; that the committee shall consist of eight members, four of whom shall be appointed by the Council at the next meeting of the Council, and four by the executive committee of the Society of Members of the Royal College of Surgeons of England; that the first meeting of this committee shall be held before December 25th next; that it shall meet as often as required and report to the next annual meeting of Fellows and Members at the College.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on October 22nd, when the Vice-President, Dr. Herringham, presided.

Recognition of Teachers.—Dr. Julius M. Bernstein was recognized as a teacher of forensic medicine at the Westminster Hospital Medical School.

London County Council Grant to King's College.—The Academic Council reported that the London County Council had made a grant of £3,000 to King's College in respect of the financial year 1914-15 for the equipment of the rooms vacated by the removal of the Strand school. The Senate directed its thanks to be conveyed to the London County Council for their generous grant.

Report of Professor of Protozoology.—The Senate received the report of the Professor of Protozoology giving details of the research work now in progress, and also particulars with regard to teaching work. The report also contained a list of works published from the department.

B.Sc. Honours Degree in Anthropology.—The following were approved as subsidiary subjects for the B.Sc. Honours Degree in Anthropology for external students: Psychology, geology, zoology, and physiology.

University Site.—A request from the London County Council to be afforded an opportunity of considering the financial aspect of any removal of the University from its present buildings was referred to the Site and Accommodation Committee.

Advanced Lectures in Medicine.—The course of three post-graduate lectures on the causation of insanity announced to be given during November by Dr. Robert Jones will not be given this session. A course of three lectures on enteric fever will be given at the Royal Army Medical College, Millbank, by Major S. Lyle Cummins, M.B., B.S., on December 1st, 3rd, and 5th, at 5 p.m. The lectures will be free without tickets to advanced students of the university and to others interested in the subject.

UNIVERSITY OF GLASGOW.

UNIVERSITY COURT.

A MEETING of Glasgow University Court was held at the College, Gilmorehill, on November 6th, when Sir David McVail presided, in the absence of the Principal, owing to illness. Reference was made to the illness of Sir Donald MacAlister, and to his satisfactory progress towards health again.

The Gavin Tennent Bequest.

The Secretary read a communication intimating the bequest of the late Dr. Gavin P. Tennent of £25,000 (as already reported) to be applied for such objects in connexion with the Faculty of Medicine as his trustees might determine, and subject to such conditions as they might prescribe. A small committee was appointed to confer with Dr. Tennent's trustees, and report.

The Preliminary Examination Ordinance.

A communication from the General Council of the University regarding the preliminary examination ordinance (as reported in our last week's issue, p. 1259) was submitted, and it was agreed to inform the Senate of the views of the General Council, and invite them to transmit their views to the court.

Professor Bower.

Professor Bower's resignation as a member of the court having been intimated, the Chairman expressed the regret of the members that they were not to have Professor Bower as a colleague on the court, and hoped that at no distant date he might return as a member.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW.

THE annual meeting of the Fellows of the Royal Faculty of Physicians and Surgeons, Glasgow, was held on November 3rd, when the following were among the office-bearers elected for the ensuing year:

President.—Dr. John Barlow.

Visitor.—Dr. Ebenezer Duncan.

Councillors.—The President, *ex officio*; the Visitor, *ex officio*; the Treasurer, *ex officio*; Mr. D. N. Knox, as representative to the General Medical Council; Dr. Alexander Napier, Dr. A. Maitland Ramsay, Dr. George Halket, Mr. Donald Duff, Mr. J. Walker Downie, Dr. David Newman, Dr. W. G. Dun, Treasurer; Dr. Alexander Napier, Honorary Librarian.

Representative on the General Medical Council.—Mr. D. N. Knox.

Medico-Legal.

TREATMENT BY RADIUM.

THE following report of the case of Treves and others *v.* the British Oxypathor Company, heard before Mr. Justice Sargant in the Chancery Division on November 7th, was published in the *Times* of the following day:

This was a motion in an action by Sir Frederick Treves, the Hon. Walter Guinness, M.P., Mr. Felix Cassel, K.C., M.P., and Mr. A. E. Hayward Pinch, suing on behalf of themselves and all other persons concerned or engaged in carrying on the Radium Institute, against the British Oxypathor Company (Limited), trading as the Radium Oxygen Institute, and its directors.

Mr. Mark Romer, K.C. (Mr. McCardie with him), for the plaintiffs, said that although the action was for an injunction the defendants had submitted to give an undertaking.

Mr. Dighton Pollock was for the defendants.

The order taken was that the defendants undertaking that they, their servants or agents, would not use or carry on business under the name of "The Radium Oxygen Institute," or any name comprising the words "Radium Institute," likely to mislead or deceive the public into the belief that the business carried on by them was the same as or in any way

connected with the business carried on by the plaintiffs, and would not in any manner advertise or hold out the business carried on by them as the business of or as a business connected with the business carried on by the plaintiffs, and the defendants further undertaking that they, their servants or agents, would not infringe or continue to infringe in any manner the copyright of the plaintiff Pinch, or of the plaintiffs, in a publication called "A Report of the Work carried out at the Radium Institute from August 4th, 1911, to December 31st, 1912," and the defendants stating and undertaking that they had destroyed all advertisements and other publications which infringed copies of the said publication which had been in their possession since the service of the writ, and that they would destroy all further infringing documents which might come into their possession) the hearing of the motion should be treated as the trial of the action, and that the defendants should pay to the plaintiffs their costs of the action, and that all further proceedings therein, except to give effect to the order, should be stayed.

Solicitors.—Messrs. Lewis and Lewis: Mr. Guilford E. Lewis.

SALE OF PRACTICE.

(1) C. asks whether, in selling the share of a medical practice, it is usual to sell on a three years' average of the gross or net receipts.

(2) X. Y. Z. asks what a partner ought to pay for (*a*) half profits, (*b*) for one-third profits.

*** (1) In estimating the value of a practice it is always customary to take the gross and not the net receipts.

(2) The average value of a half or third share of a practice is from one to three years' purchase, according to the character of the practice—that is, a purchaser would have to pay a sum of money equal to the income derived from the share during one to three years, as the case might be. The gross income, and not the profits, is the basis usually taken for estimating the value of a practice or a share of the same.

Public Health AND POOR LAW MEDICAL SERVICES.

INDUSTRIAL INFECTION BY ANTHRAX.

THE Home Secretary has appointed a committee to inquire into the dangers from infection by anthrax in the processes of sorting, willeying, washing, combing, and carding wool, goat hair, and camel hair, and in the processes incidental thereto; and to consider and report whether any, and, if so, what amendments are desirable in the regulations for these processes made under Section 79 of the Factory and Workshop Act, 1901. The Committee is constituted as follows:

The Right Hon. Sir Thomas P. Whittaker, M.P. (Chairman).
Mr. W. Barber, Secretary to the Bradford Trades and Labour Council.
Dr. F. W. Eurich, professor of forensic medicine in the University of Leeds, bacteriologist and pathologist to the city of Bradford, and bacteriologist to the Anthrax Investigating Board, Bradford and districts.
Alderman J. E. Fawcett, President of the Bradford Chamber of Commerce and Chairman of the Anthrax Investigation Board.
Colonel E. H. Foster.
Mr. T. Grundy, Secretary to the National Union of Woolsorters.
Dr. T. M. Legge, one of His Majesty's Medical Inspectors of Factories.
Mr. Ernest Marsh; and
Mr. S. Parker, Secretary to the Bradford and District Wool Top and Noil Warehousemen's Union.

The Secretary to the Committee is Mr. G. E. Duckering, one of His Majesty's Inspectors of Factories: and any communications on the subject of the inquiry may be addressed to him at 72, Bridge Street, Manchester.

HOUSEHOLDERS' RIGHTS IN RESPECT TO SEWAGE.

T. S. E.—Section 21 of the Public Health Act, 1875, entitles the owner or occupier of premises to cause his drains to empty into the sewers of a sanitary authority provided he complies with the regulations of the authority with respect to such sewers. Section 15 of the same Act reads: "Every local authority . . . shall cause to be made such sewers as may be necessary for effectually draining their district for the purposes of this Act." These sections are commented on in Lumley's *Public Health*, published by Shaw and Sons, London.

Obituary.

ALFRED RUSSEL WALLACE.

BORN JANUARY 8TH, 1823; DIED NOVEMBER 7TH, 1913.

ALFRED RUSSEL WALLACE is dead. What a host of reminiscences this short sentence recalls to mind! The last of that band of great biologists of the last century and the last of the pall-bearers at the funeral of the immortal Charles Darwin is no longer with us. His death brings back to memory the names of his distinguished colleagues of a bygone day, Darwin and Huxley, Lyell, Hooker, Spencer, and Owen. A band of scientific workers of which any country may well be proud, for did they not all play a leading part in the great controversy which centered around the doctrine of evolution?

Born at Usk in Monmouthshire on January 8th, 1823, Wallace had reached the ripe age of almost 91 years when he died on November 7th at the little village of Broadstone in Dorsetshire. Even in the early days of his boyhood certain of the mental characteristics which marked his later years were seen in their inception. Though unable for many years to visualize his parents or any of the persons with whom he was in daily contact, he could readily recall all the natural surroundings of his former home. Then, as throughout life "the perception of form and individuality were but moderately developed, while locality, ideality, colour and comparison are decidedly stronger" as he himself once wrote. At this time, too, he was haunted by an oft-repeated dream of a creature with huge wings coming nearer and nearer to the house and finally clinging to it. Thus early is revealed the type of mind which in later years found expression in spiritualism. His boyhood was passed at Hertford, where he was educated. On leaving school, Wallace was apprenticed in London to a small master-builder. His intercourse with artisans turned his thoughts into the channel of social problems, and he became keenly interested in the activities of the Secularists and Owenites.

In 1837 he commenced his education as a land surveyor under his brother, and this work led him to spend some years in Wales, the natural beauties of which were an abiding source of enjoyment. Here, too, the "land problem" attracted his attention. His sojourn in Wales was interrupted for a brief period by undertaking a post of assistant master at a school in Leicester. During this time he became interested in psychical research, a subject which, as he says, "played an important part in his mental growth."

It was on his return to his former occupation in Wales that Wallace seems to have been more particularly attracted to natural history, and during this period was in constant communication with Bates, chiefly on the subject of insect collecting. Such books as the *Vestiges of Creation* and *Cosmos* led him to speculate, even at this comparatively early age, on the origin of species; but it was the publication of *A Voyage up the Amazon*, by W. H. Edwards, in 1847 which determined him to visit South America. In the following year he set sail in the *Mischief*, a barque of 192 tons, and with his embarkation his life as a naturalist of the first rank may be said to have commenced. During his four years' absence he sent home many communications to scientific societies. On the homeward voyage the ship caught fire; the passengers and crew were forced to abandon her, and, in addition to the hardships and privations they underwent, Wallace had the added disappointment of the loss of much of his collections.

It was at an evening meeting of the Zoological Society, two months after his return, that he first met Huxley. In February, 1854, Wallace sailed in the *Frolic* for his great expedition to the Malayan archipelago, which extended over eight years. It was here that he laid the foundation of the principles of geographical distribution, and which resulted in what has ever since been known as "Wallace's line." His mind always intent on the problem of the origin and immutability of species, he wrote his first communication on the subject at Sarawak. It appeared in the *Annals and Magazine of Natural History* in September, 1855. Pondering over these subjects and recalling certain facts which he had read many years before in Malthus's *Principles of Population*, the idea of the principle of

natural selection came to him as by a sudden inspiration. The joint production of a paper by Darwin and Wallace on this subject, which was communicated to the Linnean Society on July 1st, 1858, by Lyell and Hooker, forms one of the most dramatic incidents in the whole history of science, and the lifelong attitude of the two authors towards one another with regard to their respective merits in this discovery one of the most touching examples of magnanimity and of the truly scientific spirit.

With the subsequent history of Wallace's scientific career it is not necessary to dwell. In the later years of his life, while his interest in biological subjects in no sense abated, his thoughts became more and more diverted to social and spiritualistic problems. However much one may disagree with many of the views he latterly expressed, one is deeply impressed by the absolute sincerity of the man.

That Wallace was no believer in the mechanistic theory of life is amply proved in his book *The World of Life*, published three years ago. A life so long, so active, and so varied, cannot be dealt with in a small compass. Simple and unostentatious, he was a great man in the truest sense of the word. The whole scientific world joins with his relatives in mourning his loss; but it is thankful for his life, and finds consolation in the fact that at so great age we could not hope that he would have been with us for long.

Deaths in the Profession Abroad. — Among the members of the medical profession in foreign countries who have recently died are Dr. Franz Auchenthaler, of Vienna, formerly physician to the Crown Prince Rudolf; Dr. Gulielmo Cantanaro, lecturer in pathology in the University of Naples; Dr. Rafael Ulecia y Cardona, founder and guiding spirit of the *Revista de Medicina y Cirugia Practicas;* Dr. E. Klebs, formerly professor of pathological anatomy in the Medical Faculty of Zurich; and Dr. Ramon de la Sota y Lastra, professor of surgical pathology in the Medical Faculty of Seville.

Medical News.

The estate of the late Mr. Andrew Clark has been declared at a gross value of £21,320, with a net personalty equal to £17,407.

Sir William Church has been appointed a trustee of the Hunterian Museum, Royal College of Surgeons of England, to fill the vacancy occasioned by the death of Sir Jonathan Hutchinson.

A meeting will be held on Tuesday, November 18th, at 11, Chandos Street, London, W., to discuss the position of medical officers in His Majesty's prisons. The chair will be taken by Dr. W. Hugh Fenton at 8.30 p.m.

The Glasgow University Club, London, will dine at the Trocadero Restaurant, Piccadilly Circus, W., on Friday, November 28th, at 7.30 p.m., under the chairmanship of Sir William S. McCormick, secretary to the Carnegie Trust.

The recent performance at the Coliseum for the joint benefit of Charing Cross Hospital and the French Hospital resulted in a sum of £5,000, of which £1,250 has been allotted to the French Hospital, and the rest to Lord Lonsdale's special appeal fund for Charing Cross Hospital. The allotment was made by Mr. Oswald Stoll and the other directors of the Coliseum syndicate.

Under the will of the late Mr. Oscar Lipscomb of Balham, King Edward's Hospital Fund for London and the London Hospital each receive a bequest of £1,000. Other bequests under the same will are £500 each to Guy's Hospital, Charing Cross Hospital, and the Bolingbroke Hospital, and a sum of £300 to the Royal Westminster Ophthalmic Hospital.

Simultaneously with the outbreak of scarlet fever in the north of Ireland to which our correspondents have recently called attention there was a marked rise in the notifications of the disease in London; they numbered 306 in the week ending September 13th and 700 in that ending November 1st; last week there was a decline to 549. There would appear to be an unusual prevalence of scarlet fever in the home counties also.

The western district of the County Council of Dumbarton has inspected and passed the motor fire-engine and pump built by Argylls Limited at Alexandria, Dumbartonshire. The vehicle, which embodies the latest fire-fighting appliances, will be maintained at the Argyll Works under an annual subsidy, and will be ready for action day and night. The brigade is also drawn from the Argyll Works, and is captained by Mr. T. S. Mort, the works engineer.

The medical group of the newly elected Italian Chamber of Deputies numbers thirty-six. This is exactly the same number as before, though some new members have taken the place of others who failed to secure return. Politically the group is made up of sixteen Liberals, ten Radicals, six official Socialists, two Constitutional Democrats, one Republican, and one Socialist Reformer.

At the next quarterly meeting of the Medico-Psychological Association of Great Britain and Ireland, which will be held at the house of the Medical Society of London on Tuesday, November 25th, at 3 p.m., the adjourned discussion on Dr. Gettings's paper on asylum dysentery will be resumed. On the previous day, at 2.30 p.m., there will be a meeting of the Committee on the Status of Psychiatry in Great Britain and Ireland, and the reforms necessary in the education and conditions of service of assistant medical officers.

A conference has taken place between the Higher Education Subcommittee of the London Education Committee and the Sites Committee of the University of London on the subject of the future accommodation of the University. The possibilities of a site on the banks of the Thames, such as Somerset House, and the prospect of continuance at the Imperial Institute were considered. Under a Treasury minute powers of extension exist at the Imperial Institute under the statutes and regulations made by the Commissioners. A report on the subject will shortly be presented to the London County Council.

In the list of mayors elected on November 9th are the following members of the medical profession: Dr. R. Preston King, Bath; Dr. S. Hale Puckle, Bishops-Castle; Dr. James Robinson, Cardiff (Lord Mayor); Dr. S. R. Alexander, Faversham; Dr. R. Jones Evans, Pwllheli; Dr. J. P. Atkinson, Saffron Walden; Dr. John Rafter, Bootle; Dr. Walter E. Llewellyn Davies, Llanidloes; Dr. J. Lloyd Davies, Newport (Mon.); and Dr. A. W. Limont, Southport. On looking up the records of previous years we find that Dr. Alexander was elected Mayor of Faversham both last year and the previous year, and that the same remark applies to Dr. Atkinson of Saffron Walden. Nearly all these gentlemen are members of the British Medical Association, and some of them have at various times played an active part in its affairs. With one exception they are all still in practice.

At the meeting of the Royal Geographical Society on November 10th, the first of the winter session, special medals were presented to officers and men who took part in the Captain Scott Antarctic Expedition and to the relatives of those who lost their lives. Lord Curzon of Kedleston, who made the presentations, recalled the fact that at the anniversary meeting in the summer the Society had presented to Lady Scott a casket to contain the medals won by her illustrious husband, and to Mrs. Wilson, the widow of Dr. E. A. Wilson, the gold medal of the society. The special medal now presented to all the officers and men of the party showed on one side a portrait of Captain Scott, and on the other a relief of that never to be forgotten party of five as they started on their last sleigh journey to the Pole. Among those who received the medal were Surgeon L. Atkinson, R.N., and Surgeon Levick, R.N.

The Services.

NAVAL MEDICAL CONSULTATIVE BOARD.

Surgeon-General John Dennis, M.D., has been appointed a naval member of the Naval Medical Consultative Board in place of Surgeon-General Howard Todd, C.B., K.H.S., retired. Sir John Tweedy, F.R.C.S., has been appointed a civilian member of the Naval Medical Consultative Board.

ROYAL ARMY MEDICAL CORPS.

The King has granted the following officers permission to accept and wear the Orders indicated conferred upon them by His Highness the Khedive of Egypt in recognition of valuable services rendered: Captain John Powell, M.B., R.A.M.C. (Fourth Class Imperial Order of the Osmanieh), Captain Richard J. C. Thompson, R.A.M.C. (Fourth Class Imperial Ottoman Order of the Medjidieh).

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

C. R. asks what book to read, and at what institution to make a short visit, in order to rub up knowledge of the commoner forms of surgical tuberculosis.

W. asks for suggestions for the treatment of rectal pain coming on paroxysmally at frequent intervals—once or twice a day as a rule—and lasting an hour or so, in an otherwise healthy young woman. The pain first appeared in the puerperium, and is partially relieved by Bier's suction cup.

SCHOOLS FOR THE DAUGHTERS OF MEDICAL MEN.

WE receive from time to time inquiries as to schools for the daughters of medical men of moderate income. A school designed to meet this need was started a good many years ago, but was discontinued, and we have heard of no institution which takes its place. The Association of Head Mistresses issues a *Girls' School Year Book*, which gives information of a reliable character with regard to a large number of schools. It is published by the Year Book Press, 25, High Street, Bloomsbury, London, W., price 3s. 6d.

INCOME TAX.

A. R. has given notice of objection to his assessment, and has been informed by the income tax authorities that they cannot reduce the amount of his assessment without accounts for the three preceding years. The only accurate account which "A. R." can produce is that for the year ending October 31st, 1913.

*** The Income Tax Commissioners are entrusted with large discretionary powers of insisting on specified evidence as a condition precedent to the granting of relief on appeal. At the same time, "A. R." is entitled to attend the appeal meeting of the local commissioners, and put in (1) an account of his receipts and expenses for the year 1912-13, and (2) any evidence he may be able to adduce that his profits in that year were not less than in the previous years. On such evidence the Commissioners would be entitled to make any reduction that might seem to them to be just and reasonable, and, we apprehend, would be not unlikely to do so. The communication which "A. R." received was presumably from the surveyor of taxes, and he may have intended to imply that his personal power of reduction, and not that of the Commissioners sitting to hear appeals, is restricted by the absence of the full evidence of the correct liability.

LETTERS, NOTES, ETC.

APPARATUS FOR ARTIFICIAL PNEUMOTHORAX.

DR. S. VERE PEARSON asks us to state that the apparatus for the injection of nitrogen into the pleural cavity advertised by Messrs. Down Bros., in the JOURNAL of last week, under his name and that of Dr. Lillingston, does not incorporate various modifications and improvements described by Dr. Pearson in the JOURNAL of October 25th, p. 1098. Dr. Pearson states that from the outset he has invariably used movable bottles and siphonage, and has been opposed to the use of a hand bellows. Messrs. Down Bros. have promised Dr. Pearson to consult him with a view to learning what modifications he approves.

HERPES AND VARICELLA.

DR. E. ARTHUR DANDO (Dudley) writes: A week ago I was called to see a patient who was suffering from shingles; four weeks earlier I had been attending a son of this patient who was suffering from chicken-pox. In 1904, in the same house, I attended the wife of this man, who was then suffering from shingles; five weeks preceding this I attended the daughter of this lady, who was then suffering from an attack of chicken-pox.

DR. J. H. BARTLETT (Newbridge, Mon.) writes: In reference to the notes that have been appearing recently recording the connexion between herpes and varicella, about which up to now I have had my doubts, I should like to mention the following: On October 6th I was called to attend a lady who had a typical rash of herpes circinatus accompanied by considerable neuralgic pains; on October 26th one of the daughters developed a rash on face, chest, and back, which on October 27th had the distinct "shotty" feeling of chicken-pox. There are five other members of the family, but up to the present none of them have had any symptoms of chicken-pox; some of them have already had the disease.

THE EXECUTIONER SURGEON.

DR. JOHN DE ZOUCHE MARSHALL (Thames Ditton), in a letter on this matter, makes the following observations:

Will you allow me, as an old member of the British Medical Association (since 1870), to enter a protest against the language in which you have criticized a letter appearing in the *Pall Mall Gazette* of October 24th, from the pen of Mr. Filson Young, who is evidently interested in the reform of the present haphazard system of appointing executioners, and relying on them alone for carrying out "the last dread sentence of the law?" I fail to see that he suggests making the prison surgeon into the actual hangman—merely that the medical officer should have the sole management (apportionment of drop, position of knot, etc.) of the operation, as it is well known that the hangman "wishes to be his own master," and does not "show a desire to comply with suggestions made by the surgeon or any other authority" (Report of Lord Aberdare Capital Sentences Committee, par. 702, page 25; J. Barr. M.D., March 23rd, 1886).

It is high time that the Home Secretary nominated another committee to inquire into the whole subject for, as I proved in the *Lancet* of March 1st by reports of executions taken from the *Standard*, since the 1886 Committee laid down its official scale of drops, that scale has been *absolutely ignored* since 1887, and only three-quarters of the drops allowed, thus killing by asphyxia instead of by dislocation. Again overwhelming evidence as to the deadliness of the submental knot has accumulated, the adoption of which would simplify matters.

Dr. Marshall offers to send a copy of the *Lancet* correspondence to any member of the profession interested on receipt of a stamped directed envelope.

DR. A. R. EATES commenting on the same subject asks whether the hangman and gaoler of our own time have as yet made any protest against the invasion by our profession into their sphere of activities by executing the Government's orders to feed forcibly women political prisoners? . . . "Looking at this question of forcible feeding from the purely medical point of view, and seeing, as one of your correspondents points out, that it has failed in its objects, I think the medical men who are called upon to perform the operation ought to refuse to continue to do what they have found to be useless, especially as the treatment amounts to torture. Why do not the prison doctors test the solidarity of their profession by downing stomach tubes? I am sure that such a strike would meet with nothing but sympathy from the whole community, and not a man in our ranks would be found to break the strike."

REX V. HAMILTON.

DR. W. H. GIMBLETT (86, Sutherland Avenue, Maida Vale, W.), whose appeal giving the names of the committee formed to raise a fund to reimburse Dr. Hamilton was published on October 25th, page 1113, acknowledges the following subscriptions in addition to the sum of £54 5s. already acknowledged: Dr. Vaughan Pendred (East Sheen), 10s. 6d.; Dr. Deane (Lincoln), £3 3s.; Dr. Denny (East Barkwith), £3 3s.

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THE MODERN TREATMENT OF SYPHILIS.

I.

THE TREATMENT OF SYPHILIS IN ITS EARLIER STAGES.

BY

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AND

MAJOR L. W. HARRISON, M.B., R.A.M.C.,

PATHOLOGIST TO THE SAME HOSPITAL.

An experience in the treatment of syphilis which extends over a considerable number of years, and has been gained under particularly favourable conditions for estimating the value of antisyphilitic remedies, has led us to certain conclusions which we think of some interest.

The great advances which have been made in the diagnosis and treatment of syphilis in recent years enable us now to diagnose this disease from its earliest stages, detect its presence in the absence of naked-eye signs, and effectually control its progress. The old uncertainty of diagnosis in the primary stage has been replaced by the certainty which results from microscopical examination of the exudate from the sore; the signs of syphilis have been increased by one which is the most constant of all—the Wassermann reaction; and, thanks to salvarsan, the slow dragging progress towards recovery which was the rule under exclusively mercurial therapy, a progress which was often marked by many relapses, has given way to one which is at once more rapid and, judged by every test we can apply, more permanent.

It requires no very vivid imagination to realize what these advances mean to the control of syphilis. For ourselves, we believe that, properly used, they give us the power to limit syphilis to its earliest stages, and eventually to abolish, amongst other curses, congenital syphilis. As a contribution to this ideal we will describe the lines on which we think syphilis should now be managed in its earlier stages.

THE IMPORTANCE OF EARLY DIAGNOSIS AND TREATMENT.

The results we have obtained with salvarsan have shown us that it is of the very greatest importance to commence treatment in the earliest possible stage—much earlier, in fact, than that in which the primary sore can be recognized by the naked eye. In each of the various series of cases we have treated with salvarsan on different definite plans the total relapses which followed when treatment commenced in the secondary stage were more than double those which followed when it commenced in the primary stage. Add to this the risk of transmission to others, either directly from the sore or through the seminal fluid, and the chances of the central nervous system becoming seriously infected during the weeks which elapse between the first appearance of the primary sore and the outbreak of secondary signs, and it must be clear that every effort should be made to ensure that treatment commences as early as possible.

The value of a microscopic examination to the diagnosis of early syphilis does not seem to be sufficiently recognized. When a patient presents himself to his medical adviser with an early syphilitic sore, the commonest mistake which is made is to judge it by its naked-eye appearance, assume at once that it is not syphilitic because it has not the look of a Hunterian chancre, and prescribe an antiseptic ointment. Subsequently, when the sore begins to look more typical of syphilis, a blood test is thought of, a specimen of blood is sent to a pathologist, and the result not infrequently returned as doubtful or negative. Still a diagnosis is not made and more time is lost, till, finally, a positive blood reaction, or the outbreak of secondary symptoms, makes the diagnosis clear. All this time the spirochaetes have been multiplying in the patient's tissues, and the latter have been surrounding it with barriers of new connective tissue, which make it increasingly difficult for remedies eventually to reach the parasite. If in the first instance the surgeon had caused a little serum to ooze from the *margin* of the sore by scraping it lightly with a scarifier, by rubbing it over with spirit and drying off the spirit, or by rubbing it fairly energetically with a dry swab, had allowed the serum to run into a capillary tube (such as is used for calf lymph), a procedure which is fully as easy as the taking of a blood specimen, and had then dispatched the specimen to a pathologist, a diagnosis in the case of syphilis would have been reached in practically every case within a few minutes of the opening of the parcel. Another mistake which is commonly made is to apply an antiseptic ointment to the sore when it is first seen, and some time later, when the sore takes on a suspiciously syphilitic appearance, to take the specimen for microscopical examination. If by any chance an antiseptic has been applied to the sore, and the specimen has to be posted, less time will be lost in the end if it is dressed for a few days with simple saline solution or boiled water, since the application of an antiseptic to the sore always causes the spirochaetes to retire to the deeper layers.

For over four years we have made a rule of microscopically examining the exudate from every sore, however trivial and unlike syphilis it may appear, and are convinced that is impossible for anyone, however experienced he may be, to recognize a syphilitic sore in its earliest stage without the aid of the microscope. This is the stage, however, in which, as we have said, it is of prime importance to commence treatment, and it follows that the surgeon who would do the best for his patient will never neglect this method of making an early diagnosis.

By repeatedly demonstrating the certainty with which a diagnosis of syphilis can be made by means of dark-ground illumination, by enlarging on the trivial appearance of many sores in which we have demonstrated the *Spirochaeta pallida*, and by frequently speaking in the presence of our patients of the advantages of early treatment, we have gradually educated the soldiers under our charge to take serious notice of the merest abrasions of the penis. Certainly the microscope often reveals no spirochaetes, and later events show that the sore was non-syphilitic; but, on the other hand, it is becoming more and more common for soldiers in the London District who are infected with syphilis to "report sick" when the sore is no larger than a split pea. It is worth the trouble of many negative examinations of non-syphilitic venereal sores to have the satisfaction of detecting one case in such an early stage, and commencing treatment at once. Circumstances make it, of course, easier to educate the soldier in these matters than the civilian, but we cannot help thinking that if all practitioners realized the value of an early diagnosis of syphilis and the ease with which it can be carried out, their knowledge would gradually be conveyed to the public.

In connexion with the examination of venereal sores another point may be mentioned here. Occasionally it happens that a patient is doubly infected by one exposure. A few days after exposure a soft chancre develops in which the *Spirochaeta pallida* is not discovered, but the patient subsequently develops secondary syphilis. The early stages of such syphilitic infections may easily be missed if a close watch is not kept on the sore, especially at the end of two to four weeks after it has made its first appearance.

It is not necessary to enlarge on the Wassermann test as a means of diagnosis. Of its value there can be no doubt, but the ideal treatment of syphilis commences before the Wassermann reaction is of any value in diagnosis, and the place of this test is properly in the subsequent observation of the patient.

TREATMENT.

The diagnosis having been made on the lines suggested above, it becomes necessary to lay down a programme of treatment and to see that it is carried out.

In the following remarks we shall speak of salvarsan rather than of neo-salvarsan, because we have chiefly worked with the older preparation. A short experience with neo-salvarsan inclined us to the belief that it is not quite so active as salvarsan in corresponding doses, but our chief reason for adhering to salvarsan is that neo-salvarsan is more easily oxidized than salvarsan, especially at high

temperatures, so that we did not think that it would be suitable for use in the tropics, and preferred to find out what could be done with a preparation which could be used wherever our soldiers serve.

It is hardly necessary now to produce further proof of the superiority of salvarsan and mercurial treatment over exclusively mercurial treatment. This is agreed upon by practically every one who has had an opportunity of comparing fairly the two methods, and we need only mention here the figures we produced at the International Congress of Medicine this year. These showed that of 378 patients treated exclusively with mercury in regular courses 83 per cent. relapsed clinically at least once during the first year, while out of 152 patients treated with two injections of salvarsan and nine injections of mercurial cream, or three of salvarsan and four of mercurial cream, only 3.9 per cent. relapsed clinically within *a year of the suspension of treatment*. Three months after the suspension of two years' regular mercurial treatment, out of 289 cases, more than 40 per cent. gave a positive reaction to the original Wassermann test, while twelve months after the suspension of a course of treatment with salvarsan and mercury, which lasted not more than nine weeks, 19.4 per cent. gave a positive reaction.

It is of the utmost importance that the patient be impressed with the necessity of undergoing a thorough initial course of salvarsan and mercury, and of subsequently submitting himself to periodical examinations. If the patient will not undertake to submit to a thorough and definite course of salvarsan and mercurial treatment, it would probably be wiser to withhold the salvarsan, since in this case the patient would generally be compelled by a succession of reminders to prolong his treatment over what is really a critical period.

In the early stages of salvarsan treatment a large number of cases in the early primary or secondary stage received a single injection of salvarsan, which caused the rapid disappearance of all clinical symptoms. Impressed by this and believing themselves to be cured, they refused further treatment, if such was advised. A very large proportion of these cases subsequently relapsed; in other words, became infectious again, and doubtless many of them transmitted the disease to others. Further, it is amongst these patients who received what we now know to have been a quite inadequate amount of treatment that practically all the cases of cranial nerve disturbance have occurred. It has been established by the researches of Dreyfus and others that the meninges are infected during the early stages of syphilis in a far larger proportion of cases than was ever imagined (83 per cent. according to Dreyfus), and it is clear that the first course of treatment must be calculated to prevent infection of the central nervous system. We cannot discuss here the question of cranial nerve disturbances being due to salvarsan poisoning as some have asserted. It is sufficient to say they occur for the most part amongst patients who have received considerably less salvarsan than is usual, and that when promptly recognized and treated with salvarsan before the nerve has become irrevocably damaged they almost invariably recover. The only two cases of the kind which we have had support these remarks, since both of them received much less salvarsan than we are in the habit of administering.

It may be said here that it is easy to prescribe a thorough course, but it is another matter to get a free and independent patient to carry it out. We grant that it is a much more difficult question with civilian patients than with military, but if the medical adviser thoroughly believes in the truth of his advice he can do a great deal towards making his patient carry it out.

Another question of interest is the safety to life of salvarsan injections. We consider that when due regard is paid to the precautions which we will shortly mention it is fully as justifiable to recommend a salvarsan injection as a mercurial. No death or symptom causing any alarm has followed any of the 3,800 injections which have been given at the Military Hospital, Rochester Row. Out of some thousand injections which have been given at the Portobello Military Hospital, Dublin, there has been one death, and out of nearly 6,000 injections given by American army surgeons, one death can be attributed to salvarsan. In each of these cases the death followed the second of two injections given within fourteen days of one another. For ourselves, we think that the administration of salvarsan is safe enough to justify its recommendation in all ordinary cases of syphilis.

Precautions in Special Cases.

There are cases in which it is advisable to proceed cautiously, and amongst these we would include all suffering from disease of the central nervous system, of the heart, lungs, or other viscera. In these it may be necessary to commence with 0.2 to 0.3 gram salvarsan, and so to administer the total amount of salvarsan considered necessary by means of a number of small injections rather than in a few larger ones. We make a practice of examining the urine of every patient before injecting salvarsan, and when albumin is found administer a first dose of 0.2 to 0.3 gram, according to the condition found, and repeat the dose or slightly increase it a week later if the first injection produced no untoward symptoms. Neisser recommends that in all cases a cautious start should be made so as to make sure that one is not dealing with an idiosyncrasy to salvarsan. This can, of course, always be done provided that in the end the patient receives in a reasonable time the total amount which is considered adequate, but in ordinary cases of syphilis, where the patient appears to be otherwise healthy, we prefer to give the total amount of salvarsan which we consider necessary for one course in a few full doses rather than subject the patient more frequently to the inconvenience of preparation for and the after-treatment which an intravenous injection of salvarsan entails.

Considerations Concerning the Intervals between Doses.

Another question connected with the safety of salvarsan concerns the intervals of time at which full doses can be injected. It has been the practice of some surgeons to give full doses at intervals as short as forty-eight hours, but more and more are now advocating longer intervals than this. Quite possibly in the great majority of cases it may be safe enough to give two injections of 0.6 gram within two days of one another, but, as far as we can judge from the literature, in practically every one of the cases in which epileptiform convulsions followed by coma and death on the fourth or fifth day after an injection has occurred, it was after two or more full doses had been administered at an interval which was something less than fourteen days. The number of cases in which these symptoms, which we think must be attributed to salvarsan poisoning, have followed the first injection must be very small, since we had been able to find records of only three. It seems to us, therefore, that we have to reckon with a very occasional idiosyncrasy to salvarsan, and that this is manifested practically only when the remedy exercises a cumulative action. There is no point in running even the very slight risk of such a calamity as we have described if it can be avoided by sufficiently spacing out the injections, and, for reasons given below, we think that the periods between full doses of salvarsan can be lengthened to more than fourteen days without lessening the therapeutic effect if mercurial injections are given in the intervals.

Preparation and After-Treatment.

The preparation and after-treatment of patients are of some importance to the safety of salvarsan. We recommend the administration of a purgative on the night before, and allow no food for four hours previous to an injection. The patient is made to rest in bed till the following day, being allowed solid food for the first time three to four hours after the injection, provided there is no vomiting or diarrhœa. Though he gets up on the following day, the patient is not allowed to do anything more than lounge about. Possibly this is an excess of caution, but a certain proportion of patients have a slight rise of temperature on the second evening, and it is from those who have dined out, gone to the theatre, or otherwise dissipated on the second day that we have had the most complaints of slight malaise and headache for a few days after the injection.

Our principle in regulating the intervals between doses is based on the following conception:

That the first full dose probably destroys every *Spirochæta pallida* which it can easily reach through th

circulation, but that in the midst of infiltrated areas a certain number of spirochaetes escape complete destruction since the remedy does not reach them properly.

That after the first injection the surviving spirochaetes remain inactive: nature begins to remove the infiltrations which resulted from the previous activity of the parasite, and in doing so sets free the spirochaetes buried there. This process of repair, as is well known, takes a few weeks (witness the length of time the induration remains round a well-developed primary sore), and until it is fairly well advanced it seems to us that another dose of salvarsan is practically wasted.

That it is necessary to ensure that as these sclerosed areas are opened up and the spirochaetes within them are freed the latter are allowed no headway. This we think can be done by keeping a containing force in the form of a small amount of mercury continually circulating in the blood.

Our conception may be quite wrong, but is supported by this, that in a large proportion of relapses the symptoms which characterize the relapse are an exact reproduction of those for which the patient first sought treatment. This is especially marked in primary cases, in which the relapse is very frequently manifested by a return of the primary sore without other symptoms.

Plan of Course.

Regarding the course which can be considered the minimum, it is as yet impossible to speak quite definitely, since we have not been able to devise one course which is at once the most economical and followed by no relapses. We have administered salvarsan or salvarsan and mercury on certain definite plans to successive series of cases, and have subsequently followed the progress of as many of our patients as possible in order to determine which plan of treatment is followed by the smallest proportion of relapses. The results of our investigation on these lines have been published from time to time and were read to the International Congress of Medicine this year. They dealt with the following schemes:

1. A single intramuscular injection of salvarsan.
2. Two intravenous injections of 0.6 gram salvarsan at an interval of a fortnight.
3. An intravenous injection of 0.6 gram salvarsan, followed at intervals of fourteen days by three intravenous injections of 0.3 gram salvarsan.
4. Three intravenous injections of 0.6 gram salvarsan at intervals of fourteen days, with four weekly injections of calomel, all within the same month.
5. An intravenous injection of 0.3 gram salvarsan, followed by nine mercurial injections, and lastly, an intravenous injection of 0.3 gram salvarsan.
6. An intravenous injection of 0.6 gram salvarsan, nine weekly injections of mercurial cream, and lastly, an intravenous injection of 0.6 gram salvarsan.
7. An intravenous injection of 0.6 gram salvarsan, five weekly injections of mercurial cream, a second intravenous injection of 0.6 gram salvarsan, five more mercurial injections, and lastly, an intravenous injection of 0.6 gram salvarsan.

Disregarding (5), which proved an utter failure, the use of mercury in conjunction with full doses of salvarsan gave better results than the exclusive use of salvarsan. The last course mentioned (three salvarsan and ten mercurial injections) promises to give the best results of all, though we have not yet treated a sufficient number of cases to judge its merits fairly. This course is more intensive than one consisting of two salvarsan and nine mercurial injections, which our tables showed to have given the best results up to date. It can, therefore, be expected to be followed by fewer relapses, and as it is necessary to improve on the course of two salvarsan and nine mercurial injections, which was followed by 5 per cent. clinical and 18 per cent. Wassermann relapses within twelve months of suspending treatment, we can only consider that for the present the minimum course should consist of three salvarsan and ten mercurial injections distributed in the manner we have described.

In cases in which it is necessary to make a cautious start by giving 0.2 to 0.3 gram salvarsan, provided that the patient has shown no untoward symptoms after the first dose, we inject the balance to make up 0.6 gram within five to seven days of the first injection. When the central nervous system is obviously involved, although it is necessary to commence cautiously, the total amount of salvarsan administered in one course should be greater (even double the amount) than that which is given in ordinary cases, and the cerebro-spinal fluid should be examined at the end of the course.

In primary cases it is important to treat the sore, either by excision, cautery, or with calomel ointment. This is the order of preference, and the choice must depend on the site of the sore.

All Cases to be Kept under Observation.

Subsequent observation of the patient is indispensable. As a routine measure in dealing with soldiers we excuse attendance for three months after the first course, as we have found that relapses do not occur during this period. At the end of three months a clinical examination is made and the blood tested for the Wassermann reaction by the original and by Stern's method. Subsequently, in secondary cases a clinical examination is made every month, and the blood is tested every three months till the end of the first year. In primary cases a clinical examination is made every month for three months, and then every three months till completion of the period of observation, the blood being examined every three months as in secondary cases.

Our practice during the second year varies with the nature of the case when first treated. Primary cases are excused further attendance when the blood has continuously given a negative reaction, and there have been no clinical signs for twelve months after *suspension of treatment*. Secondary cases are observed at regular intervals throughout the second year. A patient is considered to have relapsed, and to require further treatment, if at any time he either shows clinical signs of syphilis or his blood serum gives a positive Wassermann reaction.

In case of relapse, there is a temptation, especially if the only manifestation is a weakly positive Wassermann reaction, to prescribe only a single dose of salvarsan, in the hope that this, added to the previous treatment, will complete the defeat of the spirochaete. We think this a mistake, and that, on the slightest sign that the disease is not eradicated, the patient should receive a course which is as strenuous as, or more strenuous than, that at first prescribed.

Standard of Cure.

There is nothing more difficult than the laying down of a standard of cure for syphilis. It is well known that absence of clinical signs for many years is of little value, and the Wassermann test is of too recent date to enable us to judge what reliance we can place on a series of negative reactions.

As a routine measure we have adopted the standard mentioned in speaking of the observation of patients—that is, in primary cases twelve months, and in secondary cases two years, freedom from signs, clinical or Wassermann, from the date of the last injection.

In a number of special cases, such as when the patient wished to marry at an early date, we have given the provocative injection of a small dose of salvarsan, followed by three blood tests at intervals of two, six, and thirteen days, which has been advocated by Gennerich and by Milian, but in only one did the previously negative serum become positive, and we have not adopted it as a routine test for cure.

SUMMARY.

We have endeavoured in the above remarks to convey our views as to the lines on which we think early cases of syphilis should be managed. Summed up, they amount to this:

1. Commence treatment in the early primary stage whenever possible.
2. Destroy the primary sore whenever possible and insist on the patient receiving not less than three salvarsan and ten mercurial injections in the manner described.
3. On no account neglect subsequent observation, and prescribe a definite course which is just as strenuous as in the first instance if the patient shows the least sign, clinical or Wassermann, that his disease has not been eradicated.
4. Be cautious about pronouncing a patient cured in any case, but certainly do not do so till he has continued free from all signs, clinical or Wassermann, for at least a year

after suspension of treatment in primary cases, and two years in secondary cases.

The price of salvarsan and the amount of special work which such a scheme entails make it inapplicable under present conditions to patients in poor circumstances, but it is hardly necessary to say that the control of syphilis in its earlier stages affects the lives and happiness of a sufficiently large percentage of the population, present and future, to make it of national importance.

When we had to rely on mercury, it was practically hopeless to attempt such a control, but with salvarsan, which renders the patient non-infectious so quickly, and has so markedly shortened the duration of treatment, our course, though still difficult, has become clearer, and it is not too much to hope now that we shall be assisted with adequate measures in removing a great curse from our midst.

II.

THE TREATMENT OF SYPHILIS AT THE ROYAL NAVAL HOSPITAL, CHATHAM:

RESULTS DURING THE LAST TWO AND A HALF YEARS, AND THE INFERENCES TO BE DRAWN FROM THEM.

BY SURGEON GILBERT BODLEY SCOTT, R.N.

To those members of the medical profession who have not had much experience in the modern treatment of syphilis, and who are considering it from the practitioner's point of view, the following observations may be of value.

During the period in which I was in charge of this work 1,100 cases were treated by salvarsan and neo-salvarsan and 2,500 injections were given. For its proper control Wassermann reactions are necessary, and in the period mentioned over 3,000 reactions were carried out.

There are between 108 and 130 beds at Chatham Hospital set apart for venereal disease only. The cases come from ships, chiefly in the North Sea, and the disease is contracted at the various ports on the East Coast of Scotland and England. In addition every few months batches of invalids arrive from ships abroad.

VARIATIONS IN VIRULENCE.

Three points in the incidence of the disease are worth mention. Some towns produce a much more virulent infection of syphilis than others do, and I always consider that the Bombay and Gibraltar infections are not only much more severe than English and Scottish, but are not so amenable to mercury. Syphilis contracted in China will produce in Europeans a very rapid and virulent form of the disease.

This geographical factor should undoubtedly influence the initial intensity of the treatment, its duration, and the prognosis. By prognosis I do not mean danger to life, but likelihood of relapse to active disease and a permanent positive Wassermann reaction.

EXTRAGENITAL INFECTION.

The treatment of extragenital chancres is influenced in the same manner. I have found that the fingers and lips are the most frequent sites.

Naval medical officers thoroughly realize the danger of lip infection on board ship, and men liable to pass on the infection are segregated in the sick-bay or sent to hospital.

Were this precaution not taken lip chancres would be far more frequent. It is just as necessary to instruct syphilitic patients in the prevention of the spread of disease as it is the tuberculous. The old stone fountain and chained drinking cup must have caused in hot weather many cases of syphilis and other communicable diseases. The prevention of finger chancres lies not with the removal of offending nails, splinters of wood, and other excuses, but in improving the morals of man.

DIAGNOSIS.

The early diagnosis of syphilis is of vast importance, and the bearing on the treatment, the prognosis, and the patient's life is not yet properly realized by three-quarters of the medical profession and not at all by the public.

If there is to be no return to the Contagious Diseases Act of 1864, then the abolition of the hidden plague in relation to syphilis must still lie in the treatment of men and women immediately they become sources of danger. Early diagnosis and treatment must go hand in hand, and to carry out this ideal successfully some kind of institution analogous to the tuberculin dispensary must be formed.

Importance of Early Diagnosis.

I will take the subject of early diagnosis first and summarize beforehand what I am going to say.

1. For our purpose the diagnosis by the Wassermann reaction is practically useless.
2. The only useful means of diagnosis of early syphilis is the demonstration of the *Spirochaeta pallida*.

I am firmly convinced that if all cases of syphilis were examined in the first stage of the disease, and in the first few days of that stage, before antiseptics have been applied, the spirochaete could and would be easily found.

I am also firmly convinced, although I cannot give definite proof, that if these early cases are treated by two or three injections of salvarsan or neo-salvarsan and a short course of mercury, 99 per cent. of these will be cured.

When once the Wassermann reaction has become positive or the sore hard and indurated this treatment will not cure more than 60 per cent., and I should remain doubtful of that 60 for the next fifteen years.

If, however, a prolonged course of mercury—two to three years, with intermissions—is given to these cases in conjunction with salvarsan, a better outlook is obtained.

Not many years ago we allowed our patients to reach the secondary stage before we made a diagnosis and treated them. What would be said if we to-day waited to see if secondary deposits of cancer occurred in the liver in a suspected case of epithelioma of the lip, or a tumour in the region of the appendix to burst before diagnosing an abscess?

It sounds ludicrous, but it is really not more absurd than at the present day to wait for a positive Wassermann reaction or secondary symptoms. I am of the opinion that when once a man has developed secondary syphilis at least 60 per cent. of his chances of being cured have gone. When the disease has been established for a year I do not believe there are more than 20 per cent. in whom a cure is effected or in whom the infection dies out. I except from this statement McDonagh's method of treatment, because I have had no practical experience of its results and am not qualified to give an opinion. Why should we condemn our patients to such a poor outlook when early diagnosis and treatment give such a good one?

Demonstration of the Spirochaete.

The diagnosis of early syphilis by demonstration of the spirochaete is easier than examining for tubercle bacilli in the sputum.

The methods are two: (1) By Chinese ink: (2) by the dark-ground illumination. Both these methods are described in any book dealing with laboratory work, but a laboratory is not required, only the most simple apparatus, a microscope, and experience in recognizing the various forms of spirochaete.

If we do not get our patients in this early stage these methods are still easily employed, provided that no antiseptic has been applied to the sore, and that it is not a healing one.

Under these two latter conditions a diagnosis must be made from its character or by Wassermann's reaction. A hard indurated sore, if not malignant, is almost certainly syphilitic. A soft shallow one more often turns out to be syphilis than "chancroid." Therefore, the nature of a soft sore cannot be diagnosed by its appearance.

Date of Wassermann's Reaction.

Wassermann's reaction becomes positive about three to four weeks after the appearance of the sore in most cases. Sometimes it is earlier, sometimes later. I refer here to reactions done by Fleming's method, or the original when using cholesterin antigen.

The appearance of the reaction probably means that the infection has passed beyond the local stage, that it is

general and producing certain tissue changes. If this be so, it is obvious that our aim must be to treat the patient effectively before the reaction is positive, and not only my results but those of all of us who have had experience in salvarsan treatment and Wassermann work bear this out.

Should there be any doubt about the nature of an early case I think that we should err on the side of a positive rather than a negative diagnosis. Treatment is simple and quickly carried out, and the gain is well worth the risk. On the other hand, if we wait for other diagnostic signs the outlook for cure is greatly clouded.

If medical men are to be able to carry out this early diagnosis and treatment it is evident that all those likely to run the risk of being infected must also fully realize its value. To obtain this ideal this important point must be brought home again and again to men or women in any suitable form of organized lecture dealing with venereal disease.

Treatment.

The treatment of syphilis has passed through great changes during the last few years, discussions have been innumerable, and opinions on the relative value of the methods most diverse.

In the Early Stage.

There is one great fact, however, of primary importance on which we are unanimous, and that is the value of early treatment. By this I mean treatment before the Wassermann reaction has become positive.

My own results have produced 100 per cent. of negative reactions lasting from one to two years after treatment had been stopped. To these cases I had given two or three injections of 0.6 gram of salvarsan, or 0.6 and 0.75 gram of neo-salvarsan, combined with three months' treatment by mercury inunctions, injections, by the mouth, or combined. The mercury is pushed until salivation occurs; this I consider most important.

In giving intramuscular injections of mercury equivalent to a grain of the metal or a grain of calomel this effect is usually not obtained, nor is it by the mouth unless large doses are used. Therefore for the first week or so with either of the above forms of treatment I order inunctions of mercury with a lanoline basis, and continue the combination until salivation occurs.

It will often be found that the tonic effect of salvarsan permits a much larger amount of mercury to be given than could otherwise be done. Most cases, I am convinced, do not get sufficient mercury at the outset. Generally mercurial injections are not enough.

This intensive treatment needs care and discrimination. It would not do to mercurialize a patient with pyorrhoea alveolaris, with non-syphilitic albuminuria, or one who is very anaemic.

If there is an idiosyncrasy to mercury, it will be shown in the first few days and harm prevented. One has not the same control if an equivalent amount of the metal were given intramuscularly, and it is on this account that I prefer the combination.

In Secondary and Late Syphilis.

We are all agreed upon the necessity of early treatment and of combining mercury with salvarsan in all stages of the disease. There is, however, a great diversity of opinion in the method of treatment which we should adopt in secondary and late syphilis. Were salvarsan or neo-salvarsan injections free from risk we could give them *ad libitum* and settle once and for all the question of its producing permanent cures in these stages of the disease. Repeated injections of either drug are, however, accompanied by a most definite risk, and, moreover, one which we are in many cases absolutely unable to guard against, a large number of fatal results having occurred in men who, apart from their disease, seemed perfectly strong and healthy.

Causes of Accidents in Treatment.

I have had one of these extremely distressing results, and a second man died under very suspicious circumstances. Two other cases caused great anxiety for twenty-four hours and were saved by a procedure which I shall mention later.

To enable us to adopt a line of treatment we must have some idea of the causation of these fatal results, so that, as far as is possible, we may avoid them.

Deaths have occurred during or immediately after an injection from heart failure, or a few days after from acute nephritis. I think they are due to the administration of salvarsan to cases where desperate measures were deemed advisable, or where the drug was contraindicated and should not have been given.

What concerns us now are the deaths which occur after repeated injections of salvarsan or neo-salvarsan in men in whom, after thorough examination, there were no contraindications found.

I will briefly review the explanations which have been adduced.

1. *Accumulation of the Drug.*

An overdose of arsenic is brought about by non-excretion of the first or previous doses, a further injection being sufficient to cause poisonous effects.

In one of the naval hospitals a fatal case occurred after the second injection, and in the brain arsenic was demonstrated by Fleet Surgeon Bassett Smith.

On reading the reports on the cases at the end of this paper it will be evident that the removal of a considerable quantity of blood in these serious conditions produces a very marked beneficial result, and this fact is, I think, rather in favour of arsenical poisoning.

It is difficult to explain by this theory the fact that in most of the fatal results symptoms have not occurred until forty-eight hours after the second injection. Yet this interval followed in the case above where arsenic was found.

2. *A Form of Anaphylaxis.*

The first injection causes, by the destruction of the parasite, a substance which produces hypersensibility. On repeating the injection a week or ten days later more spirochaetes are killed, and a further output of these substances occurs, and dangerous symptoms of anaphylaxis result.

Perhaps quinine has the same effect in malaria, where blackwater fever results by selective action of the poison on the renal epithelium.

It is very difficult to produce evidence for or against this theory. If it is correct we are between the devil and the deep sea, for if we prevent it by giving injections at very short intervals we run the risk of accumulation of the drug, and if we space our interval, even I suppose to a year, we do not get rid of the danger.

3. *Damage to the Renal Epithelium causing Retention of the Products of Metabolism and Uraemia.*

I do not think this need be seriously considered. In none of my cases was the urine diminished. In the case that died there was a faint cloud of albumin only on boiling, and no inflammation of the kidney *post mortem*. One case which recovered gave albumin in the urine for one day only, the other never showed albumin at all. The case the nature of which was complicated by diphtheria did not give albumin tests, nor were the kidneys abnormal on *post-mortem* examination.

Contracted pupils and vomiting were absent, and in all the onset was sudden, resembling in every case that of an epileptic fit.

4. *Epileptic Manifestations.*

One case which recovered gave later a definite history of fits. The other case which recovered gave a family history of fits, but said that he had had none himself.

The parents of the man who died stated that to their knowledge their son had not had fits. A similar statement was obtained from the parents of the man who died with diphtheria.

I do not think that epilepsy explains these cases, yet I consider it dangerous to treat epileptics with salvarsan.

Stimulation of the Spirochaetes.

I think that the explanation of many cases is as follows: The first injection of salvarsan or neo-salvarsan has, instead of killing the spirochaetes, excited them to increased activity. This I know does occur. I have seen over a dozen cases in which no benefit followed the injection, but ten days later the throat and tonsils have become acutely inflamed and ulcerated, and in the lesions the specific spirochaetes were swarming. This is not the same as Herxheimer's reaction, which occurs a few hours after.

This late effect is not seen in lesions on the penis, because local treatment has been applied; occasionally it is seen in the skin, a rash suddenly appearing, and conforming to the syphilitic type.

One would only expect this to occur in tissues which are usually implicated, such as skin, mucous membrane of mouth, brain, nerves, arteries, and kidney; and if this is the case in one of these regions why should it not be so in the others? There is clinical evidence to show that this does happen.

The so-called neuro-recurrences are examples of this, and give rise to intractable headache, optic neuritis, deafness, and facial paralysis. One of my cases developed acute aortitis with considerable cardiac embarrassment, which cleared up with large doses of mercury.

What follows in these cases when a second injection is given?

1. The excessive local development of the spirochaete in the areas I have mentioned is prevented from doing permanent injury; or

2. An acute general toxaemia is produced causing marked local effects. This may be due to destruction of all the parasites by the arsenic, thus setting free a poisonous dose of endotoxin. I do not think this happens. The arsenic is not in sufficient quantity; the symptoms should come on within an hour of the repeated injection, and not forty-eight hours after.

I think the explanation is that the destruction of some of the spirochaetes allows an antigen in the form of endotoxin or other destructive product to pass into the circulation; this excites the body cells to produce spirochaeticidal substances (analogous to bacteriolysin) in excessive quantity. These substances in the presence of complement cause the sudden and complete destruction of the local masses of spirochaetes, and thus set free a large and intensely poisonous dose of endotoxin, which produces a general and local effect.

On *post-mortem* examination of the tissues so affected no spirochaetes are found. None were demonstrated in the brain examined by Fleet Surgeon Bassett-Smith, nor could I detect any in the arteries of my fatal case, although a most extraordinary condition of endarteritis was present.

This condition is analogous to Wolff-Eisner's "sterile death," where in acute bacterial infections the protective forces have caused the destruction of the bacteria to such an extent that a poisonous dose has been freed and the animal dies, and the blood is found to be sterile.

This explanation accounts for the interval of forty-eight hours between the injection and the onset of symptoms, it accounts for the sudden onset, and for the pathological conditions found *post mortem*—namely, cerebral inflammation, acute endarteritis, acute nephritis and suppression of urine.

If this is the correct explanation, then the vast importance of thorough mercury treatment for a month before giving the next injection is obvious. During this month excessive local developments of parasites will be got under control, or they will have made themselves evident and given us the needed warning.

We cannot, however, ignore Fleet Surgeon Bassett-Smith's analysis of urine in salvarsan cases, where for fourteen days arsenic was present, and the danger of accumulating doses must be recognized.

The Results of Treatment by Salvarsan and Neo-salvarsan.

I have pointed out the ways in which serious symptoms may develop, and indicated the lines on which we should proceed in order to avoid them.

Are we justified in advising our patients to run the risk entailed by salvarsan or neo-salvarsan treatment?

To decide this we must have some idea of the result obtained. I will take first the results as judged by Wassermann's reaction. I employed for these the original method, but used cholesterin antigen.

Of 25 cases of primary syphilis with negative Wassermann reaction 100 per cent. remained negative one year after treatment. Five of these developed fresh infections, and one of the five a third infection. They were treated by two injections of salvarsan and three months' mercury.

All the following cases were recommended to carry out mercury treatment until the Wassermann reaction had been negative for six months. I have ascertained the fact that mercury was given.

I will give the number of cases and the percentage showing positive reactions six or more months after treatment.

Primary Syphilis with Positive Reaction.

6 cases received one injection ...	100% positive.
74 cases received two injections ...	31% ,,
18 cases received three injections...	22% ,,

Secondary Syphilis under One Year's Duration.

184 cases received two injections ...	50% positive.
52 cases received three injections...	40% ,,

Syphilis of more than One Year's Duration.

136 cases received two injections ...	70% positive.
31 cases received three injections...	58% ,,

These 506 cases are all those on whom I was able to do reactions six or more months after their injections; they were all taking mercury at the time their blood was taken.

Up to two years after treatment I found cases becoming positive which I had placed in the negative columns; these had to be transferred to the positive, and for this reason the above results are better than the same batch of cases would give a year hence. How much is due to mercury and how much to salvarsan I cannot tell.

Doses.

The doses that I have employed have been for an average man 0.6 of a gram of salvarsan and 0.75 of neo-salvarsan, the first injection in this case being 0.6 gram; these have been given at intervals of seven to ten days.

All men are kept in bed on the day of the injection, and, needless to say, a very complete examination of every case is made before treatment.

Relapse.

Let us now examine the incidence of relapse cases—that is, those returning with active disease.

Of the first 1,000 cases only 22 have relapsed to my knowledge, the time since treatment varying from six months to two years. Of these, 10 had received only one injection. The significance of this lies in the fact that I only treated 80 men with one injection and 920 with two or more. Therefore it may be said that after one injection 12.5 per cent. relapse, and after two or more only 1.3 per cent.

I do not think that this is quite a fair estimate of the number of cases relapsing, as it was not possible to follow all, but it is accurate enough to be very suggestive as to the relative value of one and two injections.

Another very important result from the naval point of view is the immense reduction in the number of days a man is sick in hospital. The average per case has been twenty-two. Staff Surgeon Shaw has pointed out the enormous reduction that this form of treatment has produced when compared with the days of mercury alone. Every one knows the power that salvarsan has of rapidly healing lesions, and there would be no gain in my adding further instances.

The sense of well-being and fitness which most patients experience and retain for at least a year after salvarsan administration is a point worthy of note. As I have pointed out before, it allows a more thorough treatment by mercury.

Course of Treatment to be followed.

We have now summed up the results of the line of treatment which I have adopted. We are dealing with men presenting no contraindication to salvarsan injections, and who have been fully examined. What advice are we to give?

In primary syphilis with negative Wassermann reaction, cure the disease by intensive treatment, giving at least two injections of salvarsan at intervals of ten to fourteen days, or as soon as the arsenic is out of the urine when tested by Marsh's test. A three months' course of mercury must be started at the same time.

The danger of accumulation is avoided; anaphylaxis we cannot avoid; we can ascertain a history of epilepsy; the kidney theory I do not believe, and the danger, which I maintain is the most important, is absent, as no excessive increase of spirochaetes in a dangerous area is possible.

In primary syphilis with a positive reaction, and in the secondary stage of less than a year's standing, I advise one injection of salvarsan, followed a month later by another, and possibly a third, and mercury for a year after the reaction has been negative. In this stage of the disease to give injections at seven-day intervals is attended by a definite risk to the patient's life. As only about half of these cases attain a negative reaction, and we do not know how long they will keep it, I do not consider that we are justified in trying to stamp out the disease in this manner. It is on this ground that I advise the longer interval between injections and the protracted course. It holds out quite as good a chance of cure.

Syphilis of over One Year's Duration.

Where there are no active signs I do not consider it worth the patient's while to have salvarsan.

If there are active signs injections may be given at a month's interval. Mercury must be the chief means of preventing relapses.

Some cases will possibly lose their infection; in others the disease will remain latent for the patient's life, liable to recrudesce when circumstances are favourable.

Mercury should probably be continued at intervals for life.

Where the patient fully understands the risk entailed and expresses a very definite wish to have it, the following course may be given. Weekly injections of neo-salvarsan intravenously and mercury intramuscularly until a negative Wassermann reaction has been obtained two days after the last neo salvarsan injection. Seven to nine injections may be required to produce this. I have practically very little experience in this form of treatment, which is that recommended and carried out by McDonagh. For many reasons it is not practicable in the navy, where the prolonged treatment is being carried out.

Against this latter method the following arguments are adduced:

1. That an arsenic resistant strain of spirochaete is formed.

2. That the disease is simply rendered latent by prolonged treatment by driving the parasites into unapproachable tissues. This is almost analogous to quinine in small doses given to malarial patients. I think that this result is just as likely to follow a seven or nine weeks' course as a longer one.

Comparison between the two methods cannot be made until very careful statistics have been compiled. If there is an extra risk entailed in the frequent injections, then a corresponding increase in its value must be shown to compensate for it.

Throughout this paper I must ask the reader to consider that what I have said applies equally to salvarsan and neo-salvarsan, except where the latter is specially mentioned. I refer also to intravenous and in no case to intramuscular injections of either of the above drugs.

I wish to emphasize the value of a method of treatment which used to be frequently employed, but of late years has died out. This is arsenic by the mouth. In cases where salvarsan cannot be given it often produces a more rapid disappearance of syphilitic lesions than mercury.

CASES.

Epileptiform Convulsions (? Cases).

One had a secondary syphilitic rash: the other was an earlier case, with glandular enlargement and primary sore. Wassermann's reaction was positive in both.

Typical epileptic seizures, in one case preceded by a cry, followed in both forty hours after the second injection of 0.6 gram of salvarsan. Fits became more and more frequent till they occurred every five minutes. In each case there was a stage of rigidity lasting one minute with considerable cyanosis. There was no clonic stage, and urine was not passed involuntarily. Complete unconsciousness was present. One case was bled to the extent of 20 oz., the other 15 oz. Marked improvement occurred at once: but in the latter case, where 15 oz. only were removed, the fits began again after an hour. Chloroform inhalations were given and no more fits took place. Both men remained unconscious for fifteen hours, but had completely recovered after twenty-four. One case had albumin in his urine, which was drawn off by catheter, but it disappeared next day. The other had none. Bromide was given per rectum.

One man gave a definite history of epileptic fits which he had had when ashore, and so had not been found out. The other admitted epilepsy in the family.

Convulsions followed by Death (1 Case).

This man had a two years' history of syphilis; he had received twenty-eight injections of mercury. The active disease had appeared four months before I saw him. The Wassermann reaction was positive. The first injection of 0.6 gram of neo-salvarsan was well borne, and his weight increased during the next week. Seven days from the first a second injection of 0.75 gram of neo-salvarsan was given. Forty-six hours after this, while in bed, an epileptiform seizure occurred, which was preceded by a cry: the blood tension was very high, convulsive movements frequent, followed later by opisthotonus. The respirations increased in rate to 36 per minute, and the pulse to 123, and thirty-six hours after the onset the patient died. Consciousness was never regained after the onset of symptoms.

Treatment consisted in bleeding, inhalations of chloroform, bromide, and removal of spinal fluid by lumbar puncture; this, however, was not under increased pressure.

Post mortem the meninges were congested; the brain substance appeared normal. The aorta (thoracic and abdominal), the internal and external iliacs, and the mesenteric arteries and coeliac axis showed a most marked condition of acute endarteritis.

The kidneys appeared normal, and all other organs. There was a faint cloud of albumin in the urine when boiled. The urine was passed, when alive, involuntarily; there did not appear to be any diminution in quantity. On microscopical examination no spirochaetes were found in the arterial walls. Cultures from the meninges and spinal fluid and blood were sterile.

Paralysis following Diphtheria (1 Case).

History of sore throat for a month. Syphilitic rash was present. Wassermann reaction was positive. Two injections of salvarsan with ten days' interval were given, each dose being 0.6 gram. Forty-eight hours after the second injection the throat, which was normal on admission, became inflamed, and the uvula covered with typical diphtheritic membrane, from which I obtained pure cultures of Klebs-Loeffler bacillus. Soon after this the patient complained of pain in the back, the legs became paralysed, then the sphincters, consciousness was lost, breathing became stertorous from paralysis of the soft palate: after this the left arm became paralysed, and finally the diaphragm, death ensuing eighteen hours after the onset of the first symptoms. There were no signs of cerebral irritation, the pupils were equal.

The *post-mortem* examination gave no clue to the cause of the illness. Cultures from brain and meninges were sterile. The liver and kidneys were tested for arsenic by Marsh's test, and no signs of the drug found. The urine contained no albumin. The clinical picture presented by this and the above case was totally different, and I do not consider that it was due to salvarsan, but that it was an acute diphtheritic toxaemia. The following case strengthens this diagnosis.

Man, aged 22, history of being sick at home for two weeks with tonsillitis. Returned to duty at the end of this time, but complained of pain in the legs. He was on this account sent to hospital. The day after admission both legs became paralysed, knee-jerks were lost, the paralysis rapidly spread, involving sphincters, arms, soft palate, tongue, and finally the diaphragm, and death occurred within thirty-six hours of admission.

This case had never had salvarsan, nor was there a history of syphilis. The last two cases were clinically almost identical; the second case also producing typical diphtheria bacilli, and the throat being characterized by the same sudden recrudescence to the typical diphtherial condition.

These cases point very strongly to diphtheria being the cause of Landry's paralysis.

Facial Paralysis.

This occurred suddenly two months after one injection. The Wassermann reaction was positive.

Deafness.

Two months after one injection for secondary syphilis almost complete deafness came on within a week. The condition was bilateral. A second injection caused an improvement, but the man had to be invalided. This case had been under mercury treatment since the first injection.

Optic Neuritis.

This man received an injection of 0.6 gram of salvarsan for syphilitic rash. Two months later he complained of pain in the eyes and headache. Ophthalmoscopic examination showed marked optic neuritis. The Wassermann reaction was positive. I at once administered a second injection of salvarsan. The result was wonderful; all symptoms rapidly disappeared, and the man was discharged to duty with normal vision, and has remained perfectly well for over eighteen months.

Cerebral Lesions.

Fleet Surgeon Bassett-Smith has kindly permitted me to add some notes made from his report on the pathological condition found on examination of the brain of a man who died after the second injection of neo-salvarsan.

The meningeal vessels were markedly congested. Oedema was present in the cortex of the frontal area.

On the right side the Sylvian vein was full of hard clot extending half-way up the frontal lobe.

The centrum ovale on section showed punctate haemorrhagic spots. The internal capsule of both sides showed haemorrhagic areas with acute capillary congestion. The pons and medulla showed the same condition. Arsenic was found to be present.

Microscopically.—The infiltrated areas showed congestion of all the small vessels, with collections of blood cells round about the capillaries.

In portions impregnated with silver by Levaditi's method no spirochaetes were detected.

Sections of the larger arteries in the Sylvian fissure showed periarteritis and endarteritis.

Sections of the thrombosed Sylvian vein did not indicate an infective origin.

I wish to express my indebtedness to Fleet Surgeon Bassett-Smith, C.B., and also to Surgeons Campbell Ross, W. G. Custance, and V. J. Richardson, all of whom have largely participated in the work done at Chatham.

"STANDARD" OPAQUE MEAL FOR RADIOGRAPHIC EXAMINATIONS.

By ALFRED C. JORDAN, M.D.Cantab., M.R.C.P.

For radiographic examinations opaque meals are administered with several different objects in view. The purpose may be to elucidate physiological principles, as in the examination of the healthy stomach, and various kinds of meal must be used to ascertain the effect of different foods on gastric peristalsis, and on the rate at which the stomach empties itself. In all such investigations the presence of the opaque substance (usually a salt of bismuth or the sulphate of barium) modifies the character of the food so greatly (making it unpleasantly dry and earthy) that the conclusions cannot be assumed to be directly applicable to the case of ordinary meals. We are driven to determine the behaviour of the healthy stomach with our opaque meals, and to endeavour to discover which deviations from the usual behaviour are due to organic disease.

In my own case the opaque meal is almost always given to ascertain the presence of disease, or abnormality of structure or of function, and in the vast majority of cases I examine not merely the stomach but the entire length of the alimentary tract from the mouth to the rectum. My method of procedure has been evolved, little by little, as my experience has grown, the main object being to obtain the greatest amount of trustworthy information. To attain this object I have made a practice of following my patients to the operating room whenever an opportunity has arisen. In this way I have been able to compare the appearances shown in my radiograms with the condition of the parts as actually revealed at the operation.

The "Standard Meal" I am about to describe is that used by me in the majority of cases in which I make a complete investigation of the digestive tract, and this includes examinations for intestinal stasis.

Method of Examination for Intestinal Stasis.

The patient takes his usual breakfast. About one or two hours later he comes for his first examination.

An emulsion is prepared consisting of bismuth carbonate, 4 oz.; sugar of milk, 1½ oz.; water in amount sufficient to make an emulsion which is not thick.

The whole drink makes less than a tumblerful. In the case of big subjects, 5 oz., or even 6 oz., of bismuth carbonate are given, with a correspondingly greater amount of sugar of milk and water; even this makes no more than a tumblerful. The water should not be quite cold, especially in winter. I have not had a single case in which this dose has produced the slightest untoward result.

The sugar of milk in this "standard meal" has a threefold function: (1) To make a satisfactory emulsion, (2) to increase the bulk of the meal, and (3) to make the meal pleasant. In some cases it has a mild laxative effect.

The patient is first examined upright on my revolving saddle seat with canvas back.[1] The chest is examined, first in the anterior view, and then in the right anterior oblique view. While in this position (R.A.O.) the patient begins to drink the bismuth emulsion, and its course down the oesophagus is well shown; if this appears normal, and the bismuth begins to enter the stomach at once, the patient is swung round to the anterior position, and the level of the great curvature of the stomach is noted as the first portions of bismuth reach it. The final level of the great curvature is lower, the difference being due to the weight of the bismuth.

After the vertical examination the patient is examined on the couch—supine, supine after lying on the right side, prone. All details regarding the size, shape, and position of the stomach and duodenum may be determined at this examination, and accurate observations may be made of the motor activities of these organs. Subsequently the bismuth passes through the small and large intestines, and enables them to be studied to great advantage. My results have been published from time to time.[2]

Objections to the Method Examined.

Several objections have been raised to my method. I propose to consider them individually.

1. "The bismuth carbonate neutralizes the free acid in the stomach." I use it for this very reason; it overcomes (partially at any rate) the pyloric contraction, whether physiological or pathological, and allows the bismuth to enter the duodenum in sufficient amount to give a good view of it (the duodenum), and to permit of an accurate study of its form and functions.

1a. "But if you neutralize the free acid in the stomach you diminish the peristaltic activity of the stomach." A few inconclusive experiments have been described in support of this contention, but an extended experience with bismuth carbonate has shown me that active peristalsis may be observed when this salt is used, while the excessively powerful peristalsis and the reversed peristalsis that occur in some cases of pyloric stenosis may be demonstrated to perfection with an emulsion of bismuth carbonate given in the way I have described.

2. "If you give the bismuth when there is food in the stomach, and allow more food to be taken before all the bismuth has left the stomach, you cannot form correct estimates of the rate at which the stomach empties itself." True, but the rate of emptying of the stomach is not a point of paramount importance; certainly it is of far less importance than a proper view of the duodenum, and the duodenum cannot, in my experience, be properly examined if the bismuth (or barium) be given on an empty stomach, for in the latter case the bismuth has to encounter persistent spasm at the pylorus—a physiological effect which I have recently described and explained.[3] Further, even with barium given on an empty stomach, the rate at which this organ rids itself of the barium varies greatly on different occasions in the same subject. One day the barium may be all out in two or three hours, while another day it may take six or eight hours, or even longer. Patients do not appreciate being kept without food so long! There is a further grave objection to withholding food beyond the usual time: one of the most powerful factors in causing the contents of the large bowel to advance is the taking of food. It follows that the results obtained for the rate of passage through the intestines are seriously invalidated in cases in which food is withheld.

3. "If you place a large dose of bismuth in the stomach, and then cause your patient to lie on the right side, the duodenum will become unnaturally distended and will give a picture which does not correspond with the actual state of affairs." The answer to this is conclusive. All my patients are examined in this way. My reports show that in a dozen patients I get evidence of marked duodenal distension in one or two only (40 in the last 334 patients);

and in these I always find associated changes in the lower ileum, and usually in the large intestine. In the normal cases the duodenum is small and short, and the bismuth is seen to pass through it by active peristalsis, without delay or regurgitation, into the jejunum as soon as the patient is placed in the supine posture from the right lateral position. Moreover, my results, both normal and abnormal, are repeatedly checked at operations, and the actual state of the duodenum is found to agree closely with my previous account of it. In a thin subject I have seen the duodenum dilated and showing strong "writhing" peristalsis though it contained no bismuth—in fact nothing but Benger's food.

4. "The larger the dose of bismuth the greater will be the delay in its passage through the intestines; consequently the intestinal stasis, if present, will seem to be greater than would be the case with ordinary food, and stasis may appear to be present when there is no stasis to ordinary food." The former part of this assertion is true to a slight extent (though the laxative action of the sugar of milk prevents delay in most cases), but as all my patients are given the same dose of bismuth (never less than 4 oz. in an adult), the normal time of passage is well known to me, and all my results are comparable. With a smaller dose it is impossible to obtain satisfactory pictures of the duodenum, the terminal portions of the ileum, the appendix, or even the large intestine.

5. "An emulsion does not fill the stomach sufficiently to give a good picture of its outline." "An emulsion does not mix uniformly with the gastric contents, but falls to dependent parts." The former assertion would be true if the emulsion were given on an empty stomach; this is not my practice. The latter statement is partially true; but it is true of almost all opaque meals, and no fallacy is introduced provided the observer checks his vertical and supine examinations with a view in the prone posture. The various changes of position—vertical, supine, right lateral, prone—ensure the proper mixing of the gastric contents with the bismuth.

By allowing the patient to take his usual meals throughout the investigation a true picture is obtained of the usual progress of the ingesta through the alimentary canal.

Advantages of an Emulsion.

The advantages of an emulsion over a solid meal are numerous.

(*a*) *From the Patient's Point of View.*—A smooth emulsion, slightly sweetened by the presence of lactose, is incomparably pleasanter, easier, and speedier to take than a bowl of porridge, or gruel, or bread and milk containing bismuth or barium. Many of my patients have been given one or other of these solid meals by other observers previously, and their verdict is absolutely unanimous. As a rule they volunteer the statement unasked. This refers to a porridge containing only 2 oz. of bismuth or barium; if 4 oz. were to be given in this way, the bulk of the meal would have to be so great that no patient could take it. In the case of barium sulphate, I find it necessary to give no less than 10 oz. of this substance in order to get the same pictures of the intestines as with 4 oz. of bismuth carbonate. Many patients (for example, cases of gastric ulcer) cannot or will not take a solid meal, or their doctor (very properly) will not permit it. A large dose of bismuth carbonate is decidedly soothing to the stomach and intestines. This is a property of great value, many of the patients being subject to nausea, vomiting, flatulence, colic, etc. It would be impossible to follow a test meal through the alimentary tract in some of these subjects but for the beneficent action of the dose of bismuth carbonate. It is a daily occurrence for a patient to volunteer the statement that he (or she) had a better appetite for lunch after the bismuth than had been the case for many months.[1] There is certainly less flatulent distension during the presence of the bismuth in the large intestine, and even if there be no evacuation of the bowels for four days or more, the patients are able to tolerate it without discomfort, although they could not go so long under ordinary conditions without suffering from nausea, pain, distension, headache, etc.

(*b*) *From the Observer's Point of View.*—The time taken to eat a bowlful of porridge or bread and milk might well be spent more profitably, and doctors bringing patients have often complained to me of the loss of time inflicted on them in this way by some radiologists. The œsophagus is not observed, and as a rule no examination of the chest is made, the observer concentrating his attention on the stomach at once. No view of the duodenum is obtained—a most important omission; this is due, as I have often explained, to the spasmodic contraction set up at the pylorus by a solid meal. The difference is most striking, for with an emulsion of bismuth carbonate given after a meal the duodenum is shown well filled with bismuth, and its behaviour may be studied with certainty and precision as the peristaltic waves pass along it, forwarding its contents into the jejunum in normal cases. The cheapness of barium sulphate does not compensate for the loss of these advantages.

Conclusion.

Those observers who are content to examine the stomach only, and do not seek information regarding the duodenum or the ileum, can give any opaque test meal they think best; in my own case, having come to the conclusion that the whole alimentary tract should be investigated in each case, I hold that an emulsion of carbonate of bismuth should be given—composed as stated in the early part of this paper—and administered in the manner there described, and the examinations should be carried out as I have described in my papers on intestinal stasis and gastric ulcer.[2,3]

For the purposes of an opaque enema I am now in the habit of using 12 oz. of barium sulphate mixed with kaolin (Bolus alba, *German Pharmacopœia*) and warm water.

"Butter-milk" is largely used in America in the composition of opaque meals; I have never tried it, but I imagine it would increase the acidity of the gastric contents, and so prevent the proper filling of the duodenum.

I am indebted to Dr. F. M. McPhedran, jun., of Toronto, for many valuable suggestions after reading the rough notes for this paper.

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SOME ACUTE ABDOMINAL CASES.

BY

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These cases have been seen recently, and I have considered them worth recording as acute abdominal conditions.

Cases Nos. I and II presented the usual symptoms of an acute abdomen, the remaining four had abdominal symptoms, which were acute and permitted no delay. The distinction I draw between the acute abdomen and those cases presenting acute abdominal symptoms is, with the former there is general peritonitis, due to some cause such as rupture of stomach or intestine either by disease or trauma, rupture of abscess, etc.; and the latter, where there is no general peritonitis, and the acute symptoms are caused by some form of internal strangulation of gut, cyst with twisted pedicle, ectopic gestation, intussusception, etc.; but in either group of cases the word "acute" means no delay. The difficulty of diagnosis is usually great, and is often made more difficult by delay and by the administration of some form of opiate.

Case I.—*General Peritonitis; Cause Doubtful.*

E. H., aged 70, male, was seen, in consultation with Dr. Thomas, during the afternoon, with a history of an inguinal hernia, which had been reduced the same morning, but vomiting had continued with marked abdominal tenderness; the knees were drawn up and the pulse was 140. I considered that, although the hernia had been reduced, strangulation had not been relieved.

The patient was conveyed in a motor ambulance to a nursing home, and I operated at 8 p.m. the same day, assisted by Dr. Thomas.

Incision was first made to explore the site of the inguinal hernia on the right side. On opening the sac, thin, purulent, non-smelling fluid escaped. The wound was left open and a

drainage tube sutured in. A median subumbilical incision was then made; a quantity of the same fluid escaped. The pelvis appeared full; this was all swabbed out and a search made for a primary abscess. The appendix vermiformis was normal; some thickening of the sigmoid was felt and thought to be probably malignant, causing suppuration in the extraperitoneal cellular tissue, which had ruptured into the peritoneal cavity. The condition of the patient forbade further search. A large drainage tube was passed into the pelvis and another of the same size through a stab incision in the left iliac fossa. The central incision was then closed except at the lower angle.

The patient rallied well, drainage was free, and recovery, though slow and impeded by chronic bronchitis, was satisfactory.

The patient left the nursing home in six weeks. The central and right inguinal incisions firmly healed, but the discharge from the stab wound in the left iliac fossa persisted, and was occasionally faecal and needed dressing once in twenty-four hours. The bowels acted well, assisted by laxatives and enemota. He was seen three months later in excellent health; the sinus in the left iliac fossa was still discharging, but caused little inconvenience.

CASE II.—*Acute Peritonitis (Traumatic).*

E. G. H., aged 45, a strong, heavy-built man, was admitted under my care at the South Devon and East Cornwall Hospital with the following history:

Two days prior to his admission he was unloading some heavy grates, one of which struck him a glancing blow on the lower abdomen; this happened at 11 a.m.; he did not think much of it, and had his dinner at noon and worked on till 5 p.m.; pain then came on, which lasted through the night. He was admitted to hospital the next morning and was seen on admission. The abdomen was not distended, but was generally tender. The pulse was 120, but increased in a few hours to 140. The abdominal symptoms becoming more pronounced, I was asked to see him at 8 p.m.

It was quite evident that here was an acute abdomen, but the history was misleading, and I was at a loss to know what had happened. I therefore opened the abdomen to see, making the subumbilical median incision; a quantity of small gut with flakes of lymph on the surface, and much non-smelling, turbid fluid escaped on incising the parietal peritoneum; there was no free gas. The intestines were brought outside the abdomen, wrapped in warm towels, and carefully searched for injury, but the only sign of injury was some superficial ecchymoses on the lower ileum. Multiple enterotomies were made, and some pints of foul thin faecal matter was drawn off. The appendix was normal; drainage tubes were placed in the pelvis and both kidney fossae; the parietes were closed in layers.

Excellent recovery ensued, and he left hospital six weeks later. He was seen four months after leaving hospital in robust health, doing his usual heavy labourer's work.

I am strongly of opinion that the multiple enterotomies played an important part in the recovery of this patient, they certainly much facilitated the return of the intestines

CASE III.—*Dermoid Cyst of Ovary with Twisted Pedicle.*

E. C., aged 24, seen in consultation with Dr. Anderson, Bodmin, was six months pregnant. She complained of a sudden acute attack of pain in the lower abdomen twenty-four hours before I saw her. There was no history of indigestion or appendix attacks, and the pregnancy had advanced to its present date in a normal way. The fundus of the uterus could be made out just above the umbilicus, the abdominal wall was rigid; temperature 99° F., pulse 130. On vaginal examination a large semifluctuating tumour was found to occupy Douglas's pouch: it appeared quite separate from the uterus. Her condition was sufficiently acute to justify immediate operation.

Operation.

The patient was placed in the high Trendelenburg position and a 6 in. median subumbilical incision made; the pregnant uterus was pushed forwards and outside the abdomen, and the intestines packed up; a dark-coloured tumour occupied the pelvis and was connected to the right cornu of the uterus by a tightly twisted pedicle; light adhesions were sponged off, and the mass, which proved to be a dermoid cyst of the right ovary containing hair and teeth, delivered.

The manipulations had no effect on the pregnancy, which, Dr. Anderson reports, had a satisfactory ending at the ninth month.

CASE IV.—*Appendix Abscess without Localizing Symptoms.*

J. W., a young farmer, aged 35, I saw at a farmhouse in consultation with Dr. H. Davis of Callington, with the following history. He had been taken ill five days previously with vomiting and abdominal pain; a chemist prescribed some medicine; the symptoms continued, and Dr. Davis was called in. He found the temperature 100.6°, the pulse 120, the face flushed and pinched, persistent vomiting of a biliary character and faecal odour, the abdomen distended and tympanitic, with some dullness in the right iliac fossa; McBurney's point was very tender and the bowels confined. Dr. Davis considered it a case of appendicitis, and I was asked to see him next day. I found the abdomen board-like; the iliac fossae were resonant; respiratory movement absent; there was marked visible peristalsis; rectal examination was negative.

Operation.

I regarded the case as intestinal obstruction, possibly due to appendix trouble but more likely to some other cause. I therefore made a median subumbilical incision; distended small intestine presented; this was packed away and search made for the cause of obstruction. With some difficulty the caecum was brought into view, and the appendix was found coiled up in omentum and enveloped in foul pus. This was dealt with in the usual way, the stump of the appendix buried in the caecal wall, the site of the abscess cavity drained through a stab wound in the right iliac fossa, and the central incision closed.

The central incision in this case was unfortunate, as it added to the difficulty of dealing with the appendix. The after-history is unimportant. The patient had quite recovered in six weeks.

CASE V.—*Appendix Vermiformis Strangulating Ileum.*

A healthy child, aged 3½, was seen in consultation with Dr. Webb of Looe, who informed me that the illness had begun a fortnight previously with constipation, vomiting, straining at stool, passing of blood and slime, and pain in the right iliac fossa. The case was thought to be an intussusception, and I was asked to see the child with a view to operation. The child looked very ill, the legs were drawn up, no tumour could be felt, as the abdomen was rigid. The history pointed to some acute obstruction, and probably an intussusception. An incision 3 in. long was made over the right rectus. On opening the peritoneal cavity no intussusception was found, but a loop of dark-coloured gut was seen lying in the right iliac fossa, and on further search it was found to be retained there by a tight cord which proved to be the appendix, which was adherent to the brim of the pelvis. The appendix was removed and the stump buried in the caecal wall. The nipped gut was in good condition; a large stercolith occupied the lumen of the appendix. There was no peritonitis, but the internal strangulation by the appendix caused symptoms similar to intussusception.

CASE VI.—*Retro-colic Hernia.*

I. B., aged 2½, had always been healthy till the present illness, which began three days before I saw the child with constipation, passing mucus and blood; there was some resistance in the right iliac fossa, and the right rectus was decidedly on guard. I was asked to see the child late at night by Dr. Reveley Clarke with a view to immediate operation. The child looked ill, having the acute abdominal aspect; it was evident that no time should be lost, and it was conveyed to the hospital, where I opened the abdomen two hours later. A small incision 2 in. long was made over the right rectus, with a view to diagnosis; the large intestine was collapsed, the small distended; the appendix and ileo-caecal junction were normal. The incision was enlarged upwards and a mass felt behind the caecum. Small gut was noticed entering the retro-caecal fossa; by gentle tension on this gut and pressure on the outside of the caecum 15 in. of ileum was delivered in fair condition. It was washed with saline and returned into the general cavity and the parietes closed.

The child left the hospital well in three weeks.

I regret I did not remove the appendix in this case; the retro-caecal fossa lies between the ileo-appendicular fold and the mesentery of the appendix, and would have been obliterated by removal of the appendix with its mesentery.

THE late Dr. F. W. Forbes Ross left estate valued at £1,077 gross, with net personalty £523.

THE centenary of the discovery of iodine by Bernard Courtois of Dijon was celebrated in that city on November 9th, when M. A. C. Matignon, Professor of Mineral Chemistry in the Collège de France, delivered an address on the history of the discovery and on the development of the use of iodine during the century. Courtois actually made his discovery in 1811 when examining the waste liquors produced in the manufacture of sodic carbonate from the ashes of seaweed, but did not report it to the Académie de Sciences in Paris until 1813.

COLONEL GORGAS, who has accepted the invitation of the Chamber of Mines to advise as to the sanitation of the Rand, with special reference to the prevalence of pneumonia, sailed from Southampton on November 15th, and will proceed direct from Capetown to Johannesburg. He is accompanied by Dr. Darling and Major Noble, who are associated with him in the sanitary administration of the Panama Canal zone. On November 14th Mr. J. Howard McFadden entertained a party of guests, including Sir Thomas Barlow, Sir Francis Champneys, and Sir Ronald Ross, at a private dinner to meet Colonel Gorgas and his companions.

EIGHTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

Held in Brighton on July 23rd, 24th, and 25th.

PROCEEDINGS OF SECTIONS.

SECTION OF BACTERIOLOGY AND PATHOLOGY.

J. W. Eyre, M.D., M.S.Lond., President.

PAPERS ON ANAPHYLAXIS.

I.—W. E. Dixon, M.D., F.R.S.,

Professor of Materia Medica and Pharmacology, King's College.

It has long been recognized that from time to time the injection of a substance of a protein nature, such as blood serum, into animals or man may cause poisonous symptoms, though such an injection is quite without effect in the vast majority. This susceptibility was said to be due to individual idiosyncrasy—a word which explains nothing; it is now known to be a condition of protein sensitization. This condition was familiar to us in other ways: The incubation period of a second vaccination is shorter than that of the first; tuberculin and mallein are without effect when injected into normal animals, but the same injection causes a marked poisonous reaction if made into tuberculous calves or horses suffering from glanders respectively.

Charles Richet in 1902, whilst investigating the action of certain poisons from the sea anemone (congestin and thalassin), noted that after a dog had received a first injection of one of these substances, not sufficient in amount to produce any observable effect, a second injection some three or four weeks later rendered the animal extremely ill, and often caused its death. Therefore the first injection had produced a condition which was the opposite of protection, and to this hypersusceptibility or supersensitiveness Richet gave the name "anaphylaxis." It was soon shown that this reaction was not peculiar to *congestin*, but was general for all substances of a protein nature, just as the formation of antibodies and the precipitin reaction are general for all proteins; in other words, the injection of proteins, toxins, serums, and the like can all give rise to this condition. After an animal has received an injection of some protein it is hypersusceptible to that protein and to no other, the reaction being specific for each protein. The tissues do not react in this manner to drugs and chemical substances of known constitution. Certainly it has been stated that if blood serum from patients who are supersensitive to antipyrin or iodoform is injected into the guinea-pig, this animal also will exhibit an increased sensitiveness to these drugs; this condition, however, bears no true relation to anaphylaxis.

One remarkable fact is the extremely small dose of the sensitizing protein (antigen) necessary to produce the anaphylactic state. A guinea-pig which has received one hundred-thousandth part of a cubic centimetre of such an inoffensive serum as that of the horse is never again quite the same animal. If, let us say in a month's time, it again receives an injection, which would be quite without effect on a normal animal, it may die in a few minutes. Even such a minute dose as 0.000,000.05 gram of egg-white has been stated to be enough to induce the anaphylactic state in the guinea-pig; large doses act quite well, but the latent period before the condition is observed is longer. The protein molecule is the essential reacting agent, since pure crystalline egg-albumin will produce anaphylactic shock in a guinea-pig which has been sensitized to egg-white. The conditions, then, essential for anaphylaxis are the introduction of a substance of a protein-like nature into the body, and of which it is not a normal constituent, followed after a suitable interval by a second dose. The interval between the first and second injections should be not less than a week; in man the full effect is not reached till a much later period, whilst in the dog the maximum effect is about the fifteenth day. This condition of supersensitiveness when once present lasts for a variable time in different animals—from some weeks in rabbits to some years in guinea-pigs. Within certain broad limits the symptoms of anaphylactic shock are the same for each animal no matter what the nature of the sensitizing protein employed. Hence it has been argued that these identical symptoms probably require a common cause, and this is one reason why the hypothetical poison, anaphylatoxin, has been requisitioned. All tissues do not necessarily respond to antigen in the same degree. The liver in the dog is affected by antigen to a greater extent than other organs, and in this instance it certainly looks as if some movable poison is formed, as the other tissues are affected secondarily from the liver.

The *symptoms and signs* of anaphylactic shock can be divided into three groups—circulatory, muscular, and local.

Circulatory symptoms are perhaps the most characteristic: the arterioles are paralysed, the vessels become widely dilated, and as a direct result blood pressure falls. The heart-beat is weaker, but not sufficiently weak to cause the fall of blood pressure. The liver is mainly responsible for this condition, since anaphylactic shock is ill-defined or absent if the liver is excluded from the circulation. These circulatory effects are especially characteristic in the dog and cat. It is not known how the liver induces shock; its vessels are dilated and its vascular volume is much increased, but of course this is not enough to account for the changed blood pressure, and it seems not unlikely that toxic products are liberated in relatively large quantities here which cause a secondary intoxication. No doubt some of the nervous symptoms which have been described are secondary effects of the low blood pressure.

Plain muscle tissues in certain situations undergo tonic contraction. This effect is especially well seen in the bronchioles and occurs in all animals, guinea-pig, rabbit, cat and dog, but it is peculiarly intense in the guinea-pig because in this animal the bronchioles are lined with a thick and folded mucous membrane which effectively blocks the lumen when constriction occurs; it is well marked in rabbits, but perhaps less defined in cats and dogs. After an intravenous injection of the antigen the bronchioles close up immediately and atropine, which paralyses the motor nerves to the bronchiolar muscles, has no influence either in preventing or relieving the spasm. Some of the nervous symptoms, convulsions, tonic and clonic spasms, may be regarded as secondary results of asphyxia. Other plain muscle which may be thrown into contraction is that of the stomach and intestines, and vomiting and diarrhoea is a not uncommon effect of anaphylactic shock in the dog. The uterus also enters into tonic contraction. In all these instances the only essential factors, so far as we know for certain, are the sensitized plain muscle and the antigen.

Local effects generally take some hours to manifest themselves. The experiments of Dunbar and Weichardt are instructive; each was injected under the skin with a suspension of pollen grains. Dunbar was a martyr to hay fever, and almost immediately he experienced an acute attack, with the coughing, sneezing and congestion of the mucous membranes, congestion and swelling of the face, and general urticaria; the attack passed off in twenty-four hours. Weichardt being normal was not influenced by the injection. Skin symptoms such as itching and oedema are not uncommon in cattle, and form one of the milder group of symptoms in man. A second injection of antigen subcutaneously in the rabbit sometimes causes local oedema and sloughing at the seat of the first injection. Bloch has shown that the reaction between antigen and sensitized tissue is strictly local; he transplanted the skin from a subject known to be highly susceptible to trichophyton upon a normal person. After the skin had grown healthily again it was found that the transplanted portion was still supersensitive to trichophyton, whilst the rest of the skin was normal. Tuberculin, which acts like anaphylatoxin in the tuberculous, can be used also to obtain a local reaction—Calmette's ophthalmo-reaction, and von Pirquet's skin reaction. The anaphylactic symptoms last only a few hours, and the animal either recovers rapidly or dies.

The explanations which have been offered to account for

anaphylaxis fall naturally into two groups—the side-chain view and the ferment view.

The supporters of the side-chain view point out that the production of anaphylaxis and also of antibodies runs a parallel course, and the incubation period is roughly the same, and they suggest that the symptoms of anaphylactic shock are due to a direct combination of the antigen with the cells of the sensitive animal. They believe that the sessile receptors which are the precursors of antibodies are the basis on which supersensitiveness depends. A cell which carries an increased number of these sessile receptors free to combine with a foreign protein is hypersusceptible to that protein.

The second or ferment view depends upon three facts. First, that all protein molecules contain a poisonous group which can be liberated by an appropriate ferment. Secondly, that the introduction of a foreign protein into the animal body determines a new ferment which splits up that protein and no other. And thirdly, that the symptoms of anaphylactic shock and those resulting from the injection of these products of partial protein hydrolysis (peptones) are identical. Supposing that some serum from an anaphylactic guinea-pig is examined for the presence of such peptones, they will not be found present until after the addition of a little antigen, when proteolysis commences immediately, though the results as shown by peptone formation are not very manifest until after fifteen minutes.

These are the facts; the theory consists in assuming that these products of proteolysis are the cause of anaphylaxis. It may be assumed that the sensitizing injection leads to the formation of a specific ferment, and that the protein of this injection is so slowly digested that the poison set free at any one time is not enough to produce any obvious effect. This view affords an explanation why such minute sensitizing doses can produce such large effects after the reacting dose. It is quite easy to test the effect of antigen directly upon isolated sensitized plain muscle of the guinea-pig. Schultz tried the effect on the intestine and Dale on the uterus. The organ was washed free from blood and suspended in Locke's fluid, so that the automatic contractions could be recorded, and it was found that the addition of traces of the sensitizing protein of the fluid caused marked contraction, whilst all other proteins were without effect. The contraction is immediate, and therefore Dale argues that it is unlikely to be caused by a ferment liberating some toxic cleavage product, because this would take time. A gradual onset of anaphylactic symptoms is perhaps the rule in the dog, but in the guinea-pig and rabbit there is no delay. Although this criticism is certainly valid and cogent, especially as Abderhalden has shown that fifteen minutes' incubation are required between sensitive tissue and antigen before peptones can be detected, yet it is not completely destructive, and especially should it be remembered that such a strip of plain muscle probably carries a large amount of ferment in proportion to the amount of antigen necessary to cause the effect, and further, that the peptones would be liberated under ideal conditions for producing an effect. Any fat-free protein when heated to 78° C., with 2 per cent. caustic soda in alcohol is split up into two fractions, one of which, a poisonous fraction, remains in solution in the alcohol, and when injected into animals causes the symptoms of anaphylaxis. The addition of antigen to sensitive serum induces proteolysis, and whatever the nature of the antigen the poisonous substance has identical physiological properties. To this substance, which is sometimes regarded as precipitin, the name of "anaphylatoxin" has been given. It is easy to prepare a similar toxic substance from the normal guinea-pig's serum by digesting it with china clay, agar, or even an emulsion of nerve-tissue, and in each case after standing the supernatant liquid contains an anaphylatoxin.

Here, then, is a third view as to the cause of anaphylaxis, that the poison is produced by physical means due to the adsorptive properties of a colloid. It is, then, at least possible that the formation of anaphylatoxin from mixing antigen and serum may be the result of some physical change in the state of aggregation of the colloids inducing, as Traube believes, a change of surface tension. Other evidence is collecting which supports this view; the injection into the circulation of animals of colloidal solutions of inorganic substances produces some of the characteristic effects of anaphylaxis; a solution of common salt given by the mouth to sensitive guinea-pigs for some days inhibits the action of antigen; the administration of the drugs belonging to the group of indifferent hypnotics and anaesthetics, the narcotic power of which run parallel with their effect on surface tension, will prevent anaphylactic shock at least for a time. These facts certainly suggest strongly that the reaction between antigen and sensitized serum is not chemical. It may be noted before proceeding that if the serum from a supersensitive animal be injected into a normal animal, that property is transferred, and the supersensitive state is also transmitted by the female to her progeny.

Clinical Significance.

Anaphylaxis is not merely a question of academical interest, but is also one of considerable practical importance; a person may be rendered hypersusceptible to a disease at will. It is true that few people show any decided supersensitiveness to an injection of ox serum even though they may be meat eaters; but then we do not absorb our protein as such, but as the relatively simple amino-acids.

Attention has been drawn already to hay fever, and spasmodic asthma may be cited as a condition easily brought about in the supersensitive. In this connexion cat asthma, which is generally regarded as reflex constriction of the bronchioles from the irritating odour of the cat, assumes a new significance. Horse asthma is also not unknown, and there are those who suffer from asthmatic attacks merely from riding behind horses. Expired air has been shown to contain a protein which is able to sensitize animals, and this, when inhaled, may account both for the local anaphylaxis in asthma and for the condition in those cases in which there is hypersusceptibility to horse serum. In the latter instances all the symptoms of true anaphylaxis may, within a few minutes, follow a first injection of horse serum. This condition is, however, one of great rarity. These cases of true anaphylaxis must not be confounded with serum disease, which is generally characterized by fever, a rash, and some oedema; here the larger the dose of serum administered the greater the chance of an attack, but the trouble rarely arises until a week or ten days after injection. Calcium salts, even when given by the mouth, are said to check this condition.

A relatively large number of people exhibit some supersensitiveness to foods: some cannot eat eggs, especially if they are lightly boiled, because cutaneous rashes, migraine, and alimentary disturbances occur. This idiosyncrasy is often seen in members of the same family, and it may be hereditary. It is worth noting that such an alimentary anaphylaxis to eggs has been obtained experimentally. Mussels, plaice, crayfish, oatmeal, strawberries, and other foods occasionally cause similar effects. In the supersensitive these symptoms are rapidly and certainly produced; minute doses only are required, and the symptoms are identical with those which are seen in the lower animals produced by experimental anaphylaxis. Sometimes, though not often, an apparent cause for these conditions can be found; thus Billard mentions a child nourished on horseflesh, which showed typical anaphylactic shock after an injection of antidiphtheritic serum.

The means by which such shock can be eliminated deserves some consideration. Sometimes it is urgent that a patient who has received a dose of serum at some earlier period should now receive a second dose. For example, during an epidemic of diphtheria at a school some of the scholars may receive a prophylactic injection of antitoxin and at a subsequent period may contract the disease. It may be argued that the principle of prophylactic injections under these circumstances is wrong, as we may be masking a carrier, but still the practice is adopted and must be considered. In such cases an antitoxin prepared from some animal other than the horse can be substituted for the ordinary antitoxin, and some of the manufacturers prepare an ox serum for this purpose. If a patient receives a series of injections at short intervals, not longer than five or six days apart, anaphylaxis does not occur. If it is doubtful whether a patient is supersensitive to horse serum, several methods exist for determining this factor. Perhaps the simplest is to obtain 2 c.cm. of the patient's serum and add this to 1 c.cm. of

horse serum. If this mixture is incubated for fifteen or twenty minutes anaphylatoxin is formed provided the patient is sensitive, and in this case its injection into a guinea-pig will result in anaphylactic shock. In man the period of maximum danger extends from one to six months after an injection of serum, and the reaction may not disappear for a year. A principle of treatment which is frequently adopted in cases in which anaphylactic shock is feared consists in a preliminary injection of 0.1 c.cm. If after three hours no untoward symptoms appear a full dose may be given.

II.—G. Sims Woodhead, M.A., M.D.,
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Those who have gained some practical knowledge of the methods of production and manifestations of anaphylaxis realize what an important share this phenomenon is destined to play in discussions on certain pathological conditions, and in moulding opinions as to the nature of the processes involved in the cure of infective disease. Although this question has come to the front, especially in connexion with treatment consisting of the injection of single or repeated doses of antitoxic serums, this is by no means the most pressing of the questions associated with the anaphylactic condition. Indeed, we may take it that although phenomena closely allied to those produced by the true anaphylactic condition (supersensitiveness) are observed in serum treatment, this condition is merely a somewhat atypical example of supersensitiveness. As Dr. Dixon has pointed out, the anaphylactic reaction is the result of the introduction of small doses of a protein into the "exposed" tissue of a living animal organism. This primary injection, spoken of by the French school as the preparatory, or sensitizing, dose, if followed at an interval of from ten days to several weeks by a "stimulating" or "exciting" dose of an even smaller quantity of the same serum, gives rise to phenomena so marked that there is little difficulty in distinguishing the condition; moreover, the specificity of the process is such that several workers have claimed this anaphylactic process as being useful in the demonstration of the specific character of the blood derived from various animals, and have thus ascribed to it considerable value in forensic medical investigations. It is certainly interesting to note that by the application of the anaphylactic method, it is possible to obtain a specific reaction with quite as small quantities of blood as are necessary for the precipitin test; though I think it would appear that more blood is required for the carrying out of this test than for the deviation of complement test. Further experience and elaboration of the process, however, may enable the medical jurist to obtain still more delicate results.

The next condition which requires further elucidation is that associated with disorders such as nettle-rash in persons who are said to have definite "idiosyncrasies." Many different forms of food are *anathema* to certain individuals. I myself, for instance, have on several occasions after eating crab-pie or wild strawberries suffered more than intense discomfort from severe nettle-rash, with the result that, in self-defence, I now avoid both. Moreover, drugs such as salicylates, certain salts of quinine, iodoform, the bromide salts, and even the iodides, may sometimes prove themselves very objectionable through their sensitizing action.

In connexion with the absorption of foreign proteins from the alimentary tract, it is interesting to note that when albuminoids are introduced into the upper part of the tract, where they are submitted to prolonged and active chemical treatment, anaphylaxis is very rarely developed unless there be some lesion in the walls of the canal. When, however, the injection is made into the lower part of the tract—the large intestine, whence, as we know, absorption of material in a comparatively unaltered condition may take place—an anaphylactic condition may result. May this fact not give us some indication as to the lines to be adopted in using tuberculin? Intrarectal administration of tuberculin has, of course, been both recommended and tried; but the recorded results are at present too few and too inconclusive to allow of any very definite teaching being founded upon them. One scarcely associates the supersensitive condition with the ingestion of milk, though it is well known that certain individuals exhibit a great intolerance to this aliment. In the adult this intolerance has been attributed to imperfect digestion, especially when the milk is taken in bulk and coagulated in large masses, and is therefore carried in an undigested condition into the large intestine, where, as has been observed in certain experiments on guinea-pigs, a protein may first act as a preparatory injection, and at a later stage as a stimulating injection. In breast-fed children suffering from lesions of the alimentary tract (and sometimes when no definite lesions can be demonstrated) characteristic anaphylactic symptoms, even followed by death, have been recorded when the children were suddenly transferred to a diet of cow's milk—the homogeneous protein of the mother inducing no supersensitive condition, but the heterogeneous protein of the cow acting violently as soon as there has been time for the induction of the supersensitive condition.

It is evident that the diagnostic value of the anaphylactic condition depends very largely on the specificity of the protein. Jenner foreshadowed this in his extremely careful observations on the local supersensitive condition; this observation is alluded to by Hektoen[1] in an article on "Allergy or Anaphylaxis in Experimental Disease," from which I quote verbatim:

> In his *Inquiry into the Causes and Effects of Variolae Vaccinae, a Disease discovered in Some of the Western Counties of England, particularly Gloucestershire, and known by the Name of Cow-pox*, 1798, he (Jenner) records (page 13, Case 4) that a woman who had had cow-pox thirty-one years before was inoculated with variolous matter, and that "an efflorescence of a palish red colour soon appeared about the parts where the matter was inserted, and spread itself rather extensively, but died away in a few days without producing any variolous symptoms." In a footnote he comments on this phenomenon as follows: "It is remarkable that variolous matter, when the system is disposed to reject it, should excite inflammation on the part to which it is applied more speedily than when it produces the small-pox. Indeed, it becomes almost a criterion by which we can determine whether the infection has been received or not. It seems as if a change which endures through life had been produced in the action, or disposition to action, in the vessels of the skin; and it is remarkable, too, that whether this change has been effected by the small-pox or the cow-pox, the disposition to sudden cuticular inflammation is the same on the application of variolous matter." This remarkably clear statement probably records the first observation of allergy in an infectious disease.

This rapid manifestation of a local sensitiveness may be looked upon as the outcome of a general anaphylactic condition, and the early appearance of the local manifestation, as recognized by Jenner, affords a constant and characteristic diagnostic reaction, which we now know to be almost as characteristic and constant as is the Pirquet cutaneous diagnostic reaction obtained with tuberculin in cases of tuberculosis. In this connexion we should note a further remarkable manifestation in cases of haemorrhagic small-pox. Although vaccination appears to afford very complete protection where the dose of the small-pox virus is not excessive, it would seem that a vaccine virus exerts little or no protective influence against those "massive" doses that occasionally gain access to the individual. Haemorrhagic small-pox has been described, though comparatively rarely, in vaccinated individuals, and Hektoen notes that

> it has been suggested that haemorrhagic small-pox may be an expression of a specially intense reaction between antigen, the preparatory substance, and antibody, the substance produced.

Lytic changes are set up, not in the floating cells alone, but also in the epithelial cells of the capillaries: the result is severe damage to the walls of the capillaries, owing to the action of the lytic antibodies set free by the exciting virus.

An interesting example of the untoward results of the setting up of anaphylaxis is one that affords some explanation of a most mysterious condition associated with operations for the removal of hydatid cysts. There is, of course, but a small percentage of albumin in the fluid of a hydatid cyst—only some 0.5 per cent. It appears, however, that this albuminous fluid may, under certain conditions, act as a "preparatory substance," either through general absorption, or by some slight lesion; for in certain cases where, during operation, there has been an escape of the fluid from a hydatid cyst into the peritoneal cavity, and consequent rapid absorption, death with distinct anaphylactic symptoms has supervened. This phenomenon, of course, was inexplicable before the thread of events involved in anaphylaxis had been somewhat unravelled.

Experiments confirmatory of those carried out by Professor Chauffard may add no new crude facts to our knowledge of this special form of supersensitiveness; but work carried on with a less complex form of albumin than many of those hitherto experimented with may enable us to elucidate further secondary features, and to learn something more as to the specificity of the process.

It has been stated that the proteins of the placenta and even amniotic fluid may act as preparatory and exciting substances in the production of a hypersensitive condition in an individual of the same species as that from which placenta and fluid are taken; but it has never yet been proved that there is any specific poison contained in either of these substances. Wolff-Eisner[2] maintains that the alterations produced by the infection of these substances into animals have not been characteristic of eclampsia, though he agrees that the eclampsia, with its convulsions, nephritis, haemorrhages, etc., resembles closely the "complex" set up by the repeated reabsorption of heterogeneous albumin. He seems to think that the placenta partakes as much of the male element as of the female, and that to that extent the proteins are heterogeneous. We know that under normal conditions the placental villi are actually absorbed towards the end of the period of gestation, and it is quite possible that this process of absorption may be considerably accelerated under conditions in which there is some lesion of the uterine surface, and especially when there is breaking down of the villous tissue; and it is quite possible, and even probable, that the lytic processes that occur towards the end of the period of gestation may, under certain conditions, be greatly exaggerated, and thus give rise to the eclamptic or hypersensitive condition above referred to. Rosenau is distinctly of the opinion that the repeated absorption of villous elements plays this important part in eclampsia: and Wolff-Eisner[3] writes:

> We now know positively that the heterogeneous albumin from the syncytium finds its way into the circulation of the pregnant woman, and under certain conditions eclampsia ensues as the sign of the real absorption of the albumin and the resulting hypersensitiveness.

This author holds, indeed, that the eclamptic condition is only the severest of a group of phenomena, of which urticaria, albuminuria, and the vomiting of pregnancy are the commoner members, resulting from the absorption of heterogeneous albumin.

It is obvious that we can know little of the causes of this series of phenomena until we have a much wider knowledge of what takes place in the absorption of these heterogeneous albumins. Here is a very suggestive line of inquiry for us. Is not contraction of the uterus, even under normal conditions, in part, at any rate, brought about by sensitization of the muscle fibre by an anaphylactic process in which the intermittent absorption of the villous processes of the placenta or their proteins play a part? Gräfenberg,[4] quoted by Wolff-Eisner, states in this connexion that:

> In the first three months the placental villus shows heterolysis—that is, it acts digestively on the serum plate. The purpose of this process is perhaps to facilitate the embedding of the ovum. The fact that during pregnancy, probably as a reaction from the reabsorption of tryptic ferments from the chorion, the amount of antitrypsin in the maternal serum increases to double the normal content, is to be regarded as a sign of the reabsorption of parts of the chorion by the maternal organism.

Whatever we may think of the explanations given, the facts are of extreme interest in connexion with the production of the supersensitive condition in its relation to puerperal eclampsia.

It was in Arloing's laboratory that we first had observations leading up to the inference that in the tubercle bacillus are substances which, introduced into the animal body, diminish the resistance of the tissues, and render them more sensitive to a second infection; but it was left to Koch to describe in detail a series of changes which we now recognize as being associated with a condition of supersensitiveness to these products. He showed that when a normal or healthy guinea-pig receives an injection of the living tubercle bacillus into the subcutaneous tissue there appears to be a latent period, during which comparatively little change goes on at the site of the injection. After this, however, in from ten days to a fortnight, a firm nodule appears. The skin ulcerates, and the tuberculous process progresses until the animal succumbs, the ulcer remaining open until the last. When the guinea-pig has already been inoculated with the tubercle bacillus, and a tuberculous process set up, a secondary inoculation with the tubercle bacillus gives rise to much earlier, though not always more extensive, local changes. Swelling appears on the second or third day; in the centre of the swelling the tissues seem to die *en masse*, the skin ulcerates, and the necrosed mass is thrown off, after which healing of the ulcer may take place, and there is little or no extension of the tuberculous process beyond the point of introduction. In effect, there appears to be a local supersensitiveness, accompanied by a surrounding tissue immunity, which interferes with the extension of the tuberculous process. Tuberculin and dead tubercle bacilli respectively appear to cause corresponding reactions in the healthy and in the tuberculous guinea-pig; and there can be little doubt that this condition of anaphylaxis was associated, in Koch's mind, with the local protection against the invasion of the living tubercle bacillus.

Whilst, on the one hand, we must accept this evidence, it must also be noted, as pointed out by Austrian,[5] working at the Phipps Tuberculosis Dispensary in Baltimore, that the pounded bodies of washed tubercle bacilli give up to water a substance which may be precipitated by absolute alcohol. This substance—a protein—when injected into the peritoneal cavity of a guinea-pig or a rabbit, renders it supersensitive; but in the doses used (15 mg. for the guinea-pig and 50 mg. per kilogram weight of rabbit) it conferred absolutely no immunity against even small doses of tubercle bacilli. In fact, it appeared to render a certain proportion of the animals considerably more susceptible than were the unsensitized animals. So marked, indeed, was this in the rabbit that doses of human bacilli incapable of setting up tuberculosis in the normal rabbit induced a progressive tuberculosis which in some cases proved fatal—apparently bringing the human type of tubercle bacillus almost into line, as regards virulence, with the bovine.

The marked differences in the anaphylactic or supersensitive condition obtained when a heterogeneous protein is introduced into the alimentary canal, as compared with its tremendous sensitizing or anaphylactic power when introduced parenterally, has always attracted attention. Gastric and intestinal splitting up of the proteins certainly runs on different lines from the dissociation that goes on in the other tissues of the body. Moreover, the mucous membrane appears to limit very sharply the passage of any but digested albumin beyond the alimentary tract. In spite of this, a number of those interested in the treatment of tuberculosis have persisted—and not unnaturally, in view of the unfortunate consequences that have arisen as the result of the subcutaneous injection of "large" doses of tuberculin—in giving tuberculin by the mouth, and some appear to have convinced themselves that they have obtained satisfactory results. Under present conditions, I should be inclined to encourage this method of administration, if the substance is to be given indiscriminately by all and sundry, but I should encourage it because I should expect tuberculin so introduced to exert little, if any, profound or constant effect upon tuberculous tissues. Tuberculin, like any other protein-containing body, is digested in the alimentary canal, and not until this has taken place can it be passed on to the tissues. In the digestive tract it appears to be non-toxic, though when introduced parenterally it is so tremendously active. To those who have doubts on this point I would call attention to the results recorded by Dr. L. Cobbett and Dr. A. Stanley Griffith in their report on tuberculin to the Royal Commission on Tuberculosis. They found that large quantities of "old" tuberculin—in one instance as much as a pint—fed to thirteen tuberculous calves had not sufficient stimulating effect upon their tissues to give rise to a diagnostic tuberculin temperature reaction. In 10 of the 13 experiments, there was no rise of temperature at all, whilst in the other 3 there was a rise in one case of 0.2° C., in another of 0.4° C., and in a third of 0.7° C. Other kinds of tuberculin *may* act more energetically when given by this channel. According to Sahli, all tuberculins differ in degree and not in kind, and depend for their activity upon one set of substances—the proteins; but these experiments certainly afford little

promise that the administration of tuberculin by the mouth will help in treatment.

Richet[6] insists that up to the present we have obtained no evidence that tuberculin sensitizes to tuberculin, although the anaphylactic reaction of tuberculous subjects to tuberculin is so pronounced. Although in tuberculin what he calls the "exciting" or "stimulating" substance is present in large quantities, the "preparatory" substance is entirely absent. These observations may be set alongside similar observations made whilst he was studying the action of actino-congestines, the substance with which he first produced the anaphylactic condition. He found later that exciting substances could be dissociated from the preparatory substances, the latter, or a combination of the two, sensitizing the animal, the exciting substance inducing the anaphylactic phenomena. Again, he demonstrated that in an animal infected by the tubercle bacillus preparatory substances are present "which are not present in the tuberculin we use, either because they are not developed in the culture media with the same intensity and with the same ease as in the infected organs," or perhaps because precipitating by alcohol or heating to 200 may so alter the tuberculin that it loses its preparatory power whilst retaining its exciting power. In all probability the immunization set up by the use of small doses of tuberculin is associated with this preparatory process in the first instance, and although the stimulating or exciting process may be essential, a state of unstable equilibrium may be very easily induced during which reaction useless or harmful to the patient, rather than beneficent, may be set up. At present our knowledge of this process is comparatively sketchy. It is maintained by Yamanouchi,[7] Bauer,[8] Edward Lesne and Dreyfus, and Helmholz that a passive anaphylaxis to tuberculin may be transferred from guinea-pig to guinea-pig along with the serum of the prepared animal. The results obtained by these observers, however, are somewhat fragmentary, and Marelli and Josef, and Simon, repeating these or similar experiments, have been unable to corroborate their results. The question is so important, however, and has such a very grave bearing on the treatment of tuberculosis by tuberculin, in view of the many suggested methods of immunization, that more knowledge on this subject must be sought.

This anaphylactic condition promises, I am afraid, to be the *bête noire* of those who are investigating the serum and cell products of cancer. It is obvious that in an animal capable of being supersensitized the periodical injections of emulsions of cancer cells, of growing cells of cutaneous or mucous tissue or of serums from cancerous animals must involve great danger of producing an anaphylactic condition, and just before I came down to this meeting I was interested to receive a letter from Professor Grünbaum, of Leeds, who hoped that light might be thrown on this subject by some of those taking part in the discussion, as he has lost such a very large number of his experimental animals from a supersensitiveness so highly developed that it has become a difficult matter for him to carry on his experiments owing to the high death-rate amongst them. The occurrence of such a condition during the course of treatment must limit our field of operations as regards experiments on the cure of cancer, but, on the other hand, it opens up to us a line of research in connexion with the diagnosis of disease that affords distinct promise of a fruitful issue, and I have great confidence in recommending its study to those interested, especially in view of the fact that cases of sudden death from unexplained causes are of by no means rare occurrence in cancerous patients.

It is evident, from what has already been said, that in certain specific infective diseases sensitized animals may be killed by the rapid action of the very powers that help to immunize. Through the changes that are set up in the fluids and tissues the sensitized animal is in a position to disintegrate by some lytic process the proteins of specific bacteria. During the process of lysis the specific poison, whatever may be its character, is set free. This disintegration may take place so slowly that any poison elaborated may be summarily dealt with by the tissue cells and fluids, and the micro-organism associated with the disease is reduced to the position of a saprophyte and is rapidly killed off. If, however, the lytic power be too highly developed, so that when a large amount of vaccine—or, alternatively, too great an amount of infective virus—is introduced, such an enormous amount of poison may be set free that the very magnitude and perfection of the processes usually helping to protect the patient may result in such profound poisoning of important tissues and organs that the patient succumbs, although practically every micro-organism may have been destroyed.

Victor C. Vaughan,[9] writing on the relation of anaphylaxis to immunity and disease, gives an excellent example of the fact that "there is no constant and fixed relation between the toxogenic and the pathogenic properties of bacilli." The non-pathogenic *Bacillus prodigiosus* contains in its bacillary protein over fifty times as much intracellular poison as does the highly pathogenic anthrax bacillus, and he offers, as an explanation of the difference between the pathogenicity of the two organisms, the fact that the secretions of the *Bacillus prodigiosus* are incapable of digesting the proteins of the animal body, or perhaps—and he considers that this is the more probable and satisfactory explanation—the secretions of the body cells destroy the bacillus, and thus prevent the production of toxins by the bacillus. The anthrax bacillus, however, although it actually contains less poison in its protein, is able to resist the action of the body cells and to elaborate ferments which have the power of digesting the proteins of the animal body. The one micro-organism, *Bacillus prodigiosus*—a mere saprophyte, and unable to attack living tissues—is incapable of multiplying, whilst the other, the anthrax bacillus, able to digest the proteins of the animal body, obtaining from them its nutriment, can grow, multiply, and form toxic substances in large quantities. He offers this also as an explanation why "a given bacillus may be pathogenic to one species or one race, and wholly devoid of effect on other animals." It is this power of lysis apparently that plays perhaps the most important part of all in the production of the anaphylactic condition.

Sahli[10] maintains that the recurrent attacks of such conditions as articular rheumatism, pneumonia, and erysipelas are the result of acquired hypersensitiveness, and that this is accompanied by a degree of protection which renders the later attacks milder and of shorter duration than the initial attack. He puts the matter very clearly:

> By virtue of a previous recovery from these diseases the organism acquires a hypersensitiveness, and therefore, when again exposed to the infective agents, relapses more quickly and more frequently than the healthy organism. On the other hand, just because of this hypersensitiveness and the resulting production both of the non-specific inflammatory and the specific antibody, it recovers more quickly and more easily from the infection than the normal organism.

I know that some are not prepared to accept the suggestion that the crisis in pneumonia has anything to do with the anaphylactic condition, but Wolff-Eisner[11] points out that the bacteriolysins present in the body ensure a continuous liberation of endotoxins from the lysed pneumococci. As a result of the liberation of toxins and antigens a larger amount of lytic antibody is produced, and at a certain stage these ensure the disintegration of the whole of the pneumococci that have made their way into the tissues. The tremendous amount of toxin thus set free gives rise to the symptoms of crisis, but as soon as these toxins have done their work, there being no more pneumococci present, the condition of the patient improves rapidly—the crisis is passed. In certain cases, however, where the destruction of the pneumococci has not been complete, further lytic antibodies are formed under the action of the remaining antigens, the protein of the pneumococci, and a secondary or pseudo crisis may result. On this point a very suggestive and interesting note is added to his text by Wolff Eisner. He says:

> It would be wrong to assume that antibodies accumulate before they begin the attack. They begin the attack as soon as they are formed. The formation, however, is stimulated when, owing to the irritation of the endotoxins liberated by the bacteriolysins spontaneously present, they are cast off from the cells, particularly, it would seem, in the haematogenic organs.

Many individuals who are supposed to be exceedingly susceptible to colds and catarrh may be individuals highly supersensitized to some special substance: and one cannot help thinking that many of those who suffer from so-called nasal catarrh and coryza have been supersensitized, and kept in a highly sensitized condition during

certain periods of the year, by the waste proteins accumulating in rooms where there are large congregations of people, the stimulating or exciting dose of protein being applied at intervals. We know that the exhalations, or at any rate matter, conveyed from the horse may induce severe asthma in the human subject. That is now recognized as being an anaphylactic condition. May we not have a similar but modified series of phenomena resulting from the inhalation of the organic exhalations of crowds? Of course, it may be that a supersensitive condition is set up to the "lysed" micro-organisms, staphylococci, streptococci, etc., present in the mucous membrane—micro-organisms which under ordinary conditions kept outside the tissues, may on congested surfaces gain more ready access to the deeper naked tissues, and so set up a supersensitive condition. These are all points of interest.

Before I close, may I be allowed to introduce a side issue, but one that involves some of the most important practical outcomes of recent studies in anaphylaxis? it bears on the suggestion that in certain cases antidiphtheria and antitetanic serum should be prepared in goats and in oxen. Surely it is "practical politics" that all prophylactic doses, especially of antidiphtheria serum, should be taken from some animal other than the horse, so that should it be necessary at a later stage to inject large quantities of antiserum, say, in the treatment of cases of diphtheria, the patient would not be already sensitized to horse serum. May I suggest that those engaged in the preparation of antitoxic serums should keep a separate series for prophylactic treatment, and that these should always be obtained from the ox or the goat?

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ANAPHYLAXIS IN ITS BACTERIOLOGICAL ASPECTS.

BEFORE considering the special bacteriological aspects of anaphylaxis it is necessary to review briefly the nature of the reaction, and to eliminate other causes producing sudden death in animals.

I. THE NATURE OF THE ANAPHYLACTIC REACTION.

The first point to be discussed is the nature of the anaphylactic antibody. It is still considered by some observers that the antibody which produces anaphylaxis is a special one, and distinct from the amboceptors or precipitins, etc.

We have performed a series of experiments in which we have endeavoured to show that the anaphylactic antibody is identical with the amboceptor, and that, given a sufficient amount of amboceptor, anaphylaxis can always be produced. We inoculated intravenously a series of guinea-pigs of even weight with graded quantities of an anti-sheep haemolytic serum from a rabbit of high titre. After thus passively sensitizing the guinea-pigs they were injected intravenously with washed sheep's red corpuscles (twenty-four hours later). It was found that acute anaphylaxis could be always produced in animals which had been sensitized with a sufficient quantity of amboceptor, the quantity necessary for a guinea-pig of 350 to 300 grams being 1,680 units and above, a unit being that quantity of haemolytic serum which will, in the presence of complement, just produce complete haemolysis of 100 c.mm. of a 10 per cent. red corpuscle suspension. Below 1,680 units acute anaphylactic death never occurred, but only some of the minor manifestations. On the other hand, however much amboceptor is used anaphylaxis can always be produced if a sufficient quantity of antigen is subsequently inoculated intravenously. That is to say, that excess of antibody does not protect against anaphylaxis In the guinea-pig it is very difficult to produce immunity to a foreign protein by repeated inoculations in the ordinary way, the animals continually dying after the second or third injection. Further, if a highly immune animal be obtained, intravenous injection of a sufficient quantity of antigen always kills from acute anaphylaxis. For example, a guinea-pig of 300 grams was immunized to sheep's red cells and had a lytic titre as high as 4 c.mm., which represents over 56,000 units in the animal's body. The intravenous inoculation of 0.2 c.cm. of red cells caused acute anaphylactic death. There thus seems to be a direct parallel between the sensitizing power of an amboceptor containing serum and its amboceptor content. We can also say that in guinea-pigs an excessive amount of amboceptor does not protect against anaphylaxis. The above quantitative relationships also hold when the guinea-pigs are passively sensitized with homologous haemolytic serums.

II. THE ACTION OF THE ANTIBODY.

The question arises as to whether acute anaphylactic death in the guinea-pig is due to the action on the bronchial musculature of a toxic substance produced by the interaction of the antibody and the antigen, or whether it is caused by mechanical irritation produced by an alteration in surface tension due to beginning precipitation from the interaction of the antigen and antibody. With regard to the latter, Dale has suggested that the reaction in excised involuntary muscle of a sensitized animal is so rapid that it cannot be assumed to be due to ferment action, but is probably due to the irritation produced by a sudden alteration in surface tension from beginning precipitation. The points against this view are:

1. That removal of its whole protein content does not appreciably alter the surface tension of a fluid. The surface tension depends on the lower molecular bodies.
2. That when the homologous antigen is mixed with the sensitive serum the alteration in surface tension for the first two hours at room temperature is the same as when the antigen is added to normal serum. These observations on the surface tension were kindly performed for us by Dr. Lovell.
3. That substances such as bile salts, which produce a rapid alteration in surface tension, do not cause anaphylactic death.

Again, in some of our experiments egg-yolk was used as the sensitizing antigen, and on comparing the effect of the egg-yolk on sensitive and normal serums there was an alteration in surface tension, which was equally rapid in the two cases and equal in degree, and was wholly due to surface tension altering substances in the egg-yolk. Egg-yolk inoculated intravenously into a normal animal produces no obvious results, although it contains surface tension altering substances. Thus we should say that the anaphylactic reaction is not due to a sudden alteration in surface tension.

Now, with regard to the extreme rapidity of the reaction, this is used as an argument against it being due to toxic substances developed as the result of ferment action on the antigen. If this be so it equally holds against the idea that the condition is due to an alteration in surface tension produced by the interaction of the two substances. Time is also a factor here; time is also required for the combination of precipitin and precipitinogen. So if the one can produce instantaneous effects, why not the other?

III. DOES THE ANAPHYLACTIC ANTIBODY ACT AS A PROTEOLYTIC FERMENT?

The only real objection to the antibody being a ferment is the fact that it is supposed to act quantitatively, that is, that it cannot do an indefinite amount of work like an ordinary ferment, that it does not become free when the reaction is completed. That this is erroneous is shown in the following way:

If a complement fixation experiment be carried out in a test tube the complement once bound never becomes free again. If, however, the experiment be performed in a diffusion membrane through which protein cleavage bodies can pass against normal saline, the complement becomes free again after a few hours. This was demonstrated by taking out samples from time to time and adding to them haemolytic serum and red corpuscles. The samples were not in themselves directly haemolytic. The first samples were unable to activate a haemolytic system, but those removed some hours later were able to do so. The diffusate after

concentration was shown to contain protein cleavage bodies. This shows that complement which has once become bound can, if the products of its action are removed, become free again. That the antibody can also become free can be shown in the same experiment. If a sample be taken at the time when the complement is free again and fresh antigen be added to it, it will be seen that on further incubation in a test tube the complement now becomes fixed. Thus both complement and antibody must have become free, and can attack a further quantity of antigen.

Muir has also shown that if fully sensitized isogenous red corpuscles be inoculated into an animal, the amount of corpuscular destruction is by far greater than can be accounted for by the lysis of the inoculated sensitized corpuscles, showing that the lysin attached to the red cells has become free and has attacked fresh ones.

Further, it can be shown that complement does not act quantitatively except in minimal doses. Thus we have shown that if the unit of amboceptor be added to a unit of red cells a certain quantity of complement is necessary for the haemolysis. If, now, one hundred times the quantity of red cells and one hundred times the quantity of amboceptors be mixed together, to cause complete haemolysis one hundred times the amount of complement is not necessary; even as little as twenty-five times the quantity is sufficient—that is, one quarter of the calculated amount.

Thus we have shown that the antibodies fulfil some of the most important laws of ferment action. That the antibody has a proteolytic action is seen by the examination of the diffusate of its action on the homologous antigen.

The rapidity of the anaphylactic reaction remains to be discussed: (1) The amount of toxic substance necessary to produce acute death is exceedingly small, since acute anaphylactic death in a guinea-pig can be produced with the toxic substance obtained by the action of normal guinea-pig's serum from half a drop of horse serum. (2) The action of a ferment on a fermentable substance is at the commencement of the reaction infinitely rapid, as degradation substances accumulate the reaction is slowed.

Thus, in the animal body, the ferments acting under their optimum condition can very rapidly produce the necessary amount of toxic substance to cause death. In the sensitized involuntary muscle the ferment is bound to the muscle; there are no end bodies to slow ferment action, so that the ferment action will be infinitely rapid; the necessary small amount of toxic substances will be liberated in immediate contact with the muscle. It is thus unnecessary for there to be any appreciable latent period.

There still remains for discussion the action of colloidal substances when inoculated intravenously into guinea-pigs. The substance most frequently used in connexion with experiments of this description is colloidal silica. Kaolin and kieselguhr have also been injected intravenously and, like colloidal silica, produced rapid death, and this death has by all previous observers been thought to be identical with or very like acute anaphylactic death. This, however, is quite erroneous, since, on careful observation, it is seen that the real cause of death is intravenous clotting. After the injection of a few cubic centimetres of a suspension of colloidal silica the animal dies—convulsions are not a marked feature; on *post-mortem* examination, carried out immediately after death, it is seen that the blood in all the veins is clotted. The lungs may show a certain degree of distension, the distended lungs are very hyperaemic and somewhat oedematous, and there are in addition many areas of collapse. In the case of kaolin and kieselguhr the injection of a suspension in normal saline also produces similar sudden death. Here, also, there is rapid intravascular clotting and the lungs are only slightly distended. It will thus be seen that the mode of death is quite different from and is not comparable to the mode of death in acute anaphylaxis. It can thus be said that acute anaphylactic death, with its typical features, is only produced when the toxic substances are produced in the animal's body by the interaction of the antibody with its homologous antigen, or when this toxic substance is inoculated preformed into the animal.

In examining a large number of guinea-pigs, dying from various forms of bacterial toxaemia or septicaemia, it was noticed that the mode of death was identical in all cases. The animal was never febrile, the temperature fell to below 94° F., there was paresis of the posterior extremities, gradually extending to the anterior, ruffling of the coat, shivering and varying degrees of respiratory spasm. At the autopsy there was always right-sided congestion and venous engorgement. The lungs, in quite 90 per cent. of the cases, showed a fairly marked degree of emphysema, and the gall and urinary bladders were distended. This condition is exactly parallel, both in its symptoms and *post-mortem* appearances, to that seen in delayed anaphylaxis, and is comparable to what happens when a normal guinea-pig is inoculated intravenously with a sufficient amount of fully sensitized sheep's red corpuscles. Thus if a guinea-pig of 300 grams is inoculated intravenously with 5 c.cm. of a 10 per cent. suspension of fully sensitized sheep's red corpuscles, the animal dies in about eight to twelve hours, with symptoms exactly like those described above. The *post-mortem* findings are the same. Here the cause of death can only be due to toxic substances formed from the corpuscles by the action of the guinea-pig's complement on the sensitized red cells, the rate of liberation of toxic material being just rapid enough to produce delayed toxic death.

The next point for consideration is the result of the inoculation intravenously into healthy guinea-pigs of the serum, blood, and effusions of guinea-pigs or rabbits dying from bacterial toxaemia or septicaemia. In our first experiments the serum or effusion was filtered through a porcelain filter, but it was found that, although the material so treated produced intense toxic symptoms in the inoculated animal, acute death rarely occurred; whereas with the unfiltered material acute death did occur, so that it appeared that the toxic substance underwent some change as the result of this treatment, and in our further experiments this method was not adopted. With the unfiltered serum, or whipped blood, or citrated blood, or effusion, on inoculation intravenously into a healthy guinea-pig, acute anaphylactic death could always be produced if a sufficient quantity were inoculated, the quantity varying from 2 to 5 c.cm. of the material. The mode of death and the *post-mortem* appearances were absolutely typical. This result was obtained by inoculating the fluids from animals dying from infection with the bacillus of chicken cholera, *B. phlei*, *B. danysz*, *B. coli*, *B. tuberculosis*, *B. proteus vulgaris*, *B. hoffmanii*, *Staphylococcus aureus*, *B. prodigiosus*, etc. Sublethal quantities produced either a great fall of temperature or fever, according to the amount inoculated. It might of course be argued that the toxic substance was not preformed in the blood used for the inoculation, but produced by the ferments of the normal animal into which it was inoculated, either directly from the bacteria, or macerated bacterial protoplasm, or from the sensitized macerated bacterial protoplasm present in that blood. In order to eliminate this possibility of error, healthy animals were inoculated either with large quantities of finely disintegrated bacteria or with sensitized disintegrated bacteria, but with the only exception of the inoculation with tubercle bacillary emulsion, acute death never occurred. In the case of the tubercle bacillary emulsion it was demonstrated that hydrolytic cleavage bodies were present, and that if other bacteria were allowed to undergo autolytic degradation they also become directly toxic. Now, the blood and effusions of the animals examined were never allowed to stand for any length of time, so that degradation of the bacteria could not occur subsequent to the removal of the material from the infected animal. It therefore follows that the toxic substance in these fluids was preformed, and was not formed subsequent to removal from the animal infected, either by autolytic degradation of the bacteria present or by the subsequent action on them of the antibodies of the normal animal inoculated. We must come to the conclusion that there is in the blood and effusions of animals dying from bacterial toxaemia or septicaemia a substance which is present in sufficient quantity to cause acute anaphylactic death when inoculated into healthy animals, and that this substance is always present, no matter what the organism is which has given rise to the infection. By diffusing the effusions of animals dying from bacterial toxaemia or septicaemia, hydrolytic cleavage bodies can be demonstrated in the diffusate, so

that the toxic substance is produced from the bacteria during the process of hydrolytic cleavage of the protein by the ferments in the animal body.

From these results it will be seen that guinea-pigs dying from bacterial toxaemia or septicaemia all die in exactly the same way. The *post-mortem* findings are identical and the toxic substance found in the blood is identical, and this toxic substance is present in relatively large amounts, as can be easily seen when it is considered that a few cubic centimetres of blood or effusion are sufficient to kill a perfectly normal guinea-pig. Such being the case, it appears to be superfluous to suppose that there is, in addition to this, a special toxic substance, characteristic of the bacterium—namely, a specific endotoxin. No matter how large a quantity of finely divided bacterial protoplasm is inoculated into a normal animal, acute death can very rarely be produced, and when it does occur it always has the character of acute anaphylactic death and is then probably due to the autolytic degradation bodies present. In all other cases, no matter what the bacterium is, death occurs in exactly the same way. The animal develops fall of temperature, ruffling of the coat, rigors, paresis, urination, and the *post-mortem* appearances are always the same, the only exceptions being that suprarenal haemorrhages or intestinal hyperaemia may be marked features. These, however, are by no means constant for special bacteria, but are frequently noticed with very widely different varieties of bacteria.

This leads, then, to the conclusion that bacteria have no specific toxic substance, and that the bacterial protoplasm is primarily non-toxic, and only becomes toxic when it has been acted upon by the antibodies present in the infected animal, and the degree of toxicity of a bacterium depends upon the rate of accumulation of these toxic degradation bodies, and this will depend upon the relation between the activity of the antibody present in the animal at the time and the quantity of bacterial protoplasm present—that is, upon the primary dose inoculated and the rate of multiplication of the bacteria. Two examples may be given supporting this view on the above idea. Animals are immune to certain bacteria either because the antibody activity of the animal against the bacteria is so high that the bacteria are rapidly degraded beyond the toxic stages, or because the antibody activity is so low that the toxic substances do not accumulate to any degree.

Now, dealing with an example of the latter—there is the *B. mycoides*—this is an organism which naturally occurs in the soil, and will not grow at body temperature. By a process of gradually educating it to an increasingly higher temperature it is possible to obtain a strain from the original which will grow at the body temperature. This organism is not pathogenic to guinea-pigs in doses of three agar slopes and more. If, however, a guinea-pig be inoculated with 20 mg. of dead *mycoides* a week previously, one agar slope of the organism will now in that animal produce septicaemia, and the blood and effusions of the infected animal will give rise to acute anaphylactic death when injected intravenously into a normal animal. There is no difference in the bacteria inoculated; the difference is in the animals. In the normal animal even 20 mg. only produce a transient temperature variation.

The possibilities are:

1. That the animal is immune because there is so little antibody that the toxic substances can only be formed slowly—so slowly that they do not accumulate in sufficient amount to injure the animal; but that after the injection of the preliminary dose the ferment activity is raised so that the ferments are now in such amount that sufficient toxic substances can be formed to kill the animal. That in one week antibody formation can be great enough is seen from the injection of 20 mg. dry weight of red corpuscles, when the lytic titre of the serum to the homologous antigen becomes such that a unit is contained in about 40 c.mm. of the serum.

2. That a negative phase is produced so that the toxic material of the second dose cannot be dealt with.

Dealing with the latter first, the following experiment negatives the idea of the result being due to the production of a negative phase. During our experiments on the *B. mycoides* several strains of closely allied and similar organisms were isolated from various soils. These grew easily at the body temperature. They were found to be directly pathogenic to guinea-pigs in doses of half an agar slope and less. Guinea-pigs were also inoculated with 20 mg. dry weight of these bacteria, and after intervals of respectively two, three, four, and five days, they were reinoculated with a dose certainly fatal to a normal animal—namely, half an agar slope, which usually produced death in less than eight hours—the animals all recovered, and even from larger doses. So that if in the one case the septicaemia and toxaemia are due to a negative phase, in the other a similar negative phase protects the animal. Experiments with other organisms bring out the same fact.

A possible third theory would be the state of anti-anaphylaxis—that is, that the 20 mg. of the first inoculation bound all the antibodies, and so allowed the second dose to be unattacked, to multiply, and so produce death. This is really the previous idea over again in other words. The only possible conclusion is that the whole matter rests on relative ferment activity. In the case of *B. mycoides* there is very little antibody activity, consequently toxic substances cannot be split off from the bacteria in sufficient amount to do damage and inhibit phagocytosis; with the other closely allied strains the antibody activity is just great enough to allow of a sufficient accumulation of toxic material so as to inhibit phagocytosis, allow the bacteria to multiply and cause death.

With the former a previous inoculation of dead bacteria causes an increase in the antibody activity, and at a certain period it is sufficiently great to bring about the conditions necessary for the death of the animal and the causation of septicaemia. With the others the antibody activity increases so that the toxic substances first formed are rapidly rendered non-toxic by the further rapid action of the antibody, so that the animal can now recover from what, under ordinary conditions, would have been a fatal dose. Then there are animals, which are immune because of the great antibody activity against certain bacteria. By diminishing the activity of the antibody against these bacteria a fatal result can always be produced. Here the immunity is due to the fact that the antibodies can so rapidly deal with the bacteria that the early-formed toxic substances do not accumulate, but are rapidly further converted into non-toxic ones.

Thus the toxicity of a bacterium depends on the animal—that is, on the relative antibody activity to the bacterium and not on the bacterium *per se*: the same bacterium producing different results according to the antibody activity in the different animals. The bacterium does not secrete a toxin or have a preformed toxin; the toxin is produced by the antibodies from the bacterial protoplasm, and is the same for all bacteria—that is, a toxic hydrolytic cleavage body of the bacterial protoplasm, producing death in the same way in all bacterial infections, and present in the infected dying animal in large amounts, so that a small amount of that animal's blood can produce in a healthy animal acute anaphylactic death. Hence we must not regard this state of so-called anaphylaxis or hypersensitiveness as a freak state nothing to do with immunity proper, but as a state that can always be made to occur and is relative, depending on the power of the antibody and amount of bacterial protoplasm present; according to the relations between them, acute toxic deaths, delayed toxic death or recovery may occur, the toxicity of a bacterium depending upon these factors.

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CLINICAL ASPECTS OF ANAPHYLAXIS.

I have been asked to say a few words on the clinical aspect of this subject, and I do not think I can introduce what I have to say better than by relating the histories of two cases. The illness in each case was due to a certain cause, but for the present I shall not say what it was. The first case was published by Dr. Blain.[1] The patient was a woman, aged 24. On January 24th, 1907, at 6 p.m. a certain event happened to her.

> Within twenty minutes . . . a profuse urticaria appeared over the entire body. The oedema of the periorbital tissue completely closed the eyes. The patient was greatly prostrated, respiration sighing, absence of radial pulse, complained of feeling faint and chilly, also of fullness in the throat. The bowels moved freely at 8.45 p.m., the patient complaining of

cramps in the bowels and soreness in the stomach. At 9 p.m. the radial pulse became perceptible, but was thready and intermittent; 10.30 p.m., pulse low in tension and irregular; 11 p.m., pulse somewhat improved, respiration still sighing, patient very restless; 12 midnight, bowels again moved freely. . . . After a restless night, at 7 a.m., the pulse was 88; the patient coughing a good deal from bronchial irritation; at 6 o'clock was able to retain a small amount of nourishment. Temperature rose to 100° F. at the beginning of the attack, but otherwise did not go above 99°. After a few days in bed the patient gradually recovered.

The second case was related by Dr. Atkinson.[2] The patient was a married woman, aged 40, who had always enjoyed good health except for periodical attacks of migraine. At about 7.45 a.m. on September 9th, 1907, a certain event happened to her.

Within five minutes she began to itch all over, and felt herself swelling from head to foot. This was followed by abdominal pain and a desire to defaecate. . . . She then collapsed, and her husband and a maid carried her . . . to bed. She was then unconscious. I (Dr. Atkinson) arrived about 9 a.m. . . . I found her in a semiconscious condition, and the whole body irregularly convulsed. She rallied when spoken to, and then relapsed into apparent unconsciousness again. . . . The whole of her body was covered with a dark, measly rash. . . . The skin felt hard and tense and brawny. The hands, and especially the finger tips, were livid. The face was congested and the eyes suffused. She tells me there was a feeling of nausea all the time. The skin was cold, the pulse was feeble, and the heart sounds faint. A distinct wheeze could be heard over the chest. . . . At 10 a.m. she felt better, but complained of the tight feeling all over the skin and the difficulty of breathing. At 2 p.m. the rash had almost gone. She felt much better, but there was still some dyspnoea and feeling of constriction. . . . At 9 p.m. I found her very hot and flushed, and the skin now covered again from head to foot with a very bright scarlatiniform rash, and on the back and hips were many extensive wheals. On the morning of September 10th all rash had practically gone, but there was some oedema of both eyelids. All the other symptoms had disappeared.

There are several points of similarity between these two cases. It is true that the latter was more severe than the former, but it is to be observed that in each case the onset of the illness arose very quickly after the event which was believed to have occasioned the attack; that there was a rash, urticarial or erythematous; that there was enfeeblement of the heart's action; that there was some respiratory embarrassment; and that there was some gastro-intestinal disturbance. The first of these two cases was undoubtedly an example of anaphylaxis. The attack came on after a subcutaneous injection of diphtheria antitoxic serum in a patient who had been treated with serum about a year previously. In the other case the symptoms came on almost immediately after the sting of a wasp on the left foot.

Hitherto anaphylaxis in the human subject has been observed chiefly in connexion with antitoxic and antibacterial serum in diphtheria and other diseases. The serum almost invariably employed has been that of the horse. Now in the vast majority of cases an injection of horse serum is perfectly harmless at the time it is given. No symptoms arise then; but in about one-third of the cases treated with serum, after an interval or latent period of a week to a fortnight, the patient undergoes an attack of what is now known as serum sickness, of which the most common symptoms are an urticarial or erythematous rash, pyrexia, and in a few cases slight multiple arthritis. But serum sickness is not anaphylaxis, nor can it be taken as evidence that the affected person is necessarily in the anaphylactic condition. In order to demonstrate the existence of this condition, it is necessary to give another injection of horse serum, and this fresh injection must not be given before the end of the average latent period of serum sickness—that is, before the lapse of nine or ten days from the first injection. If the first injection has rendered the person anaphylactic, this second injection, given after the latent period, may be anything but harmless. An attack such as that which occurred in the first of the two cases related above, or even a more severe one, may follow either within a few minutes or hours, or, at any rate, well within the ordinary latent period. The latent period is, in fact, much curtailed. The primary injection has rendered the person much more sensitive to the action of the serum. Other evidence of over-sensitiveness is to be found in the occurrence, in unusual severity, of the symptoms of ordinary serum sickness (a rash and pyrexia), and also in the additional occurrence of symptoms which are not met with in ordinary serum sickness (cardiac depression, respiratory embarrassment, rigors, convulsions, coma).

The anaphylaxis which is brought about by an injection of horse serum is an acquired one, which it takes ten days or a fortnight to produce. But some persons are apparently naturally anaphylactic, for the symptoms of anaphylaxis may be evoked in them by the first injection of serum. This form of supersensitiveness may be called congenital, and, curiously enough, it is in this form of the condition that the most severe examples have been met with. Nearly all the fatal cases have belonged to this variety. There is also evidence to suggest, if not actually to prove, that many asthmatics are by nature in an anaphylactic state as regards horse serum.

I need hardly do more than point out that horse serum anaphylaxis is but one instance of the anaphylaxis which can be produced in animals by any protein. But in looking for instances of anaphylaxis in clinical medicine we must remember three important facts which have emerged from the experience of the laboratory. The first is that the protein must be foreign to the animal; the second is that to bring out the symptoms of an acquired anaphylaxis it is necessary to employ for the reacting dose the same protein as was used to establish the anaphylaxis; the third, and most important from the clinical standpoint, is that, whatever the protein, the anaphylactic symptoms are the same in the same species of animal.

If, therefore, we wish to find anaphylactic diseases in the human being, we must look for the symptoms of serum anaphylaxis. I have given one example in the case of wasp sting reported by Dr. Atkinson. The doctor, at the end of his report on the case, asks the question, "Is it possible that all this trouble could arise from the sting of a wasp?" To which I should have no hesitation in replying, "Certainly it is possible." One of the remarkable facts about anaphylaxis is that a very minute quantity of protein will suffice for the reacting and a by no means large one for the sensitizing dose. Amongst the agents that will produce in man symptoms which are extremely like those of serum anaphylaxis, certain articles of diet and certain insects pre-eminently figure. The ingestion of the one and the stings or bites of the other are the methods by which the reacting dose of the protein is introduced to the system. Certain fish, especially shellfish (mussels, crabs), a few fruits (strawberries, raspberries), and the stings or bites of some insects (bugs, wasps), are well known to be capable of evoking the anaphylactic syndrome. But while I have little, if any, hesitation in ascribing the symptoms set up by these agents to the anaphylactic state, I am not so sure that we know of any other agents which act similarly. From time to time cases are met with, I have seen them very occasionally in the course of some of the acute infectious diseases, which suggest anaphylaxis. But when we search for the cause which has produced and elicited the supersensitiveness, we have to confess ourselves baffled. I refer especially to odd febrile attacks with rashes of the same kind as those seen in serum sickness.

The general reaction set up by tuberculin would appear to be of an anaphylactic nature; but it is extremely doubtful when Wolff-Eisner's, Calmette's, and von Pirquet's local reactions are. Arthus's local anaphylactic reaction—as seen in rabbits—is never, or at any rate extremely rarely, produced by horse serum in man.

During the last two or three years more than one writer, clinical as well as bacteriological, has suggested, nay, has even boldly asserted, that several morbid conditions besides those I have mentioned should be included in the anaphylactic group; for example, puerperal eclampsia, the shock produced by burns and scalds, the idiosyncrasy to certain drugs, such as quinine, the rashes of some of the acute infectious diseases, specially of those of which the incubation period is seven to fourteen days. To me, however, the evidence brought forward in support of these suggestions is far from being convincing. From the clinical and from the experimental evidence I hold that inasmuch as anaphylactic symptoms are of the same kind whatever may be the protein concerned, when anaphylaxis is made manifest, it will be revealed by much the same symptoms as are seen in horse-serum anaphylaxis.

In respect of that form of anaphylaxis in man which is best known—namely, horse-serum anaphylaxis—there are

several points concerning which further clinical observations are required. I have mentioned above that apparently some persons are naturally oversensitive to the serum. But I think it is quite a question whether there really is a congenital anaphylaxis. May not those persons who react so strongly to a first dose of serum have been sensitized before? Some of the asthmatics have been peculiarly sensitive to the emanations from the horse. Possibly in them the anaphylaxis has been induced in this way. So also one may argue in the case of shellfish and insect anaphylaxis. The lady who suffered so severely from the effects of the sting of a wasp had been stung more than once previously by those insects, and she may have been sensitized by one of the earlier stings. Another question which awaits an answer is: How long will a person who has been rendered anaphylactic remain in that condition? The longest period I have known has been just over seven years. Not every person who is treated with serum becomes anaphylactic. I have had under my observation during the sixteen years ending December 31st last 203 persons who have been injected with serum twice at intervals varying from a fortnight to upwards of thirteen years, and 114 of them, or 56 per cent., were anaphylactic. There are a few cases on record which go to show that a person may not be sensitized by the first, but may be by the second, injection. In the first of the two cases I related at the beginning of my remarks the young woman had been treated with serum three times, the second occasion was six weeks after the first, and then no anaphylactic symptoms appeared. The third time was a year after the second, and then there was a most serious attack. Another question which arises is whether the anaphylactic condition varies in its intensity from time to time in any sensitized person. It has been stated by more than one observer that there is an optimum period for anaphylaxis in persons who have been treated with horse serum. Thus Grysez and Bernard have concluded from certain experiments that in man there is little development of the condition within five weeks of the injection, that the symptoms are most likely to be brought out from the fifth to the twenty-seventh week, and that between the twenty-eighth and the forty-ninth week the supersensitiveness disappears. But these conclusions are not in agreement with what I have noticed in my cases. Of 45 patients reinjected within five weeks 17, or 37.7 per cent., were anaphylactic; and of 26 injected later than the twenty-seventh week 19 were so, or 73 per cent. Twenty-one were injected after the forty-ninth week, and of these 17, or 80.9 per cent., gave signs of anaphylaxis. My cases, therefore, afford no evidence of the existence of an optimum period, nor of the disappearance of the increased sensibility after a particular length of time. Another question which requires working out is whether the anaphylactic state, acquired or congenital, can be transmitted to the children of the affected person. It has been shown that the condition can be transmitted by the female guinea-pig, but not by the male, to its offspring. But I have not yet had occasion to inject with serum the child of any woman who had been injected before the child's birth. In the ordinary course of events there should be some, if only a few, such cases in the not very distant future.

Lastly, can the anaphylactic state be avoided or abolished? Certain experiments on animals go to show that it can be, at any rate for a time. Some of the methods used are quite inapplicable to the human subject, and the results of those which might be used are very uncertain. It is stated that if you inject a person, who may have been rendered anaphylactic by a previous injection, with a very small quantity of serum no general reaction will take place: and, further, that this small dose abolishes anaphylaxis for a time at any rate, so that a large dose may be injected with impunity within a few hours or perhaps a day or two. More especially is this the case if the small injection has evoked no local reaction. I have not had an opportunity of trying this method.

It has been stated that if an animal survives one anaphylactic storm it will not experience another—that it is, as it were, immunized against anaphylaxis. This is certainly not invariably the case in human beings. I have twice known anaphylactic symptoms to arise in patients after a third injection of serum, in whom the second injection had aroused those symptoms; and one of the cases I related at the beginning of my remarks shows that a person may be anaphylactic to a third injection who was not so to the second. It has been stated that if you give a second injection within a fortnight of the first—that is, within the latent period of ordinary serum sickness—you will protect the person so treated from anaphylaxis should a third injection have to be given subsequently. But I have had more than one case under my observation which has shown that that statement is not correct.

Fortunately, severe anaphylactic symptoms are not common in reinjected persons. But I should be very chary of giving serum to a patient whom I knew to be asthmatic. I should not give it unless he was suffering from a dangerous attack of the disease for which the serum was indicated. The suggestion that for a second injection the serum of a different animal from that whose serum was used for the first injection should be employed, is certainly to the point and quite worth a trial. I understand that such serums can be obtained. But more clinical evidence is required before we shall be able to speak with any certainty on this part of the subject, and the scantiness of the evidence must be my excuse for having so little that is of value to say about it.

It is a curious circumstance, for which I can offer no valid explanation, that while I still continue to witness undoubted anaphylactic reactions in persons reinjected with horse serum, yet these reactions are not so severe as those I saw when I first became acquainted with this phenomenon some sixteen years ago. This serum, made for the Metropolitan Asylums Board by Dr. Cartwright Wood, is less noxious than it used to be—a fact which is shown by the lessened severity not only of the anaphylactic but also of the ordinary serum reactions.

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THE ACTION OF THE ASBESTOS MINERALS AND ALLIED MATERIALS ON BACTERIAL AND OTHER SUBSTANCES.*

By MYER COPLANS, M.D.
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THIS series of experiments arose out of an attempt to isolate the toxin of tetanus from a bacilli-free broth culture of *B. tetani* by gravity filtration through a recently prepared hydrate of alumina formed as a filtering layer upon filter paper.

As a preliminary it is necessary to wash the hydrate free from admixed electrolyte by means of a gentle and continuous stream of distilled water through the undisturbed layer of the hydrate; and, after six hours of such treatment, the filtrate contains greatly diminished yet appreciable quantities of the electrolyte in solution. About this period, however, the constantly shrinking gelatinous hydrate commences to show deep fissures, and the process is rendered abortive.

To overcome the difficulty finely carded Tyroleso asbestos was incorporated with the hydrate, and after prolonged washing the toxin-containing broth was allowed to percolate the prepared compound layer of hydrate and fibre. The filtrate proved to be toxin-free, and on treatment with alcohol the compound of hydrate and fibre yielded a considerable proportion of the tetanus toxin.

As a control test a sample of the toxin-containing broth was shaken with the asbestos fibre without the intervention of hydrate of alumina, and, after an interval of five minutes, the expressed liquid was found to be toxin-free. It failed, in addition, to give a positive biuret reaction, in strong contrast to that yielded by the untreated broth.

The investigation of this phenomenon has been extended so as to compare the activities of various kinds of finely divided "asbestos" minerals, including the Russian, Italian, and blue varieties of asbestos, chrysotile-asbestos of Canada, and, in addition, the steatites, as exhibited towards toxins (including those derived from *B. diphtheriae*, *B. tetani*, *B. tuberculosis* and *B. mallei*), certain antitoxic

* A portion of the expenditure in connexion with this research has been met by a grant from the Science Committee of the British Medical Association.

serums, cobra venom, complement and amboceptor of a haemolytic system, specific agglutinins, certain proteins, pigments and colloids, while as a convenient example of a ferment diastase was included, and submitted to similar tests.

All these substances apparently readily disappear from watery solutions, or are rapidly changed in character when brought into intimate contact with finely divided minerals of the asbestos group, while watery agar, watery gelatine, and watery isinglass, after similar treatment lose the power of setting.

The action of finely powdered and fibrous substances such as kaolinite, spun glass, the vegetable fibres (jute, flax, cotton and ramie), silk and wool, and, in addition, animal charcoal, have been under investigation in a parallel series of experiments. As an outcome of the results following the interaction between certain radio-active substances in solution and members of the asbestos group of minerals, the investigation is being extended to include the felspathic and plagioclasic granites, which, on weathering, give rise to complex hydrated silicates known as zeolites.

Arising out of the action on toxins in particular by members of the asbestos group, I have carried out a series of observations on the effect of introducing asbestos fibre into fluid nutrient media inoculated with various pathogenic organisms.

Experiments relating to the phenomena of super-sensitiveness have been carried out. In no instance, up to the present, have toxic properties been conferred upon a normal serum by means of treatment with asbestos.

Certain Chemical and Physical Characters.

Many substances are classified as belonging to the group of "asbestos" minerals, and their chemical and mineralogical properties are shown in the subjoined table. With regard to the fibrous varieties, the fibres vary greatly in diameter and length. Their thickness depends upon the degree of mechanical disruption to which they have been subjected. Some of the finest fibres are but 0.6 μ in diameter (33,000 to the inch) in the carded Canadian varieties, while with others the thickness varies from 1.0 μ (20,000 to the inch) and upwards.

CHEMICAL RELATIONSHIPS OF "ASBESTOS" MINERALS.

"Asbestos" may be divided into the following three groups:

1. *Anthrophyllite Group* [(Mg Fe)O Si O_2].
2. *Amphibole or Hornblende* [RO.Si O_2], where RO may represent CaO; NgO; FeO, etc.
   - (*a*) Tremolite [3MgO.CaO.2SiO_2].
   - (*b*) Actinolite [3(MgFe)O.CaO.2SiO_2].
   - (*c*) Hornblende asbestos, hydrated (Italian asbestos).
   - (*d*) Mountain leather, mountain wood, mountain cork.
   - (*e*) Crocidolite (Blue or African, West Griqualand) [NaFe (SiO_3)3. Fe Si O_3].
3. *The Serpentine Group* (3MgO.2 SiO_2. 2H_2O).
   - (*a*) Picrolite (Canada).
   - (*b*) Chrysotile-asbestos (Canada-Quebec).
   - (*c*) Talc.

N.B.—*Kaolinite* = (Al_2O3.2 SiO_2.2H_2O).

Proximate Composition of "Asbestos" Minerals (Dana).

	Tremolite.	Actinolite.	Crocidolite.	Chrysotile.	Talc.	Picrolite.
SiO_2 ...	57.7	61.82	49.6	40.87	59 59	37.88
Al_2O_3 ...	—	1.12	—	0.9	1.76	1.10
FeO ...	—	6.55	19.8	2.81	0.79	0.36
Fe_2O_3 ...	—	—	22.0		—	2.7
MgO ...	28.9	23.98	—	41.5	32.92	43.29
CaO ...	13.4	1.63	—	—	0.59	0.82
Na_2O ...	—	—	8.6	—	0.56	—
H_2O ...	—	5.45	—	13.55	3.79	14 52

Fibrous varieties of asbestos differ materially in their behaviour towards atmospheric moisture, as is testified by the following table:

Humidity Tests for Relative Absorption, as Compared with Condition at 105° C.

Process.	Temp.	Time.	Change, Per Cent.	Chrysotile. Canadian.	Chrysotile. Russian.	Crocidolite (African).
	C.	hrs.				
1. Drying ...	120	3	Loss	0.49	0.48	0 19
2. Exposure to saturated atmosphere*	40	3	Gain	17.13	28.86	12.12
3. Drying ...	40	3	Water retained	0.33	0.34	Nil.
4. Exposure to saturated atmosphere†	13	12	Water absorbed	2.47	19 28	0.24

* Moisture = 50 grains per cubic metre.
† Moisture = 10 grains per cubic metre.

General Method.

1. For effect of treatment of liquids asbestos fibre equal to half the weight of the liquid has been added. The result is a moistened ball of asbestos which must be pressed to obtain any exudate.

2. For the effect on growth of pathogenic organisms in nutrient media 7½ per cent. by weight of finely carded asbestos fibre has been added.

3. The fibre as a preliminary is dried at a temperature of 120° C., and must be kept in a moisture-free vessel. In the case of treatment with diastase the fibre was subjected as a preliminary to firing at a cherry-red heat. Heating above 120° C. degrades the mineral and alters its physical qualities, the fibres tending to disintegrate, while crocidolite is ruined for all test work if the temperature be raised to red heat.

4. When powdered mineral substances have been added to liquids the vessels have been placed in suitable rocking apparatus.

With regard to the method of preparation, I have come to the conclusion that it is better to use the finest carded varieties available, free of all coarse impurities, and that no further treatment is necessary. On the contrary, additional treatment, whether it be the process of firing or simple boiling with distilled water, causes degradation of the fibre both physically and chemically. Indeed, simple friction between the palms of both hands will reduce fine fibre to powder.

The action of distilled water on the asbestos minerals, on kaolin, and on animal charcoal, is of importance. Asbestos fibre is said to be "practically insoluble," or rather unacted upon by water. This is untrue, for in the early stages of this investigation prolonged experimental tests, some of them extending to four months, were made especially to prepare a purified form of asbestos fibre by means of the process of boiling in distilled water, or in dilute mineral acids followed by distilled water. By using electro-conductivity tests with direct reading apparatus, it is easily shown that asbestos is constantly acted upon and degraded by distilled water alone. In short there appears to be no useful purpose served by any attempt at purification by such methods.

The following table shows the results of such tests with distilled water, and for the purpose of comparison, animal charcoal and glass wool have been similarly treated. (The

Expressed Liquid under Test derived from	Conductivity of Expressed Liquid after 24 hrs.	42 hrs.	90 hrs.	280 hrs.
Control: Distilled water	3.2	3.2	3.2	3.2
Distilled water + Russian asbestos ...	321.28	551	756	1,472
Distilled water + Canadian asbestos...	1,152	1,696	2,204	2,272
Distilled water + African asbestos ...	448	630	702	1,056
Distilled water + Tyrol asbestos ...	988	1,152		
Distilled water + Austrian talc ...	102.4	121	130	186
Distilled water + animal charcoal ...	800.0	886.0	930	960
Distilled water + glass wool	2 560	2.793	3,444	4,216

units of conductance throughout are in terms of reciprocal megohms, cm^{-1}, at 20° C.) In each case to the distilled water there is added 50 per cent. by weight of the material, the degradation (or solution) of which is under test.

The constant and increasing degradation of all these substances in the presence of distilled water assumes importance if their rate of degradation or solution is materially altered—either hastened, stayed, or diminished—by the presence of substances in the liquid which apparently are inert. For instance, peptone water—0.2 per cent. solution of Witte's peptone in distilled water—when brought into contact with any of the foregoing varieties of fibrous asbestos, rapidly loses all trace of the proteose and peptone originally present. The conductivity of the expressed liquid, however, rises in an extraordinary manner, as shown in the following table:

Liquid.	Conductivity of Liquid (after 24 hrs.).	Biuret Test for Purpose of Comparison.
Distilled water	3.2	0
Distilled water + 0.2 % Witte's peptone	102.4	100
Distilled water + 50 % Russian asbestos	321.28	0
Distilled water + 0.2 % Witte's peptone + 50 % Russian asbestos	620.8	0

Here the phenomenon of the disappearance of the diffusible proteoses and peptone from the solution is accompanied by an increased rate of degradation of the mineral substance, which ultimately is evidenced in the solution in the form of electrolyte.

In the case of non-diffusible colloids, such as suspensions of dialysed iron and methylene blue, the colouring matter of the suspension is quickly yielded to the asbestos fibre, the exudate becomes colourless, and its conductivity is markedly diminished. In short, the disappearance of the non-diffusible colloid, and the staining of the asbestos fibres, is accompanied by a deviation of electrolyte originally present in the solution.

In the case of colloidal gold in water there is in the presence of asbestos fibre immediate deposition of the gold on the fibre, giving rise to a stain which varies in intensity from puce to crimson. The conductivity of the liquid is that obtained from a simple experiment using asbestos fibre steeped in plain distilled water.

The results yielded by animal charcoal, when used in place of asbestos, are somewhat comparable. Both with animal charcoal and asbestos fibre the subsequent history of the liquids under test appears to be that the rate of disintegration in every case with non-diffusible colloids is somewhat lessened, due possibly to the formation of a protective coating around the particles either of the animal charcoal or asbestos fibre used. In addition the action of finely divided asbestos fibre on the following substances may be briefly mentioned:

Blood.—5 per cent. serum in normal saline yields negative tests for protein after two hours' contact. 1 per cent. haemoglobin in normal saline: colouring matter rapidly disappears.

Haemolytic System.—In the course of twelve hours' contact complement wholly disappears, and over 50 per cent. of the haemolytic amboceptor.

Agglutinin.—Serum diluted in normal saline 1 in 25: agglutinin (typhoid) entirely disappears in two hours.

Cobra Venom.—A solution made up so that 0.1 c.cm. contains a lethal dose for a large rat, the solution giving a well-marked biuret reaction, after twelve hours' contact yields a non-toxic liquid, and, in addition, the biuret reaction is entirely negative.

Diastase.—After four days' contact the expressed liquid shows no signs of the presence of the ferment when suitably tested with starch.

Boiled Starch (0.5 per cent. in water).—After four days' contact no trace of starch in solution as tested by iodine. The expressed liquid has lost its opalescence.

Mixture of Dye-stuffs.—Methylene blue in the presence of eosin rapidly yields all the blue to the fibre which is stained blue. The expressed liquid appears to contain eosin only.

Radio-active Substances.—Radio-active water from St. Austell, Cornwall, was placed in contact for one week; the radio-activity of the liquid diminished from 7 to 3. Five per cent. thorium nitrate solution placed in contact for three weeks; the emanations of the expressed liquid had diminished from 22 to 2. There was no appreciable diminution of the nitric acid in the liquid computed as nitrate, while conductivity tests gave the following results:

Liquid Tested.	Conductivity of Expressed Liquid.	Emanation Activity.
Distilled water	3.20	Nil.
Distilled water + 5 % thorium nitrate	17,472.0	22
Distilled water + Russian asbestos (50 %)	1,728.0	Nil.
Distilled water + 5 % thorium nitrate + Russian asbestos (50 %) —after twenty-one days' contact	16,832.0	2

[NOTE.—Mr. S. A. Edmonds, of the Physics Department of Leeds University, to whom I am indebted for the figures relating to the emanation activities, has kindly undertaken to investigate generally the fate of radio-active substances in the presence of asbestos, and a preliminary note on the outcome of his work is appended.]

Degelling Phenomena.

Watery gelatine (10 per cent.), watery agar (1 per cent.), watery isinglass (3 per cent.), after melting, are placed in contact for twelve hours with asbestos fibre at refrigerator temperature. Thereupon the expressed liquids are found to have lost the power of setting.

Bacterial Poisons.

Solutions of tuberculin, mallein, diphtheria toxin, and tetanus toxins, when diluted 1 in 25 in normal saline and placed in contact with the fibre, appear rapidly to lose the whole of their toxicity, as far as can be judged, within twenty-four hours.

With regard to diphtheria and tetanus toxins, the strength of the solutions taken was such that 1 c.cm. contained 400 × M.L.D. A volume of the exudate equal to 50 × M.L.D. of the untreated diluted liquid proved entirely non-toxic to animals, while the reaction changed likewise from markedly positive biuret to one entirely negative.

In the case of Koch's old tuberculin a reaction occurs during contact which may be divided into two stages: (*a*) The proteoses entirely disappear and the biuret reaction becomes negative; (*b*) later the toxicity diminishes, the latter being tested by biological reactions both in tuberculous man and tuberculous guinea-pigs.

Using the diluted toxins of diphtheria and of tetanus, diluted to such strength that 0.1 c.cm. contains 1 × M.L.D., contact with asbestos leads to an immediate loss of the toxicity of the liquid, and a like loss of potency ensues with diluted antidiphtheritic serum in which 0.1 c.cm. contains unit protective dose.

It is important to note that the extract from a mixture of asbestos fibre and distilled water after being in contact for several weeks does not, when added directly to these toxins or antitoxin serum, materially diminish their potency.

In extremely dilute solutions glass wool appears to have little effect upon the toxins of diphtheria or of tetanus. These, however, appear to be slowly destroyed in the presence of finely divided china clay or of animal charcoal. Cotton-wool, after being cleansed with alcohol and ether, has a somewhat similar effect, but the reaction is better marked with diluted tuberculin and mallein (1 in 25).

The action of asbestos fibre on concentrated toxins, using a toxin the strength of which is such that 1 c.cm. contains 400 × M.L.D. placed in contact with asbestos 50 per cent. by weight, is as follows:

Material Used.	M.L.D. Doses Given.	Death.	M.L.D. Doses Given.	Death.
A. Diphtheria toxin—1 c.cm. contains 400 × M.L.D. (control)	1.5	< 30 hours	1	30 hours
B. = A. after 24 hours' contact	1.5	60 hours	1	44 hours
C. = A. after 48 hours' contact	1.5	120 hours	1	Not killed in 17 days
D. Tetanus toxin—1 c.cm. contains 400 × M.L.D. (control)	1	4 days		
E. = D. after 24 hours' contact	250	6 days		
	117	19 days		
	45	Did not kill in 42 days		
	22			

The action of asbestos fibre is obviously greater upon concentrated tetanus toxin solution than upon an equally concentrated diphtheria toxin.

Growth of Virulent Organisms upon Nutrient Broth containing 7½ per cent. by Weight of Russian Asbestos Fibre.

B. tuberculosis (Human and Bovine Types).—After five months there is a fair amount of growth. The liquids are proteose- and peptone-free, and their toxicity is about equal to that of control cultures grown on normal glycerine broth which had to be freed of proteoses by precipitation with alcohol. The

exudate from the asbestos broth culture has been tested by means of the Lignière, Woodcock, and von Pirquet methods of cutaneous reaction and, broadly, the results are comparable. The organisms in one culture flask (*T. bovinus*), however, seem to have lost all their virulence, as tested upon twelve guinea-pigs, none of which, at the end of six weeks following inoculation, have developed signs of tuberculosis on *post-mortem* examination. The organisms derived from the culture flask sown with *T. humanus* appear to have lost none of their virulence in a parallel test now being conducted. The organisms show certain changes both in morphological and staining appearances.

B. anthracis: *B. pestis*.—One strain of each type has been under observation. The organisms show certain changes in morphological and staining appearances and have lost a great measure of their virulence during two months' growth. Mice inoculated with small quantities of the expressed fluids are apparently unaffected.

B. diphtheriae (American Variety).—No toxin appears in the asbestos broth culture at the end of eight days' growth; 5 c.cm. of the expressed liquid is without harmful effect when inoculated subcutaneously into guinea-pigs, whereas $\frac{1}{10}$ c.cm. of the control broth culture proved fatal within thirty-six hours. There is a great alteration in the staining and morphological appearances in the growth on asbestos broth, while the intensity of the biuret reaction of the expressed fluid is less than 2 per cent. of that of the control.

NOTE ON THE ACTION OF ASBESTOS UPON RADIUM AND THORIUM IN SOLUTIONS OF THEIR SALTS.

By S. A. Edmonds, A.R.C.Sc., F.R.C.Sc.I.,
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This investigation was suggested by Dr. Coplans, and it was thought that a short account of the results achieved might be of interest in conjunction with his work on asbestos.

Preliminary experiments showed that asbestos had the power of diminishing the activity of a solution of a radio-active body. Thus, 25 grams of Russian asbestos were left in contact for one week with 50 c.cm. of radio-active water from the Cornish Radium Mine, and the solution extracted from this asbestos by pressure possessed only three-sevenths of the activity of the original solution, while another 25 grams of the same sample of asbestos left in contact for three weeks with 50 c.cm. of a 5 per cent. solution of thorium nitrate yielded 12.5 c.cm. of liquid with an activity per cubic centimetre diminished to one-eleventh of the original solution, the asbestos retaining the remainder of the active thorium and being correspondingly radio-active, the total activity of asbestos and liquid being the same as that of the thorium solution before treatment with the asbestos fibre.

The active product in the asbestos could not be washed out with distilled water, but on boiling with 300 c.cm. of water for four hours, about 100 c.cm. of cloudy solution were eventually obtained with an activity per cubic centimetre of one-fifteenth of that of the original solution. The deposit from this cloudy solution was inactive, and the total activity thus recovered in the extracted liquids was one-sixth of that of the original liquid, while the asbestos retained an activity equal to five-sixths of that of the original thorium nitrate solution.

A solution of thorium nitrate was then made up, 1 gram in 200 c.cm., and different weights of chrysotile-asbestos from Canada were sealed in contact with 50 c.cm. of this solution for four days, after which they were compressed.

The volume of liquid thus extracted was measured, the remaining compressed solid was weighed, and the activities of each obtained by the "emanation method," as devised by Boltwood (*Phil. Mag.*, 1905).

The solution under test was boiled *in vacuo*, and the dissolved gases driven through a drying tube into an ionization chamber connected to an electrometer, the deflections of which were proportional to the ionization currents produced in the gas in the chamber by the α particles shot out from the emanation on disintegrating. While devised primarily for radium emanation, the method of estimation can be used for thorium, provided the gases are admitted quickly into the chamber—thorium emanation decaying to half its strength in one minute—and may be calibrated by repeating the test with standardized radium or thorium solutions.

The activity thus measured is proportional to the amount of thorium or radium emanation present, and consequently to the amounts of thorium or radium from which these emanations were produced.

The results of testing Canadian asbestos (chrysotile) were as follow:

Quality of Fibre.	Weight (Grams).	Liquid Removed (c.cm.).	Emanation Activity		
			Of Liquid.	Of Asbestos.	Per Gram Asbestos.
	A.	B.	C	D.	E.
1. Canadian, fine ...	2.17	46.5	4.51	0.79	0.363
2. ,, ,,	3.85	46.0	3.95	1.35	0.351
3. ,, ,,	5.10	43.5	3.44	1.86	0.365
4. ,, coarse	3.34	47.0	4.19	1.11	0.333

Time of contact: 4 days. Emanation activity of original liquid: 5.30.

After eight days' contact the figures showing the loss of emanation activity by the asbestos used in experiments 1, 2, and 3 are respectively 0.63, 0.65, and 0.64 per gram.

The numbers in columns C and D represent the thorium contents of the extractate and the asbestos respectively, while in column E it is seen that, using different weights of fine Canadian fibre, equal amounts of thorium are removed per gram, so suggesting a chemical replacement of the magnesium in the chrysotile (usually a magnesium silicate combined with various oxides) by the thorium.

The amount of nitric acid present in the liquid reckoned as nitrate appears to be unchanged throughout the process.

It is hoped to elucidate these phenomena by further research.

HYPERTHYROIDISM: ITS EXPERIMENTAL PRODUCTION IN ANIMALS.

By Rupert Farrant, F.R.C.S.,
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Exophthalmic goitre in man is generally held to be due to thyroid changes producing an increased secretion, which is the immediate cause of the symptoms and the pathological changes of the disease. These suppositions appear to be borne out by the results obtained in the treatment of the disease by partial thyroidectomy. Observers mostly insert a saving clause that the symptoms may be due to an altered secretion, that is, a dysthyroidism rather than a hyperthyroidism.

The essential change in the thyroid is a cell hyperplasia with absence of colloid, the cells are also altered in shape and approach the columnar type. The hyperplasia is commonly associated with a macroscopic enlargement of the gland, sometimes with an adenoma, though cases are recorded where the size remained normal. Walter Edmunds,[1] Halsted and Horsley,[2] found that after partial thyroidectomy in a normal animal the remaining portion enlarged and underwent a histological change indistinguishable from the hyperplasia seen in exophthalmic goitre. Marine and Lenhart[3] hold that thyroid hyperplasia is accompanied with deficiency of thyroid secretion.

Exophthalmic goitre is apparently rare in animals, but undoubted cases of a similar condition have been recorded by Albrecht, Cadiot, Marek, Ries, and Rider, in cows, dogs, and horses. So the symptoms and pathological changes that are due to thyroid excess should be capable of reproduction in animals by thyroid feeding. The results that have been obtained by thyroid feeding are extremely contradictory, as the following short account of the principal published work shows.

Nearly all the observers have obtained in animals increased appetite, loss of weight, gastro-enteritis, and diarrhoea. They appear to agree that the loss of weight is due to an increased oxidation of fat and increased nitrogenous metabolism in cretins, myxoedema, normal man, and in animals (Schoendorff,[4] Underhill and Saiki,[5] Dutto, Roos,[6] and Magnus Levy[7]).

Loss of hair, glycosuria, nervousness, and tremors are among the symptoms that have been described by some observers and not by others. Any observations made as to nervousness are open to error, as animals tend to become more tolerant of man when ill, and estimations made as to their behaviour to some sudden noise are most unsatisfactory. No definite opinion can be given on tremor, as the animals are in a wasted condition and weak; any tremor present may arise from the tachycardia.

Most observers have failed to obtain exophthalmos, but it has been described by Edmunds[8] in monkeys, by Hoennicke[9] in rabbits, by Baruch[10] in dogs, rabbits, and rats; also by Ballet and Enriquez[11] and Gagnevin. It is quite impossible to compare the eyes of thyroid-fed animals to the exophthalmos in man, owing to the anatomical differences and the wasted condition of the animals.

The great question is tachycardia; it has been obtained by the experiments of Ballet and Enriquez,[11] Cauter,[12] Georgiewski,[13] Hellin,[14] Lanz,[15] and by von Fürth and Schwarz[16] in dogs and rabbits; in guinea-pigs by Angiolella[17] and Ludke,[18] in goats by Lepine,[19] in rats by Peiser,[20] in monkeys by Edmunds,[8] and in cats by von Fürth and Schwarz. These papers were summarized by von Fürth and Schwarz[16] in 1908, and they concluded that tachycardia could be produced, but not invariably. The more recent workers, especially the American, deny the production of tachycardia; Marine and Lenhart[3] have never produced it in dogs, Cunningham[21] did not produce it in man, monkeys, cats, dogs, rabbits, and chickens by feeding with fresh thyroids, but obtained it by feeding with desiccated thyroid and by subcutaneous injections. Carlson, Rooks, and McKie[22] did not observe it in pigeons, chickens, rabbits, ducks, guinea-pigs, rats, foxes, cats, dogs, and monkeys.

In all these experiments the heart-rate was taken by the finger, and this has often proved unsatisfactory—for example, Carlson found that no observations could be made on monkeys, foxes, or rats, as they were too excitable, while dogs' hearts were too irregular, and those of rabbits and guinea-pigs too rapid, and he appears to have made no attempt to count the rate in ducks or chickens. So his categorical statement is based on observations on two cats, one of which was pregnant. His observations would carry greater weight if they were controlled by the use of some instrument such as a polygraph. The contradictory results obtained thus make it uncertain whether the tachycardia of exophthalmic goitre can be reproduced by thyroid feeding, though most authors appear to hold that it results from it. (See Biedl and Swale Vincent.)

Some observers have used exophthalmic goitre thyroid, and have obtained contradictory results. Soupault[23] fed guinea-pigs with it, and found it less active than normal thyroid. Schoenborn[24] used it on cats and rabbits, and found no essential difference from the normal. Klose and Lampe,[25] Klose and Liesegang[26] produced tachycardia in nervous fox terriers by using exophthalmic goitre thyroids within half an hour of their removal, and concluded that the results were due to some dysthyroidism. Fonio[27] and Marine[28] found that exophthalmic goitre thyroid was no more active than thyroid of a similar iodine value. The previous observers had not estimated the iodine value.

The conflicting results may be due in part to the different preparations that have been used and to the different methods of administering them. The preparations have varied from fresh glands, normal or goitrous, thyroid powder, iodothyrin, thyroglobulin, glycerine extracts, colloid solutions, to iodized protein. For the most part the iodine has not been estimated, and when this has been done it was found to be low. The preparations were introduced intraperitoneally, subcutaneously, in the food or in gelatine capsules. The iodine content is of the utmost importance. Marine and Lenhart[29] found that the compensatory hypertrophy after partial thyroidectomy could be prevented by the administration of iodine. Marine and Williams[30] found that the physiological value of the thyroid was dependent on its iodine content. Stoland,[31] a pupil of Carlson, by feeding experiments, found that thyroids of a low iodine value were less toxic than those of a high value.

Technique.

The selected animals—cats, rabbits, guinea-pigs, and dormice—were taken as being typical, carnivorous, herbivorous, and hibernating. The last were investigated in order that the effect might be noted on the large thymus these animals possess in the winter months. The material used was Duncan and Flockart's thyroidea sicca. A sample of this was found to contain 0.3289 per cent. of iodine. Marine and Lenhart found that normal to colloid glands contained 0.4-0.95 per cent. The material used in my experiments thus contained a high percentage of iodine, and, according to Marine, would have a high physiological value. It is about three times as high as that used by Carlson, Rooks, and McKie, which contained only 0.08-0.13 per cent.

The powder was given in the whole state mixed with either milk or meat, and was taken quite readily; if any was left over it was added to the next meal.

In one experiment subcutaneous injections of thyroid purified according to Hutchison's method were given. In three cats thyroid that had been previously subjected to gastric digestion for 12 hours was employed. An objection was open, that any of these might contain some toxic agent other than thyroid, so three controls were taken by previously boiling the thyroid for some minutes. As the same effects were produced by all these methods in cats, it was not thought necessary to repeat the controls for the other animals. Controls were kept of all the animals, to note the effect of confinement in the laboratory; these remained normal and put on weight, except the dormice.

Accurate records were made of the pulse rates, by means of a polygraph, and these rates were compared with estimations made directly; the direct observations invariably proved inaccurate. There was no difficulty in using the polygraph, the animals were placed in the observer's lap, and petted until they became quite quiet, when the tambour was placed over their heart and records taken. All tracings were discarded, where there was any question of any increased rate from either movement or excitement.

No attempt was made to record either the temperature or the respirations. Owing to the difficulty in collecting the urine free from contamination only occasional tests were made for sugar in cats. The morbid changes were examined both macroscopically and microscopically; other observers have not examined the organs microscopically. The nervous system was not examined histologically, as a very large series would have been necessary to be of any value, owing to the irregularity of the appearance of changes in the nervous system in exophthalmic goitre.

EFFECTS PRODUCED.

1. *Cats.*

Thirteen cats were divided into five groups.

A. Four cats fed on thyroid powder.
B. One cat injected every day with a 2½ per cent. solution of purified thyroid (subcutaneously).
C. Three cats fed with previously digested thyroid.
D. Three cats fed on previously boiled thyroid.
E. Two cats kept without thyroid feeding.

The doses given were from 1 to 3 grams per day.

The results obtained in the first four groups were similar, and so may be taken together.

General Account.—The effect of the thyroid feeding produced but little change during the first three days. On about the fourth day the animals became suddenly weak and went off their legs; this stage of weakness passed off in about forty-eight hours, but then the toxic symptoms mentioned below set in and slowly progressed until the animals became moribund. Some of the cats appeared for a time to come to a standstill, but they eventually succumbed. In four the feeding was stopped when they became moribund, as they were required for other purposes.

Fur Changes.—The hairs came out and the fur became unkempt; when the animals died the fur was very thin.

Body Weight.—There was a gradual loss of body weight from 28 to 53 per cent. This was accentuated at those times when food was refused and occurred most rapidly two to three days before death. Muscular weakness corresponded to the loss of weight. In the two cats in which the thyroid feeding was stopped and which were allowed to recover, a steady increase of weight followed.

Alimentary Tract.—Salivation took place during the later stages of the experiments, its intensity varied with different cats, at the last it was represented by a thick ropy mass hanging from the mouth. The appetite was much increased though occasionally they would refuse all food for two or three days at a time. Diarrhoea constantly occurred even in the cat subjected to subcutaneous injections.

Glycosuria.—The urine reduced Fehling in some of the cats, but not in others.

Circulatory.—The daily records made with the polygraph showed that the pulse-rate steadily increased. The highest was 384. The heart's impulse appeared to be diffused over a larger area of the thorax than previously. The rates steadily diminished in the two cats in which the thyroid feeding was stopped.

Exophthalmos.—There was no prominence of the eye that could be compared to that seen in exophthalmic goitre.

Tremors.—The cats became tremulous, and the hair

could be seen to shake, but it was quite impossible to differentiate this from the effects of the general weakness and rapidity of the heart's action. It cannot be compared to the tremor of exophthalmic goitre.

Nervousness and Excitability.—The cats during the experiments became quite tame, and purred on being handled: in the later stages they appeared to start at a sudden noise.

Macroscopic Post-mortem Appearances.—There was almost entire absence of fat, the muscles were extremely wasted. The intestinal mucous membrane showed haemorrhagic changes, but not invariably. The intestinal contents were conspicuous by the absence of worms, which are generally present in large numbers in normal cats. The mesenteric lymph glands were sometimes enlarged, but not more so than is commonly seen in cats, so that no comparison can be made with the lymphoid changes seen in exophthalmic goitre.

Morbid Histology.—This will be described with that occurring in rabbits.

The following is an account of each individual cat:

GROUP A, No. 1.

Date.	Thyroid per Day.	Body Weight.	Average Pulse.
	Grams.	Grams.	
November 23, 1910	1	3,560	153
December 3, 1910	1	2,650	282
December 5, 1910	1	2,410	Dead

Feeding days 11. The cat died, having lost 32.5 per cent. of its total body weight.

GROUP A, No. 2.

Date.	Thyroid per Day.	Body Weight.	Average Pulse.
	Grams.	Grams.	
December 9, 1910	1	1,850	132
December 15, 1910	1	1,750	160
December 22, 1910	1	1,630	214
January 7, 1911	Stopped	1,440	272
January 21, 1911	Nil.	1,520	210
January 30, 1911	Nil.	1,550	176

Feeding days 33. When the feeding was stopped the cat was extremely weak, and had lost 28.7 per cent. of its body weight; it was obvious that it would have died in the next few days had the feeding been continued. On January 30th, twenty-two days after the feeding had been stopped, the cat had regained 180 grams in weight and its heart-beat had fallen from 272 to 186.

GROUP A, No. 3.

Date.	Thyroid per Day.	Meat.	Weight.	Average Pulse.
	Grams.	Grams.	Grams.	
March 31, 1911	3	100	3,070	160
April 7, 1911	3	100	2,690	263
April 19, 1911	3	50	1,760	320

Feeding days 19. The cat died, having lost 42.9 per cent. of its body weight. Its pulse-rate rose from 120 to 320.

GROUP A, No. 4.

This cat was fed on 1.5 gram of thyroid daily from November 23rd to December 1st, 1910. It was pregnant, and aborted on the fifth day after the feeding commenced; the kittens were not full term, and they died in about half an hour. The cat died on the eighth day. Carlson fed a cat when pregnant on thyroid, and it carried its kittens to full term on the seventy-second day, but his cat was given increasing doses, starting with 0.5 gram, and the iodine value was low.

GROUP B.

This cat received fifty-eight subcutaneous injections of 5 c.cm. thyroid solution. The 5 c.cm. corresponded to 6 grams of thyroid powder.

Date.	Weight.	Average Pulse.
	Grams.	
December 9, 1910	2,610	160
December 16, 1910	2,440	192
January 2, 1911	2,360	144
January 30, 1911	2,000	240
February 12, 1911	1,700	384
February 26, 1911	1,670	300
March 9, 1911	1,780	225

From December 23rd to January 2nd the cat received no injections. They were continued from January 2nd to February 12th, when they were finally stopped owing to the development of an abscess in the neck. It had lost 37.1 per cent. of its body weight. On March 9th—twenty-five days after the injections were stopped—it had regained 50 grams in weight, and its pulse dropped from 384 to 225—a fall of 159 per minute.

GROUP C, No. 1.

Date.	Thyroid per Day.	Weight.	Average Pulse.
	Grams.	Grams.	
January 30, 1911	1	3,400	182
February 6, 1911	1	3,400	192
February 13, 1911	1	3,360	217
February 27, 1911	1	2,780	270
March 8, 1911	1	2,250	293

The cat died on the thirty-seventh day, having lost 33.8 per cent. of its total body weight.

GROUP C, No. 2.—*Digested Thyroid.*

Date.	Thyroid per Day.	Meat.	Weight.	Average Pulse.
	Grams.	Grams.	Grams.	
April 1, 1911	3	150	4,190	150
April 15, 1911	3	150	3,590	246
April 29, 1911	3	150	3,580	294
May 13, 1911	3	150	3,070	320
June 4, 1911	3	150	2,720	312

Feeding days 65. It was killed when moribund, having lost 35.1 per cent. of its body weight.

GROUP C, No. 3.

Date.	Thyroid per Day.	Meat.	Weight.	Average Pulse.
	Grams.	Grams.	Grams.	
April 1, 1911	39	100	2,610	170
April 8, 1911	39	100	2,350	251
April 22, 1911	39	100	1,650	293
April 27, 1911	39	100	1,460	

On the last date the pulse was irregular and intermittent. The cat died on the twenty-fourth day, having lost 37.5 per cent. of its total body weight.

GROUP D, No. 1.—*Boiled Thyroid.*

Date.	Thyroid per Day.	Meat.	Weight.	Average Pulse.
	Grams.	Grams.	Grams.	
December 8, 1910 ...	1	—	2,780	127
January 1, 1911	1	—	2,430	131
January 15, 1911	1	—	2,060	169
January 29, 1911	1	—	2,050	190
February 12, 1911 ...	1	—	1,950	255
February 26, 1911 ...	1	—	1,640	283
March 16th, 1911	1	—	1,290	320

The cat died on the ninety-eighth day of thyroid feeding, having lost 53.8 per cent. of its total body weight. Its pulse-rate increased 204 per minute.

GROUP D, No. 2.

Date.	Thyroid per Day.	Meat.	Weight.	Average Pulse.
	Grams.	Grams.	Grams.	
April 1, 1911	3	100	2,010	195
April 14, 1911	3	100	1,670	288
April 24, 1911	?	?	1,160	384

The cat went off its food on the twentieth, and no thyroid was taken after the twenty-second. Number of feeding days twenty. The cat died on the twenty-fifth day, having lost 42.3 per cent. of its total body weight.

GROUP D, No. 3.

Date.	Thyroid per Day.	Meat.	Weight.	Average Pulse.
	Grams.	Grams.	Grams.	
April 1, 1911	5	100	3,020	162
April 14, 1911	3	100	2,480	192
April 28, 1911	3	100	2,390	272
May 8, 1911	3	100	1,930	303

The cat was killed on the thirty-eighth day of the experiment, when moribund. It had lost 36.1 per cent. of its total body weight.

GROUP E.—*Control Cats.*

These two cats steadily increased in weight, and their pulse-rates varied between 120 and 190.

2. *Rabbits.*

Nineteen rabbits were fed on thyroid in milk in doses varying from 0.2 to 1 gram daily. They rapidly lost

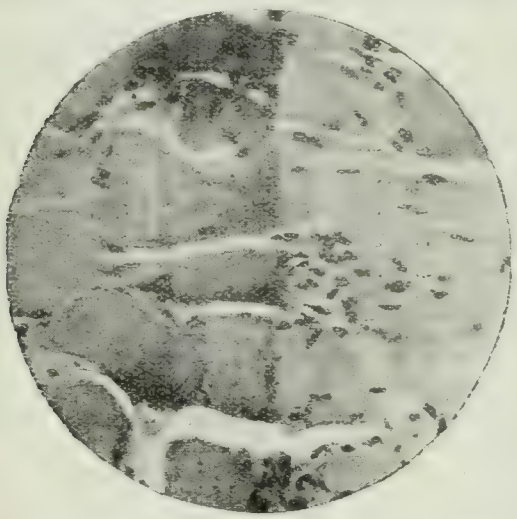


Fig. 1.—Cat's heart showing type of degeneration, cut transversely and vertically.

weight and died, except five in which the experiments were not pushed to their termination. Death occurred from the fifth to the nineteenth day with one exception; this one survived twenty-eight days. The fur became unkempt and fell out. The loss of weight varied from 19 to 42 per cent. of their total body weight. The appetite was much increased, and they ate ravenously right up to the time of their death. Diarrhoea was a constant symptom, but no salivation was noted. The urine was not tested or estimated. The pulse-rate steadily increased, the highest recorded being 420 per minute. No exophthalmos or constant alteration in the nictitating membrane was noticed. The rabbits became weak and tremulous, but no comparison can be made between this and the tremor of exophthalmic goitre.

Three of the five rabbits in which the experiment was not pushed to a termination died suddenly while being given ether as an anaesthetic.

Naked-eye Morbid Anatomy.

There was extreme wasting of the fat and muscles. The stomach invariably was found full of food; the intestinal mucous membrane showed haemorrhagic changes.

No enlargement was seen of the lymphoid group of glands.

The following may be taken as a typical feeding experiment on a rabbit:

Date.	Thyroid.	Weight.	Average Pulse.
	Grams.	Grams.	
December 7, 1910	0.2	2,150	167
December 9, 1910	0.2	2,040	192
December 14, 1910	0.2	1,775	240
December 19, 1910	0.2	1,320	352
December 20, 1910	0.2	1,290	Dead

The Morbid Histology of Thyroid Fed Cats and Rabbits.

Evidence of the extreme degree of fat absorption is seen in the illustration, which represents a cat's omentum spread out on a slide.

Muscles and Heart.—The change seen in the heart varied from a condition of general wasting of the fibres to what may be described as a condition of hyaline degeneration. The fibres appeared swollen with few nuclei and no processes or transverse striations; both the fibres and the nuclei stained badly. Fig. 1 shows this appearance; it corresponds to a myocarditis without evidence of inflammation.

Kidneys.—The majority of sections showed no change, but in some, as in Fig. 2, there was a condition approaching tubular nephritis: the cells were in a peculiar swollen condition, without evidence of inflammation.

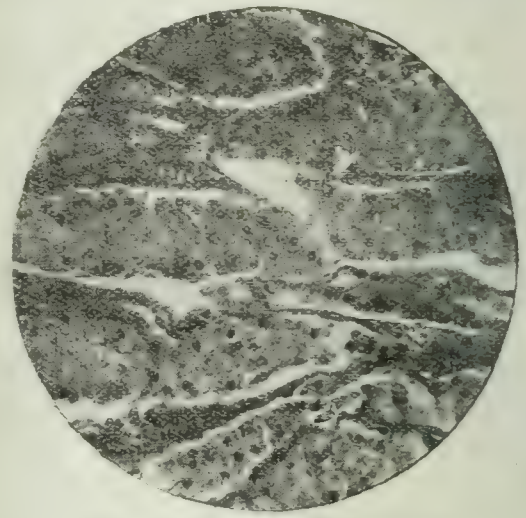


Fig. 2.—Cat's kidney showing degeneration

Liver.—The liver showed a condition of fatty degeneration, most marked around the centre of the lobules.

Pancreas.—Certain of the animals were killed, so that an immediate *post-mortem* examination might be done and the true condition of the pancreas ascertained uncomplicated by *post-mortem* degeneration. Considerable enlargement of the islets of Langerhans was seen. Others showed a degeneration of the islets with fibrosis, but the possibility arises that this fibrosis might have been due to previous inflammation independent of the thyroid feeding.

Ductless Glands.—The thyroid showed a marked increase in the staining capacity of the colloid, otherwise it was quite normal. No change was found in the pituitary or adrenal. The most constant of these changes was the enlargement of the islets of the pancreas and the alteration in the heart. The degrees of the changes in the organs varied in each individual animal; all the changes were not to be seen in any one animal.

Guinea-pigs.

Fifteen were fed on thyroid daily, from 0.2–0.6 gram. The fur changes, loss of weight, diarrhoea, and increased appetite that occurred agreed with the changes seen in

the rabbit; the naked-eye pathology was also similar. No observations were made as to the occurrence of tachycardia owing to the tambour being too big to fit over a guinea-pig's heart.

Dormice.

Twelve dormice were fed on 0.025 gram of thyroid a day, twelve others were used as controls. Beyond falling out of the fur, diarrhoea and loss of weight, no changes were to be noted. They died in four to nine days, having lost 15 to 38 per cent. of their weight. The main object of the experiment was to notice the effect on the thymus. It was found that it had diminished; in some at the time of death it was quite small, and no fat was to be seen in it, whilst others died before all the fat had disappeared.

The control dormice lost some weight, but appeared healthy when the thyroid fed ones died, but they themselves died one night, presumably owing to a hard frost.

Comparison of the Effects in these Animals.

The effects produced by thyroid feeding in cats, rabbits, guinea-pigs, and dormice may be compared as follows:

The cats proved the most resistant, the other three were very susceptible; the rabbits lived longer than the guinea-pigs; this one would expect from their size.

Carlson suggested that the difference in the resistance of carnivorous and herbivorous animals might arise from some toxic effect of animal protein to herbivora, but French,[33] one of Carlson's pupils, found that large quantities of meat could be given to herbivora without producing any toxic effect.

The cardinal symptoms in all were fur changes, loss of weight, weakness, increased appetite and diarrhoea.

Tachycardia was well marked in the cats and rabbits, but no reliable observations could be made in either the guinea-pigs or the dormice, owing to the difficulties involved in their small size. The question arose in cats and rabbits as to the occurrence of nervousness and tremors, both of which, along with exophthalmos, have been observed in higher animals—by Edmunds in monkeys, and by Notthaft[32] in man.

Comparison with Exophthalmic Goitre.

A comparison of the symptoms obtained may be made with those seen in exophthalmic goitre. In making this comparison, it should be borne in mind that the length of time over which thyroid excess is produced in animals is much less than the duration of the average case of exophthalmic goitre; also the amount of thyroid given daily represented a much larger quantity than the whole gland of the animal. An early acute case is the most suitable for comparison.

The change in the fur is analogous to the change in the hair. The loss of weight, from 28 to 53 per cent. in cats, and from 19 to 42 per cent. in rabbits, agrees with the average or extreme loss seen in the disease. The salivation seen in cats corresponds to the moistness of the mouth. The appetite is rather different, as the typical appetite of exophthalmic goitre is capricious whilst that of the thyroid fed animals is increased until they are very ill. Diarrhoea is an almost constant symptom in both, as also is tachycardia. The occasional glycosuria, seen in cats, agrees.

Exophthalmos for the most part can be said not to be present and tremor cannot be distinguished as such, nervousness remains doubtful. Fineness of the skin and sweating cannot be reproduced in these animals for obvious reasons.

In a comparison of the morbid anatomy the changes may be divided into two main groups, other than changes in the nervous system which were not looked for.

The fat absorption, muscular wasting, degeneration of the heart, kidneys and liver, the enlargement of the islets of Langerhans, and the haemorrhagic changes in the intestine are to be found in both. The type of the degeneration, a hyaline without evidence of inflammation, agrees, also the uncertainty of their occurrence. The second group consists of those that are found in exophthalmic goitre, but cannot be reproduced in animals by thyroid feeding. They are the hyperplasia of the thyroid, the alteration in the pituitary, the enlargement of the spleen and certain lymph glands. Of these the hyperplasia of the thyroid is not to be expected in animals fed on thyroid gland, so that the chief differences between exophthalmic goitre and experimental hyperthyroidism consist in the absence of the alterations in the latter in the pituitary, spleen and lymph glands.

Summary.

One may conclude that thyroid feeding is toxic to these animals, but that their resistance varies both as to the species and to the individual of that species.

A complete picture of exophthalmic goitre cannot be reproduced in these animals, but a modification can be produced that resembles the disease in certain features. These are fur changes, loss of weight, bodily weakness, diarrhoea, tachycardia, and occasional glycosuria, combined with a disappearance of fat, muscular wasting, degeneration of the heart, liver, and kidneys, enlargement of the islets of Langerhans, and haemorrhagic changes in the intestine. The deduction can be made that the thyroid hyperplasia of exophthalmic goitre is associated with excess of secretion, and that this is the cause of these symptoms and morbid changes.

It is suggested that in regard to symptoms that cannot be reproduced no deduction can be made either as to their being or not being caused by thyroid excess, owing to the anatomical and other differences between animals and man.

The absence of the morbid changes in the ductless glands and lymphoid system precludes their production by thyroid excess.

The experimental work was done at University College in Professor Cushny's laboratory. I am much indebted to him for his care and supervision, without which the work would have been valueless. I am also indebted to Dr. Marris for the loan of his polygraph.

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DISCUSSION.

Dr. Crofton asked for information concerning the occurrence of glycosuria and albuminuria in the experimental animals.

Mr. Farrant replied that the difficulties of collecting urine in animals without contamination were great, but that glycosuria was not infrequent.

ON THE VALUE OF THE BLOOD COUNT AS AN AID TO DIAGNOSIS IN OBSCURE BACTERIAL AND OTHER INFECTIONS.

By H. Miller Galt, M.B., B.Sc.Glasg.,

Pathologist to the "Stephen Ralli" Memorial Laboratory, Royal Sussex County Hospital, Brighton.

Briefly this is a plea for the much more extended use of the examination of the blood as an aid in diagnosis and a guide to treatment.

Within certain fairly well defined limits there is a very remarkable constancy of the histological elements of the blood. All these elements, however, are liable to alteration in number and character under certain influences, mostly toxic; this is particularly the case with regard to the leucocytes, which show fluctuations under very slight influences.

With regard to the leucocytes, the usual alteration is in the form of increase in number—leucocytosis. This may be in the form of a simple leucocytosis, with a proportionate increase of all the varieties of leucocytes. On the other hand, the increase may entirely or specially affect the polymorphonuclears, the lymphocytes, or the eosinophiles — polymorphonuclear leucocytosis, lymphocytosis, eosinophilia. In some bacterial infections the unusual form of leucopenia is manifested; this, again, may be general or special. Lastly, there may be diurnal, seasonal, digestive and other leucocytic fluctuations which may be considered normal.

The chief alterations of the erythrocytes are with regard to number and haemoglobin content. In this connexion the relation between these two factors—the colour index—is an important one.

The term "homogeneous anaemia" may be applied to cases where all the histological elements of the blood are proportionately diminished.

In general it may be said that there are few pathological conditions which do not show some associated alteration in the blood count, while in other cases a negative result from the examination may be equally valuable.

Of diseases associated with leucocytosis we have examples in the following: abscesses in general, practically all local inflammatory conditions, diffuse suppurative processes, lobar pneumonia, acute rheumatism, endocarditis, the infective fevers generally (with a few remarkable exceptions as noted under), hepatic cirrhosis, acute yellow atrophy of the liver, ptomaine absorption, and often malignant disease in the later stages.

Of the diseases associated with leucopenia the two most striking examples are enteric fever and kala-azar. With regard to the former I personally place greater reliance upon the leucocyte count than upon Widal's reaction; many cases in my own experience have been substantiated thus where the Widal's reaction has been indefinite or even negative. The other striking condition accompanied by marked leucopenia is kala-azar; in one case of this I obtained a leucocyte count of 350.

Myelocytes are always abnormal in healthy blood, though it is stated by some authorities that occasionally a cell indistinguishable from a myelocyte may be found in apparently healthy blood. In spleno-medullary leukaemia myelocytes are abundant and are characteristic of this disease.

Splenic anaemia and the severer anaemias generally are also usually accompanied by a more or less marked leucopenia. Finally, there are a number of conditions where the leucocyte count is affected slightly or not at all. We have examples of this in influenza, malaria, mumps, and uncomplicated tuberculous conditions; also some cases of acute nephritis.

Turning to the erythrocytes we have *oligocythaemia* in the later stages of practically all forms of wasting diseases —for example, tuberculosis, malignant disease, chronic lead poisoning, helminthiasis, malaria, and severe haemorrhages generally.

Apart from congenital conditions polycythaemia is rare, and when it does occur is usually very temporary in nature. Visitors to high altitudes usually have evanescent polycythaemia. Then there is the temporary polycythaemia of the newly-born child.

Extreme variations in shape of the red cells—poikilocytosis—may or may not be associated with extreme variations in size—anisocytosis. These two changes are common in all the severe anaemias, and are most marked in those of pernicious type.

Nucleated red cells are always abnormal in the *circulating* blood. Normoblasts are of less significance than megaloblasts, the latter being absent in normal bone marrow, while normoblasts are always found there. In all the forms of severe *secondary* anaemias normoblasts are usually found, but the presence of megaloblasts usually points to an anaemia of true pernicious type.

Basophile stippling of the red cells is also always abnormal, and may exist by itself or in combination with the diffuse form of polychromatophilia, and the latter may again be present without stippling. Both are evidence of immature red cells, and thus they are present in the severer anaemias in general and in some forms of poisoning, notably chronic lead poisoning.

High colour index, if it is marked and persistent, almost invariably points to an anaemia of pernicious type. Low colour index, on the other hand, is common in chlorotic conditions, splenic anaemia, and general malnutrition.

I have given this brief summary in the hope that examination of the blood may become more of a routine practice than it is at present. It seems strange that, while the examination of the urine has become a routine practice, the state of the blood has not received the attention it deserves. It is quite a mistake to imagine that special skill and costly apparatus are necessary; the general practitioner will find that he can obtain in very many cases information of the utmost value with a minimum of trouble. The apparatus is neither costly nor cumbersome, and it can be employed at the bedside with practically no discomfort to the patient.

The evidence obtained by an examination of the blood in this way forms a link in the chain which should not be neglected even in cases where the diagnosis is clear without it. For example, a definite lobar pneumonia which shows a distinct leucopenia on examination indicates a severe and generally fatal attack, and may suggest treatment with the view of producing an "artificial" leucocytosis. In some cases, indeed, the examination of the blood, as in lymphatic leukaemia, may constitute the entire chain of evidence as to diagnosis; in others it may be a centre link without which the other links are inadequate, and even where it forms an end or additional link its value is great.

In conclusion I may quote a few illustrative cases of the value of the blood examination.

1. A youth sent in to the Royal Sussex County Hospital for immediate operation for ruptured appendix. I saw the case on admission. There was deep cyanosis, acutely tender abdomen, and the patient appeared in a moribund condition. Operation was delayed and a blood examination made. This showed a leucocyte count of 2,400, with 45 per cent. of lymphocytes, and on the strength of this I reported that the case was in all probability enteric fever. No operation was done, and the diagnosis was completely established later, recovery following.

2. A young man sent in to the Royal Sussex County Hospital as a case of acute appendicitis. The patient appeared remarkably well, and the pulse and temperature were only slightly above normal, while the abdomen was soft and not tender. Operation was begun while the blood examination was in progress, and the gangrenous appendix with abscess which was present only bore out the blood findings of 27,000 leucocytes, with 87 per cent. of polymorphonuclears.

3. Severe and long-continued anaemia, with occasional remissions, in a lady. Examination of the blood showed 800,000 red cells, leucocytes normal, but marked poikilocytosis, anisocytosis, and nucleated red cells (some of these megaloblasts), all pointing to an anaemia of pernicious type. This case was treated with salvarsan intramuscularly, with rapid and progressive improvement, the patient finally showing perfectly normal blood, and remaining in this state for a period of eighteen months—up to the present time.

4. A case of severe anaemia occurring in a lady, in which no improvement followed various lines of treatment, and in which a blood examination was finally performed. This showed at once that the case was one of acute lymphatic leukaemia, and the fatal conclusion followed shortly after.

Cases like the foregoing might be multiplied *ad libitum* from my own experience, but sufficient has been said to show the advantage to be derived from this easily applied aid to diagnosis, and it is with the hope that the general practitioner will be induced to carry out this examination in many cases that I have ventured to emphasize what is, of course, an admittedly valuable line of investigation.

DISCUSSION.

Dr. J. T. Leon (Southsea) asked as to the strength of solutions used for leucocyte count. He regarded ½ per cent. acetic acid as too weak. He had seen cases of cancer of the stomach in which a pseudo-pernicious anaemia was present. He desired to support Dr. Galt in his plea for a routine examination of the blood, especially from the point of view of those in a general medical practice.

Dr. Bernstein (London) recognized the valuable aid given by blood counts in diagnosis, but wished to point out that here, as in all laboratory work, the blood count could only be of service if used discriminately by clinicians as an adjunct to other methods of diagnosis.

Dr. Hicks (London) also agreed that one must not be a "blood fanatic," and said that correct diagnosis was essential to correct treatment. He quoted some interesting cases.

Dr. Crofton (Leeds) agreed that blood counts did not point to the cause, as many different causes produced similar results.

Dr. Eyre (President) discussed the leucocytic variations in anomalous cases of pneumonia.

EMPUSA MUSCAE AS A CARRIER OF BACTERIAL INFECTION FROM THE HOUSE-FLY.

[*With Special Plate.*

By R. M. Buchanan, M.B., F.R.F.P.S.,
Bacteriologist to the Corporation of Glasgow.

Carriage of Bacteria by the House-fly.

It has been demonstrated within recent years by exact methods of experimental research on the part of several

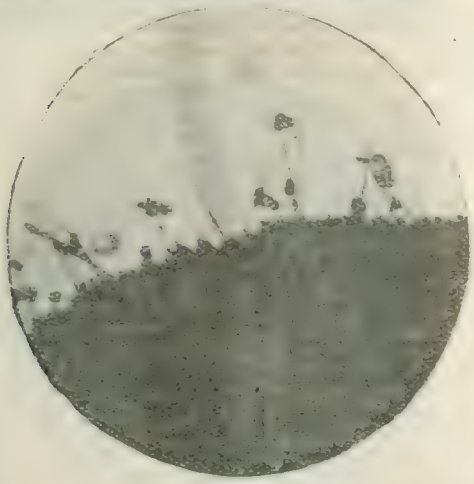


Fig. 3.—Profile view of intersegmental region of *M. domestica* showing the outcrop of conidiophores. Some conidia have been arrested in their outward flight by the setae on which they tend to accumulate in bunches. × 90.

observers that the common house-fly, *Musca domestica*, may carry infection upon the surface of its body and thus act as an agent in the spread of disease. The insect's life-cycle, its habit of life and the conformity of its appendages are even such as to favour the acquisition and distribution alike of pathogenic and non-pathogenic bacteria—the

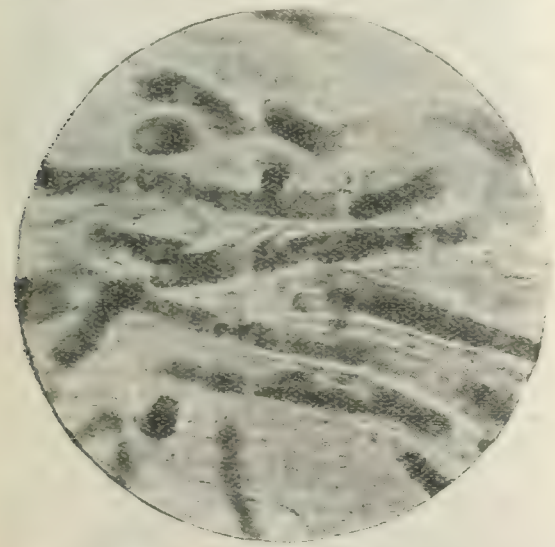


Fig. 5.—*Empusa muscae* invading thoracic muscle. × 500.

species being varied as the substances with which it comes into contact. But while an indefinite variety of bacteria may be carried on the surface of the fly's body valuable work has more recently been in progress showing that a large number of organisms also find natural or temporary lodgement in its alimentary canal.

Thus Graham-Smith (1909), in a series of experiments to ascertain what proportion of flies were infected with organisms of the colon group, isolated thirteen varieties from the intestines, while Nicoll (1911), in studying the natural intestinal flora and following the lines adopted by Graham-Smith, found twenty-seven varieties. Further experiments by Graham-Smith (1910) have shown that while such bacteria only survive a few hours on the surface, others may be retained in the alimentary canal of the fly for seven days under conditions of natural infection (tubercle bacilli in sputum) and for sixteen days under conditions of experimental infection (anthrax spores in emulsion). Again, Bacot (1911), experimenting with *Musca domestica*, has proved the persistence of *Bacillus pyocyaneus* in pupae and imagines raised from larvae infected by pure cultures, and Ledingham (1911), extending

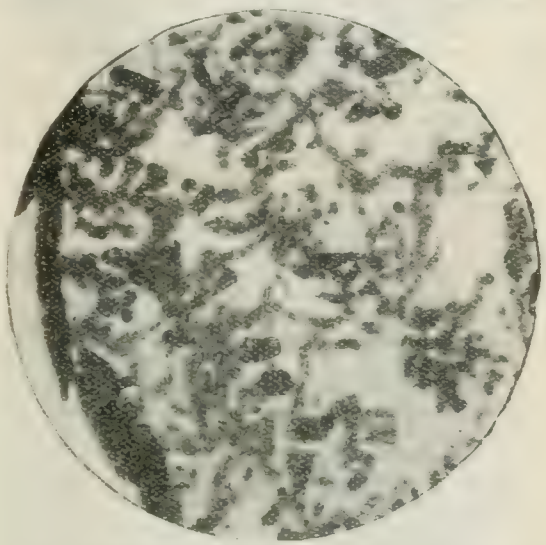


Fig. 10.—Posterior portion of the head of *M. domestica* occupied by *Empusa muscae*. The chitinous plates forming the back of the head capsule are seen on the left. (The formation of gemmae is conspicuous.) Longitudinal section. × 250.

this line of investigation to *Bacillus typhosus*, found that this organism also was able to adapt itself to some extent to the conditions prevailing in the larval and pupal interior (the examination of imagines not having been so far possible).

As regards the presence of infective bacteria in the

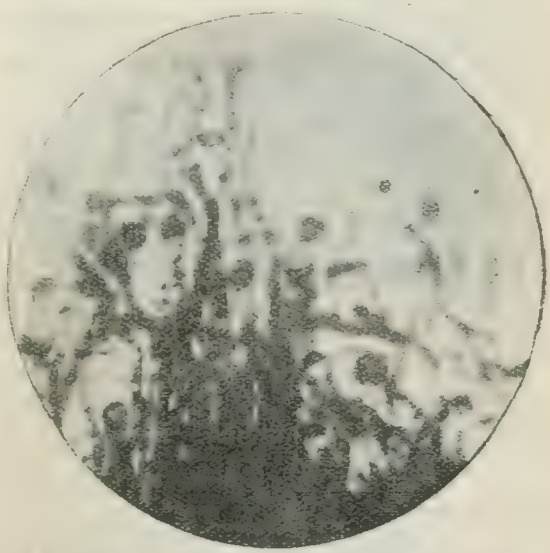


Fig. 11.—A fragment of the felted mass of fungal hyphae from the abdominal cavity of *M. domestica* showing the formation of gemmae. × 250.

intestine of the fly under what may be called conditions of natural infection, this has been demonstrated by Ficker (1903), Hamilton (1903), and Faichnie (1909). Moreover, Odlum (1908) and Faichnie brought forward evidence in support of the view that in the transmission of typhoid

infection by flies, the source from which the specific bacilli were chiefly derived was their breeding ground, and that the infection was carried within rather than upon the surface of their bodies.

The experiments and observations of all these observers thus indicate that the alimentary tract rather than the surface of flies plays the more important part in the transmission of infective organisms.

CARRIAGE OF BACTERIA BY SPORES OF EMPUSA MUSCAE.

Another aspect of the subject has presented itself in the course of some observations on the distribution of house-flies in city dwellings, and one which lends support to the latter view. Among the flies collected from different houses by means of fly-papers, individuals began to appear towards the end of August exhibiting the well-known disease due to the parasitic fungus *Empusa muscae* (Fig. 1). Each diseased fly appeared as a centre from which the spores of the fungus were showered in number sufficient to whiten other flies stuck fast on the paper in close proximity. The question thereupon suggested itself as to whether or not the spores carried with them bacteria from the body of the fly. Beyond the fact that the question has in itself considerable epidemiological importance, there is its relation to the transmission of infective organisms from the interior of the fly, and its significance in connexion with the suggestion which has recently been made to propagate the fungus artificially as a means of destroying flies on a large scale, or at least of controlling their number. With the view of determining these points, diseased flies caught during September and October were subjected to cultural tests and microscopical examination, while attempts were made to grow the fungus on nutrient media.

At this stage some reference may be conveniently made to the life-history of the fungus and to the manner in which it displays its parasitism, inasmuch as they have a close bearing upon the results obtained.

DESCRIPTION OF SPECIAL PLATE.

Fig. 1.—Portion of ribbon-shaped fly paper which had been exposed for twenty-four hours. Four of the flies present the characteristic black and white swollen abdomen due to *Empusa muscae*.

Fig. 2.—White nebular zone formed on glass by conidia projected from the surface of the abdomen of a diseased fly. The abdomen was fixed proximal end downwards in the centre of a Petri capsule. The white wing-like centre is a denser accumulation of conidia on either side of, and close to, the abdomen.

Fig. 4.—The ventriculus of *M. domestica* passing into the abdomen on the right. The wall of the viscus is surrounded and invaded by hyphal filaments. Longitudinal sagittal section. × 125.

Fig. 6.—Leg of *M. domestica* in oblique section, showing the hyphae of *Empusa muscae* among the muscles. × 125.

Fig. 7.—Longitudinal (slightly dorso-lateral) section of abdomen of *M. domestica*, showing *Empusa muscae* developing throughout cavity and erupting through the delicate membrane stretched between the chitinous plates in the form of conidiophores. × 28.

Fig. 8.—Eruption of hyphae through intersegmental membrane with the development of conidiophores and the formation of terminal conidia. × 125.

Fig. 9.—The dome-shaped terminal conidia. Various stages from the commencing bud to the ripe conidium are seen. × 500. (See Fig. 14.)

Fig. 12.—Gemmae of *Empusa muscae* from abdomen of *M. domestica* sprouting and developing into hyphae. Two conidia appear in the field, one in the right and one in the left, affording a contrast between the two kinds of reproductive elements. × 250.

LIFE-HISTORY AND PARASITISM OF THE FUNGUS.

Empusa muscae is a member of a small group of fungi, the Entomophthorineae, which live parasitically in certain insects and larvae. Its position amongst fungi is indicated by its close relationship on the one hand to the parasitic Peronosporaceae, whose mycelium is so destructive to the vine, the potato, and other plants, and on the other hand to the saprophytic Saprolegniaceae, which are mostly aquatic and grow on the surface of diseased or dead fish and decaying plants or insects. A fly affected with the fungus presents an appearance very characteristic and well known. It may attract attention while in flight by sluggish movements and while at rest by the distended abdomen. More commonly the insect, with abdomen still more distended and ringed black and white, is found dead on a window pane, wall, or curtain, attached by its proboscis in a life-like attitude, and associated with a dusty-white zonal marking (Fig. 2).

On closer inspection by the microscope (which may be easily accomplished by placing a diseased fly on a glass slide and leaving it for some hours) it will be seen that the dusty-white zonal marking is due to a deposit of spores or conidia. The fly itself shows a whitish fungal growth distending the abdomen and protruding between the black chitinous segmental plates, thus giving rise to the black and white ringed appearance. The fungal ring takes the form of a serried rank of conidiophores, each forming, or bearing, or having parted with, a terminal conidium or spore (Fig. 3). The conidia are dome-shaped, and on reaching maturity are shot off to varying distances around the fly. This ejectment may be viewed under the microscope by placing an affected fly in a Petri dish, and may be likened to a microscopic bombardment, the conidia being easily seen as they flash across the field or alight upon the glass. They adhere at once to the glass, and do not trundle about; hence the comparative uniformity of the zone on a vertical surface. They may be projected to a distance of an inch and a quarter from the fly.

The manner in which the fungus gains an entrance to the body of the fly—in other words the mode of infection—is not definitely known. It is usually stated as occurring in the manner described by Brefeld (1871): the germination of a spore which has become attached to the surface of the insect and the penetration of the resulting hyphal tube through the body wall. In the flies which I have examined there has been no microscopical evidence in support of this view as regards the abdominal and thoracic walls. The fungus permeates the entire body, even the legs and antennae, but in doing so it has always presented certain definite characteristics of localization and form. Thus the muscular system is invaded by long hyphal filaments extending between and within the muscle fibres, and the invasion may be traced in the whole length of the cephalic muscles from the proboscis to the occiput, in the great mass of thoracic muscles (Fig. 5), and down into the muscles of the legs (Fig. 6). In the case of the ventriculus or stomach, which lies in close contact with the thoracic muscles, the fungus also follows the direction of the muscular fibres, and so envelops and permeates the wall of the viscus in a circular manner (Fig. 4). The abdominal cavity (Fig. 7) and also the space forming the posterior portion of the head are entirely occupied by the fungus. The hyphal filaments are more or less intertwined or felted in the latter two regions, and exhibit a stage of vegetative reproduction in the formation of globular bodies or gemmae, which in turn germinate into ramifying hyphae (Figs. 10, 11, 12). These gemmae, it appears, are formed by certain fungi, where conditions of environment are unfavourable to the production of the more specialized spore bodies. In the abdomen the hyphae assume a close parallel arrangement in contact with portions of the intestinal wall, pointing towards the viscus. This is also noticeable in connexion with segments of the crop, but in a lesser degree, and is frequently absent in the sections. At other segments of the crop and portions of the intestine, the fungus is applied to the walls so as to suggest growth from within outwards, but this received no confirmation from the existence of any growing fungal hyphae within these viscera. The hyphae appear to seek the path of least resistance towards the free surface of the body (or the lumen of the intestine), gradually swelling into thick clublike processes containing a row of nuclei. Approaching the intersegmental spaces they pierce the delicate membrane to develop into erect, closely packed, aërial processes—the conidiophores (Fig. 8). In thin sections stained with Loeffler's methylene blue the conidiophores show all the stages in the formation of the conidium, from a bud-like constriction of the apical region to the complete dome-shaped body (Fig. 9). In several flies the intestine was penetrated by the hyphae, but only in one instance did conidiophores bearing conidia appear within the tube. As a rule, the ends of the hyphae which had invaded the intestine presented a digested appearance.



Fig. 1.

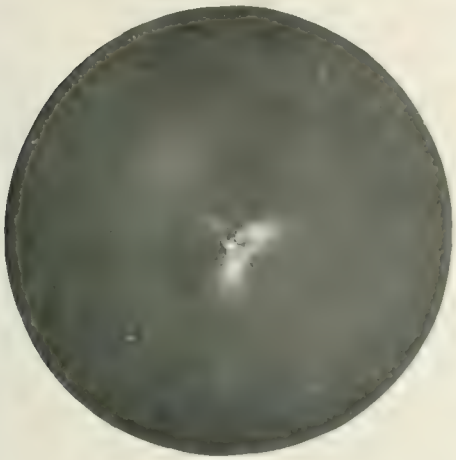


Fig. 2.

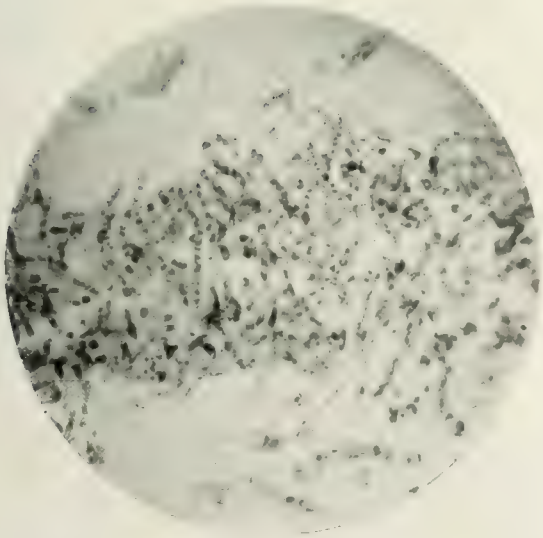


Fig. 4.

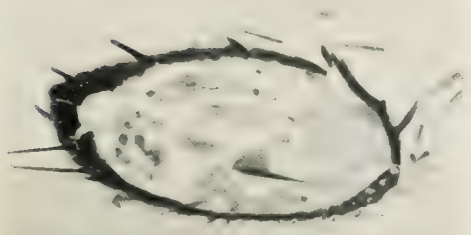


Fig. 6.

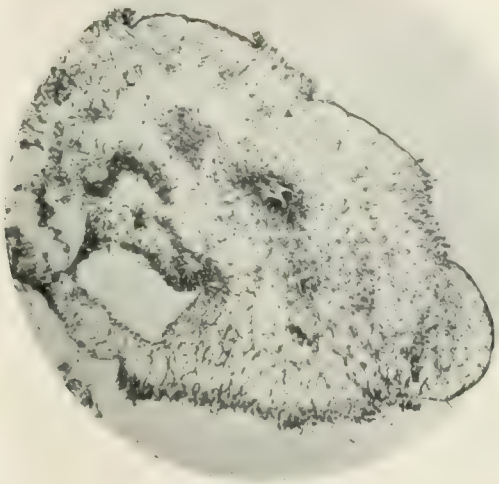


Fig. 7.

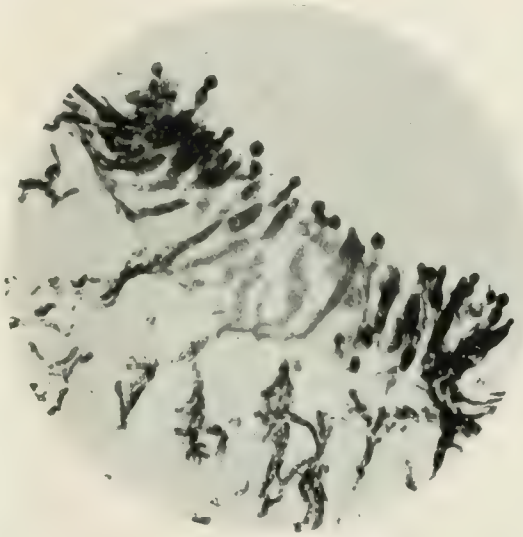


Fig. 8.



Fig. 9.

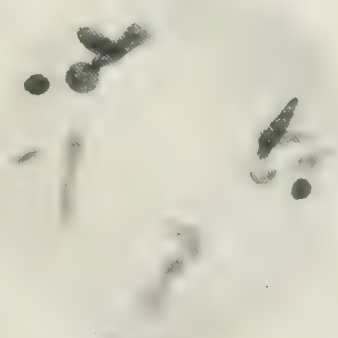


Fig. 12.

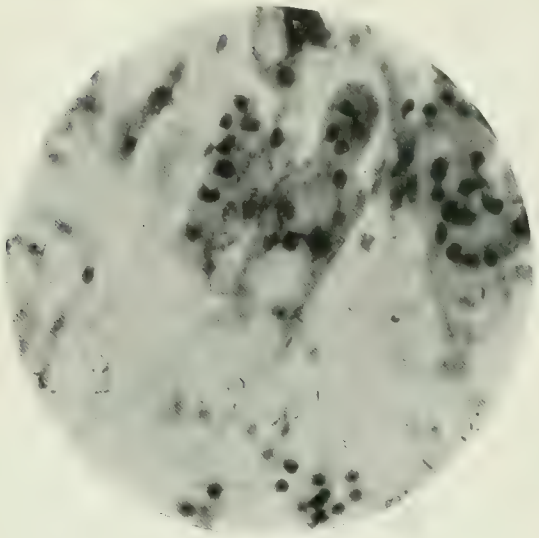


FIG. 14.

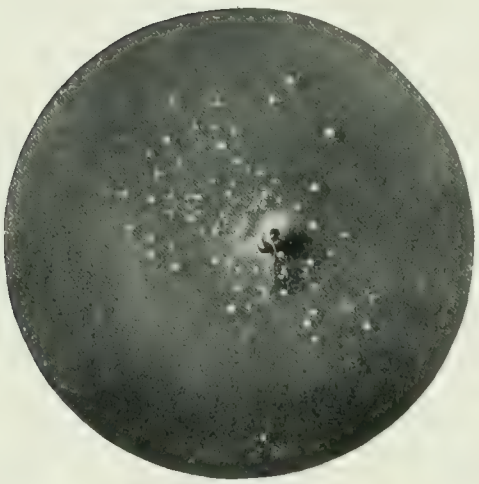


FIG. 15.



FIG. 16.

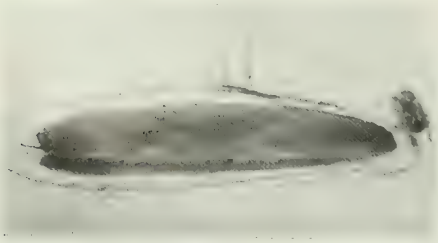


FIG. 17.

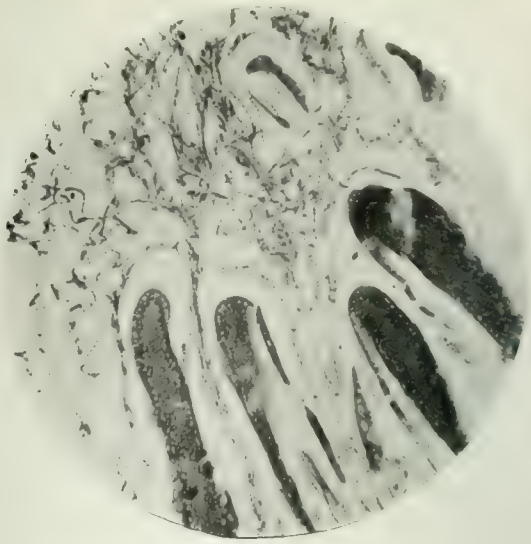


FIG. 18.

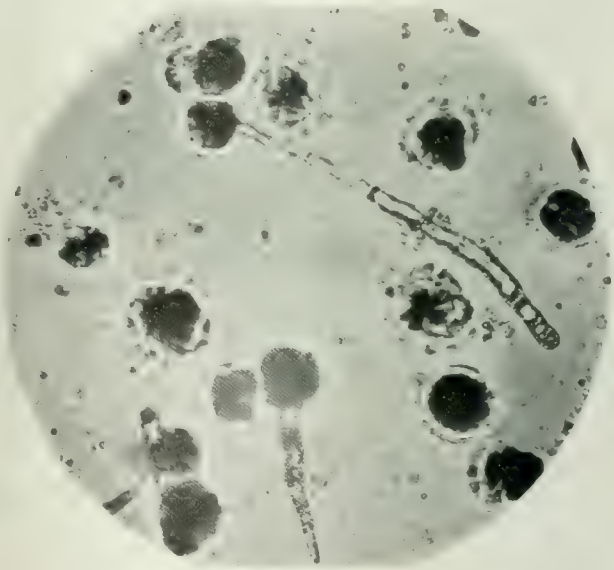


FIG. 20.

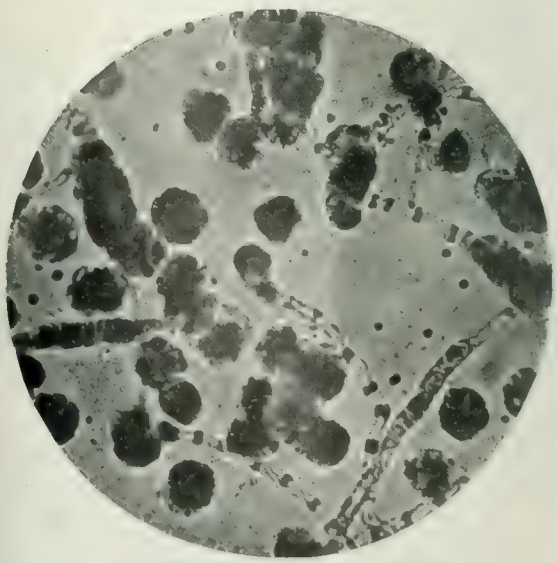


FIG. 21.

The majority of the flies presented great numbers of bacteria in the intestines, and amongst the hyphae of

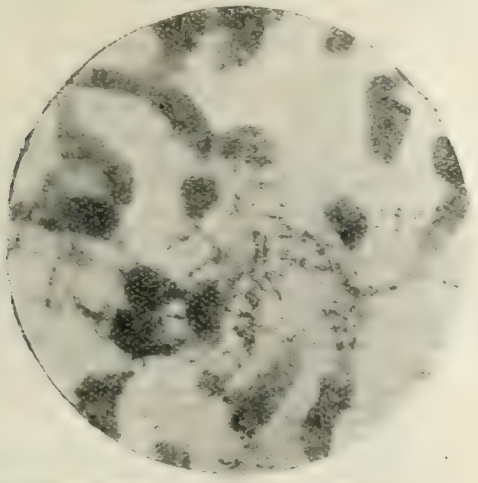


Fig. 13.—Bacteria amongst the hyphal filaments in the abdomen of *M. domestica*. ×1,000.

the abdominal cavity they were widely distributed (Fig. 13), spreading towards the abdominal wall. In Fig. 14 they are seen amongst the conidiophores.

The manner in which the *Empusa muscae* persists from year to year is not known. The formation of resting spores would serve to explain this hiatus in the life-history of the fungus, but the existence of such bodies has not yet been definitely determined. On the other hand, a probable means of persistence from season to season has presented itself in the course of these investigations. It was found in the examination of the eggs from a diseased fly that some of the mycelium remained firmly attached to the outer covering or chorion (Figs. 17, 19). When the eggs are viewed *in situ* in the body of the affected fly they appear in a feltwork of mycelial threads closely applied to the chorion but not penetrating it (Fig. 18). The deposit of eggs by a fly harbouring the fungus thus renders it extremely likely that the larvae would in turn become infected. It is even probable that during the epidemic period of the disease this may be a means of transmitting the parasite from generation to generation of flies. A somewhat analogous method of continuing the species occurs in the life-history of the potato disease fungus, *Phytophthora infestans*. Some of the mycelium passing into the tubers remains in a resting condition, and by this means, without the intervention of spores, the disease can be transmitted from one generation of the plant to another (Massee).

It may be mentioned that the strikingly uniform invasion of the tissues of the diseased imago would be consistent with infection at an earlier stage in its life-history.

Tests for Bacterial Dissemination by the Fungal Spores.

The flies were obtained, as already indicated, by hanging up sticky papers in the form of a ribbon about 30 in. long. The papers were exposed for twenty-four hours, and collected by placing them edgeways in slots in long cardboard boxes of just requisite depth. Flies showing the disease began to appear in the middle of August, and continued through September and October; in November they were only in evidence twice. In proportion to apparently sound flies their number was small. The fungus showed itself almost entirely in *Musca domestica*; only two flies of the species *Fannia canicularis* were discovered with it.

In view of the eruption of the fungus from the interior of the fly and the relatively wide range of the conidia, a test was made to determine whether the conidia in their outward flight carried bacteria from the fly to the surface upon which they were projected. For this purpose a diseased fly was fixed head downwards upon nutritive agar in the centre of a Petri plate. In the course of a few days a zone of colonies appeared around the fly within the area bestrewn by the conidia (Figs. 15, 16). It was also observed (under the microscope) that colonies developed along the margins of certain fungal filaments that grew outwards in the medium from the fly's body. Ten flies were dealt with in this way, with the uniform result of producing a zonal crop of colonies. Taking the first five plated for more detailed examination it was found that the colonies numbered from 70 to 400, and that their distribution was well within the furthest range of the conidia. By the usual fermentation tests the colonies were proved to be almost entirely representative of groups in the colon family, as shown in the accompanying table. One fly supplied four types of coliform bacilli; two gave two each, and two one each. These results are representative in some measure of the intestinal flora

Fly.	Date.	Number of Colonies.	Groups of Coliform Bacilli Represented in Colonies.
1	Sept. 5th, 1912	400	*Bacillus lactis aerogenes* (Escherich).
2	Sept. 17th, 1912	107	*Bacillus neapolitanus.*
3	Oct. 2nd, 1912	350	*Bacillus neapolitanus.* *Bacillus proteus.*
4	Sept. 14th, 1912	Overgrown by *B. proteus* (uncountable)	*Bacillus pneumoniae.* *Bacillus coli communis.* *Bacillus proteus.* Bacillus No. 19 of Morgan.
5	Oct. 11th, 1912	70	*Bacillus enteritidis* (Gaertner). *Bacillus proteus.*

DESCRIPTION OF SPECIAL PLATE.

Fig. 14.—Bacteria amongst the hyphae at the surface of the abdomen. (A conidiophore shows the nuclei passing into the terminal bud preparatory to the formation of a conidium.) Longitudinal section of abdomen. × 1,000.

Fig. 15.—Colonies of bacteria (chiefly coliform bacilli) arising from organisms carried by the projected conidia of *Empusa muscae*. A diseased fly was fixed head downwards on agar in a Petri capsule. The colonies are disposed around the fly and coextend with the range of the conidia, which may be seen forming a nebular white zone on the agar surface.

Fig. 16.—A similar experiment to that illustrated by Fig. 15, but showing the type of growth mostly obtained. Two diseased flies were fixed on the plate in this instance, one at the centre and one at the side.

Fig. 17.—Egg of *M. domestica* separated from the felted abdominal mass, and bearing mycelium firmly attached to the outer covering or chorion. × 57.

Fig. 18.—Longitudinal section of *M. domestica* showing eggs *in situ* and their envelopment by the fungus. × 75.

Fig. 20.—Conidia of *Empusa muscae* showered on glucose-agar from a diseased fly. Development of hyphal filaments from one of two conidia which happen to be contiguous. × 150.

Fig. 21.—Active growth of hyphae from conidia projected from fly upon glucose-agar. The thickened septate hyphal development in the left of the field suggests the formation of a third reproductive element. × 250. (See Fig. 12.)

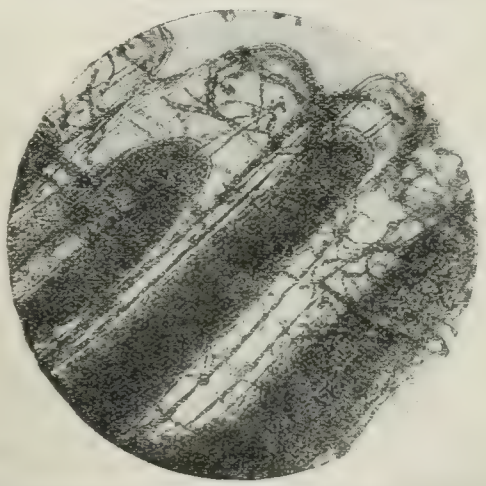


Fig. 19.—Four eggs of *M. domestica* separated by teasing from fungal mass in abdomen and showing network of hyphae firmly attached to the outer covering or chorion. × 100.

of the house-fly as found by Graham-Smith (1909), Orr (1910), Nicoll (1911). It is noteworthy that they are also representative of bacteria which may be found in the human intestine, as was coincidently demonstrated in the laboratory in the course of the examination of the excreta of infants suffering from diarrhoea.

In fly No. 4 there was also a golden yellow coccus in large number, but non-liquefying and non-virulent.

CULTURE OF THE FUNGUS.

Attempts were made on various media to establish artificial growth of the fungus, but while these resulted in an abundant germination of the conidia and the production of characteristic hyphae of considerable length (Fig. 20) development on subcultures was not obtained. The best results were got on glucose agar and on agar to which a small percentage of fat was added, an experiment suggested by the view put forward by some writers that the fungus spreads in the insect from the fat body.

It is perhaps worthy of special note that germination was frequently observed from a conidium which was in contact with another conidium. In the plate having glucose agar a condition suggesting the formation of zygospores was manifested (Fig. 21).

Since these observations were made I learnt a few days ago from an editorial note in the BRITISH MEDICAL JOURNAL of January 4th that Dr. H. de Reimer Morgan, of the Lister Institute, had succeeded in obtaining an artificial cultivation of the fungus. Attention is also directed in the same note to the fact that another observer (Mr. Edgar Hesse of London) had obtained what he believed to be a culture of the organism. This was confirmed by Dr. Julius Bernstein, who has been engaged for some time in the investigation of the subject on behalf of the Local Government Board. Mr. Hesse placed his results on record in the *English Mechanic and World of Science* for July 12th, 1912, and by further experiments it appears that he also succeeded in killing flies by feeding them on food containing spores derived from one of his own artificial cultures. He believes that *Empusa muscae* is polymorphic, and by nature a saprophyte endowed with the capacity of living a parasitic existence. Mr. Hesse's experiments lend support to the view that the fungus gains entrance to the body of the fly by way of the alimentary canal.

SUMMARY.

The part played by the house-fly as a carrier of infective bacteria is not yet fully appreciated and is far from being fully known.

The alimentary canal of the insect rather than the surface of its body appears to play the more important part in the transmission of infection.

Empusa muscae proves to be a potential means of bacterial dissemination not hitherto recognized.

The fungus is probably spread from one generation of flies to another by their larvae.

The suggestion of using this natural enemy of house-flies as a means of their reduction or extermination is to be regarded as an expedient of doubtful value, inasmuch as it would be attended by the risk of spreading at the same time bacterial infection to man.

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DISCUSSION.

DR. S. M. COPEMAN desired to congratulate Dr. Buchanan on the interest and value of his research work on the parasitic fungus of the house-fly, as set out in his paper; and on the excellence of the series of lantern slides, mainly of his microscopical preparations. As one result of the investigation on house-flies as carriers of infection that had been carried out during the past few years by the Local Government Board evidence had been obtained that flies could be infected with *Empusa* by way of the alimentary canal; and indeed it seemed not improbable that this, rather than infection from the exterior, was what usually occurred in nature. On the hypothesis generally accepted it was difficult to understand how any really extensive infection could be brought about. The fact that, as Dr. Buchanan had observed, conidia were formed immediately the fungal hyphae reached the exterior of the fly, whereas they were only found exceptionally in the crop or intestine, merely indicated that the fungus was markedly aërtropic, and did not in any way render it improbable that infection originated by way of the alimentary canal. Moreover, the further observation of Dr. Buchanan that bacteria of the *coli* group accompanied the hyphal growth, and might even be thrown off from the exterior of the fly, along with the conidia, seemed to indicate that the growth must have commenced from within the walls of the intestine. The fact that hyphal filaments had been found on the exterior of eggs within the ovary could hardly be of practical importance in reference to carriage of infection, seeing that it was improbable that these eggs would ever be laid. As regards attempts at cultivation of the fungus in artificial media, these had all failed hitherto. Morgan had indeed claimed, in a letter to the JOURNAL, to have been successful; but Mr. Massee, of Kew Gardens, who examined his preparations, did not find any *Empusa* growth in the subcultures. Under these circumstances, other methods, such as the slow burning of pyrethrum powder, must for the present, at any rate, be depended on for the destruction of such flies as obtained access to dwellings. But the ideal was the removal of all facilities for the breeding of flies.

DR. BERNSTEIN expressed pleasure at being present to see the remarkable series of pictures shown by Dr. Buchanan, and stated that one of his initial difficulties in starting to work with the fungus was the absence of any illustrations. In conjunction with Mr. Hesse he had been working at the *Empusa muscae* on behalf of the Local Government Board in order to verify the statement of Mr. Hesse that the fungus could be given artificially and used for inoculating flies. This work would be published later after presentation of the report to the Board. But he felt inclined to agree with Dr. Buchanan that it would be more satisfactory to prevent the growth of flies by destroying their breeding grounds than to await to kill them in later life; though perhaps in dealing with other pests such as the cinch bug and the locust the knowledge might prove of greater value.

TWO CASES OF PARATYPHOID B INFECTION TREATED WITH VACCINE.

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THE paratyphoid B bacillus appears to produce two sets of symptoms. By far the most common is an illness clinically indistinguishable from ordinary typhoid fever. Much less commonly it causes acute gastro-enteritis.

Both the following cases occurred in the practice of Dr. Garratt, of Kingstown, to whom I am very much indebted for allowing me to report them. I desire also to express my obligations to Professor E. J. McWeeney and to Dr. H. F. Moore (Research Scholar) for the cultural and serological diagnosis of the two organisms isolated.

CASE I.

An elderly gentleman, aged 65, was taken ill on Thursday, January 16th. He had a history of attacks of pain in the abdomen and diarrhoea whenever he got a chill. For six weeks previously he had been suffering from swollen and inflamed gums with mucous patches. When seen by Dr. Garratt his temperature was 101°, pulse 96, respirations 20. He had pain in the region of the umbilicus and was having twelve to fourteen diarrhoeal motions in the twenty-four hours. He was given 10 grains of tannalbin every hour and ½ grain of opium with 6 grains of tannigen twice daily, and starch and opium enemata. The next day (17th) his temperature was 102°, his tongue was dry and heavily coated, and the stomatitis had spread over the soft palate and into the pharynx, making swallowing difficult. His abdomen was distended, and there was exaggerated gurgling through the ileo-caecal valve.

On January 18th his temperature was 102.8°; still twelve to fourteen motions a day. He continued t grow weaker. He was at times delirious and his heart was intermitting. On the 21st I saw him with Dr. Garratt. I made cultures from the pockets round his teeth, and also from his stools. I suggested the use of a germicide pending the making of a vaccine, and 1 c.cm. of iodine-menthol-radium compound was given into the gluteal muscles. That evening his temperature fell to 99.2° and the diarrhoea was less.

The next day (22nd) 1 c.cm. of iodine-menthol-radium compound was given, and the evening temperature was 99°. Blood cultures were made but gave no growth. The cultures from the gums gave chiefly streptococci with some *Micrococcus catarrhalis*. On Drigalski plates the faeces gave two kinds of colonies—(1) pink (acid); (2) blue, both Gram-negative motile bacilli. From the pink colonies the bacilli were feebly motile; from the blue they were more actively motile. I gave the Conradi-Drigalski plate to Professor McWeeney for further investigation, and made a mixed vaccine from an agar plate that I had made at the same time. I told Dr. Garratt that the case was most probably one of either typhoid or paratyphoid B fever. The blue colonies proved to be paratyphoid B. The vaccine was ready on the 23rd, and 5 million of the mixed vaccine were given on the 24th. His temperature was then 102° F., and he had to have 120 minims of chlorodyne, and starch and opium enemata, which kept down the motions to six to seven a day. He was delirious at times. That night he had the best night since the beginning of his illness, and the next day his temperature had fallen to 99° F. He felt better and was not delirious. His temperature was normal from this on, and instead of diarrhoea he became constipated, and enemata were necessary, which were probably the cause of an erythematous rash which came out on February 3rd. He had 7½ million of vaccine on January 23th, and was so much better on February 2nd that he was given solid food. He had 10 million on February 4th, and 15 million on February 11th. On February 22nd he had 20 million of the coli-paratyphoid vaccine, and 2½ million of streptococcal vaccine made from his gums as they were still a little sore. On March 1st he had 50 and 5 million, and on March 8th 70 and 10. His gums were then healed.

CASE II.

Male, aged 18, was seen by Dr. Garratt when he was, from his history, apparently at the beginning of the third week of what was clinically typical typhoid fever. The patient was semiconscious, restless, and sleepless. His abdomen was distended, there were a few rose spots on it, and he was tender in the region of the caecum. He was constipated, and his mouth and tongue were typically typhoid. He was refusing food. His temperature was 103° F. and his pulse was 110. Widal negative. As in the last case, cultures on Conradi-Drigalski from his stools gave red and blue colonies. A mixed vaccine was made. He was given 2½ million on March 9th. That night he was very weak and restless, and was given a saline enema and stimulants. The next morning his temperature was 97° F., his pulse 65. His flatulence was relieved, tongue clean, and sordes cleared up, and delirium had disappeared.

On the following night (March 11th) his temperature went to 103° F., but his pulse was only 65, and his temperature kept entirely normal from that on. He was put on to more solid food in a day or two, and made an uninterrupted recovery, and was given full diet on the 19th. On March 17th he had 5 million of the vaccine, and had no reaction after it.

Comment.

When I first saw Case I I thought it was probably one of acute gastro-enteritis, most likely produced by a mixed infection with streptococci from the gums and coliform organisms in the intestines, which, in my opinion, is the most common cause of inflammations of the gastro-intestinal tract and its adnexa. The iodine-menthol-radium compound seemed to produce a temporary improvement, but the patient relapsed, and his condition on the 24th, when he got the vaccine, was most precarious. The change in a few hours, after the injection, from a temperature of 102°, an intermittent pulse, a distended abdomen, delirium and diarrhoea hardly controlled, to a condition of temperature nearly normal, steady pulse, no distension and feeling of comparative well-being, was most remarkable and dramatic. The same may be said of Case II, whose condition at the time he got the vaccine—namely, temperature 102°, pulse 110, weak, and of small tension, delirious, with distended abdomen. Twenty-four hours after he is quite conscious, his abdomen is no longer distended, his pulse is 68 and of good tension, and his temperature is normal.

I can find little reference in the literature to the treatment of paratyphoid by means of vaccine, but there is a pretty extensive literature of vaccine therapy of typhoid fever, which, according to most authorities, is clinically indistinguishable from paratyphoid. I cannot find anything comparable to the sudden turn from severe illness to convalescence which occurred in these cases, and suggest that it may have been due to the use of the mixed vaccine, for in all these cases the *B. coli* must always be also pathogenic, since it becomes so at the slightest lowering of the resistance of the cells with which it comes in contact.* These cases are in marked contrast to the two fatal cases of paratyphoid referred to below.

Manufacture of Vaccine.

Since both of these cases were in a precarious condition, it was essential to get the vaccine made in as short a time as possible. The faecal material was plated out on an ordinary agar and on Conradi-Drigalski medium, and broth cultures were made. As I have said, on the Conradi-Drigalski medium two kinds of colonies appeared, the larger were red, the smaller blue. The larger were feebly motile, the smaller more actively motile. It was presumed that the microbes belonged to the typhoid-coli group, the red colonies belonging to the coli side, the blue to the typhoid side of the group.

The cultures were made in the afternoon, examined the next morning, and a mixed vaccine made from the agar plates. I prefer, if possible, to sterilize vaccines with as little heat as possible. As a rule, in making typhoid vaccine I do not heat at all, but allow the ½ per cent. phenol to kill the microbes, or, if in a hurry, take some of the suspension and heat it for fifteen minutes with the ½ per cent. phenol saline solution, and use it for the first dose or two. It takes a very long time to kill *coli* organisms this way; even half an hour at 58° C. frequently fails to kill them all, and so in these cases I heated them for forty-five minutes at 58° C. They were then tested, and the agar cultures made being sterile after twenty-four hours, doses were measured out. It is thus possible to have the vaccine ready within forty-eight hours. (The Conradi-Drigalski plates were then handed over to Professor McWeeney and Dr. Moore for exact diagnosis.) The diagnosis that the blue colonies were paratyphoid B organisms was arrived at by their cultural and serological reactions, which were compared with those of other paratyphoid organisms and with those of other members of the typho-coli group. Taking the cultural reactions first, it will appear from the accompanying table (p. 1374) that they behaved as typical paratyphoid B organisms.

* Sanarelli has proved the increased toxicity of the colon bacillus in typhoid fever.

TABLE I.

	Arabinose.	Dulcite.	Glucose.	Inulin.	Lactose.	Maltose.	Mannite.	Raffinose.	Saccharose.	Salicin.	Xylose.
1. Faecal coli	G. A.	G. A. R.	G. A.	A.	G. A.	G. A.	G. A. R.	G. A.	G. A. R.	G. A.	G. A.
2. Typhoid	—	A. R.	A.	— R.	—	A. R.	A. R.	A.	— R.	— R.	— R.
3. Gaertner	G. A.	G. A. R.	G. A.	A. R.	—	G. A. R.	G. A. R.	A. R.	— R.	— R.	G. A. R.
4. P.B., Redmond ...	G. A.	G. A. R.	G. A.	A. R.	—	G. A. R.	G. A. R.	A. R.	— R.	— R.	G. A. R.
5. P.B., R.A.M.College	G. A.	G. A. R.	G. A.	— R.	—	G. A.	G. A.	A. R.	— R.	A. R.	G. A. R.
6. Crofton I	G. A.	G. A. R	G. A.	— R.	— R.	G. A.	G. A.	A. R.	— R.	— R.	G. A.
7. Crofton II	G. A.	G. A. R.	G. A.	— R.	— R.	G. A.	G. A.	— R.	— R.	— R.	
8. P.B., Malta	G. A.	G. A.	G. A.	— R.	— R.	G. A.	G. A.	— R.	— R.	—	
9. P.A., R.A.M.College	G. A.	G. A.	G. A.	—	—	G. A.	G. A.	—	—	—	
10. Murray	A.	A. R.	G. A.	— R.	—	G. A.	G. A.	—	— R.	A.	
11. Sligo	G. A.	—	G. A.	—	G. A.	G. A.	G. A.	—	— R.	G. A.	

G. = Gas. A. = Acid. R. = Reduction of litmus colour.

Comments.

1. This strain of faecal coli is not classically typical, because it forms gas and acid on saccharose.

2. Typhoid, an old strain (ten years), behaves typically on these sugars.

3. "Gaertner" was isolated by Professor McWeeney from a meat poisoning epidemic in Limerick. It was, and still is, very virulent. It produced nine deaths in the original epidemic.

4. "P.B., Redmond." From a *fatal* case of supposed typhoid fever in the Mater Misericordiae Hospital, Dublin. The organism was isolated from the intestinal contents. The alimentary canal from and including the stomach downwards was found at the autopsy to be swarming with paratyphoid B bacilli. There were ulcers of a typhoid character round the ileo-caecal valve. This strain differs from the other paratyphoids in forming acid in inulin. It agrees with (5) and (6) in forming acid in raffinose, while (7), (8), and (10) do not.

5. A strain obtained from the Royal Army Medical College. It agrees with Redmond and Crofton I in forming acid in raffinose. It also forms acid in salicin.

6. Was isolated from the acute diarrhoea case described above. Its only cultural difference from the strain obtained from Case II is in its forming acid in raffinose. This latter strain may be termed "Crofton II." It is No. 7 on this list.

8. "P.B., Malta" was obtained from the Royal Army Medical College, and agrees with Crofton II in not forming acid in raffinose.

9. "P.A." was also obtained from the Royal Army Medical College. It differs from the other paratyphoids in not discharging the litmus colour in the media containing inulin, lactose, raffinose, saccharose, and salicin. Its main difference, of course, is its inability to alter neutral red and its behaviour on litmus whey.

10. "P.B., Murray" was isolated from the faeces of a patient who se illness was complicated by peritonitis from which a staphylococcus was isolated *post mortem*. Its sugar reactions are atypical, since it forms no gas in arabinose and dulcite and forms acid in salicin like (5) "P.B., R.A.M.College."

11. "Sligo" was isolated from the faeces of patients from an epidemic of illness, attributed to the ingestion of abnormal milk, in Sligo Workhouse. The blood of the patients did not give sufficient agglutination to connect the microbe with the disease. From its cultural reactions it appears to be an atypical *coli*.

By Ehrlich's method none of these microbes gave indol except *Bacillus coli*. Loeffler's new plate medium and green solutions, while it distinguished typhoid from coli, paratyphoid A, paratyphoid B, and the other food poisoners, did not distinguish the food poisoners from each other. The same may be said of Buchholtz neutral red medium.

TABLE II.—*Agglutination Experiment.*

Serum.	Crofton I.	Crofton II.	Murray.	Redmond.	Malta.	P.A.	Aertryck.	Gaertner.	Coli.	Typhoid.
Anti-Crofton I	50,000	50,000	40,000	40,000	5,000	20	50	10	10	20
Anti-Crofton II	60,000	70,000	50,000	30,000	30,000	100	50	100	20	50
Anti-Gaertner	100	50	100	100	100	100	—	10,000	0	100
Anti-P.A....	500	500	500	1,000	500	30,000	—	50	0	100
Anti-typhoid	500	500	1,000	500	500	100	—	1,000	500	30,000
Anti-Aertryck	10	16	20	16	20	50	10,000	20 (?)	100	20

Comments.

1. Anti-Crofton I serum was obtained from a rabbit by intravenous injections of a killed suspension. Five injections at six days' intervals were given, when the serum was drawn off to test. Another injection was given fourteen days later. The animal rapidly became ill and died in about two days after this injection. Cultures from heart's blood and spleen gave no growth, the vaccine was proved sterile, and the serum had *post mortem* lost all its agglutinating power. (For these reasons we are inclined to think it died from anaphylaxis.) On account of this its agglutinating effect on Crofton II and Malta could not be verified.

2. Anti-Crofton II serum was prepared in the same way.

3. Anti-Gaertner serum. This was obtained from the Lister Institute, our own efforts to obtain an antiserum having failed, owing to the extreme toxicity of the killed cultures, which were derived from the Limerick epidemic.

4. Anti-P.A. serum was also obtained from this source.

5. Antityphoid serum was obtained from Messrs. Burroughs, Wellcome and Co.

6. Anti-Aertryck was made by giving four injections of killed suspensions subcutaneously. This immunization was carried out by the subcutaneous instead of the intravenous method, owing to the extreme toxicity of the killed microbes—two rabbits having died after the first *intravenous* injection.

Controls were done in every series of tests by using normal rabbit serum instead of the specific agglutinating serum. The microscopic method was used, and was controlled in many instances by Wright's macroscopic technique. It is interesting to note that in none of these experiments was a zone of inhibition experienced.

Anti-Crofton I and II did not agglutinate Aertryck in high dilution.

The only further comment necessary is that the figures as set forth in Table II clear up the diagnosis of the group to which the microbe isolated from Murray belongs, since the sugar reactions left this in doubt. The figures make it abundantly

evident that it is a paratyphoid B. organism, and yet it does not ferment dulcite.

The identity of these microbes—namely, Crofton I and II—was further confirmed by a few absorption experiments.

TABLE III.—*Absorption Experiment.*

Anti-*paratyphosus* A serum saturated with Murray (lowest dilution examined 1 in 50).

	Crofton I.	Crofton II.	Murray.	Redmond.	Typhoid.	P.A.
Titre before absorption...	500	500	500	1,000	100	30,000
Titre after absorption ...	0	0	0	0	50	10,000

This further tends to confirm the identity of Murray with Crofton I, Crofton II, and Redmond.

The anti-P.A. serum used in this case was obtained by us in similar manner to the antiserums to Crofton I and II.

TABLE IV.—*Absorption Experiment.*

Anti-Crofton II serum saturated with Redmond (lowest dilution examined 1 in 20).

	Crofton I.	Crofton II.	Redmond.	P.A.
Titre before absorption...	60,000	70,000	30,000	100
Titre after absorption ...	0	0	0	100

The typical P.B. microbe (Redmond) has taken all the agglutinins for Crofton I and II from Crofton II serum, again confirming the identity of these microbes.

DISCUSSION.

Dr. C. W. HUTT (Brighton) said that the case of acute gastro-enteritis recorded was of interest to those who were concerned with "diarrhœa," especially from the standpoint of the public health official. The connexion of diarrhœa among infants with *Bacillus paratyphosus* B had been proved, among others, by Drs. Clements and Thomas Orr. The case mentioned by Dr. Braxton Hicks was also of interest in this connexion. If the association of *Bacillus typhosus* and *Bacillus paratyphosus* B was more common than was usually held, it was possible that the cases of diarrhœa among children, shown by Dr. Niven by means of Widal reactions to be overlooked cases of typhoid fever, might also harbour in their intestines the *Bacillus paratyphosus* B. It would be useful to hear of the results of the use of vaccines in cases of diarrhœa among infants and children.

Dr. EYRE pointed out that Conradi-Drigalski medium was most valuable because in a few hours characteristic colonies could be picked out. He mentioned the probability of a mixed vaccine being more satisfactory than a pure vaccine, owing to the exaltation of the *B. coli*. He deprecated the haphazard use of sugar media, and thought it would be better to classify these according to their chemical structure—namely, monosaccharides, disaccharides, etc.—in order to arrive at a better understanding of what these organisms could do. He pointed out that, though some organisms might form acid litmus media might not be discoloured. With regard to vaccines in treatment of diarrhœa in infants, he said that some years ago Minett obtained promising results with Morgan's bacillus No. 1.

Dr. HICKS (London) related two interesting cases in which agglutination reactions had proved of value and in which vaccines had been of great assistance.

Dr. BERNSTEIN (London) pointed out that for the purposes of treatment it was not absolutely essential to exactly place the offending coliform organism, provided that its association with the diseased state was evident. He also suggested the possibility of a spontaneous cure of these infections, which would possibly ultimately wear themselves out, though there could be no doubt of the value of vaccines in such cases.

Professor MCWEENEY, in reply, said that the prognosis in these cases was so bad that it appeared unlikely that their recovery could have been due to spontaneous recovery. He agreed that for purposes of treatment it was sufficient to allocate the isolated microbes to their groups, this giving sufficient guide to initial dose. The cases referred to by Dr. Hicks clearly indicated that mixed autogenous vaccines were essential in the treatment of typhoid and paratyphoid infections. He agreed with Dr. Eyre that the sugar reactions should be grouped according to their chemical composition.

ON THE ACTION OF ASBESTOS ON CERTAIN PHYSIOLOGICAL SUBSTANCES.

BY

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WE have found that solutions or suspensions of certain substances, after being in intimate contact with asbestos for varying periods are altered either in quantity or quality.

The substances were classified as follows:

A. *Ferments:*
1. Malt diastase.
2. Pepsin—liquor pepticus (Benger).
3. Rennet—Benger's preparation.
4. Pancreatic ferments—liquor pancreaticus (Benger).

B. *Carbohydrates:*
1. Starch.
2. Dextrin.
3. Dextrose.

C. *Proteins:*
1. Non-diffusible: egg albumin.
2. Diffusible: peptone (Witte).

D. *Alkaloids:*
1. Curare.
2. Strychnine.

E. *Hormone:*
1. Suprarenin: synthetic.
2. Adrenalin (Parke, Davis and Co.).

Method.—To each gram of asbestos fibre 2 c.cm. of the solution or suspension substance were added. This proportion sufficed to enable the asbestos to soak up all the fluid, leaving no excess. The liquid was recovered from the asbestos by means of pressure exerted by a small hydraulic press. We propose to call the exuded liquid the exudate, and the material which cannot be recovered by pressure the residue material.

A. FERMENTS.

1. *Malt Diastase.*—The malt diastase before being placed in contact with asbestos was very active, rapidly converting starch into sugar. After being in contact with asbestos for twenty-four hours the exudate was quite inactive. The asbestos containing the residual material became activated or sensitized, and rapidly hydrolyzed starch.

2. *Pepsin.*—The undiluted liquor pepticus (Benger) was used. It was in contact with asbestos for four weeks. The exudate was added to swollen fibrin in 0.2 per cent. HCl and maintained at 37° C. No proteolytic action could be detected. The asbestos with its contained residual material was steeped in 10 per cent. egg albumin which had been acidulated with HCl and the whole placed in the incubator at 37° C. On examining the fluid which could now be exuded it was found to be entirely free not only from albumin but also from the products of

peptic digestion. One of the following phenomena had taken place:

(*a*) The albumin was absorbed unchanged, and remained unchanged as residual material.

(*b*) The albumin was absorbed unchanged, became residual material; this residual material was hydrolyzed, and the products of hydrolysis remained as residual material.

(*c*) The albumin was first hydrolyzed, the products of hydrolysis absorbed, becoming residual material.

Further research in the form of fractional analysis will be necessary in order to elucidate this point.

3. *Rennet.*—Benger's undiluted preparation was used and squeezed out from the asbestos after the lapse of four weeks. The exudate contained no milk-curdling ferment. The asbestos has not been satisfactorily examined for residual material on account of the difficulty experienced in determining whether a liquid which cannot be expressed from the interstices of a solid is or is not curdled.

4. *Pancreatic Ferments.*—Benger's undiluted liquor pancreaticus. This preparation contains four ferments—namely, trypsin, amylopsin, steapsin, and a milk-curdling ferment. After being in contact with asbestos for four weeks the exudate was examined, with the following results: 97 per cent. of the trypsin, as estimated by Roaf's method, had disappeared, and no trace of the remaining three ferments could be found.

Fibrous asbestos, with its residual material, was steeped in 0.5 per cent. starch paste, and kept at 37° C. After twenty-four hours—it was not examined before—the exudate contained no starch, no erythrodextrin, but a quantity of reducing sugar, and the asbestos itself gave no reaction with iodine.

An attempt was made to examine the residual material for steapsin and milk-curdling ferment, but the result was negative. With improved technique we hope to obtain a positive result in the near future. It is quite within the bounds of possibility that the several pancreatic ferments may be thus removed fractionally from solution.

B. Carbohydrates.

1. *Starch.*—A 0.5 per cent. starch paste was placed in contact with asbestos, and pressure applied after ninety-six hours. The exudate contained no starch, it contained erythrodextrin and reduced Fehling's solution slightly, but so slightly that we could not exclude the possibility of the reduction being due to the dextrin and not to one of the reducing sugars. This experiment was repeated, it being possible that the asbestos contained some organic ferment. The asbestos was therefore boiled in water, dried and kept at a temperature of 300° C. for several hours. Even after this treatment its catalytic action was unabated. On treating the asbestos with iodine, the characteristic starch reaction was obtained.

Some 0.5 per cent. starch paste was left in contact with asbestos in a sealed bottle for three months at room temperature. On squeezing out, the exudate was free from starch and dextrin, but contained a large amount of reducing sugar, which proved to be glucose, a glucosazone being readily formed. The asbestos gave no reaction with starch, showing that all the starch had been converted into glucose, or achroodextrin and glucose.

2. *Dextrin.*—A 0.5 per cent. solution of pure dextrin was placed in contact with asbestos. After the lapse of twenty-four hours the exudate contained 0.25 per cent. dextrin. On testing the asbestos fibre with iodine the reaction for dextrin was obtained. We quite expect to find, after a long period, that the dextrin which exists as residual material will ultimately be converted into glucose.

3. *Dextrose.*—Dextrose is only slowly and imperfectly removed from solution by means of asbestos.

C. Proteins.

1. *Non-diffusible Egg Albumin.*—Weak solutions or suspensions of egg albumin lose all their contained protein in twenty-four hours when placed in contact with asbestos. The exudate is protein-free, while the asbestos containing the residual material gives the xanthoproteic reaction and reaction with Millon's reagent. The more concentrated the albumin solution the more protein will the exudate contain. It is possible that the residual material contains the products of protein hydrolysis; this we have not yet determined.

2. *Diffusible Protein: Peptone.*—A 0.2 per cent. solution of Witte's peptone was employed; this is a mixture of proteose and peptone, and was always removed quickly from solution, so that the exudate was proteose and peptone free. The biuret reaction was used as an indicator, a standard solution of copper being prepared by adding 1 c.cm. of fresh Fehling's solution to 20 c.cm. of 20 per cent. NaOH, 1 c.cm. of this solution was added to 1 c.cm. of the exudate and the depth of colour compared with a 0.2 per cent. solution of Witte's peptone.

Table showing Removal by Asbestos of Protein from Solutions of Different Concentrations.

Experiments.	Egg Albumin per Cent.	Protein per Cent.	
		Exudate 24 Hours.	Exudate 48 Hours.
1	0.09	Nil	Nil
2	0.1	Nil	—
3	0.15	Nil	—
4	0.19	Trace	Trace
5	0.25	Trace	—
6	0.26	Trace	—
7	0.34	0.1	—
8	0.38	0.1	Trace
9	0.46	0.2	—
10	0.5	0.2	—
11	0.54	0.22	—
12	0.58	0.28	0.15
13	0.64	0.38	—
14	0.72	0.38	—
15	0.78	0.5	0.39
16	0.98	0.68	0.62

Apropos of diffusible proteins we should mention that we have observed some interesting phenomena with regard to the behaviour of asbestos towards the products of peptic and tryptic digestion. We are at present making further investigations.

D. Alkaloids.

1. *Curare.*—A 0.1 per cent. solution of curare in 0.6 per cent. saline was used. After twenty-four hours' contact with asbestos 1 c.cm. of the exudate was injected into the dorsal lymph sac of a frog; the frog showed no symptoms of paralysis.

A frog of similar size was given a 1 c.cm. dose of the original solution. It showed marked paralysis in fifteen minutes, and was dead at the end of an hour. The exudate was also much less deeply pigmented than the original solution.

2. *Strychnine.*—The liquor strychninae, *British Pharmacopoeia*, diluted ten times, was employed. On testing the exudate after twenty-four hours' intimate contact with asbestos no trace of strychnine could be found.

E. Hormone.

1. *Synthetic Suprarenin.*—A 0.0025 per cent. solution in normal saline was in contact with asbestos for twenty-four hours. The exudate contained no pressor principle as gauged by its action on the excised eyeball of the frog.

2. *Adrenalin* (Parke, Davis and Co.).—A solution containing one part in 10,000 parts of normal saline was used. After twenty-four hours the exudate contained no pressor principle.

It is proposed to repeat the experiments with suprarenin and adrenalin, using the colorimetric method for estimation as recently described by Folin, Cannon, and Denis.

The following table shows the solubility of various forms of asbestos and other materials in distilled water. The figures refer to the conductivity of the exudate in reciprocal meghoms cm^{-1}. In each case 50 c.cm. of distilled water were added to 25 grams of material.

	24 Hours.	42 Hours.	90 Hours.	280 Hours.
Asbestos, Russian ...	336	551	756	1,472
Asbestos, Canadian, A.	1,205	1,696	2,204	2,272
Asbestos, Canadian, B.	602	722	851	1,088
Asbestos, African ...	468	630	702	1,076
Glass powder	200	229	254	322
Talc, Austrian	107	121	130	185
Talc, French	98	111	117	160
Kaolin	200	177	172	192
Asbestos powder ...	277	295	310	361
Glass wool	2 770	2,735	3,444	4,216
Fuller's earth	236	244	268	326
Animal charcoal ...	941	886	930	960

When in contact with distilled water, asbestos continually undergoes a degradation or solution; electrolyte is being continually added to the water. This degradation is increased during the disappearance of diffusible substances from solution, and diminished during the adsorption of colloidal substances, such as colloidal gold, dialysed iron and methylene blue. These latter apparently form a protective coating on the asbestos fibre.

The following table shows the increased solubility of asbestos fibre and kaolin during the disappearance of a diffusible substance from solution. The asbestos and the kaolin were steeped in a 0.2 per cent. solution of Witte's peptone:

	Conductivity in Reciprocal Megohms, cm^{-1}.			Biuret Reaction.		
	24 hrs.	48 hrs.	72 hrs.	24 hrs.	48 hrs.	72 hrs.
Distilled water ...	3.2	3.2	3.2	100 %	100 %	100 %
Peptone 0.2 per cent..	102 4	115.8	133.4	—	—	—
Kaolin	107.0	177.0	—	—	—	—
Russian asbestos ...	336.0	551.0	756 0	—	—	—
Kaolin and peptone, 0.2 per cent.	224.0	268 8	288 0	20 %	20 %	20 %
Russian asbestos + peptone 0.2 per cent.	620.8	736.0	861.0	10 %	0 %	10 %

The following table shows the diminished solubility of asbestos in distilled water during the adsorption of colloidal substances:

	Controls.	+ ⅓ Weight Asbestos.		+ ½ Weight Animal Charcoal.	
		After 15 Minutes.	After 22 Hours.	After 15 Minutes.	After 22 Hours.
Distilled water ...	3.2	317.8	342.4	874	896
Colloidal gold ...	258.8	345.2	530.8	760	760
Dialysed iron, 2 per cent.	501.8	403.2	729.2	102	102
Dialysed iron, 0.7 per cent.	259.6	258'8	934	—	—
Methylene blue, 0.01 per cent.	230.4	134.4	486	716	716

The removal of peptone from solution by asbestos and other materials is shown in the following table:

Materials.	Weight in Grams.	Volume of Solution, 0.2 per Cent. Peptone in c.cms.	Per Cent. of Peptone remaining as judged by the Biuret Reaction.	
			Powders Shaken 8 Hours; Fibres Standing 16 Hours.	Powders Shaken 16 Hours; Fibres Standing 55 Hours.
Asbestos, Tyrolese ...	1	5	2	10
Asbestos, Tyrolese, after treatment with alcohol and ether	2.5	5	1	0
Silk	0.85	4.25	60	50
Cotton	1	5	100	60
Scottish wool (long fibre)	1	5	90	0
Merino	1	5	75	Brown
Ramie	1	5	90	10
Flax	0.22	1.2	40	40
Asbestos, Canadian...	1	5	25	0 (?)
,, Russian ...	1	5	27.5	0
,, blue ...	1	5	35	Dirty brown
Glass wool	1	5	100	100
Animal charcoal ...	1	5	0	0
Kaolin	1	5	10	100
Glass powder	1	5	90	90
Talc, Austrian ...	1	5	20	100
,, French	1	5	27.5	95
Asbestos powder ...	1	5	0	0 (?)
Sand (clay present) ...	1	5	50	50
Control (not shaken)			100	100
,, (shaken) ...			100	100

Oscillatory Phenomenon.

We have observed that in a few instances the peptone was first removed from solution and later given up; the figures in the following table refer to the percentage of peptone of original solution remaining. The original solution was 0.2 per cent.

Russian asbestos + 0.2 per cent. peptone	24 hrs. standing, 10 %	48 hrs. standing, 0 %	68 hrs. standing, 10 %
Kaolin powder + 0.2 per cent. peptone	8 hrs. shaking, 10 %	16 hrs. shaking, 100 %	
Tyrolese asbestos + 0.2 per cent. peptone	16 hrs. standing, 2 %	55 hrs. standing, 10 %	
Talc, Austrian, + 0.2 per cent. peptone	8 hrs. shaking, 20 %	16 hrs. shaking, 100 %	
Talc, French, + 0.2 per cent. peptone	8 hrs. shaking, 27.5 %	16 hrs. shaking, 95 %	

The above research is a continuation following on some remarks made by one of us at a meeting of the Pathological Society of Great Britain and Ireland, held at St. Bartholomew's Hospital in January, 1913. The experiments were not performed under conditions of strict sterility.

PROTEOSE-FREE TUBERCULIN.

By W. C. Lyons, M.B., Ch.B.Edin., D.P.H.,
Medical Officer, Eastby Sanatorium, Skipton, Yorkshire.
(From the Department of Pathology, University of Leeds.)

In the application of old tuberculin for the diagnosis of tuberculous disease a large number of positive reactions are obtained in persons in whom no clinical signs of tuberculosis are found, and who give no history indicative of a tuberculous infection. At the same time a number of tuberculous patients give a negative or slightly positive reaction, from which it is difficult to decide whether the reaction is due to specific toxins existing in the tuberculin, or to substances which are not specific products of the tubercle bacillus.

In a series of experiments, performed with the view of discovering whether any of the ingredients used in the preparation of old tuberculin possess toxic properties, it was found that the medium itself, when used instead of old tuberculin in the manner described by von Pirquet or Woodcock, produced a reaction very similar to that produced by old tuberculin, alike in tuberculous and non-tuberculous subjects. It was further found that a 1 per cent. solution of commercial peptone, containing peptones and proteoses, gave a similar result.

It was inferred from this fact that the proteoses in old

tuberculin are not specific, and that they are toxic is shown by the inflammatory process they induce when applied as a cutaneous test by any of the cutaneous methods. Their presence, moreover, in old tuberculin tends to mask any reaction which might be produced by specific toxins excreted into the culture medium, or derived from the bodies of the bacilli during the process of growth.

Accordingly, it was thought that if these foreign proteoses were removed from old tuberculin a positive reaction would more definitely indicate the presence of tuberculosis.

Koch evidently thought that the presence of these substances were injurious, since he endeavoured to exclude them from tuberculin by growing bacilli on an albumose-free medium containing asparagin, citrates, and inorganic salts. This modification is now known as T.A.F.

Béraneck excludes foreign proteoses from his tuberculin by using for his culture medium a watery extract of veal, obtained by macerating veal in cold water for two hours.

A third method for excluding proteoses from tuberculin was described in a former paper, and consists in growing tubercle bacilli on peptone veal broth in the manner described by Koch, and then adding absolute alcohol to the filtered product to precipitate the proteoses. The supernatant fluid is decanted, and the alcohol evaporated off at a low temperature. The remaining fluid is proteose-free, and contains in solution a toxin which has been shown to be specific to tuberculosis.

Another method, recently described by Coplans, is that in which finely divided asbestos is added to peptone veal broth; the medium is then inoculated with tubercle bacilli, which are allowed to grow until a thick film of growth has formed. The fluid is removed by squeezing the asbestos dry, filtered through porcelain, and 1 per cent. phenol added. When tested by the "biuret" method this fluid is found to be proteose-free, the proteose having been absorbed by the asbestos. It is, however, toxic to tuberculous subjects.

If the proteose derived from tuberculin be dissolved in water and made up to the original bulk with water, and the solution used instead of tuberculin in the manner described by von Pirquet or Woodcock for cutaneous reaction, a positive reaction is obtained in practically every case, whether tuberculous or non-tuberculous. If, after the removal of the alcohol, the supernatant fluid is employed in a similar manner no reaction is obtained in patients in whom no clinical signs of tuberculous disease are found, whereas in persons who are known to have tuberculosis, a positive reaction is obtained in 98 per cent. of cases. Those tuberculous patients who gave a completely negative reaction were very advanced in the disease, and all died within two weeks of the application of the test.

For diagnostic purposes the method which has been principally used is a modification of that advocated by Lignières. This method was chosen on account of its painlessness and the ease with which it can be performed. The following is briefly the method of procedure:

The skin of the forearm having been cleaned with soap, spirit, or alcohol, sufficient friction being applied to induce a slight hyperaemia, one drop of proteose-free tuberculin is injected from a sterile hypodermic syringe between the epidermis and the Malpighian layers. On withdrawing the needle a little of the injected fluid escapes and is removed on a piece of cotton-wool. As a control, a drop of sterile peptone veal broth, from which the proteose has been removed by precipitation with alcohol, is introduced in the same way a short distance from the site of the first injection, any fluid escaping being removed on cotton-wool. No dressing is required.

At the end of twelve hours the arm is examined. If a positive reaction is produced, an area of hyperaemia is noted around the part into which tuberculin was injected. The hyperaemic area enlarges and becomes more pronounced, until, at the end of twenty-four hours, the complete reaction is produced. The control should be free from hyperaemia.

The reaction, when positive, varies in intensity according to the stage of the disease, but in the inverse ratio; an early case of phthisis, for example, produces a well-marked reaction, while a more advanced case produces a smaller and less intense reaction.

The reaction in an early case is seen to be as follows: Around the site of injection a well defined area of induration and hyperaemia, measuring about 1 in. in diameter appears within twenty-four hours, the edges gradually fading to normal skin; it is somewhat tender to touch, and the patient complains of a feeling of tightness in the arm and a slight burning sensation. In about forty-eight hours the tightness and burning have disappeared; the hyperaemia now begins to fade, and at the end of another twenty-four hours it has practically disappeared, leaving only a brownish discoloration, which may last one or two weeks.

In an advanced case the appearance of the reaction is materially the same; the area of hyperaemia and induration, however, is very much smaller, and may only measure ¼ in. in diameter, and is less marked. All degrees of intensity of the reaction are met with, from the well-marked and tender area of the early case to the small, ill-defined, painless area of the advanced.

Another factor of importance is the time which intervenes between the application of the test and appearance of the reaction, which in an early case is developed in twelve hours, whereas in a more advanced case it is not developed until the lapse of twenty-four hours. It has been noted also that the earlier the case the longer the reaction remains visible—an early case retaining the hyperaemic area for three or four days, while in an advanced case it begins to fade on the second day.

It is possible to tell, therefore, from the appearance, onset, and disappearance of the reaction, how far advanced the disease is.

Children react well to this method of cutaneous diagnosis, but the test should be performed with a diluted tuberculin. It has been customary to use a dilution of 1 in 25 for children under 10 years and of 1 in 10 for those from 10 to 16 years.

The appearance of the reaction has been described as appearing in three types—first, second, and third—corresponding to the first, second, and third stages of the disease. It has been noted that in cases in which the disease has become arrested, the reaction tends to approximate to that of an early case. In a number of cases in whom a reaction of the second type was obtained on admission to a sanatorium, a reaction almost as well marked as that of an early case was obtained after six months' treatment. So by this method it is possible to decide whether a case under treatment is progressing favourably or otherwise.

When performing the intradermal test for the diagnosis of tuberculosis the needle should be held parallel to the skin, and the skin rendered tense by encircling the forearm with the thumb and forefinger, and drawing the skin taut. The point of the needle is then inserted obliquely between the epidermis and the deeper layers. The point should not penetrate deeper than the epidermis. A small bulla is produced by the injection, on the surface of which, a few small dimples are to be seen, with a cutaneous hair in each, if the injection has not been too deep.

Koch's original tuberculin was concentrated, by boiling, to one tenth its volume; this would seem to be unnecessary, since a tuberculin which has been heated to over 60° is less toxic than one which has not been heated, and the proteoses are more easily precipitated by alcohol when the tuberculin has not been exposed to temperature above 60° C. Judging from the analogy of other bacterial toxins, heating would seem to reduce the toxicity of tuberculin; this has been proved in a series of experiments undertaken to determine the toxicity of old tuberculin.

The treatment of tuberculosis was undertaken with proteose-free tuberculin in about 100 cases; of these, 50 completed a full course. The results indicate a more extensive trial, and compare very favourably with those obtained with other forms of tuberculin.

It is easily borne, and can be given in cases where other forms of tuberculin produce a marked general reaction, and for this reason it is very useful in the treatment of ambulant cases. A general reaction is rarely produced, and only in acute cases, or with large doses. When this does occur it is not very severe, and usually is of short duration. Headache and lassitude are the principal symptoms complained of; the temperature may be elevated one degree, but usually falls within a few hours.

It can be given with safety in febrile cases; in fact, it has a beneficial effect on the temperature. In many cases the temperature has been reduced to normal by its

administration. The initial dose is found to be 0.001 c.cm., but in acute cases, if this dose produces a general reaction, the dose should be reduced to 0.0001 c.cm., and rapidly increased. The dose is increased every other day by 0.001 c.cm. until 0.01 c.cm. is reached, when the increase may be more rapid. The maximum dose is 1.0 c.cm., and to reach this about three months is the usual time required. For children the initial dose is 0.0001 c.cm. This should be gradually increased by 0.0001 c.cm. every other day until tolerance is established, when the increase may be more rapid.

Improvement is usually manifested in about a week after the commencement of the administration, and is evidenced by a feeling of improvement expressed by the patient; at first there is a slight increase in the cough and expectoration, followed by a diminution, and soon there is a cessation of night sweats.

During the treatment of the 100 cases only one patient had haemoptysis, and that only of a slight nature. It would seem, therefore, that proteose-free tuberculin does not increase the tendency to that condition.

Of the 50 cases who had a complete course of proteose-free tuberculin, 45 were suffering from pulmonary tuberculosis, 2 from early lupus, 1 from early spinal caries, 1 from tuberculous glands of the neck, and 1 from tuberculous disease of the hip-joint.

Of the 45 cases of phthisis, 17 were in the early stage, with the disease confined to one apex; 12 were in the second stage, with the disease in both apices or in parts of two lobes; 16 were in the third stage, with cavity formation, or having some tuberculous complication, such as phthisis laryngei.

Some of these cases were treated in hospital, some in a sanatorium, and some by the ambulant method. All derived benefit from the treatment, especially the early cases of phthisis and the surgical cases.

The time which has elapsed since the cessation of the treatment is not long enough to decide whether the benefit is permanent or not, but the rapidity with which the physical signs cleared up in many of the cases, and the general improvement which was seen to follow the administration of proteose-free tuberculin, justify the continuance of the treatment on similar lines.

I am indebted to Dr. Margaret Sharp, of Bradford, for the notes of several of the cases.

It is estimated that there are 100,000 blind persons in the United States. The knowledge of this fact led some time ago to the appointment of a commission by the Medical Society of the State of Pennsylvania, and on the initiative of that commission the Pennsylvania Society for the Conservation of Vision has recently been formed. It includes laymen as well as doctors. An active campaign has been begun against ophthalmia neonatorum, avoidable eye injuries in trades, trachoma, wrong lighting of buildings, and the like causes.

The week of celebrations organized by the *Evening News* to commemorate the publication of its 10,000th number was opened on Monday, November 17th, when an interesting series of medical and scientific films was exhibited to an audience of over seven hundred doctors and nurses at the West-End Cinema, Coventry Street. The programme included films showing the movements of protoplasm, the germination of pollen grains, the process of obtaining the intestinal juices and the digestion of albuminoids, the blood circulation in the lung of a frog, trypanosomes of sleeping sickness in the blood of a rat, and numerous other items of scientific and biological interest. A demonstration of the progress of radio-cinematography was also given; and Mr. George Cunningham, the organizer of the Cambridge Dental Institute for Children, presented an interesting series of photographs illustrating the formation, growth, and decay of the teeth, and the prophylactic work carried on at the Dental Institute under the direction of Mr. W. H. Jones, the borough dentist of Cambridge. Sir James Crichton-Browne, who presided, called special attention to this section of the programme, and declared that it was high time that the nation was awakened to the ravages of dental decay and the need of taking measures to arrest it. The existing state of affairs was not inevitable, and he was not one of those who believed that dental decay was an essential feature of modern civilization, or that the superman of the future would have a swollen head and toothless gums.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

NYSTAGMUS.

As reported in the Journal of November 1st, p. 1152, Mr. Harrison Butler stated at the Brighton meeting that miners' nystagmus was not of the same type as ordinary or non-miners' nystagmus; that the movements in miners' nystagmus were often those of divergence of both eyes together, convergence of both eyes together, or one eye rose while the other fell, and that this was not the case in non-miners' nystagmus; in other words, the movements in miners' nystagmus are non-concomitant, and in non-miners' nystagmus concomitant.

This observation, if confirmed, becomes important from a medico-legal point of view; and, further, if miners' and ordinary nystagmus are distinct entities, then a difference in etiology may be expected. In order to investigate this point I have had put together two 12-degree square prisms, edge to edge—that is, bases out—held together by a band of white metal with a handle fixed to it. The observer looks at the patient's eyes from a distance of about 18 in., and then interposes the prisms at about 8 in. from the patient, and by moving them nearer or further from the patient the eyes are seen to approximate and separate, and a distance can be selected at which the corneae are seen edge to edge, when the movements of the eyeballs can be studied. It is necessary to hold the prisms vertically, or one eye will be seen at a different level from the other. It is also convenient to place on the patient's face a trial frame with a *plus* 20 D sphere over each eye to obtain magnification.



During the last three months I have seen 13 cases of nystagmus, and of these 2 were miners. In both these miners the movements were concomitant. One of the miners presented vertical movements; the eyes rose and fell together. Two of the patients were infants, and restless; but all the others, with one exception, presented concomitant movements. The exception was a girl aged 11 years, and here the movements were non-concomitant—that is, the eyes converged together and diverged together.

These observations are not in harmony with Mr. Butler's statement.

J. A. Wilson, M.D.,
Assistant Surgeon, Ophthalmic Institution (Royal Infirmary), Glasgow.

STRUMA AN IMPORTANT FACTOR IN EYE DISEASE.

I was much interested in Dr. Harrison Butler's paper on this subject in the Journal of October 18th, and in the main ophthalmic surgeons will agree with his opinions. I wish, however, to draw attention to one or two important points, not sufficiently emphasized, under the heading of phlyctenular ophthalmia.

This disease in children plays havoc with the eyesight, chiefly because of the recurrent attacks, and only by attacking the cause can the recurrences be prevented. Dr. Butler is inclined to attribute the trouble to an infected milk supply, but he cannot account for the etiology in 30 per cent. of cases. Careful examination will, I am sure, convince him that in 100 per cent. of cases adenoids, almost always in a very unhealthy condition, are present.

We know that tubercle bacilli have been, and can be, demonstrated in the adenoid tissue; but to this is usually added a septic infection. Whether the "attenuated tuberculosis" toxin is produced in the adenoid tissue or in another tuberculous focus arising from infected milk is a debatable point, but I am quite certain that complete removal of the former focus allows the child to resist the latter successfully, at any rate until puberty.

I consider that all children suffering from phlyctenulosis are strumous, and consequently agree with Professor

Straub in his contention that in 100 per cent. of these cases there is a tuberculous etiology.

During the past twelve years I have carefully examined the post-nasal space of cases of phlyctenulosis, and have always found infected adenoids present.

The treatment of all these cases, no matter how intense the local eye symptoms may be, is prompt removal of the adenoids, and, if necessary, the tonsils also. The result is magical; and, more important still, the tendency to recurrence disappears. In one or two cases only did recurrence take place, and the attack was mild and caused no defective vision.

We consequently have at hand a means of reducing the terrible ravages of this disease to a minimum. I discussed this subject at further length in your issue of May 28th, 1910.

The same remarks apply to photophobia in children without corneal lesion, which, though distressing, is not a serious trouble; the conjunctival condition is secondary to the chronic rhinitis (as in the eczema of the upper lip), which in turn is caused by infected adenoids. These cases get well and do not recur once the post-nasal space has been thoroughly treated.

London, W. A. S. COBBLEDICK.

IPECACUANHA SINE EMETINA.

BECAUSE emetine cures cases of amoebic dysentery, there is a tendency among enthusiasts to belittle the use of ipecacuanha without emetine in cases of chronic affection of the bowels. It would be a great pity if this tendency were not at once checked, because many sufferers from chronic colitis are cured—and quickly cured—by the use of ipecacuanha deprived of emetine.

I heard of two cases of chronic colitis that had been rapidly cured in this way and I interviewed one of the cases. As a result of the interview, I gave it in a case, diagnosed as chronic dysentery of two years' duration which had failed to be cured by the usual drugs. I gave subcutaneous injections of emetine for six days without result. Two days after taking ipecacuanha without emetine the patient was cured. There is only one scientific explanation of the action of ipecacuanha—namely, that it contains emetine which kills amoebae and other substances which kill other organisms.

Trinidad. HENRY ALSTON.

TREATMENT OF CHRONIC ULCERS OF THE LEG.

I AGREE with Dr. Williams (October 18th, p. 1013) that the treatment of ulceration of the leg is difficult, but not unsatisfactory. My experience is that there is not a more grateful class of patients than those who are relieved of this chronic disability.

Recognizing that the multiplicity of local treatments recommended in these cases is a sign of weakness, I have for several years investigated the cause and adapted my treatment to the underlying condition as far as possible. The results have been satisfactory and rapid.

The chief of these causal conditions are: (1) Syphilis, acquired and congenital. I do not, however, place the percentage so high as 90. (2) Rheumatic poison. These cases, I am inclined to think, are fairly common. A large number of this class shows induration of a fibrositic nature before ulceration sets in. (3) Tuberculous diathesis. (4) Alteration in the blood condition due to kidney, pancreatic, or hepatic impairment, toxaemia of constipation, pregnancy, etc. (5) Mixed infection of any of the above.

An ulceration in a healthy subject will heal under ordinary surgical technique. In treating the cause the object is to bring all cases under this heading as far as possible.

The special local treatments I prefer are: (1) Skin grafting by means of small Thiersch grafts. By this means ulcerations can be made to heal under one dressing in a week. (2) To remove indurations I consider dry hot-air baths and ionization by far the most satisfactory. To remove induration when present I look upon as a necessary step to get a permanent result. To prevent relapse after-treatment must be attended to.

My results in several hundred cases are that I have, as a rule, obtained healing in from one to five weeks.

Burnley. S. T. BEGGS, M.D., B.Ch.

SPASTIC MONOPLEGIA FOLLOWING HERPES ZOSTER.

F. E., a woman aged 40, was sent to Buxton for the relief of neuralgic pains following an attack of herpes two years earlier. A few small scars were observed in the area said to have been affected, which extended from about the fifth and sixth dorsal spines round the left side of the body, beneath the breast, towards the sternum. The attack seems to have presented nothing out of the common beyond a protracted period of scabbing. The neuralgic pains began about twelve months afterwards, and lately she noticed her left side from the painful region down was getting weak, and that her left foot had a tendency to drag.

The signs of spastic paralysis of the left leg were evident; knee-jerk was accentuated; Babinski's sign, ankle clonus, increased superficial reflexes, and characteristic gait were present. There was no sensory disturbance beyond a certain amount of "pins and needles"; there was no wasting of muscles, and the electrical reactions were normal. The patient's general health was good, and had been so for the past two years.

This case is interesting from the fact that paralysis followed the herpes. It is questionable whether it is the outcome of the herpes (its distribution suggests it) or whether the paralysis is distinct.

Buxton. J. C. DENVER, M.B., B.Ch.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

GLOUCESTERSHIRE BRANCH.

A GENERAL meeting of the Gloucestershire Branch was held at the General Hospital, Cheltenham, on Thursday, October 16th. Dr. R. MACARTNEY was in the chair, and thirty-four members were present.

Dr. PRUEN read a paper on A New Disease, which was followed by a paper on the same subject by Dr. KIRKLAND. Both papers dealt with the outbreak of septic throats which occurred in Cheltenham in the spring. The infecting organism was in most cases a streptococcus. The cervical glands were usually much enlarged. A feature of the disease was the large number of cases which suffered afterwards from endocarditis. Dr. PRUEN ascertained from correspondence with medical friends that the disease was widespread over England. Dr. KIRKLAND read abstracts to show that a similar malady had occurred in Chicago and Baltimore, and was traced to the milk supply. No definite evidence was forthcoming that the epidemic under discussion was due to the milk supply. The paper was illustrated by numerous well-executed diagrams. The following members took part in the discussion: Drs. FORTESCUE BRICKDALE, COLLINS, FORSTER, PIKE, FINLAY, BERESFORD-JONES, MEYRICK JONES, POWELL, AFFLECK, LONGRIDGE. Drs. PRUEN and KIRKLAND replied.

SOUTH MIDLAND BRANCH.

THE autumnal meeting of the Branch was held on October 30th, at Northampton General Hospital, under the presidency of Dr. CONNING HARTLEY, Bedford. There were twenty-one members present.

Cases and Specimens.—Dr. MILLIGAN (Northampton) read notes of a peculiar abdominal case in a boy aged 16. The symptoms and signs were those of *Pelvic tumour*, with attacks of severe pain. At the operation the growth was found to be retroperitoneal and cystic in nature. After enucleation, it proved to be a kidney with congenital hydronephrosis. Dr. Milligan also showed a specimen of fibroid tumour of uterus, weighing 12 lb., in which hysterectomy had been performed. Mr. PERCIVAL showed a specimen of hypernephroma. There had been severe attacks of pain and haematuria, and the radiograph showed a large kidney shadow.

High Blood Pressure.—Dr. ARMSTRONG, of Buxton, then addressed the meeting on high blood pressure and its treatment. After showing the various methods of estimating blood pressure, he said the causes of increased pressure were: (1) General autointoxication. (2) absorption of putrefactive materials from intestines.

(3) retention of gouty products, (4) imperfect metabolism, (5) excessive eating of nitrogenous foods, especially when large quantities of fluids are taken at meals; (6) want of exercise, (7) defective kidney action, (8) nerve strain, (9) excess of tobacco, alcohol, and strong tea, (10) syphilis. The important point about treatment was, he said, the recognition of two distinct stages of the disease—namely, (1) presclerotic, (2) arterio-sclerotic. Great improvement was possible in the first stage, and the lines of treatment were as follows: Stimulation of general metabolism and oxidation, attention to the action of the bowels, kidneys, skin, and lungs, relief of strain, and avoidance of excess in alcohol and tobacco. Drugs were only temporary in their action, but he recommended salines every day and blue pill twice a week. Gastric atony should be treated by 5 to 10 m of freshly prepared fuming hydrochloric acid in water during the meal. He mentioned the use of iodides and iodothyroidin, and strongly advocated courses of strong radio-active water, together with the use of oxygen baths. Exercise without fatigue was very necessary, and he obtained the best results by the use of the Bergonie electric chair, which resulted in a reduction of the body weight and steadied the action of the heart. The subject was discussed by members present, and Dr. Armstrong replied.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

At a meeting on November 10th, Sir David Ferrier, President, in the chair, Dr. J. S. Risien Russell, in opening a discussion on the *Treatment of neurasthenia*, said it was important to recognize that there were many different types of the affection, each demanding particular treatment. There were three main groups—cerebral, spinal, and cerebro-spinal—and the patients of the first group could be conveniently divided into those whose symptoms were chiefly physical and those whose symptoms were chiefly psychical. The nationality and the temperament of the individual must be given due weight—considerations as important as the question whether the symptoms indicated exhaustion or undue tension with irritability of the nervous system. The cause should be sought out and, if possible, removed, but its removal would not suffice to bring about a cure. In a few cases the outlook was hopeless, especially in that variety in which the individual was born with a tendency to the affection and in whose heritage was a neuropathic taint. One of the essentials of treatment was to inspire a hopeful outlook. The best chance of success lay in a "rest cure," provided it was conducted in a home given up to treatment of the kind. Personality played an important part in the treatment. The attitude to adopt was that of sympathetic attention to the detailed account of the patient. In certain cases "suggestion" was advisable: in others massage and electrical treatment did more harm than good. Massage should only be employed if an adequate amount of rest could be secured. The pack and warm bath were especially useful in insomnia, whilst the needle bath and spinal douches were useful, particularly in the sexual and spinal forms. Spermin was a useful adjunct, alone and combined with the various glands of internal secretion. Drugs played a secondary part. He then spoke of the uses and limitations of strychnine, bromide, arsenic, glycerophosphates, lecithin, phytin, iron, and hypnotics. The treatment which followed "rest cure" was little less important than the "cure" itself. Dr. James Taylor described the neurasthenic temperament, giving as examples the inhabitants of the Orkney and Shetland Islands. The great majority of cases of induced neurasthenia were due to hard physical strain, combined with anxiety or unsympathetic environment or uncongenial work. Medical treatment of all such cases must follow similar lines. They must be removed from their work, put under different surroundings, and kept away from anything likely to excite the old feelings of helplessness and almost despair. The ordinary rest cure was not at all suitable for the great majority. Each case must be tackled as a separate problem. Rest, massage, and electrical treatment should be combined with appropriate recreation. With regard to drugs, he favoured chiefly sedatives and stimulants, of which bromide and strychnine were the types. Dr. T. B. Hyslop remarked that imperfect venous drainage played an important part in this disease. He had found benefit to accrue from complete rest of the areas which were drained defectively. One principle of treatment was to increase the force of the arterial wave by cardiac stimulation, and to favour the venous return by aiding the respiratory venous suction by forced inspiration *plus* passive pressure or massage, extending from the occiput downwards. Abdominal massage was also of considerable value. Mr. Donald Armour dwelt on the importance of effectively treating head injuries, for in such neurasthenia would develop if they were untreated. Dr. Leonard Guthrie discussed especially the neurasthenia of early life. The term implied not only readily induced exhaustion, but also supersensitiveness to stimuli and excessive reaction thereto. Dr. Morris B. Wright spoke of the value of suggestion in the hypnotic and hypnoidal states, and Mr. A. G. Buchanan of the value of psycho-therapy. This he divided into: (1) Methods of persuasion; (2) methods of re-education; (3) suggestion in the hypnoidal state; and (4) psycho-analysis. Further discussion was adjourned till November 17th.

ROYAL SOCIETY OF MEDICINE.

Clinical Section.

At a meeting on November 14th, Mr. Charters J. Symonds, President, in the chair, the following were among the exhibits: Dr. A. M. Gossage: *Subcutaneous granulomata* in a girl aged 3½ years. The three probable causes for granulomata of this type were syphilis, tubercle, and sporotrichosis. In this case a negative Wassermann reaction showed the absence of syphilis, and the histological appearance, rapid improvement with potassium iodide, and a negative von Pirquet reaction weighed against the diagnosis of tubercle. The cause was probably sporotrichosis, but until the organism had been cultivated from the case the diagnosis was uncertain. Mr. W. J. Midelton: Two cases of *Arthritis deformans* in women, aged 60 and 54, treated by continuous counter-irritation. Both had improved very considerably. Dr. F. Parkes Weber: (1) *Rheumatic nodules associated with rheumatic torticollis* in a boy aged 11. The nodules were of specially large size over the knees. There was probably some slight myocardial affection, and possibly mitral disease. An affection of the olecranon bursae suggested that a kind of true rheumatic fibrositis, analogous to that which produces rheumatic nodules over the periosteum and fibrous structures, was the cause of the wry-neck. (2) *Angio-keratoma with bony changes* in a boy aged 16; *x* rays showed considerable rarefaction of the hand bones and those of the feet, the distal portion of the terminal phalanx of the left big toe having disappeared. There was no evidence of definite attacks of Raynaud's disease. Dr. W. Essex Wynter: *Haemophilia* in a man aged 22, who, since the age of 8, had frequently had attacks of pain and swelling in the joints, with limitation of movement, and also attacks of haematuria. Dr. J. H. Drysdale and Mr. G. E. Gask: A case of *Splenic anaemia*. Splenectomy had been performed, but had been followed eighteen months later by haematemesis. The patient still had leucopenia, and many of the red cells were abnormal. Dr. Arthur F. Hertz and Mr. D. W. Johnson: (1) A case of *Cervical rib* with marked vascular symptoms, in a woman aged 45; (2) a case of *Myatonia congenita* in a boy aged 3½ years. Mr. C. A. Ballance: A woman, aged 20, whose facial paralysis had been treated by end-to-end facio-hypoglossal anastomosis, and by end-to-end anastomosis of the descendens noni to the hypoglossal. Mr. W. H. Battle: A case of *Microglossia* in a child aged $1\frac{5}{12}$ year. Dr. Albert Wilson read a short paper on the treatment of syphilis by arsacetin, and excision of the primary sore.

Surgical Section.

At a meeting on November 11th, Mr. Makins, President, in the chair, a paper on *Pyeloradiography*, read to a previous meeting by Mr. Frank Kidd, was discussed. Mr. Gilbert Scott said that the *x*-ray couch should be higher than usual and be provided with a fly-leaf, so that the patient could be shifted without moving the table. The surgeon should insert a catheter with opaque and transparent segments; each kidney should be done separately; the renal pelvis must be kept full. Two plates should be taken—

one in full inspiration, the other in full expiration. He did not recommend the use of the fluorescent screen. Mr. THOMSON WALKER said that pyeloradiography required careful co-operation between the surgeon and the radiographer. There was an element of danger in the procedure, as a case had been reported in which the pelvis had burst from pressure. When distended there was usually pain at the anterior ends of the ninth or tenth ribs. In hydronephrosis the kidney was usually insensitive; no anaesthetic should be given. A 10 to 20 per cent. solution of collargol must be used to give a good shadow, and he had seen no bad effect from it. It was easy to exaggerate the dangers and to minimize the usefulness. Mr. RALPH THOMPSON thought pyeloradiography was useful in the diagnosis of misplaced kidneys, and in distinguishing vague shadows and the kidney itself from surrounding structures. Mr. A. E. JOHNSON said that pyeloradiography could be performed with slight discomfort; but the amount of pressure should be as small as possible. He always first looked for the tip of the ureteral catheter with the fluorescent screen, and did not use a compressor. The operation was a necessary aid in the making of a diagnosis of unilateral pain of unknown origin, in doubtful hydronephrosis and pyonephrosis in congenital abnormalities, in the differential diagnosis of renal tumours, in interpreting *x*-ray shadows and the extent to which a kidney was damaged. It was most important in the early diagnosis of dilatation of the pelvis and in telling whether a palpable kidney was movable or simply situated at a lower level than normal. It prevented unnecessary renal operations and enabled operations to be performed early. Mr. FRANK KIDD, in reply, said that the main object of his paper was to discover the damage done by the collargol; none was done if the buret was not raised more than 10 in. above the penis, but the examination must be made quickly.

SUBSECTION OF PROCTOLOGY.

At a meeting on November 12th, Mr. SWINFORD EDWARDS, President, in the chair, Mr. ASLETT BALDWIN described a case of *Round-celled sarcoma of the rectum* in a woman aged 42. The growth, with 6 in. of bowel, was excised, together with the posterior vaginal wall. She retained perfect control of her sphincters. The PRESIDENT mentioned a case of fibro-sarcoma of the rectum in a girl, aged 25, on whom he had successfully performed the combined abdomino-perineal operation; and Mr. GORDON WATSON instanced a case diagnosed as a gumma of the rectum but which proved to be a sarcoma, secondary deposits appearing around the umbilicus. Mr. LOCKHART MUMMERY reported (1) a case of haemorrhagic proctitis in a girl, aged 29, who had twice been operated on for piles and later received cataphoresis with zinc sulphate and 40 milliampères; the case was still under treatment; (2) a second case of *Auto-intoxication* with acute abdominal distension in a woman, aged 39, who had been treated with enemata, pituitary extract, appendicostomy and ileo-sigmoidostomy without avail; later on 3½ ft. of large intestine, which was quite devoid of muscular tissue, was removed. Mr. CHARLES RYALL thought the second case proved the futility of lateral anastomosis; bismuth was shown by the *x* rays to go to the end of the caecum in spite of the division of the ileum. Mr. GORDON WATSON instanced a case in which although ileo-sigmoidostomy relieved the obstruction, the patient died in three days with a perforation of the caecum. Mr. DREW said he had found signs of intestinal obstruction to supervene even with a patent ileo-sigmoidostomy; he proposed in future to divide the colon above and bring it to the surface as a mucous fistula. Mr. MUMMERY, in reply, advised an end-to-end anastomosis with an appendicostomy. Mr. SAMPSON HANDLEY described a *New method of administering saline solution* after abdomino-perineal excision of the rectum. These cases, he thought, were lost from shock; using his method he had had only one fatality out of 9 cases, and that from intestinal obstruction. Mr. WATSON thought such cases died, not from shock but from haemorrhage, peritonitis, or hernia. Mr. MILES said that out of 64 cases he had had 25 deaths; the mortality was greater in women than in men; he had had no successful case in a patient over 60. Most of the fatalities were due to sepsis, produced in the division of the colon. He prevented shock by using oxygen, strychnine, brandy, and saline. Mr. HANDLEY, in reply, said that his method deserved a trial; his cases died of late shock on the third or fifth day. Mr. LOCKHART MUMMERY, in a paper on haemorrhagic proctitis, said that it was a rare condition, occurring in females aged from 20 to 30. There was often a family history of bleeding; the mucous membrane was spongy, dark, and gritty, with superficial ulceration; it resembled haemorrhagic colitis, but there was no evidence of the presence of the pneumococcus. It was difficult to cure: he used applications of fuming nitric acid or injections of silver nitrate.

SECTION OF ANAESTHETICS.

At a meeting on November 7th, Dr. J. BLUMFELD, President, in the chair, Mr. FLEMMING gave particulars of a case of *Tachycardia* in a healthy girl, aged 12, who was undergoing radical cure for hernia. The heart was normal and pulse-rate before operation 84. No alkaloids had been given previously. Anaesthesia was normally induced with open ether. Five minutes later, after operation had been commenced, but before any traction had been made on the sac, the pulse-rate was noticed to have increased to 274. The patient was apparently well, the anaesthesia moderate, and no cyanosis present. Later on the pulse-rate rose to 288. A change was made to chloroform and then back to ether without any alteration of the rate. The operation lasted about thirty minutes. Ten minutes after operation there was some retching, and a pulse-rate of 264. The patient was then turned on to the left side, when the pulse almost immediately dropped to 84. Dr. BEZLY THORNE related a case of paroxysmal tachycardia, lasting four to six seconds, intermitting with a pulse-rate of 80, in a case of strangulated hernia in a patient suffering with aortic regurgitation and aneurysm of the common carotid artery. Preliminary doses of morphine and atropine were given, and infiltration of novocain and adrenalin, followed by chloroform, was used at the operation. The tachycardia occurred the day after operation. He also mentioned a case of tachycardia in which pressure over the precordium had given relief. Mr. J. H. CHALDECOTT, in a paper read in his absence, on the *Anoci-association* method of Crile, pointed out that nitrous oxide was only used to keep the patient unconscious, and that for surgical anaesthesia one had to rely on infiltration by novocain, urea, and quinine. Any insufficiency in the latter would not be masked by the nitrous oxide. The chief difficulties of administration were in the early stages, especially if the patient had to be moved or lifted, and also during rough manipulations, and from the presence of gauze packings, etc., of the abdomen. Hewitt's apparatus was used, and no rebreathing permitted. The author had an experience of 60 cases, and his results had been very encouraging, unpleasant after-effects being insignificant, except in a few cases. He thought that a good trial of the method would prove it of great value, especially in bad cases. Mr. C. W. G. BRYAN, in a communication on the same subject, agreed with Crile that success largely depended upon the local injections and not upon increasing the depth of anaesthesia. Deep general anaesthesia merely masked the trauma inflicted on the patient's nervous system, and with this method painful manipulations were at once made manifest by cyanosis and rigidity. The injection should be made rapidly, with pressure into the various layers, before incision. Abdominal wall infiltration was sufficient where there was not much dragging on viscera. For complicated and deeper manipulations, retroperitoneal and mesenteric infiltrations would be necessary. Difficulty from cyanosis and rigidity was experienced in gastro-enterostomies, and in operations in the left upper part of the abdomen. Probably injections in the region of the coeliac axis would block sensations from most of the abdominal viscerae.

SECTION OF LARYNGOLOGY.

At a meeting on November 7th, Dr. D. R. PATERSON, President, in the chair, the following were among the exhibits:—The PRESIDENT: Three foreign bodies removed from the bronchi of different patients—namely, a piece of button, a piece of mutton bone, and a feather 6 in. long. Sir STCLAIR THOMSON remarked that the mortality from foreign bodies in the air passages, which was formerly as high as 60 per cent., had dropped to about 1 to 3 per cent.

since the introduction of the improved methods of treatment; and Mr. Herbert Tilley described the removal of a green pea from the right bronchus by an improvised method. Dr. P. Watson-Williams: Notes of a case of *Cerebro-spinal rhinorrhoea*, with subsequent sinusitis. Dr. Dan McKenzie: A case of *Endothelioma of the ethmoid*, which showed no sign of recurrence six months after removal by operation. Mr. W. Mollison: A case of *Epithelioma of floor of mouth* and tongue, and ulceration of soft palate. Mr. Herbert Tilley drew attention to the tendency of chronic ulceration of the mouth to become malignant. Mr. Philip Turner and Mr. W. M. Mollison: A case of *Pneumococcal infection of the mouth and pharynx*, in which great improvement had occurred without the aid of vaccine treatment. Dr. Donelan: A case of *Double paralysis of the superior laryngeal nerves* in a patient suffering from disseminated sclerosis due to lead poisoning. Mr. H. A. Kischi: The *Rhinomanometer*. The President remarked on the difficulty of maintaining the nasal cavities undisturbed during the use of this kind of instrument. Mr. H. J. Davis: (1) Skiagram of a farthing in the œsophagus of a child aged 2 years; (2) a case of *Fixation of the right vocal cord* in a man aged 61; it produced no symptoms. Mr. Douglas Harmer: A case of *Perforation of the septum nasi*, which caused inspiratory whistle. Mr. J. H. Connolly: A boy, aged 5 years, with a large pulsating vessel in the right portion of the posterior pharyngeal wall.

EDINBURGH OBSTETRICAL SOCIETY.

At a meeting on November 12th, Sir Halliday Croom, President, in the chair, Dr. Haig Ferguson, the retiring President, in a valedictory address, mentioned a decrease in the cases in the maternity hospitals of Scotland since the Insurance Act came into operation. In Glasgow, from January 1st to August 31st of this year, the decrease in indoor and outdoor cases was 717, in Aberdeen 145, in Edinburgh 381, in Dundee 121. The teaching of students was correspondingly restricted, and the output of nurses was correspondingly less. Emphasis was laid on the necessity of a Scottish Midwives Bill. It was a necessary antidote, so far as the welfare of the women and infants was concerned, to the maternity provisions of the Insurance Act. The deaths of the following Honorary Fellows of the Society were referred to: George Granville Bantock, Professor Henry J. Garrigues, Professor Paul Segond, and Professor Sir W. Japp Sinclair. Dr. A. A. Morrison, in a paper on *Cloacal vesical exstrophy in the female*, recorded a case—a ninth child—which died three days after birth. The extroverted area was triangular in shape, the apex of the triangle being below the attachment of the cord. The centre of the area projected and terminated in a proboscis-like structure, at the end of which was an opening through which meconium passed. On the lower part of the area there was an evagination surface depression near a slit-like orifice, which was found later to communicate with the large intestine. The opening through which urine escaped was to the right of and behind this eminence. On opening the abdomen the intestine was found attached by a thin mesentery to the posterior abdominal wall, and to pass mesially into the true pelvis. It opened at the elevation in the centre of the extroverted area. The large intestine was represented by a small oval body lying in the pelvic cavity, and was attached to the evagination surface referred to. The vagina was double, the two canals being united in their lower half. The right vagina was the larger, and was connected with a partially developed uterus with normal broad ligament, Fallopian tube and ovary. The left vagina had a very rudimentary uterus, but the broad ligament, tube, and ovary were normal. The right vagina opened on the extroverted area by a small opening. The right kidney lay in the pelvic brim, and the ureter opened on the extroverted surface. The left kidney was in its normal position; this ureter was greatly dilated, and stopped at the level of the left vagina. The pubic symphysis was absent, and the iliac and pubic bones were widely separated anteriorally.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

At a meeting on November 7th, Mr. A. Ernest Maylard, President, in the chair, Dr. Malcolm Watson, in an address on *Prevention of malaria*, mentioned a drainage scheme which was devised and put into operation in the Kapar district of the Federated Malay States in 1903. By felling the jungle, draining by ordinary open drains the pools in which the *Anopheles umbrosus* bred, and by cultivation, complete control was obtained over malaria on the low coastal land, which, on account of its stiff clay soil and high ground water, was supposed to be the stronghold of the disease. Among the hills, however, in spite of good houses on dry elevated sites, with pure water supply and excellent sanitation, malaria of the most malignant kind persisted. Having found that this was due to the presence of the *Anopheles maculatus*, which bred only in hill streams, the lecturer adopted the measure of carrying the streams underground in pipes for a certain distance, about half a mile, round dwelling places in hill land. This was done with complete success where the full distance was piped, and marked improvement where a more restricted area only was drained. It was to the presence of this hill-stream-breeding mosquito that malaria was due in the hilly parts of Hong Kong and of India. In Japan, the only *Anopheles* mosquito which was found bred in rice swamps and carried only the two benign forms of malaria. In Panama engineering works constantly interfered with drainage, and quinine prophylaxis was practically not used, but the system of oiling was perfect—the whole area for about half a mile round all dwellings was oiled once a week so thoroughly that every mosquito was killed. On a total area of 53 square miles thus treated, in jungle, under the worst possible conditions, the Americans had built up and maintained a labour force of over 50,000 men, whose death-rate compared favourably with that of any corresponding population even in temperate zones. In the inhabited portion of British Guiana drainage and agriculture had brought about the disappearance of both *A. albimanus* and *A. argyrotarsis*, and produced a fall in the incidence of malaria equal to that in Panama. Populations even lived in health on the edge of rice swamps, the mosquitos being eliminated by a proper control of the irrigation. The freedom from malaria which distinguished Barbados among the West Indian Islands had been attributed to the presence of the small minnows called "millions," which were supposed to eat the mosquito larvae, but was really due to the circumstance that the island was composed of a coral chalk so pervious to water that there were no surface pools, and consequently no mosquitos could exist.

LIVERPOOL MEDICAL INSTITUTION.

At a meeting on November 6th, Mr. Robert Jones President, in the chair, Dr. C. J. Macalister, in a note on the *Treatment of emphysema*, said that he had noticed that in these patients the main difficulty was in expiration. He had successfully aided the expiratory forces by a band of strong elastic webbing round the chest. He showed two patients—one a child, the other an adult male—in whom the condition had been greatly relieved. He did not employ the method in cases in which much bronchitis was present. Sir Dyce Duckworth, in a paper on the requirements of *Modern clinical teaching*, suggested that the want of the present day was training in accurate observation. The old teaching in botany and the allied sciences gave a certain preparatory training in observation that had its value. Scientific training to-day was pushing into too small a space the necessary clinical training and experience. Training in the lost art of physiognomical diagnosis was also needed: the humoral personality of Charles Richet was clearly allied to the old diathesis, and could give a clue to many problems in clinical medicine. In treatment clinical observation must be the final court of appeal. If the inherent vitality of some individuals, and even of some races, such as the Hebrew, were forgotten, a physician might be led to give a gloomy prognosis, and so provide triumphs for the faith and spiritual healers. The proposed adoption of the German ideal—namely, of teachers of clinical medicine debarred all private practice—would lead to a limited outlook. Such a scheme was not likely to produce such good practitioners as the present British plan. The object of medical education was not to pass students through examinations, but to prepare them to be useful practitioners. The teacher must be human and sympathetic, not looking upon patients as mere cases. Dr. T. R. Bradshaw spoke of the practical difficulties of

putting all a student's clinical training into two years; it was far too short a time in which to cram all that had to be acquired. Sydenham's idea of the constitution of fevers was an example of empirical ideas which had not proved to be of value.

MANCHESTER MEDICAL SOCIETY.

AT a meeting on November 5th, Dr. HEYWOOD in the chair, Dr. DONALD CORE, in a paper on *Clinical types of early mitral stenosis*, pointed out the possibility of auricular fibrillation and pulmonary infarction making their appearance without any subjective symptoms of hyposystole having attracted attention. In one group of cases of mitral stenosis the dominant symptom was wasting, and in another functional nervous manifestation. A double second sound was an important factor in the diagnosis and prognosis of mitral stenosis. Mr. J. MORLEY, in a paper on *Spinal anaesthesia*, expressed the belief that it should receive renewed attention in the light of Crile's views on shockless operations. It afforded the only sure means of cutting off all the afferent traumatic stimuli from the lower half of the body under operation, and of avoiding all tendency to nerve shock. In an experience of 66 cases operated upon under stovaine and glucose at the Ancoats Hospital during the past year it was found that a preliminary injection of morphine and scopolamine largely overcame the disadvantage that the patient retained consciousness, and might be nervous. Spinal anasthesia was suitable for routine use in all operations on the lower limbs, for haemorrhoids and other perineal conditions, for operations on the bladder and urethra, and for inguinal and femoral hernia. For operations in the pelvis there was the drawback that the Trendelenburg position could not be used. It was also excellent for appendicectomy and exploration of the lower abdomen, but was not advised for gastric operations necessitating the use of clamps. In acute peritonitis and acute intestinal obstruction it had the advantage over general anaesthesia in that there was less tendency to post-operative intestinal paralysis. In 19 operations on children the method was found satisfactory. Patients who had experienced operations under both general and spinal anaesthesia usually preferred the latter.

MANCHESTER PATHOLOGICAL SOCIETY.

AT a meeting on November 12th Dr. BROWN reported a case of *Thrombosis of the inferior mesenteric artery* in a middle-aged man. The clinical picture was one of severe colitis; *post mortem* marked atheromatous changes were found in the abdominal aorta, and a clot spread from the renal arteries to its bifurcation. The mucous membrane of the colon descendens was black and gangrenous. Dr. E. M. BROCKBANK demonstrated some slides of red blood cells in support of his belief that the erythrocyte is a bladder with an enclosing membrane of double layer, inside which lie platelets, and an unknown body which holds haemoglobin in solution. Professor A. E. BOYCOTT, in an address on *Hypertrophy and reserve force*, put forward in explanation of the latter the theory of fractional activity—for instance, nerve and muscle fibres.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on November 7th, Dr. T. WARDROP GRIFFITH presiding, Dr. J. GORDON SHARP, in a paper on the *Vital principles of foodstuffs*, said he thought there might be something in Funk's statement that he had discovered a pyramidine-like body which was related to thymine. This body was named "vitamine." He was opposed to feeding children on dried or otherwise preserved milks, and thought it was necessary also to guard against the use of foods which had been chilled or frozen for long periods. As remedies in the treatment of malnutrition, lecithins, glycerophosphates, and the nucleins were of little avail, but the crude foodstuffs (such as a mixture of eggs, fat bone-marrow, and malt extract) did good. Fats had an important action in preventing and curing scurvy, rickets, and marasmus. Dr. A. E. LITTLE read notes on a case of *Paratyphoid fever* in a man aged 38, in which a short relapse occurred after the temperature had come down to normal at the end of about four weeks. The case was notified as continued fever on account of the character of the temperature, which came down gradually for four weeks before reaching normal, when there was a relapse, with a rise of temperature for a few days. In the early stage of the illness there was nausea and vomiting occasionally, but no diarrhoea, and the duration of the rose-coloured spots was shorter than in typhoid. The diagnosis of paratyphoid fever must be made by the agglutination reaction. The following were among the exhibits:—Mr. R. LAWFORD KNAGGS: A case of intractable *Vesico-vaginal fistula* following parturition, in which the left ureter was implanted into the rectum by a sacral operation, the right kidney being subsequently removed. The patient had remained well for some four years and a half, but eventually returned to hospital suffering from prolapse of the upper and anterior walls of the bladder through the vesico-vaginal opening. Mr. J. A. COUPLAND: (1) A specimen of tuberculous stricture of the ileo-caecal valve, which had produced acute intestinal obstruction. It was treated by excision of the caecum, ascending colon, and a portion of the ileum, and end-to-end anastomosis, with a satisfactory result. (2) A *Cystic appendix* which had become adherent to the sigmoid flexure, and had given rise to strangulation of a loop of small intestine. Mr. J. F. DOBSON showed a case of *Ankylosis of both hip-joints* in the flexed position, following acute suppurative arthritis. A subtrochanteric osteotomy was performed on the left side; on the right side arthroplasty was performed on the lines laid down by Dr. Murphy, with an extremely satisfactory result. Mr. ALEXANDER D. SHARP showed a case of pharyngeal tuberculosis in a woman, aged 34, confined chiefly to the right half of the pharynx. Agonizing pain on swallowing was relieved by local application of pure lactic acid every third day.

ULSTER MEDICAL SOCIETY.

AT a meeting on October 30th, Mr. A. B. MITCHELL, in a presidential address, dealt with *Incapacity following injury*. All would agree, he thought, that since the passing of the Workmen's Compensation Act, convalescence after injury had been longer than formerly. Medical men must hold themselves responsible not only for the employment of the best and most advanced treatment, but also for the prevention of abuse and of the exploitation of the profession. In regard to abuse, he related some cases in which the patients had expressed surprise that they had been allowed to go on as far as they had. He also showed lantern pictures of maimed hands, whose owners nevertheless retained full wage-earning capacity—sometimes in highly skilled work—and drew a contrast between such cases and those in which the loss of part of a finger was pleaded a cause of permanent inability for work. Such cases showed how much care a medical man should take before deciding to certify that a patient was hopelessly deprived of all wage-earning capacity. The use of the Roentgen rays possessed by philanthropic institutions should not be exploited by rich companies in gaining evidence, and cases of supposed fractures should be *x* rayed from several different positions. The importance of the latter precaution was illustrated on the screen.

BRITISH OTO-LARYNGOLOGICAL SOCIETY.

AT a meeting on October 29th, Dr. WALTON BROWNE (Belfast) in the chair, Dr. H. D. MCCULLOCH, in a paper on the therapeutics of *Radio-active agencies in disease*, with special reference to the cure of chronic nerve deafness and deaf-mutism, stated that since the date of his original statements on this subject a good deal of corroborative evidence had accumulated abroad. He also mentioned his gratifying experience in a typical case of Monière's vertigo, and he drew special attention to the promise of success held out by the application of radio active agents in preventing deaf-mutism, the notes of one case being given. The paper was concluded by a tabulated list of 64 cases of deafness which had been treated by him. Dr. WALTON BROWNE mentioned a case of *Otosclerosis*, reported at the recent International Otological Congress, as having markedly benefited by radium. In

that case the improvement had been maintained. Dr. Coubro Potter pointed out the desirability of further clinical evidence being supplied to support the claims of improvement by this treatment. Mr. Adair Dighton said he could not understand how any one method could be expected to cure such diverse conditions as had been described by Dr. McCulloch, and strongly objected to the statement that this treatment "promised to be a boon in the prevention of deaf-mutism," as this was not only misleading, but on the fact of things impossible. He objected also to the loose way in which the terms "acquired deaf-mute," "chronic deaf-mute," etc., had been used, both being unknown conditions. Dr. Walker Wood stated that he had seen four cases of Dr. McCulloch's and tested them before and after three months' treatment, and, though the hearing had not much improved, still there was an improvement. Mr. Charles Heath gave a demonstration of methods of draining suppurating ears. In its course he pointed out (and illustrated his statement by moist specimens, diagrams, and patients) that when discharge escaped through a perforation in Shrapnell's membrane, the change of route was due to the fact that the channel leading down to the tympanum inside the incus was obstructed by swelling of the mucosa of the inner attic wall, and that if the parts outside the incus (including Prussac's space and Shrapnell's membrane) were not unduly weak and capable of being perforated by the pressure of the pus, complete obstruction and acute mastoiditis would result. One of the patients he exhibited had three weeks previously undergone a conservative mastoid operation for so-called attic suppuration. The disease had existed for two years; there was a perforation in Shrapnell's membrane with a polypus projecting through it: there were deafness to air conduction (a 50-in. watch being inaudible close to the ear), severe pain, and vertigo. Since the operation the pain and vertigo had ceased, and the patient could already hear the watch at 4 in. It was only when discharge from the antrum descended inside the incus that it was able to reach the tympanic cavity and escape thence in the usual way through a perforation in the membrana tensa. If the case he had exhibited had been one of epitympanic or attic disease, as the books erroneously state, his operation upon the mastoid antrum alone would not have given such complete relief as has been afforded. The result proved that the disease was in the antrum, and, further, it was observed to be there during the operation. Other cases of this kind had been recorded by the speaker in the *Lancet* of April, 1907.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

At a meeting held on November 4th, Dr. Jane Walker President, in the chair, a discussion on the work of *Medical women in the public health service* was introduced by Dr. Elizabeth Moffatt, who gave her impressions of five years' medical inspection in a country area (Staffordshire). She found that only 20 per cent. of the children suffered from ailments requiring notification; that the mothers as a whole were careful and devoted; that the teachers were interested in their charges; and that as a rule mothers in urban districts showed more intelligent interest than those in rural districts. There was urgent need, she thought, for the establishment of school clinics, and the school medical officer should be an educationalist and psychologist as well as a doctor. The position of medical inspectors was unsatisfactory in many ways, and a union of school medical inspectors should be formed. Dr. Muriel Bywaters gave an account of public health, school medical, and tuberculosis work in Eastbourne, where she had been an assistant to the medical officer of health for the past eighteen months. The town possessed an efficient school treatment centre, at which dental work, ophthalmic work, and minor operative work were carried out, and there was a school for sixty mentally deficient children; in addition, a "ringworm school" had recently been established. Since the speaker's appointment as tuberculosis officer in November, 1912, 177 patients had been dealt with, and a hospital containing twenty beds was about to be erected. The tuberculosis scheme had at first met with much opposition on the part of local practitioners, but the latter were now acting in harmony with the public health department. Dr. Sophia Seekings, in speaking of the duties of a medical officer of health with which a woman can particularly deal, said that while occupying the position of acting medical officer of health for Tottenham she had met with no insuperable difficulties. Women were specially suited for the investigation of infantile mortality, the supervision of women sanitary inspectors, and the inspection of school children. The President reported that she had been credibly informed that dental treatment was to be made ancillary under the Insurance Act. Dr. Zillah Scruby said that Buckinghamshire was the only county area in which dental clinics had been established over the entire county, every school being contributory. School treatment should be largely preventive in nature and should begin in the infant schools. Dr. Sophia Jevons pointed out that special difficulties attached to school treatment centres in London. Dr. Hilda Clark, in an account of work done by her as tuberculosis medical officer for Portsmouth, advocated centralization of health visiting in order to prevent troublesome overlapping. Dr. Letitia Fairfield considered that the feeding of school children should be more under the control of the school medical officer. Persuasion should be used with parents, and compulsion never used.

Reviews.

MEDICINE IN THE SCHOOL.

In *School Clinics at Home and Abroad*[1] Dr. Lewis Cruickshank has written a thoroughly good book, and one that should be read and studied by every one interested in the child-life of the country, whether he be a doctor in private practice, a member of a hospital staff, or of a public service; and also by the whole army of social and educational workers who are active in the interests of the younger generation. The book begins by a statement of the case for the medical treatment of school children. This is put in a commendably brief but sufficient fashion, for at this date there can be few who are not fully alive to the necessity and importance of the care of the child. Next there follows a chapter on the legal aspects of the treatment problem. Therein will be found references to and brief summaries of the various Acts of Parliament that give authority and direction for the care of the children, and also of such circulars issued by the Education Department as have a governing effect on the administration of those enactments. The Acts and circulars should be known to all those who take a share in this work. The third chapter is devoted to a well balanced argument of the advantages and disadvantages found in arranging for the necessary treatment through the variety of agencies at our disposal — treatment by private practitioners; through charitable hospitals and dispensaries; by means of "children's clubs"; the effects of the National Insurance Act upon the treatment of the child; and lastly, the work and development of the school clinic as a separate institution developed for the special use of the children by the local education authorities. The question dealt with in this chapter is one that is a matter of current medical politics, and views as to the best means of effectively carrying out the work are apt to be coloured by the positions held by the members of our medical community. The private doctor holds that he is in touch with the home life of the child, and is therefore the better able to cope with its necessities. The public service man looks to a well-ordered scheme of municipal service, so that the care of the health of the child may be effectively co-ordinated with the whole scheme of education. Dr. Cruickshank deals very justly with the situation. He points out that many of the children's complaints are of a chronic sort, requiring daily treatment, while others are of a special sort not usually dealt with by the home doctor, whilst the dental requirements are of such a sort that no scheme of private treatment could cope with it. The position of the hospitals in the treatment scheme is equally well considered; it is shown that the mass of necessary treatment required on

[1] *School Clinics at Home and Abroad.* By Lewis D. Cruickshank, M.D., D.P.H., Medical Officer and Inspector of Physical Education, Scotch Education Department; with an Introduction by W. Leslie Mackenzie, Medical Member of the Local Government Board for Scotland. London: The National League for Physical Education and Improvement. 1913. (Med. 8vo, pp. 171; 21 illustrations. 2s. 6d. net.)

medical inspection is such that no voluntary hospital can hope to cope with it, and this fact has been demonstrated by the growing tendency of hospital authorities to refuse facilities for the routine treatment of school children, as such, as part of the ordinary work of their institutions. The advantages and disadvantages of the school clinic—that is, of a dispensary worked by the educational authority—are set out in a series of propositions which may well be quoted: (*a*) The clinic provides appropriate methods of treatment not otherwise normally adequate to the demands; (*b*) it provides treatment for cases that would otherwise never be treated; (*c*) it provides more continuous treatment, and gives greater individual attention; (*d*) it may provide for the dental treatment of all children; (*e*) it provides the best means for reinspection of treated cases. Under "administrative advantages" are: (*a*) The clinic facilitates treatment without delay, without long journeys, and without long waiting; (*b*) it ensures a minimum of leakage between inspection and treatment; (*c*) it facilitates control and regularity of attendance; (*d*) medical inspection without adequate treatment diminishes school attendance, with treatment it actually increases attendance; (*e*) the clinic secures public control of treatment, and the assistance of voluntary workers with full local knowledge. Under the heading of "Social Advantages" are given: (*a*) The clinic establishes a more vital connexion on the part of the local authority with the whole movement of education; (*b*) it serves to build up intimate relations and personal knowledge amongst parents, teachers, doctors, and children; (*c*) it makes possible the scientific study of the life-history of the children, and ultimately of the community; (*d*) it gives less trouble to the parent, while it presents the physical well-being of the child as of interest not only to the child and the parent, but also the State; (*e*) when fully organized, and in effective operation, parents will be encouraged to refrain from the indiscriminate use of charity and from the abuse of hospitals; (*f*) the school clinic as part of the machinery of an educational authority may be made to serve an excellent purpose as an educational institution on matters of hygienic living. These advantages are briefly discussed, and there can be little doubt that they "make good." Against this array the disadvantages are few, and speculative. In the words of Dr. Rennet, of Chester, "it is argued that school clinics tend to lessen the sense of parental responsibility, but in actual practice it has not turned out to be so. On the contrary, by drawing attention to unsuspected, but significant, slight defects, the parental responsibility has been increased rather than diminished." The bulk of the book deals with concrete instances of the working of school clinics. Much is said of the district in which the author has worked, and there are excellent photographs of the work in progress. Methods employed elsewhere are noticed, and the splendid work of the Strassburg Municipal Dental Clinic receives fitting illustration. The book is no mere summary of educational reports: it is eminently readable.

The first edition of the *Manual of School Hygiene*[2] appeared in 1901. Since that date much water has run under the educational bridge, and many things pertaining to schools and scholars that were but dimly realized then have now become established fact. The new and revised edition does not quite satisfactorily sum up the improved condition of affairs; indeed, in some matters it is an unsatisfactory guide to the would-be student of school hygiene. In particular the inquirer on any special point of difficulty is likely to find that, whilst there is a good general statement of affairs, details are wanting. This is in part due to the large amount of space devoted to general physiology. Six new chapters thereon have been added by Professor Sherrington, and, whilst the manner of its treatment is all that could be desired, it does not advance the book in regard to its special object—"school hygiene." It is excellent general physiology, but the reader might well ask for it in a separate handbook on elementary physiology, and this would have rendered it possible to meet his more immediate wants as a searcher on school matters in a more detailed manner. The book opens with a chapter on "the site and the soil" of the school, but the site so far as the aspect of the building is concerned is not treated of. The chapter on buildings is spoiled by its illustrations. The lavatory plans are not satisfactory for school purposes, or indeed any public building for the use of all and sundry. The fittings would be a constant source of worry to the school managers, and of joy to the plumber, for all the waste-pipes seem to lead directly into the traps, so that any foreign matter inserted by mischievous youngsters would effectively stop them until relieved by the plumber. It would be hard to find a modern city school where waste-pipes do not fall into an open gully set in the floor concrete; the interception is not only clean and protective against mischief, but it is cheaper to provide. There follow several sheet plans of a "large board school"; the term "board school" and the character of the plans would suggest that they dated from 1870, for the plans seem to reproduce features fashionable when these schools were first set up. The provision of a plunge-bath in the basement, and science rooms above, belies that supposition. The authors in the text suggest that the maximum number of pupils a teacher can satisfactorily deal with is 30. Well and good. But these plans provide several rooms for 90 children each, with divisible rooms for 100, and even 152 children. Again, the plans of these 90-place rooms are such that at least half the children would be seated with their backs to the only effective window light. Many such schools have been built in the past, and the authorities responsible for them have been at enormous cost to remedy their defects. Again, the authors indicate the necessity for sufficient provision of halls in the schools, but in these plans there is only one hall, and the second floor rooms open on to a gallery running round its walls. Such a manner of building is costly and wasteful of space. Much work has been done of recent years on the effective artificial lighting of schools, and definite data have been provided for the guidance of school authorities; similarly the British Association has elaborated a standard for the printing of school books, but on both these points there has been a failure to use valuable information available. The general plan of the work is good, the descriptions of the common disorders of children well and clearly written, and the guidance proffered concerning clothing, games, and cleanliness thoroughly satisfactory. But even in these parts there is lacking a definiteness that will leave the reader, or much more one who turns to the book for specific guidance, unsatisfied. For example, under the "Care of the Teeth," the short paragraph tells of the dangers of decay, the indifference of parents, the value of the school dentist, and ends: "It is important that children should be taught the proper use of the tooth-brush and the importance of cleansing the teeth." But we search in vain for details that would guide the teacher in instructing his flock; yet good schemes have been worked out, and are in actual practice. The work might be so good that we hope the authors will soon be able to remedy these matters.

The Psychology of Educational Administration[3] is a most portentous education squib. It is so long that it almost fails to go off. Perhaps it would be better likened to a prodigious cracker the which, by its everlasting fizzing and banging, effectually deafens the ear to more serious sounds; or maybe the powder of the thing is damped by a relative antiquity, for the "Holmes Circular," which is the ostensible cause of the production, and is not omitted even when the author turns to other things, has long gone to the dustbin of forgotten indiscretions. The author is a veritable Don Quixote out to tilt against every one and every office. There is none good, no, not one; they are all filled with the lust of their own egoism—that is the perpetual cry of the writer. In small doses it would be funny, and, taken between the ingestion of serious matter, it is capable of raising broadsides of inextinguishable laughter. There is no class that is not pilloried, and the medical profession does not escape; only we think that with his freedom of pen and biting sarcasm the author could have gone one better than to quote at length from a play by Bernard Shaw; he has not done himself justice. Yet there are occasional gleams of

[2] *A Manual of School Hygiene.* By Edward W. Hope, M.D., Professor of Hygiene; Edgar A. Browne, F.R.C.S.E., Lecturer in Ophthalmology; and Professor C. S. Sherrington, M.D., Professor of Physiology, all of the University of Liverpool. New and revised edition. Cambridge: University Press. 1913. (Cr. 8vo, pp. 524; 22 figures, 4 plans. 4s. 6d.)

[3] *The Psychology of Educational Administration and Criticism: a Sequel to the "Holmes Circular."* By F. H. Hayward, D.Litt., M.A., B.Sc., with a preface by John Adams, LL.D., Professor of Education in the University of London. London: R. Holland and Co. 1912. (Cr. 8vo, pp. 608. 7s. 6d. net.)

surprising good sense in his writing, for at the end of the indictment of our profession there is written, "The doctor has invaded the school. Teachers should beware. Unless they have something better to oppose to the invader than tradition, experience, and the like, they will rapidly find him usurping scholastic functions. School hours, school methods, even the personal efficiency of this teacher or that, will come, directly or indirectly, under his survey. Already medical men—to their credit be it said—take a deeper interest in the child study than the majority of teachers." The author has a fluent pen, and must have thoroughly enjoyed his work, so there is good to some one.

There can be little doubt that the systematic physical training of school children has reached a higher stage of development in America than in this country, where for the most part school drill is often carried out in a perfunctory and apologetic fashion, suggesting that it is done as part of the day's routine, as a concession to a passing craze, rather than something more vital to the child's welfare than all the subjects of the elementary school curriculum put together. For this reason Miss Bancroft's book on *The Posture of School Children*[4] ought to be in the hands of every elementary school teacher. It is not only a useful collation of the opinions of the best authorities on this important subject, but contains much founded on the practical experience of the author. It is obvious that a knowledge not only of physiology but of psychology is essential to the teacher if the methods of postural correction are to be of service; the possession of infinite patience, coupled with enthusiasm for the work, is no less important. The standard which the author has set to be aimed at is reached by what she terms "efficiency methods," and the standardization of posture is obtained by what is known as "the triple test," comprising the standing or vertical line test, the marching test, and the exercise test. This is followed by individual and class "rating," and finally by class records which, posted up in a monthly bulletin, give the results of individual progress. The importance of the method lies in the fact that it substitutes motive in the pupil for nagging on the part of the teacher. In this way the child's pride and ambition are stimulated. One of the author's methods of posture drill may be strongly commended. The child having been brought to assume the correct position and to appreciate what it is, is told to relax and, after a brief period, to resume the correct attitude, at the word of command. This little drill is repeated several times in rapid succession. In this way the child's muscular sense becomes educated as to what is correct and incorrect posture. But the results of this method of training children in postural efficiency are not confined to an improvement in their physical wellbeing, for the reflex effect of attitude upon character is well known. The book is copiously illustrated, and if the methods the author advocates so enthusiastically were adopted in every elementary school in the country we should in time see fewer of those poor little stunted creatures who are such a travesty of all that a child was meant to be.

TREATMENT OF GASTRIC DISEASE.

While in pathology and diagnosis medicine is very cosmopolitan, in treatment there are distinct differences in method which do not readily pass the national frontiers. This rule is illustrated by such a book as Dr. Pron's *Thérapeutique clinique des maladies de l'estomac*,[5] wherein, though we may agree with the general principles upon which it is based, we find differences in detail from the practice followed in this country. Each nation has its own notions about diet and drugs, and in the one case as in the other it is not free from risk to make use of foreign methods. With this qualification we have no hesitation in stating that Dr. Pron's book is a sensible, sound, and useful account of the treatment of diseases of the stomach, and we heartily agree with him when he says that treatment should not be restricted to supplementing the defective digestive ferments and juices. The derangements of the chemistry of digestion occupy only a subordinate position in gastric pathology, for stomach diseases are dependent much more upon unfavourable general surroundings than on primary defects of the gastric and intestinal secretions. Moreover, while digestive troubles arising from disorders originating in the digestive organs are not the most common or the hardest to cure, the majority of cases of dyspepsia are due to general conditions and mode of life which are less amenable to treatment and beyond the control of the physician. Dr. Pron lays proper stress on the evidence that fatigue and mental or bodily shock and pain diminish the secretion of gastric juice, and that spasm of the pylorus may be determined by a variety of nervous accidents. The vast majority of women seen in the out-patient departments of hospitals who complain of digestive troubles are of this type, and to make treatment successful it is necessary to modify the general conditions of their lives; we cannot hope to obtain good results by merely dosing them with stomachics. It is interesting to note that, like most modern writers on diet and digestion, the author is a convert to the principle of a relatively low protein regimen. He fixes this at about 1 gram per kilogram of body weight, and points out that experience has sufficiently proved there is no reason for fearing, in thus dieting our patients, that they will get too small a proportion of protein food. Another point in which the author shows his common sense is in warning against the abuse of exercise in a class of whom many stand more in need of rest than of additional bodily exertion.

In his book on *Diseases of the Stomach*[6] Dr. G. R. Lockwood claims to give the results of his personal observations and careful study of his private and hospital records of cases collected in the course of many years of practice in this special field. He has certainly succeeded in giving a full account of his subject, especially from the standpoint of pathology and diagnosis; he has carefully compiled the statistics from various sources on most subjects, and has usefully reprinted these tables. In these days illustration is so cheap that it is apt to be overdone, and it can hardly be said to be necessary for the elucidation of this text to give so many reproductions of photographs of jars and beakers containing gastric contents, or the numerous neat little diagrams or "pain charts" to show the time of day at which the attacks of pain occur. Unlike most modern authors, he dispenses with any account of the anatomy and physiology of the organs under consideration, for which we thank him, but he has also omitted all description of modern methods of clinical examination of the stomach and its functions, which is perhaps hardly convenient in a book where reference to their results must constantly be made. To make an end of our grumbles, the book, although possessing an English publisher, was printed in America, and contains a good many misspellings or misprints. In a work which claims to be based upon personal observation it is inevitable to meet with many points of detail in which the author's views are not in harmony with those generally received, but these are of minor importance, and on the whole Dr. Lockwood has given a very full and careful account of diseases of the stomach. He is obviously one of the newer school, accepting the teaching of the operating surgeon as conclusive on many points where their opinions are hard to reconcile with the clinical experience of physicians. Thus he states that "recurring epigastralgia of a purely functional nature does not occur," and this dictum he prints in italics, although it is inconsistent with the experience not only of most physicians in their practice, but of at least some physicians in their own persons, who are able to state positively that there was neither organic disease of the stomach, gall bladder, nor appendix. He accepts the view that hunger pain is always significant of ulcer, but he does not agree with Moynihan that it is possible by this to differentiate duodenal from gastric ulcer. In speaking of the results of the medical treatment of cases of ulcer he complains that the patients stay in hospital only just as long as they suffer pain. This is at variance with our experience; these patients do not suffer pain for more than a day or

[4] *The Posture of School Children*. By Jessie H. Bancroft, Assistant Director of Physical Training, Public Schools, New York City. New York: The Macmillan Company. 1913. (Demy 8vo, pp. 340; 108 figures, 27 plates.)

[5] *Thérapeutique clinique des maladies de l'estomac et des symptômes associés*. Par L. Pron. Paris: Maloine. 1914. (Med. 8vo, pp. 274. 6 francs.)

[6] *Diseases of the Stomach, including Dietetic and Medicinal Treatment*. By George R. Lockwood, M.D. London: H. K. Lewis. 1913. (Med. 8vo, pp. 630; 15 plates, 126 engravings. 25s. net.)

two at most after they have been put to bed, but they are willing to remain until they are discharged. The relapse is, we believe, due more to want of care in dieting themselves after they leave hospital than to premature discharge. The author shows from statistics that the results of surgical treatment in ulcer of the stomach are not so uniformly successful as some surgeons would claim, and it must not be forgotten that 8 or 10 per cent. die directly from the operation; in the hands of a few specially skilful surgeons this mortality may be reduced, but of those who recover from the operation the number in whom a permanent cure cannot be claimed varies with the operator, and is from 8 to 25 per cent. In the treatment of gastroptosis Dr. Lockwood advises the application of strapping according to a plan which seems indistinguishable from that originally devised by Glénard; the diagram illustrating it seems to be identical, yet this is called "Rose's belt"; elsewhere he describes the method of putting on a Priessnitz bandage, but not exactly as prescribed by its originator, and the modification is a doubtful improvement.

NOTES ON BOOKS.

VERY greatly increased attention has been given to fleas as well as to other insects since the part such creatures play in the spread of disease has been so clearly demonstrated. It is fitting, therefore, that one of the Cambridge manuals should be devoted to this ubiquitous insect.[7] Mr. RUSSELL, in the pages of his book on *The Flea*, treats the subject popularly, avoiding whenever possible technical zoological terms, though if these have had to be used they are clearly explained. A very good account of the life-history of the human and some of the animal fleas is given, and the part these insects play in the dissemination of plague is also suitably discussed. The little manual should be found useful.

"M. OSTON, M.D." has written a bright, readable, if not very exciting, story of student life in Edinburgh in the late eighties or early nineties of the last century. Several of the personalities in university circles at that time are painted so as to be easily recognizable by any one who knew the "auld grey toun" in these years: and some characteristic tales, not the most daring ones, are told of their idiosyncrasies, especially when in the examination hall. The Edinburgh landladies, and especially a certain Mrs. Choice-Jones, with an amazing vocabulary of new-created words, are amusingly portrayed. The story, which has the title, *Born in Blinkers*,[8] concerns three youths studying medicine; two of them propose, each in his own way, to the sister of the third, and she makes her choice in the old-fashioned manner. There is nothing "modern" about the story any more than there is anything "militant" about the maiden, and all ends happily. Elsa, the heroine, is delightful: and Rayner, the hero, goes along all right when he gets his "blinkers" off.

MOTOR CARS FOR MEDICAL MEN.

MOTOR CAR INSURANCE.

IN reference to a case recorded at page 1101 of our issue for October 25th, in which the underwriters of a policy refused payment on the ground that the damage incurred was due not to an accident but to a mechanical breakdown, a member suggests that the plaintiff must have been unaware of the advantages offered by the Medical Insurance Agency, established by a committee of members of the British Medical Association and the owners of the *Lancet* conjointly. Had he been aware of these advantages and availed himself of them, his claims for damages would probably never have been refused on such grounds as those indicated, and he would certainly not have had to run a risk of having to bring separate actions against five different individuals. The Medical Insurance Agency has made arrangements with several insurance companies for the issue of policies covering every form of accident to cars or their owners, or to third parties, incurred by the use of motor vehicles. These policies are specially suited to the needs of medical men, and can be obtained through the committee by members of the Association at a reduced rate. The secretary and agent of the Agency is Mr. Guy Elliston, 429, Strand.

[7] *The Flea*. By Harold Russell, B.A., F.Z.S., M.B.O.U. Cambridge: The University Press. London: H. K. Lewis. 1913. (Fcap. 8vo, pp. 132. 1s. net.)

[8] *Born in Blinkers: A Romance of Edinburgh University*. By M. Oston, M.D. London: Murray and Evenden. 1913. (Cr. 8vo, pp. 351. 6s.)

THE CYCLECAR AND LIGHT CAR SHOW.

SITUATION REVIEWED FROM THE MEDICAL MAN'S POINT OF VIEW.

By H. MASSAC BUIST.

THERE opens at Olympia, Kensington, on Monday next the second show promoted by the Cycle and Motor Cycle Manufacturers and Traders' Union at which the form of vehicle currently styled the cyclecar constitutes perhaps the chief novelty among the exhibits. A year ago it was needful to point out that, interesting as was the display as regards the mere matter of design, its value as an appeal to the medical man was concerned, was extremely limited by reason of the fact that comparatively few of the types of machines submitted had gone through adequate testing by use on the road. To give the cyclecar its due one must say, on the one hand, that during the past season various examples have put up such performances as 20,000 miles in twelve months, the accomplishment of the journey from John O'Groats to Land's End in thirty-four hours thirty-nine minutes, a petrol consumption test of eighty-seven miles to the gallon, and a run on the track at Brooklands for an hour, during which period seventy-two and a half miles were traversed. Of course, no one machine has done all these things. These are, instead, examples of what has been done in various directions by vehicles, some of them specially built for the particular performances in question, as distinct from standard machines. On the other hand, no light car reliability trials—and this is the thing that alone matters to the medical man—have been organized on any large scale by any of the big car organizations in which the machines, considered in the bulk, have figured in at all a striking fashion, such, for example, as would have called for wide notice in the general press.

WHAT HAS LED TO DISSATISFACTION.

The cyclecar, or light car movement, as it is now being alternatively styled, has yet to do things in reliability trials worthy of prominence in the world's press as distinct from that small section which is solely interested in making all its geese appear swans. True, there have been reliability trials of sorts in England and Scotland. Quite a lot of ado was made in the cyclecar organs of only a week or two ago, for example, of a one-day reliability trial wherein only 10 per cent. of the starters fell out of the running. We are supposed to consider that a wonderful thing. But, if we look at the matter from the mathematician's point of view, we come quickly to the surprising conclusion that if they had carried the test to ten days—which would be by no means too long for a real trial of reliability—at that rate there would have been exactly no finishers on the tenth day's run out of thirty starters on the first day! It is things like this that require to be brought to the notice of the medical man, who has no use for a machine, no matter how cheap, if it affords only a sporting chance of quite nine and a half days' service before it breaks down. He must have a vehicle that will be available month after month all the year round. This plain speaking is necessary, too, to get this new branch of the industry away from those who would adopt hothouse methods of cultivating it. It is essential that cyclecar producers should come into the open and engage in the severest possible forms of reliability trials, no matter what weaknesses they may reveal, because that is the only means of putting the new industry on a solid basis by making it serviceable to the public. The motor engineering genius of the country, like the manufacturing one, is fully equal to the task of solving the problem once the causes of failure have been exactly, therefore scientifically, determined through process of trial and failure. As it is, it is being said in general terms to-day all over the country that, as the result of a season's service in the hands of the public before the vehicles had been adequately tried by the manufacturers, the cyclecar movement is dead.

HOW THE SATISFYING VEHICLE WILL BE EVOLVED.

That, however, is quite wrong. No movement that has its cause of being in a widespread and permanent demand

on the part of the public can be killed by any one season, or any series of seasons of failure on the part of manufacturers to produce the required article. It will be within the recollection of most that the motor bicycle movement went through precisely the same phase. Early in the century, particularly on the part of foreign manufacturers, it came on for a spell faster than the car movement spread. Then there was a sudden collapse because the goods had proved unsatisfactory so repeatedly that the public had lost its confidence to purchase; and we were told the motor cycle movement was dead. So, indeed, it appeared for a time. But during that spell some wise men in Coventry in charge of the Triumph Cycle Company considered the causes of general failure and arrived at a simple solution. They decided that the thing to do was to experiment quietly in the design and building of a machine which should be good enough for themselves to use daily to take them to and from their business and for week-ends. When they had got the design right, and the right material for each part, they merely standardized the vehicle. The whole of the motor cycle movement as a permanent development dates from that clear-thinking method of attacking the problem. So it must be with what we are styling the cyclecar movement. The manufacturers must not shun ordeals to test reliability, but must go on experimenting and building machines that are good enough for themselves to use at all times the year round in any part of the country. When they have got the design and materials right there will be an even bigger boom in cyclecar production than there has been in the motor cycle industry. Of the future of the four-wheeled light road vehicle with two driven wheels there can be no manner of doubt. In the meantime, the most urgent duty is to insist that the medical man must approach with the utmost caution the proposal to acquire a cyclecar. Happily this year many machines have been very considerably improved as the result of twelve months' more experience by the manufacturers, including many months in the hands of the public.

What the Purchaser Should Seek.

The cyclecar starts with many advantages from the manufacturing point of view. In the first place, it must be standardized to the last detail; therefore, if the design and materials are right, the producer has every opportunity of giving the best value for money, because the public demanding this particular type of vehicle will accept standardization down to the colour schemes, just as it will when buying a bicycle. Cyclecars are practically all marketed with lamps and every form of equipment that is an essential before the machine can be taken on the road. While very appreciable improvement is observable in many directions in the matter of detail—improvement as the result of a year's development—the reason that greater progress has not been made is that manufacturers have gone in quest of the wrong form of competition, aiming at shining at hill-climbing for a given engine size, doing extraordinarily economical fuel consumptions, very fast speeds along the flat and so forth. Now the cyclecar starts as so light a machine that it really matters practically nothing at the moment if it is comparatively extravagant of fuel. It is so light, too, that at present it does not matter particularly whether it is exceptionally or only ordinarily efficient as a hill-climber as judged by the time factor. But it is essential to the medical man to know that, whether he wants to go uphill or downhill, or along the level, and though other folk on other machines may pass him on any of those occasions, that his vehicle will get him there every time without mechanical failure *en route*.

How Cyclecars have been Improved.

Perhaps the first improvement one notices as a general rule in cyclecar development this year is that water cooling of engines is on the increase; this should considerably enhance performances under the heading of reliability by preventing overheating troubles, which have been of comparatively frequent occurrence during the past season. There has likewise been a great increase in the exploitation of four-cylinder engines, which means that the power is furnished with a very much more even turning movement than with a two-cylinder type, ensuring a saving of mechanical wear and tear, including tyre bills, as well as a gain in luxury of performance. The vertical engine is, of course, practically universal in the case of four-cylinder machines. It is almost extraordinary to observe the extent to which motor car development is being reproduced in cyclecar design, as, for example, in the furnishing of particularly flexible joints between clutch and gearbox to isolate those details of the mechanism from the effects of frame flexion. Reliability, too, is being ensured by furnishing wider teeth and more ample bearing surfaces in the gearboxes, so that in the main there is some tendency for the weight of the cyclecar to be increased. But when it has its cause in such developments as these, it is to be praised. When a four-cylinder engine is employed, there has occasionally been some increase in power, while many of the two-cylinder machines have been made more powerful, for hitherto they have not been quite up to their work. In such cases as the Humber, in which the water-cooled two-cylinder model is now available by reason of such cooling, it is possible to increase the compression employed, and therefore to get more power out of the machine.

Gear versus Friction Power Transmission.

This question of not overtaxing the motors is further studied by furnishing gears that are lower than those formerly employed. It is a particularly praiseworthy development in face of the fact that, while theoretically the four-speed gearbox is desirable, the dictates of the price factor determine that it cannot be employed, therefore machines must be produced which will work with three-speed gearboxes without overstraining. It will be found in general that the cyclecars of 1914 will climb hills in an easier fashion than those of last season. The friction type of drive is not employed in many machines. The cone method is not employed as much as the principle wherein discs are set at right angles to one another. The Continental makers are rather more keen on the friction drive than are the British manufacturers. There is a more pronounced tendency to fit detachable wheels as standard, chiefly of the pressed steel type. Tapered bonnets are on the increase, and bodywork has been improved in two directions—by allowing more width and leg room, and by employing more solid structures to obviate the development of rattling.

FORMATION OF A CENTRAL ASSOCIATION FOR THE CARE OF THE MENTALLY DEFECTIVE.

It was inevitable that in the controversies raised by the Mental Deficiency Act when it was still before Parliament attention should be mainly focussed on the constitution and duties of the new authorities it was proposed to set up, and on the new powers over certain individuals that it was proposed to confer on them.

Now that those controversies have been settled by the passage of the bill into law and there has been leisure to survey the whole field of work in regard to the defective, in order to see how best to carry into practical effect the benefits sought to be conferred by the Act on this unfortunate class of individuals, the matter comes to be seen from a fresh standpoint and in a different perspective.

First, it has to be admitted that the provision of institution accommodation must necessarily be gradual, and that unless the problem be approached cautiously at first there is danger of waste and extravagance. In the next place, it is apparent that the Government grant of £150,000, together with a like sum from local sources, will not go very far in providing institutional care.

Moreover it is realized more clearly now that the compulsory modes of dealing with defectives apply to only a limited proportion of the total number, and that the duties imposed upon the local authorities do not by any means extend to the whole class of defectives. There will remain a large number of such persons who are neither in homes or institutions nor placed under guardianship for whom there will be no provision except through the continuance and multiplication of such voluntary agencies as have in the past befriended the children who have passed through the

special schools or watched the careers and advised the friends of feeble-minded persons struggling to hold a place in the world.

The Home Office in drafting the bill did not lose sight of this aspect of the problem and of the probability that for large numbers of cases not subject to be dealt with under the Act recourse would have to be made to voluntary workers if the whole ground were to be fully covered in a satisfactory manner.

At present the number of so-called after-care associations and care committees is small. They correspond for the most part to the localities in which special schools for defectives have been established under the Defective and Epileptic Children (Education) Act. Whether this Act is to be made compulsory instead of optional, as was proposed by the Government last session, seems now to be extremely doubtful in view of the opposition which would be raised to such a proposal by education authorities, but we have it on the authority of the Home Secretary himself that an amending bill of some sort will be introduced at the earliest possible moment.

In any case there will be a much more widely diffused interest in and need for the supervision of defectives of all kinds and it is expected that new voluntary agencies will be formed all over the country.

In order that work of this kind might be encouraged and assisted provision was made by Section 48 of the Act that

> where a society has undertaken the duty of assisting or supervising defectives whilst not in institutions under this Act, there may be paid to the society out of money provided by Parliament towards the expenses of the society in connexion with such persons such sums and on such conditions as the Secretary of State, with the approval of the Treasury, may recommend.

It is understood to be the intention of the Government to put these powers in operation, provided it is satisfied that the circumstances and conditions are such as to justify it in recommending a grant.

An intimation has reached the National Association for the Feeble-minded that the Board of Control would welcome the formation of some central body representative of the voluntary workers in this field with which the Board could communicate and confer. It seems probable, from precedents in other similar cases, that the Government would be more likely to entrust the administration of a grant under this Section to a central representative body of this kind than to separate local associations.

Steps were accordingly forthwith taken by the National Association to call such a body into being, and on November 15th a meeting was held at Denison House, London, S.W., to which representatives of every body engaged in voluntary philanthropic work for defectives were invited. To this meeting a draft scheme for the formation of a central association for the care of the mentally defective, prepared by a special committee of the National Association, was submitted. Mr. Pollock, K.C., M.P., who took an active part in the Parliamentary Committee which dealt with the bill, presided, and the scheme in its main outlines was adopted with very slight dissent and the association formally constituted.

The association will be built up on county and county borough associations consisting of representatives of all the constituted authorities and voluntary agencies concerned with defectives, medical practitioners, and other individuals specially experienced or interested in the work.

The central council will consist of representatives of the local associations above referred to, and of such separate associations or institutions now engaged in the work as may be deemed to be of such importance as to deserve special consideration, of representatives of subscribers to the association, and of co-opted members.

The objects of the local associations will be to assist in, and supplement the work of, and co-operate with the local authorities for the mentally defective—for example:

1. By undertaking the supervision (after-care) of defective children and adults leaving any schools, homes, or institutions, including State institutions.
2. By assisting in the provision of suitable guardians and visiting defectives under judicial guardianship.
3. By assisting in the boarding out of defectives under schemes approved of by local authorities.
4. By befriending or otherwise assisting defectives not dealt with under the Act.

The work devolving on the central council and its executive will be:

1. To form a representative central body with which the Government can communicate and confer if so desired.
2. To distribute Government and other funds.
3. To organize the work of caring for defectives outside institutions.
4. To stimulate activities for the care and control of defectives.
5. To promote the formation of county and county borough associations.
6. To arouse public interest.

Mr. Leslie Scott, K.C., M.P., has consented to act as chairman of the executive. His intimate knowledge of the Act and its objects, coupled with his personal powers and influence, will be a source of great strength to the council.

It may be well to direct special attention to one or two points in this programme. In the first place, the association proposes to deal only with defectives while outside institutions. These comprise, among others, defectives below school age; defectives of school age but regarded as ineducable by the school authorities; defectives leaving school but not made subject to the Act; defectives removed from institutions where they had been placed at the instance of a parent or guardian; defectives discharged from institutions or approved homes, or defectives of full age who are not subject to be dealt with under the Act—for example, feeble-minded women who may be pregnant but not in need of Poor Law relief, or feeble-minded persons who are giving way to drink without having become habitual inebriates; indeed, all feeble-minded adults it may be possible to save from becoming subject to be dealt with under the Act.

It is intended that such assistance should be given if possible through, and in harmony with, the parents, and it is believed that it would come in more welcome guise from the members of a voluntary association than at the hands of an official of the local authority. It must be remembered that the association will have no statutory powers, but it is thought that the local associations might usefully work with and for the statutory local committees in carrying out work that fell outside the duties of those bodies.

For the effective discharge and co-ordination of such work it is essential that funds should be available for office work and for travelling expenses of visitors and representatives on the central council, and this would be one of the first grounds for application for assistance from the Treasury.

There is much other work that might usefully be performed by such an association when once its local branches were spread all over the country, especially in the way of collecting information and statistics of those defectives outside the cognizance of the Act.

It was gratifying to note the general willingness shown at the meeting to sink individual interests as far as possible for the sake of unity of aim and general co operation. The National Association and its affiliated societies have joined in the scheme, and also the great voluntary institutions for the mentally defective, as well as the various after-care associations as represented by their central body.

It was well said at the meeting by Mrs. Pinsent, the new honorary Commissioner, in seconding the formation of the association, that the main difference in attitude between official and voluntary bodies was the tendency of the public local authority, when confronted with fresh legislation, to study an Act with a view to ascertaining what was the minimum that it must do: whereas the attitude of a voluntary body was to search the provisions of a statute with a view to finding the maximum that it might do. The harmonious co-operation of the voluntary agencies may in this work make good much that would otherwise be left undone, either as falling without the duties of the public authority, or as being beyond its reach in the first transitional period. It is in this spirit that the central association has been constituted, and for such purposes that it seems so eminently adapted.

THE GERMAN INSURANCE DIFFICULTY.

Extraordinary Meeting of the Berlin Medical Society.

The Berlin Medical Society (Berliner medizinische Gesellschaft) has rarely exercised the power which it possesses under its by-laws to discuss and pass resolutions dealing with matters of medical politics. But on Wednesday, November 12th, the position created by the refusal of the Federation of Insurance Societies to recognize the right of the doctors to organize the profession for the protection of the individual practitioner caused this scientific society to make an exception.

Professor Orth, who was in the chair, pointed out to an unusually large audience that the exceptional circumstances of the struggle between the insurance societies and the doctors had induced the executive of the society to deal with this matter. Speaking, he said, as a purely academic member of the profession, as one who did not practise, but who spent his life in the consideration of the scientific aspects of medical problems, he felt it to be his duty to ask the meeting to resolve to fight the managers of the insurance societies fearlessly and firmly. He then read the terms of the motion printed below.

Professor Kraus, who seconded the motion, said that general practitioners were fully justified in looking to their old teachers for assistance and guidance in the serious deadlock which had been brought about. They taught the students that there was no finer or nobler relation than that which existed between the patient and his medical adviser. But this ideal relationship could only continue to exist if the profession maintained its independence and its pride in this freedom. The doctor could only be independent in regard to social insurance when free choice of doctor was permitted, and when the dealings with the management of the insurance societies were regulated by the professional organizations to which he belonged. The insurance societies had no right to dictate terms to the doctors or to choose doctors for the patients. In conclusion, he exclaimed: "Remain united and firm, so that you may be able to preserve for your profession its indispensable freedom."

Sanitätsrat Dr. Munter, who spoke in the name of the general practitioners, had a very cordial reception. He spoke earnestly of the important part which the doctor had to play in the great social scheme of insurance, and asserted that the scientific and economic decline of the medical profession must follow the imposition of oppressive terms of contract practice. The number of professorial chairs in medical sociology was increasing, but would be useless if the laity rendered it impossible for the doctors to translate into action the knowledge obtained at the price of so much strenuous exertion. Thousands of insurance societies would be broken up on the 1st of January next, but the Legislature had not attempted to make any provision for the doctors who would lose by this. The insurance societies had formed themselves into unions or federations which were financially powerful, and were opposing all attempts at organization among the doctors. They pretended that they were unable to pay the fees prescribed for the treatment of the poor of Prussia some century ago, "... but no fee is too low for them to buy medical hirelings." The number of fighting doctors was small as compared with the number of managers of the insurance societies, but greater intellectual power had ofttimes won a victory. The motion was then put to the meeting and carried unanimously. It reads as follows:

> In consideration of the fact that the manner in which the insurance societies desire to regulate the relations between the doctors and the societies under the new State Insurance Order most seriously imperils the freedom and independence of the medical profession, both of which are absolutely necessary for the continued scientific education and for the beneficial activity of the doctors, in the interest both of the patients and themselves, the Berliner medizinische Gesellschaft joins wholeheartedly with the German medical profession in its struggle with the managers of the insurance societies.

Medical Association of Munich and District.

On November 5th the general meeting of the Medical Association of Munich and District (Aerztlicher Bezirksverein München) received a report of the proceedings of the special meeting of the Aerztetag of October 26th, and considered the advisability of entering into negotiations with the insurance societies and clubs of Munich and environs. There are thirty-nine such societies and clubs, and an invitation had been received from the union of these societies, or rather from a commission appointed *ad hoc* to discuss the whole question with the doctors. The first motion proposed called on the medical practitioners holding appointments to the railway insurance societies to take steps to ensure that the whole profession should share in the emoluments of these posts by the introduction of free choice of doctor. The present time was not regarded as favourable for negotiations, but it was considered desirable to put this appeal on record as an expression of opinion.

The invitation to a conference with the insurance societies was then discussed, and it was determined that the insurance societies should be informed that the doctors would not accept the same conditions for the local clubs, the other approved societies, and a special private club, and would only negotiate if the representatives of the societies and clubs were willing that the conditions should be separate and distinct. The private club mentioned is regarded with marked disfavour by the Munich doctors; it was started as a club for poor persons, and has in the course of years extended its operations far beyond this sphere.

Other resolutions were adopted, and the meeting ended at a late hour. The members appeared determined to carry their policy through, in spite of all difficulties.

The Position in Baden.

A conference has been held between the representatives of the insurance societies of the Grand Duchy of Baden and the doctors, under the chairmanship of a member of the Baden Ministry, Dr. Glockner. It appears that an earnest desire exists on both sides to come to a mutually satisfactory arrangement before January 1st. The medical representatives, however, made it quite clear that they were not authorized to sign any final agreement until acceptable terms have been offered to the whole profession in Germany. They were nevertheless prepared to negotiate up to the point of signing the agreement. The representatives of the insurance societies were not quite prepared to accept the terms without consulting their individual councils, and the matter was therefore left in this position. During the discussions the doctors further pointed out that the Government of Würtemberg several years ago so arranged the conditions of service for the medical profession under the Insurance Act that causes of dispute were eliminated. They also pointed out that the Government of Bavaria was about to take similar steps with the same end in view. They therefore requested the Government of Baden to follow the example of the two neighbouring Governments and take the matter into its own hands. Dr. Glockner stated that he was not in a position to give a reply to this demand, but seemed inclined to advise the Government of Baden to take this course.

The Insurance Institution of the Hansa Cities.

The annual report of the Insurance Institute of the Hansa Cities (Hamburg, Lübeck, and Bremen) for the year 1912 again offers the reader a wealth of statistical material which illuminates the method of providing institutional treatment for the insured sick and disabled persons and orphans of the districts. Among the various interesting points dealt with the following will be found to have particular significance both in Germany and in England at the present juncture. The number of applications for free institutional treatment under the Insurance Act has increased considerably since 1911, and now reaches 6,417. The institution agreed to bear the cost in 3,762 cases, and refused in 2,145 cases; in the remaining cases the application was either dealt with in some other manner, or a decision had not been reached on December 31st. Of the 3,762 persons treated under these conditions 1,974 were suffering from affections of the lungs. In 1,772 cases pulmonary tuberculosis was proved to exist; 945 of these were males and 827 females. The increase of tuberculous cases treated under the Act in the various institutes has been remarkable. Starting in 1893 with 4 cases, the number reached 1,000 in 1902 and 1,772 in 1912. In a separate table the number of persons treated for various other conditions for each year is given, and while in some cases—for example, rheumatism and other forms of arthritis—the increase has been gradual and steady,

in others—for example, asthma and anaemia—the number has remained practically the same. In spite of the increased activity of the institute, the cost of institutional treatment has decreased from 755,295 to 718,135 marks. It appears that part of this was due to a shortening of the period of treatment of the individual case, and part to special economy in certain sanatoriums. The daily cost of each patient varied from 3 marks 56 pfennigs at the Sanatorium Glückauf to 7 marks 35 pfennigs in the convalescent home at Gross-Hansdorf. In some cases there was a decrease and in others an increase, as compared with the previous year.

The results of the treatment of pulmonary tuberculosis appear to be good. The percentage of male patients treated six years previously for tuberculosis who were able to earn a living was 51, 52, and 51 in the last three years respectively, and of the female patients 62, 62, and 63. In other words, 51 per cent. of the male patients and 63 per cent. of the female were capable of earning a living after six years. The reports of the medical superintendents of the various institutions at which the patients were treated contain much detail of importance.

ROYAL COMMISSION ON VENEREAL DISEASES.

THE following is the official report issued to the press by the Secretary of the Royal Commission on Venereal Diseases:

At the first two meetings of the Royal Commission on Venereal Diseases, which were held on November 7th and 10th, preliminary evidence was given by Dr. Stevenson, Superintendent of Statistics at the General Register Office, and statistical evidence as to the prevalence of venereal diseases in the Royal Navy was given by Surgeon-General May, the Director-General of the Navy Medical Department.

Evidence of the Superintendent of Statistics, General Register Office.

Dr. Stevenson's evidence was concerned with the figures contained in the annual report for 1911 of the Registrar-General for England and Wales, and related mainly to the question of the reliance which might be placed on those figures as indications of the prevalence of venereal disease in the country.

Dr. Stevenson thought that although the quality of certification generally was improving, there undoubtedly existed a reluctance on the part of medical practitioners to certify venereal diseases as a cause of death, and that consequently the figures contained in the report were minimum figures. He agreed also that there were doubtless many cases of death indirectly due to venereal diseases which are not demonstrated by the tables of the report. At the same time he considered that although the figures do not express the facts, they bear some relation to the facts, and must be regarded as having a distinct comparative value. For instance, he attached importance to figures showing that the death-rate from syphilis in London is four times as high as in the rural districts, and that in descending the scale from the densely populated to the rural districts the death-rate becomes progressively lower.

Dealing with the question of improving certification, Dr. Stevenson strongly advocated a general system of confidential certification under which certificates of the cause of death would not be handed over to the surviving relatives.

Evidence of the Medical Director-General, R.N.

The Director-General of the Navy Medical Department gave figures extending over the period from 1905 to 1912. These figures showed evidence of decline both in regard to syphilis and gonorrhoea. The figures of the number of cases, and of the number of days lost through sickness for 1912 showed a far more accentuated fall as regards venereal diseases than for any other disease.

The Director-General considered that the reduction in the figures might be due rather to the better education of the sailor in health matters than to the diminution in the prevalence of diseases in the ports. He thought that the men had absolute confidence in their medical officers, and that concealment of the disease was practically non-existent. It is the practice in the Navy for medical officers to give lectures on hygiene to the men, and this system was beginning to show very good results, and the Admiralty had great hopes of it. With regard to invalidings from the service on account of venereal disease, the Director-General thought that the rather sharp fall in 1911, which was disclosed in the tables, should be attributed to improved methods of treatment.

LONDON SCHOOL OF TROPICAL MEDICINE.

AT a meeting held at the London Chamber of Commerce on November 13th it was decided that the City Subcommittee which was formed some time ago to raise a fund for the London School of Tropical Medicine should be dissolved, its work having been accomplished.

Mr. P. MICHELLI, in presenting the report, said the total amount collected to date was £71,444, and the amount available for the school, after deduction of expenses, was £70,431. The list contained the names of 1,500 contributors; £10,000 had been received from the Wandsworth Bequest and £5,000 each from Mr. Otto Beit and the Government of the Federated Malay States.

Mr. AUSTEN CHAMBERLAIN, who presided, in moving the adoption of the report, said that although the full sum (£100,000) asked for had not been obtained the amount received had rendered possible an extension of the school which was urgently required and had relieved its managers of the constant anxiety they had felt before. The money raised had been allocated strictly in accordance with the declarations made when the appeal was issued. Only £15,000 had been spent on bricks and mortar; this was the absolute minimum if the school were efficiently to discharge its functions. The Wandsworth Bequest, generously given to the fund by Sir William Bennett, in whose discretion its allocation was placed, had been devoted to the direct endowment of research. But that did not really indicate the full measure of what had been done for research, for the work of teaching and that of research were inextricably intertwined. It had been found possible to invest £39,000, the income from which would go to the general funds, and enable the staff to be strengthened and the purposes for which the school existed to be otherwise promoted. One other object was mentioned in the appeal—namely, provision for the proper nursing and treatment of persons returning from the tropics suffering from tropical disease who were not in a position to pay heavy expenses. This was rather delicate ground, but, thanks to the cordial co-operation of the medical staff and the medical profession, the authorities of the school had been able to arrange a satisfactory scheme. He was hopeful that the beds allocated for that purpose would prove not the least useful part of the work. Referring to the "Chamberlain Ward," endowed for cases of the kind just mentioned, he said that he was touched by that recognition of his father's great interest in the school, for he thought that Sir Patrick Manson and all interested in it would say that it would probably never have been founded at that time but for his father's active support and keen interest in it, and he was proud to be associated with his father in that connexion.

The report was adopted. A resolution to close the fund so soon as outstanding subscriptions promised had been received was carried, and the CHAIRMAN said he thought any scheme for a permanent committee for the collection of subscriptions should be left in the hands of the authorities of the school.

MR. J. N. LANGLEY, F.R.S., Professor of Physiology, Cambridge, has been elected a corresponding member of the Royal Bavaria Academy of Science.

THE authorities of the University of Bristol have received from Mr. George Wills and Mr. Henry Wills jointly a promise to contribute £5,000 towards the endowment fund of the university, and to pay the cost of a further extension of its buildings to the extent of £25,000. These gifts will bring up the total contributions made by these gentlemen to the university to £180,000, as some little time ago they provided £150,000 for the erection and maintenance of a block of buildings as a memorial to their late father, the first Chancellor of the university.

THE POSITION OF PRISON MEDICAL OFFICERS IN RELATION TO FORCIBLE FEEDING.

A meeting of members of the medical profession, called to consider the position of prison medical officers in relation to forcible feeding of suffragist prisoners, was held at the rooms of the Medical Society of London, 11, Chandos Street, W., on November 18th, under the chairmanship of Dr. W. Hugh Fenton. The assembly consisted principally of medical women, and numbered twenty persons.

The Chairman said the medical profession prided itself on saving human life and preserving health, but certain members had reconciled themselves to taking up a position under the prison administrators which required them to act in a way that was not consonant with the best traditions of the profession. Prison medical officers had to stand by and see women brought almost to the point of death, and advise the administrators at the Home Office the precise moment at which it was just safe to leave off so that the prisoners should not die. Surely as medical men prison doctors had another duty to perform—to consider how far they could safeguard the prisoners from injury to their health and mental condition. He could understand that prison officials might act in this matter from a mistaken sense of duty to the State as their employer, but he could find no explanation of the position of outside medical men who gave an opinion when confirmation of the prison doctor's view was required.

Dr. Flora Murray moved the following resolution:

> This meeting of registered medical practitioners agrees with the statement of the Editor of the British Medical Journal that "prison medical officers are faced with a divided duty, that which they owe to their patients and that which they owe to their official superiors; and that the Home Office has no right to place them in this cruel dilemma." It therefore calls upon the Home Office to cease to require the prison medical officers to act under the direction of the lay authorities in professional matters, and to abandon the practice of forcible feeding, which has proved futile and which is only continued as a punishment.

Dr. Murray said the medical profession was esteemed by the public not only because it was scientific and humane, but because it put the interest of the patient before everything else, and the relations between the two were confidential. Within a prison it was the State who consulted the doctor about the patient, and the regulations required the doctor to divulge to the State information obtained in the course of his professional work. The medical profession should not allow to pass unchallenged the statement of Sir Edward Troup in his letter to Sir Thomas Barlow that forcible feeding was comparable with medical treatment or the artificial methods of feeding resorted to in hospitals. The physical and mental condition of prisoners who had been forcibly fed showed that there was no comparison. It appeared to many of them that forcible feeding was used as a disciplinary or punitive measure. This idea was presented to Sir Thomas Barlow and he was very much shocked. He wrote to the Home Office, which also was shocked, and said it was a dreadful lie. She was sorry Sir Thomas Barlow had not availed himself of a pressing invitation to be present. Dr. Murray urged that it could not be argued that forcible feeding was used as a life-saving measure, because it was resorted to at the beginning of a fast when life was not in danger. As to the claim that it was used to prevent deterioration of health, her experience was that a person who fasted in prison and was forcibly fed compared unfavourably with a person who had fasted and had been allowed to do so unmolested. Forcible feeding had been resorted to because the Home Secretary did not know what to do with refractory prisoners; therefore forcible feeding was a disciplinary measure.

Dr. Frank Moxon, in seconding, said the responsibility of the medical profession rested on the question whether forcible feeding was useful or not. Mr. McKenna now admitted that forcible feeding was not devoid of danger, and was a highly objectionable proceeding. He referred to it as having a deterrent effect; in other words, medical officers were carrying it out as a punishment. Dr. Moxon said he regretted having to criticize members of his own profession, but he felt that prison medical officers were wholly to blame in having consented to become the instruments of the Home Office in this matter.

Dr. Elizabeth Wilks said that if doctors could not be employed by the State without being false to their professional responsibilities towards their patients, they should resign their positions.

Mr. Mansell Moullin regretted that the President of the Royal College of Physicians had written to the lay press giving a definite opinion on one side of a case only, deliberately excluding the other. He could only imagine that it was a case of inspiration, especially as the lay newspapers in question had permitted no answers to appear. The Home Office could not be believed, because it had been detected time after time in deliberate suppression of truth. Sir Thomas Barlow's letter was only valuable as testimony that he believed an official statement. He supposed no one—not even prison medical officers—believed that forcible feeding, whatever the original intention, was now carried on with the intention of preserving life. What could be said of a surgical operation that was abandoned in the majority of cases for fear it would kill? There could be no doubt that it was carried out as torture—to break down the prisoner's spirit and compel acquiescence in ordinary methods of feeding. It was just like the Inquisition of old. Prison medical officers were in a most unhappy position. He hoped that until the regulations were altered the prison medical service would be boycotted by all decent medical practitioners.

Dr. L. Garrett Anderson said the reorganization of medical work in prisons was a most important part of penal reform. For its own honour the medical profession should lead this reform.

Dr. Tschaikowsky said the point must be settled whether women in prison were patients or prisoners in their relation with medical officers. If the regulations permitted prisoners to leave prison bearing marks of grave assault by medical officers it was time that matters were altered. Why should medical ethics within prison walls be different from those outside? Medical officers in prisons were responsible for the present state of things, and their responsibility must be borne by the whole medical profession.

The resolution was put to the meeting and carried unanimously.

Letter of the President of the Royal College of Physicians of London.

The following is the text of the letter, referred to above, published in the *Times* of November 15th:

Sir,—During the past fortnight I have received a number of letters respecting forcible feeding of suffragist prisoners, and I have been urged, as President of the Royal College of Physicians, to use such influence as I might possess to enable the prison doctors to be relieved from the obligation of performing the operation in question in cases of danger from starvation. It has been asserted by my correspondents in the most confident terms that forcible feeding is employed at present not for the purpose of saving life, but as a punitive and disciplinary measure. If that were indeed the fact I should willingly join with my correspondents in condemnation of the practice.

But is it a fact? It appeared to me that the straightforward course was for me to apply directly to the Home Office for information on this point. The accompanying letter gives the reply which I have received from Sir Edward Troup, the Permanent Under-Secretary, and I am authorized to publish it:

Home Office, Whitehall, S.W.,
11th November, 1913.

Dear Sir Thomas,—I need hardly say that there is not an atom of truth in the statement that forcible feeding has been resorted to as a "punitive or disciplinary measure." That is a lie which has been deliberately propagated as part of the suffragist campaign. I have no doubt some of your correspondents have been brought to believe it, but those from whom it originated must be well aware that it has no foundation.

Forcible feeding has never been used in the prisons except when necessary as a medical measure; and even when it would have been necessary as a medical measure the Home Secretary has frequently relieved the prison authorities from that necessity by releasing the prisoner. Since the Home Secretary obtained power under the Act passed last April to release prisoners temporarily in case of ill health caused by their own misconduct, there have been only three cases of suffragists being forcibly fed. These three were all women awaiting trial on charges of arson, and it was practically certain from their previous history and from their own statements that if they were released on temporary discharge they would within a week or two begin to commit fresh outrages. One of them had been released four times, and on each occasion within a few days of her discharge was arrested for a fresh offence of window breaking or of arson. At the present moment no woman is being forcibly fed. One of the three resumed taking her food in the ordinary way; another was released when she succeeded in "regurgitating" the whole of her food, so that the feeding became ineffective; and the third when she showed symptoms of appendicitis, of which she admitted she had had previous attacks.

I may add that in all questions relating to forcible feeding we have been advised by a distinguished physician, whose experience of asylum work is exceptionally wide. He speaks in the highest terms of the skilful way in which the forcible feeding is carried out by the prison medical officers, who have nearly always asylum experience, and by the female warders. In a recent letter to me he said:

> I have seen the forcible feeding carried out in Holloway on several occasions, and I am certain that the wardresses do their work in a thoroughly efficient manner. The cases at which I have been present at the feeding have been scattered over a somewhat lengthened period, but in no one instance could the wardresses' work of holding the prisoner have been more humanely or efficiently carried out by asylum nurses. It is true that the resistance offered by the suffragists is at times great and skilfully effected, but in my opinion the wardresses are thoroughly competent to carry out their duties. . . . The difference between asylum cases and the prison ones lies in the

thought-out resistance which the suffragist offers, even when efficiently held by the wardresses.

I have shown this letter to the Home Secretary and he approves of it.—Yours sincerely,

EDWARD TROUP.

Sir Thomas Barlow, Bt., K.C.V.O., F.R.S., M.D., etc.

Having regard to the above authoritative statement I submit (1) that there is at present no forcible feeding of suffragist prisoners; (2) that since April only in three cases of suffragist prisoners has forcible feeding been employed; (3) that there is no foundation for the statement made by all my correspondents that forcible feeding is employed as a punitive and disciplinary measure. I fail to see any reason why I should intervene by criticism or condemnation.—I remain, Sir, your obedient servant,

THOMAS BARLOW.

10, Wimpole Street, Nov. 14th.

LITERARY NOTES.

THE November number of the *British Journal of Dermatology* is the twenty-fifth anniversary issue of that excellent periodical. The occasion is celebrated by special articles. Sir Malcolm Morris, Dr. J. J. Pringle, and Dr. James Galloway contribute brief but interesting retrospects of the periods in which they successively held the reins as editors. Since the end of 1904 Dr. J. M. H. Macleod has been editor. During the twenty-five years the *British Journal of Dermatology* has been in existence many contributions recording memorable advances in the knowledge of skin diseases have appeared in its pages. In the present number Dr. Macleod relates a case of xanthoma tuberosum multiplex, associated with tumours about the joints; the paper is illustrated with well-executed plates. Dr. J. H. Sequeira gives the results of a study of four cases of multiple idiopathic pigment sarcoma (so-called) of Kaposi.

We have received the first number of the *Aberdeen University Review*, founded with the approval of the Court and Senatus of the University. It is conducted by a Committee of Management, consisting of six members elected by the University Court, six by the Senatus, and twelve by the General Council, together with the President of the Students' Representative Council, and five other persons co-opted by the committee. There is an Editorial Subcommittee, of which the convener is Mr. Alexander Mackie, who will be assisted by Mr. Robert Anderson and Mr. W. Keith Leask. The other members are: Professors Grierson, Arthur Thomson, and Baillie; Mr. P. J. Anderson, Mr. Stewart Thomson, and Miss Williamina Rait. There is also a Business Subcommittee, of which Mr. W. Stewart Thomson is convener. The foreword, by the Very Rev. G. Adam Smiles, Principal of the University, states:

> The *Review* is not to be regarded as the official organ of the University. But the constitution of the Committee of Management, and the support of all the governing bodies of the University, ensure that it shall be representative of our academic life in every direction. The contents will comprise summary records of the proceedings of the Court, the Senatus and the Council, with notices of all educational and administrative changes, as well as of new grants, gifts, and bequests; detailed accounts of the various departments and curricula, with reports of special studies and researches, abstracts of notable papers and lectures; studies in the history of the University; biographies and bibliographies; occasional reports from other universities; correspondence on University questions; and articles on letters, philosophy, science and education.

In addition to such things which form the *farrago* of every university magazine, those reponsible for the conduct of the new review will endeavour "to inspire our own with the memories, the atmosphere and the genius which are peculiar to Aberdeen." Lord Kennedy contributes an article on the Chancellor of the University, Lord Strathcona; Mr. Andrew Carnegie writes appreciatively, using what he calls the reformed spelling, of Mr. Bryce; Sir James Donaldson gives an interesting account of Aberdeen Universities magazines of 1849 and 1850; Sir W. Robertson Nicoll gives a vivid sketch of the homes of the rural students; Principal Iverach writes with knowledge and sympathy of William Robertson Smith, and Professor Arthur Thomson is eloquent on the wonder of life. Among the other contents are sonnets (reprinted) by Thomas Hardy and William Watson; an ode (Let us Take Hands) in commemoration of the federation of the South African States, by Dr. Ronald Campbell Macfie, and snatches of verse by Mr. Charles Murray. Other articles on various subjects, reviews and personal notes, fill up the number. Altogether it is an excellent start, and we congratulate the begetters of the *Aberdeen University Review* on the result of their labours. They have mixed the *utile* with the *dulce* so skilfully as to make a most readable compound. It should be added that the periodical is well printed and turned out in good workman-like style.

A Society of Humanist Doctors has just been formed in Paris for the purpose of bringing together members of the medical profession who take an interest in literature in its connexion with the biological sciences. The new society is intended to promote by all means in its power the revival of classical studies, and especially to counteract the deliberate abandonment or neglect of the humanities in the curriculum preparatory to the study of medicine. Among the members of the new society are Drs. Wickersheimer, librarian of the Academy of Medicine; Georges Petit, of Paris; Cabanès, editor of the *Chronique Médicale*; Monin Vallon, of Contrexéville, Le Grix, Berchon, Lucien-Nass, Hahn, librarian of the Faculty of Medicine, and Vérette. The general secretary is Dr. Berchon, 12, rue Jacob (VIe), Paris.

The October number of *Bedrock* contains, among other interesting articles, one entitled Some thoughts on the State punishment of crime, by Sir Bryan Donkin; one on vitalism and materialism, by Dr. Charles Mercier; notes on the struggle for existence in Tropical Africa, by Dr. G. D. H. Carpenter; and one on the control of venereal disease in England, by Mr. J. Ernest Lane. The whole number is well worth reading by all who are interested in the progress of science. The periodical is excellently printed, and the writers deal with their subjects in a lucid and popular style, without any sacrifice of scientific accuracy.

L'Hygiène for October contains an article on small-pox and war by Dr. Robert Wurtz, in which he points to the improvement of the means of protection in the French army since 1870. Owing to the revaccination of men not only on the active strength but in the reserve and territorial, he says the French army now is as well protected against small-pox as the German. This is conclusively shown by the statistics for the last decade. He insists on the necessity of revaccination every ten years, and deplores the apathy of the French public with regard to this matter. Dr. Maurice de Fleury contributes a further article on neurasthenia. The first quality needed in a practitioner who has to treat neurasthenics is, he says, inexhaustible patience, and he hints that it is well if the doctor knows from practical experience what the sufferings of neurasthenia are. Another point is that the doctor must not drug the patient. Dr. de Fleury sums up the treatment in two main principles: First, to get rid of the organic troubles which underlie the condition; next, to break the bad habits of mind which have grown out of the physical trouble and establish "a harmonious and new discipline." Surgeon-Major Orticoni, head of the bacteriological laboratory of the Twentieth Army Corps, deals with the purification of drinking water in armies on campaign. M. Francis Marre, expert chemist to the Paris Court of Appeal, gives an account of alimentary hygiene as represented at the recent international exposition at Ghent. The illustrations, as usual, are very good; one picture in particular by L. Boilly, representing what may be called a vaccination scene in a private family, strikes us as admirable.

The first number of a new periodical entitled *La Medicina Opoterapica* has recently appeared. In his introductory article the editor, Dr. Zanoni, states that in his journal "there will pass before the eyes of readers the subjects of endocrinology—the doctrine of internal secretions which forms the scientific basis of opotherapy, considered and dealt with in all its aspects—clinical, physiological and pathological, human and experimental—and the matters included under the heads of general and special opotherapy (opotherapy properly so-called, serumtherapy, vaccino-therapy, biological diagnosis, etc.), which are, so to speak, the practical applications of endocrinology."

British Medical Journal.

SATURDAY, NOVEMBER 22ND, 1913.

THE EARLY DIAGNOSIS AND TREATMENT OF SYPHILIS.

By the courtesy of the authorities we have had the opportunity of observing the methods now followed in the Navy and Army for the early diagnosis and systematic treatment of syphilis. The aim of the new systems of treatment is eradication of the disease from the system, and this aim is reached in the majority of cases which can be brought under treatment in a sufficiently early stage. We are able to publish in this issue papers of a highly practical and informing kind from medical officers of both services having special experience in the treatment of syphilis by modern methods. Both papers merit the closest and most diligent study of every civil practitioner. There can be no doubt that the statistics on which they are based are as reliable as human care and forethought can make them, and the approval bestowed on them by such authorities as Professor Ehrlich, v. Wassermann, and Blaschko, both at the International Medical Congress last August and in their writings, are a testimony to their great value for the study and elucidation of many problems connected with the disease.

The outstanding feature in both reports is the stress laid on the very great importance of early diagnosis. All authorities are now agreed that syphilis in the earliest stage—that is to say, before naked-eye clinical manifestations are definite—is a curable disease, and that cure may be brought about without a very prolonged course of treatment. On the other hand, all are agreed that once it has invaded the system and produced a positive Wassermann reaction, which is evidence of such general invasion, absolute elimination of the spirochaete becomes a very difficult matter, and can never be guaranteed.

The responsibility that rests upon the practitioner who without energetic and repeated use of modern methods lightly dismisses the possibility of a syphilitic infection with the diagnosis—to take a common instance—of soft chancre is perhaps the weightiest of any in medicine at the present day. It is even greater than that attaching to a hasty or hesitating diagnosis in a case of suspected cancer, for in the latter case only the individual is injured, whereas an error in respect of syphilis has far-reaching consequences, which may not end with the first generation. It follows that every genital sore, no matter what its clinical appearance may be, should be submitted to adequate microscopic investigation. We think that, if attention is directed to the present issue of the JOURNAL alone, the evidence is sufficient to establish this as an indisputable proposition. The time has come when every practitioner is under an obligation either to make himself familiar with the morphological appearance and methods of demonstrating the spirochaete, or, if his opportunities do not permit of this, then he is under an obligation to refer the case to an institution or an expert, as the case may be, when the one or the other is accessible. This may at first sight seem a strong statement, but we believe that every one who will examine the facts without prejudice will agree that it is true.

The military authorities at Rochester Row have set a great example by educating the soldier, so that he now readily presents himself for examination for even the most trivial abrasions of the penis; the same progress was reported at the Royal Naval Hospital at Chatham, where the men are in the habit of requesting to be treated with salvarsan as soon as they suspect that they have been infected.

The civil practitioner can do a great deal in the same direction among his private patients, especially now that the cloak of silence is everywhere becoming loosened, and it is to be hoped that the recommendations of the Royal Commission on Venereal Diseases at present sitting will eventually result in a campaign of public instruction and enlightenment, without which all legislation is foredoomed to failure.

The army still uses salvarsan, for reasons considered to be sufficient, but the naval authorities at Chatham have adopted neo-salvarsan exclusively, and have noticed no fall in the percentage of their cures. The solution of neo-salvarsan is somewhat easier for the unaided administrator to prepare, and its use is certainly no more dangerous than that of the original compound, at any rate in this climate and in cold solution. It is important that the injection should be given on an empty stomach, and that the bowels should have been moved in the morning. The after-treatment of injected patients is rest in bed for twenty-four hours, and although the naval authorities at Chatham confine them to the wards for three days, for the purpose of a daily estimation of the arsenic excretion in the urine, this is a counsel of perfection, and may be omitted without materially adding to the risk attaching to the treatment.

Every student and those members who read the JOURNAL are by this time aware that salvarsan by itself is not a certain cure for syphilis in any stage. It must always be combined with the energetic administration of mercury by inunction or injection; the administration of mercury by the mouth is becoming obsolete. Surgeon Scott, R.N., is in favour of pushing the drug to salivation point, but the advisability of the proceeding is open to argument. There is, probably, no better method than that adopted by Colonel Gibbard and Major Harrison with such brilliant results at Rochester Row. Here every patient receives one or more complete courses, as the tenacity of his infection may be judged to require. A course consists of three salvarsan injections, between the first and second and second and third of which five weekly injections of mercurial cream are given—ten in all. Unless otherwise indicated, each salvarsan injection consists of 0.6 gram of salvarsan (=0.9 gram of neo-salvarsan), and each injection of cream contains a grain of mercury. There are many mercurial creams on the market, and one of the most satisfactory is a modification of Lambkin's, known as Adam's, which contains a grain in 5 minims. Mercurial creams must never be heated, for the metal is thus thrown out of suspension, and over or under doses may consequently be given. All injections are given with proper surgical precautions.

The cure of syphilis implies an absence of clinical manifestations and serological reactions (even after a provocative injection of 0.2 gram salvarsan) over a period of at least one year from the last appearance of either, and the question of marriage, which is not

touched upon in either paper, is intimately dependent on similar reasoning. Cases are occasionally met with in which the blood reaction returns obstinately to the positive in spite of several intensive treatments. These are the despair of the syphilologist, and since they occur almost entirely among patients in the late secondary and tertiary stages of the infection, are one more argument in favour of the importance of early diagnosis. The longer such unfortunate patients can be prevented from marrying the less the risk of a trans-marital infection, and it is open to discussion whether, if such patients marry, their wives should not submit themselves to prophylactic treatment immediately after conception.

In cases which are known or suspected to have had syphilis, but present themselves for examination with a negative Wassermann reaction, Major Harrison employs a provocative injection of 0.2 gram of salvarsan, and then examines the blood forty-eight hours later, and again on the sixth and thirteenth days for a possible swing to the positive side. The proposition that a positive Wassermann reaction indicates the presence of living spirochaetes in the organism is now generally accepted, but unfortunately the negative reaction does not by any means prove their absence, for they may be lying latent or encapsuled in the tissues, or, as suggested by Ross and McDonagh, in some gametic form in the cell. The provocative salvarsan injection is of the highest importance in such cases, and may also be used as a test, in cases of secondary and tertiary syphilis which have apparently been cured and continue negative to the Wassermann reaction. By thus reactivating the luetic remnant, and then stepping in with a final energetic course of treatment there is good hope of stamping out the disease, and the certainty of preventing the probably imminent clinical relapse which may be about to manifest itself, possibly in the nervous system.

The facts now known establish the efficacy of the early treatment of syphilis by a considered plan such as has been worked out simultaneously in the British Navy and Army. That the treatment is so much more efficacious and sure in the early stage than after the infection has become generalized will not surprise the medical profession. It is in consonance with all that we know of other infections which begin locally and become generalized only after an interval. Fortunately, in syphilis this interval is relatively prolonged: it allows a reasonable time for diagnosis and for the remedy to act on the infective agent in its first focus. This circumstance casts a very great responsibility on the Royal Commission on Venereal Disease to report speedily, at any rate upon this part of its reference. One ground of urgency is the additional complication introduced into the practical aspects of the matter by the Insurance Act, and the complication will be aggravated by the clause in the new agreement which forbids a medical man to accept from an insured person on his list "any fee or other remuneration in respect of treatment which he is required to give."

If this condition is to be held to apply to syphilis, then special arrangements must at once be made for the diagnosis and treatment of the disease among insured persons. We say advisedly, first, that a practitioner engaged in insurance practice cannot reasonably be expected to have the special skill and special apparatus to enable an early microscopic diagnosis to be made with the requisite certainty and speed. Secondly, the drug can only be administered by the practitioner himself, and the injection demands special skill and very great attention to many details, all involving much expenditure of time and the use of special apparatus, which is necessarily costly.

Further, it is to be noted that the treatment will, under existing conditions, make a very serious call on the drug fund. The dose of salvarsan used in the army is 0.6 gram, and the retail price of this quantity in the current catalogue of a firm of pharmaceutical chemists is 8s. 6d. net. As three such injections must be given, the minimum cost for each case will be £1 5s. 6d. Even if special wholesale terms could be arranged the cost would approach £1, to take a low estimate. The Government specifically refused to except venereal diseases from medical benefit under the Insurance Act. We are not arguing that the refusal was wrong, but we do contend that the consequences of the refusal must be faced.

We have dwelt first upon considerations arising in respect of insured persons because the State has accepted special responsibilities in regard to them. But speaking generally the same considerations apply to all general practice among the industrial and poorer classes. The ratio of cases among the dependants of insured persons is probably lower, possibly much lower, than among insured males, but the importance of early diagnosis and efficient treatment is not less. Early diagnosis may be more difficult in women; but this fact only renders more imperative the provision of adequate facilities.

To the questions thus raised the Royal Commission ought to give immediate attention. It will find no difficulty in making a report dealing with them at least a month before the opening of the next session of Parliament, so that the Government may have proper time to consider the recommendations it will make to the House of Commons for the provision of an adequate scheme for the early diagnosis of syphilis and the systematic treatment of the disease in its earliest stage among the civil population.

THE INTERNAL SECRETIONS AND REPRODUCTION IN THE FEMALE.

FORMERLY—some time ago it is true—a woman was a woman because of her uterus; then enlightenment came and it was declared that she was a woman by reason of her ovaries, and now with more enlightenment it has to be said that she is a woman on account of her ovaries *plus* her ductless glands, or, to use the new term, on account of her endocrinous organs. This, at any rate, seems to be the message to the medical profession which is to be received from Dr. Blair Bell's able paper read to the Obstetrical and Gynaecological Section of the Royal Society of Medicine on November 6th, a long abstract of which was published in the JOURNAL last week. The article contains much more than that, of course; indeed its content is so large that we can only comment upon things which seem to be of special interest.

There are two ways in which the ovaries and the endocrinous organs—as those which possess internal secretions are coming to be called—act in making a woman a woman, in impressing female characteristics upon her, and by preserving in their integrity the genital functions when these have been once established. This is a conclusion which follows upon an immense amount of research and clinical observation carried out by various observers, including Dr. Blair Bell himself. Its proof rests upon many facts, some

of which are not particularly capable of simple explanation; but two or three of them may be given. The ovaries, for instance, cannot be solely responsible for the development of female characteristics, for a rare individual is known to exist who has all the appearances of a woman, but whose abdomen is found to contain testes without any trace of uterus, Fallopian tubes, ovaries, or upper part of vagina. Probably, therefore, the development of the characteristics of the pure male and of the pure female is due to the action of all the internal secretions in association with that of the gonads. "Gonads" is, like "endocrinous," a somewhat unfamiliar term used in the article we are referring to. Gonads are the undifferentiated germ glands, serving either as ovaries or spermaries.

Again, at puberty it is not the ovary alone which determines the commencement of normal functional activity in the genitals. The ovary must be working in complete harmony with the whole endocrinous system if this is to be accomplished. Thyroid or pituitary inadequacy may cause the genital organs to remain infantile. From the other standpoint, absence of the normal atrophy of the thymus may likewise prevent the full development of the genital organs. It has been stated, for instance, that removal of the thymus in male guinea-pigs leads to rapid development of the genital glands. Yet, again, more than the ovaries are needed to maintain the female characteristics and functions. It is well known, of course, that removal of the ovaries is followed by uterine atrophy; but it has been shown by experiment that partial removal of the pituitary body brings about the same uterine change, and the taking away of the thyroid causes intense atrophy of the uterus, with, it is said, increased activity of the ovaries. Thus, an amazing complexity is introduced into the whole matter, and this complexity reaches its acme in pregnancy, when all this intricate mechanism is working at high pressure and in special circumstances.

By far the larger part of Dr. Blair Bell's paper is devoted to pathological phenomena in reproductive life, and to their interpretation as necessarily determined by the intrusion, so to speak, of the endocrinous organs into the physiological arena. Precocious and delayed puberty, derangements of sexual characteristics and genital functions, must all now be studied in connexion not only with excess or defect in the ovarian secretion, but also in reference to thyroid, pituitary, suprarenal, and thymus insufficiency or excess; and many of the conclusions and details given in the paper are of such interest that they call for careful and independent reading on the part of every doctor who is interested in these matters—and who is not? It must suffice us here to pick out two matters which have or seem to have a direct practical bearing. First, although the ovaries can no longer be said to reign paramount in the sphere of female genital physiology, yet they are still joint rulers, co-queens, so to say; therefore there is here no argument for their more frequent removal. Some of the other endocrinous organs may compensate in part for their loss; but they cannot be easily or safely spared, for they and the ductless glands constitute a complex system whose every part has a value, and the taking away of any part leads to results which are not fully known but are certainly not negligible.

Then there is the matter of treatment. This is a subject with many aspects; but let us take one only—ovarian insufficiency. In cases of ovarian insufficiency it has been customary to substitute for the lacking internal secretion ovarian extract given by the mouth; but, obviously, if the main contentions of Dr. Blair Bell's paper are sustained, this alone will be quite inadequate treatment, save in circumstances when a number of varying conditions favourably interact. He looks forward to a time when a combined extract will give a good result; but much must be done before we are able with confidence to mix together the various internal secretions to suit any given case of ovarian inadequacy with its puzzling complex of symptoms. Further, as Dr. Blair Bell admits, even then it must be an animal extract upon which we shall have to place our trust, for an autogenous extract or group of extracts must remain an impossibility so far as the human female is concerned.

These matters are of great interest, and the interest in them is not limited to the reproductive functions as such, for in every department of the experimental and clinical work which may and must be taken up the effect upon general metabolism will require to be considered. Any one of Nature's experiments upon genital metabolism necessitates a concurrent experiment upon the general metabolism, and conversely, any alteration in the latter will react upon the former. A last practical conclusion may be drawn: The management of no case of genital irregularity at any one of the transition and critical times in the life of a woman (birth, puberty, pregnancy, lactation, menopause) is other than a task of great complexity; and general irregularities at such times are very intimately associated with the special physiological divergences of the period. When success is now obtained it must be somewhat haphazard in its origin, and due to a combination of favouring circumstances of whose nature we are in some degree ignorant.

THE NON-PANEL COMMITTEE OF THE ASSOCIATION.

The Non-Panel Committee of the British Medical Association, at its first meeting, which was held on Wednesday last, made a protest against the terms of the Notice to Insured Persons to Select a Doctor issued a short time ago by the Insurance Commissioners. The notice began with the statement: "If you have not yet chosen a doctor (or approved institution), you must do so without delay." The use of the word "must" was clearly erroneous. There is no compulsion on an insured person to choose a doctor, although if he does not he runs the risk of incurring the disadvantages enumerated in the remainder of the paragraph from which we have quoted. The notice should have run: "If you desire to ensure medical benefit under the Act promptly when you require it, you should at once choose a doctor," and so on. If he prefers not to choose a doctor among those on the panel, it is quite open to an insured person to refrain from doing so, knowing that he may thus lose free medical benefit under the Act, but not sickness benefit. He will not lose medical benefit under the Act altogether if he applies to the Insurance Committee of the area to make his own arrangements and his application is sanctioned. The Non-Panel Committee went on to elaborate this point by entering its protest against the allocation of insured persons who have not chosen a doctor from among those on the panel, to some one of the doctors who has joined, and represented that such insured persons ought to be allowed, as individuals, to take advantage, if they so desired, of the provision of the Act of 1911 (Section 15 (3)), which gives an Insurance Committee power to permit any insured person to make his own arrangements. That the wholesale rejection in some districts of such applications was a blunder is now, we believe, generally recognized; the fear then displayed that

the Act might in this way be broken down—to quote the phrase then used—was not, in fact, warranted by the numbers actually desiring to take this course. The policy then followed was not only prejudicial to many doctors in certain neighbourhoods, but vexatious to insured persons and their employers. There seems to be no justification at the present time for persisting in it. A report of the proceedings of the Non-Panel Committee will be found in the SUPPLEMENT, and it will be observed that it has elected Mr. E. B. Turner to be its Chairman and Dr. Buttar to be Honorary Secretary.

STATE SICKNESS INSURANCE IN NORWAY.

THE introduction, in July, 1911, of compulsory insurance against sickness among the working classes in Norway has led to important changes in the conditions of medical practice. The Norwegian Medical Association, to which practically every doctor in the country belongs, was well organized when negotiations between this body and the Government were carried on; and the credit for the excellent discipline in the ranks of the association is largely due to its energetic secretary, Dr. Rasmus Hansson. The terms, demanded by the association and conceded by the Government, include free choice of doctors, and payment in proportion to work done, a scale of charges being drawn up which varies somewhat according to the conditions obtaining in different localities. For one district the following charges have been adopted: Kr. 2[1] for a first consultation; kr. 1.50 for subsequent consultations, unless these exceed ten, when the fee is kr. 1. An additional fee of kr. ½ is charged for consultations out of regular hours; kr. 1 for renewal of a prescription without examination of the patient; kr. 2 for a certificate of health, and kr. 2 and 1.50 for extraction of a tooth, with or without local anaesthesia respectively. For massage, electrical treatment, and microscopic examinations, which are classed as consultations, a minimum fee of kr. 1.50 is charged. Kr. 3 to 5 is charged for minor operations, such as incision of a whitlow or removal of a foreign body, kr. 6 to 50 for major operations, exclusive of travelling expenses and the cost of bandages, etc.: kr. 1.50 for local and kr. 5 for general anaesthesia; kr. 10 to 40 for the treatment of abortions and confinements, exclusive of travelling expenses; kr. 3 for medical attendance 1 kilometre away in the country or 2 kilometres away in the town. The rate of payment per kilometre ranges from kr. 4 for 5 kilometres to kr. 13 for 25 kilometres. Apart from confinements and accidents, the fees are increased by 50 per cent. when medical attendance is required at night, on Sundays, and holidays, and when a visit is required during the regular hours of consultation. Travelling expenses for distances of more than 1 kilometre are paid according to scale. On the whole, these charges have been satisfactory to the medical men interested. The system of payment in proportion to work done is, of course, open to grave abuse; but this has largely been avoided by the appointment of medical referees, whose sole duty in connexion with the Insurance Act is the supervision of their colleagues' charges. In one town a referee worked out a table every month showing the expenses to the State of every doctor in his district. A copy of this table was sent to every doctor, a mark being put opposite his number. As no names were given, each doctor learnt what his cost to the community was as compared with that of his colleagues without discovering anything about his colleagues' business. One month a doctor who headed this list as the most expensive in his district, appeared in next month's list three places from the bottom—a sign that he had appreciably reduced superfluous work. The demand for medical attendance has risen rapidly, and whereas a few years ago many Norwegian doctors had to seek work abroad, they are now much in demand at home. Resident hospital appointments are often held by medical students, and the daily press has even protested against Norwegian surgeons giving their services to the Balkan States. Unfortunately the doctors' satisfaction with the present arrangement is not wholeheartedly shared by the rest of the community. In certain districts the yearly accounts show an unexpectedly heavy doctor's bill. Dr. Hansson has repeatedly urged on his colleagues the necessity of checking the abuse of free consultations; and it would seem that what may almost be called the orgy of free consultations has already abated. In the journal of the Norwegian Medical Association, Dr. B. Jensen and Dr. R. Hansson[2] show that in Christiania the doctor's bill fell from kr. 213,706 in the first half of 1912 to kr. 152,380 in the first half of 1913. The medical cost of each insured person has fallen from kr. 4.45 in the first half of 1912 to kr. 3.80 in the first half of 1913. The cost of medical attendance to the community is, however, still so great that a powerful agitation has been started in favour of a State medical service, with payment of doctors by a fixed salary irrespective of work done. The disadvantages of this system are obvious, and it is not likely to be introduced with the consent of the Norwegian Medical Association.

[1] 1 kr. = 1s. 1½d.

JUBILEE OF THE PASTEUR INSTITUTE.

ON November 15th the twenty-fifth anniversary of the foundation of the Pasteur Institute, Paris, was formally celebrated. The President of the French Republic, M. Poincaré, who was accompanied by ex-President Loubet, M. Barthou (Premier), M. Klotz (Minister of the Interior), and the Presidents of the Senate and the Chamber of Deputies, presided at the ceremony. The only ladies present were Pasteur's daughter, daughter-in-law, and granddaughter. The President made an eloquent speech, in which he drew a picture of Pasteur venerated by all the peoples of the earth, and after extending the boundaries of life for future generations, passing away worn out with toil amid the sorrow of his own and all other countries. The President went on to say: "His memory remains, his spirit and his influence penetrate into the farthest and into foreign countries, where it is perpetuated by the leaders of science. His genius remains in this powerful and victorious institute, as do his memory and the example of his virtues." The Director of the Institute, Dr. Emile Roux, traced the history of the twenty laboratories, the three courses of instruction, the six departments of clinical treatment, and the five branch establishments of which the Institute consists. He paid a warm tribute to the influence of Madame Pasteur, who lies buried with her husband in the crypt of the Institute. M. René Valléry-Radot, her son-in-law, has recently published a sketch of her which, according to the Paris correspondent of the *Times*, is so admirable that it recalls in many respects Sir James Barrie's exquisite account of his own mother in *Margaret Ogilvy*. It would be superfluous at this time of day to describe in detail the work of Louis Pasteur, or to recite his innumerable titles to fame and to the gratitude of his fellow men. His work was indeed great, but the man himself was far greater. As Dr. Roux has well said: "The achievement of Pasteur is admirable; it displays his genius, but one must have lived in intimacy with him to know the whole goodness of his heart." The ceremony of Saturday last recalls the celebration of Pasteur's seventieth birthday on December 27th, 1892. The great theatre of the Sorbonne was filled, the places of honour being occupied by delegates of scientific societies, French and foreign, by members of the Institute, and by the professors of faculties, while in the amphitheatres were serried masses of students, members of deputations from the École Normale and the École Polytechnique, and from the schools of pharmacy, veterinary science and, agriculture. Pasteur entered leaning on the arm of

[2] *Tidsskrift for den Norske Laegeforening*, October 15th, 1913.

M. Sadi Carnot, then President of the Republic. The Presidents of the Senate and of the Chamber, the Ministers and Ambassadors took their seats on the platform. Behind the President stood, in their uniform, the official delegates of the Five Academies which form the Institute of France. The Academy of Medicine and the great scientific societies were represented by their presidents and permanent secretaries. The Royal Societies of London and Edinburgh sent, in the person of Lister, the homage of medical science. "You have," said Lister, "raised the veil which for centuries had hidden infectious diseases; you have discovered and demonstrated their microbic nature." Then came the historic embrace between the two famous men, which symbolized a brotherhood of science striving to lessen the sufferings of mankind. The scene is commemorated in a picture by Rixens which hangs on the wall of the Faculté des Sciences. When all the formal addresses had been delivered Pasteur replied in a speech in which he briefly passed his own scientific life in review. We may quote a passage from it as it is given in Vallery-Radot's *Life of Pasteur*, a book which should be read by every one who wishes to understand the great change that has come over the face of medicine in less than half a century: "Gentlemen," said Pasteur, "by an ingenious and delicate thought, you seem to make the whole of my life pass before my eyes. One of my Jura compatriots, the Mayor of Dole, has brought me a photograph of the very humble home where my father and mother lived such a hard life. The presence of the students of the École Normale brings back to me the glamour of my first scientific enthusiasms. The representatives of the Lille Faculty evoke memories of my first studies on crystallography and fermentation, which opened to me a new world. What hopes seized upon me when I realized that there must be laws behind so many obscure phenomena! You, my dear colleagues, have witnessed by what series of deductions it was given to me, a disciple of the experimental method, to reach physiological studies. If I have sometimes disturbed the calm of our Academies by somewhat violent discussions, it was because I was passionately defending truth. And you, delegates from foreign nations, who have come from so far to give to France a proof of sympathy, you bring me the deepest joy that can be felt by a man whose invincible belief is that Science and Peace will triumph over Ignorance and War, that nations will unite, not to destroy, but to build, and that the future will belong to those who will have done most for suffering humanity. I appeal to you, my dear Lister, and to you all, illustrious representatives of medicine and surgery. Young men, have confidence in those powerful and safe methods, of which we do not yet know all the secrets. And, whatever your career may be, do not let yourselves become tainted by a depreciating and barren scepticism, do not let yourselves be discouraged by the sadness of certain hours which pass over nations. Live in the serene peace of laboratories and libraries. Say to yourselves first: 'What have I done for my instruction?' and, as you gradually advance, 'What have I done for my country?' until the time comes when you may have the immense happiness of thinking that you have contributed in some way to the progress and to the good of humanity. But, whether our efforts are or not favoured by life, let us be able to say, when we come near the great goal, 'I have done what I could.'"

MOSQUITO CRUSADES IN ENGLAND.

THE sanitary authorities of some half-dozen small towns in the neighbourhood of Epping Forest are projecting an antimosquito crusade for next year. Their action might well be imitated elsewhere. In hundreds of villages and small towns throughout England the amenity of life in the summer and autumn months is diminished by swarms of gnats. Few people are totally indifferent to gnat and mosquito bites, and in some they cause quite serious degrees of irritation. Besides this, it is well known that some gnats, such as the *Culex pipiens*, are the bearers of a blood parasite highly inimical to many forms of bird life, especially finches. Nor is the possibility of the infection of human beings by the plasmodium causative of malarial fever to be overlooked. Nuttall, Cobbett, and Pigg Strangeways,[1] writing in 1901, showed that anophelids were by no means extinct in England. Without extending their investigation to the whole of Great Britain, they found anophelids at as many as 129 places, ranging in elevation from about sea level to as high as 700 feet. Though many of the localities were known to have been fever-haunted in former days, the reverse was sometimes the case. The anophelids found were of three species: *A. maculipennis*, *A. bifurcatus*, and *A. nigripes*, the former—elsewhere a well-known plasmodium carrier and haunter of inhabited localities—greatly predominating. All three species were most numerous in low-lying land containing many ditches, ponds, and slowly-flowing water; but the authors' observations indicated that the prevalence of anophelids varied considerably in different years. They suggested that the main reason why malaria no longer occurred in England was that, thanks to increased cultivation of land and connected drainage, anophelids were never present in such great numbers as formerly, though it was also possible that some intermediate host of the plasmodium had been extinguished. Malarial fever, it may be noted, was quite common in many parts of England until about sixty years ago, and in one village in Norfolk was said to be observed from time to time during the first decade of the present century. In one case under the care of Dr. Burton Fanning in the Norwich Hospital, in 1907, Dr. S. Long examined the blood and found the *Plasmodium malariae*. The patient had resided in Norfolk all his life. Curiously enough, no anophelids were found during the recent investigation of the Epping Forest district, but it was admittedly undertaken at a somewhat late period of the year. It was conducted by Dr. E. H. Ross, at the request of Dr. Stanbury Brook, medical officer of health for Chingford, who had determined to rid his district, if possible, of the reproach launched against it at times of being more mosquito-ridden than many tropical towns. His energies resulted in the holding of a conference of delegates of Epping district authorities on September 23rd. At this the decision to undertake a crusade was reached after Dr. Ross's report had been read. Dr. Ross found that the blood-sucking insects in the Epping Forest area were three species of *Culex*—namely, *C. pipiens*, *C. nemorosus*, and *C. cantans*—and that they bred, for the most part, in the waterbutts and gardens of the inhabitants of the townships concerned. The large expanses of water in their neighbourhoods were free from larvae, and there were only a few breeding places in Epping Forest itself. On this account the remedies suggested were for the most part of the simple and inexpensive kind commonly adopted in dealing with domestic causes of mosquito prevalence, such as the filling in of water-holes and the weekly emptying of waterbutts. It was recommended also that the river Ching should be cleared from floating obstructions to its stream, and that large ponds should, if necessary, be treated either by oiling or stocking with mosquito egg-eating fish, such as goldfish and "millions." Encouragement of the existence of bats and swifts was also mentioned as likely to be useful. All the remedies, in short, were easily adoptable and sound, with the possible exception of the use of "millions." Belief in the utility of these small fish rests mainly on the fact that certain West Indian islands, whose waters are full of them, are free from mosquitos; but any real relation between these facts has been denied, we believe, by Watson and others; while the circumstance that some collections of water give rise to hosts of mosquitos, and others, apparently of the same order, to none at all, has been credibly ascribed to

[1] *Journal of Hygiene*, vol. i. 1901, p. 4.

differences in their chemical constitution rendering them suitable or unsuitable to larval life.

THE HISTORY OF SYPHILIS IN ALSACE.

ACCORDING to the *Bulletin de la Société Française d'histoire de la Médecine*, the first detailed information as to the appearance and rapid spread of syphilis in Alsace is due to Matern Berler, a priest of Rouffach, and to Trithenius, Abbot of Spanheim. Berler wrote in the sixteenth century a chronicle in German, the manuscript of which was preserved in the library of the city of Strassburg. Referring to the Italian campaign of Charles VIII, King of France, in 1494 and 1495, Berler mentions the occurrence in the French camp of a disease which nobody had observed till then. It was called the "bad pox," or French disease. It was imported into Alsace by soldiers returning from Italy, and made many victims among the people because the method of treating it was unknown. Some died of exhaustion from inability to feed themselves. These unhappy beings were treated as outcasts, and many of them, not knowing where to find a shelter, sought for it in country chapels. As there was a certain resemblance between the disease and leprosy an attempt was made at Rouffach to get the patients admitted into the leper-house. The lepers, however, although partitions were put up to separate them from the syphilitics, resisted this proposal so strenuously that it had to be abandoned. Berler looked upon the disease as a punishment inflicted by heaven on Charles VIII for having robbed the Emperor Maximilian of his betrothed, the Duchess Anne of Brittany. Trithenius says the disease was brought to Germany after passing through France and Italy. "It began in France among the French and spread to the Italians, then to the Germans. But the epidemic had originated in Spain; the Spaniards gave it to the French, these in their expedition against Alfonso, King of Naples, gave it to the Italians, who in their turn infected the Germans. Hence the scourge was called the Spanish disease by the French, the Neapolitan disease by the Italians, and the French disease by the Germans. It is a strange and terrible contagious affection; even the lepers hold it in horror, and will not allow those affected with it to remain among them. They fear to be smitten with a disease worse than leprosy." All the chronicles of the time about Strassburg, those of Sebastian Franck, Kogman, Specklin, Trausch, etc., give the date of the first appearance of syphilis in that town as 1495 and 1496. A number of persons were infected at Strassburg, and many died as no one knew how to treat them. People held aloof from the sufferers, and the magistrate forbade public-house keepers and innkeepers to receive them, and surgeons and bath-men to treat them. The hospitals and leper-houses were shut against them; all communication with them was forbidden. They languished in misery in a remote quarter of the town (Thomanloch or Thumeloch), lying on straw, men and women huddled together. Only one man, Caspar Hofmeister, took pity on these unhappy people. He visited them and sought to arouse public pity on their behalf; he urged their pitiful case on the attention of the chief magistrate. For a long time the only funds for their maintenance were obtained by begging, the magistrate allowing only firewood. But these alms, wisely administered, enabled Hofmeister between 1503 and 1505 to acquire a house in the quarter of the town named Finckwiller. He there established a hospital, adding a court and a garden in 1506. This hospital was removed about 1520 to the island situated "near the covered bridges." It was enlarged in 1522 by the acquisition of a neighbouring house, and in 1538 the magistrate granted it the revenues of a suppressed Carmelite convent. Hofmeister organized and managed the various institutions intended for syphilitics from 1503 to 1532, the year of his death. One of the first works on the French disease was by the celebrated Alsatian jurist and poet, Sebastian Brandt. This was an elegy addressed by him in 1496 to John Reuchlin, called Capnion. The author draws there a dreadful picture of the disease, which he says has been spread through a large part of Europe and into Asia. The chief cause of this sudden dissemination of the disease is, it is said, to be found in the terrible depravity which prevailed in all classes of society in the fourteenth and fifteenth centuries. In Geneva, and in Nürnberg, and elsewhere, the prostitutes elected from among themselves a superior known in the former city as the Brothel Queen. They had a monopoly which enabled them to prosecute all women who infringed their rights by practising prostitution without a licence. In Strassburg special quarters were assigned to them. Some were lodged in the towers of the cathedral and other churches; hence they were known as the "Swallows of the Cathedral." About 1521, however, they were ejected from these sacred precincts. About 1540 brothels were suppressed, but clandestine prostitution continued to spread the evil. The archives of Strassburg show that the municipality of the city was constantly striving to cope with the disease throughout the seventeenth and eighteenth centuries. There seems to have been no medical examination of public women in Strassburg till 1815 or 1818, when the Mayor ordered that they should submit to inspection once a month. The regulation of prostitution dates from 1853.

EUGENICS AND GENIUS.

WE have several times pointed out that if enthusiastic eugenists had their way there would be a danger of mankind being reduced to a dead level of healthy animalism, owing to the gradual extinction of the "sports" known as genius. In his *Portraits and Sketches* (London, William Heinemann, 1912), Mr. Edmund Gosse, in a study of Swinburne, has some remarks on this subject which are so much to the point that it may not be amiss to quote them. He says: "The physical conditions which accompany and affect what we call genius are obscure, and have hitherto attracted little but empirical notice. It is impossible not to see that the absolutely normal man or woman, as we describe normality, is very rarely indeed an inventor, or a seer, or even a person of remarkable mental energy. The bulk of what are called entirely 'healthy' people add nothing to the sum of human achievement, and it is not the average navvy who makes a Darwin, nor the typical daughter of the plough who develops into an Elizabeth Barrett Browning. There are probably few professional men who offer a more insidious attack upon all that in the past has made life variegated and interesting than the school of robust and old-fashioned physicians who theorize on eccentricity, on variations of type, as necessarily evil and obviously to be stamped out, if possible, by the State. The more closely we study, with extremely slender resources of evidence, the lives of great men of imagination and action since the beginning of the world, the more clearly we ought to recognize that a reduction of all types to one solid uniformity of what is called 'health' would have the effect of depriving humanity of precisely those individuals who have added most to the beauty and variety of human existence." He goes on to say: "At present there seems to be an almost universal confusion between morbid aberration and wholesome abnormality. The presence of the latter amongst us is, indeed, scarcely recognized, and an unusual individuality is almost invariably treated either as a subject of disease or of affected oddity. When the physical conditions of men of the highest celebrity in the past are touched upon, it is usual to pass over them with indifference, or else to account for them as the results of disease." In illustration Mr. Gosse cites the instances of Pascal, Pope, Michael Angelo, and Tasso. With regard to the constitution of Swinburne, he says it was one of the most extraordinary that have been observed in our time. "It would be a pity if its characteristics

should be obscured by caricature on the one hand, or by false sentiment on the other. In the days when I watched him closely I found myself constantly startled by the physical problem: What place has this singular being in the *genus homo?* It would easily be settled by the vague formula of 'degeneration,' but to a careful eye there was nothing in Swinburne of what is known as the debased or perverse type. The stigmata of the degenerate, such as we have been taught to note them, were entirely absent. Here were, to the outward and untechnical perception at least, no radical effects of disease, hereditary or acquired. He stood on a different physical footing from other men: he formed, as Cowley said of Pindar, 'a vast species alone.' If there had been a planet peopled by Swinburnes, he would have passed as an active, healthy, normal specimen of it. All that was extraordinary in him was not, apparently, the result of ill-health, but of individual and inborn peculiarity." Yet Maupassant's description of the poet, which Mr. Gosse admits to be accurate, certainly does give an impression of "degeneracy." On the body of a child, says the French writer—a body without chest or shoulders—rested an enormous head. The vast brow rose like a dome above a small face ending in a pointed chin. The piercing eyes and the retreating mouth suggested a reptile. The whole body was shaken with nervous twitchings; every movement was jerky, as if the springs of the machine were out of order. This, doubtless, is a picture offensive to every instinct of the eugenic mind. Yet the world might more easily spare a regiment of eugenically perfect bumpkins than the neurotic "degenerate" Algernon Charles Swinburne.

DRUGS IN THE ROUGH.

Something of Eastern aroma, a subtle odour of Sultans, and palm-trees, and Othmanli quinces, clings to the idea of a wholesale drug market, and an occasional suspicion of this romantic touch lightened the lecture on drug markets at home and abroad with which Professor H. G. Greenish inaugurated the new session of the Pharmaceutical Society on November 11th. His lantern views were the result of two years' wanderings with his camera among the dock warehouses of London, Amsterdam, Rotterdam, and Hamburg. These warehouses must be as fragrant, in parts, as those ivory palaces which the Psalmist endowed with scents of myrrh, and aloes, and cassia, although only in respect of size are the modern depositories palatial. Our drugs chiefly come by way of the port of London, being disembarked at the London Docks, the St. Catherine's, or the riverside wharves. Professor Greenish found one warehouse, just beyond the Tower, stored with Indian senna, Japanese ginger, nutmegs from Singapore or the West Indies, and also cinchona bark, though the trade in this last has passed over very largely to Amsterdam. In this warehouse the nutmegs are sorted over, and the broken ones picked out and used for mace and volatile oil. Here also the bales of cinnamon, each in its gunny casing, are opened, their quality is inspected, and, with the aid of a kind of nutmeg-grater on the quills, the aroma is made more perceptible. Cinnamon is supposed to be an antidote to mercurial poisoning, and large quantities of it are exported from London to the quicksilver mines of Spain. One warehouse at the docks is occupied almost solely with tragacanth and isinglass, and another with resins. One drug, for its unpleasant odour, is kept in quarantine, even on Thames-side. This is asafoetida, which comes from Afghanistan and the Punjab, and has its own quay. The packages in which it arrives weigh from 1 to 7 cwt.; each has a gunny wrapping on the outside, and within this is a wooden case lined with tin, enclosing the black, stiff, pasty masses of the asafoetida. The substance is emptied out on the floor of the warehouse, and indeed the whole floor for one-eighth or one-quarter of an inch in depth is paved with the residue of successive importations. Even outside the warehouse and along the quay are to be seen heaps of asafoetida covered with tarpaulin. A considerable number of drugs are not handled and sold at the docks, but come up to the town warehouses of the Port of London Authority in Cutler Street. The topmost of the six stories of the old East India Company's warehouse is given over to such drugs as are not sold at the docks. Here one may find myrrh in curious matt packings; aloes in "monkey" skins: cases of benzoin from Siam, which are opened and the contents divided with a cross-saw, so that the evenness of quality may be judged; gamboge, also from Siam, and dragon's blood from the Malay archipelago; elemi from the Philippine Islands, and great bales of sarsaparilla from Central America, each of them sealed with raw cowhide at the top and bottom, and bound together with cowhide thongs. Not all the drugs, however, which come to the market are sold by inspection of packages; a great number are sold by sample, the samples drawn at the docks being brought up for exhibition at Mincing Lane. After the sale the drugs are removed by the purchasers, but before they reach the hands of the pharmacist they are subjected to a careful process of handling in order to separate extraneous substances which may be the result of careless collection or intentional admixture. Thus every piece of myrrh is examined, and if necessary broken, so as to determine whether or not it is genuine, before it is passed on to the retailers. Senna leaves and pods are carefully picked over, and opium is searched for lead shot and other heavy material. The pharmacist, as Professor Greenish pointed out, is indebted to the wholesale druggist for standing between him and the wily native, who often skilfully sophisticates the drugs he collects.

WOMEN AS MISSIONARIES OF HEALTH.

In these days many women who find, with Sir George Cornewall Lewis, that life would be tolerable but for its amusements, are looking about for some worthy object on which to exercise their missionary zeal. It is admitted by the most bigoted antifeminists that there are numerous things which women can do more efficiently than men. One of these is the propagation of the gospel of social hygiene. The *Gentlewoman* has done well to call the attention of its readers to this field of activity. We agree with our contemporary that there is a crying need for a great campaign in every town and village in the land in the promotion of social hygiene, and that no class is better fitted for this work than intelligent women of the leisured classes. Even in these days of universal education the mass of the people is grossly ignorant of the fundamental facts concerning the preservation of health. The medical profession does its best to enlighten the public mind, but it would be greatly aided in its work of fighting disease if people knew more as to the aims and methods of rational medicine. In this it could be immensely helped by the co-operation of women who would spread the light of hygienic knowledge and dissipate the mists of ignorance. As we have often pointed out, it is deplorable that, notwithstanding all that has been done to free the human mind from error and superstition in regard to health and disease, people are still to so large an extent led astray by quackery and delusion. The waste of money on remedies advertised by men who trade on human ignorance and credulity is the least of the evils arising from this cause. Worse than that are the harm done by such remedies, the creation of legions of sufferers from imaginary diseases, the delay in seeking proper advice, and the final dashing of the hopes excited by the confident promise of impossible cures. Doctors who denounce quackery are often accused of jealousy; this charge could not be brought against women who voluntarily devoted themselves to the

work of saving the people from the consequences of their own stupidity. Without fussy interference in domestic affairs, they could insinuate useful truths, and their natural tactfulness could persuade where the dogmatic teaching of the doctor might fail. A vast field of work, beneficial alike to the people and to the community, is open to women who will help in the war against disease. They could instil sound elementary notions as to health into the children and by gentle persistence remove mischievous errors from the minds of the mothers. In this way they would clear away many of the prejudices which lie as stones of stumbling in the way of the doctor as he goes about his work. We hope the suggestion of the *Gentlewoman* will fall on fruitful soil.

THE CLERGY AND CREMATION.

ALTHOUGH the Church of Rome shows no sign of changing her attitude of determined disapproval of cremation, other churches are less unbending. It is particularly gratifying, for instance, to note that the clergy of the Church of England is becoming, if not positively friendly, at least less actively hostile than it was not many years ago. A conspicuous example of the change of feeling is shown in the charge delivered to his clergy by the Bishop of Rochester in his cathedral on November 11th. In it he declared that the future of cremation was assured however people might shrink from the idea. Why any one with the least power of imagination should shrink from the idea of a rapid and cleanly disintegration more than from that of a slow corruption, which is a dishonour to the dead and a possible danger to the living, we cannot understand. But we are satisfied with the fact that a bishop has expressed the conviction that cremation will prevail. So certain is he that he discusses the way in which the Burial Service should be used when a body is cremated. Should it precede the act of cremation, or, following it, be associated with the interment of ashes? There are difficulties, says his lordship, both ways. Some of these, being purely ritual in nature, are outside our province. But the chief difficulty in the ecclesiastical mind lies, we gather, in the disposal of the ashes. Are they, asks the bishop, to be left to the mercy of the official at the crematorium, or to be carried about by friends on journeys, or to be interred in some spot without any prescribed religious ceremony? Where is to be the ultimate resting place of the remains? Why not, we ask in return, in the columbarium? Or why should they not be buried in the grounds of the crematorium? Those at Golders Green, for example, could easily be adapted to the purpose, and could be transformed into a "God's acre" as comforting to human sentiment as a country churchyard, without the horrible suggestions of decay inseparable therefrom. We most heartily agree with the bishop that the place of interment should be kept a sacred spot for the pious care of relatives. We are sure that much of the prejudice against cremation would disappear if, as the bishop suggests, the religious service were made to centre not on the act of cremation but upon the subsequent interment of the ashes, the urn being treated just as the coffin is in the present ceremony. This is what we have always felt, and we confess we cannot see any difficulty in the absence of the body, which we believe is considered a vital objection by the Roman Catholic Church. In conclusion, we cannot do better than quote the words with which the Bishop of Rochester closes his reference to cremation: "The practice will undoubtedly grow, and we should be prepared to secure that it be not associated with any carelessness on the religious side. It may help us ultimately to a closer connexion with Christian hope than in these days of vast and crowded cemeteries. The rule which excludes from Westminster Abbey all interments but those of cremated ashes indicates that our cathedrals and our churches may, like our closed churchyards, once more become the resting places of our sacred dead under the very shadow of the Church."

AN AMERICAN RADIUM INSTITUTE.

A NATIONAL radium institute has recently been founded at Baltimore. The president is Professor Howard A. Kelly, of Johns Hopkins; the vice-president, Dr. Curtis F. Burnam, of Baltimore; the secretary and treasurer, Dr. Archibald Douglas, of New York. The institute has been established for the purpose of procuring a sufficient amount of radium to conduct extensive experiments in the treatment of disease. Investigations will also be carried out regarding the physical characteristics and chemical effects of radium rays, in the hope that possibly the effects of the rays may be produced by physical means. A radium clinic will be established at New York. There will apparently be no difficulty in obtaining a sufficient supply of radium. The *New York Medical Journal* of November 8th announced that Professor Kelly and Dr. James Douglas, an engineer of New York, had jointly bought twenty-seven claims of mining land rich in carnotite deposits in Paradox Valley, Montrose County, Colorado, and the radium there procured is to be used solely for philanthropic purposes and mainly for the treatment of cancer. It is not to be in any way a money-making scheme, and funds will not be accepted from outside sources. The American Bureau of Mines, in virtue of an agreement, will have the opportunity of a scientific and technical study of the mining and concentrating of carnotite ores, and of the most efficient method of obtaining radium, vanadium and uranium therefrom, with a view to increasing this efficiency and preventing waste. Nearly a hundred tons of high-grade carnotite have already been procured from the claims in Paradox Valley, which are regarded by experts as among the richest radium bearing regions in the world. Dr. Parsons, the President of the United States Mining Bureau, stated, in making the announcement, that not one cent of the radium to be extracted would be for sale; every milligram of the metal would be used in the cause of humanity. He added that the Bureau of Mines had evolved an entirely new method of extracting radium chloride which would materially reduce the cost.

ON the occasion of the celebration of the twenty-fifth anniversary of the foundation of the Pasteur Institute, Paris, the pupils and friends of Dr. Emile Roux, the Director, presented him with a medal bearing his effigy. Although he declined to sit for his portrait the likeness is said to be very good. The presentation was made by Professor Metchnikoff, and Dr. Roux took the opportunity of sending a fraternal greeting to all his old pupils and friends.

DURING the last two and a half years the medical staff of the Local Government Board in England has been deprived by death of three of its senior medical inspectors—Drs. Bulstrode, Darra Mair, and Sweeting; during this period Dr. Theodore Thomson, C.M.G., assistant medical officer, retired on account of ill health; and Dr. H. Franklin Parsons, assistant medical officer, shortly after his retirement under age-limit regulations of the Civil Service, died as recently as October 29th last. The small expert staff of the Medical Department of the Local Government Board can ill afford to lose these men of ripe experience. The excellence of their work had matured after long apprenticeship under distinguished masters— the late Sir George Buchanan, the late Sir Richard Thorne, and Sir William Power. Their appreciation of the sanitary and social conditions of the country had been acquired by constant travel over it in the execution of their duties. Their "field work" had brought them into intimate relation with problems of water supply, sewage disposal, housing, and industrial occupations, and with endemic and epidemic disease. From personal knowledge of these matters they were in a position to tender invaluable advice to those who sit in judgement at Whitehall. These five men were distinguished members of our profession, and their work has been of the utmost value to the State.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

London County Council.

Dispensary Treatment of Tuberculosis.

In connexion with the preparation of a comprehensive scheme for the treatment of tuberculosis in London,[1] the Public Health Committee on November 18th invited the London County Council to decide the general principles upon which it will approve of local dispensaries to be administered by the borough councils. It was proposed that a borough council should make arrangements to pay for patients residing in its district who attended dispensaries attached to hospitals in any part of London, and the following were the conditions which the Council should require to be observed in any local scheme for the provision of dispensary treatment:

1. The Council must be satisfied that the premises are suitable.
2. The scheme must include provision, either in the dispensary or at a hospital working in connexion with the dispensary, for the diagnosis of ordinary straightforward cases and of incipient, anomalous and difficult cases specially referred on the ground of difficulty of diagnosis.
3. The physician in charge of the dispensary (or "tuberculosis officer") must be a man of experience, not only in dealing with tuberculous affections, but also in general medicine.
4. Proper records and statistics in connexion with the work of the dispensary shall be provided of the nature and in the form required by the Council, and approved by the Local Government Board.
5. The physician in charge of the dispensary shall supply to the medical officer of health of the borough from which the patients are drawn such information as the medical officer of health may reasonably require, and the county medical officer of health shall be entitled to receive this information from the borough medical officer. The physician in charge of the dispensary shall also furnish the requisite information to any medical practitioner carrying out domiciliary treatment, or, in a case which is referred to a sanatorium, to the medical officer of the institution.
6. The scheme shall include provision for home visitation of patients, either by the dispensary physician or by the medical officer of health of the borough or his staff, and for the examination by the dispensary physician of such cases as the medical officer of health or a medical practitioner may require, either at the dispensary or in the homes of suspects and contacts.
7. The scheme shall be conducted with reasonable economy, and the expenditure shall be annually submitted to the Council for its approval.
8. The scheme shall provide for distinguishing clearly between the cost of treating insured and uninsured persons, having regard to the opinion expressed by the Council that insured persons shall not be paid for out of the rates.

The report was approved.

Control of Lying-in Homes.

The Midwives Act Committee reported, with reference to the decision of the Council to promote legislation for the control of lying-in homes and institutions,[2] that, as the Council had decided to proceed by means of registration in the case of nursing homes and massage establishments,[3] the Committee thought it best to withdraw its proposal to license lying-in homes and to substitute the policy of registration. The Committee understood that the Home Secretary would oppose an application for any powers more stringent than registration.

The Council decided to seek parliamentary powers on the lines recommended by the Committee.

Provision of a Street Ambulance Service.

With reference to the decision of the Council to make all possible use of existing agencies for the purpose of establishing an ambulance service for London,[4] the General Purposes Committee recommended:

> That the Metropolitan Asylums Board be invited to prepare and submit to the Council for its consideration a detailed scheme, with estimates of cost, of co-operation with the Council and other authorities in the establishment in London of an efficient ambulance service for street accidents.

Mr. P. A. Harris moved an amendment to substitute for the recommendation the following:

> That inasmuch as there is no authority in London which has the necessary stations or appliances with which to commence a satisfactory system of ambulances for street accidents, and as the cost of supplying and working the same must be a charge on the county rate, a special committee be appointed to consider and report forthwith as to the best methods by which the Council itself can organize an ambulance system on the lines now worked by the Corporation of the City of London, and as to the cost of bringing such a system into operation.

Mr. Harris said that almost every important town in the world except London had an up-to-date ambulance system. The question had been before the County Council for twelve years, and nothing had been accomplished, although every one recognized the urgency of the matter. If ever there were an ambulance system in London it would be due more to the persistent energy and enthusiasm of Sir William Collins than to anyone else. The number of accidents in the streets had risen from 10,000 in 1904 to 17,000 in 1907, and 20,000 at the present time.

Mr. J. D. Gilbert, who seconded, said the committee's proposal only meant further delay. He was informed by the city authorities that the cost of the two ambulances used there was £1,487, excluding the cost of the drivers, or in round figures, £2,000 per annum. At that rate a service of twelve ambulances could be provided in the rest of London for £12,000.

Mr. Ernest Gray, chairman of the committee, urged that the Council ought first to try and co-ordinate existing organizations. The Metropolitan Asylums Board declared that it could organize for a large part of London an efficient service; the hand litters attached to hospitals were the most convenient appliances for dealing with accidents happening near a hospital. It was not suggested that the ambulances used by the Asylums Board for infectious cases should be used for street accidents; it would be a comparatively small matter to purchase ambulances; the point was that the stations of the Board and its organization should be used.

The Rev. Dr. Scott Lidgett pointed out that if the organization of the Asylums Board were used it would be necessary to build isolated stations to overcome a natural prejudice on the part of the public. The Council had all the material for preparing a scheme itself, and in such a scheme the Asylums Board service could be co-ordinated. The Council would have to pay the whole of the cost, and it had no means of securing representation on the Asylums Board.

Mr. W. H. Ecroyd, a member of the Asylums Board, hoped the Council would understand that if it handed over this work to the Board the scheme to be produced would be an absolutely new service. This was stated at a recent conference with the General Purposes Committee. Most of the existing ambulance stations were used for infectious cases, and it would be necessary to partition them off and make the accident department separate. The ambulances of the Asylums Board were unfitted for general accident cases; they were not suitably constructed, nor were they driven by electric power. If the Asylums Board had been given power by the Legislature to provide an ambulance service, it would never have shirked the responsibility and asked another body to carry out the work.

On being put to the vote in a thinly attended house, the amendment was lost by 36 votes to 17, and on a division by 66 votes to 44.

In the course of further discussion, Mr. R. C. Norman, Chairman of the Finance Committee, admitted that if it were found that the Asylums Board would have to promote an entirely new scheme there would be no point in their undertaking the duty in preference to the County Council. At present the Council did not know that this would be the case.

The recommendation of the committee was ultimately approved.

Medical Inspection and Treatment.

Some discussion took place with reference to a summary presented to the Council of the report of the school medical officer, Dr. Kerr.[5] In reply to various comments on the report, the Chairman of the Education Committee (Mr. J. W. Gilbert) said that dental treatment must

[1] British Medical Journal, November 8th, p. 1252.
[2] Ibid., August 9th, p. 343, and October 25th, p. 1111.
[3] Ibid., November 15th, p. 1326.
[4] Ibid., November 16th, 1912, p. 1419.
[5] British Medical Journal, October 25th, p. 1112.

necessarily proceed slowly, because it was not popular with either parents or children. He did not agree with members who had urged the advantages of the whole of the medical inspection staff being a permanent one. It would be a great misfortune if there were a large number of doctors the bulk of whose work was confined to the routine duties of inspection. He had hoped that a system of half-timers might be tried, but, failing that, he would like a very large proportion of the service to consist of doctors who were only appointed for a limited period. The doctors who undertook medical inspection should be kept in touch with medical treatment as far as possible. Mr. Gilbert indicated that a report on the conditions of the school medical service would shortly be forthcoming.

Metropolitan Asylums Board.

Scarlet Fever: Shortage of Nurses.

The Hospitals Committee reported to the Metropolitan Asylums Board on November 15th that owing to the unusual incidence of scarlet fever this autumn it had not been found possible to admit immediately every case notified for removal. This was due to the fact that, although there were vacant beds ready for patients, the requisite nursing staff of the lower grades could not be procured. The medical officers were asked to furnish daily lists of the most urgent cases, and the immediate difficulty with regard to the nursing staff was being met to a certain extent by the engagement of a large number of institution nurses. The principal medical officer had been asked to report on the existing terms and conditions of employment of the nursing staff at the Board's infectious hospitals, with a view to discovering whether any alterations were necessary to render the service more attractive.

In reply to a question, the chairman of the committee, Dr. Elliott Browne, said that at the moment there was not a single metropolitan case outstanding, a great many having been dealt with since the report was prepared.

A return presented to the Board showed that on November 8th, out of 5,177 fever patients in the various hospitals, 3,699 were suffering from scarlet fever, as compared with 2,354 so suffering on the corresponding day of 1912.

Medical Superintendent of Darenth Industrial Colony.

The Finance Committee recommended that the salary attached to the joint office of medical superintendent of the Darenth Industrial Colony and mental specialist of the Bridge Industrial Home, made vacant by the appointment of Dr. Rotherham as a Commissioner under the Mental Deficiency Act, should be at the scale of £700 per annum, rising by annual increments of £50 to £900 per annum, with emoluments consisting of unfurnished house and washing. The chairman of the committee said it was anticipated that one of the Board's present officers would be able to fill the position, but several members urged that the appointment should be advertised, because the duties would become even more important owing to the passing of the Mental Deficiency Act. It was also suggested that the proposed salary was not high enough to attract the very best candidates. The question was referred back to the Committee for further consideration.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Medical Treatment of School Children in Edinburgh.

At a meeting of the Edinburgh School Board on November 10th the Health Committee reported that it had received intimation from the Education Department that the sum of £700 had been allocated to the board for the medical treatment of necessitous school children for the period to the end of January, 1914. Dr. Shoolbred suggested that the board might now reconsider its policy in this matter. But Mr. Murray said that unless medical treatment followed upon school medical inspection no service would be rendered, and he hoped the policy would not be disturbed. Mrs. Leslie Mackenzie, the convener of the committee, pointed out that the £850 received in the past year had been spent mostly in the board's own institution for the medical treatment of children, and the matter was allowed to drop. With regard to the treatment of ringworm and favus, it was elicited that the Lauriston skin disease school was not providing for all the cases, for whilst there was accommodation for 60 in the school 270 cases had been reported in the city. It was agreed that if the board had an *x*-ray installation of its own, it would be possible to put more children through the school.

A Canadian "Herbal."

At a meeting of the Botanical Society of Edinburgh, held on November 13th, a paper was read on behalf of the Hon. W. R. Riddell, giving an account of the pharmacopœia of the botanical physician eighty years ago, as described by Samuel Thomson, a "herb doctor," in his book published at Hamilton, Upper Canada, in 1832. Several books have been written on Thomson and his work. The following is the title of one published at Philadelphia in 1835:

> The Thomsonian's Manual and Vade Mecum; being a synopsis of the theory and principles on which is based the botanic practice of medicine, as promulgated to the world by Samuel Thomson; and also a comparison of its simplicity, efficacy, and merits, as contrasted with the principles and practice of the mineral school of medicine.

Medical Mission Work of the Church of Scotland.

On November 12th Dr. Sargood Fry, of the Edinburgh Medical Missionary Society, presided at a sale of work under the auspices of the Invalids' Auxiliary, and Dr. Lechmere Taylor gave an account of medical missions in the Punjab. He said there might be an impression, in view of the many Indian medical students and the Government aid, that the need for medical missions was not pressing, but it had been computed that 100 millions of the people of India, more than twice as many as the inhabitants of the British Isles, were without the simplest medical aid; and the medical mission established the humane and kindly relationship without which they could not dare to speak to the people of higher things.

Henley and Lord Lister in Edinburgh.

A letter appeared over the signature "Archibald Constable" in the *Scotsman* newspaper for November 13th pointing out the debt of Edinburgh, and particularly of medical Edinburgh, to the poet Henley. The late poet's "hospital" verses, it is generally known, are really a poem on the Edinburgh Royal Infirmary, and the writer in the *Scotsman* asserts of them that they contain "such a picture of the staff, ways, methods, and scenery, so to say, of a great hospital as has been made in and of no other city." The "chief" (Lord Lister), the "staff nurse, old style," the "house-surgeon" (John Duncan), the "children," the "lady probationer," and the "visitor" ("bearing a sheaf of tracts, a bag of buns") are all enshrined in Henley's haunting lines. It was whilst the poet was still at the Crypt Grammar School at Gloucester that he began to have signs of the disease which sent him to Edinburgh and to Lister. The surgeon asked him why he had come, and the answer, given by L. C. Cornford in his life of Henley, was, in effect, "because the rest of the profession had declared that he (Professor Lister) was incompetent. Lister said nothing, but he saved the foot." The Crypt Grammar School has now in view the foundation of a Henley scholarship, and it may be that medical men of these past days, whether in Edinburgh or outside of it, will wish to help on this permanent memorial to the poet of the old infirmary, and indirectly to his helpful surgeon "the chief," who battled so well "with custom, prejudice, disease," and brought in a new era in the chirurgeon's art.

Edinburgh Hospital for Women and Children.

At the quarterly meeting of the executive committee of the Edinburgh Hospital and Dispensary for Women and Children and the Hospice the appointments were confirmed of Miss Mary Rankine as Senior Resident; Miss Winifred Buckley as Junior Resident; and of Miss Jean Cuttle as Resident at the Hospice. The hospital is in Whitehouse Loan, and the dispensary is at 25, Grove Street. It was reported that the hospice, which is the maternity centre in the High Street, had been recognized under the Insurance Act for midwifery cases.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

History of the Rotunda Hospital.

At the last meeting of the Board of Governors of the Rotunda Hospital, the Master, Dr. Henry Jellett, presented to the board, in the name of Dr. T. P. C. Kirkpatrick and himself, the *Book of the Rotunda Hospital*. It forms the first comprehensive history which has been written of this world-known hospital. It deals with its subject from a very broad standpoint, so that it will be appreciated not merely by medical men, but by the layman who is interested in the history of Dublin during the Georgian period and afterwards. The profits of the sale of the book will be given to the funds of the hospital. The following resolutions were passed:

That the best thanks of the governors be given to Dr. Kirkpatrick and Dr. Jellett for the very able, interesting, and useful history which they have written of the hospital.

That Dr. Percy Kirkpatrick be proposed to fill the office of governor in recognition of his eminent service to the hospital in preparing the *Book of the Rotunda Hospital*.

Ulster Medical Society.

The annual dinner of the Ulster Medical Society was held in the Medical Institute, Belfast, on the evening of Thursday, November 13th. Mr. A. B. Mitchell, the President for the present session, occupied the chair. Among the guests were the Recorder of Belfast (His Honour Judge Craig); Dr. Fitzgerald, President of the College of Physicians of Ireland; Dr. Purefoy, President of the College of Surgeons of Ireland; Dr. J. Walton Browne, D.L., the new Honorary Fellow of the Ulster Medical Society; and Dr. Lawless (Armagh), President of the Ulster Branch of the British Medical Association.

After the usual loyal toast, Sir William Whitla gave a short account of the movement to present a portrait of the late Dr. Joseph Nelson, a former President of the Society, to the Medical Institute, and now formally handed over the picture to the trustees to hang on the walls of the institute. The President called upon Dr. J. Walton Browne, the life-long friend of the late Dr. Nelson, to unveil the portrait. Dr. Walton Browne, in doing so, said he had known Dr. Nelson for over fifty years; their acquaintance began when they were at school, and had grown into an intimate friendship which had lasted till death intervened. During Dr. Nelson's career as a student the Italian war of independence took place, and this bold and youthful student and some other kindred spirits offered themselves as volunteers, drilled in a small hall in Belfast, and left for Italy. Nelson was present at some of the engagements, for which he afterwards was awarded a medal and clasps. In later life he revisited the scenes of his early campaigns in company with Sir William Whitla. He returned home, completed his M.D. course, and sailed for India. He was in partnership with the late Dr. Coulter in tea plantations, but assiduously practised. He returned home and studied the specialities of the eye and ear, of which he already had considerable experience on the Continent. He was appointed to the Belfast Royal Hospital, and eventually became consulting surgeon under the rule as to age limit. Dr. Browne paid a high tribute to the character of the late Dr. Nelson, which was echoed in the hearts of most present, as they had known him so long and well.

Professor Lindsay, in an eloquent and humorous speech, proposed the toast of "Irish Medicine," which was responded to by Dr. Fitzgerald and Dr. Purefoy. Dr. J. Walton Browne was then admitted by the President to the roll of the Honorary Fellows of the Ulster Medical Society. It was, he said, the highest honour the society could bestow, and as yet it had on its list but few names. They all honoured and esteemed the new Fellow, congratulated him on the distinction bestowed on him by the Lieutenant of the city, and wished him many years of happiness. Dr. Browne replied. Mr. R. J. Johnstone proposed "Our Guests," which was responded to by His Honour Judge Craig and Dr. Lawless.

Sir Thomas Myles, who proposed "The President," said that Mr. Mitchell had been one of his most promising pupils, and he was delighted to see him verifying the prediction he had made. The President replied, and said how much the society owed Mr. Irwin, the Honorary Secretary, for all his trouble in the preparations for the evening, and proposed his health; Mr. Irwin replied.

New X-Ray Departments for the Cork Infirmaries.

Both the North and South Charitable Infirmaries in Cork are to be provided shortly with a modern installation of *x*-ray apparatus. The South Infirmary received a gift of £500 for the purpose from a donor who wishes to remain anonymous, and within the last few weeks the North Infirmary, on the recommendation of the medical staff, has decided to instal an apparatus of the latest pattern. The Committee of Management of the North Infirmary has appointed Dr. C. B. Pearson to be radiologist to the institution. Dr. Pearson, who is the son of Professor C. Yelverton Pearson, F.R.C.S., one of the senior surgeons of the North Infirmary, has received a special training in this work at the London Hospital. A subcommittee of the Board of Management of the infirmary was appointed to confer with a subcommittee of the medical staff, and bring up a report on the measures necessary to put the *x*-ray department on a proper footing.

Appointment of Tuberculosis Officer for Belfast.

At the meeting of the Belfast City Council on November 3rd Dr. Andrew Trimble was appointed chief tuberculosis medical officer at a salary of £600 a year. Dr. Trimble is to devote the whole of his time to the performance of such duties as may be required of him by the council in connexion with the prevention and treatment of tuberculosis, and is to reside in the county borough; the appointment is terminable at any time on three months' notice.

Dr. Trimble was formerly a member of the City Council, and was chairman of the Children's Committee; he has devoted much time and energy of late years to the tuberculosis question, and has studied personally the problems in London and Edinburgh. He has shown himself an able and energetic organizer, and his professional brethren offer him their hearty congratulations, and look forward to an advanced and scientific campaign against tuberculosis in Belfast.

Outbreak of Poliomyelitis.

At the last meeting of the Cookstown Rural District Council a report was read from Dr. Robert Burgess, J.P., medical officer of the Coagh Dispensary District, in reference to an epidemic of poliomyelitis in his district. There had been almost thirty cases, with four deaths. There had been no instance of two patients in the one household. Dr. Burgess has had the assistance of Dr. Brian O'Brien, one of the medical inspectors of the Local Government Board, who has paid two visits to the patients, and was on one occasion accompanied by Dr. Gardner Robb of Belfast. Both regarded the outbreak as serious. The ages of the four children who died ranged from 9 months to 11 years. All the schools in the district have been closed.

Alcohol in Infirmaries.

The Enniskillen Poor Law Guardians have appointed a committee to inquire into the amount of alcohol consumed in the local infirmary. The question was raised by a guardian, who held that an enormous amount of liquor was used in the workhouse, and argued that alcohol was destructive of health.

India.

[FROM OUR SPECIAL CORRESPONDENTS.]

The Countess of Dufferin's Fund.

The report of the National Association for Supplying Female Medical Aid to the Women of India for the year 1912, drawn up by Lieutenant-Colonel J. R. Roberts, C.I.E., M.S., honorary secretary of the Central Committee, indicates steady progress throughout the Indian Empire. The map accompanying the report shows that the operations of the fund embrace the whole area of British and native India. There are fourteen provincial branches in existence and active employment, and 140 local and district associations or committees. The number of hospitals and dispensaries in which women are treated by women is 190, and in these 1,297,428 patients were treated; 49 lady doctors, 97 assistant surgeons, and 434 hospital

assistants besides midwives and nurses are employed, and 557 women are studying or undergoing training. It is in contemplation to establish in Delhi a medical college hospital and training school for nurses in connexion with the fund. A scheme for the creation of a women's medical service for India is under discussion. Measures are being adopted for raising the pay and status of lady doctors and giving them greater independence. The finances of the fund are in a satisfactory position. The affiliated "Victoria Memorial Scholarship Fund" for the instruction and training of native midwives is also, under some difficulties, making substantial progress.

Special Correspondence.

BERLIN.

The Berliner medizinische Gesellschaft: Plans for its New Home.—Support for Insurance Doctors.

THE rapid increase in the membership of the Berliner medizinische Gesellschaft during the last few years has produced much the same state of uncomfortable overcrowding as was the case with the Royal Society of Medicine before its removal to Wimpole Street from Hanover Square. At a meeting last week in the premises which have for many years been held on lease from the Surgical Society—the Langenbeck-Haus—it was decided to commence on April 1st, 1914, the construction of a new and permanent home in the medical quarter of Berlin. This has been rendered feasible by an increasing subscription list and several generous donations to the building fund. The estimated cost reaches the large total of £87,500, and the municipality are guaranteeing a subsidy of £50,000 for the purpose on condition that a number of popular lectures on subjects connected with public health be annually delivered by members in its precincts. There is to be seating accommodation in its largest lecture hall for 900 persons, and the building is to be called by the names of those two great fathers of German pathology and surgery—the Virchow-Langenbeck-Haus. There will be plenty of room available for research laboratories, waiting-rooms for patients, a library with accommodation for 200,000 volumes, and reading rooms. A point of interest to English readers is the compliment paid to the founders and designers of the Royal Society of Medicine's premises, by a resolution to utilize the London building as a pattern. It is hoped that the new house will become the centre of medical Berlin.

The meeting then passed on to the business of the day, and unanimously adopted a resolution to support the doctors in their strenuous fight with the insurance societies. This attitude is all the more significant in that the Berliner medizinische Gesellschaft is a strictly scientific organization, and makes it a rule not to take part in any sort of medical polemic.* The chairman, Dr. Orth, who introduced the resolution, said that the doctor must never be allowed to become a servant, and that the high ideal which every physician had before him must never be allowed to deteriorate. He was supported by Professor Kraus—one of the most eminent of university professors on the teaching staff—who maintained that the true relations between doctor and patient could never be upheld so long as the patient was unable to select the man in whom he had confidence. This was impossible so long as the societies were able to choose their own men, to the exclusion of the rest of the profession. Dr. Munter, who represented the practitioners, and who has been very prominent in the efforts that are being made, spoke last and drew attention to the fact that whereas on the one hand the Government had instituted chairs of hygiene and social medicine, they were preventing by legislation the majority of medical men from putting their hard-won learning into practice.

* The meeting is referred to more at length at p. 1391, where the text of the resolution is printed.

DR. HANS KOHN, the assistant editor of the *Berliner klinische Wochenschrift* has received the title of Professor. Dr. Kohn has done valuable work as prosector of the Poliklinisches Institut of the Berlin University.

Correspondence.

WHOLE-TIME CLINICAL PROFESSORSHIPS.

SIR,—Your leading article under the above heading[1] appears at a most opportune time. We are apparently on the eve of an endeavour to revolutionize medical education in London. Last summer a committee of eight members was constituted to turn the report of the Royal Commission on University Education in London into a practical measure to ascertain how a real living working university could be evolved from the colleges, schools, and institutes which already exist within the metropolitan area.

I am concerned only with the medical or hospital schools: they clearly constitute the most difficult part in any scheme of university development. A close study of its report shows that the Commission was fully alive to the difficulty of making the hospital schools departments of the university. The present Minister for Education also realized these difficulties, for in the small Departmental Committee which, I suppose, is now at work, he included two medical men—a representative of clinical studies and another of intermediate medical subjects. If the work of this Committee is strictly circumscribed by the findings of the Royal Commission, if its sole business is a strict application of the conclusions of that Commission, then any advice or suggestion at this stage would be too late. A careful study of the Commission's report, however, leads one to suppose that the action of the Departmental Committee is not circumscribed or strictly limited. It appears to have powers of modification. For instance, on page 137 of the Final Report, it is stated:

> At the same time we realize to the full the many practical difficulties involved in making even a beginning of reorganization, and the exact method or line of advance may prove to be different in detail from that suggested here.

Again, on p. 133:

> The main thing is, that whatever steps are taken they should be taken with foresight, so that the system when once introduced could be developed naturally to its full expansion without waste.

Further, on p. 131:

> Without money[2] it will be impossible to do anything; but we must make our recommendation on the assumption that enough money will be forthcoming to allow at least a beginning to be made in the organization of medical education in clinical subjects which admit of natural development.

From those quotations it will be seen that the Departmental Committee, in the onerous task which now lies before it, is not bound hand and foot; it must formulate a scheme "with foresight"—one which can be "developed naturally to its full expansion without waste."

Let us look closely at the scheme which the Commission had in mind. It is the "hospital unit" scheme; four elements are essential to each unit:

1. A paid professor.
2. A suite of wards.
3. Paid and expert full-time assistants.
4. The means to conduct clinical investigation either in or near the wards.

Those who know the needs of the metropolitan hospital schools most intimately recognize at once that two of these recommendations—full-time expert clinical assistants at liberal salaries, and ample opportunities for clinical investigation and research—are boons too long deferred. At every hospital there are young men waiting—ambitious, able and willing to help in the advance of medicine—but the means and the opportunities are denied them because they must spend the very best and most profitable years of their lives in the routine of the medical school and hospital in order to earn enough to keep themselves in food and clothes. To those who know medical London best, it is not the waste of clinical material but of clinical ability that hurts most. The Commission realized that waste of medical ability, the

[1] BRITISH MEDICAL JOURNAL, November 8th, p. 1242.
[2] A sum of £35,000 annually is proposed for education in clinical medicine.

ability to extend and improve the foundations of medicine; but while it realized the waste it failed to grasp its importance, for in the programme of its recommendation the physician of to-morrow is altogether overshadowed by the physician of to-day—the professor. The professor is the main pivot on which its scheme of the "hospital unit" turns. To the writer he is the least important. If possible, the professor is to be an amply-paid, full-time physician, surgeon, or gynaecologist. The Commission frankly recognized the full-time professor as an impossibility in the meantime. It expressed its willingness to be content with part of his time; the remainder could be spent in private practice.

Let us look more closely at the reason the Commission gives for the appointment of professors. Take the Professor of Medicine for an example. He is to introduce the university spirit to his wards—the spirit of research amongst his students—that spirit which rouses the student, when he has reached the necessary point in his studies, to become a first-hand observer and inquirer. He is to be Professor of Medicine—to profess a first-hand knowledge of the whole gamut of medicine, from brain to skin. Such a professor is nowadays an impossibility. No first-rate physician or surgeon would undertake the drudgery of imparting to students knowledge he can only know at second hand. Three-fourths of his instruction would be taken at second hand. The advance of medical knowledge is such that no man, be he ever such a genius, could fill a chair of universal medicine; at the very best, if he is to keep up and keep his school up to a university standard—the standard the Commission insists so much upon—he can only profess that one section of medicine, the one to which he has devoted himself. That is a fact which the Commission failed to realize; yet any scheme which is based on three men—a Professor of Medicine, a Professor of Surgery, and a Professor of Midwifery and Gynaecology—carrying in their single heads the whole fabric on which medicine rests is antiquated and foredoomed to failure.

The Commission has made this blunder; it is to be hoped the Departmental Committee is not going to try to perpetuate it. If so, the chance of a lifetime is gone. Single professoriates are not only antiquated, they are impossible for London. The Committee must therefore fall back, if it would find a way out, on that clause of the Commissioners' report which states, "the line of advance may prove to be different in detail from that suggested here." It is not a matter of "may"; it is simply "must." If medicine or surgery are to be living subjects—growing, advancing subjects—they must be taught by the men who are advancing or specializing in each of its great branches. At least there must be one man for each of the four or five great divisions into which medicine in modern times has fallen. An equal division is necessary for surgery. Why call them professors? Would not university physician or surgeon be enough?

The proposal, then, is that the Departmental Committee, when it comes to establish relationships with one or more hospital schools, should try, not to obtain one unit for medicine, one for surgery, and one for obstetrics and gynaecology, but at least four units in each of the principal subjects. The details of how such a scheme can be applied must rest with the Departmental Committee and the authorities who control the hospital and attached schools. The first point the Committee has got to realize is that single professoriates are antiquated and absolute impossibilities in London.—I am, etc.,

November 15th. P.

Sir,—It would be fortunate if "W. O.'s" clear warning as to the possible dangers of whole-time clinical professorships and "W. H. W.'s" not altogether convincing attempt to allay his fears should arouse the teachers of medicine in London to the risk that is before them of a definite committal of their university to Mr. Flexner's ideal.

The profession is passing through a period of rapid and considerable change. Old methods of running hospitals and carrying on the clinical education of our students are not perfectly adapted to modern conditions, and seem likely to be still less satisfactory in the near future. Great changes are undoubtedly necessary, but all changes would not necessarily make things better. The particular change as to which "W. O." warns us, that it might be "very bad for the professor himself and for his students," and as to which "W. H. W." shows us, that it need only be applied to one-quarter of the teachers and one-half of the students, seems to me to be likely to make a good many things worse.

Every clinical teacher in each of the ten medical schools of London finds his work daily becoming more difficult and unsatisfactory for want of adequate machinery and co-ordinated effort to deal with the increasing complexity of medical science, and a reform is proposed which its supporters recognize can only, at the most, be applied to three out of the ten schools, and only to three out of the thirty or so clinical teachers at each of these three schools. "W. O." thinks it might be "very bad" even for these nine men and their pupils. "W. H. W." shows us how it might be possible to breed a healthy competition between the fortunate or unfortunate nine and their very numerous colleagues for whom this reform seems to be capable of doing little if anything else. "W. H. W.'s" proposal that the services of this small group of super-physicians and surgeons when established should be reserved exclusively for the particular social class who receive the charity of our hospitals, appears, as soon as it is put to the test of practice, so illogical that we are told that it has been arranged that the whole-time professors at Johns Hopkins are "free to see and treat any one inside or outside the hospital, but for such service they are to accept no personal fees." It is a difficult position. If these professors give their services free to all comers, however wealthy, there must be an awkward feeling that they are dealing unfairly with their colleagues, whereas if the hospital charges a fee for its whole-time professor's services a new terror of hospital abuse is introduced. So "W. H. W." proposes that they should do no private work at all. Now, unless these men become really better physicians and surgeons as a result of their improved and special opportunities, the scheme stands confessed a failure. If they become more competent men to deal with a particular class of case, the restriction of their services to those patients only who can claim hospital charity must come to be regarded as against public policy.

Altogether the proposal is of such doubtful advantage, it raises such troublesome problems of professional relation to the public, it is so extraordinarily expensive, it touches such a small fringe of the problem of the reform of medical education in London, and it is based on such a misapprehension as to the proper place of clinical instruction in the scheme of medical education, that it is earnestly to be hoped that we shall listen to "W. O.'s" warning, and, discarding Mr. Flexner's advice, proceed to evolve some other methods of reform consonant with our British ideals which will allow us to retain and perfect for the purposes of medical education all the existing medical schools of London with their unrivalled clinical material.—I am, etc.,

November 18th. L. E. S.

THE SCIENTIFIC WORK OF THE ASSOCIATION.

Sir,—The leading article and the report in the Supplement of the Journal for November 15th of the action that the Council is taking to stimulate and revive the scientific work of the Association are most satisfactory. The scheme outlined appears at first sight to be good. Of the necessity for some such undertaking there can be little doubt. First, in the interests of existing members who of late have been sickened of medical politics; it is necessary also to prevent defection from the Association and to attract new members, and to enable us to maintain our position as a society for the advancement of medical science. This work should be undertaken with much greater ease now that a separate department has been instituted for dealing with national insurance. If the work is to be effective the initiative must come from the central body, as also must the primary organization; and it will be necessary, too, for this body to persist in its encouragement of the Branches and Divisions in their attempt to develop their scientific work.

Although there must be in any scheme the greatest elasticity to meet all local wants and the special conditions of different places—to meet the different wants of men living in the town and men living in the country—certain general principles will be essential if the work is to be continuous and homogeneous.

Without which there will be much waste of a quantity of valuable material. There must exist among the members of the Association an enormous amount of knowledge and experience, some of it probably unique, and a certain amount of original thought. The use of the greater part of these is lost to the medical community, and it is in every way desirable that they should be collected and digested. At the same time there are certain new ideas and discoveries the knowledge of which it is desirable to disseminate. Collective investigations that have been conducted in the past have been too artificial and too formal, and many of the scientific meetings have been not only too formal, in consequence of which members have been diffident to enter into the discussions, but they have been too omnibus in character. While it has been felt all should be interested in the meeting, it has been forgotten that it is impossible to satisfy all sorts of medical men at one and the same time. The foundation of any scheme to carry out these objects must be the small informal meeting; if in addition it were of a social character, as it probably would be, so much the better. The matter for inquiry having been decided upon, it would be discussed in the first instance by quite small groups of medical men; they might meet together in one another's houses, whether in the country or in the town. They might afterwards discuss the same subject at a larger or Divisional meeting. At either of these meetings it would be a great advantage to have the assistance of a consultant specialist or lecturer from some neighbouring town or school either to take part informally in the discussion or to initiate it by a clinical lecture or demonstration. The next step would be discussion at a Branch meeting. General practitioners and consultants would all take part in this. And, lastly, a special debate could be arranged at the annual meeting of the Association and a special number of the JOURNAL devoted to the subject.

Conversely, the process of dissemination might commence by a debate at the annual meeting, discussion in the Branches, and finally in the small groups first mentioned. In this way new ideas of pathology and treatment, for instance, might be made known to, investigated by, and tested by, medical men in practice. This process of distribution might well be followed by the reverse process of collection in regard to the same subject. But whatever scheme is adopted it will be absolutely necessary for the Council to give a very strong and active lead. The response of the Branches may at first be indifferent, but it is to be hoped this will not discourage a continued effort in the same direction. The example of Newcastle and Edinburgh ought to encourage the Council in their endeavour; it will be necessary, too, to enlist the invaluable help of our JOURNAL, and it is worth considering whether in addition to the Science Committees of the Branches it would not be well to institute science centres in various parts of the country, for instance where there are universities or medical schools. By some such scheme as the Science Committee of the Council has outlined we should be enabled to co-operate with those existing medical societies which have hitherto held aloof from us, partly probably because of our political activities. As the work succeeds it will not only assist individual members in the practice of their profession, but it will strengthen our Association and enable it to hold indisputable position as a recognized authority in questions of medical science as well as of medical politics.—I am etc.,

Bradford-on-Avon, Nov. 17th. C. E. S. FLEMMING.

PROPOSED INCREASED SUBSCRIPTION.

SIR,—I have just attended a meeting of my Division at which the increased subscription was discussed. As a private member, may I be allowed to say that many of us did not know what we were voting for? It is clear to me now why this was so. Two distinct matters are really involved in what seems a simple question demanding a simple answer, and if these could be kept separate I think the air would be cleared.

1. If it could be shown us that an increase is necessary for the maintenance of the Association as it is, I am sure an overwhelming majority would be secured for this. We do not want to see the Association go under.

2. Unfortunately—and I regard this as a blunder—the proposed increase has tacked on to it a new programme, organizing secretaries, sub-officer, etc. Now many of us are not convinced of the necessity of this, even after carefully reading our SUPPLEMENTS, and if we oppose the increase it may be because we object to paying for a policy that we consider wasteful.

What I now ask for is a succinct financial statement—budget in fact—indicating what increase is necessary for the effective carrying on of the Association as at present organized and staffed. Then, and then only, shall we see clearly how much of the £2 2s. is required to put into effect the new proposals.—I am, etc.,

Nottingham, Nov. 18th. A. CHRISTIE REID, M.D.

THE CRAZE FOR APPENDICECTOMY.

SIR,—Herbert Spencer tells us that there is "an element of error in the greatest truth, and an element of truth in the greatest error," so doubtless there is an element of truth in what Dr. Robert Hutchison has said about the "craze for appendicectomy," for there can be no doubt that there are unfortunately some, but not many, who have had the appendix removed and have yet continued to suffer.

From what I have seen and heard I have come to the conclusion that in many of these a due amount of care has not been given to the preliminary diagnosis. It is safe to assume that there is no immediate danger to life in those doubtful cases which Dr. Hutchison has in mind, and there is no reason whatever for a hasty operation. Every doubtful case should, in my opinion, be placed under observation for at least a week, and kept in bed so that an accurate record of the temperature and pulse can be obtained. Not long ago a man who had never had an attack of appendicitis, but who had continuous pain and discomfort in the right iliac fossa, with tenderness there, entered a nursing home with a temperature close upon 100° F. and an accelerated pulse. Then a dose of castor oil often affords the most important information. For instance, a quantity of scybala may be got rid of, and the pain, discomfort, and tenderness depart; or the evacuations may contain much mucus, or mucus and membranes. These forms of colitis are not difficult to recognize.

But there is another kind of colic or colitis associated with the presence of intestinal sand which may be easily overlooked unless the patient be placed under observation and the sand searched for in the evacuation. A mother who was thought to have appendicitis had much mucus; her daughter who was thought to have appendicitis has much intestinal sand. Both are well after the lapse of several years.

But it is not always improper—as Dr. Hutchison implies—to perform appendicectomy when colitis is present. Sometimes appendicitis causes a colitis which is cured by appendicectomy. Then there are those cases in which colitis spreads to the appendix. In my experience this appendicitis is not in the least dangerous, but may be a source of additional pain and discomfort. In a case of this kind, under the care of my colleague Sir Lauder Brunton, I removed the appendix, with amelioration of the symptoms. But, obviously, such an operation should only be done under exceptional circumstances, after much consideration, and after consultations between physician and surgeon.

Then there is another very difficult type of case in which there is need for great circumspection—namely, those in which a too movable kidney is associated with other symptoms pointing to appendicitis. These symptoms often depart during the period of probation, and after aperients.

I do not know whether it is sufficiently recognized that the gouty may have pain and discomfort in the region of the caecum, and which are put right by treatment, but not by an unnecessary operation.

The stomach symptoms in chronic appendicitis may overshadow those which point to the appendix, and the patient may be in more danger of a needless gastro-enterostomy than of a necessary appendicectomy. But such cases as these should certainly go through the hands of the physician, so that the presence or absence of one or other of the numerous diseases of the stomach may be ascertained. Occasionally appendicitis may be associated with an ulcer of the stomach or of the duodenum. In a case of appendicitis in which there were very strong reasons for

thinking that a gastric ulcer was also present, the removal of the chronically inflamed appendix was followed by a cure. But in another case of appendicitis, in which a duodenal ulcer was suspected, and, I believe, afterwards found, the removal of the appendix had not, after about three months, led to such a happy result. Here the removal of the appendix as a preliminary proceeding was concurred in by my colleague Dr. Horder.

In conclusion, I cannot help thinking that the failures to which Dr. Hutchison refers are often attributable to insufficient clinical observation during a period of probation. But it is difficult to believe that these failures are so numerous as to justify the use of such a censorious question—begging epithet—as that which heads Dr. Hutchison's letter.—I am, etc,

London, W., Nov. 18th. C. B. Lockwood.

Sir,—Surgeons who take more than a passing interest in their cases will welcome Dr. Hutchison's letter on the wisdom or otherwise of removing the appendix to relieve distant or reflex symptoms, as the public, and indeed a large section of the profession, are inclined to agree with him in this, and it is high time that they should be shown the gratifying success attending such treatment. Nobody but a surgeon who is constantly doing abdominal surgery, and who keeps in closest touch with his cases during convalescence and sees them from time to time afterwards, can possibly appreciate the condition causing the trouble and the measures necessary for their relief. It is not the irritation of a diseased appendix alone which is answerable for the symptoms, although one speaks of "chronic appendicitis" and advises its removal. The associated adhesions, "Jackson's membrane," malformation of the appendix and its mesentery, displacement into fossae behind the bowel and consequent pressure upon the nerve supply, and later on the blood supply, all combine to produce the train of symptoms calling for operation, and any one of them alone is sufficient to cause a great deal of discomfort, indigestion, and ill health.

Dr. Hutchison speaks of some patients' condition as being aggravated by removing the appendix. This is, in my opinion, due to the fashionable craze for operating through such a ridiculously small incision that it is impossible to investigate the above-mentioned conditions, which are found more often than not associated with chronic appendicitis. Two of my cases within the last year were apparently no better after operation, and in each extensive adhesions were subsequently divided which had been missed through operating through a 1½ in. incision.

Both are completely cured. So far from surgeons needlessly removing the appendix, the pity is that the train of symptoms caused by its disease, and the other pathological conditions accompanying (or causing) it, are not more recognized. Early surgical treatment would save many a one from chronic dyspepsia, hypochondriasis, neurasthenia, obstinate constipation, intestinal toxaemic attacks, and many other troubles which baffle the physician and make the patient's life a misery to-day.—I am, etc.,

H. Stedman, F.R.C.S.,
November 18th. Surgeon to the Hendon Cottage Hospital.

THE METHOD OF DEALING WITH SCARS BY MULTIPLE INCISION.

Sir,—I was much interested in the article by Mr. Tubby in the Journal of November 1st. When acting as House-Surgeon to the Westminster Hospital I saw Mr. Tubby perform the operation he describes, and since then I have on several occasions performed it, and always with beneficial results.

In my cases, however, I have substituted chlorine ionization for the fibrolysin used by him. It is, I think, now admitted that chlorine does to a large extent remove scar tissue, and the multiple incisions appear to materially diminish the number of applications required by allowing a freer penetration of the ions.

The chief difficulties that have arisen have been in connexion with thin scars fixing the capsule of the interphalangeal joints to the fingers, as here the capsule of the joint is easily penetrated or torn. This difficulty has in a great measure been overcome by using a small, flat-bladed needle in place of the knife, greatly increasing the number of the incisions, and making these in a direction slanting away from the joint.

In conclusion, I would emphasize the importance of keeping the wounds free from suppuration, for which purpose I have found frequently changed compresses of the iodine solution to be efficient.—I am, etc.,

Lincoln, Nov. 4th. Arthur L. Yates.

EXPERIMENTAL OBSERVATIONS ON THE CAUSE OF DEATH IN ACUTE INTESTINAL OBSTRUCTION.

Sir,—Mr. Howell, writing in your issue of November 15th, brings forward certain criticisms of the conclusions which I had drawn from the results of my experimental work on acute intestinal obstruction, as described in the Journal of October 25th. I am very conscious of the care which must be exercised in applying the conclusions drawn from animal experiments to conditions met with clinically in the human subject; but I am convinced that the only hope of attaining to the truth on such intricate questions lies in recording the results of accurate scientific investigations, and not the impressions conveyed by uncontrolled clinical observations. The permeation of the healthy intestinal wall by bacteria has never, so far as I am aware, been shown to occur. I have repeatedly fed animals with bacteria, and some hours later opened their abdomens and made films and cultures from the surface of the intestines and the omentum, but have never seen the slightest evidence of the migration of organisms through the intestinal wall.

I am surprised to find that any one should question what is an established fact—namely, that the upper reaches of the small intestine are comparatively sterile. Apart from cases of gastric carcinoma, in which the stomach always contains bacteria, the danger of peritoneal infection from the gastro-intestinal lumen in the operation of gastro-enterostomy is exceedingly slight, and cultures made from both stomach and jejunum as a rule remain sterile. I cannot recall any case of death from peritonitis after a gastro-enterostomy for a benign gastric or duodenal lesion. How different the corresponding risk is in operations on the lower bowel most surgeons have learnt from sad experience.

Mr. Howell asks what I mean by "peritonitis" in conclusion (5) of my paper. I mean the reaction of the peritoneum to infection by bacteria.—I am, etc.,

Edinburgh, Nov. 18th. D. P. D. Wilkie.

THE IDEAL TUBERCULIN.

Sir,—I sincerely congratulate Dr. Halliday Sutherland. Less than three years ago he had not a good word to say for the tuberculins prepared in accordance with Koch's instructions, and was the champion of Beraneck's tuberculin. Since 1911 he appears to have been using a curious mixture of all Koch's tuberculins on a theory of his own, and to-day Beraneck's preparation finds no place in his prescription. Thus, a few months after using somewhat violent language against me because I used Koch's preparations, he has been somehow induced to alter his views. It is too early yet to condemn his new and curious system.

His method suggests an old-fashioned prescription loaded with every conceivable drug, in the hope that one of them might do good. The scientific basis of his multiple charge of tuberculins of every form, which excludes, nevertheless, the one which he praised so much but a short time ago, is not new. I have worked upon this idea for at least fifteen years. The chief difference between us is that I have used these different varieties in succession instead of in combination, and I hold with others, such as Jochmann, that this is a more accurate and a more effective way of attaining the desired result than Dr. Halliday Sutherland's purely arbitrary way. It will take many years for Dr. Halliday Sutherland to arrive at any conclusion, and I doubt if even a greater than Dr. Halliday Sutherland could determine by his method which is the effective agent in his multiple charge.

He seems to imply that hitherto our knowledge has not been gained "by careful observation and by clinical experiment," but not only I myself, but scores of observers, such as Turban, Petruschsky, Trudeau, Bandelier, Moeller, etc., have surely gained our knowledge "by careful observation and by clinical experiment," begun long before Dr. Halliday Sutherland was old enough to become a medical student.

Dr. Halliday Sutherland is learning, and thereby approximating more and more to the methods of those who have a claim to speak with authority upon the methods of using tuberculin.—I am, etc.,

W. CAMAC WILKINSON, M.D.Lond., F.R.C.P.

London, W., Nov. 17th.

LONDON MEDICO-PSYCHOLOGICAL CLINIC.

SIR,—In the article you publish on the inaugural meeting of this clinic, you give a short abstract of what I said at this meeting. My speech has of necessity been much condensed, but the writer in so doing has no doubt endeavoured to put the gist of what I said in his own words, and in this way has misquoted me. *Inter alia*, I am alleged to have stated that, "with the exception of a clinic in Liverpool, there was no hospital in England where a patient suffering from incipient mental disorder could be taken and treated in the proper way."

What I did say, Sir, was that there was no general hospital in the country where there were beds in which patients suffering from incipient mental disorder could be treated, and that it was left to private charity to lead the way. I never mentioned anything about the Liverpool clinic, as I have not the pleasure of knowing its work, though I note that this clinic is referred to in the prospectus of the London Medico-Psychological Clinic.

Further, if I had mentioned any institution by name, I should have certainly referred to the Lady Chichester Hospital at Brighton, which is under the medical directorship of Dr. Helen Boyle. This hospital, in which every variety of known treatment is used, has been doing excellent work for over eight years, and has stood alone in its attempt to give a lead to the early treatment of mental disorder in hospital wards.

The London Medico-Psychological Clinic is, at the moment, only attempting to deal with purely psychological treatment, and although one welcomes every effort made to advance medicine along legitimate lines, the value and limits of this treatment have still to be proved.—I am, etc.,

London, W., Nov. 18th. MAURICE CRAIG.

SIR,—As one who was present at the inaugural meeting of the Medico-Psychological Clinic recently held at University College, I should like to express satisfaction with the letter the committee addressed to you last week. It was particularly unfortunate that a gentleman holding Lord Sandwich's views should have been chosen to occupy the chair on that occasion, and thereby given the opportunity to expound at considerable length and detail his bizarre claims as a "healer" to an audience composed in part of qualified medical men and women who were present by invitation. I could not help noticing that at least one well known medical man promptly got up and fled. Most of the newspapers reported the proceedings, and devoted their report almost exclusively to the mystic pronouncements of Lord Sandwich, so that the general public have no doubt got a quite erroneous impression of the views and methods of the proposed clinic. Such being the case, surely it would have been wise for the committee to have communicated the gist of their letter to you, Sir, to the lay press as well.—I am, etc.,

London, W., Nov. 17th. STANLEY NOBLE, M.D.Brux.

SIR,—Our names having appeared as supporters in the circular convening the inaugural meeting of the Psycho-Therapeutic Clinic, mentioned in your last issue, may we be allowed to say that we can no longer continue to support the scheme in its present form?—We are, etc.,

HUGH WINGFIELD.
MAURICE B. WRIGHT.

London, W., Nov. 18th.

*** Dr. Edwin L. Ash, of the London Nerve Clinic and School of Psychotherapy, desires that it should be recognized that that clinic has no connexion with any other organization, institute, or clinic.

PSYCHO-ANALYSIS.

SIR,—May I be permitted to correct a slight error which occurred in my paper on "A Case of Extensive Amnesia," etc., in your issue of November 8th? In the second column of p. 1218 there appears the following sentence: "Psycho-analysis, in the form of word-association tests, was tried for three *days*." Here "days" should be "*weeks*." A comparison of the dates given in the paper will bear this out. As every psycho-analyst knows, treatment for so short a time as three days would be absurd. It may not be out of place for me to add that, in addition to Jung's word-association tests, the ordinary Freudian method of psycho-analysis was employed, especially in connexion with the patient's dreams.—I am, etc.,

WILLIAM BROWN, M.A., D.Sc.,
Psychological Laboratory,
University of London, King's College.

November 15th.

Medico-Legal.

OPERATIONS AND THE CHILDREN ACT.

IN the King's Bench Division, on November 14th, three judges considered a case in which certain magistrates had refused to convict a person summoned as an offender against the Children Act of 1908. The alleged offence, as recorded in the *Times*, was one of wilful neglect of a girl, aged 13, who was suffering from mental dullness, impaired breathing, deafness, and anaemia; these conditions were due to the existence of adenoids, and consequently the parents were urged to allow the latter to be removed by an operation which was not dangerous, but would probably necessitate the use of an anaesthetic. The parents refused to have the operation performed, on the ground that they did not consider an operation necessary, and did not believe in operation. It was denied that the refusal to have the operation performed constituted neglect under the Act. The magistrates decided that the parents were under no legal liability to allow such an operation to be performed, and that their refusal to agree to it did not constitute neglect to provide adequate medical aid within the meaning of the Act.

In delivering judgement, Mr. Justice Darling said that among the facts admitted in the case were that the child was suffering from adenoids causing deafness—which was one of the ailments specially provided for in the Act—and that the defendant had refused to permit an operation for their removal. This clearly showed that he had had the need of an operation brought to his notice. The Act obviously contemplated the performance of operations, and the fact that in the present case the parents did not believe in operations showed that they were people whose opinions were of little weight. It was common knowledge that the adenoid operation was commonly performed, and if it was not performed in a case where it was necessary, circumstances might arise in which the child's life might be endangered. On the admitted facts the magistrates, it seemed to him, might properly have convicted, so the case must go back for rehearing. In such cases it was no answer in law that the child's parents or other guardians did not think an operation necessary, or did not believe in operations at all, though refusal to allow an operation was not necessarily such a refusal to provide medical aid as to amount to wilful neglect within the meaning of the Act. In deciding whether there had been wilful neglect in any given case, the magistrates must consider what was the nature of the operation suggested and the reasonableness of the refusal to have it performed.

Mr. Justice Avory and Mr. Justice Atkin concurred, the former adding that a further point to be considered by magistrates was the position of the individual who required the operation to be performed. Was the operation ordered by a qualified medical man or was it merely the suggestion of some irresponsible person?

The Services.

CLUBS AS HOSPITALS IN WAR.

COLONEL VALENTINE MATHEWS, late R.A.M.C.Vols. (London, S.W.), writes: I was glad to see an announcement in the *Times* a few days ago that the Automobile Club was selected for one of the general hospitals to be provided for the Territorial Force in the London district in case of invasion.

For several years past I have been advocating the registration of all of the clubs on the south side of Pall Mall for hospital purposes in case of mobilization of the Territorial Force.

The buildings themselves provide large rooms suitable for wards, sufficient rooms to house a hospital staff, good cooking arrangements in working order, and good sanitary fittings and water supply, while the gardens at the back would afford additional space for offices of various kinds under canvas or light temporary buildings.

I have also advocated that arrangements should be made with the large hotels in the neighbourhood, under which they would provide bedsteads of suitable size with bedding and linen and many other articles, such as plates, knives, forks, etc., for use in the buildings selected.

In this way I believe that in a very short time on mobilization all these selected buildings would be available for reception of patients, although, of course, arrangements for the supply of purely medical equipment would, in any case, have to come through some other source. This scheme would provide suitable hospital accommodation at short notice, while the members of the various clubs would experience no more inconvenience than when their clubs are closed for the usual cleaning, which in time of war is, I think, saying a good deal.

Obituary.

MAJOR HERBERT CUMMING FRENCH, R.A.M.C.

The death of Major Herbert Cumming French, which occurred on October 13th, will be severely felt by the medical profession generally, and especially by the Royal Army Medical Corps.

The third son of Major-General Sir George French, K.C.M.G., the deceased officer was born at Quebec, Canada, in 1869. He was educated at Christ Hospital School, Brisbane Grammar School, and King's College. At King's College Hospital his career as a student was full of promise; in 1891 he was resident Warneford scholar, and in the following year he held a senior scholarship.



Major Herbert Cumming French.

He entered the Royal Army Medical Corps in July, 1893, and served at various stations in England as well as in India, Aden, South Africa, Egypt, Cyprus, and Malta. During 1901 and 1902 he served in the South African war, including the operations in the Orange River Colony, and was awarded the Queen's medal with two clasps.

On November 17th, 1902, when on the transport *Wakool* in the Straits of Malacca, he jumped overboard from the upper deck at night, into a sea swarming with sharks, to save the life of a native fireman. For this act he was awarded the silver medal of the Royal Humane Society, and also the Royal Albert medal, which was personally presented to him by His Majesty King Edward VII.

Throughout his service Major French directed his energies more particularly to dermatology and venereal disease, and held specialist appointments in these subjects from 1904 to 1909 at Cairo, Woolwich, and Malta. In 1911 Major French delivered the Hunterian lectures at the Royal College of Surgeons, England, on Recent Development in the Recognition, Treatment, and Prophylaxis of Syphilis. In 1912 he read a paper before the Royal Society of Medicine on Syphilis; and in 1913 another at the Seventeenth International Congress of Medicine, on Syphilis: its Dangers to the Community and the Question of State Control.

In September, 1913, Major French was elected a member of Council of the Section of Dermatology, Royal Society of Medicine, for the years 1913–1914, and so recently as last month he was invited to contribute a paper at a meeting of the Harveian Society.

For some years past Major French's work had been carried out in spite of a severe and painful illness which he bore with the greatest fortitude. Those of his brother officers—and they were many—who had the privilege of his friendship will mourn sincerely the death of one who was popular wherever he served, and who as a keen professional man, a friend, and a gentleman had few equals. The following letter to his father, written by the Director-General, Army Medical Service, on October 24th last, expresses Major French's value as an officer:

> I write a line to convey my deep sympathy with you on the death of your distinguished son, the late Major Herbert French, who was not only an ornament to his own corps but to the army also. Had he lived he was sure to have attained a high position. Both from his force of character and intellectual attainments he is altogether a very great loss. I would have written sooner but have been so much on the move, so pray accept my humble if somewhat late tribute.—Believe me, faithfully yours, W. L. Gubbins, Director-General.

Major French married in January, 1905, Helen, daughter of Mr. Joseph Healy, barrister, of Boston, U.S.A., and leaves a son aged 4½ years.

ALFRED GODSON, J.P., M.A., M.B., M.C.Cantab.,

LATE MEMBER OF COUNCIL OF THE BRITISH MEDICAL ASSOCIATION AND MEDICAL OFFICER OF HEALTH FOR CHEADLE.

The announcement of the death of Dr. Alfred Godson, of Cheadle, near Manchester, on October 26th, will be received with regret by his many friends, and by none more than by his former colleagues on the Council of the British Medical Association. Dr. Godson was the second son of the late Rev. John Godson, and was born in London on October 9th, 1836; he was thus in his 78th year when he died. The greater part of his life was spent in the neighbourhood of Manchester, for while he was still young the family removed to Oldham, where his father had been appointed to a cure. He received his early education privately under the tutorship of the late Canon Whitaker. Later he proceeded to Trinity College, Cambridge, where he had gained a sizarship, and graduated there as a senior optime in 1859. Having decided to take up a medical career, he continued after graduating to reside at Cambridge for the study of medicine, and he did much work under Professor G. M. Humphry. In due course he took the degree of M.A., and in 1864 those of M.B. and M.C. Soon after this he went to Manchester, where he became attached to the Manchester Royal Infirmary as physicians' assistant, and for a time was demonstrator of anatomy in the old Pine Street school of medicine. He did not, however, long retain this appointment, for in 1865 he commenced private practice at Cheadle, where he continued to reside until his death. His ability, joined to an attractive manner which inspired confidence in his patients, soon obtained for him a very large practice, from which he only retired about nine years ago.

Even during the busiest period of an extensive practice his methodical habits always allowed him to take an active part in the public life of his district. He held the Poor Law appointment for the Cheadle District of the Stockport Union; for many years he was Medical Officer of Health for Cheadle, and when he retired from that position some few years ago was presented with an illuminated address as a mark of the district council's high appreciation of his services. He was a justice of the peace for the County of Cheshire; he was also the representative of the Cheadle District on the Cheshire County Council, and did much good work as the chairman of the Midwives Committee of that council.

In addition to his public work he always found time to take an active part in the work of the British Medical Association. For many years he was regarded as one of the best workers on behalf of his professional brethren in connexion with the Lancashire and Cheshire Branch of the Association, and his knowledge of professional life and keen interest in defending the rights of the profession, resulted in his being elected a member of the Central Council of the Association. To this position he was re-elected several times. As a member of the Council he was most regular in his attendances, and did a large amount of excellent work on the various committees and sub-committees, and even when he retired, on account of advancing age, from active work he never lost his interest in the medico-political work of the Association; one of the last meetings he attended was in connexion with the Insurance Bill. In the midst of all this public and medico-political work he kept himself fully abreast of the scientific progress of his profession. He was a member of numerous

scientific societies, was president of the Stockport Medical Society, a Fellow of the Cambridge Philosophical Society, and for two years vice-president of the Manchester Medical Society.

He married Frances Mary, the only daughter of the late Mr. Henry Ratcliffe, clerk to the county magistrates for the Oldham Division, and leaves a family of four sons and three daughters. One of these sons, Dr. J. H. Godson, succeeded him in his practice at Cheadle when he retired nine years ago, and in the post of Medical Officer of Health for Cheadle and medical officer for the Cheadle District of the Stockport Union.

RICHARD DEANE ROKER SWEETING, M.A.Oxon., M.D.Dub., M.R.C.S.Eng., L.S.A., D.P.H.Camb., Barrister-at-Law,

SENIOR MEDICAL INSPECTOR OF THE LOCAL GOVERNMENT BOARD.

It is with regret that we record the death, on November 10th, of Dr. R. D. Sweeting, who during his career in the public health service did much valuable work.

He was the son of Richard Sweeting, M.D., of Clapham Park, S.W., and was born at Nassau in the Bahamas. He was at school at Malvern College, and received his medical education at the London Hospital. He obtained the diplomas of M.R.C.S. and L.S.A. in 1879; subsequently he entered as an undergraduate at Oriel College, Oxford, and, proceeding to Dublin, took the degree of M.D. at that university. He became a member of Gray's Inn, and was Holt Scholar in Constitutional Law in 1895. He won the Howard Medal and Prize of the Statistical Society in 1883 with an essay on the sanitation of public institutions.

He was Buxton Scholar at the London Hospital in 1874, and, after holding the appointment of house-physician at this institution, he became in 1880 the medical superintendent of the Western Fever Hospital of the Metropolitan Asylums Board at Fulham. He wrote the medical reports on this hospital for the years 1880–89, and prepared the "Memorandum on Vaccination" for the Metropolitan Asylums Board in 1882. It was at this hospital, and during Dr. Sweeting's period of office, that Sir William (then Mr.) Power carried out an important part of his investigation concerning the occurrence of small-pox in the neighbourhood of small-pox hospitals, which resulted in all the small-pox hospitals of the Metropolitan Asylums Board being removed to some distance outside the metropolis. Dr. Sweeting gave evidence before the Commission on Small-pox and Fever Hospitals of the Metropolis in 1882.

Dr. Sweeting served as a temporary medical inspector of the Local Government Board during the "cholera survey" undertaken by the Board, 1885–86, and was appointed a medical inspector in 1890. He was the author of many reports published by the Local Government Board. His special knowledge of small-pox was of considerable value to the Board, and he dealt with several outbreaks of this disease. He gave evidence before the Royal Commission on Vaccination which was appointed in 1889 and reported in 1896; his evidence in regard to the fatality and severity of type of small-pox amongst vaccinated persons, with marks of different quality, was a classical contribution to this subject. In late years he was the inspector entrusted with the duty of visiting the educational vaccination stations of the kingdom, where the teachers and examiners are authorized to grant the special certificates of proficiency in vaccination.

He acted as examiner in public health to the Conjoint Board in England and at the Cambridge and Oxford Universities.

For twenty years he was honorary treasurer of the Epidemiological Society of London, and was vice-president of the Epidemiological Section of the Royal Society of Medicine.

He married in 1883 the daughter of the late William Rothery of Harrogate, and leaves a widow and two daughters.

ROBERT LEAMON BOWLES, M.D., F.R.C.P.

The announcement of the death, on November 15th, of Dr. R. L. Bowles, formerly of Folkestone, at the age of 79, has been received with great regret by a large circle of friends.

Robert Leamon Bowles received his medical education at St. George's Hospital, and took the diplomas of M.R.C.S.Eng. and L.S.A.Lond. in 1856. He became a Licentiate of the Royal College of Physicians in 1864, a Member in 1875, and a Fellow in 1882, in which year he also took the M.D. degree of the University of St. Andrews. He was for the greater part of his life engaged in practice in Folkestone, where he long held a leading position; he was physician to the hospital there, and on his retirement was appointed consulting physician; he was also physician to the St. Andrew's Convalescent Home, Folkestone. When he left that town he took a house in Upper Brook Street, London, W., where he continued to practise for some years, the success which he had achieved in Folkestone following him to the metropolis. Dr. Bowles was not only a busy and successful practitioner, but was also greatly interested in two subjects which lie on the borderland of medicine and physiology. All through his life he gave much study to the disorders of the respiratory function, and pointed out in particular the influence of posture on stertorous respiration, especially in cases of apoplexy. He contributed an article on stertor to the first edition of *Quain's Dictionary of Medicine*, and also made many observations and wrote much on artificial respiration. His views on this subject were brought together in a work on *A Method for the Treatment of the Apparently Drowned*, published in 1903. The other subject with which his name is particularly associated is the effect of sunlight on the skin. He was led to take an interest in this matter owing to observations made during his periodical visits to Switzerland. He observed that the châlets were burnt a deep mahogany-brown in parts not covered by snow in winter, and was led on from this observation to the conclusion that sunburn, which is often so distressing an interruption of mountaineering, was due not to the direct sunlight, but to that reflected from the snow. He contributed a paper on sunburn to the *Alpine Journal* in 1888, and subsequently wrote many articles and notes on the subject in this Journal.

Some years ago he retired from practice and went to reside at a small estate he had acquired at Priors Mesne, near Lydney, Gloucestershire, where he occupied himself largely in gardening.

For several years Dr. Bowles had not been much seen in London, but for long he was a familiar figure in medical society and at medical societies, and his enthusiasm and geniality made him many friends and admirers. During his residence at Folkestone he served the office of president of the South-Eastern Branch of the British Medical Association and was always an active member and cordial friend of the Association. He was a member of the Parliamentary Bills Committee from 1898 to 1901, and was a Vice-President of the Section of Medicine at the annual meeting of the Association in Glasgow in 1888.

DONALD TOLMIE MASSON, M.A., M.D.St.Andrews.

Although a doctor of medicine, Donald Tolmie Masson, who died at his house in Edinburgh on November 9th, had spent his years in ministerial and not in medical practice. He was born in the Black Isle of Ross, and was the eldest son of a farmer there. He acted as schoolmaster of the parish of Knockbain, and, leaving his scholars in the charge of a locumtenent in the winter months, studied in Aberdeen, and graduated M.A. in the university in 1851. He was ordained to the parish of Stoer in 1852, and a year later was called to the Gaelic Church in Broughton Street, Edinburgh, of which he was the pastor till 1896, when he retired. His duties as minister of this small congregation did not occupy his whole time, and he took out medical classes at the Royal College of Surgeons in Edinburgh, and took the degree of M.D.St.Andrews in 1862; he did this with the purpose of helping his fellow-parishioners if he were called to any distant Highland glen where medical aid could be got only after many hours' delay or not at all. He was sent on a mission to the Gaelic-speaking folk of the Church of Scotland in Canada and Newfoundland, and received many calls to churches in the Dominion; but his attachment to his native land and the love of his wife (granddaughter of the chief of the Clan Matheson) for Edinburgh kept him all his life in that city. He was a true Highlander and a

keen Celtic scholar, as his (unfinished) work, *Vestigia Celtica*, proves. Other books were: *The Gael in the Far West, Our Gaelic Paraphrases*, and *Celtic Folk Medicine*. He also contributed a remarkable article on eugenics to the *Caledonian Medical Journal* in 1897–8: it was entitled, "Breeding our Manhood from the Shots: A Remonstrance and Appeal addressed to the Medical Profession," and it undoubtedly helped to pave the way for the eugenists of to-day. Dr. Masson's death was due to heart failure. He was buried in the New Calton Cemetery on November 12th.

ANTONIN PONCET, M.D.,

PROFESSOR OF CLINICAL SURGERY, UNIVERSITY OF LYONS.

Professor Antonin Poncet, who died suddenly in September, at the age of 67, was the son of a notary. He lost his father when very young, and was brought up by his grandfather, a country doctor. He was born at Saint-Trivier-sur-Moignains, in the department of Ain, in 1846. He received his literary education at the Petit Séminaire of Belley, and it was doubtless his early religious associations that caused him to retain throughout life a profound respect for religious things. He never in after-life met a sister of charity in the hospital corridors without stopping to speak to her. He studied medicine first at Lyons, where he was interne under Ollier, and afterwards in Paris, taking his doctor's degree with a thesis on the various forms of jaundice in 1879. Soon afterwards he became *professeur agrégé* of surgery. In 1882 he was appointed professor of operative surgery at Lyons, and he became professor of clinical surgery in 1890. In the meantime he had been to England to see Lister's work, and had travelled in Austria, Germany, and the United States.

Poncet was for years the leading surgeon of the south-east of France. His power of work at that time was very great. Every morning he was at his hospital at 8 o'clock, left it at 1, reappearing at 2, and operating for the rest of the day. He had what one of his colleagues, Professor Pollosson, in his funeral oration happily called an "extraordinary tonicity." He formed quite a number of surgeons all marked with his stamp, that is to say, largeness of view from the physiological standpoint, and boldness in operating. When on June 24th, 1891, President Carnot was stabbed by the anarchist Caserio, Poncet was first called, and, standing on the step of the President's carriage, he tried to stop the bleeding with his hand. The liver was transfixed, and Poncet, after a hurried consultation with Ollier, Lépine, and others, performed laparotomy as a desperate resource. Poncet published many works on diseases of the bones, prostate, and other parts. To him medical science owes the first clear account of human actinomycosis. When at the height of his fame in 1896, he gave up the practice of surgery for research. His idea was that inflammatory tuberculosis underlay conditions known as rheumatism, scoliosis, genu valgum, retraction of the palmar aponeurosis, and all sorts of scleroses affecting the heart, the kidney, the liver, and other organs. His doctrine was keenly criticized, but at the Société de Chirurgie, the Société Médicale des Hôpitaux, and the Académie de Médecine, to which he presented the fruits of his labours, he stoutly held his ground.

In his later years Poncet took a great interest in medical history, and his monographs on Calvin, Jean Jacques Rousseau, and the revolutionary Couthon, are models of the kind. He was a diligent attendant at the meetings of the Medico-Historical Society, and was president of the Association of Medical Journalists. He was a man of great charm of manner and amiability without weakness. His character has been admirably sketched in the *Gazette des Hôpitaux* by a pen no less eminent than that of Paul Bourget, who knew him intimately in later life. The author of *Un Divorce* sums up his life as follows:

"Beginning by humble professional work, acquiring excellence therein, and when the years of apprenticeship are over using those of mastership to collect and co-ordinate his fragmentary experiences in order to arrive at generalizations which guided science into new paths—there could be no finer curve of destiny for a man of thought. Of this Poncet was a perfect model. He himself used to cite with pleasure what the anatomist Farabeuf said to him one day, 'You are not only a chirurgeon, you are a *cephalurgeon*.'" His views and hopes are found expressed in the treatise on inflammatory tuberculosis which he published last year in collaboration with his pupil, M. René Leriche. Professor Poncet was an officer of the Legion of Honour, and had been president of the French Congress of Surgery.

There passed away in October the oldest medical practitioner in the province of Ulster—Dr. William Watts Thetford, of Strangford, a man of singular gifts and wide experience. He was born at Clones in county Monaghan, and was from his boyhood attracted to medicine. His grandfather, Dr. Nicholas Thetford, and seven of his uncles had all been medical men. As a student of Trinity College, Dublin, and at the Richmond Hospital, where he subsequently held an appointment, he had a very distinguished career. In 1849 he received the diploma of Membership of the Royal College of Surgeons of England, and in the following year became a Licentiate of the Royal College of Physicians in Ireland. At the time of his death he had been resident in Strangford for upwards of half a century. He originally went there as medical officer of the dispensary, but subsequently resigned this appointment owing to the strain of the large private practice he built up. Devoted at all times to his work, he had an unusually successful record, and counted amongst his best friends Jonathan Hutchinson, Spencer Wells, Jenner, and Paget, with all of whom he was associated in many remarkable cases. He was a man of wide sympathy, especially for the poor, and none ever sought his help in vain. He died on October 19th, in the 91st year of his age.

We regret to announce the death of Dr. Charles McBurney, the distinguished American surgeon, which occurred at Brookline, Massachusetts, in the 69th year of his age. He was professor of clinical surgery at Colombia from 1892 to 1907. He was called to Buffalo to attend President McKinley when he was shot. He was a member of numerous medical societies in America and Europe, and his name was familiar to every student of medicine throughout the world in connexion with appendicitis, in the diagnosis of which "McBurney's point" plays a definite part. We hope to publish a fuller obituary in a later issue.

Dr. Léon Bourget, professor of clinical medicine at Lausanne, who died recently, was born in 1856. He took his doctor's degree at Geneva in 1884, and after teaching as *privatdozent* for some time at Geneva he settled in practice at Lausanne. Some years later he was invited to occupy the chair of pharmacognosis and therapeutics in the medical faculty of that city. Later, the State Council appointed him professor of clinical medicine. He was the author of a manual of clinical chemistry, a treatise on therapeutics (written in collaboration with Professor Rabow), and a monograph on diseases of the stomach. He wrote also on dietetic systems, on gastro-enterostomy (in collaboration with Professor Roux), on the hygiene of the stomach and intestine, and on the errors and fallacies of modern medical science.

Professor Edwin Klebs, the well-known pathologist, recently died at Bern, in the 80th year of his age. He was born at Königsberg, in Prussia, in 1834, and after graduation worked in the physiological laboratory for a short time. He then devoted himself entirely to pathology, becoming assistant to Rudolf Virchow in 1861. In 1866 he was invited to occupy the chair of pathology at Bern. In 1871 he migrated in the same capacity to Würzburg; two years later he accepted an invitation to Prague, and in 1882 he moved to Zurich. There he taught till 1892, when he returned to Germany. He lived at Karlsruhe till 1895, when he went to Asheville, in North Carolina, as director of a sanatorium, to which a laboratory for the manufacture of bacterial therapeutic products was attached. In 1896 he became professor of pathology in the Rush Medical College, Chicago. A few years ago he returned to Europe, and spent the last years of his life at Hanover, Berlin, Lausanne, Dortmund, and Bern. In his younger days Professor Klebs published a number of monographs and memoirs on various subjects connected with pathology. He was also the author of a *Handbuch der pathologischen Anatomie* (1868 to 1880). The last two decades of his life

were devoted to the preparation of bacterial products for the treatment of tuberculosis, of which "tuberculocidin" and "antiphthisin" may be mentioned.

SURGEON-MAJOR RUSTOMJEE BYRAMJEE, Bombay Medical Service, retired, died at Ravenscourt Park, West London, on November 3rd. He was born on October 24th, 1833, took the diplomas of M.R.C.S. and L.S.A., and the degree of M.D. at St. Andrews in 1856, and entered the I.M.S. as assistant surgeon on January 29th, 1857. He became surgeon on January 29th, 1869, and surgeon-major on July 1st, 1873, and retired soon after he had earned the first pension (October, 1875). He served in Arabia in 1858, at the capture of the fort of Sheikh Othman, near Aden. Dr. Byramjee was the second Indian to gain a commission in the Indian Medical Service, and the first posted to Bombay. Under the East India Company's rule, only three Indians were admitted to the service. The first was S. C. G. Chuckerbutty, who passed first at the earliest competitive examination held, in January 1855. The third was R. C. Chandra, who entered on January 27th, 1858. Both Chuckerbutty and Chandra were posted to Bengal, where both in succession held the posts of professor of materia medica in the Calcutta Medical College and second physician to the College Hospital. Chuckerbutty died in 1874, Chandra in 1895, so Byramjee had long survived his contemporaries.

Universities and Colleges.

UNIVERSITY OF LONDON.

THE DEPARTMENTAL COMMITTEE.

THE President of the Board of Education, on November 12th, addressed to the Vice-Chancellor of the University of London a letter defining the position of the Government in regard to the proposed reconstitution of the university.

He states that the Government has decided that the scheme of the report of the Royal Commission on University Education in London is calculated to produce a University of London worthy of the name. The Departmental Committee recently appointed will not go over the ground again; its business will be to discover how far the numerous bodies and persons concerned are prepared to co-operate on the basis of the principles underlying the scheme which Mr. Pease then proceeds to classify under the following heads:

(1) That the government of the university, and particularly its financial administration, shall be entrusted to a small Senate predominantly lay in its composition and not representative of special interests; and

(2) That on the other hand the control of the teaching and the examinations of students in colleges of the university shall be in the hands of the teachers.

(3) That the educational and financial control of the constituent colleges shall be vested in the university; and

(4) That as much of the university work as possible, together with the university administration, should be concentrated in a central university quarter. (The question of the particular site to be selected is one on which the Departmental Committee will be able to advise the Government after they have considered the various alternatives that have been proposed.)

(5) The scheme of reconstruction should provide effectively for continuance of access to university examinations by external students—that is, by those who are not attached to any college or school of the university.

After enumerating these principles he goes on to say that it has never been proposed that the Imperial College of Science and Technology should be moved from its present site, though it is an essential part of the scheme that it should become a constituent college of the new university under the educational and financial control of the Senate. The word "incorporation" sometimes used as a convenient term to describe the position of a constituent college does not imply any such vesting of its property in the university as would preclude the earmarking of capital or income by donors and benefactors for particular institutions or specific purposes, and this applies to past no less than to future gifts.

The Government intends, when the necessary negotiations have been concluded, to introduce legislation to give effect to these principles, and Mr. Pease hopes that sufficient agreement may be attained to secure the acceptance of the bill in Parliament as a non-contentious measure. Further, the Government will be prepared in the event of such legislation to make substantial new contributions to the university, and is confident that the establishment of a university worthy of the capital of the empire will be regarded by the citizens, livery corporations, and corporate bodies of London, equally with the Government, as an object deserving their interest and support. The hope is expressed that in the circumstances those who are interested in the work of reconstruction will not hesitate to make some mutual surrender of views and opinions, since existing differences perhaps owe their origin in a large measure to the uncertainty which has so long prevailed even as to the main lines of reconstruction.

UNIVERSITY OF CAMBRIDGE.

THE following degrees have been conferred:

M.D.—H. L. Duke, P. K. Gilroy.
M.B., B.C.—H. C. Attwood, H. J. Couchman.
B.C.—F. G. Rose.

NATIONAL UNIVERSITY OF IRELAND.

Diploma in Ophthalmology.

AT the meeting of convocation of the National University of Ireland, held in Dublin last week, a motion was proposed by Dr. Edward Magennis requesting the Senate to create a special degree or diploma in ophthalmology. He referred to the fact that the University of Oxford had recently created a diploma in ophthalmology. On a division the resolution was carried by 25 votes to 7.

School Medical Inspectors.

Dr. Magennis also proposed a motion requesting the Senate to institute lectures, to be delivered to qualified medical practitioners, in order to train them to become medical inspectors of schools, and to create a special degree, diploma, or certificate, to be conferred on those who pass a special examination. He pointed out the necessity for medical inspection of school children to remedy and prevent deafness and defective vision, and to detect at an early stage infectious and contagious diseases. Dr. McWalter seconded the resolution, which was passed.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council was held on November 13th, when Mr. G. H. Makins, Vice-President, was in the chair.

The late Dr. J. Lucas-Championnière.

The Secretary reported the death, on October 22nd, of Dr. J. Lucas-Championnière, an Honorary Fellow of the College, and stated that the President had written to his widow to express the sympathy and condolence of the Council.

Grant of Diplomas.

Diplomas of membership were granted to 102 candidates found qualified at the recent examinations.

The Bradshaw Lecture.

The Bradshaw Lecture will be delivered by Mr. G. H. Makins on Friday, December 5th, at 5 p.m., on the subject of "Gunshot Wounds."

Vacancy on the Court of Examiners.

The Senior Vice-President reported that Mr. W. G. Spencer's term of office on the Court of Examiners would expire on December 10th, and that the vacancy would be filled up at the ordinary Council on December 11th. Mr. Spencer is eligible for re-election.

Primary Fellowship Examination.

At the Primary Fellowship Examination for the Fellowship of the Royal College of Surgeons of England in Anatomy and Physiology, held on November 5th, 6th, 11th, 12th, 13th, and 14th, for which 129 candidates presented themselves; of these 44 were approved and 85 (or 66 per cent.) were rejected, and the following candidates were approved, namely:

R. G. Bannermann, S. G. Billington, T. J. Cobbe, H. E. C. Collins, R. M. de Mowbray, I. F. Diay, E. H. Eastwood, G. W. Marshall Findlay, A. G. T. Fisher, J. A. C. Forsyth, H. H. M. Gould, H. E. Griffiths, R. M. Handfield-Jones, W. L. Holyoak, H. T. Hunter, L. G. Jacob, M. K. Joshi, T. Julian, O. R. M. Kelly, R. Kennon, W. A. Lincoln, E. A. Lindsay, D. Loughlin, P. G. McEvedy, A. D. Marston, J. C. Metcalfe, E. T. C. Milligan, H. W. L. Molesworth, G. T. Mullally, E. F. Murray, G. E. Neligan, J. M. O'Donovan, R. F. O'Sullivan, J. H. Pendered, G. Perkins, J. H. Rawlinson, W. H. C. Romanis, A. Shafeek, J. C. Storey, A. Sunderland, D. G. C. Tasker, R. A. R. Wallace, J. R. M. Whigman, M. H. Whiting.

CONJOINT BOARD IN ENGLAND.

AT a meeting of the Royal College of Physicians on October 30th, and of the Royal College of Surgeons on November 13th, diplomas of L.R.C.P. and M.R.C.S. were conferred on the following candidates:

C. S. Archer, W. S. Armitage, C. S. Atkin, F. G. Bell, F. V. Bevan Brown, W. G. Bigger, G. A. Bird, J. Bostock, G. J. Bowen, H. J. Bower, E. J. Bradley, E. H. P. Brunton, N. St. J. G. D. Buxton, J. Byrne, E. W. Carrington, F. S. Charnock, F. B. Chenoy, F. Cook, G. M. Coope, E. Coplans, C. H. Crawshaw, W. L. G. Davies, H. V. Deakin, H. S. de Boer, H. R. Dive, A. R. C. Doorly, E. J. Eacrett, A. T. Edwards, H. el Arculli,

A. S. Erulkar, A. R. Esler, W. S. Evans, J. M. Evatt, B. J. L. Fayle, M. Ffoulkes, A. C. Hancock, R. J. Harley-Mason, F. T. Hill, T. A. Hindmarsh, E. W. N. Hobhouse, *A. N. Hooper, O. R. Horwood, H. F. Hutchinson, T. H. James, G. B. Jameson, F. E. Johnson, R. B. Johnson, C. Kingston, J. I. F. Knight, N. C. Lake, J. L. Lauder, J. L. D. Lewis, C. C. Ling, W. H. Lister, G. T. Loughborough, O. G. Maginness, D. Mallam, G. N. Martin, E. E. Mather, H. Mather, J. Millard, G. H. Monrad-Krohn, J. Y. Moore, W. Morris, J. T. Morrison, Margaret C. Murphy, M. B. O'Sullivan, H. B. Owens, H. W. Parnis, W. P. Penhale, V. C. Pennell, J. A. Perera, A. S. Plant, J. Precopoulos, E. Rayner, †S. J. S. Reid, †E. Ritson, C. S. L. Roberts, W. E. R. Saunders, A. E. Schokman, L. E. S. Sharp, G. D. Sherwood, J. V. Shirgaokar, A. C. S. Smith, A. J. E. Smith, H. J. D. Smythe, A. K. Soutar, T. S. Stafford, W. A. Stewart, J. W. Stretton, W. V. T. Styles, W. E. Tanner, J. W. Thomas, J. A. Tsoi-A-Sue, F. C. Turnbull, C. B. Vakil, W. H. von Wyss, J. G. Wardrop, C. W. Wheeler-Bennett, C. E. Williams, H. A. Williams, F. E. S. Willis, C. W. Wilson, H. G. Wiltshire, H. G. Winter.

* M.R.C.S. diploma granted October 9th, 1913.
† Under the Medical Act, 1876.

Public Health

SCHOOL MEDICAL SERVICE GROUP OF THE SOCIETY OF MEDICAL OFFICERS OF HEALTH.

THE first meeting of the School Medical Service Group of the Society of Medical Officers of Health was held at the society's offices, on November 7th, under the chairmanship of Dr. Alfred Greenwood.

Dr. Robert Hughes (Stoke-on-Trent) was elected Chairman; Dr. Armly Ashkenny, Honorary Secretary; and Dr. C. W. Hutt, Honorary Treasurer. The Committee of the Group consists of the above three *ex officio* members, together with one member from each of the ten branches of the Society of Medical Officers of Health.

It was decided that all medical officers engaged in the school medical service be invited to join the group, and that the assistants in the service should have special consideration, for, as pointed out by Dr. Bostock Hill, the School Medical Officer and Medical Officer of Health for Warwickshire, the primary object of the group is to remedy the admitted discontent existing among them, rather than among the senior or administrative medical officers, who already have their own groups.

Subjects urgently pressing for remedies were fully discussed. The present low salaries of assistants were condemned as very inadequate considering the long, expensive, and arduous professional training, often lasting for ten years, and the responsible, onerous, and the rapidly increasing duties to be performed. The Board of Education has admitted the gross inadequacy of salaries of medical officers in its circular letter to local authorities dated August 18th. Even with the promise of increased grants by the Board for medical inspection, local education authorities are not likely to increase the salaries of the medical staff to any considerable extent, as desired by the Board, unless all assistant medical officers combine in one body and unitedly claim juster treatment from local authorities.

Among other subjects discussed were the status and grading of assistants, the necessity of extending the duties to include general public health work, and the encouragement of discussions on subjects of educational and social interest.

It was decided that the next meeting of the group be held on Saturday, December 6th, at 2.0 p.m., at 1, Upper Montague Street, Russell Square, London, W.C.

As no recent complete list of assistants in the School Medical Service exists, assistants are requested to send their name and address, and anything that may be of interest to the service, to Dr. Armly Ashkenny, Honorary Secretary, Medical Department, Education Office, Council House, Birmingham.

DEATH CERTIFICATION.

F. H. G. writes: How far is a registrar of births and deaths justified in refusing to accept a death certificate signed by a registered practitioner? May I be allowed to give a brief summary of a case? My partner was called out to see a child in convulsions. After a few hours the child died. Since the primary cause of the convulsions could not be determined, it was certified that the child died of "convulsions, cause unknown." This certificate the registrar declined to accept, and the matter was reported by him to the coroner. It was represented to the mother of the child that all this annoyance might have been spared to her had her medical man given a proper certificate. In other words, in the registrar's opinion the certificate was wrong and valueless, because the medical man stated in it the cause of death "to the best of his knowledge and belief." I should like to know if the registrar has any authority in treating the certificate in the way he did, for, apart from the annoyance caused to the relatives of the deceased person, such a procedure on the part of the official is apt to put the medical attendant in an awkward, and, at times, in a not very enviable position.

*** The certificate given by our correspondent's partner was the proper one for him to give in the circumstances. It stated the cause of death so far as the cause was known to the practitioner, and very properly indicated the limit of his knowledge. If the registrar is correctly reported to have used any expression to the effect that the certificate was not proper, he exceeded his duty. On the other hand, the regulations of the Registrar-General did not authorize him to regard it as a full and sufficient statement of the primary cause of death, because "convulsions" is not a disease, but a symptom or condition common to many different diseases and injuries. The certificate on the face of it stated that the cause of the convulsions in this case was "unknown." We think, therefore, that the registrar was justified in regarding the primary cause of death as unknown, in which case he was bound to refer the certificate to the coroner. He is expressly ordered by the Registrar-General to do so. This in itself implies no slight on the medical attendant, nor does it imply that the certificate is "wrong." It merely implies that the information given by the certificate is not sufficient to entitle the registrar to deal with the matter, and to issue an order for burial without the permission of the coroner. This our correspondent will no doubt agree with us in regarding as a very valuable check upon the registrar's exercise of a very responsible function.

RESIGNATION OF POOR-LAW APPOINTMENT.

SIMPLEX.—A month's notice is necessary before resigning a Poor-Law appointment, and it may be given at any time. It is, however, better, where possible, to give the notice so that its expiration coincides with the date when a monthly, or quarterly, payment of salary is due.

Medical News.

THE KING, on the recommendation of the Home Secretary, has appointed Mr. W. H. Dickinson, M.P., and Mrs. Pinsent to be Commissioners (unpaid) under the Mental Deficiency Act, 1913.

THE number of students entering the medical school at Cambridge this year is 116; in 1911 the number was 114, and in 1912 it was 110.

THE annual dinner of the Royal Free Hospital and School of Medicine for Women will be held at the Trocadero, Piccadilly Circus on Wednesday, December 10th. Dr. J. Walter Carr will take the chair at 7.15 p.m.

DR. J. SHIRLEY STEELE PERKINS has been elected Sheriff of Exeter, a post held by his grandfather, Dr. Samuel Steele Perkins, in 1858, and by his father, Dr. Alfred Steele Perkins, in 1880.

THE Guy Medal in silver of the Royal Statistical Society has been presented to Dr. Reginald Dudfield, M.O.H. Paddington, in recognition of his essay on stillbirths in relation to infantile mortality and the special work done by him in the interests of the society.

AT a meeting of medical men resident in Cambridge and Huntingdonshire, held on November 18th under the presidency of Sir T. Clifford Allbutt, a resolution was carried expressing their concern at the possibility of no public inquiry being held into the rights which followed the death of Dr. Dimock of Wisbech, Cambridgeshire.

AT the meeting of the Medico-Legal Society, at the house of the Medical Society of London, Chandos Street, W., on Tuesday next, at 8.30 p.m., Dr. Robert Jones will read a paper on the urgent necessity for the treatment of early or threatening insanity, and the need for immediate legislation.

AT the next meeting of the Hunterian Society, to be held on Wednesday next, November 26th, at 9 p.m., in the Library of St. Bartholomew's Hospital, there will be a discussion on migraine. It will be opened by Dr. Andrew Currie and continued by Mr. Sydney Stephenson, Dr. Frederick Taylor, Mr. Charles Wray, and Mr. Arthur Evershed.

WE learn from the treasurer of Epsom College that out of eleven boys who entered for the first examination for medical degrees at the University of London in July last, ten passed in all subjects. The eleventh boy failed in chemistry only. One of the boys gained distinction for chemistry and physics, and another won an open scholarship of £75 at St. Mary's Hospital. Open scholarships, both in arts and science, have been gained this autumn at St. Bartholomew's Hospital by former pupils of Epsom College.

Two instances of Caesarean section performed by the patient on herself without fatal results have recently been published. In one recorded by Guggenberg, a woman in labour had a fit, and thought that she was bound to die. She had heard about Caesarean section and desired to save her child. She managed to hit off the uterine cavity, but found some difficulty in extracting the fetus by one foot. The head was easily delivered. She divided the cord, although the child was dead, and extracted the placenta. A few hours later surgical assistance was sought, and after the reduction of prolapsed intestine the uterine and parietal wounds were sutured. Within six weeks the patient, a woman, aged 37, was at work again. The other case was reported recently by Patek (*Zentralbl. f. Gynäk*, July 26th, page 1105) to the Medical Society of Vienna. A country girl, aged 19, became pregnant, and one day when she believed that term had arrived, though no pains had been felt, she sat down with a big bucket of water in front of her, and cut clean into her uterus through the parietes, using her father's razor. She fainted at the escape of blood, and according to her statement did not observe how the child was delivered. The child, which had breathed, was afterwards found with the placenta in the bucket, in which it had clearly been drowned. The patient was unconscious when admitted into a hospital in Vienna. The incision, over 6 in. long, had been made in the middle line, and intestine protruded freely. Bick, the operator, found bloody serum in the peritoneum, and this induced him to explore the viscera. He was not aware that at the time that there had been pregnancy. He discovered a puerperal uterus, well-contracted and nearly empty; he sewed up the wound in it, after clearing out a few fragments of placenta and membrane. There was no reaction to speak of, save a rise of temperature associated with suppuration in the parietal wound. The patient married after convalescence and became pregnant once more. Patek administered ergot and pituitary extract, and a live male child was delivered without instrumental aid. There was an incisional hernia, but after careful bandaging during the puerperium it diminished, and the patient was soon able to return to her household duties.

In presenting to the Municipal Council a report by Dr. Pratt Johnson, Acting Assistant M.O.H. for Johannesburg, on the circumstances of milk production in and around Johannesburg, the M.O.H. (Dr. Porter) states that the situation and condition of many of the existing cowsheds, and, in many instances, the personnel of the licensees, have combined to create a state of affairs in regard to the milk supply which is the reverse of satisfactory. The average daily milk supply of Johannesburg is estimated at 8,200 gallons; of this, 19 per cent. is sent by rail and 7.5 per cent. by road; the remainder is produced within the municipal area. A large number of the dairies are situated in congested residential districts. The result of Dr. Johnson's inspection of dairies is by no means satisfactory. Of 270 cowsheds licensed only 2 are classed as "very good," 16 are "good," 166 as "fair," while 67 are "bad," and 19 are "very bad." It is noted that a material proportion of the milk production of Johannesburg is in the hands of low-class Eastern Europeans, who have absolutely no idea of the meaning of the word "cleanliness"—as applied to milk production. Some 4,000 cows are stalled within the municipality; of these 2,000 are in congested districts. Dr. Johnson remarks that if the cattle were entirely stall-fed, any nuisance occasioned would be confined to the actual dairy premises, but in practically all cases the cattle are driven twice daily from the cowsheds, through the streets of the town, to grazing grounds, and the streets and footpaths are fouled. Some pertinent remarks are made by Dr. Johnson in his report with reference to the structure of cowsheds, manure disposal, water supply, and the cleanliness of utensils and milk bottles. The habits, clothing, and health of the "milk boy" or "dairymaid" are, it is said, not always satisfactory. As the result of Dr. Johnson's report it is recommended that the already existing by-laws relating to dairies and milkshops be revised and extended. They should provide for licensing and regulating purveyors of milk, dairies, milk shops, and every cowshed in which one or more milch cows are kept. It should prescribe the conditions under which milk may be stored, sold, or used within the municipality, and should prohibit the sale of tuberculous milk, and provide for veterinary inspection of milch cows. Finally it is advised that a thorough inspection of dairies and milk should be instituted and dairy inspectors appointed for this purpose.

Letters, Notes, and Answers.

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CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

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☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

LETTERS, NOTES, ETC.

A WARNING.

MESSRS. J. AND A. CHURCHILL request us to state that a warrant has been issued for the arrest of a man who professes to be travelling in books for that firm. Messrs. Churchill add that he uses the name of Williams and also of Longford, but has never been employed by them.

REX V. HAMILTON.

DR. W. H. GIMBLETT (86, Sutherland Avenue, Maida Vale, W.), whose appeal giving the names of the committee formed to raise a fund to reimburse Dr. Hamilton was published on October 25th, p. 1118, acknowledges the following subscription, in addition to the sum of £61 1s. 6d. already acknowledged: Dr. J. Thoresby Jones (London), 10s. 6d.

SCRAPIE.

DR. J. DUNBAR-BRUNTON (Heliopolis, Egypt) writes: I have read with interest your description in the JOURNAL of November 1st of the symptoms of the disease, "scrapie." It seems to be that by examination of the blood or spinal fluid the causation of the disease might be found to be due to trypanosomiasis. The fact that it is suspected of being produced by coitus indicates a strong resemblance to the disease known as *mal de cadeas*, which affects horses, and is due to trypanosomes.

EMETINE.

DR. WILLIAM HARDMAN (Blackpool), struck by the anomaly of applying the term "emetine" to the principal alkaloid in ipecacuanha, though it does not produce vomiting, suggests that it should be changed; he proposes the term "ipecine" as a substitute.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

A Clinical Lecture

ON

PAROXYSMAL DYSPNOEA IN CARDIO-RENAL PATIENTS:

WITH SPECIAL REFERENCE TO "CARDIAC" AND "URAEMIC" ASTHMA.

DELIVERED AT UNIVERSITY COLLEGE HOSPITAL, LONDON, NOVEMBER 12TH, 1913.

BY THOMAS LEWIS, M.D., D.Sc., F.R.C.P.,

ASSISTANT PHYSICIAN AND LECTURER IN CARDIAC PATHOLOGY, UNIVERSITY COLLEGE HOSPITAL; PHYSICIAN TO OUT-PATIENTS, CITY OF LONDON HOSPITAL.

During the past few years interest in the question of dyspnoea has awakened very considerably. I propose at the present time to relate some observations made at the hospital during the past twelve months, which, so it seems to me, help us to a fuller understanding of breathlessness in a large group of patients who have evident signs of cardiac disease. I will first direct attention to a special type of breathlessness from which patients suffer, indicate how far we can explain this breathlessness, and how it may be recognized. Finally, I shall briefly discuss the nature and relations of "cardiac" and "uraemic" asthma, so-called, and suggest certain lines of thought and procedure, which may, I think, bring us into closer touch with the realities of disease in these patients.

A Special Form of Dyspnoea.

First I would direct your thoughts to instances of simple cardiac dyspnoea. There are forms of congenital heart disease and of extreme mitral stenosis in which, as you come to the bedside, you immediately recognize a deficiency in the aëration of the arterial blood. The patients I would have you call primarily to mind are those in whom you have seen deep or extreme cyanosis. Some of these patients are very breathless, but it is notable that in many others, especially those who suffer from congenital heart defects, the anxiety of breathing is not severe while they lie at rest. From such observations I argue that if dyspnoea is due to deficiency in the aëration of the arterial blood, cyanosis will be prominent, and, by a comparison of many cases, that urgent dyspnoea, if of the same origin, must be accompanied by extreme discoloration. Next I would point out that a very large proportion of patients who exhibit great anxiety of breathing and have evident signs of cardiac disease, do not exhibit this degree of cyanosis. It is a well-known fact that in heart disease breathlessness and cyanosis are often shown in disproportionate degree, yet the significance of this fact has, I think, escaped attention. Why it has so escaped I shall attempt to explain later. At present let us be content with the observation and the natural conclusions to be drawn from it. If a patient is urgently breathless and an equivalent cyanosis is not found, the dyspnoea is not wholly due to deficient aëration of the blood. You can rarely pass through the wards of this hospital without seeing a number of patients sitting propped up with pillows and in great distress of breathing; examine these cases more closely and you will see that some of them have but little cyanosis. These patients belong to the special group which I shall now describe, and for descriptive purposes I shall give the relevant features of an extreme case.

In the early months of this year I saw a man, aged 57, who for twelve months had experienced failing health. Breathlessness was his chief complaint, and it was periodic in its intensity. For months he would be well, or comparatively so, then for weeks his breathing would be difficult, so that active movement was impossible, and he would lie up. During the periods when he was in bed he was continually breathless, and he dreaded the nights because his breathlessness increased during them; often he was awakened from his sleep by attacks of aggravated breathlessness, in which he feared suffocation; these attacks would last a half-hour or more, and he would relapse into a short sleep to be similarly disturbed. When I saw this patient it was evening, and on the first day of his taking to bed. He was not orthopnoeic, but lay flat in bed; his respirations were deep, noisy, and periodic (Cheyne-Stokes type); he was drowsy, complained of severe headache, and great breathlessness. Yet the mucous membranes of this patient were as pink as those of a child; neither in the lips, tongue, ears, cheeks, or fingers, was there the faintest trace of cyanosis. Upon further examination the heart was found to be a little enlarged, the pulse was at the rate of 92 per minute, occasional extra-systoles interrupted its rhythm, and alternation in the force of the pulse beats was seen. There were no murmurs. The veins pulsated freely and seemed a little engorged, but the liver was not enlarged and there was no dropsy. The blood pressure was 200 mm. Hg. He was passing from 600 to 2,000 c.cm. of urine a day; sometimes a trace of albumin was present, and a few granular casts were found. Over the lungs a few rhonchi were audible.

I take this as a type case and emphasize the following features. The man presented some signs of a degenerate heart muscle, enlargement, and especially pulsus alternans; he presented signs of renal involvement, the urine flow was, as a rule, increased, casts were present, the blood pressure was very high. He had urgent dyspnoea, yet the blood was perfectly aërated. You may say that I am describing a case of so-called "uraemic" dyspnoea; I cannot disagree with you. This patient was one of a series specially investigated for me by my collaborators, Mr. Barcroft, Drs. Ryffel, Cotton, and Wolff. Mr. Barcroft found in him by special methods evidences of a diminished alkalinity of the blood sufficient to account for the dyspnoea and due, not to CO_2, but to non-volatile acids. Having studied a number of cases by these methods, which I will describe briefly later, we were able to isolate a group of symptoms which are specially associated with an altered blood reaction of the kind.

Special Clinical Associations of Relative Acidosis.

The most important feature of these cases is the breathlessness, varying in degree, as Mr. Barcroft has shown, with the reaction of the blood, being of the periodic type known as Cheyne-Stokes respiration, being accompanied when severe by conspicuous restlessness during the periods of hyperpnoea, and lastly becoming exaggerated by the slightest exercise. There is no reserve, the breath cannot be held, and forced breathing is followed by no apnoeic period. Oxygen affords little or no relief, though it alters the type of breathing. Secondly, there is evidence that the blood is well or moderately aërated; there is no cyanosis comparable with the dyspnoea. Thirdly, the dyspnoea is more severe towards evening and in the night, and sleep is broken by exaggerated attacks of breathlessness. Fourthly, the pulse-rate is increased (80–100), and especially towards evening. Fifthly, the temperature is subnormal.

These are almost constant clinical manifestations; but the picture may be modified in a variety of ways, and it is to these modifications that the chief difficulties in diagnosis and the confused pathology of the past are due. Imagine a patient with the symptoms which I have described and take him as a type; add to this symptom group the symptoms and signs of heart disease in its varying forms; add to it also a large number of unquestionable renal manifestations; add to it emphysema and the symptoms of cerebral arterial sclerosis, and you are able to construct all the different types in which this curious form of acidosis is found. The types are protean. Your power of diagnosing acidosis will depend on your ability to discriminate the underlying symptom group which I have detailed. Usually you will have no difficulty; the condition is an extremely common one, and urgent dyspnoea, where there is a want of equivalent cyanosis, is your first guide; really distressed breathing in elderly subjects, accompanied or not by cyanosis, is always open to suspicion; the presence of Cheyne-Stokes breathing, and especially the characteristic nocturnal attacks, are extremely valuable indications. The periodicity of the breathing is often inconspicuous or variable; it may consist merely of slight waxing and waning in the amplitude of the breathing, there may be no true apnoeic periods: it may be present only at night or at the patient's first admission; it is very often overlooked; I have heard its presence denied in patient after patient, and have found it either by immediate close examination or by repeated examination. It should be looked for especially when the patient is quiet or asleep: very small disturbances may abolish it; if you watch your patient when he is unaware that you are watching you may often detect it. But Cheyne-Stokes breathing may not be present; it may be absent in at least two types of case—(1) where the

relative acidity is slight, and (2) where moderate cyanosis is added to the picture, as it may be.*

The evening or nocturnal attacks may be of a few minutes' duration; they may last an hour or more; they give rise, when severe, to the most urgent distress, all the accessory muscles of respiration being called into action. The patient sits clutching a bed-rest or the arms of a chair, and literally gasps for air. The agony is often intense; he may become delirious.

Finally you have the pulse-rate and temperature chart to help you. But in regard to the first, this evidence is obscured where rapidity and irregularity of the ventricle are due to fibrillation of the auricle. And the temperature may not be subnormal, it may be at or above normal. A rise from a subnormal position to the normal in the absence of improved breathing is to be regarded in these patients as equivalent to a raised temperature in other patients.

Further Associations.

I have isolated the foregoing symptoms because they are what I regard as the essential symptoms. I now propose to consider the remaining symptoms and signs which are common accompaniments. There are first of all symptoms and signs of renal disease. The urine is increased in quantity and nocturnal micturition is common; it is of low specific gravity, and may or may not contain a trace or cloud of albumen; casts are usually seen in centrifugalized specimens, but may not be discovered. Severe headache, vomiting, twitching of the limbs, temporary aphasia or hemiplegia and convulsive attacks are not infrequent. Retinal changes, oedema of renal distribution† and haemorrhages have not been observed as yet. High systolic blood pressure (190 to 220) is very frequent, and the arteries are almost always tortuous or thickened. Wasting is very common, in fact the rule; anaemia of slight grade is also frequent, the red cells numbering three million and a few hundred thousand or more.‡ Inflammatory changes in the pleurae are often seen in severe cases; unilateral effusions are particularly prone to develop and often develop suddenly.

Equally important are the symptoms and signs of heart disease. The heart shows signs of enlargement; dilatation and hypertrophy may be very considerable. Often there are no murmurs, but gallop rhythm is heard at the apex. This is the type of case in which renal heart is customarily diagnosed. On the other hand, aortic regurgitation, mitral stenosis, or mitral regurgitation often accompany the intoxication, and I have seen aortic stenosis and aneurysm of the arch. In several cases of our series there was a history of rheumatic fever. The mechanism of the heart may be disturbed in any known way. Fibrillation of the auricle and alternation are the commonest forms of disturbance, but extrasystoles, heart-block, paroxysmal tachycardia have also been seen. Certain of these disturbances of rhythm mask or hide the acceleration of the normal heart rhythm. Anginal symptoms are not infrequent, and may be severe. Lastly, circulatory failure may show itself in venous engorgement, cyanosis, and dropsy.

The Influences of Venous Engorgement.

I have spoken of a type case in which urgent dyspnoea was unassociated with the slightest cyanosis, but this combination is rare, because practically all these patients have cardio-vascular trouble in greater or lesser degree. When, as is commonly the case, venous engorgement supervenes and the liver swells, the patient shows cyanosis, which may be slight, moderate, or deep, according to the degree of embarrassment. With the addition of stasis—and it is nearly always present in some degree—the patient early assumes the orthopnoeic position. The special cause of dyspnoea—the presence of non-volatile acids in the blood stream—has the cause of simple cardiac dyspnoea superadded to it—namely, a want of aëration of the blood. The circulatory embarrassment hides the underlying condition more or less completely, and the whole dyspnoea is, as a consequence, often assigned to the heart alone, or to the heart and lungs, because bronchitis, oedema of the bases, and pleural effusions may develop. The diagnosis is sometimes impossible for these reasons; a very careful comparison of the degree of dyspnoea and the degree of cyanosis is always called for. The nocturnal attacks and the subnormal temperature are the most valuable signs in the complicated cases; Cheyne-Stokes breathing also occurs in many of them, though in some where the cyanosis is more noticeable it may not be seen. The paroxysmal breathlessness may be replaced by persistent or urgent breathlessness under similar circumstances. The stasis also masks signs of renal involvement; the quantity of urine is diminished and falls below normal, it becomes of high colour, and contains excess of urates and urobilin; albumin and casts are then mistakenly attributed to renal congestion alone. The characters of the urine in the condition are therefore inconstant; I believe they are inconstant simply because stasis so often modifies them.

Contrast the patient I have already spoken of with the following:

A wasted man of 67 years who is propped in the orthopnoeic position. The facies are dark, the lips cyanosed; the ears, the tongue, and the fingers are more deeply cyanosed. The breathing is gasping and wheezy, and is heard distinctly over the whole ward. He is in great distress, the muscles of the shoulders tense, and the chest is moved rigidly. As he is watched, the distress passes, and he sinks back in a drowsy condition as the respirations fade away. He becomes apnoeic and for the moment is still, but the breathing soon starts again, and as it grows in amplitude the restiveness and distress return. He has been ill for several years; seriously ill for six months. When examined, the heart is found to be greatly enlarged, dilated, and hypertrophied; systolic murmurs are audible at the apex and aorta. The auricles are fibrillating, the pulse grossly irregular. The arterial tension is high and the vessels are thickened. The veins are engorged and pulsate freely. The liver is much enlarged and pulsatile. There is anasarca of the lower limbs and trunk. There are signs of ascites and small effusions into both pleurae. The urine is high-coloured and heavy; it is scanty and contains albumin, pus cells, and casts.

The history tells us of attacks of suffocation at night, and he still has them. The temperature stands at 96°.

This patient had a great excess of non-volatile acids in the blood, sufficient to account for most of his dyspnoea. He was cyanosed, and had abundant evidences of heart failure with pleural effusions and bronchitis. The renal signs were less conspicuous.§ The cause of the dyspnoea was the same as that in the first case I have described, but the clinical picture was profoundly modified by the addition of cardiac failure.

I might cite similar cases‖ for instance those in whom aortic disease, mitral stenosis, forms of heart irregularity other than auricular fibrillation or angina pectoris were prominent, or in whom Cheyne-Stokes breathing was never seen. Such cases are commonly relegated to the category of "cardiac asthma," because, having conspicuous signs of heart disease, they suffer from paroxysmal breathlessness, especially severe at night.

I might instance, on the other hand, those with simple cardiac enlargement and gallop rhythm, or those in whom persistent drowsiness, headache, vomiting, twitching, or actual convulsions were prominent features; or in whom a retention of urea was discovered; these cases are usually spoken of as "uraemic asthmatics." We find the same blood picture in association with all these symptoms and signs, and attribute the dyspnoea, or the greater part of it, to a single and constant cause—namely, a diminished alkalinity of the blood from the presence of non-volatile acids.

Morbid Anatomy.

A large percentage of our cases have come to *post-mortem* examination. The morbid anatomy is as equally varied as the symptomatology. Hypertrophy and dilatation of the heart is the rule, though it varies in degree; the heart and vessels may weigh anything from 15 to 25 ounces. Coronary arterial disease is almost constant; fatty change has been seen in several of our cases;¶ valve lesions of all kinds may be present. The kidneys have always shown some change; in a few they were of

*It will be remembered that Pembrey found that Cheyne-Stokes breathing is abolished when CO_2 is inhaled. Most of his cases were of the type now described. (*Proc. Physiol. Soc.*, February 24th, 1906.)

†Acidosis has since been found by Mr. Barcroft in a young man with all the symptoms of chronic parenchymatous nephritis, including universal oedema.

‡A leucocytosis (13,000 to 19,000 per c.mm.) is not uncommon; the increase is mainly in the polymorpho-neutrophile cells.

§At the *post-mortem* examination advanced granular contracted kidneys were discovered.

‖A number of cases are described in a recent article: Lewis, Ryffel, Wolf, Cotton, and Barcroft. (*Heart*, 1913, v, 45.)

¶It was noted by Stokes in association with cases of a very similar type.

the advanced granular contracted or arterio-sclerotic type; more commonly they were large and showed diffuse fibrosis and lymphocytosis with changes in the medial and internal coats of the smaller vessels. General atherosclerosis of the larger vessels was usually discovered.

The Immediate Cause of the Dyspnoea.

The diminished alkalinity of the blood has been identified for us in these cases by Mr. Barcroft.* He exposes a sample of whipped and aërated blood to a definite pressure of oxygen, and finds that, according to the degree of its alkalinity, it absorbs more oxygen. The test of the reaction is the degree of saturation of the haemoglobin with oxygen when exposed to a definite pressure. The test is a delicate one; if the quantity of oxygen absorbed is known, the amount of acid which must be added to normal blood to produce a similar reaction may be calculated in percentage terms. If the same blood is exposed to oxygen, in the presence of CO_2 at pressures equivalent to those found in the alveolar air of the patient from whom such blood was taken, you have, according to the amount of oxygen absorbed, a measure of the reaction of the blood as it circulates in the patient. You gauge in this manner the total relative acidity (or hydrogen-ion-concentration) and this was found in our patients to give an accurate measure of the degree of breathlessness established in any given case. Not only so, but the results of this second test varied with the degree of breathlessness in the same case from time to time; so that when improvement in breathing was noted clinically the reaction of the reconstructed blood became more alkaline; or when the dyspnoea became more urgent, the blood was found to have greater acidity. Mr. Barcroft, working at Cambridge, was almost as well aware of changes in the degree of breathlessness of our patients in this hospital, as we were here, and by the simple examination of blood and alveolar air samples sent to him.

Any increase in the acidity of the blood increases the depth and rate of respiration. This fact has been abundantly proved; and it is a matter of indifference if the excess of acid is volatile, as it is when CO_2 is breathed, or whether it is non-volatile. There are many notable examples of the latter. I may instance the experiments of Leymann,[1] who introduced small quantities of phosphoric and other acids into the circulation. The injection of acids produces hyperpnoea, of alkalies apnoea. The dyspnoea of violent exercise is due to accumulated lactic acid.[3] Diabetic asthma is the result of diacetic and beta-oxybutyric acids. The presence of excess of non-volatile acid stimulates the respiratory centre, and hyperpnoea results; the hyperpnoea washes out CO_2, it increases the pressure of oxygen in the alveoli, and in this way the body attempts to accommodate itself to the altered conditions; but the accommodation is imperfect, and the reserve is decreased or abolished. The fall in the pressure of CO_2 in the alveolar air produced in this fashion is noteworthy; it serves as an index of altered respiratory metabolism, and suggests the presence of acidosis. The alveolar CO_2 may be reduced in exercise (Cook and Pembrey)[2]; it is diminished in diabetes[3]; it was reduced in our cases where it was estimated. It was a diminution of alveolar CO_2 pressure and a lowering of the respiratory quotient which led Straub and Schlayer[4] recently to suggest acidosis as the cause of breathlessness in cases they term uraemic; the cases they cite are certainly of the same group which I have described to you. As to the nature of the acid in the cases investigated we have no certain knowledge. In two moribund cases an excess of lactic acid was found by Dr. Ryffel, but as a rule it could not be identified. A similar acidity is developed by normal subjects at high altitudes, and the symptoms accompanying this relative acidity are similar to those which our patients exhibit; Cheyne-Stokes breathing and hyperpnoea, intensified at night, are common phenomena in those who climb to such heights as ten or fifteen thousand feet. Sufficient for the time being that relative acidosis is present, and that it is the cause of dyspnoea in a very large number of the patients of our wards. Moreover, it seems possible, if not probable, that in many of these cases it is also responsible for the increased pulse frequency and loss of cardiac tone, expressed as dilatation.

* For further details of the method the reader is referred to our full paper, *Heart*, 1913, v, 45.

Cardiac and Renal Asthma.

We distinguish between "cardiac" and "renal" asthma to-day in one of two ways. First, by studying the associated symptoms; if there are other "uraemic" manifestations, for instance, the curious ethereal breath, twitchings of the muscles, drowsiness or vomiting, a renal asthma is diagnosed. Each of these symptoms may occur in combination with the special type of breathlessness which I have described, namely, the breathlessness associated with acidosis: on the other hand, each and all may be absent in cases of the same group. These symptoms, therefore, are simple associations; they have not the same underlying cause as the asthma. The presence of such symptoms, apart from suggesting that the kidneys are not fulfilling their functions in a given case, does not materially help in elucidating the cause of the asthma; on the other hand, the cardiac symptoms may predominate. Valvular disease, signs of venous engorgement, dropsy, etc., may command our attention. In these cases cardiac asthma is diagnosed.

Secondly, we attempt to distinguish the two types of dyspnoea after death. When the body is examined the conspicuous lesion is found in the kidney, or it is found in the heart; the morbid anatomist points to one or other organ as the seat of the chief mischief, and accordingly the dyspnoea is relegated to the "renal" or "cardiac" category. The answer of the dead body is regarded as decisive; it is probably the least decisive answer we can obtain, and for the reason that no man can say at the present time, from the appearance of heart or of kidney, whether asthma was a clinical feature of the case or not. Neither can the presence or absence of this symptom be judged to-day from the closest inspection of these organs with the microscope. Nothing is clearer than the frequent discrepancy between the degree of functional impairment in these organs and the amount of structural change in them.†

We come to this standpoint—that the clinical or anatomical distinction between cardiac and renal asthma is no certain one.‡ Asthma occurring in patients who show on the one hand prominent cardiac lesions, on the other hand prominent renal lesions, may or may not be due to a single cause.

I would lay especial emphasis upon the failure of morbid anatomy materially to help us; changes of structure may have directed our search; it has not solved, and it never could solve, the problem as a whole. Breathlessness is a symptom during life; the body is examined after it has passed through the process of death, which conceals and eventually buries the truth. We seek the cause of hurried breathing, not in the subject of it, but in his remains, which are incapable of respiration. The chemistry of the dead is not the chemistry of the living. The problem of asthma is to be solved at the time of its occurrence, and it is first a problem of chemistry. While abnormalities of structure fail to indicate the cause, chemical pathology immediately directs us to it. The dyspnoea results, as we have seen, from diminished alkalinity of the blood; appropriate tests applied to the blood of these patients tell us whether these patients are sufferers from dyspnoea, they also reveal the degree of dyspnoea in a very accurate manner.

The object of these remarks is twofold. They are intended to emphasize study in the wards as opposed to that of the deadhouse. They are also made to persuade you that a classification of dyspnoea, based upon structural

† English clinicians, as opposed to those of the French school, have too long neglected the chemical side of renal disease in favour of the anatomical.

‡ I have searched a number of past writings for definitions of "cardiac" and "renal" asthma and for distinctions between the two, but can find no satisfaction in the accounts, when they are regarded from the standpoint of pathology. The terms are used loosely, and in varying senses. The French writers, and Huchard especially, alone seem to have been widely awake to the special meaning of paroxysmal breathlessness associated with Cheyne-Stokes breathing and other characteristic symptoms. Huchard (*Traité clinique des maladies du Coeur*, etc., Paris, 1899, Tome i) gives a perfectly clear account of cases of the same kind as those here described, emphasizing the form of dyspnoea as separate and distinct from simple cardiac dyspnoea, under the term "Dyspnée toxi-alimentaire"; he clearly recognizes that it may be combined with varying degrees of cardiac failure, and that under such circumstances the chief cause of breathlessness is often overlooked. He attributed the dyspnoea to relative impermeability of the kidneys, which incompletely eliminate toxins developed in the alimentary tract. His reasons for this hypothesis are found chiefly in the effects of diet. He thought that the term "aortic asthma" should be replaced by "toxic asthma." His account of asthma is most instructive.

defects, is incomplete and often irrational. I cannot agree with the further use of the terms "uraemic" or "cardiac" asthma, even as terms of convenience; we should speak and think of an asthma associated with relative acidity of the blood, or, more briefly, an asthma of acidosis; we should separate our types of dyspnoea according to the nature of the stimulus which produces it; subdividing those of acid origin according to the type of acid which is in excess, and leaving those in which the same type of acidosis is found, whether such acids can be identified or not, in a single and undivided group, provisionally at all events. Proceeding in this manner we shall immediately separate dyspnoea due to volatile acid (CO_2) and non-volatile acid. In the last group we shall isolate the dyspnoea of diabetes; it results from intoxication by the acids diacetic and β-oxybutyric; and if these acids are in excess in diabetes only, we may still be content with the term "diabetic asthma."* We shall isolate the dyspnoea of continued exercise, it is produced by excess of lactic acid; and we shall place in a provisional and single group asthma associated with renal and cardiac disease, and may have to add to these a form of dyspnoea encountered at high altitudes. Taking the last group we may, sooner or later, come to regard the asthma in each case as the same, and due to a single error in metabolism, renal or otherwise; we may, on the other hand, be forced to place them separately; but at present, while asthmas which occur under these three sets of circumstances (renal, cardiac, high altitude) have much in common, they should be retained in a single class.

My reason for suggesting a classification with this basis is not a purely theoretical one; it has considerable practical consequences. For one and the same patient may, as we have seen, have dyspnoea from combined causes, and these causes may vary in intensity, relative to each other, in different patients and in the same patient from time to time; it is important that the cause or causes of hurried breathing should be recognized in a given case, for each has its own significance, and each calls for separate and appropriate remedies.

PROGRESS OF THE PATIENTS.

The further history of these patients in whom relative acidosis is discovered is variable. The majority are the subjects of disease which speedily terminates life. In many there is progressive emaciation; the constant distress and want of sleep rapidly fatigue and weaken the body, and exhaustion is profound at the end. In others, signs of cardiac failure are more prominent; they become more and more waterlogged and cyanosed, breathing becomes still more difficult, and the heart dilates; death appears to be due to cardiac failure. In others death is ushered in by cerebral attacks, and the patients die comatose or hemiplegic. As Drs. Ryffel, Cotton, and Wolff have shown, the picture may become complicated in the terminal phases by a retention of urea and of lactic acid. Inflammatory exudates are often developed; they may be limited to a single pleura or may affect both cavities, the pericardium and the peritoneum. When such appear, the temperature often rises to normal or above it before death. Draining the pleura is often ineffective, reaccumulation is rapid.

In some few patients the progress towards recovery, especially in those in whom signs of cardiac stasis are few, takes place. The dyspnoea vanishes, or is present only on exertion. Permanent and complete recovery is not known; relapses are frequent, and sooner or later the disease is fatal.

I do not propose to deal with the subject of treatment at all fully; it is equally variable with the symptomatology; usually it combines the treatment of renal and cardiac disease. I shall deal with special points only. For some of the patients a good deal can be done by treatment. Rest alone may be attended by considerable improvement. The dietary, as Huchard has stated, is important. Many of these patients are aware beforehand that a milk and vegetable dietary is the most suitable for them. A relatively salt-free diet seems to cause improvement in some instances. In patients who have dropsy the outlook is always serious, but some respond to diuretics, and those who have fibrillation of the auricles may be greatly benefited by digitalis. Drainage of the legs should be carried out only with the strictest precaution. The incisions are prone to suppurate. Oxygen, even though administered in concentrated form, usually has little influence upon the distress of breathing. When the distress is great morphine alone affords relief. I have seen considerable relief follow free venesection, the breathing becoming quieter and sleep being induced.

The clinical signs sometimes show improvement on the cardiac side alone, so that cyanosis vanishes, engorgement and dropsy disappear, while the breathing still remains hurried, and bodily exercise remains difficult or impossible, because non-volatile acids still retain the blood in a state of diminished alkalinity.

I have given large doses of carbonates to several patients in the hope of altering the blood reaction; a difficulty in rendering the urine alkaline is often experienced, and although improvement has been seen in some patients, I cannot as yet speak of the remedy very hopefully. In the main our remedies are at present palliative, and temporary alleviation is alone anticipated.

THE ORIGIN OF THE ACIDOSIS.

Patients who suffer from the acidosis I have described have prominent lesions in two chief organs, the heart and the kidneys. In none of our cases were either of these organs found healthy after death. We seek the cause of the acidosis in defects of the circulation or in defects of the kidneys. That it is not due to deficient circulation is, I think, evident, for the degree of acidosis is not parallel to the circulatory defect. Is it the result of defective elimination, or does it come from an altered metabolism secondary to renal disease? To these and similar questions no certain answer can be returned; though we suspect that, as in one renal patient urea may be retained, and as in another chlorides may be retained, in a third type there is an alteration in the relative elimination of acids and bases. But whether this is the case or not is for the future to decide.

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* But if they also occur in starvation, we should return to a chemical terminology, defining the asthma as one resulting from a given error of metabolism.

An Address
ON THE
CLINICAL AND BACTERIOLOGICAL ASPECTS OF LEPROSY.

DELIVERED AT THE ROYAL SOCIETY OF MEDICINE,

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LEPROSY.

On considering leprosy from a nosological point of view we are struck by its long incubation, its slow and chronic course, and the terrible mutilations and disfigurement it is capable of producing without appreciably shortening the life of its victims. Its general infectivity, or, more correctly, contagiousness, appears to vary somewhat in different climates, because, though nowadays the disease, estimated by the number of cases, is practically confined to tropical and subtropical countries, still it is a universal disease occurring from north to south all over the inhabited world. In other words, it appears to have spread or persisted under some conditions and died out under others, for we know that it was extremely prevalent in Europe in the Middle Ages.

THE PATHOLOGY OF LEPROSY.

Its Contagious Nature.

It is not possible, from a scientific point of view, to deny that leprosy is contagious, even though we may not quite exactly know in which way the disease is transmitted from one individual to another. Knowledge of its

contagiousness is founded on the following substantiated observations:

1. That it is a disease due to a definite micro-organism.
2. That in Northern Germany, where the disease had been reintroduced from Russia in modern times, the infection was found to have spread concentrically from the first imported cases.
3. That the overwhelming majority of cases originate in countries where leprosy is relatively common.
4. That in the rare cases in which the disease has been contracted in countries where leprosy is not indigenous, such as England, Holland, and Southern Germany, we are able in every case to prove the more or less intimate contact with lepers who in their turn came to these districts after a more or less prolonged stay in a leprosy-ridden country.
5. That in countries where leprosy is relatively rare the disease is found to be bound to definite foci or families. This has been observed in the Alpes Maritimes, on the Riviera, and in the Valais (Switzerland).
6. That the countries which have carried out universal segregation have been rewarded by a gradual and constant diminution of the disease.
7. That where segregation has been abandoned or loosely carried out the scourge has attacked an ever-increasing number of individuals.

Arguments against its Contagiousness.

The grounds on which the contagiousness is denied are, I believe, the following:

It is said that medical men and attendants never contract the disease in leper asylums. This statement is not quite correct. Infection in these circumstances is not frequent, but several cases can be brought forward showing that attendants and medical men do contract the disease. In this country the infection of Sir George Turner has become public, but missionaries, nurses, attendants, and medical men are still living in England, and elsewhere, who have contracted the disease under similar circumstances, but whose cases are only known to those taking a definite interest in the disease. It should not be forgotten that on somewhat similar grounds the infectivity of tuberculosis has been denied, the deduction being based on statistics showing the low ratio of marital infection.

It is alleged also that the disease cannot be transmitted to animals, and inoculation experiments on human beings have failed. This also is not quite correct. The first part of this argument would have allowed us fifteen years ago to deny the contagiousness of syphilis. As a matter of fact, leprosy appears certainly to be transmissible to laboratory animals such as the rabbit or rat; the lesions in the first instance are very often strictly localized, and fail to develop at all in a very great proportion of experiments. The whole question is, however, still under discussion, but I am demonstrating sections under the microscope from which you may be able to form your own opinion.

As to the inoculations which Danielsson, Profeta, Cagnina, and Bargilli carried out on themselves and others, the results, it is true, were negative, but in view of the knowledge acquired of the bionomics of the leprosy micro-organism they have only proved that experimental inoculation with small quantities of leprous material is incapable of producing the disease in the human being in every case. In Arning's well-known case of the convict Keanu, who was pardoned on the condition of allowing himself to be inoculated with leprosy, the disease did develop, but the case is somewhat spoilt by the fact that the man had lepers among his relatives, and was in contact with them before and after the inoculation.

Leprosy is a disease with consequences too far-reaching to make its inoculation morally justifiable, even on willing subjects. Therefore we must await the results of further animal experiments, which should confirm previous successful results.

Another argument often brought forward by non-contagionists is that leprosy disappeared in the Middle Ages from England, France, Germany, and other countries, though strict measures of segregation were not resorted to.

It appears to me, however, that the measures adopted to prevent the spread of the disease were extremely severe. Lepers were not allowed into churches or market-places; had to carry a distinctive dress; had to make their presence known by a bell or clapper—in fact, the intimate contact between the healthy and the diseased, which gives rise to the most favourable conditions for transmission, was most radically avoided. I also believe that plague, directly and indirectly, swept away a great proportion of the leper population, as they were feeble, and, during times of epidemics and commotion, would receive no alms. This observation has been confirmed to a certain extent in India in modern times.

Family Statistics.

Figures bearing on the contagiousness of leprosy are available from Norway and Japan, and both seem to point the same moral.

Kitasato's statistics from Japan show that children of lepers become leprous in a proportion of only 7.05 per cent. of the total. Matrimonial infection was proved in 3.8 per cent. of cases, whilst persons living under the same roof showed a proportion of only 2.7 per cent. Brothers and sisters infect each other in a ratio of 4.2 per cent. These figures may need correcting according to the latest statistical methods, but they roughly correspond to the experience gained in Norway. The statistics of Sand and Lies for that country differ somewhat, but show that the children of a leprous mother are more frequently infected than those whose father alone is diseased. This indicates that the more intimate contact between mother and child leads to acquisition of the scourge in a greater percentage of exposed persons.

Sand's statistics for Norway show that in 357 married couples in which the father alone was a leper, 1,241 children were born, and 63 of these children (4.9 per cent.) became lepers. In 138 other married couples observed, the mother only was a leper; of 533 children born of these unions, 56 (10.5 per cent.) developed leprosy. In 17 couples both parents were diseased, and of the 63 children born to them 8 (12.7 per cent.) became infected.

Lies's figures from south-western Norway give somewhat similar results; 230 married couples in which the father only was a leper had 769 children, and 79 (10.2 per cent.) of these children contracted the disease. In 223 married couples the mother only was leprous, and of the 648 children born, 106 (16.36 per cent.) became lepers. In 28 instances both parents were lepers; out of 79 children, 29 fell victims to leprosy—that is, 39.19 per cent.

All these figures show, however, that leprosy is relatively slightly contagious only. In certain circumstances, however, the disease has been known to be acquired with great ease after a very short stay (a day or two) in leprosy-ridden areas, though it may have developed or been noticed as late as twenty or more years after contagion.

In view of these facts it is absolutely useless to try and deduce anything from a small series of experiments, or experiments in which the observation has not been sufficiently prolonged. The same observation applies to the bacteriology of the disease: a few attempts at cultivation are bound to be futile, and even hundreds of tubes and dozens of attempts may result in perfectly negative results.

Mode of Transmission.

The statistics I have quoted seem to show so clearly that contagion or infection through immediate contact is the usual mode of transmission that it appears rather far-fetched to seek an insect carrier of the scourge.

As a matter of fact, all experiments to prove this mode of dissemination have so far failed, though it appears quite probable that the common house-fly can suck up the germs of the disease from open sores, and carry them about for several days.

The horrid sight of flies swarming and hovering round purulent sores and round the nostrils of leprous beggars is well known to the traveller in Eastern countries.

The theory of the hereditary nature of leprosy has also been refuted in the course of time by the fact that the children of leprous parents, if taken away at an early age, develop the disease in very rare instances only.

The possibility that in a minimum proportion of cases the lepra bacterium may pass the placenta and infect the fetus cannot be absolutely denied, but cases of congenital leprosy appear to be unknown, though in several instances

children have shown definite symptoms of the complaint before the age of 5.

The modern medical eye looks, therefore, upon leprosy as a disease which is definitely contagious, though under proper sanitary conditions to a very slight degree. In situations where hygienic precautions are defective and the contact between the diseased and the healthy is unnecessarily immediate—where, for instance, a leper is obliged to sleep in the same bed with other members of the family—and personal cleanliness is apt to be in abeyance, the danger of contagion is certainly present to a varying extent.

We know that at the present moment about 25 to 50 lepers, or perhaps more, are living in England, and yet of these only one has acquired the disease in the United Kingdom. The simple precautions these unfortunates are able to take to keep themselves separated from their families have been sufficient to prevent contagion.

In India, on the other hand, the last census appears to show an increase of lepers from 100,000 to 110,000 in ten years.

In Basutoland the principal medical officer counted 300 lepers twenty-five years ago. An official report was made asking the Government to enforce segregation, as otherwise an increase to double that number was to be expected within twenty years. For financial and other reasons this advice was not acted upon. Last year a census showed 800 to 900 lepers in Basutoland, so that the principal medical officer does not appear to have gone far wrong in his prophetical estimate.

THE TREATMENT OF LEPROSY.

Nearly every imaginable drug has been tried, and a great number are still under experiment in the hope of discovering a cure for leprosy; but we have yet to find a specific and sure method of treatment.

The present position can, however, be summed up by saying that even the most useful therapeutic agent requires the help of an early diagnosis of the disease and proper hygienic conditions; but that at no moment has the therapeutic outlook been so hopeful as at the present moment.

In its initial stages leprosy affects the general well-being and appearance of an individual to such a slight extent that any therapeutic effort which succeeded in arresting the disease in its early stages in a fair proportion of cases would practically amount to a cure.

Spontaneous remissions of the disease and spontaneous apparent "cures" occur, however, in a small proportion of lepers, and may last for several years, in some instances as long as fifteen years or more, but afterwards the disease may again become virulent and rapidly carry its victim to the grave. Therefore any drug or method of treatment must stand the test of time, five years or more, and be applied to a sufficient number of patients.

Without taking into consideration these important initial factors it is absolutely irresponsible to speak of cure in a disease so chronic, slow, and intractable as leprosy is known to be.

A review of all therapeutic attempts, many of them very sketchy and saltatory, would fill a volume by itself. I may, however, be allowed to give the results of the experience at Robben Island and in South Africa generally. For all advanced nodular stages Chaulmoogra oil, or, better, its refined constituent "antileprol," injected intramuscularly in doses of 3 to 5 c.cm. is still the best palliative I know. The injections should be repeated every three days, and the course should last five months or more if the patient can stand it, because at times the injections may become very painful. Chaulmoogra oil and antileprol can also be given internally in small capsules, and for this mode of treatment antileprol is decidedly preferable, as it does not cause the gastric disturbances produced by the unrefined oil. Doses varying between 15 minims and ten times that quantity can be taken daily.

Cases in the early macular stage appear to respond better to other forms of treatment. A cultural extract has been prepared from the micro-organism of leprosy isolated by Kedrowsky on lines similar to those used in the preparation of Koch's *alt-tuberkulin*. It contains, accordingly, the water-soluble toxic constituents of the bacillus, which, however, in the case of Hansen's germ, are very feeble indeed, so that much higher concentrations have to be injected than is the case in the analogous treatment of tuberculosis by tuberculin. Dr. MacLeod, of Charing Cross Hospital, and Dr. Davies, Resident Medical Officer of the Pretoria Asylum, have made use of this substance on single selected cases. The result in both instances was very satisfactory. The maculae, or spots, slowly and surely faded away. [This was illustrated by lantern slides of photographs.]

Dr. MacLeod's case has now been under treatment over a year, and has improved to such an extent that the disease is no longer diagnosable. I am authorized to say that other therapeutic efforts failed to bring about any change for the better, and that the patient has now been observed for over a year and a half without any recurrence being observed. On the contrary, there has been subjective improvement, inasmuch as muscular pains, previously present in the affected arm, have disappeared.

Dr. Sydney Davies's patient, a girl aged 8½, was covered with dusky red patches, which were to be seen all over her body. They faded away during the course of treatment, which occupied three months, and had not reappeared during the following ten months. Similar results were obtained at Robben Island. [This was shown by lantern slides.]

I should like, however, to state clearly that this method of treatment does not appear to be of real advantage in advanced nodular cases. The injection of 1 or 2 c.cm. of the cultural extract causes a rise in temperature accompanied by the appearance of bacilli in the blood. This may possibly lead to dissemination of the germs of the disease; but if the individual affected is young and otherwise healthy and the leprotic symptoms not marked, a course of injections, beginning with 1 c.cm. hypodermically every three days, may be distinctly beneficial. The treatment should be continued for some time even after the maculae have disappeared.

The surgical treatment of leprosy requires most careful and constant attention. Fingers, toes, hands, and feet frequently become septic, and prompt surgical intervention can work marvels. Eye complaints, which are exceedingly frequent among lepers, are to a certain extent amenable to operative procedures, but relapses often follow even after the most skilful intervention.

PREVENTIVE MEASURES.

Having shown that leprosy is but slightly contagious if proper sanitary precautions are taken, and that any form of treatment which can be applied with any hope of success must be made use of in the very early stages of the disease, it may seem inconsequent to follow with the statement that only by a universal system of segregation can it be hoped to cope with the spread of the disease successfully and promptly.

The Americans in the Philippines succeeded by an energetic segregation of all cases in reducing the new admissions by 90 per cent. In South Africa, where in some districts, owing to financial considerations, only about one-half of the leper population is segregated, the rate of admission has remained constant for the last ten years. The Leprosy Repression Act in the Cape Colony was extremely severe, but owing to its very severity it could not be carried out in its entirety.

Opponents of segregation consider that it is cruel to separate the lepers from their family and friends. Two facts, however, are overlooked. One is that when an individual develops leprosy in a severe form his friends soon abandon him: and that consideration of the feelings of one may mean the misery of many, because one single leper may give rise to several. In a case observed in Northern Germany one girl directly and indirectly infected twenty-eight people.

It is only in properly constructed and conducted asylums that lepers can be taken care of satisfactorily and prevented from infecting their surroundings. If in the course of time early cases, and a certain proportion of the more advanced, can be favourably influenced by treatment, or even if the present results stand the test of time, there will be ample reason for trying to get rid of the scourge by universal registration and segregation—measures which ensure also proper treatment and care.

I quite admit that tuberculosis and syphilis present two problems which are equally if not more pressing. But we are not aware that consumption can be stemmed by segregation, and syphilis requires quite other measures.

Leprosy is so far-reaching in its social results, for the individual affected is cut off to such an extent from his fellow beings as to render his earning a livelihood very precarious, that whether we look at the matter from the standpoint of humanity or from that of sound policy, it is seen to be the duty of every Government to prevent its further spread.

It does not seem to have been sufficiently understood that all measures of preventive medicine which are based on sound scientific principles are excellent business propositions. I believe that the money invested in the study of Malta fever, now that the cause has been found, is saving the Government yearly a sum which would be sufficient to pay a dividend of 100 per cent. or more.

Such examples could easily be multiplied; one which lately came under my notice in Russia deserves mention here. Relapsing fever in Moscow alone attacked about 1,500 to 3,000 individuals each winter. Each patient remained in hospital from three to five weeks. Since the invention of salvarsan, which is a wonderful specific for similar diseases of the blood, the stay has been shortened to five days or a week. The resulting saving is about 30,000 to 50,000 roubles (£3,000 to £5,000) a year!

The sanitation of Khartoum, which owes so much to the work of Dr. Andrew Balfour, lately Director of the Wellcome Laboratories at the Gordon College, has also made itself pay over and over again in hard cash by the resulting influx of visitors and saving in hospital expenses for inhabitants and officials.

How are these comforting examples applicable to the problem of leprosy in the British Empire? By a systematic and persevering attempt to get rid of the disease by instituting settlements for the voluntary segregation of the worst cases, where the numbers are too great to be dealt with at one time, as is the case in India; and by a system of universal segregation in properly conducted asylums in those colonies and dependencies where relatively small numbers only are to be accounted for. Unfortunately, in some countries the principle "out of sight out of mind" is still applied to the leper asylums, and money spent on this principle is almost wasted. It should, however, be clearly understood that every system of segregation needs the co-operation of the lepers themselves, and this can only be obtained by paying the asylum staffs proportionately and adequately, and securing proper medical attendance.

The experience of other countries shows us that such a course would lead to the gradual extinction of leprosy, a disease which has now been known for so long a time that its survival should no longer be tolerated.

REMARKS ON ACUTE PANCREATITIS.

WITH NOTES OF SEVEN CASES.

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Judging from the literature on acute pancreatitis, one would imagine this condition, although very serious, to be one in which, with surgical intervention, a cure may be expected in about 40 per cent. of the cases.[1]

We have recently had under observation 6 cases of this condition, all of which terminated fatally; 4 of these were treated by operation and 2 died undiagnosed. Although we are aware that the number of cases is small, our impression, gained from a study of them, is that the condition is more serious than one would be led to suppose by the cases already published. We may have been unfortunate in having to deal with a specially virulent set of cases, but we cannot help thinking that, as a rule, unsuccessful results are not published, and that this mitigates against a proper idea of the great gravity of the condition.

Case I.

A male, aged 40, was admitted to the Norfolk and Norwich Hospital on December 22nd, 1909, with the history that the illness started suddenly on December 20th with acute pain in the abdomen and vomiting. The pain continued severe and the vomiting became profuse. There was a history of previous attacks of biliary colic.

Operation.

On admission the abdomen was tender and rigid. No distension; no dullness on percussion. General condition very bad, skin cold and clammy. Operation two hours after admission—supra-umbilical laparotomy. Pancreas found hard, enlarged, sloughing in places, and beads of pus. Tubes inserted after incising the gland above the stomach and below. A few glistening white patches of fat necrosis seen in transverse mesocolon; none in omentum. The patient died twelve hours after operation.

Necropsy.

Closed wound above umbilicus, middle line, 5 in. in length, and an open wound 1 in. in length below the umbilicus. General peritonitis, lymph being found on the peritoneum. Fat necrosis in the transverse mesocolon. Three gall stones in the common bile duct, the gall bladder being full of stones. The tail of the pancreas quite necrotic, the head and body being of a dark red colour, swollen and hard.

Microscopical Examination.—The architecture of the pancreatic lobules is well marked. In some the cells are loose, breaking away from each other and the basement membrane; others are completely necrotic; in others abscess formation is taking place in the middle of a lobule already necrotic; others again have become abscess cavities. Extensive haemorrhage has taken place, mostly intralobular. The ducts in most cases show little change, but those in the centre of the larger necrotic areas are necrotic as well; in these the cell outlines have quite disappeared. Areas of fat necrosis are abundant. The islands of Langerhans are not to be distinguished in the necrotic areas.

Case II.

A male, aged 40, was admitted to the hospital at 8.45 p.m. on August 27th, 1910. The illness began on the night of August 24th with sudden pain on the right side of the abdomen and vomiting; the latter became constant and profuse. On admission the patient was in a very collapsed condition; abdomen rigid and distended, dullness over pubes extending into right loin.

Operation.

At 10 p.m. on August 27th anaesthesia was induced with a mixture of ether and chloroform. The stomach was washed out preliminary to the operation, and a quantity of filthy brown fluid evacuated. Median subumbilical laparotomy performed; reddish dirty fluid found in the pelvis; small intestine very distended and dark red; circular, glistening white areas of fat necrosis seen in mesentery, but none in the omentum. The patient's condition was so bad that no attempt could be made to explore the pancreas, and he died from failure of respiration while the wound was being closed.

Necropsy.

A little reddish dirty fluid was found in the abdomen and fat necrosis in the mesentery. The pancreas was found firm and swollen, and appeared to be full of haemorrhagic effusion. The liver was somewhat enlarged and the gall bladder was distended, several stones being present, but the ducts were all patent. Nothing else abnormal was found, except old pleural adhesions on the right side.

Microscopical Examination.—The lobules in places appear normal, but most of them are in a condition of early necrosis, the cells being dislocated from their normal positions, and some parts have become quite necrotic. There is some inflammatory reaction, with haemorrhage around the pancreas. There are also areas of fat necrosis within the substance of the gland. The islands of Langerhans have suffered less than the rest of the organ.

Case III.

A female, aged 51, was admitted to the hospital on November 19th, 1910. The illness began twenty-four hours before admission with sudden violent pain in the abdomen. History of "indigestion" for over a year, with two attacks of haematemesis. On admission the patient was in great pain, vomiting frequently. Abdomen rigid and tender, especially in the upper part; slight dullness above pubes. Very collapsed; no pulse to be felt at the wrist. Dr. Long and Dr. Cleveland saw the patient with one of us, and although a definite diagnosis was not made, it was obvious that an operation held out the best chance of life. At their suggestion the patient's limbs were firmly bandaged and two pints of saline and some pituitary extract were administered prior to the operation.

Operation.

Suprapubic laparotomy was performed. Dirty blood-stained fluid was found in the pelvis, and the omentum showed obvious patches of fat necrosis. The abdomen was washed out with saline, an incision made in the left loin, and a tube passed through to the tail of the pancreas, which was felt to be hard and enlarged.

November 20th. Patient comfortable; no pain; pulse, however, not perceptible. A quantity of dirty fluid draining through the tube.

November 21st. Pulse perceptible.

November 22nd. Patient better, pulse stronger, respirations 40, temperature subnormal.

The improvement did not continue after the 23rd, and the patient died on the 28th.

Necropsy.

Lesser sac of peritoneum full of dirty blood-stained fluid; fat necrosis well marked in omentum, mesentery, and the fat under the parietal peritoneum; two gall stones in the gall bladder, the duct not obstructed; the pancreas greatly swollen, and appeared haemorrhagic; stomach dilated, a small erosion near the ampulla of Vater.

Microscopical Examination.—The gland lobules show the changes of early necrosis, the ducts and islands of Langerhans take part in the same change. Areas of fat necrosis are abundant.

CASE IV.

A male, aged 34, was seized with sudden pain in the abdomen and sickness on September 9th, 1911. He was seen by Dr. Aldred of Wroxham, who sent him to the Norfolk and Norwich Hospital on the 11th. On admission his abdomen was uniformly distended, and there was resistance in the left loin. There was no collapse.

Operation.

An enema was given with slight result, but as the pulse-rate was increasing operation was decided upon. Thirty-six hours after the onset of the attack laparotomy was performed through the left rectus, above the umbilicus and extending 1 in. below. The peritoneal cavity was found to contain dirty-red fluid, and there were obvious patches of fat necrosis scattered all over the omentum. An opening was made through the great omentum just below the stomach with blunt forceps. The pancreas, which was much swollen and very tense, was incised with forceps and a drainage tube and gauze wick passed down. The gall bladder was distended but no stones could be felt.

After-History.

The day after the operation the patient was better, slightly jaundiced. The wound was discharging profusely. The improvement was maintained until September 17th (sixth day after operation), when the pulse began to get quicker and there was increased resistance in the left loin. An incision was made under eucaine in the left loin and a little dirty fluid evacuated and a drainage tube inserted.

On the 20th the laparotomy wound was gaping owing to digestion from the discharge, and silk sutures were inserted.

The patient gradually got weaker and died from exhaustion on September 27th—that is, sixteen days after operation.

Necropsy.

Well-nourished man with a large gaping wound in his abdomen. A little clear fluid found behind the omentum. All the abdominal fat thickly studded with fat necrosis. Above the transverse colon a track leads down to the pancreas. At the bottom of this track is a mass of necrotic tissue and pus. The head of the pancreas appeared to be normal, but the body and tail were absolutely necrotic, the whole organ floating free. The gall bladder contained no stones, but was firmly adherent to the small intestine. There was no stone found in any of the ducts.

Microscopical section of the head of the pancreas showed that it was in a condition of early necrosis with a very little haemorrhage into the substance of the gland. The islands of Langerhans were normal. Large areas of fat necrosis were present. The tail of the organ was found on section to be absolutely necrotic.

CASE V.

A woman, aged 48, said to have suffered from ulcerated stomach three and a half years before, and since then to have enjoyed good health, complained of abdominal pain on the evening of September 26th, 1911. The next morning she felt better, and did not consider it necessary to see a doctor. The husband left home at 7.30 a.m. for work, and, returning at 6.30 p.m., he found her dead, lying face downwards on the floor. A chair that he had placed beside the bed was knocked over, and there was dried vomit found on and by the bed.

Necropsy.

On opening the body fat necrosis was found to be present in the subperitoneal fat as well as in the omentum. The pancreas was found surrounded by effused blood and was hard and swollen; on section it was seen to be full of effused blood. The gall bladder contained four gall stones.

Microscopical section showed that the organ was completely necrotic, although the architecture of the gland could still be made out. There was a large amount of interstitial haemorrhage and many areas of fat necrosis. There were no inflammatory cells present.

CASE VI.

A man, aged 54, who had never had any serious illness, but had suffered from occasional vague abdominal pains for ten or twelve years, consulted Dr. Starling on December 26th, 1910, who treated him for indigestion. He improved steadily up to January 14th, 1911, when he had an attack of pain in the abdomen, which returned early in the morning of January 15th. When seen at 8.30 a.m. he was obviously very ill, face ashy colour, nose cyanosed, pulse 90 and weak, anxious drawn expression, he had vomited once. He rapidly got worse and died at 7.45 p.m. that day.

Necropsy.

A little dirty fluid was found in the peritoneal cavity. There was some haemorrhagic effusion around the pancreas which was swollen and firm. On section it appeared to be full of effused blood. One large gall stone was found in the gall bladder. No fat necrosis was seen.

Microscopical section of the pancreas showed that there was a good deal of fibrous tissue laid down between the lobules of the gland. The parenchyma of the gland was completely necrotic, a cell here and there only showing a nucleus, and this in a state of degeneration. There was diffuse general haemorrhage into the gland and many areas of fat necrosis, with only slight inflammatory reaction.

PATHOLOGY.

The intimate anatomical association of the common bile duct and the pancreatic duct has been considered the important factor in the causation of this condition, the actual cause being the invasion of the pancreatic duct by bile or duodenal contents. This theory is based on the frequent presence of gall stones in these cases, the passage of a gall stone either diverting the bile into the pancreatic duct or so dilating the orifice as to allow duodenal contents to enter the now incompetent valves (of the ampulla of Vater).[2] Our cases strengthen this view, as in five out of six gall stones were present, and in the other there was evidence of old inflammatory trouble, possibly due to the former presence of gall stones.

Our opinion is that this condition is caused by the entrance of bile or duodenal contents into the pancreatic duct, which there activates the pancreatic ferment and causes a digestion of the gland, a circumstance which may be followed by the invasion of micro-organisms. In some cases this digestion apparently takes place without any invasion by micro-organisms. This digestion in the gland affects the blood vessels, leading to haemorrhage in and around the gland. This process then spreads beyond the confines of the gland, leading to the phenomenon of fat necrosis in other parts of the abdomen. It appears that fat necrosis is not seen in cases in which pancreatic juice alone has found its way into the peritoneal cavity, but that when this is mixed with bile the phenomenon occurs. The above theory of pancreatitis seems to us to be borne out by the pathological findings in these cases, in which all stages of the condition were met with, from the very earliest, in which the cells still stain fairly well but are seen to be separated from each other and from the basement membrane, to the most advanced, in which all indication of the structure of the gland has disappeared and only a few nuclear fragments are seen. These conditions, we maintain, are due to the invasion of the gland by bile or bile-containing fluid by way of the ducts. In some of these cases, too, we see inflammatory reaction and abscess formation in addition to the above features, and in these cases we suggest the gland has been secondarily infected by some micro-organism. If this infection does not take place, no inflammatory reaction is seen in the gland at all, and the case is not one of pancreatitis but pancreatic necrosis. The very acute symptoms observed in these cases is due, we suggest, to the absorption of toxic products of the digestion going on in the gland.

DIAGNOSIS.

All are agreed that the diagnosis of this condition before laparotomy is extremely difficult.

As regards history, though five of the patients had gall stones, only one gave a history of biliary colic or jaundice (Case I). Three cases (III, V, and VI) had had bad "indigestion" for over a year with or without haematemesis, which made one suspect perforated gastric or duodenal ulcer. In all the cases the condition started suddenly with pain and vomiting, the latter being frequent and copious, as is usually noted.

In all the abdomen was rigid and tender; in one case (No. III) the tenderness was most noticeable in the upper part of the abdomen, and in one case (IV) in the left loin. In Cases II and III there was obvious dullness on percussion above the pubes.

An extreme degree of collapse was a marked feature in four of the cases. In Case III the patient was pulseless at the wrist within twenty-four hours of the onset, and remained so for twenty-four hours after the operation, when she began to improve. Cases V and VI ended fatally within twenty-four hours of the onset of acute symptoms.

In our opinion the extraordinary amount of collapse is the only symptom which would suggest the diagnosis; but in some cases, probably of a less acute nature, assistance may be obtained by finding a localized resistance in the upper part of the abdomen.

Treatment.

In acute abdominal conditions with sudden onset it will generally be admitted that, whether a definite diagnosis has been made or not, surgical intervention holds out the best chance of recovery. In this condition death is almost certain to ensue unless the process of necrosis is arrested by incising the gland and free drainage; this should be performed as soon after the onset as possible; delay is fatal. That operation may be successful is proved by the published cases.

After performing a laparotomy a definite step in the diagnosis is made if dirty red-brown fluid is found in the pelvis, which was a marked feature in Cases II, III, and IV. If there is fat necrosis in the omentum the diagnosis is fairly obvious; but fat necrosis, although present in all the cases operated on, occurred in the omentum in only two of them (Cases III and IV); in Cases I and II it was present, at the time of the operation, only in the mesentery of the small intestine and in the transverse mesocolon. Finally, the pancreas will be found to be greatly enlarged, and the question arises whether one should be content with simple drainage of the pancreatic region, or whether cholecystostomy should be performed. One should be guided, we consider, chiefly by the general condition of the patient. As a rule, any prolongation of the operation should be avoided.

As a preliminary to the operation, we think it advisable to wash out the stomach, as in other conditions in which frequent and profuse vomiting is a feature. Measures to combat the marked collapse should also be taken *prior* to the operation, the most reliable, after warmth, being saline infusion and the exhibition of pituitary extract.

Since writing the above we have had the opportunity of seeing another case of this disease:

Case VII.

A male, aged 47, who for several years had suffered with occasional attacks of pain in the epigastrium which had no relation to food, but had never been jaundiced, at 3 a.m. on May 6th, 1912, was suddenly seized with severe pain in the epigastrium, and vomited once. He was admitted to the Norfolk and Norwich Hospital at 4 p.m., and shortly after this his bowels were open. He was then collapsed and cyanosed, with rapid, feeble pulse. There was no movement of the upper abdomen on respiration, slight tenderness on pressing over the epigastrium, abdominal muscles rigid, and marked dullness in both flanks. The liver dullness was not obliterated.

Operation.

He was given 3 pints of saline and 1 c.cm. of pituitary extract by infusion during the operation. Mr. E. W. Everett performed suprapubic laparotomy and found blood-stained fluid in considerable quantity in the peritoneal cavity; he inserted a tube into the pelvis and then opened the abdomen above the umbilicus. On lifting up the omentum, fat necrosis was seen and the gall bladder was found to be full of stones. The latter was opened and drained, and the supraumbilical wound was closed. The patient was returned to bed in the Fowler position and continuous saline infusion administered by the rectum. He died at 10 p.m.

Necropsy.

A well-nourished, muscular man. General peritonitis, with dirty blood-stained fluid in the peritoneal cavity. Fat necrosis in the great omentum, appendices epiploicae, mesentery, and on the under surface of the diaphragm—most marked in the region of the spleen. The pancreas: head and first part of the body dark red in colour and of the consistency of soft india-rubber; the rest of the body and the tail appeared normal. The bile ducts were patent and apparently normal. The pancreatic duct was apparently normal, and was not bile-stained.

Microscopical sections show that the head of the pancreas is completely necrotic, no sign of the gland substance remaining; this part of the gland is extensively infiltrated with blood. The tail of the organ is seen to be in the first stage of necrosis, but no haemorrhage has taken place here. Between these two points all stages of necrosis are found. Throughout the organ there are areas of fat necrosis, but nowhere is there seen any evidence of inflammatory reaction.

In conclusion, we wish to record our thanks to Dr. H. J. Starling and Mr. E. W. Everett for their kind permission to use the notes of the cases under their care.

References.

[1] Moynihan, *Keen's Surgery*, vol. iii. [2] Opie, *Disease of the Pancreas*.

The Middlesex Hospital and the New Hospital for Women each receives a bequest of £2,000 under the will of the late Mr. John Anderson, of Porchester Terrace, W.

C

THE DIAGNOSIS AND TREATMENT OF INTESTINAL OBSTRUCTION.*

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Excessive Mortality.

It is a reproach to our profession that many hundreds of men, women, and children die every year from intestinal obstruction due to mechanical causes. It is no exaggeration to say that in every case life could be saved or prolonged by surgical operations performed at an early stage of the illness. The mortality of cases of acute obstruction of the bowels submitted to operation is still appalling, probably as much as 75 per cent., and this is entirely due to the large number of cases in which surgical aid is sought or accepted as a last resource, although it is obvious that mechanical obstruction can only be removed by mechanical means. This deplorable and unnecessary waste of life is mainly due to the continuance of the old tradition which assigned all internal diseases to the province of the physician, or as the Germans put it, of "inner Medicine."

An Essentially Surgical Condition.

No modern physician would, of course, deny that the treatment of mechanical obstruction of the bowels is wholly and solely a surgeon's job. He is justified, of course, in pointing out that it is sometimes a matter of great difficulty to decide whether a given patient has or has not obstruction of the bowels, and whether, the fact of obstruction being admitted, it may not be due to some cause capable of spontaneous disappearance. Influenced, however, by such doubts, the tendency of the physician is to wait and see. No doubt most problems are eventually solved by this method, but when the solution is so often made at the expense of the patient's life, it would seem a speedier and safer way to open the belly and look.

I do not suggest that medical practitioners are wholly to blame for the late stage at which the majority of cases of intestinal obstruction reach the hands of the surgeon. The ancient habits and beliefs of medicine continue to be cherished by the public long after they have been discarded by the profession, and many patients still abstain from seeking medical advice until they have treated themselves on orthodox lines by purgatives, enemata, and poultices without relief. Too often, nevertheless, when the practitioner is called in attempts are made to continue this futile treatment instead of making a definite diagnosis, or advising an exploration.

Confusion between Constipation and Obstruction.

The reluctance both of the practitioner to advise and of the patient to accept an immediate or early operation is due in no small measure to an habitual confusion between the ideas conveyed by the terms "constipation" and "obstruction." The term "obstruction" is generally, and should be always, used to mean actual mechanical obstruction to the lumen of the bowel sufficient to hinder or actually arrest the onward flow of the intestinal contents at a particular point. Obstruction so defined, if it exists, is obviously a surgical condition, curable only by surgical means, and surgically urgent in proportion to the acuteness and degree of the obstruction.

The term "constipation," on the other hand, means nothing more than some greater or less delay in the periodical evacuation of the bowels. It is quite common to meet with persons who habitually go several days without an evacuation, and not very uncommon to see a patient who has had no evacuation for as much as a week or more without showing any signs of acute illness or even discomfort, and without obstruction of the bowel at any point. It is true that this delayed progress of the intestinal contents, or intestinal stasis, is often associated with certain anatomical changes in the large intestine, and that it has been attributed by Sir Arbuthnot Lane and others to certain sharp bends or kinks caused by the dropping of certain parts of the colon, so that it might be described as a form of organic intestinal obstruction. Whether we accept Sir Arbuthnot Lane's theory or not—

* A paper read before the Staffordshire Branch of the British Medical Association.

on which for the moment I express no opinion—his cases have none of the clinical features of cases in which the lumen of the bowel is demonstrably affected, and Sir Arbuthnot himself describes them as cases of chronic constipation—a term which, as I have pointed out, does not usually, and should not imply obstruction.

Distinguishing Features of Obstruction.

Pain.

What, then, are the clinical features which distinguish obstruction from mere constipation? The first in importance is pain. In all acute abdominal illnesses pain is a prominent feature of the onset, and is common to such different conditions as visceral perforation, visceral strangulation, acute inflammation of the appendix or pancreas, and acute intra-abdominal haemorrhage. The pain due to intestinal obstruction does not, however, develop until more or less violent peristalsis is excited in the bowel above the obstruction. During the early stage of an acute strangulation it may be obscured by the pain and shock of the initial lesion, but as this subsides the colicky pain of peristalsis takes its place. It is paroxysmal and of the kind known as griping. After a time it is often accompanied by visible or palpable peristalsis. This sign, whether in an acute or chronic case, always means obstruction of the bowel lumen, and is a definite and safe indication for immediate operation.

Distension.

Distension is the next sign to consider. It is a necessary sequel of obstruction, since the gas normally present very soon accumulates above the obstructed point, and is rapidly increased by putrefactive changes in the stagnant intestinal contents. The absence of intestinal distension more than twelve hours after the onset of abdominal pain practically negatives obstruction, except in a few cases where the obstructed point is very high up, and in these cases it may pass into the stomach, and is relieved by vomiting and eructation. The presence of any well-marked degree of distension, on the other hand, is strong evidence of the existence of something more than constipation, and to that extent is a danger-signal of great importance.

In acute cases, of course, distension does not necessarily imply intestinal obstruction at a definite point, since it is one of the earliest and most constant symptoms of acute peritonitis. But that distension without peritonitis means obstruction and indicates the need for operation is a clinical rule which should seldom be disregarded, whether in acute or chronic cases. When obstruction and general peritonitis coexist, the obstruction may be merely an incidental complication of the peritonitis, or peritonitis may be the latest stage of unrelieved obstruction. In either case the need for operation is apparent, but it must be remembered that most cases of mechanical obstruction, if unrelieved, generally terminate fatally from exhaustion and toxaemia, and remain free from general peritonitis to the last, so that if signs of peritonitis occur early the case is almost certainly not one of simple mechanical obstruction.

Muscular Rigidity.

The most valuable distinguishing sign between peritonitis and obstruction is undoubtedly muscular rigidity. In simple mechanical obstruction, muscular rigidity of the abdominal wall is absent. In commencing general peritonitis, it is practically safe to say that it is never absent. In visceral perforation—for example, gastric ulcer—in spite of the intense pain, rigidity is usually absent if the patient is examined immediately after the occurrence of perforation. Its subsequent occurrence marks the onset of peritonitis after an interval varying in different cases according to the amount and virulence of the escaped intestinal contents.

Intermittent griping pain, accompanied by intestinal distension and without muscular rigidity, point to obstruction both in acute and chronic cases.

Rise of Temperature.

Other symptoms help us to distinguish general peritonitis from intestinal obstruction, but they are of less value than rigidity, for most of them develop or differentiate themselves later in the case, while it is of vital importance to make the diagnosis at the earliest possible moment.

A rise of temperature usually follows the onset of peritonitis, and is absent in simple obstruction. But in a case seen early it is folly to wait for a rise of temperature when more significant signs already exist; moreover, the absence of febrile temperature does not even negative extensive peritonitis.

Rising Pulse-Rate.

A rising pulse-rate after an attack of acute abdominal pain points rather to perforative peritonitis than obstruction, and is an indication of grave internal mischief seldom disregarded. In simple obstruction the pulse and temperature may both be unaffected after the first onset symptoms, and this is one of the commonest reasons for dangerous delay, since many practitioners even nowadays do not appear to realize that a patient may be acutely and dangerously ill with a normal temperature and pulse-rate.

Vomiting.

Vomiting, like pain and distension, is a cardinal symptom both of obstruction and peritonitis; but there are significant differences in the time and manner of its occurrence. Vomiting soon after the onset of the pain is common to nearly all acute abdominal cases, and does not help to distinguish one cause from another. But if it does not cease at the end of the first twenty-four hours, and if the signs of peritonitis are not excessively severe, obstruction should be suspected.

Repeated vomiting, continuing after the stomach has been relieved of its original contents, and then followed by the prompt rejection of liquid food soon after it is swallowed, are symptoms which occur from the beginning in acute obstruction, and do not occur in peritonitis till the last and usually fatal stage.

Incessant vomiting, continuing from the onset of illness, is, of course, a familiar feature of acute gastro-intestinal poisoning, both by organic and certain mineral poisons, but such cases are seldom in danger of confusion with either peritonitis or obstruction. More often than not they are accompanied by diarrhoea, but the absence of early distension and of muscular rigidity distinguishes such cases from obstruction even where an absence of a recent evacuation of the bowels suggests the possibility of acute obstruction.

Violent lead colic has, however, been often operated on for acute obstruction—a more pardonable error, at any rate, than waiting too late for a successful diagnosis.

Absence of Bowel Evacuations.

Absence of bowel evacuations is the most direct and immediate result of complete obstruction of the lumen of the bowel, but I have left the discussion of its significance as a symptom to the last because lapse of time, sometimes of many days, is required before absence of evacuation has, taken by itself, any significance. It has already been pointed out that what distinguishes obstruction from mere constipation is not the length of time which may have elapsed without a motion of the bowels, but the coexistence of distension and vomiting in obstruction, and the absence of these symptoms in constipation. The absence of any escape of gas from the rectum is of far greater significance. If none whatever has been passed for more than twenty-four hours, obstruction may be suspected, and if the time is still longer, there can hardly fail to be accumulation of gas and distension of the abdomen—signs pointing strongly to obstruction in cases where signs of peritonitis are absent. It cannot be too strongly insisted that the passage of solid motion and even gas after the use of enemata is no proof whatever that obstruction is not present or has been relieved. I have met many instances in which dangerous delay in operating has been due to misleading importance being attached to the result of enemata. On the other hand, the spontaneous passage of flatus per anum may be accepted as proof that obstruction, if present, is not complete, and to that extent the urgency of the case is lessened.

Effect of Purgatives.

Inability to procure a motion of the bowels by means of purgative medicines is one of the oldest methods of testing the question of obstruction, and has usually been practised by the patient's friends before the doctor is sent for. If real mechanical obstruction exists purgatives

are useless, and in the later stages dangerous. If no obstruction exists there is no urgent need for an evacuation, so that where obstruction may reasonably be suspected, purgatives are best avoided. Only in the early stages of a doubtful case of acute obstruction is it permissible to use a full dose of castor oil with a view to clearing up the diagnosis.

Two Questions to be Decided.

In discussing the symptoms and diagnosis of intestinal obstruction I have only alluded incidentally to the distinction between acute and chronic obstruction, because this question in any given case is of secondary importance in deciding whether an operation is or is not required. The first two questions which every practitioner should ask himself when called to any abdominal case, acute or chronic, in which pain, distension, and vomiting are present, are:

1. Is there acute peritonitis?
2. Is there intestinal obstruction at a definite point?

If there is good ground for believing or even suspecting either of these to be present, the case should be at once regarded as definitely surgical, and the responsibility for operating or not operating is emphatically one for a surgeon, since no one can maintain that either Nature or the physician can be trusted to cure either of these conditions if they exist, and to wait for full proofs in a doubtful case is to run risks compared to which the risks of an unnecessary operation are trifling. The distinction between acute and chronic obstruction is misleading also from a clinical point of view if the distinction is based, as it usually is, on the anatomical conditions which may be respectively classified as acute or chronic in their mode of origin. The really urgent and important points in a given case are the degree of the obstruction of the bowel lumen and the high or low position of the obstructed point or points.

Whether the cause of the obstruction has taken a considerable time to develop, like a stricture or a fixed kink, or has been brought into existence suddenly, like an intussusception or an internal strangulation, urgency only arises in either case when obstruction has become complete or nearly complete. Whether the cause of obstruction is acute or chronic in its origin, the actual onset of complete obstruction is usually sudden, and the doctor is frequently not summoned till distension has begun. The cases in which obstruction is most often not recognized, and is, therefore, allowed to remain unrelieved for a dangerously long period, are those in which the point obstructed is low down in the intestinal tract—for example, malignant stricture of some part of the colon. In such cases, although the history and symptom point clearly to the nature of the case, the surgeon is too often only summoned when vomiting and distension occur, which is generally many days after obstruction is complete. The mortality of these cases when submitted to colotomy is, in my experience, quite as high as that of cases of acute internal strangulation, although if promptly recognized it should be almost *nil*.

Some Maxims.

The moral of the whole matter cannot be too emphatically stated or too often repeated, and it is this: Do not confuse constipation with obstruction. Always consider the possibility of obstruction when pain, vomiting, and distension exist together. If there is no rigidity and no fever in such a case, obstruction is practically certain and operation is urgently indicated. Above all, do not waste time with such futile and dangerous things as purgatives and enemata. If these rules were more generally followed the mortality of intestinal obstruction would be less appalling than it actually is.

The diagnosis and recognition of intestinal obstruction is a matter with which every medical practitioner should be familiar. The treatment of it is necessarily and exclusively surgical. There is no medical treatment of obstruction any more than there is of stricture of the urethra, or compression of the trachea, or of strangulated hernia. The sooner the advice recommending the administration of purgatives and enemata, the hot applications to the belly, and other futilities are left out of our medical textbooks, the better it will be for the next generation of practitioners and patients.

Localization of the Obstruction.

Obstruction having been diagnosed and an operation decided on, the surgeon is confronted with a number of problems, some of great difficulty, on the proper solution of which in individual cases the result depends. The first problem is, of course, to find the point or points of obstruction, for in certain cases they may be multiple. In some cases the point is definitely known—for example, as when the seat of obstruction can be felt in the rectum itself. In others it is clearly indicated and located by the presence of some kind of abdominal "lump" or by the presence of active peristalsis ceasing abruptly at a particular point, or it may be suggested by the presence of an abdominal scar or the history of a previous surgical operation—for example, for appendicitis or for some gynaecological condition.

The Various Pathological Causes.

Failing any direct indication of the seat of obstruction, a review of the patient's age and clinical history often affords valuable suggestions. The pathological conditions which give rise to obstruction should be recollected. In infants and young children intussusception and tuberculous peritonitis are responsible for the great majority of cases. Congenital narrowing of the intestines, especially of the colon, should also be remembered, and strangulation by a congenital diverticulum is not uncommon. In persons below middle age I should place first in importance and frequency strangulation of some part of the small intestine by one of the various forms of internal hernia, and kinking and obstruction of the small intestine by old peritonitic adhesions. Of the latter, tuberculous peritonitis, including tuberculous mesenteric glands, is perhaps the commonest cause, and may be met with at any age. Adhesions binding down and kinking the lowest portion of the small gut from past appendicitis are also common, and in women evidence of old pelvic peritonitis of tubal origin, or due to the presence of pelvic tumour should always be thought of and looked for. After middle age perhaps the commonest cause of organic obstruction is stricture of some portion of the large intestine either from epithelioma or from tuberculous ulceration. The latter is usually in the neighbourhood of the caecum.

Interpretation of Clinical History.

In reviewing the clinical history the mode of onset of the obstruction is a point of chief importance. If it begins suddenly, with an entire absence of previous ill health or abdominal trouble, one of the sudden lesions must be assumed—for example, internal hernia, intussusception, or volvulus. If the onset is not absolutely sudden, some indication of a more gradual disease will usually be found in the previous clinical history. In all cases it is assumed that the presence of any of the ordinary forms of external hernia has been carefully sought for and excluded.

The above examples do not pretend to be systematic or exhaustive, but they illustrate the mode of reasoning by which the surgeon seeks to solve the first problem with which he is confronted when about to operate for intestinal obstruction—namely, where to make his incision.

Site of Abdominal Incision.

This is a point of no small importance, because the saving of time is essential. Where the point of obstruction is known or approximately indicated, the incision should be made so as to give the most direct and most ready access to the point of obstruction. When no such indication exists the surgeon must either make a systematic exploration of the whole abdomen until he localizes the obstruction or he must content himself with giving immediate relief by opening and draining some part of the distended intestine above it. The latter course has been strongly recommended by good surgeons as the best course to pursue in desperate cases where operation has been delayed and the patient is dangerously exhausted. It is, however, a counsel of despair, and should only be applied to the most desperate cases. In cases of acute strangulation mere relief of the distended bowel will not avert a fatal issue if the strangulation itself is not relieved, and there must be few cases in which it is wise to suspend the obvious first rule of operating for obstruction

—that is, localize the spot and verify the cause. In order to carry out this rule, it is usual to make the ordinary median incision below the umbilicus and search for a palpable cause—for example, a band or an intussusception—by inserting the fingers or the whole hand. In this way one may sometimes light on the cause without much difficulty, but in others—a rapid examination—nothing may be felt, and if there is much distension, as there usually is, satisfactory palpation of all parts of the bowel is often impossible. The next proceeding is, then, to seek and draw up into the wound collapsed and empty bowel and to trace it upwards until the point of obstruction is reached. The difficulties and dangers of this procedure are familiar to all abdominal surgeons. It frequently ends in finding the obstruction only after a great mass of distended intestine has escaped from the abdomen, and then great difficulty is found in replacing it. The result is that the patient usually dies in a few hours of shock, even if the cause of obstruction has been removed. For this reason the incision should be quite small, and not more than a single loop of bowel should be drawn outside the abdomen at one time.

For acute obstruction of the bowels, where there is reason to expect an internal hernia, a volvulus, or pelvic adhesions, the ordinary median incision and systematic examination of the small intestine from below upwards is, I think, the best course to pursue in spite of the difficulties I have mentioned, provided attention is paid to rapidity and to gentle manipulation, but when there is no indication whatever as to the site and nature of obstruction, and especially where the patient is obese and much distended, I prefer to make an oblique incision in the right iliac region immediately over the caecum. An examination of the latter at once shows whether the point of obstruction is above or below it—that is, whether it is in large or small intestine, from the presence or absence of distension.

Opening the Caecum.

If the caecum is distended and the condition of the patient precludes further search, immediate relief can be given by caecostomy without the necessity of verifying the exact site of the obstruction. The majority of cases of obstruction with distended caecum prove to be malignant stricture of some part of the colon which can be dealt with at a later period. The only condition to which a caecostomy "in the dark," so to speak, would be inapplicable would be a volvulus of the sigmoid flexure, in which the distension is usually so great that it could hardly fail to be found and recognized even through an incision over the caecum.

Advantages of Caecostomy.

There is another important advantage in opening the caecum in preference to performing a colotomy immediately above the obstruction, apart from the saving of time and avoidance of prolonged manipulation of the abdominal contents, because this operation does not hamper the performance of a radical operation for the removal of the strictured portion of the colon at a subsequent period to anything like the same extent as a colotomy near the obstruction. A left inguinal colotomy, for example, performed for the relief of obstruction at the upper part of the rectum practically precludes a restoration of natural defaecation even where the anatomical conditions would otherwise have made this a feasible operation.

Again, the contents of the caecum being usually liquid, even in advanced obstruction, not only is a more rapid relief given by a colostomy in this situation, but it is far easier to establish a temporary fistula which can be subsequently closed, than in the lower portions of the colon.

Advantages and Disadvantages of Colostomy.

The question whether in any given case an operation for obstruction should or should not conclude with the establishment of an immediate drainage, by means of colostomy or enterostomy, is often difficult to decide, and on its correct decision the result mainly depends. Where the obstruction is in any part of the colon, it is seldom that it can be relieved without a colostomy when natural evacuations have ceased for several days and the bowels are much distended with gas and faeces. When the obstruction is in a movable part of the colon—for example, the transverse colon or sigmoid flexure—it is possible to bring the affected loop of bowel outside the abdomen, resect it, and tie in a tube into the upper end, thus both removing the disease and giving immediate relief. Nevertheless this course, though easy and rapid, is not to be commended, because the closure of the fistulae so formed is generally attended with more difficulty and more risk than the resection of the strictured portion of bowel followed by immediate suture of the divided ends. For this reason it is better, as I have previously mentioned, to relieve the obstruction by a temporary caecostomy, and leave the radical operation till later, when it can be done under favourable conditions both as regards absence of distension and of local sepsis.

Treatment of Small Intestine.

The question of making an artificial anus is more difficult to decide when the obstruction is at some point or points in the small intestine. Malignant disease of the abdomen so advanced as to obstruct the small intestines is generally so diffuse that little relief is to be gained by making an intestinal fistula. But the majority of cases of obstruction of the small intestine are caused by bands and adhesions, the division of which is the first and most obvious indication of any operation for their relief. When the band is single and the obstructed or strangulated portion of bowel presents no signs of irrecoverable damage, the case differs in no respect from an ordinary strangulated external hernia, and is treated in the same way—that is, the bowel is replaced in the abdomen and the wound closed. In other cases, if the vitality of any portion of the bowel is doubtful, it must either be resected or at least left outside the abdomen. The exact procedure in any case depends on the judgement and experience of the operator, and no decision in surgery puts them to a more difficult test. The condition of the patient, the amount of bowel requiring resection, the time required to complete the operation, and the functioning of the bowel afterwards have all to be taken into account, and no rules can be formulated which will cover all cases.

A few guiding principles may, however, be given as the results of my own experiences, both fortunate and unfortunate. The first rule is that where there is much doubt as to the recoverability of bowel it is better to resect than to leave it. The second rule, which certainly applies to strangulated hernia, and probably with equal force to internal strangulations, is that resection, followed by immediate enterorrhaphy, is superior, both in its immediate and in its ultimate results, to division of the operation into two stages, in which, in my experience and observation, the patient seldom fails to die at the second stage, even if he tides over the first. I do not deny that surgeons are sometimes called upon to operate on cases of internal strangulation and of intussusception in which large pieces of bowel are already gangrenous, and in which time and shock do not allow more than the rapid removal of the dead or damaged bowel and the establishment of a rapidly performed enterostomy. Most of such cases are practically moribund when operated on, and no other course is open.

Temporary Enterostomy.

Enterostomy properly performed is a most valuable procedure, not as a substitute for immediate suture after resection of bowel, but as a temporary exit for the faeces during the first few days after the strangulating band or adhesion has been divided, and even in some cases after a primary enterorrhaphy has been performed. Every surgeon who has operated for strangulated hernia must have seen cases which have "died cured." That is to say, the strangulation has been relieved, the strangulated bowel has shown the usual signs of being alive, and has been replaced in the abdomen. Nevertheless, vomiting and distension have not been relieved. At the end of twenty-four or forty-eight hours the patient has died, and at the *post-mortem* examination the strangulated coil has shown no sign of gangrene, but has been merely collapsed and empty. The same sequence of events may be sometimes seen in a case of strangulated hernia, where damaged bowel has been resected and a primary enterorrhaphy performed. In such a case also no defect in the bowel or in its mode of suture may be found at the

post-mortem examination. In either case death is caused by unrelieved intestinal obstruction, and the same occurrence is not infrequently noticed after operations for internal hernia or obstruction by intestinal adhesions in which the mechanical cause of the obstruction has been removed without relieving the obstruction itself.

The explanation of this fact is by no means clear. It is sometimes described as "paralytic ileus"; but however applicable this description may be to some cases of distension with obstruction, following severe abdominal operations, not involving the intestines themselves, it certainly does not fit the cases I have described. So far from being paralysed, the bowels above the point at which strangulation was relieved frequently continue in a state of active visible or palpable peristalsis. It is obvious that the strangulated coil of bowel or the adjacent portions which have been united after resection of the strangulated part in some way oppose an insuperable obstacle to the passage of the intestinal contents, even when propelled by unusually powerful peristalsis, just as a dead or functionally inert segment of bowel caused by mesenteric embolism will cause intestinal obstruction without any mechanical stoppage of its lumen. Why the interposition of a passive but easily distensible segment in the course of the intestinal tube should cause obstruction within the abdomen, and not do so when an equally passive tube of thin rubber is tied into the bowel and brought outside the body, is difficult to explain, but it is certainly a fact. In order to avoid this danger, without sacrificing the great advantages of an immediate restoration of the continuity of the bowel after enterectomy, I have on several occasions successfully resorted to a temporary drainage by means of a small rubber tube sewn into the bowel some inches above the line of section, and brought out through the abdominal wound. For this purpose, in the small intestine, an ordinary rubber catheter of No. 12 to 14 English scale suffices. It is passed through a small incision in the bowel, and fixed by means of a suture which transfixes both the bowel wall and the catheter itself. A second sero-muscular purse-string suture is then inserted in such a manner as to invaginate the first incision, and the bowel is then placed within the abdomen, taking care to avoid kinking.

The tube becomes loose in a few days, and leaves a small fistula which closes without difficulty as soon as the natural function of the united intestine is resumed. I regard this method as far superior to that of merely resecting the gangrenous or damaged loop of bowel and placing drain tubes in each lumen, since this method, even if the patient recovers, demands a difficult and dangerous operation for the subsequent restoration of the continuity of the bowel.

In conclusion, I should like to emphasize once more the following points: Large numbers of patients die every year from intestinal obstruction due entirely to mechanical causes which are remediable by surgical operation and by no other means. The majority of these fatal cases are not operated on until a late stage in the disease, and most of them are in the first instance treated by drugs or applications, internal or external, which cannot possibly give relief. The difficulty of diagnosing the existence of mechanical obstruction is increased by the popular confusion between constipation—that is, temporary suspension of the motor functions of the bowels—and real obstruction—that is, mechanical hindrance at a definite point. The consequences of the latter condition are so serious and so urgent that the question of its existence should be carefully considered in every case of abdominal illness in which pain is associated with vomiting, distension, and absence of recent bowel evacuation. If the possibility of obstruction cannot be excluded after a short period of observation, surgical assistance should be obtained as soon as possible. Obstruction of the bowels within the abdomen is just as much a surgical disease as strangulated hernia. The difficulty of the diagnosis in the former merely adds to its dangers, the greatest of which is delay.

A BILL is being promoted in Parliament which provides for the construction of a crematorium for South London in the parish of Lambeth.

THE late Surgeon-Lieutenant-Colonel H. W. Kiallmark, formerly of the Royal Bucks Hussars, left estate valued at £17,156. He left £1,350 to charitable institutions.

A CASE CONTRIBUTING TO THE STUDY OF FEVER WITHOUT OTHER PHYSICAL SIGNS.

By H. GWYNNE LAWRENCE, M.B.Lond.

THE subject of the following notes was under observation for ten months. For the first six months he presented very little in the way of physical signs, although throughout this period he was the subject of marked fever—at first intermittent, with definite periods of apyrexia, but latterly remittent, and finally continuous.

The patient, aged 62 years, fifteen years ago resided in India for five years without any detriment. Two years ago he had an attack of tachycardia which passed off in a short period, and for three years he had suffered from an annual febrile attack believed to be influenza. No evidence was obtainable of alcoholic or dietetic excesses. The only other important detail upon which he laid much stress was the fact that all his life any form of aperient upset him profoundly, as did also enemata. For the first six months symptoms other than could be attributed to the fever were completely absent. During the last four clinical signs of cirrhosis of the liver appeared.

In the earliest days a bad night would be followed by a tongue thickly coated with a brown moist fur, the breath would be "heavy," the skin dry and hot, the face slightly yellow tinted, and occasionally some flatulent distension of the colon could be recognized.

The temperature rose at 6 p.m. daily to 102° or rather higher, and was at the normal line again at 6 a.m. This continued for a period of from ten to fourteen days, when a similar period of apyrexia occurred, and the patient became comfortable, and the tongue cleaned to a great extent, but not absolutely.

Conspicuous features at the height of the fever were the facts that the pulse was little disturbed, and rarely exceeded 62 in frequency, and that the respirations remained at 20 to 24. The skin was hot and dry, the bowels acted well, or only required gentle stimulation, and no after symptoms, for example, headache, etc., were experienced.

Blood examinations showed marked leucopenia. The red cells were practically normal in amount, with some deterioration in haemoglobin; the white cells were 2,300 per c.cm.

Agglutination tests to enteric and Malta fever were negative, as was also Wassermann's reaction. Blood cultures proved negative on all occasions.

Treatment was directed against pyorrhoea alveolaris, which was present, but only temporary improvement of this condition occurred, and the course of the main disease was absolutely uninfluenced. This state continued for six months. The liver became gradually more and more displaced upwards by the abdominal distension, the upper margin eventually reaching the fourth space in the vertical nipple line. During this period occasionally a slimy mucous stool, offensive in character, was passed, and an occasional attack, of short duration, of tachycardia occurred.

In the apyrexial period the appetite was good, the general nutrition improved, and there was a complete absence of symptoms.

At the sixth month ascites began to develop, and the abdominal distension was a continuous feature. The base of the right lung showed signs of compression, the skin became yellowish in tint, and showed loss of elasticity. The evidence at this period, from a clinical point of view, suggested the cardinal signs of cirrhosis of the liver—jaundice, ascites, and a liver apparently (by *x*-ray examination) of even contour, but rather smaller than normal. The spleen could be felt at the rib margin, and some discomfort was experienced over the splenic area. At this stage the blood cultures again proved negative, and the leucocyte count amounted to 1,716 per c.cm. The differential count was:

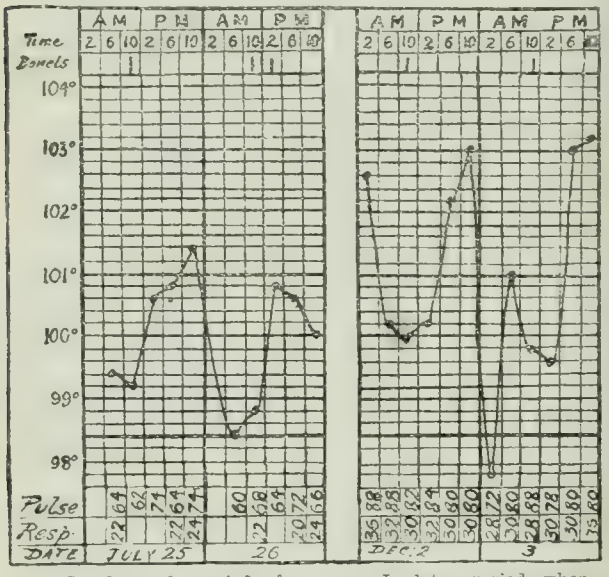
Polymorphonuclear	41 per cent.
Mononuclear	25 ,,
Lymphocytes	32.62 ,,
Eosinophiles	1.38 ,,
Red cells (per c.cm.)	3,800,000

For a short interval acute pain was experienced at the

point of the left shoulder, in the region supplied by the fourth cervical nerve.

For the last two months the temperature was constantly raised, generally reaching 103° at 6 p.m. The pulse was little affected as regards frequency until cardiac weakness appeared in the last few weeks.

Faecal examinations showed an unusual number of microbic elements and an unusual type of coliform bacillus,



In the early period of disease.

In later period when symptoms of cirrhosis of the liver existed.

but the food elements were digested. In the later periods fats were not digested and bile was deficient. Urobilin was in excess in the urine.

Intestinal antiseptics—for example, salol, paraffin, etc.—were administered from the start, but produced no benefit.

Necropsy.

A *post-mortem* examination by Dr. Spilsbury showed the following condition:

External.

There was some oedema of the lower extremities and scrotum. The abdomen was rather distended.

Internal.

Heart. All cavities dilated; muscle showed microscopically marked brown atrophy. Lungs: Partly compressed by diaphragm; they also showed passive congestion and emphysema. The peritoneum contained 3 to 5 pints of clear ascitic fluid. Liver: of about normal size, but increased weight. There was some surface irregularity, but little thickening of capsule. On section, the organ was very firm and dry. The cut surface had a mottled appearance, reddish and grey areas alternating. The organ did not appear greasy. No fibrous network could be detected with certainty. The gall bladder was normal, and contained pale and watery bile; the bile ducts were normal. Microscopically the organ was traversed by numerous broad, and in places interlacing, areas in which the liver cells were undergoing atrophy, and many had disappeared, the wide spaces between the cells being occupied by greatly dilated blood capillaries, which are not easily seen, owing to *post-mortem* changes.

In the meshes of this interlacing network were islands of liver cells which exhibited marked hypertrophic changes, the cells being of large size and staining deeply, and some having two nuclei apiece. These changes were not very regularly disposed, but the atrophic areas appeared to be chiefly in the central, the hypertrophic chiefly in the peripheral, zones of the lobules. All the liver cells contained some excess of pigment. Fatty infiltration was exhibited by some of the hypertrophied cells, but the atrophied cells contained no fat. There was a little recent fibrous thickening of the capsule, but none of the portal areas, except around some of the larger bile ducts; there was, however, some thickening of the walls of the hepatic vein tributaries. There were no myxomatous degenerations in the organ, practically no round-celled infiltration of it, and nothing to suggest an infective process.

There was no true cirrhosis or biliary cirrhosis, but a widespread atrophy associated with processes of compensatory hypertrophy—a condition of subacute hepatitis, probably of toxic origin.

The spleen was much enlarged—about 20 oz. in weight. Microscopically it showed advanced passive congestion. Smears from the spleen were examined for micro-organisms and malarial parasites, but without success. The blood in the organ showed, however, very marked anaemic changes of the red corpuscles with numerous nucleated red cells. The kidneys were somewhat enlarged but healthy; the other abdominal organs were normal.

The clinical features of a marked rise of temperature, remittent in type, and a definite leucopenia with evidences of gastro-intestinal catarrh, made diagnosis uncertain during the early stages owing to the conspicuous fever present.

The acute destruction of liver cells and the condition of acute cirrhosis makes it of particular interest pathologically. Investigations of a most thorough nature by Dr. Horder and Dr. Matthews failed to reveal any bacterial infection in the blood during the various stages, and possibly we should be right, in view of the slight constitutional disturbance, apart from temperature, in regarding the poison as being of a chemical nature.

THE SIGNIFICANCE OF FREQUENCY AND TENESMUS IN ACUTE CYSTITIS.

By OLIVER HEATH, M.A., M.B., B.C.CANTAB.,
ASSISTANT BACTERIOLOGIST IN THE LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH, LONDON, W.

THE main idea contained in the following may prove of interest, since its application in practice as an aid to vaccine treatment was followed in seven days' time by an absolute and permanent cure of an acute cystitis of just over one month's duration; and, further, since this result was obtained without the use of any drug, urinary antiseptic, or mechanical washings at any time during the course of the infection. The value of the method is not considered proven by the one case described: but since the writer is essentially an analytical pathologist, a series of cases is not easily obtained by him, and it must therefore be left to those who have the material at hand, and who may consider it worthy of serious trial, to put it to the test of experience.

At the outset it may be as well to state definitely that the term "acute cystitis" is used as applicable only to cases with both pus and bacteria in the urine, and does not here include bacteriuria without pus.

The history was as follows: A previously healthy man, a medical man, acquired gonorrhoea. A stained film of the discharge showed that this was caused by a mixed infection with the gonococcus, a *Staphylococcus albus* and a Gram-positive bacillus of the *xerosis* (or pseudo-diphtheria) type. There was no treatment other than care as to cleanliness, and the discharge disappeared in about three weeks. During the two months which followed there were two or three recurrences of a gleety character, which were not examined microscopically, but which cleared up; at the end of that time the patient began to realize that he could not hold his urine for longer than about two hours in the day, and had to get up once or twice in the night to micturate—that is to say, the infection had spread up into the bladder. This condition was allowed to continue untreated, owing to the great faith the patient put in his own unaided opsonic and phagocytic powers. However, these did not prove sufficient, and, after about one month of great discomfort, advice was sought from the writer, with a view to having a vaccine made.

Examination suggested that the condition was one of cystitis, with probably some post-urethral trouble, though no actual urethral discharge could be demonstrated macroscopically or microscopically. The urine contained a

moderate amount of pus, with numerous vesical cells, and both the stained films and the cultivations made from the centrifugalized pus showed staphylococci and bacilli of the *xerosis* type, but no gonococci.

The first point of emphasis is that the gonococci had entirely disappeared at this stage, the infection being kept up by the other bacteria which had been present in the original discharge. If I may judge from the frequency with which requests to search for gonococci accompany material from old urethral discharges, etc., and from the comparatively small percentage in which these can be found, the idea is fairly prevalent that sequelae to gonorrhœa are, at any rate in part, due to the gonococcus. In probably a majority of cases this is not the fact.

Treatment.

Acute cystitis is a bacterial infection of the wall of the bladder, in the damaged surface of which the bacteria reside and multiply; from it the damaged epithelium is discarded, and from it pus exudes in greater or less quantity, covering the damaged surface with a film which gets washed into the urine and evacuated, whilst fresh exudation from the lesion keeps up the supply. The whole picture represents an inflammation, and probably in most cases an ulceration, situated in the bladder wall.

When an infection occurs in any animal, certain symptoms and signs become apparent, and these will vary according as the bacteria or the patient's resisting power is the stronger. But in all cases these signs and symptoms are manifestations of the patient's "reaction" to the infecting agent, or of the failure of this reaction. In a typical case of bacterial infection of limited duration the reaction must be considered as good, and it is in such a case that we have sure indications of what may be called Nature's method of cure, the problem before us being to find the true and rational method of cure from observation of a typical case. In other words, we have to translate the signs which we can see into pathological processes the details of which we know from experiment.

In typical acute cystitis the marked symptoms are frequency of micturition, with usually more or less tenesmus after the act, and their appearance should be welcomed as an indication of a strong and healthy reaction to the bacteria. In seeking an explanation we must consider in more detail what this mechanism is. To this question physiology and recent pathology together have provided a clear answer. When the bladder wall contracts it thereby not only expels the urine and discarded pus, but also accelerates and flushes the local circulation of blood and lymph, bringing up a fresh supply of opsonins and phagocytes. Tenesmus, by its spasms, reinforces these efforts, continuing the process over a longer period, probably carrying some bacteria into the blood stream, where they will act by auto-inoculation and eventually increase the power of immunity, and at the same time enabling undiluted fresh pus to act on the bacteria with full effect.

The second point of emphasis, therefore, is that frequency and tenesmus are part and parcel of the process of cure, and should never be treated symptomatically. Drugs which will relieve the pain and irritation, if successful, only put a stop to the natural process of cure, and are positively harmful from a remedial point of view. When cure is effected the symptoms will cease naturally.

The third and main point of emphasis is that the tenesmus can be almost entirely, and the frequency partly, controlled by the simple expedient of controlling the amount of liquid taken by the patient. This is easy to understand if we consider that it is the irritation produced by the bacteria (or their products) contained in the pus which causes the symptoms. Consequently, as the irritant is more or less diluted in the bladder, so are the symptoms ameliorated or increased respectively. A large intake of water is, in fact, the simplest method of washing out the bladder, and can be made to act over an unlimited period by keeping up the supply; but in the treatment of acute cystitis this must be considered only as a temporary and entirely palliative measure. On the other hand, abstinence from drink, if the bacteriotropic power of the blood has been previously raised, can be used to bring practically undiluted fresh pus to act on the bacteria both in and outside the lesion—surely a more efficient *rationale* than the use of antiseptics.

In the case under consideration full use was made of the principles enunciated above; the vaccine was used practically to supplant auto-inoculations as being easier to control, and the supply of drink controlled so as to lessen reaction when there was risk of a "negative phase" of immunity, and to increase the reaction when a "positive phase" might be expected.

As a palliative measure, while the bacteria were being isolated and a vaccine prepared from each, a sufficient quantity of water was drunk to keep the bladder contents well diluted both during the day and at night, with the result that the symptoms were considerably ameliorated. As soon as the vaccines were ready active treatment was commenced by the subcutaneous inoculation of a dose of 50 million staphylococci and 25 million bacilli. Twenty-four hours later it was considered that any negative phase probable from this dose would have passed and that the bacteriotropic power of the blood might reasonably be expected to be increased; accordingly drink was withheld entirely from 4 p.m. with a view to increasing the frequency and producing tenesmus. This result was attained, and in about four to five hours the symptoms were marked. After a final unpleasant half-hour, in which the writer sat with the patient, one pint of water was given, followed in about twenty minutes by half a pint; the result was that the previous state of comparative comfort was entirely regained. This procedure was repeated at forty-eight and at seventy-two hours after the inoculation, as much water as was required to relieve the symptoms being allowed between times.

On the fourth day a second dose of vaccine was given containing 100 million staphylococci and 50 million bacilli, and forty-eight hours later drink was withheld for four to five hours, and for the reasons and with the result as noted above. On the following day the symptoms, judged from the patient's feelings, were markedly improved; the urine could be held about three hours; but drink was withheld that evening again, without, however, producing much discomfort. The day after this—the eighth day from the commencement of active treatment—the symptoms had apparently disappeared altogether, the urine being held four or five hours with comfort and passed in the ordinary way.

A third dose, of 150 million staphylococci and 75 million bacilli, was inoculated on the evening of the eighth day in order to make assurance doubly sure. From that day, now over three years ago, there has been no recurrence nor any sign of trouble, and the urine examined on that day was found to be free from pus and bacteria, and has been normal ever since.

A SIMPLE SPLINT FOR FLAIL ELBOW.

BY

RUSHTON PARKER, M.B., B.S., F.R.C.S.,

PROFESSOR OF SURGERY IN THE UNIVERSITY OF LIVERPOOL.

The recent use of a simple and effectual splint, enabling an otherwise destitute patient to earn a living, impels me to publish the case for the information and benefit of those interested.

The patient, a woman, has been off and on under my care for about forty years. She was born at Deptford about 1856, her father being the captain and owner of a sailing craft on which her parents usually lived, and her mother had gone ashore to be confined at some lodgings while the vessel lay at anchor in the Thames. When 5 years old the child fell down a staircase, her left arm being caught in the banisters and badly broken near the elbow. The vessel put into Liverpool, where she states that on account of deformity re-fracture was performed, and that a Liverpool surgeon was consulted, advising amputation, which her mother would not permit. Hitherto she had been attended in private practice, but the death of her father about this time left her mother without means, and both were admitted into the Liverpool Workhouse Infirmary. Here the elbow was excised, and after a time she was moved to the Kirkdale Industrial Schools, a children's branch of the workhouse, to which my father was surgeon. She came under my notice in September, 1870, the elbow being tender, not extensible

beyond an obtuse angle, feebly movable in flexion and extension, and the limb of little use except at the shoulder and fingers. The back of the elbow showed the scar of an H incision.



Fig. 1.—Flail-like left arm, with leather splint held in right hand.

The foregoing life-history is given because besides being very sensitive to pain, she was bright and intelligent beyond other inmates of the institution, which numbered chiefly the lowest class of the community. Her parents were of superior intelligence, had sailed all over the world, and she had lived in comfort until left destitute by her father's death.

In December, 1870, January, 1872, and March, 1875 (this time at the Stanley Hospital), I exposed the ends of the bones through a linear incision, with the view of improving their connexions, with this effect on each occasion, that, on wearing a hinged splint of iron, with attached leather laced or bandaged round the arm and forearm, she could use the limb in domestic work for her living; but left to itself it became a helpless flail.

In 1878 she was admitted under my care, and remained three months, in the Liverpool Royal Infirmary for great swelling of the abdomen due to distension of intestine, which gradually subsided under thin beef-tea diet followed by enemata.

In February, 1885, she was fitted with a splint of iron and leather fixed at an obtuse angle, and this answered perfectly for a time.

She was then lost sight of for twenty-six years, and in January, 1911, became an inmate of Mill Road Infirmary of the West Derby Union, Liverpool, owing to the flail-like condition, which came in her way after the wearing out of her splint and her inability to get another. The superintendent, Dr. Nathan Raw, told me of my old patient, and I went to see her. She could not get a situation, as the uncontrollable state of the limb and its uncanny wobbly state made people refuse to employ her. It then occurred to me to make for her the splint shown in Fig. 1, which also displays the "flail" condition. A piece of softened sole-leather, reaching the whole length of the upper arm, was roughly trimmed and bandaged over the bandaged arm. When dry the splint was further trimmed and fitted with a couple of straps and buckles so that she could apply and remove it herself with the other hand.



Fig. 3.—Crutches with handles adapted to long and short arm. The latter passively bent in the splint.

The back of the splint reaches well below the false joint, preventing over-extension, and far enough at the sides to prevent lateral deviation. The corners in front are cut away to permit flexion, which can only be done passively by the aid of the other hand. But when the lame hand is brought up to her head she can "do her hair" and many other acts when once she gets hold with her fingers. In the extended position she can carry a bucket, as shown in Fig. 2, and was once more, at the age of 54, able to do domestic work. Dr. Raw tells me that she is a good cook, and I am indebted to him for the illustrations 1 and 2, taken by Mr. Joel, an official who does the photography at Mill Road Infirmary. In Fig. 2 unfortunately the light failed somewhat.



Fig. 2.—Splint on left arm, thus steadied to hold bucket (or other things, like long brush, etc.).

About 1880 I made a similar splint in a case of false joint resulting from compound comminuted gunshot fracture above the condyles of the right humerus in a young woman in the Liverpool Royal Infirmary. The condyles became ankylosed to the ulna, but a convenient false joint formed above; and to prevent lateral movement, while permitting firm hinge action at the elbow, a leather splint was moulded to the arm, its lower ends at each side being continued past the elbow as rounded wings. The arm was then fit to work a broom and do all domestic work. She was a strong, well-favoured young woman, who, after a couple of years or so as a servant, became married and comfortably settled in life.



Fig. 4.—Crutches grasped by hands so as to lessen dead weight in axillae. Feeble left arm steadied by leather splint.

On April 25th, 1913, the former patient, while a scullery maid at an hotel, fell and broke her right leg. While recovering from this, and still lame, she came to see me on July 30th on ordinary single-pole crutches, which she had difficulty in grasping, especially with the weak short arm. Moreover, the pressure of her weight on the axillary nerves had benumbed both arms. So I got other crutches with double supports, with cross-handle to them, and added a second handle to each, to fit her unequal arms, as shown in Figs. 3 and 4. This alteration I made myself on August 2nd before leaving home. The effect is quite satisfactory,

and the axillary nerves have since recovered from the effects of the previous pressure. On August 15th Mr. Thurstan Holland at the Royal Infirmary kindly ordered an x-ray photograph of the leg, which showed fracture, united, high up in the fibula. On September 15th he also kindly permitted the photographs Figs. 3 and 4 to be taken by his assistant, Mr. Woods, and developed by Miss Irven. This patient is blind of the left eye owing to cataract, but can see well with the right. She is living in lodgings on the proceeds of her insurance compensation until able once more to seek a situation. It will be seen that her life is a difficult one, and that her perseverance deserves encouragement.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF TUBERCULOUS PERITONITIS.

In two apparently hopeless cases of tuberculous peritonitis in children I found the administration of the following mixture very beneficial:

R Calcii carb. (precip.)	128 grains
Ol. creosoti	32 minims
Mucil. tragacanth, q.s.	
Potass. iod.	16 grains
Saccharini	8 grains
Ol. menthae pip. vel anisi ...	5 minims
Aq. ad	8 oz.

DOSE.—3ij every four hours for a child of 5 years.

Tincture of opium or compound tincture of camphor may be added for the relief of pain and diarrhoea if present.

The cases were two boys, aged 3 and 5 years respectively. The younger I saw more than three years ago. He had large, easily palpable masses in his bulging abdomen, and all the other symptoms of this wasting malady well developed. He had been ill for a long time, gradually getting worse, and his parents had been informed that there was little or no hope of recovery. The elder I saw eighteen months ago; the intestines and peritoneal glands were matted into one mass about the size of a small football, somewhat irregular in outline, and not only palpable but observable under the abdominal wall.

I at once put him on the mixture; but as there were present attacks of severe colic with partial obstruction and vomiting, I sent him to a consulting surgeon in Manchester, who recommended laparotomy as being frequently beneficial in such cases, and a lateral anastomosis for relief of the intestinal obstruction. His prognosis, however, was so hopeless that the parents decided against operation, and the boy continued to take the mixture, supplemented by petroleum emulsion recommended by the consultant. A diet of easily digested food, principally of milk, was prescribed.

The first case, who took cod-liver oil emulsion along with the mixture, began at once to improve, and in two months the abdominal tumours had disappeared and his general health vastly improved. There has not been any recurrence, and to-day he is a fine specimen of a strong and healthy boy. The second case, like the first, began to improve directly he came under treatment, and in two months the abdominal mass had shrunk to the size of a Tangerine orange, and all the other symptoms, such as fever, pain, and diarrhoea, disappeared. At the end of another month I failed to detect any lump at all, and his general condition was much improved. He has continued in good health for over a year, and is a bright and healthy looking lad.

I may add that I have found this mixture, with and without opium, very beneficial in phthisis, particularly in less acute cases.

HUGH LAWRIE, M.B., C.M., D.P.H., M.O.H.

Ramsbottom, Lancs.

RIGHT SHOULDER PAIN IN PERFORATED DUODENAL ULCER.

THE case here recorded is, I think, of interest, first, because of the acute pain referred to the right shoulder, secondly, because of the association of appendicitis and duodenal ulcer, which has been pointed out by Drs. Mayo and Patterson.

W. C., a bricklayer aged 62, while at work on August 22nd, at 5 p.m. was taken with sudden and violent pain in the abdomen, and vomited once. He was driven home about two miles; on arrival he was somewhat collapsed, was put to bed, and vomited again. I was sent for at 9 p.m., and found him groaning with pain, which, he said, was in his right shoulder and abdomen. On touching the abdomen lightly he shouted out with pain in the right shoulder. The muscles on the right side of the abdomen were tense with board-like rigidity; the most painful spot was over the region of the duodenum, but he complained very much more of the pain in the shoulder than of that in the abdomen. The temperature was 99° F. and the pulse 85. There was a history of many years of indigestion, which had been worse of late; the pain had awakened him a few nights previously.

I thought that he was probably suffering from a perforated duodenal ulcer, and had him sent into the Worcester Infirmary. He was there operated upon by Mr. Gostling (who has kindly allowed me to publish the case); a pin-point perforation of the duodenum was found and was sutured. The perforation was covered with lymph, and was only found when this was cleared away. The appendix was next examined; it was found to be inflamed and was removed. The patient made an uninterrupted recovery.

Upton-on-Severn. C. P. BURD, M.R.C.S., L.R.C.P.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

DERBYSHIRE ROYAL INFIRMARY.

A CASE OF EMBOLISM OF THE SUPERIOR MESENTERIC ARTERY.

(By FRANCIS L. A. GREAVES, F.R.C.S., Surgeon to the Infirmary.)

ON the afternoon of September 20th, 1913, I was called to the Royal Infirmary to see a man, aged 28, admitted for acute intestinal obstruction.

The history was as follows: Five days previously he was seized with colicky pains in the abdomen; this was at first not very bad, but becoming more acute he had to leave work. The bowels acted that night. His own doctor was summoned in the early hours of the following morning. From this time until admission there had been no evacuation of the bowels, except that two days before admission an enema was administered and a small result was obtained; no flatus was passed, however, and the symptoms were not relieved. There was no blood in the motion. Vomiting commenced about twenty-four hours after the pain was noticed, the vomit became a dark-coloured fluid before admission, and was regurgitant in character. There was no previous history of any abdominal trouble.

On admission he looked profoundly ill; he was a thin man, with rather a pale, sunken face. His pulse was feeble (80), respirations rapid (28), temperature 98°. He did not complain of great pain, but the whole abdomen was tender on palpation. His teeth were carious, his tongue furred but moist. The whole abdomen was distended enormously, there was no visible peristalsis, and the distension appeared uniform. On palpation the anterior abdominal wall was uniformly rigid, but not board-like, and as already mentioned tenderness was everywhere present. On percussion, well-marked shifting dullness was detected in both flanks and in the hypogastric region.

The provisional diagnosis of chronic tuberculous peritonitis, which had become acute, was made, and he was prepared for operation.

Operation.

An incision was made below the umbilicus in the middle line, and on the peritoneum being opened a very large amount of dark-green fluid, with a faintly faeculent odour, was liberated. The pelvis and flanks were full of this

fluid. Coils of small gut of the colour of damsons, and with the peritoneal coat cracked in places, were seen. In the right ileal region the coils were slightly adherent by freshly deposited lymph. No tubercles were seen or felt, and no mechanical cause for the obstruction was made out.

The mesentery was thick and tumid, and the coils of small intestine from duodenum to caecum were enormously distended. The caecum and ascending colon were markedly distended. The transverse colon was moderately distended, the splenic flexure, descending colon, pelvic colon and rectum were collapsed, but manipulation caused gas to pass along the lumen. No haemorrhages were present in the mesentery. The liver and gall bladder were normal, the latter being attached by fresh adhesions to the hepatic flexure. The stomach was distended, although he vomited just before the anaesthetic was commenced.

The diagnosis of thrombosis, or embolism of the superior mesenteric artery was made. A coil of ileum which was most congested was chosen, a Paul's tube inserted, and the bowel drained. The contents were bloodstained, and large amounts of fluid and gas were evacuated. Until this was done it was not possible to return the distended gut. None of the gut was actually gangrenous, but a large loop of ileum which was most affected was left out and covered over with protective. There was no line of demarcation between distended healthy gut and deeply engorged gut—the one merged gradually into the other. If I had thought it expedient to remove the doubtful gut, I should have had to remove the whole ileum, and nearly all the jejunum. The abdominal wound, which I had to enlarge, was closed down on to the protruded ileum. There was very much shock, which was treated by pituitary extract, rectal salines, posture, hot bottles, and wool, and bandages to all the extremities, but the patient died about eight hours later.

Necropsy.

At the necropsy on September 22nd *post-mortem* changes were marked. The thorax was carefully opened, and all the thoracic viscera were removed *en masse*. The oesophagus was dissected out and ligatured 4 in. above the diaphragm, the descending aorta being left *in situ*. The abdominal viscera, after being examined, were next displaced. The liver was removed; the portal vein contained much fluid blood. The whole intestinal tract from the cardiac orifice of stomach to the rectum was critically examined; except for distension and discoloration no abnormality was encountered until the coil of ileum which I had opened was reached: this proved to be about 2 ft. from the ileo-caecal valve. The coeliac axis was dissected out, and cut open; it was empty; the superior mesenteric artery was dissected out from the aorta to the formation of the arterial arcades in the mesentery; from the periphery to the aorta these were opened up. A pale non-adherent decolorized clot was found lying in the main trunk of the artery and partly in the aorta. When lifted out it measured nearly 3 in. in length. The inferior mesenteric artery was dissected out, opened, and found empty. The external and internal iliacs were examined and found empty, then the common iliac, and then the whole of the aorta was split up and the orifices of all the branches examined. No other clots were found anywhere (for example, in the superior mesenteric vein). The heart was next examined, and well-marked "vegetations" were found on the mitral valves, none on the aortic, although one aortic valve was distinctly roughened on its inferior aspect. No other emboli or infarctions were found.

The diagnosis, pending a microscopic report of the embolus, remains as: (1) Rheumatic endocarditis with vegetations of the mitral valves. (2) Embolism of the superior mesenteric artery. (3) Paralytic distension of the intestine and consequent obstruction.

The case related fulfils the picture drawn by Sir Berkeley Moynihan almost exactly, but there are a few slight points of difference.

1. *Onset.*—The patient was quite definite about the feeling of abdominal discomfort before the pain became acute. This, in the light of the *post-mortem* examination, is only what I should expect, since the distension, etc., must take a little time to develop. Again, the clot in my case was so flat *post mortem* that it is conceivable that the artery was not instantaneously completely plugged.

2. *Peculiar odour* of escaping fluid. This struck myself and Mr. Newth, my house-surgeon. It was certainly like the fluid found in the sacs of old strangulated hernias.

3. *No mesenteric haemorrhages* were found, but a good deal of solid oedema of the mesentery. This was very marked if contrasted with the great omentum.

4. *Age.*—The patient was a male, aged 28.

5. The possibility of relieving the condition was in my case practically *nil*, as he was already so collapsed, and such a large amount of intestine would have had to be removed.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

NORTH OF ENGLAND BRANCH: NEWCASTLE-UPON-TYNE DIVISION.

THE first of the winter scientific demonstrations of the Newcastle-upon-Tyne Division of the British Medical Association was held at the College of Medicine on Thursday, November 20th, at 3.30 p.m.

Abdominal Emergencies.—Professor MORISON made a communication on abdominal emergencies, with especial reference to the so-called "triphasic symptom complex," which will be published in full.

Demonstration of Wassermann's Test. — Professor HUTCHENS, who followed Professor Morison, gave a demonstration of Wassermann's test for syphilis. He traced the origin and employment of this test in detail and remarked on its practical worth.

Acidosis.—A quarter of an hour's interval then ensued for tea, after which Professor BAINBRIDGE delivered a paper on acidosis in diabetes and other diseases. He drew attention to the fact that whenever a healthy person is deprived of food or is placed on a diet containing little or no carbohydrate, beta oxybutyric acid and i s products (diacetic acid and acetone) make their appearance in the urine. This condition, which is known as acidosis, is due to the fact that when the amount of carbohydrate in the body is deficient the final stages of the oxidation of fat in the tissues are incomplete. Acidosis, he continued, implied carbohydrate starvation, and its recognition was of great importance in clinical work. It was present not only in diabetes but was of frequent occurrence in pregnancy and in many conditions of malnutrition in children: in such cases acidosis furnished an indication that more carbohydrate must be added to the daily dietary.

Pathological Demonstration.—Dr. W. T. SEWELL then gave a demonstration on some recent pathological specimens.

This closed the proceedings for the day, at which one hundred and twenty medical practitioners from all parts of the North of England were present.

THE annual meeting of the subscribers to the *Magazine* of the Royal Free Hospital (School of Medicine for Women) will be held at the Medical School, 8, Hunter Street, W.C., on Thursday, December 11th, at 4.30 p.m. All subscribers are invited to be present.

THE American Association of Immunologists was formally constituted at Minneapolis, Minnesota, on June 19th, with a membership of forty-one former pupils of Sir Almroth Wright. The objects of the society are: To unite the physicians of the United States and Canada who are engaged in the scientific study of immunology and bacteriotherapy; to study the problems of immunology, to promote by concerted efforts scientific research in that department, and to spread a correct knowledge of vaccine therapy and immunology among general practitioners. The officers temporarily chosen are Dr. Gerald D. Webb, of Colorado Springs, President; Dr. George W. Ross, of Toronto, Vice-President; Dr. Willard J. Stone, of Toledo, Ohio, Treasurer; and Dr. Martin J. Synnott, of Montclaire, New Jersey, Secretary. The first annual meeting will be held on June 1st, 1914, in Atlantic City, New Jersey, where the American Medical Association will hold its annual meeting at the same time.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

At a meeting on November 17th, Sir DAVID FERRIER, President, in the chair, Dr. J. B. MENNELL, continuing the discussion on the *Treatment of neurasthenia* commenced on November 10th, said that the dose of massage must be prescribed with care and accuracy; that only the most gentle movements should be performed; that any tender or hypersensitive point was the last that should receive attention; and that the massage movements should be rhythmical. Dr. CLAUDE FOTHERGILL considered that at the outset a prolonged period in bed was invaluable, and should be accompanied by feeding to excess if the patients had wasted. Massage should be employed in all cases, and when ordinary massage did not suit the type known as effleurage should be used. Galvanic and faradic electricity were useful. Suggestion had to be employed throughout the whole treatment. For insomnia he recommended medinol in gradually decreasing doses, and paraldehyde occasionally for undue restlessness. Dr. S. A. K. WILSON said it was important to separate from cases of neurasthenia attacks of vaso-vagal origin. Such could be cured completely by drugs which acted upon the vasomotor system, especially nitro-glycerine. Dr. JAMES STEWART thought that neurasthenia was more favourable in its course in male subjects than in female. Dr. W. P. S. BRANSON dealt especially with cases in which the physical element was pronounced. Very low blood pressure, diminished acidity of the tissue fluids, metabolic accumulations, hyperchlorination, intestinal toxaemia, and faulty correlation of internal secretions, each constituted an adequate cause. Mr. ERNEST CLARKE thought it important to correct slight degrees of astigmatism or heterophoria. Dr. G. E. SHUTTLEWORTH dealt especially with neurasthenia in school children, and pointed out the importance of educating them in special or intermediate schools. Dr. J. CURTIS WEBB advocated the use of static electricity. The PRESIDENT said that the important thing was to improve the general *moral*. For this psychotherapy was the essential treatment. All other measures were merely adjuncts. Dr. RISIEN RUSSELL replied.

ROYAL SOCIETY OF MEDICINE.

PATHOLOGICAL SECTION.

At a meeting on November 18th, Dr. LAZARUS BARLOW, Vice-President, in the chair, Dr. A. WARREN CROWE maintained that the organism described previously as the staphyloid coccus A, and isolated from the urine in a large proportion of cases of *Rheumatoid arthritis*, was the primary cause of those forms of arthritis conforming more or less strictly to typical primary polyarticular disease, characterized by fusiform swelling and redness of the joints, frequently symmetrical in character, usually commencing in the fingers, and associated with glossiness of the skin and muscular degenerations and contractures. The organism was one of the common inhabitants of the human skin, and the name proposed for it was *Micrococcus deformans*. The evidence produced fell chiefly under three headings: (1) The incidence of the *M. deformans* in the urine—77.5 per cent. (2) The results of complement and agglutination reactions (two separate series of blood specimens being tested by an independent worker with no knowledge of the sources of the serums). (3) Opsonic data; it being shown by means of charts that in response to a medium dose of *M. deformans* vaccine given to a patient suffering from frank rheumatoid arthritis a typical immunity curve developed (no fluctuation occurred in the index of a normal person after an experimental dose of the vaccine). The author considered that the fact of pathogenic organisms such as streptococci and *B. coli* being found in local foci of infection in cases of rheumatoid arthritis, and the fact of such cases having been not infrequently cured by vaccines of these germs, were not proof that the disease could be caused by a number of different germs, but only that such germs might be present as a mixed secondary infection, and constituted a similar phenomenon to that seen in phthisis. The fact that this organism (or, in fact, any other organism) had not been found in the diseased joints might be explained by the suggestion that the arthritis itself was of the nature of a tropho-neurosis for a large proportion of cases of rheumatoid arthritis, it not all, were preceded by or associated with an attack of neuritis. From the incidence of the *M. deformans* in the urine and the results of serum tests, it appeared that neuritis and rheumatoid arthritis were identical diseases, caused primarily by that organism. Spinal lesions had frequently been described in cases of rheumatoid arthritis. Dr. MINETT (in a paper read by Dr. EYRE) discussed the pathogenicity of an organism isolated from non-ulcerating cancerous growths, and drew the following conclusions: (1) The *Micrococcus neoformans* is identical with that type of *Staphylococcus albus* which can be isolated from deep tissues of human beings or animals. (2) This is the ordinary skin staphylococcus modified by growing for considerable periods on tissues where oxygen is absent or scanty. (3) An aërobic growth of skin staphylococci gradually assumes the character of *M. neoformans*. (4) Serum from cancer patients does not possess specific agglutinins for *M. neoformans* in a greater degree than does normal serum. (5) Cancer patients do not react to vaccine treatment with this organism. (6) The temperature of cancer patients is not affected by large doses of vaccine, nor can specific opsonins be detected. Dr. ARKWRIGHT gave an account of some experiences on the subject of the production of *mutation forms* of diphtheria, typhoid, and other bacteria.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

At a meeting on November 7th, Dr. F. S. PALMER in the chair, the following were among the exhibits:—Dr. F. S. PALMER: (1) A case of *Pseudo-hypertrophic paralysis* in a child, aged 7, the elder of two children, both boys. He began to walk at 2 years of age, but was unsteady on his legs, fell frequently, and always had great difficulty in ascending stairs. There was no history of familial nervous disease, but the younger brother, aged 6, was similarly affected. (2) A case of *Congenital morbus cordis* in a woman, aged 22. She had always been blue as long as she could remember. She had acute rheumatism when aged 17, and a second attack two years later. In March, 1912, she suddenly developed left-side hemiplegia. Drs. A. SAUNDERS and MORTON: Six cases of *Early pulmonary tuberculosis* in children between the ages of 5 and 10. They showed no physical signs on examination of the lungs, but exhibited wasting, irritable cough, and night sweats. Dr. Morton's skiagrams showed very clearly enlargement of the glands at the root of the lung, and also a greater or less invasion of the root of the lung itself in every case. Dr. RUSSELL STEELE (for Dr. A. SAUNDERS): A case of *Congenital syphilis* in a child aged 12. There was symmetrical swelling of the knee-joints and a history of a rash on his legs and buttocks lasting three months, one year ago. The mother gave a positive Wassermann reaction, and the child's reaction was also strongly positive. On October 16th 0.45 gram salvarsan was given intravenously, but no improvement had since occurred. Dr. SAUNDERS: A case of *Congenital dilatation of capillaries* in a child aged 7. There had been exaggerated mottling of the skin ever since birth. Mr. ASLETT BALDWIN: (1) A case of *Traumatic asphyxia* and haemorrhage into the cervical cord in a man aged 26, who was admitted to hospital on October 28th, after being crushed between a litt and a balance weight. He was unconscious, breathing laboriously, pulse very weak. Several ribs on the left side were broken, and there was an enormous degree of surgical emphysema on the left side of chest, abdomen, and back. His pupils were dilated and very sluggish, and his colour very blue. On the 29th he began to regain consciousness, but the emphysema continued to spread. His sputum was slightly blood-stained. On the 30th he regained consciousness, the emphysema was disappearing, and there was much muco-purulent sputum tinged with blood. As the general blueness disappeared it was apparent that there was a permanent blueness of the skin of the face and neck, and also haemorrhages into the conjunctivae of both eyes. Marked weakness and loss of reflexes in all the muscles supplied from the brachial plexus was still present, but entire recovery was expected. (2) A case in which *Implantation of rib* was performed. Mr. BISHOP

HARMAN: Some cases of *Syphilitic uveitis*, one in a young child showing interstitial keratitis. The disease had progressed in spite of all treatment. Dr. GRAINGER STEWART: (1) A case of *Syphilitic disease of the cervical spine* with sensory symptoms, referred to the distribution of the upper cervical root areas, in a man aged 45. The patient had had syphilis seven years ago, which was not treated, and eighteen months ago fell from a cart on the back of his head. For the last twelve months pain had gradually developed in the upper cervical areas of the left side. X-ray examination showed changes in the upper cervical spine, some destruction of the bodies of the vertebrae, and considerable overgrowth and new formation. The Wassermann reaction was strongly positive. (2) A case of *Abdominal tuberculosis* in a boy, aged 13, who on March 6th was sent to a convalescent home at Highgate, where rapid improvement occurred. He was soon able to get up and remain out of doors all day, and there was remarkable increase in weight, this having now risen from 60 lb. to about 90 lb. Mr. TYRRELL GRAY: (1) A case of *Sarcoma of a keloid* on the eyebrow in a child aged 3; (2) a case of *Implantation dermoid* following circumcision in a child aged 8.

LIVERPOOL MEDICAL INSTITUTION.

AT a pathological meeting on November 13th, Mr. F. T. PAUL in the chair, Mr. K. W. MONSARRAT and Dr. I. J. WILLIAMS, in a paper on *Intramural extension in rectal cancer*, presented the results of complete histological examination of the specimens derived from four cases of operation for rectal cancer. The specimens were cut in serial sections, and the staining method employed was mucicarmine and haematoxylin. It was considered that it was incorrect to look upon mucin as a degeneration product or its presence indicative of growth ineffective from the point of view of metastases. It was shown in the observations reported that infiltration was widest in the planes of the longitudinal muscular coat and the cellular tissue outside it. No permeation of lymphatic plexuses to a distance beyond the primary site was demonstrated. In particular it was not found that permeation took place in the plane between the bases of the follicles and the muscularis mucosae. In one of the specimens it was shown that the growth was present within the venules in the muscular coat and the adventitia. The specimens were representative of the commonest type of rectal cancer—a fibrous stenosing carcinoma. They went on to show that the disease remained local for a considerable period, that glandular invasion might be considerably delayed, and that longitudinal extension in the rectum was not rapid and wide, but comparatively slow and restricted. The authors considered that while abdomino-perineal amputation was the operation of choice for carcinoma, resections and amputations less extensive than this procedure offered fair prospects of cure, and that it was therefore justifiable to undertake such operations when for any reason a complete amputation appeared to be contraindicated. Professor ERNEST GLYNN analysed 50 *post-mortem* examinations on patients who had died from cancer of the large intestine in the Royal Infirmary. The rectum was affected in 20 and the pelvic colon in 10 cases. Metastases other than those in the lymphatic glands in the neighbourhood of growth were present in only 19 cases. Thirty died from peritonitis, including cellulitis or abscess formation. In 9 there was acute ulceration of the intestine at some distance from the stricture. Dr. BLAIR BELL observed that ovarian carcinoma sometimes invaded the rectum to such an extent as to make it difficult to decide at operation which was the primary growth. Histological examination usually made this question clear. The following were among the exhibits: Mr. R. W. MURRAY: The amputated leg of a woman, aged 50, suffering from *Elephantiasis;* it weighed 64 lb. The patient had never been out of this country, and had carried on her work as a washerwoman up to the time of her admission to hospital. Mr. KELLY and Professor ERNEST GLYNN: Some specimens from three cases of abdominal trauma, which included a ruptured liver. Mr. Kelly considered that the rectus aponeurosis was the best material to use for suturing the liver; this material did not cut through. Dr. ABRAM and Professor E. GLYNN: A specimen of *Polypoid colitis* in a girl, associated with chronic diarrhoea. One portion had developed into columnar cancer with metastases in the liver. Dr. NATHAN RAW: A specimen of *Acute tuberculous pericarditis* from a patient aged 30, secondary to miliary tuberculosis of the lungs. During life 40 oz. of fluid were withdrawn by paracentesis with marked temporary benefit. Mr. DOUGLAS CRAWFORD: A *Foreign body* (a brooch) removed from the intestine. Cotton-wool had been administered and the brooch had been passed wrapped up in it. Mr. R. C. DUN: A microscopical section of *Congenital fibroma* of the finger, removed from an infant 9 weeks old. The tumour was the size of a cherry, pedunculated, and grew from the palmar surface of the digit.

UNITED SERVICES MEDICAL SOCIETY.

AT a meeting on November 13th, Colonel B. SKINNER, President, in the chair, Surgeon CAMPBELL ROSS, R.N., in a paper on *Pulmonary tuberculosis in the Royal Navy*, pointed out that the disease was not an uncommon one in the navy. The number of invalidings for this disease in 1911 were 2.02 per 1,000, but showed a yearly decrease. In the years 1856 to 1860 the average annual invalidings were 5.4 per 1,000. In his consideration of its further reduction he pointed out the importance of efficient ventilation, the early diagnosis of cases, the invaliding out of the service of men affected with pulmonary tubercle (already a routine procedure in the Royal Navy), and of careful examination of recruits on entry. Tuberculin treatment as carried out at the Royal Naval Hospital, Chatham, had in suitable cases given excellent results.

Reviews.

FLORENCE NIGHTINGALE.

THE life of Florence Nightingale is much more than the life of an individual. It comprises to a large extent the record of the immense improvement in nursing which took place, it may be said roughly, within the period covered by the reign of Queen Victoria. It must be clearly understood that Miss Nightingale, great and far-reaching as her work undoubtedly was, was not the pioneer of nursing reform. Her name became the symbol of that reform in the public mind, and those who had preceded her were overshadowed by the national fame which quite deservedly came to her at the time of the Crimean war. The debt which the nursing profession, and those who benefit by it, owes to her cannot indeed be over-estimated. But the fact remains that she followed in the footsteps of predecessors and contemporaries who had been before her in the field. The success which she achieved in the Crimea was largely due to her own personal qualities; but it must also be admitted that it was partly due to her social position and to the influence which she was able to bring to bear upon officialdom by her friendship with men in high places. Had it not been for this, all her devoted efforts, like those of so many other charitable women and philanthropic men, would have broken themselves against the rock of official indifference, and vanished as ineffectual foam.

The definitive biography of Florence Nightingale has now been written by Sir EDWARD COOK,[1] who has had access to the vast accumulation of papers which she left behind. Use has also been made of her published *Notes on Hospitals* and *Notes on Nursing*, and other works relating to those subjects, together with her privately circulated *Addresses to Probationers*, and of her privately printed *Suggestions for Thought* which gave the key to her inner life. A legend grew up around Florence Nightingale and encompassed her in a halo which hid her true personality. Had she lived in the Middle Ages she would inevitably have been venerated as a saint. This was the impression made by her work and character not only on ignorant but grateful soldiers, but on many of those who knew her well. Sir Edward Cook says:

> The popular imagination of Miss Nightingale is of a girl of high degree who, moved by a wave of pity, forsook the pleasures of fashionable life for the horrors of the Crimean war; who

[1] *The Life of Florence Nightingale.* By Sir Edward Cook. In two volumes. Vol. I, 1820-1861; Vol. II, 1862-1910. London: Macmillan and Co. 1913. (Med. 8vo, pp. 538 and 524. 30s. net.)

went about the hospitals of Scutari with a lamp scattering flowers of comfort and ministration; who retired at the close of the war into private life and lived thenceforth in the seclusion of an invalid's room—a seclusion varied only by good deeds to hospitals and nurses and by gracious and sentimental pieties.

The growth of this legend was favoured by Miss Nightingale's own shrinking from publicity, and by her extreme reticence about herself. Although there were some elements of truth in the legend, the real Florence Nightingale was very different from the legendary one and a greater woman than the Lady of the Lamp. She was indeed a ministering angel in the Crimea, but before all she was an administrator of the first order, and an eager, perhaps somewhat impetuous, reformer of all manner of evils and especially of the red-tape bound formalism into which the departments of Government controlling the army had become fixed as the result of the canker of a long peace. Queen Victoria was struck by her clear head, and wished they had her at the War Office. Some of those who worked with her were struck by a certain hardness in her, but this was due not to want of heart, but to her hatred of inefficiency, her strong sense of discipline and her impatience with routine which paralysed initiative. To understand her achievement one must know the state of nursing when she took up the care of the sick as her life-work. Mrs. Elizabeth Fry had turned from labours to better the condition of prisoners to attempt the improvement of hospital nursing, but though the good seed had been sown the harvest was not yet. Nurses were still drawn from a low class, and the career was deemed quite unfit for a lady. Miss Nightingale met with strong opposition from her own family when she wished to obey the call she felt within her. As Lord Stanley (afterwards fifteenth Earl of Derby) well said at a meeting in support of the Nightingale Fund held in Manchester on January 17th, 1856:

> It is not easy, especially in England, to set about doing what no one has done before. Many persons will undergo considerable risks, even that of death itself, when they know that they are engaged in a cause which, besides approving itself to their consciences, commands sympathy and approval, when they know that their motives are appreciated and their conduct applauded. But in this case custom has to be violated, precedent broken through, the surprise, sometimes the censure, of the world to be braved. And do not underrate that obstacle. We hardly know the strength of those social ties that bind us until the moment when we attempt to break them.

That Miss Nightingale did break the bonds of convention and prejudice is the highest proof of her greatness. She prepared herself carefully for her work, studying the organization of hospitals, the methods and spirit of Sisters of Charity and other nursing religious orders, and of the Deaconesses at Kaiserswerth on the Rhine, where Pastor Fliedner, who had been impressed by the work of Mrs. Fry, had established, among other charitable institutions, a hospital intended as a training ground for nurses. Her active career began as superintendent of an establishment for sick gentlewomen in Harley Street. There she learnt how to deal with refractory committees, how to get doctors to co-operate with her, and how to manage a hospital at once efficiently and economically. Sir Edward Cook says: "What was afterwards to characterize her work in a larger field was already observed in Harley Street. It was the combination of masterful powers of organization with womanly gentleness and sympathy." To these qualities it must be said she added great tact and diplomacy, and a capacity for wirepulling which were afterwards to stand her in good stead. When the call to the Crimea came Miss Nightingale was prepared for the work. The hospitals were in a state of chaos, and the most elementary necessaries for the treatment of sick and wounded men were lacking. For this state of things the medical officers have been held accountable, and Miss Nightingale, who believed herself to be thwarted by them out of jealousy, said hard things of some of them. Toward Sir John Hall, chief of the medical staff, indeed, she displayed an animosity which sometimes found angry and even spiteful expression. Her friend, Sidney Herbert, then Minister for War, at whose urgent request she went to the Crimea, thought it needful to expostulate with her about the bitterness with which she complained of the obstructiveness of the medical staff. He wrote:

> You have been overdone with your long, anxious, harassing work. You see jealousies and meannesses all round you. You hear of one-sided, unfair, and unjust reports of your proceedings and of those under you. But you overrate their importance, you attribute too much motive to them, and you write upon them with an irritation and vehemence which detracts very much from the weight which would attach to what you say.

It is certain that if the medical officers to some extent resented the intrusion of what was known as the "Nightingale power," she on her part did not make sufficient allowance for the difficulties they had to meet. Sir Edward Cook says that to him, after much reading of the documents, it seems that Hall was the victim of a false position: "He had been appointed Medical Inspector-General in the Crimea when he was still in India, and he did not arrive on the scene in time to think out the preparations properly." This, we think, shows a very inadequate appreciation of the state of affairs. The fault lay with the system which prevailed at the War Office. The Director-General of the Medical Service of the Army was subordinate to at least five departments of State, between which there was no proper co-ordination.

> Although he might be wanting supplies kept in store by another Department he could not go thither straight in order to lodge his requisition, but had to set it travelling circuitously, and begin by a prayer to the Horse Guards.[2]

Moreover the Medical Department was by an ill-judged economy starved in numbers, and controlled by a discipline, particularly as regards expenditure, which made it incapable of independent action when an emergency arose.

> Thus if the Director-General of the Army Medical Department wished to furnish to our hospitals in the East some kinds of supplies, as, for instance, wine, sago, arrowroot, he had to send his purpose revolving in an orrery of official bodies; for first he well knew he must move the Horse Guards, and the Horse Guards must move the Ordnance, and the Ordnance must go to the Admiralty, and the Admiralty must give orders to its Victualling Office, and its Victualling Office must concert measures with the Transport, and the Transport Office (having only three transports) must appeal to our private shipowners in the hope that sooner or later they would furnish the sea carriage needed; so that the original requisition becoming at last disentangled might emerge after all from the labyrinth and—resulting in an actual visible shipment of wine, sago, arrowroot—begin to receive fulfilment.[3]

The Director-General had in May, 1854, submitted schemes for dealing with the sick and wounded at the establishment hospitals, but they were unheeded. The calamities that followed were due to the fact that the Director by the system was a servant when he should have been a master. This is the secret of efficient medical administration which has not even yet been fully recognized by statesmen.

One of Miss Nightingale's chief difficulties in the East was the unwillingness of the military mind to accept the idea of women nursing soldiers. It was a novelty, and the "Bird," as she was called in camp, was scoffed at by old campaigners who remembered their own rough experiences in the Peninsula. It would be foolish at this time of day to raise the ghosts of old quarrels—administrative, medical, theological, and personal. Sir Edward gives an account of them in which he strives hard to hold the balance, but there are not a few traces in his book of what Macaulay calls the *lues biographica*. His narrative should therefore be supplemented and corrected by evidence from other sources. All these furnish testimony to the greatness of the work which Miss Nightingale did, but they show, too, that others did much which was overlooked at the time and has since been forgotten.

What was the secret of the "Nightingale power"? Sir Edward Cook says it was due to causes of which some were inherent in herself and others were adventitious. "The inherent strength of her influence lay in the masterful will and practical good sense which gave her dominion over the minds of men. The adventitious sources of her power were that she had both the ear and the confidence of Ministers and the interest and sympathy of the Court." With the fullest admiration of her intellect and energizing power, we think most people will agree that unless she had been the personal friend of the Minister in whose hands were the destinies of the British army at the time, she might never have been allowed to undertake her mission of mercy; or, if she had, she would have had,

[2] Kinglake's *Invasion of the Crimea*. Abridged by Sir G. S. Clarke. Quoted in S. M. Mitra's *Life and Letters of Sir John Hall*. London, 1911. p. 525.

[3] Quoted in *Life and Letters of Sir John Hall*, p. 526.

like so many other spirits burning with the ardour of reform, to retire baffled and heart-broken from a contest with official inertia and ineptitude.

Miss Nightingale's health broke down under the strain of the Crimean burden, and for the rest of her life she was more or less an invalid. But she was as active from her sick-room as she had been in the hospital at Scutari. On her return to England she set about reforming the medical administration of the army and raising nursing to the rank of a trained profession. Through Sidney Herbert she got a Royal Commission appointed to inquire into everything relating to the health of the troops. Her diplomatic genius showed itself in the way she packed the Commission, coached Ministers and members of Parliament, and inspired the press. Never showing herself, she was the moving spirit, ever ready to supply facts from her own experience, statistics of which she was passionately fond, plans for hospitals which should not be death traps, and schemes of all kinds for the benefit of the soldiers, whom she always called her "children." Needless to say she met with determined opposition, and sometimes she was defeated by the forces of routine, but she did not lose heart. If military hospitals at the present day are immensely better than they were fifty years ago, the credit is largely due to Miss Nightingale. To her is also due the idea of an army medical school, and the first professors, including Edmund Alexander Parkes with whom she became acquainted in the Crimea, were chosen by her. It is doubtless true that she got credit for many things with which she had nothing to do, but that very fact shows the impression her work had made, for *on ne prête qu'aux riches*.

The Nightingale School was a direct outcome of Miss Nightingale's work in the Crimea. A sum of £44,000 was raised as a tribute to her from the British army. The soldiers subscribed generously, but the doctors as a body held aloof. Mr. J. F. South, Senior Surgeon to St. Thomas's Hospital, with which it was proposed to connect the school, wrote:

> That this proposed hospital nursing training scheme has not met with the approbation or support of the medical profession is beyond doubt. The very small number of medical men whose names appear in the enormous list of subscribers to the fund cannot have passed unnoticed. Only three physicians and one surgeon from one (London) hospital and one physician from a second, are found among the supporters.

Nevertheless the scheme was carried to fulfilment, and on June 24th, 1860, the Nightingale Training School for Nurses was opened. If we cannot accept Sir Edward Cook's description of her as the "founder of modern nursing" without considerable reservation, it is certain that without her impulse and direction the movement would not have proved so successful as it has been.

The death of Sidney Herbert in 1861 deprived Miss Nightingale of her most powerful means of exerting political influence. She did much work after that for sanitary reform in India, for the reform of workhouse infirmaries, and—to use the words of Sir Edward Cook—as "adviser general" on hospitals and nursing. When she died in 1910, at the age of 90, she had accomplished a work such as no woman and very few men have accomplished. As her biographer says, she was by no means a plaster saint. "She was a woman of strong passions, not over given to praise, not quick to forgive; somewhat prone to be censorious, not apt to forget." She was not a sentimentalist, and holy simplicity was less conspicuous in her than adroitness in practical affairs. Above everything, she hated unbusinesslike methods. She was impatient of opposition, but this was the necessary outcome of her eagerness to reform. Her teaching and example did much to show women how and where they might find a larger sphere of usefulness than the conventions of the mid-Victorian period allowed them. Altogether it was a life of the highest nobility, combining the loftiest ideal of personal holiness with utter devotion to the welfare of humanity. Sir Edward Cook has enshrined the memory of Florence Nightingale in a literary monument worthy of her; there could be no greater praise.

THE ENDOCRINE GLANDS.

THE study of the physiology and pathology of the glands producing internal secretions, begun by Claude Bernard as long ago as 1855, occupies a larger place in medicine every year. The rapid progress that is being made in the study of the functions of these endocrine glands was admirably illustrated by the discussion that took place last August, at the joint meeting of the Sections of Physiology and of Medicine of the Seventeenth International Congress of Medicine. Most interesting and illuminating papers were read, and speeches were made, at this meeting by Kraus, Gley, Biedl, Herring, Falta, Swale Vincent, and many others. Quite recently Professor NOËL PATON, of Glasgow, has published a book[4] that was in print a couple of months before the Congress met in London, in which he gives a first-rate summary of knowledge about the secretions of the glands. It is always interesting to come across a volume that deals largely with medicine, and has been written by a man of science who has made his name in a different branch of research; Professor Noël Paton is a physiologist, and his book is not only interesting but also highly profitable reading for the medical man. It takes the form of a series of well documented chapters in which the known facts about the endocrine glands and their secretions are briefly but thoroughly set out. Many of the probable, doubtful, and still unproven facts and theories are also given, with their *pros* and *cons*, and a conservative estimate of their value in each case.

The subject, speaking generally, is one that has suffered from overspeculation and premature theorizing for many years, chiefly at the hands of medical men. Professor Noël Paton's book comes as an excellent and much-needed corrective for this exuberant tendency to the formation of baseless hypotheses, and so is doubly welcome—firstly for its matter, secondly for its style. The early part of it discusses the question how far it is the nervous system that directs embryonic growth, and how far it is hereditary inertia, the inborn tendency to undergo the same course of development as its progenitors, that influences the growing embryo. No universal rule can be laid down. Experimental physiology has shown that at some stage in development, varying in different animals and in different tissues of the same animal, the nervous system comes to play a most important part in regulating the metabolism on which development, growth, and repair depend.

The greater part of the book is devoted to the chemical influences exerted by the secretions of the endocrine glands. The author classifies them embryologically. The nervous or posterior lobe of the pituitary body, and the chromaffin tissue of which the suprarenal gland is a type, are derived from the nervous system; from the buccal cavity the thyroid and anterior lobe of the pituitary are developed; the intestine gives rise to the pancreas and the mucosa of the small intestine; the parathyroids and thymus come from the branchial arches; and the mesothelium of the genital ridge gives rise to the sexual glands (or gonads), and to the interrenal bodies that form the cortex of the suprarenals. The last thirty pages are given to the relations of the endocrine glands to each other and to the nervous system, and to their evolution. The book may be cordially recommended to all who are interested in the present state of knowledge about these glands. It is short yet complete, and contains very little that the reader will have to unlearn. It is perhaps most valuable on account of the moderation and the duly cautious scientific spirit in which it has been written.

TREATMENT OLD AND NEW.

THE great advances that have been made in pathological observation and physiological research have not as yet led to the abandonment of former methods of treatment. Hence we find that a new edition, the fifth, of so well-established a work as BURNEY YEO'S *Manual of Medical Treatment*[5] does not grow less in bulk by the omission of therapeutic systems which to some might appear obsolete. The sum of common experience must in the long run determine the usefulness of any drug or system, and the most brilliant results obtained by the few will not suffice

[4] *The Nervous and Chemical Regulators of Metabolism: Lectures.* By D. Noël Paton, M.D., B.Sc. London: Macmillan and Co. 1913. (Demy 8vo, pp. 227; 8 figs. 6s. net.)

[5] *A Manual of Medical Treatment.* By I. Burney Yeo, M.D., F.R.C.P., Emeritus Professor of Medicine in King's College, London. Fifth edition by Raymond Crawfurd, M.A., M.D.Oxon., F.R.C.P., Physician to King's College Hospital; and E. Farquhar Buzzard, M.A., M.D.Oxon., F.R.C.P., Physician for Out-patients, St. Thomas's Hospital, etc. In two volumes. London: Cassell and Company, Ltd. 1913. (Cr. 8vo, pp. 849 and 853; 19 and 5 figs. 25s. net.)

to establish popularity if the same results are denied by the many. It follows that many old lines of treatment still hold the field, although apparently worthless from the scientific point of view. Knowledge of the action of drugs is of necessity incomplete, and for all practical purposes we must be content with empirical information culled, of course, from the best sources. In this latest edition, which is almost entirely the work of the sub-editors, Drs. CRAWFURD and BUZZARD, the needs of the practitioner have been constantly considered, and the two bulky volumes contain a vast amount of useful instruction set forth in readable style and embodying the most recent as well as the most time-honoured accounts of treatment in general. The writers make no secret of their own views, while doing full credit to those of others. This is well shown in every section of the work where vaccine treatment comes under consideration. Personal experience leads them to adopt very guarded opinions as to its ultimate value from the patients' point of view. Readers who may have had a more encouraging experience will doubtless maintain that too cautious and pessimistic a survey is taken of the whole subject, but the writers of a textbook must needs weigh evidence on both sides, and the verdict thus far is equivocal. The therapeutic value of *x*-ray medication is still on its trial, and at the present day the enormous numbers of "treatments" which are administered would seem to indicate that time, as well as electricity, must be a factor in the "cure." Among many recent innovations the use of direct medication of the atonic or dilated stomach may be mentioned; it remains to be seen whether sufficient relief is ultimately afforded to warrant the general adoption of such disagreeable and often painful procedures. The new edition is brought up to modern requirements in every department, and will, as heretofore, be found constantly useful as a work of reference wherein to find information on everything that bears upon practical treatment, whether advocated by home or foreign authority. It will be inferred from what has been said that it does not of necessity extol the newest methods, nor does it omit to make mention of some of the oldest.

Sir JAMES SAWYER is to be congratulated upon the success of his *Contributions to Practical Medicine*.[6] It was first published in 1886, and the fifth edition lies before us. Merit and success do not always go together, even in medical literature, but it is not difficult to understand why they have done so in this case. The author writes excellent English, free from pedantry, and dignified without heaviness. The manner of the book is as pleasant as the matter is learned and instructive. Moreover (and this point is worthy of special mention) Sir James Sawyer feels and therefore inspires confidence in the methods and remedies of which he writes. He maintains a positive and affirmative attitude in regard to therapeutics. After all, it is of the power not of the impotence of drugs that we want most to hear, for we have to do the best we can with such weapons as lie ready to hand. The subjects dealt with in this volume are eminently calculated to appeal to the interest of the busy practitioner. The causes of insomnia, the treatment of insomnia, the treatment of gastralgia, floating kidney, the treatment of habitual constipation, lumbago coprostatica, the treatment of eczema, fuming inhalations in asthma—such are a few chosen at random from among the chapters of the book. Upon all these matters, and upon many others, Sir James Sawyer has new and valuable information to impart. It may safely be prophesied that further editions will be called for in due course.

NOTES ON BOOKS.

DR. A. S. GUBB, who practises in Algiers in the winter, has photographed a book, if this use of the verb may be allowed, on the flora of the country. In 270 pages it contains upwards of 220 reproductions of photographs of plants and flowers. The general plan is to give under the photograph a description of the plant with its botanical name and order, and the common names in Arabic and Berber and half a dozen European languages in those cases in which plants are so generally known as to possess such popular appellations. Algeria has been called the land of flowers, and though Dr. Gubb's volume[7] does not profess to be complete, containing as we understand only those plants most commonly seen, it gives a convincing impression of the richness and variety of the flora. Few of the plants are seen north of the Mediterranean save in greenhouses, and even those which can resist the climatic conditions of Europe in the open air do not there attain the richness and fullness they reach in Algeria. In the southern Sahara all plants have a struggle for existence, and present many interesting adaptations to their arid surroundings. In many the foliage is small, evaporation being thus prevented, and some send out roots vertically into the soil to almost incredible depths. The desert may appear at certain seasons of the year a sterile plain, but after rain or where irrigation water is supplied by artesian wells, the soil quickly becomes covered with gay flowers. Prefixed to the pictures is an index of leaves designed to help the inquirer to identify the plants he sees. The plan does not seem to have been employed before in a popular work, and although not, of course, strictly scientific, it will commonly afford a useful clue. The photographs must sometimes have been obtained by the author with no little difficulty, and at the cost of expeditions not without their perils.

The British Guiana Medical Annual for 1912[8] contains papers upon dysentery, enteric fever, granuloma pudendi, tuberculosis, the causes of enteric fever, and dermal leishmaniasis, on cases treated by the open iodine method, and clinical notes. The transactions of the British Guiana Branch of the British Medical Association for 1912-13 are also published in it. Many of the papers are worthy of careful study, especially those on the parasite of granuloma pudendi by Wise, and on dermal leishmaniasis by Minett. It is interesting to note that the forest yaws of the old days is a form of leishmaniasis. The high standard reached by previous issues is well maintained.

Dr. F. TRUBY KING, lecturer on mental diseases in the University of Otago, has written for the New Zealand Society for the Health of Women and Children, of which he is president, a book which, though it deals with a somewhat hackneyed subject, treats it with so much freshness that it will, we do not doubt, make a strong appeal to the public. It is entitled *Feeding and Care of Baby*.[9] It is very copiously illustrated, and seems to deal very fully with every aspect of the subject. After a kind of tabular summary headed "What every baby needs (whether well or ill)," which would make a good leaflet, the book opens with sections on natural and artificial feeding; then comes a section on feeding in the second year, in which there is a preliminary discussion of the importance of mastication; the next section is on general hygiene, and the next on cleanliness and the prevention of fermentation. There is an excellent set of notes on the interpretation of cries, followed by a list of popular errors, which are further elaborated in other parts of the book. A series of notes on various disorders of infancy, including vomiting and diarrhœa, is succeeded by further observations on the care of the teeth, and in an appendix there is a short note on "motherhood and half motherhood in hot climates." Dr. Truby King declares that the common idea that European mothers ought not to nurse their babies in very hot countries "is sheer nonsense." All through the book he is careful to impress on his readers the importance of following nature not only in the feeding, but in the general management of infants.

[6] *Contributions to Practical Medicine.* Fifth edition. By Sir James Sawyer, M.D., F.R.C.P. Birmingham: Cornish Bros. 1913. (Post 8vo, pp. 410. 5s. net.)

[7] *La Flore Algérienne.* By Dr. A. S. Gubb of Algiers. Alger: Jourdan. London: Baillière, Tindall and Cox. 1913. (Fr.7.50.)

[8] *The British Guiana Medical Annual for 1912.* Edited by K. S. Wise, M.B., B.S., B.Sc.(Lond. Univ.), D.P.H., M.R.C.S., L.R.C.P. Letchworth: Garden City Press, Limited. 1913. (Demy 8vo, pp. 140. 5s.)

[9] *Feeding and Care of Baby.* By F. Truby King, M.B., B.Sc. (Public Health) Edin. London: Macmillan and Co., Ltd. 1913. (Med. 8vo, pp. 162; 64 figures. 2s. net, cloth; 1s. paper.)

THE thirty-first German Congress of Internal Medicine will be held at Wiesbaden in April, 1914 (20th to 23rd), under the presidency of Professor von Romberg, Munich. The chief subject proposed for discussion is the nature and treatment of insomnia. The reporters are Drs. Gaupp of Tübingen, Goldscheider of Berlin, and Faust of Würzburg. Professor Werner of Heidelberg will deliver an address on the *x*-ray treatment of new growths of the internal organs, and Dr. Schott Müller of Hamburg one on the treatment of sepsis. In connexion with the congress there will be an exhibition of preparations, apparatus, and instruments having relation to internal medicine. The secretary of the congress is Professor Emil Pfeiffer, Wiesbaden, Parkstrasse 13.

SANITARY AND DOMESTIC APPLIANCES.

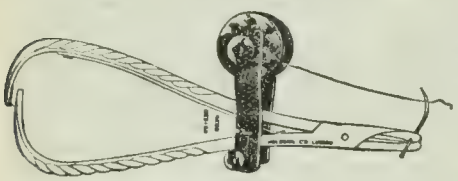
A Washable Wall-Covering.

One of the exhibits at the recent Ideal Home Exhibition was a washable wall decoration bearing the trade name of "Salubra." In reality it is a paint, the basis of which is zinc white, laid on parchment or cloth, the very great pressure to which the material is subjected rendering it solid and non-porous. We understand that although Salubra has not been "pushed" in this country until recently, it was introduced fifteen years ago, and has found much acceptance in French, German, and Swiss sanatoriums, and that in the Hôpital Lariboisière, in Paris, where one ward has been thus covered for several years, seventeen wards are now being similarly treated. We have examined this wall-covering, and have had its washable character amply demonstrated. In addition to its hygienic advantages, it has a cheerful surface and no unpleasant odour, while its strong backing enables it to seal hermetically all the small fissures and cover up irregularities in the plaster. For the operating theatre a plain, smooth tiling, readily washable with soap and water or disinfectants, is offered. The address of the Salubra Company is 18, Old Cavendish Street, London, W.

MEDICAL AND SURGICAL APPLIANCES.

A Suture and Ligature Spool-Attachment.

Mr. B. Richardson Billings, M.R.C.S.Eng. (Folkestone), writes: As the result of some years of experimenting, I have devised a suture and ligature spool whereby rapid and easy suturing and ligaturing can be accomplished. The apparatus is a substitute for the more expensive "sewing machines" which have been devised from time to time, and consists of a light metal reel on a framework, which can be attached to most of the needle-holders in common use, or even to a pair of Spencer Wells artery forceps.



The reel has deep flanges which are perforated, allowing for thorough sterilization of its contents. Its axle is instantly unmountable from the frame, by the turn of a milled nut on either side. The needle is half-curved, with the eye at the point, and, unlike the ordinary variety, once it is in the holder it need not be released. This alone saves some seconds per stitch. The needle is threaded and passed through the tissues in the ordinary way; the free end is then gripped with forceps, and the needle brought back again through the hole made, along the thread, which is then cut between tissues and needle. This is one suture made, and the needle is ready for the next. The *modus operandi* reads longer and more complicated on paper than it actually is, but the process, once seen, is easily understood and acquired. A continuous suture can be adopted with slight modification, while for rapid ligaturing the advantages are obvious. The attachment is cheap, adaptable, simple, efficient, clean, instantly changeable (allowing different materials or sizes to be used), time-saving and practical. It and its contents need not be touched at all by hand after sterilizing. A good all-round material to use on the spool is linen thread. The Holborn Surgical Instrument Company, Ltd., have carried out the idea from my models and sketches.

MEDICINAL AND DIETETIC ARTICLES.

Liquid Paraffin.

Purified liquid paraffin is at present finding much favour as a laxative, its action in this capacity being chiefly mechanical, while it is also administered internally in certain other cases besides those of constipation and intestinal disorders. We have recently examined a sample of the liquid paraffin which is supplied for internal use by Messrs. Oppenheimer, Sons, and Co., Limited (179, Queen Victoria Street, E.C.), under the name "Petremol." It has a specific gravity of 0.882, is free from taste and odour, is neutral in reaction, free from sulphur compounds, and leaves no ash on ignition. It is coloured red, with a view to making it more attractive to the patient.

CYCLECARS AT OLYMPIA.

THE EXHIBITS ANALYSED.

By H. Massac Buist.

Including the models staged with different classes of bodywork there are quite half a hundred different patterns of cyclecars from which to choose at the current exhibition at Olympia. The simplest way to arrive at a clear notion of the material available is to analyse the display according to price. It must be kept in mind that the definition of a cyclecar for competition purposes is a three or four-wheeled machine, the engine volume of which does not exceed 1,100 c.cm., and the chassis of which does not weigh more than 6 cwt. The total weight of models wherein chassis and body are built as one must not exceed 7 cwt. Practically all the vehicles staged have engines coming within the limitation as to volume, but it will be seen from the weights given in the accompanying table, in respect of all machines wherein such data is available, that they scale from 2¾ cwt. in the case of four-wheeled monocars to 10 cwt. for some two-seaters, which is the weight of a car proper. This therefore illustrates the lack of practical value in the present definition for cyclecars for competition purposes, since certain machines coming within the engine volume, using the body as part of the frame of the machine, and having, nevertheless, only 1 cwt. more weight than the limit, are thereby excluded from the show; whereas if the maker chooses to build the body as a separate part of the chassis he can be 3 cwt. over the limit for the complete vehicle—otherwise approximately 40 per cent.—and still stage his exhibit at Olympia! The whole classification is so absurd that it has been found necessary for the Society of Motor Manufacturers and Traders, which promotes the Motor Car Show proper, and for the Cycle and Motor-Cycle Manufacturers' and Traders' Union, which is concerned with the current display, to form a joint committee to ensure that no vehicle shall be excluded from one or other of the 1914 shows merely on account of its falling between one set of regulations or another. The current display may be tabulated as follows (see p. 1441).

Of the four dozen odd machines specified as separate types as to chassis, no fewer than thirty-four are four-wheelers. No new three-wheeled cyclecar model is introduced at the show. It may therefore be assumed that, as far as a year's development can indicate anything, the public conception of the cyclecar is being interpreted by the majority of those engaged in the industry as a demand for a four-wheeled machine, two wheels of which are power-driven. Indeed, in certain instances manufacturers who have hitherto been identified only with the production of three-wheeled machines now come forward with four-wheeled models as alternative types.

There has been an increase in the number of four-cylinder engines employed. Eleven of these types are now exhibited; they are in all cases water-cooled. In regard to two-cylinder motors, there has also been an increase in the practice of water cooling, which is now employed in thirty-one of the forty-eight exhibits tabulated. It will be observed that in the case of some of the cheaper machines reverse speeds are not furnished. Many firms that have hitherto used either belt drive or the chain have now taken to the bevel form of power transmission; nineteen bevel-driven vehicles are shown. The worm drive is also on the increase; there were six examples of the practice, so that half the exhibits staged have either the bevel or the worm form of final power transmission. Considering its cheapness and simplicity, it is perhaps extraordinary that there are only seven examples of friction-driven cyclecars. This class is, nevertheless, more in evidence this year than last, whereas the belt-driven vehicle is proportionately less in evidence, there being only ten examples.

Points about Individual Exhibits.

So much for general tendencies. As to the machines meeting the requirements of the medical man—who necessarily demands reliability of service, and therefore hard-wearing qualities—the general conclusion one arrives at is that there are more suitable types of vehicles to be discovered outside than inside the show, and that machines now being marketed as light cars are more suitable than those styled cyclecars. Some

£	s.	Vehicle.	Cyl.	Cylinders. No.	Cylinders. Cooling	Speeds and Reverse.	Transmission.	Stand No.
185	0	10 Wilton	10	4	Water	3 and R.	Bevel	103
178	10	10-12 Tweenie	11	4	Water	7 and R.	Friction and chain	21
175	0	10 Auto-carriers	9½	4	Water	3 and R.	Worm	86
175	0	10 Mackenzie	8	4	Water	3 and R.	Worm	18
165	0	10 Chater-Lea	8	4	Water	3 and R.	Worm	54
165	0	10 Duo (underslung)	6	4	Water	2 and R.	Bevel	65
157	10	10-12 Marshall-Arter	9	4	Water	2 and R.	Bevel	141
155	8	8 Melen	—	2	Water	3 and R.	Bevel	102
152	5	10 New Imperial	—	4	Water	3 and R.	Bevel	78
150	0	10 Day-Leeds	9½	4	Water	3 and R.	Bevel	94
150	0	10 Duo (underslung)	6	2	Water	2 and R.	Bevel	65
150	0	8 G.W.K.	5½	2	Water	4 and R.	Friction and bevel	38
150	0	10 Mead and Deakin	—	4	Water	3 and R.	Bevel	42
147	0	8 Perry	10	2	Water	3 and R.	Bevel	112
141	15	12 Buckingham	6¾	2	Water	2	Belt	35
141	15	8 Eric	6¼	4	Water	3 and R.	Shaft*	30
141	15	8-10 Marshall-Arter	8	2	Water	2 and R.	Bevel	141
140	0	7 Swift	—	2	Water	3 and R.	Bevel	91
136	10	8 Chater-Lea	7¾	2	Water	3 and R.	Worm	54
135	0	8 Humberette	7	2	Water	3 and R.	Bevel	134
135	0	8 Tiny	—	2	Water	3 and R.	Bevel	142
131	5	10 Adamson (underslung)	7¾	2	Water	3 and R.	Belt	133A
131	5	8-10 De P. Duo	—	2	Water or air	2 and R.	Belt	137
130	0	8-10 Alldays	9	2	Water	3 and R.	Worm	77
130	0	6-8 Duo (underslung)	6	1	Water	2	Bev	65
127	0	8 Crescent	7	2	Water	5 and R.	Friction discs to chain	138
127	0	8 Ranger	7	2	Water	2 and R.	Chain	117
126	0	8 Buckingham	6¾	1	Water	2	Belt	35
125	0	8 Pyramid	6¾	2	Air	4 and R.	Friction and belts	52
125	0	8 V.A.L.	6	2	Water	4 and R.	Friction and chain	109
120	0	8 Chater-Lea	7¾	2	Air	3 and R.	Worm	54
120	0	8 Humberette	7	2	Air	3 and R.	Bevel	134
120	0	8 Warne	6	2	Air	Multi and R.	Belt	106
115	10	6-8 Buckingham	6½	1	Air	2	Belt	35
115	10	8-10 Tweenie	6	2	Water	7 and R.	Friction and chain	21
115	0	8 D.E.W.	5½	2	Water	2	Chains and belts	139
115	0	8 Ranger	7	2	Air	2 and R.	Chain	117
105	0	10 Morgan	4	2	Water	2	Chain	66
103	19	10 G.N.	5	2	Air	2 or 3	Belt	35
101	17	8 Wall-Tri-car-riage	5	2	Air	2 and optional R.	Bevel	143
100	0	5-6 Auto-carriers	7½	1	Air	2 and R. (epicyclic)	Roller chain	86
94	10	4¼ Wall-Tri-car-riage	5	1	Air	2 and optional R.	Bevel	143
89	5	8 Morgan	4	2	Air	2	Chain	66
78	15	5-6 Auto-carriers	5½	1	Air	2	Friction discs and chain	86
78	15	7 Motorette	4¾	1	Water	2 and optional R.	Chain	105
75	0	4½ D.E.W.	4½	1	Air	2	Chain and belt	139
72	10	5 Carden monocar	2¾	2	Air	2	Chain	33
67	0	4 Carden monocar	2¾	2	Air	1	Chain	33
59	10	3½ Carden monocar	2¾	1	Air	1	Chain	33

* The Eric is a three-wheeled machine, the propeller shaft transmitting the power to the bevel pinion and crown wheel enclosed in a case fixed to the back wheel.

comparatively ambitious schemes are to be found at Olympia—as instance the Wilton light car, which has been represented in such reliability trials as have so far been promoted. Like all the four-cylinder motors at this show, the block form of casting is employed, the bore measurement being 59 mm. and the piston travel 100 mm. The natural circulation of the water through a wedge-shaped radiator is relied on for cooling purposes, but the motor is mechanically lubricated by a pump driven off the camshaft. The three forward speeds provide ratios respectively of 4 to 7 and 13½ to 1, the control being on the gate principle. Pressed steel Sankey detachable wheels are standard equipment.

A feature of the policy of the firm producing the friction-driven 10-h.p. Tweenie car is that the machine is guaranteed for 15,000 miles, the guarantee applying equally to the smaller and cheaper 9–10-h.p. model. The 10-h.p. Auto-carrier employs the unit principle in very neat fashion in regard to the details of the power transmission. The propeller shaft casing, the three forward speed and reverse gearbox and live axle, and the differential casing, as well as foot and hand-worked brakes, are assembled as a unit. The clutch details are novel. The equipment includes a fifth spare detachable steel wheel.

In all the Chater-Lea models, which come from a firm with a long-established reputation for sound workmanship and material, the three forward speed and reverse gear boxes are controlled on the gate change principle, the ratios being common to all models—namely, 4⅛, 6¾, and 12½ to 1. In the larger model the clutch is fashioned of many discs, while a lined cone type is used for the smaller one.

An interesting feature of the new Duo type of light car is the employment of an underslung frame, such as was used for the Stabilia chassis introduced many years ago at the Paris Motor Car Show, and such as is employed in the R.M.C. American car. An excellent feature of early motor car practice is to be found in quite a number of the light cars of the day, including the Marshall-Arter machines, the frames of which are fashioned of what is styled armoured wood, being suitably braced by cross members. This, like the Duo, is an example of a machine with only two forward speeds. In the case of the Marshall-Arter type the gear box is embraced in the live-axle scheme, while a neat form of spring drive is used. In quite a number of cases variations of spring-drive practice are used. The notion is a good one, as being calculated to shield the more fragile parts of the mechanism, such as gears and so forth, from the worst shocks to which clumsy or inexperienced drivers may submit them.

Friction Driver and Underslung Frame.

The New Imperial more or less follows conventional car practice. By the employment of nickel steel for the crankshaft, only two large bearings are deemed needful. The G.W.K. is perhaps the most successful example of the friction-driven cyclecar, possibly by reason of advantage being here taken of the saving of weight by friction drive to furnish proportionately a very strong frame. The distribution of weight in the chassis is cleverly contrived, the power plant being about mid-length and in the centre of it. The four-cylinder Day-Leeds is practically a little motor car, save, perhaps, as to such minor details as the front axle; while the two-cylinder Swift appears in a new guise with the last vestiges of cycle constructional practice eliminated by the employment of a pressed steel in place of a tubular frame, and of an "I" section instead of a tubular front axle. There has likewise been a slight remodelling of the Perry cyclecar, which has now worm and segment steering, pressure-fed petrol, and an engine improved alike as to cooling qualities by the provision of larger water-jackets and in regard to balance. The water-cooled Humberette, with tie-rods to the back axle and radius rods to the front one, larger clutch, and improved gear control details, looks considerably more substantial than last year's vehicle, though it is still kept to the weight limit.

The Adamson is yet another example in the Show of a car with underslung frame; the motor is started after certain motor-cycle practice by pulling a long wire cable. The principle of the Lanchester suspension is used in the Alldays Midget car, for not only are cantilever leaf springs

used, but it also has radius rods, and the axle is allowed the particular form of play necessary to achieve the benefits of the Lanchester system of construction.

Altogether the exhibition reveals that a very appreciable degree of progress has been achieved as the result of a year's development. Handled by the medical man who has not too heavy country to negotiate, where road surfaces are reasonably good, where loads are not too heavy and speeds are strictly moderate—say not more than 25 to 27 miles an hour on the flat—the new style four-wheeled vehicle that is being variously termed a light car and a cyclecar may render good service for the money.

Some Motor Cycle Exhibits.

In regard to the cheaper and smaller examples, under the heading of proved durability, the motor cycle must undoubtedly be considered at the moment the better investment for the young medical man in the country. At the current show motor bicycle constructional progress is chiefly in the direction of elaboration, as instance the American-built Indian machine supplied with dynamotor for starting the engine and for generating the electric current for supplying the illumination. A healthy reaction from the general tendency towards complication, increased weight and power, is provided by a leading firm in the British industry, the Triumph Company, which introduces a two-stroke, air-cooled, lightweight model scaling only 125 lb. One of the pioneer firms in the motor-cycle industry in this country, the Motosacoche concern of Willesden, introduces some novelties in connexion with air-cooling details. Thus the 2½-h.p. single-cylinder air-cooled model and the 3½-h.p. twin-cylinder one are fitted with the new De Lissa air-cooled valve as the result of two years' testing before making the change. By this system, wherein the spring is above in place of below the valve, the mushroom head is pressed down on its seating in place of being pulled down on to it—a method of operation that solves the problem of the stem tending to pull away from the head. Further, the whole valve mechanism being exposed to the air, it tends to keep cooler than in the more ordinary practice, while the details are, of course, particularly accessible. A new 6-h.p. twin-cylinder side-car Motosacoche model is also introduced this year. It is of 496 cubic centimetres engine volume, and is fitted with complete electric lighting system, the accumulators for which are carried on a neat box on the footboard, while a miniature dynamotor charging them is attached to the back stays, being friction driven from the tyre. Another feature is the employment of a kick starter.

MOTOR CARS FOR MEDICAL MEN.

Light Cars.

Friction Cars, Ltd., inform us that they acquired some time ago all rights in the small "Pilot" car, to which attention was drawn at p. 1101 of our issue for October 25th, and that in the model for 1914 they have introduced what they regard as further improvements. The showrooms of the firm are in Heddon Street, Regent Street, W. [A naked chassis of this new model, as also a complete car, was on view at Olympia.]

Small Cars.

Dr. T. Gordon Kelly (Desford Grange, Leicester) writes: With reference to Dr. Willett's letter in the Journal of September 27th on the 10-h.p. Singer light cars, I note that he says, "It has a four-cylinder engine, the induction pipe being warmed, and thus giving an easy start up in the morning." It would be interesting to learn how Dr. Willett deduces the latter statement. Surely it is obvious that the engine must be started and running for a little time before the induction pipe becomes warm. Further, if he thinks the facts that this car only requires a pint of water in the radiator a week and can do forty-four and a half miles to the gallon of petrol, are startling, what would he think of my 12-h.p. four-cylinder De Dion that will run practically all the summer months without the addition of any water to the radiator, and do (although twice as heavy as the Singer) thirty-five miles to the gallon of petrol when driven at an average speed of twenty-five miles an hour?

The next meeting of the French Congress of Surgery will be held in Paris on October 5th, 1914, and following days, under the presidency of Dr. Maunoury of Chartres. The following questions are proposed for discussion: Traumatic lesions (closed) of the wrist; treatment of cancer of the tongue by cutting operation; pararenal tumours.

ROYAL COMMISSION ON VENEREAL DISEASES.

The following is the official report issued to the press by the Secretary of the Royal Commission on Venereal Diseases:

At the third meeting of the Royal Commission on Venereal Diseases, held on November 13th, Dr. R. W. Johnstone, Medical Inspector of the Local Government Board, gave evidence which followed generally the lines of the Report on Venereal Diseases written by him, and issued by the Local Government Board in August last.

He found much difficulty in arriving at a conclusion on the question of the prevalence of the diseases in the population. The figures given by the Registrar-General could not be relied upon for information of the number of deaths from venereal diseases, and this was inevitable owing to the reluctance of medical practitioners to certify deaths as due to this cause. Dr. Johnstone was impressed by the fact that the death-rates from a number of diseases known to be caused in many instances by syphilis, instead of showing a decrease, as would be expected if syphilis were diminishing, were stationary or tended to increase. Turning to the figures relating to venereal diseases in the army, he agreed that they showed remarkable decreases, but he considered that they were subject to some qualifications, and in any case he was not satisfied that they could be taken as an exact reflection of the state of the civil population. He laid stress on the fact that the men in the army, through the instruction given by their officers, were much better educated with regard to these diseases than was the ordinary civilian. For the purpose of obtaining trustworthy statistics of the prevalence of these diseases, he thought that certification of deaths should be confidential, but that this change should be made with regard to all diseases and not only venereal diseases. He was of opinion that information of value might be gained if a special return were obtained from general hospitals. On the question of notification of the diseases he was opposed to the introduction of any compulsory system at the present time. He understood that there was a possibility of a system accompanied by the names of patients being put in force in one of the Scandinavian countries, but in those countries treatment by quacks did not flourish to the same extent as in England, and he thought that there was not the same danger of notification leading to the concealment of the disease. From the point of view of the public health of the country in relation to venereal diseases, the objects of primary importance to be secured were the prompt recognition of the diseases and their early treatment. To this end he advocated that facilities for laboratory diagnosis should be provided, and that the available hospital accommodation, which at the present time was entirely inadequate, should be supplemented. He was not in favour of the erection of additional special hospitals to deal with these diseases, as he was anxious to avoid anything which would tend to have a deterrent effect; he was of opinion that the more the general hospitals could be used the more freely patients would present themselves for treatment. Dr. Johnstone pleaded for an attitude of greater frankness on the part of the public with regard to these diseases. If the public were properly educated in the matter, and the necessary facilities for treatment were provided, there was now an opportunity of reducing the diseases to very small dimensions.

On November 17th, statistical evidence as to the prevalence of venereal diseases in the army was given by Lieutenant-Colonel Scott, Deputy Assistant Director-General of the Army Medical Department. The figures furnished by Colonel Scott were for the period from 1888 to 1912, and related to the rejections of recruits on account of venereal disease, the admissions to hospital, the numbers constantly sick, and the numbers invalided from the service from this cause. Under all those heads remarkable reductions were shown. The rejections on recruiting had fallen from 0.63 per cent. of the candidates in 1890 to 0.14 per cent. of those presenting themselves in 1912. The admissions to hospital in the United Kingdom, which stood at 224.5 per 1,000 of the forces in 1888, had dropped to 56.5 in 1912. There were corresponding falls in the figures of constantly sick and invalids. In the case of

India the reductions had been still more marked. Colonel Scott showed that certain qualifications have to be borne in mind in comparing the earlier with the later years, but he was satisfied that real progress had been made and that the figures did indicate a large measure of success in dealing with the diseases in the army. He was not prepared to say whether the figures indicated a corresponding improvement in the civil population. Colonel Scott attributed the diminutions in the army figures to the greater abstemiousness and temperance now existing, to the fact that the soldier is nowadays better looked after and under better influence in the regiments; barrack conditions also are now more healthy and comfortable, and the soldiers' institutes provide greater amusements and healthy recreation. In addition there has, of course, been considerable improvement in the methods of treating the diseases. Colonel Scott remarked on the excellent work of the Royal Army Medical Corps and on the probable absence of concealment of disease from the medical officers. He laid stress also on the great importance of the personal influence of the regimental officers.

SCIENCE NOTES.

The application of Abderhalden's work on "protective ferments" to the serum diagnosis of pregnancy having given very promising results, it would seem feasible to extend the investigations to cancer serum. One or two observers have mentioned a few cases in which this has been tried, and during some recent discussions in this country on the pregnancy reaction it was evident that the method is being tried, though none of the speakers has yet recorded his results. Frank and Heimann (*Berl. klin. Woch.*, 1913) examined 46 cases of cancer, of which 30 were cancers of the uterus. Of these, 45 gave a positive result. Of 20 non-cancerous cases 19 were negative. Contrary to the teaching of Abderhalden and to the more limited experience of others, the authors found that the serums reacted not only with cancer substrate but also with placenta, and that pregnant serum acted to a lesser degree with cancer. That the protective ferment is not absolutely specific was a point insisted on by Leitch in the discussion on the Abderhalden reaction at the Brighton Meeting of the Association, and also at the Royal Society of Medicine recently, though Schlimpert at the former meeting maintained the rigid specificity of the reaction. Brockman has recently examined 25 cases of cancer by the method, and claims to have had perfect results.

Sir William Crookes, who has been engaged since March, 1909, in experimenting for the Glass-workers' Cataract Committee of the Royal Society on the preparation of eye preserving glass for spectacles, reported some of his results to the meeting of the Royal Society on November 13th. His experiments, he said, had been directed to ascertaining the effect of adding various metallic oxides to the constituents of glass in order to cut off the invisible rays at the infra-red end of the spectrum, and thus to prepare a glass which would cut off those rays from highly heated molten glass which damaged the eyes of workmen, without obscuring too much light or materially affecting the colours of objects seen through the glass when fashioned into spectacles. The elements selected as likely to be worthy of further experimentation by combining the metals, two, three, or four at a time, in one glass so as to enable the advantages of one to make up for the shortcomings of another, were cerium, chromium, cobalt, copper, iron, lead, manganese, neodymium, nickel, praseodymium, and uranium. Whilst the chief object of the research was to find a glass that would cut off as much as possible of the heat radiation, the problem was also attacked from the ultra-violet and the trasparency points of view. Glasses which cut off over 90 per cent. of heat radiation, which were opaque to the invisible ultra-violet rays, and were sufficiently free from colour to be capable of use as spectacles, were prepared, but it was not found possible to combine in one specimen of glass these three desiderata in the highest degree. The ideal glass which would transmit all the colours of the spectrum, cutting off the invisible rays at each end, is still to be discovered. As far as transparency, however, was concerned, it would not, he considered, be an unmixed advantage for the sought-for glass to be quite clear and colourless. The glare of a strong light on white cliffs, expanses of snow, electric light, or the sea, was injurious to the eye, and therefore a tinted glass combining good obstruction to the heat radiation and ultra-violet rays was the best to aim for. For ordinary use, when no special protection against heat radiation was needed, the choice would depend on whether the ultra-violet or the luminous rays were most to be suppressed, or whether the two together were to be toned down. Ordinarily the visible spectrum was assumed to end at the Frauenhofer line K, λ 3933, but light could easily be distinguished some distance beyond by the naked eye. It might therefore be considered that the ultra-violet rays to be cut off on account of their possible injurious action were those of shorter wave-lengths than, say, λ 3700. Many glasses, all opaque to rays shorter than λ 3700, had been prepared for this purpose. The colours were pale green, yellow, and neutral; they transmitted ample light, so that a choice of tints was available to suit individual taste. Glasses restful to the eyes in the glare of the sun on chalk cliffs, expanses of snow, or reflected from the sea, of yellow, green, and neutral tints, had also been prepared. They had the advantage of cutting off practically all the ultra-violet rays and also a considerable amount of the heat radiation.

In the *Archives of the Röntgen Ray* (September, 1913) there is a very interesting plate by Dr. E. R. Morton illustrating the *x*-ray photography of flowers. The three flowers photographed together are narcissus, cowslip, and lily of the valley, and the details of the technique employed are given in a short note. Owing to their varying densities the internal structures of these flowers stand out very clearly, even in the positive impression. The young seeds lying in the ovary of the narcissus, and the fine structures of the other two flowers are brought out very plainly. The effect could be enhanced by making stereoscopic pictures and viewing them in the Wheatstone stereoscope. Dr. Morton says that by careful attention to technique it is possible to get radiographs showing the external form and surface markings, as well as the internal structure. The pictures are so beautiful in themselves that one may expect an extended use of the method in botany.

A very important communication by Dr. Mackenzie Wallis on sulphaemoglobinaemia appears in the current number of the *Quarterly Journal of Medicine*. This disease is characterized by marked cyanosis, absence of physical signs in the chest to account for it, with weakness, headache, and constipation as constant accompaniments. The condition can only be diganosed by a spectroscopic examination of the blood. The oxyhaemoglobin is replaced by sulphaemoglobin, and the blood assumes a chocolate-brown colour in consequence. The change in the blood may often be recognized by simple transillumination of the ear, but the spectroscope will reveal a characteristic band in the orange-red part of the spectrum between the Frauenhofer lines C and D, extending from λ 610 to λ 625. This band is also characteristic of methaemoglobin, but on the addition of ammonia to the blood the band disappears in the latter case, whereas it remains unchanged in the former. Another point of difference is that if carbon monoxide be passed through the solution of sulphaemoglobin all the bands are shifted towards the blue end of the spectrum, whereas in the case of methaemoglobin solutions no change is produced. These two points serve to differentiate methaemoglobinaemia from sulphaemoglobinaemia. Both diseases are characterized by cyanosis. In methaemoglobinaemia the most marked symptom is the constant occurrence of diarrhoea, as contrasted with the constipation of sulphaemoglobinaemia; in the former, three out of four of the cases recorded have been adult males: whilst in the latter, eight of the nine authentic cases have been females. In sulphaemoglobinaemia the blood counts are practically normal, and there is no evidence of any definite pathological lesion to account for the condition. Dr. Mackenzie Wallis has had the opportunity of investigating four cases of the disease, and he regards it as being of more common occurrence than is generally suspected. On adding a few drops of the sulphaemoglobin blood in one of the cases to normal blood he found that the characteristic change was

produced in the latter, clearly demonstrating the presence of a powerful reducing agent. Cultures from the blood proved negative in all cases, and then attention was directed to the various body secretions and excretions in the hope of obtaining light on the reducing substance. Large quantities of nitrites were found in the saliva, and also in the freshly passed urine. With the help of Dr. Gordon, bacteriological examinations of the patients' saliva were made, and there was isolated a short, oval bacillus, non-motile, and negative to Gram's stain, growing best at 25° C., and inhibited at 37° C. This nitrite-forming bacillus has been isolated from the saliva of all the cases, and has never been found in normal individuals or those suffering from other diseases, and its characters are different from the other nitrosobacilli known. On injection of cultures into the ear vein of rabbits sulphaemoglobinaemia was not produced; probably the organism cannot flourish in the blood stream and produce its effects directly. The author, on theoretical grounds, considers that the bacillus in the buccal cavity produces a reducing substance which, on absorption into the blood stream, brings about a reduction of part of the oxyhaemoglobin, and suggests that the small trace of sulphuretted hydrogen necessary then to produce sulphaemoglobinaemia might be derived from the intestinal tract. The reducing substance in the blood of these cases is possibly of the nature of a hydroxylamine derivative. One of the cases was treated by means of a vaccine prepared from the nitrosobacillus found in the saliva and became perfectly well.

LITERARY NOTES.

IN the JOURNAL of November 22nd, under the head of Literary Notes (p. 1394) mention was made of the jubilee number of the *British Journal of Dermatology* which has just appeared. It was there stated that Dr. J. M. H. MacLeod had been editor since 1904. We are informed that Dr. MacLeod resigned the editorship in 1910. Since then the post has been held by Dr. J. H. Sequeira.

The November issue of the *Prescriber* is a special number dealing exclusively with tuberculin therapy. In addition to original articles by competent writers there is a review of the subject in which the latest references are included and a list of recent books is given. The number presents in a brief compass a vast amount of carefully sifted information of the greatest value to the practitioner. It may be mentioned that the *Prescriber*, though published in Edinburgh, can be obtained from H. K. Lewis, 136, Gower Street, W.C.

The Christmas Number of *Hearth and Home* is beautifully illustrated, and the literary matter excellent and sufficiently varied to suit all tastes. Mr. F. Frankfort Moore contributes a story entitled "The Treasure House"; and Miss May Wynne one called "A King's Secret." Mr. Philip Gibbs writes amusingly on the trials of a novelist; among these is trying to find a plot which has not been utilized a thousand times before, and trying to live outside a debtor's prison while he is striving to write a story on that plot. But his greatest trial is the fear of unwitting libel by drawing characters that are supposed to be "from life." Francis A. Taylor's story "A Grey Dawn," M. C. Ramsay's "The Pley," and Miss Hilda Cowham's "When the Thaw Came," and the little story "The Postscript," by M. M. Oyler, are, each in its way, readable. Interspersed with the fiction are articles on Winter Holidays in Switzerland, on Christmas and Fancy Dress, with suggestions for the costume ball, Gowns and Gossip (by Mrs. Eric de Ridder), on the influence of colour (by Mrs. Talbot Coke), sports for women (by Miss Mabel E. Stringer), Royal Christmas cards, cookery and household management, and motoring and its charms. There is a photogravure supplement, Innocence, exquisitely reproduced from the picture in the Wallace Collection. We congratulate the editor of *Hearth and Home* and all concerned on the result of their labours.

We learn that Mr. Reginald Cory has received the gracious permission of the King to dedicate to His Majesty the work entitled, *The Horticultural Record*, which is to be published next month by Messrs. J. and A. Churchill. It contains 117 coloured plates, reproduced from photographs taken at the Royal International Horticultural Exhibition, 1912, and 67 half-tone plates. Several well-known writers contribute articles on the progress of horticulture since the first International Exhibition in 1866. Mr. Darlington discusses roses, Mr. Farrer writes of Alpine gardens, Mr. Watson of stove plants, Mr. Bean of trees and shrubs, other contributors dealing with separate sections. The book contains the official report of the 1912 exhibition, including the papers contributed to the Science and Education Conference.

Colonel Kenneth Macleod, I.M.S. (ret.) has sent us a reprint of the interesting articles on Sir Walter Scott's Doctors and Quacks, contributed by him to the *Caledonian Medical Journal* in July and October, 1913. Scott's maternal uncle was Professor John Rutherford, a leading member of the medical faculty of the University of Edinburgh in the eighteenth century and a pioneer in clinical instruction. Scott lived largely in a medical atmosphere, for Edinburgh was then the Mecca to which scientific pilgrims and sufferers from obscure diseases came from the ends of the earth. He writes of medical men, as a rule, with respect, and in *The Surgeon's Daughter* he has given in Gideon Gray a very sympathetic picture of the country doctor. Mention is made in the same novel of Scott's friend, Mungo Park, the famous explorer who had been a general practitioner, and who said that having had experience of both ways of life, he "gave the preference to travelling as a discoverer in Africa than wandering by night and day in the wilds of his native land in the capacity of a country medical practitioner." Colonel Macleod gives an account of all the doctors mentioned in Scott's novels. He also refers to the fact that during infancy and often in after-life Scott had need of the ministrations of medical men. *The Bride of Lammermoor* was dictated during the intervals of intellectual lucidity left to him when taking large doses of opium to relieve the agony of gall stone. The nurses introduced in the stories are mostly hags of the Sairey Gamp type. Tender and intelligent nursing by ladies is mentioned in several of the novels, but of course systematic training of nurses did not exist in Scott's day. Colonel Macleod's interesting little pamphlet may be commended to all lovers of the "Wizard of the North."

Dr. Felix Brémond (quoted in the *Journal de Médecine et de Chirurgie Pratique*) refers to the therapeutic use of human saliva at different times. Its applications to the art of healing were never very numerous. It was used externally especially as a remedy for skin diseases, notably eczema, impetigo, and herpes, for simple wounds and superficial ulcers, for small-pox pustules, and even some mild manifestations of leprosy. But it is chiefly as a remedy for the bites of venomous reptiles that human spittle was thought to be valuable. Oribasius, Pliny, Varro, Nicander, Galen, Dioscorides, and many others among the ancients believed that saliva, especially that taken from a fasting man, was a specific against such poisons. Rabelais refers to the subject in the fourth book of Pantagruel. The celebrated natural philosopher, Francesco Redi, made experiments to test the general belief that the mere contact of the saliva killed reptiles, a belief expressed by Lucretius when he said that if one spat on a serpent it became weak, devoured itself, and died. Redi placed six vipers in a basket and during a fortnight poured into their throats the saliva of several men. The animals were none the worse; indeed, it seemed that this new food gave them greater strength and liveliness. The saliva was also believed to be fatal to scorpions. Avicenna taught that the saliva of a fasting man made worms come out of the ears. Pliny states that inflammation of the eyelids was cured by the application of saliva. Tacitus affirms that blindness can be cured by wetting the eyes and cheeks of the blind man with saliva. It is somewhat strange that Dr. Brémond makes no reference to the use made of spittle in the cure of the blind man in the Gospel (St. Mark viii, 22–25):

> And He cometh to Bethsaida; and they bring a blind man unto Him, and besought Him to touch him.
>
> And He took the blind man by the hand, and led him out of the town: and when He had spat on his eyes, and put His hands upon him, He asked him if he saw ought.
>
> And he looked up, and said, I see men as trees, walking.
>
> After that He put *his* hands again upon his eyes, and made him look up: and he was restored, and saw every man clearly.

British Medical Journal.

SATURDAY, NOVEMBER 29TH, 1913.

THE REFORM MOVEMENT AT OXFORD AND CAMBRIDGE.

AT one period—not long past—in the history of the Universities of Oxford and Cambridge, a discussion of any question of reform would have left those concerned with the study of natural science and medicine, as such, cold and unresponsive, for they would have held that the questions involved affected mathematics, philosophy, theology, or classics mainly, though they might have entered with enthusiasm into a discussion as to the place and value of these subjects in a university curriculum. Medicine and natural science then played so small a part in the work of the universities that any question of university reform could have had little interest for medical men. This attitude is no longer tenable, and is not maintained by those interested in medical education, for both Oxford and Cambridge are now the seats of medical schools possessing an importance not to be measured adequately merely by the number of students attending them. At neither school has the clinical portion of the curriculum been greatly developed, though facilities for a more or less complete medical curriculum have for some time past been in existence at both. With the development of the study of the natural and physical sciences, and in proportion to the number of men studying at each university, the application of these sciences to medicine has come to be a very important factor in the work of its students, and it is now recognized that both at Oxford and Cambridge the schools have assumed the function of providing a thoroughly scientific foundation for those students who intend to study and to practise medicine.

"At a university," said Von Humboldt, "knowledge is fermenting in a large number of powerful, active, youthful heads. Its progress is quicker and more lively" (than in an academy of science or art). "In fact, knowledge cannot be communicated as knowledge without being on each occasion actually conceived anew, and it would be incomprehensible if one did not here and there—indeed, often—stumble on discoveries. University teaching, moreover, is not so burdensome as to be an encroachment on the leisure for research; rather does it serve as an aid to it. Moreover, at any great university there are always men who lecture little or not at all, but who study and research in solitude."

In an essay, well conceived and clearly written, which Mr. Tillyard, of St. John's College, Cambridge, published recently,[1] special stress is laid on the teaching functions of the university, and it is with this aspect of the question that the reforms he suggests would deal. He has traced the history of the two universities, showing the method of their development and of the forces that have played a part in moulding the studies in each. He believes thoroughly in the value of the collegiate system, if properly controlled and organized, but he is evidently of opinion that the distinctive features of the university in its professorial and collective work have unfortunately been overshadowed by the colleges; they have, he holds, gradually arrogated to themselves powers and functions which at their foundation were never contemplated by their founders or by the university. He maintains that much of the collegiate work would be better done in larger classes, where there is more spirited competition; he thinks that collegiate work has a great tendency to become repetition and coaching work, and that the larger outlook is lost. It is acknowledged that men in college help to educate one another and to form character, that the personal tutorial influence may be very great, that the tutor may give explanations and help men over difficulties, and generally simplify their studies by personal contact in a way that cannot be done in larger classes. On the other hand, it is maintained that the duplication of prelections on the same subject in different colleges leads to a waste of energy and of influence, and to financial extravagance that keeps the university exceedingly poor. This, of course, is merely a general statement of the views of the author, but those who apply themselves carefully to a perusal of the facts and arguments he has marshalled will rise from their study with a conviction that records and facts justify the author in his conclusion that the whole question of the relations of the colleges to the university and of tutorial instruction to professorial teaching calls for very careful and extended consideration.

It will, we think, be admitted that Mr. Tillyard has made out a case for inquiry, either internal or external. It does not come within his scope to suggest how far the preliminary scientific medical training can be brought into line with the training given in other fields of knowledge; but it is exceedingly interesting to note that at Cambridge there is a gradual removal of the scientific laboratories from the colleges and a concentration of the work in the university schools and laboratories; whilst in Oxford, where the medical and science schools are younger and as yet not so fully developed, some colleges have founded laboratories of their own instead of concentrating their energies and finances on those of the university. Mr. Tillyard evidently believes in the Cambridge plan, and his essay may be heartily recommended to the careful study of old Oxford and Cambridge men; in fact to all who are interested in university education. The author is no laudator of the old at the expense of the new, but he expresses the conviction that the ancient universities have high functions of their own, which can be developed only as time goes on, and then in all probability but partially by most of the newer universities; each of these has come into existence to meet the requirements of a locality rather than the needs of a nation.

[1] *A History of University Reform from 1800 to the Present Time, with suggestions towards a complete scheme for the University of Cambridge.* By A. I. Tillyard, M.A., St. John's College, Cambridge. Cambridge: W. Heffer and Sons, Ltd. 1913. (Demy 8vo, pp. 408. 10s. net.)

THE ETIOLOGY OF PELLAGRA.

AT the eighth meeting of the Italian Pathological Society, held in Pisa last spring, Professor A. Perroncito of Pavia presented an excellent summary[1] of the views at present held as to the etiology of pellagra, dividing them into three main classes—the zeistic, the toxic-zeistic, and the parasitic.

The zeistic theories suppose that pellagra is due to poisoning by maize (*Zea mais*). Lussana, Strambio,

[1] *Lo Sperimentale*, Florence, 1913, lxvii, suppl. al Fasc. iv, 94–142.

and Albertoni held that the patients were underfed, and hence developed pellagra. This view, however, does not explain cases of pellagra appearing in persons with a demonstrably adequate diet, nor the absence of pellagra in underfed communities that do not consume maize, nor the periodicity of pellagra; though it must be admitted that an exclusive or semi-exclusive diet of maize is inadequate (Tullio), and that pellagra increases or diminishes in proportion as the economic condition of a district gets worse or better. The argument that pellagra is absent from many of the poorest districts of Italy seems unanswerable. It was suggested by Zuntz that sound maize contained toxic substances, and so might give rise to pellagra. Experiments made upon animals have shown in some cases that sound maize alone cannot keep them in health; acute and chronic gastro-enteritis and loss of hair may occur in guinea-pigs, but rats did well for as long a period as a year, whether the maize they were given was sound or not. Rabbits gave results similar to those obtained with guinea-pigs. But in the case of man, several Italian workers have found that grave changes in the metabolism are not characteristic of pellagra; sound maize does contain toxic substances, but their relation to pellagra is not yet known. A toxic theory of pellagra would not explain the epidemiological facts—why pellagra is distributed irregularly about districts with a uniform consumption of maize; why pellagra is worse in spring and shows periodicity; why the patients may relapse years after giving up maize. A recent theory enunciated by Aschoff, Haussmann, Horbaczewsky, Raubitschek, and others, supposes that it is a photodynamic disease; the fatty and colouring matters of maize are believed to sensitize the tissues to the action of light, and so to give rise to the skin eruptions. This theory lacks support, and would not explain the common occurrence of new cases in February and March, when the sun's rays are weak. De Giaxa and others have found that *Bacillus coli communis* acquires particularly toxic and virulent properties in the intestines of animals fed on maize; if the animals die, death is due to the absorption of these toxins from their intestines. But these experiments do not prove that pellagra is due to *B. coli* intoxication, though, of course, it may be a factor in the disease.

According to the toxic-zeistic theory originated by Sette and Balardini, and now associated with the name of C. Lombroso, pellagra is the effect of an intoxication by poisons developed from spoilt maize by the action of bacteria that are in themselves harmless to man. The general facts in support of some such theory are as follows: Pellagra appears, not in proportion as the use of maize extends, but in proportion as the maize used is injured by damp; the similarity between pellagra and other intoxications (for example, by lead, arsenic, alcohol); the fact that a disease similar to pellagra can be produced in animals by the use of extracts of spoilt maize; the evidence pointing to an intoxication of the cerebro-spinal and sympathetic nervous systems in pellagra; the possibility of controlling pellagra by preventing the consumption of spoilt maize, and of curing it by substituting good maize for bad. Lombroso himself has seen places in which spoilt maize was consumed but no pellagra occurred, and Perroncito states that it is extremely difficult to obtain trustworthy and full statistics of the prevalence of pellagra. It appears that spoilt maize is spoiled by infection with the hyphomycete *Penicillium glaucum*. Lombroso claimed to have produced a mild pellagra in twelve persons given alcoholic extract of spoilt maize for ten to thirty days. But a scientific commission appointed to control his observations was unable to agree that his experimentally produced disease was pellagra. Lombroso then began experiments with extracts of putrefied maize, isolating a particularly active substance which he called pellagrozein, an alkaloid, which produced in animals a disease like pellagra. But no man eats putrid maize, and the toxin is so weak that not less than 90 kilograms of putrid maize, at one meal, would be required to produce toxic symptoms. Perroncito concludes that Lombroso's work has been an "admirable humanitarian apostolate," but has not proved that pellagra is due to spoilt maize. The view that spoilt maize might carry with it into the intestine microbes that would there develop toxins and so cause pellagra has been worked out by Monti, Tirelli, Pellizzi, Gosio, and others; *Penicillium glaucum* in particular has been indicated, and the toxin has been thought to be a phenol—possibly parahydrocumaric acid, $C_9H_{10}O_3$. But none of the work has proved that any connexion actually exists between pellagra and poisoning by the products of these bacteria or fungi. Antonini and Mariani have found the serum of pellagrous persons unusually toxic to animals; while the serum of a person cured of pellagra was found to contain an antibody neutralizing the toxicity of such serums. Volpino has shown that the pellagrous show a marked reaction of hypersensibility when injected with watery extract of spoilt maize, while normal persons do not; Volpino calls the active substance "pellagrogenin." At first he found that similar extracts of sound maize produced no such reaction in the pellagrous; recently, however, he has found the opposite. At the present time all efforts to find precipitin reactions or deviation of complement in pellagra have failed.

Of the parasitic theories, Perroncito considers in detail only those of Ceni, Tizzoni, Sambon, and Alessandrini. Ceni believes that pellagra is an infection with *Aspergillus fumigatus* or *A. flavescens*, or, rarely, with both; later he added *Penicillium glaucum* to the list as especially active in the chronic cases of pellagra. The fungi form spores in the intestine; these spores travel to various tissues—pleura, meninges, pericardium, lungs—and there produce toxins that cause pellagra. Maize free from these aspergilli does not produce pellagra. Ceni produces no evidence for this migration of spores about the body, and it is hard to understand how spores could produce large amounts of toxins; in his earlier work he grew the spores from the tissues of 42 out of 50 autopsied patients, but he now pays little attention to this line of research. His toxin, again, is a very feebly toxic substance.

Tizzoni attributes the disease to the pleomorphic *Streptobacillus pellagrae*, which he has described in detail; he finds it in the circulating blood (taking 10 c.cm.) of pellagrous patients, in the faeces of chronic cases, in spoilt maize, and, recently, in the milk of a pellagrous woman. It is pathogenic to various kinds of animals. It is a highly polymorphic microbe, and its unity has been denied by Bravetta. Perroncito failed to find it in the blood of 20 severe cases of pellagra, and other investigators have been equally unsuccessful. It appears to produce no immunity reactions in the pellagrous. Recently Tizzoni has come to the conclusion that his streptobacillus is a pleomorphic form of a fungus, perhaps an actinomyces. The researches of Sambon, conducted in Italy and other countries, have led him to conclude that maize has nothing to do with

pellagra; that pellagra has a definite topographical distribution; that its endemic foci may remain unaltered for at least a century, and are closely connected with running water; and that a blood-sucking insect (*Simulium*) probably conveys it. At one time he thought the parasite might be a trypanosome, later an ultramicroscopic virus. Perroncito gives the *pros* and *cons* here at some length. He estimates that from 90 to 99 per cent. of the pellagrous feed mainly on maize, and considers it impossible to exclude maize from the possible causes of pellagra: he states that pellagra undoubtedly occurs in the absence of running water and in places where *Simulium* is not to be found.

He believes that Sambon's views may be correct; but that as the parasite itself is still unknown to us, and the position of its carrier, *Simulium*, is still unproven, no more definite judgement can be passed upon them at present. The view of Alessandrini is that pellagra is due to an infecting agent in drinking water; he says that pellagra is absent where clear running water is drunk, present where standing or stagnant water is consumed, and disappears or extends in proportion to the care or want of care shown in safeguarding the water supply. He concludes that the infecting agent is neither bacterial nor protozoan, and has no intermediate host, but is a filaria; he has found larvae of the filaria in stagnant waters, and filarial ova in the skin of pellagrous patients. But Fratini and others have tried without success to trace any connexion between drinking water and pellagra in various parts of Italy. Again, the filariae are generally considered to be obligatory parasites, and to have an intermediate host; and Perroncito himself has for five years been looking for objects like their ova in the tissues of pellagrous patients, but never with success. Quite recently Long has attributed pellagra to an infection of the intestine by an amoeba.

Perroncito concludes his report by saying that destructive criticism has been his chief function in its composition. He points out that the present successful legislation against pellagra has been based on the toxic-zeistic theories, and that there can be no doubt about the toxicity of spoilt maize. A maize diet and poverty are, he considers, two of the most important factors in the etiology of pellagra: the disappearance of poverty (*miseria*) brings about the disappearance of pellagra.

THE ASYLUM SERVICE.

A MEETING of assistant medical officers of the public asylums in the Midlands of England was held in Birmingham on November 18th, when, in view of the widespread dissatisfaction owing to the disabilities under which assistant medical officers laboured, it was resolved to form an Association of Assistant Medical Officers of the Midlands of England for the protection of their interests. A provisional committee was appointed and a guarantee fund of £100 raised. Dr. F. J. Stuart, Berry Wood, Northampton, undertook to act as provisional secretary, and it was arranged to hold meetings of assistant medical officers in other parts of the country. The arrangements at present made are that a meeting of assistant medical officers in the North of England and North Wales shall be held at the Midland Hotel, Manchester, on Wednesday next, December 3rd; another for the officers of the West of England and South Wales at the Royal Hotel, Bristol, on Thursday, December 4th; and a third for London and the South-East of England at the Westminster Palace Hotel, London, on Friday, December 5th. All the meetings will begin at 3 p.m.

Two years ago the Medico-Psychological Association of Great Britain and Ireland appointed a special committee to consider the status of psychiatry as a profession in the United Kingdom and the reforms necessary in the education and conditions of service of assistant medical officers. In October last the committee of the Durham County Asylum, as was noted in our columns at the time, sent a circular letter to the county asylums authorities of England suggesting that a conference of representatives of these authorities should be held to discuss the present position of the asylum medical service and to formulate a scheme for its improvement. The circular letter made reference to the difficulty experienced in obtaining medical men to fill the junior branches of the asylum medical service, and pointed out that this difficulty might be attributed to the greater attractiveness of the public health, school, and tuberculosis medical services. In commenting on the matter at the time we observed that, if a proper class of medical men was to be obtained for the asylum service, it was necessary that the conditions should be such as to ensure to every member of it "freedom to live a normal life, with opportunities for making himself efficient in his specialty, and of advancing our knowledge of it, and with a reasonable prospect of attaining a position of greater freedom and responsibility when he has proved himself worthy of promotion." Shortly after this article was published, the interim report of the special committee of the Medico-Psychological Association was issued in the *Journal of Mental Science*. The annual meeting of the Medico-Psychological Association, after discussing the report, directed that copies should be forwarded to the Lord Chancellor, the Home Secretary, the Lord Chancellor's Visitors, the Commissioners in Lunacy, and the governing bodies of asylums, licensed houses, and registered hospitals.

The report was divided into three parts, in each of which the conditions in this country were contrasted with the methods adopted in other countries. The first part of the report dealt with the absence of proper provision for the early treatment of incipient and undeveloped cases of mental disorder; the second with the inadequacy of the facilities available in this country for the study of psychiatry and for research; and the third with the unsatisfactory position of assistant medical officers in respect to professional status, the prospects of a career, and the conditions of asylum service. In this third part of the report it is observed that the appointments in this country are made by lay committees, which, though genuinely desirous to appoint the best candidate, are in most cases without expert advice, and without adequate knowledge of the factors involved, so that their action has generally been haphazard, and often dependent upon considerations having little relation to the actual claims and qualifications of the candidate. The report stated that there was no general standard of requirements for candidates, but during the discussion it was noted as a favourable omen that candidates were now presenting themselves who had obtained the special diploma. The Committee reported that with comparatively few exceptions a junior medical officer obtained promotion only in the asylum in which he began his work, and that in many asylums promotion was altogether arrested by the failure of the seniors to get appointments elsewhere. In Germany, France, and America

State services exist, and the facilities for interchange between the various asylums is therefore considerably greater than in this country. In France appointments to the lunacy service are made after examination, and further examinations must be passed before promotion. In Germany, where a satisfactory examination in psychiatry must be passed in order to obtain a degree in medicine, appointments to the asylum service are made without further training or examination, but an assistant physician receives a higher initial salary if he has had post-graduate training in a clinic; medical officers are appointed in the first place for a probationary period of one to three years, and only become members of the regular staff if their work has been satisfactory.

In dealing with the lack of attractive posts in this country, the report stated that only a minority of those who entered the service could hope to reach the position of superintendent, and that there were very few well-paid appointments available for those specially qualified to carry on scientific investigation and research. The ratio of the salary of a senior assistant medical officer to that of the superintendent is generally low; he is frequently forbidden to marry, and has but little autonomy and independence. In many countries the senior assistant medical officer has a considerable degree of autonomy and independence, and the ratio of his salary to that of the superintendent is high—5 to 7 in some asylums in Germany. In America from one-half to one-third of all assistant medical officers are married. In Germany marriage is generally permitted after the period of probation has been passed, and if a house is not provided on the asylum estate the medical officer is allowed to live out. In 104 German asylums with a total medical staff of 636, married quarters are provided for 320 men, and 222 are actually married. Finally the report dwelt on the tendency of routine to kill enthusiasm, since the promotion or advancement of a medical officer depends very little upon his knowledge of psychiatry, and the work assigned to junior medical officers is "in the majority of cases monotonous, uninteresting, and without adequate responsibility." In Germany junior medical officers are expected to take up some particular line of study in addition to their routine work, and special study leave—often with financial assistance—is given. The prospects of promotion are influenced by their energy and success in such work.

The genesis of the report clearly shows that the medical superintendents of lunatic asylums in this country are in sympathy with the aspirations of assistant medical officers, and further evidence of this is afforded by the fact that Dr. Bedford Pierce, medical superintendent of the Retreat, York, who is chairman of the committee, has expressed his satisfaction at learning that meetings of assistant medical officers of public asylums are being held to discuss the problem.

A more severe indictment of the existing system than is contained in this report it would be difficult to frame, for its concluding words are that the existing system "leads to the stunting of ambition and a gradual loss of interest in scientific medicine, and it tends to produce a deteriorating effect upon those who remain long in the service." We can add nothing to this strongly worded condemnation except an expression of agreement with the opinion that the statement of facts submitted demands the earnest attention of public authorities and all interested in the welfare of the insane.

THE SPECIAL REPRESENTATIVE MEETING.

The business of the Special Representative Meeting which is to meet in London on Thursday next, December 4th, is mainly financial. Before the last reorganization the annual receipts of the British Medical Association showed a very substantial balance over expenditure. The savings accumulated year by year amounted in 1902 to the substantial reserve of £92,000, practically all invested in the valuable freehold site at the corner of Agar Street, in the Strand. In that year the members of the Association decided greatly to increase their political activities. A number of standing committees were called into existence, and a Medical Secretary with a clerical staff appointed. This had a two-fold effect on the financial position of the Association: it added materially to its annual expenditure, and it was found necessary to provide larger office accommodation for the committees and the staff of the new department. This was done at a cost of about £45,000 by pulling down the old premises, which consisted of one large house in the Strand and four small houses adjoining in the side street, and erecting on the site thus cleared an entirely new building, part of which has been let off. It was expected that these increased activities would bring a large accession of members, and this expectation was to a considerable extent fulfilled; but experience proved that expenditure increased still more rapidly. The receipts in 1902 amounted to £45,000, and the expenditure to £40,500, affording a surplus of £4,500. Had a surplus of about this amount been obtained in subsequent years the Association would have been in a position to pay off the whole debt on the new buildings within the next five years or so. But in 1910—that is to say, before the Insurance Bill was introduced—the annual surplus was only £2,000, and, having regard to the debt of £45,000 to the bank, the position even at that time caused anxiety to the Treasurer and to the Council. With the introduction of the Insurance Bill and all that it entailed expenditure went up by leaps and bounds, so that the expenditure of the Association in 1912 was £81,800—more than double what it was in 1902—while the actual income was only £66,000. This deficit of nearly £16,000 was met as to £7,000 by a vote from the Insurance Defence Fund, and as to the remaining £9,000 by trenching on the reserve. It is quite clear that this cannot go on. Something must be done, and the alternatives are a diminution of activities or an increase of income. It had been hoped that the balance might be adjusted by the practice of rigid economies without any diminution of activities. The enthusiastic labour of two industrious special committees appointed for this purpose and the solicitous care of the Treasurer have not been without fruit, but their efforts to attain a satisfactory equipoise in this way have been frustrated by political events and by the demands of members expressed in the Divisions and through the Representative Body for yet greater efforts, and more efficient and extensive organization, demands which all necessarily imply expenditure. The Annual Representative Meeting decided by the requisite two-thirds majority that the time had arrived when the annual subscription should be raised, and after some alternative sums had been mentioned, it decided that the annual subscription should be raised to 2 guineas, but that the change should apply only to members resident in the British Isles. In some of the Dominions members already pay a higher subscription than home members. The decision of the Annual Representative Meeting involves an alteration in the by-laws, and the primary reason for calling the Special Representative Meeting next week is to discuss and, if approved, to adopt a new by-law fixing the annual subscription for members residing in the British Islands at two guineas. At the Annual Representative Meeting a report of the State Sickness Insurance

Committee was presented by the Council recommending the establishment of a fund for the better organization of the medical profession, and for the provision to members of that fund of certain insurance advantages. The meeting decided not to take any decisive action until the scheme had again been submitted to the Divisions; the proposal, and an alternative scheme, were published in the SUPPLEMENT for November 1st, and will also be submitted to the Special Representative Meeting. The third topic for its consideration is a report by the Council on various matters relating to the Insurance Act (SUPPLEMENT, November 1st, p. 367). The main recommendations have reference to medical referees, the unallocated funds, the means to be taken to check the extension of medical aid institutions, and the promotion of the interests of members who have not entered into agreements with Insurance Committees. The Annual Representative Meeting at Brighton instructed the Council to take the steps necessary to obtain an extension of the Memorandum of the present company to include the power of borrowing money on mortgage or otherwise. This is desired because such power would give the Association the means of obtaining money—for instance, by debentures—at a rate of interest much more favourable than through a loan from the bank. The Council has accordingly taken the opportunity of the Special Representative Meeting to hold the first of the two statutory general meetings required to approve the necessary alteration of the Memorandum. The notice convening this meeting was published in the SUPPLEMENT of November 22nd.

LEPROSY IN LONDON.

EVERY now and again there appears in the newspaper the alarming headline "Leprosy in London." Some years ago there was a great scare, and meetings were held and funds collected, all because one leper had been discovered by some enterprising reporter. An article appeared in one of the leading monthly magazines with the blood-curdling title—insisted upon by the editor in spite of the strong remonstrances of the author—"The Dreadful Revival of Leprosy." People know better now, and they bear with equanimity the announcement that there are at the present moment some fifty lepers in England, and that there are generally one or two among the out-patients attending the dermatological departments of the various London hospitals. Dr. Bayon, in the interesting address delivered before the Royal Society of Medicine on November 20th, which is published at page 1420, states that of all these patients only one has contracted the disease in the United Kingdom. But if lepers in this country are a practically negligible quantity, there is a very large number in different parts of the British Empire. In India the last census showed that there had been an increase from 100,000 to 110,000 in ten years. Things are still more serious in Africa. According to Dr. Bayon, twenty-five years ago the principal medical officer counted 300 in Basutoland alone. He foretold that unless segregation was enforced the number would be doubled within twenty years. It may be remembered that some years ago a strong protest against segregation, with special reference to South Africa, was made by a man of deserved eminence, whose mind was in the thrall of a theory as to the origin of leprosy, in which contagion was practically excluded as a factor in its production. His teaching on the subject, which was not accepted by the members of the profession who had the largest opportunities of knowing how the disease spread, naturally commended itself to the official mind, which tends to place considerations of finance before all others. At any rate, the advice of the principal medical officer of Basutoland was not acted upon, and his prophecy was more than fulfilled, the census of last year showing that there were 800 to 900 lepers in that district. This might have been foreseen, for it is a matter of history that the abandonment of segregation which followed the report of the London College of Physicians in 1867, in which the theory of contagion was rejected, was followed by a great increase in the number of lepers in our tropical and subtropical colonies. Although the disease is contagious, however, it does not follow that the existence of a few lepers in a country, or even in a town, is likely to spread the taint through the community. As Dr. Bayon puts it, "The modern medical eye looks upon leprosy as a disease which is definitely contagious, though under proper sanitary conditions to a very slight degree." As such conditions often cannot be enforced, the safety of the people demands segregation of lepers. This is necessary in the interest of the sufferers themselves, for, as Dr. Bayon points out, it is only in properly constructed and conducted asylums that lepers can be cared for in a satisfactory way. When large numbers have to be dealt with, as in India, settlements for the voluntary segregation of the worst cases should be instituted; where the numbers are relatively small, as in some of our colonies and dependencies, universal segregation should be enforced. In a lecture relating chiefly to the work done in the leper settlement on Robben Island, not far from Capetown, delivered at the house of the Hon. Mrs. Franklin on November 19th, Dr. Bayon said the Union Government had voted £150,000 to provide the settlement with laboratories for research work in regard to leprosy. Sir Malcolm Morris, who presided on the occasion, spoke of the pitiable condition of some lepers in London who found it difficult to find a place where to lay their heads. Moved by the unkindness with which they were treated, some benevolent persons proposed to establish a small institution where lepers could be segregated and properly looked after. The scheme, said Sir Malcolm Morris, had to be carried out in secrecy, for if it became known abroad that there was a comfortable home for such cases in London, there would be an influx of lepers from the colonies and from foreign countries. He thought it would be better to provide an institution for the treatment not only of leprosy but of other chronic diseases of a similar kind. In the discussion on Dr. Bayon's paper at the Royal Society of Medicine, Dr. Phineas Abraham agreed with Sir Malcolm Morris as to the danger of lepers from abroad being attracted by such a home as it was proposed to establish. He thought it should be an institution where every disfiguring disease of the skin would be dealt with. It seems to us that, leaving out of consideration the intention of the founders—which must, of course, be taken into account—a mixed institution of the kind suggested would be a standing negation of the idea of contagion on which the case for segregation rests. Disfiguring skin diseases do not cause the same horror as leprosy, which is "a name of fear." In the existing state of public opinion it is doubtful whether sufferers from skin affections, however disfiguring, would accept shelter under the same roof with lepers. And if they did, it cannot be denied that there would, at any rate, be some risk of their acquiring leprosy, and as they could not be compelled to stay in the home, it is conceivable that they might spread the disease outside.

ANTIMONY IN SYPHILIS.

WHILE most investigators in chemotherapy have devoted their attention to compounds of arsenic, the claims of other drugs have perhaps been somewhat neglected. It is, therefore, interesting to notice recent research with antimony, a drug with certain chemical resemblances to arsenic. Not long ago Neisser suggested that it might possibly be of value in syphilis. Tsuzuki[1] conceived the idea of replacing the arsenic of salvarsan by antimony, and the benzol ring by tartaric acid, a substance which is well known to have affinities for certain bacteria, and

[1] *Deut. med. Woch.*, 1913, p. 985.

even to act as a nutrient medium for them. According to Ehrlich, the action of salvarsan on the spirochaete is due to the presence of (OH) groups which combine with the corresponding haptophore groups of the parasites. Tartaric acid also contains (OH) groups which may act in the same way. Hence, according to Tsuzuki, the action of these antimonial compounds may be explained on the basis of Ehrlich's side-chain theory. After experimenting with several compounds on rabbits inoculated with syphilis, Tsuzuki found that the best results were obtained with a combination of antimony oxide with potassium bitartrate and ammonium—$SbO\ (C_4H_4O_6)_2\ K\ (NH_4)_2\ H_2O$—to which he gave the name of "antiluetin." This substance was then tried in human syphilis with remarkable results. Details of 10 cases are reported, including primary, secondary, gummatous, and cerebral syphilis, in all of which the symptoms were greatly improved or disappeared. In several cases a cure was obtained with antiluetin after energetic treatment with mercury and iodide had failed, and one case of gumma which recurred after salvarsan treatment was treated by antiluetin. In a case of syphilitic optic atrophy the sight was improved. The drug is given by subcutaneous injection between the shoulders. The initial dose is 0.025 gram, soon increased to 0.05 gram, given daily or every other day until a total of 0.15 to 0.3 gram has been reached. If this is well borne, a further series is given. The dose required for *therapia sterilisans magna* is estimated at 0.75 gram. Tsuzuki concludes that antiluetin is a powerful antisyphilitic remedy, but that the best results are obtained when it is combined with mercury and iodides. Further experience with this new remedy will be awaited with interest, for, since antimony is less toxic than arsenic, it is not impossible that salvarsan may be dethroned by antiluetin.

BOVINE AND HUMAN TUBERCLE BACILLI.

PROFESSOR LYDIA RABINOWITSCH and Dr. Carl Dammann have published a report on recent work in continuation of the researches in which the former has been engaged for many years.[1] They collected specimens of sputum in 33 cases of adult tuberculosis, lung material from 5 further cases of adult tuberculosis, glands from 2 cases of tuberculosis in children, scrofulous glands from 18 other children, and material from one case of tuberculous peritonitis, and one case of primary intestinal tuberculosis. In each case the bacilli were cultivated on various media, and also injected into guinea-pigs, rabbits, and calves, and the strains carefully studied. All those derived from the sputum in the adult cases of pulmonary tuberculosis proved to be of human origin, and material obtained *post mortem* from pulmonary cavities yielded the same result. On the other hand, of the 18 bacilli from glands 12 proved to be human in origin, 5 bovine, and 1 was not typical of either form. The bacilli derived from the case of tuberculous peritonitis proved to be bovine, as did those from the case of primary intestinal tuberculosis. It thus appears that 11.66 per cent. of the sixty strains were bovine, while if the cases of children alone were taken into account the percentage was 29. The extraordinary care and accuracy which have always characterized the work of Professor Rabinowitsch are obvious again in this article, and even if the results did not coincide with those obtained by many British and Continental observers, including the Royal Commission on Tuberculosis, the facts as presented by these two capable research students would have to be accepted. As it is, few will be found to quarrel either with the way in which experimental results are stated, or with the important deduction that bovine bacilli are a real danger to children. In the prophylaxis of tuberculosis among the young, measures to prevent infection through cow's milk must therefore be given a prominent place. The two authors appear to consider it necessary to pasteurize children's milk or to kill the bacilli which it may contain by heat in some other way, but they do not discuss the wider question of the detection of infected milk and its exclusion from the market altogether, although, in the concluding sentence of their report, they say that the facts recorded show the imperative necessity of taking every means to prevent the infection of human beings with bovine bacilli.

[1] *Zeitschrift für Tuberkulose*, vol. xxi, Parts 1 and 2, 1913.

EUTHANASIA.

Is it ever right to release one hopelessly stricken by disease or injury from his suffering by what has been called "merciful murder"? From time to time we are told that this is a duty which a doctor owes a patient in agony which cannot be relieved by art. The question has often been discussed in the BRITISH MEDICAL JOURNAL,[1] and the view has consistently been maintained that the doctor must act in the spirit of the Hippocratic oath, and must in no circumstances give "deadly medicine to any one, even if asked, nor suggest any such counsel." Only the other day an unfortunate lady was pinned under the wreckage of the Marseilles express at Melun for eight hours before death—for which she asked—brought her relief. The case has again brought up the subject of euthanasia. The views expressed in reply to a question by the *Daily Mirror* showed a remarkable difference of opinion between medical men and others. Sir Frederick Treves declared that the idea of destroying human life in order to end suffering is monstrous and unjustifiable. Sir James Crichton Browne's reply was to the same effect. The reply of a surgeon whose name is not mentioned goes to the root of the matter, and we therefore quote it: "It is a problem in which a very strong line must be drawn. Directly you waver in the least and admit justification, even in the most harrowing cases, you are on the way to creating an abuse which would be intolerable to a Christian world." On the other hand, it is remarkable that clergymen seem to hold human life less sacred than doctors. In reply to the same question, Archdeacon Sinclair telegraphed, "Anaesthetics quite legitimate." Bishop Welldon said, "There are circumstances that may excuse the violation of this rule" (of not abandoning life). The Rev. Percy Dearmer, D.D., speaks with a somewhat uncertain sound. He thinks it "a pity that in many hopeless cases, where much pain is endured by a patient, doctors should do their utmost to prolong the patient's existence, although of course it is their first duty to prolong life." His wife has a more decided opinion on the subject. She holds that "if the poor woman could not possibly have lived it would have been best for a doctor to have helped her out of her pain instead of letting her slowly die in torture." The Rev. C. H. Grundy, vicar of St. Peter's, Brockley, said: "If two doctors agreed that the case was hopeless, and that the poor woman was suffering indescribable pain, then merciful release should have been given to her and death might be hastened." Mr. William Archer thinks the medical man should be given the power to grant a patient's request for painless death if it is practically certain that he has no chance of recovery or being rescued. Mr. Sydney Holland would wish to be put to death if he were in such a position. Preferably he would ask a doctor to end his sufferings, stipulating that an anaesthetic should be used. He does not consider that his act would be morally wrong. But, we ask, has the doctor no moral responsibility in the matter? That is the question. It may be added that a bill making euthanasia with proper safeguards legal was before the German Reichstag some months ago. As far as we know it has been relegated to the limbo of proposals which never succeed in breaking through the *fatu aspera* of legislative parturition.

[1] See particularly BRITISH MEDICAL JOURNAL, June 11th, 1904; March 17th, 1906; and November 4th, 1911.

MEDICAL REMUNERATION AND THE SPECIAL PARLIAMENTARY GRANT.

In the address delivered at Glasgow by Dr. Cox, the Medical Secretary, which is reported in the Supplement for this week, he mentions the fact that the amount of the special parliamentary grant for medical benefit arranged about a year ago was only fixed for three years. The Chancellor of the Exchequer, in his address to the Advisory Committee on October 23rd, 1912, said that he considered a year's experiment would be useless, and that, therefore, the financial arrangements would be made for three years; at the end of that period the whole position would, he said, be reconsidered. When in 1915 the matter comes up again two distinct but closely allied considerations will undoubtedly weigh with Parliament, and may influence the Government and the Commissioners even before then: First, is the present medical service of the insured worth the money spent on it, looked at from the general standpoint, or could a better service be provided for the same amount? and, secondly, are the panel practitioners receiving too much or too little for the work which they actually do for the insured? Leaving aside the first question for the present, it must be obvious that the answer to the second question will depend very largely on the statistics furnished by the doctors themselves. It would be grossly unfair to take instances in which panel practitioners are said to be making as much as £1,500 a year from fees received for the insured, and to argue from such cases that the doctors are making fortunes out of the insurance, and are in fact too highly paid. Such instances, if they occur, are exceptional, and taking Mr. Churchill's figures (Supplement, November 22nd, 1913, p. 453) it would appear that the average number of insured persons to each panel doctor is 685, and that the average annual payment to each panel doctor must be a little over £200. In this connexion an average has some value, though it is not possible to fix a uniform number of patients and to say that no practitioner can give adequate medical and surgical attention to any greater number, for much depends on the personal equation of the doctor, the character of the district in which the patients reside, and numerous other factors. Taking instances in which a practitioner has only as many patients as he can attend to properly and efficiently, or fewer, which must be the most general case, the question which the Government and the Commissioners will have to decide in 1915 will be, Is the present medical remuneration adequate to ensure good work, taking into account the altered conditions under the Insurance Act? The reply to this question will depend largely on statistics founded on the records kept by the panel practitioners themselves, showing the average number of attendances required by each insured person on the list. It has been urged as an objection to the capitation system that when a doctor receives an annual fee for every person on his list, whether well or ill, he is tempted to give as few attendances as possible to each patient that applies for treatment. The customs and traditions of the profession safeguard the individual practitioner from yielding to any such temptation; and, as a matter of experience, the smallness of the number of cases in which charges of neglect have been proved is evidence that the work is being done conscientiously. But we have a right to accept the objection so far as it lends support to the presumption that under a capitation system, at any rate, no unnecessary attendances are likely to be given or recorded. There are indeed, as we have pointed out more than once, grounds to fear that the records may seriously understate the work done. From various sources the statement comes that the panel practitioners are not very careful to enter up every attendance actually rendered. The impolicy and folly of such carelessness are evident. It is futile to chafe against the trouble of keeping records as if they were only for the benefit of statisticians. It is most directly to the personal interest of every practitioner that his records of work done should be full and accurate, and that every attendance should be marked on the record card. In no other way is it possible for the Government and the Commissioners to judge whether the profession is properly paid, and Dr. Cox's remarks on this point deserve most careful attention. It must not be forgotten, also, that the approved societies have a voice in the matter of medical remuneration. At the beginning of every year each approved society in a district has to enter into an agreement with the Insurance Committee as to the amount which shall be contributed to the committee out of the society's credit with the Commissioners for the medical benefit of its members, though if the Committee and the society cannot agree, the Commissioners may decide the amount. In order that every Committee and every society should not be compelled to draw up a separate agreement, the Commissioners issued a model. But the agreements are only for one year, and may be altered any year. The amount was fixed partly, no doubt, because of the insistent demands of the British Medical Association, but partly because it was believed that the societies would be able reasonably to afford the sum if the sickness claims did not greatly exceed the actuarial expectations. But many of the societies are now complaining that up to the present the sickness claims have shown a great increase, for which they are inclined to attach some blame to the doctors. The Friendly Societies Act, 1896, requires an annual audit of the accounts of the societies, and under the Insurance Act a complete valuation must be made every three years from the commencement of the Act so far as the State insurance section of the society is concerned; for the purpose of this valuation the Commissioners have to draw up tables from which the average sickness expectation can be calculated. It may be only a coincidence, but it is to be observed that the first valuation of the societies will take place at about the same time as the special parliamentary grant for medical benefit comes up for reconsideration. Already a large number of societies are anticipating the result of the first annual audit, depending on the experience of the first six months' working of the Act, and are asserting freely that with the present sickness rate they cannot afford to continue to pay the full amount towards the doctors' capitation fees, and that if they were left to administer medical benefit themselves they could do it for considerably less. They are, in fact, already working up their case, in view of the first triennial valuation and the revision of the parliamentary grant. If by any chance a society shows a surplus on valuation, the demand will probably be for medical attendance on dependants as an additional benefit, the cost of which, unless a special State grant is obtained, would fall entirely on the private funds of the societies. On the other hand, if the valuation shows a deficit, there will have to be either a levy on the members, or an increase of contributions, or a reduction of sickness benefit, or some other method of economizing approved by the Commissioners must be found. Among these methods will undoubtedly be an attempt to reduce the amount now contributed by the societies to the doctors. It will be said that increased sickness claims do not mean increased work done by the doctors, but only a greater readiness to grant sickness certificates. It might indeed happen that though the present parliamentary grant of 2s. 6d. was retained or even increased, yet the increase might be more than counterbalanced if the societies on their side succeeded in lessening their contribution. The whole attention of Parliament, the Government, the Commissioners, the societies, and the public generally, will be focussed on the records of work done as recorded by the doctors themselves. If the records are imperfectly kept, and actual attendances

omitted through carelessness, the profession will be throwing away its own case. So important is this matter that every Local Medical Committee and Panel Committee ought to make it its business to see that every panel practitioner keeps his records fully and properly, as the whole profession may suffer through the carelessness of a minority.

TUBERCULOSIS IN AN AMERICAN ARMY HOSPITAL

STATISTICS of the results of treatment of tuberculosis in civil hospitals and sanatoriums have been lavishly supplied of late years, and a certain uniformity is to be noticed amongst them, generally showing a very high percentage of recovery among incipient cases, but not as a rule affording much evidence of the duration of freedom from relapse. Attempts have been made to record "completed cases" by the medical authorities of the United States Army, and we gather, from the reports for 1911 and 1912, issued by the medical officer in charge of the General Hospital at Fort Bayard, in New Mexico,[1] that a large number of consumptive soldiers are treated in that institution, and that the results are by no means so encouraging as they would appear to be in the civil hospitals to which we have referred. Although classed as "completed," such cases can hardly be regarded as permanently cured. By far the larger number of the patients were young adults under 30, and in many instances the disease was complicated by other than pulmonary manifestations. The hospital itself is an extensive establishment, standing in 40 acres of ground, and providing its own farm and vegetable needs. The latitude of New Mexico corresponds roughly with that of Cairo. Some light is thrown upon the difficulties with which the United States army medical officers have to contend in dealing with early tuberculosis. It would appear that discharge on account of early tuberculous disease entitles the young soldier to a pension, and this often leads to abuse, calling for more than ordinary care in the preliminary diagnosis. Furthermore, there is no power of compulsory detention, so that the careless patient is free to undo all the good that he has received at the hands of the State officials; and when hopelessly broken down by his own want of caution, he becomes entitled to admission to another department of the hospital —the Soldiers' Home—where in many instances he remains, until his case is indeed "completed."

THE INSURANCE DIFFICULTY IN GERMANY.

A VERY disagreeable impression has been produced in Berlin by an incident which came to light at a meeting of the *Aerztekammer* for the province of Brandenburg and the city of Berlin on November 15th. The business of the meeting included the presentation of a draft embodying certain principles which the chairman, Dr. Moll, hoped would prevent, or at all events minimize, conflicts between the advisory doctors to the insurance societies and the doctors who would take service for the societies after January 1st. It was proposed that all contracts should be submitted to the Contract Committee for approval before being signed by the doctors, and it was stated that this committee would not approve the contracts with the General Insurance Society of Berlin (Allgemeinen Ortskrankenkasse der Stadt Berlin) unless at least 200 new doctors were admitted to service. Before a resolution to ratify the principles was put to the meeting, the chairman said that, though the conditions of service were not ideal, they represented an improvement as compared with past conditions. In the discussion on the subject Dr. Kuthe asked two questions which caused a great deal of excitement. He asked, first, whether the very low capitation fee of 5s. had been fixed at private negotiations between a prominent member of the executive committee of the Berlin doctors' central union and the representatives of the General Insurance Society of Berlin, without the knowledge or sanction of the delegates; and, secondly, whether this same individual communicated the results of these negotiations to the chief insurance office without informing the executive of the doctors' union. He did not attempt to hide the identity of the person in question. Other speakers angrily protested that they had been betrayed by one of their leaders. The fee of 5s. it was said was much too low, and had been accepted only because the conditions affecting the freedom of the profession were fairly satisfactory and the other conditions of service could be regarded as a reasonable compromise, and they were told that this was the most they could expect to get at present. The members were highly indignant on learning that a member of their own body, who was also a member of the Contract Committee and Chairman of the Federation of Insurance Doctors of Berlin, was stated to have accepted the low fee without remonstrance. The temper of the meeting rendered it clear that an official reply to Dr. Kuthe's questions must be forthcoming. The chairman admitted that Herr von Gostkowski, the official representative of the chief insurance office, had informed him that a doctor with whom he had discussed matters had agreed that 5s. was a reasonable capitation fee, and had proposed a contract of long duration at this rate. On being asked whether the doctor was Geheimer Sanitätsrat Dr. Köppel, Herr von Gostkowski had not denied this. The chairman added that the delegates of the Central Union of doctors of Berlin had not been officially informed of this contract, and that Dr. Köppel, who had pledged himself in writing to submit all contracts for approval to the Contract Committee, had threatened that he would send copies of this contract to doctors for signature without the consent of the Contract Committee, should the latter withhold its consent. The Executive Committee of the Berlin Medical Ethical Society, the Executive Committee of the Federation of the Berlin Medical Societies, and the Hansa District Medical Union, have issued a notice calling upon Dr. Köppel to explain his conduct. The notice describes this conduct as a "breach of faith." Dr. Köppel, who has already resigned his position in the Aerztekammer, is further called upon not to exercise any of the functions of his other offices, in so far as they deal with matters affecting the welfare of the profession. This notice is printed in large type on the front page of the *Berliner Aerzte-Correspondenz* of November 22nd, 1913.

"COMMITTEE FOR THE CARE OF DEFECTIVES."

AT the present time local authorities under the Mental Deficiency Act are discussing the way in which the Committee for the Care of Defectives should be constituted under the Mental Deficiency Act, 1913. The Medico-Psychological Association of Great Britain and Ireland on November 25th expressed the view that the committee in each area should be based upon the existing Asylums Committee, with such additions as are required by the Act, and that the Asylums Committee should still exist as a separate committee for dealing with asylums under the Lunacy Acts. Under the Mental Deficiency Act the local authority—that is, the council of a county or county borough—can either constitute the committee for the care of defectives in this way or appoint an entirely new committee. The Act requires that the committee for the care of the mentally defective shall consist partly of members of the county council appointed by it, and partly of persons not members of the council, but either poor law guardians or those having special knowledge and experience with respect to the care, control, and treatment of defectives.

[1] *Record of Completed Cases of Tuberculosis at the United States Army General Hospital, Fort Bayard, New Mexico.* 1911-1912. Washington: Government Printing Office. 1913.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Housing of the Working Classes.

The Local Government Board inquiry into the housing of the working classes in Dublin was opened on November 18th.

Mr. O'Conor, Local Government Board Inspector, said the inquiry was intended to ascertain how far the existing accommodation for the housing of the working classes was inadequate in view of their ordinary requirements: the general circumstances of the working classes in Dublin, with special reference to the amount of rent they can reasonably be expected to pay for suitable accommodation; to what extent it is possible, by the exercise of the powers granted by the existing law, to remedy the housing conditions of the working classes in the city: the finance of the housing schemes which had been carried out by the municipal authorities or other agencies for the city workers, and the class of workers accommodated by such schemes; and, further, what measures (including legislation) should be suggested for dealing with the housing problem in Dublin, and the probable cost of any scheme so suggested.

Sir Charles Cameron, Chief Medical Officer of Health, told the committee that there were 5,712 tenement houses in Dublin. One of the corporation's chief duties was to guard against overcrowding in these houses and to see that their sanitary condition was satisfactory. The corporation had parliamentary power to regulate the number of people living in these tenements; the Act required that each resident should have 320 cubic feet of space. Though this Act had been in existence since 1890, no register showing the cubic feet of each tenement was in existence. The corporation's officers inspected the houses about once in every six or eight weeks for overcrowding, but the population of these houses was very changing, and Sir Charles Cameron admitted that, in regard to overcrowding, the corporation's by-laws had not been strictly carried out, adding that this could not be done without an increase in his staff. He thought that about one-half of the 5,712 houses were supplied with sufficient accommodation, according to the by-laws; he could not say how many were unfit for habitation, but thought that at least 2,000 of them really required to be rebuilt. He hesitated to condemn areas as insanitary so long as no other dwellings could be found for the persons who would be dispossessed, and he attributed much of the unsatisfactory state of the tenement areas to the corporation's difficulty in inducing or compelling the owners to comply with the regulations; he asked for larger parliamentary powers. Summarizing his suggestions, he said that 1,000 of the 5,712 houses should be destroyed and about 2,000 rebuilt; 5,000 of the single-room dwellings, in which 21,000 Dublin families resided, should be improved, not closed, and about 5,000 new dwellings should be built on the outskirts of the city. Several bad slums had disappeared and the death-rate of the city had declined.

We cannot profess to report the evidence given to the committee, which deals largely with details of the conditions in various parts of Dublin, but it may be noted that witnesses have said that worse slums exist in other large towns, specially London, than exist at present in Dublin, and it has been alleged that the Dublin Corporation has already done more for the housing of the poor than any other city; Dublin, it was said, had housed 2.8 per cent. of the population, whereas London had only provided for 1.2 per cent.; Liverpool, 1.7; Leeds, 0.04; and Wolverhampton, 0.06.

Mr. William O'Brien, the Vice-President of the Dublin Trades Council, expressed the opinion that the corporation should start a policy of building houses, and at the same time compel owners of slum property to keep it in repair. At present the manner in which the corporation was carrying out its duties regarding slum property was far from satisfactory.

Evidence as to overcrowding has been given by certain Roman Catholic clergymen and others. The Chairman has announced that he hopes to conclude the inquiry early next week.

Dental Clinics.

At the council meeting of the Women's National Health Association last week one of the secretaries of the National Education Board stated that the first definite application made by the Commissioners to the Treasury for funds for dental inspection was in connexion with the estimates for 1912–13. The sum asked for was £13,530, to cover the cost of four clinics in Dublin and Belfast, three in Cork, two in Limerick and Derry, and one in each other town of over 9,000 inhabitants. The response of the Treasury was an offer of £7,500, on condition that an equal amount was contributed from local sources. The Commissioners discussed this offer at two conferences with representatives of the dental profession and with the managers of the national schools, and decided that it was practically impossible to work the scheme on the lines laid down by the Treasury in the absence of statutory authory on the part of local bodies in Ireland to levy a rate for the purpose. They, therefore, appealed to the Government to allow them to spend the £7,500 in the establishment of dental clinics in large centres as a tentative measure: the Government, however, refused to surrender the principle of £1 for £1. A scheme was then drawn up for sixteen clinics in the large towns at a total cost of £16,041, half to be provided by the municipal authorities. The Government in July, 1912, objected to certain details in the scheme—such as the whole-time employment of dentists, the renting of premises, and the employment of nurses and caretakers—and it was suggested that the children should be treated at the dentists' own surgeries. The dentists opposed this suggestion, and a proposal to have the Dublin children treated at the Dental Hospital came to nothing, as did also a request to the Dublin Corporation to make a grant. At the end of last November the Commissioners made a renewed application for £15,000 to defray the cost of dental clinics; this was refused, and the estimate for this year was reduced to £5,000, to be expended on the terms of a local equivalent. A circular was issued last December to all managers of National Schools, inviting them to submit schemes with the least possible delay. Some local interest was aroused, and before the close of the financial year seven schemes—providing for the establishment of fourteen clinics—were sanctioned, and £263 2s. 6d. was granted from the vote of 1912-13. Thirty-two schemes, involving an expenditure of £953 6s. 3d. from the vote during the current financial year, have been sanctioned, but it appears likely that much of the £5,000 provided by the Treasury will remain unspent; £397 10s. is appropriated in aid of the scheme promoted by the Women's National Health Association, which provides for the establishment of five clinics in Dublin and its vicinity, and of one each in Cork, Antrim, and Naas. The services of dentists and doctors in connexion with a scheme started by the Children's Aid Society in Belfast are given free; the clinic was opened in the middle of April last, and up to the end of September 463 children received treatment, involving 1,559 operations. In the 720 dispensary districts in Ireland a great many of the medical officers are quite competent to give dental treatment to the children.

Dublin University Biological Association.

At the opening meeting of the thirty-ninth session of the Dublin University Biological Association, on November 22nd, Mr. Seton Pringle, F.R.C.S.I., delivered his inaugural address as President. Its subject was chronic intestinal stasis, and the address was fully illustrated by lantern slides. He first described the various bands and kinks frequently found in connexion with different parts of the alimentary canal in connexion with intestinal stasis; he gave reasons for the belief in their congenital origin, and due to abnormal fusion of folds and layers of the peritoneum, and disputed Lane's theory that they are the result of the kinking and stasis. He admitted that these membranes might exist in certain cases without producing any symptoms of stasis. With regard to treatment, he advised local plastic operations in the milder cases, and, in the more severe, partial or complete colectomy; he condemned the operation of ileo-sigmoid-ostomy. Dr. Gray of Aberdeen, in proposing a vote of thanks, spoke of his own experience in these cases, and agreed with Dr. Pringle in the theory that they were congenital.

He condemned ileo-sigmoidostomy and the various operations of stitching ptosed viscera, as he considered that the adhesions formed always stretched again and the ptosis recurred, except, perhaps, in the case of nephropexy. Mr. Blayney (National University), Professor A. F. Dixon, and Dr. Lumsden also spoke. After the meeting Dr. Harvey, the out-going President, entertained a large company at a smoking concert in his house.

Stamping of Meat for Sale for Rating Purposes.

The new public abattoir for Belfast with all the most recent improvements is now in full working order, and all private slaughter-houses have been abolished. The Chairman of the Markets Committee (Dr. H. O'Neill) has appeared with the chief veterinarian of the City Council before several public boards and asked them to adopt resolutions that all flesh meat supplied to these institutions must be stamped with the corporation stamp. The deputation has been singularly successful, and the following institutions have agreed to issue an order in compliance with the request:—The Union Workhouse with a consumption of 3,098 lb.; the Belfast Lunatic Asylum, 1,347 lb.; the Royal Victoria Hospital and Throne Hospitals, 4,055 lb.; the Belfast Prison, 500 lb.; the Charitable Society, 153 lb.; and the Purdysburn Fever Hospital, 390 lb.

Where large and leading institutions set the example smaller ones and private purchasers are sure to follow.

Much of this reform is due to the untiring energy and care of the Chairman of the Markets Committee, who has for so long, in season and out of season, insisted upon reformation in the older methods of procuring a meat supply.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

The Water Supply of Edinburgh.

At a meeting of the Edinburgh and District Water Trust on November 17th, a letter was read from Professor James Walker, of the Chemistry Department, University of Edinburgh, regarding the Fairmilehead filters. The professor, in his report of July 19th, had referred to certain occasions on which the filters had been found not to be working efficiently, and his letter in reply to inquiry stated that, on the occasions referred to, the filters were working in the ordinary routine, and were not under experimental conditions. Since the date of his last report he had examined fourteen samples of the water direct from the filters and seven samples from the tank. The filters during the period were working under checks and controls detailed in that report, and the samples were found in each case to be satisfactory.

Edinburgh Obstetrical Society.

At the meeting of the Edinburgh Obstetrical Society on November 12th the following office-bearers were elected:

President.—Professor Sir Halliday Croom.
Vice-Presidents.—Dr. G. Barbour Simpson and Dr. G. Keppie Paterson.
Treasurer.—Dr. John McGibbon.
Secretaries.—Mr. E. Scott Carmichael and Dr. R. W. Johnstone.
Librarian.—Dr. Lamond Lackie.
Editor of Transactions.—Dr. James Young.
Members of Council.—Professor McKerron, Aberdeen; Dr. J. W. Keay, Dr. H. Oliphant Nicholson, Dr. H. M. Church, Dr. Haig Ferguson, Dr. Angus Macdonald, Dr. Berry Hart, Dr. Hugh Davidson.

Jubilee Institute for Nurses.

At the quarterly meeting of the Council of the Queen Victoria's Jubilee Institute for Nurses, held in Edinburgh, it was shown that the Council were directly responsible for the maintenance of ten Queen's nurses and twenty candidates receiving instruction in the training home. Six nurses had completed their training during the three months and were engaged for district work at Keith, Lochgelly, Midcalder, Elgin, Hamilton, and Alexandria; 1,621 cases had been nursed in Edinburgh by the nurses from the training home, necessitating 31,161 visits, and 506 cases remained on the books at the end of the quarter.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

NEWCASTLE-UPON-TYNE.

Appointments at the College of Medicine.

At a recent meeting at the College of Medicine the following were nominated to the University of Durham for lectureships in the respective subjects: Diseases of Children, Dr. Ogden Watson Ogden; Diseases of Skin, Professor R. A. Bolam; Diseases of Throat and Ear, Dr. Samuel S. Whillis; and as Lecturer on Surgery, Mr. George Grey Turner. For many years there has been a close connexion between the College of Medicine and the Royal Victoria Infirmary. By these appointments not only is that connexion further fostered, but by the appointment of Dr. Ogden the Children's Hospital is brought into immediate touch with the medical teaching in the College of Medicine.

The Clinical Society.

On November 21st Professor George Murray of Manchester gave an address on the clinical significance of spontaneous haemorrhage to the members of the Clinical Society. The meeting, which took place in the College of Medicine, was well attended by members of the society and by past and present students of the college, and the address was highly appreciated by all who heard it. In the evening, at the Station Hotel, Professor Murray was entertained to dinner by the members of the Clinical Society. Under the presidency of Dr. D. Wells Patterson, 126 sat down to dinner. In proposing the health of "Our Guest," Dr. Patterson stated that it was in Newcastle that Dr. Murray did the work on the thyroid gland upon which his reputation was largely founded. Professor Murray, in replying, alluded to the happy years he had spent in the infirmary and in practice in Newcastle-upon-Tyne (his native city), recommending his hearers, as he said he was wont to recommend his students in Manchester, to remember that the golden years were those between 25 and 35, for later on fewer opportunities occurred for sustained work. Dr. Gordon Bell, in an able speech, submitted the toast of "The Trade and Commerce of the Tyne," to which the Lord Mayor of Newcastle and the Sheriff replied. Dr. Slade responded to the toast of "The Clinical Society," proposed by Mr. Beckingham.

Outbreak of Acute Enteritis.

During the last fortnight there has been a sudden outbreak of acute enteritis in the east end of the city. In Heaton alone within two days there were upwards of 30 cases. At the district police office 12 of the men and 3 of the boys were overtaken with the malady. They all became ill within a few hours of each other, and so alarming were the symptoms—vomiting, acute diarrhoea, in some high temperature, and in all extreme collapse—that for several days the services of the medical officer and Sir Thomas Oliver were much in requisition. The outbreak was found to be due to the milk taken with one particular meal. Dr. Kerr, the medical officer of health, finally succeeded in tracing the outbreak to its source. The animal was destroyed, and no further cases of enteritis have occurred. Owing to the promptitude with which the medical officer acted, the district has been spared the extension of the disease.

At the annual meeting of a local nursing association Dr. C. E. S. Flemming requested the committee to alter or do away with the rule which prevented the midwife attending any unmarried woman in her confinement. He pointed out that the nursing association had now created for itself a monopoly, as in such a district no midwife could support herself in face of the competition of a nurse maintained by charity; as there was no other skilled attendance available, except possibly the medical man, the committee were no doubt unconsciously and unintentionally abusing their monopoly. This abuse was more marked now that these unfortunate women were by law, as shown in the Insurance Act, recognized as deserving or, at any rate, requiring assistance at the time of their confinement.

Special Correspondence.

BUDAPEST.

Cholera in Hungary.—Insurance Companies and their Medical Advisers.

In spite of the stringent precautions adopted throughout Hungary—particularly along the frontier—in consequence of the outbreak of cholera in the Balkan States, sporadic cases continued to occur for some time in different parts of the country. The most probable route of infection is the Danube, which has before this been the means of introducing cholera into Hungary; and consequently, as the commerce is very great between the cities on its banks and the seaport towns of Roumania, the State prohibited the carrying of wool, bedding, clothing, etc., by any ship trading in these waters. This prohibition extended to the importation by rail of fruit from Roumania and Servia; whilst all travellers entering Hungary from any part of the Balkans were obliged to submit to a five days' quarantine. The result of these regulations is that even in districts where cases of cholera have occurred it has been possible to check the spread of infection by the prompt isolation of all suspected cases. These precautions have been fully justified by the fact that in almost every case the infection was traced to persons or goods coming from one or other of the Balkan States; in almost every instance the disease proved fatal. Lectures on the signs by which cholera may be recognized and the means by which it may be prevented were given in the smaller towns and villages of Hungary, a step which, combined with the warning posters exhibited in the more important towns and cities, made such an impression upon the public that medical aid is now called in even in mild cases of gastro-enteritis, a disease which is frequently mistaken for cholera. Finally, it only remains to be added that in every large town throughout the kingdom certain buildings have been set aside to serve as emergency hospitals in case of an epidemic.

In the year 1899 the position of the medical profession with regard to insurance companies was discussed at a national Congress of the Hungarian Medical Association, when certain rules were laid down for the guidance of doctors. It was then decided that the charge for a medical certificate should be 10 crowns (8s. 4d.), if the patient's insurance money was less than 20,000 crowns (£833), and 20 crowns (16s. 8d.) for sums exceeding that amount. At the same time a rule was made that no *post mortem* or family doctor's certificate should be given in any circumstance to any insurance company. Unfortunately, it was found impossible at that time to deal in detail with every aspect of the relations between the insurance companies and their medical advisers; and it has now become necessary for some further and more definite rules to be laid down upon the subject. The annual meeting of the Hungarian Medical Association, which was held at Trencsén-Teplicz, the well-known health resort, had under consideration the following proposals: That a syndicate of members of the Medical Association and the different Hungarian insurance companies should be formed, so that they should bind themselves to work together for a period of ten or twelve years, and observe certain regulations drawn up by themselves. It was also proposed that a permanent committee, consisting of three members of the Association and three members of the Insurance Committee, should be formed to enforce the observance of these regulations and reserve to themselves the right of judgement in arbitrary cases. The medical advisers to insurance companies are to be appointed by the directors of the head offices of the respective companies, never by the branch offices. For example, the doctor of an English insurance company having its head office in London, but with branches in Hungary, will be appointed by the London directors, acting, of course, on the advice of their colleagues in Budapest. This method would have the advantage of stopping many abuses. At the present moment every Hungarian insurance agent has the power of appointing as many "confidence doctors," as they are called in Hungary, as he pleases. It happens frequently, for instance, that when a young doctor in a provincial town proposes to insure his life for the sum of 5,000 crowns the local agent obtains for him an appointment as "confidence doctor" to the local branch office, and in return the doctor examines the candidates for insurance until the arrival of another medical man, in whose favour he is quietly dropped. The result of this system is that some insurance companies in small towns have as many as eight or ten "confidence doctors." There is good reason to believe, however, that the present state of affairs will not last much longer, since the question is to be discussed in all its bearings at the coming congress, and there seems to be a unanimous desire on the part of the medical profession to remove all control of the nomination or dismissal of insurance doctors from the hands of insurance agents or agencies. A resolution will be passed, therefore, to the effect that in future an insurance doctor can be deprived of his appointment by the directors of the central office of the company alone, and then only if there is some grave cause for complaint against him; and the doctor, moreover, will have the right to demand the reason of his dismissal from the permanent committee, in whose hands the ultimate decision will rest. The fees for the examination of candidates for insurance are to be fixed at the following rates: 10 crowns if the insurance money does not exceed 5,000 crowns; 15 crowns for sums between 5,000 and 10,000; and 20 crowns for all sums above 10,000 crowns. This rate of fees only holds good if the candidate undergoes his medical examination in the doctor's office; if it takes place in his own home, the latter has the right to demand two crowns in addition to the usual fee. Should the patient be out when the doctor calls, a fee of three crowns is to be paid him by the company as a compensation for the loss of time.

Correspondence.

THE CRAZE FOR APPENDICECTOMY.

SIR,—Dr. Hutchison has done good service by the letter he has addressed to you on "the craze for appendicectomy"—I hope I have spelt it aright. There is nothing in it that many of us could not fully endorse, but I am still more glad to see Mr. Lockwood's reply, because it is the first time that I remember to have seen nailed to the mast, so that all who run may read, that there are difficulties in the diagnosis of many a case of appendicitis, and we do indeed want our experience pooled on this head, as Dr. Hutchison urges. I think one may say that one never hears, from the operative side, of the mistakes made in the diagnosis of appendicitis, except it be that appendicitis exists and has not been diagnosed in time for the surgeon to be of service. Far be it from me to suggest that this is not an important aspect of the question, but now my point of view is otherwise, and Dr. Hutchison's question is the pertinent one—namely, How often does a surgeon admit that an appendix is perfectly healthy? A large error of refraction seems apt to be latent in the eye upon such occasions.

But now that surgery can do so much so successfully it ought to take upon its own shoulders the responsibility of its mistakes, or how are we to learn to make right diagnoses? And the public ought to know what we know in this matter. This is not so as yet.

A few months ago a shrewd man brought his wife to me to know if she had appendicitis, because they were going on a long yachting cruise. The case was probably such a one as Mr. Lockwood alludes to, of colitic origin, and she was allowed to go, but the husband was quite astonished when I told him I was not sure, and that in many a case the best we could do was to look and see. Is it not so? I can recall at the moment a suppurating gall bladder confidently affirmed to be a case of appendicitis, a perforating gastric ulcer, an ovarian tumour, a renal calculus—all diagnosed wrongly; and there must be many who have knowledge of operations where the state of the appendix was not adequate to explain the symptoms upon which the diagnosis was made. It is in this *difficulty of diagnosis* that the craze lies. The symptoms of even a fulminating case may be so masked or equivocal that we are often carried away,

and that an operation is prescribed as of immediate necessity, without any careful consideration of other possibilities.

I shall make the confession, too, that I am only too thankful to the surgeon that he now mostly relieves me of the necessity of making the diagnosis or suggesting the treatment in these cases. I should certainly not take it to heart if I never saw another. Indeed, I feel inclined to advocate the introduction of a new rite for all babies, that by the elimination of this perplexing cause of doubt we may the better be able to differentiate, and advance the diagnosis between other varieties of stomachache. Till that time comes I would certainly join with Dr. Hutchison in asking for more definite knowledge of the percentage of mistaken diagnoses that occur. It might help us poor folk who cannot look and see, and who yet must sometimes render first aid, to have a little more confidence in the opinion that we give in an exceedingly anxious lot of cases.—I am, etc.,

London, W., Nov. 26th. JAMES F. GOODHART.

SIR,—The large measure of justice in Dr. Hutchison's charge against surgeons leads one to reply that the weight of the best surgical opinion is on his side in protesting against indiscriminate appendicectomy for chronic pain in the right iliac fossa. Five years ago his letter would have been more pertinent. It is a misfortune that his plea is still needed at all.

Now that we recognize the multiplicity of causes of chronic pain in the right lower segment of the abdomen (where there have been no acute attacks), a dogmatic diagnosis of appendicitis in such a case spells empiricism. But this does not mean that an operation is a mistake in a case of chronic pain in the right iliac fossa which has not yielded to medical treatment. It means that the surgeon must enlarge his vision and his incision, and when this is done exploration offers for such cases the best hope of relief.

In the past attention has been too narrowly confined to the appendix as a natural but unfortunate result of its supreme importance in acute abdominal conditions. The first thing necessary in order to attain the scientific accuracy that Dr. Hutchison naturally desires is that we should critically examine at operation all the organs that may possibly have caused the pain. The next is that we should agree on the distinctions between pathological inflammatory adhesions and peritoneal adhesions of antenatal and non-inflammatory origin, due to variations in the process of peritoneal fusion *in utero* that adapts the intestinal tract to the upright posture.

The literature of "Jackson's pericolic membrane" shows how far surgeons are from having learnt this lesson. Old inflammatory adhesions are tough, fibrous, opaque, and not very vascular. Congenital peritoneal adhesions are elastic, filmy, translucent, and well supplied with fine blood vessels. And yet, owing to a widespread failure to appreciate these differences, papers are still continually appearing in which the inflammatory origin of Jackson's membrane is taken for granted.

When prolonged medical treatment has failed to cure chronic colitis, it will often be found at operation that the mechanics of the colon are primarily at fault, owing to a persistence of the ascending mesocolon and consequent abnormal mobility. Removal of the appendix, even if it has been involved in the colitis, will do nothing to remove the cause, but imitation of Nature's usual method by suturing the mobile proximal colon back into its place in the right loin will often restore a chronic invalid to health.—I am, etc.,

Manchester, Nov. 22nd. JOHN MORLEY.

SIR,—The readers of the JOURNAL are indebted to you for opening its columns to a correspondence upon this subject, so usefully started by Dr. R. Hutchison in his letter in the issue of November 15th.

Many of us in physicians' practice are accustomed to see from time to time cases in which the appendix has been removed, or the abdomen opened, for the relief of symptoms which are due to a cause outside the abdominal organs, and which a fuller and more exact clinical examination of the patient probably would have revealed.

I should like to take this opportunity of adding to Dr. Hutchison's three classes of cases a fourth class, in which the removal of the appendix, or the opening of the abdomen, has been advised with doubtful justification; I refer to that class of case in which the cause of the abdominal pain or symptom is due to disease of the nervous system.

I have under my care at the present time two cases of organic disease of the spinal cord, in which the abdomen has been opened without conferring any relief. The first is that of a patient with intraspinal lesion (probably tumour); his earliest symptom was pain of a troublesome and persistent character in the right lumbar and iliac regions. A normal appendix was removed about two years after the onset. The patient is now paraplegic. The second is a well-defined case of locomotor ataxy. This patient suffered from gastric crises at the commencement of the disease for which the abdomen was opened in the epigastric region.

These are merely two recent examples of a proceeding similar instances of which could no doubt be recorded. My contention is that in neither instance was the operation justifiable, as a more complete clinical examination would have revealed the probable spinal cause of the symptoms.

One is disinclined to refer to the scores of obviously neurasthenic women whose kidneys have been "anchored," or whose stomachs and wombs have been "fixed" to the abdominal wall by operation, for the purpose of curing a disease the treatment of which lies well outside the scope of surgery. Your readers will no doubt recall many examples of this kind.—I am, etc.,

London, W., Nov. 25th. W. ALDREN TURNER.

SIR,—As the only replies to Dr. Robert Hutchison's letter as to the necessity for appendicectomy have been two from consultants in the JOURNAL of November 22nd, the following notes from a general practitioner in a country district may have some interest.

To shorten this letter the following signs are used: A = first attack; B = subject to recurrent attacks of pain in right iliac fossa; C = treated at home till subsidence of acute symptoms; D = I was present at the operation; E = ended fatally.

CASE I.—Boy aged 7; A. Mother suffering from influenzal gastritis at the same time; hence no operation on boy till after third day of illness; appendix then found to be almost cut in two by bands of adhesive peritonitis; E.

CASE II.—J. M., male, aged 25; platelayer; B; C. No return of symptoms in fifteen years.

CASE III.—P. B., aged 41; postman; B, with diarrhoea; C. Fifteen years without return of symptoms.

CASE IV.—C. M., male, aged 20; A; C. No symptoms of appendicitis since, but dyspeptic, and has had lead colic. Eight years since operation.

CASE V.—Mrs. S., aged 38; A; C. Coincidently a small right ovarian cyst discovered before operation; has been perfectly well since—eight years; D.

CASE VI.—A. B., cook; B, and epistaxis; becoming more frequent and severe; C. Since operation free from all symptoms for ten years.

CASE VII.—J. A., male, factory hand, aged 26; B; C, and constipation. Operation; well ever since.

CASE VIII.—Mrs. P., aged 70; A (?). When first seen an abscess was bulging up in the right iliac region. Operation within six hours; opened and drained, appendix not removed; perfect recovery, well ever since—six years; D.

CASE IX.—J. R., boy aged 9 years; A; with rest of family ill from eating "cocoanut" sweets. Appendicitis not diagnosed for some days; then operation; pus found to have tracked to left side of pelvis; eventual recovery, well ever since—seven years.

CASE X.—M. E., girl aged 12. Faecal vomiting present when first seen. I was told she had been subject to bilious attacks for many years, and this was one of them. Immediate removal to hospital and operation; E.

CASE XI.—Mrs. C., aged 28; A; C. Well since operation; normal pregnancy a year after operation, though many adhesions were found.

CASE XII.—G. C., school teacher, aged 29, male; A. On Tuesday at work, had sharp abdominal pain; sent for me on Wednesday; acute appendicitis diagnosed; operation same evening; appendix found gangrenous and peritonitis present; E; D.

CASE XIII.—D. W., girl, aged 13; thin and puny; B; becoming more frequent. Mother thought it was "her courses hanging about her." Well ever since operation, and has developed remarkably quickly into a strapping, rosy-cheeked young woman.

CASE XIV.—G. D., girl, aged 12; small for her age; B; seen first in a mild attack. Well since operation (9 months). Her mother

had a severe attack 12 months before when away from home. Operation, and complete recovery since.

Case xv.—A. A., boy, aged 3½ years. Attended for two days by district nurse; treated for bilious attack. When I saw him, bilious vomiting, light stools, subsequently slight jaundice; symptoms cleared up, and the child's appetite returned and temperature was normal till a fortnight after the commencement of the attack—then a message from his mother that he was worse, and a swelling was found to have developed in the left inguinal region. Operation: swelling found to be localized pus; signs of recent appendicitis; well since—6 months.

Case xvi.—Mrs. W., aged 50; B, and constipation and vomiting; sent to hospital. After operation, was told it was malignant and inoperable. As the condition remained as before, admission to another hospital was procured, and the original diagnosis of appendicitis confirmed. Many adhesions found—one, very thick and strong, round the ascending colon. Well ever since operation—9 years.

Case xvii.—E. R., girl, aged 12; tuberculosis; B and constipation; operation; appendix reported to have been chock full of threadworms. Well since—6 weeks.

Case xviii.—K. M., married woman, aged 36; A and constipation; acute febrile symptoms subsided after operation, but it was evidently the first indication of a general infection by *B. coli*, which gave other manifestations subsequently. The patient made a slow recovery from the latter; 4 years since operation.

Case xix.—M. D., girl, aged 12; A; first seen twenty-four hours after commencement of attack; sent to hospital immediately, though symptoms had slightly abated; operation performed there twelve hours after arrival. Appendix commencing to show signs of gangrene; well ever since—3 months.

Case xx.—E. G., aged 26; B, getting more severe, sent to hospital; while waiting for operation had more severe attack.

Fifteen of the above cases are still living in the neighbourhood, and one is in Canada and one in London.

In addition, of 3 other cases sent to hospital as appendicitis, 1 proved to be a pyosalpinx, and 2 after being watched were sent home again as not sufficiently definite to justify operation.

Cases of pneumonia with pain in the right iliac region are fairly numerous, and I have had a case of pyorrhoea alveolaris accompanied by the same symptoms, but there has been no recurrence of the abdominal pain after the primary disease has been cured.

The first case on my list was in London soon after I qualified. The others are in this neighbourhood. It is rather noticeable that the age incidence is getting lower.—I am, etc.,

Hoddesdon, Herts, Nov. 24th. John E. B. Wells.

SPECIAL HOSPITALS.

Sir,—Correspondence in journals and newspapers involves so much waste of time and is so prolific in misunderstandings and misinterpretations that one would be glad to allow Mr. Bickerton's letter on the above subject to go unanswered, but silence on some of the questions raised would probably be misconstrued, and I therefore ask for space in which to reply.

The Eye and Ear Infirmary Pathologist and Laboratory.—I endorse everything that Mr. Bickerton has said with regard to the good work of my friend, Mr. Harcourt; but Mr. Harcourt would be the first to acknowledge that the opportunity he has had for the practical study of ophthalmic pathology came to him from the laboratory of the Liverpool Eye and Ear Infirmary and his appointment as pathologist in 1907. Mr. Harcourt's demonstratorship at the university dates from 1911, and it may be said that he owes his election to that post to the fact that he held (and still holds) his appointment at the Eye and Ear Infirmary, which provides him with the necessary material for teaching. Moreover, Mr. Harcourt holds some of his classes for the diploma in ophthalmic surgery (D.Ch.O.) in the laboratory of the Eye and Ear Infirmary.

The Election of an Assistant Surgeon in 1911.—Mr. Harcourt had many claims upon his colleagues, and his name was sent up by the Medical Board to the Infirmary Committee along with, and equally with, that of his only competitor. The committee were no doubt influenced in their selection by the fact that Mr. Harcourt's competitor had had considerable experience of operative ear work, and that he had qualified twenty years later than Mr. Harcourt. Nevertheless, as Mr. Harcourt wished to be officially associated with the clinical as well as with the pathological work of the infirmary, he was offered and accepted the post of assistant surgeon to out-patients. Both appointments were made on the same day.

Mr. Bickerton ends his letter with a quotation—"Publicity should not, and never need be, feared nor shunned by the well-educated and honourably minded practitioner." An excellent sentiment, but the use Mr. Bickerton makes of this quotation implies that the officers of the Eye and Ear Infirmary shun publicity. The staff submit their cases and specimens to discussion at the Medical Institution; the clinic is attended by students both post-graduate and undergraduate; the staff vacancies are always advertised in the medical journals; an annual report is published; the annual meeting is open to all, and is usually held in the Town Hall, and presided over by the Lord Mayor. Distinguished British and foreign specialists—and, may I add, Mr. Bickerton—are welcomed when they visit the infirmary, and we should welcome a visit from the *Daily Post*. What more in the way of publicity does Mr. Bickerton want?

Mr. Bickerton complains that "he adversely criticizes those who would fain hasten the fulfilment of his hopes." That is not so. My criticisms were levelled against the unfair and disparaging comparisons made between two hospitals. I yield to none in my admiration for the energy of the St. Paul's Committee and staff, but it must in fairness be remembered that ear work was never a prominent feature of their work, so that it was an easy matter for them to exclude it when they were building their new hospital. I also criticized the *Daily Post* for its omission to make an inquiry "into the amount, kind, and quality of the work done there (that is, at the Eye and Ear Infirmary), and into the future plans of its staff and committee" before publishing its article, and, finally, for the absurd medical grounds upon which it based its case for the separation of the specialities.

If I did not mention the leading article in the British Medical Journal, I certainly did not ignore the statement "That to associate the treatment of diseases of the ear with those of the eye" was "a combination which placed a serious impediment in the growth of either." On the contrary, a large part of my letter was devoted to showing that these studies were of mutual assistance to one another, and, if the practitioner had sufficient time and energy to devote to them, neither science suffered. If the quotation means that it is bad for a hospital surgeon to see eye and ear cases promiscuously at the same desk, as was the case thirty years ago when Mr. Stone and Mr. Bickerton were associated with the Eye and Ear Infirmary (and I quite understand the scientific otologist objecting to the system), then I most cordially agree; but thanks, in the first instance, to Mr. Richard Williams, the eye and ear out-patient departments were separated twenty-five years ago, and a few years later separate wards and operating theatre for ear patients were opened. When a surgeon has found that he had not the time or inclination to follow the rapid advances of otology he has given that branch up and handed his work over to another. In my opinion, if the progress of otology and rhinology has been impeded in Liverpool, that unfortunate result is due to the policy of the large general hospitals which have denied their special surgeons a fair share of beds, throwing upon general surgeons work which they usually did not want, and which they have not always thought it worth their while preparing for.

As to the statement:

> Mr. Jones's statement implying that the combination of the eye and ear is kept up because some of the staff, from love of the work, long training, and the character of their private practices, find it impossible to relinquish either of the two specialities seems tantamount to sacrificing the interests of the hospital to the exigencies of private practice.

We do not admit that the progress of either otology or ophthalmology, or the interests of the infirmary, have suffered on this account; and, as I have stated above, whenever a surgeon has felt that he had not the time or inclination to follow the rapid advance of otology he has given up the practice of that branch.

The charge of inconsistency does not trouble me. We have to deal with the situation as it exists and as practical, sane men. While I maintain that special departments in general hospitals or the association of different specialities in the same or adjoining buildings, as at New York and Boston, are advantageous to their own progress and to that of general medical science, and while I maintain that one man may work at two subjects with advantage to himself,

his patients, and his science,[1] I am quite prepared to admit that in the future it will be increasingly difficult to get the best of the young men to devote themselves to more than one subject, and for that reason I have for many years advocated the separation of the staffs while retaining both departments in the same building. There is such a thing, however, as over-specialization, and none of us who work in any speciality can afford to ignore the weighty words of Professor Harvey Cushing in his address on surgery at the International Medical Congress (British Medical Journal, August 9th, 1913, vol. ii, p. 290, etc.).

The committee of the Liverpool Eye and Ear Infirmary may be trusted to proceed with their plans, as funds become available, in their own time and in their own way, undeterred by the fear that the credit for their action may be claimed by others. So far as the writer is concerned this letter ends the correspondence.—I am, etc.,

Liverpool, Nov. 12th. Hugh E. Jones.

MOUNT VERNON HOSPITAL, HAMPSTEAD.

Sir,—In your issue of July 12th you published a letter signed by certain members of the honorary medical staff of this hospital, in which they resign their appointments as a protest "against the attitude which for the past few months the committee of management had adopted in reference to the medical board and its recommendations." This letter also appeared in the *Times* newspaper on July 10th, where it was replied to by me as chairman of the committee.

It appears that I should have replied to this letter in the British Medical Journal, but having dealt with it in the *Times* it seemed to me to be unnecessary to repeat myself. However, as certain statements have been made, and as the interests of the hospital are gravely prejudiced, by the issue of warning notices in your pages, and by the circulation of statements which are without foundation, it is necessary for me to ask you to allow me to refer to the matter in your columns. I am informed that the issue of the warning notice is based upon two assertions: First, that the two junior members of the honorary medical staff, Dr. F. W. Price and Dr. A. J. Whiting, had been dismissed from their appointments; and second, that in view of the expressed desire of the committee to place the beds at Northwood in the hands of the senior members of the staff, an injustice had been done to Dr. Tunnicliffe, the senior member of the honorary staff, who, it is said, was not offered beds at Northwood. It is therefore with these statements that I wish to deal.

With your permission I will repeat what I have said elsewhere as to the original statements contained in the letter of resignation. In the first place, it is untrue to say that any members of the staff were dismissed. This is proved by the simple fact that they resigned their positions more than two months after the alleged "dismissals," one of them meanwhile retaining his seat as a member of the committee. The duty of visiting patients at Northwood was allotted to them for one year, and that period had long expired. It must be remembered that the Mount Vernon Hospital consists of the two establishments at Hampstead and Northwood respectively, and the out-patient department at Fitzroy Square, and there was never any appointment to one of them exclusively. It is all one institution, and the by-laws provide that the allocation of the duties of the honorary medical staff rests entirely with the committee of management. The medical staff are represented by two of their number at the meetings of the General Committee as members of that committee, and one of them, Dr. Tunnicliffe, was present at the committee meeting on March 19th when I gave notice of motion in regard to the new appointments. It was on this date that Dr. Tunnicliffe, on hearing me give notice of the motion, asked to be excused from visiting Northwood, so, at his request, I withdrew his name. Dr. Tunnicliffe reported to the medical board on April 1st all that had transpired at the committee meeting. At the following meeting of the committee of management on April 16th I moved the appointment of the senior physicians, omitting Dr. Tunnicliffe's name, to the care of beds at Northwood, and the motion was carried unanimously. In regard to the statement of Dr. Tunnicliffe in the *Times*, that beds were not offered to him as senior acting physician, the facts are as I have stated. While it is true, therefore, that at the meeting of April 16th Dr. Tunnicliffe was not included in the list of physicians to whom beds were allotted, it is equally true that the omission was of his own seeking, because of his strongly expressed objection to undertake the duty. The whole of these circumstances are in the recollection of the members of the committee present on that occasion.

The other matter which demands attention is the statement that a request was made for a conference to discuss the new appointments and *other questions*.

No such demand was ever made. On May 6th the Medical Board demanded a conference to discuss the appointments which had already been made, but there never had been a request to discuss *any other question*. My committee, therefore, naturally declined to reopen a question which had been disposed of by them by a unanimous vote, and was wholly within their province.

In view of these facts, I have to require that the Warning Notice issued from week to week in the British Medical Journal be at once withdrawn, and that the officials of the Association be instructed that their recent practice of advising intending applicants to withdraw their applications, and occupants of the resident posts to surrender their appointments, is to cease forthwith.—I am, etc.,

C. Johnston,

London, W., Nov. 19th. Chairman of the Committee.

*** The above letter was brought before the Standing Subcommittee of the Central Ethical Committee, and it decided not to discontinue the Warning Notice for the present.

THE IDEAL TUBERCULIN.

Sir,—The title of my letter of November 15th was taken from the leading article in your issue of November 8th. Even ruling out an attenuated living culture or an autogenous tuberculin for every patient as impracticable, I am far from regarding the polyvalent tuberculin formulated in my letter as the ideal of tuberculin-therapy.

Like all tuberculins, the preparations of the Farbwerke Höchst have certain disadvantages. Heat as high as 70° C. is used in the preparation of some of the exotoxic tuberculins, and we know little of the action of heat in altering the properties of the tuberculous toxin. It is known that in the preparation of typhoid vaccine a difference in the temperature from 45° C. to 50° C. will alter the final product. Again, the exotoxic tuberculins contain albumoses, peptones, and extractives, although the latest tuberculin A.F. (Albumose Frie) has followed on the lines of Béraneck's tuberculin in so far as it is grown on a peptone-free medium. On the other hand, I selected eleven representative varieties of Koch's preparations as "polyvalent tuberculin" in order to have the advantage of using the products of eighteen different strains of tubercle bacilli. One might have added a few more strains with Béraneck's tuberculin, A.F., or with the tuberculin of Gabrilowitsch, but as a clinical experiment in 1911 the above served my purpose, as the proportions in relation to strength were easily determined, and 1 c.cm. of the pure polyvalent tuberculin constituted the maximum dose.

From the standpoint of the ideal tuberculin, which constituted the subject of your article, eighteen strains of tubercle bacilli are totally insufficient. No two strains of tubercle bacilli are absolutely identical. Those who have followed the recent bacteriological work on tubercle bacilli as pathogenic to man can never regard these as falling into two cast-iron groups of human and bovine. From the easily grown human tubercle bacillus, which antiformin will isolate on Dorset's medium, to the hard growing bacillus, approximating to the bovine type and only isolated by animal inoculation, there are hundreds of strains differing in their cultural capacity alone, to say nothing of their chemical composition, of which we know so little. The ideal tuberculin will contain the exotoxins and the endotoxins of some hundreds of representative strains, with the least possible alteration in their chemical composition. Such a tuberculin is not impossible of achievement. Many bacteriologists have found a stock acne vaccine to be as serviceable as an autogenous vaccine, but

[1] The following are a few honoured names which occur to one off-hand of men who have done first-rate work in more than one subject: Hewetson, Teale, Secker Walker, Whitehead, Swanzy, Sandford, Bronner, Hutchinson, Tay, Hulme.

a stock acne vaccine may contain some fifty strains of the infecting organism. Again, a good streptococcal vaccine is prepared from a hundred different strains of streptococci. It is reasonable to suppose that the future of tuberculin will follow on the advance made in other branches of bacteriology. As, however, such a tuberculin had not yet been prepared, and as I had not the facilities for making it, it occurred to me that a stock polyvalent tuberculin, of the formula already given, would best meet the immediate needs of the case.

I am well aware that some workers have used different varieties of tuberculin in succession and not in combination, such as P.T.O., P.T., and T., possibly followed by some of the other varieties. This has been described as a " . . . method of progression from weaker to stronger preparations, for example, from P.T.O. to P.T. and thence to Old T. . . .", but I cannot see that it bears the slightest resemblance to the principle on which I have based polyvalent tuberculin, which is that the more a tuberculin corresponds, without absolute similarity, to the infecting tubercle bacillus, the more likely is immunity to that tuberculin to approximate an immunity to the disease.

There is much to be said against the method of giving tuberculins in succession. As one writer quite properly remarks about the different varieties of Koch's tuberculin:

> Experience has to show which of these various preparations are the better agents in stimulating living cell elements to produce the immunizing substances to which we must look for the beneficial results of specific treatment. Even did we know which were the most powerful immunizing agents, we have still to learn how to reach the highest degree of active immunization.[1]

This is an exact analogy with the streptococcal vaccine. We do not know which of the strains of streptococci will produce the immunizing response, and therefore we give a stock vaccine of many strains. The only other alternative to an autogenous culture, in the hope of finding the right strain of streptococci, would be to give the different strains not in combination but in succession, as some do in the case of tuberculin. With the vaccine and with tuberculin it might be argued that theoretically this was the more scientific plan, although bad practice in the interest of the patient. If the right immunizing strain be hit upon early, good and well, but most of us have seen failures with tuberculin in which the immunizing strain was not found, and there are few who cannot recall the patients in whom an immunity to tuberculin did not correspond to an immunity to tuberculosis. It is not a question of polypharmacy but of polyvalency, which is very different.

The only novelty in my method of polyvalent tuberculin is the application of the principles of bacteriology to tuberculin-therapy. No impartial or disinterested observer is satisfied with the present state of knowledge regarding tuberculin, a subject on which none can afford to dogmatize, not even the oldest, and it is only by careful observation and by clinical experiment that this knowledge can be extended.

In conclusion, I have had proof from many quarters that the interest of the profession in the treatment of tuberculosis is sufficient to ensure a trial of polyvalent tuberculin, and may possibly lead to the evolution of what after all is our common goal—the ideal tuberculin.—I am, etc.,

London, W., Nov. 21st. HALLIDAY SUTHERLAND.

ON DOSAGE IN THE NEW "PHARMACOPOEIA."

SIR,—I am indebted to Sir Lauder Brunton for his support of my contention that, owing to the prescriber's limited knowledge of doses, patients are not in all cases getting the drug best suited to them; and to Dr. Brewer for pointing out to what an absurdly limited extent the doctor avails himself of the many remedies contained in the *Pharmacopoeia*. I have also received a large number of letters, and in a few cases the writers raise difficulties. As many of your readers may share their objections, I will endeavour to answer them here.

Some deplore the introduction of the new words compounded with "per" and "sub" and are confident that we shall never get used to them. They admit that their exact counterparts exist in "perturbatio" and "subsultus," and that they are therefore not unworthy to enter the *Pharmacopoeia*, but they say we have too many new words already. Well, as for their strangeness, we have long admitted to full citizenship "perchloride" and "subacid," and those I have suggested are not one whit less assimilable. The history of many words in current use may be cited to allay their fears. What word is more familiar than "its"? Yet it occurs neither in the Bible nor in Bacon, and Shakespeare uses it only about ten times; while, of words which were unknown before the nineteenth century, there are myth, artistic, reliable, sanitary, sewage, cereal, and utilize. The alternatives commonly suggested are either to revive such words as elixir or essence, which have dropped out of the present *Pharmacopoeia*, or to use a qualifying adjective, such as *fortis*, *medius* and *mitis*, to represent the three strengths. The first suggestion is not practicable, for it is impossible to get uniform doses unless we have at least three forms of tincture, etc., or about twenty new words in all, while the idea suggested would give us at most five additional words. Moreover, the essences and elixirs are still largely prescribed, and are associated each with a definite dose, which in some cases would have to be unlearnt. As for the use of an adjective, it is probable that it would often be omitted; moreover, a qualifying adjective is better limited, as at present, to different degrees of strength in the same preparations, like liq. ammon. and liq. ammon. fort. I abandoned this idea because it seemed distinctly inferior to my later one of dividing a group such as the tinctures into three by using "pertincture," for all tinctures with a dose of 5 to 15 minims; "tincture" for those with a dose of ½ to 1 drachm; and "subtincture" for those whose dose is 2 to 4 drachms, and bringing drops into line with these three standard doses. Surely one word is better than two if its meaning is equally clear.

But all such fanciful or aesthetic objections as these are but as dust in the balance compared with the enormous boon to the prescriber of knowing that each group-name has always the same dose. We should be sometimes in an awkward position but for the chemist's query as to the dose meant, and instead of being ruffled we should be grateful to him. But it must be remembered that if the chemist is too busy to look up the point, even he may pass a dangerous dose; and, without his books, he may know as little about doses as the doctor. I have been assured that before the Insurance Act came into force there were numbers of chemists who dispensed on an average only one prescription a week! It is therefore often a case of the blind leading the blind, but with this difference, that not they only, but the public fall into the ditch.

The fact is that it is the public who suffer the most under the present chaotic distribution of doses. It is they who pay with their health or their lives for the prescriber's limited or wrongful use of drugs. Although, therefore, the compilation of the *Pharmacopoeia* is entrusted to the General Medical Council it is a Government publication, and as such the rights and interests of the general population must be paramount.—I am, etc.,

London, S.W., Nov. 3rd. RALPH W. LEFTWICH, M.D.

DIAGNOSIS OF SYPHILIS.

SIR,—The Public Health Committee of the Chelsea Borough Council has made arrangements with the Lister Institute of Preventive Medicine for the carrying out of the Wassermann blood reaction free of charge for medical practitioners attending the poorer class of patients residing in Chelsea.

Outfits can be obtained at the Lister Institute, and samples of blood may be sent either to establish a diagnosis in suspected cases, or during the treatment of cases to ascertain the efficacy of treatment. The name and address of the person from whom the blood is taken must be included in the particulars required of the case for the information of the medical officer of health as to the status of the patient, and his being a resident in the borough. Such information will be treated in the strictest confidence, and no use whatever will be made of it to the detriment of the patient.

It does not seem feasible at the present time to arrange

[1] Wilkinson, Camac W.: *Tuberculin in the Diagnosis and Treatment of Tuberculosis*, 1912, p. 423.

for the microscopical examination (dark-ground illumination method) of discharge or material from chancrous sores, as it would seem desirable that such material should be taken direct from the patient by the expert who makes the microscopical examination, owing to possible errors in collecting material by unskilled persons, and the effects of drying or other changes upon such material in transit to a laboratory for examination. Negative results in the determination of spirochaetes under such circumstances might give rise to unfortunate conclusions. No doubt this is a matter which will receive early consideration by the Royal Commission now sitting.—I am, etc.,

LOUIS C. PARKES, M.D., D.P.H.,
Medical Officer of Health, Metropolitan Borough of Chelsea.

November 22nd

THE ROYAL COMMISSION ON VENEREAL DISEASES.

SIR,—Would Colonel Myers add to the interest of the case quoted, where he abstained from informing "a very respectable married couple" that their baby had undoubted syphilis, what steps were taken to ensure: (1) That the unfortunate victim received adequate treatment; (2) that the wickedness of producing other children similarly handicapped was impressed on the "respectable" but erstwhile ignorant parents; (3) that the "respectable" parents were prevented as far as possible from developing the results of untreated syphilis?

Patients have so little realization of the necessity of continuous treatment when the symptoms are comparatively painless that it would be instructive to learn how he accomplished what was manifestly his duty to the parents, their child, and the State, of which he is a defender. It is impossible to credit that any sentimental reason would justify silence causing serious risk of any of these points being ignored. Arguing even on emotional grounds, what parent, worthy of the name, would not prefer to know that his or her partner had sinned in the past rather than hazard the results of neglected disease of this kind to the child and probably to its future brothers and sisters?—I am, etc.

November 16th. "PRO BONO PUBLICO."

THE CAUSE OF RHEUMATOID ARTHRITIS.

SIR,—Dr. Garry expresses the opinion that my theory that rheumatoid arthritis is due to deficient action of the sweat glands is as untenable as attributing phthisis to increased action of the sweat glands. Every thinking man knows that the sweating of phthisis is an effort of Nature to remove the excessive products of destructive metabolism which occurs in advanced cases of that disease.

Dr. Garry ridicules defective sweating as a cause of rheumatoid arthritis, and then at once proceeds to advocate treatment by hot mud baths at Postyen, really one of the most effective methods of restoring and increasing action of the sweat glands, and states that a local museum of old crutches attests the success of the treatment.

There used to be an old way of treating the disease in a certain Yorkshire valley by covering the patient with hot cowdung, which also produced perspiration and relief.

If the mud and the cowdung bath had been used *cold* with success, then, indeed, one might be justified in stating that the cure was due to some mysterious radio-active or other emanation, and not to sweating. Why should we advise our patients to lie in a filthy cowdung or mud bath when we can obtain the same effect in a clean way by a hot air or vapour bath, which can be used whenever necessary over long periods at home, instead of sending them for a short period at great expense and business inconvenience to some place abroad?

I have quite recently seen a patient whose shoulder and hip were so fixed by pain that he could hardly walk across a room, and who, after two or three hot-air baths (a six-penny gas-burner and a cane-seated chair were the apparatus used), was able to walk twenty miles before lunch, without undue fatigue, in spite of his fifty years. Rheumatoid arthritis occurs in people who are bad sweaters, it is aggravated by chills or anything else which checks sweating, and is relieved by any means which increases sweating, such as heat, warm climate, or alkaline medicines, and it is just as logical to say it is due to sweat block as it is to say that jaundice is due to bile block, or uraemia is due to urinary block; indeed, blocked sweat glands cause death more quickly even than kidney block, as proved by the cases quoted in my previous letter.

The fact of the matter is this: that unless the blood is kept at a certain blend by the normal action of the various secreting and excreting glands, there is bound to be trouble. To the immortal advice to "purge, forswear sack, and live cleanly" one might add, "and sweat freely."—I am, etc.,

Sunderland, Nov. 1st. THOMAS A. WATSON.

YEAST INFECTION IN CHILDREN.

SIR,—In my short communication I did not intend to say anything to offend Mr. Foulerton. If my paper was not so elaborate as to overwhelm him with its copiousness, this was because I did not take myself or thrush too seriously. I shall try to bolster up my irresponsible statements.

1. Vuillemin referred the thrush fungus to endomyces in 1898. That his work was not satisfactorily confirmed may be gathered from Guilliermond.[1] With its foreword by Dr. Roux this little book from the Pasteur Institute may be taken as authoritative. I have briefly discussed the nature of the thrush fungus,[2] and given some reasons for not accepting unreservedly Vuillemin's view. I have other reasons.

2. Our controversy has nothing to do with San Felice's *Sac. neoformans*, and it is unnecessary to scare me with the ghost of a buried mycology. Guilliermond[3] does not regard it as a saccharomyces—who does?

3. In 1911, working at a yeast infection apparently starting at the tonsil, I applied to Mr. Goadby for information about his pathogenic mouth yeasts.[4] He kindly gave me a culture marked *Sac. neoformans*. As I failed to get endospores by the usual methods, it was permissible to regard it as possibly a torula and not a saccharomyces. This proved true, and I got it in mycelial form as a monilia. Now the best-known monilia in the mouth is the thrush fungus. As descriptions vary so much, I isolated this organism from typical cases, and growing these side by side with Mr. Goadby's organism repeatedly soon satisfied myself as to their identity.

4. Meanwhile it occurred to me that as Mr. Foulerton had not found endospores in *S. tumefaciens albus* (which interested me as having been found in sore throat), it was possible that he, too, had been working with a yeast-conidial form. At all events the source of these two pathogenic organisms was the same—the mouth—in which torulas are much more frequent than saccharomycetes.[5] In the mouth may be found many fungi, but of the budding fungi need be considered only saccharomycetes, monilias, and torulas (yeast-conidial forms of unknown position). Mr. Foulerton is aware[6] that the thrush fungus may be subcultured indefinitely in yeast form on some alkaline media. Mr. Goadby had it in this form on glucose agar. My own experience has taught me that this sometimes holds good for wort agar also. It follows, therefore, that among torulas from the mouth one must be prepared to meet with the thrush fungus masquerading in conidial form as a yeast. Hence the importance of determining whether one is dealing with a sporing yeast (saccharomyces) or a non-sporing yeast (torula). It is obvious also that in dealing with such slippery and evasive organisms it is important to have some constant to which to pin them down. For this reason monilias have been overhauled by the saccharomycologists, and the collaboration of workers like Paul Lindner and Emil Fischer has given us a carefully devised scheme of sugar gymnastics which safeguards results, provided always we do not put an organism of which we know little into a sugar of which we know less.

S. tumefaciens albus fermented maltose but not lactose. The absence of information as to saccharose is to be regretted. If it was not fermented the inference is clear. The maltose non-saccharose fermenters are so rare among saccharomycetes that Klocker can only give two, and one

[1] *Les levures* (1912), p. 497.
[2] *Lancet*, July 5th, 1913, p. 44.
[3] Op. cit., p. 485.
[4] *Lancet*, December 25th, 1909, p. 1877.
[5] BRITISH MEDICAL JOURNAL, October 12th, 1912, p. 872.
[6] *Trans. Path. Soc.*, 1901, p. 270.

of these is from Japan.[7] In old books on fermentation only one was given, the notorious *S. albicans*[8] which has been known since 1890 as *Monilia albicans*. Bearing in mind its source we should not err far if in this case we regarded *S. tumefaciens albus* as the same organism. This sugar behaviour alone enables one to distinguish the torula form of *M. albicans* in any organism from the mouth.

If saccharose was fermented undoubtedly saccharomycetes must be reckoned with. Mr. Foulerton declares that mycelial forms did not ever occur on any medium; as he used potato I must point out that this is an excellent medium for inducing sporulation in saccharomyces. In his careful search for mycelial forms on this medium, he could scarcely have failed to find endospores if present. Though there is no evidence that he sought for them eagerly, he must not on this account expect his organism to be accepted unreservedly as a saccharomyces. The fact that he did not find them in an organism with which he worked for months is strong presumptive evidence against a saccharomyces. The small size, the vacuoles even in young cells with their prominent metachromatic corpuscles, and the photomicrograph are strong corroborative evidence in favour of a torula. Now torulas that ferment maltose are uncommon in Nature but common in the mouth, and I have always found the latter to turn out monilias. When these ferment saccharose Fehling's solution does not show reduction in the fermenting fluid as it ought in presence of active saccharomyces invertase; in short, one finds monilial invertase is present. This, along with the fact that raffinose is not fermented even incompletely and dextrin is, enables one to spot the "candida" group of monilias among mouth torulas. The non-fermentation of galactose by both groups is also worth noting, but of less importance.

In six cases of thrush I found *M. albicans* five times and *M. candida* once, and they are not uncommon in the mouths of adults. The casual guests in the mouth are probably the same to-day as in 1899. One frequently meets one agreeing in every respect with his description, but understanding better to-day how these acquire several aliases, one is more searching in the examination of their passports.—I am, etc.,

Ealing, W., Nov. 23rd. ROBERT CRAIK.

THE SCHOOL MEDICAL SERVICE.

SIR,—There has been a feeling of discontent for some time past among the majority of those actually engaged in the work of medical inspection of school children. In the greater number of areas an undue proportion of the work of these officers consists of the routine inspection of a large number of children, a considerable proportion of whom present no features of especial interest to a medical man.

The salary offered for the work is usually inadequate; the initial salary is in most cases too low; rarely is the increased value of the services of the officer acknowledged by an adequate increase in his or her salary. In a few areas, including Bradford and Brighton, this state of affairs either has not existed or has already been altered: arrangements have been made so that the medical officers actually inspecting the children are only required to inspect a more or less reasonable number of children in the year; the rest of their time being taken up in treatment of the defective children, etc. The grievance of inadequate salary is remedied to a certain extent in both these areas.

The feeling also exists that a result of the increased activity in the public health world in the last few years has been the creation of a large number of subordinate officials for whom there is but little outlook.

In order to improve the status of the officers engaged in the school medical service an organization has been formed within the Society of Medical Officers of Health. The advantages of this course over those of forming a separate association for the purpose are that the society can offer the benefits of many years of experience of organization; it has funds at its disposal and a journal; in addition many of those engaged in the school medical service are already members of this society. All those engaged in the service of education committees, either in an administrative capacity or as medical inspectors of school children, are eligible for membership of this group if members of the Society of Medical Officers of Health; membership of this society is open to the same class of the medical profession, including ladies, who are especially welcome.

The improvement of the status of the school medical service is a matter requiring careful handling by experienced persons. Prominent members of the Society of Medical Officers of Health have already afforded valuable service to the movement; Dr. Herbert Jones, one of the secretaries of the society, undertook the duties of chairman at the initiatory meeting; Dr. Alfred Greenwood, County Medical Officer of Health and School Medical Officer for Kent, presided at the first meeting of the group. In order to avoid the unnecessary inconvenience and expense involved by attending meetings in London it is desirable that groups of officers engaged in the school medical service should be formed in the branches of the Society of Medical Officers of Health. The arrangements for these groups would, of course, be made by the local members. The opinion, however, has been expressed by several of those who will become members of such groups in the branches that it would be desirable to hold the meetings on the same day as the ordinary meetings of the branch, so as to avoid multiplicity of journeys. In order to link up the groups in the branches with the central group it has been arranged that the Executive Committee shall include, in addition to the chairman, secretary, and treasurer, a representative elected by each of the groups formed in the branches.

The suggestion has been made that the groups might with advantage adopt as an item of their policy the following extract from the criticism of the Board of Education on the school medical service in London. The Board suggested that:

> Each assistant medical officer should be entrusted with other kinds of work—for example, the further examination of visual defects, public health work, including investigations of infectious diseases in schools, the medical inspection of children in secondary schools, scholarship candidates, etc., work in connexion with the special schools, research and laboratory work, and some share in the working of the administration arrangements. The work of treating minor ailments arises naturally out of the work of the inspection centre, and could most effectually be carried out in intimate conjunction with the work of the inspection centre by the officers responsible for that work.

The movement is not necessarily in favour of a school medical service independent of the Public Health Service or a school medical service *ad hoc*: certain of the members of the group have expressed themselves strongly as to the necessity of making all assistant school medical officers not only nominally but actually assistant medical officers of health.

It is hoped that as many as possible of those eligible for membership of the group will attend the next meeting, to be held on Saturday, December 6th, at 2 o'clock, at 1, Upper Montague Street, Russell Square, London, W.C.—I am, etc.,

C. W. HUTT, M.A., M.D.Cantab., D.P.H.Oxon.,
Senior School Doctor, Brighton; late Assistant Medical Officer of Health, Brighton.

Brighton, Nov. 14th.

CORRECTIONS.

SIR,—As the abstracts of reports of the proceedings of the British Oto-Laryngological Society printed in the BRITISH MEDICAL JOURNAL of the 30th August last (p. 552) and of the 22nd instant (p. 1384) in connexion with an important contribution of mine to otology, I note that my proper full name was omitted in the former, and certain assertions are attributed to me in the latter that were never made by me. These are, in fact, made to appear false to inquiring readers, by what appears to be a misconstruction of the text of the report that was made to you in common with other editors of the medical press. I write to submit these to your consideration, and to invite you to make thereafter in the next issue of the JOURNAL the corrections which I am sure you will not fail to appreciate as due to me. (1) On page 522, referred to above, my name is once mentioned and without my initials—thus, "Dr. McCulloch." As I am not the only person of this name in the medical pro-

[7] Lafar, *Techn. Mycology*, vol. iii, pt. 2 (1910) p. 282.
[8] *Principles and Practice of Brewing*, Sykes and Ling, p. 390.

fession of this country, this omission effectually obliterates my identity. (2) The description of the degree of labyrinthine deafness in those four cases, as independently otologically tested, was "extreme." This qualifying word was omitted. (3) On page 1384 of the issue of the 22nd instant there occurs the statement:

> Dr. H. D. McCulloch, in a paper on the therapeutics of radio-active agencies in disease, with special reference to the cure of chronic nerve deafness and deaf-mutism, stated that since the date of his original statements on this subject a good deal of corroborative evidence had accumulated abroad.

No such statement was made by me, as this is not true. If you will take the trouble of referring to the report that was sent to you, you will find that I made no such statement with regard to the therapeutics of radio-active agencies in the cure of chronic nerve deafness. Indeed, there have been only two corroborations of this particular original work of mine abroad, as far as I am aware—namely, the one case reported by an aural surgeon at Boston, U.S.A., in August last year, and those cases reported on page 558 of the *Medizinische Klinik* of Berlin in its issue of April 6th last by Dr. Hugel. But the particular connexion in which I cited the experience of others abroad was distinctly stated in the report which you received in common with other editors. It was in the following terms:

> Dr. McCulloch incidentally drew attention to the important immunizing effect in subacute infectious processes, referring to his previous contributions on that subject, and to the amount of corroborative evidence that had since accumulated abroad.

You will find this item correctly reported as such in the *Lancet* of the 15th instant on page 1396.

(4) You omitted to mention the establishment of my priority in this field of otology, or the fact of the circulation of my paper previous to the meeting. (5) You omitted to mention some of the favourable comments that were made and the names of those others who took part in this discussion, while you mention every word of such unfavourable criticism as happened to be offered, without even inserting the fact that "Dr. McCulloch replied."

As such reports are calculated seriously to damage my professional reputation in the minds of my medical friends, as well as to frustrate the object of my long researches for the benefit of humanity at large, I shall be obliged to take serious action in the matter (and on this occasion not in the constitutional manner, to which I have hitherto confined myself) unless you comply with this reasonable request for correction, giving such correction a prominence at least equal to the misconstructions of which I complain.—I am, etc.,

London, W., Nov. 26th. H. D. McCulloch.

LONDON MEDICO-PSYCHOLOGICAL CLINIC.

Sir,—Will you kindly allow me to state in your columns that I am no longer on the Committee of the Psycho-Medical Clinic?—I am, etc.,

London, W., Nov. 26th. Constance E. Long.

Sir,—As my name has been given as a supporter of a proposed psycho-medical clinic I shall be obliged if you will allow me to say that I gave my support under a misapprehension of the institution's aims and constitution.

I have withdrawn from association with it, and I should only support a movement conducted on strictly professional lines.—I am, etc.,

London, W., Nov. 22nd. Chas. Lloyd Tuckey, M.D.

At the festival dinner of the Great Northern Central Hospital on November 20th, Sir Felix Schuster, who was in the chair, said that the hospital was the only general hospital in Islington, which, with its 350,000 inhabitants, was the largest borough in London. The available accommodation during the last concluded year was 185 beds, and in these 2,517 persons received in-patient treatment. The nursing staff was at present very badly housed, and if new accommodation could be provided for them at a cost of £12,000 it would be possible to receive more patients. The accumulated maintenance debt of the hospital was approximately £10,000, but during the course of the evening donations to the amount of £7,488 were announced.

The Services.

DUBLIN UNIVERSITY VOLUNTARY AID DETACHMENT.

Last week the Dublin University Voluntary Aid Detachment held its first annual meeting in Trinity College. The report stated that in March, 1911, the idea originated of starting a Voluntary Aid Detachment of women students and graduates of Dublin University, the prime movers being Dr. A. T. Dixon, professor of anatomy, Dublin University, and Dr. Lily Baker, demonstrator in anatomy to the women medical students. The preliminary course of lectures were given by Dr. Lily Baker, and those on nursing by Dr. Ella Webb. The detachment was registered under the Territorial Branch of the St. John Ambulance Association in June, 1912, and thus became a nursing unit of the Territorial Force. In the event of war or national emergency the members agree to serve as army nurses in their own country. The latest addition to the means of training has been the opening to the corps of the Drumcondra Hospital, the members each being allowed to put in one week in the wards under the direction of the nurses. During the last two summers the corps has gone into camp in the country, and has been provided with a certain amount of hospital equipment by the St. John Ambulance Association. This year flag-signalling has been added to the general course of ambulance instruction. The Provost, Dr. Traill, distributed the prizes and medallions won during the year.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Annual Meeting of Fellows and Members.

Mr. G. B. Makins, C.B., Vice-President of the College, presided at the annual meeting of Fellows and Members on November 20th at 3 p.m.

Chairman's Introductory Remarks.

Mr. Makins first expressed the regret of the Council that the President, Sir Rickman Godlee, had been prevented from attending the annual meeting. He referred to the important part which he had been called upon to take in the inauguration ceremony of the American College of Surgeons. In presenting the report he briefly referred to certain paragraphs. In regard to the Insurance Act he informed the meeting that since August 1st a watching committee of the Joint Committee had been appointed. The object of this committee was to collect information in regard to the working of the Act, and to advise when any event rendered action desirable.[1] After referring to the paragraphs dealing with the title of "Doctor" and with the report of Mr. Golding-Bird on the work of the Central Midwives Board, he called attention to the statement of expenditure of the College on the Queen Square estate. This statement showed that the amount received by the College from the sale of the old examination hall was roughly £2,600 less than the amount expended on the new building; all of this, save £500, had now been paid. As a set-off it was to be remembered, first, that the College had a freehold hall which was built in such a manner as to give complete satisfaction to all concerned; and, secondly, that the working expenses had been reduced by £1,000 a year as far as the College of Surgeons was concerned. The number of Fellows and Members received into the College, as well as the number of licences in dental surgery and diplomas in public health and tropical medicine, was approximately the same as in previous years; this Mr. Makins ventured to consider satisfactory. Lastly, he spoke briefly on the statement of income and expenditure.

Questions.

Dr. Sidney C. Lawrence, the Honorary Secretary of the Society of Members, asked a number of questions, to which Mr. Makins replied. Among these was one dealing with the courtesy title of "Dr." Dr. Lawrence inquired why the courtesy title was not given on the agenda paper to Mr. Brindley James. He considered that as an act of courtesy the Council should do this without being asked. The Chairman stated that if Mr. James had intimated a desire to be called "Dr.," the Council would have placed this title before his name on the paper. Dr. Lawrence further asked who was bearing the expenses of the President on his visit to America. The reply was that the President himself was probably paying all his expenses; the College was not doing so.

Sir Victor Horsley pressed for a reply to his question regarding the interview at the Home Office on the subject

[1] British Medical Journal, November 15th, 1913, p. 1336.

of the scarcity of bodies for dissection and other teaching purposes. It appeared from the reply that the Home Office did not suggest introducing legislation, and Sir Victor Horsley insisted that this meant that nothing would come of the action taken.

Dr. Nelson Hardy suggested that the Council should consider the advisability of co-opting Members or Fellows in general practice on to the Insurance Joint Committee. Mr. Makins resisted the proposal, as he considered that the Committee would be more valuable with its present constitution. The suggestion would, however, be considered in Council. Dr. Morton also asked some questions, as did Dr. Collingwood and Dr. Oldfield.

Direct Representation.

Dr. J. Brindley James moved the following resolution:

> That this twenty-ninth annual meeting of Fellows and Members again affirms the desirability of admitting Members to direct representation on the Council of the College, which, as now constituted, only represents those Members who also hold the Fellowship; and that it does so in order that the constitution of the Council of the Royal College of Surgeons of England shall be in keeping with modern ideas of true representation.

He contended that this resolution, which had already been passed without opposition twenty-eight times, had received wide support from the Fellows of the College as well as from the Members. The late Sir Jonathan Hutchinson had expressed himself to the effect that the Members had a moral right to be represented on the College. He maintained that the conduct of the affairs of the College would be beneficially affected by the admission of a few Members. At present the exclusive election of operating or hospital surgeons was disadvantageous to the profession, for they did not take a sufficiently wide survey of the matters of importance. There would be no damage to the privilege of the Fellowship by the admission of suitable Members. Members were at present eligible to hold office as examiners, professors, and prizemen; why not also to serve on the Council?

Dr. Sidney Lawrence, who seconded, regretted the retirement of Dr. Joseph Smith, who had led the Society of Members for so many years. Owing to advancing years he had been forced to step down, but still continued to give his moral support to their scheme. He maintained that the Society of Members had been of the greatest possible use to the College. After stating that some of the Members of the Council thought it extremely stupid and foolish for the Council to maintain a position of obstinacy, and that they did not even represent the majority of the enlightened Fellows, the speaker referred to the result of the interview with the Government in 1907 on this subject. He expressed the opinion that the reason why the Council had not told the Members the result of that interview was that the Government's reply was favourable to the Members. He then dealt with the official reply to the resolution passed last year. He applauded the courage of Sir Alfred Pearce Gould for having attempted to give a reply at the meeting, but condemned Sir Rickman Godlee for his silence. The reply of the Council this year was a reference to a report issued in 1907, which report was inaccurate where it was not insolent. The courses it was open for the Members to take if the Council persisted in its present attitude were many. They could influence students not to take the diploma of the Conjoint Board, but to go to some provincial university and get a degree. Sooner or later the Society of Members would adopt a more active policy. He expressed the hope that the Council would be sensible enough to see that it was in the highest interests of the College to accept the resolution.

Dr. Vincent Bell supported the resolution, but at the same time dissociated himself from what had been said by the proposer and seconder. He advocated acceptance of the resolution as a means of removing the attacks which the Society of Members made on the Council year by year, and he also considered that in many instances Members were only prevented from obtaining the Fellowship of the College by financial reasons.

Dr. Collingwood contended that in the twentieth century there could be no question as to the right of members of a corporation having a say in its government. The time was past when the legal right obtained by charter or Act of Parliament of autocratic government of any society could be upheld. It had become absurd. The Members had not used force in any form in their endeavour to obtain their rights, and the Council had therefore relied on apathy in their resistance.

Sir Victor Horsley moved the adjournment of the debate. He did so for two reasons of first importance. The first was the constitutional question. Last year Sir Rickman Godlee had maintained silence when invited by him to give the reasons why the Council refused the Members their elementary rights. In his closing speech, he (Sir Victor Horsley) had pointed out that Sir Rickman Godlee, as President of the College, would have the opportunity of replying this year. He regarded the fact that Sir Rickman Godlee had made a statement at the Apothecaries' Hall shortly after last year's annual meeting as a breach of courtesy. He claimed that the meeting had a right to a definite reply. Until they knew the reasons for the refusal, it was not possible to go to the Privy Council for intervention. That reply must be given by the President, and for this reason it was essential that the debate should be adjourned until he had returned from America. The second reason was that a disciplinary point had arisen in the conduct of the President in the hearing of penal cases, which had resulted in the removal of two Members from the list.

The Vice-President stated that he was unable to accept the motion, but on being pressed, allowed Dr. George Jones to second the motion, before finally deciding the point. Dr. George Jones urged that the President only could speak as the mouthpiece of the Council. But apart from this very strong reason for the adjournment, the second reason was still more powerful. Sir Victor Horsley had in polite terms practically suggested a vote of censure on the President, and since Sir Victor Horsley would not attack a man save to his face, it was necessary to give the President an opportunity of defending himself on a personal charge. On the point of procedure, he urged that every society and meeting could, if they desired, adjourn a debate.

Mr. Makins refused the motion. Dr. Oldfield said that according to the Charter of the College the Members had no powers or rights whatsoever, since the Chairman could terminate a meeting or stop a Member from speaking.

The Chairman declined to allow Dr. Oldfield to proceed on this point, and Dr. Oldfield then spoke to the original motion. He asked the Council what it was doing for the Members. They wanted comfort, help, and advice. The Members, by the provisions of the Charter, were quite impotent. They looked to the Council for their rights, but always got the same answer. They would get it again this year. On referring to the reply published, he found that in the year 1907 the Council had conceived and brought forth a child, of which it appeared to be very proud, for it always referred to this child-reply since. (Sir Victor Horsley interjected that the child was mentally defective.) But the Council had been sterile since that year. The Council appeared to think that when the annual meeting amended the resolution referring to the action of the Council on the insurance question, the meeting had approved of this action. In reality it had been sarcastic, and only approved of the action "so far as it goes." The reference in the report to this was an insult to the Members. In their reference to the representation question the Council had not met the Members at all. He suggested one of two methods. The Council could either select a suitable Member each year, and by making him an Honorary Fellow take him into the Council, or it could apply for a supplementary Charter.

Dr. F. G. Larkin suggested that the attitude of the Members might be prompted by some jealousy.

Dr. George Jones indignantly repudiated this suggestion, and added that it was ridiculous to bring forward reasons for or against this resolution; it merely sought to uphold the principle of representative government, which had long since been accepted as the only reasonable form of constitution. His concluding remarks included a survey of parliamentary and other forms of central as well as local government of the present day.

The resolution was put to the meeting and carried *nemine contradicente*.

Financial Resolutions.

Dr. A. S. Morton moved:

> That this meeting of Fellows and Members requests the Council to include in their next annual report a balance sheet, showing fully and without reserve the assets and liabilities of the College on Midsummer Day, 1913.

He began by criticizing the items in the income and expenditure account published in the annual report, and was requested by the Chairman to address himself to the question of a balance sheet. Continuing, he criticized the expenditure of the Council in certain instances. He particularly pointed out that the items dealing with the printing and production of the *Calendar* and *Catalogues*

were large, while a very small sum resulted from the sale of these publications.

Dr. Oldfield seconded the motion, and at the same time, with the permission of the Chairman, covered those points dealt with in the following motion, in order that when the time came he could merely move it without speaking again. He made a special point of the fact that the expenditure on the examinations for the Membership was low as compared with the large revenue from this examination, while in the case of the Fellowship the income was only a little in excess of the expenditure. He asked questions in regard to the various items of expenditure, and then turned his attention to the assets of the College. He made various suggestions as to the best means of spending the balance. The motion was put and carried, 12 voting for and none against.

Dr. Oldfield then formally moved:

> That this annual meeting of the Royal College of Surgeons places on record that it is not satisfied with the administration of the College finances as carried out by the Council, and resolves that such steps as are within its power to take, if any, shall be taken by this annual meeting to remedy the same, and that, if it has no power, steps be taken to secure for it the necessary authority.

Dr. Lawrence seconded in a short speech. He objected to the expenditure on the dinner, and Sir Victor Horsley expressed the opinion that it was absurd to make out that the dignity of the Council would be enhanced by the holding of an annual dinner. The moneys expended would be very properly given to the British Medical Benevolent Fund, in aid of some of the many distressing cases which were dealt with by that Fund.

The Chairman replied to the criticisms raised in the two discussions. In regard to the *Catalogues* and *Calendar*, it was obvious that the cost must be high, and that the sale must be extremely limited. The value of the publications, and indeed their necessity, could scarcely be challenged. The other points were dealt with severally.

The resolution was carried by 10 to 0.

Count-out.

Dr. W. G. Dickinson was then called upon to move a further resolution, when he pointed out that there was not a quorum of Members and Fellows in the theatre. This having been confirmed by a count being taken, the meeting terminated automatically.

The "Calendar" of the Royal College of Surgeons of England.

The *Calendar* of the Royal College of Surgeons of England for 1913 includes the usual list of officers, professors, lecturers, examiners, Members and Fellows, with charters, by-laws, and the annual report of the Conservator of the Museum. One rather conspicuous feature is the list of fifteen new Honorary Fellows elected last July. Of the Honorary Fellows elected only thirteen years ago, no fewer than sixteen are dead, including the late King. His present Majesty was elected in 1909, when Prince of Wales. There are now 1,589 Fellows on the ordinary list. Of these 1,556 obtained the diploma by examination, 27 were elected as Members of twenty years' standing, 4 elected otherwise, 1 (Eleanor Davies-Colley) Fellow by examination under the Medical Act of 1876, and 1 (Arthur E. J. Barker) elected *ad eundem*. In the Chronological Register of Fellows, the familiar names of Barwell and Bryant head the list, under the date 1853. The total number of Members amounts to 17,126, and there are still 287 who hold the long-suppressed diploma of Licentiate in Midwifery. The Licentiates in Dental Surgery number 2,559, the Diplomates in Public Health 786, and the Diplomates in Tropical Medicine and Hygiene, holding the diploma granted conjointly with the College of Physicians, number 15. The change from the Embankment to the new Examination Hall in Queen Square has proved financially advantageous, but large as the balance of income over expenditure has been, it has not been large enough to cover the depreciation during the year of the securities held by the College, amounting, as this does, to £8,874. All the expenses incurred by the building of the new Examination Hall have been paid, excepting a sum of £500 still due to the builders. The Librarian, Mr. Victor Plarr, reports that during the past year the library was open on 275 days, and that the number of readers was 8,380, an average of 30 a day, a slight decrease, due, the Librarian believes, to the fact that visitors to the library often neglect to sign their names in the book kept in the hall of the College for the purpose.

The Administration of the Royal College of Surgeons.

Dr. Josiah Oldfield (London, E.C.) writes:

It must be a matter of deep interest to every reader of your Journal to know that at the annual meeting of Fellows and Members of the Royal College of Surgeons there was not a single Fellow or Member to be found there to support the conduct of the College by the Council. It is pathetic in the extreme to find distinguished surgeons of worldwide eminence so blind to the spirit of the age as to find themselves at an annual meeting without a single friend or supporter.

It is quite evident that the matter cannot stay where it is. Twelve members of the Council were present, and not one of them was able to say a single word in support of their persistently obstructive attitude against the wider and wiser administration of the College. Upon the face of it their administration must stand condemned, since not a single Fellow or Member of over 10,000 of which the corporation consists could be found to come and support the Council in the face of resolutions which condemned their attitude.

In these days it is impossible for a few highly placed officials to combat the unanimous demand of thousands of their fellow-members of the corporation, and since for nearly twenty years the Council of the College have definitely refused to take any steps for giving Members full voting power, or a seat on the Council, the only alternative is for the unanimous body of Members to petition for an alteration of the Charter.

I venture to suggest that there would be two simple ways which would to some extent meet the needs of the case—namely, the power of the Council under its present charter to elect two Members to the F.R.C.S. annually without examination; therefore, if the Members themselves selected one of themselves, and the Council honoured their choice with an F.R.C.S. and a seat on the Council, one would feel that, at any rate, the Council took some interest in and appreciated to some extent the administrative capacity of its members.

The other alternative I suggested was that under its present Charter the Council could constitute a quarterly meeting of Members for the purpose of acting as a legislative and consultative body; their resolutions would then have to come before the Council for ratification before becoming valid.

The present condition of the Council is that they take no interest in or care for the present needs of the medical profession, as represented by the great body of Members, and that therefore we who are Members of the College possess no legislative body and no organization which will protect or help us in the times of stress through which we are passing.

Since the Council will neither do the work that is required, nor allow others to do it, the only alternative is to take steps to alter the Charter, and the annual meeting decided that within certain limits this should be done.

University of Cambridge.

The following degrees have been conferred:

M.D., B.A.—I. Peters.
M.B., B.C.—J. B. Hance, R. Hodson.
M.B.—H. F. Comyn.

University of London.

The following candidates have been approved at the examination indicated:

Third M.B., B.S. (*Both Groups*).—*†H. J. O. Ewing, *H. L. H. Greer, *A. E. Hallman, *L. M. Ladell, *A. C. Palmer, *C. E. Thornton, J. Appleyard, C. H. Attenborough, Margaret M. Basden, A. C. L. O. Bilderbeck, G. F. Bradley, A. J. Clarke, R. J. Clausen, F. W. T. Clemens, J. A. Cowan, J. M. Curé, J. P. Davies, R. D. Davy, S. F. Dudley, W. H. Eggar, Pattie R. Elliott, A. S. Erulkar, D. M. Gibson, C. E. A. Goddard, C. F. Hacker, C. C. Harrison, G. M. Heiron, P. H. Henson, M. Hocken, T. H. Holroyd, J. M. Joly, W. H. Jones, T. P. Kilner, W. Leslie, Muriel A. Lloyd, Margaret J. M'Enery, G. Matthews, H. B. Parker, Hilda M. Pollard, W. J. A. Quine, H. M. Rashbrook, A. E. Roberts, A. D. Rope, D. Ross, A. L. Shearwood, H. Smith, E. N. Snowden, E. S. Sowerby, J. Vaughan-James, H. B. Walker, E. W. Whiting, G. Whittington.

* Passed with Honours. † University Medal.

Group I Only.—T. I. Bennett, Mabel K. Bishopp, G. M. Campbell, A. S. Cohen, M. B. Cooper, W. E. Milligan, B. Woodhouse.

Group II Only.—F. C. Alton, J. Bostock, L. G. Bourdillon, G. J. Bowen, A. R. C. Doorly, H. W. Evans, C. H. Gould, F. A. Grange, W. E. Kingdon, L. Levene, R. J. M. Love, Ethel M. Magill, W. J. Morris, J. L. Priston, M. Radford, C. S. L. Roberts, W. Simpson, J. S. Sloper, F. G. A. Smyth, H. J. D. Smythe, H. Webb, A. H. White.

UNIVERSITY OF SHEFFIELD.

Department of Pathology.

Mr. J. H. Dible, M.B., Ch.B.Glasg., has been appointed to the post of Junior Demonstrator in Pathology, vice Dr. Douglas, resigned.

For the John Hall Gold Medal in Pathology William Barnsley Allen and Gordon Fowler Stones have been bracketed equal.

UNIVERSITY OF EDINBURGH.

UNIVERSITY COURT.

At a meeting of the Edinburgh University Court on November 17th, Principal Sir William Turner in the chair, the Senatus reported that William Russell, M.D., F.R.C.P.E., had presented his commission as Moncrieff Arnott Professor of Clinical Medicine, and that he had been duly admitted a member of the Senatus Academicus. It was reported that the Senatus had elected Professor Harvey Littlejohn, M.D., as one of its assessors on the University Court, in succession to Sir Thomas R. Fraser. The Court resolved to record in its minutes its sense of the valuable services rendered to the University Court by Sir Thomas Fraser during his tenure of office extending over a period of fully ten years.

Dr. Carnegie Dickson was appointed Lecturer on Applied Bacteriology. On the recommendation of the Senatus, recognition was granted to the following extra-academical teachers, whose courses of instruction shall qualify for graduation in Medicine: F. Stanley Kipping, Ph.D., D.Sc., University College, Nottingham (Chemistry); Miss Jessie E. Minor, Huguenot College, Wellington, South Africa (Chemistry). Committees were appointed to report as to several additional examinerships about to fall vacant, including Veterinary Hygiene, Medical Physics, Clinical Surgery, and Practical Surgery.

It was also agreed to grant the use of rooms in the University in connexion with the Congress of the Royal Institute of Public Health, to be held in July next.

SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have been approved in the subjects indicated:

Surgery.—*†H. V. Capon, *†W. R. Sadler, †H. C. Wright.
Medicine.—*G. F. Malden, *†B. C. Piercy, *†D. Schonken, *W. Smith.
Forensic Medicine.—C. Bluett, A. K. S. Wyborn.
Midwifery.—E. M. D. N. Baker, L. Baumgarten, C. Bluett, B. C. Piercy, D. Schonken, J. D. Schonken.

* Section I. † Section II.

The diploma of the Society has been granted to Messrs. W. R. Sadler and H. C. Wright.

Obituary.

MATHIEU JABOULAY, M.D.,

PROFESSOR OF CLINICAL SURGERY, UNIVERSITY OF LYONS.

Among the victims of the railway accident at Melun on November 4th was Professor Jaboulay, the distinguished surgeon of Lyons, whose remains were not found till November 8th. He was born at Saint-Genis-Laval, near Lyons, in 1860, and studied medicine at the Lyons Faculty. He was appointed demonstrator of anatomy and head of the anatomical department in 1886, almost immediately after taking his doctor's degree. In 1888 he won the title of *professeur agrégé*, receiving a very high compliment from Professor Farabeuf on the occasion. After serving as assistant under Poncet, he was in 1892 appointed surgeon to the hospitals, and in 1902 succeeded Ollier in the Chair of Clinical Surgery. He was a singularly rapid and skilful operator, and his teaching brought crowds of students to his lectures. He was a man of great originality of mind, and among the subjects to which he devoted special attention were operative procedures for the relief of gastric crises, the treatment of exophthalmic goitre by section of the sympathetic nerve, incontinence of urine, exothyropexy, trophic disturbances of the lower limbs, vascular anastomosis, and perforating lesions. Of his works may be mentioned a treatise on the surgery of the nerve centres, the viscera, and the limbs; lectures on clinical surgery, a monograph on hernia, and a number of memoirs on different subjects. He invented an anastomotic button intended to take the place of sutures in gastro-intestinal operations and to ensure greater rapidity in the completion of operations. He was the first in France to perform choledochotomy. In recent years he gave much time to researches on cancer, which he believed to be of parasitic origin. In spite of a somewhat distant and retiring disposition due to modesty, he was among the French surgeons best known in foreign countries. The coldest of men in appearance, he was in reality most affectionate, and to intimate friends most open, fascinating, and generous. He was a man of rare disinterestedness, and was held in the highest respect by his colleagues. His loss is greatly felt, not only by his own school of Lyons, but by the whole of France. His funeral took place at Lyons on November 13th. The obsequies were held in the chapel of the Hôtel-Dieu. The municipal council has decided to give his name to one of the streets of the city.

JAMES ACWORTH ANGUS, M.R.C.S., L.S.A.,

NEWCASTLE.

The death of Dr. James Acworth Angus, on October 18th, removed one of the older medical practitioners in Newcastle-upon-Tyne.

Descended from an old yeoman family, he was born in 1836 at Gateshead, and received his medical education at the Newcastle School of Medicine; he took the diploma of M.R.C.S.Eng. in 1857, and after an experience of country work settled in general practice in Newcastle-upon-Tyne. In addition to carrying on an extensive practice he had held the posts of Medical Superintendent of the Newcastle-upon-Tyne Hospital for Incurables, and of Honorary Surgeon to the Hospital for Diseases of Skin. His contributions to medical literature included "The Treatment of Spina Bifida" (British Medical Journal, 1875), and "Haemorrhage in Abortion" (ibid., 1879).

On the formation of the Newcastle Rifle Volunteers he was appointed its first Surgeon, and had for his commanding officer another medical man—the late Sir John Fife.

Dr. Angus was a man of fine physique, fond of outdoor sports, and was much respected by his medical brethren. He was a Conservative in politics, but took no part in public affairs. He died of a syncopal attack in his 78th year, and his remains were cremated at Darlington, the ashes being subsequently interred at Elswick, in the presence of a large gathering of relations, old patients, and many of the medical profession.

He was twice married, and is survived by his second wife, three sons and a daughter. One son, Mr. H. Brunton Angus, is joint Professor of Surgery to the University of Durham.

CHARLES McBURNEY, M.D.,

EMERITUS PROFESSOR OF SURGERY, COLUMBIA UNIVERSITY, NEW YORK.

Dr. McBurney, whose death was mentioned in the Journal of November 22nd, had just returned from a shooting expedition; his death was due to heart disease. He was one of the foremost surgeons in the United States, and was called in as a consultant when President McKinley was shot in 1901. He was born at Roxbury, Massachusetts, in 1845, and after leaving school entered at Harvard, where he took the degree of B.A. in 1866, proceeding to that of M.A. in 1869. On leaving Harvard he studied medicine at the College of Physicians and Surgeons, Columbia University, New York, where he took the degree of M.D. in 1870. He then held the post of interne at Bellevue Hospital for a year and a half, after which he continued his studies in London, Vienna, Berlin, and Paris. In 1873 he was appointed demonstrator of anatomy at the College of Physicians and Surgeons in New York; in 1882 he became lecturer on operative surgery, and in 1889 was elected to the chair of surgery and became head of the department. Increasing practice made such demands on his time that in 1902 he resigned the chair of surgery, though he continued to teach clinical surgery till 1907, when he was made Emeritus Professor. He was on the staff of several of the hospitals of New York, but his principal work was done at the Roosevelt Hospital, where in 1888 he was placed in full charge of the surgical service.

His contributions to the literature of surgery were numerous and valuable. Among the principal are an essay on "The Technic of Aseptic Surgery" in Gould and Warren's *International Textbook of Surgery* (1900), and a paper written in conjunction with Dr. Allen Starr, entitled, "A Contribution to Cerebral Surgery," which appeared in the *American Journal of the Medical Sciences*, April, 1893. The paper in which he described what is now universally known as McBurney's point was entitled "Experience with Operative Interference in Cases of

Disease of the Vermiform Appendix," and was read before the New York Surgical Society on November 13th, 1889. It was his work in connexion with appendicitis which made him best known, but he had many other titles to fame. He was one of the first to adopt aseptic measures, and the technique which he devised for this purpose at the Roosevelt Hospital is said to afford a model not yet superseded. He invented a number of procedures and instruments which have been widely adopted by surgeons. He was a man of great breadth and originality of mind, and as a teacher was before all simple and practical. He had the power of inspiring confidence both in his students and his patients. He was an Honorary Fellow of the Royal College of Surgeons of Edinburgh and the College of Physicians of Philadelphia, a member of the Surgical Society of Paris, the Roman Medical Society, the Medical and Surgical Society of Constantinople, the New York Academy of Medicine, the New York State Medical Association, the New York County Medical Society, the New York Surgical Society, the Medical and Surgical Society, and the Practitioners' Society.

For several years before his death Dr. McBurney had retired from practice.

DR. WILLIAM RUSHTON SHORT, died suddenly at Ealing on November 9th. He was educated at St. George's Hospital and at Durham University, where he graduated M.B. in 1887, B.S. in 1888, and M.D. in 1893. He took the diploma of M.R.C.S. and L.R.C.P.Lond. in 1890. After qualifying he served for some time as assistant medical officer of the Durham County Asylum. He then went to South Africa, where he was in practice at Johannesburg. During the South African war he served as a civil surgeon in the Natal Field Force from 1899 to 1901, and was present at the relief of Ladysmith. While in South Africa his health suffered, and he never entirely recovered. He acted for some time as surgeon on the Holt Line of steamers, and also practised at Dartford, but he completely broke down in health several years ago, and had since been living in retirement.

THE profession in Australia, particularly in Victoria, has recently lost one of its finest and most respected members by the death of Dr. FREDERICK JOHN CLENDINNEN; it took place in the Harold Fink Hospital, Park Lane, on November 6th. He was born in Melbourne in 1860, and received his early education at the Scottish College, where he was captain of the school during his last year. His medical training was obtained in London, and he afterwards studied in Edinburgh and Brussels. He returned to Melbourne, and soon developed a very extensive practice in that city. The study of *x* rays attracted him whilst this subject was in its infancy, and eventually all his time and thoughts were given to a study of the subject, not only from the clinical but the theoretical and mechanical side. Only a few weeks before his death he was engaged with the makers of *x*-ray apparatus in perfecting some ideas he had. Like most of the pioneers of this work, he suffered severely from *x*-ray burns, which assumed a malignant type necessitating amputation of three fingers. Still he worked on, and early this year visited England as a member of the International Congress, where his papers on radiology and colour photography were highly appreciated. As soon as the Congress was over he had to enter the above institution, where he was operated upon by Mr. Douglas Shields. He rallied somewhat, but his previous sufferings told against him and he died after twelve weeks. He was first Honorary Skiagraphist to the Melbourne Hospital, a post which he still held at the time of his death. His wife—formerly a Miss Welshman—was visiting London with him, and has since returned to her four children who mourn his loss. His eldest son, Dr. J. Clendinnen, will continue his father's work. His untimely death will be a great loss to the profession and citizens of Melbourne.

DEPUTY SURGEON GENERAL JOHN SCARSFIELD COMYN died lately at Southsea. He took the diploma of L.R.S.C.I. in 1857, and subsequently that of F.R.C.S.I. He graduated M.B.Dublin in 1874, and entered the Army Medical Department as assistant surgeon on January 22nd, 1858. He became surgeon in 1870, surgeon-major in 1873, and was specially promoted to brigade surgeon for services in the Egyptian war of 1882, retiring with a step of honorary rank from January 15th, 1883. His only war service was the Egyptian expedition of 1882, when he obtained the medal, with the Khedive's bronze star, as well as special promotion.

LIEUTENANT-COLONEL WILLIAM HENRY GREGG, Bengal Medical Service (retired), died in London on November 6th. He was born on January 30th, 1845, and was educated at Trinity College, Dublin, where he graduated M.B. and M.Ch. in 1869. He took the Sanitary Science Certificate at Cambridge in 1886, and the M.R.C.P. London in 1887. He entered the Indian Medical Service as assistant surgeon on October 1st, 1869, and became surgeon on July 1st, 1873, surgeon-major on October 1st, 1881, and brigade-surgeon-lieutenant-colonel on June 20th, 1894, retiring on December 4th, 1899. He served on the North-East Frontier of India, in the Lushai expedition of 1871–72, and received the medal for that campaign, with a clasp. On his return from service he was posted to civil employ in Bengal, where he was successively civil surgeon of Dinajpur, 1873–6; of Hughli, and lecturer in botany in Hughli College from 1877 to 1886; protector of emigrants, 1886–8; sanitary commissioner of Bengal, 1889–95; and civil surgeon of Bardwan, 1896–9. He was the author of *A Text-book of Botany* for Indian schools, published by Messrs. Thacker, Spink and Co., Calcutta, in 1883.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are: Dr. J. M. Aguilar, professor of gynaecology in the Medical Faculty of Granada; Dr. Gustav Bouisson, professor in the medical school of Marseilles; Dr. Joseph Grynfeltt, professor of clinical obstetrics in the medical faculty of Montpellier; Dr. Joseph Giustaneani, director of the Sanitary Service of Corsica; Dr. Emmerich Reczdey, head of the second surgical clinic of the University of Budapest; Dr. O. von Schwartzer, lecturer on mental diseases in the University of Budapest, first president of the National Sanitary Council, and vice-president of the Medico-Legal Senate, aged 60; and Dr. Richard H. Trautmann, representative in the Hamburg Hygienic State Institute, who had made a reputation by bacteriological researches in the province of acute and infectious diseases and methods of disinfection, milk sterilization, etc.

Medico-Legal.

DEATH CERTIFICATES AND UNREGISTERED PRACTICE.

AT Watford on November 10th a coroner's inquest was held on the body of a man whose death had been reported to the coroner as being uncertified, and ended in a verdict of death from natural causes. The evidence as recorded in the *Watford News Letter* was to the following effect. The patient fell ill on October 25th, and was attended by Mr. S. I. Lightfoot, who on November 5th asked for a consultation with another medical man, mentioning whom he would like to be summoned. This medical man, on receiving a telephone message, went to the house about midday and found there Mr. Lightfoot, who described the course of the disease and the treatment which had been adopted. The second medical man examined the patient himself, and agreed that it was a case of acute nephritis, and that the treatment that had already been practised was the best that could be adopted. He was summoned again by telephone the same evening, and he again found Mr. Lightfoot there, but the patient was moribund, and nothing more could be done. Subsequently, on being asked to give a death certificate, he visited the registrar and explained that he was unable to do so, partly because he did not think he had seen enough of the patient, partly because of the regulations of the General Medical Council. He was, however, satisfied that the patient had been properly treated, and that the cause of death was acute nephritis.

Before calling on any witnesses to give evidence the coroner, addressing the jury, mentioned that they were probably aware that Mr Lightfoot was a medical man whose name had been removed from the *Register* by the General Medical Council for reasons known to the jury. At the end of the case the coroner added that he did not wish it to be thought that he was at all antagonistic to Mr. Lightfoot, but he was bound to point out that in the case of his attending a patient and death occurring, no medical certificate could be given, and an inquest would have to be held.

FEES FOR MEDICAL WITNESSES AT INQUESTS.

A CASE has recently been brought to our notice which shows that some doubt exists as to the right of a medical man to claim fees and expenses for attendance at an inquest. In June last an inquest was held at Streatham touching the death of a nine days' old child. The death had resulted from an accident received at birth for which no one was to blame. The doctor who had been in attendance having left for his holidays received a blank certificate which he filled in, attributing death to "injury at birth." He was subsequently subpoenaed to attend the inquest. At the inquest, according to a report in the *South London Press* of June 20th, the deputy coroner "asked the doctor why, when he knew the death was due to some violence, he granted a death certificate and failed to inform the coroner." The doctor replied that except in the case of death in a lunatic asylum, prison, or inebriates' home, a doctor could give a death certificate, whether the death was the result of violence or a natural death. He said it was the registrar's duty to inform the coroner, not the doctor's, although in practice doctors did almost always inform coroners as a matter of courtesy. The deputy coroner then said: "I disagree. You grant a death certificate which no registrar in the kingdom could possibly have accepted, and any death not due to natural causes you must report to the coroner." The doctor here concerned has informed us that the coroner refused top ay his travelling expenses, alleging that he had no power to do so, and that the doctor had put himself in a false position by his own action. The doctor accordingly issued a writ, with the result that the full amount was paid into court. We do not agree with the coroner's assertion that it was the duty of the doctor to inform the coroner. It would be instructive to see the section of the Act of Parliament which imposes any such duty. That he was admittedly wrong in withholding payment of expenses is apparent from the fact that they were paid when pressure was brought to bear. Although the Coroners Act provides for the payment of the modest fee of one guinea to the medical witness, statutory regulations are in force which provide for the payment of travelling expenses.

Medical News.

THE Home Secretary has appointed Mr. W. P. G. Graham, M.B., M.R.C.S., and Mr. G. F. Rogers, M.A., M.D., to be Inspectors of Vivisection under the Cruelty to Animals Act, 1876.

THE Government of the Gold Coast has voted a sum of £250 to the fund raised by Mr. Austen Chamberlain for the extension and development of the London School of Tropical Medicine.

A PROPOSAL has been made to the municipal council of Paris to call a street by the name of the late Dr. Lucas-Championnière. The proposal has been favourably reported on to the Administration.

AT a special convocation held on November 5th the University of Toronto conferred the honorary degree of Doctor of Laws on Sir Rickman Godlee, President of the Royal College of Surgeons of England.

THE following gentlemen have lately become vice-presidents of the Research Defence Society: Sir Hugh Bell, Sir John Brunner, the Dean of Ely, Lord Harlech, Sir John Prescott Hewett, Sir William Mather, Mr. H. S. Wellcome, and Mr. H. G. Wells.

ON the occasion of the visit of M. Poincaré, the President of the French Republic, to Madrid, he sent the insignia of the "Palmes Académiques" to Dr. George V. Perez of Orotava, who has not infrequently made original contributions to our columns.

THE death is announced, at the age of 68, of Dr. Clement Godson, who was at one time assistant obstetric physician to St. Bartholomew's Hospital and physician to the Samaritan Free Hospital. We propose to publish an account of his career in an early issue.

AT the meeting of the Royal Society on Friday next Sir Francis Darwin will read two papers, the one on a method of studying transpiration, and the other on the effect of light on the transpiration of leaves. Mr. J. H. Mummery will read a paper on the process of calcification in enamel and dentine.

AS announced in the advertisement columns, an examination for not fewer than twelve commissions in the Indian Medical Service will be held in London on January 26th and the five following days. Forms of application and further particulars can be obtained from the Military Secretary, India Office, London, S.W.

THE meeting of the school medical service group of the Society of Medical Officers of Health will be held on Saturday, December 6th, at 2 p.m., at the Royal Sanitary Institute, 90, Buckingham Palace Road, London, S.W., and not at 1, Upper Montague Street, Russell Square, as previously announced. All officers in the school medical service are invited to attend this meeting. Further particulars can be obtained from the honorary secretary, Dr. Armly Ashkenny, Medical Department, Education Office, Council House, Birmingham.

AN Intercolonial Conference and Exhibition on National Health, to which the Council of the British Medical Association at its last meeting nominated Mr. Domville to be its delegate, will be held in London in May, 1914 (18th to 21st) under the auspices of the Victoria League. The object of the gathering is to effect an interchange of knowledge between the different sections of the empire on the important question of housing, including town planning, model dwellings and workmen's houses, and the care of child-life, including infancy and health, the school child, and the child as wage-earner. The conference will be opened by Earl Grey.

IN commemoration of the fact that Sir Henry Roscoe attained the age of 80 last January, 140 students of chemistry at Owens College, Manchester, during the time when he held the chair there, subscribed the cost of a bust for presentation to the Chemical Society of London. At the meeting of the Society on November 20th an address was presented to Sir Henry Roscoe, in the name of the donors, by Sir Edward Thorpe, who said that among the old pupils at Manchester were men now of great eminence, occupying responsible positions in the United States, Germany, Russia, and Japan, as well as in Great Britain and in British Dominions beyond the sea. The ceremony was attended by a large gathering, those present including Sir Thomas Barlow, President of the Royal College of Physicians of London, and Sir J. Rose Bradford, M.D., one of the secretaries of the Royal Society.

A NUMBER of members of the medical profession enjoyed the hospitality of the Western Pharmacists' Association (of London) on the occasion of the twenty-fourth annual dinner held at Frascati's Restaurant in Oxford Street on November 26th. Brief and excellent speeches, a delightful musical programme, and a well-served dinner combined to make the evening pass very agreeably. To the toast of "The Medical Profession" Sir Thomas Boor Crosby and Sir Alfred Pearce Gould replied. Sir Thomas Crosby charmed the guests with his reminiscences of medicine as it was fifty and more years ago, and an allusion to his occupancy of the onerous position of Lord Mayor of London when an octogenarian drew sympathetic applause. Sir Alfred Pearce Gould discussed the difference between a profession and a trade, and said that for the same reason that medicine was a profession—that the due performance of duties must be largely a matter of personal honour—pharmacy might also be described as a profession. Sir Alfred also spoke with satisfaction of the separation of dispensing from prescribing under the Insurance Act. Dr. S. H. Browning proposed "The Western Pharmacists' Association," and the President, Mr. John D. Marshall, replied. Mr. F. H. Crossley Holland proposed "The Visitors," and Mr. R. H. Jocelyn Swan, F.R.C.S., responded.

DEALING with the movement in favour of open-air schools, Sir George Newman, in the third Chadwick Lecture on November 18th, said that its real triumph had not been that it had covered the country with open-air schools, but that it had taught some new applications of educational systems. The effect of the movement on school building had been remarkable, for the whole type of the construction of buildings for educational purposes was now being reconsidered. The origin of the movement he ascribed to the work of the Children's Country Holiday Fund, which had proved immensely beneficial to debilitated children. The next step was the establishment in country places of schools for town children, as at Moberley for Manchester children. Then came the holding of classes in playgrounds, public parks, and other like places, and finally in succession the open-air day school, the open-air residential school, and more recently the sanatorium school. In open-air schools the weight of individual children increased on an average by 2½ lb. each month—a greater increase than that shown by children for whom school meals were provided; the average annual increase in chest measurement was approximately 2 in.; the children gave satisfactory responses when various muscle tests were applied, and showed a larger proportion of haemoglobin than children educated indoors, as well as improved carriage; they also figured well when their mentality was tested by time reaction tests and by others dealing with the acuteness of sense organs. Finally, there was a lesser prevalence of zymotic diseases among children attending open-air schools, and a child who had had the benefit of being taught for a time at an open-air school was more regular in its attendance than formerly.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

TREATMENT OF TERTIARY SYPHILIS.

A COUNTRY PRACTITIONER has a case of syphilitic ulcer of the leg about 3 in. square, which is improving very slowly under potassium iodide. He wishes to know whether salvarsan could be employed with advantage, and if so, how it should be administered.

IONIZATION.

R.A.M.C. wishes to treat small warty growths (adenomata) on the face by magnesium ions. He proposes to cover small areas of the skin with cotton-wool soaked in a solution of magnesium sulphate and then pass a current. He wishes to know whether discoloration or any other bad result to the skin between the growths might ensue.

TREATMENT OF DISSEMINATED SCLEROSIS.

E. E. asks for suggestions as to the treatment of a case which he regards as one of disseminated sclerosis of twenty-eight years' standing, coupled with some neurasthenia. The patient complains of loss of power in walking, giddiness, constant noises in the ear, and inability to sit or stand for long. The vision in one eye is normal for her age, but in the other has been dim for three years; a scotoma exists. The urine is normal, the reflexes normal, and the Wassermann reaction negative. The diagnoses made by various specialists have ranged from neurasthenia to middle-ear disease. Bromides, sedatives, electricity, massage, and rest cures have all been tried in vain.

ANSWERS.

INSTITUTION TREATMENT OF MICROCEPHALIC INFANT.

O. T.—If it is proposed to place an imbecile child in a "house" or "institution" registered under the Idiots Act, 1886, which would appear to be the most appropriate measure, the matter is simple. All that is required is a brief statement of particulars by the parent or guardian and a certificate by a medical practitioner that the patient is imbecile and likely to derive benefit from residing in the place selected and named in the certificate. The statement and certificate must be in the form prescribed by the Act.

If, on the other hand, it is proposed to deal with the case under the Lunacy Act, this too is possible, as no doubt a microcephalic imbecile would come within the term "a person of unsound mind," but it would be necessary for the parents to present a petition supported by two medical certificates and for a judicial order to be made. Presumably this course would only be taken if it were intended that the child should be received "as a single patient."

The age of the child makes no difference in either case as regards certifiability, provided there is evidence for the doctor of unsoundness of mind. The only difficulty in regard to age is that some institutions registered under the Idiots Act decline children under 7. The Idiots Act will not be superseded by the Mental Deficiency Act till April, 1914.

LETTERS, NOTES, ETC.

THE ASSOCIATION AS GUARDIAN OF OUR INTERESTS.

DR. J. PRICE WILLIAMS (Manchester) writes: Is it possible for the Association to act at all efficiently in this capacity? I believe not. What does history tell us? The Notification of Births Act at one fell swoop deprived our profession of (1) its right to guard the secrets of its unfortunate patients, and (2) its right to demand and obtain payment for services rendered—a right which it has hitherto shared with all free citizens. The subtle influence of this precedent on our present and future position is incalculable, but must be apparent to every one who gives serious thought to the question. How does the Association stand in the matter? It certainly opposed the Bill, but owing to the somnolence of the rank and file the opposition was negligible, and, owing to very bad judgement in high quarters, such opposition as was offered was on the wrong lines. However, I believe the Association did the best it could in the circumstances. But what followed? No sooner was the "adoptive" Act passed, than we found Sir James Barr, and several other consultants and specialists, who were, or had been, officials of the Association, urging the Corporations of Liverpool and Birkenhead to adopt it, and advising the profession in these towns to quietly submit to the deprivation of their rights contained in it, and a little later two well-known members (one, if not both, officials) arguing in your columns that the Act was really practically innocuous. This was bad enough, but worse was to follow, for a year or two later Sir James Barr was elected President of the Association, the highest honour we could confer upon any one, and a certain amount of glory was reflected on the other gentlemen concerned. As the primary object of the Association is the advancement of medical science, neither I nor any one else can reasonably object to the choice made, and I can conceive no one more worthy to receive such honour, but if we are to regard the Association as the guardian of our interests, what could be more futile? Our President represents us to the public, and at a most critical time last year a speech was made by our President on an official occasion which was calculated to, and probably did, alienate a great deal of public sympathy from us in our fight with the Government. Will history repeat itself? It is certain to do so in similar circumstances, and I cannot conceive different circumstances so long as the Association tries to fulfil two such very distinct functions. An association which undertakes to guard our interests nowadays must exist for that purpose alone, and it will have its hands quite full, and it must be able at all times to represent us faithfully to the public through its officials, whether honorary or otherwise. The British Medical Association cannot become such an Association, as it can never give up its primary function, but by continuing to carry out this function efficiently it can very materially assist in maintaining the honour and dignity of the profession, and so render most valuable aid to any medico-political association to which it may hand over the care of our material interests.

PARAFFIN IN ASTHMA AND BRONCHITIS.

DR. F. BROADHURST (North Collingham, Newark) writes: I have noticed that cases of asthma and bronchitis are much better when their bowels are freely open. The public believe that paraffin is good for all lung complaints. To my asthma and bronchitis patients I have given a tablespoonful of paraffin three times a day with marvellous results. All relieved, many cured. A faith cure undoubtedly.

HAIR DYES.

DR. WM. HARDMAN (Bispham, near Blackpool) writes: In the issue of the BRITISH MEDICAL JOURNAL for October 11th, p. 904, is an article by Dr. Semon on "Acute Facial Dermatitis Produced by a Hair Dye." He says of potassium permanganate and hydrogen peroxide that they "are apparently less often the cause of acute inflammation." I have never seen dermatitis follow the use of hydrogen peroxide, though years ago it was much used to turn the hair a beautiful, though unnatural, canary colour. He says with regard to these two drugs: "Their main effect is to bleach the hair." This is true of hydrogen peroxide, but absolutely untrue as respects potassium permanganate. For years I recommended this material as a good and harmless hair dye, and many persons used it regularly for years. It does not bleach the hair, but dyes it a good chestnut. It never causes the slightest irritation.

PERIODICAL PUBLICATIONS.

MESSRS. W. DAWSON AND SONS, LIMITED, wholesale newsagents of London (Cannon House, Bream's Buildings, E.C.), have sent us a list of English, colonial, and foreign newspapers, and other periodical publications showing the subscription to each. The pamphlet, which is very compact, also contains a classified list of periodical publications, showing among other things those which are particularly addressed to the various professions and trades.

REX *v.* HAMILTON.

DR. W. H. GIMBLETT (86, Sutherland Avenue, Maida Vale, W.) has received the following subscription in addition to £61 12s. already acknowledged: Dr. Gouldesbrough (London), £1 1s.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

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Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

An Address
ON
THE LARGE INTESTINE AND ITS WORK.

DELIVERED AT THE ANNUAL MEETING OF THE CAMBRIDGE AND HUNTINGDON BRANCH OF THE BRITISH MEDICAL ASSOCIATION, 1913.

BY JOSEPH GRIFFITHS, M.A., M.C., F.R.C.S.,
PRESIDENT; SURGEON TO ADDENBROOKE'S HOSPITAL.

IT is not long since such a subject as that I have selected would have appeared barren—indeed, offering little more than the descriptive detail available to the anatomist or the brief summary of the clinician content with endeavouring and often succeeding in making a correct diagnosis and then relying upon traditional experience and knowledge for treatment. Having, however, had the privilege of seeing and observing the progress of surgery during the last thirty years, and having met with many difficulties in the successful treatment of disease by operative measures, I was prompted to make an attempt to seek out the cause of some of these difficulties.

After the publication of the discovery by Pasteur of the biological nature of fermentation, and after the application by Lord Lister of that knowledge to the treatment of diseased processes, young men with new ideas naturally came to occupy the stage. These men, who were fascinated by the new doctrine—namely, that disease could be and was caused by an invasion of the body by a living organism—began to apply the new doctrine indiscriminatingly. Both Lord Lister and Pasteur preached that, though invasion is possible, the further development of the invader does not take place unless there be the requisite food and other suitable conditions present. It was, however, not long before it was forgotten, or appeared to be forgotten, that it was the human body itself that was at fault, and that the fluids of the body presented not only food of proper composition, but also that they were under conditions suitable for the success of an invasion. We have in our defensive resources, the antiseptic or aseptic method or a combination of the two, means whereby we endeavour—and, it can hardly be denied, with great success—to prevent invasion. But, should invasion occur in spite of our vigilance and care, there are at our disposal subtle organic substances the administration of which, we sincerely hope, will some day be attended with great and lasting success; such are the antibodies, serums, and vaccines of many kinds.

While your preventive measures may be perfect, and you may be cocksure of your serum or vaccine, yet these will avail you little if the body is not clean in a physiological sense, for if not clean it contains material favourable to the growth of one or other of those small enemies of ours which are ever ready to seize upon suitable food, enemies which, if not present in our internal tissues, exist as normal inhabitants of all our coverings, internal and external—the mucous membranes and the skin. It behoves us, therefore, not only to adopt measures against invasion, but also to do away with all that renders our bodies unclean, and to remove the substances which are not natural to us, so allowing their places to be taken by tissues and juices of normal or standard composition, and infertile, from lack of suitable food for the growth of our enemies unless in overwhelming numbers or attacking points rendered vulnerable by serious injury.

The great problem, then, is, how can we maintain our bodies in a state of physiological cleanliness? Well, the complex machinery of the bodies of men and beasts depends primarily for its smooth and efficient working upon the fuel consumed and upon the due and proper expulsion of all refuse. This refuse is naturally divided into two portions: (1) That which comes from an individual organ or part of the complex machine; and (2) that which is common to the whole. I desire to-day to draw your attention only to the refuse that is common to the body as a whole, and to show, if possible, what, if any, advantages accrue from the changes that arise in that refuse during its transit along that portion of the alimentary canal modified into the large intestine, to point out the conditions essential for the due progress of the faeces along the canal, and, lastly, to allude to a simple, sure sign of delay in transit.

THE LARGE INTESTINE.

The enlarged terminal portion of the gut acquires greater and greater importance in the progressive changes in size and form seen in the vertebrate series until man is reached. It will, therefore, not be uninteresting to trace the different steps in the evolution of the large intestine, because collectively, if not individually, the various changes that arise therein show that in each a purpose exists if we are but fortunate enough to discover it.



Fig. 1.—*Chylone mydas*. Two-thirds natural size.

The first indication of the formation of a differentiated large intestine may be seen in the tortoise, for example, *Chylone mydas*. In this animal the last few inches of the intestinal tract are dilated to form a simple, elongated, ovoid reservoir for the reception of the intestinal refuse, and from it is an opening direct into the cloaca and thence to the exterior. In *Python spilotes* there is not merely a dilatation; there now comes into existence a recess directed backwards, that is, in a direction contrary to the outward flow of faeces; this constitutes the most primitive form of caecum met with. In examples from earlier forms there is no other change apparent than the enlargement of the lumen without undue thinning or any other obvious change in the wall. In the *Python* there is, then, a recess into which some of the contents of the intestine as they are driven onwards into the terminal portion find their way either through the establishment of an eddy or by definite and reverse muscular action. From these two initial forms we may easily follow the evolution of the large intestine. If we suppose this distended and terminal piece of gut to be proportionately lengthened we can obtain the 5 to 6 ft. found in man, and if we likewise increase the recess we may obtain the large caecum of the common rabbit.

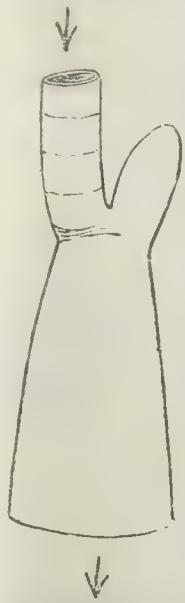


Fig. 2.—*Python spilotes*. Natural size.

A statement of the characteristics of the colon is, however, incomplete without mention of the sacculations which, in the higher mammals, form its most striking feature. If we take as our first illustration of the large intestine that of the *Aard wolf*, it will be observed that there is dilatation of the first part only, the recess forming the caput caecum-coli with a thin but uniform muscular wall. This ends in a long terminal portion with a very well-developed longitudinal muscular coat similar in appearance to that of the human rectum. Here, then,

is a colon divisible into two portions—(*a*) short and distended part with a thin uniform wall, and (*b*) long and less distended portion with a thick muscular wall. Again, in *Hyrax capensis* there is, with one exception, a similar arrangement, for here the thin or first portion of the external wall has its muscular fibres grouped into three bands instead of being uniformly distributed over the wall, with the result that in between the bands the thinner portions are apt to, and do actually, bulge to form saccuations. Here, then, we have the beginnings of the colon as it is seen in man—a distended and sacculated first portion, and a less distended and uniformly coated second portion. In man, however, the first portion is by far the longer, the second the shorter, forming about a sixth of the whole.



Fig. 3.—*Proteles cristatus*; Aard wolf. Half natural size.

A brief reference must here be made to the vermiform appendix, which, performing but little useful function, frequently gets into mischief. The appendix, which is the representative of the terminal portion of the simple or complicated caecum, plays, indeed, a definite rôle, and so long as it continues to play its part small or great, we hear nothing of it. In the rabbit, it will be remembered, a spiral valve directs the movement of the contents through the caecum, but in man they just pass into its lumen and back again with great regularity. To ensure this, the human appendix, though small in size, retains a well-developed muscular wall (circular and longitudinal) which is capable of contracting and relaxing in obedience to ordinary stimuli, and, further, is capable of acting in two

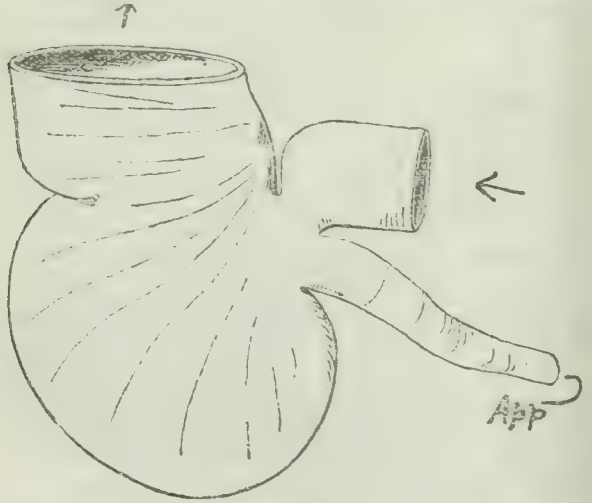


Fig. 4.—*Phascolomys latifrons*. Half natural size.

and opposite directions—towards the free end and back again to the caput caecum-coli.

The Faecal Refuse in the Large Intestine.

The first portion from its enlargement is especially designed for delaying the onward and outward flow of the intestinal contents, and in consequence the rate of flow of the contents of the ileum rapidly diminishes as soon as the ileo-caecal valve is passed. This is in accordance with the condition which obtains when a stream passing through a narrow tube suddenly emerges into a wider one—the greater the disparity in width the greater the decrease in the rate of flow. The recess—the caput—allows of a back flow with eddies more or less pronounced according to the degree of fluidity of the contents and the force with which the stream enters.

The shape and size of the caput suffices, then, to induce a reduction in the rate of flow and to give rise to

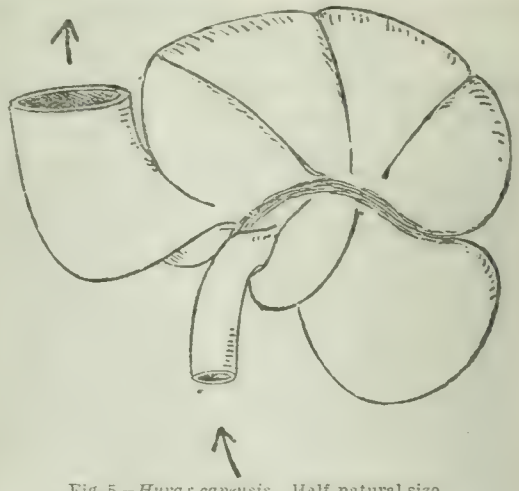


Fig. 5.—*Hyrax capensis*. Half natural size.

eddies so as to favour thorough mixing. But, in addition to the formation of a large lumen and a recess, it is found that the external muscular coat of the gut, instead of remaining of uniform thickness and covering the entire extent of the wall, in many of the higher mammals—especially in the vegetable and mixed-food eaters—disposes itself into three distinct bands, wide or narrow, with definite intervals. Further, these bands appear to be, and actually are, of shorter length than the gut itself, acting in much the same mechanical way as a "gather" in a garment. Moreover, the greater the distension of the lumen the shorter, relatively speaking, these bands appear to become. The practical result of this special disposition of the external muscle coat in the caput and the first portion of the large intestine is to induce a movement which continues the work set up by the establishment of eddies; that is, it gives rise to a churning of the contents and thus keeps going the mixing process automatically started as the refuse passes from the small into the large intestine.

The large intestine, then, by its modification becomes mechanically fitted to allow (1) of slowing of the onward stream of the intestinal contents, (2) of starting a mixing process by the formation of eddies (due simply to the passage from a narrow to a wider tube), and (3) of churning the contents so as to obtain a thorough mixture.

The mixing of the faecal contents appears to be essential, and, though it takes place especially in the caecum, yet it may, and does, occur in the entire length in which the peculiar triple-band disposition of the external muscular layer is found. While this churning is taking place another important process occurs—namely, the rapid absorption of water, the greater part of 70 per cent. of the total being absorbed during transit through the large intestine. Consequently the mixing and drying of the contents go on simultaneously in the first portion of the large intestine.

As the contents become drier the result of the special movement is to induce the formation of the faeces into roundish masses of the size natural to the capacity of the gut beyond, and of the form and shape in which, under natural conditions, the refuse of the body is expelled.

Thus in the first portion of the large intestine the contents of the ileum accumulate, undergo a thorough mixing and churning, lose the greater portion of their water, and then become moulded into the shape and size suitable for the very last piece of the gut, which merely drives its contents onward as occasion requires.

The Chemical Changes in the Refuse during its Transit.

Although very little is known regarding the various, normal and abnormal, fermentative changes that occur

and of the specific chemical substances which result from such processes, we do possess indirect evidence that some substance or substances are formed and absorbed into the system with beneficial effects. When the refuse dries up to the natural standard in a given person, and there is no irregularity in the performance of the act of defaecation, health is at its highest standard, and associated with this is the feeling that "a man is at his best." When, however, the contents become too dry and the expulsion is delayed beyond the natural time, the first degree, as it were, of constipation comes to exist—a condition accompanied by heaviness, with inability to collect one's thoughts, with headache and irritability of temper, and with want of concentrative power to perform mental or bodily work.

If I may be permitted to digress into the realm of agriculture, I would like to point out that in show (cattle) animals, which are kept up to the highest standard of "bloom," as it is technically termed, the consistency of the faeces and the regularity of their expulsion are kept almost without variation. There are few men who really understand this and who can regulate it to a nicety; and it is not unusual to find that high-priced bulls, on changing hands at a sale, not infrequently suffer from lack of this particular kind of knowledge and judgement in their next attendant. Such animals commonly enough die from "stoppage," which kills them with greater ease and rapidity than is the case with man.

What is derived from the contents of the large intestine that produces this "bloom" in animals or the feeling of good health and good spirits, etc., in man? What is the nature of the substance or substances that are absorbed in minute quantities? A rich field for inquiry awaits any eager and persevering student of this subject. All we can now say is that there is evidence that we obtain some material of importance to our bodies from the refuse as it passes along the colon, and so long as the quantity absorbed is small a pleasant feeling of enjoyment in life results, whilst if it increases beyond a definite but unknown limit unpleasant consequences are apt to manifest themselves.

The mechanical uses of the modifications in capacity, in form, and in muscular disposition seen in the human colon are, then, clearly of two kinds. The *one* is for ensuring a thorough mixing and churning of the contents by to-and-fro movement to make delay effective, and the *other* is for retaining the formed, moulded, and harmless faeces and for expelling it at convenient times.

The object of the mixing is to induce and promote a new digestive process, bacterial or otherwise, so as to abstract from the refuse something which is of a stimulating nature and which gives "bloom" to the show animal and a feeling of being "in the best of health and spirits" to the man.

This process occurs especially, if not entirely, in that portion of the large intestine which extends from the caecum to near the end of the sigmoid. The greatest activity is seen in the caecum, less in the ascending colon, and still less beyond, so that the contents, after reaching the sigmoid and while in the rectum, undergo little, if any, change.

The Mechanism for the Transit of Faeces along the Large Intestine.

We have seen how the large intestine is modified to serve certain purposes, and that definite as well as ill-understood processes occur in its contents; it now remains to show the mechanism whereby the contents, with or without deleterious substances, are conveyed along their natural course from the moment they enter this channel. We know where the power lies, the nature of the material to be conveyed, and the composition and source of the lubricant necessary for transit. When the contents are fluid lubrication is superfluous, but as the drying process occurs so does the increase in the formation of a lubricant become necessary, and the dryer the refuse the greater the amount of lubrication required. The ease with which the onward progress of the faeces takes place, then, depends upon three factors: (1) The strength of the muscular wall and accessory power of the abdominal walls; (2) the fluidity of the contents; and (3) the amount and quality of the lubricant. The power in the wall of the gut is derived solely from the central or subsidiary nervous system, and the amount transmitted to this portion of the gut depends directly upon the total amount available and upon the portion of that total left unconsumed by the exercise of the will. For example, if the will insists on the brain working until all the energy available is consumed there will be none left to supply the muscular wall of the large intestine; or if the nerve energy be consumed in excessive exercise or work, again there will be none left. Further, the effect produced by the contraction of the muscular wall depends upon the size of the lumen and the friction between the contents and the lining of the gut. Now the larger the lumen, say from too great an accumulation, the less effective will be the contraction of the muscle: and the less the degree of lubrication the greater must be the friction; consequently, the less the proportionate result induced by the contraction of the muscle of the wall when the gut is overdistended and the contents too dry.

The lubricant of the large intestine is mucus, which is secreted by the mucous cells of the tubular glands lining the mucous membrane. There is no lubricant, either natural or artificial, that exceeds mucus of normal composition in effectiveness. Whenever the contents of the large intestine are fluid or semifluid the necessity, as I have already said, for the secretion of mucus of normal composition does not arise, but as the faecal contents dry it is essential that the secretion of mucus be increased, otherwise the resistance between the dried contents and the wall rapidly augments and eventually becomes so great that no amount of muscular force exerted by the gut will effect any appreciable change in the position of the contents, and "stoppage" results. The amount of mucus secreted, therefore, should vary directly with the degree of dryness of the faecal contents, but there is no power known which automatically stimulates the secretion of the mucus when it is required. So far as can be judged, the secretion of mucus depends upon other factors, and the chief of these is the maintenance of a normal composition of the blood and lymph circulating through the wall of the gut in which the mucus-secreting glands lie.

The due progress of the contents of the large intestine is, we know, essential to health, and any alteration in the rate of transit or in the digestive processes gives an indication as to whether the tissues of the body are supplied with the food they require, whether they get rid of all the waste material due to work, and whether the natural repair for their proper maintenance takes place. Any interference, however induced, with this progress necessarily disturbs not only the colon itself, but also the remainder of the body, for the refuse common to the entire body passing along, being delayed in transit, is especially liable to undergo further changes, which end in the production of absorbable and deleterious substances of unknown composition. Such substances, however subtle their composition, are known rather by the effect they produce than by any chemical reaction or physical properties they may possess. Some of them have been identified; most have not. This opens up the very extensive and important field spoken of as "autointoxication," to which I shall not now refer.

The consequences of slight retardation in transit, simple constipation, with its associated disturbances, are familiar to all of you. Although we cannot be quite sure, we think and believe we are correct when we say that the symptoms are due solely to the absorption of some subtle product or products of a particular form of fermentation or chemical disintegration which is liable to take place in the faecal contents whose transit is thus delayed. There is, I venture to think, one sure sign of this condition. It is the enlargement of the tongue until it becomes too large for the mouth, and so takes upon itself the impress of the teeth.

The Tongue as an Indicator of Excessive Fluid in the Tissues of the Body.

The tongue, as you know, is an organ which is peculiarly constructed. Its mass is made up of bundles of muscle fibres some of which are arranged in vertical, longitudinal planes with other fibres passing from side to side through or between them. Consequently the bundles of muscles cross one another, and in order to give each of them complete freedom of movement independent of its neighbour, the material intervening between the different sets of bundles and holding them together is very delicate

areolar tissue in which are large lymph spaces. An organ of this structure lends itself to great variations in size according to the amount of fluid in the lymph spaces between the bundles of muscle fibres. This is exemplified in acute inflammation or oedema of the tongue—say, after a sting from a wasp in a person susceptible to the poison of that insect. Once the structural nature of the substance of the tongue is comprehended, it is easy to understand what follows.

A tongue which is indented by the teeth is obviously one that is too large for the mouth, and if enlargement be only temporary it will be one in which the lymph spaces in the intermuscular areolar tissues are filled and even distended with fluid containing the waste products of the surrounding tissues, if not of others derived from various organs and tissues of the body. This state of the tongue is, to my mind, an indication, not of any peculiar local condition in this organ, but of a similar condition throughout the body wherever the tissues, from their physical structure, will allow of the accumulation of fluid—lymph of normal composition or one charged with deleterious substances. Accordingly the indented oedematous tongue tells first of all that there is an excess of fluid in the tissues of the body, and my own clinical experience shows that this excess of fluid is most commonly associated with undue delay in the transit of refuse along, and retention of faeces in, the large intestine—coprostasis. Delay in the expulsion of formed and moulded faeces, even if it extends to a period of many days, is not in many persons attended with any ill effects, and this is doubtless within the experience of all of you. This fluid in excess is, we may be quite sure, not mere normal lymph, but lymph charged with subtle chemical substances which probably vary a great deal in their composition. When this accumulation of faeces—coprostasis—comes to exist, the first sign of that physiological uncleanliness I have spoken of shows itself. I am convinced that this condition of excessive fluid in the lymph spaces of the body is a most potent, but not of course the only, factor in making disease possible in any given individual, and the most powerful in controlling the results of one and all surgical operations. Therefore the conditions which may and do arise in consequence of irregularities of many kinds in the transit of the common refuse of the body, chiefly along the first portion of the large intestine, are very numerous and of great importance to the physician and surgeon.

CONCLUSIONS.

The interest taken in the colon and its functions during the last few years has been very great. In 1901 Dr. Barclay-Smith put forward a suggestion that in consequence of the advance in the preparation of food, rendering it digestible, nothing now remains for the colon to do, and that it may be regarded as a useless appendage to our bodies. Sir Arbuthnot Lane goes further, and characterizes it as a cesspool, presumably either to be cleansed at periodic and stated intervals, as our sanitary cesspools are to-day in some old-fashioned places, or to be altogether done away with, as in the modern method of sanitation. Metchnikoff regards it as having developed in order to act as a reservoir, so that primitive man might run after his prey or away from his pursuing enemies without undergoing the risk of stopping or slowing his rate of progress to evacuate his intestine. Professor Keith, without expressing any decided opinion for or against the above hypothesis, wonders whether we cannot restore to the colon its former function. He appears to suggest that ingenuity might yet be exercised with advantage in the direction of finding an agreeable dietary which will give back its old work to this large tract of the alimentary canal, and that unless something useful be done the colon will certainly come to be regarded under our present civilization as an incumbrance to man in the performance of his daily work.

In conclusion I would say the work of the colon, apart from its use as a storage and expellor of the common refuse, is, so far as I have been able to discover, (1) to dry the contents as they leave the small intestine, and (2) to get some useful substance out of the refuse while it is mixed and churned and undergoing fermentation with, it may be, disintegration. This substance, though as yet of unknown quality, gives to the body that which it requires for the development of that feeling which is best described as being "in the best of health and spirits"; further, it is something of all-important value to the individual. Excess of it is deleterious; lack of it is attended with pronounced changes in general nutrition, and perhaps progressive inanition, leading after a variable time to death from simple loss of vigour and strength.

ON HEALTH, FATIGUE, AND REPOSE.

BEING EXTRACTS FROM THE LADY PRIESTLEY MEMORIAL LECTURE DELIVERED BEFORE THE NATIONAL HEALTH SOCIETY.

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LORD BEACONSFIELD in one of his many luminous utterances declared that the great social question which should engage the attention of statesmen is the health of the people. The health of the people is the wealth of the nation, and Huxley, in one of his letters to John Morley, wrote that "The great thing to work for, as time goes on, is vigour as one lives," that is to say "health," which is just another way of saying "fitness" for the duties that lie before us. With Sir Philip Sidney we may say: "Th' ingredients of health and long life are great temperance, open air, easy labour, little care."

In health the machinery does not chafe in the working—all goes on silently, smoothly, and without noise, while there is complete adaptation to the environment. The one part of the body cannot say to the other, I have no need of thee. Organs, however insignificant they may seem, may prove to be of paramount importance in the economy, as has been proved by the recent discoveries regarding the functions of such little-known and apparently unimportant organs as the pituitary body, the pineal, thyroid, and thymus glands, not to mention others whose functions and history we are just beginning to discover.

Most of the breakdowns in a man's life, however, are due to the driver himself, either because of ignorance or recklessness, or both. "We do those things we ought not to do, and we leave undone the things which we ought to have done," and then we wonder "that there is no health in us."

Our forefathers used the word "health," wholth or wholeness, to indicate soundness not only of their bodies, but also of their implements and utensils used for hunting, for cooking, and for weapons of war and the chase. The highest perfection is a "sound mind in a sound body." "Life without health is a burden, with health it is joy and gladness."

Fatigue is the result of over-action, and above all sustained and continuous action of an organism as a whole, or of one or more of its organs. Not only is the overworked organ itself affected, but owing to the chemical or metabolic changes underlying all sustained strenuous endeavour and action—without sufficient periods of rest or repose—other organs and parts of the body are speedily implicated. In fact, as pointed out by F. S. Lee, fatigue is a universal biologic phenomenon, while the activity of living substance tends to inhibit or restrain its further activity.

MUSCULAR FATIGUE.

In muscular fatigue the chemical reserves upon which our movements depend are gradually used up; the greater the effort the greater the metabolism and consequent expenditure. In addition, however, poisonous by-products, more especially carbonic acid and lactic acid and acid potassium phosphate, are formed. These products are not removed with sufficient rapidity, and remain to clog the machine, and indeed act as toxins. These fatigue products not only poison the organ in which they are formed, but they pass into the blood and are conveyed by it to other parts of the body, and poison them also, before they are destroyed or excreted.

The study of fatigue, therefore, is largely a study of chemical metabolism. When the muscles are in action normally their activity depends in part on the supply of

substances allied to the sugars. In overworked muscles protein bodies are also broken up. The result is the over-formation and imperfect removal of the "fatigue products" or body toxins which have a powerful depressant action. Overwork without sufficient repair of an organ, be it brain or eye, the digestive organs or muscles, is the primary cause of fatigue. The symptoms and signs, therefore, will be as varied as the organs themselves.

All the organs of the body cannot run at full speed at the same time. Severe bodily exercise is incompatible with full digestive activity. "After dinner rest awhile" is part of the proverbial wisdom of Salerno. Mental fatigue greatly impairs bodily activity, and physical or muscular fatigue has a distinct effect on brain activity. Every organ in activity requires a larger supply of blood—its blood vessels dilate—and there is not enough blood to give all organs an extra supply at the same time. It was never so intended in the scheme of Nature, though some people seem to act as if it were so, and they reap the disastrous consequences. Not only the amount of blood but the quality of the blood is of importance.

Muscles tire very quickly when they are under tension. With what a sense of relief does the trained soldier on occasion welcome the command "Stand at ease"! It is easier to walk and keep moving than to stand still in one position. The continuous strain of standing is only too well known to teachers, to shop girls and shop men. Something has been done recently to ameliorate the condition of shop life by the provision of seats for resting when occasion affords.

There is a limit to a man's working power, both physical and mental, varying with the individual. Weber long ago showed that in order to obtain the greatest amount of mechanical work from a muscle, the weight the muscle had to lift must not be too great. So it is with the working hours of the working man. Long hours do not necessarily mean more work or better work.

Overwork or any unwonted physical exertion gives rise to a sense of weariness or tiredness which indicates a lessened capacity for exertion both of body and mind. Fatigue, therefore, has a double aspect—first, a sensation of tiredness more or less definite in character, and, secondly, a decrease in the power of exertion, so that one cannot go on with the effort or can do so only after powerful excitement or stimulation. A diminution or slowing down of the muscular power represents the physical or objective side, and the sensations of fatigue the psychical or sensory side.

Gymnast's Fever and the Importance of Oxygen.

After a long day's walk, more especially to one unused to it, not only are the legs tired, but one feels "sore all over," in the arms and trunk alike, though these parts have participated relatively little in the actual expenditure of energy. The enormous strain of what is called "forced marching" is well known amongst soldiers. Ergographic tracings prove convincingly how severe is the strain and drain on the soldier's physical resources and also the prolonged effect in his output of mechanical work. The too ardent untrained Alpine climber, the enthusiastic unseasoned gymnast, may at night have marked symptoms of fever, due to the action of the poisonous toxins produced in his own body, and it is some time before their effects pass off. The best remedy is sleep. So marked are the effects of the toxins that this post-athletic febrile attack has been called "gymnast's fever."

It would not serve any good purpose to discuss here the means by which physiologists have analysed the seat of fatigue in a nerve-muscle preparation or the relation between what is called the "refractory period" and fatigue. The gist of study of the refractory period of the heart and other organs is thus expressed by Verworn: "In all living substances, directly following an excitation, there must exist a period in which its irritability is reduced." The important observations of Dr. Leonard Hill on the effects of a liberal supply of oxygen in fatigue are most important, while Verworn goes so far as to say, "Fatigue is invariably asphyxiation."

Fatigue of Organs of Sense.

Medical men are constantly warning the public, and pointing out to teachers of youth, the disastrous effects of eye-strain. Tea-tasters know well how rapidly the sense of taste—the palate, so-called—becomes fatigued. We all know how soon our sense of smell is paralysed. It is partly for this reason that persons breathing an almost putrid atmosphere fail to detect what is painfully unpleasant to any one entering such a room from the fresh air outside. For the same reason one has to sniff a rose in order to smell its perfume.

The sense of hearing under certain conditions is no exception. The dull dreary drip of a long and uninteresting lecture, or a monotonous discourse delivered in, it may be, an atmosphere not too hygenic, soon has its effect on the audience. The hearing centre of the brain through the ear is soon lulled to inactivity, a condition which speedily affects neighbouring regions of the brain. The combined result is somnolence, and it may be sleep. Then a sudden loss of control and relaxation of the muscles of the back of the neck, and the senseless head nods. When chin meets chest the sleeper awakes in a state of semi-somnolent surprise. In this case there is weariness and lassitude rather than fatigue in the true sense of the word. To what extent the loss of tone of one's muscles and the occasional somnolence in certain churches—and, it may be, in chapels—is due to the poisonous nature of the atmosphere I am not prepared to say. Perhaps there are other factors. Somnolence is not in all cases to be attributed to the sermon, but rather to the badly ventilated atmosphere. Although Sunday is officially the first day of the week, to most churchgoers it is the close of the week, a factor not without significance in the explanation of the phenomenon.

Pleasures and Emotions.

It is the same with over-driven pleasures, and also with intense emotions, as may be seen in the beautiful picture of St. Catherine by Sodoma in the church of San Domenico in Siena. We say pleasures pall. It is that their evanescent character necessitates frequent repetition, and hence they soon pall.

Attention and Memory.

Darwin considered attention one of the most important of the human faculties for the development of the human understanding. With it must be associated memory, which depends on the disposition of our nerve cells to retain impressions made on them, and to reproduce them when required. Over-exertion of the brain necessitates prolonged rest; sleep, and something more, is required to restore mental activity. Observant teachers in our large public schools know full well that if there be excessive mental work, the effects cannot be immediately compensated by prolonged sleep—the remedy lies in diminishing the work, and in giving more time for recreation. Insufficient sleep from any cause in children practically amounts to overwork—a condition that diminishes the resistance to disease.

In fatigue of the brain one is conscious of a diminished mental grasp of a subject, and that an increased effort is necessary for mental work. There is also diminished capacity for attention, marked impairment of memory, and great difficulty in concentration of thought. To these may be added restlessness and irritability, and impairment of the sense of touch, and also diminished muscular power, although the muscles of the body may have been practically quiescent during the whole period of the overwork. The facial expression may also be altered.

Fatigue in School Life.

The effort of attention is the expression of a state of tension of the nerve cells of the brain. The act of attention is most tiring when a voluntary effort is made. Attention is correlated with expenditure of energy by the particular nerve cells affected. It is, therefore, extremely important that teachers should recognize how exhausting sustained attention is, especially in young children. The brain and the organs of sense soon become fatigued, and require frequent intervals for repose if the receptivity of the nerve cells is to be maintained. Not only is fatigue fatal to attention but, according to Ribot, it is equally fatal to memory. "The impressions received under such conditions are not fixed, and the reproduction of them is very laborious and often impossible. Fatigue is regarded as a state wherein, owing to the normal acting of an organ, the nutrition suffers and halts. When the normal conditions are restored memory comes back again."

Lombard has shown that the energy of nerve cells and muscles exhibit rhythmical variations in the course of the day. Both nerve cells and muscles are most energetic between 10 and 11 a.m. Therefore these periods should be selected for the lesson that is apt to cause most brain fatigue. The Germans have a proverb, "The morning hours have gold in the mouth." In schools much can also be done by changing the subject of study and so arranging the daily lessons that a subject like mathematics, which causes brain fatigue, should be followed by one of quite a different nature, such as drawing. Drawing and writing, which are apt to cause eye-strain, should not follow each other.

Many methods have been used to measure fatigue. One of the indirect methods is by means of the aesthesiometer, an instrument for determining the spatial sensibility of the skin, which is diminished in fatigue. The reaction-time method measures the time taken to react to a given signal, which becomes longer in fatigue. Others have employed dictation or arithmetical calculations or counting letters—that is, certain letters are struck out from a page of print. In fatigue the number struck out diminishes; others, again, employ memorizing.

It is well known that certain school subjects produce fatigue sooner than others. It has been attempted to obtain fatigue coefficients by means of the aesthesiometer (Wagner), and by the dynamometer. The following represents the order of subjects arranged according to difficulty:

Mathematics (standard)	100
Latin	91
Greek	90
Gymnastics	90
History and geography	85
French and German	82
Natural history	80
Drawing and religion	77

There is much to be said against home lessons, more especially when the conditions in many homes in which the young scholar has to work in the evening are remembered.

Fatigue in Relation to Digestion and the Kidneys.

Let us enlarge our view of fatigue a little, and take a wider and withal practical application of the subject. What does the question of "quick lunch" mean in this age of hurry and worry? It means over-stimulation of the digestive glands. Recent investigations have shown how intimately the quality of certain of the digestive fluids depend on the condition of the nervous system. The business man who has a quick lunch day after day wonders why he feels dyspeptic. He calls it indigestion, and flatters his soul that he has a touch of "liver," and that all will soon be well. Yes, so it would—if he would but act rationally. Glands, like muscles, suffer from fatigue. Even the tear glands of some lachrymose individuals require a rest.

The kidneys are, perhaps, the best-abused organs in the body. Some people stimulate them to activity morning, noon, and night—fatigue them, in fact. The kidneys are excited to activity chiefly by the chemical substances present in the blood, and the duty devolves upon them of excreting the waste products resulting from an unnecessarily large intake of nitrogenous food, a habit all too common.

Rhythm.

Bichat, at the beginning of the last century, spoke of the "tripod of life":

Brain.
Heart. Lungs.

Respiration or breathing is a more fundamental function than the circulation of the blood. All animals breathe, but not all animals have blood or a heart. The beating of the heart goes on before birth, and the cessation of its beat marks the cessation of life itself. How is it the body—a harp of thousand strings—keeps in tune so long? The secret is to be found in rhythm. Heart and diaphragm beat and contract rhythmically, and after each beat there comes a pause which permits of restitution of matter and energy, and gives time for the waste products to be removed, and thus leaves both muscles recuperated to begin a new beat. The heart rests, or is not in action, three-fourths of its time; the act of expiration is chiefly due to mechanical causes; inspiration is chiefly a muscular act. We must acknowledge the necessity as well as the universality of rhythm. What is sleep but the quiescent period of our nerve cells? It is more, for we say, with Macbeth, that it is chief nourisher in life's feast. The nerve cells, though resting, are storing up matter, and are being flushed and cleaned. Some folks indulge in what they are pleased to call a "spring cleaning." Well, our brain cells should have what corresponds to a spring cleaning every twenty-four hours.

Causes of Fatigue.

As to the causes of fatigue, the idea that the chemical substance in the muscle or in the blood (which are the sources of the chemical and thermal energy) are used up more rapidly than they are replaced is substantially true. That muscular fatigue is part of a chemical process is shown by the fact that if an extract made from the muscles of an animal that has been fatigued be injected into the muscles of a fresh animal, they show phenomena which cannot be distinguished from those of fatigue.

Professor A. Mosso showed that the blood of a fatigued animal contains toxic or poisonous substances. If the blood of a fatigued dog be injected into the blood vessels of a fresh, untired dog, the latter shows the symptoms of fatigue and changes in the heart-beat and breathing like those of fatigue.

If the blood vessels of a fatigued muscle be washed with oxygenated water containing a little common salt—a liquid which has no nutritive properties—the waste products are removed. Nothing that can yield energy to the muscles is added, yet the muscle regains its activity. Professor Kronecker showed experimentally that when a tired muscle is massaged to squeeze out the waste products it regains its activity. Massage was long ago practised by the Hindus, and the gladiators of ancient Rome had their muscles rubbed after the contests; the poisonous substances were thus quickly got rid of. Galen himself in the early part of his career was physician to the gladiators of his time.

Putting it broadly, then, the problem has a threefold aspect:

1. Using up of matter and energy. Restitution does not keep pace with waste. There is a run on capital.

2. Clogging of the machinery by the products of its own making, and the transference of these products by the blood to affect injuriously other organs.

3. The lack of oxygen. Thus both local and general effects must be studied. If fatigue be even in small part due to poisoning of the body, is it not obvious that from the employer's point of view he ought to strive to place his employee under the best conditions as to ventilation and other hygienic measures? In every case where this has been done both employers and workmen have been gainers. In Manchester in 1892 the firm of Mather and Platt adopted a forty-eight hours week. Sir William Mather, in commenting on the result, expressed the view that the most economical production is obtained by employing men only so long as they are at their best. When this stage is passed, there is no true economy in their continued work.

Repose.

All this makes it plain why repose is the necessary complement of fatigue. The idea conveyed by the word "repose" is to put things back in their places. I stand by the Jewish code, one day's rest in seven. By repose and restfulness I do not mean that as set forth by Tennyson in the choric song of the "mild-eyed melancholy" lotus eaters; rather would I put it in the words of Plutarch:

Rest is the sweet sauce of labour.

In addition to sleep—if it can be obtained naturally—the true rest of many a brain is to change to something less exciting, but at the same time useful occupation in which the sufferer gets interested. For many, something approaching manual labour in the open air is best. Not only is change of occupation important and beneficial, but change of scene also. What has been called the "magic of change" is more potent for good than any panaceas of the alchemists. Change is the very essence of life, for all manifestation of life is due to change—incessant and varying in degree—in the cells that compose our bodies.

For this of old is sure,
That change of toil is toil's sufficient cure.

TRAUMATIC INTRAMUSCULAR OSSIFICATION:

ITS PATHOLOGY AND TREATMENT BY EXCISION AND AUTOGENOUS GRAFTING OF FASCIA.

A CLINICAL AND EXPERIMENTAL STUDY.

[*With Special Plate.*]

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THE condition dealt with in this paper is usually known as myositis ossificans traumatica, but the name is objectionable as implying a theory of its pathology, for which, as I hope to show, there is little foundation. The condition to be described follows the infliction of a single severe contusion, and must be distinguished clearly from two other types of intramuscular ossification—namely, (1) myositis ossificans progressiva, which starts early in life, usually in the muscles of the back, and ultimately causes death from respiratory failure; and (2) ossification into tendons, the result of slight, repeated mechanical irritation, such as "rider's bone."

THEORIES OF CAUSATION.

After a severe, blunt, subcutaneous injury to a limb, usually the thigh or upper arm, a mass of bone develops in the contused muscles. Various theories have been entertained as to the origin and nature of this bony growth, a full discussion of which is given by Lapointe in a recent paper.[1]

Briefly, the theories fall into three main groups, namely:

1. Tumour formation.
2. Metaplastic inflammation of muscular connective tissue.
3. Mechanical.

1. *Tumour Formation.*—All authorities are agreed that traumatic intramuscular ossification is not of the nature of a malignant growth. It shows no tendency to infiltration of any tissue but muscle (if one excepts the ligaments when "ossifying periarthritis" occurs in addition), nor does it ever give rise to metastases. Only one case is recorded in the literature, by Coley,[2] of a sarcomatous change supervening on this condition. Nor can it be held that the bony mass is a true osteoma, or benign tumour, on account of its natural history. In the early stages the growth of bone into the damaged muscle suggests true tumour formation in that it is progressive and unrestrained by the laws that limit normal growth of bone, and to some extent mechanically injurious. But after several weeks or months not only does the growth cease, but a tendency to reabsorption is seen, which may in some cases go on to almost complete disappearance.

2. *Inflammation.*—According to some, the change set up in the muscle is an interstitial myositis with transformation into bone of the intramuscular fibrous tissue; that is to say, the growth is not derived from bone, and any attachment to bone is only secondary and accidental. Lapointe[1] gives his support to this view. He points out that while in some cases the bony growth is attached to the underlying bone, in others it is free from the bone, which may be found at operation to be completely covered by periosteum. Since both types of growth, free and attached to bone, are identical macroscopically and microscopically, Lapointe very properly insists that their manner of production is probably identical. His next inference, however, that the unattached bony masses cannot have originated in bone or periosteum and that therefore both types must arise by metaplasia of the intramuscular connective tissue, is unconvincing, since a temporary breach in the periosteum might allow of escape of osteoblasts. I do not contend that metaplasia of fibrous tissue into bone never occurs. In a case shown recently in Manchester by Professor G. A. Wright, a large plate of bone developed in the scar of an abdominal wound after gastro-enterostomy, and similar cases are reported in the literature (Lapointe). But I am unable to agree with Lapointe that, because in exceedingly rare cases such metaplasia may occur, therefore it must be invoked to explain the relatively common condition of traumatic intramuscular ossification. As I shall show, a simpler and more credible explanation is available. That the process is inflammatory, in the sense that it is a reaction of the tissues to injury, is obvious. There is, however, no evidence of any constitutional infection such as syphilis in these cases. The Wassermann reaction in the case reported below was negative.

3. *Mechanical.*—The truth of the mechanical view of its causation is suggested by certain facts concerning the incidence of the condition. Of a series of 233 cases collected from the records of the German Army in ten years by Schultz,[3] all but 3 were situated in the quadriceps or brachialis anticus. The patients are usually young adult or adolescent males. The type of injury is always a severe subcutaneous contusion, and it is remarkable, on looking through the literature, how many cases are due to a kick on the front of the thigh or a blow with a fist on the front of the upper arm. Now in both these situations we have a broad, smooth, convex area of bone, covered by periosteum that is loosely attached and readily stripped off owing to the absence of tendinous insertions. This point has impressed many observers, and has given rise to the view that the lacerated muscle fibres may retract, carrying torn fragments of periosteum away from the bone, and that these fragments act as grafts producing bone. Others hold that as a result of trauma the cells of the deep layer of the periosteum are stimulated to proliferate. These views must be abandoned, however, since they are based on an erroneous conception of the function of the periosteum. The work of Macewen[4] has shown conclusively that the periosteum does not act as a bone producer, but as a limiting membrane to the growth of osteoblasts. Working on dogs, he showed that the so-called osteogenetic layer of the periosteum is really a subperiosteal layer of areolar tissue which normally contains osteoblasts in the growing bone only; that in healthy adult bone this subperiosteal areolar space contains few osteoblasts or none, so that transplanted periosteum does not produce bone; and that subperiosteal deposits of bone produced by irritation are due to the pouring out of osteoblasts into the subperiosteal space from the *deeper parts of the bone* via the Haversian canals.

In the light of these facts, and of the investigations I now record, I consider the pathology of traumatic intramuscular ossification to be as follows: A severe blunt injury at once subcutaneously strips off and destroys the periosteum, and crushes the muscles in contact with the bone. Bleeding occurs from the surface of the denuded bone, and, with the blood, osteoblasts in a free and possibly amœboid condition escape into the pulped muscle tissue and blood, and there produce a growth of bone. As Macewen has shown, healthy muscles left in contact with denuded bone form protective fibrous adhesions from their interstitial connective tissue, and so take on the limiting function of the periosteum. My own investigations show that severely contused muscle tissue mixed with blood, so far from restraining the migration and growth of osteoblasts, provides a very favourable pabulum for them.

CASE.

The following case affords a clear demonstration of the truth of these views:

A strong, healthy young man, aged 20, a greengrocer's assistant, was admitted to the Ancoats Hospital, Manchester, under my care on January 2nd, 1913, complaining of sudden swelling of the left thigh. He gave the following history. On December 11th, 1912, three weeks before admission, he was thrown out of a cart which he was driving, and the wheel ran over the front of his left thigh. There was a good deal of bruising, for which he massaged it, and he was off work for three days. He then returned to work, and noticed nothing wrong but slight difficulty in flexing the knee, and pain on attempting to do so. On the evening before admission, while sitting down at home, he bent his knee a little more than usual and felt a sudden pain in front of the lower third of the thigh. Almost immediately he noticed that the thigh was swelling, and he felt with the swelling a "buzzing sensation" in his muscles. In a few minutes the thigh had swelled up very considerably, and felt distended. His friends made matters worse meanwhile by vigorous massage. Early next morning he came to hospital.

On Admission.—The left thigh was greatly swollen, chiefly on the antero-lateral aspect of the femur about its centre. On palpation the swelling was only slightly tender. It was partly fluctuant, but gave a sense of the presence of a solid element as well as fluid. It was obviously a case of spontaneous haematoma under the quadriceps, and naturally gave rise to the

suspicion of sarcoma resulting from the trauma. A skiagram taken the same day by Dr. Bythell showed "a faint subperiosteal deposit of bone, irregular in shape, that might be due to a periosteal sarcoma." The Wassermann reaction, tested by Dr. Arnold Renshaw, was negative. It was decided to explore in order to establish the diagnosis. Accordingly on January 3rd, the day after admission, under ether anaesthesia, an incision 8 in. long was made on the front and outer aspect of the thigh. The rectus femoris and vastus externus having been separated, a large haematoma was evacuated lying under and in the crureus muscle. At the bottom of the cavity of the haematoma was the femur, covered by an irregular layer of new bony growth, about 2 cm. thick on the average. Blunt spikes and bars of bone were projecting into the surrounding muscular tissue and into the cavity of the haematoma in an irregular manner, and two or three bars of similar hard material were felt on the outer (superficial) aspect of the haematoma cavity, widely separated from the rest and embedded in muscle tissue. The new bone was soft and easily gouged away, and presented just the appearance of three weeks old callus. The surface of the mass where it projected into the haematoma cavity was smooth and covered by what appeared to be embryonic or myxomatous connective tissue. The case was plainly one of intramuscular ossification, and not malignant. Accordingly I gouged out the mass as completely as possible. It covered an area on the front of the femur roughly 8 × 4 cm. When the soft young spongy bone was removed the underlying compact bone of the shaft of the femur was left smooth and of normal appearance, but there was no trace of periosteum between femur and new bone. I also removed the bars of bone felt in the muscle on the superficial aspect of the blood cavity, for microscopical examination, taking care to excise some of the adherent muscle with them. The wound was then sutured, and the patient put to bed with the leg bandaged in extension. Healing was by first intention, and he left the hospital ten days later with no swelling of the thigh, but slight limitation of flexion of the knee, and was instructed to attend as an out-patient.

The limitation of flexion became gradually worse during the next month, and he complained of inability to walk up steps in consequence, and a tendency to fall down owing to his toe catching. Examined three weeks after the operation a distinct, irregular, hard swelling in the same position as before was apparent. A radiogram showed a definite recurrence a good deal larger in extent than at the first operation. No pain was felt, but he could not flex the left knee to a right angle, and asked for further operation, since he would be quite unable to get up into his cart in this condition.

As expectant treatment offered the prospect under the most favourable circumstances of months of inability to work, and possibly of permanent limitation of flexion, and since I had now come to the conclusion that the cause of the recurrence was the destruction of periosteum and loss of its function as a limiting membrane for the osteoblasts, I considered how best that function might be replaced. Staige Davis[5] has shown experimentally in dogs the feasibility of transplanting layers of fascia or aponeurosis to remedy defects in the abdominal wall, skull, and in a wide variety of situations. Accordingly I decided to remove the recurrent bone, and perform an autogenous transplantation of fascia on to the denuded bone, and to use for this purpose a piece of the patient's ilio-tibial band. This I hoped would fulfil the double function of preventing further recurrence, and preventing adhesions of muscle to the denuded bone.

The patient was readmitted on February 20th, 1913, seven weeks after the first operation. The last skiagram, taken on February 11th, had shown a slight further extension of the growth. An incision to the outer side of the former one was made, slightly curved outwards, and a flap of skin and subcutaneous tissue raised, leaving the ilio-tibial band exposed. The fascia was incised, the muscles separated, and the new bone growing in the crureus thoroughly excised, leaving the femur bare. A piece of ilio-tibial band and fascia lata at least 10 by 5 cm. in size, was then cut out, care being taken not to divide the whole width of the band, lest the muscles inserted into it should be weakened. It was placed on the denuded bone with the outer, subcutaneous surface next to the bone, and the inner surface, less calculated, as I considered, to form adhesions, in contact with the muscle. In this position it was fixed by six sutures of fine catgut, so as completely to cover the denuded area. The wound was then closed, and the limb put up in flexion on a double inclined plane.

Healing was by first intention. Movement was commenced after the first two days. There was a little weakness of the quadriceps at first, owing to slight injury to some of its motor fibres, but at the end of three weeks this had recovered. A month after operation there was full flexion at the knee, and the patient could walk and perform all movements without the least inconvenience. Skiagrams taken four and eight weeks after operation showed complete freedom from recurrence.

DESCRIPTION OF SPECIAL PLATE.

Fig. 1.—Traumatic intramuscular ossification of three weeks' growth in man. From case described in text. Transverse section. B = Bone, C = hyaline cartilage, M = muscle, P = preosseous tissue (⅔ in. objective).

Fig. 2. Same under high power (⅙ in.), showing transition from bone into cartilage.

Fig. 3.—Same in longitudinal section, showing infiltration of muscle fibres by preosseous tissue (⅔ in. objective).

Fig. 4.—Section of traumatic intramuscular ossification of four weeks' growth produced experimentally in rabbit, showing infiltration of muscle (M) by preosseous tissue (P); similar to Fig. 3.

Fig. 5.—Old-standing traumatic "myositis ossificans," showing incomplete reabsorption and transformation into dense bone. (Museum specimen.)

Fig. 6.—Traumatic intramuscular ossification produced experimentally in rabbit. Normal femur of rabbit for comparison.

Fig. 7.—Radiogram of specimens shown in Fig. 6.

EXPERIMENTAL CONFIRMATION.

By the kindness of Professor Boycott I have been able to perform experiments on rabbits in the pathological laboratories of Manchester University. These investigations are not yet complete, and will form the subject of a subsequent communication. It may be stated as a preliminary report, however, that intramuscular ossification essentially similar to the condition that occurs in man may be produced by curetting off the periosteum from the front of a rabbit's femur, and crushing the adjacent muscles. Ossification occurs by the migration of osteoblasts into the crushed muscles and blood clots lying in contact with the denuded bone. A specimen produced in this way in a rabbit is shown in Fig. 6, with a normal bone for comparison. The corresponding skiagram is shown in Fig. 7, and a microscopic preparation from another rabbit in Fig. 4. That devitalization of the muscles by crushing is an essential factor is shown by the fact that when the periosteum is removed, and the muscles are not crushed, little, if any, exuberant growth of bone occurs. This fact agrees with the observations of Macewen.

HISTOLOGY.

For microscopical examination a bar of bone, some 3 cm. long, removed at the first operation, was chosen. It was cylindrical in shape, with a diameter of 0.5 cm. at its widest part, and was almost completely surrounded by fibres of the muscle, in which it was growing parallel to their long axis. This piece of bone was decalcified, and transverse and longitudinal sections cut and stained with haematoxylin and eosin (Figs. 1, 2, and 3).

Transverse sections (Figs. 1 and 2) show a definite formation of spongy bone arranged in irregular trabeculae, with large vascular medullary spaces between, in which a few multi-nucleated cells and many oval cells of embryonic connective tissue type are seen. The osseous matrix takes on a definite pink with the eosin. In the centre of the bone is an area of hyaline cartilage, avascular, and merging into bone at its periphery. The cartilage is distinguished from the osseous tissue by the non-staining character of its hyaline matrix, by large cell spaces, and round nuclei, faintly stained with blue. It appears to be undergoing rapid cell division. The periphery of the bony mass is nowhere in immediate contact with muscle fibres, but is surrounded by and merges into a layer of primitive fibrous tissue containing many oval nuclei. It is evident that these embryonic connective tissue cells are actively infiltrating the muscle and destroying its fibres. Here and there isolated and degenerate muscle fibres are seen surrounded by this tissue, and a little further from the bone it is seen to be invading the muscle substance by infiltration between its fibres. There is a general increase of the intramuscular fibrous tissue.

Longitudinal sections show particularly well this process of infiltration and destruction of muscle tissue by these indifferent connective tissue cells (Fig. 3).

Interpretation.

The first point of interest is the nature and origin of the cells that are infiltrating the muscle fibres and paving the way for the growth of true bone. Do they originate in the intramuscular connective tissue or in bone? A minute

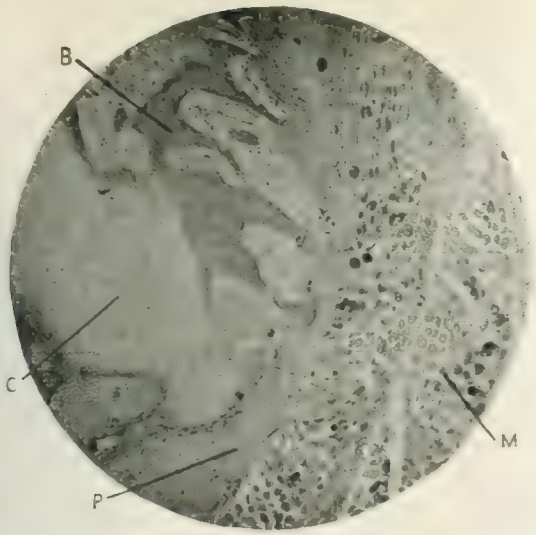


FIG. 1.

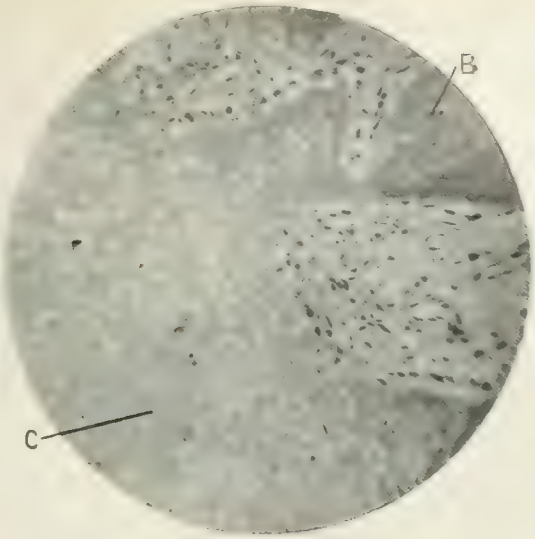


FIG. 2.

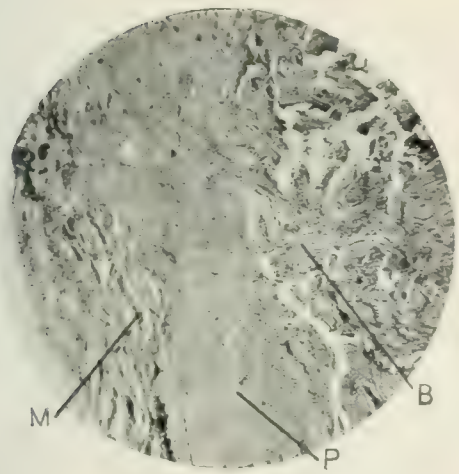


FIG. 4.

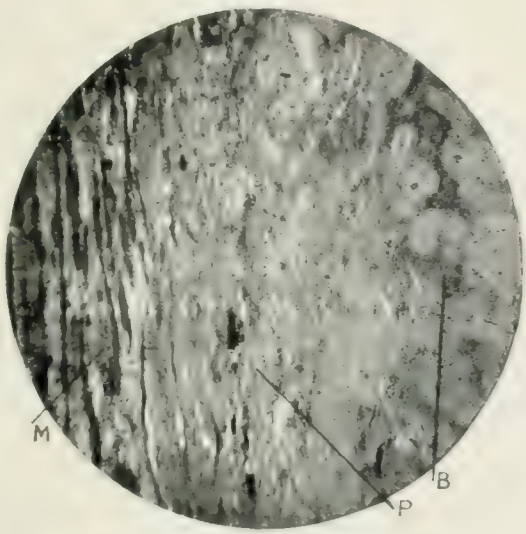


FIG. 3.

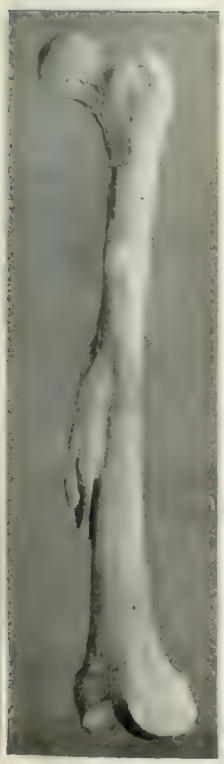


FIG. 5.



FIG. 6.



FIG. 7.

examination of a number of these sections under a high power lens convinces me that they are simply osteoblasts in an actively dividing preosseous stage. The outer margin of the definite bony tissue passes by insensible degrees into this embryonic fibrous tissue, which here and there takes on faintly the pink stain seen in the fully developed osseous matrix. Similarly cells can everywhere be seen in every stage of transition between the mature osteoblast and these indifferent connective tissue cells. This conclusion is, of course, supported by the experimental evidence given above.

The sections show further in a striking manner that the cartilage cells are also identical with the osteoblasts, though in a different matrix, for between these again all stages of transition are seen. The importance of this conception of the essential unity of the osteoblast and chondroblast is obvious in connexion with our ideas on the growth of bone. There is now a very general feeling of scepticism towards the classical description of ossification in cartilage. Macewen holds that the osteoblast and chondroblast are the same cell in different guise. Wingate Todd,[6] as the result of extensive histological investigations, concludes that "osteoblasts are fibroblasts or connective tissue cells which have undergone certain characteristic modifications, and may or may not have passed through a chondroblast stage." With these authorities I am in entire agreement. The explanation of the presence of cartilage here is not so simple. The cartilage plainly originated from bone, and would probably have been transformed in course of time into bony tissue. I am inclined to think that the presence of cartilage in the centre of the bar of bone is to be explained by its lower vascularity, since we know that an essential difference between bone and cartilage is that the former is vascular, the latter avascular.

Differential Diagnosis.

One condition only is likely to give rise to serious trouble in diagnosis, and that is sarcoma. In my own case the spontaneous haemorrhage occurring three weeks after the causal injury (so far as I know a unique complication) gave rise to the suspicion of sarcoma. More commonly it is the bony swelling that first arouses this suspicion, and there is no doubt that before the simple nature of "myositis ossificans" was generally recognized many limbs were needlessly sacrificed by this error in diagnosis. A careful *x*-ray examination, and if there is the least doubt exploration by open operation, should be undertaken in every case. A recent paper by Coley[2] deals very fully with this difficulty in diagnosis.

Prognosis and Treatment.

The extent to which the bony mass will grow, apart from treatment, cannot be predicted with any accuracy, though it doubtless bears some relation to the severity of the injury to muscles and the area of bone denuded. In some cases recorded almost the whole quadriceps, or brachialis anticus, has been infiltrated with bone. Most observers have noticed a natural tendency to cessation of growth after some months, and a variable degree of reabsorption. That this reabsorption is not always complete is shown by an *x*-ray plate of Coley's taken five years after the onset, and by two specimens in the pathological museum of Manchester University that are obviously of very old standing (Fig. 5). In these specimens the partial reabsorption has been accompanied by a condensation of the outer layer of the new-formed bone into very dense, compact tissue. The degree of disability produced depends on the mechanical embarrassment of muscles and joints. By reabsorption of bone and stretching of muscles with exercise this disability will tend slowly to improve. Ultimately, in many cases, perfect function will be restored, though this will take many months, as a rule, and may take years. There is also no doubt that simple excision is followed as a rule, though not invariably (Lapointe) by recurrence.

The tendency of late years has been towards conservative treatment. Robert Jones, who formerly advocated excision, has latterly[7] advised an expectant course in view of the disappointing results of operation. Makins and others, at the discussion in 1911 before the Royal Society of Medicine,[8] also advocated conservative treatment. Lapointe admits the frequency of recurrence, but considers that excision is worth trying.

The main purpose of this paper is to advocate excision with grafting of a stout layer of deep fascia or aponeurosis on to the denuded bone. As stated above, the result in my own case was a complete success, and has saved the patient at the least many months of incapacity for work. In the case of the femur the fascia is most conveniently taken from the ilio-tibial band, taking care not to divide that structure completely, lest weakness of the gluteus maximus and tensor fasciae femoris, and, through them, of the knee-joint, should result. In the upper arm a strip of the investing layer of deep fascia would prove sufficiently tough to act as a limiting membrane. It is not enough simply to lay the fascia on the denuded bone, as it would crumple up. It must be sutured in place by a few catgut stitches passed on a curved needle through the neighbouring periosteum and muscular tissue. Early movement is advisable to aid in the prevention of adhesions. Extremely scrupulous aseptic precautions are necessary.

I am greatly indebted to Professor Boycott for allowing me to carry out the experimental work in the Manchester University Pathological Department, and to Drs. Bythell and Barclay for producing the radiograms.

Conclusions.

1. Traumatic intramuscular ossification ("myositis ossificans") is due to migration of osteoblasts into adjacent contused muscle and blood clot, after destruction of the periosteum and loss of its function as limiting membrane to the growth of bone. It is essentially the same process as callus formation.

2. The condition may be produced experimentally in animals by reproducing the same mechanical conditions by an aseptic open operation.

3. In a case of difficulty in diagnosis from sarcoma open exploration is advisable.

4. Simple excision is usually, though not invariably, followed by recurrence.

5. Conservative treatment condemns the patient to a long period of disability, which may occasionally be permanent.

6. Excision combined with grafting of deep fascia on to the denuded surface of bone gives the best prospect of rapid and complete recovery, and is urged for all cases not complicated by ossifying periarthritis.

7. Osteoblasts and chondroblasts are the same cells under different conditions of nutrition.

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THE usual monthly meeting of the executive committee of the Medical Sickness and Accident Society took place on November 21st at 429, Strand, W.C., Dr. F. J. Allan in the chair. The claim account showed a decided reduction, and was not above the expectation. New business was well above the number for the corresponding month in preceding years. The increasing interest taken by the profession in the society and the many inquiries received at the head office in Chancery Lane prove that the solid business basis on which it is conducted and the fairness with which claims are met is much appreciated. For thirty years now the society has steadily progressed, and from quite a small concern has gradually developed into one of some prominence in the insurance world, with invested reserves of over £260,000. The committee at this meeting discussed some changes of the rules which are to be submitted to the members at the annual meeting next year. It has been thought advisable to give greater facilities for dealing with sundry matters which arise from time to time. The basis of the quinquennial valuation was approved, and it was resolved that this should be carried out by the actuary to the society as before. It is confidently hoped that the bonuses paid to members insured for sickness benefit on their attaining age 65 may be maintained during the next quinquennium. Prospectus and all further information may be had on application to the Secretary, Mr. Bertram Sutton, 33, Chancery Lane, W.C.

A Post-Graduate Lecture

ON

THE OPERATIVE TREATMENT OF HAEMORRHOIDS.

Delivered at St. Mark's Hospital, 1913.

BY

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Time will not permit me to enter into a description of all the operative measures invented for the removal of haemorrhoids, but I intend to discuss the three operations in common use at this hospital—the ligature operation, the clamp and cautery, and the operation of excision of the pile-bearing area of mucous membrane, familiarly known as the Whitehead method. All these methods have their uses and give excellent results, but success in this department of rectal surgery depends on the ability of the surgeon to select the most suitable method for the individual case of haemorrhoids which he is about to treat. Happily the old dictum of "one surgeon, one method," is quickly disappearing. Cases of haemorrhoids may vary so much from one another that it is better not to decide on any particular method of operation until the sphincters have been stretched and then to choose the method most suitable for the pathological condition presented.

This brings us to the question, How do cases of piles vary one from the other? What pathological varieties are met with? And how do they affect the selection of a particular method of operation?

There is the question of size. They may vary from the small internal variety with, perhaps, quite alarming symptoms of haemorrhage up to the large prolapsing kind that may be extremely difficult for the patient to reduce. There is the important question of number: one large pile only may be present, usually an anterior one, or there may be two lateral piles, more commonly there are three—one antero-lateral and two postero-lateral. Sometimes smaller piles are interposed between these three, bringing the number up to four, five, or six. Lastly, there may be a regular ring or rosette of piles, as in this specimen which I show you. Vascularity is another important condition which must be taken into consideration. Some haemorrhoids may be extremely vascular, bleed very easily, and rapidly cause the patient to become anaemic; others, again, which have been subject to slow, irritative, inflammatory changes, become fibrous, avascular, and sometimes adherent. Extensive thrombosis occurs in some cases, the whole of the haemorrhoidal area being filled with little black thrombi. Internal piles may be accompanied by external piles which are varices covered by skin. These latter may be single, multiple, small or large, thrombotic, ulcerated, inflamed or oedematous.

The internal piles themselves may be inflamed, ulcerated, or prolapsed and strangulated. Another point that must be noted is the condition of the sphincter. On the one hand, this muscular collar may be very powerful and difficult to stretch, or it may be very weak and inactive, having been stretched daily from above, perhaps for many years, by the prolapsing piles themselves.

Other ano-rectal conditions may be present complicating haemorrhoids, such as a dorsal fissure, a fistula, a simple polypus or benign tumour, a non-malignant stricture, or even carcinoma.

Apart from these local conditions we may find grave visceral disease, cardiac or liver. Severe anaemia may be present. Pregnancy may be present. Again, the individual must be considered. The patient may be a busy business man or a sailor who must rejoin his ship soon, and then we must adopt the method which is likely to allow either the quickest return to duty. Great fear of pain in some cases will cause us to adopt the least painful method. Should the patient be one who may not be easily seen after the operation, a method must be employed which will leave no chance of subsequent stenosis.

When should operative treatment be advised in cases of haemorrhoids? If prolapse and haemorrhage still continue after regulation of the bowels then operation should be advised. Grave visceral lesions—for example, cardiac or liver disease—contraindicate operation; so also does carcinoma of the sigmoid or rectum.

Should operation be advised during pregnancy? Not as a rule, because the haemorrhoidal condition is due to the pressure of the gravid uterus, and when this is relieved after delivery the haemorrhage and prolapse, as a rule, subside. In some cases the haemorrhage may be so severe a drain on the mother that an operation must be done, but the risk of producing premature labour must always be remembered.

When a case of irreducible oedematous and strangulated haemorrhoids presents itself what are you to advise? The condition is an extremely painful one, and is best treated by immediate operation.

Preparation for Operation.

The treatment before operation is very important. The teeth must be put in good condition and any pyorrhoea alveolaris checked. Vaginal discharge must be treated and all other septic foci put right. Two nights before the operation an ounce of castor oil is given, which produces a good action of the bowels next day. The evening before the operation an enema is given, followed by others next morning till the return is clear. No enema should be given within four hours of the operation. Catechu and opium mixture is given the evening before the operation to check the action of the bowel and prevent material coming from above.

It is best to operate in the lithotomy position, and, after the sphincters are stretched, the skin and rectum are cleansed with soap and water, followed by biniodide solution, and, lastly, iodine.

Operations.

1. The ligature method was invented by Salmon, the founder of this hospital, whose portrait hangs in this room. This is the most generally used and most applicable of all the methods in the treatment of piles. Each pile is held by pressure forceps and drawn downwards, and at the external circumference of the pile base a cut is made with strong, straight scissors. The cut is made parallel to the long axis of the bowel, and deepened until a fairly thin pedicle with the entering vessels is left. This pedicle is tied securely with a No. 8 plaited silk ligature, and then half of the separated pile cut away below the ligature. The other piles are treated similarly, all external tags removed, and when the haemorrhage has been arrested, a small ⅝ in. rubber tube 4 in. long is inserted and dressings applied. The tube allows flatus to escape, reveals recurrent haemorrhage, exerts pressure on the oozing surfaces, and can be used later for injecting olive oil into the bowel. Various modifications of this operation may be used, such as the removal of the internal and external haemorrhoid in the one cut, or the pedicle may be sutured to the skin margin; the pile itself may be simply transfixed and ligatured in two halves without any cutting, or it may be clamped, and the base sewn over, and then the pile removed.

2. The clamp and cautery operation had a powerful advocate in Henry Smith in this country and is performed as follows: Each pile is caught by pressure forceps and a clamp applied to its base in the long axis of the bowel. The clamps we use here are those devised by Gowlland which have the special advantages that they are small, easily manipulated, three can be applied at the one time, and the greatest pressure is exerted at the top where the vessels enter the pile. After the pile is clamped it is cut off with scissors and the stump is seared by means of the cautery. The clamps are left on for at least five minutes after cauterization, and this I consider a very important point in the technique. They are then opened slowly and removed very gently so as not to disturb the eschars. Vaseline is inserted and then a pile tube as before.

3. In the Whitehead method the sphincters are very gently stretched and an incision made all round the muco-cutaneous junction. The dissection is carried up by means of scissors and dissecting forceps until a cuff is formed of the pile-bearing area of mucosa. The lower part of the sphincter collar is exposed in this dissection. The loosened cuff is now removed and the cut edge of mucous

membrane brought down and stretched to the skin margin. No tube is required in this operation, but simple dressings are applied.

The after-treatment is most important, and is much the same in the three methods described. Light foods are given till the fourth day, when 4 oz. of sterilized olive oil are injected slowly through the rectal tube. The tube is then removed, and an aperient given by the mouth—namely, 1 oz. of castor oil.

The olive oil prevents pain during the first defaecation, after which a boracic wash-out is given and the wound dressed. After the end of the first week the patient is allowed up to sit in a hot bath for ten minutes daily till the end of the third week. Digital examination is carried out three times a week after the first week to guard against any tendency to contraction. Pain the night after the operation is relieved by morphine given hypodermically, and the catheter is used next day should retention of urine occur.

The healing of the wounds varies slightly in the different methods. In the ligature method during the first week three triangular wounds with the bases downwards are felt with the ligature knots above, and more or less slough of the ligated piles lying in the anal canal. The ligatures separate from the seventh to the twelfth day, and the wounds gradually close in. During the third and fourth weeks the wounds feel smoother and more linear, and then there may be noticed a little tendency to stenosis, especially if in the operation the piles were all ligated at the one level and broad pedicles made. After this operation troublesome tags may form, but at the end of six weeks these have usually subsided or been removed, and the anal canal at this period should feel fairly smooth, the wounds having perfectly healed.

During the first week after the clamp and cautery method three soft linear ridges are felt in the ano-rectum. The edges usually separate a little, but gradually close in, and four to six weeks after the operation three soft linear scars are felt, and in some cases the anal canal is so smooth that it would be difficult to tell that an operation had been performed. Large external tags may develop after this operation more than after the other methods. Stenosis never occurs after this operation, and if properly done there should be no fear of recurrent haemorrhage.

After the Whitehead method the stitches usually give way about the fourth day, and the cuff of mucosa retracts from the anal margin for a distance varying from ½ in. to 1 in. No case ever heals by first intention. The ring of granulation tissue gradually contracts, and during the third, fourth, and fifth weeks digital examination and dilatation must be carried out to prevent stenosis. This cicatricial ring, if properly stretched when the fibrous tissue is still young, shows no further tendency to contract after the sixth to eighth week. At this time the scar of operation should feel quite smooth, or at most a fine fibrous annular thread is felt at the junction of skin and mucous membrane.

The average duration of treatment in hospital is for the ligature cases twenty-one days, clamp and cautery cases ten days, Whitehead cases twenty-six days.

In a paper I published in the JOURNAL on October 30th, 1909, I gave the after-results of 300 operations for haemorrhoids, and since that time I have collected further results which with slight variations confirm the original paper. They prove that the clamp and cautery is the least painful method, the ligature the most painful, and the Whitehead intermediate.

The catheter is most often required after the ligature, least after the clamp and cautery, and the Whitehead method again takes an intermediate position.

Sphincteric control returns quickest after the clamp and cautery method, usually about the sixth day. In the ligature cases control returns about the tenth, and after the Whitehead it varies from fourteen to twenty days.

Stenosis never occurs after clamp and cautery. In about 30 per cent. of ligature cases there is a slight tendency to contract. After the Whitehead method about 56 per cent. show tendency to contraction. In about 8 per cent. there may be more marked contraction which requires careful after-treatment and digital dilatation.

Tags, which may be a very troublesome complication after operation, develop most frequently after the clamp and cautery method, least after the Whitehead method, and the ligature here takes the intermediate position.

Recurrent haemorrhage is more likely to occur after the ligature method than after the other two methods.

Sepsis in the form of abscess, fistula, or post-operative ulceration rarely occurs after the clamp and cautery have been used. In this operation no foreign bodies are left in the rectum, no sutures used. Septic troubles may occur equally after the ligature or Whitehead method.

With regard to the choice of method, I repeat that this should not be decided on until the sphincters are stretched and the haemorrhoidal condition viewed. The ligature method is the most generally applicable, and is very easily and quickly performed. It is especially suited for cases of three, four, or five piles, especially of the mixed variety, when the external and internal piles can be removed at the one time. Very little blood is lost during the operation, and the after-pain can be controlled by morphine, whilst tag formation usually subsides later; or, if they are large, they can be removed under local anaesthesia later. This method is the one to employ if any complication, such as fissure or fistula, be present. A patient can usually return to work six to eight weeks after the operation.

The clamp or cautery operation is certainly the least painful; there is never any fear of stenosis afterwards, and if properly performed there should be no danger of recurrent haemorrhage. It is not suitable when external piles are present as well, or when a fissure or fistula complicates the case. It is especially suitable for cases of not more than three piles of the internal variety, and when there is no redundant anal skin or tags present. It is a bloodless method, and suitable for very anaemic cases, and as it is the least painful method, it should be chosen for patients of a very nervous temperament. If time is an important question, this method should be used, as the period of convalescence is considerably shortened. If the surgeon should be unable to see his patient again, he need have no fear of subsequent stenosis after the clamp and cautery method.

The Whitehead method should be reserved for the following cases:

(*a*) Where there is a general haemorrhoidal condition involving the whole circumference of the ano-rectum, and especially if there is extensive thrombosis or a considerable extent of prolapse.

(*b*) In cases where, though the piles may not be large, there is a pathological condition present which may be described as a prefissure or prefistula state. In this condition the anal valves are enlarged, and little blind submucous pockets may be found running upwards or downwards from the line of anal valves. These may have their mouths occluded and act like little incubating chambers, and are undoubtedly in many cases the starting point of fistula; whilst, if Ball's theory be accepted, enlarged anal valves lend themselves to the formation of fissure.

Whitehead's method removes this danger zone as well as the haemorrhoids.

This method should not be employed in all cases of haemorrhoids, but is well suited for the condition mentioned above. If the after-treatment is properly carried out, stenosis should not occur.

UNDER the will of the late Mr. George Palmer, senior partner of the firm of Messrs. Huntley and Palmer, the Royal Berkshire Hospital receives a bequest of £5,000; while Reading Dispensary and the Children's Cottage Hospital at Cold Ash, near Newbury, each receive £500.

AMONG the newly elected members of the Italian Chamber of Deputies we note the names of Professor Guido Baccelli (Rome), Professor R. Rampoldi (Pavia), Professor R. Sanarelli (Bibbiena), Professor R. Santoliquido (Acerenza), Professor T. Morisani (Piedmonte d'Alife), and Professor G. B. Queirolo (Pisa).

THE St. Christopher's Working Boys' Club in Fitzroy Square, which has lately been closed for repairs, was reopened on November 20th, and was visited by a large number of persons interested in its work. The club rooms, which have been entirely redecorated and restored, include a library and several comfortable lounges and billiard rooms. The club forms a much-needed refuge for working boys of all ages whose only amusements would otherwise be found in the streets.

RHEUMATIC NODULES (RHEUMATISMUS NODOSUS) ASSOCIATED WITH RHEUMATIC TORTICOLLIS.

By F. PARKES WEBER, M.D., F.R.C.P.,
SENIOR PHYSICIAN TO THE GERMAN HOSPITAL, LONDON.

THE connexion of rheumatic nodules with rheumatic polyarthritis and Sydenham's chorea has, of course, long been recognized. Barlow and Warner, at the International Medical Congress at London in 1881, read a paper on subcutaneous nodules connected with fibrous structures occurring in children the subjects of rheumatism and chorea;[1] it was based on 27 cases collected by themselves. H. Rabinowitsch, in an inaugural dissertation at Berlin in 1889,[2] collected accounts of 52 cases, of which 44 were under the age of 20. If the German term *rheumatismus nodosus* (nodular rheumatism) be employed for this variety of rheumatism, it must, of course, not be



Fig. 1.—To show the wry-neck.

confused with the French *rhumatisme noueux*, which is a synonym for arthritis deformans. True rheumatic nodules are termed by the French *nodosités rhumatismales sous-cutanées*.[3]

One of the most elaborate and recent papers on the subject is that by Rosa Berkowitz in 1912,[4] who based her conclusions on some personal observations and a large collection of cases from the literature. According to her statistics cardiac complications (endocarditis, endopericarditis) are present in at least 88 per cent. of cases of nodular rheumatism in children. In all probability the present case is no exception to the rule that endocarditis generally accompanies rheumatic nodules, though the auscultatory signs are not quite decisive. The case conforms to the rule that the subjects of true rheumatic nodules are generally children who have passed through an acute or subacute rheumatic infection without being completely cured. The special interest in the case is, however, the association of the nodules with rheumatic torticollis, an association which one would expect to be not so very infrequent, but which seems as yet to be unrecorded in the literature of the subject.

F. W., aged 11 years, is a pale, rather delicate-looking boy, with a certain degree of wry-neck, the neck being bent towards the patient's right with the chin turned a little to the left (see Fig. 1, from a photograph taken on October 19th). At present (November 1st, 1913) there is no arthritis, nor does the boy complain of any pain or tenderness anywhere, but there is some puffiness about the second and third metacarpo-phalangeal joints in both hands, and over these joints very small rheumatic nodules can be seen and felt. There are moderate-sized rheumatic nodules over both elbows and both knees (patellae), those over the knees being the largest and the most numerous. The olecranon bursa at both elbows is enlarged. The heart is excitable in action, and the impurity of the first sound at the apex suggests slight endocardial changes at the mitral valve. In the absence of fever the frequency as well as the excitability of the heart's action suggest slight myocardial implication. There is likewise a variable systolic murmur to be heard over the "pulmonary area." Some of the lymphatic glands in the neck are a little enlarged.

The history is that the boy enjoyed good health until the present illness commenced on September 13th, 1913, with pain in the left ankle; this joint became swollen on the following day. There was never any tonsillitis. He was treated by rest in bed and small doses of salicylates. At first there was fever up to between 102° F. and 103° F. This left him on September 20th, but after September 24th to the middle of October there were occasional evening rises of temperature to about 100° F. Since then there has been no fever.

The wry-neck appeared at the end of September, and was at first accompanied by a little pain at the lower posterior part of the right side of the neck. The rheumatic nodules were first noticed in the middle of October, at first only on the elbows and knees, later over the hands also. Recently he has been treated with subcutaneous injections of "rheumatism phylacogen" (Parke, Davis, and Co.), and with careful massage of the neck. Roentgen-ray examination (skiagrams), about the middle of October, and again about the middle of November, showed no bony change in the neck. The bony prominence felt on the left side of the neck just below the mastoid region is evidently due merely to the wry-neck position of the cervical vertebrae.

When the case was shown on November 14th the rheumatic



Fig. 2.—To show the rheumatic nodules on the knees.

nodules on the elbows and hands had become less marked, but those on the knees had, if anything, increased (Fig. 2). The wry-neck had not disappeared entirely. The phylacogen treatment had been accompanied by occasional very slight febrile reaction.

The boy's father died five years ago from pulmonary tuberculosis at the age of 39, and the mother, aged 45, is living and well. Their four children are all living and the patient is the only one of them who is not well.

Similar "rheumatic torticollis," occurring after a mild attack of acute rheumatism, has not rarely been diagnosed as due to tuberculous caries of cervical vertebrae, and treated accordingly.

Perhaps a true periarthritic rheumatic fibrositis, analogous to the fibrositis which produces the rheumatic nodules, is the cause of the torticollis, which in the present case has not ceased during sleep, has not been intermittent and has not been associated with any clonic or other spasm.

It is interesting that in 1878 H. Rehn[5] ended his summary of the local manifestations of acute rheumatism with a description of rheumatic wry-neck, and the first two published cases of rheumatic nodules (P. Meynet's of 1875 and one observed by himself). I have not thought it advisable to remove any of the nodules for histological examination. There seem to be quite sufficient observations of the kind on record, and the anatomical patho-

[*] The patient was shown by Dr. Weber at the Clinical Section of the Royal Society of Medicine on November 14th, 1913.

logical findings have been quite recently dealt with in an excellent paper by Paul Frank.[6]

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[1] Barlow and Warner, *Trans. Seventh Internat. Med. Congress*, London, 1881, vol. iv, p. 116. [2] Beiträge zur Kenntnis des Rheumatismus mit Knötchenbildung (Rheumatismus nodosus). [3] Cf. E. Troisier, *Progrès médical*, Paris, 1883, vol. xi, pp. 947, etc., and 1884, vol. xii, p. 3; E. Troisier and L. Brocq, *Revue de médecine*, Paris, 1881, vol. i, p. 297; E. Weill and L. Gallavardin, *Rev. mensuelle des maladies de l'enfance*, Paris, 1901, vol. xix, p. 149; L. Gallavardin and F. Delachanal, *Lyon médical*, 1909, vol. cxiii, p. 813. [4] Rosa Berkowitz, Rheumatismus nodosus im Kindesalter, *Archiv für Kinderheilkunde*, Stuttgart, 1912, vol. lix, pp. 1–43. [5] H. Rehn, in Gerhardt's *Handbuch der Kinderkrankheiten*, Tübingen, 1878, vol. iii, Part I, p. 71. [6] P. Frank, Ueber den Rheumatismus nodosus mit besonderer Berücksichtigung des pathologisch anatomischen Befundes, *Berliner klin. Wochenschr.*, 1912, Jahrgang xlix, p. 1358.

THE DAILY WEIGHT CHART AS A GUIDE TO TUBERCULIN.

By H. WARREN CROWE, M.D.Oxon.,
YELVERTON, DEVON.

ONE of the greatest problems in vaccine treatment is the dosage of tuberculin. How are the size of the dose and the interval to be regulated? There are various methods, divisible roughly into two groups: (1) By clinical observation, coupled with experience; (2) by serological tests. Neither of these is entirely satisfactory. The former because the experience required is beyond the reach of most of us, and no amount of experience will tell infallibly what interval is the best; frequently, too, clinical observations are of no assistance, since there may be no clinical facts to observe; the temperature may be unaltered, the pulse-rate unaffected, the focus of disease too deep for changes in physical signs to be detected. How, then, is one to know at what interval to give the next dose? In the result one has to chance it. On the other hand, serological tests in phthisis, at any rate, are useless as a guide to therapy unless frequently repeated, and this I take it to be, for the majority, outside the range of practical treatment.

The object of this communication is to bring forward a method which is as nearly an infallible guide to correct tuberculin treatment as we are ever likely to obtain, and which happily is so simple that there is no case to which it cannot be applied.

If a chart is kept on which the weight, taken daily at the same hour and in the same garments, is recorded, fluctuations will be found to occur. These are not confined to small differences of an ounce or two, but from half to as much as two pounds may be noted between succeeding days.

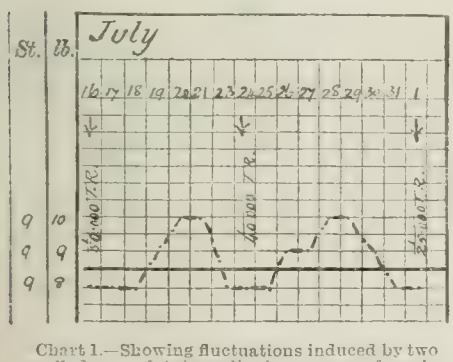


Chart 1.—Showing fluctuations induced by two small doses of tuberculin in a case of early phthisis.

On comparing weight charts of cases controlled by this method over a period of some two years or more, I have found that the weight curves, following a dose of tuberculin, fall naturally into the following groups (Chart 2). (Each perpendicular indicates an interval of twenty-four hours.)

What, now, is the meaning of these rather remarkable fluctuations in the daily weight? One notices at once the curious resemblances these curves bear to immunity curves, such as may be obtained by a series of opsonic indices. In 3 and 5 one sees short and long negative phases; in 4 the pre-negative rise, often so marked in phthisis; in 6 and 7 the irregular waxing and waning of immunity following an unsuitable vaccine, and usually indicating active autoinoculation. Opsonic records abound in curves similar to these here indicated. Is it possible that these weight curves are immunity curves? From the appearance of them one would not be surprised to find this to be the case. The proof also is not far to seek, for it remains only to plot an immunity curve by opsonic estimations of the blood, taken at the same time as the weight.

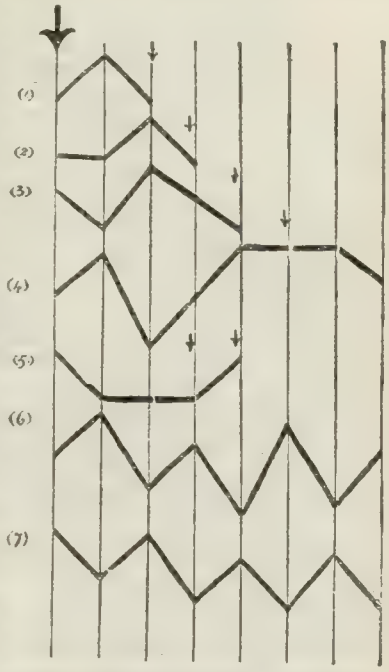


Chart 2.—Showing weight curves following tuberculin.

Chart 3 is a record of the daily weight and opsonic index in a case of early phthisis, with very slight signs at the left apex; no secondary infection. It is typical of a large number which have been plotted, and shows in a most striking manner that the weight curve (broken line) pursues an undulating curve in detail almost identical with that of the opsonic content of the blood (continuous line).

Herein, then, is provided for us the proof that the daily weight curve is an immunity curve, and as such a rational method for controlling treatment by tuberculin. But this chart illustrates also a further point which is of considerable importance, and that is that the weight is not quite so sensitive as the opsonic index. The only point at which the curves of index and weight differ occurs immediately after the first dose, the index showing a short negative phase, the weight, on the contrary, rising. The patient had no symptoms suggesting a serious negative phase. If the weight falls after a dose (see response to third dose), the patient frequently complains of malaise. In either case one must presuppose a negative phase. When, however, the weight does not drop, such negative phase may be disregarded; not so where the weight curve shows a fall. Then, again, the weight chart, by reason of the continued fall, gave a better indication that dose 3 was too large than the opsonic index. One further advantage possessed by a record of the weight over the index may be noted, and that is the general rise which may take place over a prolonged period, showing general improvement. The index, on the contrary, remains within certain limits, and gives no indication of general improvement or the reverse. One readily calls to mind cases in which a

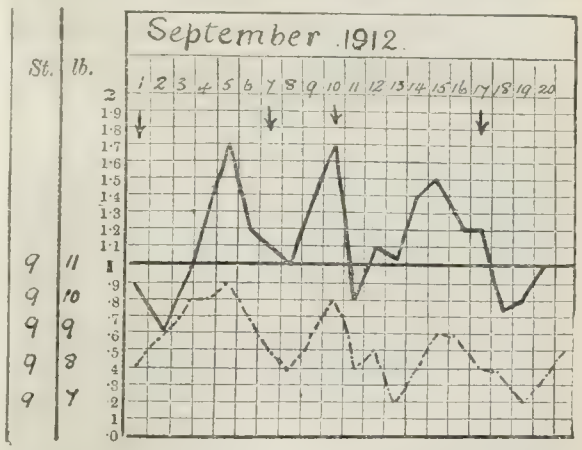


Chart 3.—Showing daily weight and opsonic index. Doses of T.R. were given in the following order: $\frac{1}{10}$, $\frac{1}{100}$, $\frac{1}{10}$, $\frac{1}{100}$.

high index frequently occurred, yet the condition was getting worse, and the weight (more important than all) was steadily tending downward.

It is held by all who use the opsonic method that vaccine treatment is most accurately and safely to be controlled by index determinations, but unfortunately in practice daily estimations can but rarely be performed. On the other hand, the majority of those who dispute that method, whilst they admit that theoretically an opsonic chart should be the ideal indicator, yet consider that errors of technique and personal bias are liable to invalidate the whole procedure and render it useless. If, now, it be granted that observations of excursions of the weight and of the opsonic index are but different methods of recording the course of immunity, then by means of the daily weight chart an opsonic curve is automatically obtained, and the objections to the index disappear. There remains a small minority who regard the opsonic index merely as a figment of an imaginative brain, and opsonic fluctuations as indicating changes in the grey matter of that brain rather than alterations in the serum under examination. For these the fact that fluctuations in the daily weight do occur as the result of tuberculin inoculation will require some other explanation, which one must leave to their ingenuity to supply.

How far this method is applicable in other vaccine therapeutics I am unable to say. It may, however, be of great value in the control of vaccines directed against secondary infection in tuberculosis.

Chart 4 gives the weight chart during four weeks when streptococcal vaccine for rheumatic pain and bronchitis was administered and controlled entirely by this method.

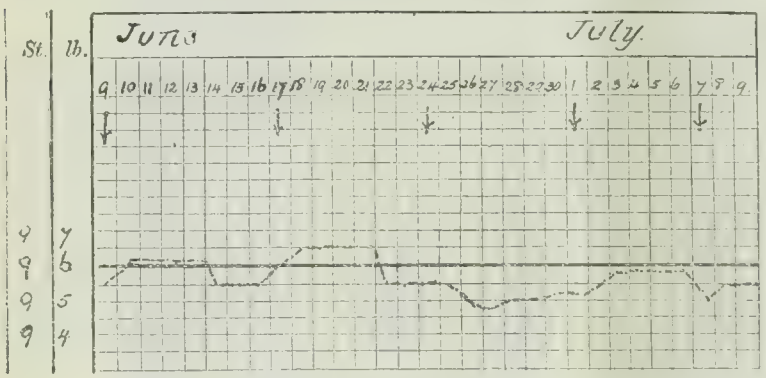


Chart 4.—Showing weight after streptococcal vaccine.

It will be noted that doses 1, 2, and 4 were of the correct size, but that dose 3 was too large.

In conclusion, I append suggestions for treatment of a case of phthisis by tuberculin, in accordance with the indications provided by a daily weight chart. Reference throughout is to T.R. or P.T.R. The daily weight is taken for a few days before the first dose, which should be small, in an afebrile case, say $\frac{1}{500}$ to $\frac{1}{250}$ mg. of T.R., and whatever the weight curves may be, the interval between the doses should never be more than five days, until high doses are brought into requisition.

After a dose no curve may appear on the chart; the weight pursues its course steadily upwards, downwards, or in a straight line, as the case may be; one infers that the dose is too small; it may be trebled on the third day. Should, however, a curve develop, then the next dose may be given in accordance with the accompanying table, and at that point in the curve indicated by the small arrows (see diagram).

After the patient has had a few doses, he may be instructed to come when the weight begins to fall after the rise, though not later than the fifth day.

Weight Curve as Diagrammatically Represented Above.	Interpretation.	Dose Proportionate to the Last Dose Given.
1	Dose too small	Double the dose on the second or third day.
2	Correct doses	Increase by 50 per cent. on the third to fifth day.
3		Increase by 20 per cent. on the fourth to fifth day.
4	Dose too large	Decrease by 50 per cent. on the fifth day.
5	Dose much too large	Give half the dose on the third to the fifth day, when malaise has ceased.
6	Tuberculin to be changed or discontinued	Try bovine or some other form of tuberculin, or vaccines for secondary organisms.
7		

THE BACTERIOLOGY OF THE MOUTH IN MAORI CHILDREN.

BEING PART OF AN INVESTIGATION INTO THE CAUSE OF IMMUNITY TO DENTAL DISEASE IN THE MAORI OF THE URIWERA COUNTRY, N.Z.

BY

H. P. PICKERILL, M.D., M.D.S.BIRM.,

AND

S. T. CHAMPTALOUP, M.B., CH.B., B.SC. (P.H.)EDIN.

(From the University of Otago, N.Z.)

(Abstract.)

As stated in a previous report, a number of films were made from the mouth direct, in order to obtain a general idea of the number and character of the organisms present. All the films were made from perfectly healthy mouths, both as regards teeth and soft tissues. Except where otherwise stated, the subjects were children between the ages of 4 and 15 (approximately), since this represents the period of life during which European children appear to be most susceptible to dental caries. Four films were made from each of fifty immune individuals as follows:

1. From mixed saliva well triturated in an agate pestle and mortar, and stained by Gram's method.

2. From the gingival "deposit," of which there was in all cases extremely little, and in the younger children it was difficult to find. This was gently mixed with 0.9 per cent. sodium citrate on the slide, allowed to dry slowly, and subsequently stained by Gram's method, and counterstained with weak carbol fuchsin.

3. An attempt was made to estimate the number of organisms present in the saliva by making films of mixed saliva and citrated formalined blood, the idea being to count the organisms against the red blood cells, and so obtain an estimate of the number of organisms present in any given quantity of the saliva. It was not found practicable to shake the emulsion with sterile beads, but the saliva was well triturated, and the mixture with the blood made as efficiently as possible. It has, however, been found, owing to the clumping of the organisms, their irregular distribution, and the presence of epithelial cells containing large numbers of organisms, that the slides are not of any practical value, for it was not possible to make a reliable count. The slides were stained by the Jenner method.

4. One film from the saliva was stained by Ziehl-Neelsen for acid-fast bacilli, and those showing acid-fast bacilli after ringing with Leitz object marker were further decolorized with alcohol to eliminate saprophytic bacilli.

The results of the examination of the films thus obtained will be found in the accompanying table. The outstanding features may be said to be, firstly, the very large number of organisms present, and, secondly, the great similarity to organisms found in European mouths. The organisms in the tables are, of course, classified only morphologically, and, as far as possible, according to their retention of Gram's stain.

The organism present most frequently and in the greatest numbers was a Gram-negative coccus, which resembled the *Micrococcus catarrhalis*. These organisms always occurred in clumps, and were present in 88 per cent. of cases in the gingival deposit and in 79.3 per cent. in the saliva.

The well-known *Streptococcus brevis* of the mouth was present in the greater proportion, both in the saliva and the gingival deposits. The *Leptothrix racemosa* seemed to flourish luxuriantly in a very large number (68 per cent.) of the mouths, sometimes occurring as isolated specimens, but more often in dense masses. For the most part these organisms were granular in appearance and stained some-

	Percentage of Films showing Organism.	
	1. In Saliva.	2. In Gingival Deposit.
COCCI:		
Coccus—Gram-negative ...	79.5	88
Staphylococcus	35.7	34
Streptococcus brevis	85.7	72
Streptococcus (large and in chains)	12.2	10
Diplococcus (large)	41.8	42
Pneumococcus	16.3	8
Sarcina	0.61	—
Streptococcus longus	—	6
BACILLI:		
B. maximus	55.1	54
B. mesentericus	61.2	54
Short round-ended (Gram + and −)	26.5	32
Diphtheroids	8.1	4
B. subtilis	—	4
Fusiform	20.4	32
THREAD FORMS:		
Leptothrix racemosa	41.8	63
Fine threads (Gram + and −) ...	23.5	54
SPIRILLA:		
Comma-shaped vibrios	22.4	74
Spirochaeta dentium	33.7	80

what irregularly. In 54 per cent. of gingival deposits and 23.5 per cent. of salivas there were present, also in large numbers, long fine thread-form organisms; for the most part these were Gram-negative, but they appeared to stain irregularly. They might possibly be classed as *Leptothrix racemosa* (Miller). Spirochaetes and vibrios (Gram-negative) were very numerous, and in some cases seemed to exert an antibiotic effect upon the other organisms and to have grown largely to the exclusion of the remainder. Fusiform bacilli were found associated with spirochaetes.

A fusiform bacillus, a *Streptococcus longus*, and a capsulated diplococcus resembling the pneumococcus were present occasionally; their presence evidently occasioned no reaction on the part of the tissues. A very large streptococcus (*S. maximus*) was found in a considerable proportion of cases; it occurred in chains of medium length (of from five to ten organisms), and was Gram-positive. A large, somewhat flattened Gram-positive diplococcus was similarly present in a considerable number of salivas and gingival deposits, probably the *Diplococcus crassus*.

Short, round-ended bacilli, sometimes retaining and sometimes losing Gram's stain, were frequently present. They might have belonged to one of several groups, but it was thought that for the present purpose exact identification could not be very accurate, and was not specially necessary. A streptothrix was identified in one gingival deposit film, and a yeast in another.

Speaking generally, Gram-negative organisms predominated. Again speaking generally, it seemed that in the salivas there were perhaps more organisms present than one would expect to find in a normal healthy European saliva, and that in the gingival deposit there were on the whole considerably more thread forms and spirochaetes than are usually seen in a similar preparation from the mouths of Europeans.

In one case in both saliva and gingival deposit there were present numbers of unbranched thread forms with distinct gonidia, the whole retaining Gram's stain. These were not so large as a *Leptothrix racemosa*, and were not at all granular. Very large, broad bacilli and diplobacilli were found in one or two cases; these were Gram-positive (these might possibly have been a very small yeast form).

Leucocytes were present in the majority of films from the *materia alba*, though in most cases they showed plasmolysis, and in others were disintegrating. In only one case was active phagocytosis observed. It was conjectured that perhaps the films from the gingival regions would have shown that immunity was due to phagocytosis, but no such evidence was forthcoming. This absence of active phagocytosis in saliva agrees with what one of us (H. P. P.) found experimentally on a previous occasion.[1]

Desquamated epithelial cells were common in the saliva films, and usually, though not always, were loaded with organisms—as a rule the *Streptococcus brevis*—and it is a question as to what extent this may be regarded as a true phagocytosis similar to that which is seen in endothelial cells elsewhere.[2]

In the saliva films stained by the Ziehl-Neelsen method only two acid-fast bacilli were found. They were stouter than tubercle bacilli, but showed some irregularity in staining. They were ringed on the slide and further decolorized with alcohol when the red colour was discharged thus showing the bacilli to be of the acid-fast group other than tubercle.

In order to test the possibility of carrying out more accurate and detailed bacteriological work without fitting up a laboratory on the spot, swabs from the gingival margins were taken in 6 cases at the last village visited and forwarded by post to the laboratory at Dunedin. They, however, occupied exactly a week in transit (despite the fact that the guide rode in with them eight miles to the nearest post-office on the same afternoon that they were taken), so that undoubtedly many of the less hardy varieties died out.

The following organisms were isolated from each swab:

1. Pure culture *Staphylococcus aureus*.
2. *Streptococcus brevis*.
   Staphylococcus aureus.
   Pneumococcus.
   Diphtheroids.
   Large Gram-positive cocci.
3. *Streptococcus brevis*.
   Streptococcus longus.
   Streptococcus-bacillus.
   Gram-negative bacillus (a few).
4. *Staphylococcus aureus*.
   Diphtheroids.
5. *Streptococcus longus*.
   Staphylococcus albus.
   Diphtheroids.
6. *Streptococcus brevis*.
   A large Gram-positive coccus growing in chains.
   Streptococcus longus.
   Pneumococci.

The swabs were inoculated on agar, inspissated serum, and in peptone broth; blood agar was not used, owing to the age of the swabs on receipt.

It is interesting to note, first, that the varieties of organisms isolated by cultivation were for the most part those least in evidence in the smears made direct from the mouth; and, secondly, they were precisely similar to what one might expect to find in swabs from individuals in an ordinary civilized community. We came to the opinion that any conclusions based on cultures made from swabs so long after being taken would be very unreliable, and that, if detailed work was to be done, it would be necessary to have a bacteriological equipment on the spot—a matter of considerable difficulty and expense, owing to the inaccessible nature of the locality.

CONCLUSION.

Although this cannot be put forward as a detailed and exact bacteriological report on the oral cavity of Maori children, yet we think there is quite sufficient evidence to show that immunity to caries and oral infections is not in such children due to the absence of those organisms which are usually regarded as causal factors in such conditions.

[Towards the cost of this research a grant was made by the Royal Society of Medicine. If circumstances permit, the investigation will be renewed in November and December next.]

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[1] *Prevention of Caries* (Cartwright Prize Essay), p. 191. [2] Ibid., p. 192.

THE late Mr. Edward Nettleship left estate of the gross value of £26,768, with net personalty sworn at £23,225. The testator left the bulk of his property to his wife for life, and on her death £3,000 to St. Thomas's Hospital to create or augment a fund for the endowment of lectureships in the Medical School, £1,000 to the Royal London Ophthalmic Hospital. Subject to some further bequests, he directed that if the ultimate residue of his property should exceed £9,000 then a further £2,000 should be paid to St. Thomas's Hospital Medical School, for the same purpose as the above legacy of £3,000, and £1,000 additional should be paid to the Royal London Ophthalmic Hospital.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

NOTE ON A SIMPLE METHOD FOR DIMINISHING CHLOROFORM AND ETHER SICKNESS.

Having observed that cases of gastro-enterostomy treated in the Fowler position had very little anaesthetic sickness, I have for the last six years raised the upper end of the patients' beds on blocks 12 in. high in all cases after chloroform or ether anaesthesia. This I continue for twenty-four or thirty-six hours.

This plan has been followed by a great diminution in the amount of sickness. By the old method, in which patients were kept lying in bed with the head very low, the amount of sickness was very great in many cases. My staff nurses at the Western Infirmary and nurses in private confirm the statement that the improvement since the upper ends of beds were systematically elevated has been very great, and in consequence the suffering to patients and the labour to nurses is very much less.

The reason that this method is satisfactory is purely mechanical, as it is more difficult to be sick in an elevated position than with the head low. Certain patients are, of course, very sensitive to the influence of chloroform and ether, but even when on previous occasions patients report that they suffered for days with sickness, when in the elevated position the sickness very soon passed off.

After a six years' trial of the above improvement I think it is right to bring it before the profession in order that they may have the opportunity of testing its efficiency.

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Surgeon and Lecturer on Clinical Surgery, Western Infirmary, Glasgow.

PROFUSE HAEMORRHAGE IN DIPHTHERIA.

A. R., a boy aged 5, after being, in his parents' opinion, slightly unwell for about ten days, was seen on September 13th by a medical practitioner who thought it was not a case of diphtheria. On September 15th he pronounced it diphtheria, and injected 2,000 units of antitoxin. The boy was removed to the Cheshunt Isolation Hospital. He was said to have vomited blood that morning. On admission his temperature was 103° F., pulse 130. Blood was oozing from the throat, pharynx, and nose. Antitoxin, 4,000 units, was injected at once, and that evening he vomited blood and pieces of membrane.

On September 16th the temperature was 103° F., and the pulse 130, but very variable. He had passed in the bed blood and membranous casts of the bowel (several feet). He was injected with 4,000 units and 4,000 units given by the mouth. In the afternoon I saw what he had passed in the pan—about 1½ pints of blood with membranous casts—one piece more than 2 ft. long; 4,000 units were given by mouth, and calcium lactate 15 grains. Brandy 1 drachm was ordered every four hours. At 10 p.m., as his pulse and temperature were varying rapidly, I examined his ears and found the left meatus full of membrane and inflamed; I swabbed this out and incised the inflamed lining of the meatus. He was given 4,000 units by the mouth. He passed a fairly good night; and when seen on September 17th the bowels had been well opened, the stools containing no blood but much membrane. The pain in the head of which he had complained had disappeared, and he was taking food well. The throat and ear were clean; the temperature was 98° F., and the pulse 124. On September 18th the temperature was 99° F., and the pulse 120. The bowels had been opened once, but he had passed no more blood or membrane. He was feeding well. The amount of brandy was diminished. On September 19th the temperature was normal, and the pulse 120; he was feeding well, and was cheerful though weak.

There were no further complications, and recovery was uninterrupted.

In other cases of diphtheria I have tried the application of antitoxin to the affected palate, tonsils, etc., but not with much effect. In this case it was evident that the prima via was implicated, and the topical application appeared to be successful.

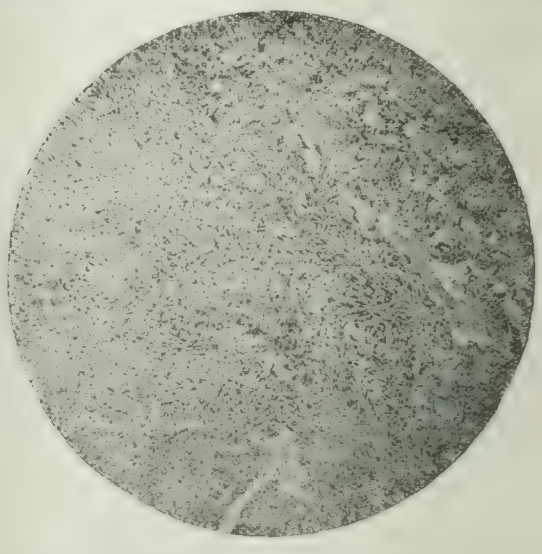
Walter F. Clark, L.R.C.P. and S.Edin., D.P.H.
Cheshunt, Herts.

MIXED-CELLED SARCOMA TREATED BY LOCAL EXCISION AND COLEY'S FLUID: NO RECURRENCE AFTER THREE YEARS.

W. W., aged 40, consulted me in September, 1910, complaining of a cyst in the calf of the right leg, which bled on the slightest injury. At Christmas, 1909, he noticed three small black marks in the centre of the right calf; these united, and the mark grew until, when seen in September, 1910, it had attained the size of a large gooseberry, forming a tumour raised about ¼ in. above the level of the skin with a base of 1¼ in.; it was freely movable with the skin, and showed signs of recent haemorrhage from friction of trousers. The tumour was removed on September 4th, 1910, under local anaesthesia. The Laboratory of Pathology and Public Health, 38, New Cavendish Street, reported that it was a typical mixed-celled sarcoma.

On September 10th, 1910, the patient was seen in consultation by Mr. Sherren, who advised further local excision and treatment by intramuscular injections of Coley's fluid. On September 20th I excised the skin and subcutaneous tissue down to the muscle for the extent of 4 in. by 5 in., and applied skin grafts.

Ten days later I started Coley's fluid (Parke, Davis, and Co.) ♏ss. It was injected daily, increasing ♏ each day,



until—after an injection of ♏ij—the temperature ran up to 103.2°, and the patient had a rigor with acute rheumatic pains. After a pause of five days injections were continued twice weekly, increasing each time by ♏; each injection was followed by severe rheumatic pains and slight rise of temperature, but the patient was able to be out of bed in the intervals. When the dose had reached ♏iij it was continued without further increase, but after three doses of this strength he had a sharp attack of influenza (November 10th), and the injections were then stopped. At this time he had been having injections for six weeks.

The injections were started again on January 18th, 1911, with a dose of ♏j, increased as before (injections twice weekly); after a dose of ♏jss he had a severe rigor with acute rheumatic pains. Injections were then given every four days until February 16th, when, owing to great depression and debility, he was sent away for ten days.

From February 27th to the end of March injections were given twice weekly, starting again at ♏j and increasing up to ♏ijss; each dose was followed by acute pains, but the temperature did not rise above normal, except on one occasion, when it reached 101.5°, and was accompanied by rigor.

During April, May and June a weekly injection was given, each injection causing severe pains.

The injections were always given into the right gluteus maximus, and the object aimed at was to cause severe rheumatic pains. In all he had forty injections. He was able to attend to his work after the end of October.

Wanstead. G. S. Ward.

NYSTAGMUS.

I MUST disclaim all responsibility for the discovery that in some cases of miner's nystagmus the eye movements are not concomitant. The credit belongs to Dr. Ohm of Cotbus, who has made a most exhaustive study of the nature of the oscillations of the eyes in this disease. He has devised a binocular ophthalmoscope by means of which both discs can be approximated and examined simultaneously. Mr. J. A. Wilson's instrument is a simple and ingenious method for bringing the images of the globes into apposition, so that their relative movements can be compared. I have been able to confirm Dr. Ohm's statement in a few cases of miner's nystagmus, but I cannot find non-concomitancy as frequently as he does.

Dr. Ohm and M. Dransart both state that exophoria is practically always present, and Dransart insists that it is the mostly important etiological factor in the production of the disease. Since reading Dr. Ohm's book upon miner's nystagmus I have examined every case of the disease I have seen with the Maddox box, and among about twenty patients I have only found one who had about half a degree of exophoria. It is difficult to understand such a discrepancy. Dransart says that weakness of the interni is universal, and Ohm has gone so far as to advance these muscles!

T. HARRISON BUTLER, M.D.Oxon.,
Assistant Surgeon to the Birmingham and Midland Eye Hospital.
Leamington Spa.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

HEREFORDSHIRE GENERAL HOSPITAL.

TRAUMATIC PERFORATION OF GUT: OPERATION: RECOVERY.

(Reported by CLAUDE H. G. PHILP, M.B., B.C.Cantab., House-Surgeon.)

I VENTURE to report the following case, which, though it belongs to a very ordinary class of injury, raises some interesting points.

A working man, aged 68, was admitted to the Herefordshire General Hospital on Sunday, July 6th, 1913, about 1.30 p.m., with a history of having fallen off a chair after breakfast about five hours previously. Up to the time of the accident he had been in quite good health. It seemed that he had been standing on the chair picking cherries from a tree, when he slipped and overbalanced, falling with his abdomen across the back of the chair, which broke under his weight. He complained solely of pain in the pit of the stomach. He had not vomited. On examination, the upper part of the abdomen was slightly tender to the touch, but there was no rigidity or distension. In fact the whole abdomen was soft and easily palpated. There were no signs of free fluid or gas. The only other injury was an abrasion on the sacrum, which later developed into a troublesome pressure sore. His general condition was good and he was not in any great pain. The pulse was 60 and of good volume, the temperature 97.2°, the respirations 20.

As there were no definite signs of any abdominal lesion, the patient was put to bed and kept under observation. Nothing except a little water was given by the mouth. During the next six hours he vomited four times, and the temperature ran up to 102°, but soon dropped to 99°. He had a fairly comfortable night, only vomiting twice. The next morning the temperature was swinging between 98° and 100°, and the abdomen was more definitely tender, and becoming rigid and retracted. The liver dullness was decreased and dullness in the flanks increased; the pulse was 68.

It was then decided to perform an exploratory laparotomy. This was done under chloroform, twenty-five hours after admission, and thirty hours after the accident. On opening the abdomen, turbid but not offensive peritoneal fluid was found, containing what appeared to be particles of food. A small perforation of the upper part of the jejunum, the size of a sixpenny piece, was discovered; it showed no evidence of disease, and it was closed with a purse-string suture. No other lesions to any abdominal viscus were found. The peritoneum was thoroughly dry sponged, a rubber tube drain was inserted, and the abdomen sewn up. The patient was rather collapsed after the operation, and the temperature dropped to 95°, but soon recovered. The pulse at no time rose above 68. The Fowler position was adopted, and the patient had a good night.

Flatus was soon passed. The tube drained freely, and was mopped out dry daily. It was removed on the sixth day. The patient improved rapidly. The temperature never rose above 101°, and the pulse was quite good and slow.

With the exception of some bronchitis he made an excellent recovery. Convalescence was quite uneventful, though the wound healed very slowly. The patient went home in the twelfth week. On discharge, he was eating well and in normal health, with no signs of any abdominal discomfort.

Comments.

The case presented a few features of interest. First, as to the cause of rupture. This was most probably caused by a small knuckle of bowel becoming nipped between the back of the chair and the vertebral column in the moment of falling. It was, in fact, a "buffer accident" in miniature. Next, the length of time which supervened before a diagnosis was possible, and before there were sufficient signs to justify a laparotomy on an old man. This was most probably due to the small size of the perforation, and to the absence of any virulent organisms in the stomach or small gut. The peritonitis set up was only of a mild character, and though the pus became very offensive it quickly abated. The prognosis was thereby much improved.

Lastly, the slow and regular pulse throughout was curious, and tended to mask the effects of the lesion in the earlier stages.

British Medical Association.
CLINICAL AND SCIENTIFIC PROCEEDINGS.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.

AT a clinical meeting held on November 26th at the Metropolitan Hospital in conjunction with the Aesculapian Society, Dr. DAVID ROSS in the chair, the following were among the exhibits:—Dr. LEONARD WILLIAMS: A case of ascites due to tuberculous peritonitis in a boy aged 16. The condition was of four weeks' duration at the date of admission to hospital. Under treatment with calcium chloride, gr.x ter die, and liquid paraffin, the abdominal circumference was reduced in five weeks from 52.3 cm. to 43.3 cm., and the patient was making good progress towards recovery. There was no pyrexia. Dr. P. HAMILL: (1) Two cases of acromegaly, one in a middle-aged woman who presented typical facies and hands, a skiagram of the hands and skull being shown: the other in a man, aged 23, whose upper jaws were gradually enlarged. (2) (for Mr. MAYNARD HEATH) A baby, 6 weeks old, with a large *Congenital angioma* under the right hallux. It was proposed to defer operation until later unless the increase were marked. (3) A boy, aged 6 years, who had a forward dislocation of the clavicle at the sternal end: it had been caused by a van wheel passing over the boy's shoulder. No other injury was sustained. Reduction was effected by digital manipulation after fixing the arm as for fractured clavicle, but displacement immediately recurred. It was expected that a false joint would be formed, and that some permanent deformity but a useful arm would result.

SOUTH-EASTERN BRANCH: ISLE OF THANET DIVISION.

A MEETING of this Division was held on November 25th at the Royal Sea-Bathing Hospital, Margate. Dr. STREET, the Chairman, presided, and fourteen members were present. Dr. WALTER GRIFFITH, of St. Bartholomew's Hospital, read a paper on uterine haemorrhage. A hearty vote of thanks was carried on the motion of Mr. SUTCLIFFE.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

At a clinical meeting on November 24th, Sir David Ferrier, President, in the chair, the following were among the exhibits:—Dr. John Gay: A case of *Haemorrhage from both breasts*. The patient, an unmarried woman aged 35, had suffered from epistaxis from time to time, and menstruation had always been considerable in quantity. There was no history pointing to haemophilia. Severe haemorrhages had occurred irregularly from both breasts since March, 1912. The attacks of haemorrhage had lasted on and off for two or three months at a time and ceased in September, 1913. Calcium lactate and chloride had no effect, but turpentine and sea air had caused some improvement. There was no characteristic change in the blood. Dr. Robert Hutchison: A case of *Hypertrophic biliary cirrhosis, with splenomegaly*, in a girl aged 4½ years; the patient was very jaundiced, and had frequent pale stools. Other members of the family had not been jaundiced, and there was no reason to suspect syphilis. Both the liver and spleen were considerably enlarged. There was no ascites and no acholuria. Fragility of the red cells was not increased. Dr. J. L. Bunch: (1) A case of *Papulo-necrotic tuberculide*. The nodules were at first slightly raised, and distinctly infiltrated, but small and apparently quite superficial. They were always followed by a shallow scar. During the last six years areas which previously had only shown a superficial dermatitis had become covered with a number of small atrophic scars, and when shown a very large number of such scars were present. Microscopically giant cells were present, but no tubercle bacilli were seen. Tuberculin had failed to arrest the disease. (2) A case of *Linear lichen planus* in a woman aged 27. The point of special interest was that a characteristic lesion had developed exactly in the position of a scratch, since the affection is not generally regarded as contagious or capable of being inoculated. Dr. Reginald Jewesbury: A case of *Pneumothorax* which had persisted for nine months in a boy aged 9 years. Recently, within a period of fourteen days, the pneumothorax had disappeared, and the lung had expanded perfectly. The points of interest were the age of the patient, the absence of effusion throughout the course of the disease, and the complete recovery. Dr. S. A. Kinnier Wilson: A patient with *Bilateral cervical ribs*, shown to illustrate the diagnosis between that condition and progressive muscular atrophy. The wasting was confined to the abductor pollicis, the opponens pollicis, and part of the flexor brevis pollicis, whereas in progressive muscular atrophy the wasting was a global one—that is, it involved the eminence as a whole.

ROYAL SOCIETY OF MEDICINE.

Section of Medicine.

At a meeting on November 25th, Dr. Samuel West, President, in the chair, Drs. A. M. Gossage and Braxton Hicks, in a paper on two cases of *Non-cancerous tumour of the stomach*, said they considered benign tumours of the stomach to be rare; sometimes they were discovered only accidentally at a *post-mortem* examination. In one of the cases recorded there was a sessile tumour the size of a golf ball. The intestines contained blood and the viscera were very pallid. Histologically the growth consisted of a mixture of fibrous tissue and unstriped muscle elements. In the second case, the patient, a man aged 37, had a fall two and a half years previously, and afterwards suffered slight abdominal pain and indigestion. A few days before admission to hospital he had severe pain in the back and in the abdomen. On the third day after admission he vomited blood, and during the following week he became delirious. The liver was slightly enlarged. On autopsy the body was found well nourished, but the viscera pallid. The stomach contained a round tumour the size of a golf ball, attached by a narrow pedicle to the middle posterior wall. A black speck was seen, as if it were the site of a haemorrhage. The tumour was of a low degree of malignancy. The special feature of the blood picture was the presence of an enormous number of nucleated red cells, some of the nuclei being bilobed, and some trilobed, showing great attempts to compensate for the blood loss. Dr. Newton Pitt read notes of a case in which a *Fish bone impacted in the parotid duct* was the focus of a calcareous deposit. The patient, a man aged 58, said he had got a fish bone in his throat, but a laryngologist found nothing. Afterwards the parotid gland became swollen and tender, and *x*-ray and other examination revealed an elongated body in the duct, lying lengthwise. Dissection of the duct, the walls of which had become much thickened, failed to find the body, and the wound was sewn up and healed. But there was a recrudescence of the trouble, and suppuration and breaking down of the wound occurred, when the small body which had caused the trouble appeared at the site of the incision. In detailing a number of similar cases culled from literature, the author said calcification did not necessarily follow, even when impaction had existed a year. Dr. Batty Shaw and Mr. R. Higham Cooper showed a case of prepuberal atrophy of the testicles in a young man, aged 24, whose height was 6 ft. 3 in. and weight only 7 st. 8½ lb. He had never had nocturnal emissions nor experienced sexual desire. He was very long limbed, the length from the top of the symphysis pubis to the ground being 42 in., while that of the ordinary man was 33⅜ in. The pelvis was narrower from side to side than from front to back. The bones generally were somewhat decalcified, and there was a striking delay in development. Dr. Shaw raised the question whether gigantism was a result of functional disturbance of the pituitary body only; he also asked whether this patient could be said to have an osteomalacic pelvis, and, if so, what was osteomalacia dependent upon? He contended that the case showed that osteomalacia was one of the effects of faulty excretion in the case of several glands, not of one only. Dr. Douglas Derry demonstrated a pelvis of a Soudanese of ancient date which he brought from the neighbourhood of the Blue Nile. This showed bilateral synostosis of the sacro-iliac synchondrosis. The index of this pelvis was 125, as compared with 103 for the orang, and 80 for the European female. He also pointed out the related kyphosis of the spine in these abnormal cases. Dr. Shaw's patient had a marked curve of the spine in the upper part. Dr. Percy Kidd discussed a case of combined sclerosis of the spinal cord, with possible *Dystrophia adiposo-genitalis*, in a boy, aged 5 years, whose parents were Polish Hebrews. He was very fat, of olive complexion and almond-shaped eyes. The genital organs were very undeveloped, but the child was bright, and the cranial nerves normal, though he could neither walk nor stand alone. He had incontinence of urine. The fundus was deeply pigmented, but the optic discs markedly pale. Radiography showed the pituitary fossa to be ill-defined. At the age of 16 months the patient had diphtheria and frequent convulsions, and since that time had been liable to malaise. At a children's hospital a decompression operation was suggested, but declined. The cerebro-spinal fluid was normal. Probably there was a change in the sella turcica.

Dermatological Section.

At a meeting on November 20th, Dr. J. J. Pringle, President, in the chair, the following were among the exhibits: Sir Malcolm Morris and Dr. Dore: A case of *Lupus erythematosus* presenting some unusual features—namely, itching in association with the eruption of the face; scaly patches on the chest and inguinal regions; a patch resembling psoriasis on one elbow and lesions on the tongue and buccal mucous membranes. Dr. Pernet regarded the condition as lupus erythematosus, a view with which Dr. Adamson agreed, but the President suggested the coexistence of seborrhoeic psoriasis. Dr. Douglas Heath (Birmingham): A pigmented eruption in a medical man; Dr. Adamson and Dr. Pernet thought it the adult form of *Urticaria pigmentosa*, but Dr. Whitfield considered it to be a disease *sui generis* of which he had seen two cases. Dr. Eddowes suggested that it was an infection of sweat ducts. The President, who had observed two similar cases, thought the presence of dermographism and the pigmentation brought it within the limits of adult urticaria pigmentosa. Dr. Pringle: A case of *Mycosis fungoides* in a woman aged 40 years. The disease began in February, 1912, during puerperal fever, and the patient first came under observation as a *femme rouge* with

universal erythrodermia, complete loss of hair, marked enlargement of spleen and lymphatic glands without leucocytosis, typical extensive lichenification, deep pigmentation, and a very small number of tumours. Points of special interest were the reappearance of hair on the scalp, eyebrows, and eyelashes, when the erythrodermia and infiltration diminished, despite fresh manifestations elsewhere. Dr. ADAMSON: Another case of *Mycosis fungoides* of five years' duration in a woman aged 65. She presented rounded plaques on the skin, but no tumours. There was no leucocytosis. She had had forty doses of *x* rays in six weeks. In response to Dr. VINRACE, the PRESIDENT said that one such case under his care had been treated by *x* rays at very short intervals over a period of fifteen years, the disease being thereby kept in abeyance, and Dr. DORE considered that frequent repetition of the *x* rays was often imperative on account of the large areas of skin usually involved, the rapid progress of the disease and the presence of commencing lesions under apparently healthy skin. Dr. WALSH: A case of *Epidermolysis bullosa* in a boy, aged 15, associated with congenital morbus cordis. Dr. WILFRID FOX said he had seen an acquired case of this disease, and Dr. MACLEOD said there were records of acquired cases, although it was doubtful if they were true epidermolysis bullosa. He could not understand how congenital morbus cordis should stand in any relation to such a condition. Dr. BOLAM (Newcastle) and Dr. PARKES WEBER could not detect any evidence of abnormality in the heart. Dr. NIXON (Bristol) suggested a possible connexion between the Raynaud phenomena and the epidermolysis. The PRESIDENT believed that low grades of the condition were common, and he was acquainted with several families the members of which blistered with abnormal facility. The case was referred to a subcommittee for report. Dr. DUDLEY CORBETT gave a demonstration of a new *Radiometer*, an instrument for measuring the tint of the Sabouraud pastille now in daily use at St. Thomas's Hospital. Dr. WHITFIELD, Dr. MACLEOD, Dr. SEQUEIRA, and Dr. AGNES SAVILL testified to the great utility of the apparatus. Dr. HALDIN DAVIS: An infant, aged 10 weeks, with extensive *Psoriasis*; he mentioned two similar recorded cases of three and ten weeks' duration respectively. Dr. MACLEOD said he had shown a similar condition in an infant 4 weeks old; it had recovered rapidly on ler treatment, and this fact suggested a diagnosis of *Seborrhoeic eczema*. Dr. WHITFIELD asked if the scales had been examined microscopically for seborrhoeic organisms. Dr. ADAMSON said he called these cases seborrhoeic eczema and had observed them in association with that disease in the mother. Dr. PERNET: An instance of *Dermatitis artefacta* in a young woman who presented circular patches on the chest and back. Dr. SEQUEIRA: (1) A girl with a very extensive and severe eruption of *Tuberculides*, the lesions on the upper limbs being of small type, and those on the lower limbs of large type. The condition followed a septic wound and tuberculous glandular swellings. The patient had never been free from lesions for seven years, and had been treated with a course of tuberculin for three and a half years. Dr. MACLEOD asked for a report of a biopsy and inoculation in a guinea-pig, as he considered that these cases were true tuberculous infections. (2) A case of *Lichen verrucosus* in a farm labourer, aged 43 years, of five years' duration, presenting warty growths of large size symmetrically distributed on the extensor aspects of the fingers, hands, and legs. The case gave rise to much discussion, and the PRESIDENT, while admitting the resemblance of the patches on the legs to lichen verrucosus, hesitated to accept the diagnosis. Dr. ADAMSON regarded the case as of erythema multiforme type. Dr. DOUGLAS HEATH had seen it previously, when the lesions were much more erythematous and not horny on the surface. Dr. A. M. H. GRAY said he had had two somewhat similar cases, one of which he regarded as *Erythema elevatum diutinum*, and another in a child associated with rheumatic nodules. Dr. WHITFIELD thought the condition on the knees resembled *Lichen planus*, but there was an early lesion which did not correspond with that disease. (3) A case to illustrate the *Luetin reaction*. This was not present in florid cases of syphilis, but he had found it in one primary case and in one instance in which the Wassermann reaction was negative but which had improved under antisyphilitic treatment. The PRESIDENT understood that the luetin reaction was inconstant and unreliable. Mr. MCDONAGH said it was of no value in primary cases, and the same reaction could be obtained with many other substances. Dr. WHITFIELD: A case of *Xanthoma tuberosum* of two years' duration in a woman aged 53. Dr. EDDOWES: A case of *Lupus erythematosus* affecting the scalp and face of a young girl; regrowth of hair with altered pigmentation had taken place on a patch on the scalp. Dr. GRAHAM LITTLE: (1) A case of very severe and extensive *Tuberculous syphilides* which presented a considerable resemblance on the face to elephantiasis graecorum. (2) A woman, aged 67 years, with *Hypertrophic lichen planus* of four years' duration, one of the masses having ulcerated. Histological examination confirmed the diagnosis of lichen planus and negatived that of malignancy.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on November 19th, Dr. G. H. MELVILLE DUNLOP in the chair, the following were among the exhibits: Dr. DAWSON TURNER: Two cases under radium treatment—one a naevus of the cheek, the other a port-wine stain complicated with a *Keloid produced by carbonic acid snow and nitric acid*; both showed improvement. Dr. NORMAN WALKER: A naevus in a child undergoing spontaneous recession; a case of dermatitis autophyta in a young woman. Dr. JOHN D. COMRIE: *Spastic paraplegia* in a child, aged 7 years, who could walk with the legs crossed only when supported. The Wassermann reaction was negative. The cause was probably a congenital defect at the upper end of each Rolandic area. Dr R. A. FLEMING: Two cases of *Beriberi* in Hindu seamen, fed largely on polished rice; both showed peripheral neuritis with paresis, muscular tenderness and large areas of anaesthesia; one also had oedema of the legs and feet, slight pleural and pericardial effusion, and dilatation of the left ventricle. Dr. EDWIN BRAMWELL: Two brothers, one aged 17, the other 11, who for four and one years respectively had had progressive difficulty in walking. Both showed a spastic gait, some ataxia, an intention tremor of the arms, nystagmus, and defective articulation of syllabic type. The condition was difficult to diagnose, but was apparently related either to Friedreich's ataxia or to familial ataxic paraplegia. Dr. LOVELL GULLAND: Four cases of *Aneurysm*, two showing bulging tumours on the thorax, two pressing posteriorly on trachea, oesophagus, and sympathetic nerve. Mr. JOHN FRASER: *Aplasia of the lower end of the tibia* in a baby of 6 months, producing inward displacement of the foot; the deformity had been relieved by removal of a portion of the fibula, and transplantation of a piece of the opposite fibula into the undeveloped tibia. Mr. L. BEESLY: A case showing left *Interscapulo-thoracic amputation* for tuberculous disease, a previous excision of the shoulder having failed to extirpate the disease. Mr. DAVID WALLACE: (1) A boy in whom accident had produced *Diastasis of the lower end of the femur*. Replacement under anaesthesia and extension having failed, plating had been done with an excellent result. (2) Partial resection of the anterior wall of the stomach for carcinoma in a man aged 46. The symptoms of haematemesis and pain had suggested duodenal ulcer. The immediate result of the operation was excellent. Mr. D. P. D. WILKIE: *Osteo-chondritis deformans* in a boy aged 8, the symptoms being a pronounced limping of the left hip for months, freedom of movement, both active and passive, except that of abduction, and absence of pain. A skiagram showed flattening of the epiphysis and rarefaction of the upper and outer part of the neck of the femur. Mr. J. W. DOWDEN: Two cases of *Fracture*, each of both bones of the leg, and each treated without splints by simply hanging the legs over the end of the bed. In both cases there was marked oedema produced, but with an excellent result, both in firm union and good position. Mr. G. CHIENE: (1) *Carcinoma of the sigmoid* in a woman, which had caused complete obstruction for fourteen days. Colostomy was performed, followed by resection of the growth twelve days later. (2) A case of large ventral hernia of long standing complicated by strangulation of an epiploic appendix in a *Subsidiary peritoneal pouch*. Mr. J. W. STRUTHERS: (1) A man aged 21, showing deformities produced by ostitis fibrosa; *x*-ray plates

showed multiple areas of bone, in which lime salts were deficient. (2) Case of *Jacksonian epilepsy* in a boy aged 9 years, which had been cured by osteoplastic craniotomy. Mr. C. W. Cathcart: (1) A case after operation for tuberculous glands of the neck: the internal jugular vein had been torn close to the skull and closed by plugging. The patient was an adult. (2) Recurrent fibroid tumours of neck and face, followed by cancer of the colon (splenic flexure).

LIVERPOOL MEDICAL INSTITUTION.

At a meeting on November 20th, Mr. Robert Jones, President, in the chair, Mr. F. Jeans, in a note on *The Lane kink*, said he could not agree that this condition was due to the upright position. He had never met with it, except in association with appendicitis. When the ileum was kinked he had found that division of the band of adhesion released the ileum, and if the lozenge-shaped space so formed were sutured re-formation of the band was prevented by getting the bowels moved early and keeping them released. Mr. F. T. Paul agreed with this view of the causation of the kink, and considered there was no warrant for extensive operations such as had been recommended. Mr. G. P. Newbolt described a case of *Appendix abscess*, in which there were continued rigors and high temperatures for some weeks after the abscess had been drained and washed out. A vaccine had been made, the discharge having been found to contain an enterococcus which could not be identified. The patient made a complete recovery, which the exhibitor considered was undoubtedly due to the vaccine. Dr. C. J. Macalister, in a paper on the *Influences of the venereal diseases*, spoke of the part taken by Dr. W. Carter and Dr. Birkbeck Nevins, both past presidents of the society, in the repeal of the Contagious Diseases Acts in 1886. It was proved that these Acts did not lessen the evils they were supposed to remedy. At the same time they caused a lessened sense of responsibility from Government recognition of immorality. Army statistics showed that when these regulations were rescinded there was a progressive decrease in disease. Education was making the soldier more moral and temperate. With regard to the general population, no substantial decrease in the disease was occurring, and a growing number of diseases not formerly considered to be syphilitic in origin were now definitely proved to be so. This was true even of some cases of congenital heart disease, and gonorrhœa had been proved to be one of the gravest dangers to which womanhood was subjected. Hence he appealed to the medical profession to lend all its influence to educate the public to understand the full evils of these diseases, not only to individuals but to the nation, many persons being rendered unfit to earn a livelihood, and deterioration of the race being brought about. Notification would be difficult until the public had been sufficiently educated, but this effected, it would be possible to proceed to effective segregation of carriers, certification as to fitness for marriage, and other measures for stamping out the plague. In the discussion that followed, Dr. Hope said that the history of the Contagious Diseases Acts taught what to avoid, and he thought that in order to give practical and effective assistance in curing the evil the society should render every help to the Royal Commission. He proposed that a small committee of the society should be formed to go into the different points and consider how best to assist the Royal Commission. It was agreed that a committee should be formed, with power to add to its numbers.

A meeting was recently held in the Langenbeckhaus, Berlin, for the formal constitution of an International Society for Sexological Research. The organizing committee consists of Professor Johannes Dück (Innsbrück), Professor Hans Gross (Graz), Professor Karl v. Lillienthal (Heidelberg), Dr. Max Marcuse (Berlin), Dr. Albert Moll (Berlin), Professor R. Seeberg (Berlin), Professor Sellheim (Tübingen), Professor L. W. Weber (Chemnitz), and Privy Councillor Julius Wolff, Professor in the Technical High School, Berlin. Professor Wolff was elected President; Dr. Moll, Vice-President. Among the members of the committee is Mr. Havelock Ellis, of London. Communications relative to membership should be addressed to Dr. Max Marcuse, Lutzowstrasse 85, Berlin, W.

Reviews.

JOHN HUNTER AND ODONTOLOGY.

The volume entitled *John Hunter and Odontology*[1] is the outcome of two museum demonstrations given by Mr. J. F. Colyer on the specimens of teeth prepared by John Hunter preserved in the Museum of the Royal College of Surgeons of England. Mr. Colyer's work as Curator of the Odontological Section of that museum has given him an intimate acquaintance with John Hunter's preparations of jaws and teeth, and has inspired in him a feeling towards Hunter as towards a "master"—a feeling which is apparent throughout the book, and one which the reader readily makes his own. This feeling, however, has not prompted any glossing over of faults, the work of the master is faithfully dealt with, for he is big enough to take the burden of his errors.

The subject-matter proper of the book is preceded by a short life of Hunter in which his passion and genius for collecting are well illustrated, and by an account of the shameful tragedy of his manuscripts, a tragedy which Mr. Colyer has done his best to remedy, so far as odontology is concerned, by careful study of Hunterian tooth-specimens both in London and in Glasgow, where William Hunter's museum is preserved. In the rest of the book Hunter's work in odontology is dealt with. Large numbers of the actual specimens are illustrated and described, and wherever possible Hunter's own words are quoted. Reading these pages one marvels to remember that odontology was but one small part of his work; what he did in this alone would have made a monument for any man. His range of observation was astonishing. He illustrates the "situation of the teeth" by specimens taken from mammals, reptiles, fish, insects, and molluscs. The two latter are used to illustrate what Hunter thought to be teeth in the stomach, and though Mr. Colyer points out that the mechanism described is not to-day accepted as dental, the record serves to emphasize the immense range of Hunter's observations. One of the subjects is a Cape grasshopper. The extract from the Hunterian MS. catalogue with which Mr. Colyer prefaces his chapter on "Teeth in General" shows the broad common-sense views with which Hunter approached his subject; teeth, bills or beaks, those parts of an insect which are exterior to the mouth, "those that may be classed either with the teeth or the bill, such as the dividers of some reptiles—as the snail, leech, etc.," are all exhibited as subserving the same purpose. The many forms of teeth, their period of growth, limited or persistent, their uses, the methods of succession, their composition are all described with wonderful accuracy, though the existence of cementum was not recognized. Hunter prepared specimens to show the relation of the enamel-forming organ to the dentine pulp, and demonstrated the mode of formation of the complicated molar of the horse. To show the component parts of teeth he prepared transparent specimens, soaking them in acid, drying them and preserving them in oil of turpentine. His views on the growth of the jaws, deduced from specimens of his own preparation now in the museum at Lincoln's Inn Fields, are, as Mr. Colyer says, practically identical with the views accepted by anatomists at the present time; reading lately a monograph on the subject published in Vienna, we found them quoted with full approval. Mr. Colyer notes with wonder that so careful an observer could date the commencement of calcification of the first and second premolars at about 5 to 6 years and 6 to 7 years respectively, or the eruption of the first permanent molar at 12, the second at 18 years, and the third from 20 to 30. In Hunter's description of the calcification of teeth we find a reference to the method of demonstrating growth by feeding intermittently with madder, which was used by him to show the method of deposition of dentine as well as the growth of bone. On page 110 Mr. Colyer traverses Hunter's opinion regarding the loss of deciduous teeth which have persisted into adult life. Hunter regards

[1] *John Hunter and Odontology.* By J. F. Colyer, L.R.C.P., M.R.C.S., L.D.S., Dental Surgeon, Royal Dental Hospital of London and Charing Cross Hospital; Examiner in Dental Surgery, Royal College of Surgeons of England; Honorary Curator, Odontological Collection of the Museum of the Royal College of Surgeons of England. London: C. Ash, Sons and Co. 1913. Demy 8vo, pp. 214; 161 illustrations; frontispiece portrait of John Hunter after Reynolds. 20s. net.)

the loss of these teeth as proving that the deciduous teeth grow loose and fall out of their own accord without needing any tooth underneath. Mr. Colyer remarks, "We know now that deciduous teeth without permanent successors will persist for years, and that their loss is brought about by pathological changes similar to the changes which occur in the permanent teeth." To this we may be allowed to rejoin, in defence of Hunter, that in our experience the roots of persistent temporary teeth are always more or less absorbed, and that this absorption as a general rule is the cause of their loss. In Hunter's days it was believed that human teeth grew continuously, a point he was at great pains to refute.

In discussing human teeth as an index to diet he is delightfully trenchant and masterful. His argument must be read in full to be thoroughly enjoyed, and Mr. Colyer does well to quote it, but we may give his conclusion, which was that man is a mixed feeder fitted equally to live upon flesh and upon vegetables. In the chapter on the pathology of the teeth Mr. Colyer indicates that Hunter's second work on the teeth seems to have been rather a careless addendum to the first, though Mr. Colyer's words are not quite clear. There are few specimens illustrating pathology of the teeth, but Hunter published ten chapters on the subject. Mr. Colyer notes that he held that caries began in the teeth themselves and that it might sometimes be treated by extraction, boiling, and replantation, that he recognized that gum-boil may arise from teeth free from caries, and that he knew the evil results of retaining loose septic teeth. Of Hunter's description of "the diseases of the gums and the consequences of them" he truly remarks that it "is an excellent clinical picture of the various stages of gum trouble from a marginal gingivitis to that acute ulceration of the gum margins accompanied by bone destruction which is seen in cases associated with the infection of Vincent's angina." Whether the "callous thickenings" on page 157 refer to certain types of recurrent epulis may be doubted—they may be the bony bosses of chronic periodontal disease.

Mr. Colyer shows that Hunter recognized true trigeminal neuralgia and understood the causation of tartar, and quotes from his chapters "Of the Irregularity of the Teeth" a passage showing that he recognized the movements of teeth after extractions, and based treatment thereon. Hunter's advocacy of transplantation is rather severely handled, and his views on dentition receive no great praise.

The last two chapters are devoted to Hunter's observations on dental anatomy and the pathology of the teeth in animals. The former consists largely of well-chosen quotations from Hunter's works, showing his range of knowledge and accuracy of observation and deduction, the latter of a description of the few pathological specimens from the lower animals now preserved in the Hunterian Museum.

Mr. Colyer has accomplished a work of love, and no one who reads the book can help joining in his enthusiasm for his subject. He has given to odontology a new master—John Hunter.

HAUSA CUSTOMS AND FOLK-LORE.

MAJOR TREMEARNE'S *Hausa Superstitions and Customs* [2] is a translation of a collection of folk-stories, told by Hausas in Northern Nigeria, prefaced by eight chapters dealing with their subject matter, and describing in part the daily life, customs, characteristics, and superstitions of the natives. To the translations are appended explanatory notes by the author himself, and references to parallel stories found in other parts of the world by Messrs. Hartland, Crooke, and others. There are some further notes on facial marks, and on the "Bori" or sacred dances. The book is illustrated by a number of interesting photographs, as well as by a series of excellent drawings of objects in common use.

The stories are for the most part "animal stories," typical of many others of similar style, collections of which, in the vernacular Hausa, have been published by Major Edgar[3] and other students of the Hausa language during recent years. But while most of the books hitherto published presume that the reader has some acquaintance with the Hausa language and people, whose life and habits of thought are illustrated, Major Tremearne's book is, as the second title implies, an introduction to the folk and their lore, and, for its understanding, needs no special knowledge of either. For this reason, it should be of great use both to students of folk-lore in general, and to officials and others who go out to Nigeria and wish to gain an insight into the ways of the people. The study of "modes of thought" as presented by these tales, will do much both to prevent errors in tact when dealing with natives, and to stimulate independent investigation. It is, indeed, generally true that most difficulties and troubles with natives, proceed from the European's ignorance of the simple facts and conventionalities of native daily life.

From a student's point of view, we think that Major Tremearne would have done well to explain somewhat more clearly than he does in the first page that the Hausas—whatever be the derivation of the word "Hausa"—are no more a homogeneous ethnic unit than are the Swahili in East Africa. It must be postulated that some tribe or people—probably of Berber origin, inasmuch as Hausa is a Berber tongue—conquered part of Hausaland at some period. Since that time their language (Hausa) has steadily been conquering neighbouring languages. The Hausa civilization is not indigenous, and a great many of the tales should not be regarded as having an independent origin in Hausaland, but as directly borrowed and adapted from Berber, Arab, and other sources. On p. 15, for instance, it is said that certain stories recall those of the *Arabian Nights*. It is more than probable that they are the same stories, carried across from Egypt or elsewhere, and slightly garbled in the process. On p. 429 an illustration of a stirrup and saddle is given, said to be "in general use." The stirrup and saddle in general use are, however, of a different pattern, and the illustration depicts a form of saddle and stirrup which is peculiar to the Tuareg of the Sahara.

More important, however, from a scientific point of view, is what we hold to be an entirely mistaken idea of "Bori dances." Major Tremearne (p. 145) writes:

> There is a peculiar institution amongst the Hausas known as Bori, and although it is not magic exactly—being more like hypnotism perhaps . . . it is regarded as uncanny by the more educated people . . . the ceremonies are usually described as a dance . . . at first merely a treatment for the insane, later on it was degraded into an objectionable form of dancing, though the origin was still apparent, since the actions of the dance simulated different forms of insanity.

The connexion of Bori with insanity is the connexion in native ideas between insanity and inspiration by God. The Bori dances are really dances in honour of various deities, whose attributes are imitated by the dancers. They are in origin similar to the Corybantic dances at Rome, or the bloody self-mutilation of the priests of Baal. The objects called "tsere," mentioned by Major Tremearne (p. 150), into which the "spirit" or "demon" passes, are really dedicatory offerings, indicating the special attribute of the deity, though they are used for "magical purposes." They are usually kept by the man or woman who can invoke the particular deity whose aid is required, but are sometimes kept in the hollow tree or other place where sacrifices are made to that deity. In short "Bori" was part of the ritual of the pagan Hausas (Maguzawa), not, as Major Tremearne appears to hold, a specially devised cure for insanity. Naturally it was discouraged by the Moslems.

The part of the book which deals with the personal characteristics of the Hausas is very good indeed, and conveys in a few pages (pp. 46-58) more information about the native point of view, and practice in the domain of "morals" in general, than can be found in many large treatises, written on the one hand by apologists for the negro, and on the other by his critics. Most Europeans begin by being surprised that the negro falls so far below European ideal standards, then go through a period when they consider he is all vices and no virtues, and finally get to see him in true perspective, and recognize his mental

[2] *Hausa Superstitions and Customs: An Introduction to the Folk-lore and the Folk.* By Major A. J. N. Tremearne, B.A.Cantab., F.R.G.S., F.R.A.I. London: J. Bale, Sons and Danielsson, 1913. (Med. 8vo. pp. 561; 200 figs., 41 plates. 21s net.)

[3] *Litafin Tatsaniagi na Hausa*, vols. i, ii, and iii. Belfast: W. Erskine Mayne. 1911.

and moral characteristics to be as much facts as the colour of his skin or the texture of his hair.

On p. 100 and pp. 518 to the end are some observations on "tribal marks," with about 100 illustrations. The word "tribal" is apt to mislead, because a great many of the marks both on the faces and bodies—but especially on the bodies—do not in reality convey any indications of origin. There are at least three classes of marks. (1) Tribal marks proper (including "family" marks); (2) patterns (tattoos) which are done for magical purposes, or ultimately for ornament; (3) cuts or patterns done for medicinal purposes. The second and third classes naturally overlap to some extent—for example, it is often the blood-letting which works a cure rather than the pattern in which the blood-letting is done, though both are held to be equally important. In a number of instances the author remarks on patterns which are of the two latter classes that "the parents of the subject come from Kano, Zaria, Zamfara, or Gobir" as the case may be. In point of fact, all the important Hausa tribal marks are facial—and very few of the figures given contain *Hausa tribal marks*. As far as we are aware the only Hausa tribal marks which are certainly characteristic are No. 30 Daura, and No. 90 Kutumbawa of Kano.

It is unfortunate that Major Tremearne has borrowed some nine figures at the end from Dr. Karl Kumm's *From Hausaland to Egypt*, because of these figures only one (Daura), is correct. Sokoto being a Fulani town, has no real tribal marks, though some Fulani are marked—usually with three cuts. Zaria has no recognized tribal mark at all. On the other hand Kano, Daura, Katsina, Gobir, and Zamfara, all have recognized facial marks, in addition to such other patterns as may be added for medicine, or for family identification, or ornament.

Apart from this question, however, the figures given are of great interest, suggesting as they do comparison with the Berber tattooing of North Africa. Figs. 3, 92, and 100, contain a pattern which is said to be a charm to attract prostitutes. This is similar to the "Tanit symbol" of the Berbers, and it may well be the "Tanit symbol," for Tanit, like Astarte, was worshipped by "ceremonial prostitution" among certain Berber tribes like the Oulád Náil.

It is satisfactory to note that the British Association has decided to publish the Hausa text of the stories translated by Major Tremearne. The development of Nigeria tends to the decay of folk-lore, and in this branch of anthropology, as in all others, we as a nation make a very poor showing in comparison with our French and German neighbours in West Africa. But why, we would ask, can scores of books as well illustrated, better set-up, and containing no less than this volume contains, be published in France for sums varying from 10 to 15 francs, which we in England have to pay 21s. for similar work? Major Tremearne writes (p. 9) that "this work can hardly be expected to do more than pay its way, even if it does that." We are not surprised. Few persons who are interested in West Africa have many guineas to spare.

RECENT RESEARCHES ON RHEUMATISM.

ITS clinical features familiar to every one, examples of it at all times present in hospital wards, rheumatism still affords endless opportunity for investigation and discussion. Few workers have done more in this direction than DRS. POYNTON and PAINE, who long ago convinced themselves that a microbic origin must be discoverable, and who have succeeded in isolating an organism which fulfils all the classic requirements of a specific microbe, being found to produce the disease in lower animals, from whom in turn it has been re-isolated. Together, separately, and sometimes in conjunction with other physicians, they have from time to time made known the results of their researches to the profession, and many discussions have been held, papers written, and criticisms offered in support of their contention or the reverse. They have now brought most of their papers together into one portly volume, entitled *Researches on Rheumatism*.[4] The papers are for the most part arranged in chronological order, and taken together form a consistent account of a very protracted research which has acquired a special value as the joint work of clinicians and bacteriologists. The influence of the one over the other may have had the effect, as the authors themselves express it, of "keeping the bacteriologist sane and the clinician honest."

The subject is certainly one which calls for restraint on both sides. The discovery of a micro-organism which can set up corresponding lesions in the rabbit may well give rise to blind enthusiasm in the mind of the pathological explorer, but the less impressionable mind of the clinician recalls cases in which causes other than microbic have been at work, and at once reduces the headlong gallop towards a hasty conclusion to the sober trot of careful and painstaking investigation. Much criticism—some of it directly adverse—has been poured out upon the contention of Drs. Poynton and Paine that the microbe which they have discovered, and entitled the *Diplococcus rheumaticus*, is the essential factor in the production of the rheumatic process. Several skilled observers have failed to detect it, but others have had no difficulty. Although fully convinced of the correctness of their own views, the authors clearly recognize that many other influences are concerned in producing the various changes that occur in the course of the acute and chronic disease. The record of work that they have now put forth will doubtless remain as a valuable landmark in the course of discovery, but time alone will show whether the guide-post that they have set up is pointing to the true goal, or is only indicative of a side-track.

Full advantage has been taken of the great opportunity afforded by the clinical practice of the Great Ormond Street Hospital. In the opening paper of the series the possibly microbic origin of acute dilatation of the heart is discussed, in collaboration with Dr. D. B. Lees. The presence of myocarditis in such cases is strongly suggestive. The subject is carried a step further in another paper in which such microbial changes are described as occurring in the myocardium independently of pericardial or endocardial lesions. The first part of the book deals with the probable cause of such an infective process, and in the second part the authors give an account of their demonstration of the organism which they believe to be the actual cause of the rheumatic state. Many other workers, from 1886 onwards, have been engaged in similar researches, and full justice is done to them. Having established the fact of its presence, the authors entered into a long and careful series of researches into the behaviour of the diplococcus in the living subject. Their work is described in detail, and is illustrated with excellent photomicrographs, which demonstrate the actual findings upon which their conclusions are based.

The relation of the microbe to malignant endocarditis, to chorea and to the first manifestations of rheumatism in the very young, are each in turn examined at length. A comparison between the effects upon the heart of the pneumococcus and of the diplococcus respectively, has proved their marked pathological difference, in spite of morphological resemblance.

An important inquiry into the relations subsisting between rheumatism and appendicitis, published two years ago, established the fact that an intravenous inoculation might produce appendicitis, and this is held to prove that direct infection from within the alimentary canal is not an essential condition.

The final section of the work deals with acute rheumatism as a whole. The authors express their belief that the subject has only as yet reached the threshold of inquiry. Its relation to the other infective diseases to which childhood is subject, and its apparent connexion with climatic and local surrounding, have all to be determined, and prevention rather than cure should be the object of future research.

NOTES ON BOOKS.

DR. WALTER GUTTMANN'S technical dictionary, *Medizinische Terminologie*,[5] first appeared in 1902; four more editions have been issued and sold out since then, and this speaks eloquently for the value of the dictionary. The book is well got up, the paper is good, and each term is printed in

[4] *Researches on Rheumatism.* By F. J. Poynton, M.D., F.R.C.P., Physician to University College and to Great Ormond Street Hospitals, and Alexander Paine, M.D., D.P.H., Director of the Cancer Hospital Research Institute, London. London: J. and A. Churchill. 1913. (Med. 8vo, pp. 472; 106 illustrations. 15s. net.)

[5] *Medizinische Terminologie.* Von Dr. Walter Guttmann. Sixth and Seventh Edition, revised and enlarged. Berlin and Vienna: Urban and Schwarzenburg. 1913. (Super roy. 8vo, pp. 1435. M. 19.)

clarendon type. British readers will be glad to find in it many popular names or local names for common maladies. The more purely scientific words are well defined and explained, especially the sesquipedalian chemical compounds so frequent in therapeutical works and in manuals on bacteriology and the use of the microscope: notwithstanding the zeal with which German anatomists once strove to give pure Teutonic names to muscles and chemical salts, we find such terms as "phenetidincitronensaure" and "methylenacetylsalicylsaure" in this dictionary. Far better are words like "methylpropylcarbinolurethran," which is at least pure bad Greek. Dr. Guttmann, we need hardly add in conclusion, includes the shorter therapeutical names in common use, as well as the long words which chemistry bestows on the numerous compounds now used in medicine and the arts.

A book on the subject of auditory re-education[6] which has recently been published is, in effect, the work of three authors, Professor C. M. GARIEL, an honorary professor of the Academy of Medicine of Paris, Dr. G. DE PARREL, an otologist, and Mr. A. ZÜND-BURGUET, a former employé in a Government laboratory where experiments in acoustics are conducted. Professor Gariel indicates in a preface the broad general principles underlying the special principle described in the volume; Dr. DE PARREL sets forth the indications for anacoustic treatment and the results that may be obtained from it; and the acoustic expert, in addition to describing the construction of his instrument for imitating voice sounds of various wave lengths and intensities, and the method of using it, gives an account of several previous endeavours in early and recent times to teach the deaf to hear. This part of the book is decidedly interesting, and the whole of it may be regarded as sufficiently suggestive to be well worth perusal by aurists. But that is all that can be said for it: Professor Gariel appears to believe that atrophy is the habitual fate of organs whose function is not constantly utilized, and that this is the underlying cause of deafness: Dr. de Parrel writes in a style which is more enthusiastic than convincing, and M. Zünd-Burguet, in common with his fellow-authors, seems to fail to recognize that there is a vast difference between awakening a dormant sense of sound in a deaf-mute, and restoring ability to follow a conversation to a person who has lost it through fixation of ossicle or other like cause, and whose perception of mere noise is but slightly impaired. Summed up, Zünd-Burguet treatment would appear to amount to a method of producing tympanic massage, coupled with a clever device for ridding a patient of that habitual inattention which accounts for a percentage of the deafness of all deaf people.

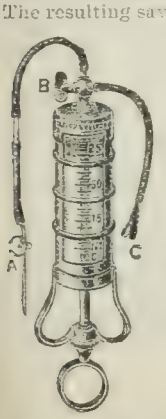
[6] *Principes d'Anacousie.* Par A. Zünd-Burguet. Paris: A. Maloine. 1913. (Demy 8vo, pp. 277. Fr.6.50.)

MEDICAL AND SURGICAL APPLIANCES.

Syringe for the Intravenous Injection of Salvarsan.

MR. HAROLD L. WHALE (London, W.) writes: Messrs. Mayer and Meltzer have made for me an apparatus which apparently has the following advantages over other syringes or funnel and tube apparatus:

1. Large capacity, 100 c.cm. For an adult dose two syringefuls suffice for neo-salvarsan, or three for salvarsan, so that the two-way tap is manipulated at most six times compared to from fifteen to thirty times for the ordinary small syringe. The resulting saving of time adds to the patient's comfort.



2. The metal cage surrounding the glass barrel protects from breakage.

3. The distal end of the barrel, including the nozzle B, is of metal; the breaking of the nozzle, so frequent with all-glass syringes, is avoided.

4. The nozzle B and all three terminals of its two-way tap are bulbous instead of cylindrical. The commonest entrances of air are thus more tightly closed.

5. The tube for drawing up the solution is weighted at C, and so lies close to the bottom of the containing vessel until the last of the solution has been drawn up.

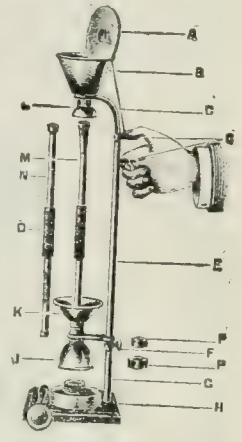
6. The needle A has no shoulders, and so can be cleaned by a wire from either end.

7. Sometimes the lumen of a needle becomes blocked by a clot of subcutaneous blood before reaching the vein, and on piercing the vein no blood can be sucked out, so that the surgeon thinks he has failed to enter the vein; after fruitless attempts he withdraws and clears the needle. This may happen several times, and during the whole undertaking this repeated puncture of the skin is the only painful proceeding to the patient. Therefore a wire stilette marked off like a Tod's Eustachian bougie has been made to fit the needle. If the blood will not flow the tube is disconnected from the needle, which is cleared without its removal from the skin. The mark shows exactly when the stilette has reached the needle point; the tube is then again connected.

8. If it is wished to let the fluid flow in merely by gravity, as from the funnel apparatus, the piston is removed and the barrel suspended by the metal hoops D.

Gum-Elastic Catheter Sterilizer.

Mr. H. T. HERRING, M.B., B.S. (London), writes: Twelve years ago[1] I published the description of an apparatus for sterilizing soft gum catheters and bougies by boiling, as well as a method whereby they could be kept afterwards lubricated and ready for future use. Since then the apparatus has been materially altered and simplified, although the principle remains the same. The principal alterations made are (1) the addition of a stand and frame to hold the catheter-case or tube during sterilization; (2) the substitution of air-tight metal caps to close the end of the catheter-case, for the india-rubber plugs; (3) a new form of case to carry funnel-ended catheters if desired.



Catheter sterilizer, with the upper section of the frame raised ready to drop over the upper end of a catheter-case. F, Lower section of frame; F, screw clip to regulate position of frame; G, rod of stand; H, base of stand; O, insulating felt on case. The other letters are explained in the text.

A teaspoonful of liquid paraffin is put into the flask, J, which is then filled with water. The lower end of a case, N, M, containing the catheter, is gently dropped into the saucer, K. The side handles, D, are pressed together, and the upper section, C, of the frame is raised sufficiently to allow the funnel guide, L, to fall smartly over the upper end of the catheter-case, M. Two metal caps, P P, are placed in the funnel, B, and the lid, A, is closed. The holder with case, now held together by gravity, is swung over a spirit or gas flame to boil. When the fluid boils the great part ascends through the catheter-case into the funnel, where it sterilizes the caps and at the same time subjects the catheter to a continuous stream of boiling water. After a minute the frame is turned away from the flame; the fluid almost directly returns from the funnel to the flask, leaving a thin coating of vaseline on the instrument. The case can now be removed by giving it a slight turn and by pressing the side handles together. The ends are closed with two metal caps. If more than one instrument is required the process is repeated, a little more water or liquid vaseline being added to the flask as may be needed. Catheters thus prepared can be easily carried about and remain sterile for a considerable period, as has been frequently proved by bacteriological examination. The tubular catheter-case for ordinary straight instruments is made in three sizes—$\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$ inch diameter—and the funnel-ended one to hold any catheter up to No. 12 English. All sizes fit the socket of the apparatus. I have to thank Messrs. S. Maw, Son and Sons, of 11, Aldersgate Street, E.C., who make the apparatus, for carrying out my suggestions.

[1] BRITISH MEDICAL JOURNAL, May 25th, 1901.

DR. FRANCISCO M. FERNANDEZ, a member of the House of Representatives, introduced into the Cuban Congress on November 15th, a Bill providing for the sterilization of criminals. A considerable increase in the number of criminals in Cuba is said to have taken place in recent years.

THE third biennial congress of the Far-Eastern Association of Tropical Medicine was held in Saigon in November (8th to 15th), under the presidency of Dr. Clarac, Inspector of the Sanitary and Medical Services in Indo-China. The work of the congress was distributed among seven sections: (1) Protozoology and helminthology. (2) Cholera, plague, leprosy, tuberculosis. (3) Tropical fevers, including malaria, beri-beri, dysentery. (4) Obstetrical surgery and infantile diseases. (5) Climate, hygiene and sanitary administration. (6) Materia medica and pharmacology. (7) Veterinary surgery and epizootics.

RADCLIFFE INFIRMARY, OXFORD.

OPENING OF NEW BUILDINGS.

THE new wing of the Radcliffe Infirmary, Oxford, was opened by Lord Curzon of Kedleston, Chancellor of the University, on November 26th. A luncheon was given by the Treasurer and members of the Honorary Medical Staff, at which were present nearly seventy guests, including Lord Curzon of Kedleston, the Pro-Provost of Queen's College (Dr. Armstrong), the Vice-Chancellor (Very Rev. T. B. Strong), the Regius Professor of Medicine Sir William Osler, Bart.), Sir Clifford Allbutt, Sir Henry Burdett, the Mayor of Oxford, the President of Magdalen, the Principal of Brasenose, Mr. Randell Higgins, Dr. Theodore Acland, Professor Ritchie, Dr. H. D. Rolleston, Dr. A. E. Garrod, and Mr. Edward Warren, F.R.I.B.A.

The opening ceremony took place in the new out-patients' hall at 2.30 p.m. In introducing Lord Curzon, the TREASURER (Rev. G. B. Cronshaw) gave a history of the inception of the new building, and said that the guiding principle throughout had been to make the Infirmary an efficient organization working for the benefit of the public, so that in any changes that might befall voluntary hospitals in the future, the Radcliffe Infirmary would be one which had to be reckoned with.



Lord CURZON said the present hospital owed its existence to the benefactions of two men in particular, first to Dr. John Radcliffe, whose name survived in the Radcliffe Observatory, the Radcliffe Camera, the Radcliffe Library, and the Radcliffe Travelling Fellows; and, secondly, to the late Mr. John Briscoe, a former surgeon to the Infirmary, who left the whole of his estate, amounting to more than £60,000, to the institution. Of this sum £15,000 had been devoted to the new buildings, and the rest was to be put towards upkeep. A building fund opened for public subscription had produced £9,000, bringing the total initial sum up to £24,000. For many years students of the university had received instruction in clinical work from the Regius Professor of Medicine, the Litchfield Lecturers in Medicine and Surgery, and voluntarily from other members of the staff. The facilities afforded by the new buildings would, it was hoped, systematize and consolidate this instruction, which is now being taken advantage of to a greater extent by students in the year immediately preceding their entry at a London or other great medical school. Since the foundation of the Chair of Pathology an increasing number of students had attended the courses in bacteriology and general pathology under Professor Dreyer. The provision in the new buildings for a properly equipped *post mortem* room was intended to make this teaching as adequate as possible. In addition to this, the clinical laboratories would be in close touch with the department of pathology in the matter of teaching, thus preserving contact between practical and scientific pathology, which, since the earliest teaching of pathology in the university, had benefited both the university and the hospital. The newly-formed department of pharmacology would enable the student to complete within the university the more scientific and laboratory part of his curriculum at the same time as he got his first insight into the practical work of medicine and surgery. Research work in clinical subjects had in the past either been carried on under great disadvantages or rendered impossible for want of facilities. It was hoped that in the future research would be a permanent feature of the work in the new department. Besides a duty to the patients and the students, the governors felt that a central institution, such as the Radcliffe Infirmary, drawing patients from several counties as well as the city, owed a duty to the practitioners of these districts, and hoped that this would be discharged by enabling them to follow the course of their patients in the Infirmary as well as by holding a yearly post-graduate clinic.

The Regius Professor of Medicine, Sir WILLIAM OSLER, in proposing a vote of thanks to Lord Curzon, related several anecdotes of John Radcliffe, and emphasized the value to both of the links between university and hospital teaching. After the Mayor, the Rev. W. E. SHERWOOD, had seconded the resolution, Sir HENRY BURDETT spoke to the motion, and praised the work done by the hospital, which, he said, in 1891 had been pronounced obsolete. The opening of the new building was the culmination of many years of effort, and was chiefly owing to the treasurership being in the hands of a young man. He also urged the need under the Insurance Act of practitioners in the neighbourhood keeping in direct touch with hospital work.

Mr. HORATIO SYMONDS, senior surgeon to the Infirmary, then asked the Chancellor to unveil a tablet to the memory of the late Mr. John Briscoe on the east wall of the out-patient hall. Mr. Symonds said that when John Briscoe was first attached to the Infirmary as house-surgeon in 1845, the condition of the institution was far from satisfactory, and he suggested and carried out even then many improvements, possibly more than any one man had done since. With the assistance of a matron, Miss Claribut, who came from the Haslar Naval Hospital, the nursing was made more efficient and the diet was brought up to the requirements of hospital treatment. Previously the patients had meat only thrice weekly and no extras, and it was said that when once a colleague, Dr. Ogle, ordered an egg for a patient it caused almost a disturbance at the weekly board meeting. In 1865 Briscoe became surgeon to the hospital and continued to improve the hygiene of surgical treatment. He was a skilful surgeon, and performed operations for the cure of stone, hernia, cataract and strabismus with success. His guiding rules in surgery were simplicity and cleanliness. He early recognized and carried out the principles enunciated by Lister. He retired from the active surgical staff in 1881, but continued to be interested in its work and progress until a few months before his death, and even when bedridden he had the lists of operations read out to him. Within four hours of his death he asked what operations were being performed on that day. Nothing would have given him greater pleasure than to know that his money was being spent in improving the efficiency of the work of the hospital.

THE NEW BUILDINGS.

The new buildings form a wing which occupies a site considerably larger than the former out-patient department which it replaces. It lies at right angles to the

central administrative block which formed the original hospital founded by Dr. Radcliffe. The building has been designed by Mr. Edward Warren, F.R.I.B.A., who, in the matter of the internal hospital arrangements, has been advised by Dr. D. J. Mackintosh, M.V.O., Director of the Western Infirmary, Glasgow. Professor Georges Dreyer has been consulted in the arrangements and fitting-up of the pathological department.

The new block, which is faced with stone on its northern and eastern aspects, is entirely in keeping with the substantial yet picturesque block of the older building, with which it is connected on the ground and first floors. The main façade forms the southern boundary of the open court, while its eastern façade abuts directly on Woodstock

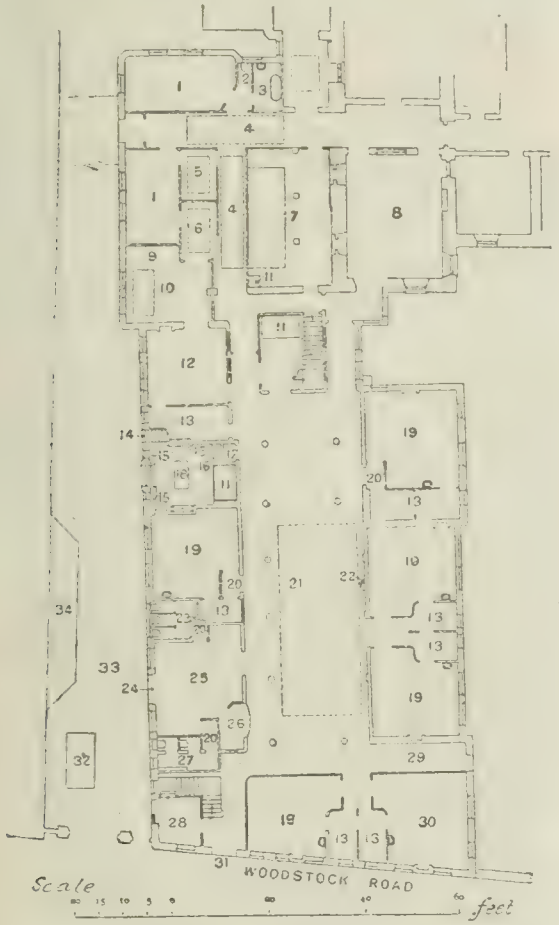


Fig. 1.—Ground floor. 1, Recovery rooms; 2, w.c.; 3, bath; 4, corridor; 5, nurse; 6, vestibule; 7, dispensary; 8, dispensary waiting hall; 9, sterilizers; 10, operating room; 11, lifts; 12, casualty room; 13, dressing rooms; 14, engineers' entrance; 15, seat; 16, ventilation; 17, store; 18, chapel; 19, consulting rooms; 20, lobby; 21, hall; 22, drinking water; 23, women's latrines; 24, patients' entrance; 25, waiting hall; 26, almoner; 27, men's latrines; 28, porter; 29, passage; 30, dental consulting room; 31, staff and students' entrance; 32, weigh bridge; 33, carriage drive; 34, bicycles.

Road. It consists of three floors and a basement. The ground floor is allotted to the out-patient department, the first floor chiefly to special departments, and the second floor to the pathological department. The basement includes store rooms, heating and freezing apparatus and mortuary, which is connected by a special lift with the chapel, on the ground floor, and the pathological department. The ground floor includes out-patients' waiting hall, six consulting rooms, casualty room, a small operating theatre, and two twenty-four-hour recovery rooms, a small dental department, and dispensary with waiting hall. A small chapel opens on to the carriage drive, which lies along the southern side of the building.

The first floor has two *x*-ray rooms for photographic and therapeutic work respectively, with the necessary dark room; two rooms are allocated to the newly-constituted electro-therapeutic department. Another room is specially fitted up as a nose, ear, and throat department. The east

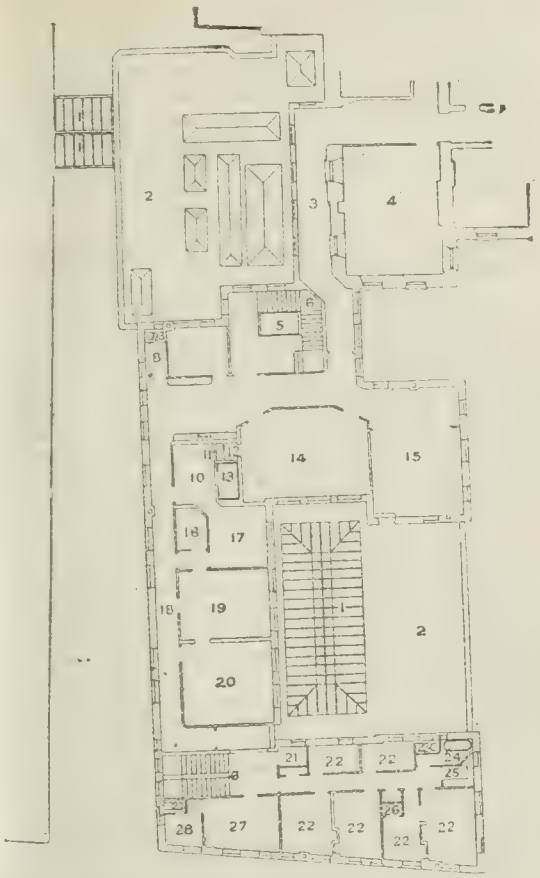


Fig. 2.—First floor. 1, Glass roof; 2, asphalte roof; 3, corridor; 4, existing staff room; 5, lift; 6, staircase; 8, patients' lavatory; 10, cooling room; 11, ventilation; 12, stores; 13, lift; 14, ear, nose, and throat; 15, electro-therapeutics; 16, dark room; 17, electric bath room; 18, corridor; 19, photographic *x*-ray room; 20, therapeutic *x*-ray room; 21, h. m. c.; 22, bedroom; 23, w.c.; 24, bath; 25, larder; 26, coal; 27, staff room; 28, staff cloak room.

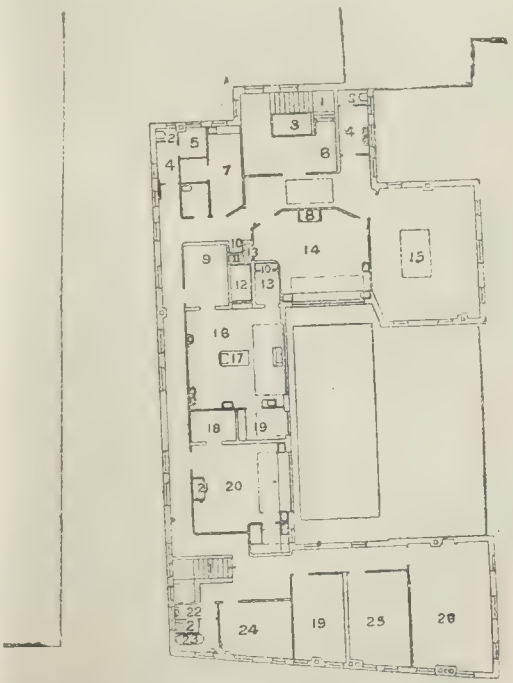


Fig. 3.—Second floor plan. 1, Staircase; 2, w.c.; 3, lift; 4, cloak-room; 5, shower bath; 6, waiting space; 7, attendants' work-room; 8, fumes; 9, trolleys; 10, cold store; 11, ventilation; 12, lift; 13, store; 14, clinical (chemical) laboratory; 15, lecture room for nurses; 16, *post-mortem* room; 17, table; 18, incubator; 19, work-room; 20, clinical laboratory (bacteriological); 21, fumes; 22, lava-tory; 23, bath; 24, professors' room; 25, instruments; 26, examiners' room and library, etc.

part of this floor is taken up by rooms and offices for the resident staff and a room for the visiting staff.

The second floor consists of a well-lighted *post-mortem* room, with microscopic room and store rooms, a bacteriological and chemical laboratory, a room for electrical work, private workroom, assistants' room, and dark room. In addition there is a small lecture room, easily accessible from the lift, and a spacious room for use as a library and as an examiner's room during university examinations.

THE LONDON SCHOOL OF CLINICAL MEDICINE.

THE annual dinner of the London School of Clinical Medicine was held at Prince's Restaurant, Piccadilly, on November 28th, under the presidency of Surgeon-General ARTHUR W. MAY, C.B., Medical Director-General, R.N.

In proposing the toast of "The School," the CHAIRMAN said that doctors in the fighting services had nowadays to spend a good deal of their holiday time in keeping themselves up to date, and the facilities offered by the London School of Clinical Medicine, or, as he preferred to think of it, the post-graduate school at the Dreadnought Hospital, had been of inestimable value to them. It gave its education and the riches of its accumulated learning to a body of men who were doing great and good service not only to the navy and army, but to the country generally, as well as to humanity all over the world. It was evident by the large gathering of eminent men present that evening that the work of this post-graduate school was appreciated by the medical profession and by all interested in scientific work, but he doubted whether the general public was equally appreciative. Post-graduate schools were of recent origin, and were founded largely because it had become an axiom that with regard to medicine and surgery there was no such thing as standing still. Medicine had not always advanced, but at the present time they were on the wave, if not at the top of the wave, of an extraordinary advance in medical science. So far as he was able to judge, the clinical school was carrying on its work with enlightened enthusiasm and conspicuous success, and he felt sure that its efforts were appreciated by the men of his own service as well as by the other students it had already attracted from all parts of the world.

The toast was received with acclamation, and in the course of an excellent reply, Mr. CHOYCE, the Dean of the School, in expressing his thanks to the Director-General for the genial and cordial manner in which he had spoken, asked leave to state a few facts bearing upon the school's achievements. He pointed out that in 1906, when the doors of the school were first opened, there were but three students, of whom one paid no fees. Since that inauguration until now 748 men had passed through the portals. The School Committee looked on that as a good beginning. Already the accommodation was proving insufficient for the rapidly growing needs of the school; and, though new classrooms had been built, there was still inconvenient cramping of space for the work that was being done. The pathological department had more than doubled both in personnel and space. New laboratories had been opened and thoroughly equipped, but there was still too little room, and some endowment for the encouragement of research was urgently needed. It was the dream of his ambition that in the near future, through the generosity of the public, there might be established outside the hospital, but in juxtaposition to it, school buildings of such magnitude and utility as would challenge comparison with many of the well known post-graduate medical colleges of America and the Continent. The students so far attracted by the school had come from all quarters of the globe—from Canada and the United States; from Australasia and South Africa; from Peru, Brazil, Ecuador, and the Argentine; from France, Germany, Italy, Greece, Holland, and Spain; as well as from the British Islands themselves.

The public services had been strong supporters, and especially the Royal Navy, which had sent no fewer than 127 men, or 17 per cent. of the total number of students so far inscribed on the attendance-roll of the school. Since the findings of the Durnford Commission a more official connexion than previously existed had been inaugurated by Sir James Porter. This connexion, he thought, was to the advantage both of the School and the Naval Medical Service and was peculiarly appropriate in view of the fact that the patients of the Dreadnought Hospital were all seamen of one nationality or another. Fleet Surgeon Gaskell, the able director of naval medical studies, had been unwearied in his endeavours to promote a happy and successful relation between students coming from the naval service and the teachers and staff of the Clinical School. Fleet Surgeon Bassett-Smith had also done much to promote the clinical and pathological work of the clinics. It was, however, not desirable that the school should ever become a purely service institution. He believed that to rub shoulders with civil practitioners was of immense value to service men, and he was glad to be able to put it on record that no fewer than 558 of the students who had attended the school to the present time had been private practitioners or men preparing themselves for the higher examinations. He also thought it an interesting evidence of the value of the work done so far that he was able to state that 5 students from the school had gained the M.R.C.P. of London; 11 had taken the M.D. degree at various universities; 85 had won the Fellowship of the Royal College of Surgeons of England; 13 the Fellowship of the Royal College of Surgeons of Edinburgh; and 3 the Fellowship of the Royal College of Surgeons of Ireland. The Dean concluded by paying a graceful tribute on behalf of his colleagues to the board of management and to Mr. Michelli, the Secretary of the Seamen's Hospital Society.

The toast of "The Medical Profession" was proposed by Sir ARCHIBALD GEIKIE, who contrasted the position of medicine at the present day with that of 300 years ago. Medical men in all directions, he said, had not only advanced their own profession, but had to a very large extent gone out of their own sphere and advanced other branches of science. One of the greatest scientists the country had ever produced was William Gilbert, the founder of the science of magnetism, a man of whom the medical profession might be justly proud.

Sir THOMAS BARLOW, in responding, said that the future progress of medical science depended upon the thoroughness of the training of the men of to-day, and that the London School of Clinical Medicine had laid its foundations broad and wide so as to give a thoroughly scientific basis for its work.

Sir JAMES CRICHTON-BROWNE, who also responded, made humorous reference to faith-healing by aristocrats and others, and expressed the opinion that if the money spent upon mischievous quack medicines and advertisements relating to them were handed over to the London School of Clinical Medicine mankind at large would reap an incalculable benefit.

The health of "The Chairman" was felicitously proposed by Captain H. B. HOOPER, R.I.M., and duly acknowledged by Surgeon-General MAY.

ROYAL COMMISSION ON VENEREAL DISEASES.

THE following is the official report issued to the press by the Secretary of the Royal Commission on Venereal Diseases:

Scotland.

At the meeting of the Royal Commission held on Monday, November 24th, evidence was given by Dr. J. C. Dunlop, Superintendent of the Statistical Department in the office of the Registrar-General for Scotland.

Dr. Dunlop gave figures to show that syphilis and parasyphilitic diseases do not hold a very important place in the list of the principal causes of death in Scotland. The figures for 1911 showed that the number of deaths due to all tuberculous diseases was 8,887 (to phthisis 5,451), cancer 4,948, accident 2,624, whooping-cough 2,347, measles 923, syphilis and parasyphilitic diseases 552 (or including aneurysm 713), scarlet fever 541, diabetes 445, rheumatism 469, appendicitis 410, enteric fever 272, suicide 253.

It was Dr. Dunlop's impression, from consideration of the figures from 1880 onwards, that there was a decrease in venereal diseases in Scotland. He agreed that the

figures available with regard to deaths from these diseases were, on account of defects in certification and diagnosis, only to be accepted with reservations, and that the true amount of deaths from these causes is almost certainly considerably greater than that shown by registration; but looking to the facts that diagnosis and certification are improving, he considered that the decline which the figures showed in the number of deaths pointed to a genuine decrease in syphilis.

Dealing with the question of confidential certification of deaths, he was aware that there was a body of opinion in its favour, but he thought that from the point of view of the Registrar-General there might be practical difficulties about adopting it. A scheme under which a general certificate of death would be sent to the local registrar, and a confidential certificate giving details of the cause of death to the central office in Edinburgh, involved a risk that the latter would not receive a certificate in every case, and consequently endangered the completeness of the register.

ONE HUNDRED YEARS AGO.

THOMAS THOMSON AND THE "ANNALS OF PHILOSOPHY."

WHEN we try to picture to ourselves the medical life of a hundred years ago we must not think of the practitioner receiving every week his medical journal, or going to the reading-room of a society where there were dozens of periodicals dealing with all the specialities. There was nothing then to foretell the amazing torrent of literature which now pours forth from the periodical medical press of all civilized lands, contents of which are recorded in the pages of the *Index Medicus* (itself a monthly periodical of more than a hundred pages). No, the number of medical journals published in 1813 was not great, and those written in English and appearing in Great Britain and the United States of America could with no great expenditure of time be read conveniently each month by any diligent doctor who had access to them. It is even difficult in these days of profusion to realize how scanty were the medical magazines with which our forefathers kept themselves abreast of advancing scientific achievement.

We have already referred to some of the few medical periodicals of the time in these "Hundred Years Ago" articles. We have, for instance, quoted from the *Medical and Physical Journal*, a monthly, which began to appear in London in 1799, and continued to be published till December, 1814; its name was then changed to the *London Medical and Physical Journal*, and it pursued its course anew till 1833. There was an offshoot from it which began in 1810; it bore the name of the *New Medical and Physical Journal*, and ran by itself under the editorship of T. Bradley and William Shearman till June, 1813. We have also cited the *Medical Transactions*, published by the Royal College of Physicians of London, which appeared irregularly between 1785 and 1820, but, under the stimulus of Dr. Latham, were showing signs of unwonted activity in 1813. We have also had occasion to refer to the *Edinburgh Medical and Surgical Journal*, which, beginning in January, 1805, appeared first as a quarterly and later as a monthly for fifty years, and in July, 1855, united with the *Monthly Journal of Medical Science* to form the *Edinburgh Medical Journal*, which is still vigorous. The *London Medical Review* made its bow quarterly only from 1808 to 1812, and the long title of the *London Medical, Surgical, and Pharmaceutical Repository, Monthly Journal and Review* was not announced till January, 1814. Neither of these periodicals, therefore, was to be found lying on, say, Dr. Latham's library table in his house in Harley Street in 1813, although the annual volume of the *Medico-Chirurgical Transactions* may have been in the room. All these publications were London productions, with the exception of the *Edinburgh Medical and Surgical Journal*, which appeared in the city whose name it bore on its title-page. No other town in Great Britain in this year seems to have produced a medical journal; Liverpool was, by-and-by (in 1833), to have its *Medical Gazette*, and Manchester in 1830 was to publish quarterly the *North of England Medical and Surgical Journal*; but meantime periodical medical enterprise was restricted to the two capitals.

We had almost forgotten to mention the *Annals of Philosophy*, and we need hardly ask pardon for our impending but happily avoided omission, for truly the title of Thomas Thomson's magazine scarcely suggests a medical journal. Nevertheless the *Annals of Philosophy*, which began to appear in January 1813, and continued to arrive from C. Baldwin's press every month till December, 1820, when a new series started, and Richard Phillips became its editor, was full of medical articles and of non-medical articles from the pens of medical men. Let us consider for a few minutes this somewhat anomalous phenomenon, and endeavour to find its explanation.

The key to unlock the mystery is, it may be hazarded, to be got in the founder and editor of the *Annals*, Thomas Thomson, M.D. The editor, therefore, was a medical man. He had graduated doctor of medicine at Edinburgh in 1799. Therein lies a solution of the problem of the strong medical tincture which the *Annals* exhibited, but only a partial solution, for why did Dr. Thomson not call his periodical the *Annals of Medicine*? The answer is again to be found in the letters and titles which appeared after Thomson's name; they indicated that he was a Fellow of both the Royal Societies (of London and Edinburgh), of the Linnean Society too; we find, further, that he was a member of the Geological Society, of the Wernerian Society, and of the Imperial Medico-Chirurgical Academy of St. Petersburg. He was, therefore, a scientist as well as a medical man, a natural philosopher as much as—perhaps more than—a doctor. The title of his journal now becomes more easily understood; he was regarding philosophy as synonymous with natural philosophy, "the study of nature or of natural objects and phenomena"; he was not thinking of moral or metaphysical philosophy; and to make this quite plain he put, as the subtitle of the *Annals*, "a Magazine of Chemistry, Mineralogy, Mechanics, Natural History, Agriculture, and the Arts." Though he was thus unrestricted in the field of his journalistic enterprise, at any rate, we may still ask why he put so much that was medical into the *Annals* and did not insert "Medicine" into the subtitle along with Agriculture and Natural History? It is difficult to find an explanation, but conjecture says that Dr. Thomson had not quite determined in his own mind what was to be the scope of his magazine when he fixed the title.

Before dipping into the two volumes of the *Annals of Philosophy*, which appeared in 1813, it may be convenient to inquire into the life-history of the man who had the courage in this year of political turmoil and of stupendous military conflicts (Moscow recently in flames, incessant roar of cannon around Leipzig) to found a journal in London which should "follow the known track of sage philosophy," and to ask his fellow men to "look at her calm lights." Thomas Thomson was born in April, 1773, the memorable year when "Boston harbour was black with unexpected tea," when the brothers Montgolfier were raising their balloons by hot air, when Mr. James Boswell and Dr. Johnson ("man led about by a bear") were touring in Scotland, and Goldsmith succeeded in getting his play, *She Stoops to Conquer*, produced. He was born at Crieff, the little Perthshire town ("Montpelier of Scotland," we name it sometimes) which lies a trifle precariously on the sunny but very steep slope of its hill, looking as if a chance earthquake (and they have such seismic tremors in Strathearn) might shake it off. Crieff had got itself rebuilt after its complete destruction by fire in 1716 at the hands of the retreating Highlanders, angry men all of them, bitterly disappointed about their "Pretender" Chevalier, and ready to wreak their vengeance on the "loyal town"; and it rested there on its slopes, much indebted to James Drummond (titular third Duke of Perth) for rebuilding it and repairing its fortunes (founding a large linen factory and the like). Crieff's population in 1776 was only 1,532, but it was already a famous little place, had given birth to a poet, David Mallet (1700–1765), though perhaps rather a minor one; and here was the future editor of the *Annals of Philosophy* presenting himself to the world in one of its modest dwellings. Nowadays Crieff has spread its rows of villas and its terraces all over its sunny hillside, and away up among the pine woods one sees the large hydropathic establishment founded by another medical man (the late Dr. Meikle). On that hillside we can imagine Thomas Thomson in his youthful days playing, and looking, not unmoved, down into lovely Strathearn, or gazing, from the other side of the "Knock,"

up at the giant masses of the Grampians frowning down in rugged grandeur upon him, and containing wild horrors of fierce Highlandmen breaking through with torches to burn once more the "loyal town" of Crieff. We can think of him, too, a few years later, hurrying off to the parish school, or, it may be, "creeping like snail unwillingly" thither, with as yet no thoughts of philosophy or its annals in his head. We must picture him next at school at Stirling, then at St. Andrew's University (1787–1790), then acting as tutor in the family of Mr. Kerr, of Blackshields (1790–1795), then studying medicine in Edinburgh (1795–1799), and especially chemistry under Joseph Black, and finally taking his M.D. there (1799). Already his brain had begun to show signs of the phenomenal activity which was to make Dr. Thomson famous; he had contributed the article "Sea" to the third edition of the *Encyclopaedia Britannica*, and had edited the Supplement to that edition, writing papers on chemistry, mineralogy, and on vegetable, animal, and dyeing substances, papers which formed the basis of his *System of Chemistry*, published in 1802.[1] By this time it was clear that Thomson's love had gone out without restraint to chemistry, and the proof thereof is found in the fact that in 1800 he instituted a course of lectures on the subject in Edinburgh, and continued to teach there till 1811. More important, perhaps, is the other fact that he opened a laboratory for the practical instruction of pupils, stated to have been "the first chemical laboratory opened in the United Kingdom for purposes of instruction." About this time, too, he invented the instrument known as Allan's "Saccharometer." One is therefore hardly surprised to hear that Thomson was elected a Fellow of the Royal Society of London in 1811, although a little startled to find him publishing the next year (1812) "a history of the society, containing an account of the most important papers which had appeared in the *Philosophical Transactions*." This year (1812) was indeed an *annus mirabilis* for Thomson, for in the autumn he visited Sweden, gathering facts about its mineralogy and geology which were to appear later in a book. He took up his residence in London, and, as we have said above, began at once to edit his *Annals of Philosophy*.

So here, in 1813, we have Thomas Thomson, M.D., settled in the metropolis, making his way up and down Fleet Street and the Strand, paying frequent visits, we can well suppose, to Paternoster Row, where Robert Baldwin, the publisher of the *Annals*, had his business, and to New Bridge Street, where C. Baldwin's printing works were. But although he was living in London, he had not lost touch with Edinburgh, where, at W. Blackwood's (future publisher of *Maga*), the *Annals* could be bought, and he had stretched forth a hand across the Irish Channel to Dublin, where J. Cumming also offered the periodical for sale. Thomson was doubtless trying to live up to the sentiment which is expressed in the first sentence of the preface to the *Annals*—namely, "The superiority of the moderns over the ancients consists not so much in the extent of their knowledge (although that also is considerable) as in the degree of its diffusion." Let it be easy, therefore, for the *Annals* to be got in Edinburgh and in Dublin! Let a stray copy or two make its way even to far-off Strathearn, to enable the home folks to see what the old Crieff lad was doing in London. Perhaps, too, a part was handed in, by the way, at Stirling, at the house of a distiller there (a Mr. Colquhon), for we have discovered that in 1816 Dr. Thomson carried off as his bride Mr. Colquhon's daughter Agnes. In the year following his marriage Dr. Thomson was appointed to be Lecturer in Chemistry in the University of Glasgow, and in 1818 he was made Regius Professor in the subject; so began his long connexion with Glasgow, where, until 1845, he discharged the duties of his chair, either wholly or in part, and was President of the Philosophical Society from 1834 to 1850; in the November of that year (1850) he made the last of the long series of communications to scientific bodies which had come from his pen, and in July, 1852, he died at the age of 79. He was happy, too, in his eldest son, for Thomas Thomson, junior, who was born in Glasgow soon after his father's transference to the great city on the Clyde, graduated M.D. in the university there in 1839, and then, like his father, turned away from medical practice to the study of natural philosophy, making botany his favourite study, having strange adventures in the East, and taking a high place as a naturalist with special knowledge of all Indian matters.

Let us now return to the *Annals of Philosophy*, which in 1813 Thomson was editing in London, and turn over the pages of the first and second volumes which appeared in that year. As has been stated already the medical element in these two volumes is very considerable, but it is nearly always medicine from the chemical standpoint, and as we have seen there was a sufficient reason for this in the personal likings of the editor. In his "advertisement" to the *Annals*, Dr. Thomson promised that every number should contain, first, memoirs on particular branches of science, either original or foreign, which "are presumed to be unknown to most of the readers of the journal"; second, a full analysis of some book of science; third, scientific intelligence; fourth, an account of the proceedings of Philosophical Societies (Royal, Linnean, Wernerian, etc.); and fifth, lists of patents and a meteorological table. The programme was a full one, but Thomson was one whose reading had made a full man, and he went joyously forward to his task with abundant perseverance and irresistible energy. As proof of his readiness and confidence in his own powers, take this sentence from his "advertisement":

> The *Annals* will contain an account of the proceedings of Philosophical Societies; this we conceive to be one of the most valuable departments of our journal; as the accounts are drawn up by the editor merely from hearing the papers read at the different societies, mistakes and inaccuracies now and then unavoidably occur: but upon the whole he flatters himself that they are tolerably correct, and they must be of value to those numerous readers who have not access to these societies.

He was ready, at the end of six months, to meet all criticisms, for he writes:

> Some complaints have been made that the number of papers in each part is too small; but we flatter ourselves that a little consideration will satisfy the intelligent gentlemen to whom we allude, that they are as numerous as is consistent with the size of the part.

We can imagine that some of the gentlemen referred to may well have muttered under their breaths (or above them), "conceited editor and most intrusive Scot." Another critic had said that too great a proportion of the *Annals* had been devoted to chemistry; the editor's reply was that chemistry, which was making such rapid progress, must necessarily receive more space than these "sciences which are in a great measure stationary." There was no repressing this "pushing young particle" of a Scottish chemist.

One is prepared, therefore, to find Dr. Thomas Thomson's name figuring pretty often in the table of contents of the *Annals*, and truly the most expectant reader could not claim to be disappointed in this respect. The first article in every one of the twelve parts, save only the ninth, is from the editor's pen; and it must be admitted that these articles, which are almost all of the nature of biographical notices of famous scientists (for example, Cavendish, Priestley, Karsten, de Fourcroy, Lagrange, Lavoisier, and Sir Isaac Newton), were thoroughly readable. But the editor contributed many other things as well as these biographical sketches. Thus we find, under his name, papers on "ulmin," on "liquid gum from Botany Bay," on the "specific gravity of the gases," on "veins" (they were geological not anatomical veins, however), on "a resinous substance found at Highgate," on "a new variety of ulmin," on "the heat evolved during inflammation of the human body," on "the Daltonian theory of definite proportions in chemical combinations," on "an analysis of a Chinese gong," on "mineralogical observations in Cornwall," and on "the composition of oxide of zinc." He also, as we have seen, gave reports of meetings of societies, wrote reviews of books, and contributed all sorts of editorial odds and ends. Some people had evidently been suggesting in circumlocutory ways that there was too much of "T. T." in the *Annals*, for we read the following announcement:

> One other topic it may, perhaps, be proper just to notice; several letters have been received mentioning the small number of contributions that have been furnished to the *Annals* by the different philosophers of Great Britain, and regretting the great weight that has fallen, in consequence, upon the Editor; but the Editor himself is of a different opinion, and acknowledges with pleasure that the number of contributions has greatly exceeded his expectation; he had laid his account with

[1] *Dictionary of National Biography*, vol. lvi, p. 271, 1898.

conducting the *Annals of Philosophy* for at least a year without any assistance of much consequence, but he has been agreeably disappointed.

He was shameless, indeed, this intrusive Scot of the "loyal town" in Strathearn, not very far from Bannockburn, which perhaps explained it.

After all, however, he had some good men working with him, and he did not get what was apparently his wish—to write the whole *Annals* himself. There, for example, was Mr. John Dalton of Manchester, made famous some twenty years before by his discovery of colour-blindness ("Daltonism" it was called by Prevost, but this was objected to by the English chemists, who did not wish to "associate a great name with a physical defect"); he wrote several articles for the *Annals* (on respiration and animal heat, oxymuriate of lime, etc.). Dalton was indebted to Thomson, too, for the support he gave to his atomic theory: indeed, Thomson gave to the world (in 1807) the first detailed account of that theory, and in these very volumes of the *Annals* he was writing articles on his friend's theory which made it very widely known. Another writer was William Henry, M.D., also a chemist by inclination, although a physician by profession. He wrote articles on diabetic urine, on uric acid, on the eudiometer, etc. Then there were contributions from the pen of Berzelius of Stockholm (another M.D. with a love for chemistry which made him famous) on the composition of animal fluids, etc.; from William Prout, M.D., who took his degree in Edinburgh a year before, and was "one of the pioneers of physiological chemistry," and from Alexander Marcet, M.D., physician and chemical lecturer to Guy's Hospital, not to enumerate many others whose names have gained a place not only in the *Annals of Philosophy*, but also in the more exclusive *Dictionary of National Biography*. One cannot but be struck by the fact that Thomson gathered round him many distinguished men, even if he did say to himself about the *Annals*, "et quorum pars magna fui."

We must, not without regret, leave Thomas Thomson, as he walked out from Paternoster Row some evening early in December, 1813, carrying perhaps that month's part of the *Annals* under his arm, proudly conscious of having completed successfully the first year of his journal. "Thought I might have had to write the whole thing myself, perhaps, and I should have done it," we can imagine him saying; "would have done it," rather, for he came from the land where *woulds* and *shoulds* get mixed like the weather there. It may be that he was thinking of his old home Crieff, away in the north, far from this "brick Sahara" (as another philosopher from Scotland, the Sage of Chelsea, irreverently called London some years later), looking out on the long, rugged masses of the Grampians, snow-capped now, the month being December. It may be his thoughts stopped a little short of Crieff, at Stirling, where lived a certain maiden, to be ere long a chemist's bride. Possibly it was nothing half so romantic about which he thought, but only of the circulation of the *Annals*, and how it could be increased. But there he was, indubitably a strong man, with a marked leaning to chemistry, running his *Annals*, planning more work for 1814, saying to himself "I will succeed" (it should have been "shall"), having (all unknown to him) some forty years more of cheerful labour before him in Glasgow and elsewhere, and a resolute heart, an active brain, and a masterful spirit to carry him to his goal. *Vale* T. T.

THE late Dr. Henry Franklin Parsons, formerly of the Local Government Board, left estate valued at £3,276.

IN the *Nuova Antologia* Generale-Medico Ferrero di Cavallerleone gives an account of the measures taken for the prevention of typhoid among the Italian troops in Tripoli. The General personally began to vaccinate the soldiers in August, 1912. Up to June, 1913, the total number of antityphoid vaccinations performed was 16,191; of these 6,691 were first, 5,427 second, and 4,068 third vaccinations. In the first of these groups there were 9 cases of enteric fever with three deaths, the morbidity per 1,000 being 0.4. In the second group there were also 9 cases, but no death, a morbidity of 1.65 per 1,000. In the third group there were three cases without a death, a morbidity of 0.49 per 1,000. The morbidity during the same period among the non-vaccinated men in Tripoli was 35.3 and the mortality 7 per 1,000. Now antityphoid vaccination is being carried out in all garrisons in Tripoli.

THE UNIVERSITY OF LONDON.

By E. GRAHAM LITTLE, M.D., F.R.C.P.,
MEMBER OF THE SENATE OF THE UNIVERSITY.

THE Faculty of Medicine of the University of London on December 1st passed a number of resolutions endorsing the action of their Board of the Faculty. The question of the constitution of the Faculty which will result from the recommendations of the recent Royal Commission did not come under consideration, and we are promised another report from the Board on this subject before Christmas. As I believe this matter to be of primary importance to all the Schools of Medicine as well as to the University, and as I am convinced the members of the present Faculty of Medicine are living in a fool's paradise if they think they can blissfully ignore the Commission and all its works, I shall be grateful if you will allow me to put some matters before my fellow-members of the Faculty which I think they may not have thought out fully.

The references to pages and sections are to the Final Report of the Royal Commission on University Education in London (Cd. 6717, price 2s.).

The term "Schools" means throughout those teaching bodies which elect to qualify as Schools of the University but do not, or cannot, elect to become Constituent Colleges. The latter term is restricted to the use made of it by the Commissioners—namely, to indicate those teaching bodies which elect "to transfer all educational and financial control of their affairs to the University" (Section 119). In medicine there "cannot be more than three such colleges," but the full scheme will come into force when one such college has been established (Section 298). The list of Schools contemplated in the Faculty of Medicine is given on page 204, and includes all the present teaching schools, but these will have to appoint University representatives, chosen by the Academic Council, on their governing bodies, and generally submit to a far larger degree of University control than any to which they have hitherto been accustomed.

The measure of control contemplated by the Report may be gauged from the following statements:

> The University must be satisfied that there is no adequate and suitable provision of University instruction already existing in the locality concerned for the particular class of students whom it is proposed to teach, and it must have the power to require the co-ordination of the work of the centre with the work existing elsewhere as a condition of its continued status as a School (p. 203).

Thus it is evident that the University may bring pressure to bear upon certain of the present schools to forego some of their courses of study and thus seriously interfere with their internal government.

> In the case of a Hospital medical school . . . the Governing Body of the Hospital will appoint a committee of its own members, with the additional of University representatives, to conduct the business of the School and will always invite and receive a report from that committee before deciding any matter affecting that department of the institution (p. 203).
>
> Even in the case of teachers not appointed by the University and for whom no University title is desired the Senate will have some voice in the appointments, for example, by representation on the appointing committee (p. 203).

The Faculty of Medicine as it at present exists is to be abolished, and no other Faculty will be constituted until the establishment of the Constituent College or Colleges. Until the new Faculty is so constituted, the new "Board of Studies in Medicine" will form the unit of Government of the Schools, and this Board will report directly to the Senate (section 384). When the New Faculty comes into existence, the Board will not have the right of direct access to the Senate, but will have to report to the Faculty.

The constitution which the Report proposes for the Schools, not being Constituent Colleges, is as follows. The Board of Studies in Medicine shall form a committee of itself, subject to the approval of the Senate, to prepare Curricula and Syllabuses, etc. This Committee shall report to the parent Board of Studies; the Board of Studies shall in turn report to the Faculty of Medicine, which when constituted shall consist of the "University Professors and other Teachers of standing in the University Medical Colleges which would be Constituent Colleges." "Some eminent members of the profession who were not

teachers in these colleges" might be co-opted, but this right must "be sparingly exercised," and need not be exercised at all. (Section 305.)

The powers of the Faculty thus constituted are detailed on page 53. It shall have the power generally "to determine the conditions for the award of degrees, diplomas, and the course of study to be pursued by students of the University within the Faculty."

The Faculty will report to the Academic Council, which will consist of the Deans of the Faculties, and eight other members of the Faculties, elected in common session. The Vice-Chancellor is *ex officio* chairman; with this exception all the members, we may be sure, will be members of the Constituent Colleges. The Academic Council will have large executive powers in educational matters, including the recognition and visitation and University control of Schools.

The Academic Council reports to the Senate, on which it has two representatives out of fifteen members. The Senate transmits its instructions to the Schools through a special committee to be appointed by the Senate (Section 400). This committee is "to supervise curricula and general examinations in the Schools," but "it is not to be constituted so as to represent institutions or particular classes of students." This committee, which I shall call for short the "Scholastic Council," though it is not given any distinguishing name in the Report, is comparable to the Academic Council, in that in those branches of study in which there are no Faculties this Committee receives reports which, if there were a Faculty, would be transmitted to the Academic Council. The Scholastic Council might very well be strengthened so as to perform for the Schools the functions which the Academic Council performs for the Constituent Colleges. The Scholastic Council communicates its findings to the Board of Studies, which I have called the "unit of government of the Schools." (It must be carefully borne in mind that the meaning given by the Report to the term "Board of Studies" differs from the meaning which that term has had in the past.)

The constitution of all the bodies concerned makes the procedure very inconvenient and unfair for the Schools, as compared with the procedure which is to be adopted for the Constituent Colleges.

The Board of Studies is to consist (Section 384) of the "principal teachers in the Schools of the University"; it is therefore entirely comparable to the constitution of the New Faculty, which will consist of the Professors, Readers, and some Co-opted Teachers of the Constituent Colleges; but whereas the Faculty, consisting of Teachers at the Constituent Colleges, reports direct to the Academic Council, also consisting of Teachers at the same Colleges, the Board of Studies reports direct to the Faculty—*that is, to a body of persons with a direct financial and personal interest in hastening the transfer of all students for Oxford, Cambridge, or London degrees from the Schools to the Constituent Colleges.*

As the statement I have italicized has been questioned, perhaps I may be allowed to substantiate it. It must be remembered that the Commissioners allowed the Professor a limited amount of private practice, but they did not mention the means by which limitation could be enforced. In many branches of medicine it is obviously impossible to fix the hours during which the professor may respond to the calls of his patients. A man with appendicitis, a woman in labour, a child with a doubtful diphtheritic throat, cannot await the convenience of the surgeon, the obstetrician, and the physician respectively. Limitation could not, in fact, be enforced, and this consideration influenced the Board of the Faculty in the unanimous vote which they recorded that the Professor should not be allowed any practice at all. But the Commission's recommendation holds the field, and while it does so it is obvious that it is to the Professor's pecuniary interest to attract as many students as possible to his classes. The prestige of the college and of its teachers will to a large extent depend on the number of students which attend it.

As the Dean of the Faculty of Medicine very pertinently observed, the Commissioners make a division where no division existed before. University students studying at the Colleges are to be sharply differentiated from University students studying at the Schools; they are to be branded as separate even after they have graduated; for graduates are required to add to their degree the name of the College or School at which they studied. The cumbrous and absurd titles which will result from this regulation do not seem to have touched any sense of humour in the Commissioners.

But the dualism which the Commissioners introduce is not even a fair dualism, for the dice are heavily loaded in favour of the Constituent College and against the School. I have shown how the constitution favours the College. But another most important privilege is reserved for teachers in the Colleges and is not accorded to teachers in the Schools, in that the teachers at the Colleges examine their own students; but this is not the case with teachers at the Schools. For example, if three colleges, A, B, C, are constituted, the examinations are differentiated at A, B, and C respectively. But if X, Y, Z are Schools of the University, the same examination must be taken by each of these individual schools; that is, the teachers will not examine their own students. Moreover, the examination held at the Schools will be controlled by the Faculty, and the Academic Council, that is by the teachers at the Constituent Colleges.

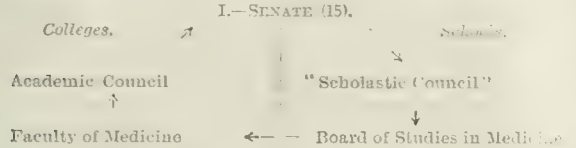
The President of the Board of Education has clearly indicated that when a bill has been submitted by the Departmental Committee at present sitting, the bill will be made a Government measure, and will presumably be backed by the present coalition majority. It may then be asked, "What is the use of kicking against the pricks?" and it may be questioned whether the present Faculty of Medicine can do anything to save the situation. I believe that it can, but not without combination with other Faculties and not without exerting itself to the utmost.

There is a proposal now being discussed in other Faculties, and notably in the Faculties of Arts and Science, by which, if the Report of the Commission is pushed, certain modifications may be obtained which will remedy to some degree the more glaring injustices of the changes recommended by the Report. My chief purpose in writing this communication is to lay before your readers the modification suggested. To put it as briefly as possible, the Faculty is urged to demand that the privilege of reporting direct to the Senate, through the special committee to be appointed by that Body, which I have called the "Scholastic Council," shall be retained permanently, and shall not be given up, as the Report suggests, when the New Faculty of Medicine comes to be constituted.

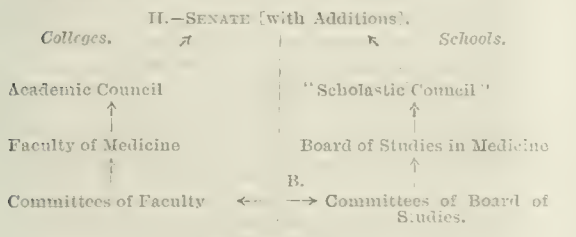
The effect of this modification will be best understood by reference to the diagram (p. 1499). Scheme I represents the proposal of the Commissioners which will come into operation as soon as a Constituent College, and thereby the new Faculty, comes into being. By this scheme any report from the Board of Studies must be submitted to the Faculty, and this report follows the course indicated by the arrows in the diagram, until the instructions of the Senate come back to the Board of Studies via the "Scholastic Council." As the "control of the teaching and examining work of the University should as far as possible rest with the Faculties" and "only the control of finance and administrative business rest with the Senate" it is obvious that in most cases affecting the Schools the Senate will do little more than transmit the judgements passed by the Faculty and Academic Council. It is surely unjust to require that "the principal teachers in the Schools" shall have to submit, in all their arrangements for teaching and examining their own students, to revision by a body of competing teachers of no higher status than themselves, but who happen to be teachers in a Constituent College. The scheme marked II represents the procedure which the Commission recommends as provisional until the new Faculty is established. By this scheme the Schools have direct access to the Senate via the "Scholastic Council," and the proposal to which I am inviting the attention of the present Faculty is that when the Constituent College and the new Faculty make their appearance, the affairs of the Constituent College shall be managed by the Faculty and Academic Council (subject to the final authority of the Senate), and the affairs of the Schools shall be managed by the Board of Studies and the Scholastic Council, which should be strengthened by representation from the Schools in the same measure as the Colleges are represented on the Academic Council. The "Scholastic Council" will be to the same degree under the authority of the Senate, and this Council should have the

same representation on the Senate as the Report concedes to the Academic Council. The subordination of the Schools to the Colleges which is contemplated in the Report thus disappears. If it is thought advisable to have contact between the Schools and Colleges, this might be arranged by the common session of the Committees of the Faculty and of the Board of Studies (indicated in the diagram by the double-pointed arrow, B). This would mean an interchange of views on an equal basis; and the common outlook thus obtained would usefully leaven both the parent bodies to which these Committees report. If it be objected—and the objection has been made—that this is to separate the Colleges and the Schools into watertight compartments, the answer is that the Commission has so decreed it, and it is useless to attempt to override their Report. All that can be done—if, indeed, that little is possible—is to correct the most obvious inequalities; and I repeat that it is only by concerted action by as many Faculties as may be practicable that even this may be achieved.

I.—Senate (15).



II.—Senate (with Additions).



SCIENCE NOTES.

Carnotite, a yellow mineral found in sandstone in Western Colorado, would appear to have become one of the chief sources of radium. It occurs usually as light yellow specks disseminated through the sandstone or as yellow incrustations in the cracks or pockets. It appears from an article in *Science* of October 31st that the carnotite so far obtained in Colorado has been exported to Germany or France, and that the price of radium has been fixed by the European manufacturers. A National Radium Institute has now been formed to work in association with the Bureau of Mines at Denver, Colorado, and the technical operations will be guided by the scientific staff of the bureau. Carnotite is a hydrated vanadate of uranium and potassium, and the institute proposes not only to collect radium, but also to study the separation of uranium and vanadium. All processes, such as the details of apparatus and plant, will be published for the public benefit, the main object of the institute being to procure enough radium to conduct extensive experiments in radium-therapy, with special reference to the treatment of cancer; chemical and physical investigation will be carried out also. Professor Soddy, in commenting on this scheme in *Nature* of last week, expresses the opinion that apparently the question of the supply of radium, in whatever country it is found, will be regarded more and more as of national importance, and that a nation trusting to the equitable operations of the laws of supply and demand is likely to be squeezed out. He therefore considers it to be a matter of public interest to this country, and that it should be lifted once for all above the plane of private venture and financial speculation. He appeals to the Institution of Mining and Metallurgy in this country to appoint an expert committee mainly of practical mining authorities, but with representatives of technical chemistry and medicine, to consider the situation and take energetic steps to meet it.

It having been shown that the serum of normal dogs contains a ferment capable of splitting up a peptone prepared from dogs' muscle tissues, experiments were extended by Pincussohn and Petow (*Biochem. Zeitschr.*, October 23th, 1913) to other animal serums to see if animals possessed in their serum specific ferments to their own tissue-peptones. Abderhalden has very successfully demonstrated that in pregnancy there is a ferment action elaborated against the proteins and peptones of the placenta, and the practical application of his findings is now well known. He has used two methods, one, the dialysation method for the demonstration of proteolytic action of the pregnant serum, and the second, the optical method for its peptolytic power. The "guardian ferments," as they have been called, obtained by these methods are probably not identical; they do not correspond, for example, to trypsin, which has, combined in itself, both a proteolytic and a peptolytic power. Observers have noted a discrepancy between the two methods. In general, normal serum does not degrade organ protein. It must be assumed that within the body useless protein, that is, from functionless cells, must somehow be degraded through peptones to amino acids, but this is probably brought about by an inherent autolytic property in the cells. The blood acts as a vehicle not merely for free amino acids, but in all probability also for larger complexes, and it would seem reasonable to imagine that there must normally be guardian ferments capable of converting possibly harmful complexes into innocuous fractions. The authors have attempted with success to discover whether the normal serum of animals of certain species have the power of breaking up peptones from organs of that particular species in a specific manner. They employed peptones obtained by partial hydrolysis with sulphuric acid from the muscle tissues previously washed quite free from blood, and the ferment action of the tested serum was indicated by the rotation observed in the polariscope. It was found that the serum of various animals acted only on peptones of the particular species, but not on those of foreign species, and that no action was called forth in the case of more completely hydrolysed or indifferent peptones. It was noted, however, that dogs' serum degraded the peptone derived from fox muscle, and vice versa, and, from other indications also, it was clear that generic relationships of animals were reflected in the action of their peptolytic ferments. One very striking and important phenomenon was brought to light, namely, that the blood serum of normal guinea-pigs has a general peptolytic power, as Abderhalden had previously hinted, for it was found that this animal's serum acted on peptones derived from other species, and if further investigations support this observation, we shall have to consider whether guinea-pig's serum contains a plurality of ferments or a universal ferment against different peptones. In practical work on immunity we employ mostly (almost exclusively) guinea-pig serum as a source of complement, and the question of plurality of complements is an old battle-ground. The experiments lend support to the view that serum complement and serum ferment have much, if not all, in common; and it will be safe to predict that the observations of the authors will stimulate further research into the question.

Human milk, on chemical analysis, differs in three important ways from cow's milk: It contains much more lactose and much less protein and a greater percentage of substances of an unknown nature with little or no nitrogen in their composition. Meigs and Marsh (*Journal of Biological Chemistry*, October, 1913) have investigated these differences. Before any comparison of the two kinds of milk can be made it must be borne in mind that the composition of milk varies according to the period of lactation, and thus average figures are unsatisfactory. They find that from the beginning of the second month of lactation onwards the limits of normal variation are, for human milk, 2 to 4 per cent. fat, 6 to 7.5 per cent. lactose, and 0.7 to 1.5 per cent. protein; and for cow's milk 2 to 4 per cent. fat, 3.5 to 5 per cent. lactose, and 2.5 to 4 per cent. protein. These figures represent percentages of whole milk. With regard to the other constituents of both, the chemical nature of which is as yet unknown, they appear to be important constituents of diet. They contain little or no nitrogen, and are soluble in alcohol and ether. They are in greater abundance in human milk during the early periods of lactation, and gradually diminish as lactation progresses. Thus, in the

early stages they constitute as much as 1 per cent. of the milk, falling to half that amount from the middle period of lactation. In cow's milk from the middle period there are about 0.3 per cent. of these unknown substances.

LITERARY NOTES.

A FOURTH volume of the series entitled *Mœurs Intimes du Passé*, by Dr. Cabanès, editor of the *Chronique Médicale*, has just appeared. It deals with student life in Paris from the beginning of the thirteenth century to the present day. The book is published by Albin Michel, Paris.

Our German friends pride themselves, not without good reason, on their accuracy. But they, like Homer, sometimes nod. A few weeks ago, in one of the leading medical journals of the Fatherland, reference was made to an action which it was said had been brought by Miss Lind-af-Hageby against the Editor of the BRITISH MEDICAL JOURNAL. In the Vienna *Medizinische Klinik* of November 30th, we read in a paragraph of news from London that "they (the antivivisectionists), not discouraged by the failure of their leader, Lind-of-Hogeby (*sic*), in a libel action against the Editor of the BRITISH MEDICAL JOURNAL, Dr. Stluby (*sic*)—he had accused the antivivisection league (*sic*) of deliberate lying—they almost daily hold meetings in which their old parrot cries are repeated." There is a fine derangement of epitaphs here, but we are inclined to take it as a testimony to the part we have played in the battle against antivivisectionism that it should so readily be assumed that we were the defendants in such an action as that brought by Miss Lind-af-Hageby against Dr. Salceby and the *Pall Mall Gazette*. We can only express our sympathy with Dr. Salceby on the undesired honour that has been thrust upon him.

From the *Remedy* of the Persian poet Saadi, known also by the name of the *Bed of Roses*, the *Mercure de France* in a recent number reproduces various passages translated by Franz Toussaint. Among them is the following: A man contracted a disease of the eyes. He hastened to a veterinary surgeon and said, "Give me a remedy." The "vet," instilled into his eye a collyrium which he used for the eyes of animals, and the poor fellow became blind. The affair was taken before the Cadi, who gave judgement as follows: "The veterinary surgeon will not be fined. If this patient had not been an ass he would not have consulted such a practitioner." Whereat, we suppose, there was laughter in court which was at once suppressed. We hope the judicial wit satisfied the plaintiff. The moral drawn from the story by Saadi is that an intelligent man does not entrust difficult tasks to an incompetent person. Although the maker of mats can weave, he is not considered fit to do delicate work in silk.

In the recently published *Life of Henry Labouchere*, by Algar Labouchere Thorold, we read:

> Labouchere when young went to Marburg to reside in a German family for the purpose of acquiring conversational fluency. . . . While there he frequented the hospital and attended the lectures given for the instruction of the medical student. He was always fond of developing extraordinary theories on the subject of medical science more remarkable for their originality than for their probable ultimate utilities. The authority upon which these theories would be based was invariably that of the lecturer at the Marburg hospital. Even as late as 1905 Mr. Labouchere still remembered his medical student days. He wrote to one of his sisters in that year on the occasion of her son becoming a doctor. "A doctor is a good profession. I learnt doctoring at Marburg in order to learn German. I rather liked it, and have vainly offered to doctor people gratis since then, but no one seems inclined."

Long afterwards, however, we find "Labby" giving medical advice to one of his staff. Perhaps it is owing to the impress thus given to *Truth* by its founder that it has continued to give attention to medical matters even to the present day. Its oracular utterances on these subjects are amusing if not always edifying.

A. Corlieu, in a study of the last days of Richelieu, says the Cardinal was a tall, thin man of nervous, bilious temperament. He died at the age of 59. He had been drugged, or drugged himself, to an extent almost beyond belief by us in these days. In one year (1635), when he was 50, he took seventy-five enemas, and one hundred and twenty-seven boluses of cassia, without reckoning laxative medicines prepared by his apothecary, the bill for which was 1,401 livres, 14 sous. He was used up by the strenuous life he had led. About the middle of August, 1642, Richelieu fell ill. For some time abscesses formed in the right arm, so that he could not write. The arm had wasted considerably, and when he dictated his will on May 23rd, 1642, the notary signed for him. Besides these abscesses, which had to be opened, he had ulcerated haemorrhoids, which prevented his riding in a carriage. Montchal, Archbishop of Toulouse, who did not like him, reports in his *Memoirs* that the Cardinal's hand was rotten, as a consequence of a disease called *carbunculus*. He added the qualifying word *Narbonicus*, doubtless by way of allusion to the town of Narbonne in which were arrested Cinq-Mars and de Thou, who were tied up in a boat attached to that of the Cardinal. It was by boat that he reached Lyons on September 9th, and there the two young men were tried and beheaded on the 12th. While the Cardinal was at Lyons there was made for him a vast wooden machine in which was a bed. This was carried by twelve men who took it in turn. Some forty men accompanied him. He was thus carried to Roanne, where he embarked on the Loire to Baire, took the canal to Montargis, joined the Loing to Nemours, travelled by his machine again to Fontainebleu, where he slept, and finally arrived in Paris on October 7th. He left St. Germain on the 26th in his machine to go to his castle of Rueil, where on the 30th he was visited by the Queen. He returned to the Palais Cardinal on November 4th, still very unwell. In the night of Friday, November 28th, he was seized with violent shivering, with fever and pain in the side. On the 30th, as the pain increased as well as the fever, he called in Charles Bouvard, first physician to the king. Bouvard was a great bleeder, and in the night Sunday to Monday the Cardinal was bled twice. On the Monday morning there was some improvement, which did not last long, for on the afternoon of the same day the fever increased; there was spitting of blood with difficulty of breathing. The case was evidently one of pneumonia. After some further bleedings on December 2nd there was a consultation of physicians, who naturally approved of what the first physician had done, and decided on purgings and further bleedings. Wishing to know his exact state, Richelieu begged the doctors to tell him the truth; but they answered vaguely, saying that God could work a wonder to preserve him, but that they could give no definite opinion before seven days. Chicot, one of the king's physicians, being called privately, told the patient that he would be dead or cured in twenty-four hours. The Cardinal understood, but submitted to more bleedings and even took a pill prescribed by a quack who was called in. This seemed to do good, but about midday on December 4th he died quietly. The skull was opened and the brain examined. According to the report, all the organs of understanding were doubled and trebled; by this probably nothing more was meant than that the brain was remarkably developed. Like Napoleon, Richelieu had a brain which worked in separate compartments. If Richelieu shed a good deal of human blood it may be said that his doctors punished him in the same way. It was the age of bleeding and Bouvard was a great bleeder even for that day. He is said to have bled Louis XIII forty-seven times in one year, and Gui Patin in one of his letters says that he bled sixty-four times in eight months his nephew Cousinot, a doctor, for acute rheumatism. Another doctor, Jacques Mentel, was bled thirty-two times for a continuous fever. Patin himself was bled seven times for a bad cold, and Brayer eighteen times for a malignant continuous fever.

In the October number of the *Journal of Anatomy and Physiology*, Mr. F. Wood Jones, D.Sc., deals with some points in the nomenclature of the external female genitalia. Seventeenth century writers used a multitude of words to designate these parts. One of the popular terms, says Mr. Wood Jones, is worthy of some note. Helkiah Crooke (1651), after giving a long list, concludes, "We will call it the lap." Mr. W. Rutherford contributes a note entitled "A Swedenborg Mystery: The Rival Skulls."

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THE FUNCTIONS OF THE COLON.

For some time past the surgery of the colon has bulked large in the minds of the profession. They have read with some amazement of the long train of diseased conditions laid at the door of intestinal stasis, and with not a little scepticism of the results of exclusion of the colon by short-circuiting or by more or less complete removal. Apprehension that perhaps Nature has blundered in providing man with a great intestine at all may yield to comfort of mind on further study of its physiology. We are glad to be able to invite the attention of the profession to some fresh thoughts on the great intestine and its work which are embodied in an address to the Cambridge and Huntingdon Branch by Mr. Joseph Griffiths, published in this issue. The comparative anatomy of the great intestine in vertebrates, with which the first portion of the paper deals, is of great interest, but for the moment may be passed by. That function of the colon which is best known is the absorption of water. Those acquainted with the enormous quantities which may be absorbed by the "Murphy drip," an American term (or shall we say slang?) for "proctoclysis," will readily accept the high percentage suggested by Mr. Griffiths. The mechanical arrangement of the viscus provides for very considerable slowing of the intestinal stream. In association with that a process of mixing goes on, being brought about by eddying and churning combined. Probably all this takes place in the first and second portions of the great bowel. The rest of it is concerned with moulding the contents for the final expulsive act, and by the time this stage is reached the faecal material is innocuous. Before faeces are rendered thus harmless some specific chemical substances, Mr. Griffiths thinks, are formed by the fermentative changes proceeding in the first part of the colon, and these are absorbed. If these bodies are maintained in their due proportion, the individual is—as the athletic Englishman likes to put it—"fit and well"; if they are too scanty or too profuse, then the individual is otherwise than in "the best of health and spirits." When this is translated into the language of the agriculturist, it means that the "bloom" in cattle is maintained just so long as the alimentary canal is acting normally and regularly. The evidence that such substances are produced in one part of the colon and absorbed again from a more distal part is so far indirect. Mr. Griffiths supplies no new evidence, nor does he suggest any good physiological purpose that may be served by that mischievous worm, the appendix. It may be recalled that Sir William Macewen has seen coming from the appendix a secretion in little jets which mixes with the chyme as it reaches the caecum. What this secretion does is not known. It has been suggested by him that its function may be digestive (and so it may contribute to the formation of these chemical substances mentioned by Mr. Griffiths), or that the appendix may be a culture chamber for the *Bacillus coli* with which the caecal contents are here impregnated or infected.

Intimately bound up with the changes in the contents of the great intestine is the question of the normal movements of the bowel. Radiography has opened up an entirely new field and has demanded revision of our ideas in this region just as much as in the stomach. Dr. Arthur F. Hertz[1] has recently published some new observations which may not be known to the whole body of the profession, but have a very direct connexion with Mr. Griffiths's ideas on the function of the colon. It is now acknowledged that the ileo-caecal valve is a sphincter which exists for the purpose of preventing the too rapid passing of the contents of the ileum into the caecum; that a physiological stasis takes place at the termination of the ileum; and that the emptying of the collection of chyme into the caecum occurs in spurts during or immediately after meals through a gastro-iliac reflex. Spasm of the sphincter, with consequently increased stasis, may occur in peritonitis and appendicitis. Examinations of the colon by the bismuth meal invariably showed it to be immobile, and it was concluded that a very slow peristalsis is the mechanism by which the contents are propelled onward.

The churning and mixing processes described by Mr. Griffiths are brought about by contractions of the muscular walls of the sacculi—the circular fibres—but these do not propel onwards. Now Holzknecht, Barclay, Newton, and Hertz have all observed, on very rare occasions considering the large number of examinations made, that "under natural conditions the passage of faeces along the colon is mainly due to a rapid movement along a considerable length of bowel repeated three or four times each day." This movement is most likely a big powerful peristaltic wave: Holzknecht thought that in one case in less than three seconds some faeces passed along about twelve inches of the colon. The stimulus to this movement is similar to that in the terminus of the ileum, and comes from the entry of food into the empty stomach—the gastro-colic reflex.

Sufficient indication has been given to show that a vast deal of highly interesting work is being done in filling in the gaps in physiological knowledge. Our ideas on the motor functions may now be regarded as fixed. Chemistry and bacteriology have to take up the burden. Surgery has shown that people can live without a great intestine. But it does not seem too much to hope that "the state of physiological cleanliness," the maintenance of which, in Mr. Griffiths's words, is our great problem, will be preserved by scientific attention to our bodily drainage system rather than by the most brilliant surgical technique.

[1] *Journal of Physiology*, vol. xlvii, Nos. 1 and 2 (October 17th, 1913).

VOLUNTARY INSURANCE.

AN appeal has been issued by the Insurance Tax Resisters' Defence Association, to which Lord Mowbray and Stourton is honorary treasurer, at 9, South Moulton Street, London, W., "to establish a substantial voluntary act campaign fund to defray the cost of literature, meetings, and other expenses." The appeal states that the association is the only organized body that exists for the specific purpose of abolishing the compulsory character of the Insurance Act. It maintains that the monetary advantages of the measure are insignificant compared with the humiliation of its compulsory character. The association's confession of faith is

contained in the statement that the Act "is based on a fundamental injustice which no talk of benefits can obscure or remove—the injustice of dealing differently with rich and poor. Under the Act compulsory thrift is imposed on the poorer citizens and not on the well-to-do. Compulsory registration is imposed on the working classes and not on the employers of labour. The wage-earner may not work or live without his card or official licence, while no such condition attaches to the lives or work of persons possessing private means."

It is claimed that the simple remedy lies in making the Act voluntary, and that for this policy the association has the support of a large number of members of Parliament. It is stated that it includes among its members persons of all political opinions, and will conduct its campaign on independent lines, giving its support to any parliamentary candidate who will pledge himself to work for the voluntary amendment. The signatories to the appeal undoubtedly comprise persons reputed to hold opinions of very various colours on social questions, but it is to be observed that the list of members of Parliament who have declared their intention to support the proposal to amend the Act on voluntary lines contains thirty-eight names, and that thirty-six are Unionists.

It will be very necessary for the medical profession to watch the proposed campaign, carefully and coolly, so as to have formed its opinion before any overt action is taken. It will not consent to be used as a pawn in a game between two political parties both playing to the gallery of voters.

The thirty-six Unionist M.P.'s are ready to go faster, and perhaps further, than their leader. Mr. Bonar Law said at Norwich that if a Unionist Government comes into power it will "appoint a committee—as far as possible non-political, impartial, and competent—which will examine into the whole subject, not only into the working of the Act, but into the whole principle of the Act, and will consider this: whether or not it is possible, and whether it is in the interests of the nation, even yet to turn it into a voluntary system." This, it will be noted, amounts to no more than a promise to consider the desirability of converting the National Insurance Act into a voluntary system.

It would be rash to attempt to foretell what the result of such a conversion would be, for the consequences of social legislation are nearly always much wider than its proposers expect, and not infrequently very different. Two or three conjectures may, however, be hazarded. In the first place the Resisters' Association appears to expect that "those who cannot afford to insure, and who now do so under compulsion at the cost of their daily necessaries," would drop out, for it considers that for them "some wise and generous provision should be made." By this a charitable provision may be meant, but it is doubtful whether this would be considered better by the poorer classes themselves or by the public at large than the present system, by which the less provident are obliged to contribute a portion of the money which forms the insurance fund.

In the second place, it is possible that the insured classes at the other extreme, those who before the Insurance Act were in the habit of paying for medical attendance as private patients, would also drop out from a voluntary scheme, thus automatically settling the difficulty now existing as to persons who wish to make their own arrangements.

If these two classes were eliminated there would be left the intermediate class of insured persons who before the Act belonged to friendly societies, trade unions, or insurance companies, and it would be difficult for any Government to resist a demand of the friendly societies for the institution of contract practice under their direct control. Actuarial evidence would be needed to show whether a system thus deprived of large numbers of its contributories could remain a sound going concern without much more State help.

The whole proposal is nebulous: it is an example of political "kite-flying," with the kite among the clouds. In its present stage it is impossible that the profession should not feel very grave doubts about the policy and feasibility of the project. The Special Representative Meeting in May-June, 1911, while taking exception to many of the provisions of the National Insurance Bill, approved its main object. It will not be disputed that the main object of the Bill, approved at that time by practically the whole House of Commons, was to provide insurance benefits for all sections of the wage-earning classes. Insurance was therefore made compulsory. It may be that Parliament was carried off its feet by the persuasive tongue of the Chancellor of the Exchequer, and that many members of Parliament are now reconsidering their attitude towards the compulsory basis of the Act, but the profession must look at this matter from the professional point of view, and ask itself the question whether a voluntary system of insurance—that is, one in which the wage-earner would be allowed to choose whether he would join or not, and, if he did, for what benefits he would subscribe—would on the whole be an improvement on the present system. It might very well happen that a large section of the thrifty classes in receipt of good wages or salaries, instead of seeking to make their own arrangements, would take advantage of the scheme as providing security against doctors' bills. This is the very class which the Association sought to exclude by an income limit. On the other hand, the shiftless and the ill-paid worker constantly on the poverty line, who used seldom to pay a doctor, but took advantage of private medical charity, of the Poor Law, and of the voluntary hospitals, would probably refuse to join a voluntary system. If this occurred, the very class whose inclusion in a compulsory system the whole profession welcomed might again become a source of loss and vexation to it. The Resisters' Association gives no indication whatever of the nature of "the wise and generous provision" to be made for this class. Until this is disclosed the material for forming an opinion hardly exists, but we shall be glad to have the advantages and the disadvantages of the proposal discussed from a medical point of view.

EUGENICS IN ANCIENT GREECE.

DR. M. MOÏSSIDÈS, of Constantinople, editor of the Greek medical review, *Hippocrates*, has described in a recent number of *Janus* the measures adopted by the ancient Greeks to secure the health and vigour of the race. These show that they were a good deal more advanced and more thoroughgoing in the application of eugenic doctrine than we are even at the present day. Great attention was given to the matter by statesmen and philosophers, as well as physicians, and a keen interest in the matter was taken by women. In the regulation of marriage, careful selection, natural and artificial, was recommended by the great thinkers of ancient Greece, and this was enforced in some places with excessive rigour. In Crete the handsomest and most robust

of each stock were compelled to intermarry, with the object of perpetuating a fine type. It was recognized that puericulture before procreation was the most important part of eugenics. Lycurgus forbade unions which might imperil the vigour of a military people or taint the purity of an aristocratic race. A heavy fine was imposed on King Archidamus because he had taken to wife a woman of short stature, and thus risked giving to Sparta "kinglings in place of kings." The authority for this is Plutarch, in his treatise on the education of children. The same author, in his life of Lycurgus (North's translation), says that, "Beginning afar off, he first considered the state of marriage and the generation of children. . . . First of all he willed that the maidens should harden their bodies with exercise of running, wrestling, throwing the bar, and casting the dart, to the end that the fruit wherewith they might be afterwards conceived, taking nourishment of a strong and lusty body, should shoot out and spread the better: and that they, by gathering strength thus by exercises, should more easily away with the pains of childbearing." The child was inspected after birth by the elders among his kindred, and if they found him "deformed, misshapen, or lean, or pale, they sent him to be thrown in a deep pit of water which they commonly called Apothetas, and as a man would say the common house of office: holding opinion it was neither good for the child nor yet for the common weal that it should live, considering from his birth he was not well made nor given to be strong, healthful, nor lusty of body all his life long."

Plato in his *Laws* says "the State alone should regulate marriages, not according to the will of the parties, but solely in view of the general good of the nation." He held that it was the duty of the magistrates to choose the bravest men and the most beautiful women so as to obtain specially good offspring. Aristotle wrote to the same effect.

Although not exactly agreed as to the proper age for marriage, all the Greek authors condemn unions between parties either too young or too old. Too early marriage was considered very injurious for the species as well as the individual. Aristotle says the children of such unions are weakly, small, and bodily incomplete. On the other hand, he says that men advanced in years produce only beings incomplete in body and mind, while the offspring of very old men are weakly. At Athens, although the free consent of the contracting parties was necessary before marriage, a minute examination of the bodies of both, especially of the genital organs, was made before the union was sanctioned. Physical exercises were enjoined on women, especially in Sparta. At Teos there was co-education, the girls mingling with the boys not only in lessons but in exercises. In other places they competed with the young men in the palaestra. It would appear that women ceased to devote themselves to gymnastics, at least in public, when they were married. Midwives seem to have played a great part in arranging suitable marriages.

Athenaeus of Tarsus, a celebrated physician, insisted on a careful preparation of mind as well as body in those who wished to beget offspring. The mind must be calm, free from anxiety or weariness. The body required exercise, sufficient but not tiring, and good nourishing food, easy of digestion. Oer-indulgence was condemned, and it was enjoined that women should be allowed an interval between conceptions sufficient to enable them to keep their health so that they might bring forth vigorous offspring. This was also insisted on by Soranus of Ephesus, the greatest gynaecologist of antiquity. The ancients well knew the injurious effect of alcohol on fecundation. Diogenes said of a deformed imbecile whom he met: "Young man, your father sowed you when he was drunk." Plato and Plutarch also held strong views on the subject. Hesiod recommended people not to procreate after a funeral, but after a feast. It would be difficult to better these instructions.

LONDON AS A POST-GRADUATE CENTRE.

The London School of Clinical Medicine was established at the Dreadnought Hospital, Greenwich, seven years ago for purposes of post-graduation study, and the success of its work, to which the speech at a dinner held last week amply testified, proves that it has met a want in the medical life of London. Hitherto in England insufficient regard has been had to the interests of post-graduates. The London School of Clinical Medicine is not the only, nor was it the first, organization promoted for the provision of bedside facilities for men who desire from time to time to polish up their armour by some investigation of the newer methods of research and the most modern processes of treatment. The West London Post-Graduate College, the Polyclinic, and the North-East London Post-Graduate College are all carrying on similar work with excellent results. It is indeed a matter for regret that some larger scheme, such as that which so much occupied the thoughts of the later years of Sir Jonathan Hutchinson, has not been devised whereby all the post-graduate interests and institutions could be merged into one comprehensive scheme worthy of the empire and on a footing with the large post-graduate schools which in some other countries do much to promote the interests of advanced medical education and to carry more rapidly forward the evolution, in its widest aspect, of the great science and art of healing. The realization of such a hope must surely come some day, and meantime we can but congratulate the London School of Clinical Medicine and its sister institutions on the groundwork they, as pioneers, are now laying for a future superstructure worthy of their efforts and of the cause they represent. The Dean of the London School of Clinical Medicine pointed out how much more might be done to enlarge the field of work, especially in the direction of original research, if only money could be found to increase the accommodation of the school and to provide larger laboratory and other essential facilities. Here surely is an opportunity that should offer special attractions to the benevolent of this nation of sailors. Not only is the work of the clinical school carried on in the Dreadnought Hospital where only seamen of the mercantile marine are admitted as patients, but the school has also appealed so strongly to the Admiralty that a large number of its medical officers now go to the Greenwich school to put in their necessary courses of practical bedside work during their periods of study leave. The clinical school authorities have clearly pointed out that, above all, they do not wish it to become a class school. Their ambition goes much further and aims at a clinic so comprehensive as to attract men from every branch of practice—the soldier and sailor no less and no more than the civilian at home, and from the dominions, and from foreign countries. While this is a worthy ideal and one which has happily, so far, been realized, it is still true that an institution that does so much for the sailor interests of this and of other countries ought to commend itself with special insistency to those who, of their charity, desire not only to provide well for the men who go down to the sea in ships, but also to supply the means whereby medical knowledge may be advanced, doctors of every denomination made more effective for their daily work, the general health of the nation better safeguarded, and the position of Great

Britain as an exponent of post-graduation education made secure. The number of those who attend the London School of Clinical Medicine has become embarrassingly large, so that in the absence of endowment the school committee finds its hands tied. The governing committee of the Seamen's Hospital Society has aided the school generously, and is, we believe, always desirous of coming to its assistance. But the committee's hands are tied by its obligations to its subscribers and its allegiance to King Edward's Hospital Fund, so that the school, not without good reason, is more than ever driven to find the sinews of war from those wealthy philanthropists who are sons of our empire and to whom a worthy appeal is never made in vain.

MEDICAL RESEARCH UNDER THE INSURANCE ACT.

LAST June a Medical Research Committee with executive powers was set up for the purpose of dealing with the amount available for research under the proviso to subsection (2) of Section 16 (administration of sanatorium benefit) of the Insurance Act, 1911. It will be remembered that that subsection made available towards defraying the expenses of sanatorium benefit in each year one penny out of moneys provided by Parliament in respect of each insured person, and that the proviso authorized the Insurance Commissioners to retain the whole or any part of the sums so payable to be applied, in accordance with regulations made by them, for the purposes of research. It will further be remembered that though sanatorium benefit applies primarily to persons suffering from tuberculosis, it may be extended, by an order of the Local Government Board with the approval of the Treasury, to other diseases. In addition to the Medical Research Committee, an Advisory Council for Medical Research was at the same time appointed to advise the minister responsible for National Health Insurance before he gave his final assent to the Medical Research Committee's scheme for any year. A meeting of the Advisory Council for Medical Research was held on Thursday, December 4th. The meeting was called by the Chairman of the Council, Lord Moulton, on the authorization of the Chairman of the Joint Committee of Insurance Commissioners (Mr. Masterman). Lord Moulton is also Chairman of the Medical Research Committee, and we understand that the business of the meeting was to consider a general plan of the scheme of working proposed to be followed by the Medical Research Committee. During the last four months the members of the Medical Research Committee have instituted various inquiries and received many reports on the subject of their work, with a view to determining their plan of operations and the order in which subjects should engage their attention. The calling together of the Advisory Council may be taken to indicate that the Committee has formulated a general scheme according to which they propose to proceed to work. As already noted, the plans submitted by the Medical Research Committee require the consent of the responsible Minister, who, before giving his consent, must receive the report of the Advisory Council on the schemes submitted to them. If properly directed, and if it meet with general support, the work of the Medical Research Committee may provide prospects of a secure career to many research workers who have hitherto been lost to medical research owing to the fact that the opportunities for a career which provides a reasonable livelihood have been so miserably insufficient in this country in times past. We hope and believe that the co-operation of these two bodies will be cordial and sincere. They have no other aim than the discovery of truth and the encouragement and prosecution of research on the best lines. This movement may mark the commencement of a new era in the history of medical research in this country.

THE INSURANCE PUZZLE IN GERMANY.

THE insurance situation in the German Empire seems to be becoming more complicated, and the relations between the conflicting parties are such that the prospects of a settlement before January 1st are less promising than ever. The profession is apparently holding solidly together, and from the reports of various meetings up and down the country it appears that the university professors have joined forces with the general practitioners. The lay press on the whole is in favour of the doctors, while certain official personages who have not been friendly in the past now admit the justness of the claims put forward by the medical profession. A legal point of importance has been established; two societies of club doctors were removed from the list of unions, but on appeal to the highest court this decision was reversed, and the societies are therefore to be recognized as having legal rights to protect their members and to look after the interests of the profession. The Prussian Ministry of the Interior had supported the movement to refuse registration to such societies, and the judicial decision is therefore not very acceptable to this Government department. Of still greater importance is the decision of the Imperial Home Office in regard to paragraph 370 of the Insurance Order, which provides for the payment by the insurance societies of a sum of money to the insured in lieu of medical treatment, drugs, etc. It has been decided, in the first place, that paragraph 370 can only be put in force if the insurance societies appeal through the local insurance committees to the chief insurance office, on the ground that the failure to provide suitable medical attendance for the sick is due to the doctors' terms being unreasonable or impracticable. If the fault lies with the insurance societies, use cannot be made of the paragraph. If their terms are shown in all other respects to be acceptable, the fact that the doctors hold out for the adoption of the principle of free choice of doctor will not be regarded as sufficient ground for permitting the paragraph to be applied. The expedient of paying over money instead of providing medical attendance is only to be regarded as a means of enabling the sick to obtain medical attendance during any period of dispute between the doctors and the insurance societies, and cannot be used to favour the claim of one or other side. There appears, therefore, little prospect that the insurance societies will be allowed in the majority of the districts to pay the insured sick persons money in lieu of free medical attendance and drugs, since it can be shown that the terms to which the doctors are prepared to agree have been accepted by a large number of insurance societies as reasonable; as a matter of fact, in Breslau, Potsdam, Danzig, Baden, Bavaria, and some other districts, the parties have got so far that the agreements are ready for signature, and the doctors are only withholding their signatures until the same favourable terms are secured all over the empire. In Dresden the negotiations, which have been conducted through the intermediation of Count Vitzthum von Eckstädt, the Saxon Minister of the Interior, have failed, and the societies are apparently attempting to make capital out of the unfortunate fact that the profession is not well organized in that city. In other instances the intervention of Government departments as peacemakers indicates that difficulties are anticipated by them in regard to the substitution of monetary payment for medical attendance. A further point of interest in the interpretation of the Imperial Home Office is the provision for certificates of illness in the event of paragraph 370 being brought into action. It is stated that the certificates may be given by the controllers of the insurance societies, by officers of district councils or the managers of large properties, by employers, midwives, nurses, or other persons possessing sufficient "responsibility and special knowledge." Some wonder is expressed that the policeman is omitted. But these "experts" may be required to substantiate their

opinions before the Insurance Committees or before a court of justice. It is to be noted that an insurance society will be required to pay to the insured person a sum not exceeding two-thirds of the average benefit for the corresponding class. In general this sum will not exceed 1s. a day, and must never be in excess of the sum actually expended on attendance, drugs, etc., by the sick person. But it has been shown that in certain places where a small number of doctors undertake the work the societies may be forced to apply to be allowed to adopt the paragraph in part. In such a case the societies would have to pay the usual capitation fee to the insurance doctors, and in addition a lump sum to those sick insured persons who do not obtain medical attendance from these doctors. At a meeting of the Society of Breslau Doctors on November 14th Dr. Werther gave an address on the situation, from which it appears that a sentence of five months' imprisonment has recently been passed by an imperial court for the offence of calling a person a "strike-breaker." Taking this to heart, Dr. Werther politely referred to certain "doctors who are to be imported from outside," and in the discussion these gentlemen were spoken of as "unobjectionable gentlemen" (*einwandfreie Herren*). The meeting was further told that there was no strike, but only a refusal on the part of the doctors to work with the management of the insurance societies. In Breslau provision has to be made for some 120,000 insured persons, and the societies claim that they have secured the services of sixty "unobjectionable gentlemen"; there seems, however, to be some doubt whether this number was at any time available, and a still stronger doubt whether the number now prepared to render service in Breslau has not materially diminished since the profession has proclaimed its determination to fight for independence all over the country. It is, indeed, believed that if the societies succeed in importing any "unobjectionable gentlemen" their number will not suffice to provide medical attendance for the insured. The meeting passed resolutions excluding "unobjectionable gentlemen" from all medical societies and refusing to meet them in consultation. A large public meeting will shortly be organized by the medical men in order that the public may learn the true story and what the profession thinks of these "unobjectionable gentlemen." Dr. Werther stated that a large number of better-to-do members had left the local insurance societies and joined the so-called free assistance clubs (*freie Hilfskassen*). This action, it was said, had hit the local societies very hard.

CONCENTRATED SOLUTIONS OF SALVARSAN.

WHAT is the best way to give salvarsan and neo-salvarsan? This is a question as to which there has been much difference of opinion since the introduction of these preparations. In the early days, the degree of alkalinity, the choice of methyl alcohol or water, and similar matters, were the subjects of numerous communications to the medical press. Later, the manner in which the distilled water was prepared formed the chief point of discussion. We have now arrived at a further stage. Most observers are agreed that intravenous injections are preferable to subcutaneous or intramuscular injections or to administration by the mouth. But the injection of a large quantity of saline solution or distilled water into a vein involves some difficulty. The work of Penfold and Hort shows that the most important factor in this matter is the absolute purity of the distilled water. The water got from the majority of stills is not free from bacterial contamination, since when the still is not in actual use it cools, and air is sucked in, and with it bacteria. The bacteria collect on the inside of the tube in the still, and when distillation is resumed the water is contaminated to an extent sufficient to cause a rise of temperature when injected intravenously. Stern[1] has recently suggested that the solutions of neo-salvarsan for intravenous injection should be of high concentration. While this would not get rid of the fault altogether, assuming that the explanation offered by Penfold and Hort is correct, it might be expected to lessen the clinical symptoms to which the slightly contaminated water might give rise. Other authors, including Ravaut, Duhot, Strauss, and Zumbusch, have arrived independently at the same conclusion. Quite recently a number of articles discussing this question from the practical point of view have appeared. G. L. Dreyfuss,[2] working with a special syringe and with 1 per cent. solutions — as compared with the 6 per cent. solutions of Stern and the 5 per cent. solutions of Zimmern — records very distinct advantages over all other methods. He states that the number of subjective and objective reactions is diminished by this method, and sets forth the many advantages both to the doctor and to the patient, including shortening of the duration of the injection, slowing the process of elimination of the drug through the kidneys, and the easier preparation of the solution. T. Katz[3] believes that the injection of concentrated solutions of neo-salvarsan has a more active curative influence than what he terms intravenous infusions of dilute solutions. After twenty-four hours the spirochaetes can no longer be discovered in the eruptions, and the method promptly influences the Wassermann reaction. The method, he says, is simple, the injections are well tolerated, and the therapeutic effect the best obtainable. On the other hand, E. Schreiber[4] points out that both he and Iversen tried concentrated solutions of salvarsan in the early days, and found them highly toxic, but, as this does not apply to neo-salvarsan, he advocates concentrated solutions of this substance. He attempts to explain the apparent contradiction by referring the toxic symptoms to oxidation processes, which in the case of neo-salvarsan are inhibited by a stronger concentration. He further points out that the addition of the alkali necessitates a large quantity of water in the old salvarsan solutions to bring them to approximate isotonicity with blood. This does not hold good in respect of neo-salvarsan, which does not require any alkali for a clear solution. It thus appears that, while the majority of observers so far agree on the advantages of injecting concentrated solutions of neo-salvarsan into the veins, difference of opinion exists as to salvarsan.

ROLLER SKATING AS AN INDOOR EXERCISE.

ROLLER skating is a valuable form of exercise for town dwellers whose occupation leaves them with a minimum of spare time, or whose means or inclination forbids the pursuit of outdoor sports. Little time is wasted in reaching the rinks, and the amount of exercise can be more easily planned and regulated than in most other pastimes; for the music and the intervals mark the periods of work and rest, while plain skating, skate dancing, and figure skating afford a wide range of "dosage." Exercise for the sake of health may be regarded, practically, in terms of increased output of muscular energy, stimulus to the circulation, and increase in perspiration. Plain skating at fairly brisk speed enhances the activity of all these functions very slightly, and nearly in equal proportions. In dancing on skates, probably owing to the added exhilaration of tune and rhythm, the circulation appears to receive a stimulus out of proportion to the rise in the output of muscular energy. In figure skating the chief stress falls on the muscles, although there is the added factor of strain to the central nervous system. No schedule of dosage is required by the expert; but for the novice the following

[1] C. Stern, *Muench. med. Woch.*, April 1st, 1913.
[2] *Muench. med. Woch.*, October 21st, 1913.
[3] *Muench. med. Woch.*, October 21st, 1913.
[4] *Muench. med. Woch.*, September 9th, 1913.

may be taken as a rough guide to the graduation of exercise in a scale ascending from the mild to the strenuous, and omitting tricks and figures which cannot be classified: (1) Plain forward skating; (2) promenade waltz and Dutch roll; (3) barn dance; (4) spread-eagle waltz; (5) cut-off waltz; (6) two-step. Unless free perspiration follows the exercise the skater will not derive the full benefit possible. On the homeward journey delays should be avoided, and no time should be lost in taking a hot bath of short duration. If there is not then a sense of hearty exhilaration, and of greatly increased physical vigour, it is certain that the exertion has been unduly severe. Members of the medical profession who are always seeking for forms of exercise which can be regulated in amount and are accompanied by mental distraction, should not overlook the great potentialities of roller skating. One reason why this exercise has not been more recommended may be the current belief that the air at these rinks is laden with dust and the ventilation bad. That the first charge is not correct may be proved by observing the dustless state of polished boots after a few hours' skating. It must be conceded, however, that there is a measure of truth in the second count of the indictment, and that the air, although fresh enough for onlookers, is not sufficiently supplied with oxygen for persons who are taking active exercise. To prevent any ill-effects from this deficiency the health seeker should not remain in the building longer than is necessary for his quantum of exercise. He must, in fact, recognize that rink skating must be compared with gymnastics, dancing, fencing, or indoor tennis, and is often an excellent substitute for a Turkish bath. It is not to be ranked with golf or other outdoor sports, and should be used as a substitute only by those persons who do not enjoy facilities for their adequate pursuit.

THE DIVISION OF OPERATION FEES.

In some countries it seems to be understood that if a physician calls in a surgeon to perform an operation the fee for the operation is to be shared. We have never heard of this being done in England, nor is it thinkable that the idea has ever been entertained in any part of our far-reaching Empire. From remarks made by the President at the inaugural meeting of the newly formed American College of Surgeons, the custom appears to be common in the United States. That it obtains widely in France seems to be generally admitted, but that it is apparently not recognized in Switzerland, the following story shows: A physician of high position in Paris had under his care a wealthy patient, for whom he considered that a very serious operation was necessary; and for the performance of this he deemed it best to obtain the services of an illustrious surgeon in Switzerland, whom he then called to Paris by urgent summons. On the surgeon's arrival the case was seen in consultation, and the operation was duly agreed upon and performed. In an interview which took place immediately afterwards, the physician told the surgeon that, having called him in to operate, he should expect an even division of the fee. The surgeon, greatly taken by surprise, not only by the demand but also by the discovery that such a custom was tolerated in the sister republic, expressed his agreement, saying that on his return home he would at once send the memorandum of his fees to the patient and faithfully discharge his obligation to the physician. Next day, therefore, he wrote to the patient saying that his fee was *ten francs;* and of this amount he straightway forwarded one-half to his French confrère.

THE FEDERATION OF NON-PANEL ASSOCIATIONS.

THE organizers of the meeting of representatives of non-panel associations in various parts of Great Britain held in London on November 29th did not see fit to admit a reporter from this JOURNAL, but a slightly condensed version of the report issued by them will be found in the SUPPLEMENT. The list of officers then elected was not supplied in the official report, but the omission has been repaired from a report published in the *Times* on December 1st. The following note furnished to us by a correspondent (a non-panel practitioner) who was present at the meeting will probably be read with interest by many: "From the non-panel point of view the most important recent event has been, or should have been, the conference of non-panel associations on November 29th. Unfortunately the results of the conference were marred by the irreconcilable differences of opinion on the question as to what should be the principal condition of membership of a federation of non-panel associations. To the ordinary mind it would appear that such a federation should include everybody who possesses the qualification of not being on the panel. On this simple principle the vast majority of non-panel practitioners could have been brought together, and subsidiary issues could have been debated later. Certain associations, however, had already resolved on a far more stringent definition, and were prepared to exclude from membership any association which approved of non-panel men sitting on Insurance Committees or on Local Medical Committees. It was over this position that a wordy battle was carried on for many hours; and the issue was rendered more confused by an unfortunate error in the counting of votes on an amendment proposed by Mr. E. B. Turner. In the end the more rational view appears to have prevailed, and individual associations were left to debate and decide the question for themselves locally. One of the most curious incidents of the debate was the introduction of Sir Henry Burdett as a peacemaker. Who was responsible for the intervention of this stormy petrel of medical politics, whence he came, and whither he was going, would probably be difficult to say. It is sufficient that he appeared to exercise no influence on the course of events. Subsequently an attempt was made to raise the question of membership of the British Medical Association disqualifying for positions on the executive of the federation, but this was withdrawn. The appointment of officers completely uncontaminated by contact with the Insurance Acts or with the Council of the British Medical Association brought the proceedings to a close. It is to be feared that the conference has not done so much as it might in advancing the non-panel cause. In fact, if the attitude of Manchester, Edinburgh, and Wandsworth were to prevail, there can be little doubt that the future of non-panel men would be much the same as is the present case of passive resisters to the education rate. Too many speakers were content to dwell on the 'higher plane,' meaning, apparently, that they were unwilling to adopt more prosaic methods of warfare. The curious thing was that this lofty contempt of anything like wire-pulling, or even the keeping of watch-dogs in the enemy's camp, was displayed by the very men who were trying to pull the wires of the conference in their own favour, and had come to the meeting with a cut-and-dried constitution and executive of their own making. It is not on these lines that a non-panel movement will be successful, but rather by means of an active and alert body, with its representatives in every position from which the Insurance Acts can be attacked. That men on Insurance Committees have already done useful work is shown by what has happened on the London Insurance Committee. The importance of allowing insured persons to contract out is being gradually recognized: and more and more laymen are being brought to appreciate the tactlessness and folly of Form 43 I.C. It is essential that the opinions of so large a body as the non-panel men should be properly represented in all discussions on questions arising in connexion with the Insurance Acts; and there is now no doubt that the

right body to voice their views is the non-panel committee of the British Medical Association."

BROODING ON DEATH.

Morbid brooding on death and its accompaniments was a characteristic of many members of the house of Hapsburg, especially the Spanish branch. They loved to "talk of graves and worms and epitaphs," and to "tell sad stories of the deaths of kings." Dr. Paul R. Mersey has studied the manifestations of this peculiarity in the light of modern psychiatry, and with the help of historical documents discovered during the last fifty years.[1] In the Journal of April 19th, 1913, p. 839, an account was given of the mad queen known in Spanish history as Juana la Loca, who carried about the dead body of her husband, Philip the Fair, from place to place. Dr. Mersey has sought among her descendants for similar manifestations, limiting his research to the direct branch of the Spanish Hapsburgs, which died out with Charles II in 1700. In almost all of them he found a love of the subject of death, a haunting of the grave and delight in funeral ceremonies, which he calls "thanatophilia." Joan's son, the Emperor Charles V, during the last years of his life, took a strange pleasure in being present at funeral obsequies. From 1555 he passed whole hours in his room, which was draped with black and lit with seven torches, meditating on the death of his mother. He thought he heard a voice bidding him follow her. This is all the more strange since he showed little affection for his mother when she was alive. He had funeral services held for his father, his mother, and the empress, which he followed very devoutly. His own obsequies were celebrated with great pomp in his lifetime, all his servants being in deep mourning; he himself, clad in black, with a candle in his hand, took part in the ceremonies. Soon afterwards he died. Philip II was never so vigorous as his father, the Emperor Charles V, had been during some years. He was short, his limbs were frail, and he was a chronic invalid. During the greater part of his life, death was his favourite subject of conversation, and he never missed an opportunity of attending a funeral service. The Escorial which he built is a testimony of his mortuary tastes, for it is before all a burial place intended as a monument to the descendants of the house of Austria. He passed the last years of his life there, shut up in a room in a corner of which was his coffin. He arranged all the details of his own funeral. Margaret of Austria, wife of Philip III, who died at the age of 26 of puerperal fever, was also haunted by ideas of death to a degree beyond even most of the members of her family. She was the great-granddaughter of the mad Joan. She would say that she knew her life would be short, and spoke with complacency of the hour of her departure. A few days before her last confinement she went with the king to the Escorial, where, among the bodies of departed kings, she selected a place for herself. Even after her confinement, which passed off well, since she continued without bad symptoms for about four days, she declared that she would not live a week longer, and this came true. Philip IV had his own coffin made before his death, and insisted on lying in it to see whether it fitted. It was under his reign that the Escorial was completed, and on March 16th, 1654, he had transported thither the bodies of the kings and queens of his dynasty with ceremonies arranged by himself. King Charles II was weak in body and in mind. He may be said never to have grown up, and he spent his life practically doing nothing. But he often visited the Escorial and looked at the coffins of his ancestors, and at that prepared for himself. Death became his sole preoccupation. His sister, Marie Thérèse, when asked by Anne of Austria what she thought of her reception at the Louvre on the occasion of her marriage to Louis XIV, said: "I think of that other ceremony when one day I shall be carried to the vaults of St. Denis." This morbid brooding on death descended from Joan the Mad through five generations. Another case not included in the present study is that of Maria Theresa, wife of Francis I, Emperor of Germany. He died in 1765 and she survived him fifteen years, during which time she constantly went down into the imperial vaults to mourn for her husband, and devoted an entire month each year to the celebration of the anniversary of his death. She had her own coffin made secretly and wove her shroud with her own hands. The close intermarriage in the family should be noted. Charles V married his first cousin, Philip II his cousin Maria, by whom he had Don Carlos, and then his niece Anne, by whom he had his successor. Philip III married his cousin in the second degree, Philip III his niece, by whom he had Charles II. Consanguinity raises heredity to its highest power. There was distinct madness in Joan and in Charles II. In the others, though not mad, there was a morbid psychosis showing itself in thanatophilia.

[1] *L'Amour de la mort chez les Habsbourg.* Thèse de Paris, 1912.

EPSOM COLLEGE.

We call the special attention of all our readers to the letter from Sir Henry Morris, the Honorary Treasurer of Epsom College, which appears at p. 1512, and to the particulars given in the statements by Mr. Douglas Crossley, the bursar, and Mr. J. Bernard Lamb, the secretary of the college, which will be found in our advertisement columns. Epsom College has so fully established its position as a public school that we need not dilate upon the educational advantages which it offers, especially to the sons of medical men. The General Medical Council has included the college in the list of approved places at which medical study may be commenced. The college has also been recognized as a "school of science" by the committee of the Conjoint Board of the Colleges of Physicians and Surgeons. How excellent is the scientific training given at Epsom is shown by the fact, mentioned recently in the Journal, that of eleven boys from the college who entered for the first examination for medical degrees at the University of London in July last, no fewer than ten passed in all subjects. The unsuccessful candidate failed only in chemistry. One gained distinction in chemistry and physics, while another won an open scholarship of £75 at St. Mary's Hospital. Open scholarships have also been won this autumn at St. Bartholomew's Hospital by former Epsomians. Admirable as the scientific training is, the classical education is equally good, as is attested by numerous successes at the universities. Epsom has also a modern side which need not fear comparison with that of any other school. As is well known, not a few of the men who are in the front rank of the medical profession have received their preliminary education at Epsom. Many of its old pupils have also achieved distinction in other spheres of activity. Besides the school, with its fifty foundation scholarships for the sons of medical men who are not in a position to pay for a first-class education, there is another part of the Royal Medical Foundation attached to the college. The beneficiaries in this case are aged members of the profession who, through no fault of their own, have been left behind in the race of life, or the widows of doctors who have been unable to make a suitable provision for them. Fifty pensions are given to such persons. For the maintenance of the full number of pensioners and foundation scholars a sum of £7,000 a year is required, of which at least £4,500 has to be collected by annual contributions. The Council is most unwilling to reduce the number of the objects of these benefactions, and it appeals for help to carry on its noble work in its integrity. We are sure that the profession, which in the past has shown itself so generous in supporting Epsom

College, will not allow its beneficial work to be hampered by lack of funds, by contributing even more largely when it knows the financial anxieties with which the Council is burdened. We also echo the hope expressed by Sir Henry Morris that the appeal for the funds necessary to complete the reconstruction of the college chapel will meet with a liberal response from old Epsomians. The medical profession has every reason to be proud of the institution founded by the late Mr. John Propert, while Epsom with its school and its Royal Medical Foundation is a monument of the openhandedness of a profession not overburdened with wealth.

LISTER MEMORIAL FUND.

THE Committee of the Lister Memorial Fund proposes that the memorial shall have a threefold character: First, a simple marble medallion bearing a sculptured portrait of Lord Lister to be placed in Westminster Abbey; secondly, a larger and more conspicuous monument to be erected in some public place in London, where during the later years of his life he lived and worked; and thirdly, if the amount received prove sufficient, the foundation of an international fund to make grants in aid of research bearing on surgery and awards in recognition of important contributions to surgical science. Contributions recently made to the fund include the following: Newcastle-on-Tyne Committee, £46 7s.; members of the Newcastle-on-Tyne Clinical Society, £61 9s.; Newcastle-on-Tyne Clinical Society, £5 5s.; British Medical Association: Ceylon Branch, £14 7s. 9d.; Burma Branch, £19 3s. 7d.; Otago Division, New Zealand Branch, £5 5s.; Union of Swedish Hospital Surgeons, £20; University of Nancy (Faculty of Medicine), 100 francs; University of Bordeaux (Faculty of Medicine), 150 francs; Nottingham Medico-Chirurgical Society, £6 9s.; Plymouth Medical Society, £5 5s.; Wigan Medical Society, £2 2s. The secretary of the fund is Sir John Rose Bradford, Secretary of the Royal Society, and subscriptions, made payable to the fund, should be sent to the Honorary Treasurers of the Lister Memorial Fund, Royal Society, Burlington House London, W.

THE ROYAL SOCIETY.

AT the annual meeting of the Royal Society, on December 1st, Sir Archibald Geikie, before resigning the presidential chair, which he has occupied for five years, reviewed the financial position of the society, which he said stood in need of being strengthened. The grants made pursuant to the recommendations of the Government Grant Committee amounted during the year to £3,879. This expenditure left a deficit of £379, which had been made good by drawing on the reserve fund. The society required larger financial support to carry on and complete some of the enterprises which in the general interest of science it had undertaken. It would not be sufficiently provided unless it were in possession of an annual sum—apart from its ordinary income—of at least £1,000, which it could devote to any investigation that called for pecuniary assistance. He went on to announce that Sir James Caird of Dundee had recently given £5,000 to be expended in yearly disbursements of about £500 for the furtherance of physical research. The annual expenditure of the laboratory was now £30,000, and the society, feeling that it should be freed from this serious liability, was in communication with the Treasury on the subject. Meanwhile much valuable work was at a standstill for want of funds. Sir William Crookes having been elected president was duly installed, and Sir John Rose Bradford and Professor Arthur Schuster were re-elected secretaries. The new president was in the chair at the anniversary dinner held in the evening at the Hôtel Métropole, when the toast of the Royal Society was proposed by the American Ambassador, who, while thanking God that he had been born no earlier than he was, said that the rich flowering of science had been attended by a bankruptcy of great literature. He suggested that the explanation of this bankruptcy might be that the rise of science, changing the outlook of the world, had for the moment thrown men of great artistic power somewhat out of the use of that power. Sir William Crookes, in his reply, referred to some of the work which the society had in hand, and mentioned the investigation into the cause and prevention of glassworkers' cataract, which was being carried on by a committee appointed to administer the small fund granted by the Government for that purpose. The health of the retiring president was proposed by Sir Joseph Larmor, and acknowledged by Sir Archibald Geikie. The toast of the medallists, given by the President, was acknowledged by Sir Ray Lankester and Professor Harold Dixon, and that of the guests, given by Sir David Gill, by Lord Sumner.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

AT a meeting of the Council of the Society of Tropical Medicine and Hygiene, on November 21st, the result of the ballot of the Fellows of the Society on the proposal to amalgamate with the Royal Society of Medicine, was announced; 60 were in favour of amalgamation and 216 against. Thus by a large majority it has been decided that the Society of Tropical Medicine and Hygiene shall remain as hitherto an independent society. This question has been most carefully considered during two successive years by the council which is responsible for the management of the affairs of the society, and on each occasion it was decided with practical unanimity that it was contrary to the interests of the society to agree to the proposed amalgamation. On the second occasion, however, it was decided to refer the matter for the decision of the Fellows by a referendum, and this course was approved at the annual meeting of the society on June 20th, 1913. Sir John Kirk, G.C.M.G., K.C.B., F.R.S., and Sir William MacGregor, G.C.M.G., M.D., have been elected Honorary Fellows, and fourteen new Fellows were elected at the ordinary meeting of the society on November 21st, when thirty-two persons were nominated by the council for election at the next meeting of the society. All medical men interested in tropical medicine are warmly welcomed as Fellows of the society, and the secretaries will be glad to give information to any who desire further particulars, if they will write to them at 11, Chandos Street, Cavendish Square, London, W.

THE ASYLUM SERVICE.

WE referred last week at some length to the report of the Medico-Psychological Association of Great Britain and Ireland on the status of psychiatry as a profession in the United Kingdom, and the reforms necessary in the education and conditions of service of assistant medical officers. We now learn that at the meeting of the Medico-Psychological Association, on November 25th, the following resolution was adopted: "The Medico-Psychological Association has been greatly pleased to hear that the Durham Visiting Committee has recently sent an official invitation to a general conference to visiting committees, to consider various questions affecting the welfare of assistant medical officers, and had authorized the committee appointed by the association to consider the status of psychiatry and assistant medical officers in this country, to place before this conference, or any committee appointed by them, all information that may be in its possession, and to offer all possible aid by submitting personal evidence or otherwise."

Ireland.

FROM OUR SPECIAL CORRESPONDENTS.]

OUTBREAKS OF POLIOMYELITIS IN TYRONE.

AT the Cookstown Rural Council meeting last Saturday Dr. Burgess, J.P., Coagh, reported that 8 deaths had occurred from poliomyelitis in his district. There had been over 30 cases in all. No fresh case was known to have occurred since November 15th. Dr. Harris, Stewartstown, stated that there had been a case near Arboe, and it was also stated that there were several cases in the Magherafelt Union, bordering on Tyrone. Dr. Brian O'Brien, Medical Inspector of the Local Government Board, reported that the outbreak was of a very serious nature and of an unusually severe type. There was no evidence to show how this outbreak, which affected a particularly isolated portion of the country, had originated. The extension of the disease might have been caused by healthy persons carrying the disease germs or by means of flies. The schools have been closed in the district and will be left closed, and the infected houses have been disinfected. Though in most of the infected houses there are several children, yet in none has more than one case occurred.

TYPHOID FEVER IN DUBLIN.

Within the last fortnight there has been a rather extensive, though mild, outbreak of typhoid fever in the Pembroke township of Dublin; 22 cases have been reported and 7 have been admitted to hospital. It appears that on November 14th 2 cases of typhoid fever were reported to Dr. Cremin, Superintendent Medical Officer of Health to the Pembroke Council. A little later on the same day 2 more cases were reported to him. The milk supply was at once suspected, and inquiries elicited the fact that the milk in all the cases had been supplied by the same vendor. That evening Dr. Cremin wrote to the medical officer of health of the district asking him to make investigations. On visiting the dairyman's house, it was found that his daughter was suffering from typhoid. The girl was removed to hospital, and the Local Government Board, which was informed of the matter by telephone, issued an order closing the dairy, and the cows were sent to another district. The sale of milk of these cows was prohibited; during the next few days more cases of typhoid were reported, and about November 17th the outbreak was at its highest; after this the cases became fewer, and for some time now there have been no fresh cases. In every case the milk supply had been obtained from the suspected dairy. Fourteen cases of typhoid fever have also been reported from the Rathmines district and four from the Dundrum district. The first case in the Rathmines district occurred on November 7th, and it has been ascertained that milk was supplied to persons in the three districts from a dairy where a woman was suffering from typhoid fever. The disease, where it has occurred in these districts, also is of a mild type, and none of the patients are said to be dangerously affected.

ST. JOHN AMBULANCE ASSOCIATION.

The annual meeting of the Dublin Centre of the St. John Ambulance Association, held on November 25th, in the Royal College of Surgeons under the presidency of Mr. Justice Ross, Chairman of the Dublin Centre, was very largely attended. A guard of honour, consisting of the City of Dublin Division of the St. John Ambulance Brigade, Dublin Nursing Division, the Boy Scouts, and the Girl Guides, were drawn up to welcome Her Excellency the Countess of Aberdeen. The annual report stated that in 1880, three years after the foundation of the Association, ambulance work was started in Dublin at a public meeting presided over by the then Lord Mayor, and the Dublin Centre was registered in the following year. Last year 317 pupils attended first-aid lectures, and 182 home nursing lectures, whilst at examinations 66 candidates were awarded labels, 34 medallions, 134 first-aid certificates, and 134 home nursing certificates. The total number of men and women who since 1881 had attended courses of instruction in this centre was 11,846. The Chairman, in the course of his address, said that he thought every railway company should insist that its employees should have certificates of the association, and also that every member of the Royal Irish Constabulary should be trained to render first aid. After the election of officers and committee for the ensuing year, Lady Aberdeen distributed the medallions, vouchers, and certificates. The proceedings were concluded by a demonstration in the rendering of first aid given by different divisions of the Association.

DISPENSARY DOCTORS' SALARIES.

There was much excitement at the last meeting of the Bantry Guardians when a motion to rescind the resolution granting an increase to the dispensary doctors came up for discussion. Before the proceedings commenced close on a hundred stalwart rural ratepayers, many of them with sticks, whips, and ashplants, filed into the board-room. On a poll the motion to rescind the increases was carried by 15 votes to 10, and the result was greeted with loud cheering.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

ANTIVIVISECTION IN EDINBURGH.

THE annual bazaar in aid of the work of the Scottish Society for the Prevention of Vivisection was opened on November 25th by the Earl of Haddington, K.T. He is reported in the press to have said that he had based his argument against vivisection upon the question of whether the practice of vivisection was of real benefit to his fellow mortals, and also upon the high plane of morality which refused to bow to that which he looked upon not as science but as a scientific fraud, going perhaps as far as Lord Shaftesbury, who spoke of vivisection as "an abominable sin." As this remark was followed by applause it was evident that his lordship's audience were in agreement with him. Miss Lumsden, LL.D., said that they believed that the suffering of animals did not tend towards the amelioration of human suffering, and even if it did, there was something greater in man than his body, and that something was injured by any form of cruelty.

INFANTILE DEATH-RATE IN EDINBURGH.

It was almost a necessary sequel to the facts furnished by Dr. Maxwell Williamson regarding the extraordinary differences in the infantile death-rates in the various wards of Edinburgh, that some further inquiry into the matter should be made. On November 25th Bailie Stark gave notice of a motion to be submitted at the next meeting of the Town Council, to the effect that a "remit be made to the Public Health Committee to consider the advisability of making a special inquiry as to the cause of the excessively high death-rate in St. Giles and other wards, with a view to remedial measures being taken, and to report." It will be remembered (vide this JOURNAL for July 12th, p. 96) that Dr. Williamson, in his report for 1912, pointed out that whilst in the Merchiston Ward the infantile death-rate was only 46 per 1,000, it was 155 in the St. Giles Ward, and as much as 277 in one part of the latter ward (the Cowgate district). The more closely the figures are examined, the more arresting do they become. Thus, the number of births in the St. Giles Ward for 1912 was 670, and out of these no fewer than 104 died before the first year of life was ended—that is, 155.2 per 1,000. But the St. Giles Ward was not the only plague spot so far as infant deaths were concerned, for St. Andrew's Ward had a rate of 147.2, St. Leonard's one of 139.9 (with a single district, in which it rose to 232), and the Canongate one of 122.5. All these are densely populated parts of the city, and overcrowding suggests itself as a cause of the high infantile death-rate; indeed, from one stair in Milne's Court, closed not long ago, no fewer than 53 houses had entry. But the case of Portobello Ward is, at first sight, a difficulty: the infantile death-rate in it was 147 per 1,000, so that only two other wards had a higher mortality, and yet Portobello had the smallest population to the acre of any ward in the city; further, it is a watering place. The explanation, however, is found as soon as Portobello is visited; there are slums in a certain part of Portobello quite as bad as any of those in Edinburgh proper. The report of the Public Health Committee will be awaited

with keen interest, for if St. Giles could only be made as Merchiston, it is easy to see what an immense improvement in the vital statistics of the city would be effected. Meantime it is particularly interesting to note that since the commencement of the lady visitors' work in 1908 the infant mortality has fallen, whilst in the years ending with the close of the century it had been rising. It seems fair to conclude that maternal ignorance was one factor at least in the production of the high mortality, and that education of the mothers has been beneficial to their offspring. It is perhaps a sign of this increase of knowledge that in 1912 there were only eight deaths of children from overlaying, whilst fifty or sixty a year was at one time not an unusual number.

VEGETARIANISM IN EDINBURGH.

An address to the Edinburgh Vegetarian Society was given by Dr. C. H. Hayton, of Stanborough Park Sanitarium, Watford, on November 25th. The lecturer, who holds the triple qualification of Edinburgh and Glasgow, (1912) and is M.D. of Washington, U.S.A., is reported to have said that animal protein was not a pure protein, nor a sterile food, was expensive, was the cause of many diseases, and raised animal and baser principles in man. It was, he thought, well not to strike meat off too suddenly; eggs, milk, and cheese should be taken for a time, and then gradually replaced by fruit, grains, nuts, and vegetables.

THE TYPHOID OUTBREAK IN ABERDEEN IN 1912.

The Medical Officer of Health, Dr. Matthew Hay, has issued a report on the outbreak of typhoid fever in Aberdeen in the autumn of 1912. Dr. Hay considers that for a town with a population of upwards of 163,000 inhabitants the outbreak, which began in the last week of September, was not extensive as typhoid outbreaks sometimes go, but he adds that any increase in the incidence of typhoid is always serious, as the disease has a high rate of mortality. On the assumption that every notified case of typhoid fever after the apparent beginning of the outbreak belonged to the outbreak, but excluding 12 cases of paratyphoid fever, and that the outbreak ended when the cases dropped to two a week, the number of known cases was 80. Dr. Hay gives the yearly number of cases of typhoid notified in Aberdeen since compulsory notification began about thirty years ago. The number for 1912 includes, of course, all the cases of the epidemic under report. It also includes, for fairer comparison with preceding years, all the paratyphoid cases, as it has not been usual until recently to distinguish paratyphoid from typhoid fever.

It has been observed during the epidemic under review that, in spite of the similarity of cases of typhoid and paratyphoid fever in clinical symptoms and in the nature and appearance of the micro-organism, they are in reality distinct and separate diseases; for at least two of the patients sent to the hospital suffering from typhoid, but in whom only paratyphoid organisms were found, developed some time later, and after a considerable interval of convalescence, a distinct attack of typhoid fever, accompanied by the presence of the genuine typhoid bacillus. The total numbers for the decades from 1882 are as follows:

	Number of Cases.	Number of Deaths.	Percentage of Deaths.
1882 to 1891	948	164	17
1892 to 1901	1,083	130	12
1902 to 1911	279	40	14
1912	121	15	14

Dealing with the source of the infection in the epidemic of 1912, Dr. Hay states that the facts would appear to indicate that the outbreak had its origin in water pollution. At the time the outbreak occurred there was in the Aboyne Fever Hospital a patient who, although the diagnosis was not altogether free from doubt, was probably suffering from typhoid fever. During his stay in hospital a large inspection chamber on the drain of the hospital burst, throwing into a tributary of the river, from which the city derives its water supply, an accumulation of the hospital sewage. After a period—perhaps a little shorter than might have been expected, but not an impossible period in view of all the circumstances—the outbreak began suddenly in the city. There are no filter beds to remove possible contamination, and the amount of storage is only what is necessary for sedimentation and for the mechanical or engineering requirements of the water supply. For the two largest water service areas of the city the storage is about equal, with six and a half days. All the definitely recognized cases of typhoid were confined to these two areas. In the remaining two areas, which, however, have only a small population, there were no definite cases. Against the suggestion of a water-borne infection was the smallness of the outbreak; but Dr. Hay states that even in the water areas most affected the time elapsing between the pollution of the water and its consumption was long enough to have greatly diminished the number of the infectious organisms in it, so that only the highly susceptible members of the community were likely to be attacked. Even on the supposition of milk pollution the cases were few, in view of the wide distribution of the "suspected" milk, especially when it is borne in mind that typhoid organisms do not die quickly in milk, but on the contrary may even multiply on it.

HEALTH OF THE CITY OF GLASGOW.

The annual report of Dr. Chalmers, M.O.H. for the city of Glasgow for 1912, is a comprehensive document of 105 pages, with an additional 124 pages of appendices, charts, and plans. With regard to the population, three districts of differing rates of growth are distinguished—a central district, consisting practically of the parliamentary area of the city, showing constant depletion; an extra-parliamentary area within the old boundary with growth occasionally interrupted, and slower than at earlier dates; and the area of the extension, where growth of population is taking place.

Birth and Death Rates.—As the extended area was only included for eight weeks of 1912, the figures given apply to the old boundary, and the extended areas are given separately. The births in the old area numbered 22,044, and 21,812 belonged to Glasgow proper. This represents a birth-rate of 27.8 per 1,000, as compared with 27.5 the previous year. The rate shows considerable variation in the different parts of the city, and it is significant that year after year the birth-rate is higher than the average in those districts where the environment is least favourable to survival or to healthy moral and physical development, while the rate is lower than the average in those quarters where social and economic conditions are most favourable to youth. The infantile mortality among infants under 1 year was 122 per 1,000 births; although nearly the lowest on record for Glasgow, it is still enough to give much food for thought. Pre-natal conditions are clearly a determining factor in this large death-rate, and it suggests that a training in motherhood is urgently required. The deaths registered in the city from all causes number 13,797, and of these 12,760 belong properly to Glasgow. This represents a death-rate of 16.26 per 1,000, as compared with 16.44 for 1911. With the exception of 1911, the lowest rate previously recorded was 17.58 in 1906. The effect of low temperatures on the death-rate—first, when there was no fog, and, secondly, when there was fog—also have been noted, and statistics bearing on this are given in detail in the report.

Infectious Disease.—This is dealt with in Section II of the report, and during the year no fewer than 30,411 cases of various infectious diseases were registered and dealt with. This is an attack-rate of 39 per 1,000 of the population, and is 3 per 1,000 more than in the preceding year. Of the total, 7,978 cases (26 per cent.) were treated in hospital. Thirty-four cases of typhus occurred, with 2 deaths; enteric fever was considerably less prevalent than in any previous year. It is worthy of note that the non-notifiable diseases—measles, whooping-cough, and diarrhœa—account for almost four-fifths of the zymotic death-rate. Measles alone accounted for a death-rate of 664 per 1,000,000 persons living, as compared with a rate of 406 per 1,000,000 for all the notifiable diseases put together. The most fatal notifiable disease was diphtheria; 1,735 cases occurred, with 182 deaths. Over 90 per cent. of the cases were treated in hospital. Enteric fever accounted for 40 deaths out of 244 cases, while 2,893 cases of scarlet fever were notified, of which 73 died; 91.9 per cent. were treated in hospital.

Tuberculosis.—The number of cases of phthisis registered was 2,340, and there were 1,034 deaths. The development of the scheme for the administrative treatment of phthisis has proceeded along the lines of the special report submitted by the medical officer of health some time ago. Six dispensaries are at present in operation, but changes are in progress. The difficulties to be encountered may be gauged from the report that since 1910, when compulsory notification was introduced, 8,162 cases have been registered. Of those registered in 1910, no fewer than 1,723 were dead by the end of 1912, while 525 more had either left the city or had been lost trace of at the end of the year. Of the cases registered in 1911, 96 were dead at the

close of 1912, while 298 others had passed from observation. Of the 1912 cases, 766 died during the year, and 175 others had passed from observation. On December 31st, 1912, 3,679 cases were still under observation in the old Glasgow area. A considerable time must elapse before the hospital provision which has been sanctioned is available, but steady progress in the fight against consumption has to be recorded.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

MANCHESTER AND DISTRICT.

The Manchester Royal Infirmary.

The board of management of the Manchester Royal Infirmary had under consideration at its meeting on November 25th the question of opening a new surgical unit to meet the demands that exist for further hospital accommodation. It was stated that there were at present over 500 applicants for indoor treatment, all of whom had been certified as needing such treatment. The new infirmary contained the wards that were needed, though they had not been used up to the present. Sir William Cobbett, the Chairman of the Board, said that in 1912 the ordinary expenditure of the infirmary was £37,480, and the income £32,585, leaving a deficiency of £4,895. The opening of the proposed new unit, with accommodation for sixty patients, would mean an additional cost of £3,000 a year, and, even taking into account certain increases in income, the anticipated deficiency would be £7,222, which was a serious responsibility to undertake. The work of the infirmary had increased enormously since it was removed to the present site. In 1908 there were 5,169 in-patients, while in 1912 there were 8,575. The out-patients and casualties numbered 46,000 in 1908, but in 1912 the number reached 67,000. In fact, the work had increased so much that the board was practically forced to open the new unit, in spite of financial difficulties. The proposal was obviously in the best interests of the poor, and he hoped that the board would meet with the heartiest support. He moved: "That an additional surgical unit to provide accommodation for sixty surgical patients be opened with all convenient speed." This was seconded, and carried unanimously.

Mussels and Enteric Fever in Manchester.

At a meeting of the Ancoats Healthy Homes Society on November 27th, Dr. Niven, the M.O.H. for Manchester, gave a lecture on "Common Nuisances," dealing specially with house-flies, tainted milk, and mussels. He said there were good grounds for believing that the house-fly was a fruitful cause of infantile diarrhœa and enteric fever, and he showed that, in the neighbourhood of manure heaps, flies multiplied in a remarkable way. The eggs were generally hatched in manure in a little over a week, and the Corporation of Manchester had accordingly adopted a by-law providing that no collection of manure should be allowed to remain near houses for longer than a week. Speaking of the nuisance of dirty milk, he especially condemned the practice of sending unclean utensils to the dealers for milk. A great many small grocers now sold milk, and not a few greengrocers, and people who had been handling potatoes and various roots which were often grown in manured ground would frequently go from these to serve milk, and almost inevitably matter from their hands fell into the milk. An attempt had been made to stop this in Manchester and had partly succeeded, but the conditions in many small shops were often quite unsuited for the sale of milk. The least that people could do was to see that utensils for milk were clean, and if the milk were scalded at once and then covered with a clean cloth there would be little danger. Dr. Niven went on to say that he had no hesitation in asserting that typhoid fever was largely conveyed into Manchester by means of mussels, which came chiefly from places on the coast of Wales and from Ireland. Liverpool and Birmingham had attempted to prevent mussels being sent from these places, and some efforts had also been made to prevent their being sent to Manchester; but the fact remained that on investigation a large proportion of the cases of typhoid could be traced with some certainty to mussels. He would not be sorry to see the mussel industry entirely obliterated, as the price paid for it was, in his opinion, greater than the value. If, however, the industry had to continue, he strongly urged that no mussels should be consumed in a raw state; it had come to his notice that a large quantity of raw mussels were offered by vendors to persons coming out of public-houses, and were then consumed without any cooking.

Dr. Niven's remarks about the mussel industry have caused considerable resentment among the dealers, and a letter of protest signed by a number of them has been sent to the press. Dr. Niven's statement that mussels often cause typhoid is seriously questioned, as it is asserted that all the mussels sent are properly examined by the fisheries inspectors, and each consignment must bear the signature of an inspector to the effect that they have been gathered only from approved beds. In the Annual Report of the Health of Manchester for 1912 Dr. Niven says that of 242 cases of typhoid 108 were in all probability caused by mussels, which had been eaten raw in 37 cases, steamed in 52, and both raw and steamed in 12, but in no case were the mussels cooked sufficiently to kill organisms in their interior, as they were simply thrown into a pan over a fire and then removed as soon as the shells opened. The beds from which the mussels came could not be stated, as the dealers withheld information. They were received from the wholesale dealers in canvas bags, which the shopkeepers emptied on the window slabs, and piles of oysters, crabs, mussels, shrimps, etc., were arranged in tiers sloping down towards the windows. In order to keep them fresh, they were from time to time watered from a can provided with a rose, and whatever was washed from the upper tiers must flow down, so that if any infection was present all below were liable to be infected. It is acknowledged that the evidence is not complete, because, as a rule, bacteriological proof is not available, but such proof, it is argued, would be practically impossible, as the mussel would require to be examined at the date of eating, and as the incubation period of typhoid is prolonged, no such proof can be expected. But there is ample proof that mussels have often been contaminated with sewage, and a number of samples examined showed the *Bacillus coli communis* in a thousandth part of a mussel. In Manchester mussel-eating is indulged in very extensively, and as a great many persons make a livelihood by the sale, they will naturally resent interference with their trade. If only properly cooked mussels were eaten, the danger might be removed, but Dr. Niven insists strongly that every possible method needs adopting to prevent infection, as enteric fever is so formidable a disease amongst young adults in Manchester.

LONDON.

Metropolitan Asylums Board.

Provision of a Street Ambulance Service.

The London County Council having asked the Metropolitan Asylums Board to prepare a scheme for a street ambulance service for London (British Medical Journal, November 22nd, p. 1403), the Ambulance Committee reported to the Board on the subject on November 29th. The Committee thought that, subject to the condition that an ambulance service must be provided, maintained, worked, and controlled by one authority only, the Board would no doubt readily co-operate with the County Council and any other authority in making the necessary provision. It was doubtful whether the boards of guardians or the borough councils could lend material assistance in respect of ambulances, seeing that these were provided, where they existed, for definite purposes and might not be available for street accidents at the moment they were required, but they might give help in the way of sites for small ambulance stations. It appeared desirable that the Port of London Authority should continue to make its own arrangements in the dock area, and the service should exclude the City of London, where ambulances were already available. The Committee laid down the following conditions as those under which the Board might undertake to provide a service:

(i) The agreement should be for a definite term of years, and should provide for the payment by the Council of the capital cost and the annual cost of working.

(ii) The service should be controlled from the head office of the Asylums Board.

(iii) There should be no interchange whatever, under any circumstances, of vehicles or appliances between the infectious and the non-infectious branches of the Board's ambulance services.

(iv) Subject to this condition there was no reason why existing ambulance stations should not be used for housing accident ambulances. This at once supplied the Board with seven centres in different parts of the metropolis, and the Committee proposed to supplement them by providing ten or twelve small additional dépôts exclusively for accident ambulances. These should be large enough to hold two ambulances; they could be erected on small plots of ground, and need not be expensive. There would then be about eighteen dépôts so placed that almost every part of the metropolis would be within a mile or thereabouts of an ambulance station. The co-operation of various authorities would be valuable in respect of sites as saving not only expense, but delay in finding and purchasing suitable sites. Each station would be connected by direct private telephone line with the head office.

(v) A continuous day and night service should be maintained, and, to begin with, one accident ambulance should be provided at each station, with a small additional number in reserve; they should be electrically driven. A wheeled litter might also be provided at each station. Supplemented by the 400 wheeled and hand litters possessed by the police, and the appliances of other societies, it should then be impossible for any accident case in any part of London to remain for more than a few minutes without first aid and the means of conveyance to the nearest hospital.

(vi) It was not proposed to instal throughout the area street call pillars such as those provided in the city. This would be a very costly proceeding, involving an annual outlay of some thousands of pounds. It was proposed to rely on existing telephone facilities; there were already 2,770 public call offices. The head office would receive all calls, which would be expedited by arrangement with the Post Office, and the appropriate station would be instructed instantly to send the ambulance to the spot indicated. Generally speaking, the police would give the call, but the fullest publicity would be given, so that every one would know how the ambulance might be summoned.

(vii) Each station would have two men in constant attendance; both would be competent motor drivers, and have a knowledge of first aid and of the topography of the area.

(viii) The Committee estimated the capital cost at £18,600, exclusive of the purchase of any sites needed for new stations. The annual cost was estimated at £17,800, exclusive of such additional call boxes as might be required. The Committee proposed that no rent should be charged for the Board's existing organization and telephones.

In the course of a short discussion various speakers congratulated the Committee on having prepared a scheme at such short notice, the request from the County Council having only reached the Board on November 20th. The point was emphasized that the ambulance service would be kept entirely distinct from the infectious service of the Board.

Relations of the Board with its Medical Staff.

On the question of the salary to be attached to the position of medical superintendent of Darenth Industrial Colony, made vacant by the appointment of Dr. Arthur Rotherham to be a member of the Board of Control under the Medical Deficiency Act, and the method of filling the vacancy, the Asylums Committee presented a report dealing with the whole question of the relations of the Board with its medical staff. Dr. Rotherham's maximum having been £900 with emoluments, the Committee proposed a salary for the next holder of the office, beginning at £700 per annum, rising by annual increments of £50 to £900, with emoluments of unfurnished house and washing. The Board authorized the Asylums Committee to consider in the first instance the claims and qualifications for the post of officers already in the service.

Treatment of Ophthalmia.

The Board having received a request to establish a special institute for children appearing to have a tendency to ophthalmia, the Children's Committee had consulted Sir Arthur Downes, M.D., and the Board's chief ophthalmic surgeon, Mr. E. Treacher Collins, F.R.C.S., and had come to the conclusion that the matter could be dealt with by means of periodical inspections of children at Poor Law schools by a surgeon skilled in the recognition and treatment of ophthalmia. Mr. F. A. C. Tyrrell, a part-time assistant medical officer at the ophthalmia schools, was appointed to undertake the inspection of schools accommodating over 700 children, visiting once a month for an experimental period of six months, at a fee at the rate of 30 guineas per annum.

The Shortage of Nurses.

Some discussion took place on a motion by Admiral Henderson, that in order to deal with the difficulty of the shortage of nurses a full staff should always be maintained, their services to be utilized by taking in a larger number of cases of measles and whooping-cough, or other infectious diseases, both measles and whooping-cough being made notifiable in order that this should be done.

Dr. Bousfield said that experience gained in recent epidemics showed that the arrangements made by the Board were in danger of breaking down. For instance, it had become apparent that Joyce Green Hospital, instead of being in readiness to cope with an epidemic of small-pox, would require considerable alteration. The whole question was referred to the Hospitals Committee.

Correspondence.

EPSOM COLLEGE.

SIR,—I shall be grateful if you will give space for this brief letter, whereby I desire to draw the attention of your readers to the full-page advertisement (p. 75) of Epsom College and its Medical Foundation.

Particulars will be found therein (1) of the educational advantages offered by Epsom College as a secondary school with a very highly-equipped modern side as well as a classical side of the first order; (2) of the Royal Medical Foundation attached to the college, by means of which a large number of pensionerships and foundation scholarships are provided for the necessitous members of the profession and their families; and (3) of the imperative need of rebuilding and enlarging the college chapel.

I hope that the notice respecting the College Chapel Fund especially will meet the eye of many an old Epsomian that it will be read by them with sympathetic interest, and that the fund will derive both direct and indirect assistance from them.—I am, etc.,

HENRY MORRIS,
Honorary Treasurer.

8, Cavendish Square, London, W.

ANTIMONY IN SYPHILIS.

SIR,—With reference to your allusion to antimony compounds in the JOURNAL of November 29th (page 1449), permit me to say a few words about them in general and antiluetin in particular. Considerable attention has been paid to the use of antimony compounds in protozoal diseases, and several articles dealing therewith have recently appeared in the foreign literature. In some protozoal diseases antimony is probably more efficacious than arsenic, but this is by no means the case in syphilis.

Owing to the kindness of Dr. Schwarz (Zurich) I have had the opportunity of trying Tsuzuki's antiluetin, which I have prescribed intramuscularly and intravenously. The salt is readily soluble, so for the intramuscular injections I had it put up in ampoules containing:

Antiluetin	... 0.025 – 0.1 gram
Cocaine hydrochlor.	... 0.025
Distilled water	... 1.00
Thymol	... q.s.

In each case about twelve injections were given daily or every other day. In some cases the intramuscular injections caused a good deal of pain; the syphilitic lesions disappeared, but not so quickly as under salvarsan. When given intravenously the action of antiluetin fell far short of that of salvarsan, and in some cases did not seem to act any better than intravenous injections of tartar emetic.

It would appear that, at any rate in syphilis, although antimony salts may be used as an alternative treatment, their action is not so powerful as the arsenic salts.

It is more than probable that the benzene ring in the case of salvarsan, and the tartaric acid in the case of antiluetin, are merely the vehicles which carry the respective metals to their destination, and that they have no further function. The reason why spirochaetes vanish so quickly after the administration of salvarsan is that they contain free OH groups, since in their colloidal lipoid membrane an unsaturated fatty acid exists; it is to these hydroxyl groups that metals become attached, with the result that the organisms perish.

The other phases of the *Leucocytozoon syphilidis* have no free OH groups, and therefore cannot be attacked

directly either by arsenic or antimony. My own opinion is that the other phases are destroyed by oxidizing enzymes, which arsenic and antimony can accelerate, as manganese does some plant oxydases.

The spores contain little or no colloidal membrane and only nuclein, hence they cannot be easily oxidized: they may remain in the system for years untouched, and then for no apparent reason start off the cycle again which results in the production of gametes and so symptoms.

It is becoming day by day more doubtful whether syphilis is really cured directly by treatment: therefore would it not be wiser, considering that so much attention is being paid to treatment at present, if more thought were given to prevention? It must be remembered that no disease has ever yet been stamped out by treatment, and history has an awkward way of repeating itself.—I am, etc.,

London, Nov. 28th. J. E. R. McDONAGH.

THE CRAZE FOR APPENDICECTOMY.

SIR,—The subject brought forward by Dr. Robert Hutchison in the BRITISH MEDICAL JOURNAL for November 15th, and continued by other writers in later JOURNALS, opens up a very big question—namely, the comparative value of the diagnostician and the operator. For some time past the surgeon has held the field in nearly all acute and chronic abdominal diseases on account of his daring, his skill, and his success. A reaction is now setting in, for reasons which have already been stated. The vast importance of early diagnosis is beginning to be more appreciated, not only by ourselves but by the public. It requires greater knowledge, more acumen, more experience to be a good diagnostician than to be a good operator. A man may be both, but the qualities of each are not as a rule evenly divided.

There has been, but to less extent now, a want of relative importance of the value between the diagnosis of disease and its treatment. The diagnosis of disease is inefficiently rewarded; the treatment of it often receives too much.

What is really required in these modern days of rush and stress is that more time, attention, thought, and experience should be given up to the unravelling of these abdominal cases—of course I am not referring to the acute cases—and that the short cut should not be taken of opening an abdomen to make the diagnosis before all other means have been used.—I am, etc.,

Folkestone, Dec. 1st. W. J. TYSON.

SIR,—It is interesting to note how often the same medical topics are discussed simultaneously in France and in England, and how close may be the resemblance between the views of the extreme faction on both sides of the Channel. Here, as with you, the rage of appendicectomy is rampant, and must surely have reached its climax. Tiny children play at appendicitis with their dolls—a weird example of precocious suggestion—while dames of high degree take the same pride in the "dear little scars" imprinted on the abdomen by fashionable surgeons that a collector might in the *remarque* of a choice proof engraving.

The change in the current of popular feeling has, of necessity, exercised an influence on the attitude of practitioners when dealing with cases in which there is no indisputable need for surgical intervention. Whereas formerly it was the surgeon who advised interference, now the urgency comes from the patient or his friends, and, should there finally be a fatal issue, blame attaches to the surgeon only if he has held his hand or performed the operation at a date held to have been too long postponed. The abstentionist must, then, be sure of his ground clinically, and be prepared to grapple with deeply rooted prejudice with calm serenity. As may be supposed, in such an environment many needless operations are performed.

The most frequent errors in diagnosis may be summarized as follows:

1. Hyperaesthesia of the skin in an acute form, connected sometimes with affections of the bowels.
2. Attacks of pain in conjunction with the periods, and accompanied by rise of temperature.
3. Biliary disorders (lithiasis).
4. Visceroptosis: (*a*) Coloptosis, with kinking at the hepatic flexure; (*b*) gastroptosis, with descent of the pylorus to McBurney's spot; (*c*) nephroptosis with its complex semeiology.

In conclusion, much more must be known of the root facts of the problem as a whole before we can express our judgements in terms of *formulae:* while perhaps the surest means of determining the boundary line of the physician will be found in a patient appraisement of the final results of the forays of the surgeons in a territory formerly forbidden to them.—I am, etc.,

Paris, Nov. 28th. GUSTAVE MONOD.

SIR,—Like Sir James Goodhart, I think Dr. Hutchison has done good service in writing his letter on the "craze for appendicectomy." It is good in that he is revealing, I will not call it a craze, but a "possible disinclination" on the part of some physicians to diagnose definite abdominal disease when persistent pain is present.

That some cases are not cured by the removal of the appendix is surely no greater reproach than that they are not cured by the long course of drugs, rest cure, massage, colonic douches, and dietetic treatment meted out to them by the physician before the question of operation is broached.

It should be recognized, and is so recognized by most surgeons whose practices deal much with the appendix, that if at the operation there is not sufficient evidence of appendicular disease, the pelvic organs, the gall bladder, the stomach, and the duodenum should be searched for the cause of the pain.

It is surprising how often disease of one organ will mimic that of another. There are cases, as Dr. Aldren Turner points out, of nervous diseases in which the pain simulates disease of the appendix or gastric ulcer. But those of us who have had the privilege of finding we have made these mistakes walk circumspectly.

The other side of the question comes in, however. Sometimes patients with spinal lesions get chronic appendicitis. About a year ago a patient was sent to me with a view to an operation for abdominal pain of some months' duration. As the pain was indefinite in its relation to food, although in the left side of the epigastrium, and as he had suffered from diplopia of syphilitic origin (the pupil reflexes and knee jerks were present), I ventured to diagnose a syphilitic lesion of the cord. I prescribed mercury and potassium iodide. His pain disappeared rapidly, and he was apparently cured. However, two months ago I opened his abdomen, as for the previous two months he had suffered from pain and diarrhoea persisting in spite of treatment. The suspicion of malignant disease of the colon made me urge him to have an exploratory operation, though I told him that from previous experience it was possible I might find chronic disease of the appendix. The only abnormal condition found at the operation was an appendix much bound down by inflammatory adhesions. He has now no pain and no diarrhoea. This is the fourth case I have explored for epigastric pain and diarrhoea persisting in spite of from two to three months' treatment in which I have found chronic appendicitis, and in which the removal of the appendix has cured the symptoms. Without operation these cases might have been looked upon as examples of mucous colitis.

The diagnosis of acute appendicitis is sufficiently well known to be beyond the limits of this discussion; but in the chronic cases the only reliable sign is tenderness over the region of the appendix—undoubted localized tenderness. A history of attacks of pain, followed by discomfort on standing erect, or stiffness in the muscles over the right iliac fossa, is also significant.

In the course of operating upon some hundreds of cases of "appendicitis" (the majority typical), amongst those whose principal trouble was chronic abdominal pain the chief mistakes in the diagnosis were gall stones or cholecystitis, gastric or duodenal ulcer, pyosalpinx, or a heavy displaced uterus, associated with or present in place of the diagnosed chronic appendicitis.

My experience is that it is rare for people to rush into operations before a thorough trial has been made of medical treatment for abdominal pain, and that, when appendicectomy has failed to relieve, the appendix was not the cause of the symptoms, but some other abdominal disease existed, which might have been discovered and remedied at the time of the operation.

Finally, that there will be cases which will disappoint

all of us, physician and surgeon alike, and these are the ones upon which we ought to have light thrown.—I am, etc.,

London, W., Dec. 1st. JOSEPH CUNNING.

SIR,—I am very pleased to see the list of cases reported by Dr. Wells in the issue of the JOURNAL of November 29th. I only wish I had notes of as many of my cases of pain in the right iliac fossa. A few facts are worth a volume of theories and suppositions.

It is all very well for Sir James Goodhart and Dr. Turner to suggest that more care should be taken in diagnosis; they seem to take it for granted that a case is seen once and immediately operated upon. What proof have they that any one case has not been watched, and who can be positive in doubtful cases?

I thoroughly endorse Sir James Goodhart's advice when he says, "in a certain case he was not sure," and "that in many cases the best we could do was to look and see." I will go one stronger, and say, "When in doubt operate," and "never put off till to-morrow what one should do to-day." I have never regretted acting on these maxims. If some one would try to formulate a book of golden rules on abdominal diseases he would do well, and the first rule under suspected appendicitis should be: Always examine by the rectum.

It would be helpful if Sir James Goodhart would suggest where records could be pooled and kept of all cases, whether appendicectomy or other abdominal conditions. In the provinces it appears to me that there is no way of reporting records at all. Instead of suggesting that appendicectomy is done too often, I should say that a great deal is still wanting in the methods of making an early diagnosis of appendicitis, and thereby avoiding many woeful results.—I am, etc.,

Wallington, Nov. 29th. ARTHUR Z. C. CRESSY.

MOUNT VERNON HOSPITAL, HAMPSTEAD.

SIR,—In reply to the letter of Mr. Charles Johnston, chairman of the committee of management of the Mount Vernon Hospital, printed in your issue of November 29th, we wish to refer mainly to the causes of the resignation of the whole of the consulting staff and the large majority of the acting staff, a statement of which appeared in your issue of July 12th, 1913.

At the expense of chronological order, but to clear the ground, we notice that with regard to one of the causes of the resignation of the staff there is no essential difference between us and the chairman. The fact is that, after what must seem to most an arbitrary action on the part of the committee of management, the chairman of the committee refused to meet the medical board in conference. Whether the proposed action of the committee of management with regard to the Northwood appointments was justifiable or not, it was pointed out in an unmistakable manner that the medical board disagreed with it, and that it might be fraught with serious consequences to the hospital. In view of this we must maintain that the refusal on the part of the committee of management to discuss with their honorary medical staff so important a matter as the Northwood appointments not only justified but, even alone, practically necessitated the resignation of the staff.

We now turn to the matter which, as we were legally advised, could only be described as the summary dismissal of two members of the medical staff from their appointments at Northwood. At the risk of unduly encroaching on your space, we venture to give as shortly as possible an account of the origin and development of this procedure. Towards the end of 1909 it was decided by the medical board, consisting of all the members of the honorary medical staff, that all the honorary visiting physicians to the hospital should have the rank of full physician, and should be given charge of beds at either the Hampstead or Northwood institution. The two junior physicians, Dr. F. W. Price and Dr. A. J. Whiting, the only members of the staff who were then without beds at either institution, were allotted twenty beds each at Northwood, the remaining beds there (sixty in number) being under the care of the two senior physicians—namely, Dr. J. E. Squire and Dr. G. F. Johnston. This arrangement was referred by the medical board to the committee of management for their approval, which they gave, and confirmed subsequently in letters to Dr. Price and Dr. Whiting, dated November 17th, 1909. In these letters the above physicians were informed that they were elected visiting physicians to the hospital at Northwood for a period of twelve months. Although these appointments were originally intended to be renewed from year to year, formal renewal of them was allowed to lapse by the committee of management, so that as a fact no further communication was received, either by the medical board or the physicians in question, from the committee of management concerning these appointments until the letters hereinafter to be referred to were sent to Dr. Price and Dr. Whiting on April 17th, 1913.

From about the middle of 1911, during the whole of 1912, and during the earlier months of 1913, considerable difference of opinion occurred between the committee of management and the medical board concerning the management of the hospital, and especially with regard to the proposal to sell the hospital at Hampstead and devote the funds to the maintenance of the sanatorium at Northwood. In this controversy the whole of the staff were united in condemning the policy of the committee of management, and all of them signed a memorandum, dated December, 1911, to this effect. Certain members of the staff, representing their colleagues, voiced the opinion of the medical board (more especially Dr. Tunnicliffe, Dr. Price, and Dr. Whiting).

At an adjourned meeting of the committee of management held on March 19th, 1913, one week after the meeting of the governors at which it was decided to sell the hospital at Hampstead, and at which Dr. Tunnicliffe and Dr. Whiting had both made speeches strongly condemnatory of the policy of the committee of management, the following motion was brought forward by the chairman: "That a change of physicians is desired at Northwood, and that the posts be offered to Dr. Johnston, Dr. Kelynack, and Dr. Lister." It was only after the strongest protest from the representative of the staff present that this motion was referred to the medical board, the chairman at the same time giving notice that he should bring it forward at the next meeting. The motion was carefully considered by the medical board at their meeting on April 1st, 1913, and it was pointed out that the appointments at Northwood were annual ones; that Dr. Whiting and Dr. Price were appointed in November, and therefore their appointments could not be justly terminated in April without notice. Attention was also drawn to the fact that the motion was in itself inconsistent in so far as, although a desire was expressed to have other physicians, its proposer purposed retaining Dr. Johnston, who had been visiting physician to Northwoood for over four years. As a result of the discussion the following resolution was proposed, seconded, and unanimously carried:

> That for a year, or until such time as the hospital at Hampstead be sold (provided that this take place before April 10th, 1914), the present physicians continue to attend at Northwood; but that in the case of the Hampstead Hospital being sold, the duties of the present medical staff of the hospital with regard to Northwood be considered *de novo*.

At the following meeting of the committee of management, on April 16th, the chairman moved his resolution—namely, that Dr. G. F. Johnston, Dr. T. N. Kelynack, and Dr. T. D. Lister be appointed visiting physicians at Northwood; and in spite of the resolution of the medical board and the protest of the representatives of the staff, who recited the arguments that had been used at the meeting of the medical board, this resolution was carried *nemine contradicente*.

The next step taken by the committee of management was the dispatch on April 17th of letters to Drs. Price and Whiting informing them of the new appointments at Northwood, and saying to each, "Your appointment as a visiting physician at that hospital now terminates." On the receipt of this letter the physicians in question consulted their colleagues and their lawyers, and the whole matter was again discussed at the meeting of the medical board on May 6th. As a result of these consultations, Dr. Price and Dr. Whiting wrote to the secretary of the hospital informing him that they could not accept these letters as valid notice of the termination of their appointments at Northwood, and, in accordance with legal advice, they continued to attend as physicians to that institution. Their letters and action elicited three letters

from the committee of management, one each to Dr. Price and Dr. Whiting, acknowledging their letters of protest and enclosing the following extract from the minutes of the meeting of the committee held on April 16th: "The period for which the present physicians to the Northwood Hospital were appointed having expired, the chairman moved, in accordance with notice, that Dr. Johnston, Dr. Kelynack, and Dr. Lister be elected visiting physicians to the hospital at Northwood for a period of twelve months from this date."

The third letter was written by the chairman of the committee of management to the resident medical superintendent at Northwood, informing him of the election of Dr. Johnston, Dr. Kelynack, and Dr. Lister as visiting physicians to Northwood, and of the termination of the appointments of Dr. Price and Dr. Whiting, and concluding: "I must ask you not to allow any physician to treat the patients except the three above named. I understand you have distributed all the patients between them."

The medical board, at their meeting on May 6th, after considering carefully these letters and the action of the committee of management since their last meeting, felt that the best way of dealing with the difficulty was by moving the following resolution, which was unanimously carried:

> The medical board have learnt with profound regret that the committee of management have seen fit to disregard the recommendation of the board concerning the appointment of the visiting physicians to Northwood. The committee of management will understand that their action places the medical board in a very difficult position, and that if it indicates a definite policy on the part of the committee it is useless for the medical board to tender their advice on medical questions in the future. The medical board hope that this is not the intention of the committee of management, but they consider that the question at issue affects the interest of the hospital in so vital a manner that they recommend that a joint meeting of the committee of management and the medical board shall be held at the earliest possible date for the purpose of discussing the above question, and in this way enabling the medical staff to come to a decision as to their future course of action.

In reply to this request, the honorary secretary of the medical board received the following letter, dated May 20th, 1913, from the secretary of the hospital:

"In reply to your letter below is an extract from the proceedings of the general committee at their meeting on the 14th inst.: 'Mr. Lawrence moved that this committee regrets that it cannot accede to the request of the medical board for a joint conference. Mr. Attlee seconded. Carried unanimously.'"

This concludes the history of what took place between the medical board and the committee of management up to the resignation of the majority of the staff, July 20th, 1913, and includes the official causes of this resignation as stated in your issue of July 12th. As a fact, however, at the meetings of the medical board on April 1st and May 6th, when the action of the committee of management with regard to the appointments at Northwood was being discussed, it was pointed out that, since Hampstead was admittedly to be sold, Northwood would be the only institution containing beds available for allotment amongst the staff. Under these circumstances it was felt that if it became necessary to alter the arrangement sanctioned by the committee of management in 1909—namely, that all the physicians should have beds under their care, the physicians of the staff should be invited to take charge of the available beds in the order of seniority. In other words, that the committee should have officially offered beds at Northwood to the senior physician, Dr. Tunnicliffe. It was the intention of the medical board to discuss this matter fully at the conference and to point out that by the by-laws the committee of management were bound to refer all medical matters, which clearly includes the duties of the staff, to the medical board before deciding the same, and that in the case of medical appointments the only proper way of doing this was the one established by almost universal precedent—namely, that of asking the medical board to nominate to staff appointments.

In the preceding paragraphs of this statement the communications between the committee of management and the medical board up to the resignation of the latter have been considered. In a correspondence in the *Times* elicited by the resignation of the staff certain new points in defence of the action of the committee of management were advanced by the chairman, particularly that in making the new appointments at Northwood the committee were acting in accordance with the seniority of the members of the staff. We at once pointed out that no beds at Northwood had been offered to the senior physician. The chairman has replied that Dr. Tunnicliffe's name was actually proposed and withdrawn at Dr. Tunnicliffe's request. We must here state, as we did in the *Times* quite definitely, that no such proposal and hence no such withdrawal ever took place. We must again challenge the chairman, as we did three months ago, to produce any minute or any written communication of any kind confirming this statement. We must point out that since Northwood was, or would soon become, the only institution containing in-patients, a refusal to accept the charge of beds there practically amounted to resignation from the hospital staff. Are we, then, to believe that such a refusal at a meeting of the committee of management was not deemed worthy of a minute?

Our excuse for trespassing on your space at this length is that, having already mentioned, in our letter of resignation, the holding of an inquiry into the management of the hospital, we do not wish to continue this correspondence; we venture, however, to submit, and we feel sure that most of our professional brethren will agree, not only that our resignation was an inevitable sequence of the summary dismissal of the junior physicians from their appointments, the refusal of the committee of management to hold a conference with us, and their neglect to formally offer beds to the senior physician, but was justified, and indeed necessitated, by any one of these actions alone.—We are, etc.,

F. W. TUNNICLIFFE,
A. J. WHITING,

Late Chairman and Honorary Secretary of the Medical Board of the Mount Vernon Hospital, and Representatives of the Medical Staff on its Committee of Management.

November 28th.

TREATMENT OF INSURED INJURED PERSONS IN THE TERRITORIAL FORCE.

SIR,—I should like, through the medium of your columns, to recount an unfortunate experience of mine, as a warning to a few of your readers whom it may concern.

Last August one of my patients on my panel list came to me for treatment. He had a few days before met with an accident while in pursuance of military duty as a soldier of the Territorial Force. I told him to report the matter to his company officer, as Regulations lay down a definite line of action to be adopted in such cases—that is, treatment at a military hospital or other alternatives at public expense. This I happened to know as a R.A.M.C.(T.) officer. However, his regiment did not do the correct thing, and asked me by a verbal message sent by the patient, to attend the customary board of inquiry. I went, and there asked in what capacity I attended—as an officer or as the soldier's civilian doctor. The question was hedged, and I spent two hours at the board.

Subsequently I sent in my account to the regiment, and it was, of course, returned with no authority to pay. I adopted the usual procedure, and appealed to higher authority, who, being misled as to facts, decided against me on the ground that I was *willing* to attend the board (a willingness I never expressed). They further criticized my attending a board on a verbal message, and did not express any opinion as to whether my professional services should be remunerated or not.

The voluminous correspondence, with about fifty signatures, has taken four months to get thus far, but one point to notice is that R.A.M.C.(T.) officers should not attend boards on a verbal message.

Incidentally, quite a big question is opened up if panel doctors have now to be responsible for the treatment of any of their panel patients who may happen to meet with injury while in pursuance of military duty.

I have now communicated with the Commissioners on the subject, to ascertain whether insurance funds shoul-

go to pay for services with regard to which another Governmental department has cut-and-dried regulations.

This letter is not intended as a "bedside wrangle over fees," but as a statement of an unsatisfactory principle, for it appears that some of our authorities share with a section of the general public the idea that a panel doctor has "got" to do anything they want doing for nothing. The remedy lies in the doctors' hands.—I am, etc.,

Folkestone, Dec. 2nd. B. RICHARDSON BILLINGS.

Medico-Legal.

ALLEGED CANVASSING BY FRIENDLY SOCIETY.

Judgement.

At a sitting of the Chancery Court for the County Palatine of Lancaster, at St. George's Hall, Liverpool, on December 1st, His Honour Vice-Chancellor Dudley Stewart-Smith, K.C., delivered the following judgement in the case of Dr. Youatt *v.* Wright. [The earlier proceedings were reported in the BRITISH MEDICAL JOURNAL of November 8th, p. 1259]:

This is an action of an unusual character. The plaintiff, who is a retired medical practitioner practising at Prescot, seeks an injunction to restrain the defendants from procuring by means of canvassing or touting persons to be patients of the plaintiff in such a manner that if the same were done with the sanction or acquiescence of the plaintiff it would amount to "an act of infamous conduct" on his part within the meaning of Section 29 of the Medical Act of 1858. The defendants are the executive committee and officials of the Prescot Friendly Societies' Association, and represent a number of friendly societies who ensure medical benefit to their members.

As a result of the passing of the Insurance Act, the terms upon which medical men in Prescot agreed to render medical service to members of friendly societies were the subject of rearrangement. Arrangements were duly made dealing with those persons who were insured under the Act. Some of the friendly societies represented by the association ensure at varying rates of payment medical benefits to persons under the age of 15, called juvenile members, who are not insurable under the Act. Negotiations with the medical men to render medical service to juvenile members had been for some months past carried on by the executive committee. Interim arrangements were made, but these were to terminate on April 30th, 1913. On April 28th a general meeting of the association was held, at which it was decided to give notice terminating the contract for juveniles on April 30th, and it was further resolved that one doctor be selected by whom juveniles should be attended as private patients. The selection was made by ballot, when the plaintiff was the doctor selected. It was further resolved that 600 circulars be printed to inform the parents of juveniles that the contract to provide medical attendance would terminate on April 30th. The number of insured juveniles is stated to be 450. On April 28th the circular was sent out to all their parents to this effect:

> We beg to inform you on behalf of your own Society that the contract to provide Medical Attendance to Juvenile Members ceases on April 30th, 1913. For any further information on the subject please apply to your Secretary.

The secretaries of the different societies were either present or represented at this meeting, and in pursuance of the resolution then passed they immediately commenced to recommend to such of the parents of juveniles who made inquiries of them that the insured children were to be sent to the plaintiff for treatment as private patients, and that his fees would be provided by the societies. Several instances were proved in which parents had applied to the secretaries for information and been told to take their children to the plaintiff, which they accordingly did. This practice has continued down to the present time, and the plaintiff has in many cases attended these children.

The resolution was passed and the selection made without previous communication to the plaintiff, who only learnt of this having been done through information given him by another medical practitioner in the district. He at once communicated with his medical brethren, and both by letter and verbally to the officials of the association protested against the course which the association was taking, and on May 2nd his solicitors wrote to the secretary of the association pointing out that the secretaries of certain societies had in furtherance of a common agreement advised persons that the plaintiff was to be seen as against any other medical practitioner, and that his account would be met, and further pointing out that this course might lay the plaintiff open to very serious penalties if the General Medical Council considered that he was either promoting canvassing on his behalf or taking advantage of that canvassing if done by others. The secretary replied on the 3rd that the association had not authorized any canvassing, nor did he know of any; that he had not issued instructions to secretaries, and therefore could not withdraw them. Both of these statements was in my opinion inaccurate, and are stated in such a way as to mislead the recipient of the letter.

On May 5th the plaintiff himself wrote to a Mr. Heyes, a prominent official of the association, protesting against the practice of canvassing, and threatening legal action. Further correspondence ensued, the association maintaining its position, and these proceedings were instituted.

In December, 1905, the General Medical Council issued a circular to the medical profession warning them against employing agents or canvassers for the purpose of procuring persons to become their patients, and that any medical practitioner guilty of such practice would render himself liable to be charged under the 29th Section of the Medical Act, 1858, with infamous conduct in a professional respect, and that if found guilty the Council might, if they thought fit, direct his name to be erased from the *Medical Register*. This warning was repeated in a circular which was issued on March 14th, 1913, in the form of a letter addressed to the Chairman of the National Insurance Commission by the President of the General Medical Council. The definition of infamous conduct in a professional respect is given in the judgement of Lord Esher in Allinson *v.* the General Medical Council, reported in (1894) 1 Q.B., 750. At page 76 Lord Esher says:

> I adopt the definition which my brother Lopes has drawn up of at any rate one kind of conduct amounting to "infamous conduct in a professional respect"—namely, "If it be shown that a medical man in the pursuit of his profession has done something with regard to which it would be reasonably regarded as disgraceful or dishonourable by his professional brethren of good repute and competency," then it is open to the General Medical Council to say that he has been guilty of "infamous conduct in a professional respect."

In that case a decision by the General Medical Council against a medical man who had advertised for patients, and had therefore been guilty of such conduct, and whose name had been erased from the *Register*, was upheld, as the court could not review their decision.

It is urged, on behalf of the plaintiff, that the conduct of the association in directing the secretaries of the societies to recommend patients to the plaintiff (1) places him in danger of having his name erased from the *Medical Register*; (2) is calculated to embroil him with his professional brethren, so that he will not be able to obtain from them that assistance which in some cases he may require, and that he is entitled to an injunction to restrain them from a course of conduct which would put him in that position and cause him to suffer such grave inconvenience.

My conclusion from the evidence is that he will not be, in fact, placed in that peril. He has not himself canvassed for patients or sanctioned canvassing by any one else, but, on the contrary, has vigorously and publicly protested against the conduct of the association, and has placed the whole of the facts before his local medical brethren and the officers of the British Medical Association. Two of the latter were called as witnesses—Dr. Alfred George Bateman, the general secretary of the Medical Defence Union, and Dr. Alfred Cox, who is the Medical Secretary of the British Medical Association. The evidence of both these gentlemen was to the effect that the plaintiff had done everything he possibly could, and that he had not been guilty of unprofessional conduct in the circumstances.

When a child is brought to the plaintiff's surgery he has to take one of three courses: (1) To attend the child without inquiry; (2) to inquire whether the child is an insured person; or (3) refuse to attend children altogether. In either of the two latter cases he runs the risk of seriously damaging his practice, and in the first case he may incur suspicion and perhaps even arouse the jealousy of his medical brethren. That the action of the defendants has placed the plaintiff in a difficult and delicate position there can be no doubt, but the question is whether he has any legal remedy. There is no evidence that any official of the association or of the societies has represented the plaintiff to be a club doctor or medical man employed by the societies as such or made any other representation about him. The case of Routh *v.* Webster reported in 10 Beavan at page 561 does not, therefore, seem to me to have any application to the present. Walter *v.* Ashton (1902) 2 Chancery, at page 282, which was also relied on was a case of injury to property and an exposure to risk or liability, elements which I cannot find in the present case.

The defendants allege that they are bound to provide medical benefits for their juvenile members, and that the sum of 8s. 6d. per head per annum required by the medical practitioners is beyond the funds at their disposal for the purpose. They contend that they may lawfully recommend the plaintiff as a medical man to attend these juvenile members as private patients, and that any inconvenience to him from that course arises from professional rules or etiquette with which they have no concern. I think this contention is well founded. The recommendation is in itself lawful. It is impossible to carry on the affairs of life without doing things more or less likely to cause loss or inconvenience to others, or which obviously tend that way, and in such manner that their tendency cannot be avoided unless by not acting at all. The exercise of ordinary rights in an ordinary way is no wrong, even if it causes damage. Trade competition is an illustration of this principle. Choosing when, where, and with whom one will work is another (Allen *v.* Flood, 1898, Appeal Cases 1). Nor would an averment and proof of malice make any difference in such a case (Mayor of Bradford *v.* Pickles, 1895, Appeal Cases 587). An action which does not amount to a legal injury cannot be actionable because it is done with a bad intent.

I am therefore unable to give the plaintiff any relief, and must dismiss the action. The action of the defendants has

undoubtedly caused the plaintiff serious annoyance and expense. There is no reason given by them why they did not give a choice of doctor to the juveniles who were treated as private patients at the expense of the societies. They are not bound, however, either to have or disclose such a reason.

If the facts relating to the passing of the resolution of selection had been fairly disclosed to the plaintiff, I am by no means sure that any action would have been brought. The actions of the defendants have been concealed, and I regret to say misstated, especially in the uncandid letter of May 3rd, and I make no order as to costs.

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

AT a meeting of the council of this association on November 10th, Dr. Gidley-Moore in the chair, the following matters came under consideration.

Payment for Drugs.—It was reported that the medical officers of West Ham Union had been induced to consent to pay for a portion of the drugs which it had been proposed should in future be supplied by the guardians themselves, while the guardians had agreed that the salaries paid to medical officers should remain unchanged, so that their remuneration allowances would not be affected by the drug payments. The council expressed its regret at the surrender of the important principle involved, and expressed its doubt as to whether superannuation allowances would be found to be safeguarded by the arrangement indicated. They were by law based on the total emoluments of an officer at the time of his retirement, and payments made for drugs would probably be deducted.

The Position at Burnley.—It was reported that the conditions in the Burnley area were still very unsatisfactory. In only three of the fifteen districts were there medical officers, and though the three gentlemen appointed were certainly not overworked, it was not right to assume that the medical requirements of the union had been properly met. In the opinion of the medical profession in the area this was by no means the case. In present circumstances it was practically impossible for many of the poor to obtain medical assistance except from private practitioners. Probably the guardians were tired of the controversy, and, in common with others, would welcome mediation. It was also reported that the member of Parliament for Burnley had promised to see Mr. Burns personally on the subject, so that if an agreement had not been previously reached the matter might be brought before the House of Commons when it next met. After discussion of the matter the council instructed its honorary secretary to write to the Honorary Secretary of the Burnley Division of the British Medical Association, offering its services in any way that the local profession might consider desirable, and also to write on the subject to the Public Health and Poor-law Committee of the British Medical Association itself.

Under-payment of Medical Officers.—It was reported that the action of the council and of the British Medical Association had resulted in the salary of a recently appointed district medical officer in the Shoreditch union being raised to £150 per annum.

Panel Patients.—The Honorary Secretary reported that in regard to the appropriation by the Bethnal Green guardians of fees for attendance on panel patients among their employees, the infirmary medical officers of the union had not given the assistance that might have been expected, and the demands of the guardians had been accepted. The council expressed its regret at the incident, and several members commented on the apathy of some members of the Poor Law Medical Service, and on the little pains that many of them took to assist in maintaining their rights.

In this connexion the Honorary Secretary (Dr. Major Greenwood) said that in his opinion the Council of the British Medical Association had recently taken a retrograde step in its Poor Law policy. At the Representative Meeting of that Association at Brighton the speaker had succeeded in obtaining the passage of the following resolution by an almost unanimous vote:

> 1. That this meeting strongly condemns any arrangement made by indoor Poor Law medical officers with boards of guardians in reference to insured members of their staffs, whereby the whole or a portion of the fees paid to the said medical officers by an insurance committee is handed over to the treasurer of the guardians.
> 2. That it is of opinion that any Poor Law medical officer who accepts such a condition is acting in a manner derogatory to the medical profession and against the interests of the Poor Law Medical Service and the profession.

Subsequently this resolution had been considered by the Insurance Act Committee of the British Medical Association, on which the Honorary Secretary represented the Poor Law Medical Service. Despite his protests that Committee had recommended the Council of the British Medical Association to advise the next Representative Meeting to rescind the latter half of the resolution, the reason put forward for this course being that—

> It left the Association no option but to hold a practitioner, who acted contrary to the line of policy indicated, as having acted in a manner derogatory to the medical profession, even though in many cases that officer might be bound by the terms of his legal agreement.

The Honorary Secretary thought that the proposed action would give encouragement to disloyalty such as had recently occurred in Bethnal Green. Rescission of the latter half of the resolution would destroy the pith of the first part, which plainly implied that the conduct in question was derogatory; if it were derogatory, why should it not be treated as such? It was no use the British Medical Association blowing hot and blowing cold in this way, and at the forthcoming Representative Meeting he would do his best to prevent the rescindment in view. Meantime he would ask those present to do all they could in their respective districts to persuade Representatives of their Divisions to vote against the proposal. The matter having been discussed, the council unanimously approved the views of the Honorary Secretary, and several members expressed a hope that the British Medical Association would not detract from the service which it had frequently rendered to Poor Law medical officers by weakening the force of the excellent resolution passed at Brighton.

Attendance on Police Cases.—The Honorary Secretary also reported the action taken by him in regard to the facts brought to notice by a medical officer of the Wigan Union. During the last three years the relieving officer, at the request of the police, had frequently issued orders for the attendance of this medical officer on cases at the police station, such as ought to be treated in the first instance, at any rate, by the divisional surgeon. Friction having arisen from this cause, the guardians had referred the matter to the Local Government Board. The Board, in its reply, said that if any relieving orders were considered to have been improperly issued the matter should be brought before the guardians, but it said nothing as to the legality or otherwise of the action in question. In view of the important principle involved, the speaker had invited the attention of the Public Health and Poor Law Committee of the British Medical Association, and also of the United Kingdom Police Surgeons' Association. The result was that the Public Health Committee of the British Medical Association had instructed the Medical Secretary to approach both the Local Government Board and the Home Office on the subject, and this he had duly done. The Honorary Secretary had himself also written to the Local Government Board. The council having considered the report of the Honorary Secretary, expressed the hope that the weighty considerations submitted to the Government would prove effectual, and thanked the Honorary Secretary for the care and attention he had given to the matter.

Drug Stocktaking.—On consideration of a complaint by a workhouse medical officer in reference to his being required to take stock of drugs in the workhouse dispensary, the council agreed with the Local Government Board that in workhouses in which there was no dispenser a medical officer might properly be expected to afford some indication to the guardians of the state of his stock of drugs.

Provision of Medical Benefit.—The council having considered a communication from a workhouse medical officer in reference to the difficulties created by some employees of guardians coming under the Insurance Act, and others not doing so, expressed an opinion unfavourable to workhouse medical officers contracting to attend uninsured employees on the same scale as those allowed by the Act. They should be treated as private patients. It would, however, be a good thing if all boards of guardians adopted schemes whereby they took upon themselves the provision of medical benefit for all their employees.

OVERCROWDING OF HOUSES.

A. M. W.—The test of overcrowding which is applied by the Registrar-General is more than two persons to one room in any house. The amount of cubic space per person which should be available in a dwelling-house, and below which overcrowding would be said to exist, has never been defined either in an Act of Parliament or by any Regulation of the Local Government Board. Overcrowding of a house is a nuisance which can be dealt with under the Public Health Act, 1875, but the overcrowding must be proved to be dangerous or injurious to the inmates of the house, in the same way that any other nuisance must be proved to be dangerous or injurious to health, before steps can be taken to abate it. Every case must be taken on its merits, and it would be impossible to fix a standard of cubic space which would apply in all circumstances and conditions. For example, the size of the window openings, the absence or otherwise and the efficiency of a chimney flue, and the height of the rooms, must be considered, equally with the amount of cubic space, when deciding whether overcrowding exists. It ought to be no more difficult to convince a sanitary authority that there existed a nuisance from overcrowding than to convince it that any other nuisance existed.

Obituary.

CLEMENT GODSON, M.D., C.M.Aberd.,

CONSULTING PHYSICIAN, CITY OF LONDON LYING-IN HOSPITAL; FORMERLY ASSISTANT ACCOUCHEUR, ST. BARTHOLOMEW'S HOSPITAL; KNIGHT OF GRACE OF THE ORDER OF ST. JOHN OF JERUSALEM.

This well-known obstetric physician died on November 26th, at the age of 68, at his town residence, Montagu Mansions, Portman Square. He had for some time been in bad health. Clement Godson was the son of Mr. Charles Godson, F.R.C.S.Eng., who practised for many years at Barnet. He was educated at King's College School, London, and became a student in the Medical School of St. Bartholomew's Hospital in 1863. He was dresser to Mr. Luther Holden, and studied more particularly under the Physician-Accoucheur, Dr. Greenhalgh. That obstetrician, now almost forgotten, was a link between the old type, represented by Conquest, Ashburner, Lever, and other once well-known physicians, and the modern scientific teacher of midwifery. Greenhalgh had many of the defects of those old-fashioned doctors who worked among midwives and were seldom many hours away from the lying-in chamber, but possessed from the days of their apprenticeship a sound knowledge of the management of pregnant and lying-in women, babes and sucklings, and nurses. But Greenhalgh differed from them in also understanding the requirements of the modern hospital student. His clinical teaching was excellent, and he spent much time in instructing his more industrious pupils. Among them was Clement Godson. In 1868 he qualified, not only as M.R.C.S., but also as Licentiate in Midwifery, a qualification which was suppressed in 1875. About 280 holders of this licence survive at the present day. He became midwifery assistant at St. Bartholomew's Hospital, and in 1872 took the degrees of M.B. and C.M. at Aberdeen. In 1874 he graduated M.D. in the same university and became M.R.C.P.Lond.

In 1875 Godson was elected assistant physician-accoucheur to St. Bartholomew's Hospital, being the first to fill that then new appointment. He held the office for sixteen years, under his seniors Drs. Greenhalgh and Matthews Duncan, and resigned it on the death of the latter in 1890. Godson also became a member of the staff of the Samaritan Free Hospital for a few years, and was more permanently connected with the City of London Lying-in Hospital, to which at the time of his death he was consulting physician. He was also appointed consulting medical officer to several local charities in London.

In the earlier years of his career Godson committed much of his experience to paper. Shortly after his qualification in 1868, when midwifery assistant to Dr. Greenhalgh at St. Bartholomew's, he drew up the statistics of the midwifery practice of that hospital for the preceding seven years, altogether 5,734 deliveries; his report was published in the hospital's *Reports* for 1869. In 1876 Dr. N. Cooper Rose, of Hampstead, read at a meeting of the Obstetrical Society of London the results of 1,200 consecutive cases of labour in his own practice. A few months later Godson, following a good example, read at another meeting of the society obstetrical statistics compiled from the records of his father's thirty-five years' practice. This most instructive communication, published in the eighteenth volume of the society's *Transactions*, deserves resuscitation. The observations of father and son, and of Playfair and Braxton Hicks could not fail to interest the modern obstetrician. In 1881 Godson read at the same society a paper on the treatment of spasmodic dysmenorrhoea and sterility by dilatation of the cervical canal with graduated metallic bougies: the method, he said, had been suggested to him by his senior colleague, Dr. Matthews Duncan. The paper was mostly important on account of the discussion, which shows us still, in the pages of the twenty-third volume of the *Transactions*, that that odious instrument, the metrotome or hysterotome, was already in discredit in 1881, whilst there were still men who used sea-tangle tents followed by intrauterine pessaries. To the JOURNAL Godson contributed a good report of a Porro's operation in his own practice. To *Quain's Dictionary of Medicine* he added articles on puerperal diseases and kindred subjects.

Godson, as has been explained, took an active part in society work. He joined the Obstetrical Society in 1871, and became honorary secretary and vice-president, and for several years was a member of the board for the examination of midwives. He joined the British Gynaecological Society, and was elected its president in 1895. When the amalgamation was completed in 1907 Godson became a Fellow of the Royal Society of Medicine, and was made vice-president of the Obstetrical and Gynaecological Section. In 1895 he was appointed a governor of St. Bartholomew's Hospital.

Clement Godson did not possess those qualities by which some of his more distinguished contemporaries were enabled to make those conspicuous strides in the advance of aseptic and operative midwifery and gynaecology so prominent in the history of medicine during his lifetime. Yet he was an excellent practical obstetrician, and avoided the common error of supporting with enthusiasm each new-hatched, unfledged operative or therapeutic method, claiming it to be infallible on the score of a short experience, and then rejecting it just as rashly in favour of some later and equally questionable novelty.

In 1873 Godson set up in practice in the West End of London. His accomplishments made him highly popular in society, and he had for many years a good practice. When in his prime he was known as a keen deer stalker and a good shot, and he delighted in amateur photography. Latterly he spent most of his leisure in gardening at his country house near Westgate-on-Sea.

Although by profession a woman's doctor, Clement Godson took much interest in our citizen soldiers. At the date of his death his name appeared in the *Army List* under "Officers Retired from the Territorial Force" as Surgeon-Colonel, R.A.M.C. (T.F.). He had been Officer Commanding the 2nd London (City of London) General Hospital Territorial Force, and had received the Volunteer Decoration. Godson was a keen Freemason and one of the founders in 1896 of Rahere Lodge, attached to St. Bartholomew's Hospital. He was also well known among City men of distinction, and became Master of the Worshipful Company of Shipwrights.

Dr. Godson married Alice, the second daughter of the late Rev. Robert Biscoe Tritton, Rector of Bognor, Sussex, by whom he had four sons and four daughters. The eldest son, who studied medicine at St. George's Hospital, where he held the office of house-surgeon, is a captain in the Indian Medical Service. The interment of the deceased physician took place at Marylebone Cemetery, Finchley, after a memorial service at St. Mary's, Bryanston Square, on Saturday last, November 29th.

REES GRIFFITHS PRICE, M.D.Durh., L.R.C.P.Edin.,

PAST PRESIDENT OF THE SOUTH WALES AND MONMOUTHSHIRE BRANCH.

THE news of the sudden death of Dr. R. G. Price, of Carmarthen, has been received with the greatest regret by the profession in South Wales, by whom he was widely known and generally respected. Dr. Price, who had attended the meeting of the South-West Wales Division at Carmarthen on November 25th, was taken suddenly ill in the early hours of November 28th, shortly after visiting a patient near at hand, and died within one or two hours, in spite of the attention given to him by Dr. Parry.

Rees Griffiths Price received his medical education at Glasgow, and obtained the diplomas of L.R.C.P.Edin. and L.F.P.S.Glasg. in 1876. Later on he took the M.D. degree of the University of Durham. After practising for a time at Treorchy he settled about twenty-five years ago in Carmarthen, and became physician to the County Infirmary there. He acquired a large practice in and around Carmarthen, and was as popular with his patients as he was with his profession. He was, indeed, liked by all, and one special feature of his character was the encouragement he always gave to the younger members of the profession.

He was a loyal and energetic member of the British Medical Association and one of its staunchest supporters in South Wales. He was a regular attendant at meetings of the local Branch and Division, and had been President of the South Wales and Monmouthshire Branch and

Chairman of the South-West Wales Division. At the time of his death he was a member of its Executive Committee and of the Local Medical Committee, and was nominated only last week to be a member of the Panel Committee for the county of Carmarthen.

His death leaves a gap which will not easily be filled, and his influence and wise counsels will be much missed in the present troublous times.

At a special meeting of the South-West Wales Division at Carmarthen on December 2nd, Dr. D. J. Williams of Llanelly, who was in the chair, speaking as a life-long friend of Dr. Price, said that both of them had been apprentices of Dr. Pearson Hughes of Llandovery. After completing his medical training at Glasgow, Dr. Price had held a large colliery appointment in Treorchy, in a district which had been a great training school for many eminent surgeons and physicians. After settling at Carmarthen in 1886 he acquired a very large private practice, into which he threw himself heart and soul; his soundness as a practitioner, his geniality and wit, found full response in the confidence and affection of his patients. One of the original members of the South-West Wales Division, he took the keenest interest in its work; he always sought to induce the younger men to join the Association, and ever manifested the greatest interest in their progress. When president of the South Wales and Monmouthshire Branch he gave an address on recent remedies, a favourite subject of his. Under a homely personality beat a heart responsive to the needs of every one in adversity or suffering, and full of affection in all the relations of life. These qualities led to unsparing efforts at all hours and during inclement weather on behalf of his patients when his own health should have prescribed care and restraint from work. The Division adopted a resolution of condolence with Dr. Price's family, and the members present afterwards attended the funeral. The resolution was in the following terms:

> That this meeting of the members of the South-West Wales Division of the British Medical Association places on record its high appreciation of the services of the late Dr. Rees Griffiths Price, Carmarthen, an original member of the Division, and the great loss the Association has sustained by his sudden death.

Dr. Price leaves a widow and three children. His two sons are Dr. Ernest Price, Cardiff, and Surgeon Alfred R. Price, M.B., R.N., at present serving in the *Indomitable*. His daughter is the wife of Dr. Frank Thomas, and is herself a member of the medical profession.

The Services.

THE MEDICAL DEPARTMENT OF THE ROYAL NAVY.

The Lords Commissioners of the Admiralty have adopted the following minutes, in accordance with the recommendations of the Medical Consultative Board, which were made with the object of remedying to some extent the shortage in the medical branch of the Royal Navy:

1. The disciplinary control (as far as minor punishments are concerned) of the sick berth staff has been delegated to the senior medical officers of the three large hospitals at Haslar, Plymouth, and Chatham.
2. The senior medical officer will in future preside at medical surveys.
3. Control of publication of papers on professional subjects is vested in the Medical Director-General.
4. Their Lordships approve of naval medical officers being allowed to engage in private practice and receive fees in the same manner as officers of the Royal Army Medical Corps, so far as compatible with their official duties.
5. Their Lordships approve in principle the proposal to institute a *Journal for the Naval Medical Service* on the lines of the *Journal of the Royal Army Medical Corps*.
6. Their Lordships approve of the senior medical officers at hospitals abroad being in charge of those establishments, subject to the authority of the Commander-in-Chief or senior officer in the same manner as in the case of the large hospitals at home, and directions will be issued to that effect. The necessary alterations will be made in the Navy List, the hospitals affected being Malta, Gibraltar, Bermuda, and Hong Kong.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Annual Meeting.

Dr. J. Brindley James (President of the Society of Members of the Royal College of Surgeons of England) writes: Kindly correct error in your paper *re* annual meeting of the Fellows and Members of the Royal College of Surgeons of England. Dr. Vincent Bell said that he dissociated himself from what had been said by the seconder of the resolution; not, as printed in your paper, from the proposer and seconder of the resolution. Being the proposer of the resolution, I wish this error to be corrected. I feel sure that Dr. Bell could not find fault with what I said.

Medical News.

Among the papers to be read at the meeting of the Royal Society on Thursday next is one on intermittent vision by Mr. A. Mallock, F.R.S.

On Tuesday next, at the house of the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W., a discussion on the progress of school hygiene will be opened by Dr. James Kerr.

A lecture on the properties and use of radium will be given at the Cancer Hospital, Fulham Road, S.W., on Wednesday, December 10th, at 5 p.m., by Mr. C. E. S. Phillips, F.R.S.Edin., honorary physicist to the hospital.

A monument to the memory of Professor Dieulafoy has recently been erected in the Hôtel-Dieu of Paris. The ceremony of unveiling was the occasion for addresses by Professors Widal and Landouzy, and by M. Mesureur, of the Assistance Publique.

A severe epidemic of enteric fever having caused a number of deaths in the Montauban garrison, Professor Labbé, with the assent of several of his colleagues in the Senate, has submitted to that body a proposal to make antityphoid vaccination compulsory in the French army.

The British Fire Protection Committee (8, Waterloo Place, Pall Mall, S.W.) has issued a leaflet drawing attention to certain common causes of outbreaks of fire in connexion with Christmas festivities, and pointing out how such risks may be avoided. Copies of this useful publication, in packets of 10, 25, or 50, may be obtained on written application, if stamps for postage are enclosed.

Among a collection of photographs made in Hungary, Germany, Sweden, and New Zealand, now being exhibited at the house of the Royal Photographic Society, 35, Russell Square, W.C., are a series of marine natural history subjects taken by flash light at the Heligoland Marine Aquarium. The exhibition will remain open until December 20th, and visitors are admitted on presentation of their visiting cards.

The next examination of candidates for the Royal Naval Medical Service will be held at the Examination Hall, Queen Square, Bloomsbury, W.C., on March 30th, 1914, and the following days. Twenty-five appointments are open for competition. Forms of application and further particulars can be obtained from the Medical Director-General, Admiralty, S.W.

We have received a pamphlet on *The Care of the Teeth* published by the Otago (N.Z.) Division of the British Medical Association and the New Zealand Dental Association. Simply but scientifically written, it is a most praiseworthy attempt to awaken the public to the dangers of bad teeth. The pages on diseases of the teeth and tuberculosis may be specially commended to those responsible for preparing antituberculosis literature. Though the pamphlet contains much that would not pass unchallenged in any large assembly of dentists, it cannot fail to influence beneficially the public to whom it is addressed.

A post-graduate course on the feeding and care of infants, which has been organized by the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy, is to be given in January, commencing on Monday, January 12th, and terminating on Thursday, 22nd. The work will include daily lectures by various authorities, practical demonstrations in regard to the bacteriology and chemistry of milk, and visits to institutions where work is in progress. The fee for the course is one guinea. To certain meetings of the class laymen will be admitted on payment of a small fee. Applications

for admission to the course should be sent to the secretary of the association mentioned, at 4, Tavistock Square, W.C.

THE Convocation exercises of the American College of Surgeons were held in Chicago on November 12th. The list of members of the College were read by the Secretary, Dr. Franklin H. Martin, of Chicago, and the President, Dr. John M. P. Finney, of Baltimore, then pronounced them Fellows of the College. The number admitted was 1,050. Sir Rickman Godlee read a message from the Council of the Royal College of Surgeons of England, conveying congratulations and expressing the hope that the College would grow and prosper, and by its influence the ideals and standards of surgery would be advanced and maintained on a high plane. The President urged every member to assist in raising the ideals of the profession. One of the most important functions of a college was to wage a relentless war against the evil practices with which the profession was tainted, chief among which, he said, was the pernicious practice of fee splitting.

THE landmark in the history of 1913 so far as illuminating engineering is concerned is the setting up of an International Commission on Illumination. Mr. Leon Gaster described this new departure in the course of a communication to the Illuminating Engineering Society at its November meeting. Instead of establishing a totally new body, it has been found possible to enlarge the membership and functions of the International (Zürich) Photometric Commission so as to make it available for this wider purpose. The Photometric Commission was formed originally at the International Congress of Gas Industries, held in Paris in connexion with the Universal Exhibition of 1900. Its main intention was to carry out researches on the photometry of gas-lights, in which respect it has done a considerable amount of useful work. The first move was to set up national committees provisionally in various countries to consider the subject, and the scheme matured in August last with an agreement upon the draft statutes at a meeting of representatives in Berlin. The body is to be known as the International Commission on Illumination ("Commission Internationale de l'Eclairage"), and has for its object the study of all questions affecting the lighting industry and the related sciences, and the establishment, as far as possible, of an international agreement on lighting matters. Each country sends ten delegates to the meetings of the Commission. There are illuminating engineering societies in Great Britain, the United States, Germany, and one is shortly to be established in France, and it is provided that such bodies may replace the national committees, and each send two representatives to act on the executive council of the international organization. The Commission has a British honorary secretary, Mr. C. C. Paterson, so that London, which is a link between the Continent and the United States, becomes the official centre from which the business of the Commission is transacted.

AT the annual dinner of the past and present students of the National Dental Hospital, Professor Arthur S. Underwood, who was in the chair, pointed out the desirability of a dental education being regarded from as broad a standpoint as possible. To those students who asked why they were taught so much surgery he would say that it was unpractical to regard any part of the body as if it were an entirely separate entity. A dental surgeon who knew something of the entire human frame could deal more scientifically with the particular part which fell within his field of work. In this connexion Professor Underwood drew attention to a notable piece of work recently performed by a dental surgeon, Mr. Howard Mummery. He had been engaged on research into the nerve supply of the teeth, and had converted into solid knowledge what before was merely guesswork. No doubt many people had for long been ready to assume that the tissue known as "dentine" contained nerve matter, but no one knew this for a fact, whereas Mr. Mummery had now actually shown before the Royal Society minute nerve substance penetrating into the dentine. The toast to the school was acknowledged by its Dean, Mr. Sydney Spokes, who asked the Chairman to distribute the prizes and medals awarded to various students. The most successful students were Mr. F. Elliott Smith, who carried off the prizes for dental anatomy and physiology and for dental pathology and surgery; and Mr. H. C. Carter, who won those for materia medica, operative dental surgery, and also the Rymer Medal. The toast to past and present students was acknowledged by Mr. A. W. Smith and Mr. H. A. Hudson, the winner of the Ash Prize; while Mr. Howard Mummery responded to the toast of the visitors. The toast to the chairman, proposed by Mr. Kenneth Goadby, the Vice-Dean to the school, brought the proceedings to a close.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DR. K. J. COURTENAY (Wareham), who is attending a case of hydrocephalus in a child aged 14 months, states that the circumference is 39 in. He wishes to know if a greater circumference than this has been observed at the age.

DILATATION OF THE STOMACH.

STENOSIS asks for advice in the treatment of dilatation of the stomach due to atonic condition and gastroptosis with pyloric stenosis in which operation is not considered advisable. Two essential difficulties are met with: (*a*) It is usually extremely difficult to wash the stomach clean by lavage. There appears to be a residuum which is difficult to remove effectively, although many quarts are used for the lavage; (*b*) even daily lavage (before breakfast) is ineffective to prevent troublesome and often very offensive eructations. The degree of flatulence is variable. The drug treatment so far tried (creosote, bismuth, salicylate, charcoal) has not been of much service.

ANSWERS.

TREATMENT OF TERTIARY SYPHILIS.

DR. G. ARBOUR STEPHENS (Swansea) writes: If a "Country Practitioner" injects 8 c.cm. of distilled water subcutaneously twice a week for three weeks he will find the leg ulcer closed up, especially if he order calcium iodide instead of the potassium salt.

DR. DOUGLAS FRESHWATER (London) writes: Salvarsan given intravenously will certainly heal up the ulcer in a short time. A second full dose may be given at the end of a fortnight if the healing is not progressing satisfactorily; generally one dose is sufficient. The intravenous method gives quicker results than the intramuscular, but the latter is very effective. Intramuscular injections of calomel will probably clear up the ulcer if for any reason salvarsan cannot be given.

LETTERS, NOTES, ETC.

THERAPEUTIC SUGGESTION.

DR. R. MACDONALD LADELL (Leeds) writes: The article by Dr. Tom A. Williams on truths about mental healing is one that is bound to attract a good deal of interest, but it is a pity that the "truths" are expressed in such a way as to suggest that there is an impassable breach between psychoanalysis and therapeutic suggestion, and even that they are antagonistic. The facts as related by Dr. Williams show, on the contrary, that the best results are obtained by combining the two methods, and one may be pardoned if on reading the reports of his cases one comes to the conclusion that the principal factor in curing each and every one of them was suggestion. Every hypnotist of experience will join with him in condemning the "bludgeon method" of suggestion. That may be eminently suitable for trained subjects on the music hall stage, but if tried in the consulting room it quickly brings its own refutation. The success of therapeutic suggestion does not lie in making the subject "dependent on one's behest," but in appealing to the patient's own power of reasoning and strengthening his resistance to morbid ideas. Dr. Williams's article properly considered is not a condemnation of suggestion as such, but of suggestion as applied by incompetent and clumsy operators. Dr. Williams's attitude reminds one of that of the prophet of old, who was called in to cure and remained to bless, for assuredly there is much in his article which practitioners of suggestion can point to with triumph.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

An Address

ON THE

CLINICAL SIGNIFICANCE OF SPONTANEOUS HAEMORRHAGE AS AN EARLY SIGN OF DISEASE.

DELIVERED TO THE NEWCASTLE-ON-TYNE CLINICAL SOCIETY.

BY GEORGE R. MURRAY, M.A., M.D., D.C.L., F.R.C.P.,

PROFESSOR OF SYSTEMATIC MEDICINE IN THE VICTORIA UNIVERSITY, AND PHYSICIAN TO THE ROYAL INFIRMARY, MANCHESTER; CONSULTING PHYSICIAN TO THE ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE.

On this occasion I wish to draw attention to the significance of haemorrhage as an early sign of disease. I shall also give some illustrations which show that unexpected haemorrhage, even when copious in amount, may sometimes be followed by no untoward results.

It may be considered that the importance of haemorrhage is already sufficiently recognized, not only by medical men but by people in general, as the occurrence of haemorrhage without any obvious cause, such as an injury, is naturally an alarming event, which usually leads to medical advice being sought at the earliest opportunity. Unfortunately, we meet with cases in which the importance of, at any rate, small haemorrhages has been underestimated, and so the onset of serious disease has escaped detection until irreparable damage has been done. Thus, how often has the neglect of the warning given by slight or irregular haemorrhages from the rectum or from the uterus in cases of carcinoma resulted in the disease reaching such an advanced stage before a medical man is consulted that removal is no longer possible? I shall not speak of losses of blood due to some easily recognized cause, such as an injury, or a definite disease such as pulmonary tuberculosis, the existence of which has already been recognized. The haemorrhage I propose to consider is that which occurs unexpectedly, either when the patient is apparently in good health or in association with symptoms which do not account for its onset.

Haemorrhage from any source may be of importance for two separate reasons. Firstly, it may be an important indication of disease owing to the site at which it occurs and the circumstances in which it arises, quite apart from the amount of blood which is actually lost. Secondly, it may be of importance owing to the quantity of blood which is lost and the secondary anaemia which this loss entails. Under many conditions the importance of a haemorrhage is proportional to the amount of blood which is lost, but this is by no means always the case. A small haemorrhage may prove to be of far greater importance than a large one as an indication of disease. This may at first sight appear to be a paradox, but under certain circumstances a minute haemorrhage may be the earliest sign of the development of a serious disease, while a copious haemorrhage resulting from a trifling breach of surface may prove to be of no importance beyond the temporary effect of the loss of blood, which is soon made up again. It will be realized, therefore, how important the subject is, and how difficult it is in some cases to estimate the full significance of an unexpected haemorrhage. When in doubt it is certainly better to overestimate the importance of this symptom and treat it accordingly than to under-estimate it and treat it lightly. The investigation of a case of haemorrhage may tax all our experience and resources, but the diagnosis of the true cause is a question of the greatest interest, which may well call into play our best powers of observation. In the time at our disposal we cannot consider all the possible causes of haemorrhage in disease. Many of the common causes of haemorrhage are so well known that I shall only consider some forms of haemorrhage and the lessons that may be learnt from them.

In the first place let us consider the significance of bleeding from the nose. This is such a common event that even a sharp attack of epistaxis does not give rise to alarm unless it be unduly prolonged. In some persons it is readily started by a very slight injury and in others it occurs from time to time without any apparent reason, and careful examination may reveal no nasal disease to account for it. There are, of course, many local nasal diseases which may be accompanied by epistaxis, but to these I shall not refer further. When epistaxis occurs with fever it may be an early symptom of enteric fever, especially if it is associated with frontal headache.

As an example of unexpected epistaxis in association with another infection, the following case, which I saw with Dr. Surridge, is of interest:

A lady, aged 47, had been taken ill a week before with fever; the temperature at first was only 100°. On each of the last three evenings preceding the day of my visit the temperature had risen to 103°, and there had been recurring attacks of epistaxis. The only two symptoms were the fever and the epistaxis. The latter had not been sufficient to require special means to check it, as the patient felt relieved by each loss of blood. This association of symptoms at first suggested the onset of enteric fever, especially as some little time before there had been a limited epidemic of typhoid fever in the neighbourhood. The spleen, however, was not enlarged; there was no distension of the abdomen; there were no rose-coloured spots, and the Widal reaction was negative. It was ascertained that there had been a fair number of cases of influenza in the district, and that in several cases fever and epistaxis were the only symptoms. We came to the conclusion, therefore, that this was a case of influenza with epistaxis. The epistaxis did not recur, and after several days the temperature became normal without the development of any other symptoms. Influenza is a curious disease, in that the symptoms vary in different epidemics and in different districts. Thus, in one area the disease may be mainly characterized by bronchitis and bronchopneumonia, in another by gastro-intestinal catarrh, or, as in this case, by epistaxis, though this is not a very common event.

The occurrence of epistaxis in granular kidney and arterio-sclerosis is well known. A sudden attack of epistaxis occurring in a man who has passed middle age may be the first indication that he is suffering from granular kidney. This symptom naturally leads us to examine the urine, take the blood pressure, and make an ophthalmoscopic examination. It is remarkable how advanced a stage of the disease we may find to be present in a patient who comes first under observation for an attack of epistaxis.

The importance of haemoptysis is well known, and by far the commonest cause is pulmonary tuberculosis; it may be the earliest symptom to attract attention. Any haemorrhage from the lungs should naturally lead us to suspect pulmonary tuberculosis and take every pains to ascertain if it is present. An aneurysm or new growth in the lung or a pulmonary infarction may all cause a spitting of blood. Errors, however, may arise from various causes. Dr. Bramwell, in his Address in Medicine at the Annual Meeting of the British Medical Association at Birmingham, gave an illustration of how the haemoptysis which occurs in association with mitral stenosis may lead to a wrong conclusion as to its cause if the chest is not thoroughly examined. Bronchial haemorrhage may be brisk and yet never recur. I remember one case in a man, a butler by occupation, who had a profuse haemoptysis, in whom there were no physical signs. The haemorrhage, I believe, never recurred, and no other symptoms developed, and certainly more than ten years afterwards he was well and in a situation. This case was an example of haemorrhage from the bronchial mucous membrane allied to some forms of epistaxis and to gastrostaxis as described by Dr. Hale White.

In another case, a young man, a personal friend of my own, had some slight haemoptysis, which we concluded at the time came from the lungs. He had an attack again when staying in Ireland, and a laryngoscopic examination, which was made by the physician who saw him at the time, revealed the fact that the blood came from a dilated vein in the glosso-epiglottic fold, which was actually bleeding at the time of the examination. I afterwards saw the vein myself, but never when it was bleeding. This is now many years ago, and the patient is in excellent health. Haemorrhage from the gums may sometimes be

mistaken for haemoptysis, as in a case mentioned by Dr. William Murray in his *Rough Notes on Remedies*.

When blood is passed with the urine it may come from any part of the urinary tract, from the kidney down to the urethra. Generally speaking, we have to distinguish blood which comes from the kidney or its pelvis from that which comes from the bladder or prostate. When blood comes from the kidney it is uniformly distributed through the urine. If small in amount it may make the urine "smoky," and there may be the "beef-tea" deposit; if abundant it may impart a bright red colour to the urine. Blood which comes from the bladder or prostate appears chiefly at the end of micturition, as may be demonstrated by getting the patient to micturate into three different glasses in succession. Haematuria may occur in tuberculosis of the kidney and in the early stages of a new growth of the kidney, and may be produced also by the presence of a renal calculus. It may occur also in acute Bright's disease and in chronic granular kidney; in the former case the cause is generally obvious. A profuse attack of haematuria should always lead to a careful examination of the urine, the blood pressure, and the heart, to ascertain whether there is any evidence of a chronic granular kidney.

Apart from these well-known causes, I wish to draw attention to cases in which a sharp attack of haematuria proves to be of no importance, and, on the other hand, to some cases in which a trifling attack is in reality an early indication of the presence of serious renal or vesical disease. There is an interesting form of haematuria which occurs apart from any organic disease; it is known as "essential renal haematuria," and has been described by Senator, and recently in this country by Dr. Hale White. In this disease recurring attacks of haematuria take place. In some cases the loss of blood has been sufficient to endanger life, though it is rarely fatal. In cases in which an operation has been performed, the kidney has been found to be quite healthy, and, curiously enough, in some the attacks have ceased after a simple nephrotomy. In some cases presenting similar clinical features the haemorrhage has proved to be due to an angioma of a renal papilla, but these, of course, are not cases of "essential renal haematuria" and require a nephrectomy to remove the source of the haemorrhage. There is, however, another variety of haematuria in which a single attack, or two or three attacks, of haematuria occur close together, without subsequent recurrence. These may be termed examples of accidental haematuria. These cases are apt to give rise to a good deal of anxiety at the time, as the loss of blood may be considerable. The absence of subsequent recurrences during a long period of years of good health shows clearly that in these cases there is no structural change in the kidney. Two personal friends of my own, one a physician and the other a surgeon, each had such an attack a good many years ago. I saw each of them at the time, and in both cases we could find no cause for the haematuria. It ceased within a few days, and has not, as far as I know, recurred, and both are in good health. In another case the haematuria was induced by a sudden chilling of the surface of the body by bathing in cold water when heated by exercise. A clergyman, while on a holiday in the Lake District in the month of August, took a long walk, and as he felt very hot he bathed in a mountain stream. After doing this he twice passed red urine, which evidently contained blood. He had another similar attack on his return home after a walk, and his medical adviser said that the urine contained blood. He was told at the time that the haematuria was due to a renal calculus. When I saw him I ascertained that he had never had any renal colic, and there was no pain or tenderness on pressure in either renal region. There was no frequency in micturition and the urine was normal. I came to the conclusion that it was a case of accidental haematuria. This opinion was evidently correct, as I happened to meet him some years afterwards and he told me he had had no return of the symptoms.

In some cases a trifling form of haematuria may on further investigation prove to be an early indication of definite disease, as is well illustrated by the wo following cases. A young lady, aged 18, a month before I saw her had strained herself and felt some pain in the lower part of the abdomen. On several occasions she had passed a few drops of blood at the end of micturition. A week previously she had again had pain and passed blood, but had felt no pain since. The left kidney was found to be movable, but it was not tender on moving it nor on grasping it between the two hands. She had some pain two days later. No further symptoms were noticed until some two months had elapsed, when she again passed a few drops of blood. She was requested to send the urine next time any bleeding occurred. Five months after the first attack she had a slight loss of blood as at the beginning for three days, and sent me a sample of the urine. On looking at this with the naked eye a small particle was visible floating in the urine. This was at once examined under the microscope, and was seen to be a small portion of a papilloma. I sent the patient to the late Professor Annandale, of Edinburgh, who wrote to me as follows:

"I put Miss A. under chloroform and made a cystoscopic examination of her bladder. Our diagnosis was confirmed, and I found a well-marked villous growth at the lower and posterior wall. The urethra was so readily dilatable that I was able to introduce my finger into the bladder and still further confirm the diagnosis, and also determine that the growth had a diameter of about a shilling, was quite superficial, and did not infiltrate the submucous tissues. It could easily be reached by the finger, and accordingly I scraped it away, partly by the finger nail and partly by a sharp spoon, and then by means of a lithotrity evacuator washed out the fragments. This allowed me to collect all the debris, which consisted entirely of villi, rounded in shape and soft in consistence." Microscopical examination showed that the growth was a typical papilloma of the bladder in a very early stage.

I mention this case because, although there had been several haemorrhages, the quantity of blood lost on each occasion only amounted to a few drops, and it was remarkable that a recognizable portion of the growth should be found at that stage in the first sample of urine examined microscopically.

The next case I wish to refer to also furnishes an illustration of how an immediate microscopic examination of a fresh sample of urine may supply information of the greatest value in determining the source of an obscure case of haematuria.

The case was that of a boy aged 16½, who, in December, 1911, was brought to see me by Dr. W. Turner, to whom I am indebted for the history of the case. The patient was born in Pondoland, S.A., and lived there until he was 12 years old. Subsequently he had resided in England, and the matron of the school to which he was sent informed his grandparents that she had frequently noticed what appeared to be the presence of some kind of discharge on the underclothing. During the summer of 1911, when the boy was 16 years old and had resided in England for four years, he became ill. He was noticed to be heavy and dull, especially after exertion or waiting longer than usual for his meals. The appetite was voracious, and he had frequent attacks of biliousness. He looked ill, the complexion was muddy, and the eyelids puffy. Physical examination revealed no abnormality in either chest or abdomen. The urine was found to be alkaline and of low specific gravity, and to contain albumin and red blood corpuscles, but no pus cells and no casts.

In September the Clinical Research Association examined the urine, with the following result: Reaction, slightly alkaline. Specific gravity, 1013. Albumin, fair amount. The centrifugalized deposit contained many red blood corpuscles and a few triple-phosphate crystals, but no tube casts, pus, renal epithelium, or other urinary abnormalities. Further examination by Dr. Almond of the urine in October showed the presence of red blood corpuscles, pus, and epethelial cells.

Early in December his general health was excellent, and he had lost his lassitude. He only complained of his sight becoming rather less distinct after reading for any length of time. The optic discs were normal. The systolic blood pressure was 121 mm., and the diastolic pressure 80 mm. The centrifugalized deposit of the urine contained a few red blood corpuscles and many pus cells, a few granular casts, a few oxalate crystals, and epithelial debris. At the end of December, when Dr. Turner brought him to see me, he was passing in the urine small masses of what appeared to be red blood clots. When I saw him there was nothing abnormal to be found on physical examination. We got the boy to pass a fresh sample of urine, in which with the naked eye a small pinkish mass could be seen floating. This was mounted at

once on a glass slide and examined under the microscope, when I found it was a small fresh clot of blood, in which were entangled some ova of the *Bilharzia haematobia*. This examination at once showed the true nature of a puzzling case, and clearly indicated that the boy was suffering from bilharziosis, which he had contracted in Pondoland at least five years before

In connexion with renal disease I wish to allude to the significance of retinal haemorrhage. In this connexion also, although the amount of blood which actually escapes from the retinal vessels is very small, the significance is great, indicating an advanced stage of renal disease, and is of ill omen.

Gastro-intestinal haemorrhages are in some cases very difficult to explain. Apart from bleeding due to actual ulceration, we are familiar with haematemesis, which occurs in the early stages of splenic anaemia or from the rupture of an oesophageal varix in cases of alcoholic cirrhosis of the liver. Stadelmann[1] has recently shown that some cases of obscure gastro-intestinal haemorrhage are due to the rupture of idiopathic varicose veins which may occur in the stomach, in the small intestine, and in the rectum. Dr. Hale White has drawn attention to a special form of bleeding from the stomach which he has named gastrostaxis. In this condition when the stomach has been opened at an operation the blood has been found to be oozing from an area of congested mucous membrane. Dr. White[2] has suggested that such haemorrhages may be due to injury of the vessels in the mucous membrane by an endothelial toxin.

I wish in passing to call attention to the very profound secondary anaemia and prolonged ill-health which arises in some cases from small repeated haemorrhages, of almost daily occurrence, from haemorrhoids; the haemorrhage has been neglected by the patient and allowed to go on unchecked for years before medical advice is sought. In these cases the haemorrhage is not of importance as an indication of disease nor on account of the amount lost on any single occasion. It is the repeated small losses which impose so great a strain upon the blood-forming organs that a profound secondary anaemia results. The occurrence of these haemorrhages is not mentioned by the patient, perhaps from feelings of diffidence, and it is astonishing how long they are tolerated without complaint.

I have not spoken at all of haemorrhages arising in haemophilia, purpura, and allied diseases. These are generally recognized, and it is not necessary for me to do more than mention them. I have dealt only with a few aspects of what is a large and important subject, and one of general interest, and time will not permit me to go into the question of treatment, as my object has been to direct attention to the importance of arriving at a correct diagnosis in every case of obscure haemorrhage, so that the right treatment may be applied.

REFERENCES.
[1] *Berl. klin. Woch.*, May 5th, 1913; BRITISH MEDICAL JOURNAL, Epitome, October 18th, 1913. [2] *Lancet*, February 17th, 1912.

THE Khedive has founded a special hospital at Alexandria for the radical cure of hernia. The hospital will be housed in a pavilion of the great institution known as the Abbassi Asylum. It is to be called the Abbas II Hospital, and is to be under the surgical direction of Dr. Colloridi Bey.

A SCHOOL for health officers has recently been organized in connexion with Harvard University and the Massachusetts Institute of Technology. The organization of this school marks, it is said, a distinct epoch in the American Public Health Service. By the co-operation of the two institutions it will be possible for properly qualified persons, on payment of an annual fee of £50, to be admitted to all the resources of the Harvard Medical School and other departments of that university, as well as to the chemical, biological, sanitary, and engineering opportunities offered by a great modern technical school. No degree will be awarded on the completion of the course, but a certificate of public health (C.P.H.) will be given to all who go through the course satisfactorily. No degree is required for admission, but no one will be admitted who has not completed at least two years of ordinary college work, including chemistry, physics, biology, and French and German, or who is not otherwise specially qualified. Professor M. J. Rosenau of the Harvard Medical School is the Director.

A Lecture

ON

THE EARLY DIAGNOSIS AND OPERATIVE TREATMENT OF CARCINOMA OF THE CERVIX.

DELIVERED AT THE CANCER HOSPITAL, BROMPTON,

BY

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IN my work at this hospital I have been struck by the hopelessly advanced stage of the disease in many of the patients who have applied for treatment of carcinoma of the cervix for the first time, and in the ordinary methods of dealing with it there seems to be a lack of the thoroughness and cleanness of dissection which have been applied with such success to the eradication of cancer in other more exposed and accessible organs, such as the breast and the tongue. It is therefore to the great importance of early and accurate diagnosis, and to modern lines of treatment, that I chiefly wish to direct your attention.

The cervix may be divided into:

1. That part which lies free within the cavity of the vagina and is covered with the stratified squamous epithelium of the vaginal mucous membrane.
2. The supravaginal portion, which lies embedded in the lowest portion of the pelvis in the mass of loose connective tissue called the parametrium.

This anatomical classification forms a very useful basis in discussing carcinoma. For the disease beginning in these two portions not only differs in its pathological characters, both macroscopic and microscopic, but also in its zone of spread, its liability to infect the neighbouring lymphatic glands, and, I think, to a certain extent also in its ultimate prognosis.

CLINICAL TYPES AND THEIR METHOD OF SPREAD.

Carcinoma arising from the free surface of the cervix grows partly outwards as an exuberant proliferating mass, partly downwards into the fibro-muscular stroma as long branching columns of atypical epithelial cells. Depending upon which of these two modes of growth is the more obvious, certain clinical pictures result, and an intimate knowledge of their appearances is essential for accurate diagnosis. Upon the early onset or otherwise of fatty necrosis of the growth also depends the stage at which ulceration or the production of carcinomatous cavities is produced. At the same time it must be admitted that all these processes go on side by side, and it is by the predominance of any one of them that we are enabled to make use of the following arbitrary classification.

A. *Carcinoma of the Vaginal Cervix.*

1. *Papilliferous Form.*—Here a sessile protuberant growth projects from one or both lips of the cervix into the cavity of the vagina. The specimen I show you here more closely resembles one of those beautiful villous tumours of the bladder than anything else. This, however, is exceptional. The surface of the growth is usually concealed by a yellow sloughy mass, bathed in a pool of muco-pus.

2. *Infiltrating Form.*—Here the cervix is enlarged and becomes a cartilaginously hard, shapeless mass, with usually a certain amount of superficial ulceration of the overlying mucous membrane. On section, it is seen to be occupied by an opaque white growth.

3. *Ulcerative Form.*—Here the disease may show itself either as (*a*) a shallow ulcer tending to spread outwards on to the vaginal vault, with little infiltration of the underlying tissue; or (*b*) a crateriform cavity with hard everted edges occupying the former position of the cervix, the vaginal portion of which may have completely disappeared.

Methods of Spread.

Carcinoma of the exposed portion of the cervix tends to spread downwards into the vagina, and outwards into the lowest portion of the parametrium. Although it

may occasionally extend upwards along the cervical canal, it hardly ever progresses beyond the internal os, so that the body of the uterus escapes, except perhaps in the very late stages of the disease. The papilliferous type extends outwards over the surface of the vaginal fornices, and may occasionally give rise to a small metastatic deposit in the lowest portion of the anterior vaginal wall. It is this variety also that occasionally gives rise to that curious condition known as "contact cancer"—that is to say, a growth arises in the vaginal wall at a point where the primary carcinoma directly impinges upon it, and appears to have no direct connexion, even by lines of infected lymphatics, with the original focus.

The infiltrating form gradually extends outwards to the periphery of the cervix, invades the posterior portions of the lateral parametrium, and then has two lines of lymphatic extension open to it:

(*a*) Directly outwards to the lateral pelvic wall with infection of the lymph glands in this region.

(*b*) Downwards into the subcutaneous tissue of the vagina, where, for a time, it remains covered with intact mucous membrane. The bladder and rectum are involved later by direct extension, but metastatic growths in the viscera are almost unknown.

B. *Carcinoma of the Supravaginal Cervix.*

The disease here begins in the mucous membrane lining the cervical canal, and the smooth walls of the latter are rapidly converted into a rough, nodular, and easily bleeding surface. The muscular tissue of the cervix becomes replaced by a mass of growth which soon undergoes necrosis. Degeneration begins, either on the free surface, and is then shown as a gradual deepening process of ulceration, or centrally, when the abscess thus formed soon bursts into the cervical canal. In either case the enlarged and massive cervix is replaced by a suppurating cavity with thin infiltrated walls.

Methods of Spread.

Upward extension into the body of the uterus is here frequent, whilst direct passage downwards through the external os to the vagina is almost unknown. The internal os seems to be no bar to the extension of the disease, and the carcinomatous process sometimes appears to glide upwards in the mucous membrane, until in some cases the whole of the lining membrane of the body of the uterus has apparently taken on malignant characters.

The periphery of the cervix reached, the growth spreads rapidly outwards and downwards in the lymphatics of the parametrium, and infection of the internal iliac glands ensues at an earlier period than is the case when the disease attacks the vaginal cervix. The base of the bladder is invaded early by direct extension, whilst rectal involvement only occurs in the terminal stages.

DIFFICULTIES IN EARLY DIAGNOSIS.

1. *Those due to the Character of the Disease.*—In its early stages carcinoma is a painless disease. When the cervix is the organ attacked, the patient will receive little or no warning of its presence, until ulceration is well established and infection of the growth with pyogenic organisms has occurred. Until this fact has been thoroughly inculcated into the lay mind, no early cases of cancer will come to the surgeon for treatment, except those in which the disease is accidentally discovered during a medical examination for some other, perhaps trivial, complaint. A patient with a carcinoma of the breast will first come for treatment months after she has discovered the existence of a hard lump, and yet has not realized the seriousness of her condition because she has suffered no inconvenience or pain. If this is the case when cancer attacks an organ so closely under the patient's own observation as the breast, it is not surprising that we find the disease in a more advanced stage in the case of growths of the uterus.

2. *Those due to the Patient.*—Even when the danger signals of bleeding and discharge clearly warn the patient that something is wrong, it is almost inconceivable how she will temporize and delay consulting her medical attendant, whilst precious weeks and even months are allowed to go by. Again, slight irregular vaginal haemorrhages and discharges are so common during her menstrual life, especially towards its close, that a woman is often disposed to regard them as of trivial importance only. So, indeed, they may be, but the doctor is the only safe judge of this. Many women are ashamed or are afraid of the discomfort and pain of the dreaded examination, and will leave no stone unturned, and regard no pretext or excuse too trivial, to avoid it. Others, again, perhaps already suspect the nature of their trouble, and dread the confirmation of their fears and the strong recommendation for surgical interference which must necessarily follow. The ideal thing would be to examine, as a matter of routine, all patients complaining of gynaecological symptoms; but this, at the present day, I know to be an impracticable suggestion to the general practitioner. There are, however, three symptoms which, if not exactly pathognomonic of carcinoma, are at least strongly suggestive of its presence. In a case in which one or more of these symptoms are present a complete examination must be insisted upon, and no excuse regarded as sufficient even to delay or postpone it. When a patient complaining of these symptoms consults me, it is my practice to assume that malignant disease is present, until, by a complete examination, utilizing every known means at my disposal (including microscopic examination of a portion of the tissue if necessary), it is possible to satisfy myself that such is not the case.

Symptoms Indicative of Carcinoma of the Cervix.

(*a*) The first and most important of these is bleeding on coitus. If this is present in a marked degree it is practically diagnostic of carcinoma. No other disease, with the possible exception of a large erosion or a mucous polypus, will give this symptom, and they only rarely; when it occurs, it is little more than a slight staining of the mucoid secretion. A word of warning is necessary here. A patient will complain of bleeding, but her natural delicacy of feeling will often cause her to omit to mention exactly when it occurs, and this portion of the history will only be elicited by a leading question. The haemorrhage is caused either by mechanical injury and the breaking off of small pieces of friable growth during the sexual act, or by the rupture of a small vein or artery as the result of the active engorgement of the pelvic vessels which takes place at this time.

(*b*) Metrorrhagia occurring several months after the menopause. After menstruation has ceased, several clear months elapse, and then the patient begins to suffer from irregular haemorrhages. This is strongly indicative of the presence of carcinoma. It is quite a different thing from bleeding taking place actually at the time of the menopause, which is by no means an uncommon occurrence. This also, of course, may be caused by a growth, but in many cases no definite cause can be assigned to it. That it is due to some definite pathological lesion is certain, yet in many cases it is difficult to identify exactly what this is, and, as many of these patients completely recover in a few months and remain well for years afterwards, it is obvious that in their cases it cannot portend anything very serious.

(*c*) A somewhat profuse serous discharge, which is usually blood-stained. This occurs in some early cases of carcinoma of the supravaginal cervix, and as it is unusual in any other condition it may prove a very valuable indication. Students are too much inclined to rely upon the age of the patient and the signs of prolonged septic intoxication as a means of diagnosis. Suffice it to say that carcinoma of the cervix may arise at any period of life between 25 years and extreme old age, and when "cancerous cachexia" is established, the local signs of the disease are only too obvious and the growth far beyond the reach of surgery.

3. *Those due to the Many Different Forms the Disease may Assume.*—The symptoms mentioned above must be regarded as being a mere indication that a given patient may be suffering from cancer. The actual diagnosis can only be made upon the sound basis of physical signs, and to appreciate these a thorough knowledge of the pathological appearances of the disease is essential. If carcinoma attacks the vaginal portion of the cervix the diagnosis is usually not so difficult, because here the growth can actually be seen as well as felt. Both these methods of examination should be employed. Early cases are often best identified by means of a good light and a speculum.

whereas in later cases with extensive subvaginal spread and an intact covering of epithelium the extent of the disease may only be realized by palpation. When, however, it is the supravaginal cervix which is affected, the external os remaining closed, a correct diagnosis can only be arrived at by a combined bimanual and rectal examination, made under an anaesthetic if necessary. In these cases the tissues of the vaginal roof are often tense and resistant, and a bimanual vaginal examination alone is not satisfactory. It is only when the examining finger is passed high up the bowel along the anterior wall of the rectum, and the affected portion of the cervix palpated between this and the opposing hand pressed deeply into the abdomen, that a correct estimation of the actual condition of affairs can be attained. The disease may, of course, have spread downwards and involved the lower portion of the cervix, or the external os may be open. In these circumstances no special difficulties will be encountered. There are two important factors to remember in the diagnosis of this disease.

(1) *The Enlargement of the Cervix.*—The presence of a neoplasm will almost always give rise to some enlargement of a part or the whole of the cervix. This may be evident either as a proliferating growth on the vaginal surface, or as an increase in the actual diameter of the cervix, which may retain, to a certain extent, its natural shape and contour. In the latter case the growth may be limited to one side of the cervix, crowding the cervical canal over to the opposite side, or the change may be a uniform one. The cervix becomes cartilaginously hard, and at the same time gives an impression of solidity which is not found in chronic inflammatory cervicitis. As the growth invades the lymphatic spaces of the parametrium the cervix loses its smooth regularity of outline, and this change will be the better appreciated if the disease is limited to one aspect of the cervix, and the healthy side is available for comparison. A gradual loss of the normal elasticity of the tissues at the side of the uterus is observed as the disease extends; eventually a massive nodularity replaces the thin layer of parametrium, through which, under normal circumstances, the fingers can easily be made to meet on bimanual examination. Inflammatory thickening of this region is not uncommon, and it may be exceedingly difficult to distinguish between these two conditions. The latter is usually recognizable as a flattened fibrous band passing outwards above the roof of the lateral fornix to the pelvic wall. Malignant infiltration gives an impression of greater solidity, with its deepest portion at the side of the cervix gradually fading away as the pelvic wall is approached. When, however, it is remembered that carcinoma may arise in an organ already fixed by inflammatory changes, and that peri-lymphatic fibrosis, to a varying degree, invariably takes place around the advancing columns of cancer cells, it will be appreciated how difficult it may be to give a correct interpretation to the physical signs in a given case. Even with the abdomen open, it may be almost impossible to say how much the changes found are due to inflammatory, how much to cancerous infiltration. Coincident with this lateral spread into the loose pelvic tissues is usually a gradual enlargement and characteristic induration of the vaginal cervix. As the growth approaches the surface the overlying mucous membrane gradually thins and assumes a bluish coloration. It eventually gives way, and an extensive shallow ulcer, with an indurated base, becomes evident.

(2) *Friability and Ulceration.*—By friability is meant a curious brittle and crumbling character of the tissues which ensues as the result of fatty necrosis of the growth. Any roughness of the examining finger or sound will break off small portions of the carcinomatous tissue. This is absolutely diagnostic, as no other disease will give this curious sensation. With this there is usually a certain amount of bleeding, and even somewhat forcible distension of the upper portion of the vagina with a speculum may produce quite an alarming amount of haemorrhage.

When both these factors, induration and friability, are in evidence, a correct opinion will probably soon be arrived at. If, however, only one of them is present, an indurated cervix without loss of its epithelial covering, or a shallow ulcer without an indurated base, the microscope alone can decide. The sharp-cut and somewhat irregular edge, and the indurated bright red or sloughy base, of the typical carcinomatous ulcer of the vaginal cervix forms a distinct and, as a rule, characteristic clinical picture. But an ulcer of the exposed portion of the cervix may prove one of the most difficult of diagnostic problems. Again, a lacerated cervix containing much cicatricial tissue, with everted, red, and easily bleeding mucous membrane and many distended follicles, will often present great difficulty in diagnosis. In some cases a correct opinion will rest entirely on the histological evidence derived from the examination of a wedge of tissue, cut so as to include the growing edge of the lesion.

If, in a patient presenting suspicious symptoms of carcinoma, the lower surface appears healthy and the external os is closed, its interior must be explored. Forcible dilatation of the os by graduated sounds until the finger can be inserted is, perhaps, the most satisfactory method. Much may be learnt by the way the tissues give way before the gradually increasing sizes of dilators. This method, however, is not without its disadvantages, unless the surgeon is prepared to operate without delay if cancer is found. Any mechanical violence of this kind may cause large fissures in the infiltrated cervix and open up the pelvic tissues to pyogenic infection. Thus the technical difficulties of a postponed operation may be increased and the delineation of the actual spread of the growth rendered uncertain.

A safer and almost equally satisfactory method is the insertion of a curette and removal of small portions of tissue for microscopic examination. Here, again, the rough and friable character of the tissue lining either the cervical canal or a carcinomatous cavity communicating with it, and the profuse haemorrhage which follows the removal of the instrument ought to admit of little doubt in the ordinary case.

Operative Treatment.

The operations performed for carcinoma of the cervix must be discussed under the two headings of (*a*) radical, or (*b*) palliative operations.

(*a*) *Radical Operations.*

Even when the abdomen has been opened, the decision as to whether a growth is suitable for removal or not may prove a most difficult question. My own feeling is that, unless an absolutely safe margin of healthy tissue is assured, no cutting operation should be attempted, as such procedures serve no useful purpose. The clearing away of Nature's barrier of conservative fibrosis, and the opening up of tissue already infected with carcinoma tends to hasten the spread of the disease, and to shorten rather than prolong the patient's life.

Cases showing extensive vaginal spread or direct bladder invasion are certainly not suitable. The latter mode of extension is more likely to occur when the disease has begun in the supravaginal cervix, and the heaped-up and oedematous condition of the overlying bladder mucous membrane which results in the earliest stages will be best identified by the use of the cystoscope. The most satisfactory way of examining for extension into the posterior part of the lateral parametrium is by bimanual rectal examination under an anaesthetic. If, at the same time, an assistant pulls the cervix well down into the orifice of the vulva with a volsellum, the earliest change of loss of elasticity will be discovered. At the same time, this test must only be regarded as a measure of the technical difficulties likely to be met with at the operation. A clinically healthy parametrium does not preclude a microscopic invasion of its lymphatics, and, conversely, a previous puerperal parametritis may result in absolute fixation of the uterus.

If, under an anaesthetic, the iliac glands are already palpable, it may be safely assumed that they are markedly enlarged. This is not a point of great practical importance. Glands with no sign of enlargement can be histologically shown to contain carcinoma; whereas, on the other hand, inflammatory masses in this disease are not unusual. In deciding whether a case is suitable for a radical operation or not, every surgeon must be a law unto himself. If he feels that he can cleanly and completely remove the whole of the disease by a procedure of such an extent as will offer the patient a reasonable prospect of recovery, and at the same time allow her later

to take up her position again in the social world, the operation ought to be performed.

Modern vaginal section, which differs from that of ten years ago in that the manipulations are carried out under control of the eye, has an assured position in the surgery of the disease. This operation is being extensively used on the Continent at the present time. Admitting that the removal of the parametrium cannot be so complete, and that the lack of exposure precludes any clearing away of the lymphatic glands on the lateral pelvic wall, still in proper hands it will remain the operation of choice for some cases. In an elderly bronchitic patient, with the disease still clinically confined to the uterine tissue, the shorter time necessary for its performance and the much less shock experienced by the patient are very strong points in its favour. In fat women also this operation presents many advantages. Its ultimate results will not compare very unfavourably with those of the abdominal operation. With these exceptions the abdominal route will, in the great majority of cases, be the operation of choice.

Extent of the Abdominal Operation.

All surgeons will agree that the scope of the operation ought to include the removal of all the uterine tissue, a cuff of the upper third or half of the vagina, and the whole of the parametrial tissue in the broad ligament, and, lower down, at the sides of the cervix. The point under discussion at the present day is how far the operation should further proceed in the cleaning of the lateral pelvic wall and removal of the iliac glands. This certainly prolongs the time of operation considerably, and opens up a dangerous amount of loose tissue to sepsis, which is practically always present. Again, it means that the ureter must be cleaned and isolated for the entire extent of its pelvic course, and although the textbooks show beautiful pictures of it left attached to the peritoneum and intact in its sheath, this is not possible under ordinary circumstances. It has been my practical experience that the close of the operation finds the ureter hanging loose across the pelvis, and that this entails an appreciable risk of post-operative sloughing, and the formation of a ureterovaginal fistula some eight days or more later. Even if this does occur, however, it is not a great price to pay for a complete eradication of carcinoma in this region. In a considerable proportion of these cases the fistula closes of itself and gives rise to no further trouble.

When discussing the pathology of the disease, it was pointed out that glandular infection usually occurred late. Although it is impossible to give accurate figures at the present time, probably in some 80 per cent. of the cases in which the parametrium is clinically free, no microscopic evidence of carcinoma will be found in the iliac glands. Exceptionally large masses of infected iliac and lumbar glands are found where no palpable extension of the disease at the sides of the cervix is appreciable.

Bearing these facts in mind, the rules which I have adopted for my own guidance are as follows:

1. The iliac glands are not removed if, after the abdomen has been opened, they are not found to be enlarged, and the parametrium is clinically healthy.

2. If the patient's general condition is good and the parametrium is clinically infected, whether the iliac glands are enlarged or not, the larger operation is performed.

3. If a large mass of iliac glands is found, the operation is not proceeded with. By this time infection has spread far up the ovarian lymphatics to the lumbar glands, and no operation will cure the patient of her disease.

(Lantern slides were then thrown upon the screen illustrating the different stages of the abdominal operation advocated, and specimens of the disease removed in this way.)

(b) Palliative Operations.

Something can be done, in an advanced case of the fungating type of growth where a large mass fills up the vagina, for a patient suffering from pain, a profuse, purulent vaginal discharge, and haemorrhage. Of the various methods of treatment employed, none are better than a thorough use of the cautery, and the removal of all the exuberant portions of the growth by this means. The diathermic cautery is the best instrument to employ, as the extent of its action is much more under the control of the surgeon than is the case with the actual cautery. The necrosis also, which the former instrument produces, is much less likely to be followed by an intense inflammatory reaction at the periphery of the growth, or by bursts of secondary haemorrhage later as the sloughs separate.

Ligature of arteries is also useful in those cases in which haemorrhage and discharge are the prominent features. If the abdomen has been opened for the exploration of a growth which subsequently proves to be inoperable, it is quite a simple matter to ligature both main internal iliac arteries and one or both groups of ovarian vessels. This will cause a marked improvement in the symptoms for a time, but the results are not sufficiently permanent to justify a laparotomy for this procedure alone.

THE INFLUENCES OF VENEREAL DISEASES.

DELIVERED BEFORE THE LIVERPOOL MEDICAL INSTITUTION, NOVEMBER 20TH, 1913.

BY CHARLES J. MACALISTER, M.D.EDIN., F.R.C.P.LOND.,

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AFTER some general observations on the influence of public opinion on morality, Dr. Macalister continued as follows:

The Contagious Diseases Acts, so far as this country is concerned, had their day, and proved to be worse than useless, and it seems likely that other countries, in which the regulative systems originated and have been more deeply rooted, if they have not already abolished them are likely, following the lead of England, to do so in the near future, and that some really effective means of endeavouring to stamp out the trouble will become adopted among the more advanced civilizations. This is the more likely as the importance and far-reaching effects of both diseases are becoming more and more evident. After these Acts were repealed it became clear that some diminution in the amount of venereal diseases took place, at all events, so far as syphilis was concerned. It was difficult to prove this with reference to the general population, but the evidence derived from the army statistics was very definite, because under the Acts special provision was made for the soldier; and it was significant enough that the parliamentary returns showed that when these regulations were rescinded, after a short temporary rise in the figures, there was a progressive decrease from 275 per 1,000 admissions in 1885 to about 19 per 1,000 in 1900. The soldier since those days has been educated and warned concerning the dangers attributable to venereal diseases, as he has been with reference to the evils connected with drink, with the result that he is in every sense a more moral, a more temperate, and a much more respectable member of society now than he was then. With reference to the general population, what can we say? Only this, that whatever improvement took place after the repeal of the Acts—and there probably was a good deal—the amount of syphilis and of its results continues to be simply appalling. In the light of modern knowledge it seems evident that no substantial decrease in the disease is at present occurring, but that it is probable that an alteration has taken place in its type; and, furthermore, it is certain that a growing number of diseases which were not formerly considered to be syphilitic in origin—or, at all events, were only suspected to be so—are now definitely known to be due to that infection. The literature of syphilis and our experiences of it in the hospitals amply testify to the widening of the importance of this disease, and to the serious part which it is playing as a destroyer of the general health of the people, as an enfeebler of domestic health and wealth, leading as it does to chronic invalidism or death of parents when their children are still young, and damaging the childhood of the nation to a degree which is only beginning to be fully recognized. There is no possibility of arriving at accurate figures in this country, owing to the way in which the disease is hedged round, but we can gather some estimate of its extent from figures furnished

in New York in response to a request for a report from the Board of Health of that city for the number of cases treated by each physician during the year 1912. Dr. Hermann M. Biggs (General Medical Officer to the Department of Health of New York), in a paper read before the New York Academy of Medicine on February 20th of this year,[1] stated that down to the time of writing only 1,500 private physicians out of more than 8,000 in the city (cases treated in public hospitals and dispensaries were not included in the statistics), had responded to this request, and they had reported 13,348 cases of syphilis, 24,980 of gonorrhoea, and 4,331 of chancroid, making a total of 42,659 cases, but he says these figures only indicate a small proportion of the cases actually under the care of the physicians of the city during the year, and that it is probable that a large percentage of them were in the active infectious stage. He further says: "I think that 200,000 would be much nearer the real number of cases developing in the city during 1912." Roughly speaking, about 30 per cent. of these would be syphilis, which means that in a year there would be about 60,000 cases of that disease. If in our English towns anything like the same proportion of syphilitics in the acute infectious stages are present in a year—and let it be noted that in the discussion of this subject at the Royal Society of Medicine in 1912[2] it was estimated by Dr. Douglas White that 40,000 new cases of syphilis occur in London every year, and that in the United Kingdom there is an annual incidence of about 130,000 such cases—if, I say, there is this large number of new cases in a year, it may well be imagined that there must be a far larger proportion of cases representing the other stages of the disease, notwithstanding the fact that a considerable number of the infected get treated more or less efficiently. Unfortunately we have plenty of evidence of this in the systemic and organic diseases of known syphilitic origin which are so frequently under our care, and now, following the work of Schaudinn (who in 1905 identified the *Spirochaeta pallida*), Wassermann, Noguchi,[3] and a number of clinical workers, who have made systematic observations by means of the Wassermann reaction, proofs are forthcoming that there are occult forms of syphilis, that the results of the infection are far more widespread than was imagined, and that a considerable number of diseases which were not previously known to be associated with syphilis, are undoubtedly due to it. Take mental defectives and epileptics, for instance, a class of cases which constitute the very foundations for the arguments which the eugenists use for impressing their views about proper mating. The percentages of these cases, which from clinical data were definitely attributable to syphilis before the days of the Wassermann reaction, varied from 1 to 17 per cent. A paper on the "Rôle of Syphilis in Mental Deficiency and Epilepsy"[4] in the current number of the *Journal of Mental Science* contains interesting information concerning this matter, and the conclusions of the writers are that in over 50 per cent. of their cases of mental deficiency syphilis was shown to be a causative factor, and that it is "the main causative factor in the production of that type of epilepsy which manifests itself at early ages." It is further noted by these writers that an investigation of the families of defective children in whom the reaction had proved to be negative showed "that syphilis is associated with a still higher percentage of cases than is ascertained by the examination of the patients alone," and that of all the cases of mental defect and epilepsy giving a positive reaction a very small percentage presented "external evidence of congenital syphilis, even where the family history and the examination of other members of the family afford practically conclusive evidence of the existence of syphilitic infection."

These facts concerning the relationships between mental defect and syphilis only serve to confirm the findings of many other observers previously working on similar lines—for instance, Mott, who has written extensively on the subject, H. R. Dean,[5] Muir, Browning, and Mackenzie,[6] etc.; and there are a number of data which indicate that other types of disease have the same origin—congenital heart disease, for instance (Ferguson Watson); a number of gynaecological conditions to the causation of which no suspicion of syphilis was formerly attributed (Louise McIlroy, H. Ferguson Watson, and J. Hamilton McIlroy.[7] Reuben[8] has pointed out the high percentage of diplegias which present positive Wassermann reactions, and similar results have been obtained by J. Leslie Gordon[9] in a number of the plegic types of paralysis. Quite recently Dr. Frederick Wilson, at my suggestion, examined half a dozen pulmonary cases the pathogeny of which was doubtful at the Royal Liverpool Country Hospital for Children at Heswall, and obtained positive results in two of them, a fact which may possibly help, if substantiated by further observations now being prosecuted, to differentiate a type presenting fairly definite clinical characteristics, from fibroid bronchiectasis and from tubercle. Finally comes the work of Noguchi,[10] demonstrating the presence of the parasite in the brains of patients suffering from general paralysis, which I suppose accounts for more deaths in asylums than any other single class of disease. It seems quite probable that the pathology of a number of other diseases will be cleared up in this way, and that the statement of Andral,[11] quoted by Lancereaux in his treatise on syphilis, "La syphilis devrait servir de clef a toute la pathologie," was nearer the truth than we imagined.

If these facts are true of syphilis, which has always been regarded as a serious and transmissible disease, difficult to cure, and apt to be followed by organic maladies in the person who acquires it, what of gonorrhoea, which not long ago was regarded as a simple trouble, easily got rid of, spoken of in a light-hearted manner by sufferer and doctor alike, and considered well so soon as its external manifestations had disappeared? What kinds of facts have been unearthed concerning its effects upon family life and family health? When I was a student, Professor Chiene at his clinics year after year preached the doctrine that gonorrhoea was not a simple disease. He taught the importance of treating it seriously and of curing it absolutely, owing especially to its tendency to cause urethral stricture. It was the future of the person who had acquired it that was mainly referred to in those days. I remember so well how he used to point to the texts and mottoes which at that time adorned the walls of the wards, and say, "Gentlemen, if I had my way, in place of these mottoes I would have written up, 'Gonorrhoea is not a simple disease,' 'Once a stricture always a stricture,' and other maxims to the same effect."

Lessons of this kind, you will observe, stuck in the memory of the student, and they were to some extent prophetic, insomuch that the disease has turned out to be anything but simple and benign in its remote effects, whatever may be said of its more immediate ones. The writings on the wall might now be well extended to include results to other people as well as to the primary sufferers. Since the discovery of the gonococcus by Neisser (1879), the importance of gonorrhoea has become established: its tendency to lurk unseen and unregarded in the prostate, remaining latent there, it may be, for prolonged periods, even for years, to be transmitted later on to wife and through her to the child, has placed an entirely new complexion on its seriousness. Indeed it constitutes one of the greatest dangers to which womanhood is subjected when her marriage takes place. It is unnecessary to dilate upon the resultant troubles which so frequently necessitate removal of the ovaries and other operative measures, or which involve chronic ill-health of some kind to the woman and it may be blindness in the child; all of these are well enough known.

As a profession, what are we to do with reference to this disease and to syphilis? Are we to continue to regard the *Spirochaeta pallida* and the gonococcus as being favoured among organisms, as sacred germs which are to be spoken of with bated breath, the probability of their existence being almost apologetically inquired into lest we hurt the susceptibilities of their hosts? Are we to guard them in their strongholds from the public knowledge and from the knowledge of those who innocently become infected by them, and go on concealing their identity? Surely the time has come for plainness of speech and for using the power which we possess to influence public opinion and to sensitize the public conscience concerning a matter which is of the greatest moment to the domestic health and happiness and to the natino generally. Endless measures have been taken to stay the progress of tuberculosis in this country, and large sums

are levied in taxes to ameliorate it, as well as other infections and contagious diseases, which are isolated and treated at great expense to the people. The protection of child life and the provision of maternity benefits are other measures which have economic purposes, and yet these venereal scourges are allowed to go on crippling the workers by producing all kinds of secondary and tertiary diseases, not only in those who primarily acquire them, but in their wives and children and their children's children. Syphilis causes the death of unnumbered children both before and after birth. Our lunatic asylums, institutions for defective children, epileptic establishments, homes for incurables, parochial and general hospitals, children's and special hospitals, all contain numbers of people suffering from the results of syphilitic infections, not to speak of the private asylums and retreats and the cases under the care of private practitioners. The country is teeming with diseased people, suffering from the consequences of these scourges, many of whom have to be maintained at the public expense or at the expense of the charitable, and we as a profession must surely raise our voices and try to find a means for staying them. Syphilis has an enormous bearing upon the eugenics question. It is, in my opinion, the greatest of the factors which bring about mental and other serious defects in children, and I am certain that any rational scheme of eugenics must not only take into account the prevention of the marriage of defectives, but must mainly involve a striking at the root of the whole matter by tackling the syphilis question. This duty should not be undertaken by any small coterie of men banded together as a society, but by the whole medical profession, which, if it would seriously undertake it and lend the weight of its influence in educating the people, could do much to stamp out the disease and its results.

Addison says, "Half the misery of human life might be extinguished would men alleviate the general curse they lie under by mutual offices of compassion, benevolence, and humanity," and I do not think we could apply this wise principle in a better cause than by undertaking a professional crusade against these infections.

Diseases which are brought about by the protozoal parasites are often detrimental to human interests in as much that they interfere with trade and commerce, which cannot be carried out successfully unless the workers are protected so far as their healths and lives are concerned. A high sick-rate or a high mortality at once cripples industry, and this, added to humanitarian motives, accounts for the energy with which our merchants and our Governments have supported the schools of tropical medicine, and have provided funds for many expeditions to investigate such diseases as malaria and sleeping sickness, and yellow fever. Malaria has been diminished by attacking the breeding grounds of the mosquitos which carry it; so have yellow fever and other diseases. In connexion with sleeping sickness I note that it has recently been proposed that an attack should be made upon the wild animals which harbour the trypanosome, and from which the tsetse fly conveys it to man.

These are examples of the ways in which the roots of the troubles have been or may be attacked, in the one case by destroying the carriers, and in the other by slaughtering the primary hosts. I am afraid that neither of these means would be available in the case of the spirochaete, although, seeing that many advanced eugenists advocate a lethal chamber for the defectives, I fail to see why they should not equally start at the beginning, and at all events suggest segregation of the original hosts or carriers. The argument is just as sound in the one case as in the other, and if it could be carried out thoroughly would no doubt be highly successful and morally beneficial. The point I want to make is that there is just as much reason why the community and the State should attack this parasitical protozoon, the spirochaete, which is doing so much damage to us in this country, as there is for their taking steps to eradicate those species of protozoal organisms which cause other diseases in other countries; more so, indeed, because its transmission involves injury to the healths of succeeding generations. The question is one of economics as well as of humanity. There is a parallelism between the two cases, and we shall have to endeavour to organize some scheme for dealing with this parasite, just as schemes have been successfully inaugurated and carried out for dealing with those which cause the tropical diseases. There is not the slightest use in thinking about preventive legislation on the lines of the Contagious Diseases Acts or any modification of them. It is beyond dispute that, added to the immorality of the recognition of prostitution by any State—a policy which would lower the tone of the country, and is in other countries one of the greatest promoters of the white slave traffic of which we hear so much—such methods are useless and eminently harmful. In the light of present knowledge common sense shows that they would mean nothing more nor less than the legal maintenance of a series of cultures of the organisms of both types of disease. It is impossible to clear the gonococcus from a prostitute by a few weeks of treatment, or to rid her of infective syphilis in the course of months. Even if this could be done it would be only rational to segregate her for observation every day that she plys her vocation. If the Contagious Diseases Acts were of the slightest utility it would be only reasonable to apply them to all carriers and hosts, male and female alike. Altogether the system is absolutely unsound, and had better be left alone.

What about notification? I am afraid that great difficulties surround this proposition, although I am open to the conviction that they might be overcome. Direct notification might in some cases lead to concealment of the diseases, although if it were understood that secrecy would be maintained on the part of the health authorities, provided no breach of the law was committed, a good deal of the objection would be removed, and such a measure would certainly have an inhibitive effect upon the infected, to whatever class they might belong. If the objections to such a scheme are insurmountable, it is possible that some form of anonymous reporting and registration of the cases might be devised, and that through the medical practitioner in attendance the patient might be instructed by the health authorities as to the contagious nature of his or her disease, and warned concerning the penalties, as in the former plan. The cases would, of course, have to be certified as being free from contagion when they became cured. It would have to be enacted in any scheme of notification that the treatment of these contagious diseases is not to be undertaken by unqualified persons.

My belief is that the main way in which the root of the trouble should be attacked is, in the first instance, through society itself by means of education, and through plain speaking on the part of the medical profession. The necessity for some form of notification, and for penalties to those who break the law, by infecting or risking the infection of others, will thus become evident to the public, and public opinion being influenced and ripened, protection will be demanded. There is no use in trusting to moral training or to appeals to honour alone in this matter. These measures have certainly accomplished much in the past, and are still doing a great deal of good, but they only appeal to the best types of mind, and in spite of them the diseases go on and on.

I am convinced that in the long run nothing short of firm measures undertaken by the State for the inhibition of the infected will be of the slightest practical avail. It is a duty required of the State for the protection and general welfare of society, for the protection of child life, for the diminution of the vast numbers of the crippled and defective and lunatic, for the safeguarding of the health of the workers, and for the preservation of domestic health and happiness, that these diseases should be seriously taken in hand and their propagators inhibited, and if necessary penalized.

With this ultimate object in view, let us teach the people the nature of these infections—how the organisms of syphilis invade the whole body and cannot always be eradicated. Teach them also the dangers to be associated with the gonococcus, and make them responsible for their acts if they transmit the diseases caused by either of these organisms to other people. Get society to understand what the prevalence of these infectious cases means in the way of necessitating the maintenance by the public of expensive institutions for the retention and treatment of crippled brains and nervous systems, and all the other degenerative and diseased conditions which result from them. Let us break a gap in the hedge of secrecy which surrounds the whole question and be done with the

toleration of conditions which, as some author has put it, cause almost as much venereal disease within the bonds of matrimony as exists outside them—a statement which is probably true if the remote effects of the diseases are taken into account.

Think of the inconsistence of our laws which enable the working man or woman to get compensation for a trivial and temporary injury from an employer, who is as often as not only technically responsible for it; or which do not allow one with impunity to resent the impudence of a schoolboy by whipping him, and yet permits a person to marry who may by so doing damage another so seriously as to bring about lifelong suffering or mutilation, or even death, and perhaps produce a degenerative or defective progeny. Think of the criminality of this, with no law to prevent it, or to punish it! The crime, if the perpetrator has a knowledge of the danger, is almost comparable with that of the poisoner who, in cold-blooded secrecy, under the guise of friendship and affection, by his action leads to the disease or death of his victim. The thing is monstrous, and we as a profession should surely take the initiative in the way of making recommendations for educating every class concerning these diseases and their results, and by insisting upon the principle that freedom from transmissible disease should be a legal condition for marriage. Therein will lie the basis of true eugenics, and if this knowledge is ground into the people, and understood by them, the day may come, and come shortly, when public opinion will, for the protection of the innocent, and for the carrying out of eugenic principles, not only tolerate, but welcome, the requirement by law of certificates of health, indicating that "no just impediment" exists before matrimony is entered into. Then it will happen that if a person marries, knowingly having any of these impediments, and brings about any of the disastrous results which I have referred to, there will be no excuse for the remorse which he or she must suffer in consequence of having disregarded or evaded measures the purports of which were both plain and just.

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THE WORK OF THE CAMBRIDGE RESEARCH HOSPITAL.

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THE Cambridge Research Hospital for the study of chronic diseases was opened in 1906 in a small private house where the work was carried on for some time. As the research progressed it became evident that the hospital would become a permanent institution, and, owing to the inconvenience of the house and its distance from suitable laboratories, it was decided to build the present hospital; this was opened in May, 1912. The total cost of the hospital was £2,752. This sum includes the freehold site, research laboratories, fitting up of hospital and laboratories, an electric installation, petrol gas plant, motor house, sinking of well, laying out garden and drainage system.

The Research Hospital since its commencement has received the most cordial support of the medical profession, and the list of annual subscriptions shows a large proportion (60 per cent.) of medical men among the subscribers. Not only have they helped financially, but have most willingly given assistance in the research by recording cases and allowing free access to their patients in order that observations may be made on their condition. Several thousand patients have thus been examined, and various observations recorded.

Since the hospital has been opened the following medical graduates have assisted in the research: C. Ackerman, H. Ackroyd, F. J. Allen, L. Baly, L. Bonnerjee, J. Barnes Burt, F. P. Franklin-Evans, M. P. Fitzgerald, F. Gayner, P. Hall-Smith, J. Lambert, J. Lindsay, E. McCall, W. J. Mallory, J. R. Marrack, E. H. Morris, G. W. Nicholson, W. M. Penny, C. Ponder, T. S. P. Strangeways, A. W. Wakefield, and R. I. Whiteman.

The literature in connexion with arthritic disease is enormous; this has been carefully read and abstracted, and the following paper has been published in the *Bulletin* of the Committee for Special Diseases. The other references in this paper are to this *Bulletin* unless otherwise stated:

A Résumé of Some of the More Important Literature on the Etiology and Symptoms of Rheumatoid Arthritis. (Vol. i, No. 1, p. 4.)

The disease has also been studied from the historical point of view, and through the kindness of the Egyptian Government a number of valuable specimens of diseased joints showing arthritis in Egyptians from the third dynasty onwards has been received; these have been studied, and the following reports have been made on them:

Report on the Pathological Changes found in the Bones of Ancient Egyptians.

Report on the Second Consignment of Ancient Egyptian Bones.

Systematic clinical observations are being made on the following points in connexion with arthritic disease:

1. *An Inquiry into the Etiology, Family History, and History of Onset in Cases of Arthritis.*—The following reports have been published:

A Report on Some Points in the Etiology and Onset of 200 Cases of Rheumatoid Arthritis. (Vol. i, No. 4, p. 55.)

A Report on Some Points in the Etiology and Onset of 195 Cases of Rheumatoid Arthritis. (Vol. ii, No. 3, p. 83.)

An Inquiry into Some Points in the Family and Clinical History of 125 Cases of Gout. (Vol. ii, No. 3, p. 95.)

2. *The Clinical Examination of Arthritic Patients.*—This forms an important part of the work. Several thousand patients have been examined, and these clinical observations combined with pathological studies have thrown much light on the disease. A report on this subject will appear later. The following report has been issued:

The Arterial Blood Pressures in Arthritic Disease. (Vol. ii, No. 2, p. 11.)

3. *A Series of Observations on the Symptoms and Physical Signs present in Arthritic Patients.*—These observations are of great interest, and explain much, but they also show that the most careful clinical examination unchecked by prolonged study of joints in the *post-mortem* room will in some cases result in misleading or absolutely fallacious conclusions. Publication of the studies has been intentionally delayed, but the following reports have appeared:

Observations on the Temperature and Pulse-rate in 95 Cases of Rheumatoid Arthritis. (Vol. iii, No. 3, p. 75.)

Examination of the Urine in 90 Cases of Rheumatoid Arthritis in Women. (Vol. iii, No. 4, p. 97.)

The Incidence of a History of Vaginal Discharge in 115 Cases of Rheumatoid Arthritis in Women. (Vol. iii, No. 4, p. 92.)

4. *The Prognosis in Cases of Arthritis*—This is being studied by keeping in touch with patients over long periods. The studies show that the progress of the disease is spontaneously arrested in a large number of cases, and that although this event may be long delayed, it may be hoped for even in the most progressive form of the disease. It does not follow, however, that when the arthritis is arrested the patients' deformity will become less or that the use of their limbs will return. On the other hand, both the deformity and the crippling may increase, although the morbid processes in the joints have ceased to progress. This is explained by the fact that limitation of movement or disuse of the joint has led to the formation of habits of indolence, distaste for movement, and loss of power from disuse, so that unless the patients are aroused in some way to re-educate their muscles the condition of crippling may persist; if, however, for any reason they begin to use the

joints even slightly improvement may be expected to take place, and it is really wonderful what a degree of strength and utility can be restored to a completely disorganized and dislocated joint. This explains at least some of the good results claimed for various forms of treatment. The patient, owing to the hopeful interest taken in his joints by his medical or other attendant, begins to take a hopeful view of them himself, and to endeavour to use them himself, with the result that greater strength and freer movements are obtained; this is followed by still greater efforts, and therefore greater improvement. There seems to be a strong mental factor in a large number of chronic cases, and given a keen medical attendant with a firm belief in his "cure" he will obtain improvement in some cases that have failed to respond to other methods of treatment or to the same method in less keen hands.

5. *Observations on the Results Obtained by Different Forms of Treatment.*—Various remedies have been put forward from time to time either as specific cures or means for the alleviation of the various forms of the disease. Among the forms of treatment that have been studied at the Research Hospital or elsewhere the following are included:

By *drugs:* for example—Guaiacol carbonate, sodium salicylate, aspirin, arsenic, potassium iodide, etc.
By *external application:* Blistering, ointments, liniments, poultices, essential oils, mud (fango).
By *electricity:* Cataphoresis, vibration, galvanic current.
By *injections:* Vaccines, anti-serums, horse serum, fibrolysin, etc.
By *appliances:* Splints, bandages, extension, etc.
By *waters:* Bath, Buxton, Harrogate, Strathpeffer, Wiesbaden, Carlsbad, etc.
By *radiant heat.*
By *massage.*
By *radium.*
By *patent medicines.*
By *passive congestion.*
By *removal of septic foci.*
By *removal of fluid from joints.*
By *operative measures.*

The following papers have been published:

The Treatment of Rheumatoid Arthritis by Bier's Method of Passive Congestion. (Vol. i, No. 5, p. 79.)
The Relation of Infective Foci to Rheumatoid Arthritis. (Vol. ii, No. 3, p. 106.)

It will be noticed that although many observations have been made on the treatment of the disease, little has been published. The reason for this is that our observations do not entirely agree with the claims put forward in their favour by many authorities, but we are anxious not to throw doubt on their efficiency except on absolutely sure grounds.

The facts referred to under prognosis must be emphasized with regard to treatment. It is to be regretted that in connexion with every new form of treatment that comes up, premature reports, claiming good results in the treatment of arthritis and other chronic diseases, should be issued. These reports are often based on the treatment of a few cases, and make little or no reference to failures and no allowance for the likely response of a chronic invalid to a "new thing."

Our studies show definitely that the treatment of arthritis should be based on a knowledge of what has occurred and what is occurring in the affected joint, and each joint should be examined and treated from this standpoint. In this way only can rational treatment be carried out. The general condition of the patient must, of course, be studied at the same time, but the routine exhibition of drugs and use of other remedies—chemical, thermal, physical, etc.—is to be deprecated. The changes in the joints must be recognized from previous dissection and study of *post-mortem* specimens similarly affected; and with the knowledge thus gained the various changes must be dealt with.

With regard to the more purely scientific side of our researches, work is being carried on along the following lines.

6. *The Diagnosis of Various Forms of Arthritis.*—This study was undertaken in order if possible to arrive at some conclusion as to the cause of various forms of arthritis, and much time has been spent in testing the value of certain methods of diagnosis, for example, the examination of serum. Several of these in our hands have proved valueless, but studies along these lines are still being carried on. The following reports have been published:

The Ophthalmic Reaction. Some observations on 10,000 collected cases. (Vol. ii, No. 4, p. 117.)
The Conjunctival Reaction to Tuberculin in Arthritic Diseases. (Vol. ii, No. 4, p. 125.)
An Inquiry into the Value of the Opsonic Index. (Vol. i, No. 8, p. 115.)

7. *A Study of the X-Ray Changes found in Arthritic Joints.*—An exhaustive research has been carried out, with the result that it is now possible for us to recognize many changes in the diseased joints of the living patient with great accuracy. X-ray photographs were taken of diseased joints obtained from the *post-mortem* room; the joints were then dissected with the photograph before the observer. The photographs were then compared with photographs of arthritic joints taken from a large number of patients. The following reports on this research have been published;

A Study of Joints from Rheumatoid Arthritis and Chronic Gout by means of Skiagrams, and Dissection of the Affected Parts. (Vol. i, No. 6, p. 87.)
A Study of Joints from Cases of Rheumatoid Arthritis and Chronic Gout by means of Skiagrams, and Dissection of the Affected Parts. (Vol. iii, No. 5, p. 103.)
A Study of Skiagrams of the Hands of 100 Cases of so-called Rheumatoid Arthritis and Chronic Gout. (Vol. i, No. 9, p. 145.)
A Study of Skiagrams from 18 Cases of Rheumatoid Arthritis and 3 of Chronic Gout on which the Purin Metabolism has been Studied. (Vol. iii, No. 2, p. 67.)

8. *Research in the Post-mortem Room.*—This has been actively carried on and examination of over 2,000 joints has been made. These studies have led to most important conclusions and thrown new light on the subject. A museum showing the changes which occur in morbid joints has been arranged, and the specimens form a collection which is absolutely unique; practically every change which is known to occur in arthritic joints is illustrated, and many changes that have not been previously observed are shown. Some of the specimens were shown at the meeting of the British Medical Association in Birmingham in 1911.

9. *A Study of the Morbid Anatomy of the Joints and Organs from Cases of Arthritis.*—This is a natural sequence to the study of cases in the *post-mortem* room: a more thorough examination can be made by dissection of the preserved specimens in the laboratory. A full report is being prepared on this side of our work. This will show that the present description of the morbid anatomy of the disease needs revision.

10. *A Study of the Histological Changes found in Rheumatoid Arthritis.*—A study of the microscopic changes seen in the tissues of diseased joints and also of the organs from arthritic cases is being made. The following reports have been issued:

The Morbid Histology of Some Cases of Rheumatoid Arthritis. (Vol. i, No. 7, p. 103.)
A Report of the Science Committee of the British Medical Association on the Histological Changes found in Chronic Arthritis.

11. *Studies of the Spinal Cord in Arthritis.*—Much stress has been laid by various observers on changes reported in the spinal cord in arthritic diseases, and important conclusions were drawn from these reports. A microscopic study of spinal cord from arthritic diseases has been made, and the following paper is in the press:

The Spinal Cord and Posterior Ganglia in Rheumatoid Arthritis. (Vol. iv, No. 4.)

12. *A Study of Hypertrophic Pulmonary Osteo-arthropathy.*—A study of a case of this rare and interesting condition has been made, and a report published:

Report on a Case of Hypertrophic Pulmonary Osteo-arthropathy. (Vol. ii, No. 5, p. 131.)

13. *Bacteriological Investigations.*—These have been made on the blood, the joint fluids, and various secretions. In the majority of cases these examinations have been found negative, probably because the methods at present available are not suitable. From a certain number of cases, however, organisms have been isolated which may or may not have been the cause of the arthritis. Owing to this uncertainty it would be most unwise to publish details of these experiments before sufficient evidence has been obtained

to show whether these organisms are or are not related to the disease. The following report has been published:

Report on the Clinical and Bacteriological Examination of the Vagina in 60 Cases of Rheumatoid Arthritis. (Vol. iii, No. 4, p. 83.)

14. *Chemical Research.*—An important and tedious research is being carried out in the Research Hospital on the metabolism of arthritic patients. These studies are most exacting to the observer, to the nurses, and to the patients, and could not be possibly carried out without the aid of such an institution. The following reports have been published:

Observations on the Purin Metabolism. (Vol. ii, No. 6, p. 146.)
Observations on the Uric Acid Excretions in One Normal Person and in 4 Cases of Rheumatoid Arthritis. (Vol. iii, No. 2, p. 87.)
Observations on the Uric Acid Excretion in Gout and Rheumatoid Arthritis. (Vol. iii, No. 2, p. 17.)
Observations on the Calcium Metabolism and Uric Acid Excretion in Rheumatoid Arthritis. (Vol. iv, No. 3, p. 33. In the press.)

15. *The Effect of Climate and Soil on Disease Generally, and So-called Rheumatoid Arthritis Particularly.*—It is believed by the medical pro ion and the public that residence in certain districts is harmful to those suffering from certain diseases; while there is some evidence that this is true, it is by no means sure, and it is important that the question should be settled if possible; for, by the advice of their doctor, patients are constantly removing from one locality to another reputedly more suitable for their condition, at great personal loss and hardship to their family. In connexion with our studies a geographical survey has been organized, in order, if possible, to determine the relationship, if any, of climate, geological formation, vegetation, and allied factors to certain diseases.

The study includes the following factors:

(*a*) Geographical situation.
(*b*) Geological formation; for example, limestone, clay, sand and soil generally.
(*c*) Vegetation; for example, trees—pine, oak, elm—thickly or sparsely wooded; cultivation, pasture, crops, moorland.
(*d*) Altitude.
(*e*) Rainfall.
(*f*) Sunshine.
(*g*) Temperature.
(*h*) Wind.
(*i*) Water supply—hard, soft.
(*j*) Situation; for example, mountain, fen, moorland, sea coast, inland.

Another line of research which the above studies have shown to be urgently needed and which at present our funds will not allow us to undertake is operative treatment of arthritic joints. In many patients the changes in the joints can only be remedied by operation, and there is great probability that the pain which is present in many cases of arthritis, and for which no treatment is of any avail, might be entirely removed by operation. For these and other reasons it has been decided to build an operating theatre as soon as funds can be obtained. This urgently needed line of work will be begun the moment the theatre is built.

The following table gives details of our annual expenditure since the opening of the hospital.

	Hospital.	Research.	Bulletin, etc.	Total.	Annual Subscriptions.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1906 ...	336 16 8	189 16 2	14 2 6	540 15 4	—
1907 ...	256 2 8	158 5 10	91 11 3	506 0 2	—
1908 ...	177 4 11	141 18 2	23 2 9	510 12 7	—
1909 ...	192 8 6	197 10 7	106 7 0	496 16 1	192 19 0
1910 ...	250 10 10	173 6 0	19 3 2	526 0 0	206 16 6
1911 ...	102 12 9	82 2 7	61 18 6	246 13 10	192 18 0
1912 ...	395 14 1	134 14 4	29 19 0	560 7 5	212 0 3

It will be seen that the annual expenditure averages £500 yearly, a small sum compared with the sums spent by many other research committees, especially if we take into consideration the additional expense involved by the up-keep of the hospital and nursing staff, and the feeding and treatment of patients. Our income from annual subscriptions averages £200 yearly.

Medical men are beginning to make special journeys to Cambridge in order to see the hospital and something of our work and methods. I extend a cordial invitation to any medical man who is interested in the subject to come and see the hospital, and will do my best to make his visit pleasant and interesting. I should, however, be glad if any intending visi or would make an appointment before coming to the hospital.

THE SIGNIFICANCE OF PHLEBOLITHS.

BY

J. HALL-EDWARDS, L.R.C.P., F.R.S.EDIN.,

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SOME few months back I was asked by an insurance company to make an *x*-ray examination of the kidneys, ureters, and bladder of a gentleman who had applied to them for a policy upon his life.

It transpired that in the course of an examination undertaken by the medical referee to the insurance company the patient had stated that two or three years previously he had had an attack of abdominal pain which lasted for several hours. In his description of the attack he related all the classical symptoms usually attributed to the passage of a calculus from the kidney to the bladder, but as far as he w s aware no stone had passed through the urethra, and since the attack he had enjoyed perfect health and had experienced no further trouble.

The patient, a well-built man, without an ounce of superfluous fat, had at my instructions been prepared for the examination by the taking of an aperient on the night previous, and the administration of an enema on the morning of the examination. The radiographs were excellent, and on careful examination there was no shadow to indicate the presence of a calculus. The radiograph of the pelvis showed a line of phleboliths in the usual position, namely, half an inch above the upper edge of the pubis on the left side. It was in the left flank that the patient experienced the afore-mentioned attack of pain. On the right side, in a corresponding position, there were two small and similar shadows.

I was asked by the insurance company to furnish them with a report as to the man's fitness. This I avoided, but I furnished them with a copy of the radiograph together with a description of it, and suggested that they should send it to their medical referee, who was a specialist in diseases of the urinary tract. Whether or not the life was accepted as a first-class one I do not know, but the case deeply interested and impressed me, and was the indirect cause of my writing this article.

During the last ten years I have radiographed hundreds of cases in which the presence of calculi was suspected, and, whilst in many instances no stone has been found, in a large number phleboliths were clearly defined in the pelvis, and were always most numerous on the side in which the patient complained of pain or discomfort.

I have recently been greatly impressed by the large number of cases which have been sent to me, in which all the classical symptoms of stone were present yet in which no shadow was found, with the exception of phleboliths. In some of these cases the phlebolith shadows were only found on the side in which pain had be n experienced, and in all cases where phleboliths were present they were always more abundant on the affected side than upon the opposite one.

I may say that all the cases I refer to were specially sent for examination as having symptoms which at least pointed to the possibility of a calculus, and that in my experience of these cases, both in hospital and private practice, lasting over a period of six years, the percentage of stones found varies between 17 and 20.

In *Quain's Dictionary of Medicine*, 1885 edition, the following sentence occurs: "Phleboliths are harmless, and they require no treatment." Whether this be true or no I am not in a position to say, but there cannot be the slightest doubt that phleboliths are of far greater significance than is usually admitted.

What are phleboliths? Makins in *Heath's Dictionary of Practical Surgery* says:

A phlebolith is a calcareous concretion developed within a vein. Phleboliths are the result of calcareous degeneration of laminated thrombi; they are met with chiefly in the veins of the lower extremity and pelvis, most commonly lying loose in ampullae, behind the valves. They are usually rounded or oval in shape, and are constituted of phosphate of lime, with 20 per cent. of protein matter, and a little sulphate of lime and potash. (Frankland.)

During the last eighteen years I have taken, or superintended the taking of, over 20,000 radiographs, and so far have failed to obtain the image of a phlebolith outside the pelvic area; whilst in a number of instances I have detected the presence of calcareous deposits in the walls of the arteries in all parts of the body.

Phleboliths are rarely seen in patients under 40 years of age, but above that age they are said to be fairly common. Hurry Fenwick examined 30 bodies by means of the *x* rays in the *post-mortem* room, and found phleboliths in seven instances, four being males and three females. The ages of the patients varied between 43 and 47 years. The phleboliths were all found in the plexus of veins running along the side walls of the bladder, uterus, or rectum. None of these phlebolithic patients had had any signs of calculus during their lifetime. He does not state, however, whether they were picked at random, or whether there were any signs of renal disease. He says:

Phlebolithic markings in the pelvic area are of frequent occurrence in cases with renal pain. There does not seem to be any correspondence between systemic disease, unless it be atheroma, and phlebolithic change; but there is no doubt in my mind that the varied inflammatory processes incidental to disease of the sexual organs in both sexes influence very materially the production of phlebolithic concretions.

In order to ascertain what amount of significance is given to the presence of phleboliths, I interviewed the pathologist of a large general hospital, who informed me that although he had performed over a thousand *post-mortem* examinations, his attention had so far never been drawn to their presence. I next talked the matter over with Professor Peter Thompson, who holds the Chair of Anatomy at the University of Birmingham. He was much interested in the subject, and promised to ask his students to look out for phleboliths in the dissecting-room. Within a week, he telephoned to me that they had been found in one of his subjects. On my visiting the dissecting-room I was shown the bladder and sexual organs of a man, aged 60, in which numerous phleboliths were present; these were chiefly found on the side walls of the bladder, and were much more numerous on the right side than on the left. There could also be felt numerous concretions in the seminal vesicles. I borrowed the specimen and submitted it to an *x*-ray examination. In the resulting radiograph all the concretions which could be felt were visible; the images of the phleboliths, however, were much more strongly marked and clearly defined than those of the concretions in the seminal vesicles. In the case of the latter I doubt whether a visible image would have been obtained in a radiograph taken under ordinary conditions through the living body.

In all cases in which phlebolithic images are found it must be assumed that a phlebitis has been present at some period of the patient's life, and that a dilated condition of the veins still exists. The significance of their presence, therefore, must vary inversely with the patient's age. In young subjects (under 40 years of age) their presence indicates early degenerative changes of a degree of importance nearly approaching that ascribed to the presence of atheroma.

There is plenty of evidence to prove that phleboliths do not exist in perfectly healthy and normal individuals—at any rate, until advanced age is reached—whilst there is little or no proof that they are the natural result of senility.

Granting that the latter assumption were proved, the early appearance of phleboliths should be of as great significance as if (as I venture to think) they are direct evidence of existing or pre-existing disease.

I submit this short and imperfect article simply in the spirit of inquiry, in the hope that others with greater experience may give us their views upon an interesting subject.

APPENDICECTOMY IN GENERAL PRACTICE.

BY

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EBBW VALE.

IN the JOURNAL for November 15th Dr. Robert Hutchison, in a letter headed "The Craze for Appendicectomy," asks for the testimony of the family doctor as to the condition of patients after the surgeon has done with them. To that request the following account of my own experiences in this connexion is a reply.

I have been in general practice in a small way for over seventeen years, yet can give little information owing to the small number of patients of mine that have required operation. Hospital surgeons are called in when the *family* doctor believes operation is necessary (and sometimes when he is not)—that is to say, in the worst cases; but they are hardly ever called in to see cases that do perfectly well without their assistance. Hence there is a considerable class of cases of appendicitis which they never see, and as to the treatment of which they have no experience. This leads them, I think, to take an erroneous view of the disease as a whole, for they seem to imagine that appendicitis is of necessity a very fatal disease unless the appendix is immediately removed. In my limited experience this is not in accord with the facts, and I am entirely unconvinced that operation is necessary in every case.

I will dismiss at once the comparatively large number of patients who come to the doctor and "think they have appendicitis," but merely have some pain and tenderness in the region of the appendix, which clears up in about ten days or a fortnight with medicine appropriate to the individual. I dismiss them because such cases do not amount to appendicitis. There is no rise of temperature, no enlargement of the appendix, no quickening of the pulse: and when they have recovered one does not hear anything more about their appendices.

In regard to cases of true appendicitis, I deal first with those in my practice which have required operation:

CASE I.

While in practice in North London for eight years I had only one case. The patient was a middle-aged lady, who had been treated by another practitioner for "gastric influenza." There was a large mass of plastic peritonitis around the appendix, and this suppurated. She was sent to hospital and an operation was performed. She recovered, but was not free from abdominal discomfort when I left London, and I do not know her after-history.

CASE II.

A young man said he had had influenza, and that for a week he had had pain in the abdomen. The appendix—not adherent—was enlarged, about the size of an elongated filbert. There was pain also in the epigastrium on pressure. Three days later the pulse was 92, temperature 98.4°. There was no pain on walking, but the abdomen was still tender, and there was some spasm of the muscles on pressure. Four days later he had severe pain in the night. Pulse 100, weak, and not quite regular; temperature 98.4°. The appendix was very tender, and the size of my thumb. He was sent to hospital and had it removed, after it had been found that it could be emptied by massage, but it filled up again. He is now (four years after) quite well.

CASE III.

This was a small boy, who got a tender enlarged appendix. I have not the notes now, but being satisfied that operation was required, I sent him to hospital and had the appendix removed. He is now (after over seven years) quite well.

CASE IV.

This was a boy who got measles, followed by bronchopneumonia and pleurisy. He began to complain of pain in the right iliac fossa, where some indefinite swelling was felt. The pulse was 100, respirations 44, temperature 100.2°. He had vomited. The symptoms gradually subsided, and the pulse was 80, and temperature 99°. Still a smouldering appendicitis was suspected, and a tender fluctuating swelling like an abscess was felt per rectum. The appendix was removed the next day. It appeared normal to the naked eye, and just above it was a small abscess containing from 1 to 2 drachms of pus. A week later he passed a shower of small uric acid calculi, some blood, albumin, and granular casts. I do not know whether the abscess was due to the appendix or to the right ureter. He made an uninterrupted recovery, and is now quite well, three years after.

CASE V.

This was a dustman of middle age who had previously been attended for appendicitis by another doctor. The abdomen was held tense, and was tender at McBurney's point: no dullness and no mass were found about the appendix; pulse 56,

temperature 98.2.° I sent him to bed. Three days later the appendix was still tender: pulse 52, temperature 98.2°. The tenderness continued for some time, but in a week he was fairly convalescent, and at the end of a month he could bend about freely any way and no mass could be felt. The next month I treated him for herpes zona, from which he recovered, and he then reverted to his contract practice doctor. A few months later I was informed that he had gone to London, had his appendix removed, and died there.

This last is the only case in which I have been concerned in which death resulted from appendicitis, and the other four are the only cases in which I can remember advising prompt operation.

Now let us look at the other side of the picture, the class of case that operating surgeons do not see—those not requiring operation:

CASE I.

A young collier had severe appendicitis, and his doctor advised no operation. A doctor in charge of a hospital had seen him and advised immediate operation. I was asked to decide between them, but not to meet them. He had noticed pain in the abdomen for three days, getting worse, and had vomited and was constipated; pulse 108, temperature 103°. Tongue fairly clean and moist; abdomen retracted, but moving with respiration. Very tender in the right iliac fossa over the appendix, and some spasm present; nothing felt above or below the appendix: no tenderness per rectum. I considered he had severe but not fulminating appendicitis: that there was no necessity for immediate operation, as he seemed to be just getting over the worst of it.

I saw him again two days after; his pulse was then 70, temperature 100°, tongue furred, but moist. The pain was less, but the abdomen was tender as before, but no mass was felt. No operation was advised, and he recovered. This was five years ago, and about a month ago I inquired about him, and was informed that he is doing his usual work as a collier.

CASE II.

This was a man who had had a previous attack, with suppuration, and had had the abdomen opened, but the appendix not removed. He fell down, and two days after got pain in the abdomen. Pulse 62, respirations 26, temperature 98.2°. An ill-defined mass, like intestines matted together, was felt in the right iliac fossa. Nothing on the left side and nothing per rectum. Later in the evening the pulse was 104, temperature 101.6°, and the swelling was larger and softer, but did not extend up to the liver. It was very tender. The next day the pulse was 86, temperature 99.2°. The swelling gradually melted away and he recovered.

This was nearly six years ago; he left Ebbw Vale about a year after, and I do not know his after-history, but expect I should have heard if he had died.

CASE III.

A man, who had been treated by another practitioner as "gastric influenza." He had had griping pains about the umbilicus for some days, on and off, and had vomited a little. Pulse 104, respirations 24, temperature 103°. Tongue furred. A tender mass like matted intestine was felt on the right side up to the level of the umbilicus. Some muscular resistance was present, and nothing was felt per rectum. The mass gradually cleared up under medical treatment, and a week later the appendix could be felt as a hard mass. It was less tender, and gradually got smaller, and now cannot be felt. He has quite recovered. This case occurred five and a half years ago.

CASE IV.

This patient was a woman who had not been well for a fortnight; pains in the right iliac region, nausea, chilliness, and a little vomiting. Pulse 80, temperature 98.4°. Tongue coated; tenderness in the right iliac fossa. No definite mass was found, but something which seemed appendix, the size of a thumb, was felt. It was free, and on pressing on it pain was felt above the umbilicus.

Next day the pulse was 116, temperature 100.4°. The bowels were open and the pain less. The appendix was enlarged and tender: no mass was felt around it. The prognosis seemed uncertain, but on the following day the temperature was 99.6°, and she rapidly recovered. This was eighteen months ago, and she is still quite well.

CASE V.

This patient, a woman, had pain in the epigastrium and abdomen at night. She had been told by one London doctor that she had appendicitis, and by another that her condition was due to floating kidney. Pulse 88, temperature 99°. Tenderness and spasm over the appendix and caecum. A mass like hard faeces was felt in the caecum. The appendix was not felt. Neither appendicitis nor floating kidney was found. A purge and hyoscyamus was given.

Next day an ill-defined mass was felt in the situation of the ascending colon; no appendix. The following day there was spasm and tenderness over the appendix, which could not be felt. I suspected a growth and considered the appendix trouble did not amount to appendicitis.

She went to London and was operated on. A small tumour in connexion with the right ovary was removed, and as the appendix was "not normal" it also was removed, but no appendicitis was found. Perhaps this case should not have been included. She is now—ten months after—quite well.

CASE VI.

This was an elderly woman seen in a large provincial city. Her family doctor had diagnosed appendicitis, then an eminent consulting physician was called in, who stated that the condition was "cancer." I agreed with the family doctor, and found a tender enlarged appendix and indefinite adhesions, but no cancer. We treated her for appendicitis medically, and she made a slow but uninterrupted recovery. She never had any more trouble with it, and died from pneumonia some three years later.

CASE VII.

This patient was myself. Two years ago I got chilled after scrambling about in a most uncomfortable coal level where one could not stand upright, and sweating profusely. It was a simple catarrhal attack, and the diagnosis was confirmed by two medical men. Of course I was advised to have the appendix removed, but, on finding that it could be emptied by manipulation, and as there was no suppuration, I left it

After a week or ten days in bed and then a fortnight's holiday, I returned to work and have continued at it ever since. I refrained from tennis and cycling for a year, and for months there were twinges of pain when there was any flatulence or constipation. This any one would expect when adhesions are dragged, but they gradually became less and less, and now I am practically, but not absolutely, free from them. They merely amount to a trivial discomfort now and then. As far as I can judge, the appendix may last me for another twenty years, and in the meantime one has a very good chance of dying from something else.

The treatment followed in the above cases was on these lines:—

For bad cases: Confinement to bed, salol three or more times a day to disinfect the bowel, fomentations and hyoscyamus to relieve pain. Where there is a localized inflammatory mass I leave the bowels alone, and do not try to move them before the end of a week. If they do not act spontaneously, they can be stimulated gently by repeated small doses of sulphur and belladonna; enemata by the rectum. Practically no food, neither milk or slops should be given until the bowels have moved.

Water or barley water, together with a biscuit or bit of toast are enough; when the bowel is free the patient can have something to eat.

For the mild cases, and those who "think" they have it, the treatment is naturally varied. If there is nothing beyond pain and tenderness, some iodide and liq. hydrarg. perchlor. 10 minims in decoction of sarsaparilla co. will generally clear up the cases. Salol is useful in all cases. Where there is chronic dyspepsia, some mixture such as gent. c. rheo. with nux vomica and valerian, or possibly cuonymin or pepsin will suit, and the caecum and sacculi of the colon can be emptied by nightly doses of confection of senna, and flatulence treated by asafoetida pills when required.

In gouty cases, colchicum and potassium citrate or lithia and plenty of water to drink will do. In one case in which the iodide and mercury mixture did not improve matters, colchicum and potassium citrate cleared it up in two or three days. That was five years ago, and there has been no recurrence.

Though faecal concretions are supposed to be responsible for some cases of appendicitis, they are not uncommonly found in healthy people. In making *post-mortem* examinations on men who have died from accidents I have found 2 in about 20 cases. In neither was there any history of pain or inconvenience.

If such concretions block up the opening of the appendix and this becomes distended, I think they can be dislodged by gentle massage upwards and to the left; the appendix seems to empty itself, and symptoms are relieved at once, but I cannot be sure whether the result is due to a shifting of a concretion or of wind.

My conclusion from a small experience is that something like half the real cases of appendicitis require operation and the other half do not.

UNDER the will of the late Mr. Thomas Ford, a former Mayor of Tiverton, the infirmary in that town receives a bequest of £1,000.

THE seventh International Congress of Medico-Electrology and Radiology will be held in Lyons in July (27th to 31st), 1914. The City of Lyons has given its support to the Organizing Committee, which has as honorary presidents MM. d'Arsonval, Bouchard, and A. Tripier, and as President Professor Renaut. The general secretary, to whom all communications relative to the Congress should be addressed, is Professor Cluzet, 282, Avenue de Saxe, Lyons.

INTESTINAL OBSTRUCTION DUE TO A COIL OF WORMS.

BY D. HADDEN VICKERY, SURGEON, R.N. (RESERVE),
CHERITON FITZPAINE, DEVON.

HAVING read with much interest Mr. Edward Deanesly's interesting paper on intestinal obstruction, in the JOURNAL of November 29th, I should like to record a case which occurred in my practice some twelve months ago.

I was called one morning to see a young married woman who had been taken ill the previous day. The local nurse told me that the patient was taken ill suddenly with severe abdominal pain and vomiting. I was at once struck by the distressed aspect she presented, an aspect commonly seen in abdominal cases. The pulse was quiet and the temperature normal. On exposing the abdomen I found she was in the sixth month of pregnancy and abnormally distended. I made a vaginal examination, but found no sign that labour had set in. I then examined the abdomen carefully, and was satisfied that there was abnormal distension. The vomit was bile-stained, and later became very unpleasant, bordering on faecal. I decided to give an enema, partly for diagnostic purposes. It was very carefully given, the patient lying with the head low; some three and a half pints were injected slowly, but with no result.

When I called again in the evening I found no change. I gave another enema containing turpentine, but there was again no result—not even flatus being passed. The vomiting was still continuous. I gave orders to allow the patient tepid water; this acted as a natural lavage, for next morning the vomiting was not so frequent. The nurse now showed me a large round worm which had been vomited just previous to my coming. It occurred to me that possibly I had to do with some obstruction caused by worms. So I gave santonin gr. 5 in castor oil. Much to my surprise this was well retained. Later, during a severe bout of vomiting, a large mass was ejected from the stomach, which on examination proved to be a coil of some twelve large worms. The vomiting ceased, and the patient's aspect altered very markedly. In the course of a few hours she complained of severe pains, which were reflected to the back. This led me to make another vaginal examination, and this time I found the os partly dilated and labour progressing. In due time she was delivered of a six months fetus, dead (breech presentation). The bowels soon after moved naturally, and she made a good recovery.

In this case the abdominal signs were masked by the pregnant uterus, which made diagnosis difficult, but taking the usual signs and symptoms in order we can see to what extent they helped. The pain was due no doubt to the colic of peristalsis, intermittent and general over the abdomen. Distension was difficult to determine, but the patient complained of it, and it was certainly noticeable in the upper abdomen. Muscular rigidity was not noticed, owing to the pregnant uterus. The pulse-rate, normal at first, later rose to 100. The temperature was normal. Vomiting was very persistent, any food taken being rejected at once. Constipation was absolute.

The diagnosis seemed to lie between constipation and intestinal obstruction. The three signs—pain, vomiting, and absolute constipation—seemed to point to the latter. Distension, a valuable sign, was in this case of little aid.

The interesting points in this case were: The difficulty of making an accurate diagnosis, the unusual cause, and the unusual termination.

The *Ascaris lumbricoides* is credited with extraordinary migrations. Gould and Pyle, in their *Anomalies and Curiosities of Medicine*, quote instances of round worms piercing the intestine, being found in the bladder and urine, as escaping through the umbilicus, as present in the biliary passages and in the middle ear. Morland mentions exit through the mouth. Holt, in his *Diseases of Childhood*, says, "When very numerous they coil up and form large masses, which may cause intestinal obstruction," but such cases must be very rare.

Another point of interest is the action of santonin. It is said, as well as acting on the worms, to cause convulsive movements in the intestine. As there was in this case some severe peristalsis, we can see how the drug helped. Whitla, in his *Materia Medica*, says Chéron lauded the drug in dysmenorrhoea; whether it acted as an emmenagogue one would not care to say, but labour set in in this case. I cannot quite agree that intestinal obstruction is of necessity always a case for the surgeon. In my particular case an operation would have been badly borne, owing to the pregnancy. Recently I had the pleasure of hearing Mr. Crisp English speak at the Devon and Exeter Hospital on abdominal pain, and I was greatly struck by his appreciation of the physician in abdominal diagnosis and treatment. Though not in the smallest degree minimizing the importance of the surgeon or physician in consultative work, I feel sure many will agree with me when I say the ideal consultant at first would be an experienced general practitioner, and that it should be left to him to determine whether the case was for one specialist or another. The surgeon's advice often is to operate early. The physician says, "Wait and see." What is required is a mean between the two. In conclusion, I may say I have seen two cases of intestinal obstruction in connexion with pregnancy, but the case here described must be rare, hence my apology for entering into so many details.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

NYSTAGMUS.

DR. WILSON'S statement in the JOURNAL of November 22nd, that the movements of the eyes in his two cases of miner's nystagmus were concomitant, induced me to verify his observations.

Last week I examined 26 cases of miner's nystagmus in various stages, and found that nystagmus was present, or easily produced, in 13. In all of these 13 the movements were concomitant. I found Dr. Wilson's suggestion for the use of prisms most useful.

It is interesting to note further that one man was unaware of the movements of his eyes; he had no other signs or symptoms of the affection, but was doing full work at the coal face. At some future date he will probably be told by a junior house-surgeon that he has miner's nystagmus, and will claim compensation, obtaining a list of typical symptoms from his friends.

Leicester. CUTHBERT C. BINNS, M.B.

THE INDUCTION OF ARTIFICIAL PNEUMOTHORAX.

THE OPERATION FOR INDUCING ARTIFICIAL PNEUMOTHORAX.

WE read with great interest Dr. H. de C. Woodcock's paper on this subject in your issue of October 25th, on pages 1055 and 1056, and beg to offer the following comments on his paper:

1. The list of great Continental authorities on artificial pneumothorax is hardly adequate; it should include, amongst others, Kornmann, von Müralt, and Egbert Morland, all of whom advocate the puncture method, and have devised their own modifications of apparatus for that purpose.

2. It is important to emphasize the value of taking an *x*-ray negative and examining the chest on the fluorescent screen before proceeding to the actual filling.

3. As regards the preparation of the skin, we consider it sufficient to paint it with iodine, and we omit shaving, scrubbing with an antiseptic, and washing with saline, and so far we have had no evidence of sepsis to induce us to adopt a more complicated and, we think, unnecessary procedure.

4. The site of operation is all-important; it is essential, in order to avoid multiple punctures or failure to convert the potential pleural space into an actual one, that the needle should be entered at a spot where the clinical indications and *x*-ray findings suggest freedom from pleural adhesions. Hence it is best to puncture over supposedly healthy lung if possible. The actual site varies in each patient.

5. We consider that a local anaesthetic is unnecessary, as any shock that occurs probably originates from the nerves in the parietal or possibly also in the visceral pleura, and Dr. Woodcock apparently does not attempt to anaesthetize these. If it should be necessary to make multiple punctures on account of pleural adhesions preventing the needle from entering the pleural cavity, the additional time spent in securing local anaesthesia adds considerably to the length of the procedure for a very hypothetical benefit.

6. We recommend the needles originated by Professor Saugman, which are only 5 cm. long, and can be guarded to within any desired distance from their point by a movable stop. We usually fix the stop at a distance of 2½ cm. from the point, and increase that distance if

necessary. The needle has a short point, and we enter it with a sudden stab, which is practically painless, and a stilette ensures the patency of the needle as occasion demands.

7. The regular oscillations of the manometer synchronous with the patient's breathing show that the needle-point has entered the pleural space. If the needle is not in the pleural space the manometer does not then show regular oscillations, and the needle should be withdrawn gradually or entered more deeply until the manometer works satisfactorily. In some cases, owing to local obliteration of the pleural space by adhesions, it may be necessary to make a fresh puncture. The manometer is an infallible guide to the position of the needle, and we consider Dr. Woodcock's hypodermic syringe test to be superfluous.

8. At the first filling it is best to aim at an end-pressure of zero, and this end-pressure should be quite irrespective of the quantity of gas introduced. At the first filling we usually start with oxygen, and after about 200 c.cm. have been injected without any unfavourable effects we continue with nitrogen at once—a procedure made easy by using Kornmann's combined oxygen and nitrogen apparatus. At subsequent refillings nitrogen only is employed.

9. The end-pressure at the refillings should not exceed *plus* 4 or *plus* 6 in the average case. This figure has been shown to give the best results by several advocates of this method of treatment; but it, again, does not bear any constant relation to the total quantity of gas introduced.

10. As an immediate result we notice, in addition to the patient becoming slightly blue and perspiring somewhat, that the pulse and respiration-rate are quickened to a varying extent, and that there may be for a time some shortness of breath or palpitation, which may be due to the extra work thrown on the heart and the other lung, or possibly to a nervous factor, or to both. If unfavourable symptoms develop, such as severe dyspnœa with cyanosis, the best treatment would appear to be radical—that is to say, to remove the cause by removing some of the gas; but this we have not as yet had occasion to do. The use of strychnine does not appeal to us in this connexion.

11. The patient should be kept in bed for at least three days after the first filling, and preferably for a very considerably extended time.

Dr. Woodcock says that he finds a difficulty in deciding whether artificial pneumothorax or thoracoplasty should be the operation of election. Such a dilemma should be of very rare occurrence. Thoracoplasty is surely to be considered *le dernier ressort*, an operation only to be employed in otherwise hopeless cases—cases with extensive or universal adhesions and cases with large cavities—in the former because an artificial pneumothorax can by no means be produced: in the latter because, owing to the rapid diffusion of gas through the walls of the cavity, the pressure necessary for the success of the operation cannot be maintained.

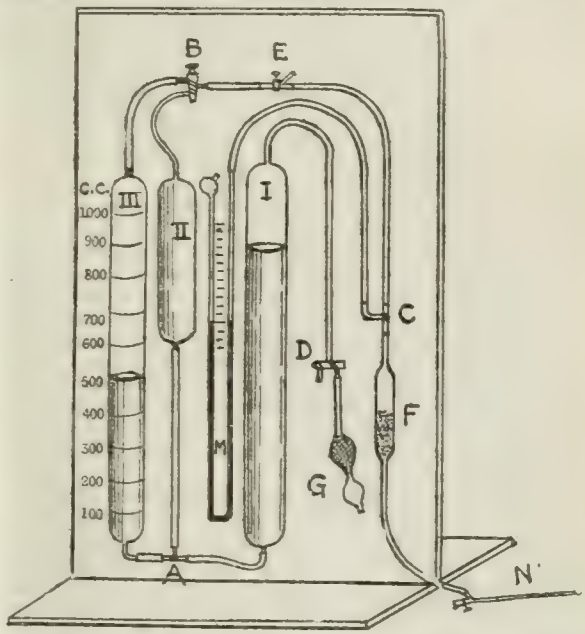
Thoracoplasty does not induce the same degree of pulmonary rest in the diseased lung as an artificial pneumothorax, and is therefore far less potent to limit autoinoculation and reduce temperature—two of the main objects of the operation. There is, too, an undesirable degree of finality about the operation of thoracoplasty. Once it is performed there is no going back—a serious matter should the opposite lung become extensively involved. If circumstances demand, by discontinuing the after-fillings in a pneumothorax case we may allow the compressed lung to expand again.

We cannot agree with Dr. Woodcock's statement that the operation of thoracoplasty, in the hands of an expert, can be done with lightning rapidity under local anæsthesia. The local infiltration of the tissues takes a long time when several ribs are to be resected—a period fraught with no small amount of anguish to a debilitated patient. The actual resection is horribly painful. Dr. Woodcock discusses the precautions to be observed in order to eliminate shock in making the puncture for an artificial pneumothorax. Has he calculated the shock effects in thoracoplasty?

The suffering to the patient in the operation for artificial pneumothorax is practically *nil*, and the element of shock extremely small. Can any man hesitate to say which is the operation of election if the choice lies in his hands?

The Apparatus.

A few words in conclusion with regard to apparatus. There is no doubt as to the great convenience of being able to introduce oxygen and nitrogen in rapid succession at the first filling. The only apparatus which renders such a step possible, and even easy, is the latest apparatus of Kornmann, illustrated in the drawing:



I, II, and III, three glass cylinders, such that the capacity of I is equal to the sum of the capacities of II and III.

II is the smallest, and holds when full 300 c.cm. of oxygen gas. III is larger, and holds 1,000 c.cm. of nitrogen.

The cylinders contain solution of perchloride of mercury. When II and III are filled with their respective gases the solution is displaced into the large cylinder I. At the operation the gases are displaced by driving the solution from I into II or III respectively with the aid of small rubber bellows, G.

By suitable manipulations of the taps A, B, and D the oxygen first and then the nitrogen can be driven through the delivery tube and needle. At C is a three-way tap which connects up at will the delivery tube either with the manometer or with the gas cylinders. The gas, before reaching the needle, passes through a cotton-wool filter, F.

The tap E is a three-way tap with one limb at right angles to the plane of the picture, and is used for filling the apparatus with gas. The supply of gas is stored in small metal compressed-gas cylinders. The whole apparatus is mounted on a board about 1 ft. broad and 2 ft. high. It is easily portable and quite easy to manipulate. The manufacturers are A. G. Hausmann, Hecht Apotheke, St. Gallen, Switzerland.

HUGH H. CARLETON,
D. GORDON EVANS.

Queen Alexandra Sanatorium, Davos Platz.

THE TECHNIQUE OF ARTIFICIAL PNEUMOTHORAX.

IN the JOURNAL of October 25th there are communications regarding the treatment of unilateral phthisis by means of induction of an artificial pneumothorax (or collapse therapy, to write it shorter), and it occurs to me that a note on the technique might not be out of place here.

It was my good fortune to begin to practise this method after having seen and profited by the experience of its pioneers. The exhaustive researches of Brauer and Lucius Spengler have made it possible for their followers to dispense with the open method by showing the all-important nature of the manometer reading, and a large proportion of those who began with this method now use exclusively the Sauerman needle. This is already a great simplification; but Brauns of Hanover has gone one step further and has introduced the use of a small platinum needle a little larger than an ordinary hypodermic, with which the puncture is reduced to its least formidable dimensions. The tube fits over the brass collar of the needle. Brauns published his method in the *Zeitschrift für Tuberkulose*, 1910, xv, 425, and was kind enough to demonstrate it to me in detail a year ago. He pointed out the great advantage of using a needle which can be sterilized in the flame immediately before use and is consequently dry without the trouble involved in dry-

sterilizing the larger steel needles. He assured me that the smaller the needle the less likely it is to punch out a circle of skin, as Forlanini already had discovered; and that it is therefore the exception for it to become blocked. He also emphasized the fact that a small needle without stilette is much less likely to irritate the pleura and to give rise to exudation. All this I have verified in practice during the last twelve months. The puncture with the Brauns needle is nearly painless even without a local anaesthetic, and with a preliminary injection of novocain is absolutely painless, while the sensation of passing the pleura is retained as a useful guide to locality. The symptoms of so-called "pleural shock" are reduced to a minimum, and perhaps entirely avoided. None of the eighty-three punctures which I have made with this needle has been followed by an effusion. I ventured to mention this to Professor Saugman at the time of the London Congress, but he assured me that I should still see exudations, as they not uncommonly set in more than six months from the commencement of treatment. I am still waiting to see one. I have also found it quite rare for the needle to become blocked, and even if it does so it can be withdrawn, a wire passed through, and the needle flamed in the briefest possible time. A single needle suffices for any number of punctures which it may be necessary to make. I would commend to all those who are working at collapse therapy the use of the Brauns needle, which can be obtained from the surgical instrument maker, C. Nicolai, in Hanover.

Two of the writers mention special designs of apparatus of a simple nature which experience has shown to be practical. In one of these the nitrogen is obtained from the air; in the other, although it is an apparatus designed to introduce nitrogen into the pleura, there is no indication of any source of nitrogen. May I point out how extremely convenient in practice is the use of small steel so-called Gnom cylinders containing oxygen or nitrogen, weighing only 26 oz. apiece? These are so light that they can conveniently form a component part of the apparatus and hold enough gas for thirty or more punctures. Oxygen can be used to start with—an additional safeguard to the patient, as there is no record of fatal oxygen embolism; a change made to nitrogen; several successive inflations carried out—all with the mere turn of two or three taps. The apparatus which I use is supplied by the instrument maker, Hausmann, of St. Gallen; the gas bottles and manometer fasten on to the front of a vertical board, while the cylinders are screwed on to the back. The whole is made to pack into a box 25 by 15 by 7½ in., which can safely be carried from place to place with no risk of fluid spilling, and is ready to use when taken from the box. The apparatus is perhaps a little more costly than those mentioned, but it is so convenient and simple to work that I have several times used it single-handed without any risk to the patient. It is, after all, the convenience and safety of the patient which should chiefly determine the form of the apparatus.

Arosa. EGBERT MORLAND.

Acute Phthisis Treated by Pneumothorax.

Except in advertisements of patent medicines, one does not often come across a case of a patient almost moribund from acute phthisis being restored in a few months to full working capacity. Such a case it has, however, been my lot to witness this year, the restorative agent being compression of the diseased lung by artificial pneumothorax. The patient, a young man of 22, was treated in the sanatorium for early phthisis four years ago; he learnt gardening, and kept well while he led an open air life. Eventually better pay lured him back to a lawyer's office, and he quickly went wrong again.

When readmitted just after Christmas, 1912, he was acutely ill, and his progress downhill was alarmingly rapid. The lesion was one-sided, and we at once thought of artificial pneumothorax; but while the question was being debated he got so much worse that we decided it was useless to try anything, and merely hoped to get him home alive. On the day settled for his return home he was too far gone to risk sending him even a short journey by motor. He was exhausted by constant diarrhoea, with a temperature ranging from 96° to 104°; he had a feeble, intermittent pulse, and the emaciation such that only the most anxious care and a water bed kept bedsores at bay. We decided the chance to get him home had passed and he must die here. A week later, as he was still alive, the idea of pneumothorax again came up—it could but do good; he was too apathetic to care himself, but consented to anything. The pleural space was discovered without difficulty and 300 c.cm. of nitrogen introduced. After the operation there was a short period in which we thought shock would prove fatal, but with a hypodermic of strychnine he rallied. After the first day no difficulties were encountered in administering the nitrogen. Complete compression was obtained in about three weeks, and by that time the temperature was falling, and a definite improvement had set in. Diarrhoea stopped, cough lessened, and the sharp outline of the bones became a cause of a little less anxiety to the nurses. At Easter, at his earnest request, he was taken in a bath chair to the short sanatorium service, but was unequal to it and fainted. This, however, was his last "symptom"; from that day he has steadily recovered, and on September 1st took a post as clerk at full working hours, which he still holds. The refills of nitrogen have been kept up regularly. Fluid has been effused, but without apparent disadvantage of any sort.

This case is the only brilliant success out of nine cases treated, but three others have been distinctly improved. In two others a very partial pneumothorax was unavailing to stop the downward progress, and in three cases no compression could be got by reason of pleural adhesions. No accident has occurred in the series, which has involved over 100 operations.

ESTHER CARLING, M.D.,
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Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

CHURCH MISSIONARY SOCIETY HOSPITAL, TORO, UGANDA.

AN UNUSUAL CASE OF TROPICAL LIVER ABSCESS.

(By ASHTON BOND, M.D., D.T.M.)

The patient, a native of Toro, was a well-developed man, about 30 years of age, and seemed in good general health. He gave a history of irregular fever and a general feeling of tiredness and being out of sorts for a few weeks previously, and also complained of some pain in right side and in the epigastrium.

On admission his temperature was 101.4°, the pulse was 80. The tongue was furred and dry, and the eyes looked heavy and dull, but there was no jaundice. He said he had not had any rigors, and that he did not perspire. The heart and lungs were normal, the spleen slightly enlarged. There was slight enlargement of the liver to the right; in the epigastrium was a definite swelling which was tense but not painful, and only slightly tender. The swelling was well defined, and filled up the greater part of the epigastrium. Fluctuation was doubtful, but an exploring needle being inserted into the swelling, unmistakable liver pus was obtained. The patient was told his condition required an operation, and to this he agreed.

Chloroform was administered, and an incision about 3 in. long made over the most prominent part of the tumour. On cutting through the abdominal wall and opening into the abscess it was found that there were well-formed adhesions, shutting off the abdominal cavity from the abscess. There was a large quantity of pus: about 10 oz. were removed, and the cavity was then explored with the finger. It was about the size of a large orange, and extended upwards and to the left. After syringing out the cavity a drainage tube was sewn in and part of the wound sutured. Antiseptic dressings were applied.

There was a considerable discharge of pus for a few days, after which the drainage tube was removed and a small one put in. The wound rapidly healed, and three weeks after the operation the patient was able to get about. He was discharged a week later, quite well and having no pain or tenderness in the epigastrium.

This case seems to me to be of interest on account of the unusual position of the abscess, and also because it is, I believe, quite uncommon to find liver abscesses in natives of tropical Africa; in about twelve years' hospital and dispensary work this is the only case I have come across.

Reports of Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

At a meeting on December 3rd. Dr. W. Russell presiding, Dr. Claude B. Ker, opening a discussion on *Isolation and quarantine periods in infectious diseases*, said it was time for the profession to revise some of the old standards. A change in the present regulations of public authorities and schools, which were admittedly irksome and expensive, could only be produced by a change of medical opinion. In scarlet fever the traditional period of detention was eight weeks, but at Southampton and Leicester a minimum detention of four weeks had been in operation for some years, cases being sent out without any regard to desquamation, and this had not resulted in any increase of infections; indeed, at Southampton, with this procedure and with a total of 581 cases in three years, there had not been a single "return" case. His own experience was that the cases requiring longest detention gave the highest percentage of "return" cases. He would suggest a minimum detention of five to six weeks, a neglect of desquamation, and a quarantine period of seven instead of the usual ten days. In diphtheria the problem was simplified by our power to detect the cause of the disease. Detention should be limited by the obtaining of two consecutive negative swabs from the throat, and the duration of quarantine of contacts should be governed by the same test. In measles detention ought to be determined by the disappearance of catarrh, and, subject to that condition, might be stated as fourteen days, and after the disappearance of the rash. In the first part of the period of quarantine (say, eight days) contacts might attend school and then be isolated from the ninth to the fifteenth day, provided one was sure of their first exposure to infection. In German measles the speaker kept his cases ten days after the rash was over, though infectivity probably ceased with its disappearance. There was no reason why children should not attend school during the first ten days of quarantine. In whooping-cough long experience had convinced him that with a fully developed "whoop," say, seven days after its appearance, infectivity ceased. This was also the opinion of Henoch, Czerny, and other authorities. The traditional detention of six weeks after the "whoop" might thus be very greatly reduced. In chicken-pox the crusts carried the infection, and he advised a detention of about three weeks. The first ten days of quarantine might be utilized for school attendance, and isolation then enforced until the twenty-first day. In mumps the usual detention was about three weeks, or two weeks after disappearance of visible swelling to cover the complications of orchitis and pancreatitis. In the quarantine period isolation need only be carried out from the thirteenth to the twenty-sixth day. Dr. Melville Dunlop sometimes wondered if the total withdrawal of regulations and rules in infectious diseases would produce any bad effect. He corroborated Dr. Ker's experience with regard to the non-infectivity of established whooping-cough. Chicken-pox was so mild that its regulation might well be ignored. Dr. Meikle said that infectious diseases were responsible for 160,000 day absences per annum among 40,000 Edinburgh school children. He favoured the utilization of the early part of long incubation periods, at least in the better-class children. Dr. James drew attention to the milder type of scarlet fever since about 1880. With regard to all these infectious diseases, the amount of disease had not diminished, but the type had become less severe—that is, the germ had not varied, but the susceptibility had grown less. Dr. Burn-Murdoch said that in several schools for which he was medically responsible they had for some time utilized the early part of the quarantine in chicken-pox, mumps, German measles, and whooping-cough. Mr. Ferard (Head Master, Edinburgh Academy) agreed that school regulations were often an elaborate shutting of the door after the steed was stolen. He also thought that in trifling diseases such as chicken pox, mumps, and German measles, regulations were needless and ought to be dispensed with. Dr. J. Carmichael said his experience reached back to a time when regulation of infectious disease, as at present, was unknown, and yet the results were no worse than now. Dr. Keppie Paterson asked if antiseptic inunction of the skin of cases of scarlet fever sent home desquamating was advisable. Dr. James Ritchie cited a case of scarlet fever when desquamation of the scalp seemed to be the cause of "return" cases. Dr. J. S. Fowler said it was desirable that mumps and chicken-pox should be taken in childhood, when they were much less serious infections than in adult life. At the close of the discussion it was resolved to form a committee to consider the practical suggestions as to periods of detention and quarantine made by Dr. Ker.

ROYAL SOCIETY OF MEDICINE

Section of Ophthalmology.

Glass Worker's Cataract.

At a meeting on December 3rd, Sir Anderson Critchett, President, in the chair, Mr. Herbert Parsons showed specimens of experimental glasses prepared by Sir William Crookes. They were synthetically prepared glasses. Sir William Crookes had two soda fluxes made by Messrs. Powell, and added to these specimens of flux, certain metals in definite proportions. He then made the glasses in small quantity, cut slices, polished them, and investigated their properties in reference to transmission of heat, and he had taken photographs of the absorption of ultra-violet rays with a quartz spectograph to test their transmission of luminous rays, and estimated their colour with the tintometer. In order to test with the greatest possible accuracy Sir William invented an exceedingly delicate instrument named the radiometer balance. He made a glass which cut off 96 per cent. of the heat. The subject was of much wider importance and applicability than the research seemed at first to show. Dr. Morrison Legge, of the Home Office, said glassworker's cataract was brought to his notice as a member of the Departmental Committee which sat to inquire into the question of compensation for industrial diseases in 1906; and much valuable information was forthcoming from a very intelligent secretary of a glassworkers' association. The late Mr. Simeon Snell set himself to collect information on the subject, but his method was not calculated to yield the truest results, for he circularized the manufacturers themselves, asking how many cases of cataract they had known among their workers. As a result Mr. Snell came to the conclusion that cataract was not specially prevalent among glass workers. A systematic examination of workers for the condition might result in men having the condition being discharged, whereas it took ten to twelve years to prove disabling. The speaker went himself into the glass factories of St. Helens and Sunderland, and he was very much impressed by the number of men who came up showing this cortical cataract. It varied in size from a pin's head to what looked like a large blot of ink in the centre of the pupil, and was quite different from the peripheral striae in senile cataract. He was struck by the small degree to which the eyesight of the patients suffered. In only very few cases were there opacities in the cornea. The President said that in Italian glass works the workers were much nearer the flame, and it was very rare indeed to find a worker of 40 years of age whose cornea was not affected.

Artificial Eyes.

Mr. N. Bishop Harman described an operation to improve the effect of an artificial eye, the object being to render the loss of an eye less conspicuous. Other things being equal, the effectiveness of the disguise was, he said, controlled by the shape of the palpebral fissure. With a small fissure the shell was effective; with a wide and generous form of fissure the shell provided insufficient support, so that the lids dropped away, deep sulci marked the lids, and the shell was exposed in its naked bareness. The operation aimed at doing for the large-eyed what the small-eyed had by Nature. The lids were secured in a clamp devised for the purpose, then split at the intermarginal space, and the raw surfaces brought together so as to shorten the fissure. The lid surfaces were

protected from scarring by the suture, and by rubber guards that also afforded elastic pressure. On the fourth day the suture was removed and any adjustment of an excessive effect could be made. The effect of the narrowing of the fissure was to draw forward the lids, slightly cover the shell, and shadow it, so that in place of the fixed stare there was a slight and subtle wink. The pull of the lids against each other tended to smooth out the deep sulci above and below; the relative movement of the shell was also improved.

Iritis.

Mr. W. M. Beaumont, in a paper on iritis, rheumatic and toxaemic, said doubts had been thrown upon the existence of a rheumatic form of iritis, and modern views of the nature of rheumatism seemed to coincide with those doubts. The author, earlier, had been a sceptic, and his views had found expression on several occasions in the columns of the British Medical Journal. Poynton's and Paine's researches, based on bacterial experiment, had stimulated interest, whilst the papers read at the annual meeting of the British Medical Association and at the International Medical Congress brought the subject again to the front. A difficulty arose in Poynton and Paine's results, because iritis associated with acute rheumatism was so extremely rare that it might be considered negligible; whereas these investigators had been able, on at least two occasions, to produce iritis by the intravenous injection of the products of rheumatic infection into rabbits. A negation of rheumatic iritis seemed to be a natural corollary of the "passing" of rheumatism, and it seemed to the author that their experiments almost proved too much. He thought that a more extended view of the frequency of toxaemia, and especially of gonorrhoea, as a cause of iritis would be the outcome of further research. But as, in the past, it had been usual to parcel out the different causes of iritis without including toxaemia as one of them, it was clear that, if that factor were generally accepted, it must very considerably reduce the percentage of some of the fully recognized causes. He thought that the class that would be materially reduced would be the nondescript one, "rheumatic."

Section of the History of Medicine.

At a meeting on November 19th, Sir Henry Morris, Vice-President, in the chair, Dr. Charles Singer, in a communication regarding St. Hildegard, of Bingen, who was born in 1099 and died as prioress of Rupertsberg in 1179, said she was a woman of extraordinarily strong and original character. Several scientific works were attributed to her. The *Physicas* comprised a collection of the scanty scientific knowledge of the twelfth century, and was of special medical interest as containing a description of the nature and uses of herbs. It was also remarkable for some sound hygienic views. The *Liber Simplicis Hominis* contained scattered throughout its chapters valuable glimpses of the physiological conceptions prevalent in Germany in the twelfth century. Another work, the *De causis et curis morborum*, to which Hildegard's name was attached, was regarded by the speaker as spurious, and probably collected early in the thirteenth century, after the death of Hildegard. Another work, *Scivias*, was especially interesting from the fact that much of the text was presented in the form of visions. These visions were magnificently illustrated in a contemporary manuscript almost certainly prepared under Hildegard's own supervision. The speaker had caused copies to be made of some of its miniatures. These he exhibited, and showed that the primary physical basis of the visions was migraine or scintillating scotoma. The miniature exhibited typical fortification figures, stars and coloured spots, and in some cases a shimmering concentric appearance occupying the whole field of vision. There was also evidence from her writings that Hildegard, who, in spite of her active and energetic life, had very poor health, was a sufferer from a migrainous affection. Some of her visions presented the interesting phenomenon of reintegration from other visions. In one instance it was possible to demonstrate the separate elements out of which such a composite vision had been built. Dr. Hingston Fox, speaking as a personal sufferer from migraine, suggested that the blue colours in the pictures were as important as the red—both these hues, as well as others, being characteristic of migrainous spectra. St. Hildegard's imagination, highly stimulated by spiritual influences, would make her symptoms vivid, and, associating them with heavenly visions, she would fix her attention upon them until they could be depicted in the forms shown. Dr. J. D. Rolleston read the first part of a paper on the *Medical aspects of the Greek anthology*. Although the anthology had received much less attention than the Roman poets from medical historians there were altogether about 400 epigrams out of a total of nearly 4,000 which dealt more or less directly with medical subjects. They extended over a period of nearly fifteen centuries, but the great majority were by writers subsequent to the establishment of the Roman empire. Most of the medical epigrams were to be found in the Palatine collection. At least five of the contributors to the anthology were medical men, and probably some of the anonymous epigrams were by doctors. The epigrams on medical men were divided into panegyrics and satires. The first group included epitaphs and other verses on the natural philosophers and physiologists who formed one of the principal sources of Greek medicine prior to Hippocrates, as well as similar epigrams on distinguished physicians, such as Hippocrates, Galen, Asklepiades, and Praxagoras, and medical writers such as Nicander, Paulus Aegineta, and Marcellus of Side. Of the twenty doctors who formed the subject of the satirical epigrams fourteen were not spoken of by any other writer, and of the remaining six none could be identified with certainty. The satires were mostly the work of late writers, and like the epigrams of Martial were justified by the inadequate medical training due to the dissemination of the doctrines of the Methodist school. Consideration of the numerous other medical allusions in the anthology was deferred to the next meeting. Professor Richard Caton spoke upon the subject of the paper. Dr. Raymond Crawfurd showed a collection of *Touch pieces*, and gave a short account of their history in relation to the cure of the king's evil. Dr. F. W. Cock showed a collection of old surgical instruments, amongst which was a ritual circumcision knife with a bloodstone in the handle.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

At a meeting on November 20th Dr. A. E. Barnes, in opening a discussion on the *Treatment of a failing heart*, said that it was important to remember that practically nothing could be done to influence the progress of most chronic lesions of the heart, and it must be recognized that it was also impossible to increase the efficiency of the cardiac muscle by means of drugs. On the other hand, by a study of the general conditions of the circulation, such as the distribution of the blood and its volume, it was possible to do a great deal to give the heart muscle a more complete rest. Digitalis and its allies had a beneficial effect only owing to the fact that they protect the ventricle from a series of irregular stimuli arising in an incompetent auricle. The treatment of acute cases of heart failure, whether due to overstrain or to the toxaemias accompanying acute fevers, was still in a very unsatisfactory state, and a more minute study of the mineral metabolism and of the resulting variations in the blood volume might lead to useful knowledge. In the treatment of chronic cases attention was focussed on the two great symptoms, oedema and dyspnoea. In the treatment of oedema there were good physiological reasons for a strict limitation of the dietary as to water, salts, and even proteins, carbohydrates, and fats. The best diet for a bad case was, therefore, that recommended by Karrell in the middle of the last century. There need be no fear of starving the ventricles, for they would steal from the tissues. The best diuretics were those of the caffein series. The existence of renal fatigue must be remembered, and no diuretic continued if it refused to act. Too large doses must be avoided for the same reason. Digitalis, although theoretically of use only in cases of auricular fibrillation, was often administered by the speaker in other conditions in the hope that all its beneficial properties had not yet been discovered. For true cardiac asthma it was useless given undiluted. Morphine, or, better still, heroin, should be administered at the commencement of the attack, since the dyspnoea was useless to the organism. Other hypnotics might serve as prophylactics. Chloral had

been repeatedly used by the writer without disaster; but, owing to its bad reputation, he had been glad to use adalin, or even veronal, since they have been found of great use in some cases. Dr. Arthur Hall laid stress upon the prevalent but objectionable custom of diagnosing a "weak heart" in persons presenting no real evidence of such weakness. Such a diagnosis might cause life-long anxiety. Dr. A. E. Naish suggested that the improvement in the condition of patients after admission into a hospital, even when they had been resting in bed before admission, was due more to limitation of diet than to any change in the conditions of rest. The current theory of the action of digitalis in cases of auricular fibrillation, even if regarded only as a working hypothesis, was a great step in advance, and made intelligible its most commonly observed effect. It did not, however, explain why a slowing of rate produced by digitalis sometimes continued for weeks after the discontinuance of the drug. The slowness of action of digitalis was occasionally of disadvantage, and it was in such a case that a physiologically standardized preparation of strophanthin in ampoules had been proved to act with great rapidity. In regard to the dyspnoea of cardiac failure, the advantage of hypnotics lay largely in their power of depressing the sensitiveness of the respiratory centre. Dr. A. G. Yates alluded to the value in some cases of a venesection. Dr. S. Mathews pointed out the importance of administering an aperient before having recourse to heart drugs. Dr. E. W. Adams asked whether Dr. Barnes had found strychnine of use in these cases. Dr. R. P. Williams alluded to the danger of large doses of digitalis, and referred to a fatal result he had seen after a heroic dose had been given. Dr. Barnes replied. Dr. A. Turner showed a case of oxycephaly. Dr. Sinclair White showed three specimens of resection of the colon for carcinoma, and a specimen of removal of the entire colon for stasis. Mr. Graham Simpson showed a specimen of stones in the kidney and ureter.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.

At a meeting on November 6th, Dr. Walter Broadbent in the chair, Sir Anthony Bowlby, in an address on the character and site of *Abdominal pain and its relation to diagnosis*, pointed out that attacks of acute, transient, or recurrent abdominal pain were—apart from neuroses, diseases of the spinal cord, or poisons—due to: (*a*) Obstruction or distension of a viscus: (*b*) interference with its circulation; (*c*) extension of inflammation to the peritoneal coat. An exact, detailed statement of one particular attack, its mode of onset, immediate effect, and subsequent symptoms was of much value. It was especially useful to know whether tenderness remained at any point after the acute attack was over, because pain was frequently referred to points distant from viscus affected, but persistent local tenderness is a true guide. The position and lines of radiation of pain were often important: affections of gall bladder, for instance, were the only abdominal conditions causing anterior chest pains, catching of the breath, etc. In this connexion, however, it should be remembered that a diagnosis of gall stones was not excluded by absence of pain, for pain was due to their passage, not to their mere presence. Many patients whose gall bladders were full of stones were treated for years for indigestion simply because they never had suffered from colic or jaundice. As for renal calculi, only in about 1 case in 5 was there a stone really present. Attacks of colic were mostly due to crystals passing down the ureter; stones lying in pelvis of kidney are painless. In 1 case the passage of a stone down the ureter had been watched by *x* rays; the process lasted three years, and was unattended by any pain or other symptom. In regard to the appendix, pain was referred to the umbilicus or other distant part usually in cases in which the peritoneal coat was not affected; it was to be remembered the small intestine was entirely intraperitoneal, while the large intestine was not. This fact explained why the large intestine mostly located its pain more definitely to the site of disease, as in dysentery or rectal cancer; though the simple presence of cancer or ulcer in this situation might produce no pain or symptom, this only arising on occurrence of any obstruction. The speaker also described cases in which neurotic persons had severe abdominal pains, but no organic lesions, and demanded operations which were often injudiciously and unsuccessfully performed; he also mentioned several cases in which abdominal section had been performed in consequence of pain which was really due to locomotor ataxy. In the discussion which followed Mr. Buck expressed a belief that "splanchnic neurasthenics" generally had some real organic lesion; Dr. Gordon Dill and Mr. H. N. Fletcher gave an account of the exact position of referred pain in relation to the distribution of spinal nerves.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

At a meeting on November 21st, Dr. T. Wardrop Griffith, President, in the chair, Dr. M. J. Stewart, in a paper on *Myeloid sarcoma*, emphasized the importance of clearly differentiating true myeloid sarcoma from malignant giant-cell sarcoma, and advocated conservative treatment of such cases. The paper was based on an analysis of all the cases of myeloid sarcoma—50 in number—treated at the Leeds General Infirmary during the years 1899 to 1912 inclusive. These were investigated from both the clinical and the pathological standpoint, but special attention was paid, on the one hand, to the question of prognosis, and, on the other, to the minute anatomy of the growths. Forty cases were successfully traced, and of these 38 were alive at the time of writing, after periods varying from one to fourteen years from the time of operation. Of the 2 patients dead, 1, a jaw case, was the subject of some obscure bone affection, while the other, a femur case, had refused operation and lived for five years after the exploratory incision. In neither case was there any evidence of dissemination. As a contrast to the myeloid series, 5 examples of malignant giant-cell sarcoma were investigated, in every one of which death with lung dissemination took place in from six months to three years from the time of operation. In regard to a histological diagnosis, this, it was suggested, should be based on the morphological characters of the giant cells, especially as regards their nuclei. In myeloid sarcoma the latter were numerous, uniform, small, and without mitoses; in malignant giant-cell sarcoma they were few, sometimes single, irregular, and often very large, while mitotic figures were frequent. The chief practical deduction from the series of cases under review was that conservative treatment should have a thorough trial in suitable cases in the first instance, and that amputation should only be employed after the failure of less radical measures. The following were among the exhibits: Mr. Walter Thompson: A boy on whom *Splenectomy* had been performed for rupture of the spleen forty-eight hours after the accident. Fourteen days after the operation the only noticeable change in the blood was a marked increase in the eosinophiles. Mr. J. F. Dobson: A man aged 45 who was admitted to the infirmary in August, 1912, with *Complete intestinal obstruction*. A caecostomy was performed, and on September 17th, 1912, a large growth was removed from the transverse colon. A secondary nodule of growth, the size of a pigeon's egg, was found close to the free margin of the right lobe of the liver. A wedge of the liver containing this secondary growth was removed. No other secondary deposits were detected. The patient recovered satisfactorily, and was able to resume work in February, 1913, and returned a few weeks ago for closure of the caecostomy opening. He now weighed 4 lb. more than he did two years ago, and his general health was perfectly good. Microscopically both primary and secondary growths showed the characters of adenocarcinoma.

HARVEIAN SOCIETY.

At a meeting on November 27th, a discussion was held on the subject of the *Registration of venereal diseases*. With the exception of Dr. Reginald Dudfield all the speakers were apparently against registration as impracticable, unfair, and useless. Dr. Arthur Maude pointed out that when this suggestion of Government notification was first mooted, no indication had been given that there would be any protection to the medical men either for breach of confidence or errors of diagnosis.

Reviews.

AN ATLAS OF HUMAN BLOOD CELLS.

THE publication of the three supplemental volumes of the monumental work entitled *Atlas der menschlichen Blutzellen*[1] (Atlas of human blood cells) marks an event of great moment to all students of the morphology of the blood cells in health and disease. They represent the latest efforts made by Professor PAPPENHEIM to place before the reader the extremely technical study which he has carried out during the last twelve years upon fifty different cases of blood disease. Not the least important feature of Professor Pappenheim's scheme is the impetus his generalizations must give to those who seek to push this extremely interesting study to still further lengths, but as the author freely admits, his scheme has had to undergo modification from its original intention of supplying a guide to the mere student to that of placing before the investigator the last phases of what is little more than as it were a cinematographic representation of the blood cells under the rapidly developing modes of blood staining as well as of cell metaplasia. The plates are superb and supply the student with a means of recognizing types of cells wanting in the ordinary textbooks.

When we turn to the text, however, the faults we have pointed out in former reviews are found to persist. Professor Pappenheim leads his readers into mazes of terminological difficulties. Lest we should be thought over-critical, we would specifically refer the reader to the conclusions drawn by the writer on the origin of blood cells. Reference is made first to the dualistic school which seeks a separate origin for lymphocytes and leucocytes (granulocytes); then there follows an analysis of the views of the neo-dualists, who differ mainly from the older school of dualists merely in the fact that they assign the two sets of parent cells, which give rise to lymphocytes and leucoblasts, to different anatomical tissues—namely, the lymphatic-vessel and blood-vessel walls. But confusion is produced by the observation that the dualists in turn have some hankering after unicist tendencies, for both types of cells are traced to a common one, which does not, however, exist in the normal blood. The reader is then encouraged to look for more light in the views of the "unicists," who find a common cell from which red cells and all white corpuscles are derived, whether granular or not, namely, the small lymphocyte of the normal blood. Here again we encounter the complicated terminology in which Professor Pappenheim enshrouds his observations. We are told that he ranges himself in still another category of workers, the monophyletic or modified unicist school, and that he himself is one of the neo-monophyletics; the unicist view must be "tempered" and all cells of the blood—granular or non-granular leucocytes and red cells—must be traced to a common parent—a lymphoidocyte which does not occur in normal blood. We may be wrong in insisting upon the confusion into which the reader is thrown in endeavouring to fathom Dr. Pappenheim's meaning, but judging by the criticisms to which the author has been subjected and to which he refers in the opening sections of the third part, it would seem that others have found the same difficulty.

In the first part are contained Plates xxvi to xxx, which are concerned with the white corpuscles met with in diphtheria of childhood, in helminthiasis of childhood, in normal states, in status lymphaticus, in tertian malaria, after small-pox vaccination, in carcinoma of the pelvis with bone metastasis, in Hodgkin's disease, and in pneumonia. The second part contains Plates xxxi to xxxviii, showing the appearance of the white cells in quartan malaria, in acute lymphatic leucocythaemia, and in acute myelocytic leucocythaemia. Plate xxxvii illustrates lymphoid cells met with in the marrow in health and in the blood of the ordinary chronic myelocytic leucocythaemia. A scheme is given showing how the author differs from Ehrlich, Naegeli, and Ziegler in his views as to the interrelationship of the lymphocytes and granulocytes to one another. The third part contains Plates xxxix to xliii, and here there is still further elaboration. A new blood picture is described as that of acute leucoplastic leucocythaemia, which in the older nomenclature would be spoken of, perhaps, as acute lymphatic-myelocytic leucocythaemia. The last two plates of the volume portray the red cells met with in the above diseases, which are primarily examples of changes in the white cells.

When the reader has tried to find his way through the mazes of intricate terminology already referred to he must not yield to the feeling of exhaustion produced, but, to test the value of this important work, should take his own blood films of the various diseases known as leucocythaemia, and in the light of the experience obtained by a perusal of Professor Pappenheim's work ask himself whether, after all, he has not in the past been too easily satisfied with the common classification of leucocythaemias as followed out in the blood examination. We are quite sure, especially if he can repeat his blood examination, using the newer methods of staining advocated by the author, that he will find new vistas opened out. With the aid of Professor Pappenheim's admirable plates he will with ease recognize not only that Professor Pappenheim has laid the whole medical profession under deep obligation by his searching inquiries into the genesis of the white cells in health and disease, but that he has made an important contribution to the sharper differentiation of the clinical varieties of leucocythaemia.

[1] *Atlas der menschlichen Blutzellen.* Von Professor Dr. Artur Pappenheim. Supplement-Band, 1, 2, 3 Lieferung. Jena: Gustav Fischer. 1912. (Roy. 8vo, pp. 240; plates xxvi-xliii; 13 figures. Mk. 14.)

DIETETICS.

DR. HINDHEDE, author of a book on *Protein and Nutrition*,[2] now before us, is a Danish physician whose work on this subject is well known in his own country and in Germany. It has received honourable recognition also from the Danish Government, which has established for his use a State Laboratory, and appointed him to be its Director at a salary sufficient to allow him to devote himself to the investigation of questions connected with diet and nutrition. As the son of a Westjutland peasant farmer he had been brought up on a diet consisting of porridge, black bread, potatoes, vegetables with a little butter, bacon and fish, and when he returned after his medical studies to practise amongst his own district, he was at first disposed to believe that the people were under-nourished; further experience convinced him that these people who lived in this way were second to none in energy, endurance, and muscular strength, so that he ended by going back to the diet of his youth. He brought up his family upon this simple food, and he has been for many years a persistent advocate of a low protein diet, on the ground of its superior healthfulness as well as its economy. He does not exclude meat or animal food, but he regards it as unnecessary and only to be taken in small quantities, and absolutely condemns the use of alcohol, tea, coffee, and tobacco. He quotes in support of his opinions the recent work of Chittenden, Fletcher, and Irving Fisher: the athletic feats of vegetarians, and the more recent views of workers on metabolism, but he thinks that Chittenden places the protein requirements too low. It is to be regretted that the book is written in a polemical style, and especially that, in arguing against the older doctrines of Voit, he uses language that is unseemly in relation to one who was a pioneer in the study of the chemistry of metabolism. We commend the book to all who are interested in the subject of the economy of dietetics. There is strong ground for believing that the present extent of the use of meat is excessive and bad both from the economical and the dietetic points of view, but any reform has to encounter a vast amount of prejudice, not the least of which is the insuperable objection manifested by our poorer classes to the use of anything which can be described as cheap. The translation is competently performed, but the editor should have known the abbreviation "grs." in this country stands for grains and not for grams, and there is more than one instance in which the language employed is scarcely idiomatic English.

[2] *Protein and Nutrition: An Investigation.* By Dr. M. Hindhede. London: Ewart Seymour and Co., Limited. 1913. (7s. 6d. net.)

Dr. ARON's book on the biochemistry of growth in man and in the higher animals[3] is a useful and well arranged compilation, showing the results obtained by various investigators. He limits the subject to the growth of mammals, and especially of man, and he arranges it under the following headings: (1) Changes in the chemical composition of the body during the period of growth, including the alteration in the proportion of water, fat, albumin, and mineral salts, both in the whole body and in special parts and organs; (2) the metabolism of the growing body in health and in under-feeding, and as varied by the nature and composition of the food; (3) the temporary disturbances of the normal chemistry of growth, either resulting from interference with the growing impulse, or from secondary causes. Under these headings he has tabulated the work of various investigators, arranging them in parallel columns, so that the book is valuable for reference. There appears to be a reduction of the percentage of fat and of water as the body grows; but in spite of the large proportion of fat the newly-born infant, as everyone knows, is sensitive to changes of temperature, and the author accepts the current view that this is due to the heat-regulating centre being not fully developed; it is also noteworthy that the fat of the newly-born infant is much more solid than in the adult, melting at a relatively high temperature. Analysis shows that it contains less oleic acid and is richer in palmitic and stearic acids; thus the fat of the newly-born infant contains 52 per cent. of fluid fatty acids and 39 per cent. of the solid fatty acids, while that of the six-year-old child contains 82 per cent. of the former and only 10 per cent. of the latter. The percentage of albumin increases with age to a certain extent, but the ash shows a steady and marked increment, especially the phosphoric acid and lime. The author asserts that the process of growth is not evenly and continuously progressive, but periodic. Among interesting points in the metabolism of the embryo and young animals are the facts that during the hatching of hens' eggs uric acid is formed by the embryo, that mammals which grow rapidly have richer milk—thus, for example, it takes a baby 180 days to double its weight, human milk containing 70 calories and 1.2 of albumin in 100 parts; but a guinea-pig, which doubles its weight in six days, is suckled with milk that contains 160 calories and 15.5 parts of albumin per cent. It would appear that a deficiency of the quantity of food is of greater importance than a deficiency of any single constituent such as albumin, but when young dogs were fed on food poor in fat although rich in carbohydrate, the proportion of albumin and ash in the fat-free substance was always less than in those fed with a larger amount of fat. The author holds that, though the relations of the ductless glands to growth is certain, their mode of action is still obscure; feeding with them has given no conclusive results. Under-feeding, although its effect is very marked at the time, does not, he thinks, produce any permanent ill effect: thus, a young male rat if underfed may be no larger, if as large, as a well-fed female rat of the same age, but on being supplied with an adequate quantity of food will rapidly overtake its sister, and develop to its normal size and weight. Enough has been said to show that Dr. Aron's little book contains much interesting matter, and we have pleasure in commending it to the notice of those interested in the subjects of which it treats.

The well-known textbook by Dr. CARL WEGELE on the treatment of diseases of the stomach and intestines has been repeatedly noticed in these columns. The third edition was reviewed in December, 1905, and the fourth edition in July, 1911, but the *Therapeutics of the Gastro-intestinal Tract*[4] is an adaptation of Wegele's book by Drs. MAURICE H. GROSS and I. W. HELD, in which it is difficult to recognize the original. It is usual in such a work to mark the additions by the use of square brackets or different type, but here no such arrangement has been followed; the editors say in their preface that they have deemed it necessary to make extensive additions by adding sections on general and special diagnosis, a special chapter on the œsophagus, and one on the use of the *x* rays in the diagnosis of stomach and intestinal diseases, as well as chapters upon the use of the duodenal tube, on the diagnosis and treatment of diseases of the pancreas, on parasitic diseases, and diseases of the intestinal blood vessels. That the information thus conveyed is useful does not admit of doubt, but it is questionable whether it is legitimate so to transform a book that the work of its author can no longer be recognized. In the former notices of Dr. Wegele's book we have sufficiently shown our appreciation of it, but we are disposed to think that the additions are scarcely on the same level; while the general matter is up to date, the way in which it is presented is open to criticism, and might have been much improved by careful editing.

DISEASES OF THE NERVOUS SYSTEM.

THE second edition of the English translation of BING's *Compendium of Regional Diagnosis in Affections of the Brain and Spinal Cord*[5] gives an admirable and brief account of the symptomatology of nervous diseases, based on their pathology, written for the especial benefit of practitioners who are not neurologists. The first 84 pages deal with the regional diagnosis of lesions of the spinal cord, the rest of the volume is devoted to the regional diagnosis of brain lesions. The book is clearly written and as short as is compatible with clearness. It is furnished with a number of excellent and simple diagrams; in the first English edition the explanatory text beneath the illustrations was in several cases unsatisfactory, and it remains unsatisfactory in the second edition; many of the letters or abbreviations used to indicate different structures in the figures are not interpreted in the explanatory text (Figs. 30-37). Such omissions are annoying to the reader, and might well have been made good at the opportunity afforded by the appearance of a second edition. Again, the convenience of the reader would be served if the abbreviations or letters used on the diagrams were placed in alphabetical order in the accompanying explanatory text, and not haphazard. The translation has been well made; the "lower brachial plexus-paralysis" of p. 70 should be "paralysis of the inferior brachial plexus," or "lower arm paralysis"; on p. 20 "myosis" is spelt correctly, on p. 23 it is spelt "miosis." These, however, are all comparatively trifling defects in what is an excellent book, and it may be warmly commended to the attention of medical men in search of a practical guide to the interpretation of the signs and symptoms of nervous disorders. It does not seem to contain any account or explanation of the genesis of the referred pains or hypersensibility that so often accompany visceral disease, and so often require medical treatment. Perhaps Dr. Bing will insert this in his next edition.

Dr. ALLEN STARR is to be congratulated on the appearance of the fourth edition of his well-known textbook of *Nervous Diseases*.[6] It is divided into four parts. The first contains an introduction to the subject, the methods of examining patients, and the principles of diagnosis. The second, in four subsections, is devoted to organic nervous diseases, and occupies 570 pages. The third is given to functional diseases, and the fourth to the sympathetic nervous system. A small number of references to the literature are inserted; Dr. Starr has sifted the literature, but has written most of his book on the strength of his own observations and experience during the last thirty years. Among the most brilliant recent achievements of neurology he counts the surgical measures recently devised for the treatment of many nervous diseases, for many of them lie on the borderland between surgery and medicine; he takes care to point out the limitations as well as the successes of treatment on these lines. The book, it need hardly be said, is well and clearly written, and it fully deserves its great reputation. Dr. Starr frequently quotes cases; the illustrations in the text are good and well

[3] *Biochemie des Wachstums des Menschen und der höheren Tiere.* Von Dr. Phil. et Med. Hans Aron. Jena: Gustav Fischer. 1913. (Roy. 8vo, pp. 71. Mk. 2.50.)

[4] *Therapeutics of the Gastro-intestinal Tract.* By Dr. Carl Wegele. Adapted and edited with additions by Maurice H. Gross, M.D., and I. W. Held, M.D. London: Rebman, Limited. 1913. (Roy. 8vo, pp. 345: 52 figures, 1 plate. 12s. 6d. net.)

[5] *Compendium of Regional Diagnosis in Affections of the Brain and Spinal Cord.* By R. Bing. Translated by F. S. Arnold, B.A., M.B., B.Ch. (Oxon.). Second edition, revised and enlarged. London: Rebman, Ltd. 1913. (Demy 8vo, pp. 235; 73 figures. 10s. 6d. net.)

[6] *Organic and Functional Nervous Diseases; a Textbook of Neurology.* By M. Allen Starr, M.D., Ph.D., LL.D., Sc.D. Fourth edition. London: Bailliére, Tindall, and Cox. 1913. (Demy 8vo, pp. 980; 30 plates, 323 figures. 25s. net.)

chosen, and so are some of the coloured plates. The volume is well printed, but is, perhaps, unnecessarily heavy, so that it is unduly fatiguing to hold in the hand. It is very full in its treatment of the various nervous disorders, less than half as long as Oppenheim's great German text-book, perhaps half as long again as Dr. Judson Bury's recent volume on the same subject. It may be cordially recommended to all neurologists and physicians in search of a complete and straightforward account of nervous diseases.

SEX TEACHING AND PERSONAL HYGIENE.

THERE is evidently a feeling abroad that the time has come when the traditional practice on the part of parents of putting off inconvenient questions upon the subject of reproduction, and leaving their children to glean more or less incorrect and mischievous information elsewhere, should be abandoned in favour of a franker and honester course. This is doubtless a matter for congratulation, but we are not so sure as the writers of the batch of manuals[7] before us would seem to be that the parent is the person from whom the initiation may best come. There is, we believe, an instinctive and almost invincible shyness, as between parent and child, in regard to the discussion of such matters; and if, as we quite agree, it be desirable that the legitimate curiosity of the normal child should be satisfied, the question is at least debatable whether provision should not be made in the school curriculum for a straightforward course of instruction in the elementary physiology of reproduction. In this country such instruction is, we believe, not always available; though the masters of some preparatory schools consider it to be part of their duty to say what is necessary. In other cases, and these probably form the majority, the responsibility must, for better or worse, be accepted by those parents at any rate who believe that the present policy of *laissez aller* has dangers too serious to be safely ignored. In *Herself*, one of the books before us, the authoress, Dr. E. B. LOWRY, quoting the Hon. Edwin Sims, asserts that in the United States "literally thousands of innocent girls from the country districts are every year entrapped into a life of hopeless slavery and degradation because parents in the country do not understand conditions as they exist and how to protect their daughters from the 'white slave' traders, who have reduced the art of ruining young girls to a national and international system." It is not an unreasonable contention that girls who are ignorant of sex matters—boys, too, for that matter—will be more likely to become victims of the numerous dangers of one kind and another that beset the path of adolescence than those who have been duly warned and enlightened. In the books before us parents who realize the necessity of some such instruction, but feel unequal to the task of undertaking it unaided, may certainly hope to find what they need. Where most are excellent and nearly all are adequate it would be an invidious task to discriminate between the various authors and their works. Some are designed for the use of quite young children, others for those at or near puberty, others again for the young man or woman on the threshold of workaday life. Sir THOMAS CLOUSTON has contributed a well-written manual to a series of books on *Questions of Sex*, addressed to young men, containing much excellent advice and sound warning on the subject of marriage and the avoidance of those pitfalls by which it is too often ruined in advance. Nearly all the books contain a fairly clear account of the physiology of reproduction, with warnings against the dangers of self-abuse. Those intended for older readers inculcate the duties of personal cleanliness; girls are warned against over-exertion during menstruation; the subject of venereal disease is dealt with and its terrible possibilities duly enforced. We notice, however, in some of the volumes a regrettable tendency to sentimentality; in our opinion writers of popular manuals on sex matters would be better advised to cultivate an impersonal tone. The danger to be shunned here is not, as in other spheres of popular science, that of failing to excite interest, but of over-exciting it. We question whether the statement that the human embryo is borne in a "nest" situated "close to mother's heart" is calculated to convey even an approximately accurate anatomical suggestion. If it be pleaded that such statements are made only for the benefit of the very young, we doubt whether any detailed information on these matters is desired or desirable at so early an age. It should suffice to answer truthfully yet briefly such questions as may be asked, until the age of puberty is imminent: it is that time which Nature indicates as the period for fuller information.

[7] *Himself*, by E. B. Lowry, M.D., and R. J. Lambert, M.D.; *Herself*, by E. B. Lowry, M.D. Chicago: Forbes and Co., 1912. (4s. net each.) *Confidences: False Modesty; Truths*. By E. B. Lowry, M.D. Chicago: Forbes and Co. 1912. (2s. net each.)
Questions of Sex Series: *What a Boy should Know*, by A. T. Schofield, M.D., and P. Vaughan-Jackson, M.D.; *From Girlhood to Womanhood*, by E. Sloan Chesser, M.B.; *Before I Wed*, by Sir Thomas Clouston, M.D., LL.D.; *Life and Its Beginnings*, by H. Webb, M.B. Lond. London: Cassell and Co., Ltd., 1913. (2s. 6d. net each.)
What a Father should tell his Little Boy. *What a Mother should tell her Little Girl*. By Isabella Thomson Stuart, M.D. New York and London: Funk and Wagnalls Co., 1912. (2s. 6d. net each.)

NOTES ON BOOKS.

THE edition of *Who's Who*[8] for 1914 contains 88 pages more than its predecessors, or 2314 altogether. This tendency to increase has been observed for many years, and is partly to be accounted for by a feature of the book which undoubtedly adds materially to its value as a desk work of reference: it is that it contains short biographies of many of the leading statesmen and men of letters or science in other countries. The biographies, however, are for the most part British, and the list is very comprehensive. The book is indispensable to all in any way engaged in public life, and very useful to every intelligent reader of the newspapers. It is even sometimes entertaining by reason of the occasional sidelight it throws on character; thus, one of the examiners of plays, after enumerating his engagements as dramatic critic to various newspapers, says that he "may be regarded, if any one regards dramatic critics, as having been the doyen of his craft." The one effect of the growth of the bulk of the book has been the production for several years past of *Who's Who Year Book*,[8] which is, as it were, the converse of the main volume, for in the *Year Book* persons are classified according to their offices—thus, there are lists of Government officials, members of Parliament, governors of colonies, heads and professors of universities, head masters of public schools, premiers of colonies, and members of royal commissions now sitting. It also contains a list of learned societies, of clubs, and of great steamship lines and their agents. The *Year Book*, as the editor recognizes, makes a special appeal to journalists, but the lists it contains will be useful to many others. Another book in the same style issued by the same publishers is directly addressed to journalists and others engaged in literary work. It is the *Writers' and Artists' Year Book*,[8] and is described as a directory for artists, writers, and photographers. The editor, Mr. Mitton, has inserted an article on photographing for the press, which he hopes may help those who wish to turn a hobby to practical account. Information with regard to some of the leading foreign periodicals is included.

The Year Book of Scientific and Learned Societies of Great Britain and Ireland[9] has reached its thirtieth annual issue. It contains a record of the work done during the session 1912-13 by many British learned and scientific societies and Government institutions: it includes notices of most of the principal medical societies. In the case of the more prominent societies such as the Royal Society, the British Association, the British Medical Association, the Royal Society of Medicine, the Royal Medical Society of Edinburgh, the Edinburgh Medico-Chirurgical Society, the Royal Academy of Medicine in Ireland, the Chemical Society, and the Society of Chemical Industry, lists of papers read are given. The volume will thus be of assistance in following the recent literature of science.

Unhealthiness of mind and body seems to possess a morbid attraction for a certain type of mind, and there is, therefore, never any lack of a public for a novel such as *Tantalus*,[10] in which the author of *The Adventures of John Johns* has given a highly coloured account of the nervous breakdown of an elderly widower, who, against the wishes of his grown-up family, marries a girl young enough to be his daughter. It is open to question whether novels dealing with the different manifestations of disease serve any useful purpose, but the most carping critic must admit that, whatever else they lack, they are seldom wanting in interest. The circumstances attending Henry

[8] London: Adam and Charles Black. 15s., 1s., and 1s. respectively.
[9] Charles Griffin and Co. 1914. (Pp. 380. 7s. 6d.)
[10] *Tantalus*. By the author of *The Adventures of John Johns*. London: T. Werner Laurie. 1913. (Cr. 8vo, pp. 260. 6s.)

Alster's degeneration from a successful business man into a helpless invalid form the plot of a very readable story, and the author is to be congratulated upon the skill with which he has portrayed this unhappy victim of neurasthenia, whose plight has been so accurately described by Hood:

> There's Morbid, all bile, and verjuice and nerves,
> Where other people would make preserves,
> He turns his fruit into pickles:
> Jealous, envious, and fretful by day,
> At night, to his own sharp fancies a prey,
> He lies like a hedgehog rolled up the wrong way,
> Tormenting himself with his prickles.

The first three volumes of *International Clinics*[11] for the year 1913 have been edited, as usual, by Dr. HENRY W. CATTEL, of Philadelphia, with the collaboration of nine or ten medical men of distinction in the United States, Great Britain, and Austria. They include altogether over ninety papers, American writers predominating. Many of the articles are well illustrated, and, taken together, they cover nearly every branch of medicine and surgery. One paper deals with a subject which has not been so elaborately considered since the publication of Casper's work on forensic medicine thirty or more years ago. This is a detailed review by Dr. Gurney Williams, formerly a police surgeon at Philadelphia, of his experience in the investigation of several hundred cases of alleged rape of children and young girls. It is, fortunately, not a subject which comes under the notice of all medical men, and those who have had most experience of it best know how great are the difficulties that it often presents. Another paper which may be mentioned is that by Dr. H. W. Frauenthal of New York, dealing with the use of mirrors in the treatment of cases in which it is desired to teach a patient to use or develop the strength of a certain muscle or group of muscles. There is nothing original in the general idea that mind concentration is useful in such connexions, but there is novelty in the reasoned description of this particular fashion of attaining it.

The success or failure of treatment in cases of chronic heart disease must always depend largely upon the exercise of common sense and goodwill on the part of the patient. An American physician, with wide experience of the difficulties and disappointments attendant upon cardiac therapy, has recently issued a volume of good advice, more especially addressed to "heart patients."[12] In his preface, dated from Bad Nauheim, Dr. JAMES HENRY HONAN, of the Rush Medical College, Chicago, expresses his desire to give encouragement and hope to persons who know they have heart trouble, and by pointing out the ways of error to enable them to recognize the precautions that must be taken to arrest the progress of increasing incapacity. Unluckily, the average business man with a tendency to heart weakness takes but little interest in the physiological processes of his own body, and in very many cases is fond of parading his ignorance. It is to be feared that few readers will make much of Dr. Honan's warnings unless they possess some elementary knowledge of the normal processes of physical life. The conditions of modern life are not conducive to rest, either mental or bodily, and the strain is seldom realized until a breakdown occurs. Hence the value of the writer's advice will be more appreciated after the preliminary stages of disease have declared themselves. That advice touches upon almost every conceivable error that a "heart patient" is likely to commit, and in such a multitude of counsel there is of necessity a good deal of repetition and confusion. The "heart patient" will do well to seek the advice of his doctor before deciding upon any definite line of action.

[11] *International Clinics.* In four vols. Twenty-third series. Vols. i, ii, and iii. Edited by H. W. Cattel, A.M., M.D. Philadelphia and London: J. B. Lippincott Company. 1913. (Medium 8vo, pp. 312, 322, 310. Annual subscription, 35s. net.)

[12] *What Heart Patients Should Know and Do.* By James Henry Honan, M.D., Rush Medical College (University of Chicago). New York: Dodd, Mead, and Co. 1913. (Cr. 8vo, pp. 214. 5s.)

THE tenth International Congress of Esperantists will be held in Paris in August (2nd to 10th), 1914. The Comité de Patronage includes the names of ninety-three of the leading men of France. Among the representatives of the Medical Faculty are Professors d'Arsonval, Daniel Berthelot, Charles Bouchard, André Broca, Gariel, Landouzy, Charles Moreu, and Roux. During this congress the International Association of Esperantist Doctors will hold its meeting.

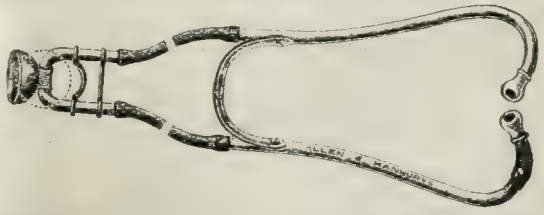
MEDICAL AND SURGICAL APPLIANCES.

Siphon Stoves.

IN dwelling houses, as well as in shops and offices, it often happens that small apartments are unprovided with a chimney outlet, and the hygienic heating of such places is an almost insuperable difficulty. An attempt to grapple with it is made by means of a stove combining the condenser principle, which is fairly well understood, with a siphon principle, which is peculiar to itself. The construction of the siphon stove, with which either gas or oil may be used, is ingenious. The hot gases, after leaving the burner, are carried up through a metal cylinder surrounding a central chamber, and are then directed downwards through two large columns, which form the outer framework of the stove. Within these columns they mingle with the cooler air and condensation of aqueous vapour takes place. The condensate is cast into a removable tray at the foot of the stove, and the gases are then carried up again through a narrow pipe at the back into the superheated central chamber itself. On issuing from this chamber they pass inlets admitting fresh air, which is drawn up between the outer and inner casings of the stove, and the hot diluted and purified gases are then sent out into the room through an opening at the top. It follows that in this process the products of combustion are freed from a considerable part of their water vapour, and very largely also from the constituents which are noxious for the breathing atmosphere. A scientific test carried out for the manufacturers upon the exit gases showed, we were informed, that the carbon dioxide is brought down to a negligible degree of dilution, that the carbon monoxide, even with restricted ventilation, is less than 5 parts in a million, and that 60 per cent. of the sulphur content of the coal gas is dissolved in the condensate. A small amount of radiant heat is possible with this arrangement, but the heat generated is principally contact heat, being directly abstracted from the flue gases by the surrounding atmosphere. Our representative was in a confined space in which one of these stoves had been burning for a considerable time, and was conscious of no sensation of stuffiness or that vague discomfort which, at least to those accustomed to healthy breathing conditions, is the first signal of inefficiency. The absence of flue-loss renders these stoves highly efficient so far as economy of heat is concerned, and for small rooms, when a flue-outlet is non-existent, they will find doubtless a field of usefulness, provided that the other means of ventilation are ordinarily effective. The various forms of this stove are placed on the market by Clark's Syphon Stove Company, Ltd., 132, Queen Victoria Street, London, E.C.

An Adjustable Stethoscope.

Messrs. Allen and Hanburys have made for Dr. Gordon G. Copeland of Toronto a stethoscope one of the advantages claimed for which is that as the chestpiece is made of aluminium the apparatus is light. The opening which receives the sound waves is exactly twice the capacity of the two tubes leading to the external auditory meatus. The calibre of the instrument is perfectly equal all the way through from beginning to end, no interruption of any kind occurring either where the metal tubes join the tubing or where the tubing joins the chestpiece, owing to the specially constructed outside tapered knife-edge joints.



The chestpiece is made to revolve, so that it is possible to examine the side or back to a very considerable extent without disturbing the patient and without causing the tubes to kink or touch the bed clothes as well as allowing all front parts, even to the sides, to be examined without changing position. The instrument is made portable by having the spring hinged, and the arms can be set up at an angle coinciding with the direction of the auditory meatus. It is claimed for the stethoscope that it is very adaptable and handy in application, and that it gives the highest acoustic efficiency. For children and very emaciated adults a localiser has been devised for use with the instrument, and this embodies the same principles on a smaller scale. Care should be taken that the earpieces fit and are comfortable.

ROYAL MEDICAL BENEVOLENT FUND.

At the November meeting of the Committee thirty-two cases were considered, and grants amounting to £332 made to twenty-nine of the applicants. Appended is an abstract of the cases relieved.

1. Daughter, aged 39, of late M.D.Edin. Has maintained herself as mother's help, etc., but has been strongly advised to take up maternity nursing, and requires assistance with the expenses of her training. Voted £10.

2. Widow, aged 43, of L.R.C.P., L.R.C.S.Edin. Lost her husband a few months ago after an illness lasting several months, and is left quite unprovided for. Five children, three dependent and the two elder only earning a few shillings a week. Voted £10.

3. Widow, aged 46, of M.R.C.S. Endeavours to support herself by letting lodgings, but cannot quite meet her expenses until her children are self-supporting. Relieved four times, £47. Voted £12.

4. Daughter, aged 36, of late M.R.C.S. Has a post at a small weekly wage at a jeweller's shop, but thinks that if she can learn typewriting she will be able to improve her position. Relieved once, £5. Voted £10.

5. Daughter, aged 84, of late M.D.Glasg. Supported herself for several years by letting lodgings, but is in difficulties owing to the long illness of a sister who recently died. Only income an old age pension. Voted £18.

6. Daughter, aged 47, of L.R.C.P., L.R.C.S.Glasg. Has an income of £22 a year, and hopes to supplement it by teaching, but requires a rest after nursing her mother (recently deceased) for several months. Voted £5.

7. Daughter, aged 46, of L.R.C.P., L.R.C.S.Edin. Has been a nurse at an isolation hospital for twelve years, but has broken down in health, and is ordered a complete rest. Voted £5.

8. Widow, aged 47, of L.R.C.P., L.R.C.S.Irel. Is endeavouring to establish a small boarding-house at a seaside town, but has had a bad season and heavy expenses owing to the serious illness of one of her boys, who is a foundationer at Epsom College. Voted £12 in twelve instalments.

9. Daughter, aged 39, of late M.R.C.S. Is well educated and intelligent, but suffers from chronic retinitis, which compels her to depend upon her mother, whose income is less than £40 a year. Relieved once, £5. Voted £10.

10. Daughter, aged 54, of late M.R.C.S. No income and unable to support herself owing to permanent bad health; slight help from a relation. Relieved four times, £44. Voted £12.

11. Widow, aged 53, of L.S.A. Almost blind and deaf and dependent on a son, who only earns 25s. a week. Relieved seven times, £104. Voted £18.

12. Daughters, aged 62 and 54, of late M.R.C.S. No income; endeavour to support themselves by receiving boarders, but find difficulty in obtaining them, and are both in feeble health. Relieved four times, £64. Voted £18.

13. Widow, aged 76, of M.D. Income less than £1 a week, and asks for a little help towards expenses which are unavoidable on account of ill health and old age. Relieved eight times, £46. Voted £5.

14. Daughter, aged 65, of late M.R.C.S. Supplements a small pension from a charitable society by taking boarders, but finds great difficulty in making both ends meet. Relieved twice, £20. Voted £10.

15. Daughter, aged 68, of late M.R.C.S. Has maintained herself since father's death several years ago by receiving boarders, but now only has one, and is constantly in difficulties. Relieved once, £12. Voted £12.

16. Widow, aged 82, of M.R.C.S. Has a small annuity, but asks for assistance towards unavoidable expenses incurred through an accident. Relieved four times, £35. Voted £5.

17. Widow, aged 66, of L.R.C.P.Edin. Has a small pension from a city company, but finds it insufficient for bare necessities, and is in bad health and crippled by rheumatism. Relieved seven times, £48. Voted £12.

18. Widow, aged 72, of L.R.C.P. Edin. Only income an old age pension; sight failing and health indifferent. Relieved six times, £72. Voted £12.

19. Widow, aged 68, of M.R.C.S. Supported herself for several years after her husband's death, but was obliged to give up her last post owing to ill health. Has an annuity of £10, and is allowed the same amount by a friend. Relieved five times, £54. Voted £9.

20. L.R.C.P., L.R.C.S.Edin. Has been incapacitated for some years by spastic paraplegia, and is dependent on a sister who can ill afford to help. Relieved nine times, £108. Voted £12.

21. Daughters, aged 61 and 56, of late M.R.C.S. No income; slight help from friends and small earnings by needlework. Relieved nine times, £134. Voted £20.

22. Widow, aged 76, of L.R.C.P.Edin. Supplements an income of a few shillings a week by taking lodgers. Children unable to help; health failing. Relieved three times, £36. Voted £12.

23. Daughter, aged 66, of late M.R.C.S. Income £22 a year. Is obliged to ask for assistance owing to increasing infirmities and indifferent health. Relieved five times, £60. Voted £12.

24. Daughter, aged 59, of late L.S.A. No income, but is at present receiving a few shillings a week from a relation; has always been in bad health. Relieved fourteen times, £137. Voted £15.

25. Daughter, aged 68, of late M.R.C.S. Has a pension of £22 a year, and receives occasional slight assistance from friends; is a permanent invalid and at present unable to leave her room. Relieved seven times, £71. Voted £12.

26. Widow, aged 55, of L.F.P.S.Glasgow. No income, and endeavours to maintain herself by taking boarders. Relieved three times, £30. Voted £10.

27. Daughter, aged 60, of late M.R.C.S. Has maintained herself for some years, but is now in difficulties which it is hoped will prove temporary. Relieved once, £10. Voted £10.

28. Daughter, aged 61, of late L.R.C.P.Edin. Is unable to support herself owing to permanent deafness, and is consequently dependent on a sister, who is a mental nurse. Relieved eight times, £92. Voted £12.

29. L.R.C.P., aged 78. Acts as ship's surgeon when able to obtain a post as such, but is at present unemployed. Relieved twice, £24. Voted £12.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 11, Chandos Street, Cavendish Square, London, W.

ROYAL COMMISSION ON VENEREAL DISEASES.

The following is the official report issued to the press by the Secretary of the Royal Commission on Venereal Diseases:

The Experience of Victoria.

At the sixth meeting of the Royal Commission, which was held on December 1st, evidence was given by Dr. Burnett Ham, who from 1909 until this year was head of the Health Department in the State of Victoria, describing the measures which have recently been taken in connexion with venereal diseases in that State. In 1908, at the meeting of the Australasian Medical Congress, the following resolution was passed:

> That syphilis is responsible for an enormous amount of damage to mankind, and that preventive and remedial measures directed against it are worthy of the utmost consideration.

Following upon this resolution, a deputation waited upon the Premier of Victoria in 1909 to urge the consideration of this matter, and as a consequence Dr. Ham was directed to draw up a scheme for the investigation of the subject, and an advisory committee, consisting of the leading medical men and women in Melbourne, was appointed to act with him.

As a first step to ascertain the facts as precisely as possible it was decided to make syphilis a compulsorily notifiable disease in the Melbourne metropolitan area. In actual practice the compulsory nature of the notification was not insisted upon, as no penalties for failure to notify were enforced, but it was felt that unless an official flavour was given to the requirement to notify the response from the medical practitioners would be but small. There was at first some opposition on the part of the medical profession to the proposed notification, but this was to some extent removed when it was made clear that the notification was to be impersonal, that no names were to be given, and that consequently no administrative action could be taken on the notification so far as the patient was concerned. As a matter of fact, during the year in which the notification order was in force only 110 out of the 350 to 400 practitioners in the metropolitan area actually notified cases. Thus the measure adopted was not compulsory notification as ordinarily understood, but rather an experiment made with a view to ascertaining the amount of syphilis in the city. In connexion with the notification arrangements a circular was issued to medical practitioners explaining the kind of cases they were expected to notify, and the doctors were also asked to supply with each notification a sample of the patient's blood for the purpose of testing by the Wassermann reaction.

In the course of a year, 5,500 notifications were made, and an equal number of samples of blood submitted: 3,500 of these notifications were made by private practitioners, 900 by the Melbourne Hospital, and 1,100 by the Eye and Ear Hospital. Of the 5,500 Wassermann tests for syphilis which were carried out, 1,900 gave positive and 400 partial reactions, and it was calculated that this corresponded to a number of syphilitic cases equivalent to 0.5 per cent. of the population of the area; this figure was very much lower than had been anticipated.

An investigation was also carried on at the eye and ear cliniques of Dr. Barrett. All patients presenting themselves during a certain period, irrespective of the disease from which they were suffering, were tested by the Wassermann reaction. The results showed that out of 550 cases, 75, or 13.6 per cent., gave positive or partial reactions. With regard to gonorrhoea, a statement was furnished

to the Advisory Committee by the Women's Hospital, from which it appeared that in the view of the staff at least 50 per cent. of the major operations performed at the hospital were due to gonorrhoea.

The Advisory Committee, after submitting their report to the Government, endeavoured to induce the press to take up the question, and in this they met with a certain amount of success. The National Council of Women were also approached, and they agreed to assist in an educational campaign and to co-operate with any reasonable measures the Government might bring in, provided that there was no legislation on the lines of the Contagious Diseases Acts and that no difference was made as between men and women. The Advisory Committee did not recommend legislation, but they advised the Government to subsidize the provision of wards for the reception of venereal cases in the general hospitals. This recommendation was adopted by the Government, and free beds were provided—24 for males at the Alfred Hospital and 20 for females at the Women's Hospital. The wards were equipped by the Government with the most modern appliances, and in addition a subsidy was made to the Melbourne University to provide for the carrying out of Wassermann tests.

At first there was some difficulty in filling the beds provided, but as it became known that the treatment was in a general ward and that the patients would not be dealt with differently from those in the other wards, a good demand for beds arose. The establishment of a night clinic at the Alfred Hospital also helped to popularize the arrangements.

Dr. Ham thought that the experiments conducted at Melbourne had led to a greater interest in the subject, and that in securing early treatment and early diagnosis they had achieved an important result. A Health Bill was at the present time before the Victorian Legislature, which contained provisions for adequate and gratuitous treatment of patients, for the prohibition of treatment by unqualified persons, and for making the transmission knowingly of venereal diseases a penal offence.

SCIENCE NOTES.

THE action of enzymes in promoting chemical changes is far from being perfectly understood, but the investigations of recent years have shown that a very large number of reactions, especially among the chemical processes of living organisms, are proximately caused by specific ferments or enzymes. In an address given recently at the eleventh International Congress of Pharmacy Professor Emile Bourquelot, of Paris, dealt with the action of enzymes in promoting synthetic changes or the union of two bodies into one of greater complexity, and in this connexion brought forward some previously unpublished work by his colleagues and himself. Enzymes were at one time supposed to be capable only of causing the splitting up of complex bodies into simpler ones—as, for example, the decomposition of sucrose into glucose and fructose under the influence of the enzyme invertase, or of amygdalin into glucose, hydrocyanic acid, and benzaldehyde by the action of emulsin. It was soon recognized, however, that the decomposition induced is of the "reversible" type, and if the products formed are allowed to accumulate in the liquid a point of equilibrium is reached and the decomposition stops, but can be restarted if the decomposition products are removed. Attempts were then made by various chemists to discover a reverse action of enzymes, in which the simpler bodies should be united to form the more complex. The first work in this direction was done in this country by Croft Hill in 1898; one molecule of maltose is split up into two molecules of glucose by the action of the enzyme maltase, and it was the reverse of this change which Croft Hill endeavoured to bring about by the action of maltase on a solution of glucose. Some of the latter disappeared, and there was some evidence of the formation of a biose, which, however, was not maltose, and was named revertose. Since then various other workers have succeeded in proving a synthesizing action of various ferments, but not in producing from its constituents, by the action of an enzyme, the same compound as would be decomposed by that enzyme under other conditions. This is what M. Bourquelot has now succeeded in doing in a number of cases. He explains previous failures by the fact that the maltase, emulsin, or other ferment used is never a pure body, since no means are available at present for separating from one another those ferments which occur in Nature together, as, for example, in yeast. Therefore if, as he believes, each enzyme has a specific property of hydrolyzing or synthesizing one compound, since many bioses can be produced by the combination of two molecules of glucose, each enzyme present would produce the biose for which it was adapted, and the result would be not maltose but a mixture of bioses. Since the enzymes cannot be separated as pure substances, the best plan is to take such conditions that only one can act. The synthetic action is greatly favoured by the presence of excess of one of the constituent compounds; thus in a solution of glucose in excess of methyl alcohol, the enzyme capable of forming methyl-glucoside is in conditions favouring its activity, but enzymes capable of uniting two molecules of glucose together are much less favourably circumstanced, and others cannot function at all. By working in this way methyl-glucoside was prepared and crystallized, and M. Bourquelot and his colleagues have now successfully synthesized a considerable number of glucosides. As evidence that the synthetic and hydrolytic actions are due in any given case to the same enzyme, they record experiments in one of which the complex substance, and in another its hydrolytic products, were acted on by the same (impure) ferment, all conditions of dilution, etc., being the same; when equilibrium was reached the two liquids were of identical composition. Many new glucosides have been synthesized, and the field so opened up is practically unlimited; while an appreciable step has been made towards understanding the nature of enzyme action.

The Friday evening meetings of the Royal Institution will be resumed on January 23rd, when Sir James Dewar will speak on the coming of age of the vacuum flask. Among the lectures announced is one on the mechanics of muscular effort, by Mr. H. S. Hele-Shaw, F.R.S., M.Inst.C.E., and another on the production of neon and helium by electric discharge, by Professor Norman Collie, F.R.S. On February 20th Professor Arthur Keith, Conservator of the Museum of the Royal College of Surgeons of England, will relate the results of an anthropological study of the busts and portraits of Shakespeare and Burns. "The Royal Institution of Great Britain for the Promotion, Diffusion, and Extension of Science and of Useful Knowledge," to give it its full title, was founded by Count Rumford, and constituted by a charter granted by George III in 1800, enlarged and confirmed by an Act of Parliament in 1810. It possesses a library of about 60,000 volumes rich in scientific publications, but including also standard works on literature, art, and antiquarian research. There is a printed catalogue, and the books may be consulted in convenient reading rooms where English and foreign journals, magazines, and reviews may also be seen. The chief glory of the institution is in the remarkable scientific work which has been done in its chemical and physical laboratories by such men as Dr. Thomas Young in optics, by Sir Humphry Davy in chemistry, by Michael Faraday in electro-magnetism, by Tyndall in thermodynamics, by Lord Rayleigh in physics, by Sir James Dewar in the investigation of low temperatures, and by Sir J. J. Thomson on the constitution of matter. The historical collection of the institution contains Davy's first models for his miner's safety lamp and Faraday's electric apparatus, rough and ready in construction, but containing the promise of the extraordinary development of electric theory and its practical applications which the last half-century has witnessed. Young was professor from 1801 to 1803, Davy from 1802 to 1813, and Faraday from 1833 to 1867. The present professors are: in Natural Philosophy, Lord Rayleigh and Sir J. J. Thomson; in Chemistry, Sir James Dewar; in Physiology, Dr. William Bateson, who is also Director of the Horticultural Institution, Merton Park, Surrey, where he is continuing his researches in heredity. The average annual expenditure on experimental research during the last century has been £1,000. The Davy-Faraday Research Laboratory is an affiliated but distinct institution, founded by the late Dr. Ludwig Mond, F.R.S., to provide opportunities and facilities for research to persons who have credentials of scientific training and some experience in

original investigations. The annual subscription to the Royal Institution is five guineas and the entrance fee is of the same amount.

Since the discovery in 1907 by Halberstaedter and von Prowazek of peculiar cell inclusions in the conjunctival epithelium of patients suffering from trachoma, various views have been held as to the nature of these bodies. These inclusion bodies are composed of both minute granules and coarser oval forms imbedded within the cells in a rather indefinite homogeneous matrix. With Giemsa's stain the minute granules stained red and the coarser granules took a blue colour. When scrapings from the conjunctiva of trachomatous patients were introduced into the eye of monkeys a mild conjunctivitis resulted, and similar bodies were found in the epithelial cells: as the conjunctivitis disappeared the inclusion bodies could no longer be found. The authors concluded that there was an etiological relationship between these peculiar bodies and trachoma. This opinion was confirmed by others, but in 1909 the original workers discovered the same appearances in ophthalmia neonatorum, and in the following year Herzog put forward the idea that the so-called trachoma bodies were merely involution forms of the gonococcus. Noguchi, working with Cohen, considered them to be definite pathogenic organisms capable of producing well-defined conditions, and concluded that when they were found in gonorrhoeal conjunctivitis there was a double infection. By others the bodies were held to be degenerated Koch-Weeks bacilli, protozoa, or degeneration forms such as are met with in carcinoma cells. Recently Noguchi and Cohen have returned to the study of the trachoma bodies, and by the use of the Noguchi medium, which has proved to be such a fertile ground for the study of spirochaetes, the virus of rabies, the organisms of poliomyelitis and others, they claim to have cultivated these trachoma bodies. They took scrapings from the surface of the conjunctiva, and inoculated them in sterile ascitic fluid containing a piece of fresh animal tissue under anaërobic conditions. The result was that they were able to obtain cultures from all cases of trachoma in which smear preparations showed the bodies to be present, and from one of three cases of trachoma in which smear preparations were negative: they were absent in all the control cases. The primary cultures contained in addition various other bacteria, but after purification by Noguchi's method pure cultures were obtained of minute coccal bodies in pairs or in masses staining red with Giemsa's solution. The colonies were barely visible to the naked eye. After several generations on anaërobic media the organisms could be grown under aërobic conditions on a glucose-agar medium. In addition to the minute granular forms staining red there were also found in the cultures larger oval forms, separately or in groups, taking a blue colour, and the latter could be observed to break up into the former. The typical appearance of the cell inclusion was obtained—a mass composed of an outer zone of coarse granules and a centre of minute granules. The organisms from a culture take Gram's stain, and are stainable also by carbol fuchsin and gentian violet. So far inoculations of cultures into the eyes of monkeys have been without result.

MOTOR CARS FOR MEDICAL MEN.

Small Cars.

Dr. George Willett (Keynsham, Bristol) writes: In reply to Dr. Gordon Kelly, of Leicester, I beg to say that my statement that a hot-water jacketed induction pipe in a motor engine does conduce to an easy start up in the morning is founded on the following personal observations: On returning from a ten-mile run I took the temperature of the radiator water, and found it to be 155° F. The next morning at 9 a.m. I took it again; it was then 55° F., while a bucket of water standing close by as a control registered 52° F. Remembering that petrol begins to boil at 150° F., that it becomes less dense as the temperature rises, and also that my radiator water is 3° F. higher than the control water, I think I am quite justified in making this statement, particularly as the gain of these 3° F. corresponds to a change in the petrol density from 0.731 to 0.721, quite sufficient, in my opinion, to give the easy start up that I experience daily. As regards cylinder cooling, it is well known that pump systems (as in the De Dion) do not absolutely necessitate the radiator being kept quite full, whereas (as in the Singer) the thermo-siphon type of water circulation demands for its success the regular replenishment of the water lost by evaporation.

THE RADIOTHERAPY OF CARCINOMA UTERI.

[From our Special Correspondent in Berlin.]

The eagerly awaited and long-promised lecture by Professor Bumm on his results with radium in the treatment of cancer of the uterus was delivered to a crowded audience at a meeting of the Berliner medizinische Gesellschaft on December 3rd. It will be in the memory of my readers that Professor Döderlein's pronouncement this summer at the Gynaecological Congress at Halle was reported by me in full in these columns, and that it, and the discussion which followed, were on the whole decidedly optimistic in tone. It resulted, at any rate, in a great effort on the part of medical authorities throughout Germany to secure funds for the purchase of as much of the precious material as they could secure for the treatment both of hospital and private cases, and, as always where there is a large demand, in an artificial increase in the prices charged, due to the commercial speculators.

Professor Bumm began by recalling the favourable report he had made in the summer on twelve cases treated by radiotherapy. Further experience had afforded him no grounds to contradict what he then said concerning the local action of radium. There was nothing in the whole realm of the medical armamentarium that approached it in its power to produce shrinking of the primary growth together with inhibition of discharge and haemorrhage—effects that usually became apparent in from ten to twelve days. In favourable cases epithelialization of the tumours then took place, and the nodules diminished in size and ultimately vanished. Microscopic examination in such cases showed a disappearance of malignant mitoses, together with disruption of nuclei and protoplasm and a tendency in the malignant cells to loss of the power of staining. Ultimately only fibrous tissue with here and there the débris of carcinomatous tissue was found embedded in it. As he had pointed out in his previous short paper, successful results could not be expected by the destruction of a local growth only: the surrounding connective tissue always contained masses of carcinomatous cells, the selective destruction of which, without injury to the normal structures in the pelvic fascia, did not, as a matter of fact, occur. Very little of this destructive action on connective and other normal tissues had hitherto been noted or made public, for it was about six months to a year after the exposure that the evil results of this action manifested themselves. It was true that malignant tissue was more susceptible than the normal, but in cases in which long acting and deeply penetrating doses had been given the muscular and vascular structures had been found to undergo fibrosis, followed by hyaline degeneration—a stage of necrobiosis not far removed from real necrosis *en masse*. Such cases had presented themselves a year after exposure with nodules surrounding the body of the uterus which were not, as at first supposed, malignant recurrences, but hyaline degeneration bundles which might, and in one of his cases had actually gone on to rectal stricture a year later.

Professor Bumm went on to say that his present report was based on the treatment of 108 cases; 15 of these had so far recurred. He demonstrated casts of uteri which had been surgically removed after a preliminary radium treatment. It was clearly seen that, as far as the local growth was concerned, this had been entirely destroyed, but that cancer cell nests at a distance of 4 to 10 cm. had survived, in part at any rate, the destructive action on the primary focus. Generally speaking, the older the subject the better the prognosis, although this, of course, depended also on the stage of the disease. In 10 cases, by a preliminary irradiation, he had rendered an operation possible and had apparently eradicated the disease, for no recurrence had hitherto manifested itself.

Professor Bumm detailed his methods at some length. It was, he said, a serious mistake to imagine that the greater the dosage the better the ultimate result. He found himself constantly diminishing the weight of the radium employed, and he was now in the habit of using not more than 50 to 60 mg. at a time. Large doses were liable to produce fever; 300 mg. could in five or six hours produce a temperature of 106° F., which might continue with intermissions for days; 500 mg. at a dose were in

his opinion directly dangerous to life. He had no doubt that it was best from every point of view to use weak doses and increase the time of application. Thick lead filters were also in his opinion dangerous expedients, for the thicker they were the more secondary rays were produced, and it was just these secondary rays that ought most to be avoided, for they, he believed, were responsible for the delayed ill effects on normal tissues. He had found aluminium or tin filters most satisfactory, and considered they should be used, not in direct contact with the growth, but a few centimetres distant from it. He had lately been employing celluloid or horn capsules surrounded by gutta-percha.

With regard to the comparative value of radium and Roentgen rays, Professor Bumm reminded his hearers that there was a very similar struggle now going on between the adherents of electricity and gas, and as fast as the one progressed the efforts of the other party to overtake its rival became the more active. X rays had the great advantage that they could be applied without danger whenever an intensely penetrating action was desired, although their action was less rapid than that of radium. He cited 8 cases of cervical carcinoma which were cured without any surgical interference in his clinic, and stated that he was able to control the radiation of the abdomen by the effects that were observed on the portio vaginalis uteri. He came to the important conclusion that radium, mesothorium, and Roentgen therapy were all equally valuable therapeutic agents, and that he who possessed no radium was able to obtain just as good results with his x-ray treatment properly applied, as the former's more wealthy possessor.

His assistant, Dr. Warnekros, then demonstrated the Roentgen apparatus used in Bumm's clinic.

THE INSURANCE DIFFICULTY IN GERMANY.

THE time for the new Imperial Insurance Order to take effect is drawing near, and still no settlement is in sight. During the past week the Imperial Home Office has offered its services to attempt to bring about a settlement between the two parties. This offer of intermediation by the only agent that could hope to attain a satisfactory result has been refused by the Works' Clubs' Federation (Betriebskrankenkassenverband), which is the most bitter opponent of the doctors, and is now acting as spokesman for all the larger insurance societies' federations.

Dr. Mugdan, a member of the Reichstag, calculates that since the new insurance will sweep a very large number of hitherto uninsured persons into its net, the number of income-tax paying persons who will not in future obtain medical attendance through the insurance scheme will certainly not exceed 5 per cent., and may perhaps fall far short of this. He deduces from this, that unless the doctors succeed in obtaining free choice of doctor, a considerable proportion of the profession will be excluded from insurance service, and therefore from making a living as medical practitioners. A few of the more fortunate will attend the richer 5 per cent., but what will become of those who up to the present have had middle-class practices? He deplores this prospect not only on account of the effect it would have on the earning possibilities of many doctors but as a serious danger to German medicine, for if the profession is robbed of its independence, if thousands of doctors are prevented from gaining any experience of practice, the effect will be marked in time of epidemics, in the combating of national scourges, and also in the time of war. German medicine would, he believes, deteriorate as a science, for the general practitioner plays a very important part in maintaining the high standard attained in Germany.

The objections which a former Bavarian Minister of Education, Dr. von Landmann, has raised to the terms of the doctors' proposals, which were refused by the insurance societies, are practically two in number. The first is the well-worn argument that the societies could not agree to a compulsory form of contract or to any intimidation of individual members of the medical profession by the doctors' organizations. The terms, or rather principles, proposed by the doctors' organization did not involve any such compulsion; this was in fact directly prevented by the admission of the rights of medical men who did not belong to any medical organization, provided they accepted the general principles which it was hoped would lead to a peaceful and workable settlement. The second objection was that if the contracts were dictated by the medical organizations, the societies would have no guarantees that the medical practitioners undertaking service would feel themselves bound by them. Dr. Mugdan argues that the same objection would apply if the medical practitioners entered into contracts directly with the societies, and the guarantee would be rather less that the doctors would respect the terms of their contracts, since the doctors' unions would be able to exercise control over their members, and since a breach of contract would damage the reputation of the medical society concerned.

The workmen's societies are advertising in the lay press all over the country for medical practitioners willing to take service under the Insurance Act for fairly high salaries. In some cases medical men belonging to the medical organizations are openly told that they are not eligible. In others the advertisements are so worded that it does not appear at first sight that the advertisers are really insurance societies. Many of the statements published, both in the advertisements and in the annual reports wander appreciably from fact, and it is fairly obvious that an attempt is being made to blacken the case for the doctors in the sight of the public. These conditions are especially marked in Prussia, while in Wurtemberg and Bavaria the societies have recognized that these tactics are useless and have accepted the situation after the Governments have intervened.

Berlin.

The Berlin Local Insurance Society during the recent negotiations maintained that its financial position would not allow it to pay the doctors' capitation fee of more than 5 marks. A writer in the *Muenchener medicinische Wochenschrift* of December 3rd states that the total income of the society last year was 7,918,688 marks. Of this sum, 2,172,306 marks, or something approaching one-third was put to capital account and reserve fund. The cost of administration amounted to 573,092 marks, while the payment for "pure medical attendance" was only 571,878 marks and for drugs 629,000 marks. The sum expended on "pure medical attendance" include the honoraria for the advisory staff, the very persons who it is now alleged have succeeded in keeping the capitation fee down to a low level; the fees paid for the control of prescriptions written by the medical officers alone amounted to close on 6,000 marks. Another set of fees for the control of the dentists' opinions that the filling of teeth was necessary amounted to over 9,000 marks. Apart from the moneys paid to the medical officers, the sum expended on "pure medical attendance" included extra service fees to outside practitioners, payment for massage, dental fees, and the charges for institutional treatment. The expenditure on the most important function of the society, namely, the provision of regular medical attendance, would appear to be absurdly low in comparison to the working expenses, the cost of medicines and contribution to the sinking fund.

The significance of these figures is increased when the recent history of insurance practice in Berlin is understood and when the attitude of the specialists who undertake work for the societies is considered. That those medical officers who endeavour to perform their duty to their patients and to the community by giving their best energies and skill to their insured patients are likely to fare badly in Berlin appears from a comparison with the arrangements made in Baden; there a capitation fee of 6 marks and a family capitation fee of 18 marks will be paid, and the extras will be calculated in accordance with the local scale of fees for professional service.

The *Berliner Aerzte Correspondent* has published a report of a meeting of the Society of Berlin Specialists held on November 20th, and has reproduced a circular this society sent to its members. From both it is clear that the specialists are endeavouring to place insurance practice on a more satisfactory footing in the capital of the German Empire. The conditions of acceptable service are laid down, and views are expressed as to the relation of the specialist to the medical practitioner doing insurance work for the societies. The right to protect their own interests on the part of the specialists and the necessity to do so are freely recognized by the profession

at large, and the effect of the open discussion of past conditions, taken with the belief that the greater number of medical officers of the societies have only served the purpose of some of the advisory officers and have been their unconscious and unwilling tools, all make for the consolidation of the profession. The common danger is causing the disappearance of jealousies and difficulties which have split the profession in Berlin in recent years, and its members are now uniting more firmly and more boldly than ever before to work for the common good.

Insurance Statistics of Bavaria.

From the statistics officially published for the year 1912 it appears that in Bavaria there are 4,630 insurance societies, with some 1,234,325 members. During the year 40.7 per cent. of the insured declared themselves sick. The average duration of the sickness was 8.425 days for each insured person, while the average duration of each case of illness was 20.7 days. The mortality was 0.71 per cent. The societies expended 31.1 millions on sick pay and medical attendance, 1 million marks were absorbed by working expenses, and 8.8 million marks were tabulated under additional expenses. In addition 18.3 million marks were put to the reserve fund. It appears that the reserve fund got 42.5 per cent., that sickness cost 72.3 per cent., administration 2.3 per cent., and that other expenditure amounted to 20.4 per cent. of the total income. In Berlin the working expenses exceeded 7.2 per cent., while the reserve fund claimed 27.4 per cent. The question is asked whether the time has not now come, so far as Germany is concerned, to stop this enormous annual increase of the reserve funds. It is admitted that the State would be neglecting its duty to the community if it did not make provision for the reasonable financial stability of its great insurance societies, but unduly swollen reserves merely give the societies the power of money to drive bargains to the detriment of the weaker elements in the social insurance scheme.

LITERARY NOTES.

A NEW periodical entitled *Archiv für experimentelle und klinische Phonetik* has recently appeared in Berlin. It is a supplement to Passow's and Schaefer's *Beiträgen*, and is published by S. Karger and edited by Professor J. Katzenstein.

The *Chronique Médicale* announces the death of Dr. Legué, one of the leading authorities in France on the *grand siècle* in its medical aspects. He took his doctor's degree in 1873 with a thesis entitled *Documents pour servir à l'histoire médicale des Ursulines de Loudun*, which was developed later into two works, *Urbain Grandier* and *Soeur Jeanne des Anges*. The latter was written in collaboration with Gilles de la Tourette. The thesis and the books together form an important study from the medical point of view of demoniacal possession as it was regarded in the seventeenth century. In another book, *Médecins et Empoisonneurs*, Legué dealt with the famous epidemic of poisoning which made such a sensation in the reign of Louis XIV, and which is known in French history as *L'Affaire des Poisons*. He followed up the subject in another book bearing the sinister title *La Messe Noire*, a sort of historical romance in which the sorcery and cognate superstitions which prevailed in the same period are described and discussed. The writings of Legué are a valuable contribution to historical pathology, that modern science which seeks for the causes of events in the physical constitution and diseases of the actors in the dramas of history. Dr. Cabanès, the editor of *La Chronique Médicale*, devotes a sympathetic note to the memory of Legué, a man with whom friendship was fostered by consonancy of studies.

The November number of *L'Hygiène* contains a sympathetic appreciation of Professor Antonin Poncet of Lyons, an obituary notice of whom appeared in the BRITISH MEDICAL JOURNAL of November 22nd, 1913; an article on the therapeutic use of hypnotism by Dr. Ch. Burlureaux, in which the opinion is expressed that much further study is required before the method is given an "official" place in the treatment of disease; and a note on the suggestibility of neurasthenics (moral treatment) by Dr. Maurice de Fleury. The question whether water drinkers are predisposed to appendicitis is discussed by Dr. H. Meurisse. The question is left undecided, but the conclusion is that "for the moment the point to be borne in mind is that our alimentary habits should be based on a regular intestinal hygiene, which the custom of ages has consecrated under the form of fermented drinks—wine, cider, beer, sour milk—the antiseptic properties of which no longer need to be demonstrated." M. Carlos Fischer writes on the cinematograph as a means of hygienic teaching. M. André Mesureur contributes an article on the housing of nurses, giving as examples the arrangements at Guy's Hospital, the London and St. Bartholomew's. The periodical is as usual excellently illustrated.

All children dislike medicine, and those in charge of a nursery often have need of all their tact and patience when occasion arises for the administration of a necessary dose. Some useful advice as to the management of sick children is given by Dr. J. R. R. Trist in the November number of *The Child*, to which he has contributed a short article embodying his views on their treatment and the methods he himself employs to gain the confidence of his little patients. As regards the actual taking of medicine, Dr. Trist declares that "most very young children have to be 'drenched'; do it quickly, firmly, gently." With older children, however, "explanations and reasoning have their place, and an age will be reached when either an experience of past healing, an intelligent trust, or a spirit of courage will put an end to all need of force." In these circumstances it is obvious that much depends upon the judicious handling of the child, and here an intelligent and well-trained nurse can often be of great assistance to the doctor and parents. The idea of training educated women as children's nurses is becoming increasingly popular: and the November number of *The Child* contains an interesting account by Mr. Bransby Yule, of St. Mary's Nursery College at Hampstead, one of the best known training schools where women of good birth and education can go through a regular course of instruction in all that appertains to the care of children. The same number of this valuable periodical also contains a most interesting article by Dr. Harry Campbell on "Diet and Child Welfare," and a short account by Sir John Kirk, M.P., of the magnificent salvage work carried on by the ragged schools during the last fifty years amongst the little derelicts of the London slums.

Industrial Lead Poisoning is the title of a new work by Sir Thomas Oliver to be published early in the new year by H. K. Lewis. The book, which is an elaboration of the lecture recently delivered at the Royal Institute of Public Health, is intended to be a book for the medical practitioner, certifying factory surgeon, and employer. Mr. Lewis also announces a reprint of the collection of essays and addresses by Sir William Osler, issued under the title of *Acquanimitas*, which has already gone through three editions, and has been out of print for some little time. Other new editions are the second of Dr. Lewis Jones's book on *Ionic Medication*, the fifth of Dr. Dudley Buxton's popular handbook on *Anaesthetics*. This has been almost entirely rewritten, and will appear in the demy octavo form in the *Practical Series;* and a fifth edition of Mr. Albert Taylor's *Sanitary Inspector's Handbook*, also considerably enlarged. Two new books are Dr. Mildred Burgess's *Health*, based on the County Council's Syllabus of Lectures, and a small work by Dr. T. B. Scott, *The Road to a Healthy Old Age*.

In old days the toad played a considerable part in therapeutics and also in poisoning. A correspondent writing to the *Glasgow Herald* (December 6th) under the pseudonym "Beta" sends an extract from *El Mercurio de Madrid*, May, 1777, in which a "cure" for cancer is given: "The skin of a toad pulled off and applied to the sore cures the cancer effectually. The toads are most easily found, and their skins have the greatest virtue in the dog days. For the winter you may dry their skins and reduce them to powder, and this spread on the cancer will also cure it. This remedy was given by a beggar to the steward of a gentleman somewhere not far from Bordeaux." The idea probably was that the toad, being a loathsome animal, had a natural power of "drawing out" the poison of a loathsome disease. But the evidence of the "cure" is vaguer even than those adduced in favour of many secret remedies of the present day.

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THE SUBSCRIPTION TO THE ASSOCIATION.

Two matters affecting the finances of the Association were dealt with at the meetings held last week in London. One was an adjustment of the Memorandum of the Association, long overdue, designed to correct a fault in the original draft, which was held to make it doubtful whether the Association was entitled to borrow money on debentures. This, therefore, was a comparatively simple matter of business, and its adjustment will mean an economy in expenditure the exact amount of which will depend upon the ruling bank rate. The other matter—the proposal to increase the subscription to the Association—was of a more controversial nature. As was pointed out in the report of the Council on the subject (SUPPLEMENT, November 1st, p. 369), the financial position has for many years caused anxiety to the Council and to the Treasurer, and to many members of the Association who are most actively interested in its welfare. Ten or twelve years ago, before the last reorganization of the Association, it had accumulated a substantial reserve of £92,000. Members of the Association then decided greatly to increase their political activities. They called into existence a number of standing committees, and a Medical Secretary with a clerical staff was appointed. The work of the committees steadily increased, and it was found necessary to give the Medical Secretary the assistance first of an assistant and then of a deputy, and to increase the clerical staff. The changes had a two-fold effect upon the financial position of the Association: they added materially to its annual expenditure and made it absolutely essential that larger office accommodation should be provided for the committees and for the staff of the new department. The matter was very fully considered at the time, and it was decided that the wisest course was to build new central offices on the freehold site which the Association had acquired in the Strand.

The new departure made by the Association in thus increasing its activities as the leading medico-political organization in the country made a strong appeal to the profession, and an important accession of members ensued, with a corresponding increase in its income. Unfortunately, however, it was found that the expenditure tended steadily to increase at a rate greater than the increase of income. The margin between income and expenditure became dangerously low, and rendered it impossible to continue to add to the reserve fund at the rate which had previously prevailed. Then came the Government Insurance scheme. As originally introduced it would have placed the profession in a position of helpless servitude, while offering remuneration which was in amount little, if at all, greater than the contract rates of the friendly societies. Against these rates strong protests had been made by the profession, on the ground that they were unremunerative, and therefore uneconomic.

The deficit of the Association in 1912 was £16,000; it was met by a special vote of £7,000 from the Central Insurance Defence Fund, and by trenching on the reserves to the extent of £9,000. A large part of the increase in expenditure in 1912 was due to the acute stage of the controversy with regard to the Insurance Act. The hope had previously been expressed that by the practice of rigid economies the balance might be adjusted without any diminution of the activities of the Association, and without an increase in the subscription. The diligent work of two special financial committees and the unsleeping vigilance of the Treasurer have not been without result, but their efforts to obtain a satisfactory balance between income and expenditure in this way have been frustrated by political events and by the demands of members expressed in the Divisions and through the Representative Body for yet more efficient and extensive organization. Moreover, the fact had to be faced that the controversy with regard to the Insurance scheme was by no means over: indeed, many of those who have given most attention to the subject believe that it is only beginning, and in this opinion we entirely concur. To take one point alone: we have to remember that within the next two years the whole subject of the special parliamentary grant, by which the rate of remuneration of the doctors in respect of the services they give under the Insurance Act was increased to the amount now available, will come up for review. The Chancellor of the Exchequer gave an undertaking that the grant should be continued for three years, and it is possible, if not probable, that when this period is about to expire, pressure will be brought to bear on a perhaps not unwilling Government to extend the medical benefit under the Insurance Act to the dependants of insured persons. It is not uncharitable to suppose that the renewal, abolition, or diminution of the special parliamentary grant may be used as an instrument for bargaining. This is only one reason, though a strong reason, why the profession must consolidate and extend its organization for collective action.

By "the profession" we mean literally all medical men and women engaged in clinical practice, those who are on a panel and those who are not, general practitioners and consultants, operating surgeons, and specialists in all departments. In some respects Germany has gone further than Great Britain, and in the crisis brought about by the new extending and amending legislation about to come into force in the German empire, teachers, specialists, and practitioners of all kinds and grades are involved. All are finding the necessity for an organization of the whole profession which, while maintaining the profession's high ideals of scientific attainment and social service, shall safeguard and, if necessary, fight for its material interests.

This country already possesses in the British Medical Association a body which can speak in the name of the whole profession; it is the only body that can so speak. It must maintain and extend its activities, but to say this is tantamount to saying that it must have a larger assured income. It was arguments such as these which weighed with the Annual Representative Meeting last July, with the Divisions which have since met to consider the subject and have decided in favour of an increase, and with the Special Representative Meeting which on December 4th decided by more than the requisite two-thirds majority that the subscription ought to be increased by

17s. a year—that is to say, from 25s. to 42s. Compared with other organizations, both medical and trade union, the enhanced subscription to the Association is extremely modest; a speaker last week said that it was equivalent to a little over a farthing a day, and suggested that the profession should practise a year of self-denial. This suggestion errs seriously on the side of exaggeration, unless he referred to some such act of self-denial as that involved by a smoker abstaining from one cigarette a day, or by a golfer being a little more careful in the purchase or the chipping of new balls.

The simple fact is that the Association has been attempting to do too much in return for the subscription it has received, and an annual subscription of two guineas, already paid by many of our brother members in the dominions beyond the seas, remains below that cheerfully paid to many medical organizations which attempt to achieve far less.

The other business affecting the financial affairs of the Association done last week was transacted at an Extraordinary General Meeting held on December 5th to carry out a decision reached at Brighton last July. The action of the Association is governed and limited by its memorandum of association registered under the Companies Acts. For a good many years past it has been found that the Association is hampered by the provisions of the memorandum, and many proposals for extension have been considered from time to time, but for various reasons have not been found feasible. It has been decided to limit the extension of the memorandum, but to provide that it shall include power to borrow money on mortgage or otherwise, an extension to which, as the Solicitor ascertained, the Board of Trade (to the jurisdiction of which the Association, as a company registered not for profit, is subject) would raise no objection. At the present time, when the Association requires to raise money for any purpose, such as the erection of its present offices, it is compelled to do so by loan from the bank, paying the bank rate of interest prevailing at the time. This rate, as is well known, fluctuates, and it has been necessary to pay from 4 to 7 per cent. at various times; an increase in the bank rate of 1 per cent. increases the interest paid by the Association in the proportion of about £400 a year. Careful investigation of the old clause by the legal advisers showed that its language was not well conceived, and was open to many constructions by legal minds. The principle of the alteration of the memorandum is to afford the Association greater elasticity in the manner in which it seeks to obtain the objects for which it exists. The Board of Trade insisted upon the proviso that the Association should not support with its funds any object or endeavour to impose on or procure to be observed by its members or others any regulation, restriction, or condition which, if an object of the Association, would make it a trade union. It appears that a clause of this nature is now always required by the Board of Trade in respect of bodies similar in nature to the Association, and would have been imposed when the memorandum was first made had it been passed by the Board a few months later than it was, the necessity for the requirement having been recognized shortly afterwards. The alteration of the memorandum was unanimously approved by the Extraordinary General Meeting, and the further meeting required by the Companies Acts to confirm this decision will be held on Tuesday, December 23rd, at the offices of the Association.

THE CAMBRIDGE RESEARCH HOSPITAL.

For several years past we have from time to time called attention to the work of the Cambridge Research Hospital.[1] Descriptions of the hospital itself, with illustrations, were published in the British Medical Journal of April 1st, 1911 (p. 764), and June 1st, 1912 (p. 1246). It may be recalled that the hospital was founded for the study of chronic disabling diseases under the auspices of a Committee which includes Sir Clifford Allbutt, Sir William Osler, Sir William Church, Sir Richard Douglas Powell, Sir Henry Morris, Sir William Watson Cheyne, and the Master of Downing (Professor Howard Marsh). So far the object of research has been rheumatoid arthritis, and in the paper by Mr. Strangeways, Director of the Hospital, which is published in this week's issue (p. 1529), there will be found an account of the work done at the hospital in that province. Mr. Strangeways briefly traces the history of the institution since it was opened in a small private house in 1906 to its development into a hospital well equipped for the treatment of patients and for research in 1912. The lines of work which are now being pursued and the direction in which it may profitably be expanded are indicated.

How exhaustively the disease has been investigated under every aspect and from almost every point of view may be gathered from the papers that have been published in the *Bulletin* of the Committee for the Study of Special Diseases. The research has included pathological changes in bones of ancient Egyptians, and the etiology, family history, symptoms and physical signs, prognosis and diagnosis of the disease, have been closely studied. The search light of the *x* ray has been thrown on arthritic joints, and the morbid anatomy of such joints has been studied by *post-mortem* examination, by dissection of preserved specimens in the laboratory, and by microscopic methods; the condition of the spinal cord has been investigated; bacteriological examinations of the blood, the joint fluids and various secretions have been made; and the metabolism of arthritic patients has been studied. The positive results that have been obtained in these various fields of inquiry may at first sight seem to be incommensurate with the labour they have entailed; but in all pioneering work such as this the ground must first be cleared. It is a difficult and often a disheartening task, but one that had to be done before definite progress could be made.

One result which the investigations have clearly brought out is that rheumatoid arthritis in many cases spontaneously comes to a standstill, and it is encouraging to learn that although such arrest in the progress of the disease may be long delayed, there is ground to hope that it will occur, even in the most progressive cases. It has to be borne in mind, however, that even when the disease has ceased to be active in the joint, the crippling and deformity caused by it may increase. This is due to the loss of the habit of movement; if by any means the dormant energy of the muscles can be stirred into action, the joint will regain power to a considerable degree. This, as we gather, is mainly the effect of suggestion. If the feeling that moved the rowers in the Virgilian race, *possunt quia posse videntur*, can be aroused in the patients, they will become capable of efforts which, as they become stronger,

[1] See particularly British Medical Journal, November 16th, 1907, p. 1552; December 12th, 1908, p. 1764; February 26th, 1910, p. 522; October 28th, 1911, p. 1120.

will lead to correspondingly greater improvement. It is a striking proof of the power of the human mind on the body that a man who can be brought to believe that he can use a disorganized joint will, by the power of muscles reawakened by hope, be actually able to walk. This fact seems to explain the success of certain practitioners by the application of treatment which fails when applied by others with less faculty for inspiring confidence.

Nearly every known form of treatment has been tried at the Research Hospital; but, though the therapeutic experiments have been on a large scale, little as to their results has been published because the evidence is not yet sufficient to justify positive conclusions. We strongly commend this scientific caution, as nothing has been a greater hindrance to the advance of scientific medicine than the premature publication of "cures" for this or that disease.

As Mr. Strangeways well says, the treatment of arthritis should be based on a knowledge of what has occurred and is occurring in the diseased joint. The work done at the Research Hospital shows how unfounded is the impression, still stamped on the minds of many of the profession, that the morbid anatomy of rheumatoid arthritis has been worked out. The better the exact condition of the diseased joints is understood the more likely is the practitioner to be able to treat the disease successfully. The elaborate investigations by means of the *x* ray, by *post-mortem* examinations, and by study of the histological changes to which reference has been made, have thrown much new light on the local manifestations of the disease. On the other hand, the study of the metabolism in arthritic patients affords help in treatment, if only in the direction of preventing the administration of useless remedies and in giving some guidance in the matter of diet.

Two new lines of investigation are suggested by Mr. Strangeways—the relation of climate and soil to disease in general, and rheumatoid arthritis in particular; and the operative treatment of arthritic joints. There is some general knowledge of the effects of climate, but most of it is vague and some of it perhaps fanciful. Patients who are able to do so migrate from place to place in search of a suitable climate, but in many cases the change of sky is not followed by any corresponding change in their joints. A scientific investigation of this question would probably save patients great inconvenience and doctors not a little perplexity, and we refer readers to the scheme propounded by Mr. Strangeways. The suggestion of operative treatment for arthritic joints opens up a new province for surgery, and we need not discuss it further than to say that we hope the money needed to build an operating theatre in the Research Hospital will in a short time be forthcoming.

A word must be said on the conduct of the hospital. The expenditure averages only £500 a year, and of this amount a considerable proportion is contributed by members of the medical profession. General practitioners throughout the country have given firm support to the hospital since its foundation, not only by subscriptions and gifts of money, but by what is an even more striking proof of their confidence in the work and the spirit in which it is conducted, ready assistance in recording cases and willingness to allow free access to patients for purposes of examination. Throughout its existence the Research Hospital has kept in close touch with the profession; the staff has not stood aloof on the cold Olympian heights of pure science; throughout their investigations they have borne in mind that the interest of the patient always comes first. Therefore patients go willingly to the hospital and submit to be made the subjects of investigation. This is the only way in which a "research hospital" can be successfully conducted. We are sure the whole profession will agree with us in offering hearty thanks to the workers who have devoted so much self-sacrifice and labour to a task, to a large extent thankless, which has been designed to promote the welfare of mankind and the advancement of the science of medicine.

THE PROFESSION AND FRIENDLY SOCIETIES IN NEW ZEALAND.

At a conference of the New Zealand Branch of the British Medical Association, held at Wanganui last February, a draft common form of agreement between a medical officer and a friendly society was drawn up. This was circulated to the Divisions of the Branch, and a subcommittee, having considered the recommendations made by the Divisions, redrafted the agreement, and a copy was thereupon sent on October 1st to every member of the Branch for perusal and comment. When the form of agreement most generally suitable has been decided upon the council of the Branch intends to communicate with the heads of the various orders and friendly societies in New Zealand with a view to the universal adoption of the agreement throughout the Dominion, in this way avoiding the necessity for individual lodge surgeons negotiating separately with their special lodges. The scheme is designed to make provision for medical attendance on recognized members of friendly societies and their dependants in return for a fee paid quarterly. There would be a fee for examination on admission and a smaller fee for re-examination if membership were allowed to lapse. The recognized dependants of a member would be his wife, his children up to the age of 16, and the widowed mother of an unmarried member if resident with and dependent upon him; all these classes of persons would be accepted if passed by the medical officer. Widows and children (up to the age of 16 years) of deceased members, if paying full rates, would be eligible. There would be a special mileage fee, and also special fees for night visits, anaesthetics, surgical operations requiring an anaesthetic, and for work usually performed by specialists. Further, there would be a separate fee for attendance on confinements, premature birth, or miscarriage.

VITAMINES AND MALIGNANCY.

That the growth of young animals may be retarded or absolutely arrested by the omission of certain constituents of normal diet has several times been pointed out by Gowland Hopkins. In a discussion on Diseases due to Deficiencies in Diet, at the Royal Society of Medicine recently, he referred to certain experiments of his own on the feeding of young rats—animals which are not prone to scurvy or beri-beri—with a diet of purified materials from which certain unknown materials of minute amount were abstracted by treatment with alcohol. Growth absolutely ceased under these conditions, but was resumed again when small quantities of milk or fresh tissue extracts were added or when the alcoholic extractives of the diet were restored. A dietary having thus been obtained on which the young animals could exist, though with retarded growth, he tried the effect on the growth of transplanted neoplasms, using animals injected with the Jensen rat sarcoma, and dividing the injected animals into two series, one set fed on the purified diet and the other on bread and milk. Tumours resulted in both sets, but the average weight of tumour tissue in the former case was only one-fourth of that in the latter. His conclusion is that neoplasms need for their growth certain unknown substances which they acquire less readily from the tissues than from

the food supply of the host. It is a matter of common experience amongst those who have worked with transplantable tumours of animals that the general health of the animals has a great effect on the success of the grafts; when the animals are in poor condition from any cause the graft will almost surely fail. This is in marked contrast to what occurs on the inoculation of certain granulomatous conditions which have been mistaken for malignant tumours, for here the poorer the condition of the animal the greater the chance of success of the transplantation generally speaking. The unknown substances necessary to growth of young animals have been called "growth-vitamines" by Casimir Funk, who in the same discussion briefly, and in more detail in *Hoppe-Seyler's Zeitschrift* (December 3rd, 1913), referred to similar experiments on chickens. The vitamine-free diet chosen in this case was red, unpolished rice, on which a large number of the animals subsisted for several weeks. This stopped growth without producing beri-beri. When yeast was added to the dietary growth was resumed. A less marked effect in the same direction was produced by the addition of the dried material of the Rous fowl sarcoma. The detailed results of experiments in which the treated and control animals were inoculated with the Rous sarcoma are promised in a later communication, and Funk remarks that the influence of the injection is "not unfavourable" to the general growth of the animal. The experiments are certainly interesting from the point of view of cancer research, but it is a very debatable point whether the Rous tumour should be considered a malignant neoplasm at all. In contrast to the tumours known certainly to be malignant, it is transmissible not only by tissue grafts, but also by injections of expressed virus, and too little is known of the granulomata of birds in general to allow it to be concluded that the Rous tumour is not an infective granuloma; until that point is settled conclusions drawn from experiments with it may only lead further into the wilderness.

THE VACCINE OF CONSTIPATION.

AT the present time, when the quietus of so many diseases is made with a bare bodkin, it is not surprising to learn that a vaccine for constipation has been discovered. If this be true, a large proportion of the philanthropic persons who advertise aperients will find their occupation gone. The hypodermic needle will have conquered the enema syringe which so long was one of the chief symbols of medical art. We do not, of course, guarantee the truth of the announcement; we only give it for what it is worth. No details as to the composition or mode of preparation of the new vaccine are yet forthcoming. We are not even able to supply to an eagerly expectant public the name of the ingenious inventor, for it is unkindly suppressed by the journal from which we get the information. All we can learn about it is contained in an extract of the *Journal du Lot* for October 3rd, which is quoted in the *Journal de Médecine de Bordeaux* of December 7th: "On Tuesday on the arrival of the express from Bordeaux, about 100 doctors, pharmacists, and veterinarians, crowded the station platform to greet Dr. ——— of Bordeaux and to congratulate him on his beautiful discovery of the vaccine of constipation. Hurriedly the eminent president of the International Cancer Society amiably shook hands with everybody, gave a few explanations as to his discovery, and hurried off to the Hotel Capoul. To all he demonstrated how simple was the application of the vaccine." It is rare, indeed, he said, that a single vaccination does not suffice to cure for the whole of life. In the evening at eight o'clock the illustrious scientist was entertained at a banquet. A young girl came to offer him a magnificent bouquet of flowers and laurels. Modestly the doctor then expounded in detail his recent discoveries, his theory of the colloidal ferments, his personal views on the cure of tuberculosis and cancer. "Finally, gentlemen, and this is a piece of good news," he said, "you may say to your patients that we can now cure in ten minutes the most acute gonorrhœa and the most obstinate gleet." What the body here called the International Cancer Society may be, and how it comes about that its "eminent president" appears mainly to occupy himself with the cure of constipation and gonorrhœa, we are unable to say. Another communication purporting to be an interview with the same oracle of medicine is taken from a local journal printed at Toulouse. He is there reported to have said: "You must understand that my vaccine cures for the whole of life constipation of every kind, even if it be of twenty years' standing, provided there is no mechanical obstacle, such as cancer, volvulus, or displacement of the uterus." But greater things are to come, for "My friends Ehrlich, Wassermann, and I are all three hot at this moment on the track of a cure for cancer and tuberculosis, not by a serum, but by a chemical salt, akin to '606.' You know, of course, that I am a strong advocate of '606,' in injection naturally. By the method which I discovered a year ago the injections last half a minute, are never painful, and their efficacy is trebled." We hope Ehrlich and Wassermann will duly appreciate the honour of being associated with the discoverer of the vaccine of constipation. Moralizing on the greatness of his own discoveries and on the folly of mankind, the learned doctor went on to say: "How sad it is to see people foolish enough to go to quacks! And the poor fools who take '606' in pills! And to think that we can cure old-standing gleets in a single sitting and acute gonorrhœa in a few days, as also all diseases of the urinary passages!" We agree that, such being the case, it is really sad to see deluded mortals prefer advertising charlatans to "doctors of long standing and good repute." He concludes with the melancholy reflection: "There is nothing to be done." But this, perhaps, is not quite true, for Dr. ——— evidently thinks the thing to be done is to imitate the methods of those he condemns, and makes his light shine in the public eye instead of hiding it under a bushel.

A NEW INTERNAL ANTISEPTIC.

THE researches of Ehrlich in the elaboration of specific chemio-therapeutic preparations have stimulated attempts by others along similar lines. Edelmann and von Müller-Dehan have been engaged for some time on a study of the properties of a silver compound which has methylene blue as its "vehicle-constituent." The product is a blue powder, a colloid containing 24 per cent. of silver, easily soluble in water, and forming blue solutions. It seems to have very remarkable germicidal properties; it is lethal to the ordinary pyogenic organisms, *Bacillus coli*, and putrefactive bacteria in a dilution of 1 in 160,000; in the blood, where most antiseptics fail, it sterilizes in a dilution of 1 in 30,000, and at 1 in 80,000 it prevents bacterial growth. Its toxicity is low; when given by the mouth practically unlimited quantities can be tolerated by animals. The lethal dose in subcutaneous injection was 0.01 gram for a mouse of 15 grams, whilst a rabbit of 2 kilos withstood 0.2 gram. Much higher doses were easily borne by dogs. In human therapeutics the authors never exceeded 0.4 gram subcutaneously, which is certainly ten times less than the amount which might theoretically be employed. A rabbit can tolerate a dose of 0.05 gram of the substance by intravenous injection, and that dose has never been exceeded in the case of men. The authors have used the drug in the treatment of general or localized bacterial infections: it is administered subcutaneously or intramuscularly in doses of from 0.1 gram to 0.4 gram dissolved in 5 to 20 c.cm. of water; the injections are repeated at intervals of a few days. Usually the injections are attended by only very slight pain and trifling infiltration of the site of injection, but exceptionally the pain is severe, and in two cases sterile abscesses were produced. The dyestuff is quickly eliminated in the

urine, and no staining of the skin has so far been observed, nor any secondary actions on the circulatory, digestive, secretory, or central nervous systems. The authors treated 11 cases of blood poisoning, mostly due to staphylococci and streptococci, with 9 recoveries and 2 deaths. In acute rheumatism the results were very good, 7 cases recovering without any other treatment, as well as others that had proved refractory to salicylates and atophan. In this disease the pain and swelling promptly diminished, and the fever sank by lysis. Such complications as endocarditis and pericarditis quickly responded. Several other conditions are cited in their paper.[1] Tuberculosis was not materially influenced. Examples are also given of the effect in localized infections. In 7 cases of furunculosis the injection of small doses into the boils produced healing in a surprisingly short time, whilst control boils remained unchanged; the results in 120 cases of suppurative bubo treated locally are withheld from publication at present, as also those of a year's experience on gonorrhoeal urethritis. It is evident that Bruck, by his recent publication with regard to a similar drug (a compound of silver and uranin) claiming excellent results in the treatment of gonorrhoea, has stolen a march on the authors in this respect. Further accounts of treatment with this silver-methylene-blue compound, which is manufactured by Merck, of Darmstadt, will be awaited with interest.

THE GERMAN INSURANCE PROBLEM.

OUR special correspondent in Berlin writes that the charges of disloyalty brought by various medical societies interested in the insurance difficulties in Germany against Dr. Köppel have led to his resignation, and the whole profession awaits with anxiety the results of the ethical inquiry about to be instituted by the Ehrengericht. The accusation was met by Dr. Köppel and his friends by a complete denial, and the former followed up his resignation with a demand not only for an ethical inquiry, but with a declaration of his determination to bring the matter before the civil courts. "In my last letter on the insurance problem," our correspondent continues, "I indicated that in Berlin alone was there a prospect that an agreement might be reached between the urban insurance societies and the doctors. The belief that this was possible was based on the assumption that the demand for an addition of 200 fresh appointments to the now existing 800 panel practitioners in Berlin would be complied with by the societies. An assurance to this effect by Dr. Köppel, the trusted agent of the societies, was given at the time, but it would now seem that he had no authority for the statement, for the societies deny liability. It may well happen that negotiations will now cease, and that on January 1st the huge combination of Berlin urban societies will find themselves without a single doctor. But it is not only Dr. Köppel and his dwindling band of adherents who have aroused the indignation of the profession in Berlin, for Herr von Gostkowsky, the chairman of the Imperial Insurance Department, delegated by the Government to act as mediator between the societies and the medical profession, is accused of conspiring with Dr. Köppel to defeat the just demands of the doctors. It is stated that an agreement made between these two gentlemen would have fixed the *pro rata* treatment of panel doctors at the miserable figure of 5s. a year. If this accusation is to be accepted as proved, it is little to be wondered at that Herr von Gostkowsky is generally regarded as unduly biassed in favour of the societies, and that a movement is now on foot to petition the Oberpräsident von Brandenburg — the highest official in matters medical for Berlin — to appoint another and more trusted referee to deal with this, as well as any future occasion of disagreement between insurance societies and medical men. Meanwhile time flies, and the new regulations come into force on January 1st. The war between the parties is general throughout the empire, and there is every prospect that paragraph 370, which ordains that when a society cannot for any reason appoint a sufficient number of physicians it may apply for and receive permission from the head insurance office in Berlin to distribute funds equivalent to medical benefit to its members, to cover professional attendance, drugs, etc., will have to be put in force. That such a contingency is more than likely is borne out by the fact that the Bundesrath—the highest parliamentary commission for the settlement of such questions—is at the present moment attempting to decide the best method of putting the paragraph into practical operation. It has, for instance, been determined that a workman who earns 3 marks a day shall have a maximum medical benefit allowance of 1 mark a day, but the greatest difficulty that will have to be faced is how it shall be determined that a claimant for medical benefit is really ill, if there are no medical men available to sign his certificate. This part of the insurance work has formed hitherto quite a considerable and responsible portion of the work of a panel practitioner, and the Bundesrath must have been sorely put to it to find a way out of the dilemma. It was, however, determined that if a society is unable to obtain the necessary certificates from medical sources, this duty shall be allotted to the lay inspectors of societies, employers of labour, midwives, nursing sisters, and 'other persons who may possess sufficient trustworthiness and special knowledge' to be recognized as signatories of the document. This edict of the Bundesrath will take away an important part of the physician's daily work, and hand it over to laymen, thereby gravely impugning the necessity for all the long years of medical study and State examinations at its conclusion. It would seem, then, that in this great fight for the status of medicine in Germany the Government is not on the side of the doctors."

[1] *Deut. med. Woch.*, No. 47.

THE CHOLIN TREATMENT OF CANCER.

IN discussing the results achieved by the chemico-physical methods of treatment of cancer at Heidelberg, Professor R. Werner[1] states that the method of fulguration, though it may be useful in inoperable cases for the purpose of cleaning up the bases of ulcerating surfaces, and of stimulating epithelium to form, is of little value in preventing the recurrence of malignant growths. After discussing in some detail the action of radium and other radio-active substances in the treatment of cancer, he passes on to a consideration of the results obtained by the combination of this method with the injection of cholin. He uses the borate of cholin (sold under the name of enzytol). He usually employs 2 or 3 c.cm. of a 10 per cent. solution diluted to 20 c.cm. It is administered by intravenous injection, and if well tolerated—and he has not observed any symptoms of intoxication—the concentration is gradually increased. The injections are given once daily for three or four weeks, and the course repeated after an interval of from four to six weeks. During the interval the patients are given arsenic, and, when possible, are sent to a spa the waters of which contain radium. In addition to the enzytol injections, his patients are treated locally by Roentgen rays, or by thorium, mesothorium, or other radio-active substances. He accounts for the absence of statistical evidence of the effect of the treatment on the ground that the cases he has treated in this way were either operable cases in which the patient refused to submit to operation, or inoperable cases of the severest types, many of them in a hopeless condition from the first. He states, however, that he was successful in getting mammary cancers to disappear in ten cases, in spite of the fact that in four the growths had become generalized, and the lymphatic glands involved. In nine cases of inoperable malignant lymphomata, four of carcinoma of the lip, three

[1] *Munch. med. Woch.*, September 23rd, 1913.

of cancer of the pharynx, one of malignant tumour of the sublingual gland, two of carcinoma of the parotid gland, and six of extensive cancer of the face, the growths disappeared. In six cases of gastric cancer the tumour ceased to be perceptible, and in two cases of rectal growth recurrence, he says, was prevented. He mentions one case of mediastinal growth in which the result was satisfactory. In five cases of uterine cancer the tumours disappeared completely or almost completely. The brief histories of the cases contain records of some very extraordinary results. One example will suffice. An engineer, aged 41, was submitted to an exploratory operation on January 19th, 1912, at which an inoperable adeno-carcinoma of the stomach with diffuse infiltration of the organ and multiple metastases were found. Later cachexia and frequent vomiting set in. From July 25th until August 9th, 1912, he was treated with *x* rays, thorium, and enzytol intravenously. After two months the tumour had disappeared; the patient had put on 20 lb. in weight, and in the beginning of September, 1913, he was apparently quite well and had, indeed, a robust appearance. Werner does not claim to have obtained permanent cures of cancer; he merely registers the facts that the growths disappeared under the treatment described, and that the patients remained well during the period of observation. It would be well if Werner's caution were generally imitated. It is well known that under the action of radio-active agents, malignant tumours may degenerate and even disappear, for a time at all events. The most striking results are seen in superficial epithelial growths, to which the rays have direct access. It is conceivable that the rays may act on those chemical fatty acids which, according to Freund, protect the cancer cells from the cell-destroying substances normally present in the blood, and thus give the body a chance of ridding itself of these functionless, proliferating elements. But until it can be shown that something of this kind does take place, or, indeed, that the cancer cells are removed more or less permanently, all that we can learn from Heidelberg is that some very remarkable temporary results have been achieved in certain cases.

VENEREAL DISEASES OF NEW YORK.

A BULLETIN issued recently by the Massachusetts State Board of Health (September 13th) contains an article by Dr. Hermann M. Biggs in which he defines the attitude of the New York City Department of Health in relation to venereal diseases. From an abstract in the *Boston Medical and Surgical Journal* of November 20th we gather that the compulsory notification of venereal diseases from public institutions and the optional notification of such cases under the treatment of private practitioners by number was established by the Board on February 20th, 1912. At the same time provision was made for carrying out the Wassermann and the complement fixation tests for syphilis and gonorrhœa, and for the examination of fresh smears for spirochætes and gonococci in the city laboratories. The principles of action and the measures thus adopted were similar to those employed in the first endeavours to secure registration of tuberculosis and its administrative control. In practice, however, the opposition to such regulations has proved greater in the case of venereal diseases than in that of tuberculosis. Some public institutions have refused to comply with the orders of the Board. During 1912 the total number of cases reported as treated by 1,500 of the 8,000 private practitioners in New York was as follows: Gonorrhœa, 24,980; syphilis, 13,348; chancroid, 4,331, giving a total of 42,659. Obviously these figures very inadequately represent the actual incidence of these diseases among the people of New York. The Department of Health, however, is firmly resolved ultimately to secure full registration of venereal diseases, believing that it will be supported by public opinion, as was the case in tuberculosis. In July, 1913, the Board established a clinic for the diagnosis of venereal diseases. During the first four months of 1913 the total attendance at this clinic was 1,275; in a large percentage of these cases the Wassermann test was carried out. The Board believes that registration, early diagnosis, and prompt efficient treatment are the essential measures in dealing with these as with all infectious diseases. Hospital provision for the treatment of venereal diseases is now the most urgent need. The fact that people are awaking to the importance of a combined effort to suppress venereal disease is an encouraging sign of the times. But it must be recognized that it will not be an easy task. In a matter which so closely concerns the privacy and happiness of the home we are not oversanguine that anything like complete registration will ever be sanctioned by public opinion. Something, no doubt, can be done by arousing people to the duty they owe to their fellow men in helping to suppress a social evil of the worst kind. But unless some revolutionary change comes over human nature much will probably always remain hidden. We know how sensitive many are to the mere suspicion of cancer or tuberculosis in the family; how much more will this feeling operate in the direction of concealment when the disease is one that, though not always with justice, is regarded as a sign of moral taint.

HEALTH VISITS.

In a communication made to the Congress of the Alliance of Social Hygiene, Professor Albert Robin suggested a system of health visits with the object of avoiding sick visits. The idea is, of course, not new; from time immemorial it has been put into practice by certain peoples in the Far East. M. Robin points out that the old type of family doctor who was the friend and adviser of the family, whose influence was recognized and who was almost a part of it, has now nearly passed away. Besides his visits in cases of sickness he watched over the health of the whole family and looked after the development of the children. All this has changed in modern life, which, at least in towns, has brought about a change in the former relations between the family and the doctor. M. Robin thinks that although it would be impossible to re-establish the old relation, part of it should be recovered, that is to say, the medical supervision exercised by the doctor. This would be carried out by by periodical visits during health. It is obvious that such a system could be applied only within narrow limits. Not to speak of accidents, there are sudden attacks of illness which no medical sagacity can foresee or guard against. But the system of health visits, carefully and competently carried out, would have the incalculable advantage of disclosing the insidious attack of diseases such as tuberculosis and cancer, and thus making it possible to deal with them effectively before they have gone beyond cure. The health visit can never make the sick visit superfluous, but it might make prevention to a large extent replace cure.

A BISHOP ON VIVISECTION.

THE annual meeting of the Nottingham branch of the Research Defence Society was held on December 1st. The Right Rev. G. H. Frodsham, late Bishop of North Queensland, who was in the chair, said that the triumphs of medical research had had such general and far-reaching effects in England that it was difficult for the majority of people to realize what England would be without them. How many, for instance, had marked the practical disappearance of those poor little stunted children drifting to idiocy through cretinism? Who knew how many women were annually restored to healthy exercise of mind and body by the knowledge of facts relating to internal secretion and the thyroid gland? For ten or twelve years he had wandered to and fro in a huge tropical land where medical research was practically unknown. He was brought face to face with diseases, some new and others

old, all of which were imperfectly understood. There were certain diseases in tropical Australia the names of which were unfamiliar, perhaps meaningless, to the vast majority of English people—epidemic dysentery, dengue fever, ankylostomiasis, beri-beri, sprue, filariasis. Some of these diseases were well known to science, and their remedies had been found through scientific research in different parts of the Empire, in Manila, and in Japan. Others were still very obscure. Others again were easily diagnosed, but the remedy had not yet been found. Referring to the foundation of the Institute for the Study of Tropical Diseases in Australia, the bishop said he regarded his own modest effort towards that end as one of the best things he had ever done. In assisting in the formation of that institute he knew that it would entail to a certain extent experiments on living animals—principally by inoculation. The knowledge of antiseptics, of antitoxins, of all the thousand and one remedies that had relieved human and animal suffering, had been gained by experiments on animals. Investigators had sometimes paid the price of knowledge by the sacrifice of their own lives, as in the case of the American scientists who submitted to voluntary inoculation of yellow fever to prove that it could be transmitted by the bite of the *Stegomyia*. It was unthinkable that any could doubt the heroism and the sincerity of such men. The same spirit was in the hearts and lives of others who were often bespattered with contumely and abuse. If he had no other reason as a bishop for being in the chair at that meeting, he would still protest against the unfair treatment given to medical scientists. The Dean of Durham had protested in another connexion against the "unhappy habit of thinking fanatically." It was a wholesome thing for members of the Research Defence Society to remember that medical research was not the only movement that had suffered from this same unhappy habit in its critics. But the whole temper of British people was at the bottom opposed to fanaticism and prejudice, and it was against the fanatic and the prejudiced man that this society was in arms. Like Cardinal Newman, he was inclined to think that prejudice corrupted the soul "beyond those sins which are called deadly," for it was associated with an astonishing want of mere natural charity and possessed an unaccountable readiness to believe evil of others. This is not the first time Bishop Frodsham has spoken out strongly on the necessity of animal experimentation for the progress of the healing art. In the name of the medical profession we thank him for his able championship of the men who, in the face of painful misrepresentation, are labouring to wrest from Nature the secrets whereby disease may be conquered, and his denunciation in the name of Christianity of the spirit of hatred and uncharitableness in which the campaign against them is pursued.

THE LIBRARY OF THE SOCIETY OF APOTHECARIES.

THIS *Catalogue of the Library of the Society of Apothecaries*,[1] compiled by Dr. W. Bramley Taylor, Honorary Librarian, will interest equally the doctor, the book collector, and the botanist. There is always a charm about things botanical; and Fuchs and Lobel smell sweet and blossom in the dust, for, though few men living remember them, all men know the fuchsia and the lobelia. We find in this collection the works of Gesner, the botanist who more than any other writer encouraged the practice of applying the names of men of science and patrons of horticulture to genera of beautiful flowers and plants of economic value. Dahl, Nicot, Bougainville, Robin, and many others have had their names honourably commemorated in this manner. No fewer than seventeen herbals, from Brunfels's (1530) to Hudson's (1762) are to be found in Dr. Bramley Taylor's valuable *Catalogue*; there is, for instance, the best known of all, Gerard's, the compilation of a great plagiarist, yet an invaluable work of reference, and Clusius's *Rariorum Plantarum Historia*, his *Exoticorum Libri X*, and his *Curae posteriores*. This library is indeed lucky in possessing all three of these exceedingly rare works. Mr. Harting includes them among the special rarities noticed in the introduction he has written for the *Catalogue*. Among other treasures are Bauhin's *Historia Plantarum* and John Evelyn's *Compleat Gard'ner*, a translation of De la Quintinye's standard treatise on orchards and kitchen gardens. Burton's *New System of Midwifery*, the "five shilling book on midwifery" immortalized, together with its author, "Dr. Slop," by Sterne, in *Tristram Shandy*, is to be found in this library, but his *Letter to Dr. Smellie* is wanting. Mr. Harting's introduction includes a history of the library. Apothecaries' Hall was totally destroyed in the Great Fire in 1666, but, strange to say, the minute book of the Society contains no entry relating to the fire, nor is there any catalogue in existence of the books in the library before the fire. Possibly some were saved. The new collection was commenced within twenty years, and then separate libraries sprang up—one for the Society's laboratory and one for the Physick Garden at Chelsea. Dale of Braintree, the archaeologist of Norwich and Dovercourt, bequeathed his *Hortus Siccus* and that of the great botanist Ray, and their botanical works, to the Physic Garden. The plants are now in the British Museum. The library also has a large collection of pharmacopoeias, including works of that class issued in the United States, Strassburg (1725), Bavaria, Berlin, Brussels, Dublin, Edinburgh, Lisbon, Paris and St. Petersburg, also the Radcliffean and other pharmacopoeias prepared in great part, if not entirely, by one authority; last, but perhaps greatest of all, is the *London Pharmacopoeia* from 1774 to the later issues and translations down to the middle of the last century, when the amalgamation extinguished it.

[1] *Catalogue of the Library of the Society of Apothecaries*. By William Bramley Taylor, Master of the Society and Honorary Librarian. Edited with an Introduction by J. E. Harting. London: Taylor and Francis. 1913. (Demy 8vo, pp. 106.)

ADVERTISEMENTS AS TO APPOINTMENTS.

A RESOLUTION was passed recently by the Council of the Association to which it is desirable to call attention. It was to the effect that no advertisement of a vacant appointment, including assistancies and locum-tenencies, tendered for insertion in the BRITISH MEDICAL JOURNAL will in future be accepted for publication if it requests applicants to state the salary they would require or accept. This decision of the Council was reached after consideration of reports on the subject by the Medico-Political Committee, including a recommendation in the sense stated. It has always been the custom of the Association to discourage those making medical appointments from seeking or attempting to induce practitioners to bid against each other, but until the present decision of the Council this policy had not been applied as regards advertisements offered to the JOURNAL. It is now recognized that, in addition to the impropriety of practitioners underbidding each other as regards any given work—an impropriety which in certain circumstances might even amount to an ethical offence—the publication in the JOURNAL of advertisements which include such a request to prospective candidates should be guarded against. It is recognized that through such advertisements appointments might be given to the applicants who expressed their willingness to do the work at the cheapest rate, and that such a practice must tend to reduce the remuneration of medical work of the particular kind advertised, and indirectly tend to lower the remuneration of medical work generally. The attention of intending advertisers, whether members or otherwise, is specially drawn to this decision of the Council.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

NEWCASTLE-UPON-TYNE.

RETIREMENT OF PROFESSOR RUTHERFORD MORISON FROM THE STAFF OF THE NEWCASTLE INFIRMARY.

OWING to the operation of the age limit Professor Rutherford Morison has retired from the active staff of the Victoria Infirmary, Newcastle, after twenty-five years of active service.

A former pupil of Mr. Morison, who has long been his colleague on the staff of the infirmary, writes:

Retirement of Morison! Who can say exactly what that means to the Newcastle school? We have had many surgeons of whom we have been justly proud, but none has had so great an influence on the progress of their art, and certainly none has shed so great a lustre on the school. Appointed assistant surgeon in 1888, he just came in time to take part in the evolution of the practitioner-surgeon into the pure surgeon, and from the first he devoted his whole energies to the surgical art, and was undoubtedly the beginner of a new régime in surgery in this district. In those far away days he was the keenest of disciples of Lister, and those who can remember the discussions at the Northumberland and Durham Medical Society will recall the incredulity with which his magnificent results were then received. In the year of his appointment 945 operations were performed in the infirmary, while during last year there were no fewer than 8,056. The greater part of this progress is due to the advance of surgery, but Morison has been very largely the guiding spirit, and a very great deal is due to his magnificent enthusiasm. Always on the alert for that which was new and good, he successively tried, and often adopted, the various procedures as they came out. But Morison was ever original in many fields, and especially in abdominal surgery he was among the pioneers. Many of the methods he introduced are well known by his name, but, as is natural, much that he introduced has been absorbed in the general progress of surgery. When he first came to us from general practice in Hartlepool he devoted himself whole-heartedly to the study of anatomy, and this had much influence on his surgical career, for, above all else, he is systematic in his work, and has reduced many of the well-known surgical operations to schematic orderly procedures. In his surgery, as in fact in everthing else he does, the master word is "thoroughness." In the wards he devoted as much time to the investigation and diagnosis of his cases and to the after-treatment as to the operation, and always made it a rule to have a *post-mortem* examination in every fatal case, and there must have been very few such examinations that he did not personally attend.

Perhaps more than anything else Morison will be remembered as a teacher. There was nothing he so much enjoyed, and, as he once confessed, whatever else in this world he had doubts about, he was always satisfied that when teaching he was doing good. Which of his students will ever forget his Friday morning clinics, or those who can remember far enough back the splendid lessons learnt from him in the out-patient department? If he did nothing else, he taught the importance of observation, and he *made* his students think. Many a man who came to him as house-surgeon has been revolutionized, for nothing in their whole professional career meant so much as the six months with such a chief. Teaching of all sorts appealed to him, and he would allow no sort of private engagement to interfere with his ward visits or clinical lectures. From time to time he held post-graduate classes, for he always considered it a sacred duty to make the material entrusted to his care of the greatest use to the greatest number.

He was an ideal hospital surgeon, and for nearly the whole of his service he attended six days a week, and, in the earlier years, seven; and it was no formal visit, for he always came at 10 and seldom left till 1 o'clock, and on operating days it was usually between 2 and 3 before he left the infirmary gates. There are those of us who can well remember spending mornings with him in the operating theatre which went on into the late afternoon, to say nothing of the memorable occasion when he operated from 10 to 6!

Of course, there are other duties which fall to all who, as time wears, find themselves in positions of seniority, and, though he disliked all committee work, during later years he took his full share, for as soon as he realized that it was his duty to do any particular thing he was never known to shirk. Though his outspokenness may sometimes have caused a little annoyance, his honesty and absolute integrity always brought him the respect of his strongest opponent.

Others are better fitted to speak of his medico political work and of the strenuous times through which he guided the old Northumberland Medical Union. Centralization and co-operation always appealed to him, and he was a staunch advocate for the use of the British Medical Association not only as a valuable medico-political organization but as a ready machine for the diffusion of knowledge among the profession.

Helpful as a colleague and generous to a fault, he will be greatly missed among us. Happily Morison was a maker of surgeons, and most of the present staff and those who will carry on his work have been largely influenced by his example and teaching. Fortunately the students may still enjoy the benefit of his wisdom, for he retains the professorship at the College of Medicine.

At the last quarterly court of governors, held on November 27th, Professor Morison was presented with an illuminated address commemorating his services to the institution, and he was at the same time elected an honorary consulting surgeon.

In the full possession of all his activities it is too much to expect that he will seek leisure, but we all hope that he will for long enjoy the opportunity of employing his great powers for the advancement of surgery.

The Medical Secretary of the British Medical Association writes: I have been asked, as an old colleague, to say something of Mr. Rutherford Morison's medico-political work on the occasion of his retiring from the active surgical staff of the Newcastle Infirmary. Were it not for the fact that to a North Countryman any time is a good time to testify to Mr. Morison's work for the profession, I should question the appropriateness of this particular time, except on the express understanding that because he will have less time to spend at the Newcastle Infirmary he can therefore be expected to give even more of his energies to the promotion of the welfare of the general practitioner. I hope he will take the hint, for there is no man in the North who is able to render quite the same service to his professional brethren, or who has given more evidence of his willingness to do it.

Mr. Morison might well have been excused if, like most consultants, he had pleaded the claims of an exceedingly busy professional life as an excuse for leaving alone those things which only indirectly concern him. But he has never taken this line. He has never forgotten the years he spent as a general practitioner, and he has always been willing to make time to look after the interests of the general practitioner, and particularly of the colliery practitioner. When in 1899 the movement began in Durham for improving the conditions of the colliery doctor, Mr. Morison at once put himself at the head of a similar movement in Northumberland, forming the Northumberland and Newcastle Medical Association, and for the two years or so during which that fight lasted he was the life and soul of it. Not only did he put his time and money at the disposal of the profession, but he was the one man who by his unique personal and professional position was able to influence both the workmen and the colliery owners in a way which rendered the victory in Northumberland easy compared with what it was found to be elsewhere. He was among the first to see the necessity of making use of the machinery of the reformed British Medical Association, and gave his cordial adherence to the policy of one organization for the whole of the needs of the profession. In face of considerable opposition he insisted on the Northumberland Association being merged in the general work of the North of England Branch of the Association, and of that Branch he has always been a staunch supporter, giving his valuable time and services as freely as they were asked for. He has been the standing exemplar in the North of the

axiom that the interests of all classes of the profession are common, and that anything which elevates or depresses the standard of the general practitioner cannot fail to affect the other ranks of the profession. As an old colleague of Mr. Morison, and one who has received many kindnesses at his hands, I am very glad to give this little testimony to his medico-political services to the profession; and in doing so I am voicing, I know, the general feeling of the medical men of the North. I must close, however, as I began, by expressing my anxiety lest this should be taken as in any sense a valedictory notice. It is intended as a word of thanks for past services and an expression of an earnest hope that Mr. Morison will continue to give as much of his time as possible for the general good of the profession of which he is so distinguished a member.

LONDON.

DEPARTMENT FOR SYPHILIS AT THE LONDON HOSPITAL.—The Out-patient Committee of the London Hospital has recommended the establishment of a special department for the treatment of syphilis, and the recommendation has, we understand, been accepted. The Committee took this course as a result of the receipt of a very able report by a subcommittee, over which Mr. Ludovic Goetz, Chairman of the Out-patient Committee, presided. This report, after a sketch of the history of syphilis from its earliest recognition in Europe to the present time, including an account of the discovery of the spirochaete by Schaudinn, the evolution of the Wassermann reaction, and the discovery of the therapeutic value of salvarsan by Ehrlich, went on to endeavour to form an estimate of the number of cases of syphilis in London. After noting that Erb had estimated that 12 per cent. of the population of Berlin were syphilitic, and Fournier that of the population of Paris 15 per cent. had the disease, the report states that Dr. Fildes examined the blood of 300 adult corpses in the *post-mortem* room of the London Hospital. The patients had been admitted to the hospital for diseases of all kinds, and the examinations were made without regard to the cause of their admission: the Wassermann reaction was positive in about 15 per cent. From all the data available the Committee arrived at the conclusion that about 12 per cent. of the population of London might be supposed to be infected. The report then discussed the subject of syphilis as a disease of the innocent in the following paragraphs:

> For years it has been felt that the disease was a disease of guilt. So it may be. It is also a disease of the innocent. Fournier has said that 25 per cent. of all women infected with syphilis contract the disease innocently. Dr. Sequeira, out of 35 women recently treated by him in hospital, reports that 11 had contracted the disease by other means than the usual one—most of them by kissing. The same member of our staff has had under treatment many children who have also been infected by kissing. Recently a woman entered his department suffering from the rash of secondary syphilis; she carried in her arms a baby which, on examination, was proved to have the disease by inheritance. The patient had with her two other little children, both of whom had syphilitic chancre on the mouth through kissing the baby. A girl of 12, infected by her own mother's kiss, is at the present moment under treatment in the hospital; and Dr. Sequeira described to us a case, reported recently, in which at an evening party, some kissing game was played; at this party one person with a chancre on the mouth infected with syphilis nearly every girl present. He had recently under treatment the case of a glass-blower's boy assistant. The practice of the glass-blower was to hand his blowpipe with the bottle blown to his young assistant, the latter continuing to blow before knocking off the bottle. The boy in question had a primary syphilitic sore on the lip, and the elder man was induced to come up to the hospital and was found to be suffering from active syphilis of the mouth. The infection through glasses, drinking utensils, and towels are met with, but are not common. Dr. Sequeira recently had a case in which a beer-can handed from one workman to another was the agent which carried the infection. He also had a case recently of the chef of a railway dining car, who came direct from his work to Dr. Sequeira's out-patients, and on being examined was found to be so ill as to necessitate admission. Dr. Sequeira says "he was in a highly infectious state, with marked fever, and was one of the worst cases of syphilis I have seen," and this was a chef in a dining car! And one wonders how many people he may have infected. There was recently a baker here as a patient who was actually unable to leave his baking, even to come into the hospital for salvarsan treatment. Dr. Fildes reported to us the case of a patient with chancre of the eyelid, due to the attempted removal of some foreign body from his eye by the corner of a handkerchief moistened in his wife's mouth, who had had syphilis. We have been reminded of some of our own staff who have been infected from patients accidentally, physicians and surgeons, nurses, students—by attending a confinement, in carrying out a *post-mortem* examination, by the bite of a patient in the dental department, in the dressing of a wound in the out-patient department. We have mentioned these various instances to show that the disease is not a disease of the guilty alone.
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> While the disease was regarded only as a disease of guilt, that its visitation was a punishment, a special retribution of Providence, respectable institutions closed their doors to the syphilitic, although such a patient was sometimes allowed to attend the various out-patient departments; but such treatment was not satisfactory, as the patient often ceased to attend when *he* thought he was cured.
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> . . . For the good of the race and for the good of the children yet to be, an organized war on the spirochaete should begin. With the new weapons the curse may be ended. Dr. Bulloch states that if the weapons at our hand were wisely used syphilis would be as rare as is small-pox in the course of a generation.

The report contains the following expression of opinion on compulsory notification of syphilis:

> Compulsory notification is no good; it tends to secrecy. The man or woman who knows that the doctor must notify the disease will keep clear of the doctor and go to the quack. The stigma, the old stigma, still clings to the disease. That is why men and women will not go to lock hospitals, but keep the disease a secret, thinking that when the chancre or rash disappears they are well. Therefore, patients must be encouraged to come for blood examination and cure if necessary, not simply for their own good, but for the good of the nation.

In making recommendations for carrying out the principle involved in the report, the Committee expresses the opinion that a certain number of beds should be provided, as no patient should be treated by the intravenous injection of salvarsan unless afterwards kept in bed, and under proper nursing supervision. It is customary at the London Hospital to give three injections during the space of ten days, and the patient should remain in the hospital for that period. It is considered that in order to render possible the proper classification of patients a number of small rooms with one or two beds would be required. It is thought that not less than ten or twelve beds should be provided to begin with, and it is hoped that at least 40 cases would pass through each bed yearly. It will be necessary to relax the rule of the hospital which forbids the admission of a mother with her baby in arms, for if the mother be syphilitic the baby most certainly would be also. Admission to the department should not be governed by questions of morality or immorality; the only question should be whether the case be infectious or not. The general rule would be that the department was intended for the treatment of primary and secondary syphilis, and this would tend to eliminate a number of patients of the prostitute class who had reached the tertiary stage. With regard to the value of salvarsan in that stage, the Committee was advised that in certain skin affections the result was almost magical, and that in certain nervous diseases it produced undoubted improvement. The Committee was further advised that in general paralysis and locomotor ataxy there was little obvious effect, but there was no progress of the disease after treatment; there was little or no effect upon arteries. The report insists upon the importance of complete and accurate notes being kept of all cases, and concludes with a reference to the question of medical education. It is pointed out that it is most important that men who in

their after-life must meet the disease wherever they go to practise should, before they leave the hospital, become familiar with every scientific method of exterminating it, and should be taught the care necessary in diagnosing the disease, and in the supervision of patients treated by salvarsan.

A course of twenty-four special lectures on syphilology will be held at the London Hospital Medical College during February and March, commencing on February 3rd. Further particulars relating to the course will be found in the advertisement columns.

MANCHESTER AND DISTRICT.

CANCER RESEARCH AND RADIUM TREATMENT.

AT the annual meeting of the Christie Cancer Hospital, Manchester, held on December 1st, Sir F. Forbes Adam, who was in the chair, laid stress on the need for more research work to discover the causes of cancer and methods of prevention. Professor Wild, honorary physician to the hospital, said that cancer was undoubtedly increasing, as the Registrar-General's latest report (1911) showed that the death-rate was steadily rising. Some years ago it was said that the increase was only apparent owing to improved methods of diagnosis, but that could hardly be the case at present, as doctors were now always on the *qui vive* to recognize the disease as early as possible. He was rather inclined to think that the increase was greater than the death-rate showed, because the more thorough surgical treatment at earlier stages brought about a considerable number of cures. But the undoubted increase showed the need for increased research into the conditions under which cancer arose, its causes and treatment. The Manchester University had now at its disposal a considerable sum of money for cancer research, and one of the most efficient laboratories in the country had been fitted up for the purpose under the superintendence of Professor C. Powell White, who was connected with both institutions. The Committee of the hospital had also devoted a certain sum of money to research, but he should be glad to see additional donations earmarked primarily for research, as both more men and more money were needed. He had no doubt that radium was an extremely active means of getting rid of certain forms of cancer. The hospital was fortunate in possessing a small quantity of radium obtained from Professor Schuster when the price was much lower than at present. It was only sufficient to treat very small malignant growths, but in those that were small enough to be covered by it considerable success had been obtained. To provide an amount of radium capable of treating the extensive cases that were in the hospital would call for an expenditure which was hardly justified until the results were known of the work that was being done at the Radium Institute in London, which had a very large quantity of radium. For the treatment of such cases as were admitted to the Christie Hospital, less than £10,000 would be hardly worth using, because there was danger that the treatment, unless great care were used, might arouse a more active growth instead of curing. There was a prospect, owing to the discovery of new sources of radium, that the price might become much lower, and a small hospital would hardly be justified in spending a large sum of money at present until the beneficial results claimed for the use of large quantities at the Radium Institute were fully established. Some of the radium emanations prepared in the laboratory at the college had been tried at the hospital, but so far the results had not been so good as some that had been described. It would be necessary to consider whether an arrangement should be made for a supply of the emanation from London; the difficulty was that the preparations so quickly became weaker that even in the transit from London to Manchester the strength lessened by 30 per cent., and at the end of a week was practically exhausted. Whether the emanation could be prepared in Manchester in sufficient quantity he did not know; but very costly apparatus had to be used, and, though ready to undertake any treatment that proved to be promising, he thought that until it was definitely known whether the emanation could replace radium itself, and whether its use was free from risk, a waiting policy was the wisest.

Professor Delépine said that, in spite of great advances in the knowledge of cancer, nothing was known of its causes, and he suggested that some organization should be established to direct and co-ordinate the work of all who were interested in the subject. Dr. C. Powell White referred to a statement made by a professor in America that tea and coffee were a prolific cause of cancer. He knew no reason for such a statement, and if people were to abstain from every food which some supposed might produce cancer there would be nothing left to eat. The university had a large and well-equipped laboratory for research, but more workers were required in it, and that involved more money; and, indeed, all the manifold aspects of cancer research could absorb all the money it was possible to get.

LIVERPOOL.

AFTER Dr. C. J. MacAlister had read, at the Liverpool Medical Institution, a paper on the influence of venereal disease (published elsewhere in this issue) a small committee of the members of the Institution was appointed to collect evidence bearing on the questions now under consideration by the Royal Commission on Venereal Diseases.

MUNICIPAL BACTERIOLOGICAL EXAMINATIONS.

Arrangements have been made by the Health Committee for amplifying the existing system of bacteriological examinations with a view to facilitate or confirm diagnosis in doubtful cases of zymotic disease. The city bacteriologist will examine free of cost to Liverpool practitioners sputum from cases of suspected tuberculosis, swabs from suspected diphtheria, blood from suspected typhoid fever, and secretions, etc., from other forms of zymotic disease.

MUNICIPAL SUPPLY OF ANTITOXIN.

The diphtheria antitoxin provided by the Port Sanitary and Hospital Committee at the city infectious hospitals is available for practitioners for emergency use. In cases other than emergencies in which antitoxin is required, practitioners are expected to obtain it in the ordinary way. No charge will be made in the case of persons unable to pay.

Scotland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

HIGHLANDS AND ISLANDS MEDICAL SERVICE.

Scheme for Administering Fund.

A CIRCULAR has been issued by the Highlands and Islands Medical Service Board to all the authorities concerned, asking for suggestions for the distribution of the fund created by the Highlands and Islands (Medical Service) Grant Act of 1913.

The circular points out that the Act provides for subsidies from the fund being placed at the disposal of local authorities, Insurance Committees, district nursing associations, or other bodies or persons, or of any joint committee of local authorities or Insurance Committees or of local authorities and Insurance Committees. It is clear (the circular proceeds) that the intention of the Act is to provide for a development and correlation of the existing public services so far as that can be effected by combination amongst the bodies concerned. The Board therefore considers that an important part of its work is to bring about an administrative consolidation of the existing services, and no payment will be made from the fund except as part of a well-considered scheme in which all the existing services can be turned to the best account. All statutory bodies concerned should realize that the improved service provided for by the Act is not intended to relieve them of their existing obligations in regard to medical service. On the contrary, it should, in the opinion of the Board, be a condition precedent to any grant from the fund that the bodies in question are taking reasonably full advantage of their powers under the statutes in force.

The fund must be administered and applied in accordance with a scheme or schemes prepared by the Board and approved by the Secretary for Scotland, with the consent of the Treasury. The Board proposes to proceed forthwith with the preparation of such schemes, but feels that the needs of the several districts vary so much in character and extent that it would be impossible to frame satisfactory schemes for the application of the fund without

first obtaining the views of the bodies who may be entrusted with or associated in the administration of grants from the Board.

Facilitating the Work of the Doctor.

Schedules with an extensive series of questions accompany the circular, but subject to the consideration of any alternative proposals that may be submitted, the circular states that the Board has at present in view a scheme providing for the consideration *inter alia* of the methods by which the cost of medical attendance other than that provided or assisted through public funds, local or imperial, can best be brought within the means of persons of only very limited income. It is thought that the fact that a patient's residence happens to be distant from the nearest doctor ought not to add to the cost. To facilitate communication with the doctor it will be the aim of the Board to take advantage of the telephone and telegraph services wherever these exist, and to get extensions of these services introduced where practicable. To facilitate attendance at patients' residences it will frequently be essential that the doctor be enabled to provide, or be provided with, the most suitable means of conveyance—motor car, motor cycle, motor boat, a horse for bridle paths, and so forth, according to circumstances. In some cases it will probably be necessary to provide a doctor with a suitable dwelling-house, so that his work may be carried on from a centre convenient to the population depending upon him for attendance. As indicated in the report of the Highlands and Islands (Medical Service) Committee, there is abundant evidence that the income of many of the doctors in the Highlands and Islands is entirely inadequate for the services required of them. This must be kept in view in any suggestions that it may be desired to submit.

Nursing and Hospitals.

With a view to securing that every area shall have an adequate nursing service it is proposed to see that, in one way or another, nurses are established at convenient centres throughout the Highlands and Islands. It will be the endeavour of the Board to utilize the local nursing associations, where these exist, but in any case the system of nursing to be organized must be such as to meet the requirements both of the official and of the voluntary medical services so far as that may be found to be practicable. The qualifications required of the nurses will vary with the circumstances, and the variation will largely depend on the practicability of close supervision of the work of the nurse or nurses by the medical practitioner of the locality. The duties of the nurses will be related to medical, surgical, and midwifery cases. In many instances, perhaps in most, the head quarters of a nurse ought to be at the hospital of her district.

In some districts there is need for small hospitals capable of accommodating from four to six patients. Due regard must, of course, be paid to existing accommodation, but the main consideration determining the situation of these hospitals will be their accessibility to the population to be served, and the convenience of medical and nursing attendance. They will be of simple structure, and will include accommodation for a small resident staff of, say, one nurse and a maidservant. Such hospitals would be used where house accommodation for domestic nursing is unsuitable, and when medical attendance can be better given at the hospital than at the patient's home. Where, for example, the patient's home is far distant from the doctor, whilst at the same time the nature of the illness requires frequent visits, the case may be removed to the hospital for treatment there. The Board will also take into consideration the local needs for specialized medical services. Such services include provision for examination and treatment of eyes, ears, and teeth—particularly of school children—laboratory facilities, provision of surgical appliances, assistance at operations, medical consultations, etc. In considering the provision, by school clinics or otherwise, for the medical treatment of school children, the Board will have regard to the imperial funds placed at the disposal of school boards for this purpose.

It is recognized that the schemes outlined above do not exhaust the means that might be employed for the prevention, treatment, and alleviation of illness and suffering, but it is thought that they would go far towards meeting the more pressing needs in the great majority of localities.

The Clinical Medicine Research Laboratory in the Royal Infirmary of Edinburgh.

With the recently founded Clinical Medicine Research Laboratory in the Edinburgh Royal Infirmary the late Dr. George A. Gibson's name is intimately associated. Its establishment was made possible by the generosity of one of his friends (who preferred to remain anonymous), and to his appeal for their support and co-operation the managers of the hospital cordially responded. Although Dr. Gibson has been removed by death, the laboratory he did so much to establish has begun its work; and in a recent number of the *Edinburgh Medical Journal*[1] Dr. Harry Rainy is able to pass in review a number of published papers containing the results of researches carried out in it. The original trustees were Sir Thomas Fraser, Dr. Gibson, and Dr. Rainy; the last named acts also as organizing secretary and treasurer, and Dr. William Russell has recently been appointed to fill Dr. Gibson's place. The duties of acting superintendent have, at the wish of the managers of the Royal Infirmary, been imposed upon the junior assistant physician for the time being. Financial aid from the Carnegie Trustees has also enabled the trustees of the laboratory to secure the services of a trained mechanical assistant. It was early decided to carry out researches in groups, and the first series of investigations has been on disorders of the circulation, studied by means of recent physical apparatus; and now Dr. W. T. Ritchie and a number of the younger men have completed and published certain pieces of work along these lines. Thus Drs. Hope Fowler and W. T. Ritchie have made public their observations on ortho-radiography of the heart and aorta in September, 1912, and Dr. Ritchie has read four papers dealing with the action of the vagus on the human heart (October, 1912), on vagus stimulation and paresis in the treatment of cardiac irregularities, on auricular flutter (December, 1912), and on the absence of certain mitral murmurs in mitral disease (May, 1913). Dr. Watson-Wemyss and Dr. J. D. Gunn have made an important preliminary communication on the registration of heart sounds by simultaneous electro- and phono cardiograms (August, 1913); and Dr. George D. Mathewson has written on four cases of lesions of the branches of the auriculo-ventricular bundle studied with the string galvanometer (June, 1913). These various papers have appeared in the *Edinburgh Medical Journal*, the *Quarterly Journal of Medicine*, the *Transactions of the Medico-Chirurgical Society of Edinburgh*, and in *Heart*. They are all pieces of research work which would have appealed very specially to Dr. Gibson, whose interest in the heart was great. A second group of researches is now being instituted under the guidance of Dr. J. D. Comrie, and will be concerned with investigation of disorders of the alimentary system by modern physical methods. It is not difficult to foresee that the new laboratory will admirably utilize much clinical material in the Royal Infirmary, and prepare the way for still more scientific methods of diagnosis and treatment in the immediate future.

The Nazareth Hospital of the Edinburgh Medical Missionary Society.

The three days' (December 4th, 5th, and 6th) bazaar in the Music Hall, Edinburgh, in aid of funds for the erection of a hospital at Nazareth in connexion with the work of the Edinburgh Medical Missionary Society in that town of hallowed memories has aroused a large amount of interest in Edinburgh, Dundee, and other places in Scotland, England, and the North of Ireland. The society, besides its large home work in Edinburgh, has maintained a medical mission in Nazareth for many years, and the late Dr. Vartan did much strenuous preparatory labour there, often in face of active opposition, and almost always with scant sympathy from the inhabitants of the Galilean town. Not long before his death he was joined by Dr. Scrimgeour, who is a graduate of Edinburgh and a native of Dundee, and the newcomer's command of the most recent methods of surgery soon began to attract patients from all parts of the Holy Land and from far in the desert to the little temporary hospital in a hired house which was the only accommodation available. In a remarkable way, too, the effect of Dr. Vartan's life-work was seen at his death, when old animosities and race antagonisms

[1] *Edinburgh Medical Journal*, October, 1913, pp. 318–327.

seemed to have been broken down, and soon the directors of the society were compelled to realize that they had now in Nazareth a prepared soil for missionary enterprise as well as an urgent call to provide the best surgical skill in a properly equipped and sufficiently large hospital. Dr. Scrimgeour was joined by two trained European nurses and a young assistant, Dr. Ian Macfarlane. Funds were collected, a site was bought with a secure tenure, and the doctor's house was built upon it; but the money in hand was not sufficient for the construction of the hospital, and, with the cost of labour and of materials in the near East constantly rising, it was felt that an effort to raise the necessary funds must be made at once. The idea of a large bazaar was mooted, and the friends of the society nobly responded.

The bazaar was opened on Thursday (December 4th) by the Marquis of Linlithgow; the Lord Provost of Edinburgh occupied the chair, and among those on the platform were Professor Crum Brown, the present President of the Edinburgh Medical Missionary Society; Drs. James Ritchie and J. W. Ballantyne, former presidents; Sir Thomas Clouston, Canon Dawson, Mr. T. A. Bailey, Mr. J. W. Moir, Dr. Sargood Fry, and the Secretary of the Bazaar (Mr. A. Russell Simpson, W.S.). The Marquis of Linlithgow thought that there was an appropriateness in the name of the society, because Edinburgh and the whole science of medicine were so closely allied; and any one who had been in the East could realize how many people there were in those far-off lands who had absolutely no sort of medical comfort. On Friday Emeritus Professor Crum Brown presided, and Sir Ludovic Grant, who declared the bazaar open, observed that though standard histories said that the last crusade to the Holy Land took place some 640 years ago, this was wrong, for the last crusade to the Holy Land was in active and actual progress at that very moment. The organizing activity of bygone Pope and Emperor had reproduced itself in a new and nobler form in the organizing activity of the Edinburgh Medical Missionary Society, and the doughty deeds of mediaeval chivalry found a modern counterpart in the heroic services of that devoted little band of doctors and nurses who were carrying on the society's work in Palestine. During the course of the second day of the bazaar a telegram was received from the Church Missionary Society at Nazareth conveying best wishes for the success of the undertaking. Mrs. Wauchope, of Niddrie, opened the proceedings on the third day. The sum required was £5,000, and it is believed that after the expenses have been met this amount will be realized, for along with donations and the receipts from preliminary sales the bazaar was the means of raising about £5,400.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

THE MEAT SUPPLY OF BELFAST.

ON the evening of December 2nd Dr. O'Neill, Chairman of the Market Committee, Belfast Corporation, delivered a lecture on the meat supply and how to improve it, in the Central Hall, Technical Institute. Sir Richard Anderson, in the absence of the Lord Mayor, presided. Dr. O'Neill explained the resolution of the Market Committee, which advocated the examining and stamping of all meat exposed for sale for human consumption. The necessity of a public abattoir was emphasized. The hygiene of many private abattoirs was hopelessly below modern requirements, but seldom or never had there been a seizure of a diseased carcass in any private slaughter-house within or around Belfast. During the five years ending March 31st, 1908, 121,459 cattle had been slaughtered in the public abattoir, and 817, or 1 in 148, had been condemned and destroyed. In the same period 12,641 carcasses had been brought in from outside, and 180, or 1 in 70, had been condemned and destroyed. During the same period about 15,000 cattle had been slaughtered in private slaughter-houses, and not a single carcass had been seized and condemned. Dr. O'Neill then gave a number of other statistics and numerous illustrations of prosecutions for the sale of diseased meat. A large number of public institutions have now passed resolutions requiring all flesh meat supplied to them to be stamped with the corporation abattoir stamp.

The lecturer finally enlarged on the necessity of encouraging a good stock of animals, of providing suitable hygienic byres, of enforcing the various provisions for slaughtering, and of inspecting all animals intended for public consumption. A hearty vote of thanks to the lecturer was proposed, seconded, and passed by acclamation.

THE EPIDEMIC OF SCARLET FEVER IN BELFAST.

The epidemic of scarlatina still continues; the Public Health Committee is making every endeavour to discover the mild unsuspected cases in schools which are so apt to spread the infection; last week 67 new cases were notified. At the monthly meeting of the City Corporation, on December 1st, communications were received from seven large English towns, showing that a similar epidemic is affecting many other cities. The annual death-rate from all causes was 16.1.

Correspondence.

RECENT VIEWS ON SYPHILIS, SPIROCHAETES, AND SLEEPING SICKNESS.

SIR,—I have read with much interest the valuable paper on syphilis by Dr. Mott in your issue for November 15th. His remarks regarding a latent form of *Spirochaeta pallida* specially appealed to me.

In the *Journal of the Royal Army Medical Corps* for June, 1911, when commenting on a paper by Gibbard, Harrison, and Cane, I gave reasons for thinking that there is a "spore" stage in the life-cycle of the spirochaete, and that this may be a factor in the mechanism of relapse.

I also, as Dr. Mott mentions, described the granule-shedding which I witnessed by the dark-field method, and which I subsequently studied more fully with Captain W. R. O'Farrell. At a later period I suggested that a development of spirochaetes from granule or "spore" forms might possibly give rise to the histological changes found in the nervous system in those parasyphilitic conditions which Dr. Mott has renamed "parenchymatous syphilis," and so account for the symptoms met with in the tertiary stage. It seemed to me unlikely that spirochaetes could exist as such for ten or more years in the human organism. I was unable to follow out this work, which in any case, as Dr. Mott states, is beset with difficulties, but I have to some extent traced what I believe to be the development of the spirochaete granule in Sudan fowl-spirochaetosis, and I think it is by studies in comparative pathology that we are most likely to get at the truth in the case of syphilis.

Granting that there is a granule or "spore" stage, it is probable that such spores are resistant, and that the difficulty in treating syphilis in a radical manner depends to some extent on the impenetrability of these latent forms to our spirochaeticidal drugs.

Is it possible to find a substance which will act, so to speak, as a "carrier," and so convey the drug into the cytoplasm of the spore and thus cause it to perish? It may be so when we consider the work of Wassermann and his collaborators in their efforts to cure mouse-cancer. They employed a compound of selenium and the dye eosin, and proved it to have a selective action on the cells of the tumour mass.

Having found that toluidin-blue, which is the zinc chloride double salt of dimethyl-tolu-thionin, has a special affinity for the granules of what we may call *Spirochaeta gallinarum*, I thought it might be worth while to try what a combination of toluidin-blue and a drug like arsenic or antimony could effect in the treatment of spirochaetal conditions or of trypanosomiasis. I determined the toxicity of toluidin-blue in the case of gerbils, and thereafter took some with me to Yei in Western Mongalla (late Lado Enclave) and handed it over to Lieutenant Ranken, who was working there at sleeping sickness and yaws. He employed it along with Plimmer's metallic antimony in a case of yaws, and his account of the case will be found in the *Proceedings of the Royal Society*, Series B, for September of this year, and the *Journal of the Royal Army Medical Corps* for the same month. He states that in Case 51 he gave 1 grain of the dye by the mouth before the first, third, and fifth

doses of antimony in the first course. His report on the present condition of the patient is as follows: "Much improved; better nourished; no tumour: glands small: puncture negative; blood examination negative."

Of course this is very little to go upon, and the good results may have been wholly due to the antimony; but I mention the matter because I think it is along some such lines that we may possibly attain complete success in treating syphilis. At the same time it is obviously very difficult to say what interaction may take place when one combines two such bodies as, let us say, toluidin-blue and salvarsan. In this country we have had little experience of the chemical affinities and reactions of anilin dyes and of the more complex arsenical compounds. It would seem a promising line of research, but we require to get our preliminary knowledge from the Germans, who have specialized along these lines to the benefit of humanity.

At the same time, as Dr. Mott says, it is very necessary to get the life-cycle of spirochaetes worked out. The whole granule theory may yet fall to the ground, but there is sufficient evidence to make it imperative that it should be thoroughly investigated, for, if it is true, it will enable us to devise new measures for combating one of the greatest scourges of modern civilization.—I am, etc.,

ANDREW BALFOUR, M.D.

NOTE.—Dr. Mott's attempt at treatment by means of intrathecal injections of human serum containing antibodies is of great interest. In 1908 I proposed a similar method for the treatment of sleeping sickness, not knowing that Thiroux and d'Anfreville had already, in some measure, anticipated me. I was led to suggest it owing to the results obtained in the treatment of cerebro-spinal fever by such injections. Dr. Van Someren gave the method a short trial in Uganda. The results were indecisive, but he admits that the cases were unsuitable for the test, as they were in the very last stages of the disease.

At the present time I am having the effect of urotropin observed in cases of sleeping sickness. I do not yet know if this drug has any trypanocidal action, but it readily penetrates the spinal membranes, and, even if not in itself toxic to trypanosomes and spirochaetes, it may yet serve as a "carrier," somewhat in the same way as it has been suggested certain of the dye-stuffs may act. The experiments are being carried out at Yei in the Southern Sudan by Lieutenant Ranken, R.A.M.C., and I hope ere long to receive a report from him on the subject. It is, of course, quite probable that the results may be wholly negative, but even negative results possess some value in this experimental work, as, if duly recorded, they may indicate along what lines further research should proceed.—A.B.

Wellcome Bureau of Scientific Research,
54A, Wigmore Street, London, W.

THE CRAZE FOR APPENDICECTOMY.

SIR,—It is most undesirable that those who do not undertake operative work should be seized with the idea that surgeons are unduly pressing operations for appendicitis, either in the acute or in the quiescent stage. The public, and to some extent practitioners, almost invite surgeons to abuse the operation of appendicectomy; but, as far as my own observations go, I do not think that there is real abuse, though I readily acknowledge that it may easily arise. Frequently after careful investigations doubt may still remain as to whether or not the appendix is the cause of the symptoms complained of by the patient, yet, with this doubt, it may be quite justifiable in certain circumstances to remove the appendix; and although I personally have failed in some cases to give the relief hoped for, in others what was really an exploratory operation has proved an unmitigated success in relieving the patient of a painful encumbrance. One of the real puzzles at the present time is in what cases of repeated indigestion one can blame the appendix for the symptoms complained of. I hesitate yet to say that I can identify those in which embarrassment of the appendix causes the symptoms; such cases so closely resemble others in which there is some different lesion, such as duodenal ulcer; and yet another group in which no recognizable local disease is found. No one can controvert the relief given to stomach symptoms by the removal of an embarrassed appendix; but clearly, if the removal of the appendix for the relief of dyspeptics is undertaken without great discretion, the belief of the profession and the public in the good faith of the surgeon might easily be shaken.

I do not wish to trespass upon your space unduly, but I would like to quote statistics which I brought forward in a recent discussion in Birmingham; these will be published in full in the forthcoming number of the *Birmingham Medical Review*. I quote these figures because of some observations made by your correspondent, Mr. Arthur Z. C. Cressy. The statistics are taken from the annual reports of the General Hospital, and are as follow:

Year.	Cases.	Mortality.
1906	101	23.7 per cent.
1907	131	18.5 ,,
1908	152	21.0 ,,
1909	193	16.0 ,,
1910	154	13.3 ,,
1911	238	13.02 ,,
1912	240	6.25 ,,

My remarks in this discussion were mainly directed to urging the earliest possible intervention in all cases of acute appendicular mischief, and I was able to point out that the main factors in the improvement in our mortality at the General Hospital are that practitioners send their cases earlier to hospital than formerly, and that all cases are immediately operated upon. It is very striking that our mortality has fallen from 20 per cent., or somewhat more, in the earlier years quoted to 6 per cent. in the year 1912.

Appendicectomy in the quiet interval during the last eight years was performed 1,063 times by the whole of the staff, and there were two deaths—one from the anaesthetic and one from hyperthyroidism. I quote these numbers as showing the extreme safety of the operation in skilled hands. These operations were not undertaken under the temptation of obtaining fees, but in what was regarded sincerely as the real interests of the patients. I am aware, of course, that the mere safety of an operation is not its only justification, but it is one of the factors, and for a fuller justification I will ask those interested in the matter to consider the report of the meeting to which I have referred above.—I am, etc.,

Birmingham, Dec. 9th. GILBERT BARLING.

SIR,—I wish to try to disarm criticism in advance by saying that from lack of experience I do not presume to discuss the type of appendicitis which occurs in towns or what the treatment should be when surgical aid is easily accessible, but, having practised for twenty years in a somewhat remote country district where the old-fashioned people are extremely averse to operation, and where it is often very difficult to get the patient to the surgeon or the surgeon to the patient, I should like to give my experience of the treatment of the disease, as it may interest those practitioners who find themselves similarly situated.

During the above-named period I have, of course, treated dozens of cases; every one has recovered except one old woman of 80, who could not retain enemata, and who, in any case, was not, in my opinion, a suitable subject for operation.

None have been operated on in the acute stage, and not more than two or three have had recurrent attacks, and therefore have required operation during the quiescent period. In all the rest the recovery has been complete without any unpleasant sequelae, and many have been under observation for years in the ordinary course of practice. The treatment adopted has been absolute rest, liquid diet, and the old mist. mag. sulph. c̄ ferro every four hours. R Mag. sulph. gr. xl; ferri sulph. gr. ij; ac. sulph. dil. ♏ x; aq. menth. pip. ad ℥j. The aim has been to induce three or four liquid stools in the twenty-four hours, and to obtain that effect the magnesium sulphate must be increased or diminished as necessary, and an enema may be required to get the bowels to act to begin with.

Under this treatment pain rapidly diminishes, but poultices can be used, and there is no objection to 10-minim doses of nepenthe when required, provided that the bowels are still kept freely open.

Several cases that I should certainly have had operated on if there had been facilities for doing so, on account of the evident presence of an abscess, have recovered just as well as the others, the pus having, I suppose, been

evacuated into the large intestine. I must confess that I have not persuaded many of my professional brethren to believe in this treatment, but, if they will begin by trying it, at all events in those cases that refuse operation, or in which it is very difficult to get an operation performed, I can assure them that they will be surprised and delighted with the results.—I am, etc.,

Vowchurch, Dec. 13th. ARTHUR W. MCMICHAEL.

SIR,—It would be interesting to learn if appendicitis is met with by veterinary surgeons among the lower animals, for it has occurred to me, and may have to others for anything I know, that the prevalence of this disease among the human species may, in some measure, be due to the erect attitude assumed by man in the process of evolution, altering as it would the position and posture of the appendix, and so favour the admission of irritating particles into the cul-de-sac, probably helped by gravitation. We read that the ancients took their food in the recumbent posture (accubation), and there is no evidence that they were subject to this disease. In view of this theory being feasible, and prevention being better than cure, I would suggest that people, especially the young, lie down for half an hour or so after each meal, as a prophylactic measure against the occurrence of appendicitis.—I am, etc.,

Ardrishaig, Dec. 8th. ALLAN WILSON.

THE FACULTY OF MEDICINE OF THE UNIVERSITY OF LONDON.

SIR,—At a meeting of the Board of the Faculty of Medicine on Thursday last I moved the following:

> In continuation of the policy of their interim report, the Board of the Faculty of Medicine advises the Faculty to recommend that in the event of a constituent college or colleges being founded, on the lines of the Report of the Royal Commission, a wider degree of autonomy than that contemplated by the Report of the Commission shall be reserved for the schools, other than the constituent colleges. It recommends that the privilege of reporting direct to the Senate, through the special committee for schools to be appointed by that body, shall not be given up, as the Report of the Commission suggests, when the constituent college or colleges and the new Faculty of Medicine come to be constituted.

This motion was passed *nemine contradicente*, all the members present voting for it with the exception of one, who did not vote.

The discussion left no doubt that the Board would prefer the realization of the suggestions outlined in their interim report, which postulated, if it did not actually say so, that no constituent college or colleges, in the sense of the Commission's Report, should be established, and that no division should thus be introduced into the medical schools of London by setting up a small and privileged class of collegiate teachers and students. But if such constituent college or colleges should actually come into being, the Board equally left no doubt that it greatly disliked the regulation imposed by the Commissioners by which the teachers at the schools would be subordinated to the teachers at the college, a subordination which would inevitably result from the requirement that the new Board of Studies should report to the new Faculty of Medicine, and not direct to the Senate.

A question was raised which becomes important in view of the current consultations between the Departmental Committee and the hospital schools. What action would that Committee take in the event of none of the existing schools consenting to transform itself into a constituent college, in the sense given to that term by the Commission, which certainly must have considered the possibility of such a refusal. The Commissioners, I think, clearly suggest, but do not categorically say, that in that event an attempt would be made to found a new hospital school. The opinions expressed by Mr. Abraham Flexner are so clearly the genesis of the medical recommendations of the Report that Mr. Flexner's statements are often an invaluable gloss where there is any obscurity in the Commissioners' statement. As Sir Henry Morris writes:

> The sections of their report dealing with the Faculty of Medicine are in substance merely an abstract of Mr. Abraham Flexner's "Bulletin No. 6 on Medical Education in Europe" and of his evidence published in the Third Report of the Commissioners. Mr. Flexner's opinions on the preliminary sciences, where and how they should be taught; on the "School unit;" on the interrelationship and mode of studying, and on research in pathology, bacteriology, biochemistry and clinical medicine; on the changes thought to be required in clinical teaching, owing to the rapid progress in sciences related to medicine; on the hospital unit or the German system of clinical instruction and research; and on the question of the "one portal" entrance to the *Medical Register*: are all approved and adopted by the Commissioners. (*Times*, August 14th, 1913.)

Now Mr. Flexner says (Bulletin No. 6, p. 218):

> Let us suppose that London University, reorganized on its teaching side, cut adrift the hospital schools, *creating its own hospital* (the italics are mine) or retaining for the present a single hospital . . . or, more simply still, should by subvention enable one of its constituent colleges—namely, University College—to complete its medical plant on an academic basis by making with University Hospital a contract arrangement giving University College the right to designate and organize its hospital staff. . . . University Hospital would at the moment perhaps answer the needs of London medical students of university grade.

Again, Mr. Flexner, quoted by the Commission (p. 109, top), says:

> The first step in the direction of modernising medical education would appear to lie in the total conversion of an existing school or in *the creation in London of a new school*. (The italics are mine.)

Section 293 obviously indicates that the Commissioners would prefer to utilize one of the existing schools to making a new school, but also shows that they consider the possibility of "creating a new school" if satisfactory arrangements cannot be made with any existing school.

They point out (end of Section 301) that—

> "The hospitals do not belong to the medical schools," and "if they are required for a university faculty of medicine in London the question of privilege of access to the great London hospitals cannot be treated as a matter of private right or decided as if they were the private property of the existing medical schools." They say "the proper course for the university would be to endeavour *in the first instance* to enter into an agreement with the executive authority of one or more of the London hospitals with regard to the future of the hopital medical school (Section 302).

The inference from the clause I have italicized seems obvious, that if this action of the first instance failed, in spite of the public right here laid down to appropriate a hospital to the use of the university, the latter should proceed to establish the new school. Although the Commissioners deprecate setting up an "opposition to the existing medical schools," they plainly foreshadow such an opposition if no existing school wishes to comply with the conditions upon which it could be accepted as a constituent college. Whether they would find it an easy matter to establish a new hospital school with 600 beds is, of course, quite another question.—I am, etc.,

London, W., Dec. 8th. E. GRAHAM LITTLE.

SLEEP AND SLEEPLESSNESS.

SIR,—The admirable papers which have recently been read on sleep, and the discussion which followed, would lead one to believe that there is far too great a tendency to seek out and to isolate a single cause to account for the phenomenon of sleep. The whole trend of the discussion points to sleep being much too complicated a process to have for its origin a single factor—in other words, that almost all the factors or theories which have been discussed are equally important, and must exist together and at the same moment in order to induce healthy or natural sleep—namely, a toxin of fatigue, a modicum of carbon dioxide, a certain blood pressure, cerebral anaemia, and psychic calm; the absence of any one of which is sufficient to banish sleep and produce restlessness.

It seems difficult to understand how any one could express surprise at the resuscitation of the CO_2 theory after hearing so admirable and conclusive a paper as that of Dr. Stoddart. The illustrations he deduces from the habits of animals are, in my opinion, beyond question; but the fact that birds when sleeping keep their heads under their wings, their feathers becoming gradually saturated with CO_2, is not all that could be said in favour of this view. The process is much quicker, for the very position of the head is sufficient at the outset to retard the ingress and egress of tidal air, as also in quadrupeds which curl themselves up after retiring to some close den where the percentage of CO_2 must be comparatively high.

The fact that cattle sleep out in the open air in a less huddled position would perhaps militate against this view, but it should be remembered that during sleep one nostril is generally pressed against the ground or against the body of the animal, and this would considerably retard the process of respiration. At the same time the grass on which they lie and the foliage around them is giving off CO_2; hence the increased presence of this gas after the sun has gone down should be one reason why most animals sleep at night and awake at dawn when plants begin to give off oxygen.

One could, therefore, scarcely imagine a more conclusive proof of the truth of the carbon dioxide theory than Dr. Stoddart's experiments in awaking sleeping patients by the inhalation of oxygen. The care with which his investigations were conducted and their result place the theory far out of range of mere hypothesis. Dr. Robert Jones's objection on the ground that consumptive patients do not sleep well, in spite of the fact that there must be a considerable accumulation of CO_2 in the system, can, I think, in some measure be met by the fact that the rapid heart beats in these cases have a tendency to prevent that "cerebral stasis" which Dr. Crichton Miller seems to think a more likely cause for the induction of sleep than cerebral anaemia. It is possible, too, that the same toxins which probably cause the tachycardia act much in the same way on the cerebral tissues as the toxins of overfatigue, which are believed to produce restlessness rather than sleep. Besides which, these cases are under a constant influence of CO_2, and, like a repeated stimulus, it may lose its effect.

That other theories are also essential to account for the phenomenon of sleep have been sufficiently proved by experiment, but there seem to be very few data to lead one to believe that any one of the factors or theories I have mentioned is of more importance than another, unless, perhaps, it be psychic calm, for if this is absent two other conditions essential to sleep must also be absent —namely, a lowered or a certain required blood pressure and cerebral anaemia or stasis.

I think it is an established fact that the eyeballs turn upwards beneath the closed eyelids during sleep; and certainly when composing oneself for sleep to turn the eyeballs upwards promotes an additional feeling of drowsiness, while to turn them downwards produces entirely the opposite effect, with tremor of the upper lids and a tendency to squeeze the upper and lower lids together.

I do not recollect having advised any patient to try to get to sleep by turning the eyeballs upwards, though it is possible such advice might be beneficial, at any rate in those cases where each ocular muscle is intact and therefore no danger of undue strain.—I am, etc.,

Liverpool, Nov. 13th. WM. BRAMWELL, M.D.

MOSQUITOS AND MALARIA: A CORRECTION.

SIR,—In your issue of November 22nd, p. 1399, you refer to my finding the *Plasmodium malariae* in an indigenous case of malarial fever that was in the Norfolk and Norwich Hospital in 1907. The year should have been given as 1897, and the fact is recorded in the *Journal of Hygiene*, vol. i, p. 31. I believe this was the first occasion on which the *Plasmodium* had ever been demonstrated in the blood of a person suffering from so-called "fen ague" who had never been out of England. My identification of the *Plasmodium* was confirmed by Dr. G. H. F. Nuttall, F.R.S., of Cambridge.—I am, etc.,

Norwich, Dec. 2nd. SYDNEY H. LONG.

TREATMENT OF INSURED INJURED PERSONS IN THE TERRITORIAL FORCE.

SIR,—I am afraid your correspondent (BRITISH MEDICAL JOURNAL, December 6th, p. 1515) has no case. As I read his letter, his patient was injured whilst on duty, whereupon, on reporting sick to the medical officer attached to his unit, a board of his unit should have been summoned, and the proper course as laid down in Territorial Regulations adopted.

This evidently was not done, either because the man did not report sick, or, if he did, the medical officer of his unit either did not grasp the routine in such cases, or did not at the time consider the injury other than trivial. Later he consults your correspondent, his "panel doctor," who gave him proper advice, and a board of his unit met to deal with the case. At this board your correspondent appeared, and could only appear as a civil practitioner, as he neither attended the man when on duty, nor was he summoned to represent the superior medical authority at the board, or to take over the medical charge of the case. Therefore his only position at the board was that of "panel doctor," selected by a person who has paid his money to the insurance; and the "panel" money will be the only "refreshing fruit" your correspondent will receive. On the other hand, had the steps so clearly laid down in Territorial Regulations been carried out, there is a probability that instead of the case being treated at a military hospital, or under the charge of a R.A.M.C. officer, it would have been handed to your correspondent, when he would have been paid by scale.—I am, etc.,

Bletchley, Bucks, Dec. 7th. P. BROOME GILES.

THE SUBSCRIPTION TO THE ASSOCIATION.

SIR,—The discussion upon the proposed increase of the annual subscription is most illuminating. One speaker informs us that because the average attendance at meetings of the Association is 10 per cent. —that the minority are dictating to the majority by saying how much the Association should charge the majority. If the majority will not assist in the working of the Association, and the minority do, often at very great inconvenience and financial loss, surely the minority in numbers but the majority in practical interest should have the greatest power in determining any important change. Touch the pockets of the majority, and what a change comes over the scene. Well do I remember the crowded meetings when the Insurance Act was under discussion. The largest meetings were held at the busiest time of the year.

Again we read, "the only way in which the question of raising the subscriptions could be settled was by a direct postal vote." I have not to travel very far to answer that if this be the only way, then there is no way by which the question can be settled. On p. 517 of the SUPPLEMENT of December 6th we read that a direct postal vote was taken by the Secretary of the Bedfordshire Medical Committee; 99 circulars were sent out, and 72 replies had been received at the date of the report. But, even more striking still, I read on p. 500 of the same SUPPLEMENT that Dr. Goodbody took a postal vote in the Marylebone Division. He sent out 665 cards and got back 388. Where were the 277? What was the real value of this postal vote? I have had experience of the postal vote in the Bedfordshire Division, and a more unsatisfactory method of obtaining a true verdict I cannot conceive. The reason is that half the members of the profession suffer from profound coma. An earthquake, like the Insurance Act, is the only thing which will arouse them.

If the Chairman of the Council were a semi-paid official with control over the whole of the Association, and even if he were the Archangel Gabriel, there would still be malcontents who would do their utmost to oust him from office. Some of the members cry aloud for more democratic government; others would appoint a king. We are told that the great attraction of the Association is the JOURNAL. I have asked a member the question why he remained a member, and he has replied, Because it is the only body capable of fighting the battles of the profession. Here, then, we have another class of member. If the Association is not to continue a fighting body, what is to replace it? Are we to create a new fighting body (at considerably greater cost than the subscription the Association has asked us to subscribe in order to render it thoroughly efficient), and probably during its creation be overtaken by some attack from the Government and overwhelmed. We have the machinery erected. Let us supply it with the necessary power. Dr. Lawson hit the mark when he said that eighteen months ago there was an accession to the membership of between 2,000 and 3,000 members, who had been brought in because there was some danger to their bread-and-butter under the Insurance Act.

Cannot we be a little less selfish and study the welfare of the profession as a whole? When, in generations to come, our successors read of all these petty quibbles and the childish attitude adopted by certain members who say, "If you do not do as I tell you I shall resign," I think

that their thoughts will be those of pity for the officials of the Association and disgust at the small-mindedness and short-sightedness of certain of its members. We all have sympathy with the young practitioner starting in his profession, but, after all, if a popular sports club had an annual subscription of even £5 5s. our practitioner would not be deterred from joining it if he wanted to do so. After all, most of us live out of our profession, and should deny ourselves some of the pleasures of life in order that we may adequately support the Association financially.—I am, etc.,

Bedford. S. J. Ross.

Sir,—In the lay press report of the recent Representative Meeting, when it had been proposed and seconded that the question of the fee to be paid by approved societies to medical referees be left to each locality to decide for itself, that is, to local option, the Chairman of the Council is reported to have said that this local option was the curse of the profession. Only a few hours previously fears had been expressed that the raising of the subscription to 2 guineas would be made the excuse by a good many members for resigning the Association. Why, we ought to ask ourselves, should members want to leave the Association? Why is there any hostility to the Association, especially now when it has been successful in raising the income of the majority of men who have gone on the panel? I have worked for many years for the Association; I come into close contact with men of all ranks in the profession, and I am certain that whatever feeling there is against the Association is not due to the main lines of its policy, but to its continual interference or attempted interference with the liberty of the individual in little matters that are of no importance.

In this matter of the fee to be paid to referees, is the Council aware that it has to be paid out of the administrative funds of the societies and not out of the sick benefit fund: is it aware that a fee of 10s. 6d., if paid, would spell ruin for the approved societies, and is it aware that nineteen out of twenty general practitioners will willingly examine a private patient for less than 10s. 6d.?

In spite of the rise in the subscription I gather that the Association will still have to economize as much as possible. May I suggest one great economy—abolish the Representative Meeting? It is a great expense to the Association. Its members are so tied by their instructions that they are mere voting machines. A postal referendum would be much cheaper and quite as efficient. It could be taken on important matters, while minor matters could be left in the hands of a good council. When the Divisions meet to discuss matters it might be open to them to decide what shall be submitted to a referendum and what to the Council. We are no better off in the Birmingham Central Division with four Representatives than we used to be with one, and we cost the Association four times as much.—I am, etc.,

Birmingham, Dec. 8th. J. Furneaux Jordan.

*** A report of the remarks made by the Chairman of Council will be found at page 532 of the Supplement for this week.

LONDON MEDICO-PSYCHOLOGICAL CLINIC.

Sir,—Much publicity has been given to a meeting which was lately held in a hall lent by University College—and for which the College was therefore in no way responsible—to consider a proposal to found a medico-psychological clinic. But the press reports of this meeting have been almost monopolized by detailed accounts of the speech of its chairman, Lord Sandwich. His speech cannot be taken as expressing the views of those really responsible for the project. It consisted chiefly in the description of cures which he claimed to have effected himself by the exercise of some apparently occult power. Now the declared object of the clinic was to "bring about a practical alliance between general psychology and psychotherapy." The medical staff have already (in a letter to the two leading medical journals) dissociated themselves from this speech. Having been invited to represent the "general psychology" of the clinic, I should like unreservedly to join in this dissociation.

The notion of the clinic was started by some medical practitioners who, working with myself, realized the great change that is coming over psychology. Formerly it was little more than an occasional hobby of leisure hours. At the present moment there are thousands of enthusiastic workers all over the world giving their lives to psychology as a profession, accurately experimenting with the mind in the laboratories, minutely observing it in hospitals and asylums, making patient records in the nursery and the schoolroom, scouring the earth for its least civilized manifestations, and illuminating it by elaborate study of the conduct of the lower animals, and even of plants. Concomitantly there has been evolved an elaborate technique of procedure and apparatus. The aim of all this is the gradual ascertainment of mental law, and the corresponding control of mental event. Just as physical science has taught us to build, to mine, to telegraph, and to fly, so, too, psychic science is beginning to show us how to train up the growing intellect, emotions, and will; how to diagnose their condition, to maintain them in health, and to heal them when sick. Occultism is not only alien to the spirit of the proposed clinic; it is in direct contradiction of it.—I am, etc.,

C. Spearman,
Grote Professor of Mind and Logic, University of London, University College.

London, Dec. 9th.

Medico-Legal.

AGREEMENTS WITH ASSISTANTS.

In the Nottingham County Court, on November 19th, Drs. H. J. Neilson and A. Fulton, of Bulwell and Basford, successfully defended an action brought against them by a former assistant, and were successful also on a counter-claim made by them for money lent. The plaintiff, who subsequent to his connexion with the defendants had started in practice in Bulwell, claimed payment of a sum of £28 10s. in respect of salary, expenses of removal, and damages for wrongful dismissal.

He was in the service of the defendants from February 19th to February 28th, and was then dismissed because he refused to sign an agreement restricting him from practising in the neighbourhood on the termination of his assistantship. His contention that any contract for service had existed between himself and the defendants rested partly on oral communications which had passed between them, partly on letters. These letters had not been stamped, and early in the hearing of the case the judge pointed out that unless the letters were stamped and the ordinary penalty for non-stamping of agreements was duly paid, they could not be put in as evidence. They were at present an essential part of the plaintiff's case, and they would still remain an essential part thereof even if a new statement of claim were allowed to be made. He would, therefore, have to non-suit the plaintiff. Eventually, however, he allowed the plaintiff to support by his evidence the statements made on his behalf by his counsel on a wish being expressed by the defendants that the plaintiff should not be debarred from stating his case. The evidence then given by the plaintiff was to the following effect:

He had applied for employment by the defendants owing to an advertisement in the British Medical Journal for an assistant, in which no reference to a restrictive agreement had been made, and at the interview and in the letters which resulted in the engagement the fact that he would have to sign a restrictive agreement was not mentioned. It was not mentioned at all until the tenth, or last, day of his service, and on his then refusing to sign such an agreement on the ground that doing so was not part of his contract, he was dismissed. The cross-examination included the following suggestions: That the necessity of his signing a restrictive agreement had, in fact, been mentioned on the first day that he saw either of the defendants, and that two days after he had taken up his work a copy of the agreement which it was proposed he should sign had actually been handed to him in the presence of a witness: that in connexion with a previous engagement he had been accused of a breach of a restrictive agreement; that he had stated to a third party on the day of his dismissal that he had been previously advised never to sign a restrictive agreement, and that he intended to go round to all the patients he had seen, telling them how he had been treated; that at a subsequent interview with the same third party he had stated that he was going to bring an action, because it would be a good way of advertising himself to get panel patients even if he lost, and that he had originally sought the assistantship to the defendants because he noticed that their advertisement said nothing about a restrictive agreement, and he thought that if they could give so large a salary as that offered there must be a good opening in the place. The plaintiff did not admit the truth of any of these and some other suggestions, but admitted that a few days after he had begun work he had complained that there was more of it than he had expected, and that he had been given a day's leave of absence to visit another town to see whether there was any opening for him. He also admitted that he knew that the other assistant of the defendants had been with the firm for eight years, and that a previous assistant had been

with them for fourteen years, and would like to be there again. He alleged, however, that he knew that one assistant had left and had committed suicide, though he did not know the name of this person or where or when the event had taken place. On this the judge intervened with a remark to the effect that it was disgraceful to make allegations which could not be supported.

Eventually the court non-suited the plaintiff with costs, and gave judgement against him also on the counter-claim, adding that there was not a shadow or tittle of evidence of any sort to show that the defendants had ever ill-treated their assistants in any way.

CLAIM IN RESPECT OF AN AUTOPSY.

IN the Court of Sessions at Glasgow, on November 20th, Lord Anderson gave judgement in a case which had occupied the time of the court for about two days, and had previously in one form and another been the subject of other legal action. It was a claim for damages in respect of alleged injury done to the widow and children of a deceased miner, owing to the defendant, Dr. Robert C. Robertson, of Kilmarnock, having performed a *post-mortem* examination without their permission. The case was reported in the *Glasgow Herald*.

Lord Anderson commenced the delivery of his judgement by pointing out that, though the case might be important from the point of view of the plaintiffs, it was much more important from that of the defendant, since he was under the stigma of a charge of illegal action. He held that the defendant in performing the *post-mortem* examination had not acted illegally, and dismissed the claim of the plaintiffs with costs against them.

The general facts of the case were as follows: The deceased, after some days' illness, was admitted to hospital in a condition which pointed to intestinal perforation, and with the consent of the plaintiffs, the defendant performed an exploratory operation forthwith. Two days later the patient died, and the plaintiffs then asked the defendant for a certificate as to the cause of death, they having meantime informed the employers of the deceased that he was ill, and lodged a claim for compensation on the ground that his illness was due to an accident. On being asked for a certificate the defendant said he would have to examine the body, and subsequently conducted a necropsy, discovering thereat conditions which, in his opinion and in those of two colleagues present, were inconsistent with a view that the deceased's illness was the result of an accident. This fact he communicated to the plaintiffs and also to the employers of the deceased.

The plaintiffs eventually obtained compensation under an order of the sheriff's court.

In the course of his comments on the case Lord Anderson said that no point of law was really involved, since it was well recognized that a solatium for hurt feelings could be obtained by the nearest relatives if a *post-mortem* examination were conducted without due authority. But in the present case he could not believe that the plaintiffs' feelings were really hurt, since when they found that the defendant had formed a view hostile to their claims they caused the body to be re-examined by three other medical men, and must have known that such re-examination involved reopening of the body and acts equivalent to dissection. He also did not believe that before the exploratory operation was performed the defendant had been made aware that the patient's condition was attributed to the occurrence of an accident while at work, and on comparing the defendant's statements as to what passed when he was asked for a certificate with the plaintiffs' statements, he believed the former were the more accurate, and that he had received what he was entitled to regard as authority to conduct the necropsy. He also held that the defendant had acted properly in removing the intestines and causing them to be burnt forthwith, since they were gangrenous, and he did not believe that he had failed to replace the heart. Whether if he had been proved not to have done so this fact would have entitled the plaintiffs to redress was a delicate question, in regard to which he was not required to express an opinion. It was not necessary that permission to perform a *post-mortem* examination should be given in writing, though for their own protection medical men would be wise, perhaps, to secure this.

Dr. Robertson's defence was conducted by the Medical and Dental Defence Union of Scotland.

THE London office of the *Sydney Morning Herald*, 40, King Street, Cheapside, E.C., has issued the annual time-tables of the Australian and New Zealand mails for 1914, covering the whole of the services between Europe and Australasia, and containing full information of postal and cable rates, in a handy form for the pocket. Copies may be obtained gratis.

Concrete and Constructional Engineering, in its December number, announces a competition for labourers' cottages. The issue further contains articles by Harold Holt on "Concrete in Cotton Mills"; illustrated descriptions of a reinforced concrete dome in Melbourne, and a washery for the Silkstone Collieries, Limited. The second report of the Institution of Civil Engineers regarding reinforced concrete is fully dealt with. Other interesting matter is contained under the heading, "Recent Views" and "New Works."

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following degrees have been conferred:

M.D.—J. W. Linnell.
M.B., B.C.—H. W. Barnes, V. F. Soathill, W. A. Stokes.
M.B.—G. M. Parker.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on November 19th.

Proposed Reconstitution of the University.

A letter from the President of the Board of Education regarding the proposed reconstitution of the University was referred to the Academic Council, the Council for External Students, the Board to Promote the Extension of University Teaching, and to the Site and Accommodation Committees respectively for consideration and report.

Reader in Pathology.

The title of Reader in Pathology in the University of London was conferred upon Dr. William Hunter, of Charing Cross Hospital Medical School.

Regulations for B.Sc. Honours Degree.

It was reported that the regulations for the B.Sc. honours examination for internal students in physiology and in human anatomy and morphology had been amended as follows:

1. By the substitution of the following for the four h paragraph on p. 174:

Students who have passed in anatomy and physiology at the second examination for medical degrees, Part II, as internal students may enter for the degree of B.Sc.(Honours) in physiology or in human anatomy and morphology, provided that after attending the courses in anatomy and physiology for the second examination for medical degrees, Part II, they have attended a further course of study extending over not less than one year approved for the honours examination in a school of the university or under a recognized teacher (see regulations for internal students in the faculty of science), and provided that they comply with the regulations in other respects, but in no case may a student present himself for a degree examination unless he has completed a three years' course of study as an internal student.

2. By the substitution of the following for the footnote on p. 237:

Students who have passed in anatomy and physiology at the second examination for medical degrees, Part II, as internal students may enter for the degree of B.Sc.(Honours) in physiology (see p. 250) or in human anatomy and morphology (see p. 251), provided that after attending the courses in anatomy and physiology for the second examination for medical degrees, Part II, they have attended a further course of study extending over one year approved for the honours examination in a school of the university or under a recognized teacher, and provided that they comply with the regulations in other respects, but in no case may a student present himself for a degree examination unless he has completed a three years' course of study as an internal student.

3. By the substitution of the following for the last paragraph on p. 238. (The paragraph is identical with that under (2) above):

4. By the substitution of the following for the first paragraph under the heading physiology on p. 250:

The degree is open to the classes of candidates enumerated under (*a*) and (*b*) below:

(*a*) Students who have (i) passed in anatomy and physiology at the second examination for medical degrees, Part II, as internal students, and (ii) subsequently to attending prescribed courses in physiology and anatomy for the second examination for medical degrees, Part II, pursued in approved course of study . . . B.Sc. honours examination.

5. By the substitution of the following for the first paragraph under the heading human anatomy and morphology on p. 251:

The degree is open to the classes of students enumerated under (*a*) and (*b*) below:

(*a*) Students who have (i) passed in anatomy and physiology at the second examination for medical degrees, Part II, as internal students, and (ii) subsequently to attending prescribed courses in human anatomy and morphology for the second examination for medical degrees, Part II, pursued a further approved course of study extending over not less than one year. Such students must have attended at some time previous to the degree examination in addition to the courses presented for the second examination for medical degrees.

6. By the substitution of the following for the footnote on p. 251:

Students who have passed in anatomy and physiology at the second examination for medical degrees, Part II, as internal students may enter the degree of B.Sc. (Honours) in human anatomy and morphology provided that, after attending the courses in anatomy and physiology for the second examination for medical degrees, Part II, they have attended a further course of study extending over not less than one year approved for the honours examination in a school of the university or under a recognized teacher, and provided that they comply with the regulations in other respects, but in no case may a student present himself for the degree examination unless he has completed a three years' course of study as an internal student, and passed either (1) in anatomy and physiology at the second examination for medical degrees, Part II, or (2) the intermediate examination in science subject to the conditions given under B. below.

Lecturers in Physiology.

Dr. Hugh MacLean was added to the panel of lecturers in physiology.

B.Sc. Honours Degree in Physiology.

The resolution of the Senate of July 16th, 1913, was rescinded, and the following inter-collegiate courses were recognized as advanced lectures which a candidate for the B.Sc. Honours

Examination in Physiology may name for part of his examination. (Red Book, 1913–14, p. 250; Blue Book, September, 1913, p. 308.)

University College.—Physico-Chemical Methods in Physiology, by Professor W. M. Bayliss.

King's College.—The Chemistry of Urine, by Professor W. D. Halliburton and Dr. O. Rosenheim. Third term.

Bedford College.—Advanced Histology, by Dr J. S. Edkins and Miss May Tweedy. Third term.

St. Bartholomew's Hospital.—Central Nervous System, by Dr. J. S. Edkins and Dr. Hinds Howell. Second term.

Guy's Hospital.—Respiratory Exchange, by Dr. M. S. Pembrey. First Term. October–December, 1913: Methods of Investigating Acidosis, by Dr. E. L. Kennaway and Mr. E. P. Poulton; Investigation of Movements of Alimentary Canal by the *X* Rays, by Dr. A. F. Hertz.

Chadwick Trustees and Teaching in Hygiene and Municipal Engineering.

The Senate adopted a resolution of thanks to the Chadwick Trustees for their offer to the university of a grant of £250 a year for the next three years for the purposes of the Chadwick Professorship of Hygiene and of the teaching of municipal engineering in University College, and to continue the award of the Chadwick medal upon terms to be arranged between the trustees and the university.

Regulations for M.D. and M.S. Degrees.

The regulations for the M.D. and M.S. examinations for internal and external students relating to recognized institutions and appointments to be held by candidates before admission to the examinations for these degrees were amended. Copies of the new regulations may be obtained on application.

Physiological Laboratory Committee.

Sir David Ferrier has been elected chairman of Physiological Laboratory Committee for the year 1913–14.

Advanced Lectures in Physiology.

The following lectures will be given during the second term of the session 1913–14:

King's College.—Four lectures on carbohydrate fermentation by Mr. Arthur Harden, D.Sc., F.R.S., on Mondays, at 4.30 p.m., commencing January 26th.

Guy's Hospital.—Eight lectures on physiological effects of anaesthetics and narcotics.

The lectures, which will be illustrated by experiments, are free, and are addressed to advanced students of the university and to others interested in the subjects dealt with.

The course of lectures by Dr. C. Lovatt Evans on oxidation in the tissues, announced to be given at University College during the second term, has been transferred to the third term.

Lectures by Superintendent of the Brown Animal Sanatory Institution.

A course of five lectures given in accordance with the will of the late Mr. Thomas Brown were commenced by Mr. F. W. Twort, Superintendent of the Brown Animal Sanatory Institution, on December 8th. The lectures, which are being given in the theatre of the Royal College of Surgeons of England, are free without tickets. They deal with the cultivation of animal and vegetable micro-organisms, and the last two lectures will be given on December 15th and 17th, at 5 p.m. on each day.

UNIVERSITY CALENDARS.

THE academic calendars which have reached us recently include those of the National University of Ireland,[1] of the University of Bristol,[2] of the University of New Zealand,[3] and of King's[4] and University College,[5] London. All such volumes inevitably present a great family resemblance, but it is by no means inevitable that they should be mines rather than ready sources of information. They are not intended solely for use within the precincts of the body to which they relate, and it should be far easier than it is to find in them the information that they supply on various special points, and having found a section bearing upon it to make certain that no other paragraph really material thereto is contained in the volume. It is difficult from these volumes to obtain a general conspectus of the work of the university, and as a rule nothing is provided in the way of an outline sketch of the history of the institution to which the volume relates. To the latter rule in the present case the calendars relating to University College and King's College are both, however, happy exceptions, and, like the calendar of the University of Bristol, they provide indexes as well as tables of contents; but these are not as full as would be convenient.

QUEEN'S UNIVERSITY, BELFAST.

Magrath Clinical Scholarship.—This scholarship of about £112 per annum was founded under the will of the late Mrs. Fanny Magrath, widow of Dr. J. Magrath, an old student of Queen's College, Belfast. Mrs. Magrath died in May, 1912. The consideration of the report of the Standing Committee and of the proposed regulations of the scholarship was resumed at the last meeting of the Senate in the beginning of December, and the regulations were adopted. It will be awarded annually for proficiency in clinical reports of cases; it is tenable for one year and open to students in the fourth year of their attendance at hospital. The regulations will shortly be published, and it is hoped that a sufficient sum will have accumulated to meet expense and allow competition in 1914.

[1] National University of Ireland. London: Longmans, Green and Co. 1913.
[2] University of Bristol. Bristol: The University. 1913.
[3] University of New Zealand. Wellington: Whitcombe and Tombs, Ltd. 1913.
[4] King's College, London. London: R. Clay and Sons, Ltd. 1913.
[5] University College, London. London: Taylor and Francis. 1913.

Obituary.

PERCY KINGSLEY STEELE, M.B., CH.B.VICT.UNIV., F.R.C.S.ENG.,

HONORARY SURGEON, ROYAL HALIFAX INFIRMARY.

In the brief space of seven years' practice in Halifax, Percy Kingsley Steele had a career of importance and distinction. After a short illness, he died on December 1st, at the early age of 32 years. During his student days Dr. Steele gave promise of a brilliant career. At the Victoria University (Leeds), as the Leeds School was then known, he obtained high distinction in the class examinations. While still a student at Leeds he passed the primary examination for the Fellowship of the Royal College of Surgeons of England. He graduated M.B., Ch.B.Vict. Univ. with honours when 22 years old. At the Leeds General Infirmary he was house-surgeon for twelve months, house-physician for twelve months, and resident assistant surgeon for more than a year. For another year he attended post-graduate courses, and part of this time was spent at the London Hospital. He took the diplomas of M.R.C.S., L.R.C.P.Eng., in 1906, and six months later became F.R.C.S.Eng., when 26 years old. Seven years ago he joined his father, Dr. S. H. Steele, who had been in practice in Halifax since 1885.

His brilliant student career and exceptional experience entitled Dr. Percy K. Steele to early recognition, and he was soon appointed honorary surgeon to the Royal Halifax Infirmary, a post he held up to the time of his death. He quickly demonstrated that the honour had been well and judiciously bestowed; he became a valued member of the staff and a skilful surgeon, assiduously devoted to his duties and held in the highest esteem alike by the board of management and the patients who came under his care. For several years Dr. Steele was honorary secretary to the Halifax and District Medical Society, and showed a capacity for business which marked him out for the secretaryship of the Local Medical Committee for Halifax; to this post he was unanimously elected, but only with reluctance, which characterized his modesty of disposition and his shrinking from publicity, was he persuaded to undertake the duty. Having done so, he threw himself into the work with avidity, and quickly acquired a grasp of the Insurance Act and the regulations affecting medical men such as few possessed. His early training at the New School, Halifax, and his natural aptitude were displayed in his well ordered, methodical and succinct communications with the Local Insurance Committee, the State Sickness Committee of the British Medical Association, and the Insurance Commissioners. Dr. Steele's talents were by no means confined to the sphere of professional knowledge and attainments. A knowledge of mathematics is not to be dispensed with in preparing a scheme for the allocation of persons who had not selected a doctor and the division of the remaining funds, and this Dr. Steele displayed in the carefully evolved scheme submitted by him to his committee; and a report on the work of the year, on which he was engaged at the time of his death, is so complete and lucid that it will rank as a model. Dr. Steele took no active interest in politics or ordinary public affairs. He was, however, keenly interested in the work of the Royal Army Medical Corps, and was Lieutenant of the Halifax Company. Notwithstanding the inclemency of the weather on the day of his funeral, there was a very large and thoroughly representative attendance of medical men in Halifax and district. There were nearly a hundred floral tributes, and abundant indication of the esteem in which he was held by the profession and his numerous friends. Dr. Steele's death at the age of 32 closes a distinguished career before it had reached full fruition. A sense of the deep loss to the profession prevails throughout the district, and there are misgivings lest Dr. Steele's unceasing devotion to the manifold duties of the secretaryship during this year of stress may have contributed

materially to a state of health which prevented his recovery from his illness.

Dr. PRIESTLEY LEECH (Halifax) writes: I knew Percy Steele as a boy, student, and later on as a colleague. In all these aspects the quality that struck me most was his intense devotion to work and what he believed was his duty. Like most men with any character, he improved on acquaintance. He had worked hard at school, at the university (where he had gained many distinctions and prizes), and later on in Halifax in his private practice, at the hospital, the R.A.M.C.(T.), and during the last two years on the Local Medical and Insurance Committees. As Secretary to the Local Medical Committee, his fondness for work found full scope, and its successful conduct is due to a great extent to his acquaintance with the details of the Insurance Act, and to his tact in dealing with the communications between the two committees.

At the hospital he was devoted to his duties, and was a very neat and successful operator; in the general work of the hospital one was most struck with the common-sense way he judged things, and his too early death is a great loss to the staff and the hospital.

One appreciated his character more during his last illness, when it fell to my lot to attend him in association with his father. He was very, very patient and never grumbled, and although a day or two before he died he suffered intense agony he never growled at having to suffer as he did. His illness began with pneumonia, which subsided by lysis on the seventh day, when he appeared to be quite well, but the same evening he began with symptoms of pneumonococcal meningitis, which subsided three days later, only to recur with increased violence the day after. This attack subsided in two or three days, and for nine or ten days he was quite well and talked about his future work. On my advice he resigned his secretarial work, but disappointment was again in store for everybody; for five days before his death pain in his back and along the sciatic nerves came on, and became intense until two days before his death, when head symptoms recurred, and he became comatose some twenty hours before he died. His early death, which cut short a most promising surgical career, has been a great blow to his many friends in this part of Yorkshire.

HUBERT LISTON WILLCOX, M.R.C.S., L.R.C.P.,

WARMINSTER

THE death of Dr. H. L. Willcox, of Warminster, Wiltshire, on December 3rd, due to accidental wound infection during an operation for septic peritonitis, has caused deep regret throughout the district, and of this striking evidence was afforded by the public sympathy shown on the occasion of the funeral on December 6th. Hubert Liston Willcox, who was the third son of Dr. R. Lewis Willcox, of Warminster, was born in December, 1876, and received his early education at Warminster Grammar School and Cheltenham College. He was a medical student at King's College, London, and was afterwards house-surgeon to King's College Hospital. Whilst at school he was a member of the cadet corps, and afterwards took a great interest in the Volunteer movement, and was for five or six years a lieutenant in the 1st Wilts Rifle Volunteer Corps. When the Territorial Force was established he displayed great interest in the movement. He took the diplomas of M.R.C.S., L.R.C.P. in 1901, and in the following year he joined his father in practice at Warminster, where he earned the respect and esteem of all the inhabitants, both rich and poor. He was surgeon to the Warminster Cottage Hospital, and was actively engaged in practice until February last, when he suffered from a severe illness. From this he recovered, and returned to work at Warminster in July, but on November 5th, when operating with his father on a case of septic peritonitis, his finger was scratched by a needle. Intense local infection ensued, and within forty-eight hours he was very seriously ill; light pleuritic infusion occurred, and, after two aspirations, Dr. Swain of Clifton, who saw him in consultation with Dr. Symes of Clifton and Dr. Hogan of Warminster, performed a larger operation on November 16th; the fever and other signs of systemic infection did not pass away, and after a consultation with Mr. Burghard, surgeon to King's College Hospital, a further operation was performed on November 25th. It appeared, however, that the pulmonary glands had already become infected, and the severity of the attack proved too great for his strength. At an inquest which was held on December 4th, the Coroner said that he was voicing the feelings of everybody present when he expressed their very deep sympathy with the widow of Dr. Hubert Willcox, and with his father and mother and brothers. Doctors had often, he said, to face risks of this sort, and if a man who lost his life in defending his country was entitled to honour, surely the doctor who lost his life fighting human pain, sickness, and disease was similarly entitled. The foreman of the jury, in returning a verdict to the effect that death was due to blood poisoning, said that the jury unanimously expressed their sympathy with the bereaved family.

MR. THOMAS WILSON, of Edgeworthstown, co. Longford died on November 23rd, aged 74. He studied medicine in the Meath Hospital, Dublin, and in the Royal College of Surgeons in Ireland, and took the diploma of M.R.C.S.Eng. in 1866, and the L.R.C.P.I. and L.M. in 1868. For a short time after qualification he held the appointment of medical officer to the infirmary, Brentford, Middlesex, but soon returned to his native country, and practised for forty years in Edgeworthstown. He became J.P. for co. Longford and medical officer to the Royal Irish Constabulary and the Midland and Great Western Railway of Ireland. His son, Mr. Henry Wilson, holds the appointment of assistant prosector, under Mr. William Pearson, to the Museum of the Royal College of Surgeons, Lincoln's Inn Fields.

Medical News.

THE fifteenth South African Medical Congress will be opened at Kimberley on July 6th, 1914, and will close on July 11th.

MR. AUSTEN CHAMBERLAIN has recently received £200 from the Government of Trinidad and £150 from the Government of Sierra Leone as contributions to the fund for the extension and development of the London School of Tropical Medicine.

THE title of Professor has been conferred on Dr. Rachel Hirsch, assistant in the second medical clinic of the Berlin Charité. She is well known by her investigations on internal secretions and diseases arising from their suppression or disturbance.

THE King has been pleased to promote to be a Knight of Grace of the Order of the Hospital of St. John of Jerusalem in England Colonel William Henry Bull, F.R.C.S., K.H.S., of Stony Stratford, Assistant Director of Medical Services, South Midland Division.

THE committee hopes that many old students will attend the second annual dance of the Birmingham School of Medicine to be held at the Edgbaston Assembly Rooms on December 18th. Guests will be received by the Dean and Mrs. Thompson at 8 p.m. Tickets can be obtained from Mr. Cyril A. Raison, the University Club, Birmingham.

THE lecture by Professor Richard Caton on the health temples of ancient Greece and the work carried on in them, to be given in connexion with the Section of the History of Medicine of the Royal Society of Medicine at the house of the society, 1, Wimpole Street, W., on Wednesday, December 17th, at 5 p.m., will be open to all interested in the subject.

THE Savill Prize and Medal of the West End Hospital for Diseases of the Nervous System, Paralysis, and Epilepsy, London, has been awarded to Dr. Thomas Knowles Boney; the subject set was myasthenia gravis. The prize and medal were founded in memory of the late Dr. Thomas Savill, physician to the hospital. Candidates are required to attend at least twenty-five demonstrations in the out-patient department, to pass an examination, and to submit a thesis on a given subject. The next examination will probably be held in July.

THE Metropolitan Asylums Board has arranged for the benefit of candidates for the diploma in public health a three months' course of lectures and demonstrations in hospital administration at the North-Western Hospital,

Hampstead, by Dr. J. McCombie, on Mondays and Thursdays at 5 p.m., beginning on Monday, January 5th; at the Grove Hospital, Tooting, by Dr. J. E. Beggs, on Mondays and Thursdays at 5 p.m., beginning on Thursday, January 8th. The fee for the course is 3 guineas. Further particulars can be obtained on application to the Clerk of the Metropolitan Asylums Board, Embankment, London, E.C.

A MEETING of assistant medical officers of public asylums in London and the South-East of England was held on December 5th, at which the following resolution was unanimously passed: "Whereas there is widespread discontent on account of the disabilities under which assistant medical officers labour: Resolved, that this meeting elect representatives to meet representatives from other parts of the country to set up an association of assistant medical officers." Similar resolutions were passed at Birmingham, Manchester, and Bristol. Communications expressing sympathy with the object of the meetings have been received from all but fourteen asylums in England and Wales.

THE problem of the way in which intervals are bridged over between outbreaks of yellow fever, is mentioned in the last issue of the *Bulletin* of the Yellow Fever Bureau (vol. iii, No. 1). All available evidence, it is stated, points to the occurrence of atypical, probably mild, cases in natives, especially in native children, though exact knowledge of the character and frequency of such cases is still lacking. The problem is very important, but probably is not so simple as the explanation given above, at least for places like the West Indian Islands. As the *Bulletin* truly observes, if this mystery could be satisfactorily solved, a very great step forward would be made in our knowledge of yellow fever.

AT the opening of the winter session Sir C. Pardey Lukis, Director-General of the Indian Medical Service, gave an address at the London School of Medicine for Women on the medical needs of India. The address, which was published in our columns on October 4th, outlined a scheme for an Indian service of medical women. We are informed that the Association of Registered Medical Women passed the following resolution on December 2nd: "That the Association of Registered Medical Women, while recognizing that the proposed scheme for a women's medical service in India in many respects offers improved conditions for the work of women under the Dufferin Fund, desires strongly to protest against the scale of remuneration offered, which is entirely inadequate for the work which the medical women are asked to undertake; and also the subjection of medical women to a lay committee for the constitution of which no guarantee is offered, yet which has the power of punishment for acts of which the committee may disapprove. The association feels that these defects will be fatal to the success of the scheme, since no first-rate medical women will consent to work under such conditions."

IN accordance with time-honoured custom, the Worshipful Society of Apothecaries entertained the new Lord Mayor, Sir Vansittart Bowater, and the Sheriffs of the City of London at a dinner given in the hall of the Society on November 28th. The other guests included Dr. Norman Moore as representative of the Royal College of Physicians, Mr. Makins as representative of the Royal College of Surgeons, and the President of the Pharmaceutical Society. The Master of the Society, Dr. Martindale Ward, referring to Sir Thomas Boor Crosby, who was present, said that there were sitting at table the oldest man and only medical man of recent times ever elected to the great office of Lord Mayor of the City of London, and also, in the person of the new Lord Mayor, one of the youngest of the long line of occupants of the great civic chair. The toast to the Royal Colleges was proposed by the Senior Warden of the Society, Mr. Meredith Townsend, who gave an account of the connexion of the three bodies in early and recent times. The toast to the visitors, proposed by the Junior Warden, Dr. George Amsden of Islip, was acknowledged by the President of the Pharmaceutical Society. Just before the dinner a court of the Society was held for the purpose of electing Sir William H. Power, F.R.S., late Principal Medical Officer of the Local Government Board, an honorary freeman of the Society in recognition of his services to the State in regard to public health. The gold medal of the society was presented on the same occasion to Mr. J. E. Harting, in acknowledgement of services rendered by him in assisting the late Master, Dr. Bramwell Taylor, in the preparation of a catalogue of the Society's library.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Attiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

TELEPHONE (National):—
2631, Gerrard, EDITOR, BRITISH MEDICAL JOURNAL.
2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

"ST. KITTS" seeks suggestions as the etiology and treatment of cases which may be described as follows: The patients complain of a sensation of chilliness occurring sometimes daily, sometimes at intervals, and at no particular hour. This is not followed by pyrexia, and the patients present no evidence of either malaria or filariasis. The blood of one patient known to have had malaria previously was examined and found to be normal. One patient in whom the chilliness is confined to half of the body suffers from congestion of the liver, and most of the others suffer more or less frequently from neuralgic disorders and dyspepsia.

INCOME TAX.

C. has been in practice as an ophthalmic surgeon for two months only. Previously he was acting as an assistant, and for one year as a house-surgeon. He has received an income-tax form, and asks how the return should be made. If the practice has been taken over as a going concern, our correspondent is bound by his predecessor's average profits, subject to his right to appeal at the end of the year if his first year's profits should fall short of the sum assessed by reason of some specific cause (Rule 4, Cases 1 and 2, Sch. D). If, on the other hand, the practice is an entirely new venture, page 2 of the form of return should be completed with an estimate of the profits anticipated during the first year of the new practice, and page 3 of the form should be completed if applicable. As the present income falls under a different category from the previous receipts, which were in respect of an "employment," the three years' average clause does not appear to apply. Any receipts from voluntary sources may be ignored, whether expended in starting the practice or otherwise.

LETTERS, NOTES, ETC.

TREATMENT OF TERTIARY SYPHILIS.

DR. R. HITCHINGS (Headington, Oxford) writes: *Re* query in BRITISH MEDICAL JOURNAL, November 29th, in reply to a "Country Practitioner":—In bad syphilitic ulcers of the leg or elsewhere I have had really remarkable results by dressing with a solution of Parke, Davis and Co.'s "Mercurol"; this in cases which showed very little healing tendency under the ordinary constitutional treatment.

*** Mercurol is a combination of mercury with nucleinic acid analogous to nargol and cuprol.

REX. v. HAMILTON.

DR. W. H. GIMBLETT (85, Sutherland Avenue, Maida Vale, W.) has received the following subscriptions in addition to £62 13s. already acknowledged: Mrs. Grant (Barnes), £1 1s.; Mr. Randall (Barnes), £2 2s.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *postes restante* letters addressed either in initials or numbers.

The Bradshaw Lecture
ON
GUNSHOT INJURIES OF THE ARTERIES.

DELIVERED BEFORE THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

BY G. H. MAKINS, C.B., F.R.C.S.,
SURGEON TO ST. THOMAS'S HOSPITAL, LONDON.

MR. VICE-PRESIDENT AND GENTLEMEN,—I propose to devote this lecture to the subject of gunshot wounds by bullets of small calibre.

Although the practice of military surgery is confined to a comparatively limited number of surgeons, yet the choice of this subject seems appropriate, since the boundary which separates civil and military surgery is indefinable, and I myself have enjoyed some experience in either field. Again, we may not forget that many Fellows of this College, only to mention such names as those of the Bells, Guthrie, and MacCormac, have devoted their attention to this subject; while our master, John Hunter himself, founded one of his greatest works on the observations made during his period of military service.

A certain halo of romance seems to shed itself over the subject, since the history of the surgery of gunshot wounds extends to very ancient times and brings us into contact with the most famous pioneers in surgery, while no great event in the history of the world remains unspoken of in its annals.

At all periods the opportunities afforded by the field of battle have exercised a strong attraction to the surgeon, both from the instinct of patriotism and the fact that in no other branch of surgery can experience be so rapidly gained. One battle can afford more material and that of more varied nature than many years of experimental work.

The progress of military surgery has some special characters of its own, thus its practice depends on opportunities which may be few and far between, while the injuries to be dealt with undergo changes and modifications dependent upon the development of the weapons with which they are inflicted.

It is of interest to remark the varying influence of civil upon military practice, and of the experience gained during wars upon the civil surgeon in the history of the past. In old days there were reasons why the military surgeon should stand out pre-eminent, the field of surgery was not wide, while the operations practised in civil work were the same, which the military surgeon had vastly increased opportunities of performing. Again, the actual difficulties under which military surgery has to be carried out have offered opportunities for the observation of the powers of Nature, often accidental but none the less of immense importance in the development of the great principle of conservatism in surgery.

I may mention such examples as the omission of the use of boiling oil to the wound by Paré, the substitution of the ligature for the cautery in amputations, or the evidence adduced by Hunter in favour of his opinion that gunshot wounds should not be enlarged, founded on the cases of four men who escaped being subjected to this treatment in consequence of being accidentally cut off from the army, and whose wounds healed readily without any complication. More recently the same influences have had an important bearing on the application of the ordinary rules of surgery to such injuries as wounds of the arteries, fractures of the bones, and perforating wounds of the abdominal cavity.

Advances in the surgery of civil life now exercise a constant influence on every branch of military practice, beyond which intervals of peace have been utilized by the military surgeon in experimental work bearing upon the effects likely to be produced by weapons introducing new ballistic problems, and varying wounding power.

WOUNDS OF ARTERIES.

A consideration of the progress which has been made in every department of military surgery is naturally too wide a field for a single lecture; it has therefore seemed to me more convenient to confine my remarks to the subject of wounds of one series of structures, the arteries. This is perhaps the more fitting, since the last decade has furnished us with remarkable evidence of the amenability of the wounded vessel to other forms of treatment than that of its obliteration by the application of a gross ligature.

Before proceeding to the actual consideration of the wounds of the vessels, it may be useful to epitomize the changes which have taken place in the bullet which produces them.

Changes in Bullets.

These changes consist in a decrease in the size and weight, and increased stability in form and structure. With these modifications in design are associated an increase in velocity and accuracy of flight and consequent greater striking force.

The most striking modification during the last decade has been the adoption by some powers of the pointed bullet. This alteration in the outline of the bullet is designed to overcome aërial resistance to its progress and thus obtain a greater velocity of flight and striking power. While attaining these advantages, the necessary shifting backwards of the centre of gravity of the bullet, increases the difficulty of maintaining flight parallel to its long axis; and experimental work has suggested that this last character would result in more serious wounding capacity, since slight inaccuracies of impact suffice to result in a sudden somersault of the bullet and a consequently greatly increased surface of resistance to its entry into the body, with attendant widening of the area of tissue destruction.

Such information as is at present to hand from the recent battlefields in the Balkans does not seem to have substantiated this assumption. Surgeons, indeed, appear to agree that reversal does take place more frequently, especially at long distances, that the bullet is somewhat more frequently retained in a reversed or transverse position; but although this must result in a widened area of contused tissues no very marked influence on the general character of the wounds was observed. One peculiarity mentioned by Major Birrell is of practical importance, namely, the tendency of retained bullets to travel short distances in the tissues, such as a needle does. Most observers regard the wounding power of the new bullet to be about equal to that of the ogival or dome-tipped bullets of corresponding calibre. They describe a similar passage of the pointed bullet in a direct course through the trunk and limbs, but a perusal of the report leads one to believe that so-called contour wounds of the head[1] and trunk were somewhat more common than was the case with the ogival or dome-tipped bullets used in the South African war, and this occurrence is probably to be ascribed to the decrease in stability of flight the pointed bullet possesses.

In the case of injuries to narrow structures, such as the blood vessels and peripheral nerves, the new bullet appears by reason of its sharp point and penetrating power to cause even more clean and narrow perforations than its predecessors. With regard to wounds of the blood vessels, it is of interest to note that one observer states that of 15 cases of aneurysm treated by him the bullet was retained in more than a third of the whole number.[2] I have only come across the description of one case[3] in which the retained core of a small calibre bullet closed the lumen of the femoral artery; this occurred in the Manchurian war.

Wounds the main importance of which depends upon the implication of the large vascular trunks have been a common characteristic of gunshot injuries for all time, and certain features of these injuries have undergone no material change. Thus the comparatively small tendency to be accompanied by great primary haemorrhage, the frequency with which they are followed by secondary haemorrhage, or the development of haematomata or aneurysms. The most striking feature of the vascular wounds produced by bullets of small calibre is the lessened liability to afford external secondary haemorrhage and the greatly increased frequency in which they are followed by the development of some form of aneurysm. This change no doubt depends in some measure upon improved methods of surgical treatment, but in the main is due to the limited nature of the wound, its narrow track, its

comparative asepticity and the infrequency with which extraneous matter is introduced with the bullet.

Certain special characters of the older bullet wounds of vessels, such as the temporary control of haemorrhage by the retained bullet, the retention of the bullet within the lumen of the vessel, or the travelling of the bullet along its course, have become far less common.

Primary Haemorrhage.

Let us now consider how far the older surgeons were justified in their opinion that primary haemorrhage due to gunshot injuries of the vessels is to be regarded as less formidable than that resulting from injuries by other weapons.

I think their opinion may be fully supported by a glance at a few specimens placed upon the table:

I. (3051) *R.C.S. Museum.*—Gunshot wound of the first part of the aorta; the bullet is retained within the lumen of the vessel, while the aperture of entry is partially closed by a plug of skin and adipose tissue; the man did not die until the third day.

II. (34.2) *Museum of the R.A.M.C.*—A large lateral wound of the common carotid artery and complete division of the internal jugular vein. This wound was followed by secondary haemorrhage on the thirteenth day, and the man did not die until after a recurring secondary haemorrhage on the twenty-fourth day.

III. (34.6) *Museum of the R.A.M.C.*—A round-shot lateral wound of the femoral artery with complete division of the vein. Secondary haemorrhage occurred on the eleventh day and death upon the twelfth.

In each of the two latter specimens the wound in the artery is partially closed by firm clot, and it is reasonable to assume that under modern wound conditions the occurrence of secondary haemorrhage would have been replaced by the formation of an aneurysm. Again, both in the case of the wounds of the carotid and the femoral, the loss of substance is not more than might be dealt with by modern methods at the period at which the secondary haemorrhage took place.

Anatomical Characters of Injuries inflicted upon the Blood Vessels by the Bullet of Small Calibre.

It is natural to assume that the wounds will not materially differ in nature from those observed on the surface of the body. The skin and the vessel wall possess many characters in common; both are elastic and both offer but slight resistance to the passage of the bullet, the only marked difference lying in the contractility of the artery, which tends to close and at any rate temporarily diminish the size of the opening made in its wall.

We are aware that in elastic structures like the blood vessels the area of tissue destruction will be less extensive than one corresponding to the calibre of the bullet, also that the revolution of the bullet and the force it exerts laterally as a result of its generally conical form tends to displace the component parts of an elastic cord such as a nerve without free transverse division of the fibres.

The injury to a blood vessel may be either of the nature of a contusion or a wound, while the extent of the lesion varies according to the accuracy with which the course of the vessel is traversed. With rectangular impact a notch, a clean perforation, or complete division results; when the impact is oblique more extensive loss of substance follows, such injuries reaching their most marked degree when the bullet courses for some distance directly along the vascular cleft. It need only be mentioned that when the wound is complicated by a fracture of a bone the injury to the artery may be produced by a spicule of bone, and partake of the nature of a puncture or a more or less complete laceration.

Contusion of the Vessel Wall.

It is difficult to gauge the importance of this injury. There is no doubt that the contusion may be sufficiently severe to so damage the tissue of the vessel wall that in the event of infection and suppuration the injured area may give way and, separating, give rise to secondary haemorrhage. That this accident may occur is a common experience. Judging by my own observation, I think it is also probable that contusion may be followed by the development of a cicatrix which permanently narrows the calibre of the vessel, and may possibly lead to its complete obliteration.

A specimen of Mr. Guthrie's, preserved in the museum of the Royal Army Medical College, shows the femoral vessels entirely occluded in the neighbourhood of a suppurating bullet track passing behind them. In this instance, of course, the greater contusing power of the old leaden bullet must be borne in mind. In the case of aseptic wounds I doubt if contusions often give rise to troublesome after-results.

Some information is to hand as to the comparative frequency and results of the different varieties of wound of the vessel wall. Thus Surgeon-General Stevenson,[4] in his report on the South African campaign, includes the nature of the lesion in 16 cases of aneurysm which underwent operation:

Eight were lateral wounds, resulting in six arterial and two arterio-venous aneurysms.
Four were perforations, resulting in one arterial and three arterio-venous aneurysms.
Four were complete divisions.

Saigo[5] includes the nature of the lesion in 34 cases:

Of these 21 were lateral wounds, resulting in 13 arterial and 8 arterio-venous aneurysms.
Eleven were perforations resulting in 4 arterial and 7 arterio-venous aneurysms.
Two were complete divisions.

In a total of 50 cases we find:

29 lateral wounds	... ...	58 per cent.
15 perforations	... ...	30 ,,
6 complete divisions	... ...	12 ,,

It appears also that perforation of the vessels more frequently leads to the development of an arterio-venous aneurysm than does a lateral injury.

Naturally little information exists as to the results of incomplete lesions, but two observations of great interest may be noted. In one a graze of the femoral artery resulted in the development of a protuberance the size of a hazel nut, accompanied by the signs of a traumatic aneurysm. An attempt was made to cure the condition by suturing the outer coats of the vessel over the weakened spot (Babasinoff). This procedure failed, the aneurysm again developing, after which the artery was successfully ligatured. The case is one of much interest also as demonstrating the necessity of the apposition of the intima for a successful arterial suture.

In the second case (Stevenson,[6] Case 28) a non-penetrating injury of the axillary artery was followed on the twelfth day by the formation of an arterial haematoma. On the fourteenth day this was laid open and a graze 1 in. in length, implicating the outer coats of the vessel, was discovered, which had given way in the centre.

Frequency of Various Classes of Wounds.

With regard to the comparative frequency of lateral wound, perforation, or complete division, it is probable that the numbers given above are not strictly accurate, since they are founded on observations made on lesions followed by the development of aneurysms, and fail to take into account the large number of cases in which haemorrhage either ceased spontaneously or led to death. One or two points of interest, however, arise from the consideration of this table (Table I) together with that (Table II) showing the distribution of aneurysms over the different arteries.

First of all, the frequency with which any artery is hit naturally corresponds directly with its calibre and the length of its course.

Secondly, if we analyse 42 cases, we find that the frequency of perforation depends not only on the width of the vessel, but also on its comparative fixity of position; thus perforation of the femoral and popliteal vessels is common, while the axillary artery, a trunk but little smaller, frequently escapes with a lateral injury.

The question of the frequency of complete severance of a large artery is more difficult to determine since it is probable that a considerable proportion of the instances in which it occurs are followed by early death from haemorrhage, but it is significant that in the series from

TABLE I.—*Saigo and Stevenson.*

	Lateral Wound.	Perforation.	Total.
Carotid	1	1	2
Subclavian	2	1	3
Axillary	6	1	7
Brachial	10	1	11
Femoral	7	8	15
Popliteal	1	3	4
Totals	27	15	42

which the above small table is taken complete division of the artery was observed six times, and that in five of these instances the popliteal was the vessel implicated; in the sixth the femoral artery was completely divided by a bony fragment from the femur. The liability of the popliteal artery to complete division is probably explicable on two grounds: (1) That the artery is commonly struck in the condition of full tension corresponding with the extended position of the limb: (2) that, except when the bullet enters from the posterior wall of the space, it has to perforate resistant structures, and hence may be altered in form and wounding properties.

As to the anatomical characters of the wounds, we are indebted to Brentano[7] for the only accurate description I have met with.

With regard to lateral wounds, he points out that the margins are tattered irregularly, giving the impression of having been gnawed out. Again, that a lateral wound involving more than half the circumference of the artery gapes widely longitudinally, acquiring a greatly increased size in consequence of the elastic nature of the vessel wall. The artery hence becomes incapable of conducting the blood, and the injury is comparable to a complete division. Perforating wounds do not separate so widely in consequence of the continuity of their margins: the loss of substance is also less, the size of the opening not equalling the calibre of the bullet. Perforations cause some obstruction to the circulation, due to the escape of blood, and the effect upon the vessel is to produce some proximal and a lesser distal dilatation of the lumen.

Immediate Results of Injuries.

In proceeding to a consideration of the results of these injuries it is of interest to premise that we are here met with one of the most striking anomalies of military practice, since we are about to deal with a series of complications not one of which would be met with did not the exigencies of the work in the field render it impracticable to abide by a fundamental rule of surgery—that is, that a bleeding vessel should be secured at the first possible moment after its injury.

Primary Haemorrhage.

The question as to the proportion of vascular injuries which lead to early death upon the field of battle seems one almost incapable of an answer. There can be no doubt that it is a large one, and in support of this it is only necessary to mention the fact that haemorrhage from, or aneurysms developing in connexion with, the large arteries of the trunk practically receive no mention in the large series of cases reported from recent campaigns. Operations upon the great vessels of the neck and the limbs are frequent, but, except for an occasional ligature of the external and still more rarely of the common iliac vessels, we find no mention of the vessel of the trunk. It seems, therefore, reasonable to assume that wounds of these vessels lead, with few exceptions, to rapid death. The same result probably follows a certain proportion of the wounds of the large vessels in the limbs also.

Spontaneous Healing of Arterial Wounds.

In connexion with this subject we may conveniently consider the question of spontaneous healing of the larger vessels. I think there is every reason to conclude that this, as either an immediate or remote sequence, takes place with a certain degree of frequency, on the following grounds: In the first place, clinical observation of wounds traversing the course of large vessels, as the subclavian or the femoral, has demonstrated the presence of local murmurs, pointing to local constriction of the vessel, also diminished pulsation in the peripheral circulation. Again, such diminished pulsation may be temporary. It may, of course, be suggested that in these instances the vessels have suffered contusion only, and that the signs are dependent on temporary thrombosis of the vessel or on pressure exercised by cicatricial tissue in the wound track on the artery. Hence the importance of definite evidence derived from observation of the conditions found in certain varieties of aneurysm.

First, as to the primary occlusion of the vessel by a provisional thrombus. This has been observed in several cases where the injury has been followed by gangrene of the limb (Mauteuffel, Subbotich, etc.). The gangrene in such cases is comparable to that which sometimes follows primary proximal occlusion of the vessel by ligature.

Then as to immediate cicatrization of the wound. In Surgeon-General Stevenson's report (Case No. 96, under the care of Dr. Archibald Young) the following conditions were found in a patient who died of enteric fever fifteen days after receiving a wound which perforated the superficial femoral artery and vein antero-posteriorly at the apex of Scarpa's triangle. The wound of entry into the artery was closed by a small, firm clot embedded in the posterior aspect of the sartorius; the small circular exit wound was attached to a similar opening in the opposed surface of the vein; while the wound of exit in the vein was "nearly cicatrized." No extravasated blood was present either around or between the vessels.

A more astonishing observation was made by Brentano in the case of a wound traversing the abdominal aorta just above the origin of the renal arteries, and then passing through the liver. The patient died upon the seventieth day from a subphrenic abscess in connexion with the wound of the liver. The following condition was found in the aorta: The entry wound visible on the outer aspect of the vessel was circular, and looked like the proximal extremity of a small branch which had been cut off. The exit wound was slit-like in character. When the vessel was first opened the wounds were scarcely visible on its inner aspect. Both were firmly closed, while the exterior of the vessel was coated with a layer of plastic lymph, quite separate from the suppurating blood clot which lay around. This case recalls to my mind that of a patient I saw die suddenly with signs of an abdominal haemorrhage two days after the receipt of a perforating wound in South Africa.[8]

As to the condition discovered during operations, in five of eleven perforations in Saigo's series of extirpations of aneurysm, one of the two arterial wounds had cicatrized at the end of six months, four and a half months, thirty-nine, thirty-seven, and twenty-five days respectively. In one of these cases the scar bulged, and in the second a small consolidated aneurysmal sac was present at the site of the wound.

A second method of occlusion is by the adhesion of the surrounding vessels and nerves; such cases were observed by Sir W. MacCormac and Sir William Stokes. A striking instance observed by Major Holt is reported in Spencer's *Gunshot Wounds* (p. 68): "In dissecting out the upper end of the divided ulnar nerve in the upper arm I came across the divided brachial artery tied up in a scarlike tissue. Astonishment and curiosity led me to free the proximal end, and it at once bled as a normal brachial artery would. I tied it, and, to confirm matters, eventually found the lower end also in the scar."

Brentano, who draws special attention to this mode of healing, mentions a similar observation. It is noteworthy that in all four instances the brachial was the artery concerned.

Secondly, spontaneous cure may be the terminal result in arterial haematomata which contract to form circumscribed traumatic aneurysms and eventually consolidate. Of this sequence of events I have seen several instances, and they have been observed by many surgeons. I think we may conclude that the opening in the artery gradually contracts, the flow of blood into the aneurysm is lessened, and consolidation of the sac follows, as a result of the deposition of laminated clot.

A case of great interest is related by Saigo, in which the femoral artery was completely severed by a spicule of

TABLE II.—*Distribution of Aneurysms and Aneurysmal Varices.*
(South Africa, 98; Manchuria, 121; Balkans, 64.)

	Traumatic Aneurysms.				Arterio-venous Aneurysms.				Aneurysmal Varices.				Total.	Kikuzi.	Grand Total.	Percentage Occurrence.
	Stevenson.	Saigo.	Subbotich.	Total.	Stevenson.	Saigo.	Subbotich.	Total.	Stevenson.	Saigo.	Subbotich.	Total.				
Carotid	—	1	—	1	4	—	—	4	—	1	1	2	7	1	8	2.8
External carotid ...	1	—	1	2	—	—	—	—	—	—	1	1	3	2	5	1.7
Internal carotid ...	—	—	1	1	—	—	—	—	—	—	—	—	1	—	1	0.35
Subclavian ...	—	2	—	2	—	1	—	1	—	—	1	1	4	7	11	3.83
Transversalis colli	—	—	—	—	—	—	—	—	—	—	—	—	—	3	3	0.5
Axillary	11	4	4	19	2	1	1	4	—	—	—	—	23	6	29	10.2
Subscapular ...	1	1	—	2	—	—	—	—	—	—	—	—	2	—	2	0.7
Brachial	6	6	2	14	2	3	—	5	—	—	2	2	21	10	31	10.9
Radial...	1	—	1	2	—	—	—	—	—	—	—	—	2	5	7	2.4
Ulnar	3	—	2	5	—	—	—	—	—	—	—	—	5	4	9	3.13
Supply-volar	1	—	—	1	—	—	—	—	—	—	—	—	1	—	1	0.35
Interosseous forearm	—	—	1	1	—	—	—	—	—	—	—	—	1	—	1	0.35
External iliac ...	1	—	—	1	—	—	2	2	—	—	1	1	4	1	5	1.7
Gluteal	—	1	1	2	—	—	—	—	—	—	—	—	2	1	3	1.0
Femoral	18	3	26	47	17	2	5	24	—	4	2	6	77	26	103	36.3
Profunda	2	—	—	2	1	1	1	3	—	—	—	—	5	—	5	1.7
Popliteal	13	2	3	18	5	2	2	9	—	—	1	1	28	16	44	15.5
Posterior tibial ...	7	1	—	8	—	—	—	—	—	—	—	—	8	3	11	3.83
Anterior tibial ...	1	—	1	2	—	—	—	—	—	—	—	—	2	—	2	0.7
Peroneal	—	—	1	1	—	—	—	—	—	—	—	—	1	—	1	0.35
Internal plantar ...	1	—	—	1	—	—	—	—	—	—	—	—	1	—	1	0.35
				132				52				14	198	85	283	

bone. The injury was followed by the development of two small aneurysmal sacs, one on either side of the proximal end of the vessel, while the distal end was completely occluded.

Thirdly, I think the development of a pure aneurysmal varix can only be regarded as an instance of the permanent arrest of haemorrhage by a spontaneous process of healing. In many such cases the primary absence of any trace of extravasated blood in the sheath of the vessels, except such an amount as may have ensured the firm lateral adhesions of the two vessels, points to a process resembling that following the ligature of a vessel. The opening is at first occluded by clot, formed on the margins of the wound in the vessel, which temporarily arrests the passage of the blood into the vein; this clot persists until, in the process of healing, the intima of the artery has become continuous with that of the vein. The provisional clot is then absorbed or washed away, as is the temporary thrombus developed after ligature, and we get the development of the characteristic thrill and murmur, with the establishment of the arterio-venous communication.

The period occupied by this process corresponds with the interval of days or weeks commonly noticed between the reception of the wound and the development of the purring thrill and murmur. Lastly, an aneurysmal varix may heal spontaneously many months after its development. In my book on the wounds of the South African war two instances of spontaneous cure of this nature in carotid arterio-venous aneurysms are described, the thrill and all symptoms disappearing some months after the application of a proximal ligature to the artery. A case of spontaneous cure where the communication was supposed to be between the innominate vessels is also related there, and many other instances of this sequence of events have been observed.

An instance of a still more remote closure of the opening in an aneurysmal varix is recorded by Sir W. Osler.[9] The patient was seen by me in 1900 with the classical signs of an aneurysmal varix of the axillary artery of twenty-two years' standing. When he died in 1909 no trace of any communicating opening could be discovered between the vessels, although both were dilated and the walls were much thickened. The drawing in the *Lancet* shows the vessels in intimate relation at the point of greatest dilatation.

These cases appear to afford definite evidence of the cure of a wounded artery either by an immediate or a remote process.

Secondary Haemorrhage.

The decrease in frequency of external secondary haemorrhage in gunshot wounds only brings them into line with the injuries of civil life, the decrease bearing a direct proportion to the decrease of infection and suppuration. When the small number of cases needing treatment by amputation or ligature mentioned in the reports of recent wars is contrasted with the formidable list recorded in the report of the older campaigns the change is striking indeed.

It cannot, however, be too strongly urged that although infection is less common, yet the second cause of secondary haemorrhage, disturbance of the wound incident on the transport of the patient, exists in an equal or exaggerated degree, and is unaffected either by the anatomical nature of the wound or the method of treatment adopted.

External haemorrhage is replaced by bleeding into the tissues, the extension of localizing arterial haematoma, or increase of blood collections in the pleurae, peritoneal cavity, or the joints. These accidents are sufficiently common to render absolute the rule that no subject of a wounded vessel should be submitted to the dangers of transport except in the case of actual necessity, and then only with the wounded part as far as possible immobilized.

The Development of Aneurysms.

The frequency with which wounds of arteries are followed by the formation of the different kinds of aneurysm is not possible to accurately determine, since so large a proportion of vascular wounds in war escape record.

The accompanying table (II), however, shows the general distribution of the lesions in 283 cases collected from reports of the South African (98), Manchurian (121), and recent Balkan (64) campaigns.

The next table gives in addition a rough estimate of the proportion in which the varicus forms of aneurysm occurred in 162 instances.

TABLE III.—*Proportion of Various Forms of Aneurysm in 162 Cases.*

	South Africa (Stevenson).	Manchuria (Saigo).	Balkans (Subbotich).	Total.	Percentage.
Arterial diffuse or localized	31	21	43	95	58.6
Arterio-venous aneurysm	33	10	16	67	41.3
Aneurysmal varix	—	5	3		
Totals	64	36	62		

It must be borne in mind, however, that these tables merely record the survival of the fittest, since they are based on cases treated in the base hospitals, and that a considerable number of small traumatic aneurysms, and a still larger number of pure varices, escape not only the surgeon but also any record whatever.

TREATMENT OF WOUNDED ARTERIES.

The question, At what moment the treatment of a wounded artery should be undertaken in military practice, is one fraught with the greatest difficulty. Reasons have already been given for believing death from primary haemorrhage, when the great arteries of the trunk are implicated, to be the common result, and to that point no further reference need be made, but in the case of wounds of vessels in the neck and limbs we know that a number might be saved who die from secondary haemorrhage or gangrene, and that a large number develop aneurysms which need operations of some severity before they are cured.

It is clear that primary ligature of the vessel would ensure the life and avoid the dangers attendant upon the aneurysm to this latter class did not the exigencies of military practice forbid the adoption of the common rule of surgery in the great majority of instances. If the patient is bleeding seriously, manifestly the ordinary rule must be followed, but if haemorrhage is slight or has ceased spontaneously, pressure and a first dressing will be applied and the patient sent to the rear. He now passes through the hands of the medical officers of the bearer company, the field hospital, the stationary hospital, and possibly of the ambulance train before he reaches the haven of the base hospital, at which alone extensive operations can be performed under the best conditions.

Once entered upon, until this transitory period is ended, not only are the general conditions and surroundings unsatisfactory as far as the operating surgeon is concerned, but experience has also abundantly proved the local condition of the wound to be eminently unsuitable for direct treatment. The wound cavity contains a large amount of clot and its walls are stiffened by extravasated blood and reactionary effusion. These conditions render the employment of drainage a necessity, a provision rendering the wound readily liable to the dangers of infection during transport.

These difficulties existing with regard to the comparatively simple operation of ligature acquire still more significance in considering the far more delicate operation of suture, requiring not only greater skill, but also more satisfactory surroundings, even putting on one side the question whether the recent gunshot injury of the artery is in itself a class of wound suitable to primary suture as to its fitness for direct union, or as to the risks of consequent gross thrombosis of the vessel.

Little actual experience of the primary suture has been gained, but such as exists is not of a nature to encourage the hope of any great future for this method of treating wounded arteries in military surgery. I think it indubitable that in the present state of surgery direct ligation, when necessary, is likely to remain the only operation suitable for application to the primary injury, and this rule is still more applicable to the treatment of external recurrent or secondary haemorrhage.

In military surgery it is, then, chiefly in the treatment of the secondary consequences of wounds of the arteries that the question of the relative applicability of ligature or suture of the vessel comes into consideration, in spite of the fact that a few isolated primary operations for suture have been undertaken with somewhat doubtful results.

This brings us to the question of dealing with arterial haematomata, traumatic aneurysms, arterio-venous aneurysms, and aneurysmal varices.

Both the recognition of aneurysm as a condition amenable to operative treatment alone, and every method of treatment now in use can be traced to the most ancient times. Arterio-venous aneurysm was described by Rufus of Ephesus in the first century, while Galen in the second century speaks of it as a well-known condition. Common during the long period that bleeding from the bend of the elbow was a routine practice, its frequency diminished as its source of origin became limited to occasional stab wounds and injuries from shot guns, only to become again enormously increased in connexion with the employment of the bullet of small calibre.

The simple employment of the ligature was supplemented between the first and fourth centuries by the addition of incision combined with proximal and distal ligature of the artery by Antyllus, while Philagrius introduced the further procedure of extirpation of the aneurysmal sac. After an interval of more than twelve hundred years the method of Philagrius was reintroduced by M. G. Purman in 1669, who successfully treated three cases of brachial arterio-venous aneurysm by proximal and distal ligature of the artery combined with extirpation of the sac.[10] From that period methods of treatment have varied, but no really new procedure had been employed until the application of the method of suture to wounded blood vessels opened up a new avenue.

The history of the application of a method of suture to an artery commenced with the closure of a wound of the brachial artery by "twisted suture" on a pin by Hallowell in 1759, while lateral suture of a vein was first performed by Schede in 1882. The first lateral suture of the femoral artery was made by Postempski in 1886, and the first successful complete circular suture on the human subject was performed by J. B. Murphy in 1895, of the femoral artery by his invagination method, this operation being followed by a similar one upon the axillary artery.

Since that period the technique of suture has been widely developed both in experimental work and in surgical practice, while the late war in the Balkans has allowed a fairly extensive trial of its suitability to the treatment of gunshot wounds.

Proximal Ligature.

The main outcome of the experience in the treatment of vascular injuries gained in the South African war was to emphasize the dangers of Hunterian ligature at the seat of election, especially in the vessels of the lower extremity, and to suggest various methods of dealing with arterio-venous aneurysms and varices. Of these latter, ligature of the artery above and below the communication, leaving the vein untouched, received the impress of official recognition, while double ligature of both vessels, proximal ligature of the artery with ligature of the vein above and below the opening (Lewtas) were performed successfully, and a number of cases of simple proximal ligature (Anel), especially in the neck and upper extremity, gave good results.

In the Manchurian campaign the chief change consisted in the greater frequency with which ligature of the vessels was accompanied by excision of the portion of the vessels involved together with the sac itself, and Syme's modification of the method of Antyllus, in which the sac is opened prior to the application of the ligatures to the wounded vessel, called by Kikuzi "intrasaccular direct ligation."

A series of results published by Saigo will suffice to illustrate the success with which extirpation was attended in skilled hands (Table IV). In Saigo's practice operation on the aneurysm was preceded by some days' or weeks' digital compression of the artery with a view to encouraging the development of the collateral circulation.

TABLE IV.—*Traumatic Aneurysms.*

	No.	Gangrene.	Died.	Complications.
Extirpation	15	14	1	Femoral.
Central ligature incision and subsequent extirpation	3	3	—	—
Antyllus	1	1	—	Brachial gangrene, amputation
Central ligature and incision	1	1	—	—
Incision and plugging	1	—	1	Gluteal.
Total	21	19	2	

Arterio-Venous Aneurysm.

	No.	Cured	Complications.
Extirpation	11	11	—
Ligature of artery above and below; vein untouched	2	1	1 femoral gangrene, amputation.
Antyllus...	2	1	1 haemorrhage; secondary ligation.

In the recent war in the Balkans the method of suture of the vessels has been somewhat widely employed in the treatment of the secondary consequences of wounded arteries. The results of this method of treatment in the Belgrade State Hospital have been collated by Dr. V. Subbotich, and were communicated to the Section of Naval and Military Surgery at the recent seventeenth meeting of the International Congress of Medicine. I am much indebted to Dr. Subbotich for some supplementary reports regarding some of the cases, of which the result was unknown at the time his paper was written.

We may now proceed to compare the various methods of treatment employed during the last decade.

First, as to the time-honoured measure of ligature in its various applications. I think the entire concourse of surgical opinion is opposed to the operation of ligation at the seat of election. The tragic history of its employment in the treatment of secondary haemorrhage in the older campaigns has been followed in the more recent ones by an only qualified improvement in its application to the treatment of traumatic aneurysms.

TABLE V.—*Cases of Ligature (South African War).*

		No.	Gangrene.	Died.	
Secondary haemorrhage	Direct ligation	8	6	2	25.0 %
Secondary haemorrhage	Proximal ligation	11	7	4	36.3 %
Arterial haematoma	Direct ligation	27	27	—	—
Arterial haematoma	Proximal ligation	16	16	—	—
Circumscribed traumatic aneurysm	Direct ligation	4	4	—	—
Circumscribed traumatic aneurysm	Proximal ligation	14	13	1	—
Arterio-venous aneurysm	Proximal ligation	*14	6	3	21.4 %

57.1 % gangrene; 25 % of these died after amputation.
* Recoveries 11; amputations 6.

In the small number of cases noted in the South African war we find that 36.3 per cent. of the cases of secondary haemorrhage treated by proximal ligature died. The result in 30 cases of arterial aneurysm was better, no instances of gangrene being reported and only one death, 3.3 per cent., but in a number of these the proximal ligature was of the nature of an Anel's operation.

The worst results were those following proximal ligature for arterio-venous aneurysms. Here, of 17 patients 3 died, and in 8 the operation was followed by gangrene. If 3 operations on the carotids are subtracted, we find 14 cases of ligature of arteries of the extremities, with 2 cases of gangrene in the upper and 6 in the lower limb. Thus a percentage of 57.1 of gangrene and 21.4 of death.

A distinction must, however, be certainly drawn between the operation of Hunter and that of Anel. I myself saw 3 cases of proximal ligature of the carotid followed by immediate cure of the aneurysm and remote spontaneous cure of the arterio-venous communication of two, while the same result was observed in some cases of brachial arterio-venous aneurysms where a proximal ligature was placed close above the sac.

These results of proximal ligature have been fully confirmed in the Manchurian campaign.

Simple Direct Ligature.

The operation of simple direct ligature may, on the other hand, be regarded as highly successful: of 31 cases of arterial aneurysm so treated and recorded in Stevenson's report all were cured.

In the Manchurian campaign Kikuzi, Alexandrow, Koratkoff, and others employed Syme's modification of the operation of Antyllus with much success. Kikuzi,[11] who calls the method "intrasaccular direct ligature," claims the following advantages for it:

1. Ease of application.
2. The short time required for its performance.
3. The practicability of performing the operation under local anaesthesia.
4. The limited extent of the vessels excluded.
5. Few collateral branches are injured, and thus circulatory disturbance and danger of gangrene is diminished.

Kikuzi employs an Esmarch's bandage in operating on the extremities, or follows Syme's method of introducing a finger into a small opening made in the sac, where the elastic tourniquet is inapplicable. He records two successful cases—one of the carotid and one of the external iliac arteries—where Syme's method was employed.

In the Manchurian campaign extirpation of the aneurysm together with the portion of the vessels from which it sprung after ligature above and below the aneurysm, was also employed. Saigo[12] reports the results of 26 aneurysms treated by this method with one death (immediately following the operation)—3.8 per cent.

Of the 26 aneurysms, 15 were arterial and 11 arterio-venous. The series was practically unaccompanied by serious gangrene, since only gangrene of the thumb in a case of axillary aneurysm and of the toes in a femoral aneurysm, 7.6 per cent., occurred (Table VI).

A series of 5 cases of arterial and 9 of arterio-venous aneurysm thus treated are also recorded by L. Bornhaupt[13] in which no single accident occurred.

The procedure of extirpation, however, is a serious one, needing considerable time for its performance, and, in spite of this excellent series of results, I think the cases suitable for its employment need careful discrimination.

Let us now proceed to consider more fully the latest addition to methods of treatment.

Suture, whether lateral or circular, may well be considered the ideal procedure, since by it alone can the normal circulation be re-established and maintained, and sufficient evidence has now accumulated to allow a provisional judgement being given as to its advantages.

1. The method of suture obviates the necessity of any dependence on the establishment of a collateral route for the circulation. This, even in the healthy young men commonly the subjects of military surgery, must be regarded as an important feature, the more so that in the early stages of arterial haematomata blood extravasation may interfere with the compensatory enlargement of quite normal collateral systems.

2. By the method of suture no loss of length of the artery is suffered and the least chance of destroying any collateral branches is attained, the latter point being of some weight should the suture be followed by local thrombosis.

3. By this method not only is the immediate vitality of the limb less endangered, but the chances of permanent deficient nutrition consequent on an imperfect and insufficient blood supply are lessened or abolished.

There seems no question that the first two of these propositions must be conceded; the third needs further examination.

First, as to the immediate vitality of the limb.

It is stated that a review of published cases shows that gangrene follows the operations of ligature in from 6 to 12 per cent. of all cases. This is probably not an excessive estimate if both traumatic and spontaneous aneurysms are taken into account; but I think if the traumatic aneurysms are considered separately, and further, if the purely arterial aneurysms are considered

apart from those in which an arterio-venous communication is present, that the ligature of a healthy artery is not to be regarded as so dangerous a proceeding.

In the case of 31 direct ligations of large arteries for arterial haematoma and circumscribed aneurysm in the South African war, gangrene did not occur in a single instance; and in 30 cases of proximal ligature for the same condition only 1 case of gangrene (following ligature of the femoral) occurred (1.6 per cent.); and 1 patient died (1.6 per cent.) from septicaemia one month after the operation, the aneurysm itself being cured.

The bad results followed the operation of proximal ligature for arterio-venous aneurysms—an operation which, except in some special instances, should never be performed.

Again, if the 26 extirpations combined with ligature by Saigo are considered, gangrene occurred in only two instances, and here was minimal in degree, resulting in the loss of a thumb after ligature of the axillary artery and of the toes in 1 case of ligature of the femoral artery.

To compare with these results, we may take first 31 cases of suture performed in civil practice, collected by Tscherniachowski,[14] including 15 isolated sutures of the artery, 7 isolated sutures of the vein, 9 sutures of artery and vein. Of the aneurysms treated, 11 were arterial, 20 arterio-venous.

Amongst these cases gangrene also occurred twice—once in a remarkable instance in which repeated secondary haemorrhages followed suture, resuture, ligature, and amputation, and in the second as the result of an infection causing gaseous cellulitis. In the matter of gangrene these statistics show a slight advantage.

In 22 cases of arterial suture collated by Subbotich during the Balkan war gangrene occurred once after lateral suture of the popliteal artery and vein, and once after circular suture of the external iliac artery combined with ligature of the vein. In a case of incipient gangrene following a wound of the popliteal artery lateral suture failed to arrest the process. If the 2 cases only are counted there is a percentage occurrence of 9 per cent.

It is obvious that these numbers are far too small for any definite deduction to be drawn, and also that they probably represent only a small proportion of the cases operated upon; but they at any rate go to prove that under existing conditions the employment of suture has not abolished the occurrence of gangrene.

Permanent Lowering of the Nutrition of Limb.

As to the question of permanent lowering of the nutrition of the limb. In civil practice, given fair condition of the blood vessels, this sequela has not been one which in the past has attracted serious attention on the part of the surgeon. In fact I think surgeons have looked upon the ligature of a large artery as a satisfactory operation in regard to its permanent results. In military practice, in my own experience, I have seen bad results; thus a condition not appreciably differing from that of Volkmann's contracture of the leg in two instances after ligature of the popliteal artery for arterial haematoma; and again, gangrene of the leg following a slight injury some months subsequently to ligature of the superficial femoral artery. In these cases, however, I think some weight must be given to the widespread nature of the blood extravasation and dissection of the limb, the unsatisfactory conditions under which the cases were treated (both the popliteal cases came from field hospitals), and perhaps to the neurasthenic state of the patients themselves.

Frisch,[15] on the examination of 10 cases in which arteries had been tied at periods of from one to eight years, found only four sound limbs; in the remaining six trophic changes were present.

Again, Koratkoff estimated the peripheral blood pressure in 17 patients in whom arteries had been tied, and found it to be—

Peripheral Blood Pressure.

In 7 cases	less than half	that of sound limb.		
In 4 ,,	about half	,,	,,	,,
In 4 ,,	more than half	,,	,,	,,
In 2 ,,	equal to that of sound limb.			

In one of the two cases the estimation was made only six weeks after the operation.

These numbers speak for themselves, but it still remains to be seen whether a series of sutures will show better results.

Thrombosis.

Intimately connected with the occurrence of gangrene is the question of how frequently thrombosis follows the operation of suture. We know from the results of experimental work that thrombosis does occur in a certain number of instances, further that its occurrence is determined by even small errors in an exacting technique.

Again, the clinical observation[16] of a firm thrombus 1½ cm. in length on the sixth day, extending from the site of a lateral wound in the femoral artery and giving rise to gangrene of the leg, is suggestive of the risk of a wound inaccurately closed. A case of spontaneous thrombosis of the femoral artery after complete division accompanied by no local blood extravasation is also recorded by Subbotich. In this incipient gangrene was noted.

A precise determination as to the sequence of thrombosis to suture of the artery in surgical practice is hardly possible, since even does the artery thrombose the patient is in no worse plight than if a ligature has been applied. The only useful indication is to be sought in the peripheral blood pressure, but of this in most cases we have only the rough estimate which can be obtained by feeling the pulsation in a distal artery. In Tscherniachowski's table of 16 lateral sutures, among 14 cases which survived the peripheral pulsation is noted as weaker in 2 cases, while in 2 weak pulsation noted before the operation became normal after the artery had been sutured. Among 9 cases of circular suture of the artery, in 2 instances no return of pulsation in the posterior tibial or dorsalis pedis followed suture of the popliteal artery, while in 1 the renewed pulsation was observed to become weaker. In 1 case of suture of the axillary and 1 of the femoral artery pulsation returned when none had existed prior to the operation. In 4 further cases where both artery and vein were joined by circular suture, in 1 case (Lexer) the peripheral pulse was noted to be weaker at the end of eight months, possibly as the result of cicatricial contraction at the site of union. In 2 out of 24 cases in Subbotich's paper the development of gangrene points to the occurrence of thrombosis of the artery.

Other Accidents.

Lastly, we have to consider how far the practice of suture is exempt from the other accidents which sometimes follow upon operations on the arteries. Unfortunately, not very much information is to hand on this subject. The mere failure to be able to apply the method either from the discovery of a defect too extensive to allow of repair, or from technical difficulties dependent upon the position of the wound, is of little moment since the exploratory operation may equally well be followed by ligation of the vessel.

The more serious question of failure in competency of the suture itself either from primary insufficiency of the stitch or from secondary infection is more important. Among the cases collated by Tscherniachowski no such accidents are recorded, but even here the fallacy depending on the fact that unsuccessful operations are not freely published must be given due weight. Z. von Manteuffel records a case in which a lateral suture applied to the femoral artery on the sixth day leaked, and had to be supplemented by a double ligature, and here one may emphasize the fact that von Manteuffel himself has questioned the suitability of recent wounds to primary suture by reason of their contused nature. Again Subbotich, while he records the fact that secondary haemorrhage followed none of the 22 operations performed in the Belgrade Hospital, adds, in speaking of arterial haematoma: "The haematoma must be removed, the bleeding vessels dealt with, and the cavity drained after complete closure by suture of the incision wound by other openings specially made for the purpose. In these cases secondary haemorrhage may occur after several days and be very serious."

Comparative Results in 41 Cases of Ligature and 24 Cases of Suture in the Belgrade State Hospital.

Ligature	...	...	... 41 cases.
Gangrene	...	...	... 6 cases, = 14.6 %
Deaths ...	...	...	... 4 cases. = 9.75 %

One death due to softening of the brain and pneumonia after ligature of the carotid; 1 from secondary haemorrhage; 1 from sepsis; 1 from anaemia and exhaustion.

Suture	24 cases.	
Gangrene	3 cases,	= 12.5 %
Deaths	2 cases,	= 8.3 %

These figures, while exhibiting no very striking superiority for the new method in immediate results, at least thoroughly justify its employment, and this justification may be strengthened in the future if it can be shown that the permanent result is better in regard to the condition of the limb. On this latter point I can only quote again Subbotich:

> On seeing some months later cases that have been operated upon, we find *both* in cases of ligation and of suture greater or less interference with the functions, such as muscular weakness, neurasthenia, oedema, etc. On the other hand, we find some quite ideal cases.

Conclusions.

What conclusions are we to draw from these results?

Operations for wounds of the arteries may have to be undertaken during three distinct periods, which may be classed as primary, intermediate, and secondary.

Primary Haemorrhage.

The operation of choice for primary haemorrhage from a gunshot wound in the field is direct ligature. In support of this opinion may be advanced the comparative simplicity of the operation and its applicability even under adverse conditions. Primary ligation should be confined to cases in which haemorrhage is obviously endangering life.

The objections to the method of suture are twofold: First, the local conditions are not favourable in consequence of the contused and tattered margins of the opening in the artery commonly met with. The anatomical character of the wound, in fact, is unfavourable both to the safe closure of the wound, and to the avoidance of subsequent thrombosis in consequence of the impracticability of ensuring an accurate apposition of the intima. One has only to consider the fact that the comparatively slight damage attendant upon the use of toothed forceps to facilitate the introduction of the suture is generally considered enough to risk subsequent obliteration of the vessel by thrombosis, to come to the conclusion that the ragged contused margins of a gunshot wound are ill suited to suture. Secondly, although these difficulties are to be avoided in certain cases by excision of the damaged portion of the vessel and circular suture of the proximal and distal ends, yet this undertaking needs so much time, skill, and perfection in the general surroundings that it cannot be regarded as a practical procedure.

In this stage there is no doubt that a line must be drawn between the wounds of civil practice in which suture may be advisable and the wounds produced by bullets of small calibre.

When primary operations are necessary and the wounded artery is dealt with during the first three days the difficulty of evacuating the clot may not be great, while the procedure saves much time, and the general nutrition of the limb suffers less than if a secondary operation is waited for. Further, where incipient gangrene threatens, the limb may be rescued by relieving the collateral circulation from the pressure exerted by the haematoma. The latter fact is especially to be borne in mind in the case of popliteal haematomata (Ž. von Manteuffel).

Intermediate Operations.

It has already been pointed out that the wounds are ill suited to any form of treatment except the simplest. The evacuation of clot is difficult, the stiff oedema of the arterial wall itself, as well as that of the boundaries of the cavity (Brentano), and the probability of the necessity of providing drainage, negative the chances of a successful suture, and render the prognosis even of a simple direct suture doubtful.

The experience of all recent campaigns has been to show that, in the absence of secondary haemorrhage or rapid extension of the haematoma, the general tendency is towards contraction and localization of the extravasated blood and to diminution in the size of the arterial wound, while the conditions improve for the successful application of treatment.

The unsuitable character of these injuries at this stage for the employment of proximal ligation at the seat of election has already been dwelt upon. It is unsafe, not only from the risk of further secondary haemorrhage, but also because, being done at a period when the conditions for the establishment of an efficient collateral circulation are bad, gangrene is frequent. This has been a common result in the limbs, and no more striking example could be given than that of a surgeon in the Manchurian campaign, who saw cerebral softening follow three times consecutively after ligaturing the common carotid in healthy young soldiers.

Secondary Operations.

These may be undertaken at an average period of about four weeks, and practically resolve themselves into operations for aneurysms of three varieties.

Each of the five methods of treatment may offer advantages under certain conditions which may be shortly stated:

(*a*) *Simple Ligature.*—Simple proximal ligature as near the aneurysmal sac as practicable has shown itself a satisfactory method of treatment for traumatic arterial aneurysms. Under certain circumstances it is likely to be still employed, either in dealing with small aneurysms, or in situations where direct treatment may necessitate a prolonged and serious operation, as in the case of the carotid artery, especially when the conditions under which the operation has to be performed are not good.

(*b*) *Proximal and Distal Ligature, either of the Artery alone or of both Artery and Vein.*—This method is suitable to the treatment of either arterial or arterio-venous aneurysms. Ligature of the artery alone is unsuitable to arterio-venous aneurysms or varices where there is any likelihood of the sac being in part fed by a collateral branch. If such a branch does exist, the thrill of the varix will continue, and this, though not a serious accident, is yet undesirable. The addition of double ligature of the vein has not proved disadvantageous.

(*c*) *Syme's Modification of Antyllus's Operation.* The intrasaccular direct ligature of Kikuzi. This method is applicable especially to large arterial haematomata, but also to recent arterio-venous aneurysms in some instances. The short length of the artery included between the ligatures, the limited amount of dissection needed to expose the vessel, and the fact that in the limbs the operation may often be performed while the circulation is controlled by an Esmarch tourniquet are manifest advantages. Moreover, the danger of overlooking the presence of small branches feeding the sac is avoided, and mere evacuation of the clot is substituted for the troublesome dissection required if the sac is to be extirpated. This method has much to recommend it as an operation in military surgery.

(*d*) *Extirpation of the Sac with limited Excision of the Vessels in communication with it.*—This method is applicable to the case of all aneurysms of whatever variety, where the occlusion of the vessel is not of appreciable importance to the general nutrition of the limb, practically, therefore, to any vessels below the brachial in the upper and the popliteal in the lower extremity. It has proved itself a highly successful procedure elsewhere, but it necessitates an often prolonged and difficult dissection, and offers no material advantage over the last operation.

(*e*) *Suture of the Wounded Vessel, with or without Extirpation of the Sac.*—The relative advantages to be obtained by this method have been already discussed. If successful the result is ideal; it has not been shown to be attended by any accident to which other procedures are not liable, while even if thrombosis occurs and robs the operation of its crucial advantage, the patient is no worse off than if ligature had been performed. Theoretically its applicability to the treatment of any of the forms of aneurysm is limited only by a lesion the situation or the extent of which prevents accurate and secure apposition, and even this difficulty is to be overcome by the insertion of an autoplastic graft from a neighbouring vein. Again, in certain situations, such as the neck, it obviates a risk of irrecoverable damage to the brain. Practically, however, the necessity of an aseptic field of operation, the existence of perfect operative surroundings, and a really high standard of manipulative skill on the part of the surgeon, must at present considerably limit its adoption in the routine of military surgery.

If adopted, the operative technique devised by Carrel appears to offer the best chance of success. In old-standing cases of traumatic arterio-venous aneurysms, or aneurysmal varices, Matas's arteriorrhaphy or the Matas-Bickham operation may be adopted.

A consideration of the wounds of arteries by bullets of small calibre and their treatment shows that progress in this branch of military surgery has taken the direction of increased conservatism and expectancy. In this it is no exception to that observed in every other chapter of the subject. Non-interference in fractures has become almost the general rule, operations on joints have decreased in number almost to a vanishing point, injuries to the nerves are seldom the subjects of primary treatment, and we have seen that those of the vessels come into the same category. Still more striking is the expectant attitude maintained by the surgeon in the case of wounds traversing the great body cavities, in all of which primary operations have become progressively fewer.

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TYPHOID-PARATYPHOID VACCINATION WITH MIXED VACCINES.

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CONSIDERING the fairly frequent occurrence of paratyphoid A and paratyphoid B in tropical regions, at least in Ceylon and India, I have for several years advocated the use of a mixed vaccine, namely, typhoid + paratyphoid A + paratyphoid B, instead of the usual simple typhoid vaccine.[1]

My belief in the possibility of producing an efficient mixed vaccine was based on the experiments I carried out in Bonn, working under Professor Kruse during 1901 and 1902. I demonstrated then[2] that by inoculating an animal with two different bacteria at the same time, the blood produced agglutinins and immune bodies for both, and that provided a sufficient minimum quantity had been inoculated, the amount of agglutinins and immune bodies for each germ was about the same as in the animals inoculated with one germ only. I demonstrated that even inoculating a rabbit with three different micro-organisms (*B. typhosus* + *B. pseudo-dysentericus*, No. 1 (Kruse) + strain of *B. coli communis*), the amount of agglutinins and protective bodies elaborated for each germ was nearly the same as in animals respectively inoculated with one germ only. During the course of these experiments I was able to confirm the fact that when the immunization is obtained by a single inoculation, provided the minimum dose sufficient to obtain the maximum immunization be given, the amount of agglutinins and immune bodies elaborated by the inoculated animals is not in proportion to the amount of cultures injected. A series of rabbits inoculated with 2 c.cm. of typhoid cultures will give the same average agglutination limit and the same amount of immune bodies as a series of rabbits inoculated with 4 c.cm.

Since 1905 I have experimented with several mixed vaccines in man, of which the principal are (1) a typhoid + paratyphoid A + paratyphoid B vaccine, and (2) a typhoid + dysentery (Kruse-Shiga) + dysentery (Flexner) vaccine. I will limit my remarks to (1), but I may be allowed to note that anyone wishing to experiment with mixed dysentery vaccines should be careful always to use peptone-water cultures, as broth cultures of dysentery give rise to an extremely painful infiltration at the point of inoculation.

Method of Preparation of the Mixed Typhoid-Paratyphoid Vaccine.

The mixed vaccines as prepared by me are either dead vaccines, the cultures being killed in the usual way by heating at 53° C., or live attenuated vaccines got by heating the cultures at 50° C., for an hour. During recent years I have used rather extensively both the dead mixed vaccine and the live attenuated one.

At first I used to prepare the vaccine in the following manner: Several tubes containing 10 c.cm. of broth each were inoculated with two loopfuls of an agar culture of typhoid forty-eight hours old, other tubes with two loopfuls of paratyphoid B, and others with two loopfuls of paratyphoid A. All the strains I used were non-virulent but rich in antigen, as shown by animal experiments. The inoculated tubes were kept for twenty-four hours in the incubator at 35° C. These cultures were then heated in a water bath at 55° C. (dead vaccine) or 50° C. (live attenuated vaccine) for an hour; they were then mixed together in certain proportions in sterile Petri dishes—two tubes (20 c.cm.) of typhoid, one tube (10 c.cm.) of paratyphoid B, and one tube (10 c.cm.) of paratyphoid A. The mixed vaccine consisted, then, of two parts typhoid, one part paratyphoid A, and one part paratyphoid B. I used to give 10 minims of the mixed vaccine at the first inoculation, and 20 or more at the second and third. At the present time the vaccine is standardized by counting the germs before mixing. The mixed vaccine I use at the present time contains per cubic centimetre 500 million typhoid, 250 million paratyphoid B, and 250 million paratyphoid A, and is prepared either from broth cultures or emulsions in physiological salt solution. A little lysol (0.2 per cent.) is added.

Dose and Method of Vaccination.

As already stated, the mixed vaccine I now use—either the dead one obtained by heating cultures at 53° C. or the attenuated live one prepared by heating cultures at 50° C. for an hour—contains per cubic centimetre 500 million typhoid, 250 million paratyphoid A, and 250 million paratyphoid B. I give 0.6 c.cm. the first time, and double the dose a week later, and, whenever possible, a third dose two weeks from the first. In some cases, however, I give only ½ c.cm. the first time, and 1 c.cm. the second. Very thin, delicate individuals and young women receive a little less. Children between 8 and 15 get a quarter to half the adult dose. The inoculation of the mixed vaccine is followed by a local and general reaction which, as a rule, is not distinctly severer than after the inoculation of simple typhoid vaccine. Three or four hours after inoculation the region on the arm where the injection has been made becomes painful and red, and fever may supervene, which does not last longer, as a rule, than twenty-four to thirty-six hours, and does not in most cases incapacitate one for work.

As I do not believe that the immunization given by bacterial inoculation lasts in man very long, I generally advise people to be vaccinated once every two years, or even once a year.

Innocuity of the Mixed Typhoid-Paratyphoid Vaccine.

The mixed vaccine, either the dead one or the attenuated live one, is innocuous, as proved by several thousand inoculations done to date in Ceylon. Professor Browning, the Director of the Ceylon Government Chemical Institute, has to date received 35 inoculations of mixed live vaccine at one or two weeks' intervals, in addition to 29 inoculations of simple typhoid live vaccine. He has always remained in very good health.

Remarks on the Immunization Obtained in Man by the Mixed Vaccine.

Lack of time prevented my studying the amount of all protective substances produced in inoculated individuals; the investigation, therefore, has been limited to studying comparatively the amount of agglutinins produced in some individuals inoculated with mixed and simple vaccines.

Two natives, D. and F., were inoculated with mixed (dead) vaccine, 0.6 c.cm. the first time; 1.2 c.cm. after a week.

One native, P., was inoculated with simple typhoid vaccine (dead), 0.6 c.cm. the first time; 1.2 c.cm. after a week.

One native, S., was inoculated with simple paratyphoid A vaccine (dead), 0.6 c.cm. the first time; 1.2 c.cm. after a week.

One native, A., was inoculated with simple paratyphoid B vaccine (dead), 0.6 c.cm. the first time; 1.2 c.cm. after a week.

Two natives, A. E. de S. and D. G., were inoculated with 0.6 c.cm. mixed *live* (attenuated) vaccine, and with 1.2 c.cm. after a week.

Initials.	Vaccine.		Limits of Agglutination. Weeks after First Agglutination. 1	2	3	4	5	6	7	8	9	11	13	15
D.	Mixed, dead	*B. typhosus*	0	1/400	1/200	1/200	1/300	1/80	1/80	1/80	1/60	1/40	1/20	1/20
		B. paratyphosus A	0	1/60	1/60	1/60	1/100	1/60	1/80	1/60	1/60	1/60	1/20	1/20
		B paratyphosus B	0	1/20	1/40	1/20	1/60	1/20	1/20	1/20	1/20	1/20	1/20	1/20
F.	Mixed, dead	*B. typhosus*	0	1/300	1/200	1/200	1/300	1/300	1/100	1/80	1/80	1/40	1/20	1/20
		B. paratyphosus A	0	1/60	1/60	1/40	1/60	1/80	1/80	1/80	1/80	1/40	1/20	1/20
		B. paratyphosus B	0	1/40	1/60	1/60	1/60	1/80	1/40	1/40	1/40	1/20	1/20	1/40
P.	Typhoid, dead ...	*B. typhosus*	1/20	1/500	1/500	1/200	1/300	1/150	1/150	1/150	1/150	1/60	1/20	0
		B. paratyphosus A	0	0	0	0	0	0	0	0	0	0	0	0
		B. paratyphosus B	0	0	0	0	0	0	0	0	0	0	0	0
S.	Paratyphoid A, dead	*B. typhosus*	0	0	0	0	0	0	0	0	0	0	0	0
		B. paratyphosus A	1/20	1/80	1/20	1/40	1/60	1/80	1/60	1/60	1/40	1/40	1/20	0
		B. paratyphosus B	0	0	0	0	0	0	0	0	0	0	0	0
A.	Paratyphoid B, dead	*B. typhosus*	0	0	0	0	0	0	0	0	0	0	0	0
		B. paratyphosus A	0	0	0	0	0	0	0	0	0	0	0	0
		B. paratyphosus B	0	1/80	1/60	1/60	1/20	1/60	1/20	1/20	1/20	1/20	0	1/20
A. E. de S.	Mixed, live	*B. typhosus*	1/20	1/300	1/500	1/200	1/200	1/100	1/100	1/80	1/60	1/20	1/20	0
		B. paratyphosus A	0	1/40	1/40	1/20	1/40	1/20	1/20	1/20	1/20	1/20	0	0
		B. paratyphosus B	0	1/40	1/40	1/20	1/40	1/20	0	0	0	0	0	0
D. G. ...	Mixed, live	*B. typhosus*	0	1/500	1/300	1/200	1/200	1/100	—	—	—	—	1/60	1/20
		B. paratyphosus A	0	1/60	1/40	1/40	1/40	1/40	—	—	—	—	1/40	1/20
		B. paratyphosus B	0	1/20	1/60	1/60	1/60	1/20	—	—	—	—	1/40	1/20
I.	Typhoid, live	*B. typhosus*	0	1/400	1/300	1/300	1/300	1/300	1/300	1/200	1/200	1/200	1/100	1/80
		B. paratyphosus A	0	0	0	0	0	0	0	0	0	0	0	0
		B. paratyphosus B	0	0	0	0	0	0	0	0	0	0	0	0
W.	Paratyphoid A live	*B. typhosus*	0	0	0	0	0	0	0	0	0	0	0	0
		B. paratyphosus A	0	1/100	1/80	1/60	1/60	1/80	1/80	1/60	1/60	1/60	1/60	1/60
		B. paratyphosus B	0	0	0	0	0	0	0	0	0	0	0	0
K.	Paratyphoid B, live	*B. typhosus*	0	0	0	0	0	0	0	0	0	0	0	—
		B. paratyphosus A	0	0	0	0	0	0	0	0	0	0	0	—
		B. paratyphosus B	0	1/20	1/80	1/80	1/60	1/20	1/20	1/20	0	0	0	—

One native, I., was inoculated with 0.6 c.cm. live (attenuated) typhoid vaccine, and with 1.2 c.cm. after a week.

One native, K., was inoculated with 0.6 c.cm. live (attenuated) paratyphoid B vaccine, and with 1.2 c.cm. after a week.

All the inoculated persons were healthy young natives who volunteered for the experiment. They were inoculated on the same days, the first inoculation taking place on June 14th, 1913, and the second on June 21st. The blood of all the inoculated persons was investigated for the presence of agglutinins regularly once a week, and the results are collected in the accompanying table, for the compilation of which I am indebted to Mr. Burgess.

From the table it will be seen that the agglutinins seldom appear before the seventh day, and that individuals inoculated with a mixed typhoid+paratyphoid A +paratyphoid B vaccine produced agglutinins for all three germs, and that on the average the amount of agglutinins produced for each germ was not much smaller than in individuals inoculated with one germ only, although the latter had a much larger dose of the germ. As regards the length of time during which the agglutinins were present in the inoculated individuals, the results did not differ much; if anything, they were rather in favour of the mixed vaccines. Although, of course, one cannot gauge the actual immunization obtained by simply studying the agglutination, there can be no doubt that to a certain extent agglutination is a rough index for immunization.

It seems to me that these results are decidedly in favour of the advisability of using a mixed typhoid+ paratyphoid A+paratyphoid B vaccine in countries where all three diseases are met with.

Conclusions.

1. The use of the mixed typhoid + paratyphoid A + paratyphoid B vaccine, either the dead or the live (attenuated) one, is harmless. As there is such a general objection to the use of live vaccines, I now recommend for routine use the mixed dead vaccine, which consists of an emulsion of typhoid and paratyphoid A and B bacilli, killed by heat (53° C.) and standardized, so that 1 c.cm. contains approximately 500 million typhoid bacilli and 250 million each of paratyphoid A and B.

2. The inoculation of such vaccine to human beings in the doses mentioned in this paper—namely, 0.6 c.cm., or about 10 minims, the first time, and 1.2 c.cm., or about 20 minims, the second—induces a production of agglutinins for all three germs: *B. typhosus*, *B. paratyphosus* A, and *B. paratyphosus* B. The amount of agglutinins elaborated for each germ seems to be practically the same as in individuals respectively inoculated with typhoid vaccine only, paratyphoid B vaccine only, paratyphoid A vaccine only.

3. In countries where, besides typhoid, there occur paratyphoid A and paratyphoid B, a mixed vaccine should, in my opinion, be used instead of the simple typhoid vaccine. This has been done in Ceylon for the last five years with good results.

I desire to express my indebtedness to Mr. Burgess, Assistant Bacteriologist, for the very valuable assistance rendered.

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TYPHOID CHOLECYSTITIS.

BY

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It has been known for a long time that the gall bladder is a common focus of infection in so-called typhoid carriers, and the presence of the *B. typhosus* has been demonstrated in this viscus seventeen years after exposure to typhoid infection. It has also been shown that the *B. typhosus* is found in the gall bladder in many cases of gall stone. In a large proportion of cases in which death has occurred from typhoid fever the organism has been found in bile taken from the gall bladder. During epidemics of typhoid fever, so-called "relapses," with abdominal symptoms and prolonged illness, have been shown to be due to infection of the gall bladder by this organism. Even in patients who are not known to be suffering from typhoid but are under observation for some other ailment, the correct diagnosis may only be made by the discovery of a positive Widal's reaction. The symptoms do not always refer to the gall bladder, but careful examination will not often

fail to discover cholecystitis. The chief symptoms are a feeling of malaise and sickness, with a slight evening rise of temperature (99.5° to 101°), and occasional attacks of pain accompanied by rigidity of the abdominal muscles, not always localized to any special area in the abdomen. These attacks, if severe, recur with regularity every third or fourth day, are accompanied by vomiting and rise in temperature, and are followed as the temperature subsides by heavy night sweats. If during the attack or after the acute pain has passed away muscular rigidity is not pronounced, the gall bladder, sensitive to touch and more or less distended, can be felt. During the late South African war I saw many cases of obscure abdominal disease in men who had been exposed, as most of us were, to typhoid infection, in whom there was no suspicion of typhoid, but who presented symptoms such as these, and whose cases were diagnosed as appendicitis, renal calculus, gall stones, perforation of the intestine, etc. The following is an example:

CASE I.

During the height of the enteric epidemic among the troops in and around Bloemfontein an officer, aged 36, came under my care suffering from dysentery. He recovered slowly from this, and at the end of six weeks returned to duty, but never regained his full vigour and health. He again came under my care six months later, complaining of recurrent attacks of severe pain in the right hypochondrium. These came on every third or fourth day, were ushered in by a rigor and sickness, and the temperature rose to 102° to 103°. There was never jaundice. During each attack the gall bladder was very tender and could be distinctly felt. As the attack subsided the gall bladder became less evident, and profuse night sweats occurred. The blood gave a positive Widal's reaction. Under treatment the attacks of pain became less frequent and less severe, and after an illness of three months the patient was invalided home. His subsequent history is interesting. For two years he had attacks of a similar nature, but recurring at longer intervals and not so severe, but it was not until four years had elapsed that examination of the blood proved negative and that he became entirely free from his old symptoms.

I have recently seen two cases of a similar nature. They were of a less severe type, and occurred in patients one of whom was convalescing from typhoid fever, whilst the other, although exposed to infection, had shown no symptoms of the disease.

CASE II.

A. B., aged 19, seen with Dr. Muir, of Horden, was recovering from a mild attack of typhoid fever, but at the end of six weeks was still complaining of great weakness, night sweats, want of appetite, and the night temperature was about 100.5°. Nothing abnormal could be detected in the chest, the bowels were regular, and the urine healthy. On palpating the abdomen, as soon as my hand was passed into the right hypochondrium he winced and complained of tenderness. The fundus of the gall bladder could be felt and was sensitive to touch. A diagnosis of typhoid cholecystitis was made, and the treatment suggested was large quantities of liquid and 15 grain doses of sodium salicylate every four hours. The patient rapidly recovered and was able to return to work in the pit at the end of six weeks. He has remained well since.

CASE III.

This patient, seen in consultation on January 12th, 1912, was a woman aged 26, who had been confined six weeks previously of her second child. Labour was easy, but at the end of six weeks she was still confined to bed with malaise, night sweats, and occasional twinges of pain in "the pit of the stomach." The evening temperature varied between 99° and 100°. Three months previously she had been nursing a relative suffering from typhoid fever. Examination of the chest revealed nothing abnormal; the abdomen was flaccid and readily palpable until my hand was passed into the right hypochondrium, when on deep pressure she winced and exclaimed, "That's it." The fundus of the gall bladder could easily be felt, and this was the tender spot. Examination of the blood showed a positive Widal's reaction. The treatment adopted was similar to that in the previous case, and under it she rapidly improved till, at the end of a month, she was quite recovered, and has since continued to be in good health.

The next case I have to record is even more interesting. In it no history of exposure to typhoid infection could be elicited, but the symptoms were more severe and localized to the abdomen.

CASE IV.

E. G., aged 20, was suddenly seized while in bed on October 28th, 1911, with very severe pain in the right side. Except for occasional headaches, she had been in her usual health prior to this date. She vomited, but this brought no relief. A doctor diagnosed appendicitis and sent her into Monkwearmouth Hospital. The attack gradually passed off, but returned with similar symptoms, and as severely, in a few days. The temperature was above normal after each attack. During the paroxysms of pain vomiting was frequent, and the whole abdomen was rigid and tender. On November 9th Dr. Bruce found a positive Widal's reaction present, and sent her as a case of typhoid fever to the Borough Sanatorium next day. On admission the temperature was 98.6° F., and the pulse 98. On the evening of November 11th she was again seized with pain, and the temperature rose to 99.6°, and the pulse was 90. On November 14th a more severe attack occurred; she vomited profusely, and the abdomen was then very tender and rigid all over; the temperature was 100.6°, and the pulse 120. This attack lasted for two days; the pain then gradually subsided, the symptoms disappeared, and she was able to take a little nourishment. On the morning of November 18th another attack came on, the most severe she had had, and Dr. Renney asked me to see her. I found her in great pain, vomiting everything taken, temperature 99.4° F., pulse 116. Her abdomen was so tender and hard that nothing could be felt, but she had not the very ill appearance of a case of peritonitis due to perforation. She was removed the same day to the Royal Infirmary, and after poulticing the abdomen and administering hot saline enemata the pain gradually subsided, and on November 19th she was able to retain a little liquid nourishment. At 4 a.m. on November 21st I was sent for to operate. She was vomiting everything, the temperature was 101.4° F., the pulse 120, and the abdomen again rigid. Next day she had again recovered, and as the abdominal muscles were now flaccid my first opportunity of examining her satisfactorily came. As soon as her right side was palpated the muscles became rigid, but on deep pressure the fundus of the gall bladder could be felt very tender and distended. After this attack she was slightly jaundiced and bile appeared in the urine. She was treated with an effervescing mixture containing sodium salicylate. A much slighter attack came on on the evening of November 24th, sickness returned, the temperature was 99° F., and the pulse 120, but the symptoms rapidly passed off, and no further attack occurred. She was discharged from the infirmary on December 11th, and her doctor informs me she has since remained quite well.

These cases are of interest because I hope they will draw attention to a source of infection and a course of illness not generally recognized.

It is now generally believed that the cause of gall stones is an infective inflammation of the mucous lining of the gall bladder with the production of cholesterin and that without a previous cholecystitis no cholelithiasis occurs. Also that organisms frequently form the nucleus of gall stones and when the inflammation of the gall bladder has subsided, the gall stones may remain quiescent unless some fresh infection occurs which lights up inflammation again. A tender and sensitive condition of the mucosa results and this causes expulsive efforts on the part of the muscular coats with painful spasms.

It is not so generally known that inflammation of the gall bladder without stones may produce the same symptoms and signs. It is important to bear in mind, as Case IV proves, that there may be no history of typhoid fever, no record of any exposure to infection, and yet typhoid cholecystitis may be the cause of a serious illness. It is also important to remember that the illness may be not only a source of danger to the patient, but that as typhoid carriers these people may be a menace to the community for several years. Unfortunately in many of them a definite clinical diagnosis cannot be arrived at, because Widal's reaction may be negative, and the cause of the cholecystitis can only be cleared up by operation and subsequent bacteriological examination. The condition has been diagnosed as gall stones, but on opening the gall bladder none are found, only an inflamed mucosa. Simple drainage (cholecystostomy) does not always cure; after it the symptoms subside for a time, but the drainage wound closes, attacks recur, and the only effectual cure may be removal of the gall bladder.

Puncture of the distended gall bladder with an exploring needle in these cases is a risky procedure. After the needle has been withdrawn leakage from the viscus may occur, and I can recall an instance of a patient who nearly died in my consulting-room of shock from this cause.

Medical treatment is simple, efficacious, and as a rule I have found it to act speedily. Large doses of sodium salicylate (15 to 30 grains) in an effervescing mixture until its physiological effect is produced, and abundant drinks, quickly cause disappearance of the symptoms, and recurrence is rare. The drug should be continued in smaller doses for a month after convalescence seems to be assured.

THE Congress of the United States has under consideration a bill providing for the allocation of a sum of £60,000 for the building of a Government hospital at Spartanburg for the treatment of pellagra.

A CASE OF HYSTERICAL MONOPLEGIA FOLLOWING ELECTRIC SHOCK.*

By PURVES STEWART, M.D., F.R.C.P.,
PHYSICIAN TO WESTMINSTER HOSPITAL.

A CARPENTER, aged 21, was screwing on an electric-light bulb when an explosion occurred, apparently owing to short-circuiting of the current, and he was flung back across the workshop. The glass globe burst and cut the palm of his hand, which, however, did not bleed. He states that the skin of the hand became curiously dry, and that the fingers and thumb remained stiffly contracted in the posture of grasping the glass bulb. He did not become unconscious. In the course of a week or so this posture of the hand gradually changed, and the fingers, wrist, and elbow became rigidly flexed and immobile. At first there was no loss of sensation. Jerkings then supervened in the paralysed limb. Seven weeks after the accident the contractured limb was straightened under an anaesthetic, and was put up in splints and plaster-of-Paris. The jerkings ceased, but the fingers gradually became flexed again, in spite of the splints. A second anaesthetic was given and the limb was manipulated, after which it became flaccid at all joints, with loss of sensation as high as the elbow, observed by the patient himself. This loss of sensation subsequently advanced as high as the shoulder.

Eight months after the accident the patient had two attacks of "electric" jerkings of all his limbs, except the left arm, with alleged unconsciousness, lasting three or four hours; this was followed by difficulty in walking, lasting about two weeks, during which he shuffled and required the support of a stick.

On physical examination about ten months after the accident he was seen to be a tall muscular young man, in whom the left upper limb dangled helpless and flail-like by his side. There was a total cutaneous anaesthesia and analgesia of the limb, up to the level of the shoulder-joint, bounded by a sharp "amputation-line." Joint-sense was lost in all the joints of the left upper limb. There was no voluntary movement in any muscle of the fingers, wrist, elbow, or shoulder, nor in the trapezius or scapular muscles. The left pectoral occasionally contracted synergically with the right. The sterno-mastoids contracted normally and equally. The latissimus dorsi, although totally paralysed to voluntary movement, contracted briskly on coughing. Pins could be passed through the anaesthetic skin without producing bleeding. All the muscles of the affected limb reacted normally, both to faradism and galvanism. The supinator-jerks, knee jerks, and ankle-jerks were normal and equal. The optic discs, pupils, and cranial nerves were normal. Apart from the left upper limb, the sensory and motor functions were everywhere normal. During sleep the limb remained flaccid, and the patient was not awakened by stimuli applied to it.

The case is a typical example of hysterical paralysis in which the exciting psychical trauma was an electric shock. There is no evidence of a sexual element in the case, although a Freudian may urge that psycho-analysis has not yet been tried. Another point of interest is that the anaesthesia was not suggested by the various physicians whom the patient consulted, but was observed by the patient himself. Since admission to hospital a month ago, he has been treated by suggestion, but without result, so far. Hypnotism has not yet been tried.

*Read before the Section of Neurology of the Royal Society of Medicine.

THE honour of Senator of the Kingdom of Italy has been conferred on Professors Ettore Marchiafava, director of the Anatomical Institute of the University of Rome; Carlo Forlanini, head of the medical clinic of the University of Pavia; and Carlo Gatti, a distinguished surgeon of Turin.

AN institute of hydrology has been attached to the Collège de France. It comprises four laboratories—namely, Physics, of which the director is Professor d'Arsonval; hygiene, of which M. Bordas is the head; analytical chemistry, under the direction of M. Urbain, and physical chemistry, under the direction of M. Monreu.

A CASE OF GASTRIC TETANY: RECOVERY.

By W. T. MILLS, L.R.C.P. AND S.I.,
RHODE, KING'S COUNTY.

THE article on gastric tetany in the adult by Dr. W. R. Irwin, in the JOURNAL of November 8th, has induced me to publish a hitherto unreported case of recovery from this interesting and very fatal disease.

Mrs. M., aged 51, suffered from stomach trouble for eight or ten years before this attack, her symptoms being loss of appetite, irregular vomiting, pain, and constipation; and I learnt that she had a severe attack of haematemesis two years previously.

On March 11th, 1905, about midnight, she experienced tingling (pins and needles) in the hands and arms, the feet and legs, and in the face; after that the characteristic spasms of tetany came on in the same parts. I saw her on the morning of March 12th, when tetany was well marked: the pulse was very feeble, there was profound collapse, and she exhibited the utmost terror. The stomach was greatly dilated, in fact, it filled the whole abdominal cavity, and was full of liquid—splashing could be heard at a distance from the bedside. I gave her a hypodermic of morphine ¼ grain, pilocarpine ⅓ grain immediately, and within half an hour she was much better and easier. I ordered a mixture of cascara, concentrated solution of senna, and tincture of jalap every three hours until the bowels were freely moved. I forbade anything to be given by the mouth, either liquid or solid, until the bowels had acted well, and the liquid had left her stomach; after that I ordered meat juice alone.

She did well, and on March 18th was up and downstairs. On March 20th she had not vomited since her attack; but the skin on the forehead and chest and over the flexor aspect of the elbows was copper or deep golden colour (the sclerotics were quite clear). The discoloration of skin extended and persisted for about fourteen months. The stomach remained greatly dilated, and I formed the opinion that the only cure for her was gastro-enterostomy. I urged operation very strongly, and pointed out to her all the advantages of surgical interference; but she refused, and said she would not be able to stand any operation.

At this time she was a perfect skeleton, owing to starvation and malnutrition, with copper-coloured skin, and with the most ghastly appearance imaginable. However, she improved on treatment; her diet consisted of meat juice and a poached egg, anything else caused vomiting.

She went through a period of great suffering until the following year, 1906, when she became amenable to operation, and gastro-jejunostomy was performed, and after that pylorectomy on account of a mass around the pylorus, which proved to be inflammatory and not malignant. After the operation she improved every day, gained in weight and strength, partook of all kinds of food without distress or discomfort, and lost the discoloration of the skin, and was able to attend to all her household duties, which were very laborious. She passed through a severe attack of pneumonia in February, 1912, and is now better and stronger than she has been during the past twenty or twenty-five years.

The treatment of tetany, in my opinion, is—first, to cure spasms and so relieve pain, collapse, and fear; secondly, to empty the stomach. For the former one hypodermic of morphine and pilocarpine proved most successful, and for the latter I relied on a mixture of purgatives, with absolute rest to the stomach.

The plan of passing a tube for the relief of a markedly dilated and overloaded stomach I consider a critical procedure, when we take into account the profound collapse and abject terror of the patient; but the treatment of pouring pint after pint of mustard and water, or any other liquid into a stomach under these conditions with the hope that this overdistended, weak, and poisoned viscus will empty itself by such means, to me appears sheer madness, for it only increases the trouble, adds fuel to the fire, and kills the patient.

A CASE OF THE SO-CALLED RAT-BITE DISEASE.

BY
MITCHELL INNES DICK, M.B., CH.B.,
AND
W. J. RUTHERFURD, M.D.

FEW cases have been recorded in Britain of the condition known as rat-bite disease, and only 49 cases in Japan in the last thirteen years. If it is possible, as the following would seem to suggest, for the quite definite condition going by that name to be acquired apart from any actual bite by a rat, it seems to us that it might be more advisable even to call the condition by its somewhat barbarously-sounding Japanese name of

Sohodu, rather than to apply to it a name carrying a suggestion as to etiology which is not necessarily correct. Not only so, but the name "rat-bite disease" is not sufficiently exclusive: even the synonym "rat-bite fever" would be preferable so far as that goes. Other diseases can be conveyed by rat-bites, notably the septic conditions, and the tuberculides. Last year (1912) one of us had under treatment a boy who had an ulcerating cutaneous tuberculosis on the back of one of the fingers of his left hand. One day, some three months earlier in the year, he had been engaged with a number of companions in ratting along the bank of a small stream that received the sewage from several groups of country cottages. They disturbed a rat, and stoned it till it seemed to be dead. When picked up, however, it had sufficient vitality left to turn upon the hand of the boy who had seized it, inflicting a not very severe skin wound with its teeth. The wound healed slowly, and was not thought important, but after a little it broke down again, spreading superficially and ulcerating through the whole thickness of the cutis vera as a lupus exedens.

R. P., aged 33 years, after a day's work during which he had no feeling of being in other than his usual health, was seized about 7 p.m. with slight pain in the splenic region. Shortly thereafter he had a rigor, and about three hours later sweated profusely. This occurred during the first week of last July.

After eight days of fair health—that is, nine days after the first—he had a similar attack, and seven days afterwards, on July 20th, still another, during which he was seen by one of us. His clothing was then wringing with sweat, his tongue was furred, the pulse was 120, and the temperature 100.4° F., though as he had by this time reached the sweating stage he was probably defervescing, and it had doubtless been much higher. The next day he seemed quite well again, except that the tongue was still furred.

Five days later he again had an attack of the same sort, followed this time by a fairly severe urticarial eruption; a further attack occurred on July 26th, and another—the sixth—on August 2nd. Subsequently he had a few slight rigors and sweats, having nothing like the severity of the major attacks, and each one less than the one before; these occurred up to September 30th, on which date, however, he was looking very well and fit. Between these seizures he appeared in good health, and examination only revealed the presence of a very slight haemic murmur over the cardiac area. The urine contained no abnormal constituents.

It is interesting to note (although such a test is open to the possibility of great error) that when in our search for a diagnosis for his condition we showed him Howlett and Rodman's account* of "a case of rat-bite disease," the patient, who is by no means an unintelligent man, at once recognized the condition there described as being similar to his own, except in so far as he had no recollection of having received a bite from any of the rodents in his rat-infested house, which is by the side of a sluggish stream and contains "any amount" of both rats and mice.

So far as treatment is concerned, he received quinine and latterly acetyl-salicylic acid, neither of which drugs probably exerted much effect in controlling the course of the disease, which lasted something over ten weeks and seemed to die away gradually of itself rather than to succumb to the treatment directed against it.

Here, then, is a case recognized by us as "rat-bite disease," recognized as such by the patient also, occurring in association with rats, but not in association with rat-bites. Is the diagnosis wrong, or merely the nomenclature?

* *Practitioner*, July, 1913, pp. 86-87. The case there reported is said to be the sixth to have been described in Britain. A possible seventh is recorded by Nicholson in the *Practitioner* for September, 1913, pp. 429-30.

UNDER the will of the late Mr. John Hogg the Royal Victoria Hospital, Belfast, receives a bequest of £5,000.

AT Bow Street Police Court on December 11th four summonses were heard against the Savoy Turkish Baths, Ltd., Jermyn Street, charging them with having applied a false trade description to goods—to wit, Droitwich Brine Baths. After legal arguments, and after expert evidence had been heard, the magistrate committed the defendants, who reserved their defence, for trial at the sessions, and counsel for the plaintiffs, the Corbett Estate Trustees, said that it was proposed to make an application to the King's Bench.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

DYSTOCIA DUE TO A FLEXED EVERTED ARM.

IN a young primipara whose pelvis I knew to be normal, as I had measured it previously, the first stage of labour was quite normal, and when the os was fully dilated I ruptured the membranes, the head descending in the L.O.A. position. The patient was put under chloroform, and when the head was expected to have reached the perineum I made a vaginal examination. To my surprise, I found the head in the same position as it had been an hour previously. Forceps were applied, but no real advance was made; the head came down about 1½ in., but when the pain was over and I stopped pulling, the head went back again exactly as if there was a spring pulling it. It was evident that there was something obstructing the shoulders from entering the pelvis.

When the uterus was relaxed I manipulated the forceps so that the child was alternately slightly pushed up and down, and on continuing this for some time the obstruction was overcome, and finally I was able, with the help of the uterine contractions, to bring the head into the world. I then took hold of it with my hand and pulled, but could not get the shoulders out. Inserting a finger I found the left hand in close proximity to the left shoulder. I then took hold of the head in both hands and rotated so as to bring the arm across the front of the body. This being successfully accomplished there was no further difficulty.

In the normal condition, of course, the child descends with its arms folded on the chest, the forearm being flexed on the inverted arm; in this case the left forearm was flexed, but on the everted arm, so that the hand was caught up against the shoulder, and consequently the shoulders did not enter the pelvic brim. The exact course of events following application of forceps is interesting. Two explanations of the difficulty appear feasible: The hand being stopped by the pelvic brim, on pulling with forceps (1) either the shoulders actually descended a little and the arm became less flexed, and then when the pull was taken off the arm reverted to the flexed position, thus causing a kind of spring, or (2) the hand must have remained in its flexed state, and that shoulder not being able to move, the right shoulder alone came down when the pull was made, and on cessation of the pull went back taking the head with it. In either case my manipulation must have caused the right shoulder to have come down first, so that more room was made posteriorly and the left shoulder was enabled to come into the pelvis with the hand at its side.

The child was quite healthy and no injury was done to the arm. I think there I was fortunate, as there must be great risk of fracture in such a case. When the arm causes difficulty during labour it is usually due to its becoming dorsally displaced. In this case it is easy to see that if the arm had been abducted the hand would have been brought behind the head, which is one of the varieties of dorsal displacement.

T. GORDON STARKEY-SMITH, M.D.Lond.,
Late Obstetric House-Physician, St. Thomas's Hospital.
Hungerford.

THE TREATMENT OF SYPHILIS.

THE following case illustrates the power of salvarsan and mercury to abort syphilis, even when given, as in this case, early in the secondary stage.

Mr. X., aged 30, came to me on February 2nd, 1913, complaining of a pimple on the fraenum praeputii of eight days' duration. A chancre was found on the fraenum; it was not indurated, but appeared to be syphilitic and not a soft chancre. I sent him to have his Wassermann reaction taken, and ordered calomel powder to be applied locally. The Wassermann reaction was negative. I saw him again on February 25th, and, though the condition was the same, I thought there was a little induration. I saw him again on March 20th, when he was suffering from a typical specific throat, and a very faint roseolous rash on the chest; the chancre was still present, much smaller but very indurated, and there were hard, shotty glands in the groin. On March 21st he was

given an intravenous injection of salvarsan, 0.55 gram; on March 29th he was given an intramuscular injection of 8 cg. of Vigier's grey oil, a second injection of salvarsan, 0.55 gram, was given on April 20th, and then a weekly injection of grey oil for seven weeks.

He was then told to report himself in a month, but I did not see him till August 13th, when he stated that he had been perfectly well, and that since he had had the salvarsan he had felt better than he had done for months. The Wassermann reaction was negative, and I advised him to do nothing further for three months. He came to see me again on September 6th with symptoms of gonorrhoea of four days' duration. I treated him with irrigations, etc., and on September 20th noticed a hard, indurated patch ½ in. down the urethra; this increased in size, and I diagnosed a chancre and sent him on September 30th to Dr. Eckenstein to see if he could find *Spirochaeta pallida* in the chancre. None were found, and only a few gonococci were demonstrated from the blood taken from the chancre. On October 10th he complained of sore throat, but there were no specific symptoms; he had a chronic granular pharyngitis and indurated tonsils. As the throat did not improve under local treatment, I advised him to see Dr. Andrew Wylie, who said there was a patch, probably specific, on the lingual tonsil. His blood was re-examined on October 24th, when the Wassermann reaction was positive. He has since been under treatment with salvarsan and mercury, and all the symptoms have cleared up.

Remarks.

I think there can be no doubt that the patient was absolutely cured by the first course of treatment and contracted a second specific infection. I have now treated several hundred cases of syphilis by the combined method of two injections of salvarsan and eight to ten injections of Vigier's grey oil. Nearly all the cases treated in the primary and early secondary stages have been cured, by which I mean that the Wassermann reaction was negative and remained so, and the patients have had no further symptoms, though it is nearly three years since the first cases were so treated.

I desire to thank Dr. Eckenstein for doing the Wassermann tests for me in connexion with this case.

Dudley Kennard, F.R.C.S.Ed.,
Honorary Surgeon, Westminster General Dispensary.

Reports
on
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

JAMSETJEE JEEJEEBHOY HOSPITAL, BOMBAY.

TEN CONSECUTIVE CASES OF INTESTINAL OBSTRUCTION.*

(By Major T. S. Nevis, F.R.C.S., I.M.S.)

The following sequence of cases of intestinal obstruction under my care are interesting, as they illustrate a number of conditions which give rise to obstruction:

Case I.

S. G., Hindu, male, aged 14, admitted to the medical wards December 25th, 1911, transferred to the surgical side January 4th, 1912, and operated on January 5th, 1912. During the five months prior to the admission he had suffered from recurring attacks of pain accompanied by vomiting and passage of loose stools with blood and mucus. He had observed a tumour in his abdomen which moved its position from time to time. The patient was very emaciated and weak. A sausage-shaped tumour 6 or 7 in. in length could be felt to the left of the umbilicus obliquely across the abdomen. The tumour was dull on percussion and could be moved laterally, but not from above downwards. Marked peristaltic movements were visible and the abdominal wall showed signs of old and recent branding. He complained of great pain while lying down, which was relieved on sitting up. An intussusception was felt per anum. On January 5th the abdomen was opened to the left of the umbilicus and the intussusception found and partially reduced by manipulation, but the patient's condition was so bad that the operation could not be continued, so a Paul's tube was introduced into the gut and an artificial anus made. The after-treatment consisted of continuous saline rectal irrigation with 10 minims of adrenalin solution added to the pint of the saline. The patient recovered from the operation, but his general condition did not improve, though he passed motions freely through the artificial anus. He suffered from attacks of severe abdominal pain, for which morphine was given hypodermically. On February 7th, 1912, stovaine was injected by lumbar puncture and an incision was made through the right rectus, and the intussuscepted part removed by Jessett's method, that is, the intussusceptum was drawn out and removed through a longitudinal incision in the intussuscipiens, the cut edges of the entering and returning layers united by continuous suture and replaced in the lumen of the gut, the longitudinal incision was then closed and the abdominal wall sutured. The patient's condition during the operation was so serious that intravenous transfusion with saline solution plus adrenalin (10 minims) was necessary. The wound became infected from the colostomy, and superficial suppuration resulted, and though no peritoneal infection followed and motions were passed per anum, he gradually sank and died on February 15th.

Case II.

G. R., Mohammedan, male, aged 28 years, was operated on for suppurative appendicitis on January 5th, 1912, when the appendix, which was surrounded by dense adhesions and a small quantity of pus, was removed. Discharged cured January 19th.

The patient was readmitted on January 20th, 1912, with abdominal pain and distension, vomiting, and constipation. The abdomen was opened and numerous adhesions were divided, and the patient recovered and remained well till January 30th, 1912, when he was again seized with acute abdominal pain accompanied by distension. Unfortunately I was not sent for but an injection of morphine given, after which he slept for more than twelve hours. I saw him eighteen hours after the onset of pain and operated immediately. On opening the abdomen some bloody fluid escaped; a volvulus of the small intestine was found, and 9 ft. of gangrenous gut having been resected, continuity was restored by lateral anastomosis. The patient died eight hours after operation.

Case III.

E. F., native Christian, male, aged 25 years, was admitted January 5th, 1912, with chronic intestinal obstruction due to a large ileo-caecal intussusception of long standing. The patient being in a very bad condition no attempt was made to reduce the intussusception, but short circuit was performed by lateral anastomosis between the ileum and the colon. The patient never rallied, and died the following morning.

Case IV.

A., a female Mohammedan, aged 32 years, admitted for chronic intestinal obstruction, due to tuberculous adhesions and bands; was operated on February 4th, 1912. Though relieved of her symptoms and passing motions up to the day of her death, she gradually sank and died, February 9th, 1912.

Case V.

A. B. P., a female Parsi, aged 52 years, admitted April 13th, 1912, for abdominal distension of fifteen days' duration and pain which was intensified on passage of motions, flatus, or urine. For the last five years she had had recurring attacks of colicky pain accompanied by vomiting, and blood and mucus were passed in the stools. She was in great pain and her abdomen was much distended. Ballooning of the rectum was present, but no growth could be felt. The abdomen was opened to the right of the middle line, and nodules of cancer were detected in the peritoneum, and a growth was found in the rectum adherent to the uterine fundus. The wound was closed and inguinal colostomy performed. The patient's condition gradually improved and she left the hospital May 2nd, 1912, feeling well and passing motions freely through the artificial anus.

Case VI.

M. S. A., Mohammedan, male, aged 25 years, was admitted July 21st, 1912; about two months previous to the onset of the present illness the patient had been stabbed in the abdomen below the left costal margin. The intestines, which protruded, were not wounded, but there was profuse haemorrhage from an artery in the mesentery, which was ligatured, the intestines returned, and the abdominal wall stitched up. As the wound suppurated the patient remained in hospital for five weeks. On readmission his abdomen was greatly distended and painful, and he had not passed a motion for three days. Pulse 120, and respirations 32. An incision was made to the left of the middle line through the rectus sheath. A large number of adhesions and bands were found between the coils of the small intestines, which were all separated, and the raw surfaces smeared with sterile olive oil, nearly half a pint was introduced into the peritoneal cavity. The patient was discharged cured August 10th, 1912.

Case VII.

F. C., European, male, aged 7 years. About two months prior to admission, a lawn-roller had passed over his abdomen. He vomited, showed signs of collapse, and was removed to St. George's Hospital, Bombay, where he remained for a week, and was discharged apparently cured. Two or three days later abdominal pain, accompanied by profuse perspiration and vomiting, recurred, and he was again admitted into St. George's Hospital, where he remained six or seven days. I saw him on July 28th, and recommended operation. He was admitted into the Jamsetjee Jeejeebhoy Hospital, but as there was some

* The cases were reported at a recent meeting of the Bombay Branch of the British Medical Association.

difficulty in obtaining the mother's consent no operation was performed until the night of August 4th, 1912, when he was seized with symptoms of acute intestinal obstruction, pain, vomiting, and distension. Peristaltic movements were visible through the abdominal wall. Pulse 120 and respirations 40. The abdomen was opened to the right of the middle line, and the ileum about 2 ft. from the ileo-caecal valve was found acutely kinked and bound down by a fibrous band to the brim of the pelvis close to the ileo-caecal synchondrosis. After division of the band, as no gas could be forced through the strictured part the gut was opened, and it was found that all the coat of the intestine except the peritoneum had been completely divided and formed a valve which blocked the lumen of the gut. Three inches of intestine were resected and continuity restored by lateral anastomosis. Continuous rectal saline irrigation was given, and the following morning his pulse was 160 and respirations 48, but he gradually improved and was discharged quite well September 15th, 1912.

CASE VIII.

B. A., Hindu, male, aged 27 years, admitted October 7th, 1912, with distension of abdomen, pain and vomiting, said to be of one day's duration. The abdomen was opened through the sheath of the rectus, and a volvulus of the greater part of the small intestine was found. The twist was from left to right, and one turn rectified it. The patient made an uninterrupted recovery and was discharged cured November 1st, 1912.

CASE IX.

L. D., Hindu, male, aged 22 years, gave a history of recurring attacks of abdominal distension, lasting two or three hours and passing off completely, during the two months prior to admission. He had suffered from pain, with exacerbations, vomiting and abdominal distension for two days. Pulse 88 and respirations 28. Expression anxious. No result from enema. The abdomen was opened to the right of the middle line and an intussusception 2 in. long found towards the lower end of the ileum. A round worm formed the apex of the intussusception. Reduction was easily effected, and the round worm dislodged and pushed down the intestine for a distance of 12 to 18 in. and the abdomen closed. The patient made a rapid recovery, and 5 grains of santonin were given on February 25th, 1913, followed by 6 grains on the 26th, 27th and 28th. On March 1st a round worm was passed, and though santonin was continued for some days no more worms were seen, and the patient left hospital quite well on March 14th.

CASE X.

H. B., a female, aged 30 years, was admitted May 8th, 1913, with a history of abdominal trouble of some months' duration, which had become worse during the last four days, constipation being absolute, the abdomen tender and greatly distended. There was much abdominal pain and vomiting. Face sunken. Pulse 140 and respirations 32. The abdomen was opened to the right of the middle line, and the caecum was found adherent to the abdominal wall and thickly studded with tubercles. The intestines were matted together, and there were several loops joined by pseudo-anastomosis; also a strong band passing round the intestine at about the junction of the middle with the lower thirds of the ileum, and completely obstructing it. The band was divided and as many of the pseudo-anastomoses as possible were separated and the raw surfaces inverted by Lembert's suture, and the abdomen closed. Continuous saline irrigation was given. The same evening the temperature was 102°, but pulse 120 and respirations 35. The patient gradually improved, and left hospital on May 21st, cured of all symptoms of obstruction and greatly improved in general health.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BIRMINGHAM BRANCH.

PATHOLOGICAL AND CLINICAL SECTION.

Birmingham, November 28th, 1913.

Dr. C. E. PURSLOW in the Chair.

Horse-shoe Kidney.

MR. LEEDHAM-GREEN described a case of horse-shoe kidney and briefly discussed the frequency with which patients with this condition suffered from some renal disease necessitating operative interference. Personally he had operated on four such cases, twice resecting half the organ for severe pyonephrosis and twice removing calculi from the pelvis. All the cases did well save the last one of nephrolithotomy. The patient in this case was a man aged 47, who for twenty years had suffered from pyuria and colicky pains in the abdomen. Three years ago the pain became so constant that he was unable to work. At no time was any haematuria noticed. An *x*-ray photograph showed numerous large stones in the pelvis of each kidney, the stones lying both lower and more to the median line than ordinarily. The urine, as collected from both ureters, was loaded with pus and deficient in urea. An incision was made in the loin on the right side and the stones cleared from the pelvis on that side. Six days later the patient died of bronchitis and uraemia, and on autopsy a small carcinoma was found growing in the isthmus of the kidneys, with a secondary growth in the heart and brain. The specimen was shown.

Cases and Specimens.

The following were among those shown:—DR. DOUGLAS STANLEY: A case of *Osteomyelitis*. Two sequestra had separated from the right superior maxilla in a child aged 1½ years, making a communication between the mouth and the nasal cavity; there was swelling and oedema of the right cheek, and a slough involving the upper jaw and the inside of the upper lip. MR. MILLS said it was fortunate that an involucrum had formed, and therefore the child's appearance would not be very bad. DR. STANLEY: Specimens from a case of *Pericardial tubercle* which during life simulated an intrathoracic growth. DR. WYNN remarked that the endothelial site suggested some serious infection, possibly abdominal. DR. STANLEY replied that there was nothing abnormal in the abdomen, and no previous history of pericarditis. MR. R. BEATSON HIRD: (1) A man, aged 34, probably the subject of an intracranial growth. He had paralysis of the right fifth cranial nerve both sensory and motor, paralysis of the sixth cranial nerve and the eighth on the same side. There was also paralysis of the soft palate on the right side. There was ulceration of the right cornea. Headache, vomiting, and optic neuritis were all absent, and the patient had no other signs of disease of the nervous system. There were enlarged lymphatic glands in the neck at the angle of the lower jaw on both sides, being more pronounced on the right side where they appeared first. These glands were firm, smooth, somewhat fixed and not tender to touch. There was no nasal disease, and the patient gave a negative Wassermann reaction and von Pirquet test on two separate occasions. The glands had the appearance of being malignant, though no primary source was found. (2) A slide specimen from a *Simple papilloma* removed from the caruncle of the left eye of a young man eight months previously. There had been no recurrence. MR. FRANK BARNES: (1) A man suffering from *Headache* on the right side and occasional twitching feelings in the left arm; there was bulging of the skull over the right Rolandic area, but *x*-ray examination showed no signs of a growth. (2) A specimen removed from the vertex of the skull of a woman aged 44. She had had a growth as long as she could remember, and during the last eighteen months had suffered from severe headache; the tumour was only just raised above the scalp margin. The skull was trephined, and a tumour found in the diploë which was half an inch thick, the outer table being eroded. Bleeding from the veins of the diploë was troublesome and necessitated performing the operation in two stages. On section, the tumour was found to be a spindle-celled growth of a chronic character, showing fibrous tissue network, and including gritty particles calcareous and amorphous, possibly *Myeloid sarcoma* with calcareous degeneration of cells. MR. A. W. NUTHALL: A specimen of *Colloid carcinoma of the breast*, removed from an unmarried woman, aged 31, in 1905. The enlarged axillary glands were found to be epitheliomatous, and the breast was removed. In May, 1913, she returned with a similar condition in the other breast, but only the enlarged glands were removed. The exhibitor sought opinions as to the degree of malignancy, and if there was any possible connexion between the original growth and occurrence eight years later. MR. MILLS: A specimen of an *Adeno-myoma of the round ligament*, from a female patient, aged 44, who had a lump in the left groin for eighteen months. Section of the growth showed *Adeno-fibroma*. There were one or two tubules lined by columnar epithelium amongst the fibro-myomatous tissue, and the growth was very vascular. DR. PURSLOW agreed that the section was similar to that of a tumour of the round ligament.

NORTH OF ENGLAND BRANCH: NEWCASTLE-ON-TYNE DIVISION.

THE second winter scientific meeting of the Newcastle-on-Tyne Division of the British Medical Association was held at the Northumberland County Asylum, Morpeth, on November 28th, 1913.

"*Langer's Lines.*"

Dr. McDOWALL first showed three cases of Langer's lines. He said he first discovered this furrowed condition of the scalp twenty years ago, and then found that Poggi had described it eight years before. It was simply an exaggeration of the normal condition of the scalp. Langer was an anatomist who sixty years ago tried to follow out the direction of the connective tissue fibres in the skin, making use of the fact, already pointed out by Dupuytren, that if the skin is punctured with a round needle not a round hole but a slit resulted; Langer showed that the connective tissue of the skin was arranged in parallelograms, and the suggestion was that in these cases the skin developed abnormally.

Melancholia.

Dr. McDowall then showed and discussed a series of cases of melancholia:

Case I, the wife of a small farmer, had had a good deal of domestic trouble and extra work, and ultimately broke down; she accused herself of having, by neglect, been the cause of the death of a relative. She lost appetite and did not sleep. She had only been in the asylum for one week, but with open-air treatment, without drugs, was recovering.

That, Dr. McDowall said, was the history of many of these cases. Recent observations on the condition of the blood had shown that in cases of melancholia, and in cases of mania also, there was a well marked leucocytosis, and that was really Nature trying to cure the case. Chloral or sulphonal interfered with this leucocytosis. Mild cases of melancholia simply required change of environment and plenty of suitable food and sleep. The best thing to make them sleep was whisky. The bowels must be attended to, for it was extraordinary how many of these cases were poisoned by absorption from a loaded intestinal canal; no progress was made until the bowels were properly cleared out by enemata, then an occasional dose of opening medicine should be given. Probably in three months the woman would be home again. He never liked to see a mental case recover suddenly—say within a week—because in nearly all such cases relapse occurred.

Case II had been admitted on the previous day. She believed that she was followed everywhere by Mr. Lloyd George in a motor car. Opinion was tending to the view that mania and melancholia were the same disease, examples of alcoholism illustrated the probability of that. If alcohol were given to a dozen men, one would be depressed, another hilarious, another turbulent, and so on according to the individual effect. Mania and melancholia were probably due to the same toxic substance. The patient was a domestic servant, aged 35. She had become run down and depressed and went home, and had only been there for a week when she was sent to the asylum. For three days before being admitted she had had the delusion about Mr. Lloyd George. Since the illness started she had been dirty in her habits and clothing. In this case the same treatment would be adopted. She would be put in a bed outdoors, and lie there perhaps a month, and would be given books and illustrated papers, or a stocking to knit. The delusion would gradually disappear as her bodily health was restored. Referring to the theory of the origin of delusions advanced by Freud, who traced them back to sexual events occurring perhaps thirty or fifty years before, Dr. McDowall said that the treatment of delusions by psycho-analysis appeared self-condemned on the face of it. He thought that the use of Freud's methods simply put dirty ideas into people's minds, recalling things they had entirley forgotten. Further, one who practised the method had stated that he had spent 400 hours in investing a case, and it was clearly impossible to give this amount of time to each case; in Dr. McDowall's opinion delusions were not connected with sexual matters at all.

Case III was a woman who was admitted suffering from well-marked melancholia. She had attempted to commit suicide. She remained in the asylum from March to October, made an excellent recovery, and was sent home as very often happened when a woman had been out of her house for a number of months she had not found things at home to her liking; she found the house and children dirty. She worked very hard cleaning the house, staying up at nights to do so, with the result that she had a relapse, never slept for three nights, attempted suicide again, and was brought back. Though a cheerful, excellent woman, if she were lost sight of for five minutes she might not be found alive again.

Of all mental diseases the hereditary factor was, perhaps, commonest in melancholia, which recurred generation after generation, and perhaps affected several in each generation. General practitioners, Dr. McDowall observed, might be placed in a great difficulty in regard to attempts at suicide. Even in a case of mild melancholia the feeling of depression now and then became greatly exaggerated, especially in the morning after disturbed nights. A favourable opportunity sometimes tempted the patient to injure herself when it had never entered the mind before. Patients once they had made up their minds as to the methods to be used in a great number of cases neglected other methods ready to their hands. A great difficulty was to get cases of melancholia efficiently looked after in their homes. The friends could not be made to understand the seriousness and great risks of the disease. Even in the case of rich people treatment at home was not efficient; thus in one case the parents set off part of the house for their son's treatment, never went near him, and had attendants: in spite of that the patient got worse and worse, smashed things, and did everything he should not for three months, till at last he did something that made it necessary to send him to an institution. There he got quite well in about two weeks; he was home in about six weeks, and had remained well ever since. In the Morpeth Asylum the instructions as to suicidal cases were in writing, and were given to every person who had to deal with the patient; each had to give a signed acknowledgement of the receipt of the instructions, and it would be well to follow that rule in private practice; but even definite instructions that a patient was to be under continual supervision were never attended to outside an asylum. Amongst fashionable consultants of London a sea voyage used to be advised, but about two out of every three never reached their destination. They went through the port-hole. Suicidal impulses come with terrible suddenness. A patient, not a bad case, was sent with an attendant to Paris. When they arrived, instead of taking a room low down they were sent up to the third story. As they went up to their rooms this greatly tempted the patient, and in an instant he was over and killed on the spot. As long as the patient was suicidal it was always necessary to be prepared for the worst. Dr. McDowall admitted that it was difficult to make sure that a patient was suicidal, but a depressed man was a potential suicide, and the nurse and people who associated with him got to know his tendencies.

Case IV.—The next case was an example of climacteric melancholia in a single woman, who lived with her brother-in-law; she suffered from loss of sleep, had pains in her head, and was anxious about how she was to live, and thinking of looking for a place. She had had delusions for a month, and believed that a certain policeman followed her. The delusion of being followed was extremely common in melancholia. Such patients were sometimes not only suicidal, but very dangerously homicidal. Many tramps to be seen on country roads were dangerous lunatics; with the delusion of persecution by people who followed them they wandered about, and in the end fell into the hands of the police and were sent to the asylum or to Broadmoor. Many melancholics were extremely homicidal, especially puerperal women; cases occurred of women who had murdered one, two, three, or four children. Such cases were very common, and Dr. McDowall concluded by emphasizing the absolute necessity in any case of melancholia of always providing for the worst so that there might be no reflections.

At the conclusion of the demonstration a cordial vote of thanks was passed to Dr. McDowall, who afterwards entertained the members to tea.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

At a meeting on December 8th, Sir DAVID FERRIER, the President, in the chair, Sir ANTHONY BOWLBY and Mr. D'ARCY POWER showed a specimen of an *Intrathoracic aneurysm*, which had been wired four months before death by means of Colt's apparatus. The patient was a well-to-do woman, aged 52, who had been an athlete, and had contracted syphilis nine years previously. A skiagram had shown a sacculated aneurysm springing from the descending part of the arch of the aorta. At the time of the operation the sac of the aneurysm was found to be thin and to contain no great quantity of clot, as it pulsated equally in every part; 105 in. of dull gilt wire were introduced into the sac, the operation lasting a quarter of an hour. A fortnight later she left the hospital free from pain, and decided that she would remain no longer in bed, but would go up and down stairs and lie out in the garden, the pulsation in the aneurysm remaining imperceptible. This she did for two months. It was then noticed that the skin of the breast beneath the scar was faintly discoloured, and afterwards she was kept in bed. The aneurysm rapidly increased in size, and she died suddenly about four months after the operation. A *post-mortem* examination showed that the aorta had ruptured posteriorly into the mediastinum. The aneurysm was filled with laminated clot for a depth of 2½ inches. The clot was traversed in its whole length by the wisp of wire, which had expanded fully, and the amount and distribution of the clot showed how much effective coagulation of the blood had taken place since the introduction of the wire, and apparently in consequence of it. The points of interest in the case were: (1) That the aneurysm had occurred in a well-to-do woman; (2) the slow formation of the aneurysm without recognition; (3) the improvement following upon the introduction of the wire; (4) the fatal termination due to extension of the aortic disease, and not to rupture of the aneurysm. Mr. T. H. KELLOCK, in a paper on the advantages of a modified *Operation for circumcision*, said that complete removal of the prepuce was open to objections. Circumcision was employed quite unnecessarily for dysuria, for if the closeness of the adhesion of the prepuce to the orifice of the urethra partially blocked it, the prepuce could be easily separated just around it, and the dysuria, if caused in this way, relieved. A more important cause of dysuria was a pin-hole orifice in the urethra. The remedying of this simple matter should always be attended to, whether circumcision was performed or not. When the prepuce was much adherent, the preputial orifice small, and the prepuce not unduly long, a small incision on the dorsum and one suture was all that was required. For inflammation and suppuration under the prepuce, the same procedure sufficed if the prepuce was not abnormally long. The incision should only be about a quarter of an inch in length, and include both skin and mucous membrane. If these foregoing conditions were complicated by an unduly long prepuce, or if the latter persisted alone, circumcision was indicated, but he advocated a considerably modified operation. It consisted in the removal of that portion only of the prepuce which was redundant.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

At a meeting in November, Dr. J. B. COLEMAN, President, in the chair, Dr. A. R. PARSONS showed a specimen of *Spontaneous rupture of the heart*. The patient first came to him complaining of flatulence and jagging pains in his right hypochondrium. In connexion with the family history it was mentioned that the mother of the patient died from "burst aneurysm of the heart," and amongst the brothers and sisters of the patient there was a history of cancer of the stomach. The patient was engaged at hard manual labour. Physical examination showed nothing abnormal, nor did the urine contain any abnormal constituent. He was not seen the second time until a month had elapsed. He was admitted to hospital on May 7th, and an examination after a bismuth meal discovered nothing abnormal. On a second examination of the contents of the stomach a positive reaction for blood was obtained, but there was no trace of free hydrochloric acid. He was again seen on July 9th, when the flatulence was as bad as ever, and food had to be taken every two hours in order to produce moderate comfort. He was gradually increasing in weight, and would not consent to operation, as he insisted that his heart would not stand it. He was then lost sight of until September 4th, when he complained of the pain being still as bad as ever, and when weighed on October 4th he was 10 st. 11 lb. From the time he was first examined his weight had increased approximately 1 lb. per month. A few days after this he became actually ill at 2 a.m., and had to call in Dr. Winder, who suspected stomach trouble, possibly perforation; but physical examination showed that neither perforation nor peritonitis had occurred. The patient died shortly afterwards quite suddenly. The speaker's own diagnosis was some form of ulceration, although it could not be overlooked that the patient had gained in weight. The pain he regarded as most likely anginal. On *post-mortem* examination blood was found in the pericardium. The stomach was found to be quite small, and there was no evidence of gastrectasis, but along the lesser curvature was found a hard mass suggestive of malignant disease, but no enlargement of the glands was discovered. It was evident that death was due to rupture of the heart. This was a very rare cause of death. Quain had collected 100 cases, of which 77 were rupture of the left ventricle, and the majority occurred in patients over 60 years of age. The two points which impressed the speaker were that hunger pain was not pathognomonic of duodenal ulcer, and that steady and progressive increase in weight was not incompatible with malignant disease of the stomach. Professor A. C. O'SULLIVAN, to whom the organs had been sent for examination, said that the heart showed a rupture which apparently ran along the anterior wall of the right ventricle close to the septum, and about ¾ in. long. Both ventricles appeared to be ruptured. Blood from the left ventricle must have been pumped into the right ventricle when the septum gave way, and immediately afterwards the wall of the right ventricle ruptured. There was extreme fatty infiltration and diffuse fatty degeneration of the heart muscle. The stomach contained a raised mass running from one curvature to the other, which caused thickening of a large area of the stomach wall. There was no ulceration found anywhere. The cancer was of a rather unusual type—small round-celled—and it was only after several sections were made that the cancerous nature of the growth was established. The speaker remarked that it was seldom a state of mental excitement or agitation was found associated with spontaneous rupture of the heart. He had, however, met with one instance of it. The PRESIDENT recalled a specimen of rupture of the heart shown by him before this Section some seventeen or eighteen years ago, and also a specimen of ruptured aneurysm, which were very similar. It was well known that George II died of rupture of the heart at the age of 76. The condition always appeared to be due to fatty degeneration of the heart muscles. Professor WHITE referred to three cases in the College Museum, in each of which the rupture was due to a localized degeneration of the coronary artery or a branch. Dr. PARSONS, replying, said with reference to the duration of the symptoms that when the patient was first seen (as far back as March last) he complained of constricting pains round his stomach, but whether this was to be attributed to the malignant disease of the stomach he was not quite certain. If due to the cardiac degeneration he would date the symptoms back about six months prior to death. With regard to the question as to whether this was to be looked upon as a case of localized degeneration or a diffuse process, he suggested that the specimen showed both.

ROYAL SOCIETY OF MEDICINE.

SURGICAL SECTION.

At a meeting on December 9th, Mr. G. H. MAKINS, President, in the chair, Mr. GILBERT KEMPE recorded a case of *Brachial arterio-venous aneurysm* successfully treated by vascular suture. Having made a diagnosis, he dissected out the brachial artery and its venae comites, and found a communication between the artery and the vein

on the inner side. Hare-lip clamps were placed on the artery above and below, and the opening in the artery closed by two continuous sutures of OOsilk; the opening in the vein was closed with catgut. The junction being water tight, the wound was closed; fourteen days later there was pain along the ulnar nerve, and the blood pressure was 20 mm. less than in the opposite brachial artery, but the hand was not cold nor oedematous. Mr. MAKINS suggested that the reduction of blood pressure might be due to a thrombus or to a diminution of the lumen of the vessel from the scar tissue at the site of the suture. Mr. ZACHARY COPE, having described two cases of *Ruptured intestine* on which he had operated, and one of which survived, said he thought that the signs and symptoms of the injury were so varied that it was difficult to make an early diagnosis. After an abdominal injury great importance must be laid on abdominal pain persisting for some hours, but perhaps shifting its position, bilious vomiting, a steadily rising pulse-rate, and deep local tenderness, followed later by restlessness, signs of free fluid, and peritonitis. Mr. RAYMOND JOHNSON said he had obtained from the registrars of twelve London hospitals accounts of all cases of ruptured intestines admitted between 1908–1912. Of the 44 cases 9 recovered after operation, 21 died after operation and 14 died without operation. The site of the rupture was situated in the duodenum in 5 cases, in the jejunum in 23, in the ileum in 13, in the small intestine in 1, in the hepatic colon 1, and in the rectum 1. In the successful cases the rupture was situated in the duodenum, jejunum or ileum. Out of 32 of these cases abdominal pain occurred with or without tenderness in 21, rigidity in 16, vomiting in 14, increasing pulse-rate in 11, bruising of the abdominal wall in 9, dullness in one or both flanks in 9, diminution or loss of liver dullness in 4. The condition was complicated by other extensive injuries in 14 cases. Mr. BETHAM ROBINSON thought that absence of liver dullness was unusual, and a symptom of little value. Mr. CHEATLE thought that the diagnosis might be hastened by a bismuth meal. Mr. MAKINS thought that the use of motor cars diminished the number of cases, as intestinal ruptures were so often due to the kick of a horse or injury from a carriage pole. Local tenderness was one of the most important signs.

CLINICAL SECTION.

AT a meeting on December 12th, Mr. CHARTERS J. SYMONDS, President, in the chair, the following were among the exhibits:—Dr. F. PARKES WEBER: A case of chronic *Myelocytic leukaemia*, for which benzol had been administered in gelatine capsules, each containing a mixture of 0.5 gram of benzol and 0.5 gram of pure olive oil. This had led to no improvement, and was replaced by treatment with Roentgen rays. Since then the spleen had obviously decreased greatly in bulk and the quality of the blood had improved. Mr. ARTHUR EVANS: A case of *Suppression of urine* in a boy aged 11, which appeared after an operation for acute appendicitis, and was cured by double nephrotomy. A small piece of the left kidney, removed at the time of the operation, was found to be in a condition of cloudy swelling. Mr. T. H. KELLOCK: Four cases of *Malignant disease treated by radium*. (1) A man, aged 66, who had had squamous-celled carcinoma of the upper lip deeply ulcerated and extending far into the mucous membrane, almost to the alveolar margin. The radium had been buried in the growth for twenty-four hours. After the reaction, which took a fortnight to heal, the ulcer had disappeared. A little hardening and scarring was all that remained of the growth. (2) A man, aged 35, who had had an inoperable growth at the back of the tongue. It was ulcerated and infiltrated the glosso-epiglottic fold. The cervical glands were enlarged. Radium was inserted into the growth and left for fifteen hours. This caused it practically to disappear in fourteen days, and the glands in the neck became smaller and more movable. These were removed. All that remained was a little hardness about the scar on the right side of the neck. (3) A woman, aged 50, who had had a squamous-celled carcinoma at the margin of the meatus of the right ear, involving the pinna and the skin. Similar treatment had been very successful. (4) A man, aged 55, who had had a malignant ulcer of the lower lip. Fifteen days after the insertion of radium the greater part of the growth had disappeared, and there was little difference to be observed between the site of the growth and the rest of the lip. Dr. F. S. PALMER: A case of *Congenital heart disease* and hemiplegia in a woman, aged 22. Mr. W. G. SPENCER: Latent *Fracture of the patella* in a man, aged 46. After the injury he was able to walk nine miles, and again fifteen miles, and also to go up and down stairs frequently until a week later, when the aponeurosis tore widely with separation of the fragments. Dr. F. J. POYNTON: A case of *Cleido-cranio-dysostosis*, with signs pointing to pressure on the brachial plexus by the rudimentary clavicles, in a girl aged 19.

SECTION OF DISEASES OF CHILDREN.

AT a meeting on November 28th, Dr. LEONARD GUTHRIE, President, in the chair, the following were among the exhibits:—Dr. C. E. ZUNDEL: A case of *Recrudescent rickets* with tuberculosis and infantilism. Former hospital records showed that the patient, a boy now aged 14 years, was at the age of 7 years treated as an out-patient and then as an in-patient. At that time he was described as very undersized and with marked rickets. At the age of 11 years he was admitted to the Brompton Hospital with marked ascites, the abdomen being tapped six times in nine months. When he came under observation in June, 1913, his height was 3 ft. 4 in. and weight 2 st. 11 lb. Marked deformities of the forearms were present, due to recent fractures. There was some bronchopneumonia and considerable ascites. The Wassermann reaction was negative. Dr. F. G. CROOKSHANK and Mr. L. E. C. NORBURY: *Bilateral congenital dislocation of the hip* in twin sisters aged 8 years 11 months. In each case there was marked displacement of the head of the femur on to the dorsum ilii on either side. Dr. F. G. CROOKSHANK: (1) A case of *Nervous cretinism*. The patient, a female, now aged 5½ years, was first seen in 1912, when it was noted that the skin was harsh, the gait tottery, and the knee-jerks increased. Later the gait became more ataxic and the speech became defective. The child had been treated with thyroid extract and could walk and talk well, and had lost almost all her symptoms. (2) A case of *Jaw-winking* in a girl aged 9 years, who had congenital unilateral ptosis. When the face muscles were at rest the ptosis was considerable, but when she depressed her jaw and "ringed" her mouth, the eye opened widely. Mr. PHILIP TURNER and Dr. H. TIPPING: A case in which a *Mesenteric cyst* had simulated an intussusception. The patient, a previously healthy boy aged 4 months, had a "crying fit," after which blood was passed per anum. After admission to the hospital a rectal examination showed the presence of recent blood, though no lump could be felt. An anaesthetic was given, and then a movable tumour could be felt close to the umbilicus. When the abdomen was opened the lump was found to be a tense cyst, about 1 in. in diameter, situated in the mesentery in the angle between the ileum and the colon. It bulged into both these portions of the intestine, causing obstruction at the ileo-caecal valve. The cyst wall was so incorporated with the ileum and the colon that it could not be removed. The cyst was incised, the greater part of the wall clipped away, and the remainder sutured to the parietal peritoneum. The child made an excellent recovery, but a sinus which discharges glairy odourless fluid still persists. Histologically the lining membrane of the cyst had the same structure as the mucous membrane of small intestine. Dr. W. J. MIDDLTON: Two cases of *Dermatitis herpetiformis* which had been treated by counter-irritation. The first patient, aged 7 years, had after an attack of scarlet fever developed dermatitis which had persisted for over three years; counter-irritation was then commenced, and the patient was well in three weeks. There had since been occasional slight relapses. In the second case, a boy aged 7 years, the same treatment had been equally satisfactory. Dr. G. A. SUTHERLAND: A case of *Paralysis of the abdominal muscles* and collapse of the lung in a child, aged 15 months. In May it had an indefinite illness, which was eventually identified by the after-results as anterior poliomyelitis. Dr. J. W. CARR: A case of *Enlargement of the liver* with ascites in a boy, aged 2½ years; he had been tapped on thirteen occasions; the liver was regarded as almost certainly cirrhotic, but the cause of the cirrhosis was obscure.

DR. F. J. POYNTON: (1) A case of *Osteogenesis imperfecta* with great distortion of the bones of the lower limbs. The patient, aged 11 years, has been admitted three times to University College Hospital, and many times to Great Ormond Street, with fractures of the bones of the legs. Her bones have been soft and easily broken from birth, and she has never been able to walk alone. (2) A female child, aged 5 years, with a slightly *Enlarged liver and spleen*. Examination showed marked cyanosis of lips, tongue, and throat, and clubbed fingers. No bruits could be heard, but in May, 1913, there was a pulmonary systolic bruit: it was doubtful whether this was congenital or haemic. The Wassermann reaction was negative. MR. H. A. T. FAIRBANK: A case of *Ununited fracture of the neck of the femur* which he had treated by operation eight years after the injury. When first seen, the limb was wasted and held in an everted position. Flexion was limited and abduction practically abolished. Real shortening 2 in. A skiagram showed an ununited fracture and coxa vara. The fibrous bond of union was excised, and two screws were driven from the trochanteric surface through into the head. The operation had been successful in abolishing the pain and arresting the progress of the deformity. DR. F. LANGMEAD: Two sisters, aged 6 and 5, with *Deformity of bones* and splenomegaly. The elder child, aged 6 years and five months, shows skeletal changes closely resembling those of rickets, as well as marked enlargement of the spleen. In the younger case the bony changes were of a corresponding kind but less developed, and the spleen was less enlarged. The chief points of interest were the progressive character both of the skeletal changes and the splenomegaly, and the fact that this occurred at an age when the usual period for active rickets was over.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on November 28th, MR. A. ERNEST MAYLARD, President, in the chair, MR. HENRY RUTHERFURD showed the following among other cases: (1) A *Plexiform neurofibroma* in a girl aged 8 years, with hypertrophic and pigmentary changes in the skin and some angiomatous patches, atrophy of muscles, and atrophy or rarification of bone, as indicated by repeated fractures and verified by skiagraphs. (2) A case of *Cystic disease of the upper end of the humerus* in a boy aged 14 years; it had been treated by free opening up and implantation of bone. (3) With Professor J. H. TEACHER: The spinal column of a boy aged 6 years, the seat of tuberculous foci in the upper cervical, dorsal, and lumbo-sacral regions. DR. A. LOUISE MCILROY recorded a case of *Chorion epithelioma* and one of *Myomata complicated by pregnancy* and showed coloured photographs. In the first case, that of a patient aged 30, a diagnosis of incomplete abortion was made, and on microscopic examination of the curettings Dr. Teacher found chorion-epitheliomatous tissue. Panhysterectomy was performed with complete recovery. In the second case the patient, aged 30, had been married six years and was sterile. Dysmenorrhoea and menorrhagia had been present. On the onset of uterine haemorrhage the patient was examined under an anaesthetic, and myomata with pregnancy diagnosed. Supravaginal hysterectomy was performed, and on section of the specimen a four and a half months fetus was seen. In the wall of the uterus were several myomata, one of which showed marked degenerative changes. The patient's health was markedly improved after operation. DR. J. W. MCNEE, in a paper on recent work on the *Etiology of gall stones*, said the views of the etiology of gall stones which had been held for the last twenty years were those of Naunyn, who recognized two factors in the formation of all varieties of gall stones—(1) stasis of the bile in the gall bladder and (2) inflammatory catarrh of the gall-bladder mucosa induced by micro-organisms. The work of Aschoff and his pupils, now accepted practically throughout Germany, had shown that three factors operated: (*a*) Stasis, by permitting the separating out of the constituents of gall stones from the bile: the importance of this factor was seen in pregnancy and in general adiposity, two conditions in which the proclivity to gall-stone formation was well recognized. (*b*) Altered concentration of the constituents of the bile—that is, increase of the stone-forming elements. It was now known that the amount of cholesterin in the blood serum was above the normal in pregnancy, in diabetes mellitus and other conditions of disease, and below the normal in tuberculosis, tumours, and acute fevers except enteric: while the speaker, using the Windaus digitonin method in Aschoff's laboratory, had found in 4 cases of pregnancy amounts of cholesterin from four to five times the normal, and in a case of acute phthisis a month or two after delivery an amount eight times the normal. (*c*) Infection by micro-organisms, most commonly of the coli-typhoid group, which set up a cholecystitis, with inflammatory exudate and increased mucous secretion from the gall-bladder walls, and consequent addition of excess of lime salts to the bile. About 20 per cent. of all stones had, at first at least, no inflammatory factor in their origin. These were the pure cholesterin stones, crystalline in structure, occurring singly, often without symptoms and due to the combined effect of stasis and excess of cholesterin in the bile. Infection of a gall bladder containing such a stone led to an excess of lime salts in the bile and to the coating of the stone with a mantle of chalk and cholesterin deposited in concentric layers, and so to the formation of a "combination stone." Few cases of pure cholesterin stones escaped this inflammatory change, while 20 per cent. of all cases of inflammatory cholelithiasis passed through a non-inflammatory period. The commonest type of stone was the cholesterin-chalk or cholesterin-chalk-pigment stone, non-crystalline, of concentric formation, always multiple, often extraordinarily numerous, and originating in a gall bladder which had become inflamed, and which might or might not have previously contained a stone of aseptic origin. Any truly rational treatment of gall stones must not only aim at removal of the stones present, but must combat the stasis in the gall bladder by adequate drainage, promote healing of the inflamed and often ulcerated gall-bladder wall, and take cognizance of the conditions which tended to increase the excretion of cholesterin in the bile.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on November 18th, DR. SYKES in the chair, DR. DUNLOP introduced a discussion on *Non-tuberculous disease of joints*, confining his remarks to rheumatoid arthritis. It was, he considered, a general disease and prima facie a wasting disorder with considerable vasomotor disturbance. The prognosis was most gloomy. The treatment may be considered under three heads: All forms of suspected chronic infection must be vigorously treated, that is, teeth, otorrhoea, etc.; the diet should be good and substantial, and the intestinal tract required careful consideration. DR. C. M. F. ATHORP, discussing the question from a surgical aspect, spoke of syphilitic, nervous (such as Charcot's) and gonorrhoeal disorders of joints. He was not yet much impressed by the advantages of vaccine treatment of non-tuberculous joint disease. Aspiration combined with the injection of formalin in glycerine seemed to give very good results, particularly in the gonorrhoeal forms. Drainage increases the tendency to ankylosis and should be avoided whenever possible. MR. BASIL HUGHES considered the vaccine treatment entitled to trial in suitable cases. He had seen marked benefit from its use in rheumatoid and gonorrhoeal cases, but the vaccine must be autogenous: stock vaccines only led to disappointment and failure.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.

AT a meeting on November 12th, DR. P. WATSON-WILLIAMS in the chair, MR. F. F. SHIPWAY demonstrated an apparatus for the intratracheal insufflation of ether, and pointed out that the advantages of the method, in addition to prevention of collapse of the lung, were the prevention of the aspiration of blood from the pharynx and the very slight amount of respiratory movement. MR. S. V. STOCK stated that deaths had occurred in this method from employing too high a pressure, and he demonstrated a combined safety-valve and manometer which he had constructed to obviate this risk. MR. HEY GROVES showed a simplified apparatus operated by a foot bellows instead of by a motor pump. DR. WATSON-WILLIAMS said he had found that this method obviated any risk of the entry of

blood into the lower respiratory tract during nasal and pharyngeal operations. Dr. J. A. Nixon read notes on a case of splenectomy for simple splenomegaly. The spleen on section showed a simple hyperplasia. As a result of the operation there was an immediate rise in the blood colour index. Mr. Hey Groves showed a spleen removed from a woman with splenic enlargement, hepatic cirrhosis, and ascites, in which some improvement took place after operation, and suggested that removal of the spleen produced improvement by the relief of the portal circulation. Mr. J. Lacy Firth demonstrated a specimen of abscess of the liver. Although there had been no symptoms of dysentery during life, extensive ulcerative lesions were found in the colon *post mortem*.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

At a meeting on November 19th, Mr. R. G. Hogarth, President, in the chair, Dr. F. H. Jacob, in a paper on *Vaccines and tuberculins*, said that now that opsonic indices had been thoroughly tested in the various diseases, it was more possible to rely on clinical guides as to dosage and intervals. If the dose were a proper one it should be followed by a negative phase in which the focal symptoms of the disease were increased for twenty four to forty eight hours. Subsequent to this there should be a marked improvement in all the focal symptoms, that is, there should be a substantial positive phase. After an interval of seven to ten days an increased dose should be administered. In acute diseases the initial dose should be small, and should be followed by a second dose after three or four days. In vaccine treatment the best results were in cases of boils. On the other hand, the speaker had yet to obtain a cure in a case of ulcerative endocarditis. *B. coli* vaccine together with urotropine in pyelo-nephritis gave good results. His results in pneumonia were not so good. He was convinced that tuberculin had often caused the death of patients by lighting up their disease. For diagnostic purposes the dose should be very small. He found T.R. the safest. Provided adjuvant treatment was also carried out he was convinced that tuberculin did good in some special chronic cases in which the treatment was maintained for at least a year.

GLASGOW OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

At a meeting on November 26th, Dr. Lindsay, President, in the chair, Dr. James Todd introduced a discussion on the *Treatment of abortion*, and spoke from the point of view of the general practitioner. After noting that he would apply the term abortion to any case in which pregnancy ended before the child was viable, he said that in his experience only 10 or 12 cases out of thirty to fifty abortions were treated by medical men. Practitioners should do all in their power to educate the public as to the dangers incident to abortion. Preventive treatment depended on a knowledge of antenatal pathology. Frequently the exciting cause was overexertion or some local lesion, such as a displacement of the uterus, and especially endometritis. In cases usually termed "habitual abortion," iron with potassium chlorate was useful. In threatened or occurring abortion treatment depended on diagnosis, and this was sometimes difficult. Extrauterine pregnancy had to be kept in mind. If ordinary pregnancy were diagnosed, the question whether the abortion was avoidable or inevitable was vital. When haemorrhage was the leading symptom, its continuance alone should not be taken as proof of inevitable abortion. If the bleeding were sudden and large, it generally denoted separation of the ovum. Rest in bed and arrest of the reflexes by opium was to be recommended if the pregnancy were likely to resume its normal course. In many cases of inevitable abortion the speaker had felt justified in adopting an expectant attitude; the patients feared an operation and grudged the expenses, and the conditions of the home were not without danger. Two conditions which compel interference were excessive bleeding and signs of sepsis. Plugging the vagina in a working-class home was difficult and dangerous, and of little use in preventing haemorrhage. Evidence of early septic infection indicated emptying the uterus. Frequently the uterus could be cleared out thoroughly with the fingers, if not by the gentle use of a blunt curette. Routine douching after operation might very easily do harm. The speaker usually kept the patient in bed a shorter time after abortion than after normal labour. Professor Jardine, discussing the subject from the consultant's point of view, remarked on the increase of cases of abortion which had been noted in the practice of the Glasgow Maternity and Women's Hospital. The consultant's point of view was in essence that of the general practitioner, namely, the best treatment for the patient. He had not yet found a case in which he could say plugging had been properly carried out before the patient came to hospital. A few tampons of wool in the vagina were not a sufficient plug, and did not do any good in preventing further bleeding. Potassium chlorate was a useful drug, and had good effects in many cases. In using the curette he advocated an instrument with a large loop, but with a sharp edge, as it was not easy to remove adherent decidual tissue otherwise. Sometimes a misconception arose in practitioners' minds as to when an abortion was complete. Often patients with profuse discharge got well, while those with little or no discharge were really cases of septicaemia and were very fatal. Efficient plugging required really a large quantity of sterile gauze if the plug was to be of any use. Dr. Nigel Stark said there had been an increase of cases also at the Royal Samaritan Hospital. For emptying the uterus he preferred the use of the curette to the fingers, and regarded the vaginal plug as of little use in the treatment of bleeding: he preferred ergot. Dr. Caskie urged the use of a large plug and the administration of ergot and opium. Dr. E. H. L. Oliphant mentioned the use of large doses of potassium chlorate up to 40 grains; he had seen it used for months with beneficial effect. He referred to its action on the bowels. Dr. Craig thought that the increase in cases seen at the special hospitals was due to the fact that the general hospitals were refusing these cases. He used a large plug and was not satisfied that the plugging was sufficient until complaint was made of pressure on the bladder. Dr. Macfarlane advocated plugging. Dr. Campbell attributed some part of the increased number of abortions to the increased use of abortifacient drugs. The President, Dr. Lindsay, said that some cases of abortion were inevitable from the time of conception, and the causes were to be sought between ovulation and impregnation, and also during the early period following conception. In regard to treatment, he advocated rest, opium, and ergot, properly administered. Ergot hindered complete expulsion if given when the ovum was being expelled. Plugs acted by stimulating the vaginal reflex, especially if the plug pressed on the vaginal fornices.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

At a meeting in Sheffield on November 21st, Dr. W. E. Fothergill, President, in the chair, Mr. Miles H. Phillips (Sheffield) showed a case of *Peritoneal implantation of the ovum*. The patient had been operated upon for ectopic pregnancy, and a bleeding tube removed. A small nodule was noticed under the peritoneum of the pelvic wall and was excised. This proved to be an ovum covered by peritoneum, except in one spot, through which the ovum had probably passed. Mr. W. W. King (Sheffield), in a paper on the *Serum diagnosis of pregnancy*, described his results of the examination of 50 cases. Of these 25 pregnant patients all gave positive reactions; 5 others in whom the clinical diagnosis of pregnancy was uncertain also gave positive results; 2 recent septic abortions were negative. Out of 18 non-pregnant patients, 2 serums digested placental albumin. As to the question of the specific character of the ferments, his results, he thought, showed that the serum of pregnant patients would in some cases digest carcinomatous tissue, and vice versa. Mr. Miles H. Phillips (Sheffield) showed specimens of *Parasitic ovarian dermoid* and *Papillary ovarian tumour*. Mr. Favell (Sheffield) showed a large *Fibromyoma of the vaginal wall*, and Dr. Gray Newton (Sheffield) one of *Tumour of the vulva*.

SCOTTISH OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

AT a meeting on November 22nd, Dr. J. D. LITHGOW, who was in the chair, advocated the *Use of vaseline* in connexion with the packing of the wound in the radical mastoid operation, claiming that thereby the first dressing was rendered painless. In a paper on *Respiratory stoppage* under general anaesthesia he said he had found that in certain cases the laryngeal surface of the epiglottis was firmly fixed by a sucker-like action to the posterior pharyngeal wall. The action could only be overcome by inserting the finger between the epiglottis and the pharyngeal wall. In the cases he had investigated ethyl chloride was used, but he believed his observations would be found to apply equally to cases in which other anaesthetics were used. In a third communication (in conjunction with Mr. PEEL RITCHIE) Dr. Lithgow described a method of inducing fibrosis of the tissues of the inferior turbinates in cases of vasomotor and hypertrophic rhinitis. It had been used in the treatment of haemorrhoids and small simple tumours, and consisted in the injection into the soft parts of the turbinates of a 60 per cent. solution of carbolic acid in glycerine. The following were among the cases and exhibits: Dr. W. G. PORTER: (1) A case of a *Foreign body in the oesophagus* of a child for eight years. The child complained of gastric symptoms, and was small and poorly developed. An *x*-ray photograph showed a foreign body in the oesophagus at a level between the fifth and sixth dorsal vertebrae. On oesophagoscopy a halfpenny was seen, but, on attempting to extract it, it slipped into the stomach. (2) A case of *Post-operative osteomyelitis* of the left frontal bone. A Killian's operation had been performed on the right frontal sinus, and five months later a similar operation was performed on the left side. A few days after this second operation symptoms occurred which led to a diagnosis of osteomyelitis, and it was considered that a wide removal of bone offered the only hope of recovery. This was accordingly carried out. The bone was found to have a glazed appearance, and to be very soft and vascular. The dura appeared healthy. An autogenous vaccine was administered, and the patient gradually recovered, a result which, in view of the very high mortality in such cases, was held to be due to the early recognition of the complication and to the wide removal of bone. Dr. J. K. MILNE DICKIE (1) showed a patient suffering from *Hoarseness* dating from birth. There was an irregular thickening of the left vocal cord, the nature of which it was difficult to determine, and (2) reported a case of *Laryngeal stridor* in a woman of 43, who suffered from asthma and bronchitis. Laryngeal stridor developed, and on examination it was found that the right cord could be abducted only slightly, and the left one not at all. The laryngeal obstruction became severe, and tracheotomy had to be hurriedly performed. A few days later the cords could move quite freely. In the discussion which followed it was suggested that an acute enlargement of the bronchial glands had developed in association with the bronchitis, and that this had caused irritation of the recurrent nerves and adductor spasm. Drs. J. S. FRASER and GIDEON WALKER read a preliminary communication on a clinical investigation of oto-sclerosis, the former following with an epidiascopic demonstration of the pathological anatomy of a variety of cases of ear disease. Dr. J. S. FRASER also showed two patients on whom he had operated for *Middle-ear suppuration with labyrinth symptoms*. He described the cases in detail. In both the labyrinth phenomena were somewhat anomalous. In one the caloric reactions and the pointing test gave varying results at different periods. No fistula symptom was obtained, and on performing the simple Schwartze operation no fistula was found. The tympanic cavity was not interferred with, and the hearing returned to normal, and the labyrinth phenomena and nystagmus disappeared. In the other case no fistula symptom was obtained, but on the performance of the radical mastoid operation a fistula of the horizontal canal was found. The labyrinth was not opened and the patient made a good recovery. Dr. A. PHILP MITCHELL, in a paper on the etiological *Relationship of the faucial tonsils to tuberculous cervical adenitis*, said that in 64 consecutive cases of children suffering from tuberculous disease of the upper cervical glands he had found histological evidence of tuberculosis of the tonsils in 24. Inoculation of guinea-pigs from these cases yielded positive results in 19, and of these the bovine bacillus was present in 12 and the human in 3. Of hypertrophied tonsils from 90 children who showed no clinical evidence of tuberculous gland disease, those of 6 gave histological evidence of tuberculosis, and 9 yielded positive results on inoculation. Dr. LOGAN TURNER showed: (1) A girl, aged 7, after *Post-operative meningitis*, which set in a day after a radical mastoid operation. A double vestibulotomy was performed and the internal auditory meatus opened up and translabyrinthine drainage established. Lumbar puncture was performed on five occasions and urotropin in 10-grain doses injected into the canal. (2) Two cases of sarcoma of the tonsil operated on a year ago without recurrence. (3) A patient on whom Mr. Wallace had operated three years ago for malignant disease of the upper end of the oesophagus and in whom no recurrence had taken place. (4) He also described the case of a child on whom enucleation of the tonsils and removal of adenoids had been performed two years previously, since which time symptoms of paralysis of the palate had occasionally been observed. Dr. WALKER DOWNIE showed 2 specimens of calculus of the tonsil, and described the cases from which they were removed. A noteworthy feature of the meeting was the museum, to which a number of members contributed specimens, microscopic slides, *x*-ray photographs, sketches and paintings, models, instruments.

MANCHESTER MEDICAL SOCIETY.

AT a meeting on December 3rd Dr. T. GRAHAM BROWN, in a paper on *Walking*, pointed out that animal progression was interesting not only from the standpoint of mechanics, but also from that of the central nervous control of the act, since many of the problems of the physiology of the spinal cord are centred round the phenomenon. The action of walking did not depend merely on volition, since progression might be evoked after removal of the cerebral control. It was a reflex action. The problem centred round the question of the causation of the rhythmic alternation of movement presented by walking. Three theories were open to discussion: (*a*) That the rhythmic alternation of movement was produced reflexly by the self-generated skin stimuli produced during the act by the pressure of the foot on the ground, etc. (*b*) That the alternation was produced by the rhythmic inhibition of a maintained reflex: and that this rhythmic inhibition was self-generated by the movements of the active muscles stimulating the sensory organs in the muscles themselves during the act. (*c*) The fact that progression might take place after all the sensory nerves of the limbs have been destroyed, showed that the rhythmic phenomenon was conditioned in the centres themselves, and was not peripherally self-maintained. It also indicated that the rhythm resulted during a balance of equal and opposite activities in the centres. Therefore, the theory has been propounded that the rhythm was conditioned during the equal and opposite activation of antagonistic spinal centres for the muscles of the limbs. Was this equal and opposite activation reflex? In other words, was it caused by peripheral afferent stimuli? Against this view was the fact that the action of progression might occur at a depth of narcosis at which the peripherally-generated reflexes were abolished. The lecturer's own theory was that the rhythm of progression is conditioned during an equal and opposite activation of the antagonistic spinal centres; that the rhythm is not a property of the nerve cell discharge as such; that it is fundamentally conditioned by the arrangement of the interconnexions of antagonistic nerve cells; that the equal and opposite activation of the equal and opposite nerve cells may be in its turn conditioned by some such state as that produced by the "blood stimulus" in the respiratory centre; and that all the other factors emphasized in other theories are subsidiary to the normal act, helping and controlling it, but not fundamentally conditioning it.

WE are informed that the War Office has contracted with the Sirdar Rubber Company to supply 300 tyres for ambulances.

Reviews.

HEREDITY AND DISEASE.

IN 1898, when Dr. H. LUNDBORG was working in the department for psychiatry at Lund, he was instructed by Professor S. Odman to visit Listerland, a subdivision of the province of Blekinge, in the south of Sweden, for the purpose of investigating some peculiar forms of an apparently hereditary nervous disease reported therefrom. Dr. Lundborg's discoveries proved to be of interest, and induced him to undertake a detailed study of the inhabitants of this part of Sweden. This inquiry occupied much of Dr. Lundborg's time during the succeeding fourteen years, and his final report has now been issued in two parts—text and atlas. The text makes a huge volume; following the example of Macaulay in a well-known case, we may mention that it weighs 10 lb., measures 14 by 10½ by 2 in., and contains 739 pages; the atlas contains numerous excellent photographs and pedigree plates.[1]

The province of Blekinge lies in the south-east of the Scandinavian peninsula, and the subdivision specially considered, Listerland, was at one time an island. This part of the country suffered greatly in historical times from wars, and was indeed the cockpit of Scandinavia. At present the inhabitants exhibit distinct anthropological differences from the Swedish average. There is, for instance, a considerable admixture of brachycephalics, and the percentage of brown-eyed persons is above the normal. From the social and hygienic points of view, the province of Blekinge compares unfavourably with the rest of Sweden, the rates of criminality and mental disease are high, and if the constants of general mortality, pauperism, mental disease, etc., are combined to form a "social-biological index," Blekinge is the worst of the twenty-four provinces of the kingdom.

The inhabitants of this uninviting district who were selected for special inquiry were the descendants of one Pehr Knutson, born in 1691, and his wife Inger Olufsdotter; this couple farmed lands at Mjellby, which passed to their two sons in 1752. One of these, Pehr Pehrsson (1721–1804), was the ancestor of the families dealt with. This man was a yeoman farmer (Grossbauer) and judicial assessor; in 1781 he became a member of the Swedish parliament. Two of his sons were also members of parliament, and one of them seems to have been a man of striking character and qualities. Among the 2,000 odd descendants of Pehr Pehrsson are to be found various yeoman farmers, judicial assessors and district presidents, but the general trend of the family has been a descent in the social scale. A hundred years ago many members of the stock were prosperous or even wealthy; these riches have practically disappeared, and not a few are in conditions of actual poverty. Some are still to be found farming lands held by their forbears, but most of them are oppressed by mortgages. The characteristics of the various descendants are described in detail, and a vast mass of contemporary evidence, extracted from church registers and judicial archives, collected in an appendix, throws light upon the characters and modes of life of individuals and families. Taking a bird's-eye view of the whole, the most striking facts which emerge are: (1) The high proportion of psychically abnormal persons; and (2) the general prevalence of a low grade of social morality as indicated by numerous cases of crimes of violence and other irregularities. The vital statistics of the stocks indicate a somewhat high rate of fertility, tending, however, to diminish in the later generations. On the other hand, the rate of mortality does not appear to have been markedly different from the normal. Much inbreeding appears to have taken place, and Dr. Lundborg has studied the effects in detail. Contrary to what might perhaps have been expected, neither syphilis nor tuberculosis appear to have prevailed at all extensively; alcoholism is, however, a constantly recurring vice.

Dr. Lundborg naturally devotes special attention to the occurrence of the rare nervous disease—myoclonic epilepsy—which originally attracted his notice. This section includes a valuable bibliography of the disease. The author has studied his families from the Mendelian standpoint, and concludes that myoclonic epilepsy behaves like a simple Mendelian recessive character. He arrives at the same result in the case of dementia praecox, and, apparently, all forms of psychopathies, but his evidence as regards the latter is not very cogent. We may indeed remark, with respect to this point, that his comment on Heron's study of the statistics of insanity—namely, that the method used was unsuitable—is quite unsubstantiated. The fact is, of course, that the Galtonian method is an indispensable instrument of research, and that the belief that this method has been in some way superseded by Mendelism rests upon a misapprehension. The fact that this misapprehension has been fostered by the violent quarrels which have raged between certain Mendelians and certain biometricians should not be allowed to detract from the value of the methods the latter have employed.

Dr. Lundborg has prepared numerous tables showing the vital statistics of families of which the parents fell into one or other of various classes—for example, normals, tuberculous, alcoholics, consanguineous. It is noteworthy that the offspring of the tuberculous exhibit a high rate of mortality, but no enhanced percentages of "degenerate" individuals. It is, however, to be remarked that though the mass of material is large, yet when it is subdivided, the resultant groups are so small that the constants are subject to large probable errors. At the conclusion of his work, Dr. Lundborg enters a plea for the State establishment of institutions for research on the lines of his investigation. With this expression of opinion we are in complete sympathy.

On the larger questions of heredity Dr. Lundborg's views do not diverge markedly from those held by most thoughtful persons. Thus he points out that his investigations show that the danger of inbreeding depends upon whether the stock is or is not biologically sound, and that there is no general answer to the common question whether such marriages are undesirable. Again, in discussing the eugenic aspect of alcoholism, he puts on record views not likely to be accepted by either of the extreme parties. From the standpoint of the research worker, the sections dealing with the heredity of nervous disease are likely to be of most value. Dr. Lundborg has avoided several of the pitfalls which beset that subject, and has provided ample material for checking and controlling his conclusions. We have certainly no hesitation in saying that Dr. Lundborg's report is indispensable to any one making a complete study of the groundwork of eugenics, and only regret that both its price and its bulk will put it out of the reach of most private readers. The former was perhaps unavoidable, but not the latter. A volume of this size is indeed exceptionally unhandy. The atlas had necessarily to be published in its present format, but the text could have been issued in octavo volumes; such of the maps and diagrams as could not be reduced or arranged on folded plates might have been transferred to the atlas.

Sweden has long been famous for the contributions made by her sons to anthropology and vital statistics; Dr. Lundborg has produced a volume not unworthy to be ranked with those of his illustrious compatriots. A consciousness of this fact will be some recompense for the years of labour his task has involved.

[1] *Medizinisch-biologische Familienforschungen innerhalb eines 2232 köpfigen Bauerngeschlechtes in Schweden (Provinz Blekinge).* Von Dr. H. Lundborg. Jena: G. Fischer. 1913. (Dbl. sup. roy. 8vo, pp. 739; 10 photographs; 50 plates. Mk. 120.)

COMPARATIVE ANATOMY.

IN studying vertebrate anatomy the usual plan is to dissect representatives of various classes of vertebrates, and in this way to lay down a broad basis of knowledge of the various organs and their positions in these types. It is necessary, however, that these facts should be gathered up, properly compared and correlated with each other and with the conditions in other animals, and thus a good text-book dealing with the subject in a general manner is essential. Such a book as the one we have before us, *The Comparative Anatomy of Vertebrates*,[2] by Professor J. S. KINGSLEY, will serve such a purpose admirably. It is very good indeed, quite up to date, and distinctly original in its treatment of the subject. Embryology is made the basis, the various structures being traced from the undifferentiated egg into the adult condition. This renders

[2] *Comparative Anatomy of Vertebrates.* By J. S. Kingsley. London: J. Murray. 1913. (Med. 8vo, pp. 410; 346 figures. 12s. net.)

it easy, as the author remarks, "to compare the embryonic stages of the higher vertebrates with the adults of the lower, and to recognize the resemblances and differences between organs in the separate classes." The description of any species in detail is not aimed at, but instead a view of the general morphology of all vertebrates. We are glad to notice that the author has devoted over forty pages to the skull, for there is no structure of vertebrate anatomy which lends itself more readily as an introduction to the study of the subject, or one of greater value to the student beginning his work. The skull also has a special interest, for nowhere else in the skeleton is there the same chance of tracing modifications in all groups since the first appearance of vertebrates on the earth. The illustrations, numbering 346, are a special feature of the book; they are drawn largely from original sources. The figures called "stereograms" are excellent, and ought to make things clear to students. The book is nicely got up, but it is a pity the author did not take the trouble to read his proofs properly; some disfiguring printers' errors might thus have been avoided—for example, in the second line of introduction on page 1, and in the legends of figures 98, 190, etc.

DR. JENKINSON is now so well known to morphologists by his researches in experimental embryology that his book on *Vertebrate Embryology*[5] was eagerly anticipated. The volume is appropriately dedicated to Professor Hubrecht, who has himself done so much towards advancing knowledge of the structure and development of the placenta in various classes of the Eutheria. Dr. Jenkinson deals with the early history of the embryo and its fetal membranes, including the structure and formation of the placenta. There is no attempt to give any account of organogeny; this, we are told, is to be reserved for a subsequent volume. Every one engaged in the teaching of comparative anatomy has long felt the want of such a book as this. Previous treatises have been largely based on the developmental history of some one animal, and, however valuable, cannot give a true perspective of the various events recorded. It is only by a wide and comparative study that it is possible to gain a correct insight into the phenomena of development and of the factors underlying them. Knowledge of these matters has made vast strides since the publication of Balfour's great work on comparative embryology, and it is for this reason that all who are not specialists will welcome Dr. Jenkinson's book, which is full without being overloaded. As might naturally be expected owing to the nature of the author's researches, the early phenomena of embryogeny receive the fuller and more up-to-date treatment, while those sections which deal with the placenta do not appear to be quite up to the level of the remainder of the book, though even but little in the nature of adverse criticism can be made. Some of the earlier chapters are extremely interesting and illuminating. The account of the germ cells and of their migrations from the position in which they are formed until they find a home in the gonads is very lucidly written, and will no doubt afford new facts to many. Students and teachers alike will find the book most useful. It gives an admirable summary of the present position of our knowledge of embryology, and, unlike many summaries, it is neither so condensed as to be unintelligible nor so detailed that essential facts are obscured. For the guidance of those who wish to study the subjects more fully, a useful and well-selected bibliography is appended to each chapter. The illustrations are, on the whole, good, but some of them are too large for the size of the page. Dr. Jenkinson has undertaken a useful piece of work, and success has crowned his efforts.

DR. DREW'S *Invertebrate Zoology*[4] has reached a second edition, which is amplified by the study of a few additional animal forms and by the addition of some references to the literature. It is essentially a laboratory manual, and in its preparation Dr. Drew has been assisted by members of the staff of the well-known Marine Biological Station at Woods Hole, Massachusetts. The method adopted is to give instructions as to practical procedure, and to direct the attention of the student to particular points by means of questions, the answers to which are to be found by direct observation. The number of forms dealt with is large, and many are by no means to be regarded as types. Though the "type method" is, as the author tells us, the prevailing method of laboratory study, the selection has obviously been made with a view to inculcating the study of the phenomena of adaptation. A student who has worked carefully through this manual will have a good grip of the science of zoology. There is, however, one disadvantage: many of the animals are not readily obtainable, especially in this country. Nevertheless, by careful substitution, it could be adapted for the use of senior students of zoology. As a manual for medical students it covers too wide a field. There is a useful glossary at the end of the book.

[5] *Vertebrate Embryology, comprising the Early History of the Embryo and its Foetal Membranes.* By J. W. Jenkinson, M.A., D.Sc., Lecturer in Embryology, University of Oxford. Oxford: The Clarendon Press. 1913. (Med. 8vo, pp. 265; 162 figures. 12s. 6d. net.)

[4] *A Laboratory Manual of Invertebrate Zoology.* By Gilman A. Drew, Ph.D., Assistant Director of the Marine Biological Laboratory, Woods Hole, Massachusetts. Second revised edition. Philadelphia and London: W. B. Saunders Company. 1913. (Demy 8vo, pp. 222. 6s. net.)

DERMATOLOGY.

CARBON dioxide snow is one of the simplest therapeutic agents we possess, and next to radium the least alarming to the patient. The indications for its application are manifold, and inasmuch as its action is purely local and mechanical, it is free from any serious risk to the life or health of the patient. The little manual, *Carbon Dioxide Snow, its Therapeutic Uses*, by DR. J. HALL-EDWARDS, describing the most approved and least wasteful methods of collection and application, is a very concise and valuable exposition of all the points which a wide experience in dermatological therapeutics has taught him to note. The practitioner will easily master the contents of the book in an hour, and will assuredly add, if he has not hitherto been tempted to do so, the frozen pencil to his armamentarium. It comes to this—that the method may be used in any superficial chronic ailment or malformation of the human skin, provided it is not generalized. It has been found of the greatest value in early rodent ulcer, lupus erythematosus, warts, and angiomata; in these conditions it has almost become the method of choice. The importance of great caution in the case of young children and women with a delicate skin is duly emphasized by the author, and as the danger of producing a slough is almost the only one to be faced in using the remedy, it is always better to do too little at a sitting than too much. These points are well brought out in a paragraph on p. 54, and the excellent microphotographs of the histological changes produced by freezing are calculated to emphasize these warnings by ocular demonstration. The book can be confidently recommended to any one who desires information in simple technique and in ordinary cases, although it hardly covers enough ground as a book of reference for the dermatological expert.

DR. DAVID WALSH'S[6] little handbook on *Diseases of the Skin* for students and practitioners has the merit of being cheap, and is of a more convenient size than most dermatological works, for it is printed on just 300 pages of thin paper. The principal feature to which we would call attention is the emphasis the author rightly lays upon the close connexion between disorders of the circulatory skin with various dermatoses, notably eczema and acne rosacea. It is a connexion which probably every physician with much experience of skin disease has had more or less borne in upon him, and which the specialists themselves have of course recognized, but to which perhaps they have not given as much consideration as its importance merits. We are therefore glad that Dr. Walsh has taken the opportunity to draw attention to the subject. Dr. Walsh is interested also in the association of abnormalities in the thyroid gland with certain conditions of the skin, particularly with the congenital high forehead. In some ways the book is very unequal. The latest theories on the life-history of the *Spirochaeta pallida*, although scarcely yet generally accepted, find mention therein, while, on the other hand, the views put forward on the bacteriology of impetigo and eczema nummulare are

[5] *Carbon Dioxide Snow: its Therapeutic Uses.* By J. Hall-Edwards, L.R.C.P., F.R.S.(Edin.), Hon. F.R.P.S. London: Simpkin, Marshall, Hamilton, Kent and Co. 1913. (Cr. 8vo, pp. 93. 3s. 6d. net.)

[6] *Diseases of the Skin: A Handbook for Students and Practitioners.* By David Walsh, M.D.Edin. London: Baillière, Tindall, and Cox. 1913. (Demy 8vo, pp. 314; 29 figures. 6s. net.)

somewhat confused, and the author does not seem to have grasped the complete significance of Sabouraud's work. In discussing the treatment of ringworm the author warns us against over-stimulation and the use of too powerful remedies; in fact, he says that, should irritation occur, treatment should be suspended. Most dermatologists find that the only effective treatment for ringworm other than *x* rays is to employ something that will cause local inflammation, and thus cause the hairs on the infected patch to drop out. There are one or two slips in the English employed; for example, on page 184 near the bottom, the sentence beginning: "Carbon dioxide snow gives excellent results, and moderately firm pressure . . . being enough to cure . . .", while on page 146 occur the words, "The importance of identification of the pathogenic organism . . . is important." The illustrations are not very numerous, but with few exceptions they are clear.

NOTES ON BOOKS.

If modern mothers are content to remain in ignorance of their duties towards their children, it is not for want of books from which they may learn what those duties are and how they may best discharge them. One of the most practical of the numerous handbooks now issued for the guidance of inexperienced parents is Dr. Louis Starr's *Hygiene of the Nursery*,[7] of which a new and revised edition has recently appeared. This eighth edition has been brought to date, and might serve as a model of what such a book should be. Written in a clear, concise style, and with a careful avoidance of all technicalities likely to confuse the lay reader, it contains what it is necessary for parents to know concerning the health of their children and the management of the nursery, and is full of sound advice as to the many difficulties and problems arising from the care of a young family. The book is well printed, and illustrated with numerous diagrams.

The second edition of Hirschman's *Handbook of Diseases of the Rectum*,[8] "revised and rewritten," is in many respects a better book than the former issue, which was, however, well received. The limitations of local anaesthesia and "office" treatment attain the dignity of a special chapter, and there are indications that the author prefers to keep his practice well within them. The book does not profess to deal, except incidentally, with cancer, but gives a good working account of "obstipation," with bismuth pictures of various types of mechanical obstacles to the normal passage of intestinal contents; of pruritus ani; fissure; ulceration; abscesses of different types and situations; fistula, with good *x*-ray pictures of bismuth-filled tracks; haemorrhoids, many types of which Dr. Hirschman operates upon under local anaesthesia; polypi and "cryptitis"; proctitis and sigmoiditis; dysentery (by Dr. Jelks); prolapse; and concludes with chapters on "technic" and on the examination of the faeces. It is a useful book.

The tendency of all year books to increase in bulk is illustrated by the familiar and indispensable *Whitaker's Almanack*.[9] The forty-sixth annual volume (1914) contains thirty-two pages more than the forty-fifth. This increase is attributable to additions to the general statistical tables and summaries, and the insertion of a certain number of articles on matters of current interest, including land banks, the Insurance Amendment Bill, aeronautics, and wireless telegraphy. The restoration of the page of hall marks on plate will be a matter of satisfaction to many collectors in a small way. In the section giving the officials of public departments, the Insurance Commissions are for the first time included in England, Scotland, and Ireland respectively; the list for England of the secretarial department, the accountant and comptroller-general's department, and of the outdoor staff are already of formidable length. The volume contains additional statistics on housing and town-planning, and on the increased cost of living. Altogether, as we have often had occasion to say in previous years, the almanack is perhaps the most comprehensive and concise published in the English language.

[7] *Hygiene of the Nursery.* By Louis Starr, M.D., LL.D. Eighth edition. London: H. K. Lewis. 1913. (Post 8vo, pp. 341; 26 illustrations. 3s. 6d. net.)

[8] *Handbook of Diseases of the Rectum.* By Louis J. Hirschman, M.D. Second edition. London: Henry Kimpton. 1913. (Med. 8vo, pp. 339; 172 illustrations, 4 plates. 18s. net.)

[9] London: Whitaker and Son. 1914. (Paper edition, 1s.; bound, 2s. 6d.)

Books for Nurses and Students.

Among a number of recently published books for nurses and students the place of honour must be given to *Gynaecology for Nurses and Gynaecological Nursing*,[10] by Dr. Comyns Berkeley. The first edition presented only a few minor defects, and this second edition is altogether admirable. As *proxime accessit* should be regarded *Babies: A Book for Maternity Nurses*,[11] by Miss Margaret French, a sister at the General Lying-in Hospital, York Road. In point of succinctness, clearness of diction, freedom from useless obiter dicta, and soundness of teaching, it is one of the best books on this subject that we have seen. The thirteenth edition of Pye's *Elementary Bandaging and Surgical Dressing*[12] is stated to have been largely rewritten by Mr. W. H. Clayton-Greene, assisted by Mr. V. Zachary Cope. Half of its 230 pages are devoted to questions of emergency and first-aid treatment, but nothing is said about dislocations, and though the book as a whole presents most of the features of the original issue, it seems relatively less up to date. There are some useful illustrations in *Bandaging Made Easy*,[13] and as a rule, but by no means invariably, its authoress, Sister M. R. Hosking, of Tredegar House, Bow, is clear and precise in her directions for the application of different bandages. A good deal of useful information on the subject of preservation of the health and the attentions required by sick persons is supplied in the *Home Nursing Manual*.[14] Its author, Mr. C. F. Wightman, F.R.C.S., has aimed at supplying a kind of appendix to books on first-aid treatment. The illustrations are informing, and each chapter ends with questions for self-examination. Much the same ground is covered by the *Home Nurse's Handbook of Practical Nursing*,[15] but its authoress, Miss Charlotte A. Aikins, who has written a number of other books on the subject of nursing, discusses matters in greater detail and supplies a larger number of illustrations. The book entitled *Labour-Room Clinics*,[16] by Captain V. B. Green-Armytage, I.M.S., is based on notes taken of his extempore lectures at the Eden Hospital, Calcutta, by one of his students. Much of the teaching is in the form of question and answer, and as a means of refreshing the memory just before examination, or of clarifying information derived from larger works, the book might be found useful by medical and other midwifery students. It is interleaved for additional notes. Also in the form of question and answer is *Gynaecology*,[17] one of a "Catechism Series," anonymously written purely from the point of view of the passing of examinations. The fifth edition of *Aids to Gynaecology*[18] is intended presumably to fulfil much the same end, but in form resembles a highly condensed treatise on the subject. It is stated to have been largely rewritten by the author, Dr. S. Jervois Aarons, and while most of the illustrations which appeared in former editions have been omitted, its subject-matter is now grouped under pathological instead of anatomical headings. A third book on this subject, but dealing with it from the standpoint of nurses, is *Diseases of Women*,[19] by Dr. Florence Willey. Having originally appeared as a serial contribution to a nursing paper it is naturally somewhat sketchy in parts, but will no doubt be found highly useful by many nurses, and well describes the precautions which should be taken in dealing with cases of venereal disease.

MEDICAL AND SURGICAL APPLIANCES.

An Inexpensive Transillumination Lamp.

Dr. E. Drybrough-Smith, in concluding a note under this head in the Journal of September 13th, p. 678, stated that he believed the small "pea" lamps he used could be obtained from the Ever Ready Electrical Company, Twickenham. The New British Ever Ready Company, Ltd., Hercules Place, Holloway, London, N., informs us that the company has taken over the British Ever Ready Electrical Company, Ltd., which has been established for many years, and is the only firm or company entitled to sell electrical goods under this name.

[10] The Scientific Press. 2s. 6d. net.
[11] Macmillan and Co. 1s. net.
[12] Bristol: John Wright and Sons. 2s.
[13] London: The Scientific Press. 1s. net.
[14] London: George Gill and Sons. 9d. net.
[15] London: W. B. Saunders Company. 6s. 6d. net.
[16] Calcutta: Thacker, Spink and Co. 2s. 6d. net.
[17] Edinburgh: E. and S. Livingstone. 1s. net.
[18] London: Baillière, Tindall, and Cox. 2s. 6d. net.
[19] London: The Scientific Press. 2s. net.

THE PROGRESS OF SCHOOL HYGIENE.

SIR WILLIAM COLLINS presided at a meeting of the Royal Sanitary Institute on December 9th, when a discussion on the progress of school hygiene was introduced by a report on the Fourth International Congress on School Hygiene at Buffalo by Dr. James Kerr, medical research officer, London County Council.

Dr. KERR grouped the matters with which he dealt into questions of environment, the child's training, and general administration. Of environmental conditions the open-air school was being widely adopted in the contest with debility and tubercle. Fresh air, rest, and feeding were its dominant features, and there was a feeling that residential schools were really required for serious cases and children from homes where tubercle existed. The abundant provision of playgrounds, recreation rooms, and opportunities for swimming and bathing were held to be sound economy and one of the main duties of a municipality, and there Chicago was a decade ahead of any English town. The English class-room was worked to 10 square feet a head; class-rooms which he noted in America and Canada varied from 16 to 21 square feet a head. The most important of school health considerations was effective ventilation. With the average size of class-room and usual English climatic conditions, from 1,000 to 3,000 cubic feet of air per head was hourly required to maintain conditions satisfactory for health, and this could only be obtained by mechanical means. Ventilation formerly supposed to be for the purpose of removing carbon dioxide and poisonous matters excreted by the lungs was now known to be needed for a different purpose, for although a poison in expired air had recently been again asserted to exist, careful workers failed to detect even traces. The purpose of ventilation was the removal of heat from the body, or the prevention of heat accumulation, which interfered with metabolism, inducing the well-known symptoms of fatigue, toxic exhaustion, and breathlessness. Heat was removed by the natural warming of the film of air in contact with the skin; this film must be cooler than the skin, but not too cold to be unpleasant. The specific heat of air, however, was very low, so that air alone did not remove enough heat. A sufficiency was removed only when there was a considerable amount of water vaporized at the surface of the skin, much heat being then rendered latent. The problem of ventilation then became the supply of cool, dry air in a school. Where mechanical arrangements had been used they had generally been discarded, because hitherto, in spite of protests, the mistake had been made of carrying heat by air. All schoolrooms required warming quite separately from the air supply. With class-rooms on the 10 square feet basis any system of natural ventilation would often fail from the health standpoint, and probably 90 to 95 per cent. of English schoolrooms were wanting in this respect: then they helped to manufacture anaemia, debility, and headaches. With a circulation of cool air by a plenum system, or locally by electric fans, even the small class-room could be made healthy. By washing, cooling, and moving the air the health conditions of fresh country air could be reproduced anywhere. These principles had been carried out in America to the extent of advocating "recirculated air" or reventilation.

Lighting of schools was considered at two Buffalo meetings, held jointly with the Engineering Society, and the standard of two-foot candles as the minimum artificial lighting of a school place was unanimously approved. Many views on day lighting were expressed, and an obvious dislike of sunshine in the school was really a climatic peculiarity. Right-handed and back lighting must be adjudged insanitary. The usefulness of a psychological clinic was demonstrated daily, and psychological discussions suggested the need of more leisure for the settling and arranging of memories, and for subconscious thinking. Children did not learn *pro rata* with the hours spent in study. The conservation of nervous energy by adolescents, university students, and teachers was dealt with in several papers, but these subjects were nearly neglected by British school medical officers. Feeding in school came in for commendation on the results obtained. The necessity for abundant public facilities for the care of teeth at early ages was universally accepted. In regard to infectious diseases, the modern view that the town school was a relatively unimportant factor in distribution was well put by several authors of wide experience, and school disinfection was condemned as wasteful and unnecessary. Extreme care, however, was taken with public drinking supplies. In cleansing methods the vacuum arrangements presented novelty. They were first experimentally adopted some years ago in Hamburg.

The school arrangements he saw had piping with wall openings about the size of a fire-plug, communicating with an electrically-worked exhaust machine in the cellar. Oiled floors seemed as generally used as in Germany. The sections on abnormal and defective children dealt mostly with diagnosis and eugenics. A considerable place in the exhibition and on the agenda papers was given to the teaching of sex hygiene in the schools. At a conference of about 2,000 people, the speakers rather skirted the subject, but it was generally handled in a broad-minded way, and very few now seemed to take events, the result of mere awakening instincts, as real evidence of childish depravity. Possibly the teaching of facts or theories in the schools, if they did no actual harm, would do little good, whilst social customs and habits required important physiological functions to be suppressed for the greater part of the years of life in which Nature intended them to be used.

Little was said about medical treatment in hospitals or school clinics. School clinics were taken for granted. Cold feet as an educational complication, and the importance and seriousness of common colds, with the loss both transient and permanent resulting from them, were handled as subjects of importance. The statistician of the American Life Insurance Company analysed the vital statistics of childhood, and the Vice-President of the Metropolitan Life Insurance Company of New York discussed the education of school children in the principles of hygiene. This company carried on an extensive campaign for the health of its clients. It maintained a visiting nurse service in nearly a thousand towns of America and Canada, and they made about a million visits a year. It distributed well got up pamphlets on the health of the worker, consumption, open-air methods, health of babies, health of children, tonsils and adenoids, welfare work, housing, recreation, and so on. The next step would appear to be to contract to keep clients in good health. If it paid a private company to do this in America, it was likely to be found worth doing in England later by or on behalf of the insurance funds.

There was great discussion at the Congress as to whether school hygiene administration should be a separate branch or an integral part of public health. The trend of opinion was that in towns the doctors should be full-time for the important posts, but that the others for medical inspection might be full or part time according to the circumstances. The nurse again put in a strong claim to do most of the medical inspection work. There was a noticeable tendency to overstate her position, and some seemed even to want independence from the doctor. The nurse was generally responsible to the doctor, but she did much treatment herself, and got much done elsewhere. The view was expressed that school hygiene meant more than medical inspection, that the searching out of causes was required, and the prophylaxis of the conditions found on inspection. The intensive study of abnormal children by means of the child-study or psychological laboratory was a source of knowledge which nowadays could not be neglected. The environment of the slum child in its class-room could be made to rival physiologically that of the more costly open-air school if proper attention were paid to the movement, temperature and humidity of the air in the class-room, and to the feeding and resting of the child.

A danger which threatened school hygiene was the loss to the community of expert criticism other than official views of the health of children. There had been a movement going on for years, chiefly among medical officers of health, to promote a State Medical Service. Such a service might give the medical officer of health some advantages in his work, and even improve his status, so that naturally he felt a bias towards it. It was, however, a danger to the medical profession, in that it would result in loss of independence, it would hinder scientific progress, and probably lower the status of the profession; but, above all, it would make a vast difference in socializing the relationship between doctor and patient—a loss to the

comfort and confidence of the community which would be very real, and yet it was possibly a threatening danger.

Dr. Kerr concluded by stating that the next congress would be held in Brussels in August, 1915; he suggested that there might be a preliminary and preparatory conference, perhaps under the auspices of the Royal Sanitary Institute, which had always done much to foster school hygiene. Subjects could be allotted to different workers, who during the next eighteen months could make themselves acquainted with all aspects of what they had in hand could make necessary inquiries and investigations, and be prepared with papers or for discussions.

Among those who took part in the discussion were Professor A. BOSTOCK HILL, Medical Officer, Warwickshire County Council; Miss MARION HUNTER-VAUGHAN; Professor H. R. KENWOOD; Mr. C. W. KIMMINS, Chief Inspector (Education) London County Council; Dr. ERIC PRITCHARD; Mr. J. OSBORNE SMITH; and Miss TURNER, Assistant Inspector (Education) London County Council.

THE INSURANCE STRUGGLE IN GERMANY.

THE Minister of Trade, the Minister of Agriculture, and the Minister of the Interior of the Prussian Government have issued an order dealing with the methods available to the insurance societies should they fail to secure the services of a sufficient number of medical men by January 1st, 1914. The paragraphs mainly dealt with in the new Imperial Insurance Order are 370 and 368.

Paragraph 370 authorizes the insurance societies to pay over a lump sum of money to the insured persons in lieu of medical attendance, medicines, and certain appliances, provided that the insurance societies can show that through no fault of their own they have been unable to secure the services of a sufficient number of medical men under contract. The offer of a contract on the part of the medical practitioners must contain "suitable or appropriate" provisions (*angemessene*), and it is on the interpretation of this particular word that the action of the Prussian Ministers is based.

Paragraph 368 provides for the giving of medical treatment in the absence of any contracts at all. In this instance the doctors employed would be the so-called "advisory staffs," or medical men who, in defiance of the medical organizations, are prepared to do work for the insurance societies but will not put their names to paper.

In the JOURNAL of December 13th, p. 1553, mention was made of the decision of the Imperial Bundesrath in regard to the application of paragraph 370. The Prussian Ministers have now determined that the word *angemessene* shall be interpreted in such a way that when the doctors offer service with free choice of doctor, the institution of arbitration courts, and the right of control by medical organizations, the societies will be justified in regarding the provisions as unsuitable. The Prussian Ministers proceed by suggesting that the insurance societies should proceed by paragraph 370, where it can be shown that a sufficient number of doctors who are either willing to sign contracts or not is not available, and that, in the event of special arrangements being made, paragraph 368 should be temporarily employed. It appears, however, that paragraph 368 could only be applied by a few societies under somewhat exceptional conditions. The action of the Prussian Ministers may be accepted as one antagonistic to the doctors, and there can be little doubt that the reasons which have impelled them to take up this attitude are of a political order. It is to be feared that this action will make it almost impossible for the Imperial Government to interfere in favour of the doctors even in localities in which it might be disposed so to do. It is certain, therefore, that on January 1st the fight which the doctors have attempted to avoid will begin, and will be of a very bitter character.

The executive of the Federation of German Doctors' Unions, acting in consultation with various committees of the Leipzig League, has published a statement containing certain general principles and instructions in the *Berliner Aerzte-Correspondenz* of December 13th, 1913. In this it is pointed out that the struggle is not directed against the insured members of the insurance societies, but only against the executives and managers of these societies. The more drastic the means adopted in this fight, the shorter will the struggle be. Since the conditions are not uniformly the same all over the empire, the instructions are drawn up to meet the various possibilities which may arise locally on the application of paragraph 370. In those cases in which the medical service is rendered as heretofore, the members of the medical organizations are instructed to insist on direct payment to the doctors by the insurance societies in every case. Those medical men who have served on the staffs of the societies up to the present will treat the patients as before, save when either the patient or the society refuses the treatment, or some other provision has been made for medical assistance. The doctors will charge the insurance societies the fees adopted in the scale of minimum fees for the empire for private practice. The fee for medical certificates is to be 2 marks. The doctors are instructed to be influenced in their relations with the patients only by the medical requirements of the case and not by any demands of the insurance societies. In regard to all insured persons who start their insurance claims on or after January 1st, 1914, the local medical organizations will announce that the doctors, immediately paragraph 370 comes into effect, are required only to give medical treatment and certificates in return for the locally accepted private fee, save only in those cases in which the payment of the sum of money in lieu of treatment is applied solely to the payment of the local medical men (to the exclusion of imported doctors) for the treatment of sickness and the provision of certificates. This announcement must be made twice weekly in the local newspapers, by writing to the insurance office and to the insurance societies, and on placards in large type in the doctors' waiting-rooms and consulting-rooms or surgeries. In writing to the insurance office, the local medical organization is to request permission for the application of paragraph 119, in order to enable the patients to authorize the societies to pay to the doctors the sums due for treatment and certificates out of the moneys standing to their credit with the societies. This letter was to be sent toward the middle of December, in order that a reply, which is to be published, may be received about December 26th or 27th. If the insurance office agrees to apply the paragraph, the doctor must obtain the signature of the patient to a printed agreement acknowledging the scale of fees, and assigning his claim for money payments from the society to the doctor. If the patient continues to work during the treatment, he will be required to pay a small sum (2 marks) as a guarantee of good faith, which will be repaid him after the termination of the treatment. When the treatment consists of a single visit, payment must be demanded at the time, and a receipt given. In the case of a patient not being able to produce evidence that he is a member of any given insurance society, the doctor is to require the immediate payment of the sum which he estimates as the cost of the whole attendance, and to give a receipt for the money paid. As soon as the treatment is complete an account must be rendered at once. Should the insurance office refuse to apply paragraph 119, the doctor is to require the payment of a sum of money which is in accordance with the nature of the illness and its probable duration before the treatment is begun. Immediately after the treatment is ended an account has to be rendered. All accounts must in the first place be sent to the local medical organization, who will forward them either directly to the insurance society concerned or to the patient. If the patient has signed the transference of his claims to the doctor, this document must be sent to the insurance society with the account. Payment must be required of the patients within a short definite period, such as one week; after this legal measures are to be adopted for the recovery of the money if this has not been paid. When a doctor is sent for in the country, a conveyance or the money for the hire of the same must be sent. Should the insurance societies attempt to fight the doctors by the institution of so-called "out-patients' departments," or other places of medical treatment at which the members of the "advisory" staff of newly imported medical men are employed, contrary to the sanction of the local profession, or should the treatment and certification be handed over to insurance society officials, employers, midwives, nurses, or other persons (see BRITISH MEDICAL JOURNAL, December

6th. p. 1504), the certification and medical treatment is to be left rigidly in the hands of these persons. The local medical organizations are strongly urged to enforce these instructions on their members, and the duty is further imposed upon them of distributing the sums of money which they collect equitably in order to counterbalance any attempted boycott of an individual medical man. Lastly, it will be required of them to come to an understanding with hospital surgeons and physicians, and also with the managers and owners of polyclinics, as to the best means of preventing the insurance societies from abusing these institutions in the struggle against the doctors.

If the profession is strong enough and sufficiently united to carry out the fight on these lines, and to refuse all medical attendance save in accordance with the conditions contained in these instructions, an easy victory for the doctors is confidently anticipated. It will, of course, be necessary for them to indicate in no ambiguous manner to the State insurance offices the hardships to which the obstinacy of the insurance societies and the partiality of the Governments have led, and to cast every shred of responsibility for this on to the shoulders of those who refused to accept the reasonable terms contained in the draft principles of the doctors. But while the insured must suffer considerably under such terms of service as these, it is evident that a determined fight of this kind cannot be of long duration, and we can only express the hope that the insurance societies will see the wisdom of yielding before many months have passed.

ASSOCIATION OF CERTIFYING FACTORY SURGEONS.

Annual Meeting.

THE annual meeting of the incorporated Association of Certifying Factory Surgeons took place at the Grand Hotel, Manchester, on December 12th, under the chairmanship of the President, Dr. E. RAYNER, of Stockport.

The Honorary Secretary, Dr. W. F. DEARDEN, in presenting a report on the year's work, stated that the members who sent in abstracts of their annual reports accounted for nearly 300,000 examinations and over 8,000 rejections during the year, and that certificates qualified by conditions as to employment had numbered almost 6,000. Rejections had gone up from 1.1 per cent. in 1903 to 3.05 in 1912. There was still marked variation at different ages. The percentage of rejections for physical incapacity to examinations in children under 14, working half-time, was 3.25 per cent.; in young persons of 13, working full time, 2.75 per cent., and in young persons 14 to 16, working full time, 1.93 per cent. A little progress had been made with the Board of Trade in the matter of providing confidential information to local juvenile labour bureaux as to the class of employment for which rejected children and young persons should be considered suitable. The form this confidential report should take had been decided upon, and supplies were being sent to factory surgeons in various districts. Owing to the fact that the Government had declined to pay the suggested notification fee of 1s. per case, the scheme had not been taken up with any enthusiasm by certifying surgeons as a whole. It was stated that the council of the association had agreed to act as a committee of organization for this country for the third International Congress on Industrial Diseases, which is to meet at Vienna in September next. The main business was the consideration of a report by a subcommittee on the conditions regulating the appointment and duties of certifying surgeons, and certain recommendations attached. In order that any recommendation sent in to the Home Office should represent the views of all certifying surgeons, members had been invited to give the freest possible criticism to the report of the Committee, and many who had not been able to attend had sent in their comments by letter. The main suggestions of the Committee were as follows:

1. Where possible, appointments should be made sufficiently remunerative, by absorption of vacant districts, to make the surgeon independent of private practice, and there should be promotion from one district to another.

2. That medical inspectors, of experience both in industrial hygiene and the special work of the certifying surgeon, should be attached to each superintending inspector's district, to supervise generally the work of the district surgeons, and to carry out scientific observations for the department.

3. That the certifying surgeon ought to be enabled to participate in a scheme of superannuation.

4. The certificate of fitness requirement should be extended to females up to 18 years of age and to young persons employed in mines.

5. The power to attach conditions to the certificate should apply to the individual as well as to employment, and no examination should be made elsewhere than the factory.

6. That the preliminary investigation made by the certifying surgeon into the causation of accidents is extremely useful, and that no hitherto suggested change in the system can compare with the present one for economy with efficiency.

7. The modern tendency of the Department to increase the obligations of the office, and at the same time cut down the surgeon's earning capacity by increasing the number of centres in his district, calls for a revision of the fees now paid, and the basis for certifying should be altered from 6d. to 1s.

8. The fee for examinations made under the Compensation Act should be increased and be made a charge against the insurance, and the certifying surgeon should be asked for his views when cases came before the medical referee.

9. When Departmental Committees are formed to consider matters appertaining to their office certifying surgeons should be represented on such bodies.

10. When regulations affecting the duties and appointment are under revision the Department might safely imitate the action of the Local Government Board in obtaining the views of those who have executive experience on any alterations suggested.

The officers for the year 1914 were elected, Dr. John Hedley of Middlesbrough becoming president and Dr. W. F. Dearden and Dr. T. Watts again taking on the duties of honorary secretary and treasurer respectively. The meeting was followed by the annual dinner.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE Governors and General Council of King Edward's Hospital Fund for London made their awards for the current year to hospitals, convalescent homes, and consumption sanatoriums, at a meeting at St. James's Palace, on December 12th, the DUKE OF TECK being in the chair.

The Honorary Treasurer, Lord ROTHSCHILD, in presenting his report, stated that the sums received by the Fund up to December 6th amounted, after payment of expenses, to £150,692. Mr. Eckstein, one of the executors of the late Sir Julius Wernher, had told him that £265,000 would shortly be paid to the Fund from the deceased's estate, and that later on a further sum, bringing up the whole bequest to £465,000, would probably be forthcoming. The Fund could not look forward to receiving such large bequests very often, so the treasurer proposed that this windfall, together with the moneys received and to be received from the estate of the late Mr. Samuel Lewis, should be treated not as income like the ordinary legacies received by the Fund, but as capital, and invested permanently. Sir HENRY BURDETT also made his annual statement on behalf of the League of Mercy. Accounts had not yet been received from all the districts in which the League worked, but it seemed certain that it would be able to contribute the same amount as last year.

The Distribution Committee.

The report of the Distribution Committee, read by its chairman, Sir WILLIAM CHURCH, showed that there had been placed in its hands a sum of £151,000, while the number of hospitals applying for grants was 106 as against 104 last year. Although the total amount to be distributed remained as before, there were numerous, and in some cases considerable, variations in the grants recommended. This was because the grants were based on an examination of all the circumstances affecting the claims of each hospital each year in relation to those of other institutions, including the financial position of each of them as disclosed by their income and expenditure accounts and balance sheets for the last concluded year. Hence it must not be assumed that a reduction in the grant to any particular institution implied dissatisfaction with its work. With regard to St. George's Hospital, its authorities had rendered their accounts for the year 1912 in an amended form; this reduced the amount paid out of the general fund of the hospital to the medical school in respect of specific work done by it for patients to

a sum not exceeding that charged prior to the payment which led to the suspension of a grant from King Edward's Hospital Fund. Hence the Distribution Committee found itself in a position once more to recommend a grant to this institution. As for amalgamation schemes, progress had been made with that relating to the British Lying-in Hospital and the Home for Mothers and Babies at Woolwich, so it was recommended that £1,500 should be set aside towards this scheme. No grant towards throat, nose, and ear hospitals was recommended, since it was decided in 1911 that the sum set aside towards a general amalgamation of the five hospitals in question should remain at £20,500 pending agreement on a satisfactory scheme or schemes. The committee understood that a partial scheme was at present under consideration. The grant of £5,000 towards the King's Hospital Removal Fund brought up the total amount contributed to this object to £53,000. The committee desired once more to draw the attention of promoters of new hospitals to the advisability of their submitting their proposals to the Fund. Although it was true that in no circumstances could a grant be made to an institution which had not been in existence for at least three years, it was nevertheless desirable in the interests of any proposed new institution, as well as on general grounds, that the opinion of the Fund on the question of the necessity for a new hospital should be sought before, rather than after, any definite action had been taken.

Awards.

The awards recommended by the Distribution Committee and the Convalescent Homes Committee amounted together to £157,500—namely, ordinary grants to hospitals, £149,500; special grant set aside for the amalgamation of the British Lying-in Hospital and the Home for Mothers and Babies, Woolwich, £1,500; convalescent homes, £2,525; and consumptive sanatoriums, £3,975. Both committees prefaced their lists of awards by statements to the effect that the absence of a grant did not necessarily imply dissatisfaction with the institution concerned. The following items cover the principal hospitals, large and small, and show the ground on which, when stated, the awards were recommended or withheld:

Alexandra Hospital for Children.—£250, of which £50 to balconies.

Beckenham Cottage Hospital.—£25.

Belgrave Hospital.—£1,250, of which £500 to reduce building debt.

Blackheath and Charlton Cottage Hospital.—£150, of which £50 to new Nurses' Home.

Bolingbroke Hospital.—£1,000.

Central London Ophthalmic Hospital.—£750, of which £500 to equipment of new building.

Central London Throat and Ear Hospital.—No grant, for reasons stated in regard to the Hospital for Diseases of the Throat.

Charing Cross Hospital.—£5,500, of which £1,000 to redemption of mortgage debt and £1,500 to new free wards in accordance with the scheme submitted to the Fund.

Chelsea Hospital for Women.—£2,000, of which £1,500 to rebuilding in accordance with the scheme submitted to the Fund.

Cheyne Hospital for Sick and Incurable Children.—£50, in consideration of the fact that some curable cases are admitted.

City of London Hospital for Diseases of the Chest, Victoria Park.—£4,000, of which £500 to improvements subject to scheme being submitted to the Fund.

City of London Lying-in Hospital.—£500.

Clapham Maternity Hospital.—£2,100, of which £2,000 to reconstruction in accordance with the scheme submitted to the Fund.

Dreadnought Hospital.—£4,000, of which £500 to renewal of floors.

East End Mothers' Lying-in Home.—£200.

East London Hospital for Children.—£2,000.

Eltham and Mottingham Cottage Hospital.—£75.

Finchley Cottage Hospital.—£25.

Florence Nightingale Hospital for Gentlewomen.—£200.

French Hospital.—£100.

Friedenheim Hospital.—£75.

General Lying-in Hospital.—£200.

German Hospital.—£100.

Gordon Hospital for Fistula, etc.—£25.

Great Northern Central Hospital.—£5,000, of which £2,000 to reduce debt on general fund.

Grosvenor Hospital for Women.—£350.

Guy's Hospital.—£7,000, of which £1,500 to building improvements, in accordance with the scheme submitted to the Fund.

Hampstead General Hospital.—£2,750, of which £500 to reduce general fund debt and £500 in accordance with agreement upon amalgamation with North-West London Hospital.

Home and Infirmary for Sick Children.—£250.

Hospital and Home for Incurable Children, Hampstead.—£50, in consideration of the fact that some curable cases are admitted.

Hospital for Consumption, Brompton (including Sanatorium at Frimley).—£4,500.

Hospital for Diseases of the Throat.—No grant. Capital grants amounting to £20,500 have been set aside and promised for the purpose of a general amalgamation of the throat, nose, and ear hospitals.

Hospital for Epilepsy and Paralysis.—£1,500, of which £500 to recent extension in accordance with the scheme submitted to the Fund.

Hospital for Sick Children.—£3,000.

Hospital for Women, Soho Square.—£2,000, of which £1,000 to reduce mortgage debt.

Hospital of St. John and St. Elizabeth.—£400.

Infants' Hospital.—£25.

Italian Hospital.—£200.

Kensington and Fulham General Hospital.—£25.

Kensington Dispensary and Children's Hospital.—£25.

King Edward Memorial Hospital (Ealing).—£550, of which £150 to provision of mortuary.

King's College Hospital.—£6,500, of which £5,000 to removal fund.

Leyton, Walthamstow, and Wanstead Children's and General Hospital.—£350.

London Fever Hospital.—£2,050, of which £2,000 to rebuilding of isolation block in accordance with the scheme submitted to the Fund.

London Homœopathic Hospital.—£600.

London Hospital.—£12,000.

London Lock Hospital.—£3,250, of which £1,100 to the Harrow Road Hospital, £500 to sanitary improvements at the Harrow Road Hospital, and £1,650 to enable the new hospital at Dean Street to be equipped and opened free of debt.

London Temperance Hospital.—£1,200.

London Throat Hospital.—No grant, for reason stated in regard to the Hospital for Diseases of the Throat.

Maternity Charity and District Nurses' Home, Plaistow.—£200.

Medical Mission Hospital, Balaam Street, Plaistow.—£350.

Memorial Hospital, Mildmay Park.—£50.

Metropolitan Hospital.—£3,000.

Middlesex Hospital.—£5,000, of which £500 to improvements.

Middlesex Hospital Cancer Charity.—£100.

Mildmay Mission Hospital.—£400, of which £100 to scheme for new lift.

Miller General Hospital for South-East London.—£2,500, of which £1,500 to extension in accordance with the scheme submitted to the Fund.

National Dental Hospital.—£300.

National Hospital for Diseases of the Heart.—No grant.

National Hospital for the Paralysed and Epileptic.—£3,000, of which £500 to reduce debt.

Nelson Hospital (late South Wimbledon, etc.).—£400, of which £200 towards completion of building.

New Hospital for Women.—£500.

Norwood Cottage Hospital.—£25.

Paddington Green Children's Hospital.—£500.

Passmore Edwards Acton Cottage Hospital.—£150.

Passmore Edwards East Ham Hospital.—£75.

Passmore Edwards Hospital for Willesden.—£25.

Passmore Edwards Cottage Hospital, Wood Green.—£50.

Poplar Hospital.—£400, of which £200 to new lift in accordance with the scheme submitted to the Fund.

Prince of Wales's General Hospital.—£4,500, of which £2,000 to reduce debt. The Committee are glad to observe the economical administration of this hospital, which they consider should receive more substantial support from the public.

Queen Charlotte's Lying-in Hospital.—£1,750, of which £1,000 to new out-patient department in accordance with the scheme submitted to the Fund.

Queen's Hospital for Children.—£3,250, of which £1,250 to reduce building debt.

Royal Dental Hospital of London.—£750, of which £500 to reduce building debt.

Royal Ear Hospital.—No grant, for reasons stated in regard to the Hospital for Diseases of the Throat.

Royal Eye Hospital.—£500.

Royal Free Hospital.—£5,000, of which £2,500 to rebuilding of out-patient department in accordance with the scheme submitted to the Fund.

Royal Hospital for Diseases of the Chest, City Road.—£1,250.

Royal Hospital, Richmond.—200.

Royal London Ophthalmic Hospital.—£2,250.

Royal National Orthopædic Hospital.—£3,000, of which £1,000 to reduce debt.

Royal Waterloo Hospital for Children and Women.—£1,250.

Royal Westminster Ophthalmic Hospital.—£50.

St. George's Hospital.—£3,000.

St. John's Hospital for Diseases of the Skin.—No grant.

St. John's Hospital, Lewisham.—£300.

St. Luke's House.—£25.

St. Mark's Hospital.—£400.

St. Mary's Hospital.—£5,500, of which £500 to reduction of general fund debt, and £500 to reconstruction of casualty department in accordance with the scheme submitted to the Fund.

St. Mary's Hospital for Women and Children, Plaistow.—£2,000, of which £1,500 to new nurses' home and out-patient department, subject to the scheme being submitted to the Fund.

St. Monica's Hospital.—£50.
St. Peter's Hospital for Stone.—£150.
St. Saviour's Hospital, Osnaburgh Street.—£150.
Salvation Army Maternity Hospital.—No grant. The new hospital was only opened at the end of October.
Samaritan Free Hospital.—£1,000.
Santa Claus Home.—£25.
University College Hospital.—£4,000.
Victoria Hospital for Children.—£800.
West End Hospital for Diseases of the Nervous System.—£350.
Western Ophthalmic Hospital.—£500 to reduction of debt on rebuilding of out-patient department.
West Ham and East London Hospital.—£3,500, of which £500 to recent improvements.
West London Hospital.—£5,000, of which £2,000 to new nurses' home, subject to the scheme being submitted to the Fund.
Westminster Hospital.—£3,500, of which £500 to reduce debt.
Wimbledon Cottage Hospital.—£100.
Woolwich and Plumstead Cottage Hospital.—£50.

Sanatoriums and Convalescent Homes.

The Convalescent Homes Committee reported that it had had placed in its hands a sum of £6,500, while the applications eligible for consideration amounted to 46 from convalescent homes, and 10 from consumption sanatoriums, the former number being an increase of 2 as compared with the previous year. In regard to the convalescent homes, the committee had adhered to its policy of giving special consideration to those closely connected with London hospitals, while it had continued its practice of making grants to sanatoriums on the basis of the reservation of a certain number of beds for the use of patients from London hospitals. In this way the committee had last year secured 39 beds: this year 44 beds had been secured at the same number of institutions—namely, 2 beds for children at the Maitland Sanatorium, Oxon.; 10 adult beds at the Devon and Cornwall Sanatorium; 10 at the Kelling Sanatorium, Norfolk; 10 at the Benenden Sanatorium, Kent; and 12 at the Northampton Sanatorium. Of these beds, 18 had been allocated to the City of London Hospital for Diseases of the Chest; 9 to the Royal Hospital for Diseases of the Chest; 6 each to the London and Guy's Hospitals, and 5 to the Middlesex Hospital. All the sanatoriums applying for grants had been duly inspected. The awards made to sanatoriums numbered 10, these varying from £25 in the case of the Daneswood Sanatorium for Jews, and £50 each in the cases of the Children's Sanatorium, Holt, Norfolk; the Evelyn Chest Hospital, St. Leonard's, and the Fairlight Sanatorium, Hastings, to £875 each in the case of the Devon and Cornwall Sanatorium, the Kelling Sanatorium, Norfolk, and the Sanatorium for Workers at Benenden, Kent, and £1,050 in that of the Northampton Sanatorium. The awards to convalescent homes numbered 40, but averaged much smaller amounts, these ranging from £25 to £50 in the case of most institutions to £150 in the case of the Metropolitan Convalescent Institution at Walton, and to £400 in that of the Convalescent Branch of the Middlesex Hospital at Clacton.

Letter from the King.

Before proposing the adoption of the reports the Duke of Teck read a letter addressed to himself as Presiding Governor of the Fund by direction of His Majesty, its Patron and Past-President. The letter congratulated the Council upon the progress made by the Fund during the past year, but pointed out that with the rise of prices and the increased cost of special treatments there must be a constant tendency for the needs of hospitals to become greater. The letter also conveyed His Majesty's thanks to the honorary and other officers of the Fund, and expressed regret at the retirement from its service of Sir Trevor Lawrence, and Mr. Danvers Power, who, in addition to initiating the statistical report, had been honorary secretary of the Fund for three years, and in other ways had long devoted himself to its interests.

Commenting on the contents of the various reports, the Duke of Teck pointed out that the treasurer's report was more satisfactory than last year, when, in order to keep the distribution total up to that for previous years, it had been necessary to draw a considerable amount from reserves. This year, though receipts from donations had somewhat fallen off, annual subscriptions showed an increase, and the estimated income from investments a considerable increase; furthermore, receipts from legacies were once more up to the average of the past five years, instead of below it as in 1912. All would welcome St. George's Hospital back to the list of grantees. It had, he hoped, always been understood by the public that the Fund suggested no want of good faith on the part of the authorities of St. George's Hospital. The difficulties between the Fund and them arose solely because the former was bound by a special trust in the matter of the financial relations of hospitals and medical schools. It was quite natural that those who had not had the responsibility of carrying out that trust, and who had not had the long experience of the Council in applying it impartially to the different circumstances of many different hospitals, should sometimes fail to realize the standpoint from which the Council was bound to approach any particular case. As for consumption sanatoriums, there was no doubt that, whatever the future might bring forth in the way of public machinery for dealing with tuberculosis, the demands on the voluntary hospitals for the treatment of consumption in its early stages were still most pressing. The statistical report, which had been issued as usual this year, showed a general increase in hospital expenditure, which was in some cases due to causes common to all hospitals. Since the publication of the revised system of hospital accounts seven years ago, certain minor differences in applying the rules of that system had grown up, and in consequence some supplementary regulations and suggestions had been issued by the Fund.

The reports were then adopted, the meeting ending, after formal resolutions relating to the delegation of the powers of the Council to the various committees had been passed, with a vote of thanks to the Duke of Teck for presiding.

SCIENCE NOTES.

AT the Brussels Congress of Radiology and Electricity in September, 1910, an international committee was appointed to fix an international standard of radium. This committee met in Paris in March, 1912, when a standard prepared by Madame Curie was compared with another independent standard prepared in Vienna by Professor Hönigschmidt. The two standards were found to agree well within the limits of accuracy of measurement. The measurement was made by means of the penetrating gamma rays, and Professor Rutherford, in a note in a recent issue of *Nature*, observes that the fact that independent measurements agreed so closely is a striking testimony to the accuracy of the method. The standard prepared by Madame Curie has been deposited in the Bureau du Poids et Mesures at Sèvres, near Paris; that prepared by Professor Hönigschmidt is in the custody of the Academy of Sciences in Vienna. The standards will not leave these resting places, but arrangements were made to allow governments to obtain duplicates, and the Austrian Government undertook to provide the radium required at a considerable reduction of price. Six governments have now obtained duplicate standards, and the National Physical Laboratory in this country has announced that it is prepared to standardize preparations of radium and mesothorium, but will for the present confine itself to undertaking the standardization of strong preparations only. The National Physical Laboratory and the Charlottenburg Reichsanstalt will both express the activity of preparations in terms of metallic radium and not in terms of bromide or chloride. This decision Professor Rutherford commends on the ground that it is more definite and scientific to express the results in this form, and he adds that it is very desirable that all radium should be bought and sold in terms of metallic radium, thus avoiding the uncertainty that sometimes arises as to whether the preparation is being sold as anhydrous radium bromide, or radium bromide with its water of crystallization. The standard prepared by Madame Curie consists of 21.99 mg. of radium chloride, and its cost was therefore considerable. This difficulty was generously met by Dr. Beilby, F.R.S., and his wife, who as a personal tribute to Madame Curie and her work defrayed the cost of the radium forming the international standard, and thus relieved the International Committee from the necessity of collecting special funds for the purpose. When it was determined to obtain a duplicate standard to be placed in the charge of the National Physical Laboratory at

Teddington, Dr. Beilby again generously agreed to defray the expense of the British standard, which contains about 20 mg. of pure radium chloride.

Some interesting, though to a certain extent inconclusive, experiments on the sterilization of milk by an electrical method were described recently before the Roentgen Society by Professor W. G. Duffield. Working with Mr. T. Murray he had followed the plan of submitting samples of milk to the passage of electrified gases, and noting at intervals of hours the rate at which acidity developed, as compared with the same phenomenon in an untreated sample. An induction coil was used for this purpose, and air or nitrogen (filtered through cotton-wool in certain of the experiments) was made to convey the products of the spark discharge into the milk. Considerable differences were perceptible when the curves of acidity for the treated and untreated samples were plotted out. The acidity of the treated sample appeared quickly to reach its maximum and then to remain stationary, whereas the acidity of the control ran up rather rapidly in a period of fifty hours. Professor Duffield suggested that the effect in the case of the treated milk might be due to the killing of some of the spore bearers, so that the acidity ceased to increase. A typical comparison may be given in which the electrical discharge had run for fifty-two minutes:

Hours.	Acidity of Control.	Acidity of Treated Milk.
0	2	2
16	2.1	2
40	2.8	2.1
64	9	5.9

The acidity expressed in numbers of cubic centimetres of alkali necessary to produce neutralization in a certain quantity of milk.

With very short exposures, such as one or five minutes, the difference was much less apparent. The acidity of the control and of the treated sample in one instance were tested after 120 hours, when they were found to be approximately equal. The exact cause of the reduction or, more properly perhaps, the retardation of the acidity, was not determined, either in the communication itself or in the subsequent discussion. Was the action on the milk due to chemical products, or was the milk affected by the ionized particles themselves? Various experimental attempts were made by the investigators to solve this problem, and these, so far as they went, appeared to indicate that the chief agent was chemical and not electrical. The aid of a skilled bacteriologist was called in to ascertain the actual extent of the inhibitory action on the growth of the bacteria, and his examination of the samples showed that there was a marked diminution in the number of germ colonies in the case of the treated milk; it was concluded that a very large number of the organisms were destroyed, and the germicidal or toxic influence, whatever its precise nature might be, seemed to remain in evidence (according to the most recent experiment) for at least five days after exposure to the discharge. The subject elicited an interesting discussion, several speakers inquiring whether there was scientific basis for the popular idea that a thunderstorm soured the milk. Professor Duffield said that his experiments pointed in the opposite direction so far as the electrical conditions were concerned; but temperature effects, of course, had to be considered.

Various observers from time to time have recorded the presence of acid-fast bacilli in the stools of tuberculous patients, some maintaining that they exist in the faeces only when present also in the sputum, while others maintain that they may be present in the former and yet absent in the latter. But some doubt has been expressed whether these acid-fast bacilli are really in many cases tubercle bacilli, for such organisms have been found even in tap water. Laird, Kite, and Stewart (*Journal of Medical Research*, October, 1913) have investigated the question by cultural and experimental methods, and have found that in practically all cases in which tubercle bacilli exist in the sputum they can be found also in the faeces, though they may be present in a few cases in the latter only. They come there probably from swallowing the sputum, or more rarely from tuberculous ulceration of the intestinal wall, though a conveyance from the blood stream cannot be excluded.

LITERARY NOTES.

Messrs J. and A. Churchill will publish almost immediately the *Medical Directory* for 1914. It was in 1844 that Mr. John Churchill, the grandfather of the present partners of the firm, issued the first of the series. To celebrate its seventieth birthday the publishers have printed all names and addresses in black type. It is believed that this will facilitate ready reference.

Messrs. George Routledge and Sons, Ltd., will publish in January, 1914, a *Handbook of Photomicrography*, by H. Lloyd Hind, B.Sc., F.I.C., and W. Brough Randles, B.Sc., Lecturer in Biology, Derby Technical College, with 44 plates, comprising 8 three-colour reproductions of direct colour-photomicrographs and 85 half-tone reproductions of photomicrographs, and 71 text illustrations. The book is the outcome of a series of articles originally published in the *Photographic Monthly*, and is intended as an introduction to photomicrography from a photographic point of view.

Dr. Raymond Crawfurd, author of *The King's Evil* and *The Last Days of Charles II*, has written an historical survey of *Pestilence in Literature and Art*. The book will be published by the Oxford University Press.

The Christmas number of *Truth* reviews the events of the year in a satirical vein. The part that will most interest our readers describes the great fight between St. George and the Dragon, the Phthisiconsumptiosaurus. St. George's plan was to catch a sufficient number of leeches, which he was to place in the "mammoth four-poster" that served the monster as a bed—

> That when he comes in and to bye-bye he goes
> The leeches might suck him while lapped in repose.

When he carried his pot full of leeches into the dragon's bedroom and turned them out on the ground a surprise awaited him, for—

> Stooping to pick 'em up, lo, and behold!
> A sight that first made him grow hot and then cold!
> For the whole blessed lot
> Were scarce out of the pot
> When up on their little hind tails they all got.
> And when he said, "What
> Do you mean by this rot?"
> Their reply almost caused him to faint on the spot.
> "You took us and in that there jam-pot confined,
> The duty of sucking to us you assigned
> Without ever asking us if we should mind!
> Or saying, 'Pray, will you?' or 'Please be so kind.'
> And further than that, you the cheek had to bet about it,
> And we don't mean, we promise, to let you forget about it.
> In short, we have struck;
> The whole thing we chuck;
> And nothing on earth shall induce us to suck."
> "You won't?" gasped the Saint, turning pale at the gill.
> "No," answered the leeches; "we're blest if we will!"

It was an awkward position, but St. George's ingenuity did not fail him. For:

> The kitchen he rummaged, nor long was at fault,
> For he quickly came back with a big box of salt;
> Which was no sooner done
> Than each mother's son
> Of the leeches came down off his tail with a run.
> You could, in the circumstance, naught else expect on 'em;
> Salt has such a horrid, upsetting effect on 'em.
> The Saint, quite believing he'd got 'em in hand
> And that none of them now would his wishes withstand,
> Picked them up off the floor, uncovered the bed first,
> And next, one by one, dropped the leeches in head-first.

The plan of bleeding did not altogether succeed, for the leeches "bungled their job," but St. George slew the monster all the same. This may be prophetic, but it might have been history had St. George condescended in the first instance to take counsel with the leeches as to his plan of campaign. The issue, as usual, contains a number of illustrations, coloured and plain, all of topical interest.

Mr. George Ives has written a *History of Penal Methods*, in which he has embodied the fruits of many years' research. He reviews the subject from the primitive ideas of the Middle Ages down to the present day. The work, which includes chapters on the witch trials, treatment of the insane, and on the sources of crime, as well as its prevention and cure, will be published by Messrs. Stanley Paul.

British Medical Journal.

SATURDAY, DECEMBER 20TH, 1913.

BULLET WOUNDS OF ARTERIES AND THEIR RESULTS.

ALTHOUGH the civil surgeon has few opportunities of meeting with bullet wounds of arteries, they are an interesting subject of clinical study, and Mr. Makins, when shortly after his return from the South African war, he published his surgical experiences, naturally had much to tell of the immediate and remote effects of these wounds. In the Bradshaw Lecture, which will be found in this issue, he brings the matter completely up to date, and discusses the many interesting problems which arise in connexion with it.

There have been changes in the shape of the rifle bullet since 1900. The bullets used in the Balkan wars were longer, narrower, and more pointed than those used in the South African war, and it is obvious that the character of the injuries must be different. The chief features in the wounds of vessels produced by bullets of small calibre are lessened liability to external secondary haemorrhage, and the greatly increased frequency of the development of some form of aneurysm. These peculiarities are to be attributed partly to improved surgical treatment and partly to the narrow clean track of the bullet. It is a primary rule in surgery that the bleeding vessel should be secured as soon as possible after the injury. In military surgery this rule cannot be generally applied and an anomaly in surgery thus arises. Mr. Makins is led to discuss the methods by which Nature controls the bleeding from arteries thus injured. The vessel may be occluded primarily by provisional thrombus, and the wounds in the vessel may cicatrize. This has been observed *post mortem* in the superficial femoral fifteen days after injury in a case in which the patient died of enteric fever, and in the abdominal aorta in a case in which the patient died seventy days later from subphrenic abscess. Adhesion of the vessels and nerves may provide another means of occlusion. Spontaneous cure may be the end result of haematoma due to injuries to arteries, contraction to form circumscribed traumatic aneurysms ensuing and, eventually, consolidation. Development of pure aneurysmal varix is regarded by Mr. Makins as another of Nature's methods of cure; it is a permanent arrest of haemorrhage by a spontaneous process of healing. Here the channel of communication is lined throughout by intima.

The difficulties of treatment are considerable. Primary ligature is the only operation which can be performed on the field, and it is limited to cases in which haemorrhage is endangering life. The results of primary suture of the injured artery have so far not given much ground to hope that this method of treatment, which may be considered the ideal, can be applied, chiefly because of the length of time which must elapse before the patient can be brought to a hospital where an operation demanding such delicate manipulations is possible, and also because of the nature of the injury to the wall of the vessel and the accumulation of blood clot around it.

In military surgery the treatment of secondary results of wounds of arteries is of chief moment. That is to say, not the wound of the artery itself but its sequela—arterial haematoma, traumatic aneurysm, arterio-venous aneurysm, or aneurysmal varix—has to be dealt with. Arterio-venous aneurysm is a surgical condition known from antiquity, but it has been enormously increased in frequency in modern times by the employment of the small calibre bullet. Mr. Makins discusses five methods of treatment, each of which has its own suitability. His general conclusion is that progress in the branch of military surgery concerned with arterial wounds by bullets of small calibre is in the direction of greater conservatism and more watchful expectancy—an experience similar to that with regard to injuries caused by the same agents in bones and nerves and in the abdomen.

The end results of some cases of injury of artery and vein producing aneurysmal varix are narrated by Mr. Makins in the second edition of his book, recently published.[1] He points out that the most striking feature in these injuries is their remarkable effect in disturbing the even flow of the circulation. The pulse may be irritable and rapid—120 to 140 a minute. In a case of carotid arterio-venous aneurysm the simultaneous occurrence of laryngeal paralysis pointed to injury of the vagus: but this paralysis disappeared in due time, and the rapid pulse persisted for at least a year, varying in rate from 110 to 130, showing that the vagus injury was not the cause of the irritability. The acceleration of pulse was observed by Mr. Makins to be present in injuries far distant from the vagus: in a femoral aneurysm the rate was 120, in an axillary varix of twenty years' standing the rate varied from 110 to 120, according to the position of the patient. He suggests the possibility that the irritable circulation recognized hitherto as a predisposing cause of spontaneous aneurysm may require to be regarded as an effect of the condition.

Five cases of arterio-venous aneurysm are described by Mr. Makins in some detail, and with notes of their after-history. Even in large aneurysms localization and shrinkage of the sac was striking, and this may be regarded as the preliminary step to consolidation and cure. It occurred satisfactorily in three cases: in the other two death was the final result: in one case four years after the original injury from bursting of the aneurysm; in the second ten years after the injury during operation for distal ligature of the common carotid. All five cases might reasonably be regarded as successful, as even in the fatal cases death occurred late. That cure may take place without operation, as in two of the cases recorded, is a very remarkable fact.

THREE GREAT EXPERIMENTS IN REPRODUCTION.

Now and again large social movements have taken origin and have even gained considerable impetus before the community in general has fairly realized that they exist; the more or less underground workings of the life of the body politic are not always immediately reflected in the newspapers of the day; some events arrive unheralded. It has been so in large measure with the causes underlying the phenomenon of the falling birth-rate. Controversy has not yet finished its discussion of the nature of these causes; from some points of view it can hardly

[1] *Surgical Experiences in South Africa, 1899–1900.* By George Henry Makins, C.B., F.R.C.S. Second edition. London: H. Frowde, and Hodder and Stoughton. 1913. (Med. 8vo, pp. 520; 28 plates, 103 figures, 6 charts. 10s. 6d. net.)

be said to have well begun to consider them, far less to classify, collate, and critically compare them. Nevertheless, there is probably no one who will deny that one of them, at least, is the practice of voluntarily limiting the number of births which take place in married life. The means employed doubtless varies within wide limits, reaching on the one hand from an exaggeration of self restraint or continence in matrimony which is reminiscent of the celibatic asceticism and austerities of the anchorites of the Middle Ages to the simple and easy use, on the other hand, of the check, physiological, physical, or chemical; but the fact remains that, as a speaker recently put it, in some remarks made at a conference in Edinburgh on the falling birth-rate,[1] the human race has now begun an experiment upon its reproduction similar to those which it has in times past made upon its digestion and other bodily functions. No one can tell what effects this quiet, concealed, and yet widespread and persistent experimenting will have: some will say one thing and others another, and possibly the Commission which is now sitting in London upon this subject will be able to declare in which direction the general stream of opinion is flowing; but it cannot be denied that a somewhat ominous darkness obscures the whole outlook, and that thinking men, having regard to France, and noting the longer delayed but now more rapid descent of the birth-rate in our own country, entertain the gravest apprehensions for the future—apprehensions which are no less grave because they cannot be formulated in precise terms. Civilized mankind has embarked upon a perilous voyage, without a compass, and with hardly a clear notion regarding its desired haven.

But the falling birth rate represents only one of at least three experiments upon its reproduction which the human race is making or is preparing to make at the present time. There is the eugenic ideal, the somewhat visionary and elusive if most desirable Utopia of the future, peopled with the chosen descendants of the properly mated "fit" persons of the present generation; but the trouble is what to do with the "unfit." Are we to revert to "the method of Genesis—the Flood," and by sterilization and segregation stop the arrival of the undesirable? Are we, on the other hand, to put our trust in the slow methods of social reform and rely upon the persistent impact of healthy surroundings upon the tough fibre of hereditary tendencies? It is hard to see how a people which refuses to vaccinate its babies at word of hygienic command will lightly accept the sterilization and segregation of its "unfit," or will, for that matter, receive the eugenist's classification of his fellow mortals into flowers and weeds, fit and unfit. The other alternative is less difficult of acceptance; but then unfortunately the reclamation of the unfit goes so slowly, has so little to show, that the longing for the nobler race passes into the imperative mood, whilst the outcry against "breeding our manhood from the shotts" grows louder. The ordinary man, with no special propaganda or cult to bias his thought, says: Let us go on with the method of healing; let us still try at least to make the homes hygienic, the surroundings clean both in the physical and moral sense; and let us give the little unfit one when he arrives the benefit of the doubt, for after all he may be the carrier of some stray streak of a healthful righteousness in his complex germ-plasm, and may turn out to be valiant in fight against heredity

The third experiment to which the human race may now be said to stand pledged is that which has been called "antenatal hygiene." Antenatal hygiene stands over against and, so to say, in opposition to antenatal pathology; and the two together constitute the whole of our knowledge of health and disease before birth. In his *Manual of Antenatal Pathology and Hygiene*, which appeared some ten or eleven years ago, Dr. Ballantyne gave, it is true, comparatively small space to hygiene; but events have happened in these years—prematernity work has been commenced in Edinburgh, a prenatal health campaign has been organized in Boston, and beneficent "endo-uterine puericulture" has been set agoing in France—and the inquirer is now in a much better position to fill in the details and to estimate the hopefulness of attempts which have as their aim the making of the surroundings of the unborn infant healthy and health-giving. The environment of the unborn infant is his mother; from the moment of impregnation the new being can receive no more from his father either of good or ill, but in the following nine months he can receive much from his mother both of good and ill. The health reformer, therefore, sees in this fact the promise, upon a large scale, of an experiment in reproduction, and he looks forward hopefully to the improvement in the health of the infant at birth which must follow upon the making of his antenatal maternal environment all that it ought to be. He will look to the expectant mother's diet, will give her bodily and mental quiet or that degree of exercise which shall be for the best, will quickly and effectively treat any of the disorders (great or small) which arise in the term of her expectancy, will check even the beginnings of evil, and then he will look confidently forward to the birth. His dream, nevertheless, may not come true, and that for two reasons: he may find an hereditary strain towards disease which is too strong to be conquered even in the more plastic body of the embryo and fetus—a rigid Weismannism rears "its horrid front" against him, and he may discover that he has only succeeded in giving the power of survival to an hereditarily "unfit" being; or he may have the conclusion forced upon him that the laws of antenatal hygiene and of the physiology of pregnancy are more complex than he had thought, and that even parents of good heredity, living in hygienic surroundings, free from vices, with tissues not in the receipt of racial or individual poisons, and suffering from no maladies, may yet have a poorly nourished and weakly progeny, or, happily, he may encounter the very opposite. He must not, however, take discouragement either from the one side or the other.

It is just possible—although we are laying ourselves open to the charge of heresy from some quarters in saying so—that the laws of heredity may not be so rigid as Weismannism will have it, and that the unalterable germ-plasm, like the indivisible atom, may have surprises in store for us; and it is more than possible—it is highly probable—that a study of the life before birth in all its complex maternal and fetal interactions may discover circumstances and laws which explain the failures, and show us how they may be converted into successes.

[1] BRITISH MEDICAL JOURNAL, vol. ii, 1913, p. 1168.

Dr. KNAPP, who is leaving Lucan, was recently entertained to dinner by a number of friends. Mr. J. L. Scallan presided, and in presenting Dr. Knapp with an address expressed the regret felt throughout the district at his departure, and wished both him and Mrs. Knapp all success. In replying Dr. Knapp expressed his thanks for the presentation, and for the kindness and goodwill extended to him during his stay in Lucan.

SIR JOHN WILLIAMS.

THE Honourable Society of Cymmrodorion, founded in 1751 "for the encouragement of literature, science, and art as connected with Wales," held its annual banquet in London on December 12th, and among those especially honoured was a distinguished member of the medical profession whose patriotic generosity has made his name a household word in the Principality. The awards were announced in a few well-chosen words by Sir Vincent Evans, secretary of the society, and the presentations were made by Lord Pontypridd. The Cymmrodorion Medal was instituted many years ago "in recognition of distinguished services rendered to Wales in connexion with literature, science, and art," but until the festival last week had been conferred upon two persons only —the late Reverend Dr. William Rees (*Gwilym Hiraethog*), a well-known divine, publicist, and orator; and the late Reverend Dr. Daniel Silvan Evans, a learned lexicographer and antiquary. On December 12th it was conferred on three other Welshmen, in recognition of their distinguished services to Wales—the Right Hon. Sir John Rhys, M.A., D.Litt., Professor of Celtic, and Principal of Jesus College in the University of Oxford, for his labours in many fields of activity for many years, and, in particular, in recognition of his contributions to Celtic research and learning, and his devotion to the cause of Welsh education; Sir John Williams, Bart., G.C.V.O., M.D., for his work for Wales, and in particular for his generous endowment of Welsh learning, and his encouragement of Welsh literary research in connexion with the National Library of Wales; and John Edward Lloyd, M.A., Professor of History, and Registrar of the University College of North Wales, for his standard work on the *History of Wales to the Edwardian Conquest*, and other contributions to Welsh history. Unfortunately, Sir John Williams was prevented by indisposition from attending to receive the medal, but those present, who numbered several hundred, gave cordial expression to the pleasure with which they heard the announcement, and Mr. Llewellyn Williams, K.C., M.P., correctly interpreted their feelings when he spoke of Sir John as "the beloved physician, who, after a career of superlative excellence in his profession, has returned to his native land to enrich her with the splendour of his literary treasures, and still more, with the example and the inspiration of his pure patriotism." The medal, a highly artistic and beautiful piece of emblematic work, was designed by Joseph Edwards, a mystic sculptor whom Wales has forgotten to honour as he deserved.

STATUES OF JENNER IN ENGLAND.

WE have received from Mr. J. Arden Thomas, of Cheltenham, a copy of a short account of the life and work of Edward Jenner, contributed by him to the *Pharmaceutical Journal* of October 18th. Most of Mr. Thomas's information has, he says, been obtained from Baron's *Life of Jenner*. This makes it all the more remarkable that, in referring to the fact that Jenner's discovery was received with indifference and even with active hostility, he should state that "even his friend, Dr. Hunter, was opposed to it and gave Jenner little or no encouragement." In Baron's work (London, 1827, vol. i) the following passage occurs at p. 124: "As has already been stated, Jenner went in 1770 to prosecute his studies under Mr. Hunter. Among other subjects of interest which he carried with him from the country and which he repeatedly mentioned to his teacher was that of cow-pox. Mr. Hunter never damped the ardour of a pupil by suggesting doubts or difficulties. On the contrary, as was usual with him on all occasions when the matter in hand admitted it being brought to the test of experiment, he advised that *trial* should be made, and that accuracy and faithfulness should guide the investigation. In cases of this kind he would say, 'Don't *think*, but *try*; be patient, be accurate.' In language such as this he incited all who came within the sphere of his influence to cultivate their art, and his own example most fully accorded with his precept. It does not appear that his mind was ever so fully impressed with the probable consequences of the successful elucidation of the subject of cow-pox as Jenner's was. This, perhaps, is not to be wondered at, considering the extent of his occupations and the great number of original and important pursuits which fully engrossed his attention. He certainly, however, made known Jenner's opinions and the traditions in Gloucestershire both in his lectures and to his friends in conversation; and other lecturers on his authority mentioned them to their pupils." This, at any rate, shows that Hunter was not "opposed" to Jenner's discovery. Mr. Thomas is also incorrect in his conjecture than "Perhaps the only memorial to Dr. Jenner in England is his statue erected by public subscription in Gloucester Cathedral." Besides this there is the bronze statue by Calder Marshall, R.A., mentioned by Baron (op. cit.); it was removed from its original site in Trafalgar Square to Kensington Gardens in 1862. The cost of this statue was defrayed by public subscriptions raised by a committee of which Dr. Conolly was chairman. It was unveiled by the Prince Consort in May, 1858. The statue by Sievier which stands at the west end of the nave of Gloucester Cathedral was also erected by subscription. There are two busts—one by H. Corbould, a drawing of which forms the frontispiece of Baron's book; and one by S. Manning. There is also a memorial window in Berkeley Church with the following inscription: "The east window in the chancel was erected October, A.D. 1873, by voluntary subscriptions to the memory of the late Edward Jenner, M.D., the discoverer of vaccination, who was born in this parish A.D. 1749 and died at the Chantry, Berkeley, A.D. 1823, and was interred in the north-east corner of the chancel." It was proposed that Jenner should be buried in Westminster Abbey. This proposal, however, came to nothing, although, in the words of Mr. Secretary Peel, "there was every disposition on the part of the Government to honour the memory of the distinguished individual in question, and it was only out of respect to the wishes and feelings of his relatives that he had not been publicly interred in Westminster Abbey." This cryptic utterance seems to be an official way of saying that it had been intended that the cost of the funeral was to fall, not on the public, as the words might seem to imply, but on the family. Mainly for that reason they declined the proposal. Reproductions of the statue in Kensington Gardens and of the memorial window and tablet in Berkeley Church were published in the Jenner Centenary Number of the BRITISH MEDICAL JOURNAL of May 23rd, 1896. In that number a long list of portraits, medals, diplomas, and other testimonials of the honour in which Jenner was held is given. We fully agree with Mr. Arden Thomas, however, that "probably only a small percentage of the English population realize the importance and lifelong protection which they receive when they undergo their first small operation in infancy."

THE RATIFICATION OF THE INTERNATIONAL OPIUM CONVENTION.

IN articles which appeared in the JOURNAL on July 19th and October 25th last the then position of the international endeavour to suppress the abuse of opium, morphine and cocaine was fully explained. The Second International Opium Conference, held at the Hague last July, took steps whereby the thirty-four Powers there represented were to urge the dozen or so abstaining Powers to sign the Convention, and it was unanimously resolved that, in the event of such signature by all the then outstanding Powers not having been obtained by December 31st next, the Netherlands Government should be requested to invite all the

signatories to send representatives to the Hague to consider, not the question of ratification, but of putting into force the Convention of January, 1912. It will be remembered that the Conference of last July had been summoned in accordance with Article 23 of the International Convention in order to consider whether, inasmuch as all the Powers had not then signed, ratification of the Convention might nevertheless proceed. It was there and then resolved that such signatory Powers as were ready to deposit their ratifications might forthwith proceed to do so, and we understand that several deposits have in fact been made at the Ministry for Foreign Affairs at the Hague. The declaration made by Great Britain postponing ratification until certain named Powers should have signed was received with some degree of disappointment. It was understood from the statements made by the British plenipotentiaries, Mr. Max Müller and Sir William Collins, that if and when Norway and Sweden, Switzerland, Austro-Hungary, and Peru signed the Convention Great Britain would feel that the moment for ratification of the Convention by her had arrived, and that until then the postponement of ratification by Great Britain might be more influential in achieving the ultimate object in view. We now learn from the Netherlands that since July Uruguay, Peru, Norway, and Sweden have affixed their signatures, and that Switzerland, Austro-Hungary, and Montenegro have declared their willingness to do so. The only remaining Powers are, we believe, Bulgaria, Greece, Servia, Roumania, and Turkey. The Balkan States were not, we gather from the discussions of the second conference, which have now been issued, deemed to be of cardinal importance, and it is clear from the debates of the first conference in January, 1912, that ratification was not to be postponed until each and every invited Power had come in. We venture to think that the time has now arrived, and the required conditions have been fulfilled, to permit Great Britain to proceed forthwith to ratify the Convention which her delegates were so largely responsible for drafting. Such action, without awaiting the date fixed by the last conference for a further review of the situation, would, we feel sure, bring satisfaction to those Powers and persons who were somewhat disappointed at her attitude last July, and would hasten the time when effective international control shall be placed on the growing use for illicit and non-medical purposes of these habit-forming drugs.

DIAGNOSTIC INJECTIONS OF TUBERCULIN.

In this country there is at present great difference of opinion as to the advisability of injecting tuberculin hypodermically for the purpose of diagnosis. Even those who employ this method do not always agree in the matters of technique and the interpretations of the various reactions. A referendum has lately been taken by the Viennese weekly journal, *Medizinische Klinik*, which has addressed the following questions to numerous authorities: (1) What diagnostic conclusions do you draw from a positive reaction to tuberculin given subcutaneously? (2) Up to what limits (1 mg., 5 mg., and 10 mg.) do you consider the reaction as indicating early active tuberculosis? (3) Have you had experience of errors of diagnosis, particularly a positive reaction in cases of inactive and healed tuberculosis, in cases of hyperthyroidism, and exogenous or endogenous psychopathies? The answers to these questions, published on November 23rd, reveal conflicting views. Several physicians and surgeons answered that they had given up the subcutaneous method, or that they employ it in a few cases only. Others, though practising this method, were much at variance in their estimate of the dose which should distinguish between active and "cured" tuberculosis. Professor Fraenkel (Berlin) considered that a positive reaction was convincing evidence of tuberculosis, although the site of the disease could not then be determined unless the diseased organ showed a focal reaction. Early and active tuberculosis could, he believed, be diagnosed when the reaction to quite small doses, of $\frac{1}{2}$ to 1 mg., was positive. He usually began the test with $\frac{1}{2}$ mg., and repeated this dose in four to six days. In this way a reaction was often provoked owing to the first injection having increased the patient's susceptibility to tuberculin. He did not think he had ever been misled by the reaction. Professor Gerhardt (Würzburg) answered the first question more cautiously. In his opinion a positive reaction in a suspect probably indicated tuberculosis. He had, however, seen a case in which a positive reaction was not confirmed by any demonstrable macroscopic tuberculous lesion at the necropsy. Professor Schultze (Bonn) stated that he did not practise the subcutaneous method, preferring von Pirquet's. He had lately treated a case of pulmonary tuberculosis with therapeutic injections of minute quantities of old tuberculin. The febrile reaction provoked persisted till the patient's death. As this showed that small quantities of tuberculin might be fatal, the administration of large doses for diagnostic purposes was, he held, strongly to be deprecated. Professor O. de la Camp (Freiburg) stated that his practice was to give subcutaneous injections of Rosenbach's tuberculin in doses of 0.2, 0.4, 0.6, and 0.8 c.cm., and expressed his belief that in the 500 cases thus tested he got a positive reaction only in the presence of active disease, and that he had not hitherto been misled. Professor Ortner (Vienna) did not consider a general reaction to tuberculin irrefutable evidence of active tuberculosis, but considered a focal reaction to be in most cases a sign of active disease, though even a "focal" reaction might mislead in a case of pulmonary tuberculosis complicated by nephrolithiasis, the tuberculin inducing haematuria and renal pain. Professor Staihelin (Basel) regarded a focal reaction as indicating tuberculosis. When an injection provoked fever only, the patient was probably tuberculous, and when suspicious signs appeared in the lung it was probably the site of tuberculosis. Professor Neisser (Stettin) stated that he looked on a violent reaction to 0.1 or 1 mg. as a sign of early active tuberculosis. Most of his cases of inactive "cured" tuberculosis gave a moderate reaction to 5 mg. and over; but this also happened in many cases in which there was no suspicion of tuberculosis, and also in cases of hyperthyroidism and in certain psychopathies. He considered that the reaction might be misleading in various circumstances, particularly when the temperature was already not quite steady and the patient was weak. He also regarded the distinction between active and inactive tuberculosis as very difficult. Professor Stadelmann (Berlin) advised great caution in the interpretation of a rise of temperature. Not every slight rise was conclusive, and the various tuberculins do not act alike. Only when the temperature rose to over 101.3 F. did he consider it proof of tuberculosis. He held that diagnostic injections of tuberculin should be limited to obscure cases in which the disease was slight, and considered the method unsafe even when the first injection contained only 1 mg. Rest in bed, close observation, and a record of the temperature every two hours were in his opinion essential; he protested emphatically against diagnostic injections in out-patient practice. It is thus evident that the diagnosis of tuberculosis by tuberculin is at present regarded by many of those best qualified to judge as dangerous and uncertain.

DIETARY OF THE ANCIENT HEBRIDEAN.

At a recent meeting in Edinburgh of the Society of Antiquaries of Scotland, the results of an expedition organized by Mr. A. Henderson Bishop and Mr. Ludovic Mann, Glasgow, last summer, by permission of Lord Strathcona, to elucidate various problems connected with

one of the most distant horizons yet discerned in Scotland, were presented. It had long been suspected that on the west shores of Scotland traces could be detected of a civilization which existed somewhere between the later phases of the older Stone Age and the earlier phases of the younger Stone Age—that is, between the Palæolithic and the Neolithic periods. With the exception of two isolated relics, England, Wales, and Ireland had yielded no vestiges of that interesting "overlap" period. A few sites, however, had been detected in the Hebrides, and two, if not three, on the mainland of Scotland. This demonstrated that there was no hiatus or break in the continuity of the human occupation of the British Isles since Palæolithic times. The island of Oronsay was selected for the operations of the expedition, as it was thought likely to offer the richest field for investigation. A large quantity of the material taken from the sites is at present under examination by specialists at South Kensington. The dietary of the Oronsay man was lavish and varied—much more so than that of the average present-day Britisher. The report of the botanists had not yet been completed, and the vegetarian tastes of these Hebrideans had not yet been clearly brought out. Hazel nuts occurred plentifully in the kitchen refuse. Some twenty-four species of molluscs were apparently gathered and eaten, and some dozen species of fish stocked their larder. Of wild fowl the ancient Hebridean had an abundance, including the extinct great auk. It was remarkable that on Oronsay traces of feasts on the flesh of swine and red deer had been found. This meant that the Oronsay hunter followed the chase on the larger islands, if not on the mainland, at a distance of many miles across the water from his own island. The characteristic weapon of the period was the flat-headed harpoon of bone or horn, with several barbs. And yet, of the many hundreds of his implements which had been discovered, there was not one at all suited to the excavation of canoes from a single log. Perhaps, therefore, his vessels were made of skins stretched on frames of wickerwork. It was likely, then, that the coracle type of craft preceded in the British area the dug-out canoe. It was clear that he lived a communal life, and traces of post-holes gave some indication that his dwelling-house was a kind of wigwam or cave-like structure erected against the face of sloping ground. Everything pointed to the period being of immense antiquity, and it is thought a key has been obtained which may solve the problem of the chronological valuation. It would seem that the period was at least 20,000 years old.

A REMEDY FOR DEPOPULATION.

Among the remedies that have been suggested for the depopulation of France, which is becoming more and more acute, have been several affecting the disposal of property. One proposal is that every estate should be divided at least into four parts, those not going to children being confiscated by the State; another is complete exemption of large families from taxation. Another suggestion of a different kind, which, though much less drastic, would probably be much more effectual, has recently been made. This is to incorporate in the scheme of electoral reform now under discussion the principle that every living French citizen should be represented, including women and children. While waiting for female suffrage every head of a family should have as many votes as he represents persons—one if he is a bachelor; two if married without children; three, four, five, etc., if he has one, two, three children, who do not themselves vote. This seems logical, and would give men who do not shirk their duty as citizens a plural vote, which would have to be reckoned with. Fathers of families would no longer be crushed as they now are under military burdens proportionate to the number of their children, and under taxes on food and houses, which increase with the number of little mouths there are to fill. At every turn of legislation—fiscal successional, military—the influence of big families would come into play, because they would be effectually represented and defended, and because they would count at the poll, and therefore could not be neglected by politicians out to catch votes. The force of the big family may thus become a lever which by continual movements would adjust the balance of political power, and the result might be a gradual modification of the mentality of a people which has no longer the wish to reproduce itself, and in this way is manifestly tending to national extinction.

THE SCHOOL DOCTOR IN JAPAN.

Since 1891 there has been attached to the Ministry of Instruction of Japan a medical councillor whose function it is to deal with questions relating to the hygiene of schools. In 1896 a commission composed of a number of eminent persons was appointed to draw up a scheme of legislation on school hygiene uniform for the whole country. In consequence of the recommendations of this commission a law was passed in 1898 which brought the school doctor into existence. In 1903 there were in Japan 11,868 schools with 6,459 doctors. To-day the proportion remains about the same. By special concession communes with a population less than 5,000 are exempt from the necessity of having a medical officer to themselves. The work of the school doctor in Japan would not seem to be hard, since three-fourths of them have only one school to attend, a third have two, while the rest have three or more. It is estimated that a school doctor has under observation not less than 500 pupils. Every communal school in Japan has no fewer than twelve classes. The medical officer has to visit every year in April all the pupils, examining them minutely, and must report on official forms the results of his examinations to the Government. Moreover, he has to keep a watchful eye to prevent the spread of infectious diseases, and to see that the buildings, desks, and so forth are kept in a good sanitary condition. Great attention is paid to physical education in the Japanese schools. In the communal and middle schools three hours a week, in the upper schools for girls three to six hours, and in the training colleges from two to four hours are given to gymnastics. In the lower classes gymnastics are represented by games. In the upper classes they assume a military character, and in these classes sports are also taught, among them being swimming. From a very remote period great attention has been given to physical education in Japan. The Japanese are very fond of sports, manual work, and music. In the higher schools for girls hygiene and physiology are included among the courses of natural science. In the training colleges the students must write essays on school hygiene. In the elementary schools there are readings on the importance of gymnastics and physical exercises for the preservation of health. There is no corporal punishment, and no religious teaching, moral instruction taking its place. In addition to Sundays, Japanese school children have ninety days' holiday in the year, divided into three periods. In the communal schools a rest of fifteen minutes is allowed for every hour of work.

A NEW TYPE OF CEREBRAL MALDEVELOPMENT.

Drs. G. A. Sutherland and H. Paterson[1] have studied two cases of what they name "forebrain aplasia" in infants. The condition is characterized by a definite series of signs and symptoms during life, and after death finds its explanation in definite pathological changes in the brain. Both patients were females, and there was nothing in the family history to throw light upon the affection. Both

[1] *Quarterly Journal of Medicine*, Oxford, 1913, vii, 61.

were pleasing and healthy looking types of babyhood, but strikingly placid, apathetic, insensitive, and when they died, at the ages of 9 weeks and 6 months respectively, had given no evidence of being able to see or hear. Fits of automatic crying occurred at irregular intervals, yawning was a marked feature throughout, sucking and swallowing were seriously interfered with. Curious vicissitudes in the rhythm of respiration and the heart's action were observed; for no apparent reason the respiration would rise to the rate of 120 or 160 a minute, and was cyclic in character with periods of tachypnoea and apnoea; attacks of tachycardia up to a rate of 200 a minute were observed in both the patients, and causeless pyrexial attacks were met with. Twitching of the limbs was the first sign noted in each case, and was a prominent feature throughout; sensation was entirely absent. At the *post-mortem* examination external hydrocephalus was found; the whole of the cerebral hemispheres, with the exception of the extreme hinder parts of the posterior lobes, was atrophied; the cerebellum, medulla, pons, and basal ganglia presented a normal appearance, and the blood supply seemed to be normal. In fact, only those parts of the brain that are developed from the anterior vesicle or prosencephalon were primarily affected in these two cases. The authors of this paper are to be congratulated upon the isolation of a fairly definite clinical type of cerebral maldevelopment from the many possible varieties of that condition.

INDUSTRIAL ILLUMINATION.

THE National Gas Exhibition is a thing of the past, and no doubt the many thousands of visitors who made the aisles almost impassable during the closing days are taking its lessons to heart. According to one of the lecturers 600,000 kitchen chimneys still start smoking every morning in the London area, so that there is a pretty considerable lump for the reformative leaven to work in. One incidental drawback that struck us in making a final round was the fact that all the model rooms, alike in the town flat and the country cottage, were over-lighted. This excess, of course, is essential for exhibition purposes, but it is to be hoped that no unthinking visitor will draw the conclusion that five burners are necessary in a room where one or two will suffice. A useful corrective of such an impression was provided at the conferences, where it was pointed out repeatedly that the appetite for light grew by what it fed upon, and that Nature resented excess of light as much as excess in anything else. Professor Vivian B. Lewes made this very clear at the final conference—one of manufacturers—when he said that while there was not the slightest doubt that bad lighting (in factories and workshops more particularly) meant accidents, inefficiency, and strained eyesight, yet it was also a fact that the more light people had the more they wanted, and that it was a debatable point whether the increasing amount of light which people were accustoming themselves to use was not having a serious effect upon the general eyesight. Proper lighting, he added, was much more a question of the proper arrangement of lamps than of candle power. The main subject for discussion at this particular conference was the lighting as well as the heating and ventilation of the workshop. The weavers in cotton mills, Professor Lewes said, needed a very high degree of illumination, and many other trades required less; but while it was impossible to lay down any hard and fast rules, it had always seemed to him that, no matter what the trade, a large workshop required two perfectly distinct methods of lighting—namely, a general illumination which enabled the whole of the floor space and machinery to be seen perfectly, and a local illumination concentrated on the special work each man was carrying out. Mr. Leon Gaster said that he believed that in years to come the immense economic importance of light would be recognized far more fully than to-day, with the result that the illuminating apparatus and the machine to be illuminated would be considered as one unit, and that no factory would be schemed out without as much scientific planning for the artificial lighting as for the maximum window space.

GASEOUS EMBOLISM AFTER ARTIFICIAL PNEUMOTHORAX.

IN discussing the risks of gaseous embolism in the treatment of phthisis by an artificial pneumothorax, I. Holmgren[1] states that in the course of about one thousand injections he has had one fatal and one serious case. In the first of these an attempt was made to collapse the left lung. A saline solution was injected into the pleurae, and was followed by 200 c.cm. of nitrogen under considerable pressure. The discomfort and giddiness which followed soon passed off, and the operation was repeated several times with impunity, 200 to 300 c.cm. of gas being introduced on each occasion into the chest. After 160 c.cm. had been admitted at the sixth injection, the patient suddenly became dyspnoeic and cyanosed. Consciousness was lost, the pulse was 50, and the eyes were rotated to the left and slightly upwards. The muscles of the neck and shoulder on the left side contracted, and the patient died in a position of opisthotonos fifteen minutes after the onset of the attack. In the second case several injections of gas had been given on the left side when, immediately after an injection of 500 c.cm., the patient became partially unconscious. His respiration was 40 and his pulse 120. There were muscular contractions of the left hand and foot, and deviation of the eyes to the left. After about ten minutes the attack began to pass off, but the patient did not recover till next day. The injections were discontinued. The author thinks that the lung was adherent to the chest wall in both these cases, and that he had not, as he first thought, formed an intrapleural pneumothorax. He also thinks that the same mistake has been made by writers who have reported cases which ended fatally in the course of refilling a purely hypothetical intrapleural pneumothorax. Even the manometric oscillations may be misleading, for when the lung is emphysematous and the point of the needle is lodged in the lung, oscillations may occur which are indistinguishable from those observed when the point of the needle is in the pleural cavity. Though gas may be, and often is, injected into the lung by mistake without harm, the risk of embolism, if the gas be under high pressure, is considerable. In doubtful cases, therefore, it is advisable to let the patient aspirate into his chest gas which is under atmospheric pressure, or a little less. When over 100 c.cm. of gas have been rapidly sucked into the chest by this method, and large oscillations about a mean negative pressure have occurred, the operator may be sure that a true intrapleural pneumothorax has been formed. But if the needle has penetrated both layers of the pleurae, and is lodged in emphysematous lung, small manometric oscillations may appear about a mean negative pressure. The operator may be further misled into believing that the needle's point is between the layers of the pleurae by finding that gas escapes easily into the chest, and that the intrathoracic pressure slowly rises as if a small intrapleural pocket of gas were being formed. This may, in fact, be the case; but if the rise of pressure in the gas within the chest is followed by a slow and steady fall before the needle is withdrawn, the gas has almost certainly escaped through the lung. In one case the author injected 120 c.cm. of gas under atmospheric pressure into the chest after small oscillations about a mean negative pressure of 6 cm. of water had appeared. Later, it was found that the pleurae were everywhere adherent, and that the gas had escaped above the clavicle, where it caused surgical emphysema. Thus misleading manometric readings may be given when the needle's point is on one

[1] Hygiea, November, 1912.

side or other of adherent pleurae: and when in doubt as to the interpretation of a manometric reading the author injects a small quantity of saline solution through the pneumothorax needle before he admits any gas. Then, if the needle be in the lung, the patient will cough; but if it be between the layers of the pleura, this will not happen. With free pleurae and large oscillations about a negative mean pressure, this precaution is superfluous, and the risk of gaseous embolism negligible.

SALVARSAN IN PERNICIOUS ANAEMIA.

COMPARATIVELY few cases of pernicious anaemia in which injections of salvarsan have been tried have been reported since Dr. Byrom Bramwell communicated the results of this treatment in the BRITISH MEDICAL JOURNAL (1912, vol. i, p. 1413). Amongst his seven cases favourable results were obtained in four. Friedländer published the account of a case which, though uninfluenced by Fowler's solution, rapidly recovered after two injections of salvarsan, followed by sodium cacodylate. Leede had previously recorded five cases with no beneficial effect. Four of these were practically moribund before recourse was had to salvarsan. Recently Boggs[1] recounted the effect of salvarsan in four cases under his own care, and in seven others treated by colleagues. Of the latter, two were apparently moribund, and no good effect was observed, whilst five showed distinct improvement after an initial drop in the blood count following injection. The interesting observation is made that previous treatment with Fowler's solution did not add to the risk of salvarsan administration. Of Boggs's own four cases all showed a favourable response to the drug, both in the relief of symptoms and in the regeneration of the blood. In none of the cases was there any suspicion of syphilis, and the serum and cerebro-spinal fluid were negative to the Wassermann test. Two of these cases, as the result of a single injection, became greatly improved, and the red corpuscular count increased by 2,000,000. The subsequent history is not recorded. A third case showed a very striking result. This was a patient in his fifth relapse, which remained quite refractory to Fowler's solution, and practically refractory to sodium cacodylate injections extending over four months. Salvarsan was then given intravenously in doses of 0.3 gram every four weeks, with the result that there was a steady rise in the number of red cells from an initial 500,000 to 5,000,000 at the end of sixteen weeks. The percentage of haemoglobin also rose from 23 to 90. Save for mild degenerative changes in the spinal cord, the patient was quite well. During treatment he had an attack of tertian malaria accompanied by a fall in the red cell count, but this rose again after quinine and the next dose of salvarsan. For six months afterwards he was kept under observation whilst employed as lift-man in the hospital, but was afterwards lost sight of. In the fourth case, in which nervous symptoms preceded the onset of blood changes, the red-cell count rose from 1,100,000 to 3,400,000 in twenty days after the first injection, eventually attaining a level of 4,000,000 (with 85 per cent. haemoglobin), but this was not maintained. The blood regeneration failed, and there was a speedy relapse, followed again by a rise to the normal after two more injections, but at no time were the qualitative changes absent from the blood picture. Relapses and recoveries went on for over a year, when the patient died of intercurrent bronchopneumonia. *Post-mortem* examination revealed the typical changes of pernicious anaemia with funicular degeneration in the cord. In all the eleven cases it was found that the salvarsan provoked a rather sharp febrile reaction, lasting for six to twelve hours after each injection, in marked contrast to the effect produced in syphilitics. All the necessary precautions in technique for the avoidance of such reactions were taken.

[1] *Johns Hopkins Hospital Bulletin*, October, 1913.

A "DIVISION OF CHILD HYGIENE."

THE "Division of Child Hygiene" is an administrative term. It covers the work of several branches of sanitary work carried on in several boroughs of New York which were amalgamated in 1908. A report for 1912[1] deals with midwives, infant mortality, foundling babies, day nurseries, institutions for dependent children, medical inspection and examination of school children, and with employment certificates. The organization of the service for this health work is set out in detail. Under each several section of the report are printed the notices and leaflets that are distributed to the public on health matters: some of these are very good, and well worthy of imitation in more than one part of this country. The instructions to midwives are excellent, and the fruits of that instruction are to be seen in the statistics of child-births. The incidence of ophthalmia neonatorum is small, and very similar to that found for cities at home. The report states that in 1909 the number of babies visited was 18,042, and 22 cases of ophthalmia neonatorum were found; in 1910 there were 23 cases amongst 32,201 births attended by midwives. The section on infant mortality is the report of many years' working of the "Summer Corps," a body of physicians and nurses who canvass the tenements of the most congested quarters of the city. They treat all sick babies found whose parents are otherwise unable to obtain medical care. An admirable handbill to be given to mothers is reproduced; it is headed "How to keep the baby well," and beneath there is a delightful picture of a mother with her baby. Then follows: "Food. Nurse your baby. Mother's milk is the best of all foods for babies. Ten bottle-fed babies die to one that is breast-fed"; and thereon follow directions about clothes, water, air, rest, and the like. In these days of bottle-feeding advertisements, got up to present a fair delusive form with the intent to secure fat dividends, it is well that the community should provide equally attractive advertisements for the securing of fat babies. And the broad-sheet of New York City is so much the more attractive, for it is natural.

IN the course of an all-night sitting on December 16th the London County Council considered the question of the future housing of London University. The Education Committee recommended approval of the Somerset House site, but the Improvements Committee advised the erection of buildings on the south bank of the Thames adjoining the County Hall now being built at the south-east corner of Westminster Bridge. This proposal, however, was negatived by 28 votes to 26, and the Council agreed to join with the Senate of the University in asking the Government to grant the use of Somerset House and to be responsible for the cost of housing the University, as heretofore.

ON December 4th Sir Andrew J. Horne and Sir Robert H. Woods were entertained at a complimentary banquet in the Royal College of Surgeons of Ireland, in recognition of the honour of the knighthood recently conferred upon them. The attendance was representative of the medical and other professions in Dublin. The Right Hon. C. A. O'Connor, Master of the Rolls, presided, having on his right and left the guests of the evening. The menu card was of artistic design, and contained excellent pictures of Sir Andrew Horne and Sir Robert Woods, each wearing his academic robes. Dr. James Little proposed the health of the guests in a suitable speech, and during the evening a programme of vocal music was provided.

[1] *The Division of Child Hygiene of the Department of Health of the City of New York.* By S. Josephine Baker, M.D., Director of School Hygiene. No. 4, Monograph Series. New York: Department of Health. 1912. (Demy 8vo, pp. 103.)

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

London County Council.

Provision of a Street Ambulance Service.

The General Purposes Committee reported to the Council on December 16th against the scheme prepared by the Metropolitan Asylums Board, at the request of the London County Council, for the provision of a street ambulance service for the metropolis,[1] on the grounds that it was not in accordance with the Metropolitan Ambulances Act of 1909, and that it was proposed that the administration should be wholly in the hands of the Asylums Board while the Council bore the cost. The Committee had come to the conclusion that the organization and provision of an efficient system must rest with the Council. A certain number of authorities had ambulances which would be placed at the service of the Council, but these were insufficient and additional provision must be made.

During the meeting of the Council on December 16th a further report on the subject was circulated. This was of a tentative character, and indicated the intention of the Committee to establish under the control of the Council ambulance stations with motor ambulances in the west, north, east, south-east, south, and south-west districts, with a station in central London. It was thought that the service might be carried on under the supervision of the chief officer of the Fire Brigade. In addition to motor ambulances the Committee proposed to provide hand ambulances or litters for conveying injured persons for short distances. The Committee hoped after the Christmas recess to submit a detailed scheme with estimates of cost.

In the course of discussion Mr. P. A. Harris commented on the time that had been lost in trying to legalize assistance from the Metropolitan Asylums Board. Four years ago Sir William Collins, in an address published in the British Medical Journal, pointed out that it was beyond the scope of the Asylums Board to organize an ambulance system.

Administration of the Inebriates Act.

With reference to the decision of the Council to discontinue, after December 31st, 1913, the reception of inebriates at Farmfield Reformatory (British Medical Journal, August 9th, p. 343), letters from the Home Office were laid before the Council in which regret was expressed at the Council's action. The Home Secretary stated that he fully recognized the disadvantages under which the Council laboured in this matter, in consequence of defects in the law; he only abandoned the Inebriates Bill last session with the greatest reluctance, and would reintroduce it at the earliest possible moment, and would spare no effort to secure its passage. The Public Control Committee advised the Council to pass a resolution suspending its decision but reserving the right to take action if the Government did not introduce the bill early in the session, and if it were not satisfactory to the Council.

Reconstruction Scheme at Banstead Asylum.

The Council approved the preparation of plans for the subdivision of the wards at Banstead Asylum at a cost of nearly £50,000. It was stated that the dayroom often had to contain as many as 180 patients; it was unreasonable to expect effective supervision and control of so large a number. The difficulty of classifying the various types was very serious, and the medical officers found that patients after progressing towards convalescence in smaller wards quickly showed signs of relapse after removal, as was unfortunately necessary, to the large wards.

Metropolitan Asylums Board.

Treatment of Tuberculosis.

An elaborate report on the subject of the treatment of tuberculosis in London, and the share in that work of the Metropolitan Asylums Board, was presented to the Board on December 13th by the Law and Parliamentary Committee. The report dealt with the history of the question in some detail, mentioning the exclusion of the Board (on the ground of being a Poor Law authority) from taking part in the administration of the Insurance Act of 1911, its subsequent inclusion in the Amending Act, 1913, and the effect of Section 3 of the Public Health (Prevention and Treatment of Disease) Act, 1913, permitting the provision by the Board, under agreement with other authorities, of accommodation for uninsured tuberculous persons. The Committee accepted the view of the Local Government Board, the London County Council, and the London Insurance Committee, that the resources of the Board should be utilized as far as possible in making provision for insured and uninsured tuberculous persons; in fact, the Committee pointed out that the accommodation provided by the Board up to the present had alone enabled effect to be given in the metropolis to the sanatorium provisions of the Insurance Act in anything like a reasonable time. The permanent accommodation required would be of the following character:

1. Sanatoriums for early cases of pulmonary tuberculosis in both sexes.
2. Sanatoriums for children, affording educational facilities.
3. Hospitals for rest cases and observation purposes, and for chronic, incurable, and advanced cases.

The Board was exceptionally well placed in regard to provision for tuberculous children. Queen Mary's Hospital could be extended to provide for 1,200 instead of 850 children, and an inexpensive reconstruction scheme at the institution at Margate would afford from 130 to 300 additional beds for surgical cases. The provision of hospital accommodation for advanced cases in adults would not offer much difficulty, but to complete the scheme it would be essential to provide one or two new sanatoriums on entirely modern lines for the treatment of early cases of pulmonary tuberculosis in adults. It was possible that one of the effects of the Insurance Act would be to relieve the pressure upon Poor Law institutions where tuberculous cases formed a large proportion; and rearrangement and amalgamations might set free considerable accommodation. The treatment of tuberculosis afforded a great opportunity for showing that the interests of the community could be best served by the cordial co-operation of every authority whose functions touched the problem in any direction; the character and extent of the subject prohibited any one administrative body from dealing with the whole of the work.

Professor W. R. Smith, M.D., in introducing the report, said that the institutions to be erected would not be such elaborate buildings as the fever hospitals, but of the simplest possible construction. Rest, hygienic conditions, and graduated exercise were the conditions required by the patients, and great care and economy were necessary in the initial stages in order that the best provision was made at the lowest possible cost.

The Board passed a series of resolutions expressing willingness to enter into agreements with the County Council and the London Insurance Committee for the provision of residential institutional accommodation for insured persons and their dependants, and for uninsured persons. It was agreed to find accommodation in existing institutions where possible and to provide one or two new sanatoriums for early cases in adults, to ask the Local Government Board to consider the possibility of further co-ordination of Poor Law work with a view to setting free some accommodation, and to refer to a Committee for further consideration the desirability of purchasing Mount Vernon Hospital, Hampstead.

Appointment of Medical Superintendent.

The Board decided to appoint Dr. E. B. Sherlock, who has been in the service of the Board for several years, to be medical superintendent of Darenth Industrial Colony in place of Dr. Arthur Rotherham, who has been appointed a commissioner under the Mental Deficiency Act, 1913. Dr. J. L. Gordon, assistant medical officer at Caterham Asylum, was promoted to fill the resulting vacancy of acting medical superintendent at the Fountain Temporary Asylum.

[1] British Medical Journal, December 6th, p. 1511

WALES.

THE RED CROSS WORK AT SENGHENYDD.

SIR JAMES R. ANDREW CLARK, Bart., C.B., Chief Commissioner, St. John Ambulance Brigade (St. John's Gate, Clerkenwell), writes under date December 13th as follows with regard to the services rendered by the brigade in connexion with the disaster at the Senghenydd Colliery last November:

It is not the custom of the St. John Ambulance Brigade to notify through the press the occasions on which it renders first aid to the public, but I feel constrained to do so in connexion with the Senghenydd Colliery disaster in consequence of an official leaflet of the British Red Cross Society, No. C.L. 57 of the 20th November last over the signature of the Secretary, Mr. Hastings, which has come to my notice. In this leaflet, in an allusion to the work done by the British Red Cross Society at Senghenydd, the following paragraph occurs:

Ten detachments in all of the Society's helped in this work *and one of the St. John Ambulance Association.* (The italics are mine.)

As this statement, so far as the St. John Ambulance Brigade is concerned, is contrary to fact and misleading to the public I append for favour of publication in your JOURNAL the personnel of the Brigade which gave assistance on the occasion referred to, every member of which was fully qualified to render first aid both by certificate and by virtue of the yearly examination as to efficiency to which all members are subjected.

Divisions.	Number reporting for Duty.
Great Western Colliery	16
Maritime and Penrhiw	14
Cwm Colliery	9
G.W.R. Cardiff	8
G.W.R. Newport	8
Cardiff City	6
Lewis Merthyr	8
Aberbargoed	7
Coronation Colliery	4
Cardiff City Police	11
Rhymney Railway	15
Ynysddu	15
Silfynydd	14
Penycraig Labour and Progressive	9
Marine, Cwm, Mon.	6
Dunraven, Penycraig	7
Mountain Ash	10
Vochriw, Dowlais	5
Brithdir	13
Merthyr Borough	7
Ogmore Vale	1
Pontycymmer	1
Penrhiwceiber	6
Abercynon	19
Nursing Divisions.	
Cardiff	12
Barry	5
Hopkinstown	12
Total	245

A total of 27 units supplying volunteers instead of 1, referred to in the circular quoted above.

We have also received the following letter dated December 16th, from Mr. Frank Hastings, Secretary of the British Red Cross Society (9, Victoria Street, London, S.W.), to whom Sir James Clark would appear to have communicated a copy of the communication printed above:

The letter signed by myself to which Sir James Clark takes exception gave quotations from your excellent reports of October 25th and November 1st on first-aid work in relief of the sufferers at Senghenydd.

The letter after quoting from your issue of October 25th ran:

Further details of the work will be found in the BRITISH MEDICAL JOURNAL of November 1st, 1913.

Ten Detachments in all of the Society's helped in this work, and one of the St. John Ambulance Association.

The JOURNAL concludes: This would seem to be the inception of a movement which is likely to be of great service in giving first aid in cases of national disaster, and to afford valuable training of a practical character to members of voluntary aid organizations. In other nations such use of voluntary aid from Red Cross societies and other bodies is well established and utilized. It requires financial assistance and co-operation between employers of labour and others on the one part, and voluntary aid organizations on the other. If established, it cannot fail to be of great benefit to the community.

The statement of the numbers of detachments helping was taken from your JOURNAL—as, indeed, seems obvious—and there was no error or misrepresentation on my part.

It was never intended to belittle the work of the St. John Ambulance Brigade by the quotation in question, which was adduced in evidence of the valuable work which Voluntary Aid Detachments perform in civil life.

The point to be made is the valuable humanitarian work capable of being done by men and women patriotic enough to join Voluntary Aid Detachments, not that this or that organization was, by accident or good fortune, able to have more representatives present than another.

The statement with regard to the number of detachments which was published in the JOURNAL of November 1st was in accordance with the information then available to us. Shortly afterwards we were promised official information as to the work done by the St. John Ambulance Brigade at Senghenydd: this would appear to be contained in Sir James Clark's letter.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

RESEARCH DEFENCE SOCIETY'S MEETING IN EDINBURGH. THERE was a large gathering to hear the address by Mr. Stephen Paget, on "The Natural History of Health and Disease" in the Queen's Hall on December 11th: it was the annual meeting of the Edinburgh Branch of the Research Defence Society, and, coming so soon after what has been called the Dogs' Bazaar, attracted a large amount of public as well as professional interest. Almost all the university medical professors were either present in person or sent apologies, as did several well-known clergymen. Mr. James Watt, W.S., who was in the chair, said that, in reply to those who were engaged in the so-called campaign of antiviviscetion, it was enough to point out that men distinguished in medical research had in many cases, in place of sacrificing any of the lower animals, actually given up their own lives, and many doctors had again and again risked their lives in research. Mr. Paget showed how vast had been the advance in knowledge of the causes of disease, and pointed out that the advance would not have been made but for experimental work on animals. He said that if that work were to be given up to-morrow the sum total of the pain of the world would not be lessened, but horribly increased. The Rev. Gavin Pagan, in moving a vote of thanks to the lecturer, said that the justification of the work was to be found in the results which it had had, not only for the benefit of man, but of the lower animals.

CHILD STUDY SOCIETY IN EDINBURGH.

On December 10th Dr. J. F. Tocher, Lecturer on Statistics in the University of Aberdeen, gave an address in Edinburgh, under the auspices of the Child Study Society, on the "Influence of Natural Selection and Environment on Child Life." Dr. John Macpherson, Lunacy Commissioner, presided. Dr. Tocher said he joined in the protest against the light and erroneous way in which eugenics and allied subjects were written and spoken about by certain somewhat irresponsible persons. What a practical people had to do was to study the limits of actual environment and the relative values of inheritance and environment. Knowing, as was now known, that heredity was of more account in improving the race than environment, it was necessary to pay even greater attention to heredity than to environment. It had been proved that selective elimination took place in child life, and that a high infantile death-rate left a stronger race of young survivors. Employment of mothers had been blamed for a very large proportion of infantile deaths. When, however, employed mothers were considered with respect to their habits and home conditions, it was found that those who had clean houses and who suckled their children had quite as great a number of survivors as mothers in general. Any legislation, therefore, which would interfere with the employment of the mother on the ground that the general infantile death-rate was thereby to be reduced or brought to a minimum would be quite futile. It had been proved that the less capable mentally and

also sometimes physically had on an average the larger families. There was nothing in the nature of occupations as such to produce a different fertility; a great deal of the difference was due to earlier marriages in one class and to postponement of marriages in others. Dr. Tocher said he was not an advocate of the view that a large section of the population would be better dead. He was not denouncing improvements in the housing or in the general comfort of the industrial classes. By all means let prompt action be taken to reduce child mortality to a minimum, and to render as effective as possible the rising generation, but let them also think of generations yet unborn. How were they to bring about a rise in the fertility of the mentally and physically able, and a fall in the fertility of the dull, unsocial, and criminally inclined sections of the population? Let them strive to bring about an increase of those who were best able to create a healthy environment wherever they went.

Edinburgh Royal Infirmary.

At a meeting of the managers of the Edinburgh Royal Infirmary, held on December 8th, Dr. McKenzie Johnston in the chair, letters were read intimating the appointment of the following representatives to the board of management for 1914: By the magistrates and Town Council, Councillor John Young; by the Senatus Academicus, Professor Rankine, K.C., LL.D., and Sir Halliday Croom, M.D.; and by the S.S.C. Society, Mr. J. B. Mackintosh, S.S.C. Dr. Robert A. Fleming was appointed an ordinary physician to the institution for five years from date, and Mr. Thomas Fraser was appointed non-resident house-surgeon to Dr. Malcolm Farquharson for three months.

Edinburgh Cripple and Invalid Children's Aid Society.

The annual meeting of the Edinburgh Cripple and Invalid Children's Aid Society was held on December 10th, Lord Salvesen was in the chair, and, after the report had been submitted by Mr. J. P. Watson, W.S., the Chairman spoke in strong support of the work of the society. Dr. J. W. Ballantyne described a visit he had paid to the workrooms, in which some twenty or twenty-four cripple children were busily and happily engaged in dressmaking, tailoring, joinery work, and toy-making. He thought the society had acted wisely in securing additional accommodation, for it had struck him that the rooms were uncomfortably crowded. The cripples had a strong claim on sympathy; even etymologically this came out, for after all the cripple was simply the creeper, the one who could creep but could not walk. Others derived the word from *cruipan*, to contract, and thus the cripple was the contracted one, the one whose joints and whose activities were contracted. Dr. John Brown had said that a dog was like a perpetual baby in a family; but the cripple was the perpetual baby—physically, at any rate; he needed all the family's care and protection, and many a time he put the family in his debt by his softening and ameliorating influence upon its stronger and perhaps harder members.

Queen Victoria's Jubilee Institute for Nurses.

The annual meeting of the Scottish Branch of the Queen Victoria's Jubilee Institute for Nurses was held in Edinburgh on December 11th, and Lord Strathclyde, the Lord Justice General for Scotland, presided. The report stated that for the fuller equipment of the nurses, and in consequence of the growing prominence given to the treatment of tuberculosis, it was deemed advisable to add this as a special subject to the nurses' curriculum. The number of Scottish Queen's nurses now on the roll was 379, exclusive of candidates undergoing training. It was felt that the institution of maternity benefit had somewhat altered the conditions under which such cases had been nursed, and, with the approval of the doctors, a charge of 5s. for attendance at all normal cases in receipt of the benefit had been instituted, and an agreement had also been come to with the dispensaries for a payment of 5s. a case in the event of their negotiations with the friendly societies proving satisfactory. During the year 127,048 visits had been paid in Edinburgh and 7,095 in Leith, 502 confinements having been attended and 373 operations. Lord Strathclyde, in moving the adoption of the report, said there were no fewer than 238 nursing associations affiliated with the institute, and many of them in remote parts of Scotland. He was not surprised to know that additional subscriptions were not coming in; that was to be expected for a little time because of the slight disturbance of their peaceful progress caused by the passage of the Insurance Act and the necessity for adjusting and arranging their operations to the operations under that statute. He himself anticipated great advantage to the nurses on account of the passage of the Act, and especially in connexion with the substantial grant of money for nursing and medical purposes in the Highlands and Islands of Scotland. Sir Thomas Clouston, Mr. Alexander Miles, and Dr. F. Porter also spoke in high terms of the good work being accomplished by the nurses.

Dr. Dow of Dunfermline.

Dr. W. B. Dow, who has been in practice in West Fife since 1858 and settled in Dunfermline in 1868, was recently the guest of honour at the annual dinner of the Dunfermline Curling Club, when the Provost, who presided, presented him, in the name of his fellow members, with a silver cigar box. Dr. Dow has taken a large part in the life of Dunfermline. He was a member of the first school board elected after the passing of the Education Act, 1872; he was one of the founders of the cottage hospital; he was the first teacher of an ambulance class in Dunfermline, and is now giving similar instruction to the Boys' Brigade. He has been President of the Fife Branch of the British Medical Association and of the Fifeshire Medical Association, and for eighteen years has been a member of the Court of St. Andrews University. The curling club is one of the oldest in Scotland; it is believed to have been established in 1738, and minute books exist from 1784. One of its rules is: "During the meetings of the club and also while the members are on the ice the strictest moral conduct shall be observed, any impropriety being liable to a fine at the will of the majority of the members present."

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Typhoid Fever.

An alarming outbreak of typhoid fever has occurred in Markethill, a small town a few miles from Armagh. A postman and his son have died in the Armagh Fever Hospital. Other cases have since been reported, but so far are only suspected. Though the outbreak of fever is diminishing in Clonmel, it has occurred in other parts of the rural district, and 1 death is reported. There are at present 17 cases in the hospital. An epidemic of typhoid fever is also reported at Brookeborough in co. Fermanagh, and 1 patient has died. Last week an outbreak of typhoid fever occurred in Newry; 3 patients have died, and there are 2 other patients suffering from typhoid fever in the hospital. Another outbreak has occurred at Swords and Malahide, near Dublin. Both the water and milk in the district are under suspicion, and the suggestion has been made that the infection might have been brought to the district in the food which was supplied to people who are on strike. A resolution was passed unanimously that the dispensary doctor should be requested to state whether the victims of the recent outbreak of typhoid fever in the Swords district had been receiving food from this source, and if so, whether he has made any effort to obtain a sample of such food for analysis.

At the last monthly meeting of the Pembroke Urban District Council the Chairman made a statement with regard to the recent outbreak of typhoid fever in the district. There had been, he said, 28 cases, 9 of which were treated in the hospitals. It was now fairly certain that inasmuch as the period of incubation was past, there was no likelihood of the occurrence of further cases. He took the opportunity to acknowledge the prompt, vigorous, and successful steps taken by the Public Health Committee and its sanitary officials. The report of the Viceregal Commission on the Irish Milk Supply, he added, contained suggested amendments of the law which would enable urban authorities to obtain better control over milk

supplies in their districts, and to insist upon precautions which would protect the community.

Poliomyelitis.

The outbreak of poliomyelitis in the North of Ireland seems to be abating; there have been no fresh cases during the past week. There are still a score of patients under the care of Dr. Burgess, Coagh. Eight deaths have occurred; the ages of the victims vary from 5 to 11 years.

Typhus Fever and the Dublin Slums.

The Public Health Department of the Dublin Corporation has had to deal with an outbreak of typhus fever. Most of the cases occurred on the north side of the city, several of them in tenement houses. In this connexion the evidence of Sir John William Moore before the Committee to inquire into the housing of the working classes is of special interest. He said that in 1881 the cases of typhus fever admitted to Dublin hospitals numbered 1,220. From 1890 there was a marked improvement, and last year the number of cases admitted was only 12. This year there was a very marked increase, the number reported up to September 30th being 70. This called for careful inquiry, as the prevalence of the disease was intimately connected with overcrowding, dirt, and poverty. Sir John Moore also stated that a very serious menace in the future in Dublin was the decline in vaccination. The population of Dublin would suffer most severely if smallpox should happen to be introduced into the city. Measles and whooping-cough, he also said, were infinitely more fatal to the youthful population than scarlatina and diphtheria. The toll of human life exacted by these diseases was enormous, and they spread in the presence of overcrowding, underfeeding, and dirt. Pneumonia, which had for some years stepped into the place of typhus fever, was largely preventable. The question of scheduling these three diseases as notifiable should be seriously entertained.

Auxiliary Asylums.

The Mullingar Asylum Committee has notified the local authorities that the overcrowding in the asylum can only be dealt with satisfactorily by the establishment of an auxiliary asylum, which it was stated would mean a saving of £2,000 on the rates of the counties of Meath, Westmeath, and Longford. The Longford County Council has agreed to a proposal which had been made to obtain one of the workhouses in the county as an auxiliary asylum, and the Trim Board of Guardians has pointed out that in its opinion the Trim workhouse would be a suitable building for the purpose.

Emigration from Ireland.

The Registrar-General reports that the number of emigrants, natives of Ireland, who left Irish ports during the month of November was 1,151, as compared with 1,274 in the same month last year, a decrease of 123 (70 males and 53 females). The total number of emigrants during the last eleven months was 30,536, compared with 28,872 in the corresponding period of last year, a total increase of 1,664. Of this number 3,880 went from Leinster, an increase of 116 compared with the first eleven months of last year; 7,726 from Munster, an increase of 642; 12,186 from Ulster, an increase of 596; and 6,744 from Connaught, an increase of 310.

Sanatorium Benefit.

A conference of delegates representing the county councils of Queen's County, King's County and North Tipperary has reported in favour of the joint establishment of a sanatorium and a home for advanced cases of tuberculosis for the three counties, and has suggested that the workhouse disused since the amalgamation of the Donaghmore and Abbeyliex Unions should be utilized as part of the scheme.

The Tyrone County Council has adopted a scheme for sanatorium benefits in the county. A central sanatorium is to be erected in a suitable part of the county. It is to have twenty-eight beds, of which twenty will be provided as soon as possible, at a cost of £2,000, not including the purchase of the site. It was also decided to erect two convalescent homes and dispensaries in other districts of the county, each to contain dispensary, waiting-room, eight beds, and accommodation for the staff, at a cost of £800 each, to provide six movable sleeping shelters at a total cost of £150, and to hold tuberculosis dispensaries at Omagh, Strabane, Dungannon, Cookestown, and Aughnacloy, where patients could attend and be examined by the tuberculosis officer. The cost of maintenance of this scheme was estimated to be £2,886 annually.

Special Correspondence.

PARIS.

Spinal Anaesthesia: Operation for Gastric Crises: Vaccine Treatment of Gonorrhoeal Rheumatism.

The medical and surgical societies of Paris suspend their meetings for a longer period at the end of the summer work than do the corresponding bodies in London, but practically all of them had recommenced work by November. One paper read at the opening meeting of the Academy of Medicine supplied an account by Jonnesco of the progress of spinal anaesthesia. He claimed once more that operations on every part of the body could be performed with little or no danger if spinal anaesthesia were employed and the administrator thereof was an expert, and stated that of 11,324 cases of spinal anaesthesia which he had collected, the site of operation was either the head, the neck, the thorax, or on upper limbs in 1,035. In Roumania nearly all military as well as civilian surgeons employed spinal anaesthesia as a routine method, and he was confident that in the near future its utility would be more fully appreciated. At the Surgical Society Dr. Mauclaire reported that he had obtained success in the treatment of the gastric crises of a case of tabes by extirpating the intercostal nerves. The patient had been subject to gastric pains for over fifteen years, and nothing appeared to give him any relief. They, however, disappeared after the intercostal nerves on either side had been removed. It was also mentioned that Francke had collected from various sources accounts of 19 cases of tabes treated in the same fashion. In 7 a complete cure was effected, in 9 the pains recurred, and the remaining 3 patients died. Dr. Hartmann reported that in one case that had come under his personal observation the immediate result of removing the intercostal nerves was entire cessation of the gastric pains, but subsequently the crises recommenced. At the Medical Society of the Hospitals, Drs. Dopter and Pauron reported that they had obtained excellent results by adopting Cruveilhier's method of treating gonorrhoeal rheumatism with a sensitized vaccine. In one case in which the joint affected was the knee the swelling, pain and stiffness before treatment were marked. The first injection of the vaccine produced a marked general reaction, but on the following day the pain in the joint had ceased and the swelling around it greatly diminished. A second injection was then given, and this practically cured the patient, movements of the joints becoming practically normal in five days. The authors pointed out that long-standing cases naturally required more prolonged treatment, but the cures eventually effected were equally startling, and entirely superior to those obtained by any other treatment. They had also adopted the treatment in cases of gonorrhoeal orchitis, and had obtained corresponding results. In about twenty-four hours pain disappeared and swelling diminished, and in three or four days the patient could go about without discomfort, and was speedily and completely cured.

The first general meeting of the Belgian National Anti-quack League was held at Antwerp on December 14th. The president is Dr. Gynzburg, the secretary M. R. Van de Vorst. The President gave an account of the work of the league. Dr. Dejace, honorary president of the Belgian Medical Federation, delivered an address on the dangers of quackery, and several other papers were read.

During the academic year 1912-13 the following medical degrees were conferred by the several medical faculties in France: Paris, 398, in addition to 35 degrees not entitling the holder to practise in France; Montpellier, 115 and 1 non-qualifying degree; Lyons, 115 and 1 non-qualifying degree; Bordeaux, 101 and 1 non-qualifying degree; Toulouse, 69 and 4 non-qualifying degrees; Lille, 40; Nancy, 29 and 5 non-qualifying degrees; Beyrouth, 37; Algiers, 12.

Correspondence.

THE PREVENTION OF GUINEA-WORM INFECTION.

SIR,—It is an old saying that "there is nothing new under the sun."

In the report of the Bombay Bacteriological Laboratory for 1912 Major Elen Liston remarks: "If the theory which I have outlined above as to the manner in which this disease" (guinea-worm disease) "is spread is correct, and we hope shortly to prove its truth, it is very unsatisfactory to think that the great suffering which this disease entails . . . is due to ignorance and could be prevented by so simple an expedient as the straining of the drinking water through a piece of cloth . . . so as to filter off the little creatures which cause the disease."

In "Nova et Vetera" in the BRITISH MEDICAL JOURNAL for June 21st last I read that about the middle of the seventeenth century De la Motte Lambert, Bishop of Beirut, made a pastoral tour in the Far East, and recorded his experiences. Regarding guinea-worm he says: "The way to avoid this worm is to drink only wine, or, if water is used, only such as has been carefully filtered through linen."—I am, etc.,

November 23rd. J. B. SMITH, Lieutenant-Colonel, I.M.S.

SPECIAL HOSPITALS.

SIR,—Mr. Hugh E. Jones's literary communications have an engaging *naïveté* which is positively refreshing. "The charge of inconsistency does not trouble me," he says, and his letters fully corroborate the statement. But he does deplore "correspondence in journals and newspapers" which "involves so much waste of time, and is so prolific in misunderstandings and misinterpretations." This being his opinion, why did he not act upon it? Surely he cannot have forgotten that he began the correspondence in the JOURNAL.

He now announces his withdrawal from further correspondence. It is not surprising. Mr. Jones is progressive; the case he defends is not. His arguments for eye and ear hospitals destroy his case. Let me repeat them:

(*a*) Personally I should never defend the practice of compelling one man to do work of different kinds, for one of which kind he had a disinclination or for which he was unfitted by lack of training or of certain natural qualifications.

(*b*) For many years I have advocated the division of the staff into two main groups, and a third smaller one consisting of those who from love of the work, long training, and the character of their private practice, found it impossible to relinquish either of the two specialities. The third group would be gradually eliminated without injury to any one, and as a matter of fact, this transformation is in progress at the present time.

(*c*) For years it has been the desire of some members of the staff (myself included) to organize the hospital on the plan of the New York and Boston Eye and Ear Hospitals; but owing to circumstances over which we have no control our wishes have not been realized; though there has been for many years an informal partial division of labour.

(*d*) It is hoped that eventually a complete and separate staff of surgeons will be provided for each department.

(*e*) I have for many years advocated separation of the staffs.

Practical men will see in these statements ample proof of the correctness of the contention in the BRITISH MEDICAL JOURNAL and *Daily Post* editorials, that to associate in hospital practice "the treatment of diseases of the ear with those of the eye" was "a combination which placed a serious impediment in the way of the growth of either."

Holding these views, it is difficult to understand Mr. Jones's attempt to defend the out-of-date policy of those to whom the direction of the Eye and Ear Infirmary has been entrusted. From one point of view only is it understandable—namely, the feeling that right or wrong the committee must be supported!

Now that Mr. Jones has withdrawn from the correspondence, we may perhaps learn who on the medical staff supports the committee in its adherence to a policy which, in my opinion, is foreign to the spirit of medicine, and damaging to the prestige of the infirmary. It is difficult to conceive of a committee which of its own initiative could ignore the considered opinion of so eminent an authority as the senior surgeon to the institution.

One could wish for independent opinions, as the principle at stake is of infinitely greater importance than the practice at any individual hospital.

Unfortunately, it would appear as if "double-harness" hospitals were unfavourable to the formation of single-minded opinions; for we have the remarkable spectacle of:

(*a*) Mr. Jones, the advocate for separate staffs, and
(*b*) Mr. Jones, the advocate for a single staff.

In support of the latter position he writes:

(*a*) These studies [the treatment of diseases of the ear with those of the eye] were of mutual assistance to one another, and *if the practitioner had sufficient time and energy to devote to them, neither science suffered.*

(*b*) When a surgeon has found that he had not time or inclination to follow up the rapid advances of otology, *he has given that branch up, and handed his work over to another.*

(*c*) I do not admit that the progress of either otology or ophthalmology or the interests of the infirmary have suffered on this account; and, as I have stated above, *whenever a surgeon has felt that he had not the time nor the inclination to follow the rapid advance of otology he has given up the practice of that branch.*

The italics are mine.

It will be noted that Mr. Jones passes by in silence four of the five facts I enumerated to prove that the Eye and Ear Infirmary had barred the way to progress in the sciences of ophthalmology and otology. His comments on the first fact—namely, the refusal of the committee to elect Mr. Harcourt to the position of honorary assistant surgeon—are, to say the least, not happy. "The committee," he says, "were no doubt influenced in their selection by the fact that Mr. Harcourt's competitor had had considerable experience of operative ear work, and that he had qualified twenty years later than Mr. Harcourt."

As to these reasons, it may be remarked, first, that there is no age limit for assistant surgeons; and, secondly, that nothing is said as to experience in eye work. Again, special operative ability obviously is not of importance in making appointments for assistant surgeons at the Eye and Ear Infirmary, for assistant surgeons there are not permitted by law to operate for twelve months after appointment. A skilled operator would be wasted.

Mr. Harcourt had had not only an extensive experience, but three and a half years' special experience at the Eye and Ear Infirmary, and his surgical merits are evidenced by the fact that he took the Fellowship of the Royal College of Surgeons of England in 1907. I can only surmise that the surgeon with whom the new assistant would have to work wanted a man to whom he could hand over the *hospital* ear work. On this supposition Mr. Harcourt's non-election is intelligible. There has been another vacancy on the assistant surgeon staff within the last few months, but "considerable experience of operative ear work" played no part in that election. Why? Again a stranger was appointed. This question of the presentation of the honorary appointments—surgeons and assistant surgeons—to strangers is also a matter which requires attention.

The present Lecturer on Ophthalmology at the Liverpool University was appointed in 1885. He was the senior surgeon to the Liverpool Eye and Ear Infirmary—now on its consulting staff. During the twenty-eight years which have elapsed, a large number of medical students must have passed through his hands. What encouragement has been held out to them of appointments at this hospital?—or do Liverpool medical men not appreciate hospital appointments?

Mr. Jones—the advocate for separation of the staffs—ends his letter by the remark that "the committee of the Liverpool Eye and Ear Infirmary may be trusted to proceed with their plans, as funds become available, in their own time and in their own way."

It is not a question of funds; it is a question of policy. To double the staff would not entail additional expenditure. The worst that might be feared would be increased interest in the hospital!

If it be the intention of the Liverpool public to see Liverpool take a national place in medicine, as in science and commerce, and if the noble support given annually by the city to the Liverpool University be any criterion, then

I am sure that the Liverpool public will expect the committee of the Eye and Ear Infirmary to go with the times.—I am etc.,

Liverpool, Dec. 11th. THOMAS H. BICKERTON.

NOMENCLATURE OF TUBERCULIN DOSES.

SIR,—The suggestion in the JOURNAL of August 30th by Dr. J. Alfred Codd is one well worth consideration by all who trip and stumble over the incomprehensible and forgettable doses used in tuberculin treatment.

Dr. Clive Riviere and Dr. Egbert Morland, in their splendid *Oxford Manual*, use the cubic millimetre with much help to the reader, but there is still a little left to mental and arithmetical gymnastics in comprehending and calculating the smaller doses. Thus, for fully three-quarters of a course of treatment one is dealing with decimals of 1 c.mm. If, however, one dealt with multiples of ψ (psilon) till these reached 1.000, and thereafter with multiples of 1 c.mm., the average brain, not taught to think in four or five places of decimals, would feel more comfortable.

Further, in Riviere and Morland's book there is still some difficult mental arithmetic in dealing with the dilutions. For example, they say "T.R. 4 signifies the fourth power of ten, or one followed by four noughts—that is, a 10,000 dilution of T.R., containing in the syringeful 0.1 c.mm. of original fluid." Now, how is the mind to connect "0.1 c.mm." with "4"? In the hurry of the consulting-room one is placed in this position. "I wish to give 0.1 c.mm. of T.R. Which of these dilutions before me must I use, and in what amount? 0.1 c.mm. is one ten-thousandth part of 1 c.cm., and 10,000 is 10^4; therefore I must use dilution 4 and take a full syringeful." Now this is bad enough, but my confusion is more when I want to take 1.8 c.mm. or 6.3.

If, however, ψ be taken as a unit, then dilution 6 is dilution (j), so that I can always know that 1 c.cm. of 6, now called (j), is 1 ψ, and that fractions of 1 ψ are parts of the weakest solution (j). I would call dilution 6 (j), 5 (ij), 4 (iij), 3 (iv), 2 (v), and 1 (vj). Then, when I wished to give 100 ψ (that is, 0.1 c.mm.), I would say to myself, "There are three figures in 100; therefore I use bottle (iij), and I take 1 c.cm. of it." If I wished 150 ψ, I would say again, "There are three figures: that suggests bottle (iij), but my syringe will not hold 1½ c.cm. I shall therefore take 1.5 divisions of (iv) in my Lieberg's syringe."

I think a system like this makes for greater ease in working, in estimating dose, and in appreciating the amount of tuberculin given.

Greenock, Oct. 29th. KEITH ROBERTSON.

RECENT VIEWS ON SYPHILIS AND SPIROCHAETES.

SIR,—May I be permitted to make a few remarks on a letter dealing with the above which appeared in the BRITISH MEDICAL JOURNAL, December 13th, p. 1560?

Concerning the granule, which has lately in this country received so much attention—in fact, ever since the discovery of the *Leucocytozoon syphilidis*—it is highly probable that the granule is not a spore but only a stage in the extracellular development of the spirochaete. A protozoal spore is the result of a multiple subdivision of the zygote—a name given to a female cell after it has been impregnated. The syphilitic spore has already been shown to differ chemically from all the other phases met with in the life-cycle of the *Leucocytozoon syphilidis*.[1] Moreover, reasons have been adduced why the spore is not directly affected by our present-day methods of treatment.

I cannot understand why Dr. Mott says that it is very necessary to get the life-cycle of spirochaetes worked out. Dr. Mott was fully aware of the work done on the *Leucocytozoon syphilidis* as long ago as December 3rd, 1912, and on December 8th, 1912, he saw some of the phases *in vivo*, and also several in sections.

Unfortunately the discovery of the life-cycle of the organism of syphilis upsets the ultra-optimism which has resulted from the recent discoveries made in this disease. In the minds of a few, ultra-optimism must at this juncture prevail; therefore the spirochaetal idol must on no account be broken. The discovery of the leucocytozoon has met with hostile criticism only at the hands of those who have never attempted to repeat any of the work. The two observers abroad who have worked at the subject are Klausner in Prague and Peyri Rocamora in Barcelona, both of whom have been able to find the bodies in sections in syphilitic material only. To be able to demonstrate the phases in sections is most important, since permanent specimens are obtained, and observations made therefrom do not have to be taken on trust, as is the case with those made solely from *in vivo* examinations. Moreover, the microchemistry of the bodies in fixed material can be studied.

Allow me to state in conclusion that if this ultra-optimism is maintained, and certain rules and regulations arise as an outcome thereof, we shall have as many, if not more, cases of syphilis in the next decade than we have now.—I am, etc.,

London, W., Dec. 14th. J. E. R. MCDONAGH.

[1] *Biochemical Journal*, vol. vii, No. 5, p. 517.

ANTIMONY IN SYPHILIS.

SIR,—You report that "luctin," an antimonial compound, is likely to dethrone the arsenical compound salvarsan in the treatment of syphilis.

Physicians of a former generation used antimony for certain forms of syphilis with great success in the famous "Plummer pill," which consisted of mercury, guaiacum, and antimony sulphide. It is noteworthy that when the treatment of syphilis by an arsenical compound—such as Donovan's solution—had gone out of fashion for some years a large number of cases had accumulated which yield to salvarsan.—I am, etc.,

Dublin, Dec. 12th. J. C. MCWALTER, M.D.

THE ROYAL COMMISSION ON VENEREAL DISEASES.

SIR,—I have noticed in the JOURNAL of November 29th certain extracts from the official report on the above subject in which it is stated that Colonel Scott gives the following statistics of venereal disease from 1888 to 1912—namely:

1888—Admissions into hospital in United Kingdom	224.5 per 1,000
1912—Admissions into hospital in United Kingdom	56.6 per 1,000

and in India the reduction had been still more marked.

Colonel Scott attributed this diminution to greater temperance and care of the soldier, etc., with which I in part cordially agree, but surely there must be something more to explain this extraordinary decrease as shown by statistics, which can so often be fallacious. Let me suggest one explanation. I believe I am correct in stating that before I left the service in 1891 the practice had begun of not always admitting men into hospital with primary diseases, but treating some of them in barracks with subcutaneous injections of mercury, etc., whilst doing light duty, or, if admitted in the first place, were, later on, treated in barracks and not readmitted. If this be true such action must considerably affect statistical returns.

Whilst I am on this subject, with a past experience of thousands of cases treated by mercurial inunction and otherwise, it is a source of great regret to me to find that salvarsan is becoming so much adopted by the profession in preference to mercury, although I have no right to express an opinion on the new treatment, having no personal experience of it. But mercury has stood the test of generations whilst arsenic has yet to stand the test of experience, and, already, I see antimony suggested in its place, and my firm belief is that the day will come when mercury will regain its well-merited position in the past as the best treatment for syphilis in its primary stage.—I am, etc.,

ARTHUR B. R. MYERS,
Brigade-Surgeon Lieut.-Colonel (late Brigade of Guards).

London, Dec. 12th.

THE CRAZE FOR APPENDICECTOMY.

SIR,—The appendix is a lubricating gland placed at the bottom of the ascending colon for the purpose of speeding up the intestinal heavy traffic.

The intestinal contents, at this part, have lost their fluidity and their coefficient of friction has greatly increased, and in addition the faeces have to climb a very steep, almost vertical incline. On *a priori* grounds we would expect Nature to provide additional lubrication here over and above the ordinary mucus of the intestine, and she has risen to the occasion and has evolved the appendix.

Many years ago, when the operative treatment of appendicitis was just coming into vogue, I treated some half-dozen cases by the usual incision and drainage, and although they all fortunately recovered, their convalescence was so slow and tedious, complete recovery taking several months, that I determined to adopt a "non-militant" method of treatment. Reasoning that appendicitis was usually due to blocking of the mouth of the appendix by faecal accumulation, causing distension and inflammation, it followed that the most rational method of treatment was at once to administer saline aperients, and so remove the obstruction.

I have never had occasion to regret the adoption of this method, for of the dozens of cases so treated not one has died, and practically all were quite recovered in two or, at most, three weeks.—I am, etc.,

Sunderland, Dec. 13th. THOMAS A. WATSON.

OPIUM RISKS.

SIR,—A copy of the *Journal of the Royal Society of Arts*, dated June 20th, 1913, has just reached my hands. In it there is an article upon "The Drying up of the Indian Opium Revenue," by Sir George Birdwood, K.C.I.E., C.S.I., M.D., LL.D., and I scarcely think that the opinions expressed therein by the learned author would meet with the unqualified approval of the medical profession as a whole. When a distinguished man, who happens to hold a medical degree in addition to his other attainments, expresses opinions upon medical matters in a lay journal, it is not unreasonable that the general public should think that the views which he holds represent those generally held by the profession at large. In such a case I consider it to be the duty of those of us who conscientiously disapprove of such opinions to publicly announce the fact. Hence this letter.

The original article is somewhat lengthy, so that it is impossible to quote it *in extenso*, and those who are interested may easily refer to it by the date above given. However, I give a few extracts.

> Indian opium is, as it always has been, the luxury of the rich in China, as champagne is in Europe and America, the only difference between them being that, while the daily use of champagne or other wines or spirits may prove deleterious to those who abuse the enjoyment of them, the smoking of the pure extract of Indian monopoly opium can in itself never be injurious to health, nor even when indulged in, so far as the time and the money spent on it are concerned, to so-called "excess."

And again, the author, having referred to his extensive personal experiences in India, both as a medical man and as an active justice of the peace, goes on to say:

> I should be prepared to defy any one to bring forward, from personal experience, a single authentic record of death or shortened life from habitual opium eating or drinking in India. . . . As for opium smoking, I am satisfied that it is of itself as innocuous as smoking hay, straw, or stubble.
>
> Excepting cases of accidental or wilful poisoning by opium, I never knew of a single instance of death from its use, and I have never met with any one who in his own experience has known of a case of death or of injury to health from the habitual eating or drinking of opium, as practised by the people of India proper.

Later, he says that opium in brief, is one of the greatest gifts of Providence to the peoples of the tropics, that it is a "soothing adjuvant to the digestion of a vegetarian diet" and a "prophylactic against malaria."

I scarcely think, Sir, that the majority of the medical profession could fail to regard these views as part of a dangerous and pernicious doctrine. Here in British North Borneo I have ample opportunity of witnessing the evil effects of opium smoking. Here we are in the midst of licensed opium farms and licensed gambling houses. Every facility is afforded to the Chinese and Javanese imported coolies to spend their money on these vices, to which habit they at length get so enslaved that they are reduced to a condition of perpetual servitude, being always in debt to their employers or others who have advanced money to them; from this they are only released by death or by disease sufficiently serious to incapacitate them from work as labourers. I frequently see in the *post-mortem* room cases of death which are directly or indirectly due to opium, as for instance, when the symptoms of disease have been masked by opium.

A coolie, known to be an habitual opium smoker, may be seen lying unconscious in the coolie house, with his opium pipe and paraphernalia lying beside him. The overseer, or the friends of the man, thinking him to be under the influence of opium, leave him alone to finish his sleep. The following morning a corpse is brought to hospital, and the *post-mortem* verdict of the doctor is cerebral malaria, uraemia, or what not.

One of the greatest difficulties in the administration of estate hospitals in this country is to prevent opium from being smuggled into the wards by patients or their friends. If it once gets inside its powers of injury are many. I need scarcely repeat in a medical paper how perforative peritonitis due to enteric fever, dysentery, appendicitis, etc., may not be recognized in a patient under the influence of opium. Furthermore, the number of cases of murder committed by Chinese coolies with the object of obtaining money wherewith to purchase the drug to allay the pangs of opium hunger must be considerable.

Sir George Birdwood puts forward also many political arguments showing how unjust we are to the Indian people in depriving them of their revenues; but surely the many thousands of Chinese in the Straits Settlements and Borneo are just as much British subjects, and just as much entitled to be protected against their own weaknesses, as any other of the component peoples of the British Empire

If the learned author of the article in question had only resided for a time in some more or less isolated places where the only obtainable household servants were opium-befuddled Chinese, I venture to suggest that he would sing less loudly the praises of the somniferous juice.—I am, etc.,

JOHN F. HORNSEY, B.A., M.B., B.Ch.Oxon.

Ranau, British North Borneo, Oct. 7th.

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW APPOINTMENTS.

P. L. A.—The procedure was quite regular. In the case of a Poor Law appointment the guardians must either advertise the same, or it must be proposed and agreed at a board meeting that the election shall be proceeded with at the next meeting. It is not so in a public health appointment. Such appointments must be advertised.

AN inquiry is now being carried out in France, by order of the Minister of Education, as to the number and conditions of abnormal children. The inquiry is being made by primary teachers, who fill up uniform tables to be analysed by the inspectors. The law of March 28th, 1882, decrees that primary instruction is compulsory for children of both sexes aged from 6 to 13. This law does not apply to children who from the physical or intellectual and moral point of view are unfit to receive the ordinary teaching. The ministerial order classifies them as follows: Blind; deaf mutes; medically abnormal children—idiots, cretins, epileptics, etc., moral imbeciles with perverted instincts, and all children who cannot be cared for and educated collectively except under medical supervision: backward children who are in a state of mental debility; lastly, unstable children to whom the lack of mental equilibrium makes general discipline unbearable, and hence renders it impossible that they should attend a public school. Children who have remained more ignorant than others because they have been hindered in their studies by causes independent of their mental state, such as non-attendance at school, frequent absence, and so forth, are not regarded as abnormal. The inquiry includes all public or private schools.

Obituary.

SYDNEY JONES, M.B.Lond., F.R.C.S.Eng.,

CONSULTING SURGEON TO ST. THOMAS'S HOSPITAL, LONDON.

MANY will have noticed with much regret the announcement of the death, at the age of 82, of Mr. Sydney Jones. For many years he was the most prominent figure in the surgical work of St. Thomas's Hospital, to which his reputation brought many visitors, both from home and and abroad. Educated in the old school in the Borough, he carried on its traditions through the temporary phase of the Surrey Gardens, and in 1871, at the age of 40, he became full surgeon to the hospital when it migrated to its present home. He was the last St. Thomas's surgeon to take a "cub," as the apprentices were picturesquely termed.



MR. SYDNEY JONES.
(Photograph by D. Hc and Ba'l.)

Mr. Jones's career was typical of the period during which he worked; he created a reputation as a teacher of anatomy, he rearranged and catalogued the hospital museum, and five years after joining the staff he became the first ophthalmic surgeon to the hospital, continuing the tradition of Tyrrell, one of his predecessors.

It was, however, as a general surgeon that his reputation was made. A man of strong character, courage, and technical skill, he was in his day unsurpassed as an operator. His capacity in this branch of surgery was partly natural, but greatly increased by the assiduous care with which he practised unfamiliar operations on the dead subject. He was an operator of the old school, bold, brilliant, rapid, and at the same time absolutely safe. In many directions he was a pioneer—thus, he was an early follower of Sédillot in the performance of the operation of gastrostomy, then considered a great undertaking, and again he was early in the field in the excision of joints and removal of the scapula—a big operation he delighted in, and in its performance all his strength of character was displayed. Old St. Thomas's men will remember with admiration "Sydney's" Syme, his perineal lithotomy, and Cock's puncture, and not less his abdominal operations or the promptitude with which he diagnosed and dealt with extradural suppuration. Although he shone as an operator, Mr. Jones was not less respected for his knowledge and judgement. A very wide experience, gained by constant practical observation, reinforced by a certain surgical intuition, allowed him to give an opinion of the very highest value, which he was always prepared to act upon with promptitude and decision. Not less valued than his opinion in practice were the remarks he was able to contribute to discussions at the medical societies in London.

As a hospital surgeon his work was performed with the utmost regularity and efficiency. Some will remember his trim, alert figure as he came up the steps of the hospital, took a quill pen to sign the diet sheets from the hands of the porter, as was his habit, and hurried up the stairs to his wards. Here he made himself acquainted with the details of every case, probed the knowledge of his dressers, criticized the neatness of the dressings, cheered up his patients, who had the greatest confidence in him, and when he left his house-surgeon felt the whole weight of responsibility had been lifted, so thoroughly had everything been gone into.

Although strict in his requirements as to the fulfilment of duty, those who worked with Mr. Jones respected and admired him, while his hospitable home must afford pleasant recollections to many of his old pupils. He had the great advantage, in his days, of gaining a place on the full staff of his hospital at an age when his faculties and energy were at their best, and he made good use of his opportunities.

He received his medical education at St. Thomas's Hospital, and became M.R.C.S. and L.S.A. in 1853; he graduated M.B.Lond. in 1856, and took the diploma of F.R.C.S. in the same year. After holding the usual resident appointments he was elected assistant surgeon to St. Thomas's Hospital in 1860, and appointed lecturer on descriptive and surgical anatomy; for a time he was surgeon also to the Islington and Surrey dispensaries. In 1871 he became full surgeon to St. Thomas's Hospital with charge of beds, and was at the same time appointed joint lecturer on systematic surgery, appointments he held until 1891. He was not a voluminous writer, but contributed articles to the *Transactions* of medical societies, to the *Reports* of St. Thomas's Hospital, and to the periodical press on recto-vesical fistula, excision of the scapula, and on excisions of joints. At an early period of his career he edited a pathological catalogue of the St. Thomas's Hospital Museum. In 1833 he was elected a member of the Council of the Royal College of Surgeons of England, an office which he retained until 1891.

Mr. Jones retired some years ago, and went to reside with his son, Dr. Bevington Jones of Balham, and it was there that his death took place on December 9th.

RICHARD MACARTNEY, L.R.C.P., L.R.C.S.Edin.,

EX-PRESIDENT OF THE GLOUCESTERSHIRE BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

WE regret to record the death, on December 6th, of Dr. Richard Macartney, of Cinderford, Gloucestershire, one of the best known and most popular men, whether in or out of the profession of medicine, on the Welsh border.

Dr. Macartney—by descent a North of Ireland man—was born in Ceylon in 1851, his father being chief of the police service of that dependence. On completion of his general education he became a student first of Queen's College, Belfast, then of the Carmichael College of Dublin, and eventually received the diplomas of the Royal Colleges of Physicians and Surgeons of Edinburgh. Within a year or two he settled down at Cinderford, and rapidly acquired a large practice as surgeon to coal and other mines in the Forest of Dean. Later on he also worked as a medical officer and public vaccinator of the Westbury and Severn Union, and held some of these appointments up to the time of his death. For the past six or seven years, however, his most important occupation had been that of coroner for the Forest of Dean division of the county of Gloucester.

He joined the British Medical Association quite early in his career, and lived to prove himself one of its most loyal and useful adherents in the West of England. Elected to the office of President of the Gloucestershire Branch some eighteen months ago, he brought to its work marked business power and a highly useful capacity for bringing out the salient points of any question in a very brief statement. The honorary officers of the Association in all parts of the country have had an exceptionally trying time during the past two years or more, and nowhere have the difficulties with which they have had to contend been greater than in the neighbourhood of the Forest of Dean. Dr. Macartney did not spare himself, and his labours in this connexion,

coupled with the loss of his wife about a year ago, at the end of a very distressing illness, no doubt served to undermine his strength, and thus account in some measure for the fact that a man who throughout his career was conspicuous for the possession of great mental and physical vitality, should have succumbed so rapidly to an attack of pneumonia.

As a student Dr. Macartney was a well-known football player, as also a very fair cricketer, and he remained to the end a strong supporter of these and other forms of outdoor exercise. He was also a first-class game shot, and the winner of many clay-pigeon shooting and other like trophies. He did a good deal of work for the St. John Ambulance Association as a lecturer and examiner, and had attained high rank as a Freemason. As a private individual he enjoyed great and well-deserved popularity among all classes of society, for he was not only a loyal man to his friends, but an excellent companion—never at a loss for a story, and able to tell it with effect. He possessed, in short, the cheery, vivacious temperament often to be found in the best class of Irishman. The facts that his friends clubbed together to present him with a motor car when his election to the office of coroner was announced some eight years ago, and that he had filled the high office of President of the Gloucestershire Branch of the British Medical Association, bear eloquent testimony to the position which he occupied in the affection and esteem both of laymen and professional colleagues in his neighbourhood.

Dr. Macartney, as has been mentioned, was predeceased by his wife, but is survived by a daughter. He was buried in Cinderford on December 9th, his funeral being accompanied by full Masonic honours.

WE regret to have to announce the death of Dr. J. O'DONOVAN, J.P., of Kingstown, who enjoyed an extensive practice in the south of County Dublin, and was for many years known for his charitable interest in the poor of the district. He manifested in a peculiarly fitting manner his humanitarian instincts when he erected as a memorial to his son, Dr. R. O'Donovan, Superintendent Medical Officer to the Kingstown Urban Council, a shelter for cabmen in the Royal Marine Road. Dr. O'Donovan suffered from heart disease last summer, and went for treatment to England, but on his return in the autumn he was much worse. Since then he had been confined to bed. His demise is mourned by a wide circle of friends and admirers.

COLONEL JOHN HENRY NEWMAN, Bengal Medical Service, retired list, died at Coolatta, Killinardrish, County Cork, on November 30th. He was born on November 9th, 1844, educated at Queen's College, Cork, took the degrees of M.B. and M.Ch. in the Queen's University of Ireland, and entered the Indian Medical Service as assistant surgeon on September 30th, 1867. He became surgeon on July 1st, 1873; surgeon-major on September 30th, 1879; brigade-surgeon-lieutenant-colonel on June 1st, 1892; and colonel on March 29th, 1895. He was granted a good-service pension on April 1st, 1900, and retired on July 14th, 1900. Most of his service was spent in political medical employment under the Indian Foreign Office. In 1879 he was appointed medical officer of the Mhairwarra Battalion, now the 44th Merwara Infantry, with which post was combined the civil surgeoncy of Ajmir. In 1834 and 1839 he officiated as Agency Surgeon, Rajputana, and administrative medical officer of the Rajputana States, and was confirmed in that post in 1892. From July to November, 1893, he acted as Inspector-General of Civil Hospitals in Bengal. On promotion to colonel he was posted in a similar capacity to the Central Provinces in March, 1895; in November, 1897, was transferred to Bengal; and in April, 1898, chose to return to military duty as administrative medical officer of the Punjab Frontier Force. He served in the Abyssinian war of 1878, and in the second Afghan war in 1878–9, taking part in the two expeditions in the Bazar Valley, and received the medals for these two campaigns.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are: Dr. Alessandro Cugini, professor of forensic medicine in the University of Parma; Dr. Debocck, professor of forensic medicine and psychiatry in the University of Brussels; Dr. Gendre, an ophthalmologist of Toulouse; Dr. Jesse S. Myer, of St. Louis, author of *The Life and Letters of William Beaumont*, and of clinical papers dealing largely with the physiology and pathology of the digestive system, aged 40; and Dr. Fedor Schuchardt, professor of psychiatry in the University of Rostock, aged 65.

Universities and Colleges.

UNIVERSITY OF EDINBURGH.

THE following candidates have been approved at the examinations indicated:

M.D. (*Clinical Examination*).—H. F. W. Adams, R. Aitken, R. M. Allan, T. M. Anderson, G. L. Brunton, F. D. Cairns, G. J. Carr, J. Cathcart, F. O. Clarke, H. Evans, T. R. Evans, W. N. W. Kennedy, W. Macdonald, W. F. M'Lean, J. S. Manson, A. E. Moore, D. M. Morison, T. P. Noble, S. D. Reid, A. A. Rutherford, W. M. W. Shepherd, A. N. Smith, G. Walker, A. Watson, G. A. Wyon.

FINAL M.B., CH.B. (*Forensic Medicine*).—R. C. Aitchison, M. Barseghian (Basil), J. G. Bell, T. H. S. Bell, P. N. Berry, E. J. Blair, D. G. Boddie, R. S. Brunton, W. A. Coats, J. Dale, J. W. Darling, Georgina L. Davidson, C. L. Dold, W. B. H. Dundee, G. D. Fairley, E. G. M. Gilchrist, A. S. Glynn, D. C. Graham, G. D. Hamilton, F. W. Hird, M. P. Inglis, H. Jackson, L. F. E. Jeffcott, R. W. R. Jones, L. Lappin, C. W. Lewis, G. Lilico, J. Loftus, E. W. Louw, G. A. G. Macdonald, W. H. M'Granahan, E. L. Mackenzie, D. J. Max, G. T. Mowat, R. Power, A. M. Razakhan, R. C. Rogers, A. R. Ross, M. A. L. Sayeed, A. C. Shaw, J. C. Sinclair, J. H. Smith, L. J. Spence, P. A. Strasheim, R. J. Tait, J. S. Taylor, A. R. Thomson, J. Z. Truter, C. H. Wan, W. G. Weston, E. L. White, J. A. C. Williams, G. S. Williamson, E. W. N. Wooler, J. A. Young, J. B. Young. (*Public Health*).—M. Barseghian (B.), J. G. Bell, P. N. Berry, E. J. Blair, R. S. Brunton, F. C. Chandler, W. A. Coats, Georgina E. Davison, C. L. Dold, E. G. M. Gilchrist, A. S Glynn, D. C. Graham, G. R. Grant, Agnes R. M. Greig, W. W. Hallehurch, F. W. Hird, H. Jackson, F. N. Johns, L. Lappin, C. W. Lewis, J. Loftus, E. W. Louw, G. A. G. Macdonald, W. H. M'Granahan, E. L. Mackenzie, D. J. Max, B. Mendelssohn, E. M. Molesworth, G. T. Mowat, W. Murdoch, R. Power, R. C. Rogers, A. R. Ross, H. P. Rudolf, B. Shires, P. A. Strasheim, R. J. Tait, A. S. Taylor, A. R. Thomson, J. Z. Truter, P. G. Tuchy, C. H. Wan, W. G. Weston, J. A. C. Williams, G. S. Williamson, E. W. N. Wooler, J. A. Young.

FINAL (*All Subjects*).—E. Allan, G. A. M. Anderson, S. Arnott, Vera N. Bolotine, G. A. Borthwick, H. Boyle, W. T. Brown, J. W. K. Bruce, J. V. Buchanan, W. S. H. Campbell, J. W. Cannon, P. A. B. Clark, J. B. Cook, G. Cromie, J. B. Cunningham, M. F. W. Davidson, W. Duguid, W. B. H. Dundee, B. V. Dunn, J. M. Elliott, A. Eprile, D. Gilmour, C. Gordon, G. R. Grant, D. A. R. Haddon, Julia V. Henslow, H. C. Hinwood, J. H. G. Hunter, R. C. Irvine, Jamal-ud-din, F. N. Johns, R. W. R. Jones, Margretta J. Keers, D. Kerr, J. L. C. Lagois, W. A. Letham, E. Llewellyn, J. M'Craig, J. S. M'Intosh, B. B. Mackenzie, H. A. Macmillan, Rosanna E. Macmillan, G. M'Neill, D. M'Vicker, J. T. H. Madill, A. C. Mann, J. R. Menzies, S. L. Mitra, S. C. Mitra, J. B. Mitton, H. M. Moir, S. R. Moll, A. J. M'C. C. Morrison, A. H. Murch, B. P. B. Naidu, R. H. H. Newton, K. P. Panikkar, A. E. S. P. Pattison, M. Plum, E. G. C. Price, J. K. Reid, M. J. D. Roche, J. A. N. Scott, E. A. Seagar, J. Sircar, J. B. Smith, V. R. Smith, R. A. Stark, R. J. Tait, J. S. Tomb, J. Z. Truter, M. B. Walker, J. H. Ward, J. H. D. Watson, W. N. Watson, W. G. Wyllie.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN Ordinary Council was held on December 11th, when Sir Rickman J. Godlee, Bart., President, was in the chair.

The Annual Congregation of the American College of Surgeons.

The President reported his attendance at Chicago on November 13th on the occasion of the first Annual Congregation of the American College of Surgeons; and also that he had visited Toronto, where the degree of LL.D. was conferred upon him.

The late Mr. Sydney Jones.

A resolution was adopted expressing the sympathy of the Council with the family of the late Mr. Sydney Jones, a past member of the Council, and its appreciation of his services to the College.

Grant of Diplomas.

Diplomas of Fellowship were granted to the following twenty-eight candidates found qualified at the recent examination:

R. M. Rowe, P. J. Franklin, T. H. C. Benians, G. H. Chisnall, T. B. Davies, M. Bates, C. W. Archer, E. H. Rainey, J. L. Ritchie, F. H. Diggle, J. S. Jobson, S. E. V. Brown, A. L. Moreton, C. T. Neve, R. A. Ramsay, E. G. Schlesinger, N. Duggan, W. A. Sneath, S. B. Radley, F. G. Bell, N. C. Lake, J. T. Morrison, E. Rayner, J. S. Bookless, A. Gibson, J. Gow, R. C. MacQueen, and J. C. Stewart.

Diplomas of the Licence in Dental Surgery were granted to fifty-four candidates found qualified for the Licence.

Court of Examiners.

Mr. W. G. Spencer was re-elected a member of the Court of Examiners.

Royal Commission on Venereal Diseases.

In response to a request from Lord Sydenham, Chairman of the Royal Commission on Venereal Diseases, the Council selected to give evidence before the Commission Mr. D'Arcy Power, Surgeon to St. Bartholomew's Hospital; Mr F. R. Crosse, President of the Ophthalmological Society of the United Kingdom; and Mr. S. G. Shattock, Pathological Curator of the Museum of the College.

Annual Meeting of Fellows and Members.

The Council adopted a reply to the following effect to the resolutions passed at the annual meeting of Fellows and Members on November 20th, 1913 (BRITISH MEDICAL JOURNAL, November 29th, p. 1462):

With regard to the first resolution affirming the desirability of admitting Members to direct representation on the Council of the College, and the second resolution requesting the Council to include in its annual report a balance sheet showing fully and without reserve the assets and liabilities of the College on Midsummer Day, 1913, the Council replied that it did not think it was called upon to reconsider its decisions respecting these subjects. With regard to the third resolution, expressing dissatisfaction with the administration of the College finances as carried out by the Council, the Council expressed the opinion that the satisfactory financial position of the College at the present time is sufficiently evident to any Fellow or Member who studies the published accounts.

APOTHECARIES' HALL, DUBLIN.

On the evening of November 29th Alderman McWalter, M.D., the Governor of the Apothecaries' Hall, Dublin, entertained a large number of guests at dinner at the Hotel Metropole. Among those visitors who spoke were the Presidents of the Royal College of Surgeons, of the University College, and of the Incorporated Law Society. The Recorder of Dublin, speaking in reply to the toast of the City of Dublin, said that he considered that the bad housing conditions of the poorer classes was responsible for a large proportion of the crime that came before him in his official position. The after-dinner speeches were varied by several pleasing musical items.

Medico-Legal.

"UNDER THE INFLUENCE OF DRINK."

AN inquest in Southwark on December 8th on the bodies of two young men who had been killed in the street ended in a verdict of manslaughter against the driver of a motor lorry which knocked them down, the jury adding that he was driving at an excessive speed and was "under the influence of drink."

All the witnesses agreed that the accident was due to the driver passing a stationary tramway car at an excessive speed. The constable who arrested the accused said that he had had more than twenty-seven years' experience in the police force, and he was sure that the driver was "under the influence of drink." He seemed like a man who did not care whether he met with an accident or anything else. He was absolutely unconcerned. He agreed the driver had rendered every assistance in extricating the two injured men from under his lorry, and that it was true that as he himself had an accident he must have been suffering from shock, but nevertheless adhered to his belief that that the accused was under the influence of drink. A second police constable who took part in the arrest described the man simply as "drunk."

Evidence was also given by the divisional surgeon, Dr. Athol R. Moore, who said that after he had examined the arrested man he wrote the following certificate: "I have examined this man and find him to be under the influence of alcohol. He is not in a fit state to be in charge of a motor vehicle. Fit to be detained." In reply to questions from the coroner, Dr. Waldo, as to what distinction the witness drew between the terms "drunk" and "under the influence of drink," Dr. Moore replied that he was of opinion that if a motor driver had had sufficient drink to take the keen edge off his wits he was not in a condition to drive a motor vehicle. Asked if he considered the driver was drunk, he replied that he did not consider that he was sober. Whether the term "drunk" should be applied to him depended upon how the meaning of the word "drunk" was to be defined. The Medico-Legal Society had been endeavouring to define its meaning, but it had not yet formulated a satisfactory definition, and probably no one ever would. The accused was not drunk in the popular sense of the term, but he had had sufficient alcohol to take the edge off his wits. It was possibly true that he had developed shock by the following morning, but at the time the witness saw him, the shock—if he was suffering from shock at all—was masked by the effect of alcohol.

COLONEL GORGAS, M.D., Chief Sanitary Officer of the Panama Canal, has been elected a honorary Fellow of the Royal Sanitary Institute; and Colonel Guy Carleton Jones, M.D., Director-General of the Medical Service of the Militia of Canada, and Dr. William Robertson, M.O.H., Leith, have been elected Fellows.

Medical News.

WE are asked by the Secretary to state that the London Post-Graduate Association, 20, Hanover Square, London, W., is to be wound up on December 31st.

THE Royal College of Surgeons of England, including the Museum and Library, will be closed from the evening of Wednesday, December 24th, until the following Monday morning.

THE White Star line have arranged for two vessels of their fleet, the *Laurentic* and the *Megantic*, to make a series of cruises from New York to the West Indies and the Panama Canal during the winter and spring of 1914. The *Laurentic* is due to leave New York for a cruise of twenty-eight days on January 31st and March 4th, and the *Megantic* on February 11th and March 14th. The *Laurentic* concludes the series with a sixteen days' cruise from April 4th.

THE After-care Association, which is so serviceable in the rehabilitation into ordinary life and employment of poor persons discharged recovered from asylums for the insane, quietly does much useful work in finding suitable employment for, and otherwise aiding, those whose mental illness has interrupted their industrial careers. Two important meetings have lately been held in support of its funds, the first at Rubery Hill Asylum, Birmingham, in which city a branch was started in the early part of this year, and has already done much good work. The second meeting was at Bootham Park Hospital, York, which resulted in the addition of many new subscribers to the York branch. Both meetings were addressed by Mr. Thornhill Roxby, the energetic Secretary of the Association, the headquarters of which are at the Church House, Dean's Yard, Westminster. This association is the only one of the kind in Great Britain, and last year 391 cases were dealt with by the Council.

A MEETING of about forty members of the newly formed group of school medical officers of the Society of Medical Officers of Health was held at the Royal Sanitary Institute on December 6th, and was presided over by Dr. Robert Hughes, the school medical officer of Stoke-on-Trent. It was decided to form subgroups corresponding to the branches of the society. After some discussion as to the best means of securing adequate remuneration for school medical officers of all grades it was decided to communicate to the British Medical Association and the Society of Medical Officers of Health the opinion of the group that the minimum salary of a whole-time senior or responsible medical officer engaged in school medical inspection should be at the rate of £500 per annum, and in large towns proportionately higher; and that the minimum salary of whole-time junior officers should be £350 per annum, rising by annual increments of £25 to at least £500. The next meeting of the group is to be held at the Royal Sanitary Institute on January 3rd, 1914.

THE annual meeting of the Hospital Almoner's Council was held on December 10th at the Central Buildings, Westminster, with Sir Malcolm Morris, Vice-President, in the chair. The Secretary stated that fifteen candidates for almoners' posts were in course of training; he referred to the appointment of an in-patient almoner at Great Ormond Street Hospital for Sick Children, and drew attention to the numerous appointments of assistant almoners, as evidence of appreciation of the system on the part of those hospitals which had adopted it. In moving the adoption of the annual report, Sir Malcolm Morris said that, after forty eight years' experience of hospitals, he was convinced that there was no more important work being done in London than that of the almoners in supplementing the medical treatment provided by the hospitals. Unless the work of hospitals was linked up with that of charities outside their walls patients could not benefit fully by the treatment they received. He referred to the necessity of careful training for the work as provided by the Council.

THE schoolroom blackboard seems to have been subjected to a fair amount of criticism at the International Congress on School Hygiene, held at Buffalo in August last, judging by Dr. James Kerr's account of the proceedings, given at the meeting of the Illuminating Engineering Society on November 18th. It is, of course, from the point of view of illumination that the blackboard is challenged. In America, instead of having the boards at the end of the

class-room, behind the teacher, it is the custom to place them on the right-hand side of the children, opposite the window. It is found, according to some detailed measurements which were presented to the Congress, that the boards, when in this position, actually diminish the lighting on the desks by an average of 15 per cent., while white boards increase the illumination almost by the same amount. Even slighter changes than this are important when the general illumination is poor. Apparently the European practice of stationing the blackboards at the end of the room makes only a negligible difference to the desk illumination. Apart from this aspect of the question, however, the difficulty of lighting the blackboard efficiently, and of preventing glare from its shiny surface, is putting educationalists on the alert for some substitute. One Viennese delegate at the Congress urged the value of rolls of white paper on an easel, and others suggested green or brown boards in place of the universal black. If blackboards are retained care should be taken at least to tilt them so as to get the regular reflection away from the children's faces, and thus to make this convenient teaching instrument less of an eye torture than it was in the schooldays of many of us.

THE University of the Philippines which was founded under the authority of the United States by an Act of the Philippine Legislature in January, 1911, includes faculties of arts, of medicine and surgery, agriculture, veterinary science, engineering, law, and a school of fine arts, each possessing an educational college. The entire teaching staff of the University consists of 12 full professors, 8 professorial lecturers, 20 associate professors, 18 assistant professors, 57 instructors, 10 lecturers on law, 21 lecturers on special subjects, and 7 assistants. The Philippine Medical School was founded in 1905, before the University was established. Seven professors, 12 associate professors, 6 assistant professors, 14 instructors, with 2 temporary instructors, 16 special and 6 assistants, belong to the Medical College. A five years' course is required. Clinical facilities are afforded by the Philippine General Hospital, which has 200 beds, with a free dispensary; the Bilibid Prison Hospital; the Hospital for Infectious Diseases of San Lazaro, which includes departments for incurable tuberculosis, small-pox, diphtheria, plague, cholera, and other dangerous communicable diseases. Then there is the San Juan del Monte Tuberculosis Sanatorium; the "Gota de Leche" (*Goutte de lait*), for undeveloped and abnormal children; and the municipal and tuberculosis free dispensaries of Manila. In the course of last year more than 80,000 patients passed through the clinics. There is ample laboratory accommodation, with facilities for individual work by students in animal experimentation, and a sufficient supply of all the ordinary laboratory animals to meet the requirements of the courses, as well as for purposes of investigation. There are also a Graduate School of Tropical Medicine and Public Health, in which courses of instruction are given throughout the year. The school gives the degrees of Tropical Medicine (D.T.M.) and Doctor of Public Health (D.P.H.).

PROFESSOR OPPENHEIM of Berlin has reported 2 cases of cerebellar tumour treated by operation (*Berl. klin. Woch.*, November 3rd). The surgeon in both cases was Professor Borchardt of the Virchow Krankenhaus. The first was a case of tumour involving the vermis and right cerebellar hemisphere, and the operation was performed under local anaesthesia in three stages, owing to the collapse which threatened to supervene at any moment. It was only at the third sitting, which lasted for two hours, that the tumour was successfully dissected and removed from its bed. It proved to be a fibro-sarcoma. Before the operation was completed dyspnoea began to set in and continued throughout that night, with periods of complete apnoea, and Cheyne-Stokes respiration, with prolonged rattling in the trachea. Artificial respiration was continually required until the patient turned the corner and resumed the automatic function. The pulse remained good throughout and convalescence was very rapid, so that three months after the operation scarcely any symptoms of his original malady were present. The other case was that of a tumour in a child of 7, which involved the left cerebellar hemisphere, and required two operative stages under general anaesthesia. The child was completely ataxic and amaurotic at that time, but a year after the operation could count fingers at 2 ft. and was able to walk three hours without undue fatigue. The recovery of the smallest degree of vision once papillitis has advanced to a stage in which complete blindness has ensued, is most exceptional, so that this particular case deserves a position among the triumphs of surgery.

Letters, Notes, and Answers.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, Westrand, London.* The telegraphic address of the BRITISH MEDICAL JOURNAL is *Articulate, Westrand, London.*

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2630, Gerrard, BRITISH MEDICAL ASSOCIATION.
2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

VERITAS desires to know the date and treatise in which the term "thyroid insufficiency" was first used.

RADIUM EMANATIONS.

THE fee charged by the Radium Institute, 16, Ridinghouse Street, London, W., for treatment with radium emanation solution is three guineas a week, and it is stated that a course of at least six weeks is essential if any benefit is to be expected. A correspondent wishes to know whether a reliable emanation solution can be obtained for a smaller sum elsewhere.

ANSWERS.

M. W. B. writes to advise "St. Kitts" to consider the question of gall stones, and treat accordingly.

TREATMENT OF TERTIARY SYPHILIS.

DR. J. BARKER SMITH (Herne Hill, S.E.) advises "Country Practitioner" to try the effects of *nascent* iodine on the lines lately tried for tuberculosis. Ten grains or less of potassium iodide in peppermint water every morning for a week, immediately after breakfast: follow in four and eight hours by well diluted chlorine water. Take a dry bottle, put into it a drachm of powdered potassium chlorate, pour on the chlorate twenty drops of strong hydrochloric acid and evolve the chlorine, entangle it by shaking with water, and make up with water to six ounces. A tablespoonful in water or lemon water should be taken four and eight hours after the iodide. Again, by permanganate solution or hydrogen peroxide applied locally the effects should be intensified. I have met with success, so that I have suitable labels printed. I am convinced that nascent iodine is effective, and in one case of partial paralysis in a verified case of tertiary syphilis without a history, results surprised me. In this case the blood acidity was increased (verified by Joulie's method), and the urine, as noticed by the patient, was wonderfully cleared up.

LETTERS, NOTES, ETC.

THE EXECUTIONER SURGEON.

DR. FREDERIC WOOD JONES (London) writes: It has been a great disappointment to me to note that, as an organ of the medical profession, you have taken up what can only be termed a flippant attitude towards a subject which, though raised in this instance in the lay press, has before now engaged the attention of medical men. How the suggestion that the regulation of the means of putting our fellow creatures to death should be ordered by the scientific inquiry of medical men, could be regarded as a "silly joke," or as "offensive," neither I nor any thinking person can see. That it should be regulated by a person ignorant of anatomical and physiological science is the abuse, and no earnest suggestion for the alteration of this state of affairs should be stigmatized as "silly" or "offensive." Medical men have devoted thought and time to this question; experiments have been done, and sober suggestions have been made, and yet, though animals are slaughtered with all the humanity that science can suggest, our fellow unfortunates are still hanged with mediaeval pageant, and by methods that are crude, cruel, and unscientific.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

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NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

ON THE NATURE OF OLD AGE AND OF CANCER.

BY HASTINGS GILFORD, F.R.C.S.
(READING),
HUNTERIAN PROFESSOR, ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AMONG the many facts which have been gathered together about cancer, I suppose that none is more striking than its close association with the degenerative periods of life. But, though particular attention has been given to this peculiarity, its bearing on the pathology of cancer is apparently not yet understood. The most obvious interpretation is that the cancer itself is nothing more than a manifestation of old age. But to all appearances so inconsistent are the cancer characters with those which distinguish the old age change, that such an explanation is too improbable to be entertained. Nothing, indeed, seems more unlikely than that the vigorously growing cancer cells, pushing the tissues before them or threading their way along the lymph spaces, should be smitten with the same blight as that which accounts for the ever-increasing decay and incapacity of normal senescence. But a little consideration may serve to show that the comparison between the cancer process and the senile process is not quite so remote as appears on the surface.

Though much of the work that is being done upon cancer does not explain cancer, it tends to clear the way for an explanation. Thus it seems positive that, though cancer may be started by the operation of external agencies, its real origin is not extrinsic but must be looked for in the perversion of some intrinsic condition. This narrows the scope of inquiry considerably, for the intrinsic processes of the body capable of such perversion are few in number. Indeed, it apparently confines the search to one of the five basic properties of growth, development, reproduction, nutrition, and immunity.

In seeking for the clue to the pathology of cancer, probably each of these five processes has now been well scrutinized, and none more thoroughly than development, for there is much in development to suggest that it contains the explanation of which we are in search.

CANCER A DEVELOPMENTAL CHANGE.

One feature of cancer suggestive of a developmental origin is the variability in its rate of growth. Such variability seems to be spontaneous or innate and reminiscent of the changes which characterize development, some being diurnal, others seasonal, others marking an epoch of evolution, and yet others arising from more recondite causes. Hence when we see a mass of cells sprouting from one of the organs or surfaces of the body, and notice that for no apparent reason its growth is at one time quickened, at another retarded or even arrested, we are reminded of the rhythmical or cyclical changes of normal development.

Another suggestive circumstance is the way in which the rapidity or malignance of cancer is influenced by the development of its host. Generally speaking, the earlier in life the cancer begins, the more rapid is its course, the greater its malignance. In other words, its malignance is as a rule in inverse ratio to the age of the individual affected.

But nothing, perhaps, points more definitely to cancer having its foundation in some perversion of normal development than its origin in cells whose developmental career has been prematurely stopped.

When Durante and Cohnheim formulated the theory based upon this important fact we seemed on the verge of discovering the nature of cancer. But as a matter of fact we have failed to explain the pathology of cancer by any theory founded upon the phenomena of embryonic life. Yet, at the same time, we need not conclude that it is hopeless to seek for the origin of cancer in some perversion of development. Development is not a process which terminates at birth or at adolescence, or even at middle age. On the contrary, the declining periods of life are just as truly developmental as are the rising periods. Development is coterminous with life, and takes the form of a curve which first ascends to its summit in middle age and then falls to its cessation in death. If, therefore, we are thoroughly to explore the different phases of development in our search for the pathology of cancer, we can hardly regard their possibilities as exhausted until we examine the nature of the changes which mark the decline of development and usher in old age and death.

Let us, therefore, for a time ignore cancer *quâ* cancer and turn our attention to normal old age. Indeed, it is only because it is possible to approach our subject from this aspect that this article is written, for the writer has a profound conviction of the hopelessness of attempting to storm the cancer position by a direct frontal attack. For if an army of investigators, led by men of supreme ability, able to devote much of their time to the task, have not as yet been able to conquer the position, it is not likely that any one without special knowledge or equipment will do so. But it is a different matter when an attempt is to be made to overcome the difficulty by a movement on the flank—by dealing with it as an incident or side-issue arising in the course of a study of normal old age.

NATURE OF THE SENILE CHANGE.

The usual conception of the senile change as mere disorganization and decay with no orderly sequence is essentially false. Indeed, one may safely commit oneself to the general statement that wherever among biological processes we see nothing but muddle or disorganization, we may be assured that the confusion is not in what we observe, but in our own minds. However mad the phenomena may appear, it is certain that there is method in them. Hence it must be our object to get behind the more obvious revelations of senile decay, to study its mechanism and to seek for the principle or motive by which it is directed.

The degeneration of old age is by no means equable, but, on the contrary, is very partial in its distribution. Thus, a man of 70 may die of senile decay, and yet many of his organs may to the naked eye, and even to the microscope, be as sound and as free from evidence of degeneration as the normal organs of a youth. Indeed, it is conceivable that the senescence which is responsible for his death may be confined to one organ or even to part of one organ.

Such inequality of distribution is comparable with the similar partiality displayed by ascending development when the maturation of one organ, such as that of sex, may lag far behind that of another organ, such as the stomach, or liver. Indeed, as we well know, the thymus may even complete its curve of development while the sex organs are still in their infantile stage. But, as a rule, the manifestations of old age are fairly widespread, though invariably certain organs are in advance of the others.

It must be obvious that if descending development be a reversal of ascending development, old age need not necessarily be expressed by protoplasmic shrinkage or disintegration. It might also be manifested by a tendency for the lower class cells, such as connective tissue cells, to assert themselves and to proliferate at the expense of those of higher degree. Moreover, it is highly probable that as the more advanced cells deteriorate they may resume old habits and once again begin actively to divide. As a matter of fact, old age is shown in each of these three ways—that is, in (*a*) decay, in (*b*) fibrosis, and in (*c*) proliferation.

(*a*) *Decay.*

The method which underlies and informs the process of normal senile decay appears to be briefly as follows:

In ascending development there is a procession of changes all tending towards increasing complexity both of form and of function. The man recapitulates his development, beginning with the unicellular existence and rising though successive stages of evolutionary progress, until at middle age he arrives near the summit of his own particular standard of progress. The machine is then working at its best, and though certain organs are still capable of further improvement and further complexity, the body as a whole begins its developmental decline. Life becomes once again more simple, and this retrograde change is to a large extent reversive, making for second childhood and second infancy on the one hand, and for a more simian structure on the other. But so partial is the distribution of this reversion, that in some parts it may reach a point corresponding with the embryonic stage, or the beginning of rising development, though in most respects the individual may still be in his prime. The grosser manifestations of second infancy are the outcome of finer changes in the tissues, whereby the cell at the end of

life tends to resume that simplicity which characterized its appearance and its functions at the beginning of life. In the beginning the cell constituents, no matter what the tissue or organ may be, are of an indifferent rounded pattern, and their low organization is indicated by their rapid multiplication. But as development proceeds the cells of each organ tend to assume a character of their own, while the initial proliferative impulse gradually slackens and ultimately stops. The development of the cell is apparently more or less of an accretion, the parts about the nucleus representing the earlier structure and being the seat of the more elemental properties, whereas the periphery of the cell inside the lining protoplasm represents later acquirements. It is the angles of the liver cell and the processes of the nerve cell which are distinctive, and in molecular degeneration it is these angles and processes which seem to be most vulnerable, the parts about the nucleus being most stable. Or, as it is sometimes said, "the nucleus exerts a trophic influence upon the cytoplasm" of the cell, so that, apart from the surface layer, the farther the cytoplasm is from the nucleus the less resistant is it and the more prone to degenerate. The nature of the changes which mark the senile regression of a cell are perhaps best demonstrated in cells of highest development. Thus the brain cell, in which development has reached its acme, is a giant with a complicated network of processes. But when the degeneration of old age begins this complexity of structure at first ceases to continue, then definite regression takes place, and as the advancement of the cell is an addition and a centrifugal process, so its recession is a subtraction and a centripetal process. There is a tendency for the cell projections to decay first, the central parts about the nucleus being unaffected until molecular changes have obscured the remaining cytoplasm.

As it is with the cell, so is it in principle with the different tissues and organs of which the body is composed. It is the higher types of cells which are the first to be stricken with senility, those of lower types escaping. This is true in respect to each organ, though it may not be true of the body as a whole. Each organ seems to have its own standard of longevity irrespective of the state of development of its distinctive cells, and the more highly developed, or more differentiated the cells of which it is composed the sooner and the more completely do they decay. Thus, in the brain of old age, while the cells of Betz are obviously deteriorating, the glial cells show renewed activity. So also in the case of the liver, of muscle, or of any organ in which the cells are highly specialized, the degeneration is a degeneration of the more advanced constituents, and does not apparently extend to the more humble elements.

(*b*) *Fibrosis.*

We have just seen that the cells of lower type under the influence of senile decay do not undergo molecular degeneration, but simply multiply. Hence, in a liver or a brain advanced in senility we expect to find decided increase in connective tissue cells. It might be said that this in itself is evidence of degeneration, seeing that it means a return of connective tissue to its embryonic state. But apparently this change is not reversive, inasmuch as these fibroblasts are capable of returning to their resting stage and becoming fully developed fibrous tissue. But if this multiplication of cells be not degenerative, what is its purpose? The most likely explanation is that it is a sanitary or scavenging change. The molecular decay of higher cells loads their protoplasm with degenerative products. But the presence of any effete substance in an organ whose lower elements are still vigorous stimulates into action the mechanism of phagocytosis. Dead or half-dead material cannot be permitted to encumber the tissues. The fixed connective tissue cells of the part, which are phagocytic, and therefore proliferate, combine with cells derived from the endothelium, with plasma cells and with lymphocytes from the blood and lymph vessels to clear away the débris. Hence in an organ advanced in senility we see all stages of simplification of higher cells on the one hand, and of phagocytosis on the other. The disorganization of the special cells rarely goes to such an extreme that they become mere shells filled with granular or otherwise disintegrated protoplasm, but as a rule they shrink into a much smaller compass and become less angular or, it may be, even rounded in shape. And mingled among them are so-called "inflammatory" cells, which have sprung into being from adjacent indifferent tissues. These are the phagocytes, some of which are of connective tissue origin. These latter, when they have accomplished their task, apparently settle down once again into fibrous tissue, and, as they have already undergone proliferation, there is more fibrous tissue at the end than there was at the beginning.

The phagocytosis of old age was first demonstrated by Metchnikoff, and his observations have been confirmed and extended by his co-workers at the Pasteur Institute. Although this phagocytosis has been denied by some other investigators, it is claimed that the findings of Metchnikoff and of his school can be verified by any one who is scrupulous in the preparation of his sections.

It must not be supposed that such changes are invariably to be observed in the organs of those who die from senile decay. Nor is it necessary that the individual should be very aged. Indeed, there is reason to believe that the man who dies in a state of senile decrepitude at 70 will be more likely to show typical senile changes than the man who dies a centenarian. At whatever age death takes place no organ need be examined which does not show by its toughness and by its appearance that it is definitely senile. Moreover, on examining such organs under the microscope, though plenty of new fibrous tissue may be seen, it must not be expected that the phagocytes will necessarily be engaged in the task of phagocytosis. It is conceivable that the presence of protoplasmic rubbish, which acts as the stimulus or incentive to call them into being, is usually dealt with, in the first place, by the more versatile, more available, lymphocytes, and that it is only under conditions of stress or of chronicity that the connective tissue cells come into action. Neither must it be supposed that we shall often witness decayed cells surrounded by clusters of phagocytes actually engaged in the work of absorption, such as Metchnikoff pictures. The evidence is, as a rule, more circumstantial than substantial or direct, and consists in the presence of cells whose function is known to be scavenging and reparative in the vicinity of other cells laden with protoplasmic litter, or whose size and shape are consistent with the view that they have undergone circumferential reduction. On quite insufficient evidence such adventitious cells have been termed inflammatory cells. As a fact they are not the cells whose office is to cope with the organisms which give rise to inflammation. They are not polymorphs, but are the cells which usually gather about non-toxic dead material, and whose object is known to be sanitary and constructive. They not only clear away litter, but themselves form scar tissue, filling up vacant spaces, and being afterwards reinforced or replaced by the more permanent tissue of fibroblastic origin.

In short, if we put on one side the direct evidence of phagocytosis, there is a chain of presumptive evidence which is in itself pretty convincing. The links of this chain are the tough, stringy organs of old age; the signs of activity among cells known to be phagocytic; the fact that these phagocytes are such as are ordinarily called forth for scavenging purposes and for purposes of repair; the presence of other cells laden with just such material as it is the office of these phagocytes to clear away; the presence of cells of the same type in an atrophic or shrunken state; and, lastly, new fibrous tissue resembling scar tissue such as is usually laid down in any part of the body in which phagocytes are engaged in the work of absorption and repair.

Until Metchnikoff showed the true meaning of the round-celled infiltration in senile tissues the fibrosis was itself regarded as the dominant change, whereas in reality it is but an incident in senility. The fundamental change is neither decay, nor phagocytosis, nor fibrosis, but is regression. As age creeps on acquirements are lost in the order of their acquisition. The longer established the habit the greater its stability, so that towards the end of life the old man in his dotage lives in the memory of the events of his youth or boyhood, and recalls to his mind incidents which in his middle age had been forgotten. Simplification of form and of function keep pace one with the other, the latter being the inevitable outcome of the former. Regression, therefore, is the dominating factor in the old age change. The cytoplasm of the periphery of the cell, which represents the acquirements of the distinctive cell experiences, is the first to undergo disintegration. Molecular alteration, phagocytosis, proliferation, and the formation of new fibrous tissue are all secondary to the regression, and constitute its expression.

(*c*) *Proliferation.*

We have observed that the reversion of old age in the higher order of cells is accomplished by means of molecular decay, and that apparently this manner of degeneration does not reach down to the meaner cells, such as serve a mechanical purpose or act in the lowly

capacity of phagocytes. Between cells of highest degree, such as nerve, muscle, reproductive, thyroid cells, and those of lowest degree, such as connective tissue cells and leucocytes, is a group in which senility is revealed, partly by molecular changes and partly by proliferation. To this group belong the epithelia. Metchnikoff has pointed out that the epithelium covering the surface of the body does not cease to grow in old age. On the contrary, growth may even become more active as age advances, as is evidenced by the crop of hair which springs, like an aftermath, from the general surface of the body, by the redundance of epithelium sometimes manifested in the shape of corns and of callosities on parts exposed to pressure, and by the appearance of other cutaneous outgrowths. Renewed proliferative activity may also be observed in the secreting cells of organs. Thus, the breast tissue of the female at the menopause does not solely shrink, but the onset of mammary old age and the cessation of function are indicated by renewed activity. This activity, as a rule, is mainly of the connective tissue; but now and then the epithelium is extensively affected, so that the whole gland may enlarge. Moreover, it is not a functional but a degenerative phenomenon, for it marks an accession in quantity and a recession in quality.

We see the same kind of change in the epithelium of the kidney. As a rule here, too, it is the connective tissue elements which chiefly increase, but sometimes senile decay is shown by epithelial overgrowth, the redundant, more or less altered, epithelium being exuded from the tubules in the form of casts. Any one who takes the trouble minutely to examine the organs of those who die in a state of senile decrepitude will not uncommonly observe these changes. Degeneration of this kind may even become so advanced as to cause enlargement of the kidney.[1]

Similar multiplication occurs in the liver, for in the senile liver, while some of the cells show molecular decay and fibrosis, others are often to be detected in the act of dividing. This growth, as a rule, is slight or moderate in degree, but occasionally it becomes more pronounced, giving rise almost to adenomatosis and merging gradually into the proliferation of cirrhosis. Senility may be manifested in a similar way in bone. Thus Rindfleisch[2] has shown that there is renewed periosteal activity in old age, leading to thickening of the lower-class elements of the periosteum on the one hand, and to absorption of the more differentiated bone tissue on the other. The bone, in fact, reverses its development. Reversion, moreover, is the keynote of the proliferation of old age wherever it occurs. There is renewed activity among cells of low caste, and the higher-caste cells retrace the stages of their civilization, making up in growth what they lose in development. The cells go back to a period when both function and structure were simpler and when cell division was more active.

Cancer as a Senile Change.

We are now in a position to deal with the cancer process. If the foregoing account of the anatomy and biology of old age be correct we can explain everything that happens in cancer in terms of senility. Superficially the cancer process seems very different from the old age process; but if we ignore these superficial distinctions and fix our attention upon the more fundamental changes, we see that in reality both are formed on the same plan and are actuated by the same motive. Thus, the typical cancer is made up of a collection of cells native to the part but of more embryonic type, and these cells are surrounded by collections of round indifferent cells derived from fibrous tissue and from other low-class structures, such as endothelium and leucocytes. The fibrous tissue, moreover, is often increased, as it is in the senile organ. These changes may be interpreted as follows. Certain somatic cells become aged while the tissues around them are still in a state of comparative youth. They express their senility by returning to a more embryonic form, and as they do so they increase in number, the faculty of multiplication being one of the manifestations of regression. But as this qualitative change takes place they become alien to their surroundings, and, as foreigners or rebels, stimulate into action the mechanism of phagocytosis. Not only is there an incursion of lymphocytes into the parts, but the connective tissue and endothelial cells in their vicinity revert to their embryonic state and begin the work of phagocytosis. But as a fact they have to deal neither with the effete products of molecular degeneration nor with an inert foreign body, for though virtually strangers, cancer cells are by no means inactive. Hence the attack is abortive, except in so far as the phagocytes, by forming new fibrous tissue, tend mechanically to limit the proliferation of the cancer cells. For in the meantime the fixed connective tissue cells are themselves rapidly proliferating, with the result that when they cease their activity and return to their resting stage groups of cancer cells are cut off by intersecting bundles of fibrous tissue, while the whole mass is surrounded by an incomplete capsule of the same structure. This tends to limit the encroachment of the growing cancer, and were it not for the lymph spaces or capillaries, which are the gaps through which the growing cells escape, no doubt the limitation and strangulation of cancers would occur far more often than they do. It will be noticed that the more nearly the cells of a cancer approach the embryonic state the more rapid will be the growth, the less opportunity for fibrosis the more malignant the cancer.

We have seen that in senile decay the cells of highest type, or the more specialized cells, do not proliferate but undergo molecular decay, whereas those of lowest type express their degeneration not in decay, but in proliferation. So, also, cancer elements are never derived from these same higher kinds of cells, but invariably from the lower kinds. Moreover, as we have just seen, the lower the type of cells to become the basis of the cancer process the greater is its malignancy. We may apply to the cancer process a similar phrase to that we made use of in summing-up the fundamental change of the old age process, and say that it is neither the appearance of phagocytes, nor the increase of fibrous tissue, nor indeed the proliferation of the cancer cells, which constitutes the cancer process. The root of the matter lies in the fact that the cancer cells have receded from a state of comparatively high development to a state of comparatively low development. Regression is the motive which prompts and animates the whole series of changes.

Cancer a Modification of Senility.

The question now arises, If both old age and cancer be manifestations of a similar act of degeneration, why is the cancer cell and cancer tissue so different from the old age cell and old age tissue? Thus, for example, though in the sarcoma the connective tissue cell is seen to be approaching its embryonic form, it never goes so far as to reproduce the primitive form. Moreover, so wide is the gulf which sometimes exists between the carcinoma cell and its undifferentiated ancestor, that cancers of the breast may even retain the property of secreting milk.

The explanation seems to be as follows. It is not contended that cancer is a genuine old age change, but that it is based upon the old age change. Cancer does not represent senile decay, but an extension or perversion of senile decay. The two processes are essentially similar, though they may differ widely in detail.

Thus, there is reason to suppose that cancer seldom or never springs directly from normal cells, but from cells which already have been thwarted in their development. The morbid process is therefore developmental from beginning to end, although the old age is grafted upon a prior abnormality. Thus, as Durante and Cohnheim showed, the pre-cancerous stage of cancer often consists in an arrest of development. A cell or a group of cells left behind by the advance of ascending development is shut in among uncongenial surroundings, with no inducement to progress. It therefore remains in a state of suspended development or infantilism. But so far from this infantilism conducing to longevity, it greatly favours the onset of premature old age. Apparently some of the stages which ordinarily constitute the summit of the developmental arch are left out, so that the curve of development is shortened. At any rate, it is certain that organs, such as the kidney or the testicle, which never properly develop, are peculiarly liable to undergo fibrous, presenile degeneration. Human beings whose development is conspicuously retarded, or are in a state of infantilism, are similarly prone to fall into premature senile decay. And in these cases it is to be observed that the result of the senile degeneration is never quite the same as that which takes place under normal circumstances. It is fundamentally similar but superficially different. One difference lies in the fact that the senescence seldom

or never takes place in its normal sequence, but is engrafted upon a state of infantilism which was itself abnormal. Of still more importance is it that the cell becomes senile less as a constituent of the body than in its individual capacity. In ordinary old age the regression of any particular cell element is only one detail of a widely extended design, and adjacent structures are in sympathy because they themselves are approaching their decline. But in cancer the degenerative regression is confined to a few cells, which are probably already abnormal and incongruous with their surroundings. These cells in their development, therefore, take a line of their own. It is true that they follow the ordinary routine of senile degeneration, but not closely. They are heterodox, and take an abrupt departure into cancer formation instead of keeping to the beaten paths of normal senile decay.

Degeneration, though it tends to obliterate distinctions by reducing everything to the same level, seldom goes so far as to destroy individuality. Hence, though old men in general exhibit certain common characters which seem to group them together and to differentiate them from the middle-aged, yet the senility of each old man is dominated by his own personality, the result of long years of acquirement and of heredity. So also is it with cancer. All cancers have certain features in common whereby we know they are cancers, but these common features do but little to obscure that individuality which distinguishes the tissue from which they spring. Hence, though all are cancers, we recognize cancers of connective tissue, cancers of epithelial tissue, and so forth, each tissue imposing its own peculiar features, which may in truth be so firmly fixed as indelibly to persist through generation after generation of engrafted cancers.

We are now in a position to make a general statement on the origin and pathology of cancer.

Conclusions.

Each species of living plant or animal is characterized by its uniformity of construction, which is displayed both in gross and in detail. This evenness of design is the outcome of heredity, and is not absolute, but is saved from monotony by occasional changes, and from these changes or variations no detail of organic life is exempt. Among other attributes of life liable to diversity is development. Ordinarily development is an ascent from the simple to the complex, followed by a descent from the complex to the simple. Hence the last stages of development are in some ways reminiscent of the first stages, the characters of the reversed childhood and infancy being added to those of middle age. As a rule the variations of this arch or trajectory of development are no more than "modifications," each modification being of little consequence. But sometimes they are more pronounced so as to come under the definition of specific "variations." Of these variations there are two kinds: the one termed "fluctuation," amenable to the influence of environment, which either awakens it from a dormant or latent state or accentuates it when already patent; the other, as a rule far more decisive, is a "mutation," and is uninfluenced by environment and often hereditary.

Let us suppose that the development of certain individual cells is either unduly retarded or unduly hastened. Among the countless millions of cells which constitute the human body such fluctuations of development must often occur and escape notice. But let there be some congenial (that is, pernicious) environment, such as the persistent friction of a rough surface, over-exposure to heat or x rays, or to some other local irritation, and the fluctuation, otherwise latent or normal, is liable to be exaggerated, until as a pre-senile degeneration it enters upon a state of disease. The cell or cells so affected return to a state of development approximating to that which characterized their embryonic life. They become simpler in form and in function, and multiply, assuming an aggressive attitude quite out of keeping with that of the cells by which they are surrounded. Indeed, an island of proliferating quasi-embryonic cells embedded among tissues still in their prime is as much out of place as the engrafted cells of a different species of animal. The machinery of phagocytosis is therefore stirred into action, and the fibrous tissue of the part proliferates. But cells which spring from embryonic residues and become senile or quasi-embryonic in their individual capacity do not behave like normal cells undergoing the changes of normal old age. Nor is the fibrous reaction nor phagocytosis exactly the same as the phagocytosis or fibrosis of common senescence. It is more localized, more irregular, and is ineffective or futile, not fulfilling the purpose for which it is ordinarily called forth.

As a rare event, the premature cell senility manifested in cancer appears without contemporary cause in two or more members of the same family. It may then exemplify the laws of familial heredity, showing itself early in life and in a virulent state of malignancy. Of such cancers the retinal gliomata are well-known examples. They answer to the description of discontinuous variations or mutations.

It is perhaps advisable to add by way of postscript that in the foregoing account of old age and of cancer none of the statements is based solely upon mere assertion. At the same time, not much in the way of evidence can be gathered from books. The crux of the subject is the nature of the alterations which take place in old age. But the scientific study of old age has been sadly neglected, so that any one who wishes to consult articles or books upon the anatomy of senility will find very little of value. There is a striking contrast in this respect between the two extremes of life, for, whereas a whole library of books has been written upon the early stages of development, it would be difficult to fill a single shelf with those which deal in a scientific spirit with the last stages of development. Yet there is no reason to suppose that old age is less worthy of study than embryology. On the contrary, having given some attention to this subject, I do not hesitate to affirm that the errors of development which arise during the declining periods of life are of more consequence from a pathological point of view than are the errors of antenatal development. Moreover, it is impossible thoroughly to understand the nature of cancer without inquiring particularly into the way in which premature old age affects entire organs, and, indeed, accounts for a host of diseases not yet identified with the senile change. But this is a wide subject, and therefore no attempt has been made in the above article to furnish evidence for many of the statements advanced. Direct and collateral evidence of this sort is very expansive, so that to compress it within the desired limits would either spoil the perspective or so crowd the picture as to cause confusion. It is hoped, therefore, that there is justification in giving a bare outline sketch, and in referring elsewhere[3] for further particulars. Speaking generally, the subject is based upon the work of Metchnikoff and of other authorities, verified by actual examination of cancers and of senile tissues.

We hear much of the cancer problem, but cancer in reality provides not one but a whole series of problems, each of which may be solved without necessarily bringing about the solution of the remainder. Not only is the old age incidence of cancer still a mystery, but the occurrence of heredity, however rare, has not yet been explained; nor why cancer appears in one individual and not in another, though the conditions may seem to be as nearly as possible alike; nor why cancers can be grafted successfully into young and not into old animals. All these enigmas can readily be accounted for by the theory of premature local senescence or cell senilism, and so, also, can we account for the special tendency of cancers to spring from tissues in a state of local infantilism, from organs undergoing premature (pre-senile) fibrosis, from adenomata, or from other structures in a state of developmental instability.

It is claimed that this theory, though dull and commonplace, is satisfactory, seeing that it is based upon facts reasonably interpreted, and that it covers all the ground.

References.

[1] Samuel West, Lettsomian Lectures, *Lancet*, 1899, vol. i, p. 352. [2] *Pathological Histology*, vol. ii, New Sydenham Society's translation, p. 275. [3] *The Diseases of Post-natal Growth and Development.*

According to the *Medical Record* the Equitable Life Assurance Society of New York has recently issued a review of its statistics showing that during the past ten years the indicated death-rate from cancer has increased by 30 per cent. among males and 22 per cent. among females in the United States registration area. The increase has occurred in every age group, but is considered largely due to more exact diagnosis.

THE INTRATRACHEAL INSUFFLATION OF ETHER.*

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THE method described by Meltzer and Auer[1] in 1909 as "continuous respiration without respiratory movements" has found much favour in the United States since its introduction into the practice of surgery by Elsberg. In this country interest has been gradually aroused, and more attention is being given to a method which is destined to claim an increasingly large share in the practice of anaesthesia. It differs from all other methods in that it combines a system of artificial respiration, a system of anaesthesia, and the means whereby positive pressure can be obtained in intrathoracic surgery. It differs also from inhalation methods by reason of the fact that the respiratory mechanism is not called upon to carry out the function of respiration, and at the same time to perform the fatiguing work of introducing the anaesthetic into the blood stream. Moreover, it can be shown that a minimum amount of the anaesthetic is administered, that this remains constant, being uninfluenced by respiratory changes and by the obstructive accidents which frequently complicate anaesthesia, and that the anaesthetic can be almost completely eliminated at the close of the administration.

PRINCIPLES.

A continuous stream of warmed and moistened air is introduced at the bifurcation of the trachea by means of a catheter which has been passed through the larynx from the mouth. The catheter is of sufficient size to fill about one-half of the glottis. The air returns between the catheter and the wall of the trachea, and issues from the upper air passages. The volume of air (reduced several times a minute) is under pressure, and is ample to fulfil the function of respiration in the absence of respiratory movements. The explanation is simple. The real respiration is an exchange of gases between the tidal and alveolar air by diffusion. The movements of respiration only change the air in the trachea and larger bronchi. By cutting out the greatest part of the dead space, that is, the space between the atmospheric air and the alveoli, and by supplying a stream of air under pressure at the bifurcation, a rapid diffusion of gases within the bronchi results. Oxygen is taken up by the air cells; carbon dioxide is given up. In an animal under curare, with the thorax widely open, "the lungs are found more or less distended, of pink colour, and completely quiet, while the heart is beating efficiently and regularly."

Resuscitation of animals poisoned by strychnine and other drugs has been accomplished, and cases are already on record of patients being successfully rescued from morphine poisoning. In tetanus and in diseases which paralyse the respiratory muscles the method must prove invaluable in the future. Meltzer, Crile, Carrel, and others have done many remarkable operations on the lungs, heart, great vessels, and oesophagus; intratracheal insufflation will probably replace the positive and negative pressure cabinets now used for intrathoracic surgery.

GENERAL ANAESTHESIA.

For the purposes of anaesthesia, the air current is made to pass either wholly or in part through or over ether. This is the simplest and safest form of ether administration, for it is under accurate control and combined with artificial respiration. The respiratory centre is kept active, and the movements of respiration still continue, but they are very slight, and have little if any influence upon the aëration of the lungs. In the human subject a state of apnoea can be obtained in which for some time blood pressure and circulation remain satisfactory, but this state is neither necessary nor is it desirable. If the ether administration is pushed in an animal beyond the stage of surgical anaesthesia, respiration gradually disappears and the respiratory centre succumbs. Blood pressure begins to fall slowly, but the pulse does not begin to fail until the pressure has become dangerously low. The vasomotor centre and the cardio-vascular system offer a stronger resistance than the respiratory centre. At this stage danger is imminent, but a decrease in the strength of the ether vapour or the substitution of air rapidly restores blood pressure and pulse. The safety of the method when a toxic dose is given is thus apparent. Failure of respiration is not in itself alarming, as the insufflation well supplies the deficiency, but it is a signal that the safety zone has been passed and the danger zone reached. Deep narcosis of this extent is very seldom used; indeed, I have only once found it necessary to abolish respiration and slow the pulse to an extreme degree in the attempt to obtain complete abdominal relaxation.

On the other hand, excessive ventilation must be avoided, for the work of the physiologists on the value of carbon dioxide has taught us the risk of severe shock arising under the circumstances. With a view to determining the ventilation used in actual practice, and the character of the gaseous interchange, Dr. Pembrey and I are making some investigations. Some interesting results have been obtained, and a full report will appear later.

I have published elsewhere[3] an appreciation of this method. In this paper I propose to give my impressions derived from a study of 208 cases.

ADVANTAGES OF THE METHOD.

1. A free airway is obtained. It is one of the most valuable features of this method that obstruction arising from spasm or congestion in the upper air passages is abolished. Cyanosis is absent, and a sufficient supply of air is uniformly presented to the patient. For these reasons intratracheal insufflation is invaluable in any case in which the surgical procedure may interfere in any way with respiration. This large class includes, for example, operations on the thyroid and neck, the face, the head, especially cerebellar cases in which failure of respiration may occur, and large abdominal tumours causing dyspnoea. It is in cases of goitre, especially when obstruction is present, that so convincing a demonstration of the superiority of the method over all others can be given. All anxiety is removed—a smooth, calm, safe anaesthesia is obtained. I have reported[2] a case of thyroid tumour causing severe stridor, in which the use of this method converted a difficult and dangerous operation into one of ease and safety. Several other cases of a similar kind have been met with. The change from the picture frequently seen with other methods of obstructed embarrassed breathing, cyanosis, and rapid pulse, to a state in which the patient appears to be sleeping calmly, with perfect colour and good circulation, and quiet, almost suspended respiration, is indeed remarkable. The difficulties of anaesthesia in patients lying in an awkward position—for example, in renal and spinal operations—are easily overcome. The same remark applies to the anaesthetization of thick-necked muscular and alcoholic subjects.

2. Even and constant administration of a weak, warm vapour, which is under control and can be accurately regulated. The result of this uniformity is that anaesthesia can be kept unusually light.

3. The anaesthetist is out of the way of the surgeon, and the field of operation can be kept sterile.

4. The recurrent air stream creates a strong upward draught at the glottis, which effectually prevents the aspiration of blood, mucus, vomit, or infective material. Moreover, the modified respiratory act constitutes a second line of defence, for inspiration is short and expiration comparatively long. For operations on the mouth and pharynx, and in cases where bleeding may occur into the air passages, the method is ideal. The surgeon has a clear field, without anxiety about the anaesthesia, oxygenation is complete, and blood, etc., can be removed at leisure; after-vomiting is rare, and aspiration pneumonia does not occur. Shock is, for reasons to be given later, diminished, so that carcinoma operations can be undertaken in one stage. Cases of intestinal obstruction with vomiting present no dangers from aspiration of stercoraceous material. Meltzer's experiments have conclusively proved this.

5. Operations on the abdomen, especially above the umbilicus, are facilitated by the slight character of the respiratory movements, and by the absence of reflex phenomena caused by traction upon or examination of the

*Founded upon a paper read before the Bristol Medico-Chirurgical Society, preceded by a demonstration of the method at the Bristol General Hospital.

viscera. There is also great flexibility; anaesthesia can be rapidly deepened or lightened.

6. Operations which may involve the accidental opening of the pleura—for example, caries of sternum or rib, or recurrent mammary carcinoma—can be done without risk or anxiety.

7. Shock is diminished. One of the earliest impressions formed by the sisters and surgeons at Guy's Hospital who had charge of these cases was that they made an excellent recovery from severe operations, with rapid return to consciousness, little or no vomiting, and very little depression. I had also been struck with the slight degree of shock during the anaesthetization of patients for such operations as the abdomino-perineal excision of the rectum, extensive removal of ribs, and gastrectomy; and I have been forced to the conclusion from observation, not of isolated instances but of a considerable number of cases, that intratracheal insufflation combined where possible with the subcutaneous infusion of saline solution, offers the best chance of recovery to feeble and exhausted patients and for critical conditions in general, whether due to sepsis, haemorrhage, trauma, or cardiac disease. I think that the advantages of insufflation in the last class outweigh the objections put forward by some anaesthetists to the use of ether on the ground that its stimulating effect is followed by cardiac depression. Each case must, of course, be judged on its merits, but there are ample reasons for the claim that no other method of anaesthesia can place the patient in such a favourable condition to husband his slender resources. The absence of cyanosis and of impeded respiration, the constant supply of air, the even delivery of a weak vapour, the uniformity of the anaesthesia—these are the all-important factors in general anaesthesia, and when combined with a system which mechanically "breathes" the patient must help to relieve circulation and respiration of much strain. Another point presents itself. There is a notable absence of exhausting reflexes under light anaesthesia; patients lie placid, and seem to resent surgical stimuli less than with other methods.

CASES.

Face, head, and neck, 47, including parotid tumours, skin-grafting, mastoid, cerebral and cerebellar operations; thyroidectomy 10; oesophagoscopy; removal of glands in the neck 8; frontal sinus 3; exostosis of upper jaw, enucleation of tonsils, submucous resection of septum, excision of growth of laryngeal cords, examination and removal of portions of growth in the air passages. In two of these the catheter was inserted through a tracheotomy wound made for the purpose. One of the thyroid operations was for an advanced case of Graves's disease, in which the technique of Crile was successfully carried out.

There have been 23 cases of epithelioma of lip, floor of mouth, tongue, tonsil, and soft palate; in all but 3 glands were removed at the same time. The longest administration lasted one hour and fifty minutes. Ages ranged from 30 to 71; of 9 tongue cases the average age was 62, the tenth patient being a man of 30 years. There have been 4 cases of epithelioma of the lip, with an average of 64 years, and 4 of growth of the floor of the mouth, average age 51.

Abdomen 94; gastro-jejunostomy 12; gastrectomy, exploratory above the umbilicus, 15; appendectomy 20; colectomy 3; nephrectomy or exploration 10; herniae 13; cholecystotomy and cholecystectomy 5; abdomino-perineal excision of rectum, ovariotomy, etc. There were 2 cases of prostatectomy in patients aged 72 and 78.

Thorax 11; amputation of breast, resection of ribs, empyema.

Limbs 21; plating fractures, amputations, cartilage of knee, etc.

Genito-urinary organs and *anus* 10.

The youngest patient was 10 years old, the oldest 78. The longest administration lasted one hour and fifty minutes in a case of resection of intestinal growth and lateral anastomosis.

TECHNIQUE.

Preparation and Induction.—Most of the patients have been given an injection of morphine and atropine, sometimes combined with scopolamine; atropine has always been used. Induction is usually carried out with chloroform-ether or gas and ether.

The catheter should be smooth and flexible with comparatively thin walls, and one lateral opening. Silk-woven catheters have generally been used, passed on a stilette, as they are not sufficiently rigid to be introduced alone. For this reason Mayer and Meltzer have lately made for me linen-woven catheters; they are more rigid and have proved very satisfactory. Catheters are best sterilized by keeping them in formalin vapour for at least four days. A mark must be placed on them at 26 cm. from the tip; this is the average distance in men from the bifurcation to the incisor teeth. In women and children the distances are respectively 23 cm. and 17 cm. The size of the catheter varies but slightly in different individuals, and a little experience will soon guide the anaesthetist in his choice. It may be said that 23 F is the best size for men, and 22 F for women. In girls and youths 20 F to 21 F will be found satisfactory. The catheter must bear such a relation to the lumen of the larynx that too much of the ether does not escape to prevent anaesthesia being obtained, and that the elimination of carbon dioxide is not hindered. If the correct size is used, a deep anaesthesia can be obtained in which the cords are widely abducted and the exit of carbon dioxide is free. Cyanosis and slow, distressed expiration, follow the continued use of too large a size, and one smaller must be promptly substituted. We may say, then, that for muscular and alcoholic subjects, and for operations on sensitive structures, the sizes mentioned above are not usually suitable; 24 F in men, 23 F in women should be chosen. In extreme types I have used 25 F. In cases of goitre with marked obstruction Kelly[8] has pointed out the advisability of using a smaller catheter than in normal subjects.

In buying catheters it is necessary to check the gauge, for the maker's numbers are frequently incorrect.

Introduction of the Catheter.—Of the two methods of introduction, the direct and the indirect, the former is undoubtedly the better. The advantages are that it is certain, the cords are plainly visible, and the catheter can be inserted without damage to them and without contamination by the mouth and pharynx. I use a modification of Hill's direct laryngoscope. The passing of this instrument is the real difficulty to the beginner, but I venture to think that a careful attention to detail and a little practice will remove most of his troubles. My plan is to paint the pharynx and entrance to the larynx with 5 per cent. solution of cocaine during induction as soon as consciousness is lost, and then to carry the induction to the stage at which the jaw muscles are relaxed and the corneal reflex is becoming dull. If cocaine has not been used deep anaesthesia is absolutely essential, and even then in difficult subjects troublesome reflexes may arise which make catheterization far from an easy procedure. The laryngoscope is passed at the angle of the mouth, not by the mid-line route, and it is seldom necessary to alter the position of the patient's head, although in some cases slight lowering is advantageous. From the start of induction to the insertion of the catheter not more than ten minutes elapse. Care must be taken to avoid injury to the teeth, to pass the catheter gently and without damaging the trachea, and to keep the lateral opening uppermost, so that ether vapour may not be in too close contact with the mucous membrane. It is, of course, very important not to insert the catheter further than the appropriate distance, so that the pressure may be evenly distributed over both lungs.

If anaesthesia has not been deep, or the patient has partly come round, spasm and cough immediately ensue. The gag is kept in, the tubing from the apparatus connected up, ether at "half" turned on, and the motor, which has been running slowly from the beginning of induction to warm up the tubes, is slightly accelerated. Pressure should be kept low at first and the air current broken two or three times by opening the tap provided for that purpose, in order to prevent an undesirable strain being placed upon the lungs. If spasm and cough are unduly prolonged, an increase in the ether vapour to "three-quarters" or "full," or a slight withdrawal of the catheter, will quickly produce calm anaesthesia.

This state is characterized by a healthy pink colour, firm full pulse, muscular relaxation, fixed globes, and shallow, almost inaudible respiration. A constant stream of air issues from the mouth, and weak expiratory efforts alternate with faint inspirations. It is hardly necessary to point out that the higher the level of the ether in the ether chamber, the stronger the vapour.

Subsequent Conduct of the Anaesthesia.—The anaesthetist must regulate the percentage of ether vapour and the pressure in accordance with the necessities of the case, and in consonance with the principles previously enunciated, remembering that anaesthesia can be kept unusually light, and that a rapid increase or decrease in

the depth is at his command. I think the wisest course is to keep respiration present, avoiding on the one hand its complete absence and on the other such an amount of respiratory movement as to defeat the aims of insufflation. Pressure should be kept below 25 mm. Hg; above this the safety valve should blow off. In feeble and in emphysematous patients, or in operations on the chest where one lung is disabled, pressure must be kept proportionately low. The anaesthetist must take care that compression of the trachea during thyroidectomy or the forcing back of the tongue or lower jaw in mouth operations, or flexion of the head in the prone position, does not interfere with the free return of air. Reductions in the air stream are made a few times a minute to allow the great veins of the thorax to fill and the slight collapse of the lungs to drive out any excess of carbon dioxide. Towards the end of the administration, less ether can be given, and finally pure air alone is driven into the lungs. Normal breathing is resumed almost immediately after the catheter is withdrawn, and the return to consciousness is very rapid.

After-results and Complications.

Time does not allow me to enter fully into this subject, which has received adequate attention elsewhere. Briefly it may be said that vomiting is very infrequent. A boy of 11 after an hour's operation for glands of the neck did not vomit at all. It has been noticed that patients who have previously had anaesthetics have made a much more comfortable recovery, without nausea or sickness. I have not met with severe vomiting; kidney cases have been conspicuously free from this complication. The same may be said of the mouth cases, in which blood cannot enter the stomach during operation.

Pharyngitis is liable to occur in the early period of the anaesthetist's practice from unskilful handling of the laryngoscope.

Laryngitis occurred once, and was of a mild degree. A very small number of patients, chiefly women, have complained, on being questioned, of some discomfort; it passes off in a few hours.

Bronchitis, Pneumonia.—Figures from nearly 2,000 cases show that the least that can be said of the method is that post-operative pulmonary sequelae are not more common than after other methods. Indeed, there is reason to believe that their frequency is less. Peck[4] found that in 216 cases no post-operative pneumonia occurred, while during the same period he had five ether pneumonias following other methods of anaesthesia. In the busy routine of a large general hospital, many cases of lung sequelae pass almost unrecorded: their number is certainly fairly high. Complications due to, or occurring after, new methods receive a larger share of attention. This is but right, but makes a true comparison difficult. We have now, however, the figures from the Mayo Clinic for the year 1912,[5] which show 89 cases of post-operative pulmonary lesions in 5,835 operations. Ether was the anaesthetic most used: the lesions followed almost entirely operations in which the peritoneum was handled, renal operations, and thyroidectomy. Of abdominal operations, as is to be expected, a large number were above the umbilicus. This is my experience with intratracheal insufflation. An atypical case of Graves's disease with some bronchial catarrh at the time of operation had an exacerbation which quickly passed off. There was one case of bronchopneumonia of a mild type following gastrostomy in a man with carcinoma of the oesophagus, and two of bronchitis after gastro-jejunostomy, the symptoms in one being subacute. I had at that time substituted a motor and pump for the foot-bellows, and have no doubt that the absence of a suitable air filter and wash-bottle to cleanse the air of oil and saturate it with moisture was partly responsible for these complications. They have not recurred.

Meltzer and Githens have shown that the insufflation of ether for one hour every day for ten days in dogs already suffering from lobar pneumonia produces no harmful result. An interesting case occurred in my series which enforces this lesson. A young man was admitted to the hospital late one afternoon with acute abdominal symptoms. Nothing abnormal was found in the chest, and although the case was not considered in every way typical of perforation, exploratory laparotomy was advised in view of the urgency of the symptoms. All the viscera were healthy, and the abdomen was closed. The same night early left basal pneumonia was diagnosed. The disease ran a mild course, and the patient was sent to a convalescent home on the eleventh day.

Disadvantages.

After a careful inquiry into the after-condition of each patient, and without being, I hope, unduly enthusiastic, I feel that the objections to this method are three in number:

1. The apparatus is costly.
2. The apparatus is somewhat cumbersome and the outfit elaborate. Much simplification is possible if foot-bellows are used, and the cost is considerably reduced, but I think that the continuous mechanical ventilation by the motor and pump is more efficient. Good specimens of these are not noisy.
3. The introduction of the catheter is the stumbling-block which at present stands most in the way. Each anaesthetist must decide for himself whether he will learn a new method and adopt a new technique, or be content to dispense with the most valuable addition to his weapons and the most notable advance in anaesthesia made for many years.

There has been such a considerable amount of evidence collected, the method has been so thoroughly tested, and the comments by onlookers on the type of anaesthesia, its advantages, and the freedom from post-operative distress have been so uniformly favourable, that intratracheal insufflation may be said completely to have made good its claims and definitely to have established its value.

The ether apparatus is made for me by the Surgical Manufacturing Company, Mortimer Street, W.

References.

[1] *Journ. Exp. Med.*, 1909, xi, 422. [2] Loc. cit. [3] *Brit. Journ. Surg.*, 1913, i, 94. [4] *Ann. Surg.*, July, 1912, 192. [5] *Ann. Surg.*, May, 1913, 718.

A CASE OF A RUPTURED ANEURYSM OF THE DESCENDING AORTA.

BY

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The following case is interesting in view of the fact that (1) the man had not complained of any previous symptoms; (2) for years he had been doing severe muscular work without any inconvenience.

J. H. E., aged 54, a rail-straightener, formerly in the Royal Artillery; had never been ill in his life except for accidents. His wife states that he sometimes complained of pain in his chest, which he called a chill.

At 8.30 p.m. on November 2nd, whilst in a public bar, he was suddenly seized with acute pain in the pit of the stomach which caused him to fall to the ground and doubled him up and made him shout. The pain radiated round the right side and up between the shoulders; it made him catch his breath, but there was no shivering. He was taken home, and was seen by Dr. Weeks at 9.25 p.m. He was then walking about the room, groaning and holding his breath. His face was cyanosed and had an anxious expression. He stated that he felt as though there was something closing round the bottom of his oesophagus. He tried to retch, but there was no vomiting during the whole of the illness. The pulse was 100, regular and equal on both sides; the volume was rather poor; there was no thickening of the arteries.

The first sound of the heart at the apex was weak, and was followed by a faint systolic murmur. The second sound was absent both at the apex and over the aorta. Breath sounds were heard all over the lungs, but were diminished, owing to his restricting respiration. There was neither dullness nor friction. There was no rigidity of the recti muscles, but there was pain on deep palpation just below the xiphisternum. The liver dullness was present and the liver was enlarged.

The patient became somewhat easier and went to bed.

He was seen again at 11.30 p.m. and at 9 the next morning, and on neither occasion was there any change.

Dr. Mackinlay saw him at 3 p.m., when he was sleeping.

At 5 p.m. he got out of bed to try to get relief, and was again seized with intense pain, starting in the abdomen and shooting through to the back and up the right side. He was seen again about 6 p.m., when he was moaning a good deal; and turning him over in bed to examine him at once aggravated the pain, which was then mainly over the base of the right lung. At 7.30 he was seen by Dr. Weeks. There was then marked dullness at the base of the right lung, with absence of breath sounds. There was marked pulsation in the epigastrium, but no murmur. Up to this point we were in favour of ruptured duodenal ulcer into the lesser sac, but the evidence was not sufficient. Dr. Weeks did at one time think of aneurysm as a diagnosis, but as the patient's condition was not improved he was removed to the infirmary, Middlesbrough, where he was seen by Mr. Dickie at 9 p.m. After examining the patient Mr. Dickie was unable to arrive at a diagnosis, except that it might be some early chest condition, and advised no operation. The patient gradually became weaker, and died at 7 a.m. on November 4th.

A *post-mortem* examination was made the same afternoon. The right pleural cavity was full of blood, which was pushing the lung upwards. The left lung was normal; the heart was enlarged and fatty; the arch of the aorta was dilated and covered with calcareous patches. At the point where the aorta passes through the crura of the diaphragm there was an aneurysmal dilatation on the posterior side the size of an orange. It had eroded the eleventh dorsal vertebra to the depth of half an inch and the circumference of a two-shilling piece. The walls were firm, and looked like normal arterial walls. On the anterior wall and to the right there was a large perforation into the right pleural cavity. There was marked extravasation into the cellular tissues up the spine and into the abdominal cavity extraperitoneally. The liver was enlarged and fatty. The gall bladder contained a number of large stones. All the other organs were normal.

A CASE OF SPONTANEOUS HAEMO-PNEUMOTHORAX.

BY

THOMAS BUSHBY, M.B., M.R.C.P.,

HONORARY PHYSICIAN TO THE DAVID LEWIS NORTHERN HOSPITAL, LIVERPOOL.

J. P., aged 17 years, a junior clerk in a commercial firm, was admitted to the Northern Hospital on July 21st, 1913.

Onset.

On the morning of July 21st, while running to catch a boat, he suddenly felt giddy, his legs gave way, and he fell over; being unable to rise, he was conveyed by ambulance to the hospital.

Condition on Admission.

He was in a state of profound collapse, with rapid shallow respirations, barely perceptible pulse, pinched features, and cold extremities. The percussion note over the whole of the left side of the chest was absolutely dull, with the exception of Traube's area, which was resonant; the heart was displaced to the right of the sternum nearly to the right nipple line; the breath sounds on the left side were inaudible. The condition of the patient precluded any very searching examination.

The patient was of poor physique, and his mother informed us that she had always considered him delicate, but that he had had no special illnesses, and had not been troubled by any cough.

Course.

On the following day the physical signs were much the same, except that resonance over Traube's area was now abolished. The collapse had in great measure passed off.

The left pleura was explored, and a syringeful of blood withdrawn.

In the course of a week or two, while the heart remained displaced well to the right of the sternum, the dull percussion note over the front of the left side of the chest became gradually replaced by a tympanitic note, extending to the level of the fifth space in the mid-axillary line, passing abruptly into absolute dullness; the level of dullness passed round to the back to the level of the eighth dorsal spine. There was free shifting of the level of dullness, the tympany in front being replaced by dullness on the patient being turned towards his face, and the basal dullness becoming changed to over-resonance. The breath sounds over the resonant area were greatly diminished: at places distant amphoric breath sounds were heard. The *bruit d'airain* was not obtained.

Subsequently the fluid reaccumulated till the left pleural cavity was once again filled to its full capacity: he was tapped, and a pint of deeply blood-stained fluid was removed. From this time he made steady improvement. After a period during which the physical signs of pneumothorax predominated, breath sounds returned and the heart resumed its normal position. He was discharged from the hospital on October 29th, at which time no morbid signs were observed, with the exception of impaired percussion and feeble breath sounds at the extreme base of the left lung.

REMARKS.

There was some suspicion of his being of the haemorrhagic diathesis. This was supported by the fact that troublesome bleeding had occurred on the occasion of teeth extraction, and by his statement that he bled freely from small wounds; there was, however, no record of any other case in the family history, and the bleeding from the extraction of teeth did not appear to have been of any great severity.

The case was regarded as one of rupture of the lung, probably due to a small superficial cavity, with simultaneous laceration of a small vessel.

LITHOPAEDION.

BY

JOHN B. FRASER, M.D., C.M.,

TORONTO.

EARLY in the year 1870 a small, active woman, then aged 25 years, who had had three children, became pregnant for the fourth time. Matters progressed as usual for six months, then seemed to stand still; later the milk left the breasts, fetal movements lessened, and finally ceased. Her girth decreased, and in a few months only a firm mass was felt at the brim of the pelvis.

Anxious and puzzled, she consulted a doctor, who doubted that she had been pregnant, and advised leaving the mass alone as long as no serious inconvenience was felt. She followed his advice, and as time passed she had four more children; at each pregnancy the mass rose with the growth of the fetus, and returned to its old position after the birth of the child.

In January, 1912, she consulted me for long-continued costiveness, which she said was increasing. She did not then tell me of the events of 1870. I tried catharties with only temporary relief; then suspecting obstruction, an examination showed more than one mass in the pelvis. I advised an operation. She entered the Victoria Hospital, Toronto, and with Dr. C. H. Thomas an operation was performed in March, 1912. Dr. J. E. Forfar gave the anaesthetic, and we found a lithopaedion at the brim of the pelvis; the head was easily movable, but the lower part of the body was almost surrounded by firm cartilaginous bands attached to the uterus, omentum, and intestines. The calcified placenta was found opposite the third sacral vertebra, and so bound down by adhesions that it was difficult to remove it. To make matters worse, a fibromyoma had formed in a loop of intestine where it touched the placenta; thus we had to resect over 3 in. of the intestine; the adhesions made this much more difficult.

The head was covered by a thin membrane containing some blood vessels; the antero-posterior circumference was 8¾ in. and the occipito-menti circumference 9½ in.; the frontal, parietal, and occipital bones were well marked, and there was only a slight depression of the fontanelles; the eyes, nose, chin, and mouth were easily seen; the head was flexed and turned toward the left shoulder, and had a rough, stony feel. The legs and arms were flexed, with their outlines more visible on the right side;

the ribs on the right side were easily seen, but the spinal vertebrae were indistinct. The placenta, somewhat bi-convex, and with the centre more friable than the outer surface, measured 9½ in. in circumference, and was ¾ in. thick in the centre.

At the time of the operation the patient was 67 years of age, and although the operation was unusually severe she made a splendid recovery, and inside three months was doing her own housework.

The case presented three interesting points: (1) The marked reduction in size and weight that took place during calcification. (2) The length of time it was carried by the mother, namely, forty-two years—possibly the world's record. (3) The comparatively slight disturbance it caused for almost forty years, and then only indirectly, as the costiveness was caused by the fibromyoma narrowing the lumen of the intestine to one-third of an inch.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF CHRONIC ULCERS OF THE LEG.

THE idea from which the treatment of chronic ulcer of the leg which I am about to describe was elaborated from an article which appeared many years ago in the *Midland Medical Miscellany*. It presents the following advantages: (1) The dressing is easily applied; (2) it is economical; (3) it can remain undisturbed (after the first two or three dressings) for a week, or even ten days; (4) the patient is not laid up, but can get about his ordinary avocations. The success of the plan is due entirely to its being founded on antiseptic principles, and, unlike the oxygen-immersion system demonstrated by Dr. Stoker at the annual meeting of the Association in 1895, it does not necessitate rest in bed.

When a patient comes for treatment I first of all see that the leg on which the ulcer or ulcers are situated is thoroughly well washed in warm water to which some carbolic acid has been added, using at the same time carbolic or other germicide soap; then, without drying the limb or handling the cutaneous surface in any way, the patient is told to place his heel on a low stool, and with an ordinary spray apparatus I thoroughly and effectually spray the whole surface, ulcers included, with pure sulphurous acid. Personally I have never varied the treatment in this respect, but I see no reason why solutions of carbolic acid or hydrarg. perchlor., or hydrogen peroxide, or picric acid, recommended in the JOURNAL (September, 1896) for burns and scalds, should not be used instead. I have not tried any of these alternatives, as the sulphurous acid has always succeeded so admirably. In this connexion it may be noted that Dr. Stoker, in a paper published in the JOURNAL for March 19th, 1898, stated that a healing condition in wounds did not set in so long as their reaction was highly alkaline. When the spraying is finished I usually fill up the ulcers, if they are deep, with boracic acid powder. The last stage of the dressing is now reached, and consists in applying strips of adhesive plaster from 1½ in. to 2 in. broad and sufficiently long to equal a circumference and a half of the limb to which they are to be applied. This strapping begins from 2 to 3 in. below the lower border of the lowest ulcer, and is continued for the same distance above the upper border or edge of the highest ulcer if there be more than one. In order to make the strips adhere, and also to make them aseptic, they are, just before being applied, run through some hot water in a saucer to which carbolic acid, 1 in 20, has been added. A bandage is now applied from the toes to the knee, and the limb rested for a little time till the plaster dries.

The whole process does not occupy more than fifteen minutes, and the dressing need not be renewed for a week. Perhaps after the first and second dressings, and especially in the case of foul ulcers, it is well to ask the patient to return in a couple of days, when, if the dressing has become soaked with discharge or if the ulcer is painful, it would be well to remove the dressing and repeat the process as indicated. The removal of the plaster is easily accomplished by seizing the lower border with a pair of dressing forceps and cutting it open with blunt-pointed scissors. When completely divided it readily peels off in one piece. I have generally found that the first dressing gives great and immediate relief in the case of those irritable ulcers where the pain is out of all proportion to its apparent cause, and where the patient may not have had a good night's rest for months. In most cases five or six dressings, extending over a period of one month, have usually been sufficient for the complete cure of a bad leg that has been a source of torment to its owner for years. I must admit failure in one case of a circular ulcer extending completely round the limb, and where, of course, there was loss of continuity of the skin.

Southport. WM. ROBERT SPEIRS, M.B., C.M.Glasg.

ADDISON'S DISEASE TREATED WITH FRIEDMANN'S TUBERCULIN.

A TALL, spare woman, a shopkeeper, aged 59, of good family history, began to feel very languid and easily tired on exertion about two years before she came under my care. She got weaker and weaker, also lost flesh, and had a feeling of oppression in the chest and palpitation on the least exertion.

I was called to see her in the beginning of May, 1913. Her weight was then 9 st. 1 lb. She was very emaciated and anaemic, and complained of great weakness. There was a diffuse darkening of the skin, especially on the exposed parts, and around the nipples. The mucous membrane of the mouth was not pigmented. The heart's action was feeble, irregular, and quickened; there was no albumin or sugar in the urine; and the chest sounds were normal.

I ordered her complete rest, easily digested diet, and gave her injections of sodium cacodylate, but she steadily became weaker and the skin more pigmented—a diffuse darkening with dark patches throughout. Later, these dark patches became more marked on the extensor aspects of the legs. Iron tonics, cod-liver oil, and other measures were tried with no effect. For the heart I gave her Hoffman's digalen, as I believe it to have no haemolytic effect on the blood, and therefore considered it to be safer in the circumstances than digitalis. Her heart improved somewhat; as she showed a positive reaction with von Pirquet's test, I used Koch's T.O. and later T.E. in increasing doses, but with little or no benefit. Towards the end of May she had several attacks of diarrhoea, which left her still more prostrate.

As Koch's tuberculin had apparently failed, I gave my patient somewhat large doses of Friedmann's turtle tuberculin. This caused distinct focal and general reaction, and was followed by marked improvement in the general health. She began to put on flesh rapidly; the pigmentation quickly cleared up; the heart became stronger, and the temperature fell to normal within a short time. Her weight at the end of June increased to 9 st. 11 lb. The patient has continued to improve ever since, and, apart from slight cardiac weakness, she is in better health than she had been for years.

The case is interesting on account of the effect produced by Friedmann's tuberculin, after other forms of tuberculin had failed, and because for a considerable time the case looked quite hopeless.

Edinburgh. A. COWAN GUTHRIE, M.B.

RAPID DELIVERY IN ECLAMPSIA.

I SHOULD like to draw attention to the advantages attending the use of dilators, such as Bozzi's or Mensinga's, for rapid delivery in eclampsia. I have treated several of these cases during upwards of twenty years' general practice, and have now discarded such temporizing measures as chloral and bromide, venesection, and transfusion, etc. (except as adjuncts), as I have had such good results from prompt emptying of the uterus.

If more than one fit occur, I prefer to give a full dose of morphine, and proceed to dilate under chloroform. Mensinga's instrument is equally good as the much more cumbrous and expensive one of Bozzi, and, though not provided with removable shoes or shouldered ends, does not tend to slip out if properly introduced well within the internal os. If the external os will admit the tip of the finger, the instrument is introduced, and cautiously

expanded by very gradual movement until the os is dilated to, say, 3½ in. A half-turn of the screw every two or three minutes is sufficient to do this safely, success depending on care and patience, and absence of hurry. When dilatation has proceeded thus far, the membranes are ruptured, and the child delivered either by turning or forceps. The operation takes from half an hour to an hour and a half, according to the degree of rigidity of the cervix, and it is better to err on the side of delay in the process. The experienced accoucheur who carries one of these dilators will always feel that he possesses a ready means of helping his patient in one of the gravest complications of pregnancy and labour.

Coventry. R. Carmichael Worsley.

SUPPURATIVE PAROTITIS AFTER MALARIA.

As I have failed to find any mention in standard works of suppurative parotitis as a complication of malaria, the following case seems worth placing on record for the information of practitioners newly arriving in tropical countries:

On September 11th I was called in to a case of malaria in a woman. It was of mixed quotidian and tertian infection, and ran a fairly high temperature (up to 105°). On September 17th the spleen was felt for the first time, and on the same day the rigours came on, but lasted only one day. On September 20th the right parotid became suddenly inflamed, and remained so, sometimes worse, sometimes better, until October 2nd, when the pain, in spite of poultices and other anodyne treatment, became markedly more acute. There was no fluctuation as usual, and the swelling was definitely confined to the gland. On the same day, under cocaine (and strychnine) anaesthesia, I cut down on to the gland capsule, and opened the abscess with sinus forceps, evacuating about ½ oz. of "laudable" pus, and inserted a drainage tube 1½ in. long. The cavity drained well, and was practically healed by October 10th. Meanwhile, under treatment with quinine and arsenic, the fever ran its usual course.

It should be mentioned that the patient had a decayed upper bicuspid tooth on the right side, which may have acted as an exciting cause. The left parotid showed a very slight inclination to be troublesome, but this soon subsided.

A. A. Myers, M.R.C.S., L.R.C.P.

Dominica, West Indies.

Reports of Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Surgery.

At a meeting on November 28th, Mr. L. G. Gunn in the chair, Mr. Pearson, in a paper on the *Operation for carcinoma of the breast*, after describing the general principles of radical mammary operations and the light thrown on matters by the investigations of Handley, emphasized the following points in technique: (1) Extensive removal of the facial tissues with their contained lymphatics is the most important safeguard against recurrence. (2) The operation, even in the making of the cutaneous incisions, should be regarded as a two-stage procedure—an axillary portion which should be first carried out, and, secondly, an abdomino-thoracic portion. (3) The deep fascia over the clavicular fibres of the pectoralis major (which fibres may safely be retained in favourable cases) should be used as a guide to the separation of the clavicular from the sternal divisions of the muscle. (4) Clamps on the pectoral muscles should be used before division, both to act as retractors and to prevent possible dissemination. (5) The blood vessels should be systematically exposed and secured in such a way that the operation is practically a bloodless one. (6) Additional drainage, besides the ordinary drain in the axilla, is necessary in certain cases. (7) Reconstitution of the axillary vault is the greatest safeguard against subsequent loss of function. (8) Early movements of the arm are important. The Chairman considered that success in curing cancer of the breast depended more on early diagnosis than on the technique of the operation, and that if the disease had extended at all far the chances of success were not good. He did not agree that the early diagnosis was difficult. Mr. Pringle considered no operation radical when one jumped about from one part to the other. What impressed him with regard to this operation was the importance of keeping the upper ends of the incision well out of the axilla on account of the difficulty of properly sterilizing the axillary fossa. Mr. Keegan having described a case in which a skin recurrence necessitated removal of the affected area, said it was preferable to have a recurrence in the skin than to risk the infection of the mediastinal glands, and advocated the removal of the clavicular portion of the pectoralis major. Mr. Stokes joined issue as to the removal of the pectoralis muscle. He said that in his experience there was no use in doing these enormous operations when the case did not come for operation early. He had only one patient alive four years after operation, and this he considered a case of mistaken diagnosis. He inquired how a large supply of saline solution such as that suggested by Mr. Pearson could be kept sterile. Mr. Maunsell said that his experience was that a large number of cases of cancer of the breast lived long lives after operation, irrespective of whether they had glands in the axilla or not. He had one patient alive eight years after operation. He considered the breast a favourable situation, provided the operation was done thoroughly. He suggested that Mr. Pearson was not radical enough, and that in every case the pectoral muscles should be removed entirely. He would also be in favour of removing more skin than was suggested in the paper. His method was to carry up the skin incision like a V the whole way in order to get away more skin up towards the deltoid region. He looked on the method spoken of as the ordinary one, and was not aware that there were any surgeons who took off the breast backwards. He admitted that the haemorrhage in these operations was very slight. It was always his practice to encourage the patient to move the arm from the first. Mr. C. A. Ball said that a point which he considered of importance had been drawn attention to in the paper, and that was the necessity for putting in more than one drainage tube. He had been in the habit of draining the axilla and also putting a tube in the lower end of the wound. He drew attention to the involvement, in a large portion of these cases, of the supraclavicular glands, and would like to know if it was recommended that such should be removed. He recalled a case of his in which a patient of advanced years had a large mass in the breast, which was removed four years ago, and she had since shown no evidence of cancer. He therefore recommended the local operation in some cases where an extensive one might, perhaps, lead to bad results. Mr. Pearson, in reply, said he did not mean that the diagnosis of carcinoma of the breast was easy, but that carcinoma of the breast offered more facility for diagnosis in a curable stage than carcinoma in any other region. The ordinary case should be one which was favourable to removal, and should not have involvement of the axillary glands when it came to the surgeon. He would regard glands in the axilla as unfavourable, and in such cases would recommend the removal of these glands. If there were any involvement of the supraclavicular glands, radical operation was contraindicated. In the favourable cases the clavicular portion of the pectoralis muscle might be left. The public should be better educated on this subject with a view to bringing about the earlier treatment of carcinoma of the breast. With regard to keeping large quantities of saline solution in a sterile state, if it was kept in covered vessels he thought it remained sterile. He did not agree with the method of carrying the skin in a V up the axilla in early cases. The old method of working upward towards the axilla was, of course, largely given up, and he was not surprised to know that the method referred to in his paper was that adopted by Mr. Maunsell and Mr. Pringle.

ROYAL SOCIETY OF MEDICINE.

Subsection of Orthopaedics.

At a meeting on December 11th, Mr. Muirhead Little, President, in the chair, the following were among the exhibits: Mr. C. Max Page: *An apparatus for the reduction of some deformities of the joints.* He used the apparatus to overcome the flexion, external rotation and backward displacement of the knee following tuberculosis,

and for osteo-arthritis. It was cheap, efficacious, and could be applied by the surgeon. Mr. GORDON WATSON thought that the splint might give rise to muscular spasm; he always used extension in the line of the deformity. Mr. MAX PAGE replied that he had used the apparatus in thirty cases; he recommended it in cases of quiescent tubercle with no active spasm. He did not use it in cases of bony ankylosis. Mr. R. C. ELMSLIE: *Two cases of paralysis of the serratus magnus and trapezius* with deformity of an unusual type. Both patients were females with lateral curvatures, and the right scapulae were raised, rotated, and flexed by muscular spasm. The serratus magnus in one case showed the reaction of degeneration; cervical ribs were present on both sides, the one on the affected side had been removed without avail. The other case was complicated by pes cavus and an anaesthetic area on the thigh. The exhibitor questioned whether there was any real paralysis, and if present whether it was local or part of a general disease; he asked for a line of treatment. Mr. MUIRHEAD LITTLE and Dr. BATTEN thought that an anaesthetic would clear up the diagnosis. Mr. JACKSON CLARKE: (1) A case of *Congenital radio-ulnar synostosis*: after two operations the forearm was midway between pronation and supination; (2) A case of *Hysterical hip*. The girl had previously been under Mr. Elmslie's care: the latter had excised the elbow for tuberculosis, and treated the patient for lupus of the hand and for a self-inflicted sore of the sole. Mr. ELMSLIE said he had obtained good results in eight to ten such hysterical cases from faradism and hypnotism. Mr. GORDON WATSON: A case of long-standing *Talipes equino-varus* treated by a method of amputation at the ankle which left the heel intact. He had performed this operation in cases of tuberculous metatarsus, perforating ulcer, long-standing paralytic talipes equino-varus, and for melanotic sarcoma of the toe. He excised the astragalus, removed the cartilage from the lower end of the tibia, the two malleoli, and upper part of the os calcis. The os calcis was wedged between the malleoli and fixed with a pin for ten days; the foot in front was amputated. The advantages he claimed were that the malleoli were in their normal position and there was no shortening: a good heel-pad and a club-shaped stump was left, to which an ordinary boot could be fixed. Mr. CHAD WOODWARD: A case of *Fracture of the styloid process of the ulna* that had escaped detection for five years. Mr. ROTH: A case of *Double infantile coxa vara* in a child aged 3. X rays showed fractures of the necks of the femora. The teeth were decayed and the ribs beaded. The exhibitor thought it was the earliest case on record, and that the condition was difficult either to diagnose or to treat. Mr. ELMSLIE said that the definite fractures agreed with the pathological anatomy of the condition as laid down in his paper on coxa vara. He recommended wide abduction of the hips. Mr. EDRED CORNER described a new method of *Exposure of the hip-joint*. It consisted of a curved flap extending down from the anterior superior iliac spine to the base of the great trochanter, and extending up for an equal distance behind. The skin and deep fascia were dissected up, and the great trochanter was sawn off at the level of the neck; the muscles inserted into it were thus turned up quite uninjured. It gave a perfect exposure of the head and of the acetabulum; they could be actually seen as well as felt. He claimed that it was superior to the anterior, the posterior, and to the combined methods. After clearing out the diseased tissue he enveloped the joint surfaces in Baer's membrane; no early painful manipulations were then necessary. The portion of the great trochanter was refixed with catgut; in all his cases it had united without trouble, even in one that had died shortly after operation from general tuberculosis. The wound was sewn up tightly; no drainage was necessary, as there was very slight bleeding or oozing.

SECTION OF LARYNGOLOGY.

AT a meeting on December 5th, Dr. D. R. PATERSON, President, in the chair, the following were among the exhibits:—The PRESIDENT: Three foreign bodies, the colour of which made their extraction more difficult: (*a*) A red seed from the bronchus; (*b*) pink coral ring: and (*c*) portion of red vulcanite toothplate from the gullet. Dr. WILLIAM HILL: A patient from whom a post-cricoidal pharyngeal diverticulum had recently been removed. The PRESIDENT remarked on the difficulty usually experienced in finding the opening of the oesophagus. Mr. E. B. WAGGETT related cases in which the patients were taught to syringe out their pouches after dinner regularly. Mr. E. D. DAVIS related the satisfactory post-operative history of 8 out of 11 patients which he had traced; they were chiefly cases operated upon by Butlin. Mr. HERBERT TILLEY, Mr. SOMERVILLE HASTINGS, and Dr. MARTINEAU each showed results of cases of sarcoma of naso-pharynx treated by radium or radium emanations. Dr. JOBSON HORNE emphasized the necessity of establishing the malignant nature of these growths beyond any doubt before publishing the cases as cured. Mr. HARMER expressed a belief that recurrence would certainly take place at a later date. Mr. TILLEY remarked that the closer the resemblance of these growths to embryonic tissue, the greater the likelihood of benefit to the patient by the form of treatment under discussion. Mr. A. J. WRIGHT: A specimen of a *Thyro-glossal cyst*, which had caused dyspnoea in a woman aged 54. Dr. H. D. GILLIES: A patient, aged 50, who became suddenly hoarse after singing, and whose left vocal chord was found to be swollen. Dr. JOBSON HORNE thought the swelling was benign. Sir FELIX SEMON described a similar case which was under his observation for eighteen months, and then was proved by operation to be malignant. Mr. NORMAN PATTERSON: A case of *Epithelioma of the soft palate*, which had undergone three operations and was now undergoing *x*-ray treatment. Mr. H. L. WHALE: A case of *Trauma from adenoid operation* in a child who now showed a trellis-work of adhesions between the Eustachian tube and pharyngeal roof. Dr. PETERS thought the result was probably due to injury from the finger-nail operation. Dr. JOBSON HORNE and Sir STCLAIR THOMSON thought the adhesions were not due to faulty technique. Mr. NORMAN PATTERSON related several similar cases. Dr. DUNDAS GRANT suggested that faulty involution was the cause. Mr. CECIL GRAHAM: A *Carcinoma of the party wall* after laryngectomy in 1910; there was recurrence in the scar three and a half years after the primary operation.

HUNTERIAN SOCIETY.

AT a meeting on November 26th, Dr. W. M. ETTLES, President, in the chair, a discussion on *Migraine* was opened by Dr. A. S. CURRIE, who said that nothing worse in the way of poignant suffering could well be imagined than the intense headache, photophobia, hemianopia, scintillating scotoma, and other concomitants of the disease. Hughlings Jackson had described migraine as the congener of epilepsy, and Gowers had recorded cases of migraine which cease on the appearance of epileptic convulsions. To the speaker migraine seemed more closely allied in its phenomena to minor than to major epilepsy. There was a striking similarity between the first two in the dreamy states and diplopic mentation often observed in both, and in the after-languor which was also present in the major state. Most of his own cases exhibited the phenomenon of "reminiscence," and some of the patients had near relatives who suffered from true epilepsy. A large number of his cases were among professional men, and generally the patients were persons of a high standard of intellectuality. In a few cases the phenomenon of "reminiscence" was replaced by a sense of gigantism during the attacks. Though "reminiscence" was a symptom rarely mentioned in textbooks, or even in monographs on the subject, it was a frequent concomitant of the disease. From the biography of Charles Dickens it appeared that he suffered from "dreamy states," and the description in the character of David Copperfield of his having been on a previous occasion in precisely the same circumstances and environment was doubtless a personal experience of the author's. The phenomenon of "reminiscence" was best described as a "mental diplopia." Jackson, in 1887, had pointed out a close analogy between the visual diplopia of ophthalmologists and mental diplopia. In the former, with slight divergence of the visual axes, there was more visual confusion; in the latter, with a shallow dissolution of the highest centres, there was more mental confusion. In migrainous reminiscence there was, the speaker suggested, a gradual development from a faint mental picture to a clear-cut, definite impression, and the latter

evoked the memory of the former and appeared as a mental diplopia. He had noticed a similar phenomenon in regard to auditory impressions. Migrainous patients had been observed to sit for some time silent after being questioned, and then, without the question having been repeated, to awake to the fact that they had been questioned, and return a correct answer. In migrainous mental diplopia the dissolution of the highest centres was more shallow than in minor epilepsy, and this constituted a sharp dividing line between the two maladies. Mr. SYDNEY STEPHENSON urged the dependence of many cases of migraine upon eye-strain. The refraction should be corrected as a routine measure in every case of migraine, and a practitioner could not be said to have consulted the best interests of his patient unless he had taken that step. It was very important to understand that relief might often be given by suitable glasses, especially as the condition could not be said to be definitely or consistently under the influence of any medicament, ancient or modern. Mr. WRAY hesitated to assume he had ever cured *true* migraine by glasses, but in over 35 per cent. great benefit resulted, and the attacks were lessened in number, duration, and severity even without the use of drug treatment. Too much was expected from weak cylinders and far too little from reading glasses to correct weak accommodation, which was not infrequently present. At times young migrainous subjects with lowest grade astigmatism required in addition to the cylinder correction + 0.75 to + 1.25 sph. for reading and close work—a sufficient proof that accommodation should receive as much attention as the examination of the distant vision. In such cases if the patients were poor it would seem best to try the spheres only for close work, and to ignore the expensive cylinders or have recourse to them only when the simpler glasses failed. Spectacle treatment should be largely determined by the frequency of the attacks, and it was particularly desirable not to disfigure young females and some men with constant use of glasses when the attacks occurred at long intervals. It was doubtful if exact correction with 0.25 cyl. could be made by subjective tests. Even a small error in the axis of a cylinder caused a somewhat glaring distortion of plane geometric figures. The patient's complaints were too vague to put the practitioner on the right tack, but this so-called metamorphopsia was easily detected by directing the patient to notice the sides of the Jaeger type mount. A side seen through a wrongly placed cylinder would be at fault, and if the axes for both eyes were wrong and the patient had binocular vision, both the right and left sides would be at fault and the mount would seem too large at the top or the bottom. A careful examination of the nose should also be made for spurs and enlarged turbinates impinging on the septum. At times when an attack subsided rapidly the patient had a sensation as of an obstruction giving way, and this was no doubt due to the shrinking of the vascular tissues of the middle turbinate. Patients in whom the theatre and other similar entertainments caused an attack should take pot. brom. gr. xv, one dose before leaving home and a previous three hours earlier. The drug might be similarly used in cases in which a railway journey precipitated an attack. At times migrainous patients who vomited several hours after drinking beer had an odour of it in the vomit. In such cases administration of drugs by the mouth was likely to be a failure unless at least three to four hours were allowed to elapse after a meal before their administration. When the patient awoke with premonitions the greatest success was obtained from phenacetin and caffeine. There were many objections to prescribing tablets, but the rarer the attacks the more necessary they became, as it was impossible to keep liquid preparations for an indefinite period. The first step should be to ascertain the tolerance of the patient to the drug. The number ordered should be put in a wineglassful of water and crushed, after which a teaspoonful of spirit should be added. When the patient awoke with distinct premonitions he should take his tabloids, go back to bed, and not take any food for at least an hour. The success of this method was very considerable, and the efficiency of the drug was greatly increased by the addition of the spirit. Mr. REGINALD EVERSHED thought that migraine was due to an error of refraction *plus* some form of toxaemia caused by a defective metabolism of certain purins, and that if migraine was not a form of youthful gout, as suggested by Trousseau, there was a close connexion between them. He was inclined to follow Trousseau's lead both from an individual acquaintance with the malady for thirty years and from experience gained in general and special practice for twenty-four years. In patients subject to migraine a history of gout could usually be obtained, and in later life when the migrainous attacks had passed away, gout in some other form made its appearance. Further, the predisposing factors in an attack of migraine other than the error of refraction, were similar to those which precipitated an attack of gout. Treatment to be curative must be continuous, and for the past five years the speaker had adopted the following method with success: The first essential was to correct the error of refraction, and to re-examine the refraction periodically; then the patient was instructed to take every night aceto-salicylic acid gr. v, and once a week a purge containing mercury in some form, and on the following morning a mineral water; the doses of purge and mineral water should be so adjusted so that one thorough evacuation was caused; the patient should also avoid certain articles of diet, such as soups, sauces and gravies made from bone stock, high game, sweetbreads, liver and kidneys, jellies; and abstain from beers and whiskies. Mr. ARTHUR COOKE said that the last three speakers had taken up a strong view that migraine was chiefly caused by eye-strain, in contradistinction to the Vice-President, who seemed to incline to the view that it was closely allied to *petit mal*. Much depended in this connexion on whether a large number of ocular headaches closely resembling migraine were to be included in the same category, and a distinction was required. The following definition of migraine would probably be accepted: "A paroxysmal affection characterized by severe headache, generally ushered in by some premonitory symptoms, often associated with nausea and vomiting." The premonitory symptoms were usually visual in the form of scintillating scotoma, but might take less noticeable forms; and in a few cases, which must be classed as migraine, might be absent. Such attacks would not include the common ocular headache. Probably migraine was due to two factors: the irritable or explosive condition of the central nervous system, and some irritation from the periphery, usually eye-strain. When migraine took place there was an explosive outburst, apparently out of all proportion to the cause. The proof that eye-strain was the actual provoking cause was found by the result of treatment. In refraction cases extending over five years, about 3,500 cases yielded 28 cases of migraine; of these 19 had been cured or much relieved, in 1 no change took place, 3 were better from other causes not connected with the eye, and 5 could not be traced.

UNITED SERVICES MEDICAL SOCIETY.

AT a meeting on December 11th, Surgeon-General Sir LAUNCELOT GUBBINS, in a paper on the life and work of Jean Dominique, first Baron Larrey, pointed out that it was during operations around Mayence and Frankfort in 1792 that Larrey was first struck by the unsatisfactory methods that existed for dealing with casualties. The plight of the wounded made such an impression on his mind that he conceived the idea of giving them immediate succour. This found expression in the invention of the Ambulance Volante, which could keep pace with the fastest battery of artillery. The next important step in his career was his appointment as Professor of Surgery and Anatomy in the Military School of Medicine at the Val-de-Grâce. He was first brought into official contact with Bonaparte in Italy, in 1797, and being ordered by him to make arrangement for tending the sick and wounded, he organized his Ambulances Volantes in three divisions, and he was warmly congratulated by Bonaparte on the result of his labours. At Waterloo Larrey was severely wounded by the Prussian cavalry while endeavouring to withdraw his ambulances; he was captured and sentenced to be shot, but was rescued by a Prussian surgeon-major, who had attended his lectures years before.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

AT a quarterly meeting on November 25th, Dr. JAMES CHAMBERS, President, in the chair, Dr. J. G. SOUTAR secured the passage of a resolution to the effect that, in the opinion of the association, the asylum visiting committees of the county and borough councils and the asylum boards of Lancashire and Yorkshire, with such additions as the Act requires, should be the committees for the local administration of the Mental Deficiency Act, but that the existing visiting committees should retain their statutory powers under the Lunacy Act. Also passed, on the proposal of Dr. BEDFORD PIERCE, was a resolution on the subject of the status and welfare of assistant medical officers. It expressed the gratification of the meeting at the fact that the Durham Visiting Committee had sent an official invitation to a general conference of visiting committees to consider various questions affecting the welfare of assistant medical officers, and authorized the placing before this conference, or any committee appointed by it, all information in the possession of the association, and to offer the conference all possible aid by the submission of personal evidence or otherwise.

Asylum Dysentery.

Dr. SYDNEY COUPLAND, in resuming the discussion on the paper by Dr. Gettings on the subject of asylum dysentery, said that its chief interest was the fact that it gave the records of an institution over a period of nearly a century. In that respect it must be a unique production. Apparently the zeal of the medical officers of late had not equalled that in an earlier period, but that, he felt sure, was only temporary. His own experience of dysentery at Middlesex Hospital had been but slight; during the seven years he was doing *post-mortem* examinations there he saw only 2 cases, and one of those contracted the disease in India. Since the date when he was a student there had been in that hospital on the average only 1 case per year. It seemed to be the same disease as that named "colitis" among the general population. He referred to a discussion on the subject initiated by Dr. Mott at the Epidemiological Society in 1901, when Dr. Macleod, who in his earlier life had been attached to Durham Asylum, made an interesting contribution, in which he showed that the prevalence of the disease had often been traced to sewage contamination. He reminded the meeting of the case of the brig which started from Cork for Boston in 1848, and put into Penzance to escape the fury of the storm. Three of the passengers had dysentery, and a few days from the sailing of the ship again there was an epidemic of dysentery, 500 cases occurring in Penzance, with 82 deaths. He felt that the prevalence of dysentery in asylums was not in itself a reason to condemn the sanitary condition of those institutions, and the Commissioners in 1902 established a Register of Dysentery and Diarrhœa. He proceeded to give an exhaustive critique of the whole matter, by the aid of a number of diagrams which were distributed, and concluded with the statement that surely in the conditions obtaining, with a population concentrated in asylums, it should be possible to make a close study of the disease, with the view of greatly minimizing, if not obviating, epidemics of the disease in the future.

Dr. ROBERT ARMSTRONG-JONES detailed the measures of segregation practised at Claybury to prevent outbreaks of the disease, and the careful watch kept upon patients whose functions were irregular. He had been glad to find the disease called by its proper name by Dr. Gettings, and hoped Dr. Coupland's tables would be incorporated in the journal, so that they could be studied by officers of all asylums.

Dr. BOLTON (Wakefield) explained how it came about that some cases of dysentery in the past had been overlooked at the asylum, and detailed his own efforts to detect and check carriers of the disease, as well as his work in examining bacteriologically the stools of patients. He also spoke of the various improvements effected at Wakefield Asylum at the various dates when certain defects were blamed for the prevalence of the disease—such as the closets, the ventilating shafts, the water supply. In the matter of the examination of stools he felt sure that, no matter what requirements were laid down, medical officers would not do that unless they felt enthusiasm in their work. He hoped that before long a method would be available for diagnosing the presence of the disease in an individual in the same way as was possible with syphilis and typhoid fever.

Dr. GETTINGS replied, pointing out that after every effort had been made in the direction of sterilization and cleansing, and improving the sanitation, fresh cases continued to arise. Finding the infecting organism was simple, the difficulty was to detect the chronic cases which were acting as such potent carriers. Once the carriers could be eliminated the question would settle itself.

Asylum Laundries.

Dr. E. FAULKS (Bexley Asylum), in a paper on an electrolytic chlorine bleach for asylum laundries, said that he had conducted several tests on *B. coli*, *B. typhosus*, staphylococci, and streptococci, which were very satisfactory. In the dregs of the washer when no chlorine was used there were 150,000 organisms per cubic centimetre, averaged from a series of eighteen plates; while following the chlorine treatment only four colonies were found, proving that the dregs by this process were practically sterile. It was also very efficacious in removing stains, the tests being made on the stains caused by blood, faeces, and menstrual secretion, and in regard to table linen those made by cocoa. The tensile strength of the material so treated was not altered, and he declared the process had the three advantages so important in asylum work—economy, utility, and safety. In the discussion which followed Dr. MENZIES stated that the use of chlorine slowly deteriorated the fabric. The author briefly replied.

Bath Temperatures.

Dr. FAULKS also demonstrated an *Automatic temperature regulator*, for use when a prolonged hot bath was required. Any intelligent nurse, he said, could use it, and need have no fear of either scalding or chilling the patient in the bath. The chief part of the mechanism was a sensitive capsule; the expansion of this depressed a lever, which in turn forced down a valve, this valve being kept open by the inflow of the hot water.

HARVEIAN SOCIETY.

AT a meeting on December 11th, Sir RONALD ROSS, F.R.S., in a paper on *the Study of infections by enumerative methods*, drew attention to the advantages of modern investigation by groups of men working together under one head, and hinted that the time had now arrived when advance of tropical medicine could only be made by organized team effort. In this connexion he described the investigations carried out by a small team working under his direction in Liverpool, which had worked together for two years on a sum of £900 granted to him by the Home Office. Several useful observations had been made, but unfortunately the team scattered, and the work was abandoned when the money came to an end. The observations dealt chiefly with the intimate characters and phases of sleeping sickness, a new variety of which was discovered by these workers, and also the result of drugs on this disease, both in man and animals.

PROFESSOR PONFICK, formerly professor of pathology in the University of Breslau, who died recently at the age of 69, took his doctor's degree in 1867. He first worked at surgery, then devoted himself to pathology. From 1868 to 1873 he was assistant to Rudolph Virchow at Berlin. In 1873 he received an invitation to occupy the chair of pathology in the University of Rostock. His work while at Rostock was interrupted by a long journey from 1874 to 1875, when he accompanied Friedrich Franz the Third, afterwards Grand Duke of Mecklenburg-Schwerin to Egypt, Nubia, and Further Asia. From that period dated the great interest he continued to take to the last in German colonial expansion. He was president of the Breslau Branch of the German Colonial Society. In 1876 Ponfick was appointed to the chair of pathology at Goettingen. In 1878 he exchanged his chair at Goettingen for the corresponding professorship at Breslau, where he remained for the rest of his active life. Among Ponfick's works may be mentioned an *Atlas of Medico-Chirurgical Diagnosis*, and essays on transfusion, on the dangers to certain persons of edible fungi, on myxœdema, and on actinomycosis.

Reviews.

THE HEALTH AND PHYSIQUE OF SCHOOL CHILDREN.

THE Ratan Tata Foundation has recently issued a statistical monograph by Mr. ARTHUR GREENWOOD, of Huddersfield.[1] The object of the research, which was initiated by Mr. George H. Wood, was to make a systematic statistical analysis of the information contained in the annual reports of school medical officers, and to present the results in a manner permitting comparisons between the conditions obtaining in different parts of the country. Mr. Greenwood has tabulated the average height and weight of elementary school children for each year of age from 5 to 14, and has collected corresponding means obtained in nine other inquiries. The total number of height observations is 821,263, and of weight observations 812,384, so that, assuming moderate uniformity in methods of measurement, the means calculated from them should be fairly reliable. At nearly every age the values are below those given by the British Association's Anthropometric Committee (1883), but, as the author points out, the earlier inquiry omitted a class of the population (persons living in towns and following sedentary occupations) which furnishes many elementary school children, and included the upper and professional classes, which have few representatives in the elementary schools. In other words, as national averages, the British Association results are probably a little too high, and those of the present investigation somewhat too low.

The greater part of the essay is devoted to the presentation of index numbers, and the author thinks the results support the contention that "half time" has a prejudicial effect upon physique and health. He also calls attention to the alarmingly wide prevalence of physical defects revealed by school medical officers' reports from various parts of the country. Special attention is devoted to the Bradford returns, with respect to which Mr. R. H. Tawney, Director of the Ratan Tata Foundation, remarks: "Bradford, as is generally known, has devoted much thought and money to the improvement of the health of its school children. In 1908 it established both a school clinic and an open-air school. It is therefore highly satisfactory to see that the physical condition of the children appears to have responded to the care spent upon it. The average weight, both of boys and girls, has grown appreciably, while the proportion of children classified as 'healthy' is larger, and the proportion of children classified respectively as 'neglected' and 'anaemic' is smaller. That too much reliance must not be placed on a single instance of this kind goes without saying. The coincidence between the improvement and the means taken to bring it about may possibly be fortuitous; nor must it be forgotten that the period of prosperity which the textile industries of Yorkshire have experienced since 1908 is likely to be reflected in improved nutrition among the children. It may, however, be said with safety that the experience of Bradford makes it most desirable that experiments similar to those which it has undertaken should be widely extended, and that careful records should be kept of their results."

It will be gathered that the subject-matter of Mr. Arthur Greenwood's book is of much interest, and it is therefore with no little regret that we feel bound to say that we find it impossible to speak favourably of his statistical methods. His statistical treatment strikes us, indeed, as being hardly suitable to a publication issued under the auspices of a university department. Thus, on one page he writes: "The actual method of working was to reject all groups containing less than ten children. The remainder of the index numbers for each age were then carefully scrutinized *and abnormal figures rejected—e.g.*, in the case of Dorset County Council averages of boys' heights are given for each year from 5 to 13, but at ages 9 and 10 the numbers were nine and eight respectively, and were therefore excluded. Of the remaining seven years, in the case of five the index numbers stood over 100; but in one (at 8 years of age) it was down at 95.6. *This was rejected as abnormal*, leaving 6 years of age from which to calculate the index number for height, as follows." On the following page he writes: "A certain amount of variation has to be allowed in the index numbers, and, *generally, height numbers which deviated more than about 3 per cent. from the majority of the index numbers given were rejected*, though other considerations were also taken into account." The italics in both these quotations are ours.

It is obvious that final index numbers derived from material treated in this way must be viewed with some suspicion. Attention may also be directed to the fashion in which various index numbers given in Appendix A are classified as unquestionably, fairly, and doubtfully reliable. We are not informed whether the classification depends upon sizes of samples, in which case the author might have calculated the appropriate errors of random sampling, or upon material errors of measurement. Several other parts of the book betray an imperfect acquaintance with modern statistical science. In spite of these faults Mr. Arthur Greenwood has supplied some tables which are distinctly interesting, but we regret that he did not acquaint himself more fully with methods of analysis which are of importance in dealing with problems such as those he set himself to investigate.

[1] *The Health and Physique of School Children.* By Arthur Greenwood. London: P. S. King and Son. 1913. (Demy 8vo, pp. 96. 1s. net.)

SNAKES IN INDIA.

THE study of snakes and of snake poisoning has always appealed to medical men in India since the publication of Patrick Russell's great work on *Indian Serpents*, issued between 1796 and 1809. Fayrer's magnificent *Thanatophidia* appeared in 1872, and since then much work has been done by A. J. Wall, Vincent Richards, Lamb, and Rogers, and Major FRANK WALL'S book, *The Poisonous Terrestrial Snakes of our British Indian Dominions*,[2] has now reached a third edition.

The advance of knowledge in recent years has been great. Fayrer in 1872 described only 34 poisonous snakes, of which 22 were terrestrial, 12 marine. The number of species known to exist in India has now risen to 69, of which 40 are terrestrial, 29 marine. The edition before us includes one new species, a viper discovered in Waziristan by Major O. Smith. This book, however, deals with terrestrial snakes only. A *Monograph on Sea Snakes*, by Major Wall, was published by the Bengal Asiatic Society in 1909. All sea snakes are poisonous; all freshwater snakes are non-poisonous. As, however, all terrestrial snakes can swim, a snake seen in the water is not necessarily a water snake.

It is difficult to draw the line between poisonous and non-poisonous snakes. All viperine and all colubrine snakes are poisonous, more or less. But the degree of toxicity varies greatly in different species—from the cobra, which can inject ten (possibly twenty) times the lethal dose of venom at one bite, to snakes which cannot inject enough to kill. As a matter of fact, the enormous mortality from snakebite in India is caused almost entirely by four snakes—the cobra, the blue karait, Daboia or Russell's viper, and *Echis carinata*. The last is the chief cause of mortality in Bombay and Sind.

Major Wall emphasizes the fact that it is impossible to identify poisonous snakes with accuracy by their colour and markings. This can only be done with certainty by the arrangement of scales. On pages 4 and 7 keys are given by which identification can be carried out. The subject is one of considerable difficulty, and probably the general public will continue to form their opinion on colour and markings, as before. In some snakes—the cobra, banded karait, Daboia, and Echis—the colour and markings are easy to recognize, and mistakes are unlikely. The blue karait, however, one of the commonest and perhaps the most dangerous of poisonous snakes, closely resembles several harmless species; its colour and markings are useless for identification.

The second and third parts of the book on snake poisoning and its treatment are new. The author gives three maxims—first, a poisonous snake can bite without

[2] *The Poisonous Terrestrial Snakes of our British Indian Dominions (including Ceylon) and How to Recognize Them. With Symptoms of Snake Poisoning and Treatment.* By Major F. Wall, I.M.S., C.M.Z.S. Third edition. Fourth thousand. Bombay Natural History Society. 1913. (Roy. 8vo, pp. 163; 42 figures. Rs. 3.)

injecting poison; second, it may inject a sublethal dose of venom; third, death by heart failure from sheer fright after the bite of a non-poisonous snake is possible. Antivenene, as prepared in India, is useful only against the poison of the cobra and Daboia. Ligature is almost useless. Colubrine poison causes death by paralysing the respiratory centre, viperine poison by paralysing the vasomotor centre, and by septicaemia. It will be new to most to learn that a sea-snake, *Enhydrina valakadyn*, is seven times more poisonous than the cobra; the blue karait two to four times.

EXOGAMY AND TOTEMISM.

THE central feature of Mr. HEAPE'S book on *Sex Antagonism*[3] is a searching but courteous criticism of Dr. J. G. Frazer's views as to the origin of the primitive institutions of exogamy and totemism. Mr. Heape, writing as biologist and one especially interested in sexual physiology, contends that the distinguished author of *The Golden Bough*, in his anxiety to do justice to primitive intelligence and volition, has failed to take due account of the power of instinct in determining the broad outlines of sex law and morality. Mr. Heape therefore dissents from Dr. Frazer's opinion that exogamy is the outcome of "horror of incest"; he contends that it is an expression of the natural law which impels the male to seek his mate among women whose power of attraction has not been diminished by familiarity. Exogamy is, in his opinion, a distinctively male product, an assertion of male supremacy, although he does not deny that it may have been subsequently modified by feminine influences, and in particular by the counteraction of totemic laws. Totemism, on the other hand, Mr. Heape regards as a creation of the feminine mind, a limitation imposed by her at a later stage of development upon male freedom, with a view to the consolidation of her own interests and those of her offspring. Its essence, according to Frazer, consists in the identification of a man with some natural object, and he seems to accept the statement that certain tribes believe that women are impregnated without the help of men by something which enters the womb at the moment when they first feel it quickened, as evidence that in its most primitive form totemism is associated with complete ignorance of the share of the male parent in reproduction. Mr. Heape professes scepticism with regard to the primitive character of such ignorance. The fact that certain tribes allege disbelief in the necessity of sexual intercourse, attributing conception to the agency of totemic spirits, is in his opinion due to the power of superstition to overcome instinctive knowledge and the results of observation, a power of which examples are by no means wanting among members of our own advanced civilization. He points out the convenience of a theory which enables an erring wife to account for an inconvenient pregnancy by the fact that she has ventured too near an area infested by fecundating spirits. Mr. Heape accepts Frazer's view that the origin of totemism is connected with the sick fancies of pregnant women, but considers that it was rather to influence their offspring, and to endow them with desirable qualities, than to confer life upon them that the agency of spirits, or of the natural objects accredited with spiritual powers, was primarily invoked and believed in. In discussing maternal impressions he gives some examples of considerable evidential value in support of his view that the widespread belief in the power of the mother to affect the tissues of her young by means of mental impressions may not be lightly dismissed. In the last chapter he gives a brief—we might almost say meagre—indication of the bearing of his conclusions upon the present relations of the sexes.

NOTES ON BOOKS.

Two diaries that have reached us are devised for the use of general practitioners and nurses respectively, both being issued for the Letts's Diaries Company by Messrs. Cassell. The former, a slim, well-bound pocket-book, contains, in addition to space for daily notes, a visiting list for twenty-eight patients a day, room being left for the entry of weekly totals and a reference to the ledger folio. At the end of the volume pages are provided for cash accounts, while the early pages provide for records of midwifery and vaccination engagements and of the names and addresses of nurses and patients. The volume for nurses, which is attractively bound in red leather, serves the double purpose of a diary and a case record. There is suitably ruled spacing for the recording of details regarding the progress of quite as many patients as any private nurse is likely to have during the course of a year, and reference to any given page is facilitated by the provision of an alphabetic index. There are also some memoranda of a kind useful to nurses, and pages on which to note down the telephone addresses of doctors.

Among volumes supplying information concerning the bearers of titles, *Whitaker's Peerage*[4] is still quite a youngster, but it gained popularity on its first issue and is likely to retain it. The arrangement of all names in alphabetic order, irrespective of precedence, makes it easy to use. The edition for 1914 is practically the same size as the volume for last year, and includes the names of all persons who possess titles of any kind or who have been admitted to any of the numerous Orders.

A volume of short stories is often disappointing, but no such charge can be brought against so original and interesting a collection as that contained in "A. DE O.'s" *Indiscretions of Dr. Carstairs*,[5] in which the author has gathered together a few of the most curious experiences in the life of a doctor in the West End of London. It has often been said that the physician, alone of all men, sees human nature as it really is, stripped of all shams and pretence; and undoubtedly a doctor in large practice cannot fail to come into contact with very many varieties of character, and has opportunities for observing the comedy of human life which even Balzac might have envied. It is for this reason that doctors amongst themselves, or with a sympathetic audience, are such excellent company; and, since the creator of Dr. Carstairs is an accomplished raconteur, his hero's experiences form a book of unusual interest and charm. The tales are of all kinds, although, as might be expected, tragedy is the predominant note. The plot of "The Moat House" is faintly reminiscent of one of Maupassant's most painful stories; but otherwise the author has provided an entirely fresh bill of fare to tempt the jaded palates of his readers. Perhaps the most powerful story in the whole collection is the struggle between human and divine love related in "Heaven Well Lost"; whilst "A Visit to the East End" contains a haunting description of a night refuge in the vicinity of the London Docks; and for restrained and dignified pathos it would be hard to find an equal to "Death in a Chelsea Lodging." The book is well written in an easy and vivacious style; some of Dr. Carstairs's opinions of country surgeons might have been toned down, though his estimate of the merits of the country general practitioner may be held to counterbalance them, and his editor should have no reason to regret indiscretions which will be productive of so much pleasure to others besides the members of his own profession.

Dr. GERARD TAYLOR'S *Statistical Ready Reckoner*[6] consists of a set of tables by means of which death-rates per 1,000 can be either written down at once or rapidly computed. The table gives directly the rates corresponding to values of the numerator from 1 to 20 and of the denominator from 1 to 10,000. For higher values of the denominator—for example, 81,345, no sensible error arises if the rate corresponding to 8,135 be taken and divided by 10. When such values of the numerator as 123 occur the required rate is obtained by summing the entries corresponding to 12 (multiplied by 10) and 3. The final rates are not correct to more than three significant figures in the worst and six in the best cases—for example, in the worked example (3) 189 births in a population of 9,274, the entries corresponding to 9, 8, and 10 are used and the rate given as 20.3784: if we use the entries under 18 and 9, the value is 20.3794: the result correct to five decimal places is 20.37956. This, of course, merely illustrates the fact that to have a result correct to n figures we must retain $n+1$ in our calculations, and is only worth mentioning because, to judge from the illustrations, the author does not seem to have noticed it. For practical purposes the attainable accuracy is sufficient. The book will be of service, particularly to those who are not familar with Barlow's tables.

[3] *Sex Antagonism*. By Walter Heape, M.A., F.R.S. London: Constable and Co. 1913. (Med. 8vo, pp. 215. 7s. 6d. net.)

[4] *Whitaker's Peerage, Baronetage, Knightage, and Companionage for the year 1914*. London: Whitaker and Son. 1914.

[5] *Indiscretions of Dr. Carstairs*. By A. de O. London: William Heinemann. 1913. (Pp. 318. 6s.)

[6] *Statistical Ready Reckoner*. By Gerard C. Taylor, M.A., M.D. Cantab., D.P.H. Reading: Bradley and Son, Ltd. 1913. (Demy 8vo, pp. 409. 12s. 6d. net.)

THE VERSATILITY AND ENCYCLOPAEDIC KNOWLEDGE OF THE LATE SIR JONATHAN HUTCHINSON.

DURING a memorable and altogether delightful fortnight spent with the late Sir Jonathan Hutchinson as his guest both in Cavendish Square and at Haslemere during the month of June, 1899, I had abundant opportunity of observing two sides of his character which were strongly developed, and which made him a most entertaining companion; I refer to his interest in all natural phenomena and to his encyclopaedic knowledge. So struck was I with these characteristics that I used, in the few minutes of leisure which were left to me in a succession of well-packed days and conversational evenings, to jot down the subjects of Sir Jonathan's talks as we roamed over the hill to the Hindhead, or sat in the garden at "The Library," Inval, Haslemere.

We went down from London one afternoon. Mr. Hutchinson (he had not then received the honour of knighthood) had been busy with patients, and was very doubtful whether we could catch the 3.40 train for Guildford. As a matter of fact it was after that time when we reached Waterloo, but Mr. Hutchinson spent no time in taking tickets, and saved a few seconds by taking me with him through the luggage van of a train in order to cut off a corner of the station. We caught a train, but whether it was the 3.40 or not we never discovered; indeed, my companion insisted that we had got the one before the 3.40! He then found, to his dismay, that he had left his fees lying on his consulting-room table, and was penniless; fortunately I had the wherewithal. We got tea-baskets somewhere *en route*, and were proceeding to enjoy ourselves, when we were told by a porter that we had to change for Haslemere. We had to gather our things rapidly together, including the just opened tea-baskets, and scurry along the platform. I remember now Mr. Hutchinson's agonized cries to me as he followed in my wake: "Doctor, Doctor, you're spilling, you're spilling!"

We got safely to Haslemere; but already, all the way, Mr. Hutchinson had been pouring forth floods of information. That was the escarpment of the chalk through which the train was passing; we were now on the green-sand formation: we had been before on the London clay; the chalk dipped down at this point below the metropolis, to appear again on the surface further north; in the escarpment one could see all the strata running downwards; and so on. We were now nearing Haslemere; it stood at the apex of the great Wealden valley, which ran south and east. On the way to that wonderful and most informative building, the "Museum" my host picked up something. "It is a bit of an ammonite," he said; "but there are very few fossils here, for there is not enough variety in the geological formations; that accounts, too, for the fact that there are not many varieties of wild flowers." Then we had to stop to examine a dying tree; "Here is an acroteric sphaceius," exclaimed Mr. Hutchinson, and immediately branched off into a discussion (a monologue, rather) on death beginning at the extremities. Then we went into a field with a reservoir in it, which Mr. Hutchinson had wished to sell to supply Haslemere with water to take the place of the present system of wayside taps—"kept locked and yielding only a few drops" was the caustic and laconic description given of them.

We were soon at the "Museum," one of the creations of Sir Jonathan's fertile brain. It struck me then as a wonderful conception, and I can still remember many of the lessons it so graphically taught me. On the outside of a shed was a circle showing the earth and the crust about which anything was known; and one was forced to marvel at the thinness of the part of our globe about which we had information. The inside of the shed was divided off into compartments, each of which represented a million years, and each of which contained the geological specimens which were appropriate to it. The immensity of time began to become oppressive to me as we walked on from one section to another. "I believe," said Mr. Hutchinson, answering some remark of mine, "that we may be now just in the middle of time, with as many millions of years to come as have gone before, and with a race of men growing wiser and better with the accumulated wisdom of the ages." Then, laughingly and yet half seriously, "This is the Hutchinsonian gospel!" We now entered the Museum proper, with the "space for time" system fully exhibited in it. Each century was represented by a little room or cubicle, and each was illustrated by its contents, pictures of the men and events of that particular hundred years, and the like. "How did you manage to furnish all these room-centuries?" was one of my many questions. "It was neither so difficult nor so expensive as you may be thinking," was the reply. "Sometimes I went to an old bookstall and bought a whole trayful of books for a few shillings. Then at home we went over them, cutting out pictures, anecdotes and the like, illustrative of the various centuries. We sorted them out according to centuries, and pasted up the best of them on the walls of the little cubicles." By the way, Mr. Hutchinson made time start about a hundred centuries before Christ, so we were now living in the end of the hundred and nineteenth century. "There were some wonderfully prolific centuries," said my host; "there was the hundred and first, the century of Paul; there was the century of David and that of Buddha. Did I know the Buddhist threefold requirement? It was to beget male children, to build houses, and to plant trees." Mr. Hutchinson had a slight smile playing round the corners of his mouth as he added that he had done all three. The motto was, "For posterity." In another part of the Museum was a great collection of wonderful and precious things. Shells had been put to various uses by the ingenuity of man. For instance, there were little lead images of Buddha put inside oysters; they were immediately coated over with mother-of-pearl, obediently and beautifully. So the little images became pearls of Buddha, sold to the worshippers of the same, with enrichment to the seller and no discouragement to the patient bivalve. All these and many other things illustrated the wonderful variety of nature. "Truly it is a feminine thing, Nature," said Mr. Hutchinson, "so variable, so varying."

Then we talked of teratological things—tadpoles, whose brains, spinal cord, eyes, etc., had been removed, and whose lives continued nevertheless, so long at least as the sucking mouth was preserved; so they went on for seven days or so, serving to demonstrate the absence of any controlling influence exercised by the nervous system over development. They were like anencephalic and amyelic fetuses. From the tadpoles we went to the skull of an Indian elephant with only one tusk, with some lessons to be learnt from it. There was the skeleton of a dinornis or moa; it cost Mr. Hutchinson £50, and was dear at that! Many other things were seen and many subjects of conversation broached in this museum of marvels, and then we betook ourselves to Inval for dinner.

In the cool of the evening we had a stroll in the gathering dusk through the broomfield. Night-jars were very audible, and Mr. Hutchinson was immediately launched on a discussion regarding the affinities of the night-jar. It is not of the swallow kind, indeed, said he, although both of them have the idiotic propensity for flying ever nearer the man with a gun, giving him a second, nay, a third and even a fourth chance of killing them. Could this principle of classification be applied universally? Could all the silly birds be grouped together? The results would be startling enough, doubtless. But what other plan offered? Nothing, save grouping almost all birds together as passeres (perchers), the crow with the sparrow. So my host rambled on conversationally, with very slight interference from his guest, who was busy enough finding his way pedestrianly. We were now on the open hillside, and the talk went on to yellow-hammers; to stories of rooks stealing eggs from the farmyards to feed their young ones, even sending the sitting hen off her nest to get the egg; and to the information to be gained from the direction of the concavity of the crescent of the moon, information not always possessed by painters and leading them wrong sometimes, putting the evening moon into a sunrise, and vice versa. We then returned to Inval, and my host bade me good-night, with the phrase "Praise to the Maker of all things."

We were up betimes next morning, and found the sky dull; but it brightened up towards noon. We went out for a stroll on Hurts Hill, and soon Mr. Hutchinson was discoursing again with great animation. Some of the

subjects dealt with were the causes of the death of trees in the exposed corners of plantations, sandpits and the action of water, the difference between the heather and the ling, and the reason why no grouse were to be shot near Haslemere. ("Possibly because there is not enough of marshy ground.") Then Mr. Hutchinson took up a leaf with some cuckoo-spit on it: "Here is the aphis in his bed of bubbles. He is a luxurious creature, keeping himself delightfully cool even when there is great heat outside. Let us explore his bath of bubbles; it is disgusting to look at, for it suggests expectoration, but it is beautiful for him and safe. No, not safe always; there now, my penknife has opened into it, and we shall add insult to injury, and inspect our friend the aphis fly through a pocket lens." Then some feature of the landscape led Mr. Hutchinson to talk of the Scotch fir and the larch (the one no good for timber, the other good), of the way in which lightning kills trees and the season of the year when it is deadly to them, and of animals lying down in fields as a sign of the weather. In one field we saw goats and a donkey lying down, as if it were to be a fine day, but in the next field were cows feeding. My companion suggested that perhaps the cows after all did not know so much as the donkey and the silly goats, and he was probably right, for it turned out to be a very fine day. Then there was a long talk about cuckoos, started by hearing one stuttering badly. Hutchinson said there had been a stuttering cuckoo in the neighbourhood some time before, "which was strange, so early in the season." That the cuckoo is a glattonous bird does not explain her dropping her egg in another bird's nest. Why should there be five male cuckoos to one female? Does the young cuckoo drop an egg in the same nest in which she was hatched? Probably it is dropped into a nest in a tree or shrub resembling that in which she was hatched. The cuckoo in the hedge-sparrow's nest is a curious sight, such a big, sprawling bird among the little sparrows; and finally, how does the young cuckoo know where to migrate when he has been brought up by non-migrating birds? Then the conversation became more medical and scientific, and we discussed free-martins, tumours, double terata, galls, and the value of vegetable pathology in the explanation of human deformities and diseases. Hutchinson spoke of the barberry in the hedge and the bunt of wheat, and from this matter passed on to fish as the cause of leprosy, a view he was strongly advocating at the time. Then he branched off to the theory that bacilli may have different functions at different times, and varying specific actions. He spoke also of other things, such as the geographical distribution of genius, expressing his opinion that the three hundred and fifty years of the Roman occupation of Britain had left their effect in the fact that many clever people were born along the line where the Romanized Briton came into touch and intermarried with the Anglo-Saxon. The Anglo-Saxon race was not great in itself, but only after admixture with others. The great secret of success was to be born north of the Tweed.

These were not by any means all the subjects we discussed on our walk, but they were some of the most interesting of them. I should not say "discussed," for Hutchinson spoke and I listened, save for an occasional query to elicit a fresh fact. Speaking of facts, let me close these reminiscences of a great scientist and a successful surgeon and physician with one remark which he made which has given me food for thought many times. It was this: "Let us take wide views of things, and not let ourselves be knocked down by a so-called scientific fact."

J. W. B.

MOTOR CARS FOR MEDICAL MEN.

THE CUTOUT NUISANCE.

THE Executive Committee of the Automobile Association and Motor Union has decided that in future it will take no part in the defence of members charged with a breach of the law in respect to the use of cutouts, unless in any given case there seems to be a possibility of the occurrence of substantial injustice to the defendant. The employment of cutouts is never necessary, and since their use naturally inflicts much annoyance on those who live within earshot of a highway, it should be regarded as bad form by all right-thinking motorists.

AN association has been formed in Batavia for the repression of the abuse of opium. The American and Chinese Consuls have been elected members.

WORKMEN'S COMPENSATION.

THE statistics of compensation and of proceedings under the Workmen's Compensation Act (1906) and the Employers' Liability Act (1880) for the year 1912, issued recently, contains as usual much interesting information. Seven groups of industries are considered. The aggregate number of persons employed within the provisions of the Act was about 7½ millions; of these about 5 millions were employed at places coming under the definition of factories. In these industries compensation was paid in 3,599 cases of death and in 424,406 cases of disablement. The average payment in case of death was £158, and in cases of disablement £6 3s.

The annual charge for compensation in the seven groups averaged 8s. 7d. a person employed, the lowest being in factories—5s. a person; the highest in mines—21s. 10d. In the coal-mining industry the charge under the Act worked out at 1.05d. per ton of coal raised. The total amount of compensation paid in the groups was £3,174,101, as compared with £3,056,404 for the previous year. If to this be added costs of management, commission, legal and medical expenses, the total charge would probably work out in the seven industries at about £5,000,000. Of 5,858 claims for compensation settled judicially under the Act, the number decided in favour of the workman was 4,455 or 76 per cent. Under the Employers' Liability Act, 1880, the number of cases taken into court was 197 as against 223 in 1911; this shows that the tendency for the Act of 1880 to fall into disuse continues. The gross total of persons employed, according to the returns, was 7,411,005. The annual charge for each person employed in the various industries works out as follows: Shipping, 15s. 9d.; factories, 5s.; docks, £1 1s. 4d.; mines, £1 1s. 10d.; quarries, 11s. 3d.; constructional work, 11s. 7d.; railways, 8s. 2d. Taking a period of five years, we find that in 1908 the compensation paid in 3,475 fatal cases amounted to £536,123, and in 325,484 disablement cases to £1,544,549. In 1912 compensation was paid in 3,599 fatal cases to the amount of £567,107, and in 424,406 disablement cases to the amount of £2,606,994. It will therefore be seen that the increase in compensation is due to the disablement cases. While fatal cases have increased only 3.6 per cent. and the amount of compensation in these cases 5.7 per cent., the number of disablement cases has increased 30 per cent. and the amount of compensation for such cases 68 per cent.

It is believed that to a large degree the increase must be due to the expansion in trade. The number of persons employed in the seven industries shows an increase as between 1909 and 1912 of 13 per cent. It is pointed out that the effect of trade expansion on the accident-rate cannot be measured merely by increase in the number employed. Busy trade results in longer hours being worked in those trades where slackness of trade is met not by discharging workpeople, but by working shorter time. How far these causes account for the increase or how far that increase is due to improper claims or to malingering cannot well be gauged. With regard to duration of compensation, of 424,406 disablement cases 38,600 were continued from 1911 and 385,806 arose during the year; 386,281 cases were terminated during the year, either by cessation of the disablement or redemption by a lump sum, leaving 38,125 cases outstanding. Of these outstanding cases, 11,481 had lasted more than one year but less than two, 6,057 had lasted two years but less than five, and 847 over five years. The mining industry accounts for a large proportion of the long-standing cases; at the end of 1911 the total number which had lasted more than one year was 627. In respect of lump sum payments, out of 424,406 cases 27,080 were settled by payment of a lump sum, either at once or after a period. In the 13,713 cases settled at once without any previous weekly payment, the average sum paid was £6 16s. In the 8,029 cases settled after weekly payments had been made for a period less than twenty-six weeks, the average sum paid was £21 3s. In the cases settled after weekly payments had continued for more than twenty-six weeks, the average payment was £99 2s. In the industrial disease section compensation was paid in 55 fatal cases to the amount of £9,987, and in 6,712 disablement cases to the amount of £103,798. These

figures are largely determined by the mining industry, and the diseases which chiefly account for them are nystagmus, beat hand, and beat knee. The nystagmus figures are remarkable. In the first full year (1908) during which the new provisions as to industrial disease were in operation the number of cases was 460; of these 386 were new cases and 74 were continued from the last half of 1907. Of these cases 380 were continued into 1909 and 631 new cases arose, making in all 1,011 cases in which compensation was paid in 1909. The cases continued into 1910 numbered 662, and in that year 956 new cases arose—a total of 1,618 cases in 1910; the cases continued into 1911 numbered 1,144, and 1,375 new cases arose, making a total of 2,519 in 1911; the number of cases continued into 1912 was 1,819, and 1,376 new cases arose, making a total of 3,195 in 1912. The beat-hand and beat-knee cases show no accumulation of long-standing cases, but a considerable increase in actual cases; there were 464 new cases of beat hand and 539 new cases of beat knee in 1903, as compared with 1,078 beat-hand cases and 1,259 beat-knee cases in 1912. There were 606 cases due to lead poisoning, and in the house-painting industry 150 certificates of disablement from lead poisoning were given by certifying surgeons to workmen in this occupation. There were no cases in the seven groups in respect of glanders, phosphorus poisoning, and poisoning by carbide sulphide, nickel carbonyl, African boxwood.

The number of cases under the Workmen's Compensation Act carried to the courts of appeal was 208, as compared with 206 in 1911, or just under 2.6 per cent. of the cases decided in the city courts and sheriffs' courts; 107 were appeals by workmen and 101 by employers. Of the appeals by workmen 17, and of the appeals by employers 34, were successful. Out of 144 cases in which the point on which the appeal arose was known, 41 turned on the meaning of the words "accident arising out of and in the course of the employment." There were 4 appeals to the House of Lords, as compared with 12 in 1911, the workman being the appellant in all the cases.

The number of medical referees appointed for the purpose of the Act was, on December 31st, 1912—in England 205, Scotland 85, and Ireland 44. The total number of referees in 1912 under Schedule II (15) was 267; under Schedule I (15) the number was 519, and under Schedule I (18) 4, as compared with 387, 521, and 9 respectively in 1911. Service rendered by medical referees as assessors under Schedule II (5) shows a total of 1,112, as against 976 in 1911. In respect of appeals under Section 8 against the decision of the certifying surgeon, the total number of references was 378, the workman being appellant in 44 and the employer in 334, the result showing that in 279 cases the decision was confirmed and in 99 upset.

ROYAL COMMISSION ON VENEREAL DISEASES.

THE following is the official report issued to the press by the Secretary of the Royal Commission on Venereal Diseases:

General Paralysis.

At the seventh meeting of the Royal Commission on Venereal Diseases, held on December 8th, evidence was given by Dr. Mott, F.R.S., Pathologist to the London County Council Asylums, and a member of the Commission.

Dr. Mott dealt first with dementia paralytica, or general paralysis of the insane. He indicated the grounds on which it is held that syphilis is the essential cause of this disease, and that without syphilis there would be no general paralysis. Facts relating to general paralysis had, therefore, an important bearing on the Commission's inquiry. Dr. Mott gave statistics respecting cases of this disease dealt with in the County Council Asylums. From a comparison of the figures for the last fifteen years, during which the population of London had remained practically stationary, he came to the conclusion that the admissions of cases of general paralysis were not diminishing, though he could not say that there was an increase. The figures of annual admissions showed that 8 per cent. of the total admissions from all causes and 15½ per cent. of the male admissions were general paralytics. The male cases of general paralysis of the insane considerably outnumbered the female, the ratio between them being rather more than 5 to 1. Tables of the numbers of cases of the disease from different districts of London indicated a higher incidence among males in the West End than in the East End, while among females the higher incidence occurred in the East End.

Dr. Mott also gave the results of some researches he had carried out regarding the existence of the effects of gonorrhœa in women dying of general paralysis of the insane. Obvious signs of gonorrhœal infection were found in 50 per cent. of these cases.

Other investigations which he had carried out dealing with arterial disease in general paralytics showed that among persons who had had syphilis, disease of the arteries occurred more frequently and at an earlier age than in the general population.

Infantile Syphilis.

On the subject of infant mortality, Dr. Mott stated that if the causes could be satisfactorily ascertained, the statistics of infant mortality would give important indications of the prevalence of syphilis in the country. He submitted diagnoses of family histories illustrating the effects of parental syphilis in producing premature births, stillbirths, children dying in early infancy, and afterwards living children suffering in later life from the effects of congenital syphilis in some form or other. Among the serious effects were blindness, deafness, stunted growth, paralysis, dementia paralytica, imbecility, fits, and general debility. The histories of 34 syphilitic mothers gave 175 conceptions resulting in 104 premature births, stillbirths and deaths in early infancy, 41 diseased in some serious form or other, and only 30 apparently healthy or doubtful; 2 per cent. of all cases of general paralysis of the insane were juvenile cases due to congenital syphilis; the percentage would be very much higher but for the fact that the majority of children whose brains became affected die in early life or are born dead. Dr. Mott laid great stress on the desirability of doing a Wassermann test for every newborn infant when the parent has syphilis or was suspected of syphilis, as it would then be possible to deal with latent disease in the child. With regard to the Wassermann test, Dr. Mott described the work which had been done in the pathological laboratories of the London County Asylums, and he explained the value of the test in enabling the practitioner to forestall symptoms by treatment.

Medical Education.

Dr. Mott said that the essential point in the treatment of syphilis was to detect the organism at the earliest possible time and to begin treatment immediately. He advocated very strongly the provision of public laboratories where Wassermann tests and bacteriological examinations could be carried out. It was also of the utmost importance that satisfactory education should be provided for medical students, whereby they should thoroughly understand syphilis and how to diagnose it in its early stages so that all delay in dealing with the disease might be avoided.

LITERARY NOTES.

THE family of the late Dr. Javal, the distinguished ophthalmologist, has given to the Eye Clinic of the Paris Hôtel-Dieu the fine library which he had collected in his ophthalmological laboratory at the École des Hautes Études in the Sorbonne. Madame Javal has completed the large collection of French and foreign periodicals up to the end of 1913.

We are asked to state that the business of Rebman, Limited, medical publishers, of Shaftesbury Avenue, has been acquired by the firm of William Heinemann, and will for the future be carried on at their premises, 20 and 21, Bedford Street, Strand, where all communications should be addressed.

Professor Marshall Howard Saville, head of the archæology department of Columbia University, in the course of a long relic-hunting expedition to Ecuador, made several interesting discoveries. The relics found are said to indicate that the early inhabitants of that country were

civilized and had some scientific knowledge. The skulls showed that the men were of a type superior to the Aztecs. Besides the better shape of the skull, the teeth were often filled with gold and cement, proving that dentistry was at a high stage of development among the early residents in Ecuador a hundred thousand years ago. In Mexico human teeth that were filled and ornamented with stone have been dug up, but Professor Marshall Howard Saville's "find" is said to be the first instance of gold-filling having been found in a prehistoric skull. The gold was inside the teeth, showing little on the outside. In all cases, whether the fillings were gold or cement, the borings indicated the use of a tool. Several teeth that had apparently become loose were held together by gold bands.

All human experience bears testimony to the difficulty of killing a lie. Ordinary history is full of myths which have been exposed by what Lord Rosebery the other day called "pestilent commentators." Even in the narrow field of surgery there are not a few legends which seem to bear a charmed life. It has repeatedly been stated that Ambroise Paré was the inventor of the ligature for the stoppage of haemorrhage. He was a great man, and had many most authentic titles to fame, but this particular one which has so often been conferred on him does not belong to him. Yet we find a writer in the *Progrès Médical* of December 6th repeating the statement twice in the course of a short article. The ligature for the stoppage of bleeding from wounds was in common use among the Roman surgeons, and is often mentioned by Celsus, and by almost every surgical writer from his time to the fifteenth century. But in amputations the rule was that the cautery should be employed "not only to stay the flux of blood but chiefly to correct the malignity or gangrenous putrefaction which might spoil the neighbouring parts." This rule was thrown over by Paré, who doubtless was in good faith in believing that he was the first to use the ligature in amputation. He recommended good thread, doubled—*bon fil qui soit en double*—and the catch forceps such as is now used. He goes on:

> Here I confess freely and with deep regret that formerly I practised not this method, but another. Remember I had seen it done by those to whom these operations were entrusted. So soon as the limb was removed they would use many cauteries both actual and potential to stop the flow of blood, a thing very horrible and cruel in the mere telling . . . and truly of six thus cruelly treated scarce two ever escaped, and even these were long ill, and the wounds thus burnt were slow to heal because the burning caused such vehement pain that they fell into fever, convulsions, and other mortal accidents: in most of them, moreover, when the scar fell off there came fresh bleeding, which must again be staunched with the cauteries, which thus repeated consumed a great quantity of flesh and other nervous parts. By which loss the bones remained long afterwards bare and exposed, so that for many healing was impossible, and they had an ulcer there to the end of their lives, which prevented them from having an artificial limb. Therefore I counsel the surgeon to leave such cruelty and inhumanity, and follow my method of practice which it pleased God to teach me, without I had ever seen it done in any case known nor read of it.

He had often used the ligature to vessels bleeding in an ordinary wound. This method, as we have seen, was used by the old Roman surgeons. When the thought came to him that he might employ it in amputation wounds he, says Stephen Paget in his life of the old surgeon, conferred with Estienne de la Rivière and other Paris surgeons, and they agreed to make trial of it, having the cauteries ready to hand in case the ligature should fail. He first practised it in 1552. It will be noted that Paré says he had "never read of it." Yet at the very beginning of the fourteenth century Mondeville, surgeon to Philip the Fair of France, taught that the surgeon who wishes to amputate a limb must take care to provide himself beforehand with styptics, and *especially with large quadrangular needles threaded with strong thread to tie the artery if required* (*Chirurgie de Maitre Henri de Mondeville*, written between 1306 and 1320, E. Nicaise's edition, Paris, 1893: third treatise, Special Surgery, Doct. I. Chapter VI. p. 567). So slowly did the use of the ligature make way that Sharpe, surgeon to Guy's, writing in 1761, two centuries after Paré found it necessary in his *Critical Inquiry into the Present State of Surgery* formally to advocate its use for the arrest of haemorrhage of wounded arteries in preference to styptics or the cautery, on the ground that "it was not as yet universally practised among surgeons residing in the more distant counties of our kingdom." The reason of its neglect was that surgeons did not know the means employed by Nature for the occlusion of arteries, and consequently did not know how to tie these vessels or what kind of ligature should be used.

In *Mediæval Byways* (London: Constable and Company, Limited, 1913) Mr. L. F. Salzmann has a chapter on death and doctors. He says that practitioners of the healing art seem hardly ever to have been held responsible for the death of their patients, though in 1350 we find Thomas Rasyn Leech, and Pernel, his wife, pardoned for the death of John Panyers, miller of Sidmouth, whom they were said to have killed through ignorance of their art. But patients who survived the treatment sometimes made trouble. Thomas Medewe, vicar of a Hertfordshire parish in the fifteenth century, who "by goddys visitacion had an infirmyte in his throte." The local practitioner being unable to deal with it, the vicar came to London and consulted John Davyvle, surgeon, who gave him a plaster for his throat, which did him much good and only cost fourpence. Finding that his patient was "nygh hole," the surgeon insisted on his having another plaster, for which he charged twenty pence, to make him "thurgh hole." The result was disastrous, as the patient "felle in such infirmitye that he might not speke and was like thereby to have dyed" if he had not called in another doctor. The patient expressed his feelings strongly when a bill for twenty shillings was sent in. Then there was the case of Edmund Broke of Southampton, who came to London to undergo an operation, and put himself in the hands of Nicholas Sax, who asked a fee of thirty-three shillings and fourpence, of which thirteen and fourpence was paid in advance. The patient complained that he was in peril of his life through the "defaute and unkunnyng" of Dr. Sax, and had to call in John, surgeon, "dwelling at Powlezchcyn," who cured him and to whom he paid the twenty shillings. The ungrateful patient was familiar in the Middle Ages. William Robinson, a haberdasher of Lombard Street, stricken with pestilence, sent for Willian Paronus, promising that if he would save him "he would reward him as well as ever he was rewarded for any cure." But when, after a month's attendance, Robinson was well, he declined to pay even for the drugs. Mr. Salzmann points out that so far from all mediaeval doctors being monks, even in the largest monasteries it was customary to call in a doctor from outside in serious illness, and the larger houses frequently retained the services of a secular physician. The cathedral monastery of Winchester in the fourteenth century made an agreement with Master Thomas of Shaftesbury that he should attend its members in return for his board and lodging, the board including a daily allowance of one and a half gallons of the best ale and a gallon of a smaller brew. There were medical attendants regularly attached to the Court. The salaries were not large, the surgeons of the first two Edwards being paid from one to two pounds a year. But there were perquisites as gifts of money, furred robes, and silver goblets, and ecclesiastical benefices. It is recorded that Edward III gave his surgeon, John Leche, land in Kildare. It is noteworthy that in all the hundreds of hospitals founded before the Reformation, from St. Leonard's at York, with its two hundred beds, downwards, there appears to have been no provision for medical attendance. Charms, of course, were in general use, and if ordinary quacks were not much molested, dealers in false charms were severely dealt with. In 1382 Joan, wife of Roger atte Hache, being ill, the husband accepted the offer of Roger Clerk of Wandsworth to cure her and paid him a fee of 12d. Clerk took a leaf of parchment out of a book and sewed it up in cloth of gold and bade Joan put it round her neck. As she got no better her husband grew suspicious, and summoned Clerk for fraud. Clerk, being asked to explain the value of the piece of parchment, said that it was a good charm for fever and contained the words "Anima Christi sanctifica me," and other similar pious expressions, but upon examination it was found that there were no such words upon it, and as he was proved to be ignorant of physic and illiterate, it was adjudged that he should be led through the middle of the city, with trumpets and pipes, riding on a horse without a saddle, with the parchment and a whetstone (the recognized symbol of a liar) hung round his neck, and in front of him "the unseemly emblem of the medical profession."

British Medical Journal.

SATURDAY, DECEMBER 27TH, 1913.

THE NATURAL HISTORY OF PULMONARY TUBERCULOSIS.

The incidence of pulmonary tuberculosis over large areas has been frequently studied, and many generalizations have been made with respect to it, more especially with regard to its influence on foreign races, but looking nearer home there is much yet to be learnt. An interesting inquiry has recently been reported, in the form of a presidential address to the Society of Medical Officers of Health, by Dr. A. K. Chalmers of Glasgow.[1] Limiting his investigations to Scotland, he found that the incidence of the disease upon the various counties has changed in a most remarkable degree during the last forty years. Death registration was not carried out before the Sixties, and during that decade—1861-1871—the death-rate from consumption was very high, but after the latter date it fell with great rapidity and in much higher proportion than the rate for other diseases. During this period of industrial prosperity the larger towns were invaded by a great immigration of workers from rural districts, such as had in earlier days been generally followed by outbreaks of epidemic disease. The fall in the tuberculosis death-rate, however, was steadily maintained after the maximum was reached in 1871, and proceeded with slight fluctuation to the year 1910. In the meantime the relative susceptibility of the urban and rural populations would appear to have undergone a striking change. The highest death-rate is now to be found in rural districts, such as Sutherland and Kirkcudbright, counties which contain a comparatively sparse population and vast tracts of unoccupied moorland.

These facts are difficult to explain, but they suggest many considerations. The sudden improvement after 1871 cannot be attributed to the adoption of modern methods of treatment, since they were not then in vogue; nor can the steady improvement in sanitary conditions be held sufficient to account for it, since no corresponding effect was produced upon other diseases.

The great increase noted in the early days of registration might be supposed to have produced a back-wave of immunity amongst the town-dwellers, and this is strikingly borne out by a further investigation as to the relative frequency of the disease among the native-born town-dwellers and those who had been introduced from neighbouring counties or from greater distances. Statistics for the actual period are not available, but it has been found from more recent figures that consumption occurs far more frequently among alien inhabitants than among the native-born or among the children of alien mothers and native fathers. Dr. Chalmers pointed out that these facts and considerations (which he illustrated with numerous maps, tables, and charts) cannot be immediately translated into practical lessons, but they open up the whole question of the unseen movements of disease among populations which deserves as much study in Great Britain as in China and Japan.

[1] A Page in the Natural History of Pulmonary Tuberculosis. By A. K. Chalmers, M.D., D.P.H., Medical Officer of Health for Glasgow, President of the Society of Medical Officers of Health. *Public Health*, November, 1913.

ULCER OF THE STOMACH.

The problem that has always faced those who have tried to explain the production of ulcer of the stomach is, Why does not the gastric juice digest the healthy mucous membrane? A favourite explanation has been that in those cases in which an ulcer develops the gastric juice is excessively acid, and consequently exercises a more intense action upon the tissues than in health, and that the localization of the ulcer is due to some accidental cause—traumatism, thrombosis, or infarct, by which the special area involved has had its vitality still further reduced.

This is the theory which has of late years received most support, but there is evidence that there is some special property of the mucous membrane of the stomach which protects it in normal circumstances from the digestive action of this secretion, but which is not possessed by other organs and tissues.

We drew attention some time ago to the observations of Katzenstein and Fuld, who believe in the existence in the gastric mucous membrane of a special ferment, to which they gave the name of "antipepsin." Katzenstein has recently brought the subject forward again. He stated that a series of experiments had convinced him that the wall of the stomach possesses a special power of resisting peptic digestion. When parts of it were invaginated into the cavity, they were not digested, but other organs similarly treated—for example, the appendix, the spleen, and loops of intestine—disappeared in a few days in consequence of the digestive action of the gastric juice. The duodenum, and to a less degree the upper part of the jejunum, possess a similar power of resistance, which he suggests may be due, at least in part, to that produced by antipepsin. His former experiments were criticized on the ground that the vitality of other organs which had been digested had been weakened by dragging upon their blood vessels. To test this he first injected the animals with atropine, and found that the organs remained undigested; a similar result was obtained when the animals were fed on a non-acid diet of fats and vegetables and poor in albumin. As antipepsin has very little power of resistance to acids or to heat he produced lesions in the stomach walls by acids, alkalis, and cauterization, thinking that if his theory were correct lesions due to the first and last should ulcerate, while the second should heal, and he found this to be the case even when the lesions were produced in the same stomach. Even a feeble acid was sufficient to determine the formation of an ulcer, as he showed by using acid phosphate of soda. In a further experiment he introduced dog's gastric juice into the stomach of a rabbit, an animal that possesses very little pepsin and scarcely any antipepsin. Its stomach is not capable of resisting an active gastric juice, and in every experiment an ulcer formed. A practical deduction that Katzenstein makes from his observations is that in the ulcer of the stomach of young girls it is undesirable to give such a diet as that of von Leube or Lenhartz, which stimulates the

secretion of gastric juice; he advocates one composed of cereals, vegetables, and fat, and urges that after a gastro-enterostomy a similar regimen should be followed. He holds that in order to prevent the occurrence of a vicious circle after gastro-enterostomy the pylorus should always be closed whenever the state of the patient permits it, and as this operation is nearly as troublesome as resection, he prefers the latter in a great proportion of cases, since it has the advantage of getting rid of the diseased part entirely; in giving this advice he evidently refers to cases in which the ulcer is situated in the immediate neighbourhood of the pylorus.

In the discussion that followed the reading of Katzenstein's paper Professor Boas, who urged the importance of early medical treatment, said that operation was very often followed by fresh haemorrhage, owing to the impossibility of preventing hyperchlorhydria and hypersecretion, and that after operation the patients should be referred back for medical treatment. Professor Bier argued that a vicious circle did not occur when the operation consisted of a large posterior gastro-enterostomy with a short loop. He maintained that the recognition of occult haemorrhage facilitated the differentiation of an open ulcer from a scar, but attached little importance to the estimation of the amount of acid. Professor Kraus, from a study of Dr. Katzenstein's preparation, admitted that true ulcers had been produced, but did not agree that the criticisms of Lenhartz's diet were justified, at any rate in cases treated in hospital, and he held with Boas that patients ought to be sent back to the physician for treatment after operation.

Professor Federmann argued that as simple ulcer might be cured by medical treatment, and the results of operation in his experience had not been satisfactory, the patients ought not to be submitted to it, but he agreed that in chronic callous ulcer the results were better although not perfect. A point of physiological interest was raised by Dr. E. Fuld, who said that the work of Pavlow and Parastsuk had shown the identity of pepsin with the lab ferment, and of antipepsin with antilab; as rabbits possessed little antilab, the facility with which peptic ulcers might be produced in them was accounted for, and he recalled the fact that horse serum which was very rich in antilab had been given by Hort by the mouth with good results. He did not consider it impossible to diminish the gastric juice by the continued use of belladonna in large doses, or by diet and adsorbents, the last having the advantage of at the same time suppressing a part of the pepsin. He advised operative intervention in all those persons who could not permit themselves the luxury of being invalids for the rest of their lives, but they ought to possess an immunity against ulceration, otherwise the stitches and the operative injury might result in the formation of a new ulcer; for these reasons he thought it undesirable to operate in the ulcer of young women. Dr. Cohnheim urged the use of moderate doses of olive oil for combating hyperchlorhydria; by its means he said he had always succeeded in controlling this symptom and had never been obliged to have an operation performed in a case of simple ulcer.

The discussion shows that the leaders of the medical profession in Berlin still preserve a rightly conservative attitude towards the surgical treatment of ulcer of the stomach, and there is undoubted justification for their complaint that the question of the after-treatment of patients who have been operated upon has been too much overlooked by surgeons; there can be no doubt that many cases relapse from neglect of dietetic and other precautions.

BEIT MEDICAL RESEARCH FELLOWSHIPS.

A MEETING of the trustees of the Beit Memorial Fellowships for Medical Research was held on December 17th. Dr. F. Gowland Hopkins, F.R.S., Reader in Chemical Physiology in the University of Cambridge and Praelector in Biochemistry at Trinity College, was appointed a member of the advisory board, in the place of Sir William Osler, resigned. The Francis Galton Eugenics Laboratory was recognized as a place of research. The fifth annual election to Beit Fellowships was made. Each Fellowship is of the annual value of £250, payable quarterly in advance. The usual tenure is for three years, but the trustees have power in exceptional cases to grant an extension for one year. This year there were thirty-five candidates, and eleven were elected, three of whom are women. Last year ten were elected, of whom three were women. The following are the names of the successful candidates, with the subjects of their proposed researches and the places where it is intended they should be carried out:—Dr. J. O. Wakelin Barratt: Nature and mode of action of substances contained in or derived from blood plasma and taking part in plasma or serum reactions; also cytological studies (Lister Institute). Dr. Myer Coplans: Immunity, with special reference to the action of the silicates (including the asbestos minerals, slag, wool, and the zoolites) on bacterial and allied substances (Lister Institute). E. C. Grey, D.Sc.: Bacteriological chemistry, with special reference to the relation between bacterial enzymes and chemical configuration (Lister Institute). J. R. Marrack, M.B., B.Sc.Camb.: The Chemical pathology of arthritic diseases—(1) the estimation of the uric acid in the blood of patients suffering from certain types of arthritic disease; (2) continuation of the work on calcium metabolism and organic acid excretion (Cambridge Research Hospital). V. H. K. Moorhouse, M.B.Toronto: The investigation of the metabolism of animals as indexed by the respiratory quotient under various conditions, with special reference to the question of diabetes (Institute of Physiology, University College, London). G. E. Nicholls, D.Sc.: Continuation of research on the investigation of the structure and function of the subcommissural organ and Reissner's fibre, which up to the present time has been principally concerned with the lower vertebrates. Study of the pineal region of the brain (Biological and Physiological Laboratories, King's College, London). Annie Porter, D.Sc.Lond.: On the parasitic entozoa, more especially protozoa and helminthes infecting vertebrates and certain invertebrates (Quick Laboratory, Medical Schools, Cambridge: Liverpool School of Tropical Medicine: and, if possible, the King Institute of Preventive Medicine, Madras, or the Wellcome Research Laboratories, Khartoum). J. G. Priestley, M.B.Oxon.: Investigation into the factors concerned in the regulation of the excretion of urine (Physiological Department, Oxford). Jane Isabel Robertson, M.B., Ch.B.Glasg.: The comparative anatomy and physiology of the heart in the first instance; also the study of the vertebrate nervous system (Victoria Infirmary, Glasgow). Marjory Stephenson, Cambridge Natural Science Tripos, Part I (Chemistry, Physiology, and Zoology): The metabolism of fats and its relation to that of carbohydrates in the animal body, having special regard to the light afforded by the study of the fat metabolism of diabetic animals (Institute of Physiology, University College, London). J. G. Thomson, M.B., Ch.B.Edin.: The cultivation of protozoa (the intention is to obtain knowledge of the toxins elaborated by these and the antibodies formed): the cultivation of tumour tissues (Lister Institute). All correspondence of Fellows and candidates should be addressed to the Honorary Secretary, Beit Memorial Fellowships for Medical Research, 35, Clarges Street, W. At the meeting it was announced that Dr. T. R. Elliott, one of the Fellows, had been elected F.R.S.

THE QUALITY OF THE FIRSTBORN.

We have received from the Anthropological Committee in Copenhagen a reprint of a paper by Sören Hansen, whose investigations on the much discussed subject of the qualities of the firstborn are based on statistics obtained from an asylum for the feeble-minded, and from a sanatorium for pulmonary tuberculosis. He points out that the ranks of the firstborn are not without genius, and that they include such prominent personalities as Linné, Goethe, and Björnson. He also relegates to the region of fairy tales the common view that the later-born possess more genius or talent than their predecessors. Yet his verdict is decidedly unfavourable to the firstborn. According to the asylum reports there were 994 individuals admitted from 1890 onwards. These were taken to represent an equal number of marriages, yielding altogether 5,915 children. The proportion of feeble-minded was thus 1 to 5.95. Using this ratio, the theoretical proportion of feeble-minded among the first and later born can be compared with the actual proportion. These comparisons show that the actual proportion of firstborn among the feeble-minded is far in excess of the normal. If this excess were due to some condition connected solely with the first birth or first conception, then the second-born should be on an equal footing with their successors. But the second and third children were more frequently represented among the feeble-minded than they should be if the inferiority of the firstborn were connected solely with the first birth or conception. This conclusion is confirmed by a report from Keller's asylum, where it was observed that the earlier children, and not merely the first child, were inferior to the later children. The author investigated 3,522 cases of pulmonary tuberculosis, and found that not only the firstborn, but also the second and third, were more frequently attacked by tuberculosis than they should be if their position in the family were of no importance. In families with ten children the disease was almost twice as frequent among the first five as among the last five children of the family. Hansen is inclined to think that too much weight has hitherto been attached to disposition in connexion with tuberculosis; and though he considers the inferior quality of the firstborn as proved, he regards it as an unravelled mystery.

THE NEW GERMAN INSURANCE BILL.

OUR Special Correspondent writes: The profession in Berlin has won the first battle in the campaign, and has established its claim to the appointment of an additional 200 practitioners, making in all 1,000 for service under the Act. This happy solution has led to a truce between the disputants in the metropolis, but the majority of medical men in the country would have preferred to see Berlin continue the struggle for equity and independence at the head of the united profession of Germany. That this is not to be the case must be ascribed to the influence of Dr. Köppel and his supporters, whose hitherto unrestrained power has, however, received a very considerable, and it is to be hoped permanent, check by the publicity recently given to their methods (see BRITISH MEDICAL JOURNAL, December 13th, p. 1553). The association of Berlin panel doctors, which have hitherto been entirely represented and ruled by Dr. Köppel and his board, have now taken matters firmly in hand, and have completely reformed their constitution, with the effect that all matters of importance are in future to be decided by a majority vote of the representatives themselves. In the country, however, the struggle continues unabated. In South Germany, where the Government is reasonable, an agreement would doubtless have been reached, but the obstinate attitude of the Prussian Ministry in the North forbids the Southern element to strike an independent bargain. This attitude is admirably expressed in the Government decree, which completely ignores every one of the medical demands, and which is signed by the Prussian Ministers for Agriculture, Commerce, and Home Affairs. The decree refuses to recognize the claim for a free choice of doctor and for referees in cases of disputes between the societies and the profession, and what is perhaps the most prejudiced of all its enactments, it deliberately encourages the societies to treat not with medical organizations but with individuals, with the object, no doubt, of causing a rift in medical union. The dangerous situation threatened by this promulgation was met on December 7th by the decision of the Leipziger Verband—representing over 20,000 practitioners—to order the instant breaking off of all local negotiations between medical and insurance societies, not only in Prussia, but in every one of the States affected by the edict. The importance of this decision cannot be exaggerated, for, of course, it affects places in which an agreement had almost been reached. It becomes increasingly obvious that the policy of the Leipziger Verband is the good of the whole profession and an agreement with the insurance societies which shall be simultaneous, universal, and on the same lines throughout the empire. The responsibility for these measures rests in the first place with the Government—more especially with that of Prussia. The Leipziger Verband has taken good care that in the fight which has now become general the insured shall in no way suffer, and that the outrageous accusation of the societies that medical treatment is being withheld and that moribund patients are left to their fate, shall in no way find its justification in fact. Wherever by January 1st an agreement has not been reached, the doctor is directed to post a notice in his waiting-room to the effect that his *clientèle* will henceforward be treated only as private patients, and this only on payment of an immediate fee consonant with the local conditions. In every instance in which a strike-breaker attends, or in which a layman or quack is consulted, the directions to abandon the case are most stringent. The sharper the weapons the sooner will this deplorable strife be terminated, and this is to the interest not only of the parties concerned, but essential to the health and well-being of the whole nation.

OPEN-AIR SCHOOLS.

QUITE a number of open-air schools have been established in this and in other countries, where the climatic conditions naturally lead those who can to secure the shelter of windows and doors, as well as of roofs; yet there are schools arranged for children, who are confessedly frail of physique and often known to be affected with tuberculosis, where such wind excluders are done away with. London, Sheffield, Bradford, Leeds, Halifax, Lincoln, Birmingham, and Barnsley are not favourite health resorts known for a mild and equable climate, yet these are the places where open-air schools have or are being established. A report[1] by Dr. Warren to the Surgeon-General at Washington gives an account of such a school in St. Louis, and the views show the snow lying thick on the ground! Notwithstanding the inclemency of the weather normally experienced in some places where open-air schools have been worked, the children prove to do well under their new conditions, and the proof is found in increasing height, weight, and also in those less tangible expressions—improved general well-being, both of body and mind. A report[2] by Dr. Sadler gives details of the school at Barnsley, illustrated by tabular statements of the "before" and "after" condition of each child, according to the estimate of the teachers and the measurements of the doctor. At both these schools the arrangements are of the simplest—the buildings are of the temporary order, iron at Barnsley and wood at St. Louis. Both are so arranged as

[1] *Open-Air Schools for the Prevention and Cure of Tuberculosis Amongst Children.* By E. S. Warren, Passed Assistant Surgeon. Prepared by direction of the Surgeon-General, Washington. 1912.

[2] *Report on Queen's Road Open-Air School, Education Committee of the County Borough of Barnsley.* By F. J. Sadler, M.D., School Medical Officer. September, 1913.

to give protection from sun heat and storms. The sanatorium element is marked by the provision of couches and rest-times. The dress of the children at St. Louis for the winter season is distinctly good, as exhibited in the pictures: it is called the "Esquimo" costume, and consists of a long loose tunic with hood, baggy trousers, and snow boots. The time table of the Barnsley school is worth study, for over against it is given the table of an ordinary elementary school. There is no doubt as to the superior attractiveness of the open-air curriculum; some hours a day devoted to gardening and housekeeping, with a corresponding limitation of the literary work, these must be appreciated by every child. We know of one London elementary school where there are gardens; the demand for them by the pupils is great, and the work in them is not in substitution of the usual routine. It is probable that the benefit said to be derived by the children cited in these reports is attributable to better food. In any case, the findings justify the advice given by Dr. Sadler to his council: "I strongly advise you to keep the school open for the next winter and summer."

PRIZES OF THE ACADÉMIE DE MÉDECINE.

THE following are the principal prizes awarded by the Paris Académie de Médecine this year. The Louis Boggio prize (triennial, of the value of £172) has been given to M. H. Vallée, Director of the Veterinary School of Alfort, for his researches on the prevention and cure of tuberculosis. The Adrien Buisson prize (triennial, of the value of £420), for the discovery of means of cure of diseases considered incurable, has been awarded to Dr. Dopter, professor in the Ecole d'Application of the military health service, for his work on epidemic cerebro-spinal meningitis, the meningococcus, antimeningococcic serum, parameningococci, and antiparameningococcic serum. The Chevillon prize (£60), for the best work on the treatment of cancer, has been awarded to Dr. R. Robinson, of Paris, for his account of a method of biochemical diagnosis of cancerous affections. The Herpin (of Geneva) prize, for the best work on epilepsy and nervous diseases, has been awarded to Dr. André Barbé, of Paris, for his study of secondary (bulbo-protuberantial and medullary) disease of the pyramidal bundle. The Laborie prize (£200), for the greatest progress in surgery, has been given to Dr. Guisez, of Paris, for his work on bronchoœsophagoscopy. The Meynot prize (£104), for the best work on diseases of the eye, has been awarded to Dr. F. Bourdier, of Paris, for his essay on the optic meninges and primary optic meningitis. The Roger prize (quinquennial, of the value of £100), for the best work on diseases of children, has been given to Professor E. Weill, of Lyons, for his book, *Précis de médecine infantile*. The Tarnier prize (£120), for the best work on gynaecology, has been awarded to Drs. P. Puech, of Montpellier, and J. Vanverts, of Lille, for their book, *Tumours of the Ovary and Pregnancy*. The Tremblay prize (quinquennial, of the value of £284), for the best work on urinary diseases, has been awarded to Dr. E. Papin, of Paris, for an essay on the sexual functions and prostatectomy. Among the principal prizes of the Académie des Sciences are the Montyon prize in medicine and surgery; three, each of the value of £100, have been awarded to Madame Lina Negri Luzani, of Paris, for studies on the corpuscles, which, in conjunction with her late husband, she discovered in the nervous system of mad dogs; to Dr. L. Ambard, of Paris, for his memoir on the renal secretion; and to M. A. Railliet, G. Moussu, and M. A. Henry, for their researches on the etiology, prophylaxis, and treatment of the distomiasis of ruminants. The Bréant prize has been divided as follows: Three prizes, of the value of £80 each, have been awarded to Dr. C. Levaditi, of Paris, for his researches on acute epidemic poliomyelitis and acute infectious pemphigus; to Drs. A. Netter and R. Debré, of Paris, for an essay on cerebro-spinal meningitis; and to Professor V. Babès, of Bucharest, for his treatise on rabies.

THE RADIUM TREATMENT OF CARCINOMA UTERI.

THE wide interest aroused by Bumm's recent lecture has in no sense abated, and Dr. v. Seuffert, Döderlein's first assistant, made the journey from Munich with the sole object of recounting his chief's further experience with the remedy since his pronouncement in the summer at the Gynaecological Congress at Halle. He reported that 152 cases of carcinoma of the uterus and cervix had received the treatment. One-third of these were also treated with the *x* rays, and none of them were treated by radium only. The clinic in Munich also used only small doses (50 to 100 mg.), which were inserted for twenty-four hours at a time. They were in complete agreement with Bumm's warning on the dangers of lead filtration. Of the 152 cases 103 were inoperable, and the increased admission of inoperable cases was undoubtedly to be dated from the time of publication of the radium treatment. The beneficent results of the rays were demonstrable in every single case, for since February of this year there had not been a single case of uterine or cervical cancer operated on in Döderlein's clinic. A large proportion of the 152 cases were still under treatment, but for the present 31 of these had been regarded as successfully treated, and had been discharged. These results were truly remarkable when it was remembered that 10 of these 31 cases had been labelled inoperable on admission. Dr. Seuffert informed his hearers that at a recent meeting of the heads of the Bavarian gynaecological clinics at Munich Professor Döderlein had demonstrated 24 of these 31 apparently cured cases to the satisfaction of all present; in none of them could a recurrence be established. In one remarkable case in which the primary growth had deeply involved the vaginal mucous membrane, and in which the pelvis was filled with secondary tumours, the whole mass and the vaginal ulcer had seemingly disappeared completely four weeks after the radium had been applied.

MUDDLING THROUGH WITH THE LONDON AMBULANCES.

OUR readers are aware that for many years we have persistently and consistently urged the London County Council to provide a sadly needed efficient ambulance service for accidents and other casualties occurring in London streets or public places. A committee presided over by Sir William Collins so long ago as 1902 reported to the County Council the grave deficiencies of the police service, and prepared a scheme for telephone street calls and rapid ambulances, electrically propelled, for conveying the injured or sick to hospital. The necessary powers were sought by the Council from Parliament in 1906. The City Corporation opposed the bill, but wisely adopted the scheme within their own area and demonstrated its efficiency to the public. The Lords rejected the County Council's ambulance clauses in a General Powers Bill. Then came a Home Office Departmental Committee, whose report abundantly confirmed the results of the earlier inquiry as to the preventable suffering caused by the defective arrangements in vogue in the County of London, and the need for an improved and rapid service. Sir William Collins's Act of 1909 enabled the County Council to establish and maintain such service, and under that Act it has, in fact, maintained a motor ambulance generously provided by the Grand Duke Michael for Hampstead and N.W. London. For four years, however, the County Council has procrastinated in regard to any further provision of ambulances for London. There has been more inquiry; there have been efforts to get the Borough Councils, the Boards of Guardians, the Port Authority, and the Asylums Board to

undertake the responsibility which Parliament had confided to the Council. In the JOURNAL of July 26th last we described, under the heading, "How not to work an ambulance service for London," a whimsical proposal then favoured by the party in power. A little consideration at that time might have saved the Council from the humiliating position that had to be assumed in regard to this scheme at its meeting on December 16th. In the pursuit of economy and efficiency a request was made to the Asylums Board to evolve and manage a scheme for which the County Council would have to pay. That Board, with commendable promptitude, propounded such a scheme, which was to cost £18,680 by way of capital expenditure and an annual maintenance of £17,860. Now the original scheme of Sir William Collins for eight stations, which was deemed too extravagant for the Council to undertake four years ago, was estimated to cost £13,000 capital and £9,600 a year maintenance. On reflection the County Council has realized that for it to finance an ambulance service worked and controlled by the Asylums Board would be neither prudent nor economical. Accordingly the General Purposes Committee recommended the Council respectfully to decline to adopt the scheme formulated at its request by the Asylums Board. The Council is at length prepared to put in force the powers conferred by the Metropolitan Ambulances Act on it and on it alone. An urgency report submitted the County Council's scheme, under which stations equipped with motor ambulances are to be provided in the west, north, east, south-east, south-west, and central districts of London on sites already in the possession of the Council. This arrangement is to be regarded as provisional and tentative, but may be "worked up, augmented, and varied as experience may direct." In other words, after months of postponements, delays, and unnecessary repetition of inquiries, the Council finds itself exactly in the position it was in four years ago, when precise details of a similar scheme had been already worked out in reports to the Council and in the memorandum attached to the report of the Home Office Committee. Meanwhile the vast increase of street accidents has added enormously to the "unnecessary suffering" which injured Londoners have endured through the persistence of the defective modes of transport. Major Gray, the Chairman of the General Purposes Committee, frankly admitted during the debate that the public demand for such service is irresistible, that it will brook no further delay, and that the Council itself must be the authority to control and finance this essential municipal service.

A SHRINE OF HEALING IN SCOTLAND.

FORMER reference has already been made, in the BRITISH MEDICAL JOURNAL of May 10th (p. 1009), to the existence in Scotland of two shrines called after the Italian House of Loreto. One was in Perth, the other, which was the more famous, was beyond the eastern gate of Musselburgh on the margin of the links. This was founded in 1533 by one Thomas Douchtie, or Duthy, who had been a captive in the hands of the Turk and who called himself the hermit of Mount Sinai. The shrine of "Laureto" throve under the protection of James V, and Sir David Lyndsay speaks of the crowd who flocked thither:

> Under the forme of feinzeit sanctitude
> For till adore ane image in Laureit.

He charged the hermit founder with gross deceit, saying that

> He put the common people in beleve
> That blynd gat seycht and crookit gat their feet.

The shrine was burnt down by the English army in 1544, but was rebuilt and continued to attract pilgrims for some time afterwards. Shortly before its closure its prestige was said to have suffered greatly from the alleged discovery of a fraud practised by the priests in pretending to have restored the sight of a boy whom they falsely asserted to have been born blind. The incident is told in Row's *History of the Kirk of Scotland*, which is quoted by Mr. Louis A. Barbé in his *Byways of Scottish History* (Blackie and Son, 1912): "For the Papists, perceiving the Reformation to goe on quicklie, and fearing that their religion should be abandoned, the kirkmen, the Archbishops, Bishops, Priests, Freires, etc., consulted and advysed, and, after deliberation, resolved, that the best wayes to maintaine and uphold their Religion, wes to worke some miracle to confirme the people (as they thought), that Poperie wes the true religion; and, therefore, they caused proclame in Edinburgh that on such a day there wes a great miracle to be wrought at St. Allerite's Chapell, for a man that wes borne blind, and had begged all his dayes, being a blind man, wes to be cured and receive his sight." The fraud was exposed by a fervent Protestant, Robert Colvill, Laird of Cleishe. His zeal was doubtless stimulated by the fact that his wife, a Catholic, had gone to the shrine "with ane offering of gold, with her sarke (according to custome)" to "get easie delyverie," the Musselburgh Loreto having a special reputation in the midwifery line. On his arrival at the shrine the laird was shocked to find "the whole adjacent countrey of Mers, Tweedale, East, Middle, and West Lothians, convened to see ane miracle," the performance of which had been announced for that day. He saw brought forward on a platform an apparently blind beggar, who after certain ceremonies seemed to recover his sight, and came down rejoicing amongst the people, who gave him money. The laird was not taken in, but determined "to doe his best to find out the lurking deceit whereby the people were miserablie deceived." Putting himself in the beggar's way, therefore, he gave him a generous dole, and with kind words hired him for his servant. The man agreed, and rode off with his new master to Edinburgh. On arriving at his lodgings the laird, drawing his sword and assuming "a fierce countenance," said to the man: "Thou villane and deceiver of the people of God, either tell me the trenth of these things that I am to ask of you now presentlie, or els I will take upon me, with my sword, to cutt off thy head: for I am ane magistrate appointed by God to doe justice; and I am assured that all the priests and freirs, all the saints, nor the Pope himselfe, cannot work a miracle such as they pretend to do, namely, to cure a blind man. Therefor thou and they are but deceivers of the people; and either tell me the veritie, or els with this sword I will presentlie—as ane magistrate in this case—put ye to death." This threat elicited the following confession from the man: "When I wes a young lad I wes a herd, and keeped the Sisters of the Sheines's sheep, and in my wantonness and pastime I used often to flype up the lids of my eyes, so that any bodie wold have trewed that I wes blind. I using often to play this pavie, the nunnes, the Sisters of the Sheines (so they were commonly called) did sometymes see me doe it and laugh at me. Then the Sisters send in word to Edinburgh that their sheppeard lad could play such a pavie. The kirkmen in Edinburgh hearing of such a thing, came out to the Sheines, and desired to see that sheppeard lad. I being brought and playing this pavie befor them, walking up and doune with my eyelids up, and the whyte of my eyes turned up as if I had been blind, the kirkmen that conveened there to see me, advised the Sisters, the Nunnes of the Sheines, to get another lad to keep their sheep, and to keep me hid in one of their volts or cellars for some years, ay till they thought meet to bring me out, and to make use of me as they pleased, and so, Sir, I wes keeped and fed in one of the volts, no bodie knowing that I wes there but the kirkmen and the Nunnes of the Sheines, for the space of seven or eight years. Then, Sir, they conveened me againe, and brought me befor them, and caused me to sweare a great oath that I would faine myselfe to be a blind man, and they put one to lead me through the

countrey that I might beg as a blind man in the day tyme; but in the night, and also when I pleased, I put doune my eyelids and saw well enough, and I to this houre never revealed this to any." Next morning the laird took the man to the Mercat Crosse, where, having attracted the attention of the public by thrice crying "O. yes!" the blind beggar recited a speech prepared for him by the laird in which he gave those who had seen the miraculous cure of the day before all the details of the fraud. This exposure brought the fame of Loreto as a healing shrine to an end. It must be remembered that this amusing, if not very edifying, story comes from a prejudiced source, and that a confession extorted at the point of the sword cannot be held to have much value as evidence. But we know from Erasmus and others that sham signs and wonders were common before the Reformation. It may be added that it is not only for the bolstering up of religious faith that "miracles" of healing are wrought. Readers of Guy de Maupassant's novel, *Mont-Oriol*, will remember the supposed rheumatic patient who, for a consideration, consented to be "cured" by the water of a spring in which certain enterprising capitalists believed they saw great possibilities of profit.

PHYSICIAN, APOTHECARY, AND HANGMAN.

THE encroachments of the mediaeval executioner on the legitimate sphere of the contemporary surgeon was, as we lately showed, actively resented by the latter. But he was not the only sufferer from the competition of the enterprising executioner who, to use a current phrase, seems to have knocked the bottom out of the apothecary's market by the sale of certain commodities. Chief among these were human skin and fat, for which there was no small demand. Human skin was often used as a belt to aid labour pains, and in a Danish *Pharmacopoeia* for 1672 straps of human skin—*cingula e corio humano*—are quoted at 16 marks. Human fat was included among the official preparations of the Danish *Pharmacopoeia* for the years 1619, 1645, and 1672, and was applied externally to strained sinews and ligaments, wasted limbs, and deformities due to contractions. The price of this fat was usually maintained at 2 marks for 15 grams. It must, therefore, have been a most valuable perquisite for the executioner. The apothecary also dispensed human fat, but it is probable that the frugal-minded consumer often evaded the middleman. Little wonder, then, that a Parisian apothecary once complained acridly of the executioner of Paris whose sale of human fat was apparently brisk. Yet, as the apothecary plaintively remarks, "We sell human fat, obtained from various sources, flavoured with savoury herbs, and incomparably better than that retailed by the hangman." Perhaps, too, the hangman's fat, being taken from criminals, was inferior to the fat "obtained from various sources"; but on this point the apothecary is discreetly silent. In Norway human fat and amputated fingers were sold to add spiciness to ale. Apart from this traffic in human flesh, the mediaeval apothecary and executioner had little in common, although in Frankfurt-am-Main the executioner applied in 1443 for leave to sell drugs. This was refused. Even more anomalous was the action of Caspar Frederik Dircks, Licentiatus Medicinae and Candidatus Pharmaciae, who was born in Hamburg in 1725. He practised, according to Kristian Caröe,[1] as physician and apothecary in Rönne, where he was held in high esteem for his integrity and diligence. But his income was small and his family large. When, therefore, the post of executioner for Bornholm fell vacant by the death of Möller in 1780 Dircks applied for the salary of 100 to 120 riksdaler attached to this post. At this date executions were rare in Dircks's neighbourhood, and when ordered he undertook to supply an executioner from another district. He tacked on to his application the promise that he would, if appointed, also undertake the supervision of infectious diseases in his district. Not only was the application granted, but in the official answer it was also suggested that the executioner's salary and duties should henceforth fall to the lot of Dircks's medical successors. From 1780 to 1791 all went well, no sentence of death called for execution, and the executioner's dues flowed uninterruptedly into Dircks's coffers. But in June, 1791, an execution was ordered, and Dircks appealed for aid to a neighbouring executioner, to whom he had paid 30 riksdaler every year for this purpose. The neighbouring executioner proved unneighbourly and failed to fulfil his obligations. In despair Dircks had to engage the executioner of Copenhagen at the exorbitant fee of 200 riksdaler. This disheartening experience of the vicissitudes of subletting led Dircks to send in his resignation as executioner. An army surgeon at once applied for the appointment under the same conditions as those Dircks had fulfilled, but this evidently reminded Dircks of the advantages he had enjoyed; he withdrew his resignation, and continued to receive the executioner's emoluments undisturbed till his death in 1802. His widow's application for the appointment of executioner was refused. The disposal of the much reduced executioner's salary was a problem satisfactorily solved in 1804, when a district midwife was urgently needed. Her meagre salary was supplemented by the executioner's pay, and thus money originally devoted to the destruction of human life was diverted to a more humane end.

[1] *Medicinsk-Historiske Smaaskrifter*. Edited by Vilhelm Maar. Copenhagen: Vilhelm Trydes Forlag.

DENTAL CARIES IN SOLDIERS.

THE Militaermedicinske Selskat in Norway undertook the investigation of the teeth of adults liable for military service in 1907 and 1908. Bjarne Arentz[1] has analysed the results of this investigation, which was conducted on the same principles as those adopted by Dr. Loos, who concluded that a definite relation exists between the body weight and the condition of the teeth. Dr. Arentz classifies his material thus: (1) Good teeth, with four or fewer teeth diseased: (2) Fairly good teeth, with five to nine teeth diseased: (3) Bad teeth, with ten to fourteen teeth diseased: (4) Very bad teeth, with fifteen teeth or more diseased. Over 12,000 forms were returned filled up, but only 8,512 were satisfactory. As, however, only about 15,000 men are examined yearly for military service in Norway, the conclusions drawn from the satisfactory forms were considered to be applicable to all the young healthy adults in the country. Only 464, or 5.4 per cent., had perfectly healthy teeth. A comparison between country and town was strikingly in favour of the former. Only 4.6 per cent. of town dwellers were included in Class (1), while over 50 per cent. were included in Class (4). Of recruits from the country, from 12 to 45.2 per cent. were included in Class (1), according to the various districts they came from. Artificial teeth were much more often found among town dwellers than country dwellers, whose teeth were seldom affected by rickets. In a table showing the relation between dental caries and occupation, fishermen rank highest, being represented by 51 per cent. in Class (1), and only 6.8 per cent. in Class (4). Persons engaged in farm work are considerably better off than other labourers; the factory hand shows many carious teeth. Tradesmen, clerks, and students have, as a rule, bad teeth. School teachers, shoemakers and tailors usually have good teeth. As a class, bakers and millers have bad teeth. Summarizing his observations, the author concludes that dental caries is a widespread disease, worst in large towns, and least prevalent in outlying country districts practically cut off from civilization. No difference could be found in the teeth of the men accepted or refused for military service, but occupation influences appreciably the incidence of dental caries.

[1] *Norsk Tidsskrift for Militaermedicin*, vol. iv. 1913.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LONDON.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

At the annual meeting of the constituents of the Metropolitan Hospital Sunday Fund, on December 19th, much disappointment and some alarm were expressed at the result of the collection this year. The total amount was £64,991, this being approximately £3,000 less than in 1912. The council in its report remarked that the reduction in the total was serious, not only on account of its effect on the hospitals, but also because the power of the fund to make grants towards the purchase of surgical instruments and to supply patients with letters for hospitals and convalescent homes would be lessened. There was considerable discussion as to the causes underlying the reduction in the receipts, Canon Pearce and other clerics present regarding it as fresh evidence of a growing indisposition on the part of the public to attend Sunday services. The lay speakers, on the other hand, seemed for the most part to regard the result of the year's work as not unsatisfactory on the whole, in view of the undoubted fact that recent legislation had diminished the spending power of the wealthier classes. As has been the case for some years past, the antivivisection party made itself heard before the meeting concluded, its action on this occasion taking the form of a notice of a motion, which was brought forward by the Rev. R. Free, of Fulham, and seconded by the Rev. E. D. Camus, of Upper Edmonton. It ran as follows:

> That no grant be given to hospitals having vivisectional laboratories attached to their medical schools, believing the practice to be diametrically opposed to the teaching of Christ.

The Chairman, Sir John Bell, pointed out, however, that there could be no discussion on the subject, and that all the meeting was competent to do was to decide whether the motion should be referred to a committee for consideration; this step the meeting by a large majority decided should not be taken.

LEEDS.

DEANSHIP OF THE MEDICAL FACULTY.

PROFESSOR GRÜNBAUM, who has held the position of Dean of the Faculty of Medicine for some seven years, has found it necessary to resign that position owing to pressure of work. The position of dean is by no means an easy one to occupy with distinction. In all the details of university business Professor Grünbaum has shown himself an expert; it is perhaps as a chairman that he has manifested his best powers. On his resignation he was accorded a very cordial vote of thanks. The Medical Department of the University is to be congratulated on the fact that the Faculty of Medicine has been able to secure the services of Professor de Burgh Birch as successor to the position of dean and of chairman (*ex officio*) of the Board of the Faculty. The main work of the department is conducted by the Board of the Faculty and its two large committees—the Academic, of which the dean is also chairman, and the Clinical, of which the chairman is chosen by the infirmary staff: and it is this part of the work especially which renders it so necessary that the dean should be free from the distractions of private practice. When the late Mr. Scattergood died some twelve or thirteen years ago, Professor Birch was unanimously invited to succeed him as dean: and although his work some seven years ago demanded some respite from the duties, he has again responded to the unanimous request of his colleagues. Professor Birch was also elected the representative of the Faculty on the Council of the University.

THE STRIKE.

This is certainly not the place for any discussion of the strike of corporation officials, but it is interesting to note that the health of the city has not suffered. There has been very little crime in the city. The most remarkable feature of the disturbance, however, is the splendid amateur response which has been forthcoming to the appeal of the authorities. Householders have been sweeping the roads, making themselves responsible for the flushing of closets attached to the smaller houses, lighting street lamps when there was any gas, and exercising that strong public opinion which above all other things can stand in the way of excesses. A very large amount of amateur labour has been available for the gas-works, and for the generating station of the electrical department. The effect of the former has not been very obvious in any maintenance of illumination of the streets by gas, for the strictest economy in its use has been observed, but a good store is being accumulated. The success of the latter has been very great; a full supply of power for lighting and for traction has been maintained, though the load has been greater than under usual conditions. The clerical staff has responded to the appeal of the committee, and this response has been supplemented by the sporting action of some two hundred students who have been acting as stokers. This work was undertaken by the students without any official sanction of the University, but with the cordial approval of the Pro-Chancellor and the Vice-Chancellor. They knew the risks attending their action; they knew that they were not entering on a mere frolic and that the sport of coaling would very soon grow stale: yet they went cheerfully into the business. Most of the amateur labourers have bivouacked at the gas and electricity works, so as to avoid the dangerous attentions of the strikers.

A deputation of the Leeds Trades Council visited the University on December 18th to lay before the Pro-Chancellor, Mr. A. G. Lupton, and the Vice-Chancellor, Mr. M. E. Sadler, their objections to the use of the students' labour at the electricity and gas works of the Corporation. The Vice-Chancellor pointed out that the University had not acted officially in the matter at all. He did not want, however, to ride away under a subterfuge. He added, "Those of us here who recognize the urgency of the situation and deplore the action on the part of the employees which, as we believe, without realizing its significance, they were committed to, threw into this public service all the knowledge and energy we were able. But, if I may say so in passing, we have done exactly the same here, as private citizens, as probably hundreds of others have done in other parts of the city, though not connected with the University at all." And again, "Deeply as I regret that there should be any momentary differences of opinion between us, or temporary misunderstandings on your part of our feelings, I can only say deliberately and solemnly that if the same circumstances arose again I for one would act as we have done before."

LIVERPOOL.

TUBERCULOSIS SCHEME.

A COMPLETE scheme has been formulated for the prevention and treatment of consumption within the boundaries of Liverpool. The scheme, which is the first in the country to be completed, has been submitted in draft to the Local Government Board and to the Insurance Commissioners, and both have signified their intention to sanction it, and the estimated expenditure of £40,000 yearly when formally presented.

The scheme has been prepared at the request of the Consultative Committee by the town clerk (Mr. E. R. Pickmere), the city treasurer and controller (Mr. Richard Barrow), and the medical officer of health (Dr. E. W. Hope), the legal, financial, medical, and surgical details being all embraced.

Objects.

The objects of the scheme to deal with the tuberculosis problem locally are fivefold:

1. That it should be available for the whole community.
2. That those means which experience has proved to be most effective should be adopted for the prevention of the disease.
3. That a definite organization should exist for the detection of the disease at the earliest possible moment.
4. That within practical limits, the best methods of treatment should be available for all those suffering from the disease.
5. That, concurrently with the measures for prevention, detection, and treatment, provision should be made for increasing the existing knowledge of the disease and of the methods for its prevention, detection, and cure, by way of research.

Dispensaries and Home Nursing.

Dealing first with dispensaries, as the centre, *inter alia*, of diagnosis, the report states that there will be (1) a temporary central dispensary at the Consumptive Hospital, Mount Pleasant, (2) a south dispensary at No. 4, Dingle Hill, and (3) a north dispensary at Nos. 330 and 332, Netherfield Road North.

Nursing of insured persons and their dependants receiving domiciliary treatment has already been undertaken by the Queen Victoria Nursing Association.

The Jewish Board of Guardians have agreed to provide institutional treatment for members of the Jewish community at the Daneswood Sanatorium, Woburn Sands, Bedfordshire.

City and Voluntary Hospital Beds.

Under the scheme hospital beds for tuberculosis patients are either available or in contemplation as under: Corporation Sanatoria: Parkhill, 200; Fazakerley, existing 80, proposed 350. Voluntary institutions: Kingswood Sanatorium, Delamere, 40; Chest Hospital, Mount Pleasant, 30; Royal Southern Hospital, 26; David Lewis Northern Hospital, 28; Royal Infirmary, 20; Stanley Hospital, 10; Liverpool Infirmary for Children, 12; Children's Convalescent Home, West Kirby, 50; Royal Liverpool Country Hospital for Children, Heswall, 50; Leasowe Sanatorium for Children (when erected), 100 (increasing to 200); Children's Rest (when adopted and approved), not stated.

Special Grant.

The Local Government Board has stated that the maximum amount of capital grant to which Liverpool would be entitled on population basis would be about £24,760. It is submitted that the allocation of the sum available to England among the different counties and county boroughs (including Liverpool) on a population basis, without reference to the character of the districts concerned and the nature of their population, is unfair, and that Liverpool, having regard to its large population of the poorer class, ought to receive a larger sum than that indicated by the Local Government Board. Subject to this maximum amount the Board state that they are prepared to make grants to the Council in accordance with the recommendations of the Departmental Committee, namely:

(1) Dispensaries.—Four-fifths of the amount required for the provision and equipment, provided that this sum does not exceed £1 per 750 population, or an average of £240 per dispensary.

(2) Additional Sanatorium Beds for Adults.—Three-fifths of cost per bed, provided the total sum contributed out of Government funds does not exceed an average of £90 per bed.

(3) Grants to be made for Beds other than Sanatorium Beds.—The Departmental Committee are not able to suggest any basis.

Payments for Uninsured.

With regard to the cost of maintenance under the National Insurance Act, 1911, if an Insurance Committee extend sanatorium benefit to dependants of insured persons and the amount available under the Act is insufficient to meet the estimated expenditure, the Treasury and the City Council may sanction the excess expenditure, and thereupon they are each liable to make good half of such excess. The Government have also arranged to pay one half the cost of treatment of uninsured persons. Efforts have been made to induce the Government to pay a larger proportion than this, but so far without avail. The Local Government Board, however, promise to make grants in aid of the total cost of such complete schemes as the Liverpool Consultative Committee has framed for recommendation to the Hospital Committee, the Insurance Committee, and the City Council.

Approximate Cost.

The average annual occupation of 350 beds at 27s. 6d. per week for pulmonary consumptives ... ... say	£25,000
200 beds for tuberculous children (pulmonary and non-pulmonary) at the Royal Liverpool Country Hospital for Children, Heswall, West Kirby Convalescent Home, the Infirmary for Children, Corporation Sanatoria, and voluntary hospitals, and the proposed Invalid Children's Institution at Leasowe, at 12s. 6d. per week	6,500
40 beds for tuberculous adults, chiefly non-pulmonary, at voluntary hospitals, at 27s. 6d. per week	2,850
3 dispensaries at, say, £850 per annum each	2,550
General administrative expenses, medical, inspectorial, and clerical staffs, rent of offices, etc.	1,500
Contingencies	1,000
Total	£39,410

This sum (£39,410) will be borne as follows—namely: Grant from Insurance Committee, say, £8,250, leaving £31,160, and this sum will be borne as follows: One-half by the Treasury and one-half by the rates—that is, £15,580 each per annum.

According to the calculation of the medical officer of health, the Corporation have already for the year expired July 15th, 1913, spent about £8,000 on the treatment of tuberculosis. Accordingly, on the basis of the above estimates, this would be a net annual increase of £7,580 for this purpose when the scheme is in full operation.

The round-figure yearly cost (£40,000) of the scheme will entail only an additional halfpenny (£7,500) on the Liverpool rates, and effect a great saving in life and money. The Insurance Committee is to contribute in all about £10,000, a sum in addition to the £8,250 just mentioned being reserved for contingencies.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

CREMATION IN SCOTLAND.

THE twenty-first annual general meeting of the Scottish Burial Reform and Cremation Society, Limited, was held recently in Glasgow. The Chairman, Dr. Ebenezer Duncan, moved the adoption of the report. Lord Provost Stevenson, in seconding, said that it had always seemed to him that if it were necessary that a body should be decomposed and restored to its original elements, the quickest way was the best way. He had several times spoken in the Corporation on the subject, and he had found, not prejudice against the system, but rather a feeling that it was almost inconceivable that they should depart from what had been the habit of their ancestors for centuries. Professor Glaister also spoke on the advantage of cremation from the public health point of view, and mentioned the fact that between 15,000 and 20,000 persons constituted the population of the dead annually. The report was adopted.

TREATMENT OF TUBERCULOSIS IN EDINBURGH.

At a meeting of the Public Health Committee of the Edinburgh Town Council, on December 9th, it was resolved to recommend the town council to approve an agreement with the parish council with regard to the treatment of tuberculous pauper patients. They are now being treated by the parish council in pavilions of its own, and under its own doctors at the poorhouse at Craiglockhart: the new proposal was that all of them should be placed under the control of the Public Health Committee. If this be done the town council will be entitled to a grant of half the cost of such treatment, which at present the parish council is not able to get, arrangements of this nature being only made with town councils, and not parish councils.

PUBLIC HEALTH CONGRESS IN EDINBURGH.

The twenty-third annual Congress of the Royal Institute of Public Health will be held in Edinburgh in July next (1914). There are to be six sections. The first, that of State medicine, will have two subsections for epidemiology and for urban, rural, and port sanitary administration; the second is that of bacteriology and comparative pathology; the third is the hygiene of infancy and school life; the fourth deals with industrial hygiene; the fifth with naval, military, and colonial hygiene; and the sixth with tuberculosis. The congress comes upon the invitation of the Lord Provost and the Town Council, is to be under the Presidency of the Marquis of Linlithgow, and the meetings are to be in the University of Edinburgh.

THE SEMI-JUBILEE OF THE GLASGOW '88 CLUB.

At the eighth triennial dinner celebrating the semi-jubilee of the Glasgow University '88 Club—composed of those medical graduates who finished their course in 1888, or who were members of the classes from 1884 to 1888—Dr. John F. Fergus presided, and Drs. A. Brown Kelly and John Rowan were croupiers. Among those present were Professor T. K. Monro (the secretary of the club), Drs. L. R. Oswald, R. M. Buchanan, W. R. Jack, J. B. Mackenzie Anderson, J. Paton Boyd, Wylie Nicol, Chas. E. Robertson, H. L. G. Leask, R. T. Halliday, Livingstone Loudon, A. Copland (Zanzibar), David Gray (Darlington), and H. C. Taylor Young (Sydney). After dinner, and before the usual "roll call," Dr. T. K. Monro was presented with a silver salver from the members, on his appointment to the chair of Practice of Medicine in the University. The calling of the roll showed that about 25 per cent. of the 180 original members had gone over to the great majority. Others were settled in all parts of the world, and many apologies from these men were intimated. The toasts of the evening were "The University," proposed by Professor W. R. Jack, and acknowledged by Professor T. K. Monro; "*Res Medica Glasguensis*," proposed by Principal J. Yule Mackay (Dundee), and acknowledged by Dr. James A. Adams, Dr. J. H. Nicoll, and Dr. A. K. Chalmers. "Our Year" was proposed by the Chairman, and much of his speech was in the form of that rhyme for which he is so famous.

After dealing with the honours of the "year" he referred to the work performed by the members of the club, and then gave a retrospect of medical and other work during the twenty-five years of the club's existence.

Twenty-five years—a longish time -
Let's take a retrospect in rhyme.

The tubercle bacillus then
Was known to only learned men.
Unknown bacteria played high jinks
And no one then had "Ileal kinks."
Unknown was then the Spirochaete,
Typhlitis was not quite effete.
Appendicitis was not then
Numbered among our "bogey men,"
The culex and anopheles,
Were both thought harmless, likewise fleas.
The wild and weird trypanosome
No one had hunted in its home.
Short-circuiting was then unknown,
Though still some folk were cut for stone.
And when we're at it we might mention
Wounds seldom healed by first intention,
Though innovators of those days
Were working with carbolic sprays.

Then decompression was unknown,
And pegs for joining broken bone:
While lumbar puncture was untried
Whose uses cannot be denied.
We did not use electric light
To view the bladder or the "Kyte":
Our patients hunger pangs might feel,
But never got a bismuth meal.

'Tis ever thus, change treads on change,
And if my retrospect may range
To other changes in our time
We'll still find subjects for our rhyme
In the large world outside the sphere
Of common interests of "Our Year."

DINNER TO DR. MELVILLE DUNLOP.

On the termination of his term of office as Senior Physician to the Royal Hospital for Sick Children, Edinburgh, Dr. Melville Dunlop was entertained at a complimentary dinner, on December 19th, in the Caledonian Hotel, by his colleagues and old resident physicians. Mr. Harold Stiles occupied the chair, and, in presenting Dr. Dunlop with some handsome pieces of silver plate, emphasized his long association with the hospital and the value of his services, and mentioned the great affection and esteem entertained for him by the whole staff.

In responding, Dr. Dunlop referred to some of the changes which had occurred during the twenty-seven years in which he had been a member of the staff.

Ireland.

[FROM OUR SPECIAL CORRESPONDENTS.]

CORK MEDICAL AND SURGICAL SOCIETY.

THE inaugural address of the session 1913–14 was delivered to the Cork Medical and Surgical Society by the newly-elected President, Dr. T. Gelston Atkins, on "The Diagnosis and Treatment of Diseases of the Gall Bladder." The audience included both senior and junior members of the profession. The address dealt with the most modern methods of diagnosis as well as the more recent pathological theories of gall-bladder disease. On December 9th another instructive paper was read by Dr. William Magner, of the Pathological Laboratory, University College, Cork, on "Some Problems in Immunity." Dr. Magner, in a most interesting way, explained the various theories of immunity and touched specially on the dangers of anaphylaxis. A discussion followed, in which many members took part. It was announced that Sir Bertram Windle had kindly consented to deliver an address to the society early in the new year.

THE MEDICAL PANEL IN CORK.

The County Borough of Cork Insurance Committee has found it extremely difficult to make insured persons select a doctor on the panel for Cork city for certification purposes. Of the 25,968 insured persons only 13,722 had selected a doctor, although the last quarter of the year is almost ended, so that half the insured persons in the city had to be located to the several doctors on the panel. The Secretary to the Committee has allocated the 12,246 among the 33 doctors on the panel, giving an average of 380 to each doctor. The panel ranged for some members of the profession as high as 2,960. The fees payable to the doctors on the panel for the two quarters beginning April 12th, 1913, and ending October 12th, 1913, were £486 18s., and £249 would be due and payable for the quarter ending January next, being altogether a total of £730. The dole which the generous Government has meted out to the doctors for their year's work, 9d. per insured person, will not even have the merit of arriving as a Christmas-box!

VITAL STATISTICS IN IRELAND.

The forty-seventh report of the Registrar-General of Marriages, Births, and Deaths in Ireland states that the estimated population of the country decreased between the years 1900 and 1910 to the extent of 83,080, or at the rate of 1.86 per cent. The total number of marriages during the ten years was 227,211, compared with 221,608 during the previous decade, an increase of 5,603, or 2.5 per cent., in a decreasing population. The annual rate was 5.14 per 1,000 of the average population. The total number of births registered was 1,023,352, as compared with 1,055,020 for the previous ten years, being 31,668, or 3.1 per cent., less. The average annual rate for the earlier period was 23, and for the later 23.1 per 1,000 living. The deaths for the period numbered 767,256, as compared with 836,035 for the previous ten years, a decrease of 68,779, or 8.2 per cent., and a decrease in the average annual death-rate from 18.2 in the earlier to 17.3 per 1,000 living in the later period. As the births numbered 1,023,352 and the deaths 757,256, the former exceeded the latter by 256,096. During the decade 346,024 emigrants, or 7.8 per 1,000 of the mean population, left Ireland. The number of emigrants exceeded the excess of births over deaths by 89,928. The number of emigrants in the preceding decennium was 433,526. The actual decrease in population from the census date, March 31st, 1901, to April 2nd, 1911, was 68,556. With regard to the education of persons on marriage, it is shown that while there had been a steady increase in both sexes in the proportion signing the marriage registers and certificates, the proportion among women, which was much below that for men in 1884, becomes equal to the rate for men in 1891, and had each year since exceeded it. The report states that during the last forty years there has been a well-marked decrease in early marriages. Of the 1,023,352 births registered, only 26,667, or 2.6 per cent., were illegitimate.

Correspondence.

THE ORGANIZATION AND DEFENCE OF THE PROFESSION.

SIR,—The recent Special Representative Meeting referred back to the Council the question of the formation of a fund for the organization and defence of the profession, and it is obvious that it behoves us to crystallize our ideas on the subject. The first point that impresses one is that the British Medical Association is the only body that can father such a scheme. The Association was founded in 1832, and has therefore existed for eighty-one years. Its new constitution is already ten years old. These considerations render it certain that no fund started at present under different auspices could achieve a sufficiently rapid success to serve the purposes that have to be met in 1915, when the revision of the Insurance Act will arise.

The urgent necessity for an efficient organization and defence fund at that date forbids any course but the quickest.

Having in mind these considerations, I now venture to put forward the following suggestions as constituting the broad principles of the organization of a fund which those of us who are more familiar with central office work could, without hesitation, urge on the acceptance of the local members of the profession.—I am, etc.,

RUSSELL COOMBE.

Scheme for Fund.

1. The fund to be under the aegis of the British Medical Association, but to be carefully kept separate to the extent

necessary to safeguard the funds and property of the Association.

2. Title. Some such title as "British Medical Contract Practice Organization Fund": the exact form being at present unimportant. The fund to be registered under the Trade Union Acts.

3. All members of the profession in the United Kingdom to be invited to subscribe, whether members of the British Medical Association or not.

4. No part of the fund to be used for the purpose of paying for any British Medical Association work.

5. Fund expenses to be paid from itself. It cannot legally receive financial aid from the British Medical Association.

6. To be organized (where they will serve) by local officers of the Divisions of the British Medical Association (no Branch organization).

7. Four sections of fund to be distinguished: (*a*) English, (*b*) Scottish, (*c*) Irish, (*d*) Welsh. The reserve of each to belong to its own section, and the district organizers to be charged to each section; but other expenses to be charged to the common fund.

8. The first trustees to be appointed by the British Medical Association. The trustees to have power to co-opt in future when a certain number of vacancies arise.

9. The fund to have power to appoint members (members so appointed being members of the British Medical Association) to those British Medical Association Committees concerned in contract practice.

10. The fund to co-opt members of the same Committees to its own Council and Committees.

N.B.—Nos. 8, 9, and 10 are, of course, suggested subject to their being legally possible without running any risk of exposing the British Medical Association funds to danger. If these particular suggestions prove dangerous no doubt some other plan can be discovered to ensure that the work of the fund shall be always complementary to the work of the British Medical Association, and never in opposition to it.

FINANCE.

Expenditure.

Reserve Fund at 35s. per member	£17,500
7 organizers (four being in England) ...	6,000
Central office	3,000
Law expenses	1,000
Expenses of members of Council and committees	700
Local expenses, say 200 Divisions at £10 each	2,000
Margin	1,300
Total	£31,500

Income.

Say 10,000 subscribers at 3 guineas	£31,500

Exeter, Dec. 15th.

THE CRAZE FOR APPENDICECTOMY.

SIR,—The only intelligent objection to the operative treatment of appendicitis would have to be based on a reliable set of statistics of the results of cases "left to nature." These statistics would have to show a mortality-rate as small as, or smaller than, the mortality after operation, and it would also have to be shown that acute recurrence never took place, and that a state of chronic appendicitis never persisted; for obviously neither can occur after the removal of the appendix. While anxiously awaiting these statistics, which are never forthcoming, the surgeon has plenty to show us, and very good they are. His mortality, indeed, exceedingly small as it is, would become almost negligible if the bad cases, instead of being "watched" or misinterpreted, were referred to him at the earliest possible moment.

It should be unnecessary to point out that a man who has treated fifty cases medically without a death has no warrant to infer that his next fifty will be equally favourable. Yet not only here, but all through our handling of therapeutic methods—in almost any field we like to select—the same fallacy is glaringly manifest. The history of therapeutics is not only one of blasted hopes, but also very largely a history of illogical procedure. It is impossible here to summarize the whole argument for appendicectomy in appendicitis, but this has in fact been concisely and admirably done some months ago by Mr. Edmund Owen in a paper (BRITISH MEDICAL JOURNAL, February 15th, 1913) to which any one can refer; and whoever should contrive to escape from the argument there set forth would have to be a better sophist than Gorgias himself.—I am, etc.,

Liverpool, Dec. 15th. EDMUND HUGHES.

SLEEP AND SLEEPLESSNESS.

SIR,—In the recent papers and correspondence on sleep and sleeplessness there has, I think, been no mention made of the secretion of the lacrymal glands. Some years ago, in thinking upon the production of sleep, I examined the "reaction" of the lacrymal secretion when a person was awake, drowsy, and fast asleep. By the test-paper method I could note no difference in this respect. I am, however, of opinion that in the accomplishment of the very complex processes of sleep one of the earliest and most important is a change in composition of the lacrymal secretion, which causes a tired feeling in the eyes, and produces a mild conjunctivitis. This tired feeling of the eyes occurs in the case of farm labourer and student alike, and is not probably initiated locally, but by the changes in general metabolic activity stimulating the lacrymal glands.—I am, etc.,

Liverpool, Dec. 16th. A. S. MCNEIL, L.R.C.P.S.E.

EXPERIMENTAL OBSERVATIONS ON THE CAUSE OF DEATH IN ACUTE INTESTINAL OBSTRUCTION.

SIR,—At the outset of our discussion on this subject Mr. Wilkie and I find ourselves at variance, not only as to the interpretation of certain laboratory experiments—always a debatable subject—but as to certain clinical facts the truth of which is apparently so easy of demonstration. Mr. Wilkie maintains that the result of a leak in gastro-enterostomy is less dangerous than in a lateral anastomosis of the lower intestine. I am in as fortunate a position as himself in that I have never had a death from peritonitis after gastro-enterostomy, nor even a septic peritoneum, but I have had two cases of right-side empyemata, and two of serous effusion after this operation, due, in my opinion, to organisms scattered at the time of the operation permeating the diaphragm into the vulnerable pleural cavity. My experience is not unique, for I can call to mind a case in this town where the operation was performed by a well-known London surgeon, and in which a week or so later I assisted at the opening of a foul-smelling right empyema which caused the patient's death. I might have consoled myself with the old rigmarole that these complications had nothing to do with the gastro-enterostomy except in so far as the operation had depressed the vitality of the patient, thereby enabling organisms circulating in the blood to settle down, etc.—a comforting theory, which has enabled many a conscientious surgeon to sleep soundly in his bed o' nights. I remember, too, that in the early days leaks at the join were not uncommon, both after gastro-enterostomy and lateral anastomosis of the lower bowel. The former were almost invariably fatal, the latter were frequently saved by timely drainage of the localized abscess, and the patient escaped with nothing worse than a temporary faecal fistula. Sad clinical experience of this kind ultimately crystallized into the theory that the supraumbilical peritoneum had less resisting power against infection than the infraumbilical. Further experience has suggested to my mind that the true explanation is that the likelihood of infecting the peritoneum with virulent pathogenic organisms is greater in operations on the higher intestine than in those on the lower. But whatever be the true solution, the mere fact that the former theory was formulated proves conclusively that our predecessors had a greater horror of operations on the higher intestine than on the lower.

Now, as to the question whether bacteria, motile or non-motile, permeate the healthy intestinal wall, the evidence which bacteriologists adduce from the laboratory is unsatisfactory. For even in cases of intestinal obstruction, where they would certainly permeate if at all, we have, on the one hand, Messrs. Murphy and Vincent dismissing the theory because "the failure to find evidences of peritonitis either by cultures or microscopically in many cases of death from this disease rendered the theory untenable," and, on the other, we find Messrs. Dudgeon and Sargent struck by the "extreme ease" with which bacteria pass

through the bowel wall in pathological conditions of the abdomen even in the early stages of intestinal obstruction! But still the latter experts in cases of strangled intestine, where the permeation would be a thousand times greater than through normal intestine, were only able to cultivate organisms from its surface eighteen times out of forty-seven. I am, therefore, not dismayed that Mr. Wilkie failed to find them under the conditions he mentions. It is the business of a normal peritoneum to see that none are left alive to tell the tale.

But there is other suggestive evidence of such permeation upon which we can fall back whilst bacteriologists are settling their differences:

1. In some of the lower vertebrates—for example, echinoderms—it is established that organisms permeate the intestinal wall into the coelom, in the fluid of which are phagocytes whose duty it is to engorge them and either digest them entirely or convey them to the exterior through the gill depressions.

2. A great many organisms depend for their continued existence upon their power to pass through normal bowel wall—for example, *Scolex echinococcus*. The ray fungus and many others too numerous to mention pass through the bowel wall into the peritoneal cavity, leaving no trace of their route. Then why not bacteria, especially the motile ones?

3. Tubercle bacilli pass from the bowel into the air sacs of birds across the peritoneal cavity. The *Bacillus coli* passes directly from the ileum and caecum, etc., into the human bladder across the peritoneum.

4. Fraenkel injected a sterile irritant into the peritoneum of an animal. The exudate was at first sterile; then organisms appeared, which ultimately caused death. The most probable source of these was the bowel. The irritant could not have rendered this more permeable, but it injured fatally the defensive powers of the peritoneum. The same experiment is occasionally to be seen in the human being when the bladder is ruptured into the peritoneal cavity. Infection by the blood cannot be accepted.

5. Quiescent ovarian cysts, pyosalpinges, etc., suddenly become infected with *B. coli*. Dudgeon and Sargent found the surface of an omental sarcoma infected with streptococci. Had this been infected by the blood, one would have expected the infection to be more evenly distributed throughout the tumour.

In fact, Sir, three or four pages of the JOURNAL could easily be filled with facts strongly suggesting that bacteria can permeate healthy intestinal wall, but for the present the above shall suffice. My theory is that the seat of the production of the toxin and of its absorption is the peritoneal cavity in cases of acute intestinal obstruction. Mr. Wilkie and others have proved most conclusively that it is not the lumen of the alimentary canal; but this puts Mr. Wilkie in a difficulty, for, since the bowel is the only source of toxin which suggests itself to his mind and his own experiments have put this out of court, he is forced to conclude (No. 7) that splanchnic paresis, with depletion of the systemic circulation, is the main factor in producing the symptom-complex of acute intestinal obstruction, and that this paresis is first produced reflexly by intestinal distension and a vicious circle is set up which can be broken through in cases of simple obstruction by enterostomy (No. 8). I have shown in my first letter that this symptom-complex can be broken through by draining the peritoneum in such cases without enterostomy, and, if that is not sufficient, take the case of strangulated ovarian cyst, which gives rise to the same symptom-complex as acute strangulated bowel, yet this symptom-complex can be made to disappear by removal of the cyst, even though the pedicle continues to be strangled by a silk ligature. If the symptom complex were purely a nerve reflex set going by a non-toxic stimulus such as the strangling of nerve fibres and vessels in the pedicle, there is no reason why the mere removal of the cyst should cause it to disappear; but if we consider the symptom-complex to be evidence that the excretory apparatus of the peritoneum is attempting to get rid of toxins from its interior, then our results are easily explained, for a strangled ovarian cyst is an infected cyst from which infection pours out into the peritoneal cavity, and by removing the poison factory we remove the stimulus which reflexly set the peritoneal excretory machinery in motion.

Morphine increases intestinal distension in obstruction and strangulation, but so far from making the symptom-complex more alarming, causes its total disappearance, without prolonging the life of the sufferer by so much as an hour. Mr. Wilkie must have met with a few of those extraordinary cases in which enormous distension of the bowel is the only symptom in addition to the constipation, and the patient has got perfectly well without surgical aid.

Mr. Wilkie has answered my question as to the definition of peritonitis in Conclusion 5 by saying that he means "the reaction of the peritoneum to infection by bacteria." In that case the whole conclusion falls to the ground, for the reaction of the peritoneum to bacteria never killed anybody, the cause of death in such cases being the fact that the reaction of the peritoneum was not sufficiently lethal to destroy the bacteria which infected it.—I am, etc.,

Cheltenham. JOHN HOWELL.

THE LARGE INTESTINE AND ITS WORK.

SIR,—On reading Mr. Joseph Griffiths's interesting address, published in the JOURNAL of December 13th, I am struck with the theory he advances that a possible function of the colon may be to get some useful substance from the food refuse while it is being mixed and churned in the lower gut, and that this substance—"though as yet of unknown quality"—gives to the body that which it requires for the development of that feeling which is "best described as being in the best of health and spirits." Excess of this substance, he says, is deleterious; lack of it is attended with pronounced changes in nutrition, etc., while a medium supply only is beneficial. If the bowel contents pass along too quickly, too little of this substance is absorbed, with the result that pronounced changes occur in the general nutrition, but with refuse stagnation (as in constipation) excess is produced, which is also deleterious, while a happy medium produces well-being in man, or what is called bloom in cattle.

It seems to me that, without seeking for a new explanation of the conditions, they are already well recognized as due to toxic absorption from the colon autointoxication. The prolific flora found throughout the large intestine is known to produce chemical changes on ultimate products of protein matter in that locality which are afterwards absorbed with mild toxic effects. The amino-bodies decompose into skatol and indol, which are putrefactive products. These are absorbed, and ultimately eliminated in the urine as oxy-sulphates. The indol derivative is readily identified in the urine. Indicanuria is present in all cases of constipation. Indol itself is only slightly toxic, though after administration symptoms occur similar to those Mr. Griffiths mentions as due to absorption of an unknown principle—namely, fatigue, headache, lassitude, etc. The large intestine, it is said, produces no enzymes; its glands are mucus-producing, yet the lymphoid tissue of the appendix may functionate in some such way.

It is interesting to note, in regard to the large intestine, that when it has been surgically removed, or rendered functionless after (right) colotomy, the health of the individual does not seem to suffer: and also that its abundant flora (of putrefactive and beneficent germs) are there by accident. Nuttall and Thierfelder experimented with guinea-pigs in which the young animals from birth were kept sterile and fed on sterile food. The animals lived and increased in weight, and the experimenters concluded that intestinal bacteria were not necessary to normal nutrition.

As to the origin and development of the large intestine, which is now in man and many of the vertebrates a cesspool, and which Metchnikoff regards as the outcome of circumstances in man and other vertebrates who found it of advantage to retain the intestinal contents while they were otherwise engaged, with the inevitable result that in time Nature accommodated herself to circumstances, until we find it to-day a large and sacculated tube. In the human embryo the last portion of the alimentary canal is a simple short tube. It remains so throughout life in the lower vertebrates. It has become long and sacculated through force of circumstances, because, like a chronically distended bladder, distension of its contents made it

gradually yield in the lines of least resistance. In this way it has lost its simple duct, or tube, form of the primitive state from voluntary retention of its contents. It appears to me conceivable that the ileo-caecal valve has an erstwhile intimate connexion with the sphincter ani, while the vermiform appendix is analogous to the vesiculae seminales, only now coalesced into a single tubule as the uterus has.—I am, etc.,

Risca, Mon., Dec. 11th. D. T. RICHARDS, M.D.

THE SIGNIFICANCE OF PHLEBOLITHS.

SIR,—In regard to a communication from Mr. Hall-Edwards in the BRITISH MEDICAL JOURNAL, December 13th, p. 1531, on the subject of phleboliths in the vesical and pelvic veins, I should like to say that the same feeling has been forced on me, namely, that these phleboliths are not merely curiosities of no moment, but that they do give rise to lancinating pains simulating stone in the ureter or kidney. I have had quite a number of cases, usually men, sent for radioscopic examination in the belief that there might be stone, in which although the psoas muscle and transverse vertebral processes were distinctly visible, no stone has been demonstrated on the photographic plate. About a fortnight ago such a case was sent me, in which not less than ten phleboliths could be seen on one side and eight on the other, but no calculus could be seen in ureter or kidney.

I am also of opinion that some cases of sciatica may be caused or prolonged by these phleboliths. A lady was sent me for examination as to the condition of the left hip joint, as her sciatica had not given way to the usual remedies. The plate showed one or two phleboliths on the affected side, but none on the other.

In the case alluded to where ten existed on one side and eight on the other, there was dyspareunia in the male following the act. So that a fair case seems made out for more attention to this formation of pelvic phleboliths.—I am, etc.,

Exeter, Dec. 16th. J. DELPRATT HARRIS.

THE CAUSE OF RHEUMATOID ARTHRITIS.

SIR,—We must all have recognized from our early days that to encourage lymph flow by vasodilatation is good treatment. The multiplicity of means to this end, from cowdung poultices to radiant heat, are also obvious. Nor would it be too difficult to set even a layman to answer why massage and autotensive exercises are beneficial. If Dr. Garry is not content with the ordinary explanations, and prefers to think of some mysterious radio-active or other emanation, at least when desert sand is the therapeutic agent, he is welcome to the pretty conceit. As to Dr. Watson's belief in sweat-block, and that unless the blood is kept at a certain blend there is bound to be trouble, we will all surely agree that he has seized upon one of the determining causes. At sunrise in the tropics I have watched a native doctor half bury his crippled patient in the sand at the margin of the ebbing tide. Dr. Watson says rheumatoid arthritis occurs in bad sweaters. People in the tropics also suffer from the disease. To be a bad sweater in such a climate is too serious a matter to pass unobserved.

Dr. Warren Crowe claims that the *Micrococcus epidermidis albus* (var. deformans) is the primary cause of rheumatoid arthritis. It is a saprophyte in the skin. How the germ enters the blood and acquires pathogenic powers let wiser men than I explain. Rheumatism has for primary cause the saprophytic streptococci of the digestive tract. The most fortunate fact that Dr. Warren Crowe has brought to light is that these several organisms are recoverable from the urine (more rationally the second portion of a non-catheter specimen) of the majority of cases affected by either or both of these diseases. Especially is this the case after exercise, or, still better, after one or two small tentative doses of stock vaccine. The urine in health is sterile, and the technique involved is comparatively easy and rapid.

Those of us in the West Country who have keenly followed Dr. Warren Crowe's work for the past year or two and have successfully treated our cases with the corresponding vaccine are aware that an initial dose of even half a million may cause a severe reaction in an affected subject, whereas I have given as a diagnostic test twenty million to a person free from either taint without any more effect than if I had injected water. Fanciful deductions I dare not attempt in public, but these statements of Crowe's work and our confirmation are in nowise conjectural. They are simple phenomena, readily visible to all who would see.

Kipling tells an excellent story of a doctor of medicine with a bias for astrology who, in the days when Roundheads and Royalists fought, discovered by astrological signs and perfect logic that rats were the cause of an epidemic of plague which was decimating the countryside. Quoth this hero, after reviewing his triumph: "I have proved my contention, which is, that by divine astrology and humble search into the veritable causes of things, at the proper time, the sons of wisdom may combat even the plague." I scoff no more at Drs. Garry and Watson than at Kipling's old astrologer, for however true or incomplete their premisses may be they have at least, like him, got hold of partially beneficent conclusions. It will give more point to this discussion if we start by recognizing that in addition to predisposing and subsidiary causes there is a primary infective cause of rheumatoid arthritis, as well as of rheumatism.—I am, etc.,

Liskeard, Cornwall, Nov. 30th. JOHN DONALD, M.D.

RECENT VIEWS ON SYPHILIS, SPIROCHAETES, AND SLEEPING SICKNESS.

A CORRECTION.

SIR,—In my letter entitled "Recent Views on Syphilis, Spirochaetes, and Sleeping Sickness," published in your issue for December 13th, I see that I state that Lieutenant Ranken gave toluidin-blue and antimony in a case of *yaws*. I should have said *sleeping sickness*, as the context indicates. Lieutenant Ranken was treating yaws at the same time, but I do not know that he employed the method in this disease. I regret the error.—I am, etc.,

ANDREW BALFOUR.

The Wellcome Bureau of Scientific Research,
54A, Wigmore St., London, W., Dec. 17th.

The Services.

HEALTH OF THE NAVY.

THE *Statistical Report of the Health of the Navy* for the year 1912[1] has recently been issued.

Summary of Returns for Total Force.

The returns for the total force for the year 1912 show a continuous improvement in the general health of the Fleet as compared with the preceding five years. The case ratio for the year under review is again lower than the average ratio for the previous five years, and the average loss of service for each person compared very favourably with the five years' ratio, and with that of 1911. The final invaliding and the death ratio, however, are slightly increased in comparison with the averages for the last five years, but the increases in each instance are only fractional. The total force, corrected for time, in the year 1912, was 119,540, and the total number of cases of disease and injury entered on the sick list was 76,815, which gives a ratio of 642.58 per 1,000, a decrease of 24.1 as compared with the average ratio for the preceding five years.

The number of entries per man for disease and injury was: Home Station, 0.78; Home Fleet, 0.55, Mediterranean, 0.5; North America and West Indies and Training Squadron, 0.69; China, 0.72; East Indies, 0.94; Australia, 0.7; Cape of Good Hope, 0.71; and Irregular List, 0.71. For the total force the average was 0.64, as compared with 0.65 in 1911. The average number of men sick daily was 3,008.23, giving a ratio of 25.16 per 1,000, a decrease of 2.51 in comparison with the previous five years. The total number of days' sickness on board and in hospital was 1,101,013, which represents an average loss of service for each person of 9.21 days, a decrease of 0.88 as compared with the average for the preceding five years. The ratio per 1,000 of men sick daily on the various stations was: Home Station, 33.75; Home Fleet, 21.04; Mediterranean, 19.23; North America and West Indies and Training Squadron, 22.89; China, 24.95; East Indies, 33.51:

[1] London: Wyman and Sons, Limited (through any bookseller). Price 10½d.

Australia, 23.5; Cape of Good Hope, 22.01; and the Irregular List, 35.8. The Mediterranean Station shows the lowest sick rate, and the Irregular List again shows the highest, but this is due to the inclusion of sickness of invalids on passage from foreign stations.

Invalidings.

The total number invalided was 2,216,* which gives a ratio of 18.53 per 1,000, a decrease of 0.43 in comparison with the average ratio for the preceding five years. The total number of persons *finally* invalided was 2,023, of whom 98 were invalided after refusing operative treatment. The ratio per 1,000 of *final* invalidings was 16.92, an increase of 0.48 as compared with the average for the previous five years. Of the 2,216 invalidings 2,084, or 17.43 per 1,000, were for disease, and 132, or 1.1 per 1,000, for injury.

Deaths.

The total number of deaths was 395, giving a ratio of 3.3 per 1,000, an increase of 0.06 in comparison with the average ratio for the preceding five years. Of this number 244, or 2.04 per 1,000, were for disease, and 151, or 1.2 per 1,000, for injury.

General Diseases.

The following is a summary of the returns under the head of general diseases:

Small-pox.—3 cases, with 1 death, all returned from the China Station.

Cow-pox.—1,255 cases, 1,128 of which were from the Home Station.

Chicken-pox.—16 cases; 8 from the Home Station, 6 from the Home Fleet, and isolated instances from the Mediterranean, North America, and West India Stations.

Measles.—111 cases, of which 57 were returned by the Home Station, 41 by the Home Fleet, 7 by the Australia Station, and 5 by the Mediterranean.

Rubella.—426 cases; 292 from the Home Station, 42 from the Home Fleet.

Scarlet Fever.—390 cases, with 5 deaths.

Mumps.—123 cases. The Home Fleet contributed 42, the Home Station 38, and the Australian Station 23.

Other Infective Diseases.—2,329 cases (including all the preceding cases). The total includes 3 cases of septicaemia, 2 of whooping-cough, and single instances of osteomyelitis, malignant endocarditis, and tetanus. Five deaths resulted from septicaemia, 2 from osteomyelitis (1 remaining from 1911), and 2 from malignant endocarditis; 2 persons were finally invalided for sequelae of osteomyelitis and 1 for sequela of plague, the latter case remaining from the previous year. The discrepancy between the number of entries for these diseases and the number of deaths and invalidings is due to cases originally entered under other headings.

Influenza.—1,413 cases, giving a decrease of 9.42 in the ratio as compared with the average for the previous five years. The majority of the cases were of a very mild type.

Diphtheria.—194 cases, with 2 final invalidings and 4 deaths, giving an increase of 1.04 in the same ratio as compared with the average.

Cerebro-spinal Fever.—2 cases, with 2 deaths.

Enteric Fever.—140 cases, with 1 final invaliding and 29 deaths. The case and death ratios per 1,000 were 1.17 and 0.24 respectively, as compared with 1.36 and 0.22, the average ratios for the previous five years.

Mediterranean Fever.—4 cases, with 1 final invaliding. The case ratio is 0.03 per 1,000, as compared with 0.12, the average for the previous five years.

Pyrexia.—226 cases, giving a decrease of 1.56 in the ratio as compared with the average. The China Station and the Mediterranean return 55 and 49 respectively, any many of those from the latter station appear to have been sandfly fever.

Dysentery.—57 cases, with 2 final invalidings and 1 death, the ratio being nearly identical with the average.

Pneumonia.—448 cases, with 1 final invaliding and 36 deaths.

Malaria.—306 cases, with 1 death, giving a decrease of 2.36 in the case ratio as compared with the average. The East Indies Station contributes 81 cases, contracted in nearly all instances at Bombay or in the Persian Gulf, but though the highest number of entries is still reported by this station the incidence of malaria there has declined in a progressive manner during the last four years. The China Station contributes 63 cases and the Irregular List 58. There were no final invalidings, but 6 persons were invalided home from abroad, and 1 death is reported due to subtertian infection contracted at Labuan. The highest case ratios are furnished by the East Indies, 37.5; the Irregular List, 21.32; China, 9.95; and the Cape of Good Hope, 6.54.

Septic Diseases.—35 cases of erysipelas with one death are recorded under this heading.

Tuberculosis.—278 cases with 219 final invalidings and 22 deaths. The case, invaliding, and death ratios are 2.32, 1.83, and 0.18 per 1,000 respectively, as compared with 2.68, 2.06 and 0.27, the average ratios for the previous five years. Of the whole number pulmonary tuberculosis contributed 214 cases, of which 12 proved fatal, joints 26, glands 11, testicle 8, bone 5, the peritoneum 3, kidney 3 (1 the suprarenal capsules), meninges 2, skin 1, and 5 of miliary tuberculosis (all fatal). The East Indies contributed the highest case ratio, and the Irregular List the lowest.

Venereal Diseases.—The total number of cases recorded is 12,667, with 141 final invalidings and 4 deaths. This gives the substantial decrease of 13.83 per 1,000 in the case ratio, and fractional decreases of 0.18 and 0.01 in the invaliding and death ratios respectively, as compared with the averages for the previous five years. Chancroid accounted for 2,321 cases; primary syphilis, 715; secondary syphilis, 2,744; gonorrhoea, 5,779; sequelae of gonorrhoea, 1,108. All the deaths and 83 of the invalidings were due to constitutional syphilis, and 58 were the result of gonorrhoea or its sequelae. The report states that: "Although these diseases still continue to be one of the chief causes of disability and of invaliding, it is gratifying to be able to report a general fall in their incidence during the year under review. Under the distinct headings of primary syphilis, secondary syphilis, and gonorrhoea, the case ratios, as compared with the five years' average, are all reduced, and in regard to the latter affection the ratio has dropped from an average of 63.82 to 57.61 per 1,000. The days' sickness in hospital for primary and secondary syphilis is less by over 4,800 days than that of 1911, while the total days' sickness from these two diseases is less by 14,000 days than that year. This reduction in the time lost to the Service, chiefly attributable to the use of salvarsan as a treatment, in view of the fall in the general case ratio, is not so great as was anticipated, especially with regard to the days' sickness in hospital. This, however, may be accounted for by the present necessity of sending cases of syphilis to hospital for the purpose of receiving salvarsan injections, many of which formerly were treated entirely in the ships, and also to some extent by the increase in the total strength of the Fleet. The time spent in hospital would therefore be augmented relatively, but there is good reason, however, to expect in future years a greater diminution in these figures."

Rheumatic Fever.—906 cases with 14 final invalidings and 1 death, giving a fractional increase of 0.62 in the case ratio and a decrease of 0.33 in the invaliding ratio, as compared with the averages for the previous five years. The number of invalids does not represent the total wastage due to this disease, 85 persons being finally invalided under the heading of organic heart disease, who either developed the cardiac condition during the course or as a result of rheumatic fever.

Parasitic Diseases.—3,416 cases, of which 3,268 were scabies. The ratio shows a decrease, as compared with the average, of 3.56 per 1,000.

Alcoholism.—114 cases with 2 final invalidings and 1 death, the case ratio being nearly identical with the average.

Poisons.—107 cases, with 3 final invalidings. Lead poisoning was responsible for 13 cases; ptomaine poisoning, including those attributed to fish, 42; effects of insect sting, 11; poisoning by carbon monoxide, 22; carbon dioxide, 2; coal gas, 1; tobacco, including 3 of tobacco amblyopia, 3; morphinism, 2; and single instances of cocaine habit, opium habit (in a Chinese), effects of drinking liquor ammonia, liniment of iodine, eating soap; inhaling cordite fumes, oil fumes, submarine engine fumes; effects of cocaine administered by a dentist, and of jelly-fish sting. Two persons were invalided for tobacco amblyopia, and 1 for morphinism.

Other General Diseases.—469 cases, with 33 final invalidings and 22 deaths. The total includes 116 of gout, 164 of non-malignant and 37 of malignant new growth, 14 of diabetes, 61 of anaemia including those classed as climatic debility, 13 of beriberi, 6 of osteo-arthritis, 3 of pernicious anaemia, 2 of obesity, 2 of splenic anaemia, and 1 of exophthalmic goitre. There were 17 deaths from malignant new growth, 2 from pernicious anaemia, and 1 from splenic anaemia, osteo-arthritis, and diabetes respectively.

Local Diseases.

Diseases of the Nervous System.—893 cases, with 363 final invalidings and 18 deaths. The case invaliding and death ratios are 7.46, 3.02, and 0.14 per 1,000 respectively, as compared with 7.55, 2.51, and 0.11, the average ratios for the previous five years. "Nervous diseases" accounted for 817 cases, with 294 invalidings and 16 deaths; and "mental diseases" for 76, with 69 invalidings and 2 deaths.

Diseases of the Eye.—962 cases, with 203 final invalidings, mostly errors of refraction.

Other Organs of Special Sense.—872 cases, with 145 invalidings and 6 deaths. Diseases of the ear accounted for 789 of the cases, 132 of the invalidings, and all the deaths; diseases of the nose for 83 cases, and 13 of the invalidings.

Diseases of the Circulatory System.—755 cases, with 358 final invalidings and 31 deaths. The case, invaliding, and death ratios are 6.31, 2.99, and 0.25 per 1,000 respectively, as compared with 5.75, 2.17, and 0.31, the average ratios for the previous five years. Organic heart disease accounted for 256 cases, with 301 invalidings and 22 deaths; functional heart disease, 224, with 21 invalidings; aneurysm, 15; diseases of the veins, 244; syncopal attacks of undetermined origin, 9; 5 classed as oedema of the legs, and single instances of arterio-sclerosis and haemophilia.

Diseases of the Respiratory System.—8,988 cases, with 80 final invalidings and 14 deaths. The case ratio gives an increase of 5.92 as compared with the average for the previous five years. Catarrh furnished 7,727 of the cases; the remainder include

* This number includes men temporarily invalided from foreign stations, many of whom are again able to join the active force. The number finally invalided represents the waste of the Service during the year.

134 of diseases of the larynx, 604 bronchitis, 341 pleurisy, 79 asthma, and 103 classed as "other diseases."

Diseases of the Digestive System.—13,244 cases, with 154 invaliding and 23 deaths. The case, invaliding, and death ratios are 110.79, 1.28, and 0.19 per 1,000 respectively, as compared with 105.85, 1.89, and 0.22, the average ratios for the previous five years. "Mouth and teeth" diseases accounted for 804 cases; sore throat and tonsillitis, 6,858; diseases of the stomach, 1,333; diseases of the intestine, 2,972; hernia, 687; haemorrhoids, 382; hepatitis, 35; and 173 classed as other diseases of the liver, which are chiefly catarrhal jaundice. Among the cases under intestinal diseases there are notes of 324 cases of appendicitis, 94 of which were operated upon. The highest case ratios were furnished by the Home Station, Cape of Good Hope, and Australia; the lowest by the Mediterranean, Home Fleet, and Irregular List.

Diseases of the Lymphatic and Glandular System.—545 cases, with 2 final invalidings. Non-venereal bubo accounted for 398 cases. The China Station, the East Indies, and North America show the highest ratios.

Diseases of the Urinary and Generative Systems.—1,019 cases, with 91 final invalidings and 13 deaths. Renal diseases, mainly various forms of nephritis, accounted for 12 of the deaths and a majority of the invalidings, but a considerable number of persons were also invalided for incontinence of urine.

Diseases of the Organs of Locomotion.—1,492 cases, with 76 final invalidings. The case ratio shows a decrease of 2.68 per 1,000, as compared with the average for the previous five years. Diseases of bone and joints accounted for a considerable number of the invalidings, but chronic rheumatism, flat-foot and other deformities of the feet accounted for the majority.

Diseases of the Connective Tissue and Skin.—8,875 cases, with 15 final invalidings. The case ratio varied from 231.01 in the East Indies to 60.73, 63.71, and 80.17 in the Home Station, Home Fleet, and Mediterranean respectively.

Injuries.

(a) General.—294 cases, with 6 invalidings and 108 deaths, the ratios being nearly identical with the averages for the previous five years. The deaths were due to:

Drowning, 79; multiple injury, 22; heat-stroke, 4. Two deaths are also recorded from starvation and exposure in an officer and petty officer of the British Antarctic Expedition, who perished during their return journey from the South Pole to their ship the *Terra Nova*. The general injuries also include 3 cases of caisson disease and 142 of heat-stroke, but the large majority of the latter were of a mild degree.

(b) Local.—15,741 cases, with 105 final invalidings and 22 deaths. The case, invaliding, and death ratios are 131.67, 0.87, and 0.18 per 1,000 respectively, as compared with 138.96, 1.15, and 0.16, the averages for the previous five years. Of the total, 1,243 were cases of burns and scalds and 14,498 of injury.

(c) In Action.—No fresh cases are recorded under this heading, but 2 men are shown as invalided, 1 of whom sustained a bullet wound of the head in the Solomon Islands during 1911, and was invalided for facial paralysis and deafness following upon his injury, while the other was invalided for bullet wound of the thigh with fracture of the femur received in the Persian Gulf during 1910.

Suicide.

Twenty-one cases are returned under this heading—6 by hanging, 5 by shooting, 5 by cut throat, 2 by drowning, 2 by railway train, and 1 by drinking carbolic acid.

Papers.

An appendix to the report contains some interesting cases of gunshot injury treated at Hankow during the revolution of 1911 and 1912 in China, contributed by Surgeon D. H. Charles Given; a paper on *x* rays in the diagnosis of pulmonary tuberculosis, by Surgeon R. Connell; and statistical tables of Wassermann reactions in some cases of syphilis treated by salvarsan at the Royal Naval Hospital, Plymouth, by Fleet Surgeon Lancelot Kilroy. Surgeon Douglas A. Mitchell gives an account of the seven days' fever of the Indian ports, a disease originally described by Colonel Leonard Rogers, I.M.S., in a paper in which he states that only about half of the cases ever come under observation in hospital. It simulates dengue.

Public Health AND POOR LAW MEDICAL SERVICES.

OWNERS OF HOUSES AND SANITARY REQUIREMENTS.

DELTA.—If a local authority is satisfied on the report of its medical officer of health or inspector of nuisances or surveyor that a house within its district is without a sufficient water-closet, the owner of the house may be required to provide one. If this requirement is not complied with the local authority may itself carry out the necessary work and charge the cost to the owner. A water-closet without proper flushing apparatus is not satisfactory. When the apparatus is of a suitable type and is properly fixed it ought not to get out of order.

Medico-Legal.

ZETLAND v. BRITISH MEDICAL ASSOCIATION.

THE following is a verbatim report of proceedings in the High Court of Justice, Chancery Division, before Mr. Justice Joyce, on December 18th:

Mr. Hughes: My lord, in an action of Zetland against the British Medical Association and others I have to move for an injunction until the trial. The circumstances are very briefly these. I will state them, I hope, without any colour or partiality at all. The Marquis of Zetland is suing as representing the Committee of Management of the Mount Vernon Hospital. I think your lordship had occasion recently to say something about the Mount Vernon Hospital in connexion with a legacy. It is the Mount Vernon Hospital for Consumption and Diseases of the Chest.

Mr. Justice Joyce: Why the Committee of Management? Are there no trustees?

Mr. Hughes: There are trustees, but for the present purpose I think the Committee of Management will be sufficient.

Mr. Justice Joyce: They are not entitled to sue, are they?

Mr. Hughes: I think so, my lord, for present purposes. If the action ever goes on and there are any damages, no doubt the trustees are necessary parties. The position is this—the old hospital was at Hampstead.

Mr. Justice Joyce: That was Mount Vernon?

Mr. Hughes: Yes.

Mr. Justice Joyce: And is still?

Mr. Hughes: Yes, and is still. There is a sort of branch hospital or sanatorium at Northwood, and in addition a dispensary at Fitzroy Square. Recently there has been a discussion as to whether it was possible, or desirable, to continue all of them, and a proposal was made to discontinue the Hampstead Hospital, and concentrate the resources and energies upon the Northwood one. There was a good deal of difference of opinion in regard to that, but ultimately the Committee of Management decided to take that course, part with the Hampstead Hospital and retain the Northwood one. In connexion with that it was necessary to reorganize the functions and duties of the visiting physicians.

Mr. Justice Joyce: It is not done yet?

Mr. Hughes: No, not finally done, but in connexion with that and the reorganization of the staff it was proposed that the senior physicians who had been attending to Hampstead should take a similar position at Northwood, take over the care of the patients at Northwood, or some of them, the result of which was, so far as Northwood was concerned, to dispense with the services of two or three of the physicians who were at that time performing the duties there. They were juniors. The senior ones looked after Hampstead, and the junior ones and the honorary staff looked after Northwood. The Committee of Management thought if they discontinued Hampstead the seniors should look after Northwood, which, of course, displaced from Northwood at all events some of the junior members of the staff. That was objected to by the gentlemen, or some of them, who were displaced, and was objected to by what is called the Medical Board. There is a Medical Board the functions of which are to report to the Committee of Management on any questions which might be called technical or medical matters—not, of course, on the business of the hospital, or finances, or anything of that sort, but upon medical matters. The Medical Board took a different view rather from the Committee of Management. The controversy became somewhat acute. Unfortunately, too, it got into the public press, and this took place. The two matters as to which I complain immediately, and as to which I seek relief at the present time, are these. For some time past the British Medical Association has inserted in its JOURNAL,—your lordship knows, I think, that it publishes a medical journal—what they call a "warning notice"; that is to say, a "warning notice" mentioning the name of the Mount Vernon Hospital and suggesting that no one should accept a medical post there without communicating with a certain gentleman named in the notice. Of course it is obvious really that that does very serious injury to the hospital, and renders it extremely difficult for them to carry on their duty.

Mr. Justice Joyce: How?

Mr. Hughes: Because it is well understood that that means there is thought to be some objection.

Mr. Tomlin: My friend must not say that. It does not mean, and is not intended to mean, anything of the kind.

Mr. Hughes: At any rate it is very frequently so understood. One other matter. They also propose this. The British Medical Association consists of certain Branches and Divisions. One Branch is the Metropolitan Counties Branch, and a Division of that Branch is the Marylebone Division. I ought to tell your lordship that the British Medical Association is, in fact, a limited company, though, of course, not using the word "Limited" under licence from the Board of Trade. But the particular Division, the Marylebone Division, is proposing to hold a meeting, and in fact called a meeting for last Friday, the 12th December, to consider a motion in these terms: "That this Division approves the recent resignations of the majority of the medical staff of the Mount Vernon Hospital, and considers that no medical practitioners should accept——"

Mr. Justice Joyce: That is the motion.

Mr. Hughes: That is the motion, or resolution, intended to be put.

Mr. Justice Joyce: That is at a meeting of their members?

Mr. Tomlin: A meeting of the Marylebone Division, not the members of the Association.

Mr. Hughes: The Marylebone Division of the Metropolitan Counties Branch of the British Medical Association. That is quite accurate. The resolution is Exhibit "G. J. 3."

Mr. Justice Joyce: These are motions of which notice has been given?

Mr. Tomlin: Yes, for last Friday.

Mr. Justice Joyce: Who by?

Mr. Tomlin: By the Secretary of the Division.

Mr. Hughes: By the Honorary Secretary of the Marylebone Division of the Metropolitan Counties Branch.

Mr. Justice Joyce: It may be so. It does not say so. This is simply a notice from the Secretary to say that these are to be considered. It does not follow from that in the least who has given notice of them.

Mr. Hughes: The notice is given by this gentleman, Dr. Goodbody.

Mr. Justice Joyce: It does not say who is to move it.

Mr. Hughes: I cannot tell your lordship that; it does not.

Mr. Tomlin: I understand that is the agenda notice calling the meeting.

Mr. Hughes: My lord truly says it does not say who is going to propose the motion.

Mr. Justice Joyce: This is only sent out by this gentleman as Secretary.

Mr. Tomlin: It is only a resolution; it may never be moved.

Mr. Justice Joyce: Somebody or other has given notice.

Mr. Tomlin: There is no dispute about it. The meeting was called to consider that particular motion.

Mr. Hughes: Quite right. It is, "That this Division approved the recent resignations of the majority of the medical staff of the Mount Vernon Hospital, and considers that no medical practitioners should accept or continue to hold any appointment in connexion with the hospital or its branches pending a satisfactory explanation and settlement of the dispute. That, pending a satisfactory explanation and settlement of the dispute, any practitioner accepting or continuing to hold such appointments will be deemed to have acted in a manner detrimental to the honour and interests of the profession." Now, my lord, that of course is very serious, because, as your lordship will readily understand, and as is proved in evidence, it would not only lead to the present members of the staff resigning, but it would deter others from taking up the position, and it would be very serious for the hospital, where there are over 200 in-patients.

Mr. Tomlin: Before my friend deals further with that, perhaps I might indicate to your lordship quite shortly what my position is, because it will probably relieve the position——

Mr. Justice Joyce: Who are you acting for?

Mr. Tomlin: For all the defendants.

Who are the others?

Mr. Hughes: May I tell your lordship who they are? The British Medical Association first, then Dr. Goodbody, the Honorary Secretary of the Marylebone Division, Dr. Price, Dr. Whiting, and Dr. Tunnicliffe, who are three of the members of the staff of the hospital who did not agree with the Managing Committee, and who—if I may put it in that way without offence—discontinued. They are those who did not agree with the Management Committee.

Mr. Justice Joyce: I do not understand that.

Mr. Tomlin: I am not going to bother about that.

Mr. Justice Joyce: It occurs to me as curious.

Mr. Tomlin: I think probably, if I may say so without disrespect to my friend, that there are many criticisms which may be made on the writ, and the form of action, and the subject matter of the action, but that I am not concerned with for the moment. What I am concerned with really is the position of the British Medical Association in a matter of this kind. The British Medical Association is a public body whose functions are to protect to the best of their ability the profession and the public in its relations with the profession. That being so the British Medical Association take the view that a matter of this sort is not a matter upon which they ought by any action of theirs, or the action of any Division of Branch of their Association, to do anything that prejudices the dispute, if there is any bona fide dispute. I do not accept my friend's account of what the origin of this dispute is. It is something rather different, in my view, something rather more grave from the point of view of the medical profession, something which justified, in our view, the British Medical Association taking proper steps to protect the profession and the public. But that is not the point now. The point is this: The British Medical Association want to act in the most liberal spirit in regard to the matter, and what they are prepared to do is to say—I am not giving any undertaking, but I am sure my friend will be content with this—that pending the determination of any such dispute as there may be in this action——

Mr. Justice Joyce: What is the dispute in the action?

Mr. Tomlin: I do not know; I am not sure.

Mr. Justice Joyce: I do not know what that means.

Mr. Tomlin: The real fact of the matter is that I am really in the dark with regard to the matter myself. All I know is that there is a notice of motion for the moment to stop certain motions, and certain meetings. There may be something to be tried in the action. I do not know, but I assume there is. Till the action is tried I am prepared to give my friend an assurance that we will not renew the Warning Notice in the British Medical Journal, and that we will not proceed—when I say "we" will not, I mean the Division will not proceed—with the consideration of the particular resolution; but in saying that I want it to be clearly understood that I am not accepting my friend's view of the matter at all, or recognizing any virtue in him whatever.

Mr. Justice Joyce: Or any legal right?

Mr. Tomlin: Or any legal right. I am only doing it because the British Medical Association desires to act in a public matter of this kind in what I may call an honourable and proper public spirit.

Mr. Hughes: I am very much obliged to my learned friend for dealing with the matter in this way. I am quite sure the British Medical Association desire to do everything that is right. The controversy is a very unfortunate one, and it may be necessary to go on with it further. I hope it will not, but at all events for the purpose of the motion I do not think I can properly ask for more than that. I have no doubt from such a body as the British Medical Association an assurance is as good as an undertaking. I should certainly for the purposes of the motion accept that. I do not think I could go further. I think that really disposes of all that I asked your lordship to do on the motion. Therefore, on those terms this motion will simply stand until the trial.

Mr. Tomlin: Yes, stand over until the trial.

Mr. Justice Joyce: Surely it will never come to trial, because it will be dismissed with costs unless you get directions within a few days.

Mr. Hughes: I am told there is a summons for directions returnable to-morrow. I should think it had better stand over.

Mr. Tomlin: I would rather your lordship let matters take their natural course. It would be in the best interests of all parties, I am sure.

Mr. Justice Joyce: You mean they will have some difficulty in supporting their statement of claim.

Mr. Hughes: May I say this? Of course it is very undesirable that we should at the present stage, at all events, go into any legal questions about it.

Mr. Justice Joyce: I think you may infer what I think.

Mr. Hughes: We need not, if I may say so with respect, go into that at all. If I may be allowed to express a hope——

Mr. Justice Joyce: I only hope on the first day of next sittings you will say there is an end of it.

Mr. Hughes: We must all hope so in the interests of the patients and of the hospital.

Mr. Justice Joyce: I cannot help thinking that if the matter is carefully considered, deliberately, this action will not go on.

Mr. Hughes: That depends upon the course taken by both sides.

Mr. Justice Joyce: Of course, if you insist, the summons for directions must go on.

Mr. Tomlin: I ask your lordship not to make any direction, but leave matters to take their course. The British Medical Association have simply done their duty.

Mr. Hughes: I am only anxious to express a hope that in the interests of the hospital something may be done.

Mr. Justice Joyce: You have no instructions to consent.

Mr. Tomlin: I have no instructions to consent to anything outside the ordinary course.

Mr. Justice Joyce: Then this motion stands to the trial.

Mr. Hughes: Yes. I only say that I trust some arrangement can be come to before the trial to prevent the necessity for what must necessarily be a bad thing for the hospital, and the medical profession, and the public.

Mr. Tomlin: My friend will know that that has always been the view of the British Medical Association, and they have expressed that view.

Mr. Hughes: Yes. We will not go further at present. The less said the better.

Mr. Tomlin: I agree.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

The following candidates have been approved at the examinations indicated:

First M.B. (*Part I. Chemistry*).—W. L. Berry, H. R. Bickerton, P. F. Bishop, O. L. Browne, P. A. Buxton, S. P. Castell, A. J. Copeland, I. T. Davies, H. Franklyn, M. H. Graham, F. Gray, C. Griffith-Jones, C. H. Gunasekara, A. H. Hamilton, M. L. Hatch, A. R. Hebblethwaite, R. B. P. Lansdown, P. Lazarus-Barlow, P. T. Liang, N. J. Macdonald, L. B. Maxwell, M. E. J. Moore, H. Morrison, R. A. Olphert, F. P. N. Parsons, R. H. Reece, S. Riddiough, W. D. Semple, A. H. J. Smart, A. N. Solly, F. V. Squires, F. J. Tromp, D. L. Tucker, R. W. Twining, A. T. Westlake, G. Wiglesworth, C. J. Wood, F. A. Yeomans, M. L. Young. (*Part II. Physics*).—R. W. Brailsford, O. L. Browne, P. A. Buxton, J. D. Carnegie, S. P. Castell, J. S. D'A. Connolly, A. J. Copeland, I. T. Davies, R. K. Dibb, M. H. Graham, F. Gray, C. Griffith-Jones, A. H. Hamilton, A. R. Hebblethwaite, W. E. Hunter, J. P. W. Jamie, N. J. Macdonald, M. E. J. Moore, R. A. Olphert, S. Riddiough, W. D. Semple, A. H. J. Smart, F. J. Tromp, D. L. Tucker, R. W. Twining, D. Wallice, E. R. Weaver-Adams, J. P. Wells, J. Whittingdale, G. Wiglesworth. (*Part III. Elementary Biology*).—F. H. V. Bevan, P. A. Buxton, C. M. Childe, A. J. Copeland, H. Corsi, K. Dykes, C. H Gunasekara, A. H. Hamilton, P. Lazarus-Barlow, P. T. Liang, H. Morrison, W. D. Semple, F. J. Tromp, H. L. Willey, A. S. Wilson.

SECOND M.B. (*Part I, Anatomy and Physiology*).—S. H. Barnett, C. V. Braimbridge, I. R. R. Brogden, E. D. Broster, F. T. Burkitt, G. E. Burton, R. H. Clarke, A. W. R. Don, E. A. Gibb, C. C. Goodhall, E. A. Green, J. Hale, J. C. N. Harris, E. H. V. Hensley, A. D. Y. Herries, B. E. Jerwood, S. H. M. Johns, C. McC. Jones, G. M. Kendall, E. A. Leak, J. D. Legge-Currie, F. S. Maclean, K. Masson, G. L. Maule, F. Moor, E. S. Orme, P. E. D. Pank, F. A. Phillipps, P. R. O'R. Phillips, J. Rickman, R. O. Sternberg, J. G. T. Thomas, N. S. Tirard, R. R. Traill, C. H. Vernon, F. H. Vey, R. C. P. Whitcombe, H. A. Whyte-Venables, G. C. Williams, H. G. E. Williams, R. A. Woodhouse, R. S. Woods.

THIRD M.B. (*Part I, Pharmacology and General Pathology, Old Regulations*).—R. E. Barnsley, S. M. Hattersley, R. W. Ironside, T. A. Jones, G. W. Mitchell, R. Sherman, H. A. Smith, R. Stansfeld, G. N. Stathers, J. W. Stretton, C. R. Taylor.

THIRD M.B. (*Part II. Surgery, Midwifery, and Medicine, Old Regulations*).—W. Boys-Stones, H. H. Brown, D. S. Bryan-Brown, R. G. Canti, N. Garrard, W. B. Gourlay, S. M. Hattersley, T. A. Jones, G. A. Lilly, E. J. Nang'e, M. J. Petty, J. M. Postlethwaite, H. G. S. Shields, G. Sparrow, J. W. Stretton, A. L. Sutcliffe, F. W. Watkyn-Thomas.

THIRD M.B. (*Part I. Surgery and Midwifery, New Regulations*).—D. C. G. Ballingall, P. H. Berry, W. G. Bigger, A. E. Brown, I. M. Brown, E. H. P. Brunton, J. Deighton, G. D. East, A. T. Edwards, B. C. Ewens, W. B. Gordon, N. Gray, J. D. Jones, H. H. Mathias, C. J. Scholtz, L. E. S. Sharp, L. R. Shore, A. C. S. Smith, A. W. Uloth. (*Part II, Medicine, Pathology, and Pharmacology.*)—E. J. Bradley, J. Brewer, E. H. P. Brunton, E. N. Butler, J. Deighton, G. D. East, B. C. Ewens, A. R. Jennings, H. H. Mathias, P. W. Ransom, A. V. Stocks, A. G. G. Thompson, R. L. M. Wallis.

M.C.—K. J. A. Davis, S. H. Rouquette, R. M. Vick.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examinations indicated:

M.D., BRANCH I (*Medicine*).—*T. Beaton, W. E. Burrows, Hazel H. Cuthbert, R. R. Elworthy, W. C. Fowler, †G. Hadfield, R. H. H. Jolly, Cicely M. Peake, E. E. A. Rigg, H. D. Rollinson, A. R. Spencer, G. E. S. Ward, G. R. Ward.

BRANCH III (*Mental Diseases and Psychology*).—R. Brown, A. A. W. Petrie.

BRANCH IV (*Midwifery and Diseases of Women*).—D. J. Harries, R. Larkin, †A. A. Straton.

BRANCH VI (*Tropical Medicine*).—†R. Kelsall.

M.S., BRANCH I (*Surgery*).—H. C. R. Darling, E. F. Finch.

* Obtained the number of marks qualifying for a university medal.

† Awarded a university medal.

UNIVERSITY OF LIVERPOOL.

THE following candidates have been approved at the examinations indicated:

SECOND M.B., CH.B.—*Part A:* N. J. Allan, M. Azer, R. Coope, A. J. B. Griffin, Amy Hodgson, Mary E. Illingworth, S. Pool, A. McK. Reid, E. S. Stubbs. *Part B:* *H. Garas, A. G. McColl, L. Oldershaw, H. C. Roberts, J. Rumjahn.

FINAL.—*Part I:* R. J. Minnitt, J. J. K. Pentony, R. H. G. Weston, *Part II:* H. G. Bywater, F. C. Wilkinson.

DIP. TROP. MED.—C. M. Austin, S. S. Banker, M. Carrasco, J. M. Clark, E. C. Hepper, I. O. K. Khaw, J. C. Noronha, E. O'Connor, A. B. Pestonji, E. A. Smith, S. D. Stewart, E. E. Wilbe, H. F. Wilson.

* Passed with distinction in Materia Medica and Pharmacy.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examination indicated:

SECOND M.B., CH.B.—*J. H. Albinson, J. D. Byrd, H. Chadwick, W. P. Christopher, R. Colley, E. W. Fish, Eva L. Glasier, Alice M. A. Holt, J. L. Leigh, B. L. Lloyd, R. L. Newell, F. C. Ormerod, J. A. Panton, Nesta H. Perry, Dorothy Potts, W. Stansfield, B. Walley, G. B. Wild.

THIRD M.B., CH.B. (*General Pathology and Morbid Anatomy*).—J. C. Bramwell, J. S. Chorlton, S. G. J. Dowling, †A. T. Gibb, J. D. Kenyon, J. G. McKinley, H. M. von Mengershausen, H. H. Stones, C. G. Todd, †F. Vause, L. Walton, R. Willan. (*Pharmacology, Therapeutics, and in Hygiene.*)—W. Halliwell, J. F. C. O'Meara, M. C. Paterson, C. G. Todd.

FINAL (*All Subjects*).—O. R. Allison, A. Barrett, Ada L. Bentz, W. R. Blore, F. S. Charnock, C. H. Crawshaw, H. N. Crossley, H. S. Gerrard, C. Thompson, F. K. Tomlinson, C. H. Whittall, H. W. F. Williams, G. W. Wood, W. H. Wood. (*Medicine and Obstetrics only.*)—H. C. Duffy. (*Forensic Medicine and Toxicology only.*)—J. E. Brooks, ‡E. A. Linell, W. A. Rogerson, J. R. Slack, ‡H. Wilson, W. H. Wood.

* Passed with distinction in Anatomy.
† Passed with distinction in Pathology.
‡ Passed with distinction in Forensic Medicine and Toxicology.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—*S. de Moor, *†J. de Silva, †R. B. F. Frazer, *†J. A. Prendegast, *D. Schonken, *J. D. Schonken.

MEDICINE (*Both Sections*).—E. M. D. N. Baker, A. C. O. Brown, H. V. Capon, J. de Silva, J. E. Taylor.

FORENSIC MEDICINE.—J. de Silva, G. L. Lawlor.

MIDWIFERY.—S. de Moor, J. de Silva.

* Section I. † Section II.

The diploma of the Society has been granted to Messrs. A. C. O. Brown, H. V. Capon, R. B. Frazer, J. de Silva, and J. E. Taylor.

British Medical Association.

EXTRAORDINARY GENERAL MEETING.

ON December 5th an Extraordinary General Meeting of the British Medical Association was held, when a unanimous vote was passed authorizing certain alterations in the Memorandum of Association. Under the Companies Act a confirmatory meeting was necessary, and this was summoned for 2 o'clock on December 23rd, at 429, Strand, when the President, Dr. W. AINSLIE HOLLIS, took the chair. After waiting one hour, the necessary quorum of 100 not having assembled, the President thanked those members who had attended for their presence, and announced that the meeting would stand adjourned until 2 o'clock on Tuesday, December 30th, at the same place.

At the meeting to be held on December 30th, under the Regulations those present automatically form a quorum, and are thus competent to pass the necessary confirmation of the unanimous decision passed on December 5th.

Obituary.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Hérard, formerly president of the Paris Academy of Medicine, physician to the Hôtel-Dieu, and author, in collaboration with Cornil, of a treatise on pulmonary phthisis which marks an epoch in French science, and of writings on the influence of pneumothorax in the treatment of tuberculosis, aged 94; Dr. Georg Juffinger, Professor of Otology and Laryngology in the University of Innsbruck, aged 60; Dr. Zambaco Pacha, of Constantinople, well known for his works on leprosy; Dr. Stapfer, of Paris, founder of movement therapy in France; and Dr. G. S. Empis, formerly President of the Académie de Médecine, aged 89.

Medical News.

AT the recent elections thirty members of the medical profession gained seats in the Italian Chamber of Deputies.

THE Frankfort Medical Association has appointed a Committee for the investigation of infantile paralysis.

THE thirty-fifth annual meeting of the German Balneological Congress will be held at Hamburg in March next (11th to 16th). The General Secretary is Geheimrat Dr. Brock, Thomasiusstrasse 24, Berlin.

THE British Association will hold its meeting in August, 1914, in Australia, under the presidency of Professor W. Bateson, F.R.S. At the last meeting of the Council Professor C. J. Martin, Director of the Lister Institute, was appointed President of the Section of Physiology.

As the result of the performance given by the Strolling Players' Club at the Court Theatre on November 19th in aid of the Royal Dental Hospital of London, Leicester Square, W.C., the charity has benefited to the amount of £117.

IT is proposed that a complimentary dinner shall be given to Dr. C. Addison, M.P., under the presidency of the Chancellor of the Exchequer, on February 3rd, 1914. Applications for tickets should be made to Sir John Collie, 25, Porchester Terrace, W., or Dr. H. Mills, 21, St. Mary Abbotts Terrace, Kensington, W.

THE will of the late Mr. Arnold Friedlander, who died in November, directed his executors to apply £5,000 of his estate in any fashion they thought most likely to increase knowledge as to the cause, characteristics, and effects of cancer and allied diseases, and as to the best means of preventing, alleviating, and curing such diseases.

THE French Government has conferred the honour of the Grade and Diploma of Officier de l'Instruction Publique in the Academy of France upon Sir Thomas Oliver, M.D., Sir Ronald Ross, F.R.S., Professor E. W. Hope, M.D., and Professor Georges Dreyer, M.D., as presidents of the Sections at the Congress of the Royal Institute of Public Health held in Paris in May last.

AT a meeting of the Northern Association of Medical Women, held at Liverpool on December 5th, Dr. Catherine Chisholm of Manchester being in the chair, and twenty-one representatives of northern towns present, Dr. Sophia M. V. Witts of Sheffield was elected President for the ensuing two years. At the same meeting a committee was appointed to consider what steps the association should take, if any, in regard to furthering the campaign against venereal disease.

THE Harveian Society of London will hold its annual general meeting and election of officers on Thursday, January 8th, at the Stafford Rooms, Titchbourne Street, Edgware Road, W. On the same occasion the outgoing president, Dr. Leonard Guthrie, will deliver an address dealing with the early transactions of the Harveian Society, the proceedings terminating in a smoking concert.

A CONSIDERABLE number of Glasgow institutions benefit under the will of the late Mr. William Weir, of Kildonan, chief partner in the firm of Baird and Company, iron-masters. The Royal Infirmary and the Western Infirmary each receive £10,000, Glasgow Victoria Infirmary £5,000, and the Glasgow Eye Infirmary and the Glasgow Ophthalmic Institution £500 each. The University itself is left a sum of £5,000, to be devoted to the provision of additional assistance to the Professor of Materia Medica, and Kilmarnock Infirmary and Ayr Infirmary each receive £2,000.

A LEAGUE for the protection of childhood has been formed in the Belgian Congo. It is intended to arrange courses of practical puericulture for nuns, missionaries, wives of functionaries, merchants, and employees who have to live in the colony. Clinics for nurslings will be established; five are already being organized at Boma, Matadi, Kisiant, Luebo, and Leopoldville. A part of the work of the league is the preparation of a practical manual of hygiene and treatment, having in view the special needs of the black child. The headquarters of the league are at Brussels. The president is Madame Leon Vandenpere; the secretary, Mademoiselle E. Patris.

HEARSEY, in his *Sleeping Sickness Diary*, Part XXI, states that during May, June, July, and August of this year 25 additional cases of human trypanosomiasis have been notified in Nyasaland—namely, 6 in May, 3 each in June and July, and 13 in August. Of this number, 7 have been discovered in the Marimba district, 16 in the Dowa district, and 2 in the South Nyasa district. These 25 cases, added to those previously reported, make a total of 153. Preventive measures, consisting of clearing bush, removing villages, and burning grass, are all in operation, and it is to be hoped that these will result in a cessation of the malady. Nothing is said in the report as to the driving back and destruction of game.

ON November 18th, as the result of a test case before it, the Supreme Court of New Jersey decided that the Act of the State Legislature of 1911, providing for the sterilization of epileptics, feeble-minded, criminals, and other defectives, is unconstitutional. The court held that this new law "was based upon a classification that bears no reasonable relation to the object of the police regulation, and that it denied to the individuals of the class so selected the equal protection of the laws." The Act was judged to be contrary to the Constitution of the United States guaranteeing equal protection of the laws to all, and to exceed the police powers of the State. The court went on to point out the danger of allowing legislatures to prescribe those upon whom the operation should be performed, since if sanctioned the penalty might be extended to include those regarded as undesirable by a majority of a legislature in power. Eight states of the American Union now have laws providing for the sterilization of imbeciles and certain criminals. In Washington the law has been adjudged constitutional. In Indiana, according to the *Boston Medical and Surgical Journal* of November 27th, about 1,000 persons have already been sterilized under the operation of the law. The United States Constitution expressly forbids "cruel and unusual punishments," and some lawyers maintain that this applies to sterilization.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C., on receipt of proof.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

LETTERS, NOTES, ETC.

MEDICAL PRACTICE IN THE FALKLAND ISLANDS.

WE have lately received several complaints as to the conditions of medical practice in the Falkland Islands, and we have now had submitted to us a copy of the agreement to be signed by a doctor accepting appointment with the West Falkland Farmers' Association. The following are the terms of agreement, which we think sufficiently indicate the conditions of service. The document calls for no further comment.

1. That the doctor should be medically examined and passed as physically fit for service on the West Falkland Islands, and if selected for the appointment would be provided with a free passage and up to three of a family to the Colony on signing the agreement. Should the doctor appointed leave before the term of three years, he would be required to refund the said passage money, *unless leaving for any other reason than mental or physical infirmity.*

2. The West Falkland Farmers' Medical Association agree to give a salary of *£600* per annum, to be paid half yearly if required, and an unfurnished house situated at Fox Bay, the Mail Port.

3. That the doctor should agree to visit medically without extra charge the members of the Association and their families, or in their absence from the Island, their representatives and their families.

4. Should any dispute, medical or otherwise, arise between the doctor and any member of the association, the doctor agrees to place the matter before a committee of three members to be appointed by the secretary, who shall have power to deal with the same.

5. That the doctor agrees to find, at his own expense, the means of transport within a reasonable time for paying all medical visits, and to leave home at the earliest possible moment after receiving a call from a subscriber soliciting his services, and to return as soon as the necessities of the case permit. In the case of an urgent call, which would mean his instant departure, perhaps at night, a horse would be provided by the subscriber sending for him.

6. That he should be allowed eight horses, one to be kept at Shag Cove, one at Goring House, one at Double Creek, one at Teal River, and four at Fox Bay.

7. That he should be allowed to cut as much peat for firing as required.

8. That he will not be allowed to accept any outside appointment unless agreed upon by the association.

9. That all non-subscribers shall pay according to a scale of fee to be adjusted by the association.

10. That this agreement shall hold good for not more than five years from the date of his arrival on the West Falklands, but that the period may be extended for a further term of years by mutual agreement between himself and the association, that six months' notice on either side be sufficient, but he will be requested not to leave before his successor arrives.

11. In the event of his serving to the satisfaction of the association for the term of five years, his passage and up to three of a family will be paid home.

12. That he should bring out all drugs and instruments, as none are supplied; also riding outfit, but not saddle or bridle, as the ones obtained locally are better and cheaper.

13. That all damages to the house should be repaired by the tenant.

ERRATUM.

IN the article on the Insurance Struggle in Germany, in the JOURNAL of December 20th, p. 1594, col. 2, line 5 from foot of page, for "of" read "or."

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	5	0
Each additional line	0	0	8
A whole column	3	10	0
A page	10	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste restante* letters addressed either in initials or numbers.

THE

British Medical Journal.

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

1-586

SUPPLEMENT

CONTAINING

PROCEEDINGS OF COUNCIL

REPORTS OF STANDING COMMITTEES

MEETINGS OF BRANCHES AND DIVISIONS

PROGRAMME OF ANNUAL MEETING

MEDICAL BILLS IN PARLIAMENT

PROCEEDINGS OF THE GENERAL MEDICAL COUNCIL

ETC.

VOLUME II, 1913.

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SPECIAL NOTICE TO MEMBERS.

Every member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he belongs. BY ORDER.

MATTERS REFERRED TO DIVISIONS.

SUPPLEMENTARY REPORT OF COUNCIL, 1912-13.

(A) Preliminary.

ANNUAL MEETING, 1914.

188. An invitation has been received by the Council on behalf of the Association from the Aberdeen Branch to hold the Annual Meeting of the Association, 1914, in Aberdeen.

The Council recommends:—

Recommendation A.—That the Annual Representative Meeting, 1914, be held at Aberdeen, and commence on Friday, July 17th, 1914.

Recommendation B.—That Sir Alexander Ogston, K.C.V.O., LL.D., be elected President-Elect of the Association for the year 1913-14.

NOTE.—*The sections numbered (A) (B) (C), etc., of the Supplementary Report of Council, are the continuations, respectively, of the similarly lettered sections of the Annual Report of Council, published in the* SUPPLEMENT *of May 3rd, 1913. The paragraphs of the Supplementary Report are numbered consecutively to those of the Annual Report.*

(Recommendations by the Council will be found on pages 2, 3, 4, 5, 6, 7, 9, 12, 14.)

(C. Organisation.

QUESTION OF NEW COMPANY: SUGGESTED CONVERSION OF ASSOCIATION INTO A TRADE UNION: POSITION AS REGARDS EXTENSION OF POWERS OF ASSOCIATION.

(Continuation of Paragraph 26 of Annual Report of Council, page 370.)

189. Arising out of the Council's consideration of the Report of the Metropolitan Counties Branch Council on reform of the present constitution of the Association (as to which *see* below, paragraph 200), and in view of resolutions on the Agenda of the Annual Representative Meeting at Brighton on the subject of the conversion of the Association into a Trade Union, a Special Report has been drawn up, giving the history of the recent attempts of the Association to widen its powers, together with a consideration of the methods by which certain of these powers can be attained. It is considered by the Council that this Special Report will be useful not only in informing Members of the efforts which the Association has made to obtain such increased powers, but in providing useful material in connection with the discussion of the whole matter by the Representative Meeting at Brighton. (*See* Appendix X.)

ELECTION OF MEMBERS OF COUNCIL, 1913-14, AND 1914-15, BY GROUPED REPRESENTATIVES UNDER BY-LAW 43 (C).

190. The Annual Representative Meeting, 1912, decided (Minute 43) that the grouping of Branches and Divisions in the United Kingdom for the election of Members of Council for the year 1913-14 shall be the same as for the years 1911-12 and 1913-14, and the election of 24 Members of Council for 1913-14 by the grouped Branches in the United Kingdom by voting paper under By-laws 43 (c) and 47 has proceeded on that basis. In connection, however, with the question of the election of 12 Members of Council for 1913-14 by grouped Representatives under By-laws 43 (c) and 47 at the forthcoming Annual Representative Meeting at Brighton, an adjustment has had to be made by the Council as regards the Con-

stituencies of the Metropolitan Counties Branch area, inasmuch as several new Divisions have come into being, thus upsetting the old grouping. Provision has had to be made for the inclusion of the following recently formed Constituences, namely :—

Camberwell, East Hertfordshire, Finchley and Hendon, Greenwich and Deptford, Harrow, Kingston-upon-Thames, Lewisham and Woolwich, Richmond, South Middlesex, Tower Hamlets, Wandsworth and Wimbledon, West Hertfordshire, Willesden,

while the Norwood Division is no longer in existence. Acting on behalf of the Representative Body the Council has included the following new Constituencies, namely, East Herts, Finchley and Hendon, Harrow, Tower Hamlets and Willesden in the Group of Central, East and North Constituencies, to elect one of the two Members of Council assigned to the Metropolitan Counties Branch area under By-laws 43 (c) and 47 ; and the Camberwell, Greenwich and Deptford, Kingston-on-Thames, Lewisham and Woolwich, Richmond, South Middlesex, Wandsworth and Wimbledon, and West Herts Constituencies in the South and West Group, to elect the second Member of Council assigned to the area. At the same time, in order to make the two groups more nearly equal in membership, the Council has transferred the Westminster Constituency from the Central, East and North to the South and West Group. As thus adjusted the groups (*see* Appendix XI.) have memberships of 1,969 and 1,964 respectively.

The Council recommends :

Recommendation K.—That the Representative Body approve the action taken by the Council on behalf of the Representative Body in adjusting the groups of Constituencies under By-laws 43 (c) and 47 for the election of two Members of Council, 1913-14, by the grouped Representatives of Constituencies within the area of the Metropolitan Counties Branch.

Recommendation L.—That the grouping of Constituencies for election of 12 Members of Council, 1914-15, be similar to that for 1913-14, discretion being, however, left to the Council to make any modifications in the grouping rendered necessary or desirable, owing to formation of new Divisions or Constituencies or modification of those bodies as at present existing.

Constituencies, 1913-14.

(Continuation of paragraph 33 of Annual Report of Council, page 372).

191. With the exception of the modifications referred to in paragraph 33 of the Annual Report of Council, the Constituences formed by the Council for the purpose of election of the Representative Body, 1913-14, are the same as those for 1912-13. The question of the grouping of the Woolwich Division, which had not been decided when the Council made its Annual Report, has been settled by grouping the Division with Lewisham, to form one Constituency ; Greenwich and Deptford forming an independent Constituency as in 1912-13.

Annual Reports of Divisions and Branches.

(a) Reports of Divisions in United Kingdom for 1912.

(Continuation of paragraph 39 of Annual Report of Council, page 373.)

192. In addition to the 11 Divisions reported in paragraph 39 of the Annual Report of Council as unorganised, no Reports for 1912 have yet been received from the following 22 Divisions in the United Kingdom :—

Aberdeen Branch—
Aberdeen
Shetland
Connaught Branch—
Mid Connaught
South Connaught
East Anglian Branch—
Mid Essex
Glasgow and West of Scotland Branch—
Ayrshire
Leinster Branch—
East Leinster
Mid Leinster
North-West Leinster
Metropolitan Counties Branch—
Ealing
St. Pancras and Islington
Munster Branch—
South Munster
North of England Branch—
Blyth
Hexham
South Shields
North Lancashire and South Westmorland Branch—
Kendal
South-Eastern Branch—
Sevenoaks
South-Eastern of Ireland Branch—
Carlow
Waterford
South-Western Branch—
West Cornwall
Ulster Branch—
Belfast
Monaghan and Cavan
Yorkshire Branch—
Bradford

Inasmuch as the Division Reports were due in January, 1913, the Council wishes to place on record its regret that these Divisions should fail to comply with the By-laws in this matter, intimately connected as it is with the work of effective local organisation.

(b) Reports of Branches in United Kingdom for 1912.

(Continuation of paragraph 40 of Annual Report of Council, page 374.)

193. Reports of Branches for 1912, due by March 15th, 1913, are still wanting in the case of the Aberdeen, Connaught, Glasgow and West of Scotland, Leinster and Ulster Branches.

(c) Reports of Overseas Divisions and Branches.

(Continuation of paragraph 41 of Annual Report of Council, page 374.)

194. Of the 11 Overseas Divisions not themselves Branches, Reports have been received from 3. Of the 39 Overseas Branches, 13 have reported.

Grants to Branches for 1913.

(Continuation of paragraph 42 of Annual Report of Council, page 374.)

195. In addition to the Branches to which, as already reported by the Council in its Annual Report (paragraph 42) grants have been awarded for 1913, an ordinary grant for 1913 of 4s. per member, and a supplementary grant of 1s. 1d. per member, have been made by the Council to the North of England Branch, that Branch having since the issue of the Annual Report of Council submitted a satisfactory Report for the year 1912.

Rules.

(Continuation of paragraph 44 of Annual Report of Council, page 374.)

196. In view of the urgency of the question of effective local organisation, and inasmuch as doubt appears to exist in the minds of some Divisions and Branches in the United Kingdom as to whether Rules adopted by them are or are not in operation, that is, have or have not been approved by the Council under Article 17, the Council appends (*see* Appendix XII.) a list of those Branches and Divisions which have either not adopted Rules of Organisation, or which, if Rules of the kind have been adopted by them, have, owing to their not notifying the Council or other cause, not received the sanction of the Council thereto, and whose Rules are thus inoperative.

Question of Relation of Division and Insurance Areas.

(Continuation of paragraph 45 of Annual Report of Council, page 374.)

197. As foreshadowed in paragraph 45 of the Annual Report of Council, a communication (*see* Appendix XIII.) was on May 30th, 1913, addressed to Divisions and Branches in the United Kingdom as to the general question of the areas of Divisions being made coterminous with Insurance areas, with a view to consideration of the matter at the Annual Representative Meeting at Brighton.

The Council recommends :—

Recommendation M.—That the Representative Body take into consideration the general principle of the desirability or otherwise of the areas of Divisions and Branches being brought definitely into harmony with Insurance areas under the National Insurance Act.

Division and Branch Areas.

(Continuation of paragraphs 47 and 48 of Annual Report of Council, page 374.)

198. Since the Annual Report of Council the following new Divisions and Branches have been formed, namely, Natal Coastal and Natal Inland Branches, of the same areas respectively as the former Divisions of the Natal Branch, that Branch being at the same time abolished.

REFERENDUM AND POSTAL VOTE.

199. The Council has already submitted to the Divisions, with a view to consideration by the Annual Representative Meeting, Brighton (*see* BRITISH MEDICAL JOURNAL Supplement, June 21st, page 563), a Special Report on the whole subject of Referendum and Postal Vote. The Council would in particular direct the attention of the Divisions and Representative Body to paragraphs 15, 16 and 17 (pages 564-5) of that Special Report, containing definite questions requiring decision.

REPORT OF COMMITTEE OF METROPOLITAN COUNTIES BRANCH APPOINTED TO CONSIDER THE REFORM OF THE PRESENT CONSTITUTION OF THE ASSOCIATION.

200. A Committee of the Metropolitan Counties Branch having been appointed to consider the question of the reform of the present constitution of the Association, the Report of that Committee was forwarded by the Metropolitan Counties Branch Council for the consideration of the Council and Annual Representative Meeting at Brighton (see page 554 of Supplement of June 21st, 1913). The proposals of the Report in question have been considered by the Council, and the Council has submitted to the Divisions and Representative Body in the Supplement of June 21st, 1913 (page 555), a Report on the various matters raised therein.

MEDICAL DEPARTMENT OF HEAD OFFICE.

201. In its Special Report to the Divisions and Representative Body, published in the Supplement of June 21st, 1913 (paragraph 46, page 560), in connection with the scheme of reform of the present constitution of the Association submitted by the Metropolitan Counties Branch Council, the Council stated that it was giving attention to the question of the allocation of duties in the Medical Department. The Council is not yet in a position to report further.

ALLOCATION OF DUTIES TO CERTAIN COMMITTEES.

202. In connection with the work of the Organisation, Medico-Political, Public Health and Hospitals Standing Committees of the Association and the Special State Sickness Insurance Committee, it has been found that a certain amount of confusion has been caused by overlapping. In the opinion of the Council it is necessary to take steps to put an end to or reduce to a minimum any such overlapping of work. With this end in view, the Council has given instructions that matters of a public health nature not definitely referred to other Committees shall be definitely understood to be referred to the Public Health Committee. If the recommendations of the Council with regard to the constitution of the Standing Insurance Act Committee are adopted the dangers of overlapping will, it is hoped, be considerably reduced.

203. The Council has further arrived at the conclusion that the work of the Association connected with the National Insurance Act, being obviously of a permanent nature, should be put on a business-like footing, that is to say, the work should be dealt with by a Standing Committee of the Association, the composition, powers and duties of which shall be clearly laid down in the By-laws.

The Council recommends :—

Recommendation N.—That steps be taken for the constitution of a State Sickness Insurance Committee as a Standing Committee of the Association, to be named the Insurance Act Committee.

Recommendation O.—That the Insurance Act Committee consist of the Ex-officio Members, 4 Members to be elected by the Council, 12 Members to be elected on a territorial basis by the RepresentativeBody, and one representative of each of the following organisations, to be elected by the Council on the nomination of these bodies respectively, such nominees to be also Members of the British Medical Association :—

(a) Society of Registered Medical Women ;

(b) Northern Association of Registered Medical Women ;

(c) Society of Medical Officers of Health.

Recommendation P.—That the reference to the Insurance Act Committee in the Schedule to the By-laws be as follows :—

To deal with all matters arising under the National Insurance Act that are dealt with by the National Insurance Commissioners, Insurance Committees, and Local Medical Committees ; to watch the interests of the profession in relation to the National Insurance Act ; and report to the Council.

PUBLICATION IN SUPPLEMENT OF PROPOSALS FOR ALTERATION OF AREAS OF DIVISIONS AND BRANCHES.

204. The Council has given instructions that in future all official proposals for alteration of areas of Divisions and Branches shall be published in the Supplement, the advantage of this course being that such publication will serve under By-law 73 as notice not only to the local bodies, whether Divisions or Branches, concerned, but also to all Members concerned. Honorary Secretaries will continue as in the past to be informed by letter of such proposals.

(F) Medical Ethics.

EXPULSION CASES.

(Continuation of paragraph 68 of Annual Report of Council, page 375.)

205. The Council regrets to report that since the Council submitted its Annual Report for 1912-13 to the Divisions, it has been necessary to remove from membership of the Association two members who accepted and continued to hold appointments which were accepted in disregard of the Warning Notice and the holding of which was in opposition to the declared views of the Divisions concerned.

QUESTION OF TITLE "DR."

206. The question as to whether or not practitioners, other than graduates in medicine and surgery, are justified in styling themselves "Dr.," was considered in 1903 by the Ethical Committee on behalf of the Association, and the Committee arrived at the conclusion that such practitioners are not so justified. The matter has lately, however, been re-considered by the Central Ethical Committee and Council, on behalf of the Association, in the light of (1) the following resolution appended to the By-laws of the Royal College of Physicians of Ireland :—

> That, in the opinion of the President and Fellows, a Fellow, Member or Licentiate of this College may, by courtesy and usage, call himself "Dr." but he has no right to use the letters "M.D.," or call himself "Dr. of Medicine," unless he holds that degree from a University ;

(2) the following original By-law 179 of the Royal College of Physicians of London, namely :—

> No Fellow, Member, Extra Licentiate or Licentiate of the College shall assume the title of "Dr.," or append to his name the title of "Doctor of Medicine," or the letters "M.D." or any other letters indicating that he is a graduate of a University, unless he has obtained a degree entitling him to do so,

with the following alteration in the latter made in 1912, namely :—

> That the words "assume the title of Dr. or," be omitted from the By-law.

On consideration of the whole facts of the case it has been decided to rescind the resolution of 1903 above referred to.

ETHICAL RULES OF DIVISIONS AND BRANCHES.

(Continuation of Paragraph 72 of Annual Report of Council, page 376.)

207. Since the issue of the Annual Report of Council, the following Divisions and Branches have adopted the Model Ethical Rules, in compliance with Minute 118 of the Annual Representative Meeting at Liverpool, urging all Divisions and Branches to adopt the Model Rules as then approved by the Representative Body :—

(a) *Divisions.*

Boston and Spalding.
Bradford.
Burnley.
Bury.
Croydon.
East Herts.
Furness.
Glasgow Southern.
Glossop.
Halifax.
Hendon and Finchley.
Huddersfield,
Leeds.
Northampton.
Oxford.
Portsmouth.
Renfrewshire.
Ross and Cromarty.
Salisbury.
Stratford.
Sutherland and Caithness.
Trowbridge.
Tunbridge Wells.
Wakefield, Pontefract and Castleford.
Warwick and Leamington.
West Dorset.
West Herts.
Westminster.
Wigan.
Wimbledon.
Worcester.

(b) *Branches.*

East Anglian.
Gloucestershire.
Midland.
North Wales.
Shropshire and Mid Wales.
South Eastern.
South-Eastern of Ireland.
South Midland.
Worcestershire and Herefordshire.

208. There are thus left 86 Divisions and 7 Branches in the United Kingdom which have not yet carried out the wishes of the Representative Body.

(G) Medico-Political.

Nurses Registration Bill: Principle of State Registration of Nurses.

(*Continuation of Paragraph 75 of Annual Report of Council, page 376.*)

209. Mr. Asquith having stated in reply to the deputation, including representatives of the Association, which waited upon him on May 3rd, 1913, that in view of what he regarded as the amount and authority of the opposition to the registration of nurses, no Government would in the circumstances give the Nurses Registration Bill facilities, the Bill has for the time being been withdrawn by its promoters. When the Bill is re-introduced into the Commons, it will be made clear that the Association shall have three representatives on the General Nursing Council.

Mental Deficiency Bill of the Government.

(*Continuation of paragraph 76 of Annual Report of Council, page 377.*)

210. Copies of the Mental Deficiency Bill of the Government being now available, the Council has had an opportunity of examining more closely into its provisions. The scope and purpose of the Bill appear to be the same as those of the similar Bill read a second time last session and approved by the Association except in so far as it proposed to set up an additional central authority, the policy of the Association in this respect being that there should be only one authority dealing with the whole subject of the mentally defective, whether lunatic or otherwise. The proposal for a new central authority (Board of Control) is retained in the present Bill, but inasmuch as all the powers and duties of the Commissioners in Lunacy under the Lunacy Acts, 1890-1911, are under Clause 59 of the Bill transferred to the proposed Board of Control (to include temporarily the existing state-paid Lunacy Commissioners), to which the whole charge of mentally defective persons, whether lunatics, imbeciles, idiots, or the feeble-minded, shall be entrusted, the Bill must be regarded as giving effect to the principle of a single authority as laid down by the Association. The Council is therefore on behalf of the Association conveying to the Home Secretary general approval of the Bill, without in any way waiving the right to suggest amendments at a later stage. The Council has already urged the re-introduction of the clause forbidding marriage with a defective. The Bill was read a second time on June 3rd, 1913, and committed to a Standing Committee. Its progress in Committee is being watched.

Medical Inspection and Treatment of School Children.

211. At a Conference between representatives of the Association and representatives of the Society of Medical Officers of Health, held on May 28th, 1913, the question of the Association's policy concerning medical inspection and treatment of school children received consideration. Differences of opinion have arisen in regard to the interpretation of certain parts of the present policy of the Association on this subject, and it appears to the Council to be desirable that the various decisions of the Association on the matter, extending over a period of more than six years, should be codified and their purport brought under review. In the opinion of the Council, it is further desirable that in the meantime the Council should be able to use its discretion as regards putting the policy of the Association, as at present defined, into action. In order to assist in the review and codification of that policy, the Council proposes to collect information as to what is being done in connection with medical inspection and treatment of school children throughout the United Kingdom.

The Council recommends :—

Recommendation A.—That the Council be instructed to codify the various decisions of the Association in connection with the medical inspection and treatment of school children, and at the same time to consider and report to the Divisions and Representative Body as to any modification of that policy which may seem to the Council to be desirable.

Recommendation B.—That the Representative Body empower the Council to use for the present its discretion as to putting into action or otherwise the policy of the Association concerning medical inspection and treatment of school children.

Census Paper.

212. The Council has at present under consideration the question of amendment of the official census paper. Before making any representations to the Local Government Board on the subject it appears to be desirable to collect further information as to any suggested amendment or amendments of the present form and suggestions from any practitioner will be welcomed.

Central Emergency Fund.

213. A grant of £50 was made to a Branch from the Central Emergency Fund, on behalf of a Member who had lost a colliery appointment as a result of taking action in support of the policy of the Branch. The Council submits for the information of the Divisions and Representative Body (*See* Appendix XIV.) a statement of the receipts and disbursements of the Central Emergency Fund during 1912, including a statement of the amount in hand as at December 31st of that year. The balance at the bank to the credit of the Fund on June 20th, 1913, was £245 1s. 3d., in addition to which there is a sum of £600 on loan from the Fund to the general funds of the Association.

Status and Remuneration of Ship Surgeons.

214. In its Annual Report the Council referred (paragraphs 67 and 84, *see* B.M.J. Supplement of May 3rd, pages 375 and 377) to the work done and requiring to be done by the Association in connection with the status and remuneration of ship surgeons. The Annual Representative Meeting, 1912, decided, it will be remembered, that the remuneration of ship surgeons should not be less than £10 per month. Many advertisements proposing to offer to ship surgeons a smaller salary have consequently been refused publication in the British Medical Journal, and in those other medical journals with which the Association has influence, with the result that the salaries of ship surgeons have now definitely an upward tendency. Further, in cases appearing to require it, to which the attention of the Ship Surgeons Sub-Committee of the Association may be drawn, the necessary machinery now exists for including appointments deemed to be undesirable in the "Warning Notice" published weekly in the British Medical Journal. The Sub-Committee will be glad to have, from ship surgeons or others interested, prompt information as to cases in which these officers are being treated unfairly.

215. The Association has also lately taken action regarding the question of the adoption by steamship companies of a definite scale of fees for attendance on first and second-class passengers, other than attendance in infectious disease and in illness or accident due to being on the ship, a system already in force and working well in the case of several passenger lines. In a letter addressed by the Association to the passenger

steamship lines on the subject, attention was drawn to the following reasons in support of this system :—

1. First and second-class passengers do not obtain free treatment anywhere except on a ship, and there is no valid reason why they should expect it there.

2. By the adoption of the fee system the ship owner can improve the position of the surgeon without incurring additional expense.

3. By the adoption of the fee system the ship owner will benefit by obtaining the services of a better class of practitioner who will be more likely to remain at sea long enough to become proficient in the somewhat special nature of the work.

4. The travelling public will appreciate the services of a more experienced man and will be quite ready to pay for them.

5. A vast amount of unnecessary and trivial work now demanded of a surgeon (often at the expense of genuine work) will be abolished.

6. The adoption of a fixed scale of fees will relieve many passengers of embarrassment, who at present are in doubt as to the proper way of remunerating the surgeon.

216. The replies of the companies will be considered at the next meeting of the Ship Surgeons Sub-Committee, and thereafter the Council will report on the subject with proposals for concerted action. Various other matters affecting the status and remuneration of Ship Surgeons, which, like other work of the Association, have had partly to stand over owing to the great pressure of work in connection with the National Insurance Act, will shortly also come up for consideration and action and will be specially reported upon in the BRITISH MEDICAL JOURNAL.

UNDER CONSIDERATION.

217. (a) Question concerning the treatment of defective school children not suitable for treatment at school centres.

(b) Question concerning salary of proposed new appointment of School Medical Officer.

(H) State Sickness Insurance.

218. MEETINGS AND ATTENDANCES (FROM APRIL 18TH TO JUNE 19TH, 1913).

	Committee.		Sub-Committee.	
	Possible.	Actual.	Possible.	Actual.
Sir James Barr	4	0		
Mr. T. Jenner Verrall ...	4	2		
Dr. J. A. Macdonald... ...	4	3	8	0
Dr. E. Rayner	4	0		
Dr. John Adams	4	4		
Dr. R. M. Beaton	4	4	8	7
Dr. T. B. Costello	4	0		
Dr. J. S. Darling	4	0		
Dr. E. R. Fothergill... ...	4	4	8	6
Dr. T. A. Helme	4	0		
Miss F. Ivens	4	1		
Dr. R. McKenzie Johnston ...	4	4	8	1
Mr. Herbert Jones	4	3	5	4
Dr. C. E. Long	4	3		
Dr. E. O. Price	4	1		
Dr. D. G. Thomson	4	3		
Mr. D. F. Todd	4	2	5	0
Mr. E. B. Turner	4	4	3	3
Mr. E. H. Willock	—	—	3	3
Mr. C. E. S. Flemming ...	4	4	3	3
Mr. H. H. Tomkins	—	—	8	7

Vacancy upon Committee.

The vacancy upon the Committee, caused by the resignation of Mr. T. M. Carter, was filled by the Chairman of Representative Meetings appointing, upon the recommendation of the Representatives of the Grouped Branches concerned, Mr. C. E. S. Flemming (Bradford-on-Avon) to the Committee.

ACTION TAKEN UNDER MINUTES OF THE SPECIAL REPRESENTATIVE MEETING, JANUARY, 1913.

REPORT ON REFERENCES FROM THE REPRESENTATIVE BODY.

CONTRACT CONSULTING SERVICE FOR INSURED PERSONS.

219. The Council has carefully considered the following motion by the Brighton Division, referred to it by the Representative Body, contained in Minute 128 of the Special Representative Meeting, November, 1912 :—

> That whilst considering the above reference the Council also consider the desirability of the staffs of hospitals and other consultants arranging to give consulting services at the homes of insured persons on the introduction of the medical attendant for an agreed honorarium to be paid by the approved society or other body.

The Council recommends :—

Recommendation D.—That the Representative Body, having considered the above Motion by the Brighton Division contained in Minute 128 of the Special Representative Meeting, November, 1912, is of opinion that any arrangements whereby the staffs of Hospitals and other consultants agreed to give consulting service at the homes of insured persons on the introduction of the medical attendant, for an agreed honorarium, would be a highly objectionable extension of contract practice.

TUBERCULOSIS TREATMENT.

220. The following Minute 63 of the Special Representative Meeting, January, 1913, referred to the Council :—

> *Minute* 63.—Resolved : That it be an instruction to the Council to consider the question of the attitude of the profession towards the tuberculosis treatment under the Act in view of the conditions as altered by this Meeting,

was referred by the Council for discussion at the Conference, held May 28th, 1913, of Representatives of the Association and of the Society of Medical Officers of Health.

221. The Council has duly noted the opinion of the Conference that the views of the Society of Medical Officers of Health were sufficiently well expressed in the Minutes of the previous Conference of November 12th, 1912, reported to the Special Representative Meeting of that month.

222. In view of the further early developments which may be expected in this question, the Council has decided that the matter should be put on the Agenda of the next Conference which will be held in the Autumn. There are, however, two matters which the Council is of opinion should be brought to the notice of the Representative Body with a view of obtaining some pronouncement thereon, namely, (i.) method of remuneration of general practitioners for domiciliary treatment, and (ii.) questions concerning appointment of Tuberculosis Medical Officers.

223. Concerning the former, the Council in considering what was the present policy of the Association as to the method of payment of medical practitioners for domiciliary treatment has had regard to the following Minutes 205 (Annual Representative Meeting, 1912), 92 (Special Representative Meeting, November, 1912), and 63 (Special Representative Meeting, January, 1913) :—

> *Minute* 205.—Resolved : That the payment to be made to medical practitioners for domiciliary attendance on patients certified to be suffering from tuberculosis shall be on a scale of fees, and not by capitation. (Annual Representative Meeting, 1912.)

> *Minute* 92.—That if the form of payment for Sanatorium Benefit be the suggested capitation fee of sixpence, it shall be for insured persons only, and shall not include dependents, and shall be for domiciliary treatment only. (Special Representative Meeting, November, 1912.)

> *Minute* 63.—Resolved : That it be an instruction to the Council to consider the question of the attitude of the profession towards the tuberculosis treatment under the Act in view of the conditions as altered by this Meeting. (Special Representative Meeting, January, 1913).

As the above Minutes leave the position of the Association in some doubt, and as in most insurance areas payment for domiciliary attendance is now being accepted on a capitation basis,

The Council recommends:—

Recommendation E.—That above Minute 205 of the Annual Representative Meeting, 1912, be rescinded in order to leave to the local profession of any Insurance area the right of deciding whether the profession of that locality shall be paid upon a scale of fees or by a capitation fee for the treatment of tuberculosis under the National Insurance Act.

224. With respect to the second question—appointments of Tuberculosis Medical Officers—it is to be noted that many difficulties have been experienced in dealing with advertisements offered for insertion in the JOURNAL, owing to the fact that in most areas the Medical Officer of Health has been appointed Chief Tuberculosis Officer, with no clinical duties but with administrative control over the officers appointed for Dispensary and other clinical work. Many local authorities have accordingly advertised for Tuberculosis Officers, sometimes designated Assistant, but oftener without any definition of rank, whose duties are to take charge of the clinical arrangements in their areas, and who are expected to act as consultants in tuberculosis cases to the local practitioners. Frequently salaries of £350 or £400 have been offered for these posts. It is evident, in short, that authorities are seeking to appoint officers who will be Chief *Clinical* Tuberculosis Officers at salaries which cannot attract the class of practitioners who could with justice expect to be recognised by the local practitioners as experts and consultants. When the attention of advertisers has been drawn to this view of the case, the answer has often been given that the Medical Officer of Health is the Chief Tuberculosis Officer, and therefore the minimum salary of £500 laid down by the Association and by the Society of Medical Officers of Health does not apply to the case in question. The Council is of opinion that it should be made clear that the minimum salary of £500 per annum is demanded for officers who, whatever they may be called, are expected to be clinical experts and consultants to the local profession as regards cases of tuberculosis.

The Council recommends:—

Recommendation F.—That all possible steps be taken by the Association to prevent the appointment at less salaries than £500 per annum of Tuberculosis Medical Officers whose duty, whatever their designation, includes the charge of the clinical arrangements concerning tuberculosis cases, and whose relation as regards such cases to the local profession will be that of consultant.

The Council further recommends:—

Recommendation G.—That further action in connection with above Minute 63 of the Special Representative Meeting, January, 1913, be postponed pending further developments in the subject.

HONORARY STAFFS OF VOLUNTARY HOSPITALS AND TREATMENT OF TUBERCULOSIS CASES.

225. The Council has carefully considered the following motion of the Brighton Division, contained in Minute 128 of the Special Representative Meeting, November, 1912, referred to it by the Representative Body:—

That it be an instruction to the Council to consider and report at an early date upon the question of the payment of the medical staffs of voluntary hospitals for the treatment of patients under the Tuberculosis Medical Service.

The Council recommends:—

Recommendation H.—That the Representative Body, having considered the above motion by the Brighton Division contained in Minute 128 of the Special Representative Meeting, November, 1912, re-affirms the following Minute 194 of the Annual Representative Meeting, 1912:—

Minute 194.—Resolved: That no Tuberculosis Dispensary should be opened or beds be provided for treatment of those in receipt of Sanatorium Benefit at a Voluntary Hospital or Infirmary, except on the condition that the organisation is entirely independent of that of the Voluntary Hospital or Infirmary, the accounts of the departments being kept separate, and that the services of all medical practitioners are paid for.

CERTIFICATES IN CONNECTION WITH NATIONAL INSURANCE ACT.

(Continuation of paragraph 118 of the annual Report of Council, page 379, Supplement, May 3rd, 1913.)

Common Form of Medical Certificate.

226. A meeting was held in May last of the medical members of the English Advisory Committee for the purpose of considering a common form of medical certificate for Insurance Act purposes. Those present at the meeting were of opinion that the forms of certificates submitted by the Commissioners would go far to meet the objections raised by the profession to the multiplicity of certificates now required. It was understood that the forms as submitted to the Meeting would next be laid before the representatives of the Approved Societies on the Advisory Committee, after which the issue of the new forms might be expected. No further official information has been received on this subject.

Legal Position of Practitioners giving Certificates.

(Continuation of paragraph 91 (Section *Certificates*) of Annual Report of Council.)

227. As reported in a note to paragraph 91 (i) of the Annual Report, the legal position of a practitioner giving a certificate bearing the name of the disease from which an insured person is suffering, was placed before the solicitor of the Association, and his opinion is appended (*see* Appendix XV.). This question was also raised at the above-mentioned conference with the Commissioners, who expressed the opinion that neither under the English nor the Scottish law would practitioners be under any liability for giving any certificate demanded of them for the purposes of the Act. Any doubt which practitioners may have as to the propriety of stating the name of the disease on a certificate which is to be handed by the insured person to his Society is to be met by the new form of certificate being drafted as a statement made by the doctor to the patient, who then takes the responsibility of either disclosing the nature of his disease to his Approved Society or withholding it as he pleases.

Certificates for Sickness Benefit in respect of cases attended by Midwives.

228. The Council has had its attention drawn to the demands made by certain Societies for certificates for sickness benefit purposes in respect of maternity cases attended by midwives. The Council is of opinion, and has informed the Insurance Commissioners, that it is outside the duty of practitioners, under the terms of their agreements, to visit maternity cases under the care of midwives for the purpose of giving a sickness benefit certificate, which in most cases of the class under discussion simply means a statement to the effect that the patient has been confined.

Certificates for Insured Persons who are receiving Compensation under the Workmen's Compensation Act.

229. The question has been raised whether an insured person who is in receipt of compensation under the Workmen's Compensation Act and is, therefore, not receiving sickness or disablement benefit, is entitled under the agreements made with practitioners to certificates which would serve the purpose of the Compensation Act in place of sickness benefit certificates. The opinion of the Solicitor of the Association has been obtained upon the point, but there are several difficulties which will need clearing up, and the members of the deputation who met the Commissioners in regard to the amendments to the National Insurance Act suggested by the Association, laid the matter before them, and it is expected that it will be dealt with in the reply which the Commissioners have promised.

Acceptance of Certificate of any duly qualified Medical Practitioner.

230. The Council is glad to report that in consequence of action taken by the London Medical Committee, which later became the National Medical Guild, a Court has decided that it is not within the rights of an Approved Society to refuse to grant sickness benefit to an insured person on the ground that the medical certificate is not signed by a practitioner on the panel. As this decision has not been appealed against, it is hoped that the principle has been established once for all that the certificate of any registered medical practitioner is sufficient for any of the purposes connected with the National Insurance Act.

DEPUTIES FOR MEDICAL MEMBERS OF INSURANCE COMMITTEES.

231. As reported in sub-paragraph (k) of paragraph 91 of the Annual Report of Council, the Commissioners were requested to urge upon Insurance Committees the desirability of the appointment of deputies to the directly elected Medical Members of Insurance Committees, and many Local Medical Committees made similar representations to their Insurance Committees. The Scottish Commissioners stated, in reply to the Secretary of a Local Medical Committee, that appointment on an Insurance Committee was a strictly personal matter, and that, therefore, deputies for members could not be recognised.

The Council recommends :—

Recommendation I.—That no steps be taken for the time being to obtain any amendment of the Act or Regulations allowing for the appointment of deputies for the directly elected practitioners on Insurance Committees.

IMPROVEMENTS IN LOCAL ADMINISTRATION OF ACT.

(Continuation of paragraph 92 of Annual Report of Council.)

232. The Council is pleased to report that its representations, through the Divisions, to the Local Medical Committees, and later to the Local Medical Committees direct, have been successful in many cases in inducing the latter to insist more strongly upon their rights as statutory Committees. It is evident that in many areas the Insurance Committees are disposed to ignore the claims of Local Medical Committees to be consulted on all matters relating to the medical administration of the Act. The information placed before the Council shows that many Local Medical Committees have by persistence been able to secure important concessions from Insurance Committees and it is hoped that Local Medical Committees will lose no opportunity of insisting upon their due recognition as an essential part in the machinery of the Act, if necessary by an appeal to the Commissioners.

AMENDMENTS OF ACT OR REGULATIONS.

(Continuation of paragraph 93 of Annual Report of Council.)

233. The State Sickness Insurance Committee carefully considered the instructions of Council contained in paragraph 93 of the Annual Report of Council to take action on its behalf in pressing for certain amendments to the Act, and forwarded to the Insurance Commissioners the Memorandum and covering letter contained in Appendix XVI. as conveying the views of the Association.

The Commissioners asked that a deputation from the Association should meet them to discuss this Memorandum and the interview took place on Wednesday, June 25th. The deputation consisted of Dr. J. A. Macdonald, Mr. T. Jenner Verrall, Mr. E. B. Turner and Mr. C. E. S. Flemming with the Medical Secretary. The Commissioners promised to send a written reply, but this has not yet been received.

PROPOSED AMENDING BILL.

234. The task of considering and reporting on the Amending Bill when introduced has been referred to a Sub-Committee of the State Sickness Insurance Committee.

In view of the statement made in the House of Commons by the Prime Minister that it is proposed to refer the consideration of the amending Bill to a Grand Committee, communications were addressed to the Prime Minister and to Mr. Bonar Law urging that in view of the great public interest in the Bill it is desirable that its discussion should take place on the floor of the House and not in Grand Committee.

SEAMEN'S NATIONAL INSURANCE SOCIETY.

(Continuation of paragraph 123 of Annual Report of Council.)

235. In addition to the points mentioned in the Memorandum the deputation brought before the Commissioners an amendment to Section 48 (5) of the National Insurance Act which was mentioned in paragraph 123 of the Annual Report of Council. In that paragraph the Council stated that it was desirable that similar representation should be afforded the profession upon the Committee of the Seamen's National Insurance Society as is given to the profession on Insurance Committees. The Council considers it essential that in the event of representatives of the profession being placed upon the Seamen's National Insurance Management Committee a proportion of such representatives should be elected by the profession. It therefore proposed that in addition to the amendment of Section 48 (5) mentioned in the Memorandum to the Commissioners, the following words should be added after the word "proportions" in Section 48 (5) :—

> "half of whom shall be appointed by the Insurance Commissioners and half by the British Medical Association."

The complete Amendment will thus run :—

> That the following words be inserted after the word "proportions" in Section 48 (5) :—
>
> > "and of representatives of the medical profession of the United Kingdom in the same proportion as is accorded the medical profession on Insurance Committees, half of whom shall be appointed by the Insurance Commissioners and half by the British Medical Association."

FREE CHOICE OF DOCTOR.

(Continuation of paragraph 93 (i.) (a) of Annual Report.)

236. Comparison of paragraph 93 (i.) (a) of the Annual Report of Council and the Memorandum sent in to the Commissioners will show that no steps were taken in the latter document to carry out the decision of the Council to endeavour to obtain such an amendment of the National Insurance Act as will secure :—

> "That an effective free choice of doctor by patient be secured by every insured person whether the doctor chosen be on the panel or not."

This is a matter which has given great anxiety to the Council, and it desires to make a full statement of the position in order that the Representative Body may be able to appreciate the difficulties of the case.

237. In order that every insured person should be able to select as his medical attendant one who is not on the panel, without any possibility of veto on the part of an Insurance Committee, and without losing the contribution of the Insurance Committee to the cost of his medical attendance, it would be necessary that there should be an alteration of Section 15 (3) of the National Insurance Act, so as to compel every Insurance Committee to allow every person so applying to "make his own arrangements." The position at present is that the Committee *may* allow him to do so. In many Insurance Areas as is well known the Committees have thrown as many difficulties as possible in the way of persons applying to be allowed to "make their own arrangements," with the result that many of them have been compelled to seek the services of doctors on the panel, while others have sacrificed the contribution from the Insurance Committee and are employing their doctors privately.

238. On the face of it, it would seem that a simple alteration to Section 15 (3) would effect the desired object namely, by making that section read that the Insurance Committee allow any person making a request to that effect to make his own arrangements. Such an alteration if accepted by Parliament would undoubtedly allow of the effective free choice which the Council declared it was its policy to press for. The Council however found itself confronted with the facts of the situation in South Wales, where with the consent of the Welsh Commissioners, two County Committees have been allowing persons collectively to "make their own arrangements" in a wholesale fashion, with results which the South Wales practitioners consider to be disastrous to the profession.

239. If it is made quite easy for persons to "make their own arrangements," the Council considers there will be a great danger of the exploitation of this section of the Act by large numbers of persons being induced by Friendly Societies, or by Trade Unions, to get permission to "make their own arrangements" and then to form "schemes" as they have done in Wales, employing whole-time doctors with salaries, with the object not only of keeping the doctor more effectively under lay control, but also of obtaining medical attendance on the dependents at a cheap rate. The Council feels that this is a risk which the Association dare not run.

240. Legal advice on the subject was taken both from the Solicitor of the Association and from Mr. Sankey, K.C. As a result of the consideration of their suggestions, and of the safeguards necessitated by the South Wales experience, it has been decided that the following amendment of Section 15 (3) be pressed upon the Government and the Commissioners as the means by which the Association desires to secure effective free choice of doctor :

"The regulations made by the Insurance Commissioners shall direct the Insurance Committee by which Medical Benefit is administered to require any person whose income exceeds a limit to be fixed by the Committee, and in the case of any other person such regulation shall provide that upon his request he shall be allowed, in lieu of receiving medical benefit under such arrangements as aforesaid, to make his own arrangements with a *private* practitioner, whether included in any list as aforesaid or not, for receiving for himself medical attendance and treatment as a private patient (including medicine and appliances), and in every such case and upon the application of such person himself, the Committee shall contribute from the funds out of which medical benefit is payable towards the cost of medical attendance and treatment (including medicine and appliances) for such persons sums not exceeding in the aggregate the amount which the Committee would otherwise have expended in providing medical benefit for them."

Position in Wales as regards Section 15 (3) of the Act.

(Continuation of paragraphs 109-112 of the Annual Report of Council).

241. Representations were made by the profession of South Wales to the Chancellor of the Exchequer, and the Chairman of the Joint Committee of the Insurance Commissioners against the abuse of Section 15 (3) by insured persons in South Wales.

Acting under the instructions of the State Sickness Insurance Committee, the Medical Secretary, in company with Mr. W. J. Greer and Dr. W. E. Thomas, the Honorary Secretaries of the South Wales and Monmouthshire Branch; and Dr. Naunton Morgan, Honorary Secretary of the South Wales Colliery and Works Surgeons Association, interviewed the Welsh Commissioners at Cardiff on April 29th, 1913. The deputation informed the Welsh Commissioners of the determination of the Welsh Colliery and Works Surgeons to resist to the uttermost the creation and extention of "schemes," under committees of workmen, designed to control medical practitioners in their employ, which "schemes" were being approved by certain Welsh Insurance Committees under Sub-Section 15 (3) of the Insurance Act, with the consent of the Commissioners. In consequence of this deputation and of the above-mentioned representations to the Chancellor of the Exchequer and Mr. Masterman, it has been arranged that the latter shall meet a deputation from the medical profession in Wales. It is understood that Dr. Addison, M.P., who was appealed to by the profession in South Wales, has promised his assistance in resisting this abuse of a Section of the Act for the insertion of which in the Act Dr. Addison, acting on behalf of the Association, was responsible. In the meantime there has been no further extension of these schemes, though the attitude of the profession to those which have been set up remains as determined and as hostile as ever, and the position of the colliery and works surgeons in the area remains most unsettled.

242. The Council desires to make special mention of the admirable and successful efforts of the profession in Swansea, in opposition to certain Medical Aid "Schemes" set up in that neighbourhood. As will have been noticed from the reports which have appeared in the British Medical Journal, the staff of the Swansea Hospital stood by the local profession in the most loyal manner, and announced their intention of refusing to see patients sent to the hospital by medical officers connected with these schemes. By taking up this firm attitude, the hospital staff brought upon themselves a great deal of criticism which, however, they showed themselves quite capable of answering, and as a result of the combined efforts of the local profession and the hospital staff, an agreement has been arrived at which will not only it is believed succeed in bringing the local schemes which have been started to an end, but will also materially improve the financial position and the prestige of the profession in local contract practice matters.

243. As was announced in paragraph 112 of the Annual Report of Council, the opinion of Mr. Sankey, K.C., was obtained on the question of the right of the Insurance Committees to sanction the formation of "schemes," in which the dependents are included, under Section 15 (3) of the Act.

244. The opinion was briefly to the effect that the Welsh Insurance Commissioners and Committees are acting illegally in granting in a wholesale fashion, applications by insured persons for permission to "make their own arrangements," thus allowing the Section to be made use of for the setting up of Medical Aid Societies for the provision of medical attendance and treatment of insured persons and their dependents in a manner which it is clear allows the money of the insured person to be used for obtaining cheap medical attendance on dependents. Counsel has, however, indicated that there are grave difficulties in the way of taking action to compel the Commissioners and Committees to carry out their duties in a proper manner. He suggests that the litigation required would be costly and uncertain, and strongly urges the Association to make use of the amending Bill to prevent the action complained of by obtaining an amendment to Section 15 (3). The amendment he suggests is that the plural in Sub-section (3) should be altered to the singular so as to make it read:—

"and to allow any such person in lieu of receiving medical
"benefit, etc., to make his own arrangements for receiving
"for himself medical attendance, etc., and in such case
"and upon the application of such person himself the
"Committee shall . . . ."

245. In view of the difficulties surrounding this question, and its relation to the effective "free choice of doctor" the Council has decided to put forward the amendment of Section 15 (3) as stated in paragraph 240 of this Report, as a means of obtaining the free choice of doctor desired, while not prejudicing the position in South Wales.

Advisory and Insurance Committees.

Advisory Committee.

(Continuation of paragraph 95 of the Annual Report of Council.)

246. The Council having referred to the State Sickness Insurance Committee for decision the nomination of an official of the Association for appointment upon the Advisory Committee, the State Sickness Insurance Committee forwarded the name of Dr. Alfred Cox, Medical Secretary, to the Insurance Commissioners. The Insurance Joint Committee accepted the Association's nomination, and has appointed Dr. Cox a member of the Joint Advisory Committee.

Insurance Committees.

(Continuation of paragraph 96 of the Annual Report of Council.)

247. The Welsh Commissioners issued provisional Regulations on 21st May, 1913, governing the election of medical representatives on Insurance Committees. These Regulations prescribe two methods whereby medical representatives may be elected, namely:—

(a) by an "Association of duly-qualified medical practitioners," which, if formed for the purpose, is entitled under paragraph (c) of Section 59 (2) of the Act to elect two medical members of the Insurance Committee for its area, or (b) by a method whereby the whole machinery will be set in operation by the Insurance Commissioners.

It was suggested that the Association should make representations to the Commissioners as to the desirability of the local Divisions of the Association being recognised in each area as the Association "mentioned under Section 59 (2) of the Act." . . . .

248. The Council after careful consideration did not consider it advisable to take the action suggested. There are several difficulties in the way of the recognition of the Divisions of the Association for the purposes of this section of the Act. In the first place the Division areas and the Insurance areas often do not coincide, and secondly, any "Association of Medical Practitioners" which would be recognised by the Commissioners for this purpose would be bound to admit as members all members of the profession in the area. In many Division areas there are members of the profession who either will not join the Association or would not be admitted if they wished to join. In addition to these facts the method described in (b) above is practically the same as that adopted earlier in the year for the election of medical representatives on Insurance Committees, and this on the whole worked very satisfactorily. It places the onus and expense of the election on the Commissioners, and leaves the Divisions free to use their influence in nominating and securing the election of suitable representatives. The Council is of opinion that the profession should adopt method (b) in every area.

Representation of the Profession on Insurance Committees.

249. Consideration has been given by the Council to a suggestion made by a Division and also by a Local Medical Committee that in the amending Act provision should be made whereby all the medical members of Insurance Committees should be directly elected by the profession. The Council approves the principle that all medical practitioners who are appointed to Insurance Committees *qua* medical practitioners should be elected by the profession, but is of opinion that the present time is not an opportune one to press for the recognition of such a principle in the amending Bill. The Council has arrived at this conclusion because from all the information at its disposal it seems clear that it is the intention of the Government to restrict the amending Bill as far as possible to matters of urgency. As the Council has no evidence that there is any general grievance as regards the method of appointment of the medical members of Insurance Committees, it does not seem good policy to overload the present suggestions of the Association for the amendment of the Act. In addition, to press for this amendment might prejudice the present position under which the Commissioners have invited from the local profession nominations for the appointments of medical practitioners to Insurance Committees to be filled by the Commissioners.

LOCAL MEDICAL COMMITTEES.

250. In its desire to keep the Divisions in touch with the Local Medical Committees the Council in the earlier part of the year circulated various documents dealing with Insurance matters to the Secretaries of Divisions and Branches and asked these gentlemen to bring the matters in question before the notice of the Local Medical Committees in their areas. It was represented, however, that inconvenience and loss of time was caused by this method, and it was later decided to send all communications concerning the National Insurance Act not only to Divisions and Branches, but the Secretaries of Local Medical Committees. It is to be noted that this decision does not include the Secretaries of District Medical Committees. The Council is informed that questions concerning medical benefit are being kept mainly in the hands of the County and County Borough Insurance and Local Medical Committees and are not being referred to any extent to the District Insurance Committees or the District Medical Committees. If the District Medical Committees are to have little or no power to deal with questions relating to medical benefit it seems unnecessary to trouble the Secretaries of these Committees with matters which can only be dealt with by the Local Medical Committees, and on this ground and also on that of expense it is not proposed to send these documents to the Secretaries of District Medical Committees.

251. The Council is glad to report that it has received information from, and has been consulted by, a considerable number of Local Medical Committees, and that the publication of the reports of these Committees in the columns of the JOURNAL has been found of great value to the members of the profession who are engaged in the Insurance service. The Council would urge that it is of the utmost importance that the Local Medical Committees should be encouraged to look to the Association for assistance and advice, not only for their own sakes, but also in order to consolidate the position of the Association as the organisation of the whole profession.

Conference of Representatives of Local Medical Committees.

252. The Council at its meeting in April last considered a recommendation from the State Sickness Insurance Committee that a Conference should be called at Brighton of representatives of the Local Medical Committees, but on account of the expense involved, did not see its way to adopt the recommendation. Since that decision of the Council, a communication has been received from the Honorary Secretary of the Annual Meeting at Brighton, stating that his Executive regretted that the Council had not seen its way to call the Conference, and that, having regard to the importance of such meeting, his Committee was willing to call a Conference, to place a room, free of charge, at its disposal, and to meet any incidental expenses in connection with printing, if the State Sickness Insurance Committee would arrange the Agenda.

253. The State Sickness Committee being of opinion that the decision of the Council not to undertake the organisation of such a conference was due solely to the expense involved, expressed its thanks to the Brighton Executive for its offer, and intimated its willingness to submit a suitable Agenda for the Conference. The preparation of the Agenda has been referred to the Chairman (Dr. Macdonald), Mr. E. B. Turner, with the Medical Secretary, in co-operation with the local Executive. Invitations have already been issued to the Local Medical Committees, and it is understood that a good attendance at the Conference is already assured. It will be held at Brighton, on Thursday, July 24th, at 2.30 p.m. and following days if necessary. The Members of the Council and of the State Sickness Insurance Committee of the Association have been invited to attend.

Co-ordination of Local Medical Committees.

254. The question of the future relations of the Association with the Local Medical Committees is referred to in various places in this Report, but the Council is so impressed with the importance and urgency of the subject that it desires to bring the matter to the attention of the Divisions and Representative Body by a special Recommendation, which will focus the opinion of the Association on this matter.

The Council recommends :—

Recommendation J.—That the Representative Body is of opinion that no system of reorganisation of the Association can be effective which does not take into consideration the position of Local Medical Committees, and devise some means of co-ordinating their work with that of the Association.

255. If the Association should accept the plan described under the head of the proposed Special Fund (paragraphs 269-70) the problem would, of course, be solved, but in the opinion of the Council, if that plan is not accepted by the profession some other means must be found whereby the Association will clearly define and strengthen its relationship with the Committees which it was instrumental in having set up as a part of the machinery of the National Insurance Act.

MODEL RULES FOR LOCAL MEDICAL COMMITTEES.

(a) *Model Regulations as to the Constitution of Local Medical Committees.*

256. The Council understands that in the Commissioners' form of recognition of Local Medical Committees for the period of one year, an intimation was conveyed that prior to any subsequent recognition such Committees would have to submit for approval their form of Constitution. With a view to assisting Local Medical Committees, the Council has prepared a model form of Constitution of Local Medical Committees, and also model Standing Orders for the conduct of meetings of these Committees. The form was submitted to the Commissioners by the deputation on June 25th.

The Council recommends :—

Recommendation K.—That the Representative Body approve the Model Regulations for the Constitution of Local Medical Committees and the Standing Orders for the conduct of the business at the meetings of such Committees, as suitable for adoption by Local Medical Committees. (See Appendix XVII.)

(b) *Model Rules for Local Medical Committees in considering Complaints under Medical Regulation 53.*

257. In view of the duty imposed upon Local Medical Committees under Medical Regulation 53 of considering certain complaints by one practitioner on the panel against another practitioner on the panel, the Council has thought it desirable to prepare Model Rules suitable for adoption by Local Medical Committees in respect of the procedure for dealing with these complaints. The deputation brought these Rules under the notice of the Commissioners.

The Council recommends :—

Recommendation L.—That the Representative Body approve the Model Rules contained in Appendix XVIII., as suitable for adoption by Local Medical Committees for the conduct of inquiries into complaints arising under Medical Regulation 53.

TREATMENT OF AGED AND DISABLED MEMBERS OF APPROVED SOCIETIES.

(Continuation of paragraph 115 of Annual Report of Council).

258. Owing to the firm stand by the profession generally with regard to the bargain made by the Association on behalf of the profession for the treatment of the aged and disabled members of Friendly Societies, the Societies have been compelled in many instances to pay for these persons at the same rate as for the

insured. In some districts where the profession is not well organised, concessions have unfortunately been made, no doubt out of a feeling of mistaken compassion, but the Council is glad to report that generally speaking the profession has endorsed the attitude the Association has taken up.

259. As intimated in paragraph 115 of the Annual Report, the Council obtained the opinion of Mr. Sankey, K.C., upon this question. The Opinion briefly is, that while fully convinced that the Association's view of the bargain in this matter made at the Conference in October, 1911, is correct, and that Section 15 (2) (e) had been put into the Act with the express intention of carrying out that view, Counsel was afraid that the actual wording of the Section in question was such that the result of an action at law to enforce the view held by the Association was very dubious.

260. The successful prosecution of this matter, fortunately, however, does not depend on legal interpretations or decisions. It lies entirely in the hands of the profession, and the Council reiterates its opinion that in no case should arrangements be made with these classes of members of Friendly Societies except at the same rate as that received for the attendance on insured persons.

Medical Treatment of Temporary Residents.

(Continuation of paragraph 117 of Annual Report of Council.)

261. The situation as regards the arrangements for medical treatment of temporary residents is one of considerable confusion. Regulation 22, the only one which deals with this class of insured persons, though not objected to when applied to the case of persons who change their residences permanently, has been proved to operate inequitably as regards the practitioners in health resorts, and the Insurance Commissioners have attempted to meet the difficulty by devising a new method which was described in Memorandums 159 and 161 I.C. (For Memo. 161 *see* Supplement, April 19th, and for Memo. 159, Supplement, May 10th, 1913.) The new proposal is to pay practitioners for attendance on temporary residents by means of a fund formed by pooling deductions, calculated on a case value basis, from practitioners in every area. Much opposition was raised by the publication of this proposal, and the State Sickness Insurance Committee came to certain conclusions on the matter which were forwarded to the Insurance Commissioners (*see* paragraphs 14 and 15 of Appendix XVI.).

262. The Divisions, Branches, and Local Medical Committees were informed of the opinions of the Committee, and the Local Medical Committees were urged to get the practitioners in their area (i.) to refuse to consent to any deduction being made from the moneys due to them under the Act, for the purpose of the scheme outlined in Memo. 161, and (ii.) to decline to treat the above mentioned class of insured persons except as private patients, until some more suitable scheme is produced by the Commissioners.

263. Several correspondents asked that legal opinion should be obtained as to the legality of the proposed deductions. Copies of various agreements between practitioners and Insurance Committees in England and Scotland, and also a statement from the Scottish Commissioners (Memo. 159) to the effect that the proposed scheme could "only be adopted so far as the doctors and chemists under the Act gave their consent," were taken into consideration and the opinion was formed that it was illegal for the proposed deductions to be made for the purpose of the formation of a central fund to provide for the medical attendance and treatment of temporary residents, and Divisions and Local Medical Committees were so advised, and the latter were urged to inform their Insurance Committees and the Commissioners that they would object to any deductions being made for this purpose. Many Local Medical Committees have taken this course.

264. In an interview between the English Commissioners and representatives from the Brighton Local Medical Committee, the former expressed their disagreement with the opinion of the Scottish Commissioners on this subject, and declared that the deductions on the case value system could and would be made. The Council would remind the Association that this difficulty as regards the temporary residents is one which was pressed strongly upon the Chancellor of the Exchequer last December by the deputation from the Association, as it was foreseen that the problem was one of great difficulty which could only be properly solved by the provision of some Central Fund financed without reference to the money already allocated for medical benefit. Seeing that the method laid down in Regulation 22 has proved itself on the admission of the Commissioners to be inequitable, and that the English and Scottish Commissioners are at variance as to the legality of the latest scheme, the Council is of opinion that the profession, having made its protest, may well await further developments. At the request of the Commissioners, a small conference of representatives of various typical areas met on Tuesday, July 1st, and discussed the matter thoroughly. The Commissioners have promised to issue a statement making their view of the matter quite plain.

Payment of Chemists for Duplicate Prescriptions.

(Continuation of paragraph 125 of Annual Report of Council.)

265. The representations referred to in paragraph 124 of the Annual Report as having been made to the Insurance Commissioners objecting to the suggested charge by chemists of 1d. for each duplicate prescription, elicited a reply from the Commissioners to the following effect:—

(i.) That any modification in the existing terms of the chemists' contract is primarily a matter for local negotiations between the Insurance Committee, the Local Medical Committee and the Pharmaceutical Committee;

(ii.) that proposed alterations in existing drug tariffs must be submitted by the Insurance Committee to the Commissioners for their approval, and before approving any material alteration, such as the insertion of a fee for the copying of prescriptions, the Commissioners would require Insurance Committees to consult the Local Medical Committee and submit to the Commissioners details of the proposals, stating the views of the Local Medical Committee thereon, and

(iii.) that in considering any such proposal, the Commissioners will give due weight to any representations that may be made on behalf of the practitioners in the particular area concerned.

The Council understands that while the profession in a few areas agreed to the suggested new charge, in most areas the three copy prescription arrangement has been continued.

Fees and Conditions for Provision of Medical Attendance and Treatment on Uninsured persons.

(Continuation of paragraph 133 of Annual Report of Council).

266. A considerable number of scales of charges for medical attendance and treatment of uninsured persons have been presented to the State Sickness Insurance Committee for its approval acting for the Council. In most of the cases the fees for adults are the same as those for insured persons, and those for juveniles average about 5s. per head. The Committee has, however, found difficulties in connection with the income limit, which in the case of many of the schemes presented for its approval has been the income limit of the Insurance Act, namely, £160, whereas the Council in paragraph 133 of the Annual Report suggested that persons earning over £104 should not be treated under contract terms at all. The Council is of opinion that this question is one which requires very careful consideration by the Representative Body in order that some definite limit should be officially accepted.

Central Insurance Defence Fund.

(Continuation of paragraphs 134-7.)

Present Position of Fund.

267. Below is a balance-sheet showing that from the inauguration of the Fund (July, 1911) to June 24th, 1913, the sum of £31,162 18s. 7d. has been received from 14,191 supporters. With bank interest, the total revenue is £31,226 16s. 9d. This shows an increase since the date of the statement in the Annual Report of Council, namely, April 15th, 1913, of £1,313 10s. 9d., with an increase in the number of supporters of 158.

The above total has been received in respect of five calls:—

(i.) £1 per head on all guarantors.

(ii.) 20 per cent. of the whole amount guaranteed.

(iii.) £1 per member of Foreign and Colonial Branches.

(iv.) Special appeal to non-supporters in United Kingdom for donations of £1 or more; and

(v.) 20 per cent. call on local Fund guarantors who had not guaranteed to Central Fund.

The first call (with donations) has produced £15,774 12s. 2d.; the second, £14,002 2s. 5d.; the third, £191 19s. 4d.; the fourth, £512 1s. 2d.; and the fifth, £682 3s. 6d. If the second call had been responded to by all guarantors it should have produced £27,690 8s. 9d.

INSURANCE DEFENCE FUND.

Statement of Account from July, 1911, to 24th June, 1913.

		£	s.	d.
1911	By Contributions	6,704	7	7
1912	do.	8,338	0	8
1913	do. to June 24th, 1913 ...	16,120	10	4
,,	Interest on Deposit Account	63	18	2
		£31,226	16	9

	£	s.	d.
To vote to Association Funds to meet abnormal expenditure incurred in connexion with the National Insurance Act	13,500	0	0
Compensation Claims	2,365	0	0
Provisional Medical Committees... ...	1,684	0	10
Irish Committee ...	100	0	0
Conjoint Committee ...	200	0	0
Postage	299	5	6
£ s. d.			
Bank Charges ... 6 15 6			
Unpaid Cheques and Returns 18 19 6			
Legal Expenses 23 3 0			
	50	18	0
Balance June 24th, 1913...	13,027	12	5
	£31,226	16	9

Compensation Granted.

(Continuation of paragraphs 142-8.)

268. In the Annual Report of Council particulars were given of compensation granted to ten practitioners. Since the date of that statement many more applications have been considered, and compensation has been granted to four practitioners who proved to the satisfaction of the State Sickness Insurance Committee, after the local Division had been consulted, that they had suffered loss owing to their loyalty to the policy of the Association. The amount granted these four practitioners totalled £360, in sums varying from £50 to £200, £250 of which is on loan without interest.

From the foregoing, and the statement in the Annual Report, it will be seen that compensation, amounting to the sum of £2,365, has been granted to 14 practitioners.

It must be remembered that a considerable number of claims are still pending, several practitioners having been asked to wait until the end of the year when they will be in a better position to estimate the financial effects on their practice of the action taken by them in relation to the Insurance Act.

PROPOSED SPECIAL FUND.

(Continuation of paragraph 152 of Annual Report of Council).

269. The attention of the Council has been drawn to the fact that in various parts of the country action is being taken with a view to the inauguration of schemes for the co-ordination of Local Medical Committees. The Council came to the conclusion that it was advisable to inform the Divisions and Local Medical Committees that a national scheme for the co-ordination of all Local Medical Committees and for the payment of their expenses is at present under the consideration of the Association, and a circular to this effect was sent out. The circular also urged that no steps should be taken with regard to schemes of this kind, pending issue of that of the Association, and suggested that for the present a small local levy should be made to cover the expenses of Local Medical Committees to the end of the present year.

270. In accordance with the promise made in paragraph 152 of the Annual Report of Council, the Council now presents a Report on the proposed Special Fund for the co-ordination of Local Medical Committees and the payment of their administration expenses, to include also a scheme for the thorough organisation of the profession as a whole. The Council trusts that this scheme will receive the most careful attention of the Divisions and Representative Body. It will be understood that the scheme is presented for the consideration of the Divisions and Representative Body in accordance with the instruction given by the January Special Representative Meeting (Minutes 54 and 60) and the Recommendations in the Report are for the technical purpose of providing a means for proper discussion. (*See* Appendix XIX.)

MEDICAL OFFICERS OF POOR LAW INSTITUTIONS AND TREATMENT OF MEMBERS OF STAFFS WHO ARE INSURED PERSONS.

271. The Poor Law Medical Officers' Association has drawn the attention of the Association to the fact that in some parts of the country, particularly in the Metropolitan area, pressure is being brought to bear upon whole time medical officers of poor law institutions to go upon the local panel for the purpose of attending those members of the staff of the institution who happen to be insured persons, while at the same time the money paid by the local Insurance Committee in respect of such insured persons is being received wholly or in part by the Boards of Guardians concerned.

272. The Council has called the attention of the Local Government Board to the facts reported, and has informed the Board that the Association is strongly of opinion that in all cases in which the medical officer of a Poor-Law institution is required, under agreement with an Insurance Committee, to attend as insured persons any of the members of the resident staff, the proper proportion of the moneys paid by the Insurance Committee in respect of medical attendance and treatment of such insured persons should be paid to the medical officer of the institution who is responsible for the attendance and treatment.

LONDON INSURANCE COMMITTEE FORM OF TRANSFER FROM ONE PRACTITIONER TO ANOTHER.

273. Representations were made to the London Insurance Committee and to the Commissioners objecting to the form, (M.B. 3) issued by the London Insurance Committee, of transfer of an insured person from one practitioner to another, on the ground that it required a statement by the insured of his reason for desiring to change, such a reason not being required by the Regulation dealing with this point. A reply being received to the effect that the statement objected to had been inserted purely for the purpose of facilitating transfers, the London Insurance Committee was informed that the Association considered the form objectionable and trusted that the demand for the reasons for desiring a change would be deleted. The Council has been informed by the Insurance Commissioners that the London Committee has now adopted a revised form which does not require any statement of the kind objected to.

PUBLICATION OF PARTICULARS OF THE MONEYS DUE TO PRACTITIONERS.

274. The attention of the Association having been drawn to the fact that in many local newspapers the sums paid to individual practitioners by the Insurance Committees were being published, the Insurance Commissioners were asked to require that Insurance Committees shall not supply to the lay press details of the amounts paid to practitioners. Up to the present no reply has been received, but it is believed that this protest together with those of the Local Medical Committees concerned will have the desired effect.

CANVASSING AND ADVERTISING BY PRACTITIONERS IN CONNECTION WITH THE NATIONAL INSURANCE ACT.

275. From time to time it has been reported in the columns of the Supplement that the Association was making representations to the Registrar of the General Medical Council as to the numerous cases of complaint received with reference to canvassing and advertising by medical practitioners in connection with the Act. The Association was informed that the General Medical Council had also received a large number of complaints, and it is understood that the Medical Defence Societies were in a similar position. Practitioners in some areas seemed to imagine that no method was too undignified to use if it would have the effect of attracting to themselves insured persons who were at that time choosing their doctors, and doctors who had not joined the panel were reported to be advertising the fact, stimulated, no doubt, by the example of the others. Cards and circulars were issued, bills were posted in shop windows, canvassers were employed, and one or two cases were notified in which practitioners actually had an advertisement of their

readiness to accept insured persons thrown upon the screen of a cinematograph theatre. The Council desired to bring some of the more flagrant cases before the General Medical Council through the Central Ethical Committee, with a view of having the names of the offenders removed from the Register, but the latter Committee was informed that such was the number of complaints that the President of the General Medical Council had resolved to issue a general warning to practitioners, hoping that this would put an end to the disgraceful practices complained of. This warning took the form of a letter to the Insurance Commissioners, which was also published in the Medical Journals, and it undoubtedly had some effect. The General Medical Council at its May sessions decided to issue a copy of this letter to all Approved Societies and approved institutions. The General Medical Council hoped that this latter step would prove very effective, as in its opinion the greatest offenders were the societies and institutes which were generally ignorant as to the attitude taken up by the profession in regard to advertising and canvassing. A letter has been sent to the Registrar of the General Medical Council regretting that the Council did not see its way to issue a strong circular to every individual practitioner. In reply the Registrar of the General Medical Council expressed the belief that the circular to the Approved Societies and institutes, which was to be widely circulated, would have the desired effect, and promised to co-operate with the Association, as in the past, in sending a direct warning in any case which might be reported to him. The Council of the Association will take strong action in any case, now reported to it, in which the required statutory declarations can be obtained.

The Future Policy of the Association as Regards the Developments in the National Health Insurance Act.

276. The Council is of opinion that in view of the rapid developments which may be expected in connection with the Insurance Act it is desirable that the Association should set to work to formulate its views as to what a National Health Insurance Act should be, with due regard to the various possibilities of extension of the scope of the present Act. This is a question which needs full discussion and deliberation, and the Council, therefore, suggests that the Representative Body should give instructions so that the matter can at once be taken in hand.

The Council recommends :—

Recommendation M.—(a) That in view of the fact that it is exceedingly likely that the scope of the National Health Insurance Act will be so extended as to include in its operations various additional matters (*e.g.*, the treatment of children and dependents of insured, dental treatment, hospital treatment, alterations in the method of dealing with deposit contributors and casual labourers) it is desirable that the Association should be ready with its policy as to what a National Health Insurance Act should be, not merely from the point of view of the interests of the profession but also from that of public health and the advancement of medical science ; and

(b) That the preparation of a full report upon the above lines be referred to the.....Committee ; that such Report be issued to the Divisions for their consideration and comment ; and that the Report, together with a statement of the views of the Divisions thereon be submitted, if possible, to the next Representative Meeting, and that the Council be given power to act for the Representative Body should an emergency arise in the meantime.

Work of Committee Pending Appointment of New Committee.

277. In view of the early approach of the Representative Meeting the State Sickness Insurance Committee does not propose to meet again unless the Chairman considers that matters of importance make it necessary that it should be called together. A Sub-Committee consisting of the Chairman, Drs. Beaton, McKenzie Johnston and E. R. Fothergill, and Messrs. Turner and Flemming has been appointed to deal with any routine matters which may arise, including consideration of the Amending Insurance Bill.

(I) Public Health and Poor Law.

Medical Officers of Health (Superannuation) Bill.

(Continuation of paragraph 156 of Annual Report of Council, page 387.)

278. The Association's Medical Officers of Health (Superannuation) Bill has not yet reached a second reading in the House of Commons, the Bill having been blocked, notwithstanding repeated representations made to him on the subject, by Mr. Handel Booth, M.P. It being thus practically impossible for the Bill to receive discussion in the Commons this Session, the question was considered of endeavouring to introduce the Bill in the House of Lords, but Sir Philip Magnus, M.P., who has had charge of the Bill in the Commons, did not advise this course. The Bill has therefore been dropped for the Session, but the necessity for this legislation is being actively kept before the notice of the authorities.

279. The suggestion has been made that the Bill should be amended to provide for superannuation for School Medical Officers, Tuberculosis Officers, and Sanitary Officers, but inasmuch as the prospects of the Bill were doubtful and as any attempt to enlarge its scope would render them still more so the Council decided that it could not undertake the responsibility of initiating such amendments. The passage of the Bill into law as at present drafted would greatly facilitate similar subsequent provision for the other officers referred to. If the Bill now obtained a second reading in the Commons, there could be no objection on the part of the Association to those interested attempting at the Committee stage to introduce amendments to include the classes of officers in question.

Milk and Dairies (Scotland) Bill of the Government.

280. This Bill is on lines similar to those of the English measure alluded to in Paragraphs 157-9 of the Annual Report of Council. It has for its objects to ensure the purity of milk supplies, and regulate dairies in Scotland. The Council has expressed approval of the Bill on behalf of the Association, urging, however, that the Government accept the following amendments, which have for their object the security of tenure of Medical Officers of Health :—

(a) A Medical Officer of Health shall be removable by the authority by whom he is elected, with the consent of the Local Government Board, and not otherwise.

(b) A Medical Officer of Health shall not be appointed for a limited time only.

It does not appear likely that the Bill can become law this Session. If this or the English Bill is dropped it is the intention of the Council to make a strong protest against the continued shelving of such important measures.

Relation of Medical Officers of Health to General Practitioners.

(Continuation of Paragraph 162 of Annual Report of Council, page 387.)

281. The Conference of representatives of the Public Health, Medico-Political and State Sickness Insurance Committees, on behalf of the Association, with representatives of the Society of Medical Officers of Health, foreshadowed in paragraph 162 of the Annual Report of Council, was held on May 28th, 1913. The Conference expressed the following opinion :—

That Conferences between representatives of the British Medical Association and of the Society of Medical Officers of Health should be held at regular intervals for the purpose of discussing questions of common interest likely to be the subject of discussion by the Representative Body of the Association, or matters as to which either body desired the opinion of the other, and that other Conferences should be held as and when desired.

The Council cordially endorses the suggestion that these Conferences be held at regular intervals for the purposes named and is arranging accordingly.

QUESTION OF PAYMENT OF FEES TO MEDICAL OFFICERS OF SANATORIUMS FOR NOTIFICATIONS UNDER PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912

282. The Council has under consideration the question of the respective positions of medical officers of sanatoriums and medical officers of poor law institutions as regards remuneration in connection with the Public Health (Tuberculosis) Regulations, 1912. Both these classes of officers are required by Article 7 of the Regulations to send weekly notifications to the Medical Officer of Heath for the district of all tuberculosis cases admitted, and of any cases discharged from these institutions which go elsewhere than to poor-law institutions or sanatoriums. For this work the Regulations provide for the payment of fees to the poor-law medical officers, but make no such provision for the sanatorium officers. While it is true that the amount of unremunerated work thus demanded of medical officers of sanatoriums is not large, it is necessary to vindicate the principle to which the Council has already drawn attention in its Annual Report (paragraph 160), namely, that if the duties devolving upon medical officers of health and other administrative officers are increased their remuneration should be correspondingly augmented. The Council is therefore drawing the attention of the Local Government Board to the foregoing anomaly in the Public Health (Tuberculosis) Regulations, 1912, and to the unfair position in which sanatorium officers are thereby placed, and asking for removal of the grievance.

(J) Hospitals.

QUESTION AS TO ADVISABILITY OR OTHERWISE OF THE STAFFS OF VOLUNTARY HOSPITALS BEING PAID FOR THEIR SERVICES.

283. The Annual Representative Meeting, 1910, instructed the Council to prepare a Report for the consideration of the Divisions and Representative Body on the advisability of all members of the staffs of voluntary hospitals being paid for their services. It has not, however, been possible for the Council, until the present session, owing to the pressure of other matters, to give this subject consideration. The Council now submits to the Divisions and Representative Body the following special Report thereon.

SPECIAL REPORT AS TO THE ADVISABILITY OR OTHERWISE OF THE STAFFS OF VOLUNTARY HOSPITALS BEING PAID FOR THEIR SERVICES.

(a) The Annual Representative Meeting, London, 1910, passed the following resolution:—

> *Minute* 221.—Resolved: That the Council be instructed to prepare a Report for consideration of the Divisions and the Representative Meeting on the advisability of all members of the Staffs of Voluntary Hospitals being paid for their services.

(b) Pursuant to the instruction contained in the foregoing Minute of the Representative Body, the Council has carefully considered the position of the Staffs of Voluntary Hospitals in this country as regards the question of the advisability of all members of such Staffs being remunerated for their services.

(c) The Council decided that an important step was to ascertain whether the system of payment of members of hospital staffs in vogue in certain other countries has had a deleterious influence or otherwise on the status of the medical profession in those countries. It has been found very difficult to arrive at any definite conclusion on this point. It is almost impossible to compare the position of British hospital staffs with that of hospital staffs in other countries, partly because the methods of hospital finance and administration in other countries are so different from the British system, and partly because, though there is abundant literature on comparative methods of hospital administration, there is hardly any on the specific question now under consideration.

(d) The purely voluntary hospital system is peculiarly British. In practically every other country there is direct or indirect State or Municipal subvention, with a corresponding control.

(e) In America (United States and Canada) there is a mixture of the voluntary and State systems, with a considerable number of pay hospitals or pay wards. Generally speaking, no person can obtain a free hospital bed until he can prove that he is unable to pay something. There is no question of payment of hospital staffs in the sense of the present enquiry. The usual custom is that a person requiring hospital treatment personally pays the charges of the hospital, including the medical fees.

(f) In Australia the growing tendency is to Government subsidy and control. Whenever the Government gives a grant it insists on indigent persons being attended. The New South Wales Branch of the Association in December, 1912, resolved:

> That it is against the interests of the profession for medical men to hold appointments in Government hospitals or institutions as honorary medical officers.

(g) This expression of opinion, it will be seen, is on all fours with the following, which was passed by the Annual Representative Meeting at Belfast, 1909:—

> *Minute* 576.—That the Representative Meeting considers that the services of the profession should not be given gratuitously to patients who are maintained by public funds.

(h) From the discussion which took place in the New South Wales Branch, it is evident that in that country there are collateral advantages accruing to practitioners who hold posts on the staffs of hospitals which will make it very difficult to prevent such posts being filled, whether they are paid or not.

(i) In practically every European country the hospitals are under the protection and control of the State or Municipality. Patients are supported by contributions paid by themselves, or by the poor law or its equivalent, or by some insurance society, and the State makes up the deficit. In these countries private clinics and hospitals, owned and run by individual medical practitioners, are common, and they are increasing in number.

(j) The number of paid whole-time medical officers in the Continental hospitals is, generally speaking, greater than in the British, but the salaries are very moderate. Those paid to the consulting staff are also small. In the University Hospitals of Berlin, for example, the Directors of the Clinics are University professors who practise privately. They have honorariums of from £30 to £60 per annum as Directors, and have also salaries of from £200 to £350 for teaching the students. In the Municipal Hospitals the Directors of Clinics have annual salaries of from £150 to £250. They also have consulting practices outside.

(k) Though the expenses of the Continental hospitals are paid to a considerable extent by payments of, or on behalf of, patients and by State subsidies, it would appear that demands are made on the charity of the profession similar to those made under the voluntary system of Great Britain. The salaries paid to the members of consulting staffs do not appear to be more than an acknowledgment similar in kind (though larger in the aggregate) to the honorariums and the shares of teaching fees paid in some of the British hospitals.

(l) The Council on the information before it, concluded:—

> (i.) That State subsidy by no means necessarily implies payment of the hospital consulting staff, except in the form of a mere acknowledgment:
>
> (ii.) that there are sufficient advantages obtained by holding a hospital staff appointment in continental countries to attract the best practitioners, even with the disadvantage of much stricter lay control, and the knowledge that the members of the medical staff are doing the work of the State gratuitously, or nearly so:
>
> (iii.) that it is impossible to say that any system of State payment such as exists has any deleterious effect on the status of those members of the profession who accept such payment;
>
> (iv.) that even if it were shown that the acceptance of payment in other countries, where such payment is the acknowledged custom, has no bad effect on the status of the profession, it would by no means follow that a change from the voluntary to the paid system would not seriously affect the position of the profession in this country.

(m) The Council is of opinion that the possession of a hospital appointment in this country offers such advantages of a professional and social character as would lead a large number of the members of the profession to decline to take any steps to secure payment for their services, even if the hospitals were partly subsidised by the State or Municipality.

(n) As the Council has no evidence that there is any general desire on the part of members of hospital staffs to change their position from that of honorary officers with a status equal to that of other persons interested in the management of hospitals, to that of paid officers, and in view of the uncertainty of the effect of such a change on the future of (a) the hospitals, (b) the staffs of the hospitals, and (c) the general status of the profession in this country, the Council is of opinion that any tendency towards the subversion of the

British voluntary hospital system should receive no encouragement from the medical profession.

The Council recommends:

Recommendation. — That the Representative Body express the opinion that the voluntary system of hospitals prevalent in this country should be maintained so long as possible, and that in order to assist in maintaining such voluntary system, the services of the visiting medical staff should continue to be given on an honorary basis.

(L) Scotland.

Organisation of Profession in Scotland.

(Continuation of paragraph 172 of Annual Report of Council, page 388.)

284. In its Annual Report for 1912-13 the Council reported certain changes made by the Council in the detailed organisation of the Association as affecting Scotland, including the fact that the Council had sanctioned the holding of Conferences between representatives of the Scottish Local Medical Committees and the Scottish Committee. It has now been arranged that the first such Conference shall be held at Dundee on July 4th, 1913, when various questions arising out of the operation of the National Insurance Act in Scotland will be discussed, under the following heads:—

(a) Questions requiring consideration in connection with an amending Act;

(b) Matters which may be the subject of negotiation with the Insurance Commissioners;

(c) Matters which can be adjusted with Local Insurance Committees.

The questions of the methods of dealing with malingering, and of the qualifications necessary for Referees and Chief Tuberculosis Officers will probably also come up for discussion.

(M.) Ireland.

National Insurance Act.

(Continuation of paragraph 179 of Annual Report of Council, page 389.)

285. The work done by the Irish Committee and Joint Committee of that Committee with the Irish Medical Association during the year falls under the following four heads:—

(1) Organisation;

(2) Relating to general conditions of service under the National Insurance Act and friendly society practice;

(3) Service under the Sanatorium Benefit clauses of the Insurance Act;

(4) Maternity Benefit.

(1) *Organisation.*

286. Provincial Sub-Committees were formed in the Autumn of 1912, and at the same time Local Medical Committees were also formed in each County and County Borough. The latter were officially recognised in March, 1913. The Undertaking was distributed by the Committees amongst the practitioners in each area, and it is satisfactory to note was signed by over 90 per cent. of the profession. Twelve medical practitioners, other than those nominated by the Conjoint Committee on the advice of the Local Medical Committees, having been appointed by the Insurance Commissioners to act on the Local Insurance Committees, eight of these withdrew at the request of their respective Local Medical Committees, three refused to resign, and one was allowed to retain his position by consent of the majority of his Local Medical Committee. In March, 1913, the question of filling all the existing vacancies on the various Insurance Committees was re-opened by the Commissioners, when selection was made by the latter from the nominees of the various Local Medical Committees, and the Commissioners stated "that the existing provisionally appointed Insurance Committees will hold office until the 15th of July next at latest and that . . . . . in the case of all future appointments of medical representatives on Insurance Committees the Commissioners will select representatives only from nominees of the Local Medical Committees recognised under the Act."

287. In January, 1913, the Commissioners were requested to reinstate the medical members nominated by the Conjoint Committee on the Advisory Committee, who had been requested to retire in August, 1912, in consonance with the action taken by the British Medical Association. All of these were eventually reinstated.

(2) *Action taken relating to General Conditions of Service under the National Insurance Act and Friendly Society Practice.*

288. The vast majority of doctors who held Friendly Societies at less than the standard rate of 8s. 6d. per head, excluding medicines, resigned these appointments in October, 1912, and a very bitter controversy on the new rates demanded by the profession was carried on in the press. Arrangements satisfactory to the profession were come to in some of the county boroughs, whereby payment was made for work done, and in many places the standard rates were paid. In Dublin, however, an agreement was entered into by the Local Medical Committee with the Friendly Society Union, pending the extension of medical benefit to Ireland, whereby attendance and medicine would be given to the member and his dependents for 7s. 6d. per annum. This agreement was immediately repudiated by the Conjoint Committee. The fact that some disloyal members of the profession were willing to carry on the work of the Societies on the latter's terms, as well as that the Guarantee Fund opened to recompense those who were likely to suffer loss by loyal adherence to their undertakings, was not subscribed to, together with the stampede which occurred in England, all combined to favour this unfortunate arrangement. The agitation, however, resulted in the average rate of 4s. previously paid being raised to 7s. 6d. No settlement has so far been arrived at in Derry, Limerick, or Waterford.

289. On the Parliamentary Committee to enquire into the question of the extension of medical benefit to the county boroughs being constituted, the Conjoint Committee asked the Chancellor of the Exchequer to appoint representatives of the medical profession on this Committee. It was urged that as the matters to be dealt with gravely affected medical interests, a Committee which would command the confidence of the profession would be in the best position to make recommendations which would secure an adequate medical service, should it be decided to extend medical benefit to Ireland. The Chancellor replied that no interest affected had direct representation (although two of the members of the Committee are in fact Presidents of the two largest Friendly Societies operating in Ireland), and that all interests affected would have full opportunity in giving evidence to make any representations they might desire. The Parliamentary Committee invited the Conjoint Committee to nominate a limited number of medical witnesses, and seven were so nominated and gave evidence. Private conferences were held with the representatives of the Conjoint Committee, together with medical representatives from the six county boroughs, and with these and representatives of the Friendly Societies. As a result, it was suggested that service might be given under the Act for 9s. per person, exclusive of medicines, but to include the dependents of the insured. This proposal having been placed before the profession in these county boroughs, was unanimously rejected, but it was pointed out that the doctors would be willing to accept service at the same rate for individuals as obtained in England. The Parliamentary Committee has not yet reported to Parliament, and nothing further has transpired.

290. In February, 1913, a scheme on the panel system for the distribution of the £50,000 grant in aid for the certification of insured persons, at rates varying from 1s. per certificate in urban to 1s. 6d. per head in rural districts, was submitted by the Commissioners to the Conjoint Committee. On the recommendation of that Committee the scheme was amended to ensure that if the offer were accepted the funds available should be divided on an equitable basis between urban and rural areas. The Conjoint Committee have always protested that the sum available was inadequate, and while agreeing to the principle of distribution last mentioned, the decision to accept or reject it was left to the various Local Medical Committees, who were urged to press for such increase of the amount from the Friendly Societies and other sources as would meet the demands of the profession. The scheme was accepted in Belfast, Cork, and Derry, and in some of the Counties, but rejected elsewhere in Ireland. In the County Boroughs where the panels have not filled, part-time salaried medical advisers have been appointed. These positions have been banned by the profession, and it is to be regretted that a few disloyal practitioners have accepted them, contrary to the expressed desire and the best interests of their fellow practitioners. In October, 1911, a definite promise of 2s. 6d. per head for certification purposes was made by a Committee of the Irish

Parliamentary Party to members of the Conjoint Committee, and on June 1st, 1911, the Chancellor of the Exchequer stated to the Representative Meeting that "the same money" would be available for Ireland as in Great Britain. Until these promises are redeemed no settlement of the dispute in Ireland can be hoped for.

(3) *Sanatorium Benefit.*

291. In August, 1912, some county councils were advertising for Chief Tuberculosis Officers at salaries quite inadequate. Representations were made to the Local Government Board that except in a few of the smallest and poorest counties in Ireland the minimum salary should be £500, as laid down in the report of the Astor Commission. This has now been given effect to except in two or three cases, where, however, after twelve months the salaries will be increased. The action of the Women's National Health Association in attempting to usurp the functions and powers of the statutory local authorities as to the establishment of sanatoriums and tuberculosis dispensaries under the Insurance Act and Tuberculosis Prevention (Ireland) Act received attention in August and September, 1912. As a result of a conference with representatives of the Health Association, an invitation was received to nominate three members to act on the Advisory Committee of that Association, but the Conjoint Committee, while willing to give advice and assistance in matters submitted to them, declined the offer of direct representation. Other matters which occupied attention were (1) the duties and conditions of service of chief tuberculosis officers; (2) the question of fees for domiciliary treatment; (3) the position of hospitals in relation to sanatorium benefit. A model scheme for the treatment of tuberculosis was drawn up and forwarded to the Commissioners, Local Government Board, Insurance and Local Medical Committees and all members of the profession.

(4) *Maternity Benefit.*

292. Regulations were drawn up and a scale of fees formulated by the Insurance Commissioners at rates which were ridiculously insufficient. A deputation from the Conjoint Committee accordingly waited on the Local Government Board and clearly and satisfactorily defined the position of Irish poor-law medical men in relation to the suggested arrangements, and the matter of fees was discussed with the Commissioners, with the result that nothing further has been heard of the scheme which the Commissioners in conjunction with the Friendly Societies attempted to foist upon the profession.

FINANCE.

293. The Irish Medical Association having contributed £100 to the expenses of the Conjoint Committee the British Medical Association has, as foreshadowed in paragraph 178 of the Annual Report of Council, contributed £200 for the same purpose. In addition, money is being raised by voluntary contributions from members of the profession and some £90 has been received in this way up to the present. In January, 1913, a paid Medical Secretary of the Joint Committee was appointed, but the work of the Conjoint Committee has been impeded by lack of funds.

CONJOINT COMMITTEE.

294. In June, 1913, the Irish Medical Association withdrew its representation on the Conjoint Committee. This step may be regarded simply as a protest by that Association against what it considered to be the mistaken action of the Conjoint Committee in dealing with the panel scheme for certification. A meeting of delegates from the various Local Medical Committees in Ireland will be held in Dublin, on July 18th, 1913, to receive the report of the Conjoint Committee and consider the existing position of practitioners in Ireland in relation to the Act.

PROFESSOR A. H. WHITE.

295. Professor A. H. White, having resigned the Secretaryship of the Irish Committee and the Conjoint Committee, the Council desires to place on record its sense of the valuable services rendered to the profession by Professor White during the long period for which he occupied those positions.

J. A. MACDONALD,
Chairman of Council.

July 2nd, 1913.

APPENDIX X.

SPECIAL REPORT ON THE POSITION OF THE ASSOCIATION AS REGARDS EXTENSION OF ITS POWERS.

1. In order that the Divisions, and the Representative Body may be in a position to deal more effectively with the various questions which will be discussed at the Annual Representative Meeting, Brighton, relating to the Constitution of the Association and the possible extension of its powers, the Council has thought it desirable to state concisely the action which has been taken during the past few years to define the legal position of the Association and the restrictions imposed by its present Memorandum of Association, and to discuss the possible ways of getting rid of those restrictions.

2. The Association is a Limited Company which under Section 23 of the Companies Act, 1867, is licensed by the Board of Trade to dispense with the word "limited" on the ground that it is "formed for the purpose of promoting commerce, art, science, religion, charity, or any other useful object, and that it is the intention of such Association to apply the profits, if any, or other income of the Association, in promoting its objects, and to prohibit the payment of any dividend to the Members of the Association."

3. All limited companies are confined strictly to those objects which are included in their Memorandum of Association or are reasonably incidental thereto, or are specifically authorised by Statute. "Everything else is *ultra vires* (*i.e.*, beyond the powers) of the Company and those who take part in *ultra vires* acts incur serious responsibility." (Palmer, on Company Law.)

4. Soon after its reconstitution, in 1902, the Association began to feel hampered by its Memorandum of Association, and in 1907, after considering various ways of surmounting the difficulties experienced, the Representative Body resolved to apply for a Royal Charter. The Charter was drafted in 1907 and 1908 and included, in addition to its present objects, all those objects which at that time the Association was desirous of undertaking but which the Memorandum of Association did not specifically authorise. These were:—

(a) Benevolent provision for Members and their families,

(b) Promotion of candidature for any British legislative assembly,

(c) Taking or defending legal proceedings for, or on behalf of, any Member involved in his professional capacity,

(d) Sale or transference of practices or partnerships, and the undertaking of general medical agency business, and

(e) Execution of any trusts which the Association might deem to be conducive to the interests of the Association and profession.

5. In 1910 the Council reported to the Annual Representative Meeting that in consequence of the opposition of various medical bodies, and of some of the Branches and Members of the Association itself, the Privy Council had refused to recommend the grant of a Royal Charter to the Association. The Council then obtained, through the Organisation Committee, the opinion of Counsel as to what other means were open to it for obtaining the desired extension of the powers of the Association, and the following is the Report of the Organisation Committee presented to the Council on April 27th, 1910:—

"*Possible means of obtaining Extension.*

The possible means which have been considered by the Committee are as follows:—

(a) Application to High Court for such alteration of the present Memorandum of Association as would include the desired additional objects. Having regard to the legal advice repeatedly obtained upon this subject, the Committee is of opinion that it is useless further to contemplate action of this kind.

(b) The possibility of continuing the present Company and forming trusts or subsidiary organisations, under the control of the Association, for carrying out those objects

which the Association cannot carry out directly under its present Memorandum. The objections to this procedure are (a) that such arrangements would be of a complicated nature and might lead to deadlocks, and (b) that it would remain impossible to devote any part of the funds of the Association to the objects for which such trusts or subsidiary organisations were formed; thus, it would be impossible to enjoy the great advantage of an inclusive subscription. Such a procedure, therefore, though within the powers of the Association to carry out, should only be considered as a measure to be adopted in the last resort.

(c) Winding up the existing Company and forming a new Company of the same title, under the Companies Acts, the liability of Members being limited by guarantee, and the Company being registered as formed not for profit exactly as in the case of the present Company, but having a Memorandum of Association covering those wider objects which the Association desires to be able at any time to undertake. The questions to be considered in connection with this procedure are:—

(i.) It would be necessary to obtain a license from the Board of Trade for the registration of the new Company as a Company formed not for profit, and thereby entitled to dispense with the use of the word "limited" as part of its title;

(ii.) Opposition is possible from some of those who have opposed the present application for a Royal Charter;

(iii.) The consent of Statutory General Meetings would be required for the winding up of the present Company.

As regards the first of the above points the Committee has made enquiries which lead to the hope that no insuperable difficulty need be feared as to the grant by the Board of Trade of its license to a Company having those declared objects which are detailed in Clause 2 of the draft Charter. As regards the second point, there is reason to believe that the opponents could not object on the same grounds as in the case of the application for a Charter, and that such opposition as might be offered could be overcome. Concerning the third point the course of procedure to be adopted would, no doubt, be to submit a statement of policy as soon as possible for the approval of the Representative Meeting of the Association, and doubtless, no course of action would be pursued without the approval of such a majority of the Representative Meeting as would justify the Representative Meeting and Council in assuming that the matter would obtain the support of a sufficiently large number of Members to enable it to be carried through.

(d) Winding up the present Association and reconstitution of it as an open Association not incorporated in any way. The great objection to this course is that such an Association can neither sue nor be sued, and it would be necessary to form some subsidiary Company or Trust for the conduct of the Journal and the protection of the property of the Association. Complication would arise as regards funds, and, in the opinion of the Committee, this course, like, the second, should only be considered in the event of it being found impracticable to form, under the Companies Act, a Company having all the objects which the Association desires.

(e) Winding up the present Company and reconstituting the Association as a Registered Friendly Society. This would no doubt be practicable, but would make all the Regulations of the Association subject to the final discretion of the Registrar of Friendly Societies. The Committee is of opinion that it is undesirable that the Association should thus place itself under the control of a Government Department, and that this course does not merit further consideration.

Summary of Conclusions.

In the opinion of the Committee the efforts of the Association should first be directed to the incorporation of a new Company registered under the Companies Acts as formed not for profit. If this effort should fail, the method (b) though inconvenient, is always open."

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6. In consequence of this Report the Council recommended to the Representative Meeting that steps should be taken to form a new Company with as many of the powers asked for in the Charter as could in that way be obtained (*see* sub-paragraph (c) of foregoing report) and the Representative Meeting adopted the recommendation.

7. Many difficulties were encountered, the chief being that a license from the Board of Trade would have to be obtained on account of the impossibility of carrying the present funds of the Association over without it, and that the Board of Trade could not grant powers which would seem to place the Association in a position to "support with its funds or endeavour to impose on or procure to be observed by its Members or others any regulation, restriction, or condition, which if an object of the Association would make it a Trade Union." But finally the Council ascertained exactly how far the Board of Trade was prepared to go in allowing a new Company to be formed after winding up the present one.

8. As reported in the Annual Report of Council (*see* Supplement, May 3rd, 1913, page 370), it would be possible by forming a new Company to obtain power:—

(a) To promote and oppose legislation affecting the public health or the profession.

(b) To take part in certain legal proceedings affecting the profession.

(c) To establish, endow and manage benevolent funds (with the restriction that no grant may be made directly to a Member of the Association, though a Member might, if indigent, be benefited indirectly by a grant to his relatives or dependents).

(d) To borrow on mortgage.

As will be seen from paragraph 26 of the Annual Report of Council, however (*see* Supplement, May 3rd, 1913, pp. 370-1), the Council came to the conclusion that the additional powers obtainable by the formation of a new Company are not commensurate with the expense which would be involved, and the Council has recommended that steps be taken simply to obtain an extension of the Memorandum of the present Company to include the power of borrowing money on mortgage or otherwise.

9. The possibility has also been considered of winding up the Association and forming a new Company without the license of the Board of Trade and therefore to be styled the British Medical Association, Limited. There are several objections to the adoption of this course. First, the Association would have to pay income tax on its income and be treated exactly like any other trading Company. Secondly, and more important, the property of the Association being impressed with the restrictions contained in the original Memorandum could not be conveyed to any Company whose objects are wider than those of the present Memorandum or of a Memorandum enlarged to the extent indicated in paragraph 8. Finally, even after the formation of the new Company with such widened powers as it could possess, if any actions were taken which were held after trial to be proper only to a Trade Union the Association would incur the risk of losing its registration and forfeit the protection of the Companies Act, and the Charity Commissioners might seek to step in and administer its funds.

10. A further course has recently been suggested, namely, that the Association should be turned into a Trade Union, and in that way obtain not only an extension of its powers to the full extent desired, but also an amount of protection for its funds and its actions which is not obtainable in any other way. The Council is advised that it is not possible for the Association to be "turned into a Trade Union." The funds of the Association have been obtained and accumulated for certain purposes mentioned in the Memorandum of Association, and those funds must be used for these purposes and for these purposes alone. The objects of a Trade Union are much wider than the Memorandum of any Limited Liability Company could be, and are in fact quite different in kind. A Limited Liability Company cannot legally promote action which is in "restraint of trade," whereas the main reason for the existence of Trade Unions is that they may regulate the conditions of employment. It may, therefore, at once be said that the Association must continue as a Limited Liability Company if it wants to retain its property, and it cannot be "turned into a Trade Union."

11. The question now arises whether the objects desired by the Association can be obtained by the formation of trusts or subsidiary organisations as mentioned in sub-paragraph (b) of the report quoted above. Legal advice has been taken as to the possibility of such a subsidiary trust fulfilling with safety the various objects contemplated, for example in connection with the Special Fund proposed by the State Sickness Insurance Committee, and it would appear that probably the only plan

which would make such a Fund for such purpose quite safe would be its registration as a Trade Union. In this connection, however, the following opinion of Mr. Dill in relation to the Central Insurance Defence Fund, which was presented to the Annual Representative Meeting at Liverpool, should be read, as this opinion deals with an analogous case:—

"I have considered the circular as to this fund issued on the 17th July, 1911, and the circular issued in February 1912, by the 'Medical Federation, Limited,'

The purposes for which the fund was formed (as indicated in the circular of July, 1911) are, in my opinion purposes directed to 'the maintenance of the interests of the medical profession,' which is one of the primary objects of the British Medical Association. Therefore, subject to the exception next referred to, the purposes indicated by the circular are within the powers of the Association, as stated in its Memorandum, and the Association is entitled to carry them into effect.

The exception is that so far as the purposes in question involve the payment of compensation to individuals the Association is precluded from applying its funds for those purposes.

But there is, in my opinion, no objection to the Association acting as administrator or trustee of a fund raised in the manner and for the purposes mentioned in the circular; for that fund is raised by voluntary subscriptions from members of the medical profession generally, and forms no part of the funds of the Association, and it bears its own expenses of administration.

In so acting, the Association is committing no breach of the conditions of the licence of the Board of Trade, and, in my opinion, neither that Board nor any member of the Association could restrain the Association from so acting.

If the circular of the 'Medical Federation, Limited, is intended to suggest that the fund so raised cannot lawfully be used for indemnity or compensation, it is in my opinion incorrect and misleading.

I have treated the matter on the footing that the Association itself is administering the fund in question. I should, however, point out, that it is arguable that the trustees or administrators are the members of the Council, and that the Association as a corporate body is not acting in the matter at all, although the fund is raised under its auspices."

T. R. COLQUHOUN DILL.

Lincoln's Inn, 6th March, 1912.

12. The position would seem to be that the Association, constituted as it is, could continue its past work of protection of the general interests of the profession with safety, and, given sufficient funds, with efficiency up to a certain point, and that a great deal more can be done by means of a subsidiary trust under the control of the Members of the Council of the Association acting as trustees. But, if it is desired to bind members of the profession by direct bonds of pecuniary interest, that is to say, if it is desired to be able to promise a Member that, if he is faithful to the policy laid down by the Association, he shall be guaranteed against pecuniary loss, it would seem that this cannot be done by the Association as such, and in order that a fund established for such a purpose should be quite safe, legally, it would be necessary to register it as a Trade Union.

13. It is to be noted that the protection which is afforded to the funds of a Trade Union by the Trades Dispute Act, 1906, does not extend to individual officials of the Union. In a case quoted in *The Times* of June 17, 1913, Lord Cullen, in the Court of Sessions, Edinburgh, in dismissing a case against a Trade Union and the Trustees of the Union for slander, went on to say: "The pursuer was not left without a remedy, but had his action for damages, if he had been defamed, against the individual officials of the Union responsible for the publication of the defamatory matter." It would apparently be possible, therefore, for any person who considered that he had been libelled in any publication of the Trade Union, or slandered by one of its officials or otherwise injured, to sue the individual officials for damages, so that, as a matter of fact, the protection of the officials of a Trade Union against actions for libel and slander seems only to be effective so long as the Trade Union takes care to have officials whose financial position is such that it is not worth while suing them.

14. But if such a Trade Union were formed could it be put and kept under the control of the Association being used simply as a means of protecting certain voluntary funds raised for particular purposes outside the powers of the Association, and be run alongside the Association without the risk of becoming a serious rival to that body? The difficulties of such a course would be great. It is probable that, as advised by Counsel, a Trade Union could be formed whose governing body could be nominated by the Association or its Council, but it would be impossible to ensure that at some future time the rules of the Union would not be altered in a manner which resulted in its connection with the Association being dissolved. Such a Union, if successfully floated by the efforts of the Association, might induce large numbers of practitioners to join and would undoubtedly attract mainly those practitioners engaged in Insurance and other Contract work. The tendency might be that those practitioners would join the Union, but not the Association, and the time would probably come when the Union would decline to be controlled by an Association largely composed of practitioners who did not subscribe to the Union, were not specially interested in its objects, and many of whom might even be antagonistic to it. In addition the encouragement of such a Union by the Association would be looked upon by many as a confession of the inability of the Association to promote the interests of the profession as a whole, an object which has always been put in the forefront of the Association's claims on the support of the rofession.

15. This latter point is of such importance that it deserves close examination. Is it a fact that the Association has failed to safeguard and promote the interests of the profession as a whole? Up to the passing of the Insurance Act most practitioners were probably of opinion that considering the comparative youth of the Association as a fighting machine, and particularly in view of the smallness of the subscription, the Association had done a very great deal for the profession. It is certain that it had gradually acquired the reputation of being the only representative organisation of the profession and as such was consulted by the Government. In December last, Parliament the press and the public looked upon the British Medical Association as a very strong organisation indeed, equal to any of the Trade Unions. Dissatisfaction with the constitution of the Association and the demand for the establishment of a medical trade union have undoubtedly received a strong impetus from the breakdown of the resistance of the profession in January last. But it may very seriously be questioned whether the form of the organisation of the profession had anything to do with that failure. Trade Unions after all depend mainly on the loyalty of their members, and loyalty is a sentiment which differs greatly in strength in different people. A few will go to the stake for it, but in most people its strength largely depends on social and economic conditions. In a strike workmen often disobey their trade unions when they are either compelled to give in by privation or are convinced that they have obtained all they are likely to get by the strike. In the same way it is obvious that large numbers of the medical profession in January last came to the conclusion either that the profession could not successfully resist the Government or that the terms offered by the Government were good enough to be given a trial. It is extremely doubtful whether these practitioners could have been induced to refrain from putting their names on the panel by any imaginable form of organisation. Even if the Association had been a trade union offering financial support to its members who declined to accept service under the Act, it is probable that the non-members, together with those members who were never very strong in their resistance and those who were convinced that the Act would be beneficial to them, would have been sufficiently numerous to provide a service in many parts of the country.

16. It is open to serious doubt whether Trade Unionism as a form of organisation is suitable for the medical or indeed any profession. The strength of a Trade Union lies mainly in the following facts, (a) its members generally work together in large groups, and it has never been found possible for example to form an effective trade union amongst agricultural labourers, or other scattered workers. It is much easier to bring moral suasion to bear on a man who works in a mine or in a workshop, and whose comfort if not his daily bread depend on his making common cause with his fellows, than on one whose work must always remain largely an individual affair, (b) another great source of strength to a trade union lies in the benefits which it gives to its members; the facts that a member loses all claim to these benefits if he leaves the union, and that he can be expelled from the union for disloyalty, undoubtedly go far to explain the adherence of trade unionists to their union, often in the face of great temptation. It is doubtful whether this resource is available to the medical profession. The subscription to a medical trade union which professed to give benefits equivalent to those given by a trade union (out of work pay, strike pay, accident pay, death benefit) would have to be very considerable, and there is no evidence that members of the medical profession are willing to pay such

subscriptions. Investigations into subscriptions paid by several trade unions show that the amounts paid by each member vary from one-fiftieth to one-eightieth of the workman's total income, and as was shown in a leading article in the British Medical Journal of April 5th, 1913, members of the London Society of Compositors, whose average weekly wage may perhaps be stated at 45s. per week, recently for a considerable period paid a subscription of 2s. 6d. per week; that is to say, one eighteenth of their total income.

(c) The final resort of the trade union, if unable to secure its objects by negotiation, is to proclaim a strike, and call its members out. This weapon is not available to the medical profession, and the same remark applies to many of the most effective methods of the trade unions, which depend on what is euphemistically called "moral suasion." Not only are they not available but they are repugnant to the great majority of the profession.

17. The Council is of opinion that the subject should be most carefully considered by the Divisions in all its bearings, in view of the discussion which will take place at the Annual Representative Meeting. There is no doubt that there is something superficially attractive about the idea of a trade union which has appealed very strongly to the members of a profession smarting under a sense of defeat, and ready to snatch at any course which seems to offer a guarantee against the repetition of such a collapse as recently occurred. The Council has arrived at the conclusion that the formation of a medical trade union offers no such guarantee.

18. Quite recently a further possible course has been suggested to the Council. It may be said to be an inversion of 5 (b) in the report quoted above, namely, to form an entirely new Limited Company, with no licence from the Board of Trade, and with the widest possible powers, and to put all the property of the present Association into Trust to be used for the purposes for which it was raised. It has been suggested that in this way the new Association would have all the advantages of increased powers (though always, of course, within the limitations of what is possible to a Limited Company) and single subscription, and one membership, and there would be no danger of forming bodies that might grow into powerful rivals. There would be only one Trust instead of many. The Trust Funds could be used, subject, of course, to the consent of the Trustees, as long as they lasted, for the purpose for which they were originally raised, and as they would receive no additions would in time be exhausted. The Council in conjunction with the legal advisers of the Association is considering the feasability of the procedure.

APPENDIX XI.

GROUPING OF CONSTITUENCIES IN METROPOLITAN COUNTIES BRANCH AREA FOR ELECTION OF TWO MEMBERS OF COUNCIL, 1913-14, UNDER BY-LAWS 43 (c) AND 47, AS DETERMINED BY THE COUNCIL ON BEHALF OF THE REPRESENTATIVE BODY.

(1) *Central, East, and North Group of Constituencies.* (One Representative.)		(2) *South and West Group of Constituencies.* (One Representative.)	
City	200	Camberwell	108
East Hertfordshire ...	59	Chelsea	121
Finchley and Hendon ...	71	Ealing	133
Hampstead	130	Greenwich and Deptford	83
Harrow	62	Kensington	285
Marylebone	673	Kingston-on-Thames ...	63
North Middlesex ...	189	Lambeth	160
South-West Essex ...	98	Lewisham and) ...	83
St. Pancras and Islington	207	Woolwich) ...	43
Stratford	128	Richmond	48
Tower Hamlets ...	79	South Middlesex ...	60
Willesden	73	Wandsworth and) ...	260
	–	Wimbledon) ...	37
	1,939	West Hertfordshire ...	91
		Westminter	289
			1,964

APPENDIX XII.

DIVISIONS AND BRANCHES IN THE UNITED KINGDOM WHICH ARE NOT, ACCORDING TO THE REGISTER AT THE HEAD OFFICE, IN EFFECTIVE POSSESSION OF RULES OF ORGANISATION UNDER ARTICLE 17.

(Note.—Branches whose names are included in brackets are mentioned merely for purposes of reference, being already in possession of effective Rules).

(Aberdeen Branch)—
Aberdeen
Orkney (Unorganized)
Shetland
(Birmingham Branch)—
Bromsgrove
Dudley
Warwick and Leamington
West Bromwich
(Cambridge and Huntingdon Branch)—
Cambridge and Huntingdon
Isle of Ely
(Connaught Branch)—
Mid Connaught
North Connaught (Unorganized)
South Connaught
(East Anglian Branch)—
West Suffolk
(East York and North Lincoln Branch)—
North Lincoln
(Edinburgh Branch)—
Lothians
(Glasgow and West of Scotland Branch)—
Ayrshire
Glasgow, Central
Renfrewshire
(Lancashire and Cheshire Branch)—
Birkenhead
Glossop
Isle of Man (Unorganized)
Leigh
Oldham
Preston
St. Helens
Wigan
(Leinster Branch)—
Mid Leinster
North Leinster (Unorganized)
North-West Leinster
South East Leinster (Unorganized)
(Metropolitan Counties Branch)—
Chelsea
Ealing
Finchley and Hendon
Harrow
Kingston
Lewisham
South Middlesex
Willesden
Wimbledon
Woolwich
(Midland Branch)—
Boston and Spalding
Derby
Chesterfield
Munster Branch—
North Munster (Unorganized)
South Munster
West Munster (Unorganized)
(North of England Branch)
Hexham Division
(Northern Counties of Scotland Branch)—
Banff, Elgin, and Nairn
Inverness
Ross and Cromarty
Sutherland and Caithness
Oxford and Reading Branch
Maidenhead
Oxford
Reading
Shropshire and Mid Wales Branch—
Perth Branch
(South-Eastern Branch)—
Rochester and Chatham
(South-Eastern of Ireland Branch)—
Carlow
Kilkenny (Unorganized)
Waterford
South Wales and Monmouthshire Branch—
Cardiff
Monmouthshire
North Glamorgan and Brecknock
Swansea
(South-Western Branch)—
East Cornwall
Exeter
Plymouth
West Cornwall
(Staffordshire Branch)—
Mid Staffordshire
(Ulster Branch)—
Ballymoney, North Antrim, and South Derry
Belfast
Derry
Enniskillen (Unorganized)
Monaghan and Cavan
Omagh (Unorganized)
Portadown and West Down
West Somerset Branch—
(Worcestershire and Herefordshire Branch)—
Hereford
(Yorkshire Branch)—
Harrogate
Huddersfield
Rotherham
Scarborough
York

APPENDIX XIII.

RELATION OF DIVISION AND INSURANCE AREAS.

Letter addressed on May 30th, 1913, by the Organisation and State Sickness Insurance Committees, on behalf of the Council, to Divisions and Branches within the United Kingdom as to the Question of the Relation of Division and Insurance Areas.

British Medical Association, Medical Department,
429, Strand, London, W.C.,
May 30th, 1913.

Organisation and State Sickness Insurance Committees.

Dear Sir,

Relation of Division and Insurance Areas.

It has frequently been represented to the Organisation and State Sickness Insurance Committees that it would be a

distinct advantage if the areas of Divisions were made co-terminous with Insurance Areas, and the Committees, being satisfied that the desire for such a change is widespread, have carefully considered the various difficulties in the way of such a step and the means by which they can best be surmounted. The idea underlying the formation of the Divisions was that each should be an area containing such a collection of practitioners as are bound together by common interests and can meet conveniently. The present areas of the Divisions are therefore the result of gradual evolution based upon an experience of what harmonises best with general professional convenience. Although Insurance matters are for the time being far and away the most important subjects for professional consideration, they are by no means the only questions in which the profession is interested, and it is important that changes in Division areas should not be entered into without full consideration of the disadvantages, as well as the advantages, of a system based only on consideration of one part of the Association's work. The Committees have arrived at the opinion that all Divisions and Branches should at once take into consideration whether, balancing the advantages against the disadvantages, they think it is advisable that Division and Branch areas be altered to make them correspond more closely with Insurance areas, and report their opinions to their Representatives and to this Office. It is proposed that *the general principle* shall be discussed at the Annual Representative Meeting.

In submitting this important question to the Divisions and Branches, the Committees would direct special attention to the following suggestions :—

(i.) That it is desirable that the boundaries of the Branches should be so arranged that each Insurance area should fall wholly within the territory of a single Branch, *i.e.* that there should be no Insurance area (County or County Borough) lying partly within one Branch and partly within another Branch.

(ii.) That the boundaries of Divisions should be so arranged that each Insurance district, that is, the area covered by a District Insurance Committee, should fall wholly within the territory of a single Division, or that a Division may include two or more complete Insurance Districts.

While the Organisation and State Sickness Insurance Committees are anxious that the general question shall be discussed at the Annual Representative Meeting, there is no reason why, in those areas where it is found desirable and possible to make the Division and Insurance areas co-terminous, the change should not be brought about promptly by agreement between the Divisions and the Branches concerned. The Council will, as in the past, authorise changes of boundaries which are both (a) agreed upon by the bodies concerned, and (b) considered by the Council to be desirable in the interests of the Association or profession.

Those Divisions and Branches which find it impossible to alter their boundaries in the manner suggested are urged to submit, where necessary, for the consideration of the Organisation Committee, alternative suggestions suitable for the needs of their areas, by means of which the Insurance work can be kept effectively in touch with the Association work.

I am, yours faithfully,
ALFRED COX,
Medical Secretary.

To the Honorary Secretaries of Divisions and Branches in United Kingdom.

APPENDIX XIV.

CENTRAL EMERGENCY FUND.

FINANCIAL STATEMENT FOR YEAR ENDING 31ST DECEMBER, 1912.

	£	s.	d.		£	s.	d.
Jan. 1. By Balance from 1911	883	0	7	To Transfer to Insurance Defence Fund	193	0	6
„ Cash Receipts	102	9	6	„ Dr. Ellis Pearson ..	15	0	0
				„ Dr. James Green ..	50	0	0
				„ Mr. D. F. Todd ..	50	0	0
				„ Transfer to B.M.A. ..	1	11	0
				„ Cheque Book	4	2	
				„ Balance 31st December, 1912	675	14	5
	£985	10	1		£985	10	1

APPENDIX XV.

OPINION OF SOLICITOR OF THE ASSOCIATION WITH RESPECT TO THE LEGAL ASPECT OF THE PRACTICE OF STATING ON MEDICAL CERTIFICATES THE NATURE OF THE DISEASE.

Bedford House, 33, Henrietta Street,
Strand, W.C.
May 22nd, 1913.

Dear Dr. Cox,

Referring to your letters to me of the 23rd, 24th and 25th April, having relation to the questions raised under the National Insurance Act as to liability attaching to Medical practitioners for giving certificates stating the nature of the disease from which the insured person is suffering, I have now had opportunity of giving full consideration to the matter in so far as concerns the laws of both England and Scotland.

So far as regards the application of the laws of England to the matter I entertained no doubt on the subject whatever, the position created being one which, in my view and opinion, would be held to be protected, provided that the Medical practitioner acted *bona fide* and without malice, such protection of privilege arising out of the fact that the certificates in question are given under the authority of an Act of Parliament in discharge of a duty imposed by such Act.

This view of the matter, in so far as concerns the law of England, was presented by me to my Edinburgh correspondents, and I enquired from them whether the position would be similarly protected under the law of Scotland, which in many respects differs from our own.

I have heard from my correspondents this morning, in a letter in which they write as follows :—

"It appears to us that any certificates furnished by "a Medical Practitioner in terms of Article 7 of the "prescribed Agreement would be a privileged document, "and the mere fact that such certificate disclosed that "the patient was suffering from venereal disease or other "complaint, which it would be to his detriment to have "revealed, would not of itself found an action of damages. "The law of Scotland affords protection to a person "making a statement which might otherwise be action-"able, provided the statement is made in the exercise "either of a duty or of a right. The existence of a duty "affords the higher degree of protection than a mere "right, and, in the present case, a duty of a very express "nature is laid upon the practitioner to furnish the "certificate required by the Article in question.

"In order to obtain the benefit of the protection afforded "by the presence of privilege, it would, of course, be "necessary for the practitioner to proceed strictly in "accordance with the provisions of Article 7. You draw "our attention to the fact that the clause does not state "expressly to whom the certificates are to be furnished. "The certificate, however, is to be furnished 'at the "request of' the patient. If it is handed to the patient "direct this is probably sufficient evidence that it was "done at the patient's request; but, if it is to be handed "to a third party, then evidence of the patient's request to "that effect should be obtained, preferably in writing and "preserved. This latter mode of furnishing certificates, "however, should be discouraged, and unless there is "some special reason to the contrary practitioners ought, "in our opinion, to furnish certificates only to the patient "direct, and at his request.

"Accordingly, provided the practitioner furnishes the "certificate, 'at the request of' the patient and in accord-"ance with the other provisions of Article 7 of the "Agreement, the document would, in our opinion, be "entitled to the protection of privilege. That being so, "an action would not lie against the practitioner merely "because matter detrimental to the patient might be "contained therein. The pursuer of an action of damages "under such circumstances would, in our opinion, require "to prove (a) that the detrimental statements were false, "and (b) that they were made maliciously. Further, the "degree of privilege existing here would, we think, be so "high that the Court would not hold an action relevant "through its merely containing an averment of malice, "but that it would be essential for the pursuer to aver "extrinsic facts and circumstances from the proof of which "the presence of malice could be reasonably inferred."

I have thought you would like to have access to this extract from their communication, as it deals broadly with the issues involved and presents the law upon the subject in a light which

synchronises it to the laws of England in so far as the protection of privilege is accorded to the Medical Practitioner concerned.

I am, Yours faithfully,
(Signed) W. E. Hempson.

Dr. Cox,
Medical Secretary,
British Medical Association,
429, Strand, W.C.

APPENDIX XVI.

Offices of the British Medical Association,
Medical Department,
429, Strand, London, W.C.
May 30th, 1913.

Sir,

Amendments to the Act and Regulations proposed by the British Medical Association.

In view of the approaching introduction into Parliament of a Bill to amend the National Insurance Act, the British Medical Association is anxious to take any opportunities that may be offered for bringing forward certain suggestions which, if adopted, would, it believes, have the effect of improving the efficiency of the Act. The Association realises that it would facilitate the progress of its suggested amendments if it could secure for them the approval of the Commissioners. I am, therefore, instructed to forward a Memorandum which includes not only the amendments of the Act, but also those points which could be met by amendment of the Regulations.

The Association would be glad to know how far it may expect the assistance of the Commissioners in pressing for any of the amendments suggested, and in order to assist the Commissioners in understanding its points of view the Association would be glad, if desired, to send a small deputation to meet the Commissioners.

It would be of material assistance to the Association if it were possible for it to be supplied with an early copy of the amending Bill, and I am instructed to ask whether the Commissioners are in a position to comply with this request, or whether it should be made to the Chancellor of the Exchequer.

I am,
Your obedient Servant,
Alfred Cox,
Medical Secretary,

The Secretary,
National Health Insurance Joint Committee.

MEMORANDUM

ON POINTS WHICH THE BRITISH MEDICAL ASSOCIATION DESIRES TO SUBMIT FOR THE CONSIDERATION OF THE INSURANCE COMMISSIONERS WITH A VIEW TO SECURING SUCH AMENDMENTS OF THE NATIONAL HEALTH INSURANCE ACT OR REGULATIONS AS MAY BE NECESSARY.

Exclusion of Certain Services from Medical Benefit.

1. Before the passing of the National Insurance Act, the British Medical Association lost no opportunity of impressing upon the Government the strong objection of the medical profession to providing certain services in respect of the remuneration payable to the medical profession for medical attendance and treatment. These services are (a) the provision of the services of a second practitioner; (b) attendance on insured persons for diseases caused by their own misconduct; and (c) attendance on miscarriages and abortions or any conditions arising therefrom within 28 days.

(a) *Provision of the Services of a Second Practitioner.*

2. The Association desires to press for the amendment of either the Act or Regulations, or both, as may be necessary, in order that it may be made clear that a practitioner who finds it necessary for any purpose in connection with the medical attendance on any of the insured persons on his list, to obtain the services of another practitioner, shall not be compelled as a part of his agreement to provide such services. In accordance with paragraph 2 of the First Schedule to the Regulations, Part I., a practitioner is bound to give to his patients "such treatment as is of a kind which can consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill." The Association would submit that no practitioner should be expected or encouraged to give an anæsthetic while at the same time rendering some other service to the patient; in fact, it is generally recognised that such a practice is dangerous and should be discouraged.

3. An insured person has no claim upon any doctor except that one in whose list his name is included. It is difficult, therefore, to see on what grounds, either legal or otherwise, an insured person can be expected to be provided with the services of a second doctor without extra payment. As a matter of fact contract practice patients at the present time do not expect anything of the kind, but in view of the inclusion of the administration of a general anæsthetic in Sections B, C, D, E, and F, of Part II. of the First Schedule to the Regulations, insured persons will undoubtedly begin to claim as a right the services of two doctors when such are needed. The encouragement of such an idea can only lead to disappointment and dissatisfaction when the claim is refused, or to the adoption of the dangerous practice of the simultaneous giving of an anæsthetic and the performance of some other service by one practitioner if it is insisted on. The Association would, therefore, press, quite as much in the public interest as in that of the medical profession, for such amendment of the Act or Regulations as is above specified.

(b) *Attendance on Insured Persons for Diseases caused by their own Misconduct.*

4. The Association desires again to press for the exclusion from the services included under medical benefit of the treatment of those cases of illness brought about by the misconduct of the person claiming benefit. The Association would propose the deletion of the word "not" in the following paragraph at the end of Section 14 (4) of the Act, or the embodiment of the principle in some other suitable way:—

> "Where under any such rule as aforesaid payment of sickness or disablement benefit is discontinued on the ground that the disease or disablement has been caused by the misconduct of the person claiming benefit, such person shall not thereby become disentitled to medical benefit."

(c) *Attendance on Miscarriages and Abortions.*

5. The Association finds that the objection which was expressed by the profession generally to the inclusion, among the services expected as part of medical benefit, of the treatment of cases of miscarriage and abortion, or any condition arising therefrom within 28 days, is as strong as ever. The Association would urge that it would be quite in accordance with the custom of all contract medical practice systems that such attendance should be paid for separately. These cases are often of the most troublesome kind and it is felt that the present rate of payment for medical attendance and treatment does not fairly cover cases of this nature. The Association, therefore, proposes to press for the addition of the following words to the end of Section 8 (6) of the Act:—

> "Miscarriage or abortion or any condition arising therefrom within 28 days."

Extra Payment for Night Calls.

6. It has always been recognised that there is a great risk that persons whose medical attendance is provided for them at an inclusive rate, and especially when the payment they make is an indirect one, will be tempted to make undue calls upon medical practitioners. The first three months of the operations of the Act have confirmed the universal opinion of the profession on this point. The Commissioners have themselves recognised the risk indicated by framing, and urging Insurance Committees to circulate, certain Model Rules which impose a penalty on insured persons who make frivolous calls upon their doctors. It is felt that there are serious difficulties in the way of enforcing such Rules, and as regards night visits—the great bugbear of a medical man's life—it is believed that the knowledge that practitioners were entitled to make a small charge in respect of each night call would act as a far more efficient deterrent on unnecessary calls at these hours than the Model Rules. Moreover, the liability to pay a small charge would not act as a deterrent in really serious cases. The Association desires, therefore, to press for such an amendment to the Act or Regulations as would enable a small charge to be made in respect of night calls.

INCOME LIMIT.

7. The fear of the profession that Section 15 (3) of the Act, authorising Insurance Committees to fix an income limit, would be more honoured in the breach than in the observance has been entirely verified by the experience of the past few months. The adoption of the principle by a very few Insurance Committees encourages the Association, however, to hope that the justice of its contention that people who are relatively well-to-do should not be allowed to take advantage of the contract medical arrangements under the Act, will eventually gain general recognition. In order that the principle should have a fair chance, which, under the present constitution of the Insurance Committees it has not now, the Association would urge for the amendment of the Act and Regulations so as to make it incumbent upon the Insurance Commissioners to require Insurance Committees to adopt a local income limit which, like most of the other arrangements proposed to be made between Insurance Committees and the medical profession, must be submitted for the approval of the Commissioners.

8. The Association desires further to press for the amendment of the Act so as to ensure that when the income from all sources of an insured person exceeds the sum of £160 per annum he shall be *required* "to make his own arrangements." This request seems to the Association to be extremely reasonable, because that limit is already recognised in connection with the voluntary contributor and several Insurance Committees have already fixed an income limit of £160 per annum for their areas without serious objection being taken. As a person who is required to make his own arrangements does not lose the benefit of the money he has subscribed for the purposes of the Act, and, in fact, would receive towards the cost of his medical attendance the sum of 9s., towards which he will only have subscribed the sum of 2s. 8d., the Association fails to see that there could be any reasonable objection to the present proposal.

9. The Association further presses for such amendment of the Act as will clearly define that in this case, as also in Section 1 (3), the term "total income from all sources" shall include any income which is independent of the personal exertions of the recipient, whether received as an allowance or otherwise.

10. It is felt to be necessary to press for such a definition because at the present time there are a good many cases in which the sons of well-to-do fathers, whose earned income is a very small portion of their total income, are taking advantage of the medical attendance provided under the arrangements made by Insurance Committees. Such persons do not need, and were never intended to receive, the medical attendance so provided.

COMPOSITION OF INSURANCE COMMITTEES.

11. During the progress of the National Insurance Bill through the Houses of Parliament the Association repeatedly drew attention to the unfairness of the composition of the Insurance Committees, and experience has only strengthened the *a priori* opinion that a Committee in which one interest is given a permanent majority over all the other interests combined is unlikely by reason of the nature of its composition to give fair consideration to questions in which the interests of the dominant party are directly involved. The Association quite appreciates the argument that the insured persons, being subscribers to the Insurance Funds, are entitled to considerable representation on the Committees, but the recognition of the force of this argument makes it difficult to understand why the employers who are also subscribers, are not represented. The Association believes that the administration of the Insurance Act by the Insurance Committees would be more efficient, and that there would be less risk of friction among the different sections of the Committees, if no one interest formed more than two-fifths of the total membership of the Committees. The Association accordingly proposes to urge the modification of Section 59 of the Act to this effect.

MEDICAL REPRESENTATION ON DISTRICT COMMITTEES.

12. The absence of any Regulations providing for medical representation upon District Committees is giving rise to dissatisfaction in many areas. Although the Association understood that the profession would have similar representation on the District Committees to that afforded on the Insurance Committees, the understanding was not embodied definitely in the Act or Regulations. The Association can conceive of no valid objection to effective representation of the profession on the District Committees and is of opinion that the matter should now be dealt with definitely in the Regulations. The Association desires therefore to press for the addition to Regulation 59 of a proviso in the following or similar words :—

> "As regards such District Insurance Committees the medical representation thereon shall be in the same proportion as is accorded to the medical profession on Local Insurance Committees."

SEAMEN'S NATIONAL INSURANCE SOCIETY.

13. Attention has been drawn to the absence of any representation of medical practitioners on the Committee of the Seamen's National Insurance Society. The reasonableness of the claim of the medical profession to representation on the Insurance Committees, which fulfil, as regards the general body of insured persons, the same functions as are fulfilled by the Seamen's National Insurance Society in regard to seamen, was recognised by Parliament, and the Association respectfully submits that the reasons which were admitted to be valid in the one case apply with equal force to the other. Certain questions have arisen which have necessitated informal negotiations between the Association and the Seamen's National Insurance Society, and the Association is of opinion that it would conduce to the efficiency of the administration of medical benefit by the Seamen's Society if the medical profession were represented upon its Committee in the same proportion as the profession is represented on the Insurance Committees. It is therefore suggested that Section 48 (5) of the Act should be amended by the insertion, after the word "proportions" in the 7th line of that Section, of the following or such other words as will secure the object desired :

> "and of representatives of the medical profession of the United Kingdom in the same proportion as is accorded to representatives of that profession on Insurance Committees."

MEDICAL TREATMENT OF TEMPORARY RESIDENTS.

14. The Association has given full consideration to the numerous difficulties connected with the provision of medical attendance and treatment to insured persons temporarily absent from their homes. No objection has been raised to the system laid down in Regulation 22, namely, that in the case of an insured person who changes his residence permanently, the remuneration due to the profession should be divided between the doctors concerned, in proportion to the time for which each of these doctors is respectively responsible for the treatment of the person concerned. Strong objection has been taken, however, as was mentioned in a communication forwarded by the Association on May 16th, 1913, to the proposed deduction from the moneys due under their agreements to the medical profession in order to pay for medical attendance on persons changing their residence temporarily either because they are on holiday, or for reasons of health. The Association has already proposed that persons who are on holiday should not be entitled to medical treatment under the Act, and would again press this upon the attention of the Commissioners. The Association proposes to move for the amendment of the Act so as to secure the provision by the Government of a special central fund, quite apart from the moneys already allocated for medical benefit, to provide for the medical attendance and treatment of insured persons temporarily resident on account of ill-health.

15. The Association desires also to press for the amendment of the Act or Regulations as may be necessary, so as to provide that insured persons temporarily resident by reason of the nature of their occupation should be *required* to make their own arrangements, as has already been done by the Insurance Committees, on the instruction of the Commissioners, as regards travellers, actors, etc.

TERMS OF PRACTITIONERS' CONTRACTS WITH INSURANCE COMMITTEES.

16. The Association has been informed that agreements between Insurance Committees and practitioners have in many cases been drawn up by the former bodies, issued, and often signed, before the local Medical Committees have had an opportunity of considering the terms of the agreement. The Association is aware that by the terms of Regulation 7 (1) the Insurance Committees must consult the Local Medical Committee before determining the conditions of service which it is proposed to invite practitioners to accept. It is evident, however, that this is not sufficient to secure that the terms of the agreement really get full consideration by both parties to the contract, and the Association would submit that the draft Agreement should be submitted to the local Medical Committees before individual medical practitioners are invited to sign it, and in addition, that the Insurance Committee, in forwarding the draft agreement to the Commissioners for approval, should forward with it (i.) a statement to the effect that it has been submitted to the Local Medical Committee, and (ii.) a statement of the views thereon of the Local Medical Committee.

17. The Association desires therefore to press for (i.) the addition to Regulation 7 (1) of the following, or such other words as will secure the above-named object :—

> "and shall before submitting such draft agreements for the approval of the Insurance Commissioners forward

copies thereof to the Local Medical Committee and allow that body a reasonable time for consideration,"

and (ii.) the addition to Regulation 8 (a) of words to the following effect:—

"together with a statement that such draft agreement has been submitted to the Local Medical Committee accompanied by a copy of the observations of the Local Medical Committee thereon."

FEES OF MEDICAL PRACTITIONERS FOR ATTENDANCE UPON CONFINEMENTS IN RESPECT OF WHICH MATERNITY BENEFIT IS RECEIVED.

18. The Association has given careful consideration to the Provisional Regulations of the Commissioners dealing with the fees payable to medical practitioners for attendance upon certain confinements in respect of which maternity benefit is received. So far as the Association has been able to ascertain the profession is absolutely unanimous that the maximum fee of 15s. allowed under these Regulations is entirely inadequate. It may be mentioned also, that very considerable objection is taken to the shortness of the time allowed to the medical practitioners in these Regulations in which they may claim the fees provided. The opinion of the profession is being asked for upon various questions arising under these Provisional Regulations, and it is hoped that in the meantime no steps will be taken by the Commissioners to make the Regulations permanent. After these opinions have been received and considered, the Association will approach the Commissioners again upon the whole subject.

TERMINATION OF AGREEMENTS BETWEEN INSURANCE COMMITTEES AND PRACTITIONERS.

19. The Association desires to suggest that arrangements should be made whereby a practitioner desiring to withdraw from the local list shall be allowed to do so by giving three months' notice at any time. At present, apparently by the terms of Regulation 21 (2), a practitioner can only withdraw by giving one month's notice terminable at the date of revision of the list.

DEFINITION OF RURAL AREA.

20. The Association has frequently been asked to secure a proper definition of the term "rural area" as used in Regulation 30 (1). At the present time there is no uniformity of action and a good deal of confusion is being caused by the indefiniteness of the present Regulation. The Association would therefore urge that the words "in a rural area" should be deleted from the aforesaid Regulation so as to enable medical practitioners, if they so elect, to dispense medicines for insured persons on their list in all cases where their patients are more than a mile from a chemist on the list.

MEDICAL REFEREES.

21. The Asssociation is being made aware, as no doubt the Commissioners are, that there is a growing feeling in favour of the appointment of medical referees in connection with the National Insurance Act, to which officers cases of alleged malingering could be referred either by the Insurance Commissioners, Insurance Committees, Approved Societies, or by medical practitioners. The Association is strongly in favour of the appointment of such officers and would urge that the appointments should be made, not by Insurance Committees or Approved Societies but by the Commissioners. This method of appointment the Association believes would give these officers a status superior to that of officers appointed locally, and would prevent that local wire-pulling which would almost certainly occur if the appointments were made either by the Insurance Committees or by the Approved Societies. The Association is aware that under the terms of the Act the Commissioners already have the power to appoint such officers. The Association would urge the great importance at the inception of any scheme of this kind of the adoption of the principle that an officer of this importance should have reasonable security of tenure of office so that he may be enabled to act without fear or favour. In the case of whole time officers being appointed they should, in the opinion of the Association, be entitled to superannuation. The Association would suggest that all such officers, when appointed, should be removable by the authority by whom they are appointed, that is to say by one of the bodies of National Commissioners, with the consent of the National Insurance Joint Committee, and not otherwise, and should not be appointed for a limited time only. In making this suggestion the Association has in view the position of the Medical Officer of Health, who, it is common knowledge, is often prevented from acting as he would like to do in the interests of the community, because he knows that if he happens by his actions to offend some of the members of the local body which employs him, and who may be directly or indirectly affected by his actions, he may lose his position. The Association is anxious that a state of things which is a blot on one public service should not be allowed to obtain in connection with the proposed new service, and it trusts that the Commissioners will at the beginning lay down such terms of appointment as will attract the very best kind of officer.

22. In order that the persons appointed to these important posts shall be practitioners whose professional position and personality shall be such as will make them acceptable to the profession of the area in which they will have to act, the Association would suggest that in any Regulations to be made dealing with the method of appointment of medical referees the following points should be included:—

(a) Provision whereby the Local Medical Committee of an area or, if necessary, the combined Local Medical Committees, shall be consulted as to whether medical referees for that area should be whole or part time officers.

(b) Provision whereby the Local Medical Committees concerned may make nominations for such appointments.

APPENDIX XVII.

I.—MODEL REGULATIONS CONCERNING THE CONSTITUTION OF LOCAL MEDICAL COMMITTEES.

Title.

1. The Committee shall be known as the.....Local Medical Committee, and shall be the Local Medical Committee for the area of the.....Insurance Committee.

Membership.

2. All registered medical practitioners resident in the area of the.....Insurance Committee shall be eligible for membership of the Local Medical Committee and shall be entitled to such membership if duly elected. The Committee shall also include as *ex officio* members—

(i.) one or more representatives of the Executive Committee of the local Division or Divisions of the British Medical Association;

(ii.) all* medical practitioners who are members of the Insurance Committee.

3. The Local Medical Committee shall consist of the *ex officio* members and.....members elected by the practitioners in the area who shall hold office for one year but shall be eligible for re-election unless they have served for years, in which case they shall for one year be ineligible for re-election.

Practitioners' Meeting.

4. A Meeting of duly qualified medical practitioners resident in the area of the Insurance Committee (hereinafter called the practitioners' meeting) shall be held in the month of March of each year for the purpose of electing members of the Local Medical Committee and of transacting competent business. Such meeting shall be summoned by a notice in writing issued by the Secretary of the Local Medical Committee to all duly qualified medical practitioners resident in the area of the Insurance Committee not less than one nor more than weeks before the date fixed for such meeting. Such notice shall set forth that the purpose of the meeting is the election of members of the Local Medical Committee for the ensuing year and the transaction of other specified and competent business, and shall be sent by prepaid post; but the non-receipt of such notice by any doctor shall not invalidate the proceedings of the practitioners' meeting.

5. Intimation of the practitioners' meeting shall also be given not less than one nor more than weeks before the date fixed for such meeting, by advertisement in the BRITISH MEDICAL JOURNAL and in a newspaper circulating in the area of the Insurance Committee.

6. The practitioners' meeting shall elect a Chairman who shall have a deliberative as well as a casting vote. The Secretary of the Local Medical Committee shall be the Clerk of the Meeting and in his absence a Clerk shall be appointed by the Meeting. It shall be the duty of the Clerk to write the Minutes of the Meeting and to forward a copy of such Minutes as relate to the election of the Committee duly authenticated by the Chairman to the Insurance Commissioners within one week after date of the Meeting.

* In the case of London, until the medical profession in that area decides to co-operate in the working of the Act, insert "directly elected."

7. At the practitioners' meeting the Minutes of the practitioners' meeting immediately preceding shall be submitted and the Annual Report of the Local Medical Committee shall be presented.

8. The doctors present at the practitioners' meeting shall take steps to elect a Committee to act as Local Medical Committee for the said area for the ensuing twelve months. Candidates may be elected by districts or in any other manner determined by the meeting provided always that, should one-third of the members present so demand, the election shall be conducted by a postal vote, either for the whole area or for such districts as the meeting may decide. Nominations of candidates must be sent in writing to the Secretary of the Local Medical Committee not less than ..... days before the date of the practitioners' meeting.

9. If it shall be duly determined to conduct the election by means of a postal vote a Postal Vote Committee shall be appointed by the Meeting to make all necessary arrangements.

10. A special meeting of the practitioners in the said area may be convened by the Secretary of the Local Medical Committee upon a demand by ..... per cent. of the profession resident in the area.

11. Until the appointment of the Officers and Executive Sub-Committee of the Local Medical Committee for the year, the Local Medical Committee for the preceding year shall continue to be the Local Medical Committee for the area of the Insurance Committee.

Government.

12. The Officers of the Committee shall be the Chairman, Vice-Chairman and Secretary.

13. The Executive Sub-Committee shall consist of members, including the Officers of the Local Medical Committee.

14. The Officers and the Executive Sub-Committee shall be appointed at the first meeting of the Local Medical Committee. They shall hold office for one year but shall be eligible for re-appointment.

15. Any officer or other member of the Executive Sub-Committee may be removed from office prior to expiry of the period for which they were appointed to hold office by a two-thirds majority of votes in a Special General Meeting of the Local Medical Committee called for the purpose.

16. Vacancies in the Local Medical Committee or Executive Sub-Committee, including vacancies in the offices of Chairman, Vice-Chairman, and Secretary of the Committee, shall be filled in such manner as the Executive Sub-Committee shall determine. Persons so appointed shall hold office only until the General Meeting of the Local Medical Committee next ensuing, when the Committee itself shall fill such vacancies.

Meetings.

17. The first Meeting of the Local Medical Committee shall be held immediately on the conclusion of the practitioners' meeting, or within one week of the completion of a postal vote if decided upon. The Committee at such meeting shall proceed to appoint its Officers and Executive Sub-Committee and three members to serve on the Medical Service Sub-Committee of the Insurance Committee.

Annual General Meeting.

18. The Annual General Meeting of the Local Medical Committee shall be held within a month immediately preceding the practitioners' meeting. Such Annual General Meeting shall be summoned by notice duly given in writing and sent by post to all members of the Committee at least seven days prior to the date fixed for such Annual General Meeting. The business to be transacted at such Meeting shall be to approve the Annual Report of the Committee for submission to the practitioners' meeting, to receive the Annual Report, if any, of the Executive Sub-Committee, to consider the Statement of Accounts to be presented by the Secretary, and to deal with such other matters as may be duly determined by the Committee.

19. An ordinary General Meeting of the Local Medical Committee shall be held at such time as the Committee may determine and shall be summoned by notice given in writing and sent by post to all members of the Committee at least three days before the date fixed for such Meeting.

20. A special General Meeting of the Local Medical Committee may be convened by instruction of the Chairman of the Committee and shall be so convened within seven days of the receipt of a requisition in writing to that intent duly signed by.....per cent. of the Committee. Such requisition shall state the business desired to be submitted to the Committee at such special General Meeting. A special General Meeting shall be summoned by notice duly given as provided for ordinary General Meetings and shall only transact the business for which it is specifically convened.

Executive Sub-Committee Meetings.

21. Ordinary Meetings of the Executive Sub-Committee shall be held at such times as the Sub-Committee may determine. Special Meetings may be convened by instruction of the Chairman and shall be so convened within three days of receipt of requisition duly signed by.. .....Members of the Executive Sub-Committee.

Quorum.

22. The Quorum at a general meeting of the Local Medical Committee shall be..... ; at a meeting of the Executive Sub-Committee.....

DUTIES.

Chairman.

23. The Chairman shall preside at all meetings of the Local Medical Committee and of the Executive Sub-Committee. He shall have a deliberative as well as a casting vote. In the absence of the Chairman from a Meeting of the Committee or of the Executive Sub Committee, the Vice-Chairman shall preside. In the absence of both, a Chairman shall be chosen for such meeting by the members present.

Secretary.

24. The Secretary shall duly issue all notices summoning meetings of the Committee and the Executive Sub-Committee. He shall write the Minutes of all meetings and shall be responsible for the safe keeping of all books, registers, and documents. He shall conduct all official correspondence and shall receive and duly intimate to the Chairman all requisitions by members and shall perform such other duties as the Committee may determine. With a view to recognition of the Committee by the Insurance Commissioners in terms of Section 62 of the National Insurance Act, 1911, the Secretary shall furnish to the Commissioners within one week of the completion of its election in each year a list of the members of the Committee together with the names of the Chairman, Vice-Chairman and Secretary of the Committee, and of the remaining members of the Executive Sub-Committee. In the event of the Secretary being temporarily incapacitated or absent the Chairman shall make arrangements for a member of the Committee to perform the duties of the Secretary. Such arrangements shall be subject to confirmation at the Meeting of the Committee or of the Executive Sub-Committee next ensuing whichever shall be earlier.

Executive Sub-Committee.

25. The Executive Sub-Committee shall perform such functions and possess such powers as the Local Medical Committee may determine.

II.—MODEL STANDING ORDERS SUITABLE FOR ADOPTION BY LOCAL MEDICAL COMMITTEES.

Order of Business.

1. Read notice convening Meeting.
2. Read and confirm Minutes of General Meeting immediately preceding.
3. Determine the order in which the business shall be considered.

Procedure.

4. All Motions shall be moved and seconded. Voting shall be by show of hands, except that if it be moved and seconded with the consent of a majority of those present at the meeting that the vote shall be taken by ballot, a vote shall be taken by ballot accordingly in a manner to be determined by the Meeting.

5. A Member shall stand when speaking, and shall address the Chair, but when the Chairman rises no one shall continue to stand, nor shall anyone rise until the Chairman has resumed his seat.

6. A Member who speaks shall direct his speech strictly to the Motion or Amendment under discussion, or to a Motion or Amendment to be proposed by himself, or to a question of Order.

7. A member shall not address the Meeting more than once on any Motion or Amendment, except with permission of the Chairman, or except that the Mover of an Original Motion may reply, but in his reply he shall strictly confine himself to answering previous speakers, and shall not introduce any new matter into the Debate. Provided always that a Member may speak to a point of order, or in explanation of some material part of a speech made by him which he believes to have been misunderstood. Provided that any Seconder of any Motion or Amendment who seconds such Motion or Amendment in a purely formal manner may, if he so elects, subsequently address the meeting on such Motion or Amendment.

8. A Motion or Amendment once made and seconded shall not be withdrawn without the consent of the Meeting.

9. When an Amendment to an original Motion has been moved and seconded, no further Amendment shall be moved until the first Amendment shall have been disposed of. But notice of any number of amendments may be given.

10. If an Amendment be rejected, other amendments may be moved on the original Motion.

11. If any Amendment be carried, the Motion as amended shall take the place of the original Motion, and shall become the question upon which any further amendment may be moved.

12. If a Motion be proposed and seconded that the Meeting do now adjourn, or that the debate be adjourned, or that the Meeting do proceed to the next business, or that the question be now put, or if the previous question be moved, such motion shall immediately be put to the vote without discussion, except as to the time of adjournment, provided always that the Chairman shall have power to decline to put to the Meeting the Motions that the Meeting do proceed to the next business, or that the question be now put. The proposer of any such Motion shall be allowed to speak for not more than three minutes.

13. A motion that the Meeting do now adjourn, or that the Meeting do now proceed to the next business, or that the debate be now adjourned, or that the question be now put, shall not be made within a period of 30 minutes after a previous motion to the like effect, unless, in the opinion of the Chairman, the circumstances are materially altered.

14. Any one or more of the Standing Orders may be suspended at any Meeting, provided that three-fourths of those present and voting shall so decide.

15. No matter not on the Agenda shall be discussed, except by the permission of the Meeting, unless the Chairman shall declare it to be urgent.

16. No resolution of any Meeting shall be rescinded at a subsequent Meeting unless due notice of a motion to such effect has been placed on the Agenda Paper, and the resolution is carried by a two-thirds majority.

APPENDIX XVIII.

MODEL RULES SUITABLE FOR ADOPTION BY LOCAL MEDICAL COMMITTEE AS TO PROCEDURE TO BE FOLLOWED IN DEALING WITH QUESTIONS ARISING UNDER MEDICAL REGULATION 53 (COMPLAINTS).

1. For the assistance of the Local Medical Committee in considering any complaints made by a practitioner on the panel against any other practitioner on the panel involving any question of the efficiency of the medical service of insured persons a Sub-Committee called the Special Investigation Sub-Committee shall be appointed annually by the Local Medical Committee in General Meeting, consisting of the Chairman and Honorary Secretary for the time being *ex-officio*, with three other members, of whom one shall, if practicable, be not engaged in contract medical practice. Such Sub-Committee shall appoint its own Chairman and Secretary, who may be Chairman and Secretary of the Medical Committee.

The Special Investigation Sub-Committee shall have power to fill up any casual vacancy thereon but the person so appointed shall hold office only until the next meeting of the Local Medical Committee which shall either confirm his appointment or proceed to appoint another member in his place.

2. Complaints referred to the Local Medical Committee, which must in all cases be made in writing, shall in the first instance be investigated by the Special Investigation Sub-Committee.

3. A Meeting of the Special Investigation Sub-Committee may be convened at any time by the Chairman or Secretary of the Sub-Committee, and the Meeting shall be convened by the Secretary within one month from the receipt of a complaint in writing which it is the business of the Sub-Committee to investigate.

4. A statement of the complaint against any practitioner on the panel shall be sent to such practitioner by the Secretary of the Special Investigation Sub-Committee within seven days. A copy of any reply thereto by the respondent shall be sent to complainant. The statement of case by the complainant, the respondent's reply, and complainant's comments upon the latter, if any, shall be laid before any meeting of the Sub-Committee duly called to consider the case.

5. If any member of the Special Investigation Sub-Committee be personally involved in a case as complainant or otherwise, or be partner or assistant or principal of any person so involved, or have otherwise such personal interest in the case as, in the opinion of the Special Investigation Sub-Committee, renders it undesirable that he should take part in any investigation of that case, he shall retire from the Sub-Committee for the purpose of the investigation of the case and the Sub-Committee may appoint some other member of the Local Medical Committee who is not so interested, to act in his stead. If the member of the Special Investigation Sub-Committee affected by this Rule be the Chairman or Secretary, the Sub-Committee shall appoint a Chairman or Secretary to act in his stead for the purpose of the case.

6. (1) The Special Investigation Sub-Committee shall consider such as it may consider relevant evidence as shall be brought before it by the practitioner making the complaint and by the practitioner against whom the complaint is made.

(2) Either party may appear in person or, with the consent of the Special Investigation Sub-Committee,

(a) by counsel or by solicitor,
(b) by any friend.

7. Three members of the Special Investigation Sub-Committee shall form a quorum.

8. After every such investigation the Sub-Committee shall present, either to a Special General Meeting of the Local Medical Committee, or to the next Ordinary General Meeting, at its discretion :—

(1) A report containing the following :—

(a) A statement of the facts as established in the opinion of the Special Investigation Sub-Committee by the evidence placed before it.

(b) The deductions of the Special Investigation Sub-Committee from the facts as to whether the efficiency of the medical service of insured persons has been affected or not.

(2) A Recommendation to the Local Medical Committee in one of the following forms :—

1. (a) That there is no proper foundation for the complaint and that, therefore, the case be dismissed, or

(b) That no action be taken.

2. That the practitioner against whom the complaint is made be informed that further consideration of the matter will be postponed for a stated period, and that he must produce evidence to the Special Investigation Sub-Committee at the expiry of this period to show that his conduct in the interval has been satisfactory.

3. That the Insurance Commissioners be informed that in the opinion of the Local Medical Committee the continuance of the practitioner's name upon the panel will be prejudicial to the efficiency of the medical service of insured persons.

9. At any stage in such investigation the Special Investigation Sub-Committee may, at its discretion, resolve to adjourn the investigation for a period not exceeding four months, and to inform the practitioner against whom the complaint is made that the investigation is so adjourned, and that before any report or recommendation is made to the Local Medical Committee—other than an interim report that the investigation has been adjourned—any evidence which he may produce as to his conduct in the interval, together with any evidence as to such conduct which may be produced by the complainant will be considered by the Special Investigation Sub-Committee.

10. Members of the Local Medical Committee who have taken part as members of the Special Investigation Sub-Committee in the investigation of a case shall be entitled to take part in the consideration by the General Meeting of the Local Medical Committee of the Report of the Sub-Committee on such case, and to speak and vote thereon.

11. The Report and the Recommendation of the Special Investigation Sub-Committee shall be circulated to all Members of the Local Medical Committee and to each party concerned, not less than seven days before a general meeting at which it is to be considered, and shall be issued in sealed envelopes marked "Private and Confidential, for the use of the Members of the Local Medical Committee exclusively."

12. On the reception of the Report and Recommendation of the Special Investigation Sub-Committee by the General Meeting of the Local Medical Committee, there shall be no discussion on the report of the facts as established in the opinion of the Sub-Committee by the evidence placed before it, and no other than the following motions shall be in order :—

(a) That the Report be approved and the Recommendation adopted.

(b) That the Report and the Recommendation be referred back to the Special Investigation Sub-Committee for further consideration.

13. New rules may be made or these rules or any of them be repealed or altered on the motion of a member of the Local Medical Committee with the consent of a two-thirds majority of the practitioners present and voting at an ordinary general meeting of the Local Medical Committee, and one calendar month's notice in writing of the intention to propose any new rule or alteration shall be given to the Secretary of the Local Medical Committee. The new rule or alteration shall come into force from the date of the sanction of such new rule or alteration by the Local Medical Committee.

APPENDIX XIX.

PROPOSED SPECIAL FUND FOR THE ORGANISATION OF THE PROFESSION.

The following is a Report by the State Sickness Insurance Committee to the Council and now submitted for discussion by the Divisions and Representative Body. It contains a Scheme (i.) for the Establishment of a Fund for the better Organisation of the Medical Profession, and (ii.) for the Provision to Members of that Fund of certain Insurance advantages which it is believed will appeal to Members of the Profession. The Insurance part of the scheme has been added because, by co-operation, not only could subscribers secure terms which they could not get as individuals, but they could also provide, indirectly, a handsome contribution to the fund for organisation.

INTRODUCTORY.

1. The reference to the Committee was based primarily upon the following Minutes 54, 55, and Motion 7 of Minute 60 of the Special Representative Meeting, January, 1913:—

Minute 54 (Motion by Brighton).—That in order to carry Minute 48 into effect, it be an instruction to the Council to put into operation the following proposals amongst others:—

(1) That the funds placed at the disposal of the Council as Trustees for the proposed campaign be augmented by such a voluntary quarterly levy during the next three years on each member of the Association in the United Kingdom as will, with the annual subscription, amount to not less than £3 a year per member.

(2) That through the Local Medical Committees or otherwise a quarterly levy of one farthing per insured person on each practitioner's list be made for three years on each such practitioner, which shall be used by the Council to provide efficient, local, clerical and professional assistance to these Committees and to the Divisions and generally in forwarding the aims and objects of the campaign.

(3) That the Central Office organisation be developed so as to allow the Medical Staff visiting every Division in the United Kingdom and interviewing each Local Medical Committee at least once in each year.

(4) That out of this Special Campaign Fund an honorarium, on a scale to be determined by the Council, be paid to the members of the medical profession who devote time to the campaign or who have to absent themselves from their district attending Representative, Committee, Deputation and other Meetings.

(5) That the aims and objects of the campaign be kept prominently before Members of Parliament, County and County Borough Councils and other Bodies as well as the laity generally by means of the press and otherwise, as also the reasons for the position taken by the profession from time to time during the campaign.

(6) That the Medical Staff be placed at the disposal of Divisions in the United Kingdom and of Local Medical Committees, in order to assist them in interviews with Lay Bodies, more often than has been the case in the past.

(7) That the Divisions be consulted as to the desirability of their boundaries being made co-terminous with those of Insurance and District Committee areas, and in those cases where the proposal is approved it be carried into effect, if practicable, at the earliest possible moment.

(8) That it be an instruction to the Council by means of a campaign amongst the Staffs of Voluntary Hospitals, similar Institutions and otherwise, to take such action as will induce the Government to provide an efficient medical and surgical service for those insured for medical benefits under the National Insurance Act.

Minute 55.—Whereupon an amendment by Mr. W. F. Dearden (Manchester West), seconded by Dr. J. Sorley (Sheffield):

That it be an instruction to the Council to consider the advisability of giving effect to the above proposals.

The amendment was **carried.**

Minute 60.—Resolved: That the motions appearing on the printed and stencilled Agenda not dealt with by this Meeting (except Motion 59 by Hampstead [withdrawn]) be referred to the Council.

. . . . . .

(7) *Motion* by Newcastle-on-Tyne Division: That the Council be instructed to consider the advisability of a National Fund being raised on such lines as the following:—

(a) There be (compulsorily) deducted from each quarterly cheque of each doctor on the panel the sum of ¾d. for each person on that doctor's list.

(b) This sum be deposited each quarter at compound interest with some Insurance Company.

(c) The expenses of the Local Medical Committees be defrayed out of this fund.

(d) In the event of the death of a Member, his contributions be returned to his executors plus 3 per cent. compound interest.

(e) The rest of the money so deducted each quarter remain on deposit at compound interest till April 14th, 1916.

(f) On that date, if it be necessary, the total sum be available for use as a War Fund.

(g) If at that date a War Fund be unnecessary, a sum of at least £200,000 be placed to a Special Reserve to be used at any time solely as a War Fund; and that this sum be added to each year.

(h) The balance be placed with an Insurance Company, to provide a nucleus for a Sickness, Accident and Pension Fund.

(i.) The contributions be national, and be continued so long as the Insurance Act is in operation.

2. The Committee has given careful consideration to the above motions of Brighton and Newcastle-on-Tyne which formed the basis of its reference. Several of the recommendations of the Committee are founded on suggestions contained in these motions. The plan outlined in the motion of Newcastle-on-Tyne being based on a compulsory deduction from the payments due to doctors on the insurance panels is not feasible as deductions could not be made compulsorily. The scheme described in the following paragraphs is based, as any such scheme must be based, on voluntary contribution.

3. In addition to these definite references by the Council, the Committee has had in mind various representations which have been made to it in regard to the future organisation of the profession for dealing with the new problems which have arisen owing to the operation of the National Insurance Act, and particularly the proposals to form new bodies with greater powers than the Association at present possesses.

4. The Committee has come definitely to the conclusion that if the profession is to be properly organised in the future for defence against the aggressions of lay bodies and the State, and for the protection of the general interests of medical practitioners, individually and collectively, and also in the interests of public health, it is absolutely necessary that a far larger annual sum of money should be found by the profession than has been provided in the past.

5. To meet the requirements of the situation three conditions are essential, namely:—

(a) The existence of one strong central body;

(b) the placing of ample financial resources at the disposal of the central body;

(c) The active support of the central body by a large proportion of the medical profession.

6. The Committee places great stress on the necessity for the organisation of the profession being in the hands of one strong central body rather than in those of a number of organisations having the same aims but differing methods of procedure. One body dealing with the organisation of any calling must necessarily be stronger and carry much more weight than several bodies with the same number of individuals distributed among them.

PLAN OF REPORT.

7. For the convenience of the Council in considering the question of the formation of any organisation such as is foreshadowed in the foregoing paragraphs, the Committee submits its Report under the following heads:—

(I.) The objects to be aimed at by such organisation;

(II.) Consideration of each object in detail;

(III.) The consideration of the question whether the British Medical Association, as at present constituted, is able to carry those objects into effect;

(IV.) A discussion of the suggested alternative methods of organisation, namely:—

(a) By the Association, as at present constituted, running any risks which are consequent on the restrictions imposed on it by its constitution;

(b) By a new Association with powers wide enough to comprise all the proposed objects;

(c) By a Special Fund independent of the funds of the Association, but formed as a Trust administered by the Members of the Council for the time being of the British Medical Association, acting as Trustees; or

(d) By a Trade Union outside the Association but controlled by the Association.

(V.) Recommendations.

Part I.—Objects to be Aimed at.

8. The Committee, upon consideration of the above-mentioned references, came to the conclusion that a fund should be established, open to all members of the profession, and the Council at its meeting on April 23rd, 1913, expressed the opinion, upon the recommendation of the Committee, that the following were objects which the fund might include, and which would doubtless be extended if the requisite financial support were forthcoming:—

(a) The provision of legal and clerical assistance to and payment of administrative expenses of Local Medical Committees;

(b) The provision of the services of the British Medical Association in protecting the interests of medical practioners as affected, directly or indirectly, by the National Insurance Act, not only in contract medical work, but in all other forms of medical practice;

(c) The provision of a reserve for the support of medical practitioners affected by action undertaken by the Association in pursuit of any future policy adopted by it;

(d) The organisation and development of the British Medical Association so as to allow the medical staff visiting every Division in the United Kingdom and interviewing each Local Medical Committee at regular intervals, and otherwise assisting the profession in any locality as and when required;

(e) The payment on a scale, out of the Special Fund, of members of the medical profession absenting themselves from their practices in performance of any of the following duties:—

(i.) For attendance at Representative Meetings;

(ii.) For attendance at Central Council and Committee Meetings held in London.

At the same meeting the Council directed that the Divisions be informed in the Annual Report of Council that the feasibility was being considered of any such proposed Fund also providing the following insurance advantages:—

(i.) Medical defence and insurance against the law costs of adverse verdicts;

(ii.) Sickness and accident insurance;

(iii.) Endowment insurance, with optional pension.

9. The main object in view is to weld the whole profession into a single defensive and offensive alliance. It is proposed to do this largely by means of paid medical organisers who would arrange and attend meetings of the profession all over the kingdom, whether meetings of Divisions of the British Medical Association or not; would get into close touch with all practitioners; would enter into the varying conditions of practice in different localities; would collect, analyse and condense information; would report thereon to the Central Body, from whence in turn these medical organisers could disseminate a policy based upon the collected opinions; would explain it intelligently and forcibly to the various bodies concerned; would direct discussion thereon so as to ensure real consideration of the most vital points; would obtain votes thereon, and would personally convey the impressions gained at these meetings to the Central Body. In this way larger meetings, more sustained enthusiasm, greater "esprit de corps" and an increase in the prestige of the profession would be obtained. The Committee lays great stress on the advantages to be gained by the employment of medical organisers, believing that capable exponents of the policy of the Association and of the documents which are from time to time circulated would do much to interest the profession and evoke intelligent discussion, while keeping the centre of the Association in direct touch with the periphery in a way never yet attempted except on a very inadequate scale.

10. It will be seen, therefore, that though the proposed Fund is intended to be used to supplement and extend the present activities of the British Medical Association, its advantages will be open to all members of the profession who subscribe to it whether they are members of the British Medical Association or not. Greater cohesion of the medical profession would it is believed be secured, than has hitherto been obtainable.

11. Before entering into details as to these objects and as to how the money is to be raised, it should be clearly understood that under the scheme it would be possible for a practitioner to contribute to the Fund for the "organisation" part alone *or* for the "organisation" *and* one or more of the insurance advantages, but not for the latter advantages alone, *i.e.*, the insurance advantages are special concessions offered only to those members of the profession who subscribe to a Fund for the purposes of organising the profession.

Part II.—Detailed Consideration of Objects of Fund.

"ORGANISATION" SECTION.

(a) *The provision of legal and clerical assistance to and payment towards administrative expenses of Local Medical Committees.*

12. The setting up of Local Medical Committees has raised the question as to how these bodies are to be financed. It is clearly understood that the expenses of these Committees must be borne by the profession itself, and the Association has always held that this is as it should be, as the profession is more likely to put its energies into an organisation for which it is solely responsible both financially and otherwise, than it would do if that organisation were financed and therefore controlled by the State. It is vital to the interests of the Association that these Committees should not become rivals to the Association and its Divisions and Branches, but it is of just as much importance to the profession that they should be made really effective units in the machinery of the profession. It is realised, therefore, that it is of the utmost importance that the activities of these Committees should at their inception be guided and co-ordinated and the first step is to put their finance upon a proper basis. At present their cost is being met in various areas in different ways, but mainly either by a small voluntary individual subscription from each practitioner in the area or on the panel, or by a deduction from the money due to each practitioner on the panel in proportion to the number of insured persons on his list. It is believed that the best means of meeting these expenses would be from a Central Fund out of which the cost of the Committees would be met in some systematic manner. At present there is a risk of some of the Committees being worked extravagantly while others are starved. In addition the local and haphazard collection of expenses does not seem to be a businesslike method of financing a permanent and national institution, and it is a task of which the Honorary Officers of the Committees would gladly be relieved. The suggestion is that the Fund should be responsible for only a definite amount spread over the whole of the Committees, grants being made upon some agreed basis to individual Committees at the discretion of the Fund.

13. The total number of Insurance areas in Great Britain and Ireland, in respect of which Local Medical Committees should be formed, is 232. The Committee is of opinion that in order to cover clerical assistance and the cost of printing and postage for these 232 Local Medical Committees provision must be made for not less than an average per Committee of £100 per annum. On this assumption the total cost would be roughly £24,000 per annum.

14. Considerable advantage has, up to the present, been taken of the Association by these Committees in obtaining legal advice. Under the scheme this important work would be continued and extended, and a sum of £1,000 per annum has been provisionally estimated for expenses under this head.

(b) *The provision of the services of the British Medical Association in protecting the interests of medical practitioners as affected, directly or indirectly, by the National Insurance Act, not only in contract medical work, but in all other forms of medical practice.*

15. The above named object necessarily has had to be stated in general terms, but by it the Committee means co-operation between the British Medical Association and the Fund in order to extend those activities of the Association which have been gradually developing during the past ten years, but which have been hampered by the want of sufficient funds and by certain restrictions in the Regulations of the Association. It will be noted that this object is not confined to insurance service work, nor even to contract work generally, but is intended to include the protection and organisation of the profession in all its branches, apart from the purely scientific. It is essential that the profession should understand that the proposed Fund is intended for the use of the whole profession and not for any particular section. The necessity for the provision of greater financial resources for the protection of the interests of the profession has grown more urgent since the introduction of the National Insurance Act; but even if the Act had never been introduced, a large extension of the work hitherto done by the Association in this direction had become inevitable

16. Expenses which can be more or less estimated for in this connection are the expenses (personal, travelling, printing, and legal) of the State Sickness Insurance Committee which have been provisionally put down at £1,000 per annum. This Committee, though a Committee of the British Medical Association, has special claims on the profession as a whole, as representing all sections of the profession, and as endeavouring to protect the interests of all classes of practitioners as affected by the National Insurance Act, and its work has a more intimate connection with the objects of the proposed Fund than that of any other Committee of the Association. For a considerable time to come this Committee will have to meet much oftener than any other Committee of the Association, and the above expenses will, therefore, remain heavy. The sum of £1,000 which is provisionally allotted to it in the financial estimate of the Fund is considered therefore to be a reasonable contribution to the expenses which will be incurred by the Association in connection with the State Sickness Insurance Committee.

17. The Committee is of opinion that the time has come when the new problems which have been raised, and the new duties put upon the profession by the National Insurance Act should be met in a permanent fashion by the establishment of a new department devoting its energies entirely to the work now being done by the State Sickness Insurance Committee, to the assistance and guidance of Local Medical Committees and to the new medico-political work arising as a consequence of the operations of the National Insurance Act. This cannot be done as it should be done by the present staff of the Association, from sheer physical inability on its part to grapple with all the new duties in addition to the other varied work of the Association. It is suggested that at the head of this Insurance Department there should be placed a medical practitioner with experience of general practice who should be under the administrative control of the Medical Secretary, unless it were arranged that this special department were undertaken by the Medical Secretary himself. In any case the department would need to be kept in constant touch with the Medical Department. There should be an ample clerical staff so that the work could be thoroughly well done. This suggestion, if carried out, would not only ensure that the Insurance medico-political work would be efficiently performed, but would relax the strain on the Medical Department and set it free for its other work which has recently been in great danger of neglect. It is proposed also that there should be branch offices at Edinburgh, Dublin, and Cardiff. These would serve as organising centres, and would be under the control of the medical organisers previously alluded to. For the expenses outlined in this paragraph, it is estimated that a sum of not less than £3,000 per annum would be required.

(c) *The provision of a reserve for the support of medical practitioners affected by action undertaken by the Association in pursuit of any future policy adopted by it.*

18. This object would be described in trade union terms as the provision of "strike and lock-out pay." Both the motions referred from the Special Representative Meeting lay stress on the need for such a provision and the Committee is of opinion that it is greatly to be desired that a reserve should be set aside to meet the contingencies which may at any moment arise. Something in this direction has already been done by the Association by means of the Central Emergency Fund, established in 1905. From that Fund assistance has often been given which has enabled practitioners to hold their own while a contract practice dispute has been in progress, but the Fund has always been a small one and its scope has therefore necessarily been restricted. If the profession is ever to be properly organised to resist the encroachment of lay bodies it is obvious that it must be able to guarantee that practitioners who loyally carry out the policy decided upon by the majority shall not suffer financially in consequence. No better test could be found as to whether the profession has learned the lesson of the past two years than its attitude to the proposal that it should provide regular and adequate funds for this purpose. Since the Association neither has, nor could obtain, power to devote its money to this purpose, the profession must by some new method, provide a fund which may accumulate from year to year and thus be ready for any struggle which comes, and the fund must not be on paper. For really effective fighting purposes there must be cash actually in hand and always ready. It is proposed that any balance remaining from the subscriptions to the organisation section of the proposed Fund shall be placed to the above-mentioned reserve, and also the balance of the profits made on the Insurance section, after deducting the commission allowed to members and paying expenses of administration of that section.

d) *The organisation and development of the British Medical Association so as to allow the medical staff visiting every Division in the United Kingdom and interviewing each Local Medical Committee at regular intervals, and otherwise assisting the profession in any locality as and when required.*

19. This important subject has already been alluded to in paragraph 9 of this report. It has long been apparent that it would be of the greatest assistance to the profession if whole time medical organisers, experienced in general practice, could be provided, each of whom should devote himself specially to a certain part of the Kingdom, make himself thoroughly conversant with local problems, become personally acquainted with the local profession, and be ready to assist the profession in local deputations and the like, while keeping himself in touch with headquarters. By the special knowledge thus gained, and being whole-time officers, these organisers would be able to give help such as no honorary officers who are subject to the claims of professional life could give, however willing they might be. The development of the system of local organisers has been of the greatest use to other large associations, and if the medical profession is willing to provide the money, this is an expenditure which would undoubtedly produce immediate and permanent results.

20. The number of medical organisers in the first instance should be four, two for England and Wales, one for Scotland, and one for Ireland. If the Fund, however, were supported as it should be, this number should undoubtedly be increased at an early date. It would not be possible to get a practitioner sufficiently experienced, and with the necessary qualifications, at a less salary than £600 per annum. To the aggregate of £2,400 for the four medical organisers recommended, the sum of £1,000 would need to be added for travelling expenses.

(e) *Payment out of the Special Fund of honorariums to practitioners absenting themselves from their practices for the sake of performing certain duties on behalf of the profession.*

21. During the past few years the work thrown upon honorary officers and representatives of the Association in various capacities has so enormously increased that the time has now arrived when it would seem not only unfair but impracticable to expect the continuation of these services without at any rate payment of out-of-pocket expenses. The Committee believes that the least that should be offered in this connection would be the payment of:—

30s. per day for every day necessarily spent away from home, for those attending Representative Meetings of the Association.

30s. per attendance to country members and 10s. 6d. to those members residing inside the London area for an attendance at Council and Committee Meetings held in London.

In estimating for these expenses the average figures of attendance at the above-mentioned Meetings during the past few years have been taken, and on this basis it is estimated that the sum of approximately £4,000 would be required for

this purpose. In addition a sum of £500 should be estimated for the like payments, together with travelling expenses, to those members of the profession on any Committee having general control of the Fund.

Summary of Estimates of Income and Expenditure.

22. A summary of the income of the Fund, based on an estimated membership of 10,000, and of the expenditure mentioned in the foregoing Section, will be found in Sub-Appendix A.

INSURANCE ADVANTAGES SECTION.

This section describes certain individual advantages offered to Members of the Fund. They are optional, but they are restricted to those who subscribe to the Organisation Section of the Fund. A proportion of the profits made in this section will be given to subscribers in the form of reduced premiums, the remainder will be applied to the Reserve Fund available for the compensation of practitioners who suffer financially by their loyalty to the policy of the Association.

23. Up to the present this Report has dealt with those objects which, on the ground of common interest, should appeal to every member of the profession—objects which, if carried out, will unite the profession, and make it ready to meet any emergency which may threaten it as a corporate body requiring either defensive or offensive measures. The Committee now proceeds to deal with what may be termed "the Insurance Advantages" of the proposed Fund. The advantages which the Fund will be able to offer in this connection are, as explained above, to be confined to those practitioners who will subscribe towards the organisation of the profession. The following are the insurance provisions which the Committee has had under consideration:—

(I.) medical defence and insurance against the law costs of adverse verdicts;

(II.) sickness and accident insurance;

(III.) endowment insurance with optional pension at age 65.

(I.) Medical Defence, &c.

24. The first insurance advantage which it is proposed should be included in the scheme, is the provision of individual medical defence, and insurance against all costs of defence in professional actions which are endorsed by a Medical Defence Society, whether successful in the Courts or not, and also against any adverse costs and damages up to the amount of £2,000 in such cases, in which the action is unsuccessful. There are already in operation three successful medical defence associations, namely, the Medical Defence Union, the London and Counties Medical Protection Society, and the Scottish Medical and Dental Practitioners Protection Society. Under the scheme all members paying through the Fund for this benefit would state to which of these Societies they would prefer that their subscriptions should be paid. Practitioners subscribing to the Fund who are already members of any of these Societies would naturally remain members and pay their defence subscriptions through the Fund. Their subscription to this object would be the same as before, but it would be convenient for them to make one inclusive payment to the Fund out of which their Medical Defence subscription would be paid.

25. There is good reason to believe that if a large number of new members join these three Societies through the Fund it would be possible to make such arrangements that a subscription of 17s. 6d (the least for which the above benefits can be obtained by a practitioner joining any of these Societies direct) would cover also the entrance fees of new members who, if they applied direct to any one of the Societies, would have to pay a first subscription of £1 7s. 6d.

(II.) Sickness and Accident Insurance.

26. The Committee is of opinion that insurance against sickness and accident would be a useful and popular part of such a scheme as it is proposing. It has therefore made enquiries into benefits offered by many Insurance Companies and has interviewed the representatives of several of them, and finds that as regards sickness and accident benefit the best arrangement could be made through the Medical Sickness Annuity and Life Assurance Friendly Society. This Society is a mutual Society dealing only with members of the medical profession, is controlled by a medical committee, spends no money in commission, and consequently is administered on such economical lines that the benefits it is able to offer are superior to any of those of which the Committee has been able to get information. Its premiums are in fact lower than those payable into any other Society giving like benefits. This Society offers a contract which cannot be terminated by the Society at the end of any year, differing in this respect from nearly all similar Societies. If a Member be once accepted by the Society and continues to pay his subscription, the contract remains valid.

27. The Medical Sickness Annuity and Life Assurance Society offers benefits from 2 guineas per week upwards and a practitioner joining the Society through the Fund could insure for two, three, or four guineas per week as desired, and at proportionate rates of premium. The Committee, however, has come to the conclusion that speaking generally, a benefit of four guineas per week is that which would be most generally acceptable. Table (i.), Sub-Appendix B, dealing with this matter refers therefore to an insurance of four guineas per week for 26 weeks for any illness or accident, and half that sum for the rest of the illness, however long it may last, up to the age of 65. At that age all benefits and payments cease, but it is the present custom of the Society to give a bonus to practitioners when they reach the age of 65. The amount of the bonus depends upon the financial position of the Society and is at present £40. Notwithstanding the low premiums of the Society the Fund would be able to make arrangements with it whereby in consideration of the subscriptions being collected by the Fund and handed over in bulk to the Society, an allowance would be made to the Fund which would not only pay for the administrative work involved in the collection of the premiums but would leave a balance which it is proposed should be applied to a reserve fund for the support of practitioners financially affected by action taken by the Association or Fund. Thus subscribers would not only have the satisfaction of being insured at as cheap a rate as they could themselves secure, but would know that by joining through the Fund they were helping on the work of organising the profession.

(III.) Endowment Insurance with Optional Pension.

28. Another insurance advantage which it was considered should appeal with considerable force to members of the medical profession is the provision of endowment insurance with the option of receiving a lump sum at the age of 65.

The Committee is in a position to state that favourable arrangements could be entered into with an Insurance Company for the provision of an endowment insurance with optional pension of £50 per annum (or more according to rate of subscription) at age 65, or the payment of a lump sum of £479 at that age or previous death. These arrangements provide that if a considerable number of practitioners join through the Fund the Company will allow to the Fund certain commissions which could not be obtained by individual insurers.

29. The position in which the Fund would thus be placed would enable it to offer its Members special advantages. Members would be offered the choice between the following:—

(a) A deduction from first premiums of the sum of Five Pounds, or

(b) A deduction from first premiums of the sum of Two Pounds Ten Shillings, with a deduction of 1¼ per cent. from all subsequent premiums.

Table (ii.) in Sub-Appendix B sets forth the premiums payable at various ages. The premium in every instance is subject to either of the alternative deductions above mentioned.

Subscriptions to Fund; Method of Collection of Fund.

30. It is proposed that every Member of the Profession should be invited to subscribe to the Organisation Section of the Fund the sum of £5 per annum, and to pay through the Fund for such of the Insurance advantages as meet the circumstances of his case. For those practitioners who prefer it, the money would be collected by yearly, half-yearly, or quarterly instalments paid direct to the office of the Fund. Practitioners serving on a panel could probably make arrangements whereby

their contributions to the Fund could be deducted from the moneys due to them for their attendance on insured persons. It is believed that there would be little difficulty in having the contributions deducted by the Clerks of Insurance Committees before paying over the quarterly cheques, should a large number of practitioners in any insurance area express their desire to have such deductions made.

31. The Committee is prepared for expressions of surprise on the part of many practitioners at the amount of subscription expected from them and the boldness with which expenditure in certain directions is contemplated, but has no hesitation in saying that the proposed subscription is quite a modest one in view of all the circumstances of the case, and that the necessity for every item of expenditure suggested can be fully justified. The profession has grown so accustomed to the amount of work done for it by the British Medical Association for a very small subscription that it has overlooked the fact that much of the work which it expects to be done simply cannot be done on what is left from a subscription of 25s. per annum after providing members with a journal, a library, a central meeting place, and many other advantages. The subscription to the Association was not based on the present needs of the profession and the whole position needs to be reconsidered. If the profession means to be efficiently organised it must provide the money, and the Committee is of opinion that a subscription of £5 for purely defensive and organising purposes is not extravagant. Indeed, comparing it with the subscriptions paid to many trade unions, it is in fact quite small when the respective incomes of working men and professional men are taken into consideration.

Part III.—Can the British Medical Association as at present constituted carry the Proposed Objects into Effect?

32. The Committee has given very careful consideration to the question of whether it would be possible for the British Medical Association, as such, to carry the proposed objects of the Fund into effect, and has had the advice both of the Solicitor of the Association and of Counsel, Mr. Colquhoun Dill. Their advice is definitely to the effect that it is impossible to carry out the whole of the proposed objects under the Memorandum of Association or any extension thereof which might conceivably be obtained.

33. The legal position is that objects (a) (d) and (e) (pars. 12, 19 and 21) could probably be carried out by the Association if some alterations were made in the Articles. Objects (b), (par. 15) and (c), (par. 18) contemplate the regulation by the Association of the terms on which medical practitioners are to carry on their practice. Such regulation of practice is not only entirely outside the Memorandum of Association which forms the basis of the constitution of the British Medical Association, but it is legally outside the scope of any organisation except a trade union. The funds and property of the Association have been accumulated on behalf of a limited company with certain essential restrictions contained in the Memorandum, and it would be legally impossible for this property to be used for what may be called trade union purposes, or transferred to a trade union.

Part IV.—Alternative Methods of Organisation.

34. Having been met by the above-mentioned difficulties in the way of the utilisation of the Association itself for the carrying on of these objects, the Committee has under legal advice carefully considered the alternative methods which present themselves (See Counsel's opinion, *see* Sub-Appendix C.) Four methods have been suggested, namely :—

(A) By the Association as at present constituted running any risks which are consequent on the restrictions imposed upon it by its constitution ;

(B) By a new Association with powers wide enough to comprise the objects desired ;

(C) By a Special Fund independent of the funds of the Association, but formed as a Trust administered by the Members of Council for the time being of the Association acting as Trustees.

(D) By a Trade Union, outside the Association, but controlled by the Association.

(A) Objects to be administered by Association as at present constituted.

35. The idea of adopting this course may be at once dismissed for three reasons. First, the risk to the Association itself, which, as a consequence of its taking action which is clearly outside its Memorandum, might be challenged by the Board of Trade, and might not only forfeit its License from that body, but in addition render its registration as a Company void. If this occurred the Charity Commissioners would probably step in and seek to administer the Funds of the Association. Secondly, these new objects could not be undertaken without an increase in the subscription to the Association and members of the profession could not be asked to subscribe to an organisation the foundations of which might be upset at any moment. Finally, as has been previously stated, it is hoped to enlist in support of the objects of the proposed Fund members of the profession who are not members of the Association and probably would never become members. The adoption of method (A) would *ipso facto* exclude such practitioners.

(B) By a new Association with powers wide enough to comprise proposed Objects.

36. The Committee has been advised that it is not legally possible to form a new Association with powers sufficiently wide to enable it to carry out the proposed objects. The Association has already ascertained from the Board of Trade the extent to which the Association would be allowed to extend the scope of its Memorandum of Association if it were wound up and registered with a new Memorandum. There is no possibility of the scope being made wide enough to include the objects of the proposed Fund. A new Association registered as a Company might undertake the objects of the Fund, though it would run the risk of infringing the Trade Union Acts, but the British Medical Association cannot do it without incurring the risk of losing all its property.

(C) By Special Fund, administered as a Trust by the Members for time being of the Council of the Association.

37. This course deserves careful consideration, as, though it presents certain difficulties, these do not to the Committee appear to be insuperable. The main difficulties consist of certain risks which may be divided into two classes, (i.) those which would be run by the Association, (ii.) those which would be run by the Trust.

(i.) The risks run by the Association would be caused by the fact that the carrying out of some of the objects of the Fund and more particularly (c) (*see* paragraph 16) would necessitate such intimate connection between the Fund and the Association that it would be very difficult to keep the administrative expenses of the two bodies separate. This in the opinion of Counsel would be likely to raise difficult questions as to the position of the Association in relation to the Fund, and might possibly lead to allegations by the Board of Trade that paragraph 4 of the Memorandum of Association was being infringed. This paragraph reads as follows :—

> "The income and property of the Association, from "whatever source derived, shall be applied solely towards "the promotion of the objects of the Association as set "forth in this Memorandum of Association, and no "portion thereof shall be paid or transferred, directly or "indirectly, by way of dividend or bonus or otherwise, by "way of profit to the persons who at any time are or have "been members of the Association, or to any person "claiming through any of them, provided that nothing "herein shall prevent the payment in good faith of "remuneration to any officers or servants of the Associa-"tion, or to any member of the Association or other "person in return for any services actually rendered to "the Association."

The Committee is of opinion that if the Fund and its administration were kept entirely separate from the Association funds this risk would be entirely avoided. This seems mainly a matter of office arrangement and book-keeping. The establishment, under legal advice, of the Central Insurance Defence Fund, which performs functions very similar to those of the proposed Fund, shows that the difficulties are not insuperable.

38. (ii.) The risks run by the Trust would be that in carrying out the objects of the Fund particularly (b) (par. 15) and (c) (par. 18) the Trust would be open to the charge that it was engaged in activities which might be held to be "in restraint of trade." Trust Funds cannot claim any legal protection in doing such things. The only organisation which has effective legal protection in such actions is a trade union.

In estimating the practicability of this plan, the Committee draws attention to the fact that it is a method which had been adopted previously by the Association, not only in regard to the Central Insurance Defence Fund, but also to the Central Emergency Fund. The latter has been in existence since 1905, and has carried on, on a small scale, the same work as is contemplated under object (c). As regards the Central Insurance Defence Fund, the Committee would recall the opinion of Mr. Colquhoun Dill on legal points very similar to those raised in this connection. The whole opinion was published in the Minutes of the A.R.M., 1912 (*see* pages 285-286), but the following is the part which seems to be of particular value in the present discussion :—

"I have considered the circular as to this fund (Central Insurance Defence Fund) issued on the 17th July, 1911, and the Circular issued in February, 1912, by the 'Medical Federation, Limited.' The purposes for which the fund was formed (as indicated in the circular of July, 1911), are in my opinion purposes directed to the 'maintenance of the interests of the medical profession,' which is one of the primary objects of the British Medical Association. Therefore, subject to the exception next referred to, the purposes indicated by the circular are within the powers of the Association, as stated in its Memorandum, and the Association is entitled to carry them into effect.

"The exception is that so far as the purposes in question involve the payment of compensation to individuals the Association is precluded from applying its funds for those purposes.

"But there is in my opinion no objection to the Association acting as administrator or trustee of a fund raised in the manner and for the purposes mentioned in the circular; for that fund is raised by voluntary subscriptions from members of the medical profession generally, and forms no part of the funds of the Association, and it bears its own expenses of administration.

"In so acting, the Association is committing no breach in the conditions of the license of the Board of Trade, and, of my opinion, neither that Board nor any member of the Association could restrain the Association from so acting.

"If the circular of the Medical Federation, Limited, is intended to suggest that the fund so raised cannot lawfully be used for indemnity or compensation, it is in my opinion incorrect and misleading.

"I have treated the matter on the footing that the Association itself is administering the fund in question. I should, however, point out that it is arguable that the trustees or administrators are the members of the Council, and that the Association as a corporate body is not acting in the matter at all, although the fund is raised under its auspices.

T. H. Colquhoun Dill.

Lincoln's Inn, 6th March, 1912."

39. The Committee is of opinion that the adoption of the method of a trust merits very careful consideration. The Council must be reminded, however, that such risks as attach to the adoption of the trust method would be enhanced as the trust increased its activities and its success drew public attention to its operations.

(D) By a Trade Union controlled by the Association.

40. There is no doubt that a Trade Union could carry out the proposed objects of the Fund without any legal risks to itself. In the event, however, of the trade union being connected with the Association, the latter would be exposed to the same risks as are pointed out in the Trust above method (C) (i.) (par 37). The objection to the formation of a Trade Union controlled by the Association, although in the main sentimental, is none the less real and needs to be carefully weighed. Trade unionism is usually associated with organisations of manual workers and not with those callings, classed as professions, which involve a liberal education, and there is no doubt that many members of the medical profession would decline to become members of an organisation which has as its *raison d'etre*, as defined for the purposes of the Trade Union Acts, "the regulation of the relations between workmen and masters or between workmen and workmen, or the imposing of restrictive conditions on the conduct of any trade or business." With such a sentiment existing and held strongly by a considerable proportion of the profession, it would be hopeless to expect that a large majority of the profession would join a trade union and become bound by its rules.

41. It is apparent that many do not realize that there is nothing in the constitution of a trade union which compels a person who joins it to remain a member. He can leave when he pleases, and he cannot be sued for his subscriptions, levies, or penalties. It is true that trade unions of workmen manage to keep their members together and to exercise a very powerful discipline over them, but records show that the membership of trade unions is constantly fluctuating. Just before a strike, every effort is made to induce non-members to join, and the kind of persuasion which is used is often very effective. But after the dispute is over the membership always falls off, mainly because those who are not convinced trade unionists do not care to pay the levies, often very considerable, which are demanded of all members. Trade unions are kept together by three main forces. (1) The desire for co-operation which exists in members of the same calling; (2) Intimidation, in more or less veiled forms; and (3) The benefits subscribed for. (1) The desire for co-operation can be satisfied in other ways not open to the same objections as trade unionism is; (2) Intimidation, as practised by trade unions, is not available for use by the medical profession even if the idea were not absolutely foreign to the whole professional spirit. It is not possible to bring the same influences to bear on a man whose work is peculiarly individual, as on a man who works in a mine or workshop; (3) As regards the binding force of benefits it remains to be proved that any considerable number of medical practitioners will ever pay such a subscription to a trade union as would make them hesitate about leaving the union if they believed the action of that organisation to be wrong, or if for any reason they were not prepared to be bound by it.

42. However, assuming that it were thought advisable to protect the proposed Fund by registering it as a Trade Union, another question of great importance emerges. How is such a body to be kept under the control of the British Medical Association? Counsel suggests that this might be done by making it one of the rules of the Union that its officers and ruling body should be appointed by the British Medical Association, and doubtless this arrangement might well form part of the rules of such a union. Nothing could, however, prevent the rules being altered at any time, and the Committee cannot avoid the conclusion that if the Union were successful and obtained a considerable membership, it might be exceedingly difficult to retain effective control by the British Medical Association. It may be suggested that so long as the profession is provided with an effective protection it does not matter whether the organisation is controlled by the Association or not. The Committee does not hold this view. The Association has for years striven to discourage the formation of sectional societies, and to make itself comprehensive enough to attract all members of the profession, whatever the nature of their work. In the opinion of the Committee it would be disastrous to do anything to encourage a policy which would involve the setting up of a serious rival to the Association, and this not so much for the sake of the Association, as for that of the solidarity of the profession. The interests of the profession are far wider than those connected with the Insurance Act, or any other medico-political question, important as these are, and the Committee believes it to be essential that any new means adopted for improving the organisation of the profession should be kept as far as possible in the hands of the British Medical Association.

43. The conclusion to which the Committee is driven is that there are difficulties in the way of adopting *any* course which has been suggested, but that these difficulties can be surmounted if the profession is in earnest. The only possible methods seem to be (i.) the formation of a Trust under the ægis of the Association, and (ii.) the formation of a Trade Union. For the reasons given above the Committee is of opinion that any advantages which are offered by the latter method are far more than balanced by its serious disadvantages, and the Committee accordingly recommends that a Fund should be established, administered as a Trust by the members for the time being of the Council of the Association.

Conclusion.

44. The Committee, in placing this Report before the Council, does not desire to minimise the great difficulties in the way of the establishment of such a Fund as has been described. The Committee is, however, absolutely convinced of the necessity of the establishment of such a Fund if the future organisation of the profession is to be placed upon really effective lines, and equally of the necessity of the Association directing and controlling any new machinery which may be set up to meet the new professional problems which have arisen. The income of the Fund has been estimated on a membership of 10,000, but

this does not mean that its operations need be delayed until that number of practitioners join. If the Council and the Representative Body receive the suggestion with favour there is nothing to hinder the Fund being started at the beginning of 1914. It is believed that the subject is ripe for consideration by the Divisions and Representative Body, and it is trusted that, as the outcome thereof, many valuable suggestions will arise. Free discussion of the project will, in any case, show whether there is a real demand for the effective organisation of the profession and, if so, how far the Committee, by the plan now placed before the Council, has been enabled to meet the requirements of the profession.

Part V.—Recommendations.

(I.) That a Fund be formed for the development of the organisation and protection of the medical profession.

(II.) That the following shall be the objects of the Fund:—

(a) The provision of legal and clerical assistance to and payment towards the administrative expenses of Local Medical Committees;

(b) The provision of the services of the British Medical Association in protecting the interests of medical practitioners as affected, directly or indirectly, by the National Insurance Act, not only in contract medical work, but in all other forms of medical practice;

(c) The provision of a reserve for the support of medical practitioners affected by action undertaken by the British Medical Association in pursuit of any future policy adopted by it;

(d) Assisting, by means of grants, in the organisation and development of the British Medical Association so as to allow the medical staff visiting every Division in the United Kingdom and interviewing each Local Medical Committee at regular intervals, and otherwise furthering the interests of the profession in any locality as and when required;

(e) The payment, on a scale, of members of the medical profession absenting themselves from their practices in performance of any of the following duties:

(i.) For attendance at Representative Meetings of the British Medical Association;

(ii.) For attendance at Central Council and Committee Meetings of the British Medical Association held in London;

(iii.) For attendance at meetings of the Trustees of the fund or of any Committee of the fund.

(III.) That the subscription in respect of the Organisation benefits of the Fund shall be the sum of £5 per annum, payable yearly, half-yearly, or quarterly.

(IV.) (a) That the organisation, control and administration of the Fund shall be vested in the members for the time being of the Council of the British Medical Association acting as Trustees.

(b) That such Trustees shall have power to delegate all or any of their powers to any Committee or Committees which they may deem it desirable to form.

(c) That the whole of the expenses attaching to the administration of the Fund shall be borne by the Fund.

(V.) That the following Insurance advantages be provided for those subscribers to the Organisation part of the Fund who desire to avail themselves thereof:—

(a) Medical defence and insurance against the law costs of adverse verdicts;

(b) Sickness and accident insurance;

(c) Endowment insurance, with optional pension at age 65.

SUB-APPENDIX A.

ESTIMATE OF INCOME AND ADMINISTRATIVE EXPENDITURE.

	£	£	£
INCOME.			
10,000 Members at £5			50,000
EXPENDITURE.			
Grants towards Local Medical Committees' Expenses (say 240 at £100)		24,000	
Legal Expenses		1,000	
Four Organising Secretaries ...		2,400	
Do. Travelling Expenses		1,000	
Maintenance Expenses of Representatives attending Annual Representative Meeting, of 6 days' duration (200 at 30s. per day)	1,800		
Do. Special Representative Meetings, say 3 days (200 at 30s.) ...	900		
Maintenance Expenses of Members attending Central Committees and Sub-Committees, London Members 10s. and Provincial Members 30s. per day (at a mean of £1)	1,000		
	3,700		
		(say) 4,000	
Similar expenses in respect of Members of Committee of Fund (say)		500	
Grant towards State Sickness Insurance Committee Expenses (personal, travelling, printing and legal)...		1,000	
Clerical Staff: London, Edinburgh, Dublin, Cardiff		3,000	
			36,900
Leaving an estimated balance, which would be placed to a Reserve as for the purposes described in Part II. (c), of about			£13,000
			£50,000

In addition to this estimated balance of £13,000 per annum there would be a sum, impossible to estimate with any degree of accuracy, derived from the commission allowed on the Endowment Assurances effected by members of the Fund.

SUB-APPENDIX B.

INSURANCE PREMIUMS.

Age next Birthday.	Table I. Ordinary Annual Premiums for Sickness and Accident Insurance of 4 guineas a week for 26 weeks, and half that sum for rest of illness to age 65.			Table II. Annual Premium for Non-Profit Endowment Assurance of £50 per annum at age 65, or payment of sum of £479 at that age or previous death.		
	£	s.	d.	£	s.	d.
26	6	9	6	10	0	5
27	6	12	4	10	7	3
28	6	15	6	10	14	10
29	6	19	0	11	2	9
30	7	2	6	11	11	2
31	7	5	0	11	19	11
32	7	9	2	12	9	6
33	7	12	4	12	19	11
34	7	15	10	13	11	1
35	7	19	11	14	2	8
36	8	4	8	14	15	0
37	8	8	6	15	8	2
38	8	13	2	16	2	2
39	8	17	11	16	16	11
40	9	2	5	17	12	11
41	9	7	6	18	10	6
42	9	12	6	19	9	8
43	9	18	6	20	10	9
44	10	3	11	21	14	4
45	10	10	4	23	0	8
46	10	16	11	24	9	10
47	11	3	7	26	2	2
48	11	11	2	27	17	8
49	11	18	2	29	16	10

SUB-APPENDIX C.

CASE SUBMITTED BY MR. HEMPSON FOR THE OPINION OF COUNSEL, AND OPINION.

Counsel is familiar with the constitution of the British Medical Association, and a print of its Memorandum, Articles and By-laws accompanies, and to which Counsel is referred.

It will probably be within the recollection of Counsel that an opinion was obtained from him on the 6th March, 1912 (see copy sent herewith) regarding the Central Insurance Defence Fund which was being raised under the ægis of the British Medical Association, and was being administered by and under the direction of the Council of that body.

The circular of 17th July, 1911, which led to the creation of this fund, was then submitted to Counsel in consequence of questions having been raised as to the legal propriety of that which was being done, and Counsel's views were conveyed by the opinion to which I have referred, and of which a copy accompanies.

A print of the circular on which Counsel advised also accompanies.

The State Sickness Insurance Committee of the British Medical Association has now under its consideration the establishment of a further Special Fund to be raised and applied to a variety of different objects for purposes in connection with the organisation of the profession, and the position in this connection will be made clear to Counsel by a letter received by me from the Medical Secretary, of which, omitting formal parts, the following is a copy :—

"Proposed Special Fund—Liability of "attachment" of moneys.

"You may be aware that the State Sickness Insurance Committee has for some time had under consideration the question of the establishment of a Special Fund for purposes in connection with the organisation of the profession. Nothing final is at yet settled as the matter has not got beyond Sub-Committee stage, but it is intended that such Fund when established, shall be under the administration of the Council as Trustees in the same manner as the Central Emergency Fund and the Central Insurance Defence Fund. Its objects so far provisionally decided upon are as set out in the attached sheet.

"The question arose at a recent meeting, out of consideration of a letter in the JOURNAL of April 19th last by Dr. Gordon R. Ward (Secretary of the National Medical Guild) (copy enclosed), as to the possibility of the moneys of the proposed Fund being liable to attachment on the ground of conspiracy or liable to any kind of legal restriction by reason of them being used for the support of purposes not legally within the scope of any such body. Dr. Ward's contention is that no body, not a registered Trade Union, can safely administer such a fund for such purposes. Your opinion is desired generally upon the subject, and, also, in the event of there being any such legal risk whether such would be obviated by the proposed Fund becoming registered as a trade union, or whether there are any other means available for its protection."

"You will see the great importance of this subject as the question of the Association being turned into a Trade Union or taking a Trade Union under its wing is a matter which is at present very much to the fore. It is the opinion of many members, guided largely by Mr. Dill's opinion in the matter of the Central Insurance Defence Fund, that a Fund held in trust by the Council could carry out all the objects desired without having to register itself as a Trade Union, a step to which a considerable number of the profession are strongly averse. I shall be glad to have your opinion upon the question generally at your early convenience, and if you think it necessary to to take a further legal opinion you will of course do so."

The provisional objects referred to in the letter to which the proposed Special Fund would, if established, be applied are as follows :—

"The question of the formation of a Special Fund to provide for certain objects which are outside the legal powers of the Association is receiving the careful consideration of the Council, and the Council, while not being in a position to report fully at this juncture, mentions the following as objects which the Fund, if established, might include :

(a) the provision of legal and clerical assistance to and payment of administrative expenses of Local Medical Committees :

(b) the provision of the services of the British Medical Association in protecting the interests of medical practitioners as affected, directly or indirectly, by the National Insurance Act, not only in contract medical work, but in all other forms of medical practice :

(c) the provision of a reserve for the support of medical practitioners affected by action undertaken by the Association in pursuit of any future policy adopted by it :

(d) The organisation and development of the British Medical Association so as to allow the medical staff visiting every Division in the United Kingdom and interviewing each Local Medical Committee at regular intervals, and otherwise assisting the profession in any locality as and when required ;

(e) The payment out of the Special Fund of honorariums on a scale to members of the medical profession absenting themselves from their practices in performance of any of the following duties :—

(i.) for attendance at Representative Meetings ;

(ii.) for attendance at Central Council and Committee Meetings.

The feasibility of including certain other important benefits, such as medical defence, insurance against law costs of lost actions, sickness and accident insurance, and pensions, is also being inquired into, and upon this a report will shortly be made to the Divisions."

There has been for some time passing in the columns of the BRITISH MEDICAL JOURNAL a correspondence bearing generally upon or otherwise directed to the subject and it will be noted that the Medical Secretary specially refers to a letter of Dr. Gordon R. Ward, the Secretary of the National Medical Guild, published in the issue of the BRITISH MEDICAL JOURNAL of the 19th April ultimo.

This general correspondence as extracted from the JOURNAL is sent herewith and it includes the letter from Dr. Gordon R. Ward, referred to by the Medical Secretary.

The letter from the Medical Secretary clearly indicates those matters upon which the Association desire to be advised and the reasons which prevail for suggesting the formation of the fund in question and Counsel's opinion is desired upon the legal questions which are involved for the assistance and guidance of the Association upon the matter.

OPINION.

1. It is clear as to certain of the provisional objects referred to by the Medical Secretary that if the funds of the Association were used for carrying them out, this would, or might, involve payments out of those funds to members of the Association in contravention of the 4th paragraph of the Memorandum of Association. Object (d) does not seem to me to be open to this objection, and this object and possibly object (a) also might be adopted subject to some alteration of the Articles.

But I understand that it is desired that all the provisional objects (with possible additions) should be made available as one entire scheme, and I proceed to consider the matter on this footing.

2. I advised last year in connection with the Insurance Defence Fund, and I remain of the opinion, that it is competent for the Association or for their Council or Officials to act as trustees of a separate fund raised by voluntary subscriptions from members of the medical profession and applicable for their benefit—such fund being kept wholly distinct from the funds of the Association, and bearing its own expenses of administration.

In point of law a special fund might be established and administered in this way for the objects now in question. But in view of the intimate connection of some of those objects, particularly (d) and (e) with the ordinary work of the Association, it appears to me that it would be almost impracticable to keep the administration expenses (such as salaries of clerical staff and other officials) really distinct. This would be likely to give rise to difficult questions as to the position of the Association in relation to the fund, and to allegations by the Board of Trade of breaches of paragraph 4 of the Memorandum.

3. There are in my opinion more serious objections to the course proposed. Paragraphs (b) and (c) of the provisional objects (although not couched in precise terms) appear to me to contemplate the regulation by the Association of the terms on which medical practitioners are to carry on their practice, and the provision of compensation for those who suffer pecuniarily through supporting the action of the Association in this direction.

Action of this kind, to be effectual, must involve interference with individuals in carrying on their business or practice: there must, in fact, be regulations in restraint of trade. Actionable wrongs to individuals are almost certain to result unless the Association or other administrators of the special fund would be projected as a trade union by the Trade Disputes Act, 1906. Action in respect of such wrongs committed by officials of the Association would lie against those officials, and probably against the Association itself (if the wrongs were committed in pursuance of a policy promulgated or authorised by the Association), and damages and costs would be payable out of the special fund. And unless the Association could establish the entire separation of the special fund from their general funds, the latter funds might be made liable also

The Association and their officials would be in no better a position in these respects than a Trade Union and its officials before the Trade Disputes Act, 1906, became law. (See per Bowen, L. J., in the "Mogul" Steamship case, 23 Q.B.D, at p. 614; per Farwell, J., in the Taff Vale case, 1901, A.C., at p. 431; Quinn v. Leathem, ib. 492.) And in some respects the position of the subscribers to and the administrators of the fund would appear to be analogous to that of the members and officers of Trade Unions before the passing of the Act of 1871. (See Hornby v. Close, L. R., 2 Q.B., p. 153; Rigby v. Connel, 14 Ch.D., p. 482; Russell v. Amalgamated Society, 1912, A.C., p. 421.)

It is possible that if the Association acted in the administration of the fund, it might be held to be a trade union and so within the protection given by the Trade Disputes Act, 1906, to all trade unions (whether registered or not). But if this were so, their registration under the Companies Acts would be void and their status would be entirely altered, Trade Union Act, 1871, S. 5. This possibility may, therefore, be left out of consideration.

4. If it is the desire of the Association to adopt a policy involving the regulation of the mode in which medical men are to conduct their practice, the best course appears to me to be to form a separate Society and register it as a Trade Union. The Association might (by means of the rules of the Society which would require careful consideration) keep control of such a society by taking power to appoint its officers or governing body. And the new Society would obtain the immunities conferred by the Trade Disputes Act, 1906.

T. R. COLQUHOUN DILL.

Lincoln's Inn,
28th May, 1913.

CENTRAL MIDWIVES BOARD.

A SPECIAL meeting of the Central Midwives Board was held on June 26th at Caxton House, Westminster, with Sir FRANCIS H. CHAMPNEYS in the chair.

The Board considered charges against certain midwives and directed the names of four to be struck off the Roll—namely, Harriet Barton, on the ground that she did not take steps to obtain medical assistance when required according to the rules of the Board; Emma Gleeson, on the same ground and that she had not carried out the instructions of the doctor summoned to the patient; Ann Elwood, that she did not intimate the need for the attendance of a medical practitioner in the case of an infant suffering from discharge from the eyes; Unice Roseanna Stimpson, that, having advised that medical aid was required, she did not send a notification to the local supervising authority and did not take the patient's temperature, contrary to the rules of the Board. Margaret Duckworth was censured after charges against her had been considered.

Hospitals and Asylums.

CHURCH OF SCOTLAND DEACONESS HOSPITAL.

THE annual report of the Church of Scotland Deaconess Hospital (Lady Grisell Baillie Memorial), Edinburgh, states that the number of patients who have been treated in the hospital since its opening in 1894 has been 6,544, of whom 531 were admitted during the past twelve months. There are 42 beds, including "open-air" beds and those in the children's ward, and the average daily number of cases under treatment has been 39. During 1912, 408 surgical operations were performed, and the rate of mortality of the total number of patients under treatment was a fraction over 4 per cent. The number of cases treated by the district nurses was 355, of whom 133 were maternity cases; the surgical out-patients numbered 1,505.

FALKIRK INFIRMARY.

THE annual general meeting of the managers and subscribers to the Falkirk Infirmary took place on May 8th, Sheriff Moffatt, the president, being in the chair. During the year 467 indoor and 666 outdoor patients had been treated. The income had exceeded the expenditure by £141, but the former included £300 given by an anonymous donor, and £200 given by the trustees of the late Miss Dawson of Powfoulis. Four hundred and ninety-nine operations had been done.

CRICHTON ROYAL INSTITUTION, DUMFRIES.

THE report by the Board of Direction for 1912 states that the number of patients under treatment during the year was 1,076, and the number on the registers at its close 889—namely, 402 males and 487 females. Of these, 526 were private patients resident in Crichton Hall and other houses of the first and second divisions, and 363 were parochial patients, who occupy a portion of Grierson Hall and the recently erected buildings of the third division. Dr. Easterbrook, the physician superintendent, in the course of his report, states that the onset of their mental breakdown was attributed by the patients and their relatives in the majority of cases to such factors as bodily ill health and illnesses of various kinds (32 cases), prolonged worry and anxiety and allied psychical causes (20 cases), alcoholic excess (16 cases), old age (15 cases). In all the cases, however, in which the patient's life-history was known, there was clear evidence of an antecedent predisposition to mental illness in the form of an unstable and vulnerable nervous constitution, either inherited or acquired through the mode of life of the subject. The figures for alcoholic excess (12.0 per cent.—men, 14.7, women 11.1) as an exciting factor of the insanity in the receptions of the year, were two to three times higher than those of recent years, a fact which may possibly be correlated with the rise in wages and general prosperity of trade in 1912.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

GLASGOW AND WEST OF SCOTLAND BRANCH:

Lanarkshire Division.

The annual meeting of the Lanarkshire Division was held at Glasgow on June 18th, under the chairmanship of Dr. Bruce Goff, eleven other members being present.

Secretary and Treasurer's Report.—The Secretary, Dr. Loudon, read his annual report for the year ending December 31st, 1912, which showed that the membership of the Division had increased from 88 to 109. The accounts as rendered to the Branch showed a small deficit.

Election of Officers.—Dr. Bruce Goff having vacated the chair, the following officers were elected:

Chairman.—Dr. Bruce Goff, Bothwell.
Vice-Chairman.—Dr. R. Paterson, Law, Carluke.
Secretary.—Dr. Livingstone Loudon, Hamilton.
Treasurer.—Dr. Murray Young, Hamilton.
Representative in Representative Meetings.—Dr. R. P. Jack, Birkenshaw, Motherwell.
Representatives of Branch Council.—Dr. W. G. McPherson, Bothwell, and Dr. Livingstone Loudon, Hamilton.
Executive Committee.—Dr. McKenzie, Douglas; Dr. McNay, Larkhall; Dr. McPhail, Whifflet; Dr. Fotheringham, Motherwell; Dr. Steele, Hamilton.

Matters Referred to Divisions.—On the motion of Dr. Loudon, seconded by Dr. W. G. McPherson, it was unanimously agreed that the Representative be given practically a free hand in dealing with matters at the Representative Meeting, and it was also agreed that he should exercise his discretion in voting, endeavouring as far as he could to ascertain the views of the members of the Division, when matters of particular interest were likely to be discussed.

Model Rules for Ethical Procedure.—On the motion of Dr. Loudon, seconded by Dr. Mackenzie, these rules were remitted to the Executive Committee for consideration, and thereafter to be submitted to an early meeting of the Division.

Fees for Domiciliary Treatment of Pulmonary Phthisis in Dependants of Insured Persons.—It was unanimously resolved that all the local authorities (county council and town councils) in the area of the Division be asked to pay for these cases at the rate of 5s. per week per patient, that no extra charge be made for injecting tuberculin, etc., but that the charge of 5s. per week do not include medicines, drugs, vaccines, or appliances of any kind, the charge being for medical attendance only. The Secretary was instructed to submit this scale of fees to the State Sickness Insurance Committee, and if approved to intimate the arrangement to the secretaries of the Local Medical Committees with as little delay as possible, as several Local Insurance Committees had resolved to extend sanatorium benefit to dependants of insured persons.

Votes of Thanks.—On the motion of Dr. J. C. McKenzie, seconded by Dr. Fotheringham, the meeting resolved unanimously to convey its thanks to Dr. Bruce Goff for the long and valuable services he had rendered to the Division as its Representative in the Representative Meetings for the period of twelve years; "especially did the Division desire to thank him for the arduous and strenuous services rendered during the critical times they had all passed through recently."

LANCASHIRE AND CHESHIRE BRANCH:

Bolton Division.

The annual general meeting of this Division was held at the infirmary on June 17th. Non-members were invited. Sir Thomas Flitcroft was in the chair, and twenty members attended.

Expenses of Representatives.—The local levy of 5s. a head for the payment of expenses of Representatives and members of committees was discussed. On the motion of Dr. Gray, seconded by Dr. Thornley, it was resolved:

That the full amount required by the Branch for the expenses of the Representatives and members of committees be sent to the Branch Secretary, and the surplus to be used for the expenses of the Local Medical Committee.

The Secretary announced that the amount received fell short of the demand of the Branch.

Annual Representative Meeting.—The consideration of the agenda for the Annual Representative Meeting was left over for the next general meeting.

Election of Officers for the Year 1913–14.—The following were elected:

President.—Sir Thomas Flitcroft.
Vice-President.—Dr. R. D. Mothersole.
Honorary Secretary and Treasurer.—Dr. T. O'Neill.
Representatives on Branch Council.—Dr. C. Macfie, Dr. T. O'Neill.
Executive Committee.—Drs. Gray, Laslett, J. M. Thornley, W. Rolland, F. Dowling, Kilpatrick.
Auditors.—Dr. T. Boulton, Dr. Mowatt.

Annual Report of Executive Committee.—The Secretary presented the annual report, in which it was stated that the membership was now 84 as against 86 last year. Twelve meetings, with an average attendance of forty-nine, had been held. One social function took place, when the Lancashire and Cheshire Branch held its annual meeting at Bolton. The Executive Committee had met nine times, with an average attendance of seven.

Wednesday Evening Consultations.—The Secretary was instructed to send to each member of the Division a circular recommending the local profession to discontinue Wednesday evening consultations after July 16th.

Congratulations to Sir Thomas Flitcroft.—Before the Division rose, Dr. Wright said that as this was the first meeting at which Sir Thomas Flitcroft presided since the King had conferred upon him the honour of knighthood, he wished to take the opportunity of congratulating him in the name of the Division. Every member of the local profession felt that he shared the honour. Dr. Wright concluded by a motion warmly congratulating the Chairman. This was seconded by Dr. Mothersole and supported by Dr. Johnstone, and passed by the meeting with applause. Sir Thomas Flitcroft replied that he was deeply gratified at the many congratulations which he had received from his medical friends, and desired to thank them all most sincerely.

Liverpool Division.

A meeting of the Liverpool Division was held on June 11th at the Medical Institution. Dr. R. I. Richardson, Chairman of the Division, was in the chair, when the report of Council and provisional agenda were considered. Dr. Bushby proposed, and Dr. Given seconded, that the recommendations of the Executive Committee on the agenda paper be the instructions to the Representatives at the Annual Meeting, 1913.

Annual Representative Meeting.

The following recommendations of the Executive Committee with regard to the annual report of the Council and provisional agenda for the Annual Representative Meeting were agreed to: Motions 7, 8, 9, 16, 17, 20, and 44 were left to the discretion of the Representative; Motions 10, 12, 13, 18, 19, 21, 22, 23, 24, 25, 36, 39, and 40 were agreed to. It was decided not to support Motions 14 and 15, nor Riders 27, 28, 29, 30, and 31, while it was agreed to reconsider Motion 37. In Motion 38 it was decided to substitute for the word "earning" the following—"whose total income from all sources exceeds." Motion 41 was agreed to except paragraph 127 of the annual report, though it was decided to support the Recommendations *a*, *b*, *c* regarding fees and the desirability of retaining midwifery as far as possible in the hands of the profession. It is also decided to support Riders 42 and 43, and Motions 45, 46, 47, 48, 49, 50, 51, 52, 53, and 54.

At the meeting of the Division on May 9th it had been decided to vote against the proposal of the Natal Branch with regard to eligibility for membership; to leave the suggestion of the Leigh Division that power be taken to provide for a postal vote in questions of urgency to the discretion of the Representative; and to vote against the motions by the Buckinghamshire Division with reference

to the mode of election of members and members of Council.

On the motion of the Secretary, Dr. FRANCIS W. BAILEY, seconded by Dr. E. T. DAVIES, it was agreed to place on the agenda paper for the Representative Meeting the following motion with regard to paragraph 24, Report of Council (SUPPLEMENT, May 3rd):

That a separate copy of all SUPPLEMENTS be sent to each Honorary Secretary of a Division, and that they be marked on the top right hand corner with identification letters and numbers as heretofore.

Corporation Workmen.

A subcommittee was formed to consider the position of the medical officers to the Corporation Tramways Benefit Society, and to take such steps as it might think desirable in the matter of improving the medical officers' position.

Attendance on Uninsured Persons.

Mr. F. CHARLES LARKIN proposed and Dr. GARDINER MEDWIN seconded the following motion, which was agreed to:

That the members of the Liverpool Division decline to undertake or conduct any form of contract practice for non-insured persons at less remuneration than that paid in respect of insured persons, and urge all medical practitioners resident in the Liverpool Divisional area to do the same, unless the local profession can show that the economic conditions in the area demand a lower rate.

MANCHESTER (SOUTH) DIVISION.

THE tenth annual general meeting was held at Fallowfield on May 28th. Dr. GOODFELLOW presided, and twelve other members were present. Dr. GRANT DAVIE acted as Honorary Secretary in the unavoidable absence of Dr. Mitchell.

Correspondence.—A letter was read from Dr. Russen Rhodes stating that owing to ill health he had been compelled to relinquish his practice. "He regretfully took leave of the Division so far as being able to co-operate with it in the district as a general practitioner," and recorded "the value he had placed on the friendship and associationship of his colleagues in the Division." The CHAIRMAN formally accepted Dr. Rhodes's resignation, and after speaking of the excellent work he had done in every capacity as an office-bearer in the Division, said that he would himself address a letter to Dr. Rhodes expressing regret in the name of the Division. A letter having been received from Mr. Larkin *re* a voluntary levy to pay the expenses of members of the Branch attending meetings of the Representative Body, Council, and Committees, Dr. SAWERS SCOTT proposed and Dr. SARJANT seconded:

That there be an increase in the Association's annual subscription to meet these expenses.

Whereupon Dr. GRANT DAVIE, seconded by Dr. HEATHCOTE, proposed the following amendment, which was carried, and subsequently as a substantive motion, *nemine contradicente*:

That Mr. Larkin be written to, pointing out that this Division had already put its house in order by paying its Representative's expenses by means of a voluntary levy during the past three years, and it was the opinion of this Division that other Divisions should follow its example locally.

Reports.—The annual report of the Executive Committee of the Division, of the Treasurer, and of a report from the Provisional Local Medical Committee were received and adopted.

Vote of Thanks.—In proposing a vote of thanks to the past office-bearers, the CHAIRMAN first read with regret a letter from the Honorary Secretary (Dr. Mitchell), in which he stated that he felt the time had now come for him to retire from office. During the past three years of his secretaryship the work, the Chairman said, had been full of continuous and strenuous effort which had required the use of not only much of Dr. Mitchell's leisure, but also of his working time to cope with it. Practically for the same reasons, Mr. Stocks had been compelled to retire from representing the Division at Representative Meetings. With regard to their past Secretary, the Division had been served by one who had been whole-hearted, able, honourable, and hard-working in all he had undertaken, and they owed him a deep debt of gratitude for his strenuous efforts on their behalf. As to their past Representative, their continual confidence in him was more than justified. His reports were models of excellence and fair-mindedness, and it would be difficult to find some one who would or could follow in his footsteps. The Division, however, must respect the very real reasons these gentlemen had given for retiring, and, coupling them with the other past office-bearers, he proposed the Division should accord them its heartiest gratitude and thanks. This was carried unanimously.

Election of Officers.—The following officers were elected for the ensuing year:

Chairman.—Dr. T. A. Goodfellow.
Vice-Chairman.—Mr. W. P. Stocks, F.R.C.S.
Honorary Secretary and Treasurer.—Dr. E. Crichton Hood.
Representatives on Branch Council.—Drs. T. A. Goodfellow and F. J. Webb.
Representative for Representative Meetings.—Dr. A. M. Mitchell.
Committee.—Drs. C. H. Broomhead (Levenshulme), G. Stowell (Heaton Mersey), A. E. Cotterill (Fallowfield), G. B. MacGregor (Didsbury), and J. Howe (Levenshulme).
Representatives on Joint Committee.—Chairman, Honorary Secretary, and Representative (*ex officio*), Drs. G. H. Grant Davie and A. M. Mitchell.

Wilmslow Members.—It was resolved unanimously:

That this meeting of the Manchester (South) Division offers no objection to the transfer of the Wilmslow members from the Manchester (South) Division to another Division.

Resolutions from the Levenshulme Medical Society.—The following resolutions were carried unanimously:

1. That the membership of the Manchester Medical Committee should in future be chosen so as to secure adequate representation of each Manchester district.
2. That in the opinion of the Manchester (South) Division it is desirable that the Manchester Medical Committee give periodically to the members of the profession more information on all important matters.

Attendance upon Non-insured Persons.—The following resolutions were carried with one dissentient:

Resolution 1.—That in the opinion of this Division the terms for attendance upon non-insured persons should be the "minimum":
(*a*) Free choice of doctors.
(*b*) Maximum income limit of £2 a week.
(*c*) Payments for attendance on a tariff based on 2s. 6d. a visit, or a fee of 8s. 6d. per person per annum, medicine included in either case.
(*d*) All negotiations to be conducted by such professional body as the Division may from time to time determine.

Resolution 2.—That any practitioner accepting or continuing to hold contracts or making arrangements for medical attendance upon non-insured persons on lower terms than those stated in Resolution 1 will be deemed guilty of conduct detrimental to the honour and interests of the medical profession.

Resolution 3.—That all members holding appointments on lower terms than those above mentioned be hereby requested to resign such appointments at once.

Report of the Executive Committee.

The annual report of the Executive Committee stated that this body had held eight meetings during the year, while the Division had held twelve, the average attendance at the latter being 37.4, the gross numbers varying between 21 and 72. In addition six non-members attended various meetings. The total membership of the Division had increased by one. Following the precedent of the previous year, the Divisional meetings had been held in a public room instead of at a member's house. Subsequent to the last annual meeting the Division and its members individually received applications from various bodies for the supply of statistical information in regard to the probable working of the National Insurance Act, and these requests the Division decided should not be granted, since there appeared to be no limit to the demands made upon the profession by public bodies to supply without fee information for local and national purposes. The main subject discussed at meetings was the National Insurance Act, and the report rehearsed in detail the course in regard to it that had been taken both by the Division and the parent body during the year, and the circumstances which eventually led the Division, after the holding of a mass meeting of the whole profession in Manchester and its neighbourhood on January 5th, to agree to accept a modified form of service such as had already been arranged between the Salford Insurance Committee and the Salford Division. This arrangement was at first made for three months only, but had since been extended for a further three months, and the report expressed a

hope that members of the Division would keep complete records of their work in order to supply the State Sickness Insurance Committee of the Association with the information which it was seeking.

Resignation of the Chairman.—In January the Division accepted the resignation of Dr. Edlin, its Chairman, and replaced him *ad interim* by Dr. Goodfellow.

Levy for Representative's Expenses.—The Division decided again to make a voluntary levy of 2s. 6d. per member for the purpose of defraying the expenses of the Division's Representative at Representative Meetings, but, after repeated requests had been made on agenda notices as well as at meetings, only about half the members subscribed. Every member, the report pointed out, should feel it incumbent on himself to contribute his share of the Representative's out-of-pocket expenses, especially when the personal sacrifice entailed by the Representative's leaving his home responsibilities to work for his Division was remembered.

Levy for General Expenses.—At the end of May, 1912, the Division, owing to the unusual expenditure involved by work in connexion with the National Insurance Act, found itself with a deficit, although seven months of the financial year had still to run, and no grant from Branch funds could be obtained for nine months. Hence it was decided to request members to contribute 2s. 6d. each towards expenses. Forty members responded to the call, and the sum thus obtained enabled the work to be carried on for about four months, but since then the deficit had had to be met personally by the Treasurer. The forty members who subscribed towards the Division's expenses were those who likewise subscribed towards the Representative's expenses. "There are thus a majority in the Division who are determined not to play the game, but who are not unwilling to reap the benefit obtained thereby by the minority of their fellow practitioners."

Ethical Rules.—The model ethical rules were adopted by the Division, and thus became binding on all its members.

Amalgamation of Manchester Divisions.—On reconsideration of this subject, the Division adhered to its original resolution in favour of amalgamation.

Filling in Death Certificates.—The Division passed the following resolution:

> The Manchester (South) Division of the British Medical Association, acting on the decision of the Annual Representative Meeting, 1911 (Birmingham), calls upon all members of the profession practising in the area to refrain in future from filling in particulars of the duration of disease in any statutory death certificate signed by them.

OXFORD, READING, AND MAIDENHEAD BRANCH:

Oxford Division.

The annual meeting of the Oxford Division was held on June 27th at the White Hart Hotel, Chipping Norton, when twenty members were present. Sir William Osler took the chair, and inducted Dr. O'Kelly, of Chipping Norton, as chairman for the ensuing session.

Report of Executive Committee.—The Secretary read the Committee's report, which was adopted. This referred to the year's work during a crisis of great importance to the profession; seven special general meetings of the Division had been held, most of them largely attended, over 100 members being present at one of the meetings in December. The Local Medical Committees had held several meetings. The report made mention of the provisional scheme for service under the Insurance Act whereby members were enabled to keep their pledge, and of the part played by Dr. Turrell and Dr. Higgs in elaborating this scheme. The Committee expressed its sense of obligation to the Chairman (Sir William Osler) for presiding over so many meetings in an exceptionally busy year, and also to Dr. Turrell (Vice-Chairman) for all the work he had done on the Council and on various local committees. Mr. Drew was thanked for his offices as Representative of the Division. Reference was made to the drafting of a tuberculosis scheme for city and county. The membership of the Division in January, 1913, was 157. A sum of £145 had been collected from members towards the expenses of the central office. The balance sheet was also read and accepted.

Election of Officers.—The following officers were elected:

Chairman-elect.—Dr. Good, of the County Asylum.
Vice-Chairmen.—Mr. Style and Sir William Osler.
Secretary and Treasurer.—Dr. Gillett.
Divisional Representative.—Dr. Gillett.
Deputy Divisional Representative.—Dr. Turrell.
Two Members of Executive Committee.—Dr. Long and Dr. R. Sankey.

Votes of Thanks.—A vote of thanks to Dr. Duigan, the retiring Secretary, was proposed by Sir William Osler, seconded by Mr. Whitelocke, and carried *nemine contradicente*. Dr. Duigan replied. A vote of thanks to Mr. Drew, the retiring Representative, was proposed by the Chairman, and carried *nemine contradicente;* and Mr. Drew replied.

Reorganization of Association.—Dr. Turrell referred to the subject of reorganizing the Association, and stated that in his opinion this was not a favourable time for attempting it. The matter, he said, would come before a further meeting of the Division.

Chairman's Address.—The Chairman, Dr. O'Kelly, gave a short address, which mainly dealt with the value and importance of post-graduate classes.

Entertainments.—Before the meeting, sixteen members attended luncheon in the hotel, and after the meeting was over Dr. O'Kelly organized excursions in motor cars to various objects of interest in the surrounding country, and finally entertained members to tea at his house.

SOUTH WALES AND MONMOUTHSHIRE BRANCH:

South-West Wales Division.

The annual meeting of the South-West Wales Division was held at the Infirmary, Carmarthen, on June 18th. Dr. Edgar Davies, the outgoing Chairman, entertained the members to lunch at the Ivy Bush Hotel. His health, which was proposed by Dr. Parry (Carmarthen), was drunk with musical honours.

Election of Officers.—The following were elected officers for the ensuing year:

Chairman.—Dr. C. A. Brigstocke, Haverfordwest.
Vice-Chairman.—Dr. D. Phillips, Llandillo.
Honorary Secretary and Treasurer.—Dr. D. R. Price, Ammanford, re-elected.
Representative.—Dr. D. R. Price.
Deputy Representative.—Dr. R. Hopkin, Llangadock.
Representatives on Branch Council.—Drs. Evan Jones, Lampeter; Y. H. Mills, Haverfordwest; and Samuel Williams, Llanelly.
Representatives on Contract Practice Committee.—Drs. Evan Evans, Llanelly; D. J. Williams, Llanelly; and Owen Williams, Burry Port.
Executive Committee.—Drs. John Davies, Aberayron; Evan Evans, Llanelly; Evan Evans, Lampeter; Richard Hopkin, Llangadock; T. J. Jenkins, Henllan; D. G. Lloyd, Newcastle-Emlyn; C. D. Mathias, Tenby; T. Morgan, Llandovery; R. G. Price, Carmarthen; H. H. Roberts, Llanelly; D. Lewis Williams, Ferryside; Owen Williams, Burry Port; and *ex officio* the Chairman, Secretary, and members of the Branch Council.

Vote of Thanks to Retiring Chairman.—In taking the chair, Dr. Brigstocke proposed a vote of thanks to Dr. Edgar Davies for his services as chairman during the last three years, the most anxious time in the history of the British Medical Association. This was carried unanimously.

Chairman's Address.

Dr. C. A. Brigstocke gave his reminiscences of fifty years as a general practitioner. He recalled his apprentice days in the late Fifties, his entrance to St. Bartholomew's Hospital, when as a student he remembered public executions and garrotting, and how when going to a case of midwifery he was himself garrotted, and only saved when it was discovered that he was a doctor. After qualifying in 1865 he started practice in Llanelly, when Asiatic cholera was raging. Ninety fatal cases came within his own experience, and at one time his average sleep was only one hour in twenty-four. He considered that the symptoms of typhoid fever, scarlet fever, small-pox, and diphtheria were more severe than in the present days. Better sanitation, the introduction of vaccination, and antitoxin were undoubtedly, in his opinion, the reasons for this. As to midwifery, he found that most of the cases were now managed by the district nurses. He once experienced an unusual occurrence in the same patient who had twins in January and twins in December of the same year. He closed his address by an account of quaint

incidents in connexion with coroners of his early days. The whole address was delightful to hear, both to the older and younger members of the Division, and a hearty vote of thanks to Dr. Brigstocke was proposed by Dr. D. J. WILLIAMS (Llanelly) and seconded by Dr. E. R. WILLIAMS (Carmarthen), and was carried with loud applause.

YORKSHIRE BRANCH.

ANNUAL MEETING.

THE annual meeting of the Yorkshire Branch was held at the Clayton Hospital, Wakefield, on June 25th.

Meeting of the Branch Council.—The following gentlemen were elected members of the Association: Drs. Booth, Ellison, Evans, and Hirst. A letter from Dr. Metcalfe was read expressing regret that, owing to his removal from Yorkshire, he could no longer represent the Branch on the Central Council. The appointment of Dr. Campbell in his place was confirmed. It was arranged that the October meeting of the Branch should be held at Scarborough and the next annual meeting at Bradford.

Dr. GIBSON presided over the annual meeting of the Branch, when thirty-five members were present.

Election of Officers.—The following officers were elected:

President.—Dr. Stanger, Wakefield.
President-elect.—Dr. Bronner, Bradford.
Honorary Secretary and Treasurer.—Dr. Bronner.
Representative of the Branch on the Central Council.—Dr. Campbell.

Annual Report.—The annual report of the council stated that during the year three ordinary meetings of the Branch had been held. A special meeting of the council had also been held for the election of new members, and two meetings of the executives of the various Divisions had been called, to consult as to the action to be taken with regard to the Insurance Act; 118 new members had been added. There had been a loss of 61, making a net increase of 57, and a total membership of 1,150. The council desired to place on record the great loss sustained by the Branch in the death of Dr. Martin, of Sheffield, and Dr. Miall, of Bradford, two of its oldest and most respected members and vice-presidents, who for many years had taken a most keen interest in the affairs of the Association.

National Insurance Act.—Dr. STANGER, the President-elect, delivered an address on the Insurance Act, which will be published in full.

Induction of President.—Dr. GIBSON then introduced the new President. A hearty vote of thanks was accorded to Dr. Gibson for his services as president during the past year.

Papers.—Dr. EURICH made some remarks upon blood examination, and described several cases illustrating the importance of such an examination for diagnosis, and especially for prognosis. Dr. J. W. THOMSON (Wakefield) read a paper on tuberculosis of the uterus, the channels of infection, and the varieties of the condition. Dr. HOLDSWORTH (Wakefield) read notes on a case of tuberculosis of the caecum.

Specimens.—Dr. HELLIER (Leeds) showed a specimen of sarcoma uteri. Mr. J. F. DOBSON (Leeds) showed a series of specimens, and briefly gave details of the cases concerned: (1) Hypernephroma of the kidney associated with symptoms suggesting cancer of the stomach. (2) Gall-bladder tumour simulating a movable kidney. (3) Gall-bladder tumour simulating an appendix abscess. (4) Large tumour of the small intestine. (5) Large tumour of the ascending colon involving the stomach and the small intestine.

Annual Dinner.—The annual dinner was held at the Bull Hotel, Wakefield.

WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.

THE annual meeting of this Division was held at the Clayton Hospital, Wakefield, on June 20th. In the absence of Dr. J. W. Walker (Wakefield), the chair was taken by Dr. G. B. HILLMAN (Castleford).

Election of Officers.—The following officers were elected for the ensuing year:

Chairman.—Dr. J. W. Walker, Wakefield.
Vice-Chairman.—Dr. G. B. Hillman, Castleford.
Representative on Branch Council. — Dr. Steven, Featherstone.
Representative in Representative Meetings.—Dr. G. B. Hillman, Castleford.
Deputy to Representative in Representative Meetings.—Dr. Wm. Eardley, Goole.
Honorary Secretary.—Dr. Wm. Eardley, Goole.
Treasurer.—Dr. W. Steven, Featherstone.
Executive Committee.—Dr. Selby and Dr. H. J. Clarke, sen., Doncaster; Dr. Chrispin and Dr. Campbell, Castleford; Dr. L. A. Johnson and Dr. Scholefield, Normanton; Dr. May, Dr. W. Stanger, and Dr. Clayton, Wakefield; Dr. John Orford and Dr. Osmond, Pontefract.

Instructions to Representative in Representative Meetings.—The Representative was instructed to support any motion tending to simplify the giving of certificates under the Insurance Act.

Fees for Club Patients outside the Insurance Act.—A letter from the Medical Secretary giving the views of the Council of the British Medical Association on this question having been read, the following resolution, proposed by Dr. JOHNSON (Normanton) and seconded by Dr. MAY (Wakefield), was carried:

> That this Division decides that a minimum sum of 4s. be charged for juveniles and 8s. 6d. per year per member for uninsured adult members of friendly societies, as insisted on by the Council of the British Medical Association.

President of Yorkshire Branch.—Upon the proposal of Dr. EARDLEY, seconded by Dr. TAYLOR, it was decided to offer the congratulations of the Division to Dr. William Stanger, F.R.C.S., J.P. (Wakefield), on his appointment as President-elect of the Yorkshire Branch.

IN the list of members of the Executive Committee of the St. Pancras Division, published in the SUPPLEMENT of June 21st, page 567, the name of Dr. A. R. Roche was accidentally omitted.

Association Notices.

ELECTION OF MEMBERS OF COUNCIL BY GROUPED REPRESENTATIVES.

NOTICE is hereby given that Nominations for candidates for election of Members of Council by grouped Representatives for the year 1913–14 will be received by the Medical Secretary up to the end of the first hour of the proceedings of the Annual Representative Meeting, on Monday, July 21st, 1913. Each Nomination must be on the prescribed form, copies of which will be forwarded by the Medical Secretary on application.

Separate forms have been prepared: (I) for Nomination by a Division (through its Representative), and (II) for Nomination by a Representative of a Constituency included in the Group, and those applying are requested to state for which purpose the form is desired.

The voting papers will be issued at the Representative Meeting to each Representative or Deputy Representative of a Constituency in the United Kingdom in attendance at the Meeting.

By order of the Council,

ALFRED COX,
Medical Secretary.

June 19th, 1913.

BRANCH AND DIVISION MEETINGS TO BE HELD.

CAMBRIDGE AND HUNTINGDON BRANCH.—Dr. G. S. Haynes, Honorary Secretary, gives notice that the sixty-ninth annual meeting of the Branch will be held in Cambridge on Wednesday, July 16th. President-elect, Joseph Griffiths, M.A., M.D., M.C., F.R.C.S.

DORSET AND WEST HANTS BRANCH.—Dr. Frank Fowler, Honorary Secretary (29, Poole Road, Bournemouth), gives notice that the summer meeting will be held at the Town Hall, Wareham, on Wednesday, July 9th, at 3.30 p.m. Dr. Charles Mercier will read a paper, A Problem in Diagnosis. Any members having cases or short papers they would be willing to read are requested to communicate with the Honorary Secretary. Luncheon will be arranged at the Red Lion Hotel at 1.30; price 2s. 6d. The Rev. Canon Blackett has kindly promised to show members the churches and wall of the town after luncheon. Drs. Courtenay and Bell invite members to tea after the meeting.

EAST ANGLIAN BRANCH.—Notice is given that the annual meeting of the East Anglian Branch will be held at the Town Hall, Ipswich, on Thursday, July 10th, at 12.30 p.m., for the reception of the annual report, election of officers, financial report, and the transaction of any other business.

Dr. Muir Evans (Lowestoft) will read a paper on flatulence and shock. The President-elect will entertain the members to luncheon at the Crown and Anchor Hotel at 1.30 p.m., and the meeting will be resumed at 2.30 p.m., when there will be proposed a vote of thanks to the retiring President, Dr. John Turner. Dr. Herbert H. Brown will be inducted President of the Branch, and will then give an address on the importance of early prognosis in abdominal disease. Dr. A. J. Blaland (Norwich) will read a paper on the radical treatment of carcinoma of the rectum. Dr. H. L. Heath (Ipswich) will read a paper on the use of vaccines in cases which have not responded to ordinary treatment. At 4.30 p.m. tea, to which ladies are invited, will be provided by Dr. Herbert H. Brown, at 1, Museum Street, Ipswich.

Leinster Branch.—Professor White, Honorary Secretary and Treasurer (Royal College of Surgeons), gives notice that the annual general meeting of the Leinster Branch will be held in the Royal College of Physicians, Kildare Street, Dublin, on Monday, July 14th.

Metropolitan Counties Branch: City Division.—Dr. A. G. Southcombe, Honorary Secretary, gives notice that the adjourned annual general meeting will be held in Balfour Hall, Dunstan Street, Kingsland Road, on Wednesday, July 9th, at 3.30 p.m. The chief items of business before the meeting will be: (1) Report of Central Council (Supplement, May 3rd). (2) Agenda for Representative Meeting (Supplement, May 10th). (3) Report of Council upon reorganization of the Association (Supplement, June 21st). (4) Supplementary Agenda for Representative Meeting (Supplement, June 21st and July 5th); members are especially desired to preserve those Supplements and bring them to the meeting). (5) Instructions to Representatives. (6) Poor Law medical appointments—(i) Dr. Major Greenwood will call attention to the position in (*a*) Shoreditch and (*b*) Bethnal Green, and move a resolution; (ii) consideration of appointment of a deputation to the (*c*) Hackney Union Guardians. (7) The Chairman will report the results of the appeal and levy.

Metropolitan Counties Branch: East Hertfordshire Division.—Dr. H. D. Ledward, Honorary Secretary (123, Norton Way, Letchworth), gives notice that an ordinary meeting of the Division will be held at 3.15 p.m. on Wednesday, July 9th, at the Shire Hall, Hertford, to consider a special report of Council on certain proposals made by the Metropolitan Counties Branch Council for the reorganization of the Association (Supplement, June 21st), and the Supplementary Report of Council (Supplement, July 5th). Members are requested to bring both these Supplements with them to the meeting. It is hoped that members will take this opportunity of making known their opinions on these subjects to the Representative of the Division.

Metropolitan Counties Branch: Wandsworth Division.—Dr. Hugh McD. Parrott, Honorary Secretary, gives notice that the annual meeting of the Wandsworth Division will take place on Thursday, July 10th, at 3.15, at Stanley's Restaurant, 235, Lavender Hill, Clapham Junction. Members of the Wimbledon Division are invited to attend at 4 p.m.

North Wales Branch.—Dr. H. Jones Roberts, Honorary Secretary (Llywenarth, Penygroes, S.O.), gives notice that the annual meeting of the Branch will be held at Llandudno, on Tuesday, July 15th.

Oxford, Reading, and Maidenhead Branch.—Dr. W. Duigan, Honorary Secretary (66, Woodstock Road, Oxford), gives notice that the annual meeting of the Branch will be held on Friday, July 11th, at the Radcliffe Infirmary, Oxford, at 4.15 p.m., for the consideration of the report of the Branch Council, the financial statement, and for the election of officers. At the clinical portion of the meeting, papers will be read and cases shown, and subsequently members will dine together at Christ Church.

South-Eastern Branch: Dartford Division.—Dr. H. Chisholm Will, Honorary Secretary (Southbank, High Street, Sidcup), gives notice that a meeting of the Division will be held at the Bull Hotel, Dartford, on Thursday, July 10th, at 3 p.m., to consider the agenda of the Representative Meeting and to instruct the Representative. All members are urged to attend and bring the British Medical Journal Supplements of May 3rd, 10th, June 21st, and July 5th with them.

West Somerset Branch.—Dr. Chas. Farrant, Honorary Secretary (Shrapnels, Taunton), gives notice that the seventy-first annual meeting of the Branch will be held at the London Hotel, Taunton, at 12.30 p.m., on Friday, July 11th. Dr. Balfour Stewart will take the chair. Agenda: Induction of new President, Mr. Penrose Williams, F.R.C.S. Election of officers. The meeting will adjourn for luncheon at 1.15 and will resume at 2.30, when the proposals as to the reorganization of the Association as per Supplement, British Medical Journal, May 3rd, May 10th, and July 5th will be discussed. It is hoped that members will make every endeavour to be present, and will study the above-mentioned Supplements (and bring them to the meeting), as the subject-matter is of the greatest importance. After the meeting the President invites the members to tea.

British Medical Association.

EIGHTY-FIRST ANNUAL MEETING, BRIGHTON, JULY, 1913.

THE SECTIONS.

The scientific business of the meeting will be conducted in sixteen Sections, which will meet on Wednesday, July 23rd, Thursday, July 24th, and Friday, July 25th.

The President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the British Medical Journal *without special permission.*

The following additional information has been received in regard to the work of the Sections:

Section of Medicine.

The following papers will be read on July 25th:

Hobhouse, Dr. On Sporotrichiosis, with special reference to its Diagnosis from Syphilis and Tubercle. (Demonstration of specimens lent by Dr. Gougerot, of Paris.)
Broadbent, Dr. W. The Heart as Affected by the Stomach.
Mackinnon, Dr. The Blood Pressure in Aneurysm.
Raw, Dr. Nathan. The Amount of Tuberculosis Conveyed from Animals to Man.
King, Dr. Preston. Differentiation in Chronic Arthritis.

Section of Diseases of Children.

The following paper has been accepted and will be read on July 23rd:

Chaffey, Dr. W. C. Some Records of Heart Disease, with special reference to a Family History of Phthisis or Rheumatism.

Mr. Douglas Drew is among those who propose to take part in the discussions on July 24th and July 25th, while Drs. Mary C. Murdoch, R. Miller, W. P. S. Branson, and R. A. Chisholm propose to participate in the discussion on heart disease.

Discussion on the Treatment of Paralytic Deformities.—The following paragraph indicates the line that will be taken by Professor Förster:

(1) Resection of the posterior spiral nerve roots is not a curative operation but only a palliative one against one symptom of spastic paralysis. Thus it is only justified in stationary or very slowly progressing cases. (2) Every case consists of spastic symptoms on the one hand, and on the other by diminution of the voluntary activity of the muscles. The excision of posterior roots relieves only the spastic symptoms, but not the paralysis itself, and can therefore only lead to a practical result when the voluntary activity is still conserved to a certain degree; this is mostly the case in congenital spastic paraplegia (Little's disease), and less so in spastic hemiplegia. (3) Excision of the posterior roots removes only the genuine spasticity consequent on a lesion of the pyramidal tract, but not the mobile spasm, athetosis and all other similar muscular contractions depending on the lesion of totally different nerve paths. (4) Root resection removes only the primary spastic contractures, but not the secondary shrinking contractures of the muscles and tendons. The latter require, in addition to the root resection, a special treatment. In every case a very long and careful gymnastic treatment is necessary. (5) The root resection must be limited to cases in which the spasticity is general—that is to say, that virtually all muscles are spastic. When only single groups are attacked, other methods are preferable because simpler. (6) A sufficient number of roots must be resected in order to ensure a permanent result. Among the nerve roots supplying one limb a careful selection is necessary. The most important thing is the removal of flexor spasticity. The best rule is

resection of L_2, L_3, L_5, S_1, S_2. However, in every case electric stimulation of the different roots is necessary, since the relation of each root to the single muscle is subject to individual variation. (7) The danger of root resection for spastic paralysis is not so great as generally supposed. For instance, in 138 cases of Little's disease, 8 died (5 per cent.). The more familiar we become with this operation, the lower becomes the rate of mortality. An essential contraindication is simultaneous epilepsy. (8) The results are in a great number of cases satisfactory.

SECTION OF SURGERY.

Mr. C. P. Childe (Southsea) and Mr. A. J. Walton (London) are among those who will discuss Carcinoma of the Stomach and Injuries of the Knee-joint respectively.

THE PATHOLOGICAL MUSEUM.

THE Pathological Museum Committee, whose constitution was set forth in our issue for May 17th, proposes to arrange the material it receives under the following heads:

(i) Exhibits bearing on discussions and papers in the various Sections.
(ii) Specimens and illustrations relating to any recent research work.
(iii) Instruments relating to clinical diagnosis and pathological investigation.
(iv) Individual specimens of special interest, or a series illustrating some special subject.

The Committee wishes it to be understood that the above are only suggestions, and that specimens illustrating any subject of special interest will be welcomed.

The Committee desires to enlist the hearty co-operation of members, and the Honorary Secretary will be glad to hear from those who are able to make an exhibit. Every care will be taken of specimens, and the contents of the Museum will be insured.

It is hoped that it will be possible for arrangements to be made whereby exhibitors may have an opportunity of demonstrating their specimens.

The Museum will occupy a central position in the same building as that in which the sectional work is carried on, and will be easy of access.

The Chairman of the Committee is Dr. E. Hobhouse (Hove), but all communications concerning it should be addressed to Dr. W. Broadbent or Dr. H. M. Galt, Honorary Secretaries, Pathological Museum Committee, 14, North Street, Brighton.

GOLFING ARRANGEMENTS.

MEMBERS attending the Annual Meeting will find that excellent arrangements have been made for golf. Practically all the greens within easy reach of Brighton have been thrown open to members by the clubs owning them. The furthest afield are the links of the Pyecombe Club (5 miles), the Worthing Club (10 miles), and the Seaford Club (16 miles); the nearest to head quarters are the East Brighton, Brighton and Hove, West Hove, and Southdown Clubs. The general arrangements are in the hands of Dr. P. Stanhope Eves (14, North Street, Brighton), the honorary secretary of the Golfing Subcommittee, who is now ready to receive the names of entrants for the principal golfing event—namely, the competition for the Ulster Cup.

This competition, which is open to all members of the Association, is to be held on Thursday, July 24th, on the grounds of the East Brighton Golf Club. Play will be over 18 holes against bogey, each competitor being given the advantage of the lowest handicap ordinarily allotted to him by any golf club to which he belongs, provided that handicap is not more than 18. The particulars, which should be sent to the honorary secretary, are the name and address of the competitor (as also, if possible, the name and address of his partner), the name and address of the golf club at which the player has his lowest handicap, and a statement of what that handicap is. Each entrant should also state at what hour he prefers to start play, the recognized hours being from 9 a.m. to 4 p.m. The cup was presented to the Association by the Ulster Medical Society in 1909, and the first competition for it took place during the Annual Meeting at Belfast in that year.

Ladies, wives or daughters of members of the Association, who are members of recognized golf clubs, will be made honorary members of the Brighton and Hove Ladies' Golf Club, which has its links at the Dyke, from July 21st to July 26th inclusive. Ladies desiring to play should communicate with Mrs. Sanderson, 56, Brunswick Square, Hove. On Friday, July 25th, there will be a medal competition for a prize kindly offered by the Mayoress of Hove. Ladies wishing to take part in this competition should send their names and handicaps (L.G.U. or club) to Mrs. Sanderson by July 23rd.

CRICKET.

A cricket match has been arranged in connexion with the Annual Meeting, on Saturday, July 26th—The Profession *v.* Brighton College. Play will commence at 11.30 on the College Ground. Any gentlemen wishing to play are requested to send their names as soon as possible to Mr. Geoffrey Bate, 8, Palmeira Avenue Mansions, Hove. In the afternoon the Head Master (the Rev. W. R. Dawson) and Mrs. Dawson will be glad to entertain members and their friends to tea, and the college will be open for inspection.

REPRESENTATIVE MEETING: AFTERNOON EXCURSIONS ON SUNDAY.

On the Sunday during the Representative Meeting, that is to say, on Sunday, July 20th, the Excursions Committee of the annual meeting proposes to arrange excursions to Shanklin, Isle of Wight, and to Crowborough, where Sir Arthur Conan Doyle has kindly invited a party to tea.

Honorary Local Treasurer—
H. H. TAYLOR, F.R.C.S.,
36, Brunswick Square, Hove.

Honorary Local Secretary—
LEONARD ARTHUR PARRY, M.D., F.R.C.S.,
5, The Drive, Hove.

PROVISIONAL PROGRAMME.

The following is the provisional time table for the Brighton meeting:

FRIDAY, JULY 18TH.
10 A.M.—Annual Representative Meeting.

SATURDAY, JULY 19TH.
9.30 A.M.—Representative Meeting.

MONDAY, JULY 21ST.
9.30 A.M.—Council Meeting.
10 A.M.—Representative Meeting.

TUESDAY, JULY 22ND.
9.30 A.M.—Representative Meeting.
2 P.M.—Annual General Meeting.
8.30 P.M.—Adjourned General Meeting, President's Address.

WEDNESDAY, JULY 23RD.
9 A.M.—Roman Catholic Service at St. John Baptist Church.
9 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Medicine.
3.30 P.M.—*Service at St. Peter's Church.
4 P.M.—Secretaries' Conference.
7 P.M.—Secretaries' Dinner.
8.30 P.M.—*Soirée by the Mayor of Brighton.

THURSDAY, JULY 24TH.
8 A.M.—National Temperance League Breakfast.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Surgery.
2.30 P.M.—Conference of Representatives of Local Medical Committees, to be continued on following days if necessary.
7.30 P.M.—Annual Dinner.

FRIDAY, JULY 25TH.
9 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
8 P.M.—Popular Lecture.
8.30 P.M.—*Reception by the Brighton Division.

SATURDAY, JULY 26TH.
Excursions.

* Academic dress to be worn.

THE NATIONAL INSURANCE ACT (1911) AMENDMENT BILL,

WITH NOTES ON THE VARIOUS CLAUSES.

Arrangement of Clauses.

Clause.
1. Provision of additional money by Parliament.
2. Abolition of reduction of benefits in certain cases.
3. Arrears of contributions.
4. Benefits of exempted persons.
5. Medical benefit.
6. Sickness benefit.
7. Special provisions as to casual employment.
8. Decision of disputes.
9. Extension of powers of Commissioners to make regulations.
10. Joint Committee and Insurance Commissioners.
11. Offences and legal proceedings.
12. Revocation and amendment of orders and extension of time for making orders under Section 78 of Principal Act.
13. Short title, construction, and repeal.

Schedule.

A BILL to amend Parts I and III of the National Insurance Act, 1911.

Be it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

Clause 1.

1. *Provision of Additional Money by Parliament.*—(1) In addition to the moneys which under Part I of the National Insurance Act, 1911 (in this Act referred to as the "principal Act"), are required to be contributed out of moneys provided by Parliament towards defraying the cost of any of the benefits conferred by Part I of that Act or the expenses of administration of any of those benefits or otherwise for the purposes of that Act, there shall be contributed out of moneys provided by Parliament towards such cost expenses and purposes, such additional sums as Parliament may from time to time determine, and the provisions of the principal Act as to the manner in which the cost of benefits and the expenses of administration are to be defrayed shall be construed as applying only to the balance of such cost and expenses after such additional sums have been applied for the purposes for which they have been provided.

(2) Any additional sums so contributed for the purpose of medical benefit shall be applicable towards the payment of medical attendance and treatment of members of societies who are not insured persons mentioned in paragraph (*c*) of subsection (2) of section fifteen of the Principal Act as amended by this Act in like manner and to the like extent as if such medical attendance and treatment were medical benefit.

Subclause (1) of this clause is intended to legalize and to bring into conformity with the principal Act the grant of money made last session in respect of medical benefit as well as the additional grants that are proposed to be made for various purposes under the present bill.

Under the principal Act the contribution by the State to the benefits is to be two-ninths of their cost, and the additional sums voted by Parliament towards the cost, for example, of medical benefit would make the State contribution to be a greater proportion than two-ninths. This section, therefore, provides that any such additional sums shall be devoted to the purposes for which they are voted, and shall be regarded separately from the sums devoted to various purposes under the principal Act.

Subclause (2) refers to the extension of the grants in aid of medical benefit proposed to be made in respect of those members of approved societies who are not in receipt of medical benefit owing to the fact that they are 65 years of age or upwards, and to those members of approved societies who previously were receiving medical benefit, but have been deprived of it because either their disability has prevented their being accepted as members of approved societies, or has prevented their obtaining employment and thus becoming insured persons.

In other words, it is intended that money should be granted so as to enable aged and disabled members of societies to obtain medical benefit on the same terms as insured persons generally.

The governing words of Subsection (2) of Section 15 of the principal Act, together with paragraph (*e*), to which reference is made are as follows:

Insurance Act, 1911.

15.—(2) The Regulations made by the Insurance Commissioners shall provide for the arrangements made being subject to the approval of the Insurance Commissioners and being such as to secure that insured persons shall, save as hereinafter provided, receive adequate medical attendance and treatment from the medical practitioners with whom arrangements are so made, and shall require the adoption by every Insurance Committee of such system as will secure—

(*e*) the provision of medical attendance and treatment on the same terms as to remuneration as those arranged with respect to insured persons, to members of any friendly society which, or a separate section of which becomes an approved society who were such members at the date of the passing of this Act, and who are not entitled to medical benefit under this part of this Act by reason either that they are of the age of sixty-five or upwards at the date of the commencement of this Act, or that being subject to permanent disablement at that date they are not qualified to become insured persons.

Clause 2.

2. *Abolition of Reduction of Benefits in Certain Cases.*—(1) The rate of sickness benefit shall not be reduced in the case of an insured person who became an employed contributor within one year after the commencement of the principal Act by reason that at the date of so becoming an employed contributor he was of the age of fifty years or upwards, and accordingly subsection (3) of section nine and Table C in Part I of the Fourth Schedule of the principal Act shall be repealed.

(2) Part I of the principal Act shall apply to persons who at the commencement of the principal Act were of the age of sixty-five or upwards and under the age of seventy, and to persons who have since the commencement of the principal Act attained or may hereafter attain the age of sixty-five in like manner as it applies to other persons, and accordingly subsection (4) of section one, paragraph (*a*) of subsection (4) of section four, and section forty-nine of the principal Act shall be repealed.

Provided that a person who is of the age of sixty-five or upwards at the time of entering into insurance shall not be entitled to medical benefit after he attains the age of seventy unless the number of weekly contributions paid by or in respect of him exceeds fifty.

(3) This section shall come into operation at such date not later than the fourteenth day of January nineteen hundred and fourteen as the Insurance Commissioners may appoint, and the Insurance Commissioners may make such regulations as they may consider necessary for providing, in the case of any such classes as aforesaid, for the transition from the provisions of the principal Act affecting them to the provisions of that Act as amended by this section.

In the principal Act the rate of sickness benefit for an insured person of the age of 50 years or upwards, who became an employed contributor within a year of the commencement of the Act, and who had not paid 500 contributions, was reduced, as set out in the Fourth Schedule, for those between 50 and 60, to 7s. a week for men and 6s. for women, from the normal amount of 10s. and 7s. 6d. respectively. In the case of a person over 60 at the time of becoming an employed contributor the rate of sickness benefit for both sexes was to be 6s. a week for the first thirteen weeks and 5s. a week afterwards. These provisions are now repealed, and all these persons by Subsection (1) of Clause 2 are placed on the normal scale of sickness benefit.

Subsection (2) similarly places insured persons over the age of 65, and up to 70, on the same terms as other adult insured persons, and repeals the provisions of the principal Act whereby employed persons over the age of 65 were not required to become insured, and whereby those who are between the ages of 65 and 70, and on account of whom contributions are paid at present, are entitled only to "such benefits as the society may determine." The State heretofore has not been responsible for two-ninths of the costs of the benefits of these persons, but has paid 2d. weekly on their account. Most societies, according to actuarial tables, have decided that the benefits these members should receive should be sickness benefit only according to the value of their contribution appropriate to their age. The result has been that many of these aged members have been deprived of the medical benefit which many of them had previously received.

It will be remembered that medical benefit does not cease at the age of 70, as do sickness and disablement benefits, and, in respect of medical benefit, it is now provided that at the age of 70 at least fifty contributions should have been made.

Time is given until January 14th, 1914, for the necessary arrangements to be made for this extension of benefit.

Clause 3.

3. *Arrears of Contributions.*—(1) Where an employed contributor who is a member of an approved society pays to the society such part of any arrears which have accrued due by or in respect of him during any period of unemployment as would have been payable otherwise than by the employer had he continued in employment, the part which would have been so payable by the employer shall be excused, and the amount of the member's arrears shall be reduced accordingly.

For the purpose of calculating the parts which would have been payable by the employer and otherwise than by an employer had an employed contributor continued in employment, the rate of his remuneration shall be deemed to exceed two shillings and sixpence a working day, unless he proves to the satisfaction of the society that his normal rate of remuneration was two and sixpence a working day or less, in which case his rate of remuneration shall be deemed to be such normal rate.

(2) Where in any year a society, or in the case of a society with branches a branch of a society, proves to the satisfaction of the Insurance Commissioners that the total number of weekly contributions which accrued due as arrears during the preceding year in respect of all its members who were employed contributors exceeded the standard number (that is to say three weekly contributions for every such member), then, for the purpose of recouping to the society the loss it will suffer, there shall be paid to the society, or to the society on behalf of the branch, as the case may be, out of the sums retained by the Insurance Commissioners for discharging their liabilities in respect of reserve values, the prescribed amount for every week by which the standard was so exceeded, but not exceeding the total amount so excused as aforesaid:

Provided that if the aggregate amount so payable in any year exceeds one hundred thousand pounds the excess shall be paid out of moneys provided by Parliament.

(3) The Insurance Commissioners may make regulations for carrying this section into effect.

Under the principal Act, when an insured person was in arrears owing to unemployment (for which an average of three weeks yearly was allowed for free) the arrears to be paid by the contributor, in order to become entitled to full benefits, included the contribution (usually 3d. per week) which would have been paid by his employer if he had been employed, in addition to the amount (usually 4d. per week for men and 3d. per week for women) which the insured person would himself have been required to pay. The State now relieves the insured person of the obligation to pay the employer's section of the arrears, but the liability for cost in this respect in the present bill is limited to £100,000 a year. Any money required over and above that amount will require a special vote in Parliament.

Clause 4.

4. *Benefits of Exempted Persons.*—Regulations made by the Insurance Commissioners under subsection (4) of section four of the principal Act shall provide for applying the contributions paid in respect of persons who hold certificates of exemption in providing medical benefit and sanatorium benefit for such persons and the cost of the administration of such benefits, and such persons shall, if they fulfil such conditions as may be imposed by those regulations, become entitled to medical benefit and sanatorium benefit as if they were members of approved societies, and the provisions of the principal Act and this Act with respect to the payment and administration of those benefits (including those relating to the application of moneys provided by Parliament towards the cost of those benefits and the expenses of the administration thereof) shall, subject to any modifications, adaptations, and exceptions contained in the regulations, apply accordingly.

Under the principal Act certain employed persons —such, for instance, as those who were not mainly dependent on the employment for their livelihood— were allowed to be exempted from insurance; but in order to guard against placing a premium on the employment of exempted persons it was required that the employer's contribution should be paid in these cases, and that the sums thus provided should be dealt with "in such manner as may be prescribed by regulations made by the Insurance Commissioners."

It is now provided that these persons, by virtue of the contribution of the employer, shall be entitled to medical and sanatorium benefits in accordance with the provisions of the principal Act as applied to insurance persons generally.

Clause 5.

5. *Medical Benefit.*—(1) No voluntary contributor whose total income from all sources exceeds one hundred and sixty pounds a year shall be entitled to receive medical benefit, but in that case the weekly contribution which would otherwise be payable by him shall be reduced by one penny.

(2) Paragraph (*c*) of subsection (2) of section fifteen of the principal Act shall extend to members of societies other than such friendly societies as are mentioned in that paragraph who were at the date of the passing of the principal Act entitled as such members to medical attendance and treatment in like manner and subject to the like conditions as it applies to members of such friendly societies.

Subsection (1) of this clause redeems the promise of the Chancellor of the Exchequer that in an amending bill he would secure that voluntary contributors who became well-to-do should not be entitled to medical benefit. The class of voluntary contributors to which the principal Act might have applied in this respect was those who had been insured for five years and who could, on account of that, continue in insurance, notwithstanding that their income might come to exceed £160 a year. Under the present bill these persons will not be entitled to medical benefit, and their weekly contribution will accordingly be reduced by one penny.

Subsection (2) has been dealt with in the notes to Clause 1, and it will be noticed that the additional provision for medical benefit is for the aged or disabled members of any of the approved societies, and not of the friendly societies only.

Clause 6.

6. *Sickness Benefit.*—(1) So much of subsection (5) of section eight as requires the payment of fifty contributions between two periods of disease or disablement in order to prevent the one being treated as a continuation of the other shall cease to have effect.

(2) At the end of the same subsection the following provision shall be added—

"Where by virtue of subsection (1) of section 11 of this Act a part only of sickness benefit has been paid to an insured person, he shall for the purposes of this subsection be treated as having been in receipt of sickness benefit for a period bearing the same proportion to the whole period in respect of which such part benefit was paid to him as that part bears to the whole benefit, and the period resulting shall be so deemed to have been continuous and to have expired on the last day of the incapacity in respect of which the partial benefit was paid."

Under Subsection 5 of Section 8 of the principal Act, when an insured person had been in receipt of sickness benefit and recovered, and then again became sick, the rate of sickness benefit would be determined after counting the two periods of sickness as continuous unless twelve months had elapsed between them and unless at least fifty weekly contributions had been paid between them.

Under the provisions of the Act also, after twenty-six weeks of sickness, the rate of benefit is reduced by 5s. per week. Under the provisions of Subsection (1) of this clause of the present bill the interval of twelve months is maintained before the rate of sickness benefit would be calculated afresh as from the first week, but the requirement of the payment of fifty weekly contributions in the interval is dropped.

Subsection (2) of this clause deals with sickness benefit in the case of those in receipt of compensation under the Workmen's Compensation or Employers' Liability Acts. Under the principal Act sickness benefit in these cases is only payable when the amount received by compensation is less than 10s. a week, and the sick fund then makes up the amount to 10s. a week. The present clause provides that the number of weeks for which such a person is to be counted as having received sick pay is to be determined, not by the number of weeks he actually received some contribution, but by the number of weeks the total contribution he receives would represent if expressed in terms of the weekly sickness benefit he would be entitled to if he were not in receipt of compensation.

Thus, if a man normally entitled to 10s. a week sick pay were in receipt of compensation to the value of 9s. a week and received 1s. a week from the sick fund to make up 10s. for ten weeks, he would be counted as having been in receipt of sick pay for one week only, since the total amount he would have received from the sick fund would be 10s., or equal to the amount of one week of the sick pay to which normally he would be entitled.

Clause 7.

7. *Special Provisions as to Casual and Intermittent Employment.*—(1) The Insurance Commissioners may by special order modify the principal Act in its application to persons whose employment is of a casual or intermittent nature, and the employers of such persons, and any such order may apply either generally or to any one or more particular trades or industries or branches thereof and either generally or in any one or more particular localities, and where any such order is restricted to a particular trade or industry or branch thereof in a particular locality, it may extend to other persons if employed in the same class of employment as the persons to whom the order primarily relates.

(2) The order may provide for the amounts of the contributions payable by the employer and by the employed contributor respectively, and their payment, recovery, and collection in such manner, in such proportions, and in respect of such periods as may be specified in the order, and for the apportionment amongst employers of the amounts payable by employers, and may modify and adapt the provisions of the principal Act accordingly, so however that the employer's contributions shall not exceed sixpence nor the employed contributor's contributions fourpence (or in the case of a woman threepence) in any week, nor, if the contributions are payable day by day, shall the employed contributor's contribution for any day exceed one penny.

(3) The provisions of the principal Act as to the laying of regulations before both Houses of Parliament and the proceedings consequent thereon shall apply to special orders made under this section in lieu of the provisions contained in subsection (2) of section one hundred and thirteen of the principal Act.

This clause raises very complicated questions, but, put briefly, it deals with the two chief grievances of the casual labourer under the present Act. These are, first, that he may have to pay as much as 4d. for one day's, or even half a day's, work, where the *rate of pay* is 2s. 6d. a day or more; and, secondly, that the man who has not been employed early in the week may be discriminated against in favour of one who has, and on account of whom, therefore, no employer's contribution is payable. To avoid this, it is stated that many casual labourers who have not found employment on, say, a Monday, have themselves purchased a 7d. insurance stamp so as not to be at a disadvantage later in the week.

The proposal in the present bill is that this class of labour may be scheduled by the Commissioners in trades or districts, and an arrangement set up whereby the man pays a daily contribution of one penny, up to, but not exceeding, fourpence in the week, and the balance of the contribution is obtained from an employers' pool; the charge being levied on the employer according, for example, to the number of days' employment for which he is responsible. Pooling arrangements of different kinds are already adopted in respect of health insurance with this class of insured persons in different ports, as in Liverpool and Cardiff.

Clause 8.

8. *Decision of Disputes.*—Any dispute between an approved society and any person, as to whether that person is or was at any date a member of that society, for the purposes of Part I of the principal Act, and any dispute between two or more approved societies or between an approved society and an insurance committee or between two or more insurance committees, shall be decided in like manner as a dispute between an insured person and an insurance committee, and section sixty-seven of the principal Act shall apply accordingly.

This clause means that the classes of disputes referred to are to be decided "in the prescribed manner by the Insurance Commissioners."

Clauses 9 and 10.

9. *Extension of Powers of Commissioners to Make Regulations.*—The Insurance Commissioners may make regulations with respect to all or any of the matters specified in the Schedule to this Act, and the regulations may contain such incidental, supplemental, and consequential provisions as appear necessary for modifying and adapting the provisions of the principal Act to the provisions of the regulations and otherwise for the purpose of the regulations.

10. *Joint Committee and Insurance Commissioners.*—(1) Regulations made by the Treasury under section eighty-three of the principal Act may incorporate the joint committee constituted under that section.

(2) All documents issued before the commencement of this Act by the joint committee, either alone or jointly with any of the bodies of Insurance Commissioners appointed for the purposes of Part I of the principal Act shall be deemed to have been validly issued if issued under a seal purporting to be the seal of the joint committee, or under the hands of any four or more of the members of the committee countersigned by the secretary or clerk to the joint committee.

(3) The Documentary Evidence Act, 1868, as amended by the Documentary Evidence Act, 1882, shall apply to each of the said several bodies of Insurance Commissioners, and to the said joint committee, as if each of those bodies and the joint committee were included in the first column of the schedule to the first mentioned Act, and the chairman or any other member or the secretary or clerk, or any person authorized to act on behalf of the secretary or clerk, of the body or committee, were mentioned in the second column of that schedule, and as if the regulations referred to in those Acts included any document issued by any of those bodies or that committee.

Clause 9 simply details the matters in respect to which the Insurance Commissioners may make regulations;

And *Clause 10* provides for the incorporation, under regulations to be made by the Treasury, of the Joint Committee of the Insurance Commissioners as set up in accordance with the provisions of the principal Act for the purpose of administration.

Clause 11.

11. *Offences and Legal Proceedings.*—(1) If any employer deducts, or attempts to deduct, from the wages of an employed contributor the whole or any part of the employer's contribution he shall be guilty of a contravention of the provisions of Part I of the principal Act.

(2) The time within which proceedings may be taken under subsection (2) of section sixty-nine of the principal Act against an employer charged with an offence of failing or neglecting to pay any contribution in respect of an employed contributor shall be one year from the date of the commission of the alleged offence, and where an employer has been convicted of such an offence then, if notice of the intention to do so is served with the summons or warrant, evidence may be given of failure or neglect on the part of the employer to pay other contributions in respect of that employed contributor during the year preceding the date when the information was laid, and on proof of such failure or neglect the employer shall be liable to pay to the Insurance Commissioners a sum equal to the total amount of all the contributions which he is so proved to have failed or neglected to pay.

This clause provides power to inflict penalties on an employer who attempts to or does impose on an employed person any part of the contribution that he should pay himself, and enables proceedings to be taken in connexion therewith to any time up to one year from the time of the commission of the alleged offence.

Clauses 12 and 13

Need no special comment, and are as follows:

12. *Revocation and Amendment of Orders and Extension of Time for making Orders under s. 78 of Principal Act.*—(1) Any order or special order made under the principal Act may be revoked, varied, or amended by an order or special order made in like manner as the original order.

(2) The time within which the powers of the Insurance Commissioners to make orders under section seventy-eight of the principal Act may be exercised shall be extended to the thirty-first day of December, nineteen hundred and fourteen.

13. *Short Title, Construction.*—(1) This Act may be cited as the National Insurance Act, 1913, and the principal Act and this Act may be cited together as the National Insurance Acts, 1911 to 1913.

(2) Any provisions of this Act which supersede or amend any provisions of the principal Act shall be deemed to be part of that Part of the principal Act in which the provisions superseded or amended are contained.

SCHEDULE.

MATTERS WITH RESPECT TO WHICH REGULATIONS MAY BE MADE.

(A) The manner and conditions in and upon which the following matters may be carried into effect:

(i) The amalgamation for the purposes of Part I of the principal Act of any two or more approved societies, or of an approved society with a society which is not an approved society or of any two or more branches of an approved society:

(ii) The financial adjustments to be made on any such amalgamation.

(B) The manner and conditions in and upon which the dissolution of approved societies may be carried into effect, and for that purpose providing for the valuation of the assets and liabilities of dissolved societies under Part I of the principal Act, and the reduction (either permanently or temporarily), in the event of a deficiency being disclosed, of the rates of benefits payable to members and the periods during which those benefits or any of them are payable, and for the establishment of a special fund to which contributions of such members are to be paid, and out of which their benefits are to be paid, and the application, subject to the prescribed modifications, adaptations, and exceptions to such funds and the members thereof, of the provisions of Part I of the principal Act relating to approved societies and the membership of and transfer to and from approved societies.

(C) Authorizing the Commissioners to withdraw approval from a society on account of maladministration of its affairs under the principal Act in cases where it appears expedient in the interests of the members of the society to do so.

(D) The crediting or variation (whether by way of increase or decrease) and cancellation of reserve values.

The estimates of the cost of the additional provisions proposed to be made are not available at the time we go to press.

THE GENERAL MEDICAL COUNCIL AND THE INSURANCE COMMISSIONERS.

Anaesthetics: Certificates.

Anaesthetics.

At the meeting of the National Insurance Act Committee of the General Medical Council, on May 27th, 1913, the President stated the result of certain inquiries he had instituted, in regard to the provision for the administration of anaesthetics made under the rules of the National Insurance Commissioners. At the request of the Committee, the President addressed the following letter to the Chairman of the National Health Insurance Commission.

299, Oxford Street, London, W.,
May 30th, 1913.

To the Chairman of the National Health Insurance Commission.

My dear Sir,—I have reported to the National Insurance Act Committee of the General Medical Council the purport of our interviews on the subject dealt with in Paragraph 2 of the Committee's memorandum of January 3rd. The Committee thinks it would afford useful guidance to practitioners engaged in the National Insurance Service if the Commissioners were to authorize the Committee to state explicitly what it now understands to be the position in regard to Agreement A as compared with the other forms of Agreement B, C, and D. That position may be put thus:

Under the forms of Agreement B, C, and D the practitioner receives capitation fees on a lower scale for what may be described as the general services which he undertakes to render, together with special fees in respect of certain special services, one of these special services being the provision of a skilled anaesthetist in cases of surgical operation performed by himself.

Under Agreement A the practitioner receives capitation fees on a higher scale, by way of remuneration for all the services, general and special, which he undertakes to render, including the provision of a skilled anaesthetist in cases of surgical operation performed by himself.

In other words, the practitioner under Agreement A, in respect of the higher scale of his capitation fees, undertakes to render, without receiving special fees therefor, the various special services that are separately enumerated under Agreements B, C, and D.

Kindly let me know, for the information of the Committee, whether the Commissioners consider that the foregoing statement correctly represents the effect of the several forms of agreement therein referred to.—I am, yours very truly,

Donald MacAlister,
President.

The following reply has been received:

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.,
June 17, 1913.

Dear Sir,—I have to thank you for your letter (No. 33509) of May 30, and to express my regret that owing to pressure of work I have been unable to reply to it sooner. I have conferred with my colleagues upon the point raised in your letter, and I may say that the statement in your letter correctly represents the effect of the several Forms of Agreement shown in Schedules A, B, C, and D to the Medical Benefit Regulations.—Yours very truly,

Robert L. Morant.

Sir Donald MacAlister, K.C.B., M.D., President,
General Council of Medical Education and
Registration of the United Kingdom.

Statement of Nature of Disease upon Certificate.

At the same meeting the President read letters from practitioners and others calling the attention of the Committee to certain forms of certificate alleged to be required under the provisions of the National Insurance Act, in which the disclosure of the nature of a patient's illness appeared to be made obligatory. At the request of the Committee the following letter was addressed to the Chairman of the National Health Insurance Commission:

299, Oxford Street, London, W.,
June 13, 1913.

My dear Sir,—The National Insurance Act Committee of the General Medical Council has had before it a number of communications from different parts of the country, alleging that certain societies and other bodies concerned in the administration of the Act are demanding that practitioners shall furnish them with certificates disclosing the precise nature of the illnesses of their insured patients.

It is held by medical men that such disclosure involves a breach of professional confidence as between patient and practitioner; and it is pointed out to the Committee that nothing occurs in the Act, or in the Regulations as issued, either requiring such a departure from the normal standards of medical practice, or protecting the practitioner from the legal and professional censures to which he might be liable if, under pressure, he communicated to third parties confidential information acquired solely in virtue of his professional relation to his individual patients.

The Committee observes that, in the explanatory statement as to medical benefit transmitted by the Commissioners to the Medical Council, it is expressly set forth that records are to be kept in such a manner that "any risk of violation of professional secrecy will be avoided."

From the information before it the Committee has reason to believe that this risk, which was properly obviated in respect of medical benefit, has arisen in an objectionable form in respect of sickness benefit, owing to the action of administering bodies other than Insurance Committees.

The Committee submits that the medical certificates, like the medical records, required for the purpose of the Insurance Service, should in all cases be so framed as to avoid all "risk of violation of professional secrecy." Such certificates must often pass into the hands of committees and officials who are not bound to regard them as confidential. Patients may become aware of this fact, and may be deterred thereby from seeking the medical treatment the Act is intended to secure for them.

The Medical Council, through its Committee, accordingly desires to draw the Commissioners' serious attention to this question of certificates, and to the need for further safeguards against improper coercion as regards the medical practitioner, and against unwarrantable disclosure as regards the insured person.—I am, Sir, yours faithfully,

Donald MacAlister,
President.

To the Chairman,
National Health Insurance Commission,
Buckingham Gate, S.W.

The following reply has been received:

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.,
June 18, 1913.

Dear Sir,—In reply to your letter of June 13, it would appear that some serious misapprehension must have given rise to the communications which I gather from your letter that the National Insurance Act Committee of the General Medical Council have had before them, alleging that societies and other bodies concerned in the administration of the National Insurance Act are demanding from practitioners that the latter shall furnish them with certificates disclosing the precise nature of the illnesses of their insured patients. No instance has been brought to the knowledge of the Commission in which a society has asked a practitioner to give the society a certificate of this nature.

Possibly the correspondents who addressed to the General Medical Council the communications to which you allude have in mind the requirements made by the rules of societies from insured persons who are members of those societies, as regards the production by the insured persons to the societies of medical certificates, in which the nature of illness is stated as a condition of receiving sickness benefit under the Act. Although, however, there may be this confusion of thought on the part of these correspondents, your Committee will, of course, appreciate that, from the point of view of professional confidence to which your letter is directed, this is entirely a different matter. If an insured person, with the object of obtaining sickness benefit, requests his doctor to give him, the insured person, a certificate stating the nature of the illness from which he is suffering, and if the doctor accordingly furnishes his patient with a certificate stating these facts, to be used (so far as the doctor is concerned) entirely at the patient's discretion, obviously there is no breach of confidence on the part of the doctor towards his patient. The certificate having once been handed by the doctor to the patient, it would appear that the subsequent use of it by the patient, or by any officer of the society to whom the patient may hand it, is a matter between the patient and the society, with which the doctor is not concerned.

The questions raised in the later paragraphs of your letter would, therefore, appear not to arise.

I may add, however, that the Commissioners have reason to believe that the societies will assent to the adoption of a uniform wording for certificates which will bring out the point that the certificate is a confidential document given by the doctor to his patient, and will thus tend to avoid the kind of misapprehension which has occurred.—Yours faithfully,

ROBERT L. MORANT.

TEMPORARY RESIDENTS.

CONFERENCE WITH THE INSURANCE COMMISSIONERS.

ON June 25th a deputation from the State Sickness Insurance Committee met the English Insurance Commissioners for the purpose of placing before them the amendments to the Insurance Act and Regulations desired by the Association. Among other subjects dealt with was the question of the method of dealing with temporary residents, as to which the deputation expressed a decided opinion that no method would be found satisfactory which depended on any system of deductions from the moneys already allotted to the medical profession, and advocated the formation of an entirely new central fund. The Chairman of the Insurance Commission (Sir R. Morant) stated that the Government was not prepared to find any extra money for this purpose. The profession, he contended, had accepted service knowing that this class of insured person was to be attended out of the money then allotted for medical benefit, and that the only question that could be usefully considered was the most equitable way of raising and distributing the central fund for the payment of services rendered to temporary residents. The Commissioners stated that they believed the objections to the case-value system rested largely on misapprehension, which they were anxious to have an opportunity of removing, and the deputation was asked if it would assist in the consideration of this subject by getting together a small conference of representatives of the doctors in industrial centres and in health resorts at which the subject could be thoroughly thrashed out.

To this the deputation consented, and invitations were accordingly issued by the State Sickness Insurance Committee, and the following attended at Buckingham Gate: Mr. F. B. Hulke (Deal), Dr. R. J. Roberts (Ventnor), Dr. J. M. Taylor (Lowestoft), Dr. Barton (Blackpool), Dr. J. Ivor Sankey (Great Yarmouth), Dr. T. Campbell (Wigan), Dr. G. K. Smiley (Derby), Dr. R. G. McGowan (Manchester), Dr. J. Divine (Hull), Dr. Holyoak (Leicester), Mr. Evan Jones (London), Mr. E. H. Willock (Croydon).

Drs. Todd (Sunderland) and Marsh (Bath) were invited, but were unable to be present. The members of the State Sickness Insurance Committee present were Mr. T. Jenner Verrall, Mr. E. B. Turner, Mr. C. E. S. Flemming, with the Medical Secretary and the Deputy Medical Secretary. By a process of question and answer a full elucidation of the case-value system was obtained, and many criticisms were put forward by the members of the deputation. The Commissioners promised to issue a full explanatory statement of the case-value scheme to the profession, in which they would endeavour to make plain the points which had hitherto not been clear. There was a consensus of opinion among the deputation that after the explanations given it was probable that if the payments for temporary residents were to be provided by a system of deductions the case-value system seemed to be as equitable a method as could probably be devised. It is hoped that the explanations of the Commissioners may be issued in time for discussion at Brighton.

LEGAL OPINION.

At the request of a number of its members resident in Birmingham, the Medical Defence Union recently took the opinion of Mr. John Sankey, K.C., with reference to the proposals of the Insurance Commissioners with regard to payment for medical attendance of temporary residents. Counsel was asked to reply to the following questions:

Questions.

1. Is the circular headed Memo. 161 I.C. such a circular as it is within the power of the Insurance Commissioners under the Act to issue, and as to the course marked out therein for adoption is it one which it was within their powers to formulate and require to be carried into effect?

2. If the Commissioners had the powers which they purport to exercise as in the circular are such powers rightly exercised by the distribution of such a circular and with nothing to show that the document in question is a Regulation duly and properly made and issued under Section 15 of the Act?

3. Assuming that the Commissioners had duly and properly made and issued a Regulation under Section 15 would the medical practitioners who have entered into contracts with their Local Insurance Committee be affected by a Regulation which would have the effect of reducing the remuneration which had been agreed upon between them and the Local Insurance Committee in such contracts for a considerable period before such new Regulation comes into effect?

4. Having regard to Clause 1 of the Contract of Service, can a contract be materially altered by regulations made by the Commissioners at any time afterwards so as to reduce the practitioner's remuneration, or what is the effect of such clause?

5. If in the opinion of counsel the Insurance Commissioners are acting *ultra vires* or otherwise irregularly in issuing the circular Memo. 161 I.C. or by acting upon it, or by directing Local Insurance Committees to act upon it, what measures can in such circumstances be taken to set them right, and who in such a case should commence any proceedings for the purpose, and against whom should they be taken?

6. In the event of a medical practitioner giving to a patient who is an insured person such a certificate as may be required to enable him to obtain sickness benefit, is such medical practitioner bound to insert in such certificate the name of the disease or complaint from which the patient is suffering?

7. If he declines to insert the disease, would he be subject to any penalty for such refusal?

8. If, in good faith, he inserts in such certificate the name of a disease of a loathsome nature, or one which would be injurious if the knowledge thereof became public, would he incur any liability for a publication thereof (*a*) in the case of his being correct in stating the name of the disease, and (*b*) in the event of his being incorrect or making an error of judgement?

Opinion of Counsel.

I will first advise generally, and then answer the specific questions addressed to me.

It appears to me that the medical profession were led to believe that those of their members who went on the panel would receive a definite sum, say of 1s. 7½d. per head per quarter in respect of each of the patients on their lists (see remarks of the Chancellor of the Exchequer, page 662 of SUPPLEMENT to BRITISH MEDICAL JOURNAL).

I am afraid that the effect of the contract and the regulations of the Insurance Commissioners incorporated therewith is quite otherwise. In my opinion the scheme is as follows: A fund is created which is called the panel fund (Regulation 39). That fund is the fund from which the doctors on the panel get their payment, but there are certain prior charges on it. There may be the charge of mileage (Regulation 50). There may be a charge in respect of sums due to any Insurance Committee in respect of attendances given within their area (see Regulation 22). There may possibly be other charges.

When these several charges have been deducted, the balance of the fund is divisible among the panel doctors on the basis of 1s. 7½d. per head for each patient on their list.

It is easiest to express this sum algebraically: Suppose there are two doctors, one of whom has attended 100 patients and the other 50 patients. If there were sufficient funds to go round the first would get £8 2s. 6d.; the other doctor would get £4 1s. 3d. Assume X£ to be the total in the fund, Y£ the mileage, and Z£ the sum for other charges; Dr. A. is entitled to two-thirds of X, Y, Z, and Dr. B. is entitled to one-third of X, Y, Z.

The point in the case before me is, I think, whether the Insurance Commissioners are entitled to deduct from the panel fund sums paid to another fund or doctor in a different area in respect of visits to an insured person temporarily residing in that area.

In my view they are not entitled so to do as long as the present contract with the doctors is in force—that is, till January 14th, 1914.

I do not think Regulation 22 provides for this case, and I have come to the same conclusion as that arrived at by the Scottish Commissioners.

I now answer the questions addressed to me:

1. The Commissioners can, I suppose, issue any circular they like, but I am of opinion that the course marked out for adoption in Memorandum 161, I.C. is not within their powers.

2. The circular, in my opinion is not a regulation, nor has it the force of one, nor does it purport to be one (see Section 65 of the 1911 Act).

3 and 4. Even if the circular has the effect of a regulation, I do not think that it is such an alteration as the Commissioners, or Committee, are entitled to introduce with a view of modifying the panel doctor's agreement.

In another branch of the law it has been held that a company cannot alter its articles of association in such a way as to justify a breach of contract (British Equitable Assurance Company *v.* Barlay (1906) A.C. 35).

5. As I have already stated, I do not think that the Committee have power to deal with the panel fund in the way suggested, and an obvious remedy would be for the particular doctor to sue for the balance of his fees not paid to him.

It is again easier to illustrate this position arithmetically. Assume the amount left in the panel fund, after proper deductions, was £10, and that a particular doctor was entitled to one-tenth, the amount coming to him would be £1. If however by improper deductions the panel fund had been reduced to £9 the Committee would only pay the doctor one-tenth of £9—that is 18s., and the doctor would sue for the difference, namely, 2s.

I at first thought that the remedy would be to bring an action for an injunction against the Committee to restrain them from making improper deductions from the panel fund, but of course they would not actually make the deduction till the end of the quarter.

It might, however, even now be possible to say they are threatening to make deductions and so start an action at once to restrain them, but from what I see of the way in which the doctors have been treated, the Committee in defence to such an action might rely on the fact that the memorandum was not a regulation, but only a suggestion, and therefore such an action would fail.

Under those circumstances, I think the best method of procedure would be for a particular doctor to write to a particular Committee objecting to their making any deductions from the panel fund other than the authorized one. The letter should further point out that in the opinion of the writer the particular deduction complained of would be illegal and that the doctor will hold the Committee liable to pay him his share of the panel fund, undiminished by such illegal deductions.

6. It seems to me that the remaining questions affect primarily the insured persons, and not the doctors. The real point is this, is it *ultra vires* for an approved society to insist as a condition of obtaining benefit that the patient shall have the nature as well as the fact of his disease certified.

Under Section 67a of the Act such a point should be contested by the insured person with the society in accordance with the rules of the society.

The doctor does not seem to me to be directly concerned in the dispute. If he inserts or fails to insert the nature of the disease he presumably does so at the request of the patient, who consequently has no grievance against him. Under Section 7 of his contract the doctor has to fill up the form in Schedule 2, but the particulars of the disease are to be sent to the Commissioners separately from anything whereby the patient can be identified. Such certificates as are required by approved societies—the bone of contention in the present case—are only to be furnished "at the request of any patient."

7. It follows that the only person who could proceed against the practitioner for refusing to insert the disease would be the patient who, *ex hypothesi*, does not want the disease inserted. The approved society in such a case would content itself with withholding the benefit. The patient's remedy is to fight this point with the society. Of course, if the patient desired the insertion of the disease the doctor might have to insert it, but I do not gather that in such a case he would have any objection to doing so.

Under his contract form in Schedule 2 the doctor has also to insert the disease, but as this is to be done in such a manner as not to identify the patient this, too, seems unobjectionable.

8. The answer to this question depends simply on the law of libel. If the disease is correctly stated, I can see nothing for which the doctor could be liable. If the disease is incorrectly stated, in the first place it seems to me that the only publication is through the patient himself, which is not a publication on which he could found an action; and, in the second place, the statement is privileged on two grounds:

(*a*) It is made in the course of duty.

(*b*) It is made at the request of the plaintiff.

JOHN SANKEY.

2, Mitre Court Buildings, Temple, E.C., June, 1913.

LOCAL MEDICAL COMMITTEES.

GLASGOW.

THE Local Medical Committee for Glasgow was elected on December 30th, 1912, and has received statutory recognition. It consists of fifty-one members, forty-eight being elected by the practitioners (twelve from each of the four Divisions of the City), one by the Senate of the University of Glasgow, one by the Royal Faculty of Physicians and Surgeons of Glasgow, and one by the Association of Registered Medical Women. The following are the officers:

Chairman.—Dr. John Adams.
Vice-Chairman.—Dr. A. T. Campbell.
Secretary.—Dr. Jas. R. Drever, 20, Grange Terrace, Langside, Glasgow.

Subscription.—At a meeting of practitioners it was resolved to ask a subscription of £1 from all members of the profession in Glasgow to meet the expenses for this year.

Business Transacted.—Fourteen meetings of Committee and nine of the Executive Subcommittee have been held. The desirability of adopting a uniform certificate has been urged upon the Commissioners, and a model form submitted to them; the modified day-book has been adopted in preference to the card system.

Temporary Residents.—In reply to the Memorandum of the Commissioners on this subject, it was resolved to recommend that neither of the proposed systems be adopted, and that Regulation 22 be adhered to.

Allocation.—It was resolved to suggest: (*a*) That first consideration be given to those practitioners having fewer than 1,500 on their list; (*b*) that the division should be by equal shares—in districts to be afterwards defined—among those doctors who desire additions to their lists; (*c*) that the Insurance Committee reconsider the case of insured persons who have applied for leave to make their own arrangements and been refused.

Conferences at Dundee and Brighton.—It was decided to send a Representative to each of these conferences; he was instructed to bring forward a motion asking the British Medical Association to reconsider its decision that the Act and the Regulations are unworkable and derogatory.

KIRKCALDY.

A MEETING of the Kirkcaldy Local Medical Committee was held on June 19th. Dr. A. LESSLIE CURROR was in the chair, and there was a full attendance.

Excessive Ordering of Drugs.—The CHAIRMAN informed the practitioner concerned of the decision come to at the last meeting (SUPPLEMENT, June 21st, p. 576), and called on him to make any explanation he might have. After a full discussion, the meeting unanimously decided that their finding at the last meeting was correct, and the Secretary was instructed to report to the Insurance Committee accordingly. The practitioner concerned undertook to exercise more care in future in his prescribing. During the meeting a deputation of chemists was received and their views on the subject considered.

BOLTON.

THE fourth meeting of the Bolton Medical Committee was held on June 12th, when Dr. MALLETT was in the chair and fourteen members were present. It was arranged that the Committee should meet once a month.

The Committee discussed and agreed upon the following matters:

Dispensing in Rural Areas.—That when the list of insured persons is returned to the doctor he would send the names of those who resided more than a mile from a chemist, and for whom he was prepared to dispense, to the Insurance Committee.

Emergency Dressings.—That a prescription be made out, either in the doctor's name or the patient's name, and the surplus dressings be kept for the use of insured persons.

Emergency Medicines.—That a prescription on the usual form be made, priced by the doctor according to the revised tariff, and sent to the Insurance Committee.

Certificates.—That the nature of the illness be entered on the certificate if the insured person desired it.

Allocation of Residue of Funds.—That the money residue should go with the residue of insured persons to the doctor to whom they were allocated; the allocation of the residue of

insured persons to be carried out according to the arrangement previously agreed upon.

Insured Persons under Domiciliary Treatment.—The local practitioners agree to mark all prescriptions issued to insured persons under domiciliary treatment for tuberculosis.

Temporary Residents.—The Committee instructed the Secretary to send a letter to the Commissioners and to the Local Insurance Committee, protesting against the propositions of the Commissioners for dealing with this class of insured persons.

Malingering.—At the invitation of the Insurance Committee, a deputation of four practitioners was appointed to a conference on malingering.

Attendance on Aged Members.—Letters were read from the local secretaries of two friendly societies inquiring as to the terms upon which the local medical men were prepared to attend their aged members and those who did not come under the Insurance Act. The Secretary was instructed to quote the terms of the Insurance Act.

BUCKS.

A MEETING of the Bucks Local Medical Committee was held at the Royal Bucks Hospital on June 27th. Dr. BAKER was in the chair, and fourteen other members were present.

Temporary Residents.—The SECRETARY reported that he had forwarded to the Insurance Committee the letter *re* temporary residents drafted by the British Medical Association. It was decided to send two representatives—the Secretary and Dr. Henderson—to the conference of Local Medical Committees to be held during the Annual Meeting of the British Medical Association at Brighton.

Allocation of Persons who have not Selected a Doctor.—This subject was discussed very fully, and, after an interview with the Secretary of the County Insurance Committee, the following resolution was passed unanimously:

> That in view of the uncertainty as to whether the register cards will be completed before July 15th, and also considering the shortness of the time before that date, the Medical Committee suggests that the allocation of patients be postponed, and that the fees for this quarter be paid according to the persons on the lists on July 15th as in the last quarter.

Chemists and the Fee for Copying.—It was pointed out that this fee was in the revised tariff adopted by the Insurance Committee and that it was agreed to by the subcommittee appointed to meet the pharmacists. All medical men should give a duplicate prescription and also a duplicate in the case of the repetition of a mixture. Finally the following resolution was carried:

> That the doctors in each district be requested to arrange a list of stock mixtures with the local chemists, and that a full explanation of the question be sent to each medical man on the panel.

Model Rules.—To a request that the rules and constitution should be sanctioned, the Insurance Commissioners had replied that, pending the consideration of the general question of the permanent constitution of Local Medical Committees, they were not prepared to offer a definite opinion.

Proposed Medical Institute at Newport Pagnell.—The Committee instructed the Secretary to inform the practitioners of Newport Pagnell that the profession would resist to the utmost the establishment in the county of Buckingham of any such medical aid institution as was proposed in that town (see SUPPLEMENT, June 28th, p. 587).

Transfers.—Several members stated that there was great difficulty in persons getting transferred from one doctor to another.

ISLE OF ELY.

THE Local Medical Committee for the Isle of Ely is constituted as follows:

Chairman.—Dr. H. C. Meacock, Wisbech.

Honorary Secretary.—Dr. A. C. S. Waters, March.

Drs. R. H. Barrett, Parson Grove; F. H. Beckett, Ely; J. Brown, Whittlesea; H. Clapham, Thorney; H. F. Curl, Ely; J. H. C. Fegan, Upwell; H. Groom, Wisbech; C. H. Gunson, Wisbech; C. H. Harding, Whittlesea; P. A. Hendley, Littleport; C. W. Howe, Haddenham; J. F. G. Martin, Littleport; R. E. Nix, Chatteris; C. E. Stephens, Doddington; M. F. Tylor, Wisbech.

Medical Members of Insurance Committee.

Dr. C. E. Stephens, Doddington, appointed by the County Council, and Dr. W. Groom, Wisbech, appointed by the Insurance Commissioners; Drs. H. C. Meacock, Wisbech, and Dr. R. E. Nix, Chatteris, elected by the practitioners in the Isle.

Dispensing.—At a meeting held at March on June 10th, a letter was read from the Insurance Committee referring to the dispensing for insurance patients beyond the limit of one mile, and it was pointed out that in the cases referred to dispensing should be wholly carried out by either doctor or chemist, and not in part by one and in part by the other, except in cases of urgency. The CHAIRMAN stated that at a recent meeting of the Local Insurance Committee it had been decided that doctors could dispense medicines for urgent cases within the mile boundary occurring after the closing hours of chemists, and that the accounts, based on the drug tariff, should be sent to the drug fund at the end of the quarter.

Maternity Benefit.—A letter with accompanying draft rules for the administration of maternity benefit in the case of deposit contributors was received from the Insurance Committee. After discussion it was unanimously agreed not to enter into any contract with the Insurance Committee in this matter, but that local practitioners should be free to make their own arrangements with deposit contributors direct.

Mileage.—The CHAIRMAN explained the steps that had been taken to obtain the special mileage grant for practitioners on the panel in the Isle of Ely.

Temporary Residents, etc.—It was decided to adopt the recommendations of the British Medical Association with reference to temporary residents, aged members of friendly societies, and medical certificates for sickness benefit in respect of cases attended by midwives.

MEETINGS OF INSURANCE COMMITTEES.

LONDON.

Distribution of Unallotted Funds.

AT the meeting of the London Insurance Committee on June 26th it was announced that the letter set out below had been received in answer to the request of the Committee that the Insurance Commissioners would take the opinion of the law officers of the Crown as to the proper method of allocating the £34,000 accumulated in respect of those insured persons who had not chosen a doctor:

23rd June, 1913.

In reply to your letter of the 6th instant, I am directed by the National Health Insurance Commission (England) to state that it would be contrary to practice to adopt the procedure suggested in your letter.

The Commissioners have, so far as the information before them enabled them to do so, already dealt in their letter of the 28th ultimo with the matters submitted, after taking legal advice upon those points on which any necessity for legal advice arises. The matter has also been the subject of replies (copies of which are enclosed herewith) by Mr. Masterman in the House of Commons.

In this connexion I am to point out that the precise arrangements for the administration of medical benefit in the area have not been submitted for the Commissioners' approval, as required by Section 15 (2) of the National Insurance Act and paragraph 8 of the Medical Benefit Regulations, and I am accordingly to request that your Committee will now proceed to submit their arrangements in accordance with the specific requirements of that regulation.

The questions and answers in Parliament referred to in the letter were the statements by Mr. Masterman on June 2nd, that the whole of the funds available for medical treatment must go to the doctors on the panel (SUPPLEMENT, June 7th, p. 504), and, on June 9th, that the whole fund was divisible among all the doctors on the panel, in proportion to the numbers on the lists, the numbers being ascertained after allocation.

The CHAIRMAN (Mr. J. A. Dawes, M.P.) remarked that, after keeping the Committee waiting nearly a fortnight, the Commissioners gave them a blank refusal, coupling it with an imperative demand to take certain action. He hoped the Committee would not submit to it.

Mr. KINGSLEY WOOD proposed that the Committee take the opinion of leading counsel on the points specified in the previous resolution, and that in the meantime the receipt of the Commissioners' letter be merely acknowledged.

One or two members thought the Committee should prepare a scheme of distribution and throw the onus of deciding its legality upon the Commissioners; but on a vote it was decided, by 17 votes to 13, to take counsel's opinion.

Appointment of Medical Referees.

The proposals for the appointment of medical referees, reported in the last issue of the Supplement (page 591), were approved by the Committee. The recommendation of the Subcommittee, that it be the duty of a medical adviser to examine and check certificates referred to him by the Insurance Committee, was objected to by Dr. Lauriston E. Shaw and Dr. Evan Jones, on the ground that the practitioner attending should be consulted. Any idea, Dr. Lauriston Shaw said, that the referees were going behind the backs of the practitioners would cause a considerable degree of dissatisfaction. The clause was referred back to the General Purposes Subcommittee for amendment.

Deposit Contributors Out of Benefit.

It was stated that 3,000 deposit contributors out of 78,149 in London had drawn the whole of their contributions to the insurance fund and had gone out of benefit.

Treatment of Tuberculosis.

The Sanatorium Benefit Subcommittee recommended that the Public Health Committee of the London County Council be asked to receive a deputation consisting of the medical members of the Subcommittee on the question of the treatment of tuberculosis in London.

The Chairman explained that difficulty was experienced in obtaining accommodation for certain classes of patients, principally advanced cases and cases other than pulmonary tuberculosis. The Subcommittee felt it would carry more weight if the medical members went to the County Council and asked that these cases might be provided for. The only accommodation for advanced cases was that provided at Winchmore Hill by the Metropolitan Asylums Board; this was too far from London for friends to visit, and the cases were often *in extremis*.

The recommendation was approved.

A Return of Doctors' Arrangements.

Mr. P. Rockliff moved:

That it be referred to the Medical Benefit Subcommittee to prepare and issue to the members of the Insurance Committee a return showing:

(i) In what cases the doctor on the panel does not reside at the address given for attending insured persons, and

(*a*) The distance from such an address to his residence.

(*b*) Whether there is a resident caretaker at the address referred to.

(*c*) Whether there are means of telephonic communication between such address and residence.

(*d*) What arrangements are made by doctors in these circumstances for attending insured persons on Sundays, and in cases of sudden illness, out of panel hours in the day and at night.

(ii) The names of doctors on the panel who purport to attend at two different addresses during the same hours for the purpose of treating insured persons.

(iii) The name of the doctor and the address of his surgery at which it appears from the panel as published that attendance under the Act is not given in the usual course to insured persons on Sundays.

Mr. Rockliff alleged instances in which the doctors on the panel lived a considerable distance from the surgery at which they received insured patients, there being no means of communicating with the doctor when he was at home. Of 128 doctors on the panel in St. Pancras, 89 did not offer insured persons any attendance on Sundays. A doctor with 1,000 persons on his list, and using a lock-up surgery, had reduced his attendance from two hours to one hour; another posted up the announcement, "Panel patients not seen to-day"; another doctor expected insured persons who came on Sundays to pay as private patients.

The motion was carried, although some members expressed the view that the desired information should be obtained on its merits, and without in any way taking it for granted that any doctors were neglectful.

Complaints against Medical Practitioners.

The Committee dealt with a number of complaints with reference to the medical treatment of insured persons. The following are the brief particulars of the nature of the case and the action taken:

Case B.—Allegations that the doctor was under the influence of drink on one occasion, and failed to attend the patient on other occasions after promising to do so.

After investigation the Medical Service Subcommittee came to the conclusion that the doctor was not incapable of performing his duties on any of the occasions on which he called on the patient, but that he had been drinking and was somewhat excited on the evening alleged; also that he failed to attend as promised.

Action Taken.—The Committee passed a resolution of severe censure and called upon the doctor to refund to the insured person expenses incurred in obtaining treatment elsewhere. The transfer of the patient to another practitioner on the panel was authorized.

Case D.—A patient, being under the impression that he was suffering from haemorrhoids, consulted his panel doctor, who prescribed an ointment, told him to bathe the parts affected, and advised the patient that he might have to remain in bed. The patient did not recover, and three days later called in a second doctor, who diagnosed an ischio-rectal abscess and operated the next day. The doctor on the panel stated that he thought an ischio-rectal abscess might develop, and the treatment he prescribed was appropriate to this condition.

The Subcommittee's findings on the facts were (1) that the doctor did not tell the insured person he was suffering from haemorrhoids; (2) that the doctor was fully aware of the possibility of an abscess developing, and the treatment provided was appropriate to this condition. The insured person, on finding that his condition did not improve, should have again consulted the doctor, instead of waiting for three days without medical attendance and then calling in another doctor.

Action Taken.—The Committee decided to inform the insured person and his approved society that, in its opinion, the complaint was of a frivolous and vexatious character.

Case E.—A complaint that a doctor on the panel certified an insured person to be suffering from tuberculosis, whereas another doctor who had been consulted stated that the patient was not so suffering. The doctor concerned stated that he forwarded a specimen of the insured person's sputum to the medical officer of health, and the report received was that the sputum contained tubercle bacilli.

Action Taken.—The parties were informed that the Committee did not regard the complaint as having been substantiated.

Case F.—A complaint that the doctor refused to furnish prescriptions on the appropriate form, thereby rendering it impossible for the medicine to be obtained from a chemist under the arrangements made by the Committee, and that the doctor wished to supply the medicine himself and make a charge therefor.

The Subcommittee found that the complaint had been substantiated, but that the doctor was unwell at the time and was now an inmate of an asylum, having been certified insane.

Action Taken.—The Committee decided to make representations to the Insurance Commissioners that the continuance on the panel of the medical practitioner referred to was prejudicial to the efficiency of the medical service in London.

Case G.—A complaint of failure to attend on several occasions a patient suffering from influenza. The doctor stated that when he visited the patient he was of opinion that the illness was not of a serious character and he did not remember the repeated requests for his attendance. He further stated that he was ill during the period in question.

The Subcommittee accepted this statement as accounting to some extent for failure to attend, but found the complaint had been substantiated.

Action Taken.—The medical practitioner was requested to refund to the insured person any expenditure incurred by him in obtaining treatment elsewhere.

Case H.—An insured person took a prescription to a chemist indicated by the doctor, but being early-closing day in the district the shop was not open. The patient went to another chemist, who informed her that the prescription was written in an abbreviated form, but that he believed it was for the purpose of relieving indigestion, and would dispense it as nearly as possible in accordance with what he believed to be the correct formula. The insured person's mother, on hearing the particulars, refused to let her take the medicine and called in the family doctor, who expressed the opinion that the patient was suffering from appendicitis. She entered a hospital, and three weeks later underwent an operation.

The doctor stated that at the time he saw the patient there was no evidence that she was suffering from appendicitis. Except in very special circumstances he did not examine a woman at his surgery unless accompanied by another woman, and he therefore promised to examine her at home, if necessary, on the following day. No request was made to him for further treatment, nor was he informed of the difficulty experienced in dispensing the prescription, nor as to the patient's progress. He had arranged with a particular chemist to dispense prescriptions brought to him between certain hours in the evening of early-closing days, to keep a stock mixture, and for prescriptions written in a certain abbreviated form to be supplied from such stock, with a view to saving time both to himself and his insured patients.

The Subcommittee found that the charge of neglect had not been substantiated. Had the prescription been dispensed by the first chemist without comment the case would probably have remained under the treatment of the doctor concerned. The Subcommittee thought it very undesirable that a doctor in writing prescriptions should use private formulae which were known only to a particular chemist, as such a practice was liable to lead to difficulties.

Action Taken.—The Committee decided to inform the parties that the complaint had not been substantiated, to request the medical practitioner to write prescriptions in such a form as would enable them to be dispensed by any chemist on the panel, and to transfer the insured person to the list of another doctor on the panel.

CASES C AND I.—These cases consisted of a series of complaints against a single practitioner to the effect that he was not in attendance at his surgery on a number of days at the times he had undertaken to be there, and consequently insured persons had not been able to obtain treatment.

The doctor stated that he had been ill and had been unable to obtain the services of a deputy. He admitted that he had fixed too many hours for attendance at his two addresses, and had not left sufficient time for visiting insured patients. On the investigation of the first complaint he promised to give the matter immediate attention with a view to making more suitable arrangements. After considering later complaints, the Subcommittee came to the conclusion that, owing to the distance between his private address and his surgery, the doctor was unable to give efficient attendance to insured persons resident in the neighbourhood of his surgery.

Action Taken.—The Committee decided to ask the doctor to make arrangements for the insured persons other than those residing in the neighbourhood of his private address to be transferred to the list of another practitioner, and in the event of the doctor declining or failing to take the necessary steps before July 15th, 1913, to make representations to the Insurance Commissioners that his continuance on the panel would be prejudicial to the medical service of insured persons. It was also decided to ask the practitioner to refund any expenditure incurred by insured persons in obtaining treatment elsewhere.

CASE J.—This was a complaint of refusal to furnish certificates required by an approved society preferred against a practitioner as to whom the Committee had already decided to make representations that his continuance on the panel would be prejudicial to the efficiency of the medical service.

The Subcommittee stated that the Commissioners did not appear to have completed the arrangements for an inquiry in accordance with 54 of the Medical Benefit Regulations. No useful purpose would be served, therefore, by renewing representations to the Insurance Commissioners. It was stated that notice relative to an inquiry in this case was received shortly before the meeting of the Committee.

Action Taken.—The Medical Benefit Subcommittee was asked to arrange for the transfer of the insured person concerned from the list of the practitioner in question.

DR. J. J. BUIST (Cardiff) writes: We are having here an election by ballot to appoint two representatives on the Local Insurance Committee. There are two seats to fill, and five of us have been nominated, all, I believe, members of the British Medical Association. Now the local Division has issued a manifesto on behalf of two of the candidates. Is it fair that this should be done? Surely members of the medical profession, who are not all members of the British Medical Association, are quite able to form their own opinions from their local knowledge as to the fitness or otherwise of any particular candidate. If Divisions adopt this attitude, the principle of freedom of choice will be destroyed, and people will begin to think the British Medical Association is assuming the prerogatives of a czar.

INSURANCE NOTES.

IRELAND.

SANATORIUM BENEFIT IN DUBLIN.

At a meeting of the Dublin County Borough Insurance Committee held last week, Alderman Dr. M'Walter presiding, the following resolution was adopted by a majority of 10 votes to 1, three members of the Committee declining to vote:

> That the Dublin Insurance Committee considers it impossible to administer the Insurance Act satisfactorily if patients requiring sanatorium benefit are required to obtain certificates from the panel doctors. The Committee, therefore, in the circumstances refuses to administer sanatorium benefit.

Hitherto every doctor was entitled to fill in a certificate for a person applying for sanatorium benefit; but, according to the new rule issued by the Insurance Commissioners, the granting of certificates will be confined in future to the medical men on the panel, or, as they are called in Dublin, "the medical advisers." The Insurance Committee is of the opinion that it will be impossible in these circumstances to grapple with consumption, because persons eligible for sanatorium benefit may object to go to doctors on the panel. The Committee had previously been asked to approve of the panel and it had emphatically refused, and in view of that refusal it felt that it would be stultifying itself if it did not pass a resolution such as the above.

The Insurance Commissioners a few days later published a statement saying that hitherto the practice was that a person applying for sanatorium benefit could get from any doctor a certificate, for which the Insurance Committee was empowered to pay a fee of 5s., but that, owing to the public spirit of a member of the medical profession who at the commencement of the Act examined applicants free of charge, it had not been so far necessary for the Committee to make payments in respect of such preliminary reports. One of the conditions on which medical advisers were recently appointed by the Commissioners was that they should, free of charge, examine and make preliminary reports in the case of any insured persons or their dependants who might apply for sanatorium benefit, if a patient insisted on getting his preliminary certificate signed by a doctor other than one of these medical advisers, the cost must be borne not by the funds of the Committee, but by the applicant himself. The Commissioners have demanded an immediate detailed statement of the sums to the credit of the Committee's account and of its liabilities, as they intend to take effective steps to secure that tuberculous insured persons and their dependants shall not be deprived of the treatment to which they are entitled under the provisions of the Insurance Act. A statement was published by the Secretary of the County Borough of Dublin Insurance Committee to the effect that the Committee does not propose to suspend the administration of the benefit, but that the procedure adopted hitherto would be continued until July 1st, and the fee paid to the doctor who furnished the preliminary report. After that date a different procedure would have to be adopted, and the Committee had this matter under consideration. The statement concludes as follows:

> With regard to the resolution in question, I am to explain that the Committee were of opinion that if applicants for benefit were to be compelled to obtain certificates from the medical advisers whose names were submitted by the Commission, it would be impossible in the circumstances to undertake the responsibility of carrying out satisfactorily the provisions of the Act, so as to secure to insured persons the benefits to which they are entitled, the accepted principle of free choice of doctor, on which the Act is based and the co-operation of the patients' own medical attendant in the treatment prescribed being regarded as indispensible to the success of any scheme for dealing with tuberculosis; it was felt that this could best be obtained by associating the general practitioners with the treatment as heretofore, and that no such scheme could be properly carried out if the power of certifying was to be limited to thirteen medical men, eight of whom reside outside the area of the city proper.

THE DUBLIN MEDICAL ADVISERS.

At a meeting of the medical profession of the County Borough of Dublin and the urban districts of Rathmines, Rathgar, and Pembroke, held in the Royal College of Surgeons on June 25th, when the President of the College was in the chair, the following resolutions were passed unanimously:

> That this meeting of the medical profession, having heard read (1) the advertisement for medical advisers for the county borough of Dublin and adjacent townships of Rathmines, Rathgar, and Pembroke; (2) the resolutions of the Dublin County Borough Local Medical Committee and the correspondence dealing therewith, regards the tenure of the said post of medical adviser as contrary to all professional ethics.
>
> That the term "medical adviser" in the foregoing resolution includes every practitioner receiving money, whether by salary or fee, in the county and county borough of Dublin, for the purpose of certification or examination of insured persons for approved societies under the National Health Insurance Act, 1911, without the consent of the Local Medical Committee of this area.

COST OF MEDICAL CERTIFICATION.

At a meeting of the Queen's County Insurance Committee, held in Maryborough on June 16th, the following resolution was passed unanimously:

> That this Committee is strongly of opinion that an additional grant should be made by the Treasury to supplement the £50,000 already voted to meet the cost of medical certification in the case of insured persons in Ireland under the National Insurance Act, 1911, and that this additional grant should be included in the Insurance Amendment Act about to be introduced into Parliament. That copies of this resolution be sent to Mr. Lloyd George, Mr. John E. Redmond, the county members of Parliament, and also to each Insurance Committee for adoption.

STAFFORDSHIRE.

PROTEST BY THE INSURED.

SOME account was given in these columns last April of meetings in various districts of Staffordshire at which insured persons protested against the administration of the Insurance Act as carried out by the County Insurance Committee, especially with regard to the obstructions placed in the way of insured persons making their own arrangements with doctors who have attended them, perhaps, for many years.

At a meeting held in Stafford last week a report of the Protest Committee was presented. It stated that seven meetings had been held, and that a deputation had had interviews with the members of Parliament for Stafford and the Western Division of Staffordshire, and with the Medical Benefit Subcommittee. The Committee had adhered to the view that applications of insured persons to make their own arrangements could only be granted in exceptional cases. Mr. Frenzel, who moved a resolution, said that, with a few trifling exceptions, the Stafford Insurance Committee had refused the applications wholesale. The doctors not on the panel had stated that they were willing to treat insured persons on exactly the same terms as doctors on the panel. Mr. W. H. Hulme, who seconded, said there was nothing in the Act or Regulations which would prevent him from choosing a doctor not on the panel. The resolution, on being put to the meeting, was carried unanimously, as follows:

> That this meeting approves of the steps taken by the Stafford and District Protest Committee to assert the right of all insured persons to "make their own arrangements" under Section 15 (3) of the National Insurance Act. It protests in the strongest manner against the attempts made by the Staffordshire Insurance Committee to coerce insured persons to choose only doctors on the panel by enforcing conditions not contained in the Act; and it pledges itself to use every legitimate means to secure the free choice of doctor allowed by the Act, and definitely promised by the Chancellor of the Exchequer in commending the bill. This meeting also calls upon the National Insurance Commissioners to immediately hold a public inquiry into the administration of the Act in Stafford and district. That copies of this resolution be sent to the borough and county Western Division members, the Staffordshire Insurance Committee, the National Insurance Commissioners, and the Chancellor of the Exchequer.

NEWCASTLE.

AT a meeting of the Newcastle-on-Tyne Local Medical Committee held on June 13th, Dr. J. Leslie Wilson was appointed Honorary Secretary to the Committee in place of Mr. R. J. Willan, resigned.

INSURANCE ACT IN PARLIAMENT.

MEDICAL BENEFIT.

Provision of Drugs.

MR. C. BATHURST asked the Chancellor of the Exchequer whether, in pursuance of the recent report of the Departmental Committee appointed to consider the conditions imposed by Section 15 (5) (3) of the National Insurance Act, there had been introduced into the amending bill of the present session a provision authorizing a person, firm, or body corporate, who or which has entered into arrangements with an Insurance Committee for the dispensing of medicines for insured persons, to employ in such dispensing, not necessarily under the supervision of a registered pharmacist, any person who shall have satisfied such conditions as might be prescribed by the Privy Council for that purpose; and, if not, whether he would accept an amendment to that effect.—Mr. Masterman said the answer to the first part of the question was in the negative. The report of the Committee was at present under consideration, and he was not yet in a position to state what action would be taken upon it.

Workmen's Compensation Act.

Mr. Thomas asked the Secretary to the Treasury whether a number of doctors were refusing to attend an insured person prevented from following his employment through an accident, and thereby excluded from the benefits of the National Insurance Act, and what steps he proposed to take to deal with this refusal to provide medical aid for insured persons.—Mr. Masterman said he was not aware of any such case, but would institute immediate inquiries if supplied with particulars.

Local Medical Committees (London).

Mr. Worthington-Evans asked why the Local Medical Committees formed for the boroughs of Poplar and Stepney, which had applied for recognition under Section 62 in April last had not had any reply to their application; whether the District Insurance Committees were now transacting business without the presence of direct representatives of the medical profession in Poplar and Stepney; and whether, in view of the fact that the District Committees had to draw up schemes for allotment of patients, the Commissioners would ensure that the medical profession should be represented thereon.—Mr. Masterman said the question of recognizing a Local Medical Committee for the whole county as well as Local Medical Committees for the different metropolitan boroughs was receiving the careful consideration of the Commissioners, but they were at present unable to recognize any Local Medical Committee either for the whole county or for the different boroughs as properly representative of the doctors resident in the respective areas.

Medical Men's Days and Hours.

Sir J. D. Rees asked the Secretary to the Treasury whether his attention had been called to the fact that a large number of medical men on London panels were advertised as being available for patients at more places than one at one and the same time, whereas Regulation B (2) (*a*) December 5th, 1912, required that the lists of such panel doctors should contain particulars of the days and hours at which they undertook to be in attendance at each place; and, if so, what action he proposed to take to ensure compliance with that condition.—The Financial Secretary to the Treasury (Mr. Masterman) said: I am informed by the London Insurance Committee that, with the exception of three misprints, which will be corrected in the revised edition of the list about to be published, the cases referred to were cases in which the doctors concerned are either in partnership with other doctors on the panel or have engaged assistants. In these cases the particulars given included not only the hours at which these doctors could be seen personally, but also the consultation hours of their partners or assistants.

MATERNITY BENEFIT.

Wives of Aliens.

Mr. MacCallum Scott asked the Secretary to the Treasury whether, in the case of an insured English woman who was married to an alien, the full Government grant was made towards maternity benefit if her husband was not also insured and she was entitled to receive the full maternity benefit, but if her husband was also insured no Government grant was made towards maternity benefit and her husband was only entitled to receive a reduced maternity benefit in respect of her confinement; and, if this were so, whether he would consider the propriety of amending this in the forthcoming bill.—Mr. Masterman replied that the woman referred to would, under the Naturalization Act, 1870, be an alien, so that there would be no difference as to the payment of the Government grant in the two cases referred to.

Patients in Lying-in Institutions.

Mr. Godfrey Locker-Lampson asked whether the Secretary to the Treasury would explain why Circular A.S. 73 said that surplus maternity benefit money (unpaid to dependants, etc.) must be paid in cash when the mother left the hospital, while Circular A.S. 94 said that surplus sickness benefit money (unpaid to dependants, etc.) must not be paid in cash when the insured person left the hospital, having regard to the fact that the same Section 12 of the National Insurance Act and the same words governed both sickness and maternity benefit.—Mr. Masterman said that neither sickness benefit nor maternity benefit could be paid to an insured person during residence in a hospital. The right to maternity benefit, however, accrued in respect of a single event, while the right to sickness benefit accrued in respect of periods of time. In view of this difference the Commissioners were advised that any balance of maternity benefit not otherwise disposed of might properly be paid

to the insured person after the woman left the hospital, while in the case of sickness benefit the right of a person in a hospital to receive any balances undisposed of necessarily lapsed under the provisions of Section 12 of the Act at the expiration of the period in respect of which the benefit would have been payable.

SANATORIUM BENEFIT.

Statistics.

A return as to the administration of sanatorium benefit for the period July 15th, 1912, to April 30th, 1913, has just been issued. It is as follows:

	England.	Scotland.	Ireland.	Wales and Monmouthshire.	Total.
1. Number of persons who had applied for sanatorium benefit up to April 30th, 1913	19,151	2,357	1,762	1,263	24,533
2. Number of such applicants who were, apart from considerations of health, ineligible on other grounds to be recommended for sanatorium benefit	1,905	118	89	71	2,183
3. Number of such applicants medically examined and reported on under the arrangements made by Insurance Committees for the purpose	16,487	2,246	1,613	1,192	21,538
4. Number of such applicants recommended by Insurance Committees for sanatorium benefit	15,671	2,075	1,476	1,192	20,414
5. Number of such applicants who have received sanatorium benefit	14,624	2,014	1,297	1,162	19,097
6. Number of cases in which treatment is being, or has been given:					
(*a*) In residential institutions	7,464	1,513	875	387	10,239
(*b*) In or through a tuberculosis dispensary	2,167	103	71	456	2,797
(*c*) At home under the care of private medical practitioners (Domiciliary treatment) [Cases which have been treated in the patient's home through a tuberculosis dispensary, or as out-patient hospital cases, are classed under (*b*) not under (*c*)]	4,993	398	351	319	6,061
7. Approximate total expenditure chargeable to the sanatorium benefit fund incurred to the date of this return (This is exclusive of payments made to doctors in respect of the domiciliary treatment of insured persons since January 15th, 1913, and of all expenditure incurred on the administration of the benefit.)	£ s. d. 122,123 14 11	£ s. d. 23,074 11 7	£ 9,930	£ 16,760	£ s. d. 171,888 6 6

NOTE.—The difference between the numbers shown against headings 3 and 4 is explained by the fact that in 3 are included applications received up to the date of the return which the Insurance Committees had not finally dealt with. The difference between 4 and 5 represents in the main cases awaiting removal to an institution, cases removing from the area of the Committee before treatment had been given, and cases refusing treatment.

Numbers Treated.

In reply to Mr. John Ward, Mr. Masterman said that he was not aware that any Insurance Committees had failed to make proper provision for the treatment of insured persons suffering from tuberculosis. A return had been laid showing that up to April 30th last over 19,000 persons had received sanatorium benefit, of whom 10,239 had been treated in sanatoriums and other residential institutions.

AMENDING BILL.

Nursing.

Mr. C. Bathurst asked if it were proposed in the amending bill to make provision for the inclusion in medical benefit of the nursing of insured persons, or otherwise to take steps to provide such persons with efficient nursing and prevent the threatened extinction through lack of financial support of county and district nursing associations.—Mr. Masterman replied in the negative. Provision was, he said, already made under Section 21 of the principal Act whereby approved societies and Insurance Committees might subscribe for the support of district nurses for the purpose of visiting and nursing insured persons, but there had not yet been sufficient experience of the working of the Act to show the full effect of this provision, or whether any amendment was needed.

INSURANCE COMMITTEES.

Travelling Expenses.

Mr. Cathcart Wason asked the Secretary to the Treasury if he had been able to consider the report of the Scottish Insurance Commissioners with reference to payment of travelling expenses of members of Insurance Committees in those counties where no possible levy would suffice.—Mr. Masterman replied that the matter was still the subject of departmental correspondence between the Scottish Insurance Commission and the Treasury, and he was not yet in a position to make any statement.

AGED DEPOSIT CONTRIBUTORS.

Mr. MacCallum Scott asked the Secretary to the Treasury whether, in the case of a deposit contributor who was over 65 when he entered insurance and who was therefore not entitled to claim medical benefit, the Commissioners proposed to make any arrangement with regard to the balance, if any, standing to his credit when he reached the age of 70; whether they would make any contribution towards the cost of medical attendance; or whether they would allow him to draw out four-sevenths of the balance, as he might do if he had emigrated or as his nominee might do on his death.—Mr. Masterman said a deposit contributor who was over 65 on July 15th, 1912, was entitled to such benefits as the Insurance Committee might determine. Any balance standing to a contributor's credit when he reached the age of 70 would in the ordinary course remain in the Post Office Fund until his death, but committees were in most cases allowing contributors who entered insurance at the age of 69 and upwards to draw sickness benefit after they reached the age of 70.

IRELAND.

Rossclare Sanatorium.

In reply to Mr. Fetherstonhaugh, the Chief Secretary for Ireland said that the Local Government Board had approved of an expenditure of £2,000 on Rossclare Sanatorium, co. Fermanagh, and of this £1,700 had already been advanced. In a previous answer (SUPPLEMENT, June 14th, p. 529) he had given particulars as to the qualifications of the Board's medical officer who inspected the site. That officer called attention to its elevated and exposed position, but described the soil as drying quickly, and suggested planting to provide shelter. This, Mr. Birrell understood, had been carried out. It was true that some of the sleeping shelters were blown down during one of the exceptionally heavy gales of last winter, but they had since been made secure. The suggestion that Rossclare was condemned by the experts who had had personal experience of it was incorrect. The opinions varied, but one at least of the former resident medical officers stated that he obtained some strikingly good results there. No inconvenience had arisen up to the present from the fact that the doctor was non-resident, but it was proposed to appoint a resident medical officer when the buildings now in course of construction were finished.

CORRESPONDENCE.

Section of Medical Sociology.

Dr. Raymond H. Shaw (Great Yarmouth) writes: I find that Mr. Lloyd George and Mr. Masterman have been invited to attend the meeting at Brighton and address the Sociological Section. Mr. Masterman has accepted, and Mr. Lloyd George has not yet declined.

Personally, I trust I may not be considered small-minded if I state most strongly that such a course must be very offensive to many members of the British Medical Association, and especially to those who, like myself, are not on the panel and believe that the Insurance Act, as forced on us, is still, as our pledge affirmed, derogatory to the best interests of the profession and the public.

I contend that such an invitation is practically condoning the action of the two men who, as the Journal has repeatedly stated, have by threat and inaccurate statements, bullied many of us, by fears of financial loss, into working an Act which the great majority of us had given our word of honour not to work.

The matter was brought to my notice by a layman who sent me a report from an evening paper, and who, sympathizing with the action of the non-panel men in this town, thought we were being treated in an extraordinary manner, and I thoroughly agree with him.

On inquiry at head quarters, I found that the Medical Secretary did not even know of the fact till he had wired to Brighton. Surely this is an astounding condition of affairs, and justifies many of us in thinking that since the majority are on the panel, those who are unfortunate enough to feel that they cannot work this "derogatory Act" are to be left to themselves without any assistance or encouragement. On this latter point I hope to write later, but I consider the action of the Brighton Sociological Section should be made known to all readers of the British Medical Journal, so that their opinion on the matter can be ascertained.

Temporary Residents.

Dr. James Ratcliff-Gaylard (Honorary Secretary, Birkenhead Local Medical Committee) writes: The correspondence which has taken place of late between the Commissioners and Local Medical Committees plainly indicates that the Commissioners are seeking an easy means of dealing with the difficult question of attendance on temporary residents, by endeavouring to establish, as an incontrovertible fact, that Regulation 22 draws no distinction between permanent and temporary changes of residence, and applies to both equally.

A regulation which, when it was originally drawn up, was undoubtedly intended to refer only to permanent removals, is now held to have had reference from the very beginning to all removals, for however short a period, whether temporary or otherwise. Upon this assumption—for it is nothing more—on the part of the Commissioners, rests the whole system which they are seeking to establish to the pecuniary disadvantage of the panel practitioners of this country.

It is upon this point that it behoves us to keep our attention fixed. We are not concerned with the equity, or otherwise, of any proposed "case-value" system, because we contend, and I believe contend rightly, that the basis upon which such a system rests is vitiated by the strained and unfair interpretation of Regulation 22 by the Commissioners.

Upon certain assumptions the Commissioners have, without our concurrence, proceeded to inaugurate a system which, in spite of their assertions to the contrary, we cannot recognize as being an equitable one, however willing we may be to do so. In the face of this ill-advised attempt to exploit those who are loyally working the Act, there is one line of action which every panel practitioner must take and to which he must resolutely adhere. It is that we insist that in Regulation 22 the words "changes his residence to the area of another Committee" refer to *permanent removal* only. That as all temporary residents are outside the terms of the regulation and of our agreements with Insurance Committees, we shall wholly disregard the green vouchers and attend such persons as private patients, and that we shall suffer no deductions to be made from our capitation payments for the purpose of constituting a central fund.

It will be well if we loyally adhere to this line of action—one which is in accord with reason and justice—for the memorandum on temporary residents, as has been pointed out by the State Sickness Insurance Committee, carries no legal authority, and, as admitted by the Scottish Commissioners, the arrangements therein disclosed cannot be enforced without our consent.

Attendance on Uninsured Persons.

Dr. T. Cuming Askin (Woodbridge, Suffolk) writes to endorse the observations in Dr. Charles's letter published on June 28th (p. 586). Dr. Askin considers 10s. 6d. per annum for a family, irrespective of the number of children and with an income limit of £160, is sweating of the worst description. He sends the following revised terms of contributions to the Suffolk County Medical Clubs:

Revised Terms of Contributions.

	Per Annum.	Per Quarter.
Each adult ...	... 8s. 8d.	or 2s. 2d.
Each child ...	... 4s. 4d.	,, 1s. 1d.

Payment for Large Families.—Total contributions of any family not to exceed one week's average wages of the head of the family (in arriving at the average earnings both haysel and harvest to be included). Where there are more than three in a family, the minimum payment to be 15s. per annum, or 3s. 9d. per quarter.

The above rates of contribution include the special services of the doctor for fractures, amputations, and suchlike serious cases.

Confinements.—Members to sign the usual orders, authorizing approved societies to pay a fee of 18s. to the doctor in attendance. Such order to be signed by the member and sent to the secretary at the earliest possible date.

No person is eligible for membership whose average weekly earnings exceeds 30s.

In special cases the committee may sanction the payment of 1s. 5d. a quarter. Out of the 8s. 8d. the sum of 8d. and out of the 4s. 4d. the sum of 4d. is set aside for a special fund to defray management expenses and for extra services, such as attendance on fractures and for mileage in respect of confinements—namely, 3s. for each confinement under one mile and 6s. if over a mile—making a total of 21s. or 24s. respectively.

The Position in London.

Mr. Charles H. Hartt (Greenwich) writes: I am always amused at the speeches and writings of Dr. Keay, and his recent letter recording his appreciation of the working of the Insurance Act is quite in keeping with his habit, and is of the old familiar type. As "Cock of the North" he tells us poor southerners that we know little or nothing of the Act, that we publish wrong statements in the newspapers, and in other ways try to make a muddle of it. I wonder, is that his real opinion?

We poor southerners think that Dr. Keay is mistaken, and that he and his colleagues have made a muddle of it. If it had not been for him and those that think with him the Act would have failed altogether. Even now there is much discontent amongst panel and non-panel doctors. But what of insured persons? Are they not to be commiserated? They pay their weekly contribution, but are not permitted to have that which they were promised in the Act—namely, a free choice of doctor. They are not allowed to make their own arrangements. I and those who think with me refuse to join the panel because we consider the regulations are of such a character as to be derogatory to our profession and unfair to the insured. We are not even permitted to attend our own employees (insured persons) without signing that disgraceful document Form 43/I.C. which has given so much offence to medical men:

> Medical treatment and attendance not inferior in nature, extent, or quality to that of a panel doctor.

If Dr. Keay and his party desire to make the Act workable, they should approach the Commissioners and get Form 43/I.C. recalled and remodelled so as to permit of medical men signing it and so obtain for the insured persons their just rights.

The panels may remain open, but they will be a long time before they obtain the number of medical men required in London to work the Act successfully, and if they are so fortunate, discontent will reign amongst the insured, not only on account of their being prohibited from contracting out, but also for having thrust upon them medical men in whom they have no confidence.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following announcements are notified by the Admiralty: Deputy Surgeons-General WILLIAM EAMES and WILLIAM H. NORMAN have been promoted to the rank of Surgeon-General, with seniority of May 11th and June 5th respectively. Deputy Surgeon-General JAMES L. SMITH, M.V.O., to Malta Hospital, vice Norman, July 1st. Deputy Surgeon-General H. W. G. DOYNE to Chatham Hospital, vice Smith, July 1st. Fleet Surgeons HERBERT W. G. DOYNE, GEORGE A. DREAPER, and RICHARD A. FITCH have been promoted to the rank of Deputy Surgeon-General, with seniority of May 6th, 11th, and June 5th respectively. Fleet Surgeon WILLIAM BETT, M.V.O., to the *Dreadnought* and for general staff duties on recommissioning, July 1st. Fleet Surgeon JOSEPH A. MOON, to the *Pomone*, additional, for the Dartmouth Sick Quarters, vice Bett, July 1st. Fleet Surgeon ROBERT HICKSON has been placed on the retired list, June 10th. Fleet Surgeon LOUIS E. DARTNELL, to the *Africa*, vice Hickson, June 19th. Fleet Surgeon E. H. HODUET DE COURTMAC-SHERRY, M.D., to the *Indefatigable*, on recommissioning, June 17th. Fleet Surgeon J. A. KEOGH, M.B., to the *Lord Nelson*, on recommissioning, July 1st. Fleet Surgeon E. S. MILLER, M.B., to the *Warrior*, on recommissioning, July 1st. Fleet Surgeon ROBERT H. MORNEMENT to the *Euryalus* on completing, July 10th. Fleet Surgeon PERCIVAL M. MAY to the *Fisgard*, vice Beadnell, July 13th. Staff Surgeon G. E. HAMILTON, M.B., to the *Alecto*, temporary, vice Miller, June 23rd. Staff Surgeon J. McA. HOLMES, to the *Warrior*, on recommissioning, July 1st. Staff Surgeon JOHN STODDART, to the *Sapphire*, vice O'Hea, June 14th. Staff Surgeon LESLIE M. MORRIS, to the *Hermione*, on recommissioning, July 3rd. Staff Surgeon A. R. DAVIDSON, M.B., to the *Indefatigable*, on recommissioning, June 17th. Staff Surgeon ARTHUR S. BRADLEY, to the *Victory*, additional for R.N. Barracks, temporary, vice Fairley, June 7th. Staff Surgeon F. E. AULEY to the *Victory*, additional for disposal, June 17th. Staff Surgeon JAMES A. THOMPSON, M.B., B.A., to Pembroke Dockyard, vice Causton, June 19th. Staff Surgeon EDWARD G. P. CAUSTON, B.A., to the *Hercules*, June 19th. Staff Surgeon GEORGE E. HAMILTON, M.B., to the *Pelorus*, June 19th. Staff Surgeon EDMUND COX, M.B., B.A., to the *Attentive*, on commissioning, July 1st. Staff Surgeon JOHN ST. J. MURPHY to the *Foresight*, on commissioning, July 1st. Staff Surgeon EDWARD T. BURTON to the *Sentinel*, on commissioning, July 1st. Staff Surgeon CHARLES C. MACMILLAN, D.S.O., M.D., to the *Bristol*, on recommissioning, July 1st. Staff Surgeon HENRY C. WHITESIDE to Plymouth Hospital, July 5th. Staff Surgeon FRANCIS F. LOBB to the *Boadicea*, on recommissioning, July 5th. Staff Surgeon FREDERICK E. ANLEY to the *Weymouth*, vice Mornement, on reducing, undated. Staff Surgeon EDWARD C. SAWDY to the *Adventure*, on commissioning, July 1st. Staff Surgeon CHARLES H. DAWE to the *Forward*, on commissioning, July 10th. Staff Surgeon A. WOOLLCOMBE to the *Talbot*, on completing, July 15th. Staff Surgeon CECIL R. RICKARD to the *Skirmisher*, on commissioning, July 1st. Surgeons W. G. EDWARDS, R. F. MACMAHON, G. H. VICKERY, M.B., and W. G. MOORE-ANDERSON, M.B., to the *Victory*, additional for disposal. Surgeons L. C. E. MURPHY, W. W. HAYDON, D. H. C. GIVEN, M.B., and P. B. EGAN, M.B., to the *Pembroke*, additional, for disposal. Surgeons H. D. DRENNAN, M.B., and S. BRADBURY, M.B., to the *Vivid*, additional for disposal. Surgeon P. F. MINETT, to the *Lord Nelson* on recommissioning, July 1st. Surgeon B. TAYLOR, M.B., to the *Dreadnought*, on recommissioning, July 1st. Surgeon HUGH F. BRIGGS, to the *Prince of Wales*, vice Morris. Surgeon ALBERT E. MALONE, M.B., B.A., to the *Alecto*, temporary, vice Milln, June 23rd. Surgeon JAMES P. SHORTEN to the *Minerva*, vice Murphy, July 1st. Surgeon CECIL G. SPRAGUE to the *Bulwark*, vice Rickard, July 1st. Surgeon CHARLES H. L. PETCH to the *Hawke*, vice Sawdy, July 1st. Surgeon FRANCIS H. HOLL to the *Suffolk*, vice Whiteside, July 5th. Surgeon MAURICE W. HAYDON to the *Euryalus*, on completing, July 10th.

Surgeon ARTHUR A. J. MCNABB, M.B., has been placed on the Emergency List of Surgeons, June 10th.

Staff Surgeon G. H. S. MILLN, M.B., and Surgeon AMBROSE C. WILSON have been allowed to withdraw from the service with a gratuity, June 23rd.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL R. CALDWELL has been posted to the Southern Command, from June 27th.

Major W. A. WARD has been transferred to the London District for duty.

Captain ANDREW MCMUNN to be Major, June 25th.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

JAMES J. FINLAY, late Cadet, Glasgow University Contingent, Officers' Training Corps, to be Lieutenant on probation, June 4th.

INDIAN MEDICAL SERVICE.

THE designation of the Secretary to the Director-General, Indian Medical Service, has been altered to "Deputy Director-General, Indian Medical Service."

The designation of the Secretary to the Director-General, Indian Medical Service (Sanitary) has been altered to "Assistant Director-General, Indian Medical Service (Sanitary)."

The services of Lieutenant-Colonel C. DUER have been placed at the disposal of the Government of Burma, with effect from May 1st, 1913.

Lieutenant-Colonel C. H. JAMES, C.I.E., has been confirmed in the appointment of Civil Surgeon, Simla (West), with effect from May 1st, 1913.

Lieutenant-Colonel R. BIRD, M.V.O., C.I.E., has been granted combined leave for six months, with effect from May 8th, 1913.

Major E. O. THURSTON has been appointed to officiate as Professor of Surgery, Medical College, Calcutta, and Surgeon to the College Hospital, during the absence on leave of Lieutenant-Colonel R. Bird.

Major W. M. ANDERSON has been appointed as Agency Surgeon in Haraoti, with effect from April 10th, 1913.

Major J. GOULD has been appointed as Assistant Director-General, Indian Medical Service (Stores).

Captain R. I. BINNING, I.M.S., is appointed as Specialist in Midwifery and Diseases of Women and Children, with effect from May 13th, 1913.

Lieutenant P. F. GOW, I.M.S., is appointed a Specialist in Prevention of Disease, with effect from May 10th, 1913.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

North Midland Mounted Brigade.—THOMAS G. BUCHANAN, M.B., to be Lieutenant, April 28th.

First London (City of London) Field Ambulance.—Lieutenant HANS C. SWERTZ, M.B., resigns his commission, June 21st.

Third London (City of London) Field Ambulance.—Lieutenant ROBERT E. BARNSLEY, from the 2nd London (City of London) Field Ambulance, to be Lieutenant, March 13th.

Fourth London Field Ambulance.—Captain ARTHUR E. JERMAN to be Major, June 18th.

Sixth London Field Ambulance.—PHILIP S. PRICE to be Lieutenant, June 2nd.

Second West Riding Field Ambulance.—FRANCIS G. DOBSON, M.B., to be Captain, May 13th.

Third East Lancashire Field Ambulance.—WILLIAM J. REID, M.B., to be Lieutenant, April 1st.

Second Welsh Field Ambulance.—Lieutenant OWEN L. RHYS, M.D., to be Captain, March 25th.

Second London Sanitary Company.—Captain JOHN MUIR, M.B., resigns his commission, June 21st.

Attached to Units other than Medical Units.—Lieutenant DUDLEY W. C. JONES, M.D., to be Captain, April 26th. Lieutenant JOSEPH H. DONNELL, M.B., to be Captain, May 5th. Lieutenant-Colonel WILLIAM MEARNS, M.D., has resigned his commission, and is granted permission to retain his rank and to wear the prescribed uniform, June 18th. Lieutenant HENRY W. M. STROVER, M.B., and ALLAN D. LOW have resigned their commissions, June 18th.

For Attachment to Units other than Medical Units.—JAMES L. WILSON, M.B., to be Lieutenant, May 5th. WILLIAM EMERSON LEE, M.D., to be Lieutenant, June 18th. WILLIAM J. H. DAVIS to be Lieutenant, May 2nd.

Supernumerary for Service with Officers' Training Corps.—GERALD G. ALDERSON (late Private, Inns of Court Training Corps) to be Lieutenant for service with the medical unit of the University of London Contingent, Senior Division, Officers' Training Corps, May 8th.

Unattached List for Territorial Force.—Captain ERNEST KNIGHT, M.B., from the 3rd West Lancashire Field Ambulance, to be Captain, May 7th.

The undermentioned officers resign their commissions, June 21st: Lieutenant-Colonel and Hon. Surgeon-Colonel EDWARD WILLIAMS, who is granted permission to retain his rank and to wear the prescribed uniform; Captain HENRY ROBINSON, M.D., Lieutenant JAMES T. R. MACGILL, M.B., Lieutenant DONALD G. MACGILL.

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

MAJOR WILLIAM K. PAULI, from the Third London General Hospital, to be Major, June 8th.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during May:

		FROM		TO
Colonel	R. Kirkpatrick, C.M.G., M.D.	Sialkot	...	Abbottabad.
,,	R. J. Geddes, D.S.O., M.B.	Jubbulpore	...	Devonport.
Lieut.-Colonel	C. C. Reilly	Colaba	...	Darjeeling.
,,	,, G. F. H. Marks, M.D.	Ferozepore	...	Dalhousie.
,,	,, H. I. Pocock	Campbellpore		Murree.
,,	,, R. J. W. Mawhinny	Jullundur	...	Nasirabad.
Major	H. J. M. Buist, D.S.O., M.B.	Bloemfontein		Pretoria.
,,	D. J. Collins, M.D.	Colaba	...	Poona.
,,	A. E. Master, M.B.	—		Windsor.
,,	G. St. C. Thom, M.B.	Rawal Pindi	...	Murree.
,,	J. P. Silver, M.B.	Cork	...	Kilworth Cmp.
,,	E. C. Hayes	Cosham	...	Lodmoor Cmp.
,,	P. J. Probyn, D.S.O., M.B.	Londonderry	...	N. Command.
,,	A. H. Waring	Gosport	...	Wool Camp.
,,	J. McD. McCarthy, M.B.	Ferozepore	...	Sabathu.
,,	W. H. S. Nickerson, V.C., M.B.	Rawal Pindi	...	Murree.
,,	E. A. Bourke	Chester	...	Carlisle.
,,	P. H. Collingwood	Devonport	...	Honiton Cmp.
,,	S. O. Hall	Karachi	...	Hyderabad.
,,	A. R. O'Flaherty	Ambala	...	Kasauli.
,,	H. K. Palmer	Mhow	...	Aden.
,,	F. J. Palmer	Jutogh	...	Mhow.
,,	L. Wood	Hyderabad	...	Quetta.
,,	W. A. Woodside	Agra	...	Chakrata.
,,	T. E. Fielding, M.B.	—		Devonport.
,,	J. W. West, M.B.	Rawal Pindi	...	Murree.
,,	J. H. Robinson	Peshawar	...	Cherat.
,,	C. E. Fleming, M.B.	Potchefstroom		Pretoria.
,,	L. L. G. Thorpe	Cosham	...	Rollestone Camp.
,,	W. M. Power	Chatham	...	Landguard.
,,	J. H. Barbour, M.B.	Kamptee	...	Ferozepore.
,,	E. V. Aylen	Rawal Pindi	...	Gharial.
Captain	A. W. A. Irwin	Gibraltar	...	Cork.
,,	F. A. H. Clarke	Multan	...	Darjeeling.
,,	R. J. Franklin	Lahore	...	Solon.
,,	F. W. W. Dawson, M.B.	Ambala	...	Kasauli.
,,	F. C. Lambert	Pembroke Dock		Brownslade Camp.
,,	J. B. Meldon, M.B.	Shorncliffe	...	Brighton.
,,	D. G. Carmichael, M.B.	Rawal Pindi	...	Campbellpore.
,,	F. M. M. Ommanney	R.A.M.C. Coll.		Dublin.
,,	R. T. Collins	Inverness	...	Buddon Camp.
,,	H. Harding, M.B.	Gt. Yarmouth		Colchester.
,,	A. S. Arthur, M.B.	Liverpool	...	Trawsfynydd Camp.
,,	H. T. Wilson	Maidstone	...	Chatham.
,,	G. S. Wallace, M.B.	Woking	...	Aldershot.
,,	A. Dawson, M.B.	Curragh	...	Glen Imaal Camp.
,,	E. W. M. Paine	Bury	...	Monmouth.
,,	J. B. Grogan	Cosham	...	Larkhill Camp
,,	E. M. O'Neill, M.B.	Cork	...	Youghal.
,,	J. W. L. Scott	Netley	...	Durrington Camp.

		FROM	TO
Captain	D De C. O'Grady	Rawal Pindi ...	Barian.
,,	T. W. O. Sexton	Hounslow ...	Woolwich.
,,	A. C. Amy, M.B.	Ranikhet ...	Agra.
,,	W. Mitchell, M.B.	Ambala ...	Sabathu.
,,	D. Coutts, M.B.	Bareilly ...	Ranikhet.
,,	J. J. O'Keefe, M.B.	Meerut	Naini Tal.
,,	E. J. Kavanagh, M.B. ...	Multan	Chatham.
,,	M. P. Leahy, M.B.	Kirkee	Dublin.
,,	R. D. O'Connor	Multan	Murree.
,,	E. M. Middleton	Rawal Pindi ...	Kuldana.
,,	H. W. Farebrother	Meiktila ...	Maymyo.
,,	T. McC. Phillips, M.B. ...	Fyzabad ...	Cawnpore.
,,	G. Petit	Meerut	Delhi.
,,	J. B. Hanafin, F.R.C.S.I. ...	Nowshera ...	Gharial.
,,	C. A. T. Conyngham, M.B. ...	Quetta	Mhow.
,,	D. B. McGrigor, M.B. ...	Meerut	Ranikhet.
,,	A. E. G. Fraser	Cairo	Hounslow.
,,	W. H. S. Burney	Attock	Khanspur.
,,	A. W. Byrne, M.B.	Jullundur ...	Dalhousie.
,,	C. G. Sherlock, M.D.	Lahore	,,
Lieutenant	R. F. Bridges, M.B. ...	Peshawar ...	Cherat.
,,	C. M. Finny, M.B. ...	Dublin	Murree Hills.
,,	E. G. S. Cane	Poona	Colaba.
,,	D. Reynolds, M.B. ...	Limerick ...	Rawal Pindi.
,,	C. D. K. Seaver	Rawal Pindi ...	Dalhousie.
,,	W. T. Graham, M.B. ...	Lucknow ...	Multan.
,,	W. Bisset, M.B.	Ambala ...	Dagshai.
,,	P. Hayes, M.B.	Wellington ...	Bangalore.
,,	S. P. Sykes, M.B.	Woolwich ...	Kingston-on-Thames.
,,	H. J. G. Wells, M.B. ...	Spike Island, Queenstown Harbour	Poeghane Camp.
,,	E. C. Deane	Carlisle ...	Ross Camp.
,,	F. S. Tamplin	Netley	Gibraltar.
,,	A. G. MacIlwaine ...	Deepcut ...	Quetta.
,,	A. Hood, M.B.	Richmond, Yorks	Lichfield.
,,	J. L. Ritchie, M.B. ...	Lichfield ...	Aldershot.
,,	C. M. Ingoldby	Tralee	Moore Park Camp.
,,	S. J. Higgins	Fermoy ...	Cork.
,,	S. J. Barry	Guildford ...	Woolwich.
,,	J. Hare, M.B.	Londonderry	Belfast.
,,	T. H. Balfour, M.B. ...	Edinburgh ...	Fort George.
,,	R. E. Porter, M.B. ...	Cork	Waterford.
,,	H. J. S. Shields	London ...	Windsor.
,,	J. E. Hepper	Tidworth ...	Perham Down Camp.
,,	H. F. Panton, M.B. ...	,,	Fargo Camp.

Lieutenant A. G. Biggam, M.B., appointed on probation, January 26th, 1912, has been stationed at York, and Lieutenant J. L. Huggan, appointed on probation, July 26th, 1912, has been stationed at London.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns 8,974 births and 3,858 deaths were registered during the week ending Saturday, June 28th. The annual rate of mortality in these towns, which had been 12.1, 11.8, and 11.6 per 1,000 in the three preceding weeks, further fell to 11.3 per 1,000 in the week under notice. In London the death-rate did not exceed 10.3, against 11.6, 11.4, and 11.0 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rates ranged from 4.4 in Enfield, 4.6 in Cambridge, 5.4 in Hornsey, 6.0 in Swindon and in Bath, 6.4 in Barrow-in-Furness, and 6.8 in Leyton and in Oxford, to 16.1 in Stoke-on-Trent, 16.4 in Sunderland, 16.9 in Huddersfield, 17.4 in West Bromwich and in Dewsbury, and 20.5 in Oldham. Measles caused a death-rate of 1.6 in St. Helens, 1.8 in Salford, 2.0 in Dudley, 2.3 in West Bromwich, and 4.0 in Aberdare; diphtheria of 3.1 in Gloucester; and whooping-cough of 1.9 in York. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 38, or 1.0 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number, 9 were registered in Birmingham, 5 in Gateshead, 4 in Liverpool, and 3 in Rochdale. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,427, 1,418, and 1,499 at the end of the three preceding weeks, had further risen to 1,604 on Saturday last; 286 new cases were admitted during the week, against 202, 186, and 273 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,215 births and 646 deaths were registered during the week ending Saturday, June 28th. The annual rate of mortality in these towns, which had been 15.9, 14.3, and 14.8 per 1,000 in the three preceding weeks, further rose to 14.9 in the week under notice, and was 3.6 per 1,000 above the rate recorded in the ninety-six large English towns. Among the several towns the death-rate ranged from 7.4 in Perth, 9.8 in Clydebank, and 10.2 in Falkirk, to 16.6 in Glasgow, 18.1 in Greenock, and 29.7 in Hamilton. The mortality from the principal infective diseases averaged 1.7 per 1,000, and was highest in Kirkcaldy and Hamilton. The 325 deaths from all causes registered in Glasgow included 26 from measles, 6 from whooping-cough, 6 from infantile diarrhoeal diseases, and 1 from diphtheria. Four deaths from measles and 2 from diphtheria were recorded in Aberdeen; 3 from measles and 2 from scarlet fever in Dundee; 2 from scarlet fever in Edinburgh; and 2 from whooping-cough in Paisley and in Motherwell.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, June 28th, 624 births and 384 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 613 births and 380 deaths in the preceding period. These deaths represent a mortality of 16.7 per 1,000 of the aggregate population in the districts in question, as against 16.5 per 1,000 in the previous period. The mortality in these Irish areas was therefore 5.4 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 27.1 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 14.9 (as against an average of 17.3 for the previous four weeks), in Dublin City 16.1 (as against 18.8), in Belfast 16.9 (as against 16.4), in Cork 16.3 (or the same as in the previous period), in Londonderry 15.3 (as against 16.9), in Limerick 10.8 (as against 14.6), and in Waterford 26.6 (as against 28.0). The zymotic death-rate was 1.4, as against 1.2 in the previous week.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—Resident and Junior Resident Medical Officers (males). Salary at the rate of £60 and £40 per annum respectively.

BIRKENHEAD BOROUGH HOSPITAL.—Junior House-Surgeon (male). Salary, £80 per annum.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary, £220 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House-Surgeon. Salary, £75 per annum.

BIRMINGHAM: RUBERRY HILL ASYLUM.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM UNION.—Second and Third Assistant Medical Officers at the Dudley Road Infirmary. Salary, £160 and £150 per annum respectively.

BIRMINGHAM UNIVERSITY.—Walter Myers Travelling Studentship. Value, £150 for one year.

BOLTON INFIRMARY AND DISPENSARY.—Third House-Surgeon. Salary, £90 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Junior Resident Officer. Salary, £80 per annum.

BRISTOL ROYAL INFIRMARY.—Obstetric and Ophthalmic House-Surgeon. Salary at the rate of £75 per annum.

CAMBERWELL: PARISH OF ST. GILES.—Locumtenent for Medical Officer of the Constance Road Workhouse. Salary, 6 guineas weekly.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—(1) House-Surgeon; (2) Second House-Surgeon. Salary at the rate of £80 per annum each.

CANCER HOSPITAL, Fulham Road, S.W.—Senior and Junior House-Surgeons. Salary, £80 and £70 per annum respectively.

CANTERBURY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £160 per annum.

CHELTENHAM GENERAL HOSPITAL.—House-Physician. Salary, £100 per annum.

CHESTER GENERAL INFIRMARY.—House-Physician. Salary, £90 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £90 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Physician. Salary, £80 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—House-Physician and Junior House-Surgeon. Salary, £90 per annum, increasing to £100.

DENBIGH: NORTH WALES COUNTIES ASYLUM.—First and Second Assistant Medical Officers. Salaries, £275 and £175 per annum respectively.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

DOWNPATRICK: DOWN DISTRICT LUNATIC ASYLUM.—Junior Male Assistant Medical Officer. Salary, £130 per annum, rising to £150.

DUBLIN: PEAMOUNT SANATORIUM, Hazelhatch.—Resident Medical Superintendent. Salary, £400 per annum, rising to £500.

DUBLIN: ROYAL COLLEGE OF SURGEONS IN IRELAND.—Professor of Anatomy.

DURHAM COUNTY ASYLUM, Winterton.—Third and Fourth Assistant Medical Officers (male). Salary, £180 per annum each, rising to £200 and £220 respectively.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Resident Medical Officer (male). Salary, £100 per annum.

EDINBURGH HOSPITAL FOR WOMEN AND CHILDREN, Whitehouse Loan.—Two Qualified Medical Women. Honorarium, £25 and £18 per annum.

EDINBURGH: THE HOSPICE.—Qualified Medical Woman as Resident. Honorarium, £25 per annum.

ESSEX EDUCATION COMMITTEE, Chelmsford.—School Inspector. Salary, £250 per annum, rising to £300.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of 100 guineas per annum.

GLASGOW ROYAL INFIRMARY.—Senior Assistant Physician. Salary, £250 per annum.

GLOUCESTER ROYAL INFIRMARY AND EYE INSTITUTION.—(1) Physician; (2) Assistant House-Surgeon, remuneration at the rate of £80 per annum.

HALIFAX EDUCATION COMMITTEE.—School Medical Officer. Salary, £500 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second House-Surgeon (male). Salary, £100 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Senior House-Surgeon (male). Salary, £100 per annum.

HERTS COUNTY ASYLUM, Hill End, St. Albans.—Second Assistant Medical Officer. Salary, £200 per annum, rising to £240.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House-Physician. Honorarium, 30 guineas for six months.

JOHANNESBURG HOSPITAL.—Resident X-Ray Medical Officer. Salary, £750 per annum.

KENT COUNTY ASYLUM, Chartham. — Junior Assistant (Third) Medical Officer (male). Salary, £220 per annum.

KING'S COLLEGE, Strand, W.C.—Demonstrator in Department of Anatomy. Salary, £100 per annum.

LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer. Salary, £200 per annum, rising to £250.

LEEDS GENERAL INFIRMARY.—(1) Resident Medical Officer at the Ida and Robert Arthington Hospitals; salary, £60 per annum. (2) Ophthalmic House-Surgeon; salary, £50 per annum. (3) Two House-Physicians.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LINCOLN MENTAL HOSPITAL.—Assistant Medical Officer. Salary, £150 per annum.

LONDON HOSPITAL, E.—(1) Assistant Physician. (2) First Assistant to Dr. Mackenzie in the Cardiac Department, salary at the rate of £300 per annum.

LOWESTOFT HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

MANCHESTER MEDICAL MISSION.—Medical Officer.

NEWARK-UPON-TRENT HOSPITAL AND DISPENSARY.—Resident Medical Officer. Salary, £100 per annum.

NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.—Honorary Assistant Surgeon.

NORTHAMPTON: ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES.—Third Assistant Medical Officer (male). Salary, £200 per annum, rising to £250.

NORTH RIDING ASYLUM, Clifton. — Second Assistant Medical Officer. Salary, £200 per annum, rising to £250.

NORWICH: NORFOLK AND NORWICH HOSPITAL. — House-Surgeon and Casualty House-Surgeon. Salary, £60.

PARISHES OF ST. GILES AND BLOOMSBURY.—Medical Superintendent and Assistant Medical Officer of the Infirmary. Salary, £300 and £150 per annum respectively.

PETERBOROUGH INFIRMARY. — House-Surgeon (male). Salary, £120 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Assistant Resident Medical Officer. Salary at the rate of £80 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary, £75 per annum.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—House-Physician. Salary at the rate of £80 per annum.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £200 per annum, rising to £250.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon (male). Salary, £100 per annum, rising to £120.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—(1) Examiner in Physiology. (2) Examiner in Dental Surgery.

ROYAL DENTAL HOSPITAL, Leicester Square, W.C.—Anaesthetist. Honorarium, £50 per annum.

ROYAL EYE HOSPITAL, Southwark, S.E.—Junior House-Surgeon. Salary, £50 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Ophthalmic Surgeon.

SALISBURY GENERAL INFIRMARY. — (1) House-Surgeon; (2) Assistant House-Surgeon. Salary, £100 and £50 per annum respectively.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £75 per annum.

SHEFFIELD: JESSOP HOSPITAL FOR WOMEN. — Assistant House-Surgeon. Salary, £80 per annum.

SHEFFIELD ROYAL HOSPITAL. — Assistant House-Physician. Salary, £80 per annum.

SHEFFIELD ROYAL INFIRMARY.—Two Resident Medical Officers. Salary, £70 per annum.

SOUTHAMPTON: FREE EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTHOE DISPENSARY.—Junior House-Surgeon (male). Salary, £90 per annum.

SOUTH SHIELDS UNION.—(1) Medical Officer of the Workhouse, Infirmary, and Cottage Homes. (2) Female Assistant Medical Officer. Salary, £300 and £130 per annum, rising to £400 and £150 respectively.

SOUTH STAFFORDSHIRE JOINT SMALL-POX HOSPITAL BOARD.—Resident Medical Officer. Salary, £200 per annum.

SOUTHWARK UNION.—Assistant Medical Superintendent of the Infirmary. Salary, £150 per annum, rising to £180.

STAFFORDSHIRE EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £250 per annum, rising to £300.

STIRLING DISTRICT ASYLUM, Larbert.—Junior Assistant Medical Officer. Salary, £150 per annum.

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House-Surgeon. Salary, £100 per annum.

THREE COUNTIES ASYLUM, near Hitchin. — Junior Assistant Medical Officer. Salary, £200 per annum, rising to £250.

TORQUAY: TORBAY HOSPITAL.—Resident Medical Officer (male). Salary, £100 per annum.

TRURO: ROYAL CORNWALL INFIRMARY. — House-Surgeon. Salary, £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—(1) House-Physician. (2) House-Surgeon. Salary, £40.

WEST BROMWICH AND DISTRICT HOSPITAL. — Assistant Resident House-Surgeon and Anaesthetist. Salary, £75 per annum.

WEST HAM UNION.—Third and Fourth Assistant Resident (male) Medical Officers at the Infirmary. Salary, £130 and £120 per annum, rising to £150 and £140 respectively.

WESTMORLAND CONSUMPTION SANATORIUM, Meathop, Grange-over-Sands.—Second Assistant Medical Officer. Salary, £150 per annum.

WHITECHAPEL UNION. — Second Assistant Resident Medical Officer (male) at the Infirmary. Salary, £120 per annum, rising to £140.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY. — Resident House-Surgeon. Salary, £120 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL. — (1) Resident Medical Officer; (2) House-Surgeon. Salary, £100 per annum each.

WORCESTER GENERAL INFIRMARY.—House-Physician. Salary, £120 per annum.

YORK DISPENSARY AND MATERNITY HOSPITAL.—Resident Medical Officer (male). Salary, £140 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Axminster (Devon), Colwyn Bay (Carnarvon).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

BIDDLE, H. G., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Hoxne District, co. Suffolk.

BOWMAN, R., M.B., C.M.Edin., Government Medical Officer, etc., at Parramatta, N.S.W.

BROWN, A., M.D., District Medical Officer of the Stroud Union.

BUCKLE, W. F., M.D., District Medical Officer of the St. Neots Union.

CHALMERS, J. R., M.B., District Medical Officer of the Prestwich Union.

CREW, F. E., M.B., District Medical Officer of the Bideford Union.

DAVIES, J. P. H., B.A., B.C.Cantab., M.R.C.S.Eng., L.R.C.P.Lond., D.P.H., Assistant Medical Officer of Health to the Rhondda Urban District Council.

DOUGLAS, R. O., M.D., Medical Superintendent of the Ararat Hospital and Benevolent Asylum, Ararat, Victoria.

EDWARDS, E. Parry, L.R.C.P.Edin., L.F.P.S.Glasg., County Medical Officer and School Medical Officer for Carnarvon.

EDYE, B. T., M.B., C.M.Sydney, Demonstrator in Pathology, University of Sydney Medical School.

GYLLENCRENTZ, J. R., M.R.C.S., L.R.C.P., Junior Assistant Medical Officer at St. John's Hill Infirmary of the Wandsworth Union.

HUGGINS, S. P., M.D., District Medical Officer of the Wycombe Union.

HUTH, S. F., M.R.C.S., L.R.C.P., District Medical Officer of the Wellington Union, Somerset.

ISAACS, D., M.R.C.S., L.R.C.P., Assistant Medical Officer, Shoreditch Parish Infirmary.

JONES, Francis G., M.B., C.M.Aberd., Medical Superintendent of the North Wales Asylum, Denbigh.

MCCARTAN, P., L.R.C.P. and S.Irel., Certifying Factory Surgeon for the Gortain District, co. Tyrone.

MCGILLYCUDDY, R. H., M.R.C.S., L.R.C.P., District Medical Officer of the St. Pancras Parish.

MCLORINAN, Margaret, M.B.Melb., Honorary Anaesthetist to the Women's Hospital, Melbourne.

MAGILL, R., jun., M.B., B.Ch.Dubl., Certifying Factory Surgeon for the Newcastle District, co. Down.

METCALFE, James, M.D.Brux., L.R.C.P., L.R.C.S.Edin., Honorary Physician in Charge of the X-Ray and Electrical Department of the Prince of Wales's General Hospital, Tottenham, N.

NASH, J. B., M.D., Honorary Consulting Surgeon to the Coast Hospital, Sydney, N.S.W.

PURVIS, Beattie W., M.B., Ch.B.Edin., District Accoucheur at Hackney to the Maternity Charity, vice Dr. Barlow, deceased.

RUSSELL, D. H., M.B., Assistant Medical Officer of the Dudley Road Workhouse of the Birmingham Union.

STEWART, A. G., M.A., M.D.Aberd., Medical Superintendent, Paddington Infirmary, W.

VESSELOVSKY, Victor, M.R.C.S.Eng., L.R.C.P.Lond., Resident Assistant Anaesthetist to St. Mary's Hospital.

WHEELER, H. T. O., L.R.C.P. and S.Irel., Assistant Medical Officer of the Brownlow Hill Workhouse, Liverpool.

WILKINSON, Russell F., M.R.C.S., L.R.C.P., House-Surgeon at the Male Lock Hospital, Dean Street, Soho.

MANCHESTER ROYAL INFIRMARY.—The following appointments have been made:

Assistant Medical Officer.—Donald E. Core, M.D., Ch.B.Vict., M.R.C.P.Lond.

House-Physician.—S. M. Hattersley, B.A.Cantab., M.R.C.S., L.R.C.P.

Pathological Registrar (reappointment). — W. B. Anderton, M.B.Lond., M.R.C.S., L.R.C.P.

Accident Room House-Surgeon (reappointment).—John Gow, M.B., Ch.B.Vict.

Medical Registrar (reappointment).—C. E. Lea, M.D.Vict.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—The following appointments have been made:

Clinical Assistant to the Eye Department.—Mr. A. E. Dorrell, F.R.C.S. (reappointed).

Clinical Assistant to Mr. Cunning.—Miss G. Dearnley, M.B., B.S.

Curator of the Museum.—Miss G. Gazdar, M.B., B.S.

Clinical Assistant to Dr. Branson.—Mrs. Messenger-Pearson, M.D., C.M.Canada.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

BIRTHS.

DERHAM-REID.—On June 29th, at Auchinellar, St. Helen's Road, Bolton-le-Moors, the wife of James Derham-Reid, M.R.C.S.Eng., L.R.C.P.Lond., of a son.

GRANT.—On June 17th, at Redcliffe, Smithy Bridge, Rochdale, the wife of W. P. Grant, M.B., Ch.B., M.R.C.S., L.R.C.P., of a son.

MEAD.—On June 27th, at Eckington, Sheffield, the wife of Guy H. Mead, M.R.C.S., L.R.C.P., of a son.

DEATHS.

JONES.—On June 18th, at "Edensor," Manor Road, Wallington, Surrey, Hermann Johnston Jones, M.D.Heidelberg, L.R.C.P. Lond., M.R.C.P.Eng.

ROE.—On June 27th, at Milnthorpe, Church Walk, Worthing, Thomas O'Neill Roe, M.B.Lond., M.D.Chile, aged 40 years.

RECENT PUBLICATIONS.

The Social Guide. Edited by Mrs. Hugh Adams and Edith A. Browne. Fourth year of issue. London: Adam and Charles Black. 1913. (Cr. 8vo, pp. 299. 2s. 6d. net.)

A volume giving an account of the chief amusements and occupations in which the social world is suppose to engage, the kind of dress worn thereat, the dates of the principal functions, and the best means of obtaining invitations thereto or admission by subscription or payment.

Provincial Hospital Pharmacopoeias. Published at the offices of the *Chemist and Druggist*. (Crown 16mo, pp. 296. 2s. 6d. net.)

A volume incorporating the formulas used at twenty-five of the larger provincial hospitals. The prescriptions are condensed and the book should be useful to prescribers.

PUBLISHERS' ANNOUNCEMENTS.

MESSRS. BAILLIÈRE, TINDALL AND COX inform us that an Italian translation of Dr. Langdon Brown's *Physiological Principles of Treatment* by Dr. Corletto Francesco, has just appeared at Padua. The same firm announce for immediate publication a book entitled *Acute Abdominal Diseases*, by Messrs. J. E. Adams and M. A. Cassidy. They also propose to publish this month a comparatively large work entitled *The Surgery of the Eye*, by Drs. E. Torok and G. H. Grout, of the New York Ophthalmic and Aural Institute. Messrs. Baillière, Tindall and Cox are adding another volume to their well-known Students' Aid Series, by Dr. D. Sommerville, and it is to be called *Aids to Public Health*, and will probably be issued this month. They also have in hand a translation, *Traité de la Blennorrhagie*, by Dr. Georges Luys, for publication this summer. The translator is Dr. A. Foerster.

DIARY FOR THE WEEK.

FRIDAY.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, 5 p.m.—Annual general meeting and election of officers.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION, S.W.—Wednesday, 4.30 p.m., Obstruction of a main Bronchus.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics, daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Wednesday. Radiography: Saturday. Special Lectures each week.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock, E.—Lectures daily (Saturday excepted) at 12 and 4 p.m. Practical Laboratory work daily (Saturday excepted), 10 to 12 a.m. Practical Helminthology, 2 to 3.30 daily. Medical Clinics, Tuesday and Thursday at 3 p.m. Operations, Friday at 3 p.m.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following Clinical Demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday and Thursday, Surgical; Friday, Eye. Special Lectures at 5.15 p.m. daily except Friday and Saturday.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday and Friday, 3.30 p.m., Neuritis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Medical and Surgical Clinics and Operations at 2.30 p.m. daily. Also Monday, Throat; Tuesday, Gynaecology; Wednesday, Skin, Eye, Children, *X* Rays; Friday, Eye. Special Lectures and Demonstrations as announced.

ROTUNDA HOSPITAL, DUBLIN.—Continuation of the Post-Graduate Course on Obstetrics and Gynaecology daily throughout the week, except Saturday.

THROAT HOSPITAL, Golden Square, W.—Monday, 5.15 p.m., Special Demonstration on Selected Cases. Thursday, 5.15 p.m., Clinical Lecture.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday. A Lecture at 5 p.m. daily except Saturday.

[For further particulars of Lectures consult the Index to Advertisements.]

DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
	JULY.
8 Tues.	London: Ethical Committee, 2 p.m.
9 Wed.	City Division, Balfour Hall, Dunston Street, 3.30 p.m. Dorset and West Hants Branch, Wareham, 3.30 p.m.; Luncheon, 1.30 p.m. East Hertfordshire Division, Hertford, 3.15 p.m.
10 Thur.	Dartford Division, Dartford, 3 p.m. East Anglian Branch, Annual Meeting, Ipswich, 12.30 p.m.; Luncheon, 1.30 p.m.; Tea, 4.30 p.m. Wandsworth Division, Annual Meeting, Clapham Junction, 4 p.m.
11 Fri.	Oxford and Reading Branch, Annual Meeting, Oxford, 4.15 p.m. West Somerset Branch, Annual Meeting, Taunton, 12.30 p.m.; Luncheon, 1.15 p.m.
12 Sat.	London: Science Committee, 11 a.m.
14 Mon.	Leinster Branch, Annual Meeting, Dublin.
15 Tues.	London: Metropolitan Counties Branch Council, 4 p.m.

Date.	Meetings to be Held.
	JULY (*continued*).
15 Tues.	North Wales Branch, Annual Meeting, Llandudno.
16 Wed.	Cambridge and Huntingdon Branch, Annual Meeting, Cambridge.

ANNUAL MEETING, BRIGHTON, 1913.

Annual Representative Meeting, July 18th, and following days.

Presidential Address, Tuesday, July 22nd.

Conference of Honorary Secretaries, 4 p.m.; Dinner, 7 p.m., Wednesday, July 23rd.

Sections—Wednesday, July 23rd; Thursday, July 24th; and Friday, July 25th.

Conference of Representatives of Local Medical Committees, Thursday, July 24th, 2.30 p.m., and following days if necessary.

International Medical Congress in London, August 6th to August 12th.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 12TH, 1913.

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PROCEEDINGS OF COUNCIL.

A MEETING of the Council was held at 429, Strand, London, W.C., on Wednesday, July 2nd, 1913, at 11 a.m.

Present:

Dr. J. A. MACDONALD, LL.D., Taunton, Chairman of Council, in the Chair.

Sir JAMES BARR, M.D., LL.D., Liverpool, President.

Dr. W. AINSLIE HOLLIS, Hove, President-Elect.

Mr. T. JENNER VERRALL, Bath, Chairman of Representative Meetings.

Dr. EDWIN RAYNER, Stockport, Treasurer.

Dr. R. M. BEATON, London
Surgeon-General P. H. BENSON, M.B., I.M.S., Walmer (Indian Branches).
Dr. M. G. BIGGS, London
Dr. CHARLES BUTTAR, London
Dr. WM. CLOW, Paisley
Dr. J. SINGLETON DARLING, Lurgan
Mr. E. J. DOMVILLE, Exeter
Dr. D. E. FINLAY, Gloucester
Dr. B. E. FORDYCE, Cambridge
Mr. T. W. H. GARSTANG, Altrincham
Dr. JOHN GORDON, Aberdeen
Surgeon-General J. P. GREANY, I.M.S., Ealing (Indian Medical Service)
Dr. MAJOR GREENWOOD, London
Dr. J. R. HAMILTON, Hawick, N.B.
Dr. G. E. HASLIP, London
Dr. R. WALLACE HENRY, Leicester
Mr. EVAN JONES, London
Mr. F. CHARLES LARKIN, Liverpool
Mr. C. COURTENAY LORD, Gillingham
Mr. ALBERT LUCAS, Birmingham
Dr. H. C. MACTIER, Wolverhampton
Dr. JAMES METCALFE, Bradford
Dr. C. H. MILBURN, Hull
Dr. GEORGE PARKER, Bristol
Dr. F. J. SMITH, London
Mr. E. B. TURNER, London
Dr. W. J. TURRELL, Oxford
Dr. W. J. TYSON, Folkestone
Mr. D. J. WILLIAMS, Llanelly
Mr. E. H. WILLOCK, Croydon

DEATHS OF FORMER MEMBERS OF THE COUNCIL.

The Chairman of Council was authorized to convey to the families of Dr. Herbert Manley (West Bromwich) and Mr. Frederick Wallace (London), former members of the Council, the sincere sympathy of the Council in their bereavement.

A letter was read from Mrs. Cecil Shaw acknowledging the resolution of condolence passed by the Council on the death of her late husband.

ANNUAL MEETING.

The request of the Continental Anglo-American Medical Society to appoint a delegate to the Annual Meeting of the British Medical Association, and that of the Irish Medical Schools' and Graduates' Association for permission to hold its meeting during the annual meeting at Brighton were acceded to.

FINANCE COMMITTEE.

In presenting the Minutes of the Finance Committee, at its quarterly meeting on June 25th, the Treasurer, Dr. EDWIN RAYNER, stated that economies had been effected during the period ending June 7th, and that certain satisfactory features were disclosed by the accounts, but he insisted that it was of the utmost importance that great caution should be observed and that strict supervision should continue to be exercised where any expenditure was concerned.

The accounts for the period ending June 7th, amounting to £12,566 0s. 11d., were received and approved, and the Treasurer was empowered to pay those remaining unpaid.

The Council, on the recommendation of the Committee, increased the salary of the Medical Secretary by £100 per annum.

CONTEMPLATED RESIGNATION OF MEMBERS OF THE ASSOCIATION IN SOUTH LONDON.

Dr. Biggs drew attention to a letter signed by seventy-six members of the profession in the Wandsworth and neighbouring Divisions taking exception to the alleged pro-panel attitude of the executive of the Association as reflected in the Journal. Dr. Biggs, according to notice, moved:

> That in the opinion of the Council Minute 51 of the Special Representative Meeting on January 17th and 18th should be strictly carried out in the conduct of the Journal.

This was seconded by Dr. Buttar, whereupon an amendment was moved by Mr. Lucas, and seconded by Dr. Wallace Henry, to insert the words "Minutes 48 and 51" in substitution for the words "Minute 51." After discussion, the Council, on the motion of Mr. Domville, seconded by Dr. Major Greenwood, proceeded to the next business.

JOURNAL COMMITTEE.

The quarterly report of the Journal Committee was presented by the Chairman, Mr. Albert Lucas. It was agreed to authorize the Libel Actions Subcommittee, in the event of any threatened action, to co-opt not more than three members possessing special knowledge to assist the Subcommittee in its deliberations.

The Committee reported that it had considered the propriety of inserting certain advertisements in the Journal concerning various preparations of foods and drugs, and had instructed the Financial Secretary and Business Manager. It also submitted a list of advertisements excluded from the Journal from March 10th to May 20th, 1913.

SUPPLEMENTARY REPORT OF COUNCIL.

The greater part of the time of the meeting of the Council was occupied in the discussion of the Supplementary Report of the Council, published in the Supplement last week, pages 1–33. This report was in the main founded upon the quarterly reports and recommendations of the various committees, which it is therefore not necessary here to recapitulate. The following notes are given merely as an indication of the course which the proceedings took.

Organization Committee.

Allocation of Business to Standing Committees.

The Chairman of the Organization Committee, Mr. F. C. Larkin, presented a report in accordance with the directions given to the Committee by the Council at its last quarterly meeting on April 23rd (Minute 587), instructing the Committee to consider the allocation of the duties falling under the consideration of the Organization, State Sickness Insurance, Medico-Political, Hospitals, and Public Health Committees, with a view to avoiding overlapping. The Committee now presented a report recommending that the State Sickness Insurance Committee should be a standing committee of the Association, and be named the Insurance Act Committee, and defining its constitution and the reference to it.

The Chairman observed that the practice of the Council was to authorize the Chairman to refer matters arising between the meetings of the Council to the appropriate committee, and a long discussion on the allocation of business to the several committees mentioned ensued. Finally, the recommendations to the Representative Body embodied in paragraph 203 of the Supplementary Report of the Council, published in the Supplement for last week, page 3, were adopted.

Medical Department.

Recommendations of the Organization Committee with regard to the constitution and organization of the staff of the Medical Secretary's department were withdrawn pending consideration by the Emergency Finance Subcommittee and the Finance Committee.

Resignations.

The Committee reported that 27 members had resigned in the period from April 6th to June 14th, 1913, as against 18 for the corresponding period of last year; of the 27, three were retiring from practice.

Position of the Association and Extension of its Powers.

The Committee reported that, in connexion with the report of the Council on the scheme of reform of the present constitution of the Association submitted by the Metropolitan Counties Branch, published in the Supplement of June 21st, p. 554, certain considerations had arisen with reference to resolutions on the agenda of the Annual Representative Meeting with respect to trade unionism, etc. It had accordingly prepared a special report on the subject, which was published in the Supplement of July 5th, page 15.

State Sickness Insurance Committee.

The Chairman of the Committee, Dr. J. A. Macdonald, presented the quarterly report of the State Sickness Insurance Committee. The Council considered the report paragraph by paragraph, and adopted the recommendations which were set out in the Supplementary Report of the Council published in the Supplement of July 5th (pages 5, 6, 7, 9, and 12).

Central Ethical Committee.

The quarterly report of the Central Ethical Committee was presented by Dr. M. G. Biggs, its Chairman.

The report contained a recommendation that two members of the Association should be expelled from membership, and the Committee presented detailed statements of the circumstances in each case. The Council agreed with the recommendation that the two members should be expelled.

The Committee reported that in pursuance of the instructions of the Council it had elected Mr. Evan Jones and Drs. J. Livingstone Loudon and J. Munro Moir to be members of the Committee.

The other business contained in the report of the Committee is indicated in the paragraph under the heading Medical Ethics in the Supplementary Report of the Council published in the Supplement of July 5th, page 3.

Medico-Political Committee.

The quarterly report of this Committee was presented by its Chairman, Mr. T. W. H. Garstang (see Supplementary Report of the Council, Supplement, July 5th, pages 4, 5).

With regard to the Mental Deficiency Bill, the Council resolved to express to the Home Secretary its general approval of the Mental Deficiency Bill of the Government, without in any way waiving its right to suggest amendments at a later stage, and at the same time to urge the reintroduction of the clause forbidding marriage with a defective.

The Committee reported that at the conference between representatives of the British Medical Association and of the Society of Medical Officers of Health there was a consensus of opinion that such conferences should be held at regular intervals to discuss questions of common interest likely to be the subject of discussion by the Representative Body, or matters as to which either body desired the opinion of the other. The Public Health Committee, in its report, cordially endorsed the suggestion. The Council expressed its approval, and instructed the chairmen of the Medico-Political and Public Health Committees, and of any other committee which ought to be represented at such conferences, to make the necessary arrangements.

The Council declined to recommend the Representative Body to reaffirm its opinion that the State registration of trained nurses is desirable.

Public Health Committee.

The quarterly report of the Public Health Committee was presented by Mr. E. J. Domville, Chairman (see the section of the Supplementary Report of the Council on Public Health and Poor Law, Supplement, July 5th, page 12).

ELECTION OF CANDIDATES.

Candidates for membership of the British Medical Association were elected by the Council under the powers given to it by the Regulations.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BORDER COUNTIES BRANCH.

THE forty-sixth annual general meeting of the Border Counties Branch was held at Carlisle, on June 27th. Dr. CRERAR, the retiring President, occupied the chair in the earlier part of the meeting, and was afterwards succeeded in the chair by Dr. EASTERBROOK, President-elect.

English Division Boundary.—In connexion with the boundary of the English Division, the SECRETARY read a letter from Dr. Fisher. Dr. MAXWELL ROSS pointed out that Dr. Fisher's letter raised two distinct questions: The question of the alteration of the boundaries of the English Division to make it co-terminous with the local insurance areas, and the question of the separation of the English and the Scottish Divisions. He considered that the matter required much fuller consideration than could be given at that meeting; it had not been before the Scottish Division. Dr. ANDERSON, Secretary of the English Division, stated that that Division was unanimously of opinion that the English Division area should be co-terminous with the insurance area, and that the portion of Scotland attached to the English Division should be transferred to the Scottish Division. The larger question which Dr. Maxwell Ross had raised had not been before the Division. The matter was eventually referred for further consideration to the Divisions.

Votes of Condolence.—Dr. CRERAR moved a resolution of sympathy with the family of the late Dr. Maclaren, which was published in the BRITISH MEDICAL JOURNAL of July 5th, p. 52. Dr. BARNES, in seconding, referred to his own personal friendship with Dr. Maclaren, and spoke in detail of his life and work in the Border Counties Branch. Dr. Maclaren had occupied every office that it was possible for him to hold on the Branch Executive. He also gave interesting details regarding various papers which Dr. Maclaren had read before the Branch. Sympathetic reference was also made to the death of Dr. Cluckie (Stranraer), and of Dr. Penny (Cockermouth).

Election of Officers.—The following officers were elected:

President.—Dr. Easterbrook.
President-elect.—Dr. Fisher.
Past-President.—Dr. Crerar.
Secretary and Treasurer.—Dr. Livingston.
Branch Council Representatives from Divisions.—English: Drs. Fisher, Edington, Hill. Scottish: Drs. Huskie, Maxwell Ross, Scott. Six members elected at annual Branch meeting: Drs. Farquharson, Rodger, Martin, Barnes, Muriel, Saunders.
Ex officio: Secretary, English Division, Dr. Anderson; Secretary, Scottish Division, Dr. Robson.
Associate Member.—Dr. Syme.
Representative on Central Council.—Dr. Livingston Loudon (Hamilton).

Branch Council's Annual Report.—Dr. CRERAR moved that the Branch Council's annual report be taken as read, and thereafter introduced Dr. Easterbrook, who took the chair.

Presidential Address.—Later on Dr. EASTERBROOK (Crichton Royal Institution), Dumfries, delivered his presidential address entitled, Some Observations on the Causation and Prevention of Mental Affections.

EAST ANGLIAN BRANCH:

NORTH SUFFOLK DIVISION.

THE annual meeting of the North Suffolk Division was held at Lowestoft on June 24th. The minutes of the last meeting were read and confirmed.

Election of Officers.—The following officers were elected:

Chairman.—Dr. Wood-Hill.
Vice-Chairman.—Dr. H. M. Evans.
Representative for Representative Meetings.—Dr. Wood-Hill.
Representative on Branch Council.—Dr. Barraclough.
Honorary Secretary and Treasurer.—Dr. Tyson was re-elected.
Executive Committee.—Drs. Berry, Bell, Helsham, Ransome, Mead, and Taylor; also Drs. Wood-Hill, Evans, and Tyson (*ex officio*).

Vote of Thanks.—A very hearty vote of thanks to the retiring Chairman, Dr. Evans, was carried with acclamation.

Model Ethical Rules.—The rules governing procedure in ethical matters as approved by the Representative Body in 1912 were adopted.

Temporary Residents.—It was unanimously agreed to accept the recommendations of the Association as to non-attendance on insured persons presenting the green vouchers, and making a point of not claiming anything for those attended before the notices were sent out by the East Suffolk Medical Committee.

Certificates.—It was unanimously resolved to give only one certificate for calling on, one weekly renewal certificate, and one calling-off certificate to each insured person.

Reorganization of the Association.—It was decided to hold a meeting at the Lowestoft Hospital on July 8th to consider the Special Report of the Council on the proposed reorganization scheme and the Supplementary Report of the Council.

EDINBURGH BRANCH.

THE summer annual meeting of this Branch was held in the Royal College of Physicians on Thursday, June 26th, Dr. JAMES CARMICHAEL in the chair.

Report of Branch Council.—The SENIOR SECRETARY submitted the report of the Branch Council, which was approved, as was also the financial statement.

Election of Officers.—The following were elected office-bearers for the ensuing year, 1913–14:

President.—Mr. C. W. Cathcart.
President-elect.—Dr. John Playfair.
Vice-Presidents.—Dr. Logan Turner and Dr. Carlyle Johnston.
Honorary Treasurer.—Dr. James Ritchie.
Honorary Secretaries.—Dr. John Stevens and Dr. John Eason.
Election to Central Council.—The report on the election of Dr. Hamilton as a member of Council for the Edinburgh and Fife Branches, 1913-14, was approved.

Scottish Medical Committee.—Dr. HAMILTON read the report of the decision of the Central Council as to the future status of the Scottish Committee of the British Medical Association. A discussion on the report was taken part in by Drs. PORTER, KEPPIE PATERSON, DEWAR, MCKENZIE JOHNSTON, CUMMING, and BARKER. On the motion of Dr. THYNE, seconded by Dr. PORTER, the following motion was adopted:

> That, as the British Medical Association has definitely stated that the interest of those who have refused service under the Insurance Act shall be paramount, that can only be obtained in Scotland by a large representation of non-panel doctors on the Scottish Committee.

Dr. Hamilton was instructed to lay this before the Central Council at their next meeting.

New Nursing Home.—The three members recommended by the Council to serve on the Management Committee of the new nursing home were duly appointed—namely, Mrs. Chalmers Watson, Mr. Cathcart, and Dr. Michael Dewar.

Model Ethical Rules.—The recommendation by the Branch Council to adopt "Model Ethical Rules of Procedure" was considered, and a motion, proposed by Dr. JAMES SMITH, seconded by Dr. PORTER, that the rules be allowed to lie on the table, was adopted by 17 to 7, after an amendment proposing their adoption had been lost.

Guarantee Fund.—In the absence of the Treasurer the question of the disposal of the Guarantee Fund was postponed.

Votes of Thanks.—Cordial votes of thanks were passed to Dr. James Carmichael, the retiring President; to Dr. James Ritchie, Honorary Treasurer; to Dr. Michael Dewar and Mrs. E. Scott Carmichael, the Honorary Secretaries; and to the Chairman (Mr. Cathcart).

SOUTH-EASTERN COUNTIES DIVISION.

A MEETING of the Division was held at the Railway Hotel, Newton St. Boswells, on June 27th, when Dr. MUIR, Chairman, and subsequently Dr. MCROBERT, took the chair, and seventeen other members were present.

Election of Officers.—The following officers were elected for the ensuing year:

Chairman.—Dr. Blair.
Vice-Chairman.—Dr. P. C. McRobert, Innerleithen.

Representative at Representative Meetings.—Dr. Blair.
Deputy Representative.—Dr. Luke (re-elected).
Representative on Branch Council.—Dr. Carlyle Johnstone (re-elected).
Executive Committee.—Dr. S. G. Davidson, Hawick, re-elected; Dr. A. J. Campbell, re-elected; Dr. Rodger, Dr. McMillan, Dr. P. Henderson, Dr. Bannerman.
Honorary Secretary and Treasurer.—Dr. Oliver (re-elected).

Annual Report of Executive Committee.—The SECRETARY read the annual report of the Executive Committee, and submitted the accounts as balanced for the year ended April 30th, 1913.

Franking of Correspondence.—On the motion of Dr. CULLEN, seconded by Dr. MUIR, it was resolved that in the opinion of the Division all official correspondence under the National Insurance Act should be franked, and that this opinion should be communicated to the Scottish Commissioners.

Temporary Residents.—With regard to payment for services to temporary residents it was agreed that the recommendations of the Association be approved, and that no contribution should be made to any fund from the capitation fees due to medical men on the panels.

Representative Meeting.

After discussing the question of certificates under the National Insurance Act, the Representative was instructed to support any motion having for its object the simplification and unification of the medical certificates required by approved societies, and also any action that tended to absolve medical practitioners from the necessity for stating the nature of the patient's disease on a certificate, and that might result in the general adoption of such a form of certificate as the following:

I certify that I have this day examined ..... and that $\frac{\text{he}}{\text{she}}$ is incapable of following $\frac{\text{his}}{\text{her}}$ usual employment by reason of $\frac{\text{sickness}}{\text{accident}}$ not, in my opinion, an industrial disease, and not caused by $\frac{\text{his}}{\text{her}}$ misconduct.

(Signed) .....
(Date) .....

The Representative was also instructed to support any action having for its object, or if necessary to move, to amend the regulation by which mileage is to be calculated from the nearest panel or insurance doctor.

Powers were granted to the Executive Committee to deal with any report of Council that might be received before the Representative Meeting, and to forward to the Representative such recommendations as it might think fit.

Reorganization of the Association.—Dr. JOHNSTONE spoke on the reorganization of the Association, and on the motion of Dr. MUIR, seconded by Dr. CULLEN, it was resolved that the Representative should support the action of the Metropolitan Counties Branch, particularly in respect of the proposal that the Representative Body should be an assembly with full deliberative powers, and be responsible for formulating the policy of the Association. Dr. OLIVER moved that the Representative be instructed to support the proposal that the Council should be elected by and from the Representative Body. Dr. MUIR, seconded by Dr. JOHNSTONE, moved as an amendment that it be left to the Representative to exercise his own judgement on the matter after hearing the discussion for and against the proposal. Dr. OLIVER, with the consent of the meeting, withdrew his motion.

FIFE BRANCH.

THE eleventh annual meeting of the Branch was held at Kirkcaldy on June 19th. Dr. ORR (Tayport) was in the chair, and twenty members were present.

Induction of President.—Dr. ORR thanked the members for their support and consideration during his term of office, and called upon Dr. Douglas (Cupar) to take the chair as President for the ensuing year. Dr. DOUGLAS thanked the members for the honour they had done him, and called upon the meeting to extend to the retiring President a hearty vote of thanks for his services during the past year.

Election of Officers.—The following officers were elected:

President-elect.—Dr. R. Balfour Graham, Leven.
Honorary Secretary and Treasurer.—Dr. G. C. Anderson, Denbeath.
Branch Council.—Drs. Crawford, Kirkcaldy; Dickson, Lochgelly; Eggeling, Largo; Heron, Markinch; Keay, Kelty; Macnicol, Leven; Tuke, Dunfermline.
Representative of the Branch at the Representative Meetings.—Dr. G. C. Anderson.
Deputy Representative.—Dr. Douglas.

Dr. Craig (Cowdenbeath) was thanked by the PRESIDENT for his valuable services as Representative during the past year; also Dr. Dow, who retires from the Council.

Report of Branch Council.—The HONORARY SECRETARY then submitted the report of the Branch Council for the past year, which showed that a great number of meetings had been held during the past year mainly in connexion with the National Insurance Act, and that at these meetings, both council and general, the attendance of members had been exceedingly good. The membership of the Branch was 105; during the year 5 had removed out of the Branch and 3 new members had been admitted. The Honorary Secretary again had the pleasure of nominating Dr. Hamilton (Hawick) as the member representing the Edinburgh and Fife Branches on the Central Council. Dr. CRAIG (Cowdenbeath) moved the adoption of the report, and the meeting approved.

Colliery Surgeons Subcommittee.—The report of the Colliery Surgeons Subcommittee, which was submitted by the CONVENER and approved, stated that the subcommittee had met seven times since the last general meeting, and deputies had met the Fife Miners' Union and Coal-owners on four occasions, besides which the Convener and Dr. Craig had attended many meetings in Edinburgh and Glasgow, at first under the auspices of the Scottish Medical Insurance Council but latterly at their own charges. The committee had had under its consideration the question of contract medical attendance on the dependants of insured persons in mining areas. Protracted negotiations had been carried on between its members and the Fife Miners' Union and the Coal-owners, and though the problem was not yet definitely settled it seemed on the eve of being finally arranged. The committee, for the sake of establishing the principle of a flat rate of payment from married and single men alike, had meanwhile accepted a rate which many of its members thought quite inadequate, and had also felt compelled to recognize a committee composed of doctors, miners, and coal-owners as the medium for the distribution of the medical offtakes. These two points apply to the whole mining area of Scotland.

Representative Meeting.—Dr. GRAHAM proposed that the Representative be instructed to oppose Motion 23, paragraph 4, but as it proved to be against the feeling of the meeting did not put it forward as a motion. The Representative was, however, instructed to oppose paragraph (*d*) of Motion 25, and on other matters it was left with the Representative to use his own discretion.

METROPOLITAN COUNTIES BRANCH.

THE sixty-first annual meeting of the Branch was held on July 1st, at the offices of the Association, 429, Strand. Dr. G. E. HASLIP, President, was in the chair, and about forty members were present.

Election of Officers.—The following is a list of the officers elected for the year 1913–14:

President.—Dr. R. Langdon-Down.
President-elect.—Dr. F. J. Smith.
Past-President.—Dr. G. E. Haslip.
Vice-Presidents.—Dr. Thomas Gunton Alderton, Dr. William Ewart, Dr. Major Greenwood, Dr. William Griffith.
Honorary Treasurer.—Mr. Atwood Thorne.
Honorary Secretaries.—Dr. R. E. Crosse, Mr. Nathaniel Bishop Harman, F.R.C.S.
Representatives of the Branch on the Central Council of the Association.—Dr. Charles Buttar, Dr. Major Greenwood, Dr. E. C. Montgomery-Smith, Dr. F. J. Smith.

Annual Reports.—Upon consideration of the Annual Report of Council it was agreed, on the motion of Dr. PERCIVAL BARNES, that in future the report should be signed by the President of the Branch for the time being. The report was thereupon adopted without any amendment, as was also the annual report of the representatives on the Council.

Ethical Rules.—On the motion of the CHAIRMAN, seconded by Mr. ATWOOD THORNE, the Model Ethical Rules governing procedure in ethical matters of a Branch (SUPPLEMENT, September 21st and 28th, 1912, pages 325 and 350) were adopted.

Vote of Condolence.—On the motion of the CHAIRMAN, seconded by Mr. BETHAM ROBINSON, a vote of condolence was passed upon the death of Dr. Frederick Wallace, a former President of the Branch and representative on the Central Council.

Vote of Thanks to Retiring President.—On the motion of Dr. SHADWELL, seconded by Dr. E. W. GOODALL, a cordial vote of thanks was accorded to Dr. Haslip for his services in the chair during the past year. Dr. HASLIP, in thanking the meeting, urged that the members should stick together; everything then would come out right. He appealed to the extremists on both sides, and expressed the opinion that despite the changes in the past it was their duty to try if possible to sink any differences which might exist and adopt a moderate course. Events were happening very quickly in the profession, and it was necessary to act in a calm, cool and deliberate manner, for if the profession became disunited the only result would be that the enemy would win.

Induction of President.—Dr. HASLIP introduced to the chair Dr. R. Langdon-Down, a former fellow student, and felt confident that he would carry on the work of the Branch as well in the future as it had been in the past. Dr. LANGDON-DOWN thereupon took the chair and delivered an address. On the motion of Mr. E. B. TURNER, seconded by Mr. BETHAM ROBINSON, a vote of thanks was accorded to Dr. Langdon-Down for his presidential address.

Vote of Thanks to Retiring Honorary Secretary.—Dr. HASLIP moved a vote of thanks to Dr. William Griffith, the Senior Honorary Secretary of the Branch, for his services during the past four years. Such position involved a large sacrifice of time as well as great care and attention. He also thanked Dr. R. E. Crosse, his successor and co-secretary, for past services. Dr. LAURISTON SHAW seconded the motion, which was carried with unanimity.

MIDLAND BRANCH:

LEICESTER AND RUTLAND DIVISION.

A MEETING of this Division was held in the Council Chamber, Hinckley, on June 27th, when Dr. SESSIONS BARRETT was in the chair, and fourteen members were present. After Dr. Barrett had welcomed the members on their first visit to Hinckley, a discussion took place on local industrial diseases, in which Drs. JENKINS, GARRETT, G. P. YOUNG, HORROX DAVIES, JOHNSTON, SEVESTRE, HALL, A. V. CLARKE, WALLACE HENRY, BLAKESLEY, and GIBBONS took part. A hearty vote of thanks for their hospitality was accorded to Dr. and Mrs. Barrett, on the proposition of Dr. GIBBONS, seconded by Dr. HENRY.

NORTH OF ENGLAND BRANCH:

DURHAM DIVISION.

THE annual meeting was held on June 27th. Dr. SMITH was in the chair; only ten members were present.

Annual Report.—The Secretary, Dr. GEORGE DENHOLM, placed the financial statement before the meeting. The membership showed a net increase of six as compared with 1912. The Secretary apologized for the late date at which the meeting had been held: this had been due to his recent illness. The meeting considered the report very satisfactory, and approved the Secretary's proposal that summonses to meetings should in future be printed.

Model Ethical Rules.—On the motion of Dr. SMITH, seconded by Dr. PAIN, the Model Ethical Rules were unanimously adopted.

Election of Officers.—On the motion of Dr. PLUMMER, seconded by Dr. J. BROWN, the officers were unanimously re-elected.

Congratulations to Secretary.—Dr. SMITH, on behalf of the meeting, congratulated the Secretary on his recovery, and thanked him for his services.

NORTHERN COUNTIES OF SCOTLAND BRANCH.

THE annual meeting of the Branch was held at Strathpeffer Spa on June 27th. In the unavoidable absence of Dr. J. B. Simpson (Golspie), President-elect, Dr. ADAM (Dingwall) presided.

Election of Office-bearers.—The following office-bearers were elected:

President-elect.—Dr. William Ferguson, Banff.

Vice-Presidents.—Dr. Pender-Smith, Dingwall; Dr. J. B. Simpson, Golspie.

Members of Council.—Drs. MacLachlan, Dornock; Aster, Thurso; Ross, Tain; Knox, Gairloch; Johns, Nairn; Rennie, Forres; J. W. Mackenzie, Inverness; Douglas, Strathpeffer.

Representatives in Representative Meeting.—Dr. Cruickshank, Nairn; Dr. J. Munro Moir, Inverness.

Deputy Representatives.—Dr. Murray, Inverness; and Dr. J. W. Stephen, Elgin.

Representative on Central Council.—Dr. John Gordon, Aberdeen.

Honorary Secretary and Treasurer.—Dr. J. Munro Moir, Inverness.

Next Annual Meeting.—It was resolved to hold the next annual meeting at Invergordon—the autumn meeting to be held at Inverness.

Annual Report.

The annual report of the Council stated that only one meeting of the Branch had been held since the last annual meeting. This was accounted for by the Branch being now divided into four Divisions—namely, Inverness-shire, Ross and Cromarty, Caithness and Sutherland, Banff, Elgin and Nairn. These Divisions had had frequent meetings during the year, and their formation had been fully justified. Representations had been made to the Organization Committee of the Association to sanction the appointment of two additional Representatives in Representative Meetings, one for Ross and Cromarty and one for Sutherland and Caithness. This the Organization Committee did not see its way to recommend, as the policy of the Association in the meantime seemed to be to reduce the number of Representatives. The Branch Council was still of opinion that special provision should be made for a district in which the members of the Association were so widely scattered as those resident in the four northern counties of Scotland.

The various aspects of the Insurance Act and its working had occupied the attention of the Divisions during the year to the exclusion of other subjects. The Council considered that the Act required considerable amendment, and that Branches and Divisions, as also Local Medical Committees, must still keep a watchful eye on the doings of the Insurance Commissioners and Insurance Committees and be prepared to meet any objectionable amendments or regulations.

The Branch Council was gratified to learn that through the efforts of the Scottish Committee Scottish questions of organization, etc., would now be dealt with by that committee.

Since the last annual meeting the Highlands and Islands Medical Service Committee had issued its report, and if its recommendations were carried out a great improvement in the conditions of medical practice in the Highlands and Islands would be ensured.

The ethical rules issued by the Ethical Committee as applied to Branches had been adopted.

Representative Meeting.—It was unanimously agreed that the Representatives be given a free hand in dealing with matters at the Representative Meeting, at the same time endeavouring as far as possible to ascertain the views of the members of the Divisions which they represent on any point of special interest.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.

THE annual meeting of the Branch was held at Barrow on June 27th. There were twenty-three members present. After the meeting the President (Dr. Daniel) entertained the members to tea.

Induction of President.—Dr. BLAIR, the retiring President, in opening the meeting, impressed on those present the necessity for retaining the Branches of the Association, and not subordinating them to the Divisions. He urged on them the necessity of not putting the business side of the profession in too exalted a position, but to remember the high position the profession occupied amongst the arts. There should be more Branch meetings at which the discussion of scientific subjects should be encouraged. Before vacating the chair, Dr. Blair asked the members to accord to Dr. Barling (the retiring Secretary) the highest honour they could by making him President-elect. Dr. Barling had been Branch Secretary for ten years, and it was mainly through his exertions that the Branch was created. He thought it was characteristic of them as a people that they always got the right men

without money or price. The proposal to appoint Dr. Barling President-elect was carried by acclamation. Dr. BARLING'S reply was characteristically short, but he took the opportunity of emphasizing the importance of the Branches. He thought there was a tendency to forget this when letters came from the head office referring to "Divisions and Branches." He thought the mistake was fully realized, and that in the future the Branches would be more important than ever.

The following is a list of the office-bearers:

President.—Dr. Daniel, Barrow.
Vice-President.—Dr. Barling, Lancaster.
Treasurer.—Dr. Barrow, Lancaster.
Secretary.—Dr. Livingston, Barrow.

Clinical Papers and Cases.—Dr. DANIEL read an interesting paper on movable kidney, in which, after shortly sketching the anatomy of the organ, he enunciated the various methods of treatment, and illustrated with cases which he had under his care. A discussion followed, in which Drs. COUPLAND, CALLAGHAN, OLDHAM, and ALLAN took part. Specimens and radiograms were shown.

Proposed Amalgamation of Branches.—Dr. OLDHAM wished to have the feeling of the meeting regarding the proposal made to amalgamate with the Lancashire and Cheshire Branch. There was a very decided expression of opinion against any such change.

Ethical Rules.—Branch Ethical Rules were adopted.

NORTH WALES BRANCH:

SOUTH CARNARVON AND MERIONETH DIVISION.

THE annual meeting of the Division was held at Barmouth on June 19th. Dr. HARRY R. GRIFFITH (Portmadoc), Chairman, presided.

Election of Officers.—The officers for the ensuing year were elected as follows:

Chairman.—Dr. J. O. Williams, Barmouth.
Vice-Chairman.—Dr. R. Jones Evans, Pwllheli.
Secretary.—Dr. L. F. Cox, Llanbedr, Merioneth.
Representative to Representative Meeting.—Dr. J. O. Williams, Barmouth.
Representatives on Branch Council (re-elected).—Dr. Richard Jones, Festiniog; Dr. Hugh Jones, Dolgelly; Dr. J. W. Rowlands, Llanaelhaiarn.
Executive Committee.—Dr. Harry R. Griffith, Portmadoc; Dr. J. Pugh Jones, Barmouth; Dr. H. Gladstone Jones, Criccieth.

Annual Report.—The annual report by the Secretary was read and approved.

Model Rules for Ethical Procedure.—These rules, the consideration of which had been deferred at a previous meeting, were, on the motion of Dr. R. JONES EVANS, seconded by Dr. J. O. WILLIAMS, adopted.

Votes of Thanks.—On the motion of Dr. J. PUGH JONES, seconded by Dr. R. JONES EVANS, a hearty vote of thanks was unanimously accorded the Chairman for so kindly undertaking the duties for the second year in succession and for his valuable services. On the motion of Dr. J. W. ROWLANDS, seconded by Dr. J. O. WILLIAMS, a vote of thanks was accorded to Dr. H. Gladstone Jones for his long services as Honorary Secretary of the Division.

OXFORD AND READING BRANCH:

READING DIVISION.

THE annual meeting of the Division was held in the library of the Royal Berkshire Hospital on June 27th. Dr. HOLDEN took the chair, and twenty-three other members were present. Reference was made to the death of Dr. W. J. Anderson, and the Secretary was instructed to send a letter of condolence to his brother, the Rector of Arborfield.

Out-patients at the Royal Berkshire Hospital.—With regard to the out-patients at the Royal Berkshire Hospital, Dr. ABRAM reported that the governors had not taken any drastic steps, but the medical officers were exercising a stricter watch. Difficulty often arose from the omission of the general practitioner to provide the patient with a letter of recommendation.

Treatment of School Children.—Mr. ROWLAND stated the Medical Service had offered to treat school children at three centres within the area—Reading, Henley, and Ascot.

Presentation to Honorary Secretary.—Dr. HOLDEN then presented the Secretary with a cheque for £40 1s. as an acknowledgement of services in connexion with the Insurance Act campaign.

Election of Officers.—The following officers were elected for the ensuing year, a vote of thanks being heartily accorded to Dr. Holden for his hard work during the past year:

Chairman.—Dr. G. Stewart Abram.
Vice-Chairman and Representative.—Mr. P. Napier-Jones.
Secretary and Treasurer.—Dr. E. W. Squire.
Executive Committee.—Mr. N. H. Joy (Bradfield), Dr. A. G. Paterson (Ascot), Mr. J. B. Bokenham (Wokingham), Dr. W. J. Susmann (Henley), Mr. A. Thompson (Newbury), Dr. J. McCrea (Wargrave), Dr. G. H. R. Holden (Reading), Dr. L. M. Guilding (Reading), Mr. E. W. Rowland (Reading), Mr. W. B. Hope (Reading), Dr. S. Gilford (Reading), in addition to *ex officio* members.

Remarks by Chairman.—In accepting the office of Chairman, Dr. ABRAM hoped every practitioner would support the Association, and try to make it a stronger body in the future than it had been in the past.

Model Ethical Rules.—Dr. J. M. MCCREA then moved the adoption of the Ethical Rules for a Division issued at the Annual Meeting at Liverpool, 1912. He explained the object of the rules, and Mr. NAPIER-JONES, who seconded, pointed out that they included the Bradford Rules and Rule Z, and were so drawn up with the assistance of counsel. The Rules were adopted unanimously.

National Insurance Act.

On consideration of certain matters relating to the working of the Insurance Act, it was resolved to urge on the Insurance Committee that a uniform certificate for continuing sickness benefit and signing off should be issued by all the approved societies. With regard to certifying the actual nature of an illness in certain cases, it was thought there would be no difficulty if the patient's consent were first obtained.

The method proposed by the Commissioners for providing benefit for temporary residents was discussed. Some of those present had already signed these tickets, and a distinct note was sounded in the meeting to the effect that the profession was really responsible for treating those unfortunate persons compelled by circumstances in many cases to leave the district where they had been insured under compulsion. Dr. ABRAM proposed that the decision of the Representative Meeting should be awaited. It was also suggested that three months' or six months' notice should be given before the green tickets were unanimously declined, in order to give the Commissioners time to prepare some other scheme. Other members thought the matter was of very little importance, being a question of give and take all over the country, but affecting chiefly practitioners at holiday resorts. Finally it was agreed to proceed to the next business.

After tea the meeting resumed, and it was resolved:

> That a fee of one guinea be payable by an approved society for a second opinion upon an insured person.

The Secretary was instructed to notify all practitioners in the area of this decision.

The following resolution was adopted on the motion of Mr. HOPE:

> That persons previously exempt from compulsory insurance but now entitled under the Insurance Act Amendment Bill to medical benefit should only be treated as private patients. He pointed out there were 80,000 persons affected, most of whom were in very good circumstances.

It was agreed, with two dissentients, that the Division areas should not at present be made coterminous with National Insurance areas. It was thought that the drawbacks of such a plan for Berkshire would probably outweigh the advantages. The Oxford Secretary had intimated that practitioners living in Berkshire, but near Oxford, would strongly object to such a change.

Reorganization of Association.—The following motion, proposed by Mr. HOPE, was carried:

> That a Central Committee be formed which shall deal exclusively with the medico-political interests of the Association, having an organizing secretary who will visit the Divisions, keep them in touch with the Central Committee, and collect information as to local interests.

The Secretary was asked to send it forward for the Representative Meeting. Mr. P. NAPIER-JONES thought the Association might also undertake to provide for its members a pension fund, an agency for locumtenents, and other benefits.

PERTH BRANCH.

THE summer meeting of the Perth Branch was held on June 24th, jointly with the Local Medical Insurance Committee of Perth and Perthshire, to which also non-members were invited.

Election of Officers.—The following officers were elected:

President.—Dr. Taylor.
Secretary.—Dr. Lyell.
Treasurer.—Dr. Hume was asked to continue to act for another year.
Council.—Drs. Taylor, Lyell, and Hume (*ex officio*), Drs. Haig, Stirling, Burnett, Paton, and Gunn.
Representative to Representative Meeting.—Dr. Haig.
Deputy Representative.—Dr. Trotter.
Representative of Local Medical Committee.—For the county: Dr. Haig; for the borough: Dr. Trotter.
Representative at Conference of Local Medical Committees.—Dr. Haig.

Reorganization.—The report of the Council on the reorganization of the British Medical Association (see SUPPLEMENT, June 21st) was referred to the Branch Council.

National Insurance.

Dr. Taylor having vacated the chair, it was taken by Dr. STIRLING, Chairman of the Perth Local Medical Committee, and the question was raised whether the Local Medical Committee should agree to rescind its resolution accepting Scheme II, Temporary Residents, passed at its meeting on May 23rd, in view of the decision come to later at a meeting of the Branch that neither Scheme I or II be adopted. It was moved by Dr. PATON that no deduction be allowed from the capitation grants, but that if the Branch were forced to accept either of the two schemes it should be Scheme II by preference; after considerable discussion this was adopted as the finding of the meeting.

Dr. LYELL referred to the recent decision of Sheriff Lee in Glasgow Small Debt Court that the signature by a panel doctor of a patient's application form constituted a contract between the patient and the doctor, under which the former was entitled to sue in a court of law. Dr. Lyell pointed out that the decision was momentous, and should be kept in mind by all doctors in view of their signing for another quarter.

Dr. ROBERTSON and others again gave expression to the general feeling of dissatisfaction that no decision had yet been come to regarding the mileage question. It was pointed out that, when signing for last quarter, it was only on condition that this matter should speedily be brought to a settlement. Other urgent matters, such as the allocation of patients, and payment of overdue capitation money, still awaited attention. On the motion of Dr. BURNETT, seconded by Dr. PATON, it was agreed that medical men should only sign agreements at present for another three months.

SOUTH-EASTERN BRANCH:
HORSHAM DIVISION.

THE annual meeting of the Horsham Division was held on July 5th.

Election of Officers.—The following officers were elected:

Chairman.—M. H. H. Vernon.
Vice-Chairman.—F. W. E. Kinnier.
Secretary.—R. Jamison.
Representative on Branch Council.—F. Boxall.
Representative at Representative Meeting.—W. Ayton Gostling.
Executive Committee.—A. E. Stevens, F. N. Heygate, A. E. Kerr, S. P. Matthews.

Temporary Residents.—It was resolved to request the Local Medical Committee to approve, with such alterations as it thought fit, the letter sent to secretaries of Local Medical Committees from the British Medical Association as to temporary residents.

Reorganization of Branch.—It was resolved:

That the Division approves the resolution of the Branch Council that the South-Eastern Branch Council advise the South-Eastern Branch to request the Council of the Association to consent to the division of the unwieldy South-Eastern Branch into three Branches corresponding with the three counties of Kent, Sussex, and Surrey.

STAFFORDSHIRE BRANCH:
MID STAFFORDSHIRE DIVISION.

THE eleventh annual general meeting of the Mid Staffordshire Division was held on June 12th, at Lichfield. Dr. COOKSON presided; twenty other members being present.

Propositions as to Contract Practice.—The report of the Executive Committee was adopted as follows:

(*a*) That such contract practice be only undertaken where it is desired by any organizations already in existence, accepted by the Executive Committee of this Division, and that it must include free choice of doctor by the individual and be subject to an income limit of £160 per annum.
(*b*) That no new organization be started by any practitioner without the consent of the Executive Committee of the Division.
(*c*) That the uninsured members of friendly societies who were members before July 15th, 1912, and whose incomes are under £160 per annum, be charged at a minimum capitation rate of 8s. 6d. per annum, and that all juvenile members of friendly societies be charged at a minimum capitation rate of 4s. per annum.
(*d*) That any advertising of these terms by practitioners, either individually or collectively by circular, shall be deemed an attempt to extend contract practice contrary to the desire of the Division, and will be considered a breach of the ethical rules.
(*e*) That any exceptions due to local conditions must receive the sanction of the Executive Committee.

On the proposal of Dr. ROWLAND, seconded by Dr. BUTTER, it was unanimously resolved that medical attendance upon uninsured persons should not be given on lower terms than those approved as above.

Model Rules.—The model Division rules were adopted, and it was also resolved that the Executive Committee should constitute the Ethical Committee.

Election of Officers.—The following were elected officers of the Division for next year:

Chairman.—Dr. Rowland.
Vice-Chairman.—Dr. Hodder.
Representative at Representative Meetings.—Dr. Chas. Reid.
Representatives on Branch Council.—Dr. Blumer, Dr. W. G. Lowe, and Dr. Geo. Reid.
Honorary Secretary.—Dr. Stuart Shaw.
Executive Committee (ex officio).—Chairman, Vice-Chairman, Representative on Branch Council, Representative at Representative Meetings, Honorary Secretary, and Drs. Cookson, Gettings, Dixon, Freer, C. J. Armson.

ULSTER BRANCH.

THE annual meeting of the Branch was held on June 19th in the Medical Institute, Belfast. Dr. JOHN CAMPBELL, President of the Branch, was in the chair, and fifty-three members attended.

Annual Report of Council.—The annual report of Council, which showed that the membership of the Branch had reached a total of 444 during the year, that there was a balance of £33 4s. in the hands of the Treasurer, and that four meetings, all of which were well attended, had been held, was presented and adopted.

Election of Officers.—The following were elected for the year 1913-14:

President.—Dr. G. R. Lawless, Armagh.
Secretary.—Mr. R. J. Johnstone, Belfast.
Treasurer.—Dr. J. S. Darling, Lurgan.
Representatives on Irish Committee.—Dr. Storey, Belfast, and Dr. O'Kane, Londonderry.

Perforating Typhoid Ulcer.—Mr. A. B. MITCHELL read notes of 3 cases operated on successfully.

Penetrating Wound of Brain with a Pitchfork.—Professor SINCLAIR showed a patient after operation for Jacksonian epilepsy, following this injury, after the lapse of some years. Dr. ST. GEORGE gave the notes of a case which he had recently treated with success.

Abdominal Surgery.—Mr. FULLERTON read notes on an obscure case of intestinal obstruction, of a case of colitis treated by appendicostomy, and of several cases of vesical calculus.

Marjolin's Ulcer.—Mr. S. T. IRWIN showed the specimen from a patient whose leg he had amputated for a Marjolin's ulcer which had caused spontaneous fracture, and read notes of the case.

Source of Cancer.—Dr. J. F. ELLIOTT read a paper on a probable source of cancer.

Intussusception Complicated by Gangrenous Appendix.—Dr. J. S. DARLING read notes on a case in which he had operated for this condition in a child.

Luncheon.—After the meeting the President (Dr. John Campbell) entertained upwards of 80 members of the Branch to lunch at the Grand Central Hotel. On the

conclusion of the luncheon the usual loyal toasts were honoured, and the PRESIDENT then proposed "The Queen's University of Belfast," to which the Vice-Chancellor of the University, Dr. HAMILTON, responded. Dr. LESLIE, President of the Ulster Medical Society, proposed the health of the host, Dr. Campbell, and that of Mrs. Campbell, which was received with enthusiasm, and was suitably acknowledged by the PRESIDENT. After the health of the Secretary had been drunk the members dispersed, and this very pleasant and enjoyable function came to a close.

Association Notices.

ELECTION OF MEMBERS OF COUNCIL BY GROUPED REPRESENTATIVES.

NOTICE is hereby given that Nominations for candidates for election of Members of Council by grouped Representatives for the year 1913–14 will be received by the Medical Secretary up to the end of the first hour of the proceedings of the Annual Representative Meeting, on Monday, July 21st, 1913. Each Nomination must be on the prescribed form, copies of which will be forwarded by the Medical Secretary on application.

Separate forms have been prepared: (I) for Nomination by a Division (through its Representative), and (II) for Nomination by a Representative of a Constituency included in the Group, and those applying are requested to state for which purpose the form is desired.

The voting papers will be issued at the Representative Meeting to each Representative or Deputy Representative of a Constituency in the United Kingdom in attendance at the Meeting.

By order of the Council,

ALFRED COX,
Medical Secretary.

June 19th, 1913.

BRANCH AND DIVISION MEETINGS TO BE HELD.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—Dr. Ernest C. Hadley and Mr. Bernard J. Ward (Burbury Street, Lozells, Birmingham), Honorary Secretaries, give notice that there will be an ordinary meeting of the Central Division on Wednesday, July 16th, at 3.45 p.m., at the Medical Institute, Edmund Street, for the purpose of instructing Representatives upon matters referred to Divisions (vide SUPPLEMENT, BRITISH MEDICAL JOURNAL, June 21st and July 5th).

CAMBRIDGE AND HUNTINGDON BRANCH.—Dr. G. S. Haynes, Honorary Secretary, gives notice that the sixty-ninth annual meeting of the Branch will be held in Cambridge on Wednesday, July 16th. President-elect, Joseph Griffiths, M.A., M.D., M.C., F.R.C.S.

LEINSTER BRANCH.—Professor White, Honorary Secretary and Treasurer (Royal College of Surgeons), gives notice that the annual general meeting of the Leinster Branch will be held in the Royal College of Physicians, Kildare Street, Dublin, on Monday, July 14th.

NORTH WALES BRANCH.—Dr. H. Jones Roberts, Honorary Secretary (Llywenarth, Penygroes, S.O.), gives notice that the sixty-fourth annual meeting of the Branch will be held at the Imperial Hotel, Llandudno, on Tuesday, July 15th, at 3 p.m. Agenda: To introduce the President-elect. To receive the report of the Branch Council. To elect officers. To report election of members on the Branch Council. To select places for the meetings in 1914. To consider the proposed testimonial to Dr. Emyr O. Price. The President will deliver his address. Dr. H. Drinkwater will show (*a*) a case of obligatory bimanual synergia with allocheiria, (*b*) models of brachydactylous hands. The following papers will be read: Dr. John Hay: Some points in prognosis in heast disease. Mr. G. P. Newbolt: Large scrotal hernias. Dr. R. J. M. Buchanan: (*a*) Venous thrombosis and visceral malignant disease, (*b*) tuberculous peritonitis. Mr. Arthur Evans: Acute pancreatitis. Dr. J. Lloyd Roberts (Liverpool): Movable kidney in the male. Dr. George F. R. Smith: An intestinal affection in children. Dr. F. P. Wilson: The value of the luetin test in syphilis. Mr. F. A. G. Jeans: Subphrenic abscess.

British Medical Association.

EIGHTY-FIRST ANNUAL MEETING, BRIGHTON, JULY, 1913.

THE SECTIONS.

THE scientific business of the meeting will be conducted in sixteen Sections, which will meet at 10 a.m. on Wednesday, July 23rd, Thursday, July 24th, and Friday, July 25th. The work to be done by each of them is represented, so far as information has been received, by the following programme:

It should be noted that the President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

The following additional information has been received in regard to the work of the Sections:

SECTION OF SOCIOLOGY.

Discussion on Hospitals. — The following are the headings of Professor GROBER's paper: (1) The great growth of the demands for beds in Germany. Facts about numbers. The proportion of beds to-day. (2) Owners of hospitals, State, communities, corporations, private individuals, insurance societies. The relation of the first four to the last in detail. The object of the institutions, cure, nursing, diagnosis, observation, education in hygiene, prevention of injurious conditions. (3) Cost of building. Upkeep and fitting out, causes of increase in the same. Financial position of institutions and the sources of income of the same. Private charity. Proposals to diminish cost. (4) State legislation. Its progress corresponding with the progress of hygiene, medical science, and especially with the development of the hospital system. The influence of medical men on the hospital and its legislation. (5) Nursing question. The sources from which nurses are drawn. The training and payment of male and female nurses. The hospital domestic staff. (6) The right of reception into hospital, considered as a question of bargain between the sick and the insurance society. The pampering of the sick, in the building, fitting out, and administration of hospitals by these means. The out-patient results of hospitals. Control by publicity. (7) The hospital as the centre of all medical and hygienic measures and the influences of environment.

SECTION OF NAVY, ARMY, AND AMBULANCE.

Additional paper:

BEVERIDGE, Lieutenant-Colonel W. W. O., R.A.M.C.: The Factors Essential to the Construction of a Military Ration.

THE PATHOLOGICAL MUSEUM.

The Pathological Museum Committee, whose constitution was set forth in our issue for May 17th, proposes to arrange the material it receives under the following heads:

(i) Exhibits bearing on discussions and papers in the various Sections.
(ii) Specimens and illustrations relating to any recent research work.
(iii) Instruments relating to clinical diagnosis and pathological investigation.
(iv) Individual specimens of special interest, or a series illustrating some special subject.

The Committee wishes it to be understood that the above are only suggestions, and that specimens illustrating any subject of special interest will be welcomed.

The Committee desires to enlist the hearty co-operation of members, and the Honorary Secretary will be glad

to hear from those who are able to make an exhibit. Every care will be taken of specimens, and the contents of the Museum will be insured.

It is hoped that it will be possible for arrangements to be made whereby exhibitors may have an opportunity of demonstrating their specimens.

The Museum will occupy a central position in the same building as that in which the sectional work is carried on, and will be easy of access.

The Chairman of the Committee is Dr. E. Hobhouse (Hove), but all communications concerning it should be addressed to Dr. W. Broadbent or Dr. H. M. Galt, Honorary Secretaries, Pathological Museum Committee, 14, North Street, Brighton.

RAILWAY FACILITIES.

The railway vouchers issued by the Financial Secretary on application to him at 429, Strand, should be used for the first journey to and the last journey from Brighton.

The London, Brighton, and South Coast Railway will issue, on presentation of member's card, return tickets from Brighton to all places within a radius of 50 miles, including London, at a single fare and a third for the double journey (minimum reduced fare 1s.). The member's card is issued at the Reception Room, Brighton.

The London and North-Western Railway will have an inquiry office in the Entrance Hall at the Pavilion to give information to members. There is a daily through train each way between Liverpool, Manchester, Birmingham, etc., and Brighton.

ENTERTAINMENTS.

In addition to the provision of various entertainments during the afternoons and evenings of the week of the meeting, the following special arrangements have been made:

Golfing.

Members attending the Annual Meeting will find that excellent arrangements have been made for golf. Practically all the greens within easy reach of Brighton have been thrown open to members by the clubs owning them. The furthest afield are the links of the Pyecombe Club (5 miles), the Worthing Club (10 miles), and the Seaford Club (16 miles); the nearest to head quarters are the East Brighton, Brighton and Hove, West Hove, and Southdown Clubs. The general arrangements are in the hands of Dr. P. Stanhope Eves (14, North Street, Brighton), the honorary secretary of the Golfing Subcommittee, who is now ready to receive the names of entrants for the principal golfing event—namely, the competition for the Ulster Cup.

This competition, which is open to all members of the Association, is to be held on Thursday, July 24th, on the grounds of the East Brighton Golf Club. Play will be over 18 holes against bogey, each competitor being given the advantage of the lowest handicap ordinarily allotted to him by any golf club to which he belongs, provided that handicap is not more than 18. The particulars which should be sent to the honorary secretary are the name and address of the competitor (as also, if possible, the name and address of his partner), the name and address of the golf club at which the player has his lowest handicap, and a statement of what that handicap is. Each entrant should also state at what hour he prefers to start play, the recognized hours being from 9 a.m. to 4 p.m. The cup was presented to the Association by the Ulster Medical Society in 1909, and the first competition for it took place during the Annual Meeting at Belfast in that year.

The arrangements for ladies are in charge of Mrs. Sanderson, 57, Brunswick Square, Hove. If members of recognized golf clubs, they will be made honorary members of the Brighton and Hove Ladies' Golf Club, which has its links at the Dyke, from July 21st to July 26th inclusive. On Friday, July 25th, there will be a medal competition for a prize kindly offered by the Mayoress of Hove. Ladies wishing to take part in this competition should send their names and handicaps (L.G.U. or club) to Mrs. Sanderson by July 23rd.

Cricket.

A cricket match has been arranged for July 26th—The Profession *v.* Brighton College. Play will commence at 11.30 on the College Ground. Any members wishing to play are requested to send their names as soon as possible to Mr. Geoffrey Bate, 8, Palmeira Avenue Mansions, Hove. In the afternoon the Head Master (the Rev. W. R. Dawson) and Mrs. Dawson will be glad to entertain members and their friends to tea, and the college will be open for inspection.

Masonic Meeting.

The Worshipful Master, Wardens, and Brethren of the Hova Ecclesia Lodge, No. 1466, extend a cordial invitation to all medical Masons to attend a special lodge which has been summoned for the purpose of giving a Masonic greeting to all Masons attending the Annual Meeting. A reception and tea (at 4.30 p.m.) at the Old Ship Hotel will follow the Church Service on Wednesday, July 23rd. The lodge will be opened at 5.15 and closed at 5.45 p.m. Morning dress. Brethren who cannot be vouched for are either requested to bring their Grand Lodge certificates or to be prepared to give proofs. All brethren who wish to be present are asked to communicate with Bro. C. H. Benham, 14, North Street, Brighton, as early as possible, and in any case not later than Monday, July 21st.

Representative Meeting: Afternoon Excursions on Sunday.

On the Sunday during the Representative Meeting, that is to say, on Sunday, July 20th, the Excursions Committee of the annual meeting proposes to arrange excursions to Shanklin, Isle of Wight, and to Crowborough, where Sir Arthur Conan Doyle has kindly invited a party to tea.

Honorary Local Treasurer—
H. H. TAYLOR, F.R.C.S.,
36, Brunswick Square, Hove.

Honorary Local Secretary—
LEONARD ARTHUR PARRY, M.D., F.R.C.S.,
5, The Drive, Hove.

PROVISIONAL PROGRAMME.

The following is the provisional time table for the Brighton meeting:

FRIDAY, JULY 18TH.
10 A.M.—Annual Representative Meeting.
7.45 for 8 P.M.—Representative Dinner at the Hotel Metropole, Brighton.

SATURDAY, JULY 19TH.
9.30 A.M.—Representative Meeting.

MONDAY, JULY 21ST.
9 A.M.—Council Meeting.
10 A.M.—Representative Meeting.

TUESDAY, JULY 22ND.
9.30 A.M.—Representative Meeting.
2 P.M.—Annual General Meeting.
8.30 P.M.—*Adjourned General Meeting, President's Address.

WEDNESDAY, JULY 23RD.
9 A.M.—Roman Catholic Service at St. John Baptist Church.
9 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Medicine.
3.30 P.M.—*Service at St. Peter's Church.
4 P.M.—Secretaries' Conference.
7 P.M.—Secretaries' Dinner.
8.30 P.M.—*Soirée by the Mayor of Brighton.

THURSDAY, JULY 24TH.
8 A.M.—National Temperance League Breakfast.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Surgery.
2.30 P.M.—Conference of Representatives of Local Medical Committees, to be continued on following days if necessary.
7.30 P.M.—Annual Dinner.

FRIDAY, JULY 25TH.
9 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
8 P.M.—Popular Lecture.
8.30 P.M.—*Reception by the Brighton Division.

SATURDAY, JULY 26TH.
Excursions.

The Local Executive Committee request that Academic Dress may be worn on the occasions indicated by an asterisk (*), but they desire it to be understood that in Brighton it is not customary to wear town dress—tall silk hat, etc.

Conference

OF THE

SCOTTISH COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION

WITH

REPRESENTATIVES OF LOCAL MEDICAL COMMITTEES IN SCOTLAND.

This conference, recently sanctioned by the Council of the Association, was held in University College, Dundee, on July 4th.

Dr. C. S. Young, Dundee, was unanimously elected Chairman, and Dr. G. R. Livingston, Dumfries, acted as Secretary. There was a good attendance, the whole of Scotland from Newton Stewart to Inverness being represented, and the presence of Dr. Rayner, the Treasurer, and Dr. Cox, Medical Secretary, showed the interest of the Central Executive in the new departure. Voting was confined to the Representatives of Local Medical Committees.

Anaesthetics.

This subject was raised on the motion from Dundee:

> That inasmuch as it is detrimental to the interests of the patient that any practitioner should be responsible for both the administration of a general anaesthetic and for the performance of an operation, it be a recommendation to Local Medical Committees to exclude operations requiring general anaesthesia from the scope of the panel doctor's duties.

Dr. G. F. Whyte claimed that the matter could be solved by the action of the Local Committees, as it was contrary to the best interest of the patient that operations requiring general anaesthetics should be within the scope of the panel doctor's work. In Dundee they had agreed upon a schedule of the ordinary surgical work. After discussion carried on by Dr. Clarke (Dunoon), Dr. Williamson (Aberdeen), who preferred the uniformity got by regulations to local action, Dr. Easterbrook (Midlothian), Dr. Drever (Glasgow), and others, the motion was adopted with a rider in favour of action to secure new regulations.

Payment for Special Services.

Dr. Williamson (Aberdeen) raised this question in respect of abortions and miscarriages. Dr. Buist said that while he knew the arguments that made these proposals for extra services attractive to the profession, he knew none that would make them acceptable to the public. In the matter of abortions extra charges payable by the patient would involve the danger of getting the case late and when conditions had already been set up that would involve long attendance. If it could be shown that the remuneration for the doctor's work was insufficient, it would be better to show it and make a demand for increase. If the profession were to go on with a campaign for special charges such as this, it would have to force a door that had been shut, barred, and bolted by public opinion. Dr. Cruickshank (Nairn), Dr. Murray (Inverness), Dr. Dickson (Lochgelly) agreed with Dr. Buist; Dr. Howie (Aberdeen), Dr. Orr (Tayport) were of the opposite opinion. Dr. McKie (Newton Stewart) thought the question numerically unimportant, especially as the complicated cases would be covered by the need of an operation under a general anaesthetic. Dr. Whyte (Dundee) said that in six months, with a panel list of over 2,000, he had not had to deal with a single case. The motion for special charges was lost by 14 to 12.

Temporary Residents.

Dr. Muir (Selkirk), with a very short speech, initiated a long discussion on the provision for temporary residents. In the course of the debate it appeared that difficulty only existed as regards holiday makers whom the lawyers had swept within the terms, if not the intention, of the Act and regulations. Dr. Cox gave information as to the communications of the Association with the Joint Committee, and realizing the difficulties of the situation the conference resolved:

> That there be no deduction from the present capitation fee, except as provided in Regulation 22.

Venereal Diseases.

Dr. McKie (Wigtonshire), with a motion—

> That medical benefit should be given and sickness and disablement benefit paid in all cases of venereal disease and their sequelae—

led the way into new ground. He argued from the experience of the army that it was in the general interest to remove all barriers to the early treatment of venereal disease, and that its early treatment tended to prevent the long attendance and invalidity of locomotor ataxy and other late sequelae. Dr. Anderson (Methil), Dr. Dickson (Lochgelly), and others supported Dr. McKie, and his motion was adopted, after an amendment by Dr. Martine, "That special payment be made for venereal diseases," had been rejected by 19 votes to 8.

Definitions Required.

A motion from Aberdeen:

> That a definite understanding be come to as to what comes under the province of "average practitioner." Also provision to be made for special services—for example, "pathological, etc.," "experts," and the question of special drugs—for example, "antimeningitic serum," etc.

was referred to the Scottish Committee, with a request for a report to the Local Medical Committees.

Certificates.

The following motion by Aberdeenshire was introduced by Dr. Rorie:

> That the demand of certain approved societies for the insertion in sick certificates of a specific statement of the nature of the insured person's disease be met with an absolute refusal, because (*a*) it destroys the professional secrecy which should exist between doctor and patient; (*b*) such action constitutes a legal action under Scots Law to the practitioner issuing such a certificate; (*c*) such a demand is contrary to the promises of the Commissioners whereby many practitioners were led to go on the panel; and that the Scottish Committee be requested to notify this refusal as final to the Scottish Commissioners.

Experience, he said, showed that the demand for the name of the disease mostly came from capitalistic societies. The doctors working the Act had been induced to do so on the assurance that there would be no intrusion into the confidence existing between doctor and patient, and the demand for the insertion of the name of the illness in certificates involved a *reductio ad absurdum*. Many of the illnesses, especially in the case of women, involved matters that should not be the subject of discourse among society officials, and, after all, the request was merely that a few fig-leaves should be left on the top of each basket of rare and refreshing fruit. Dr. Grant Andrew read a letter from Sir Robert Morant which had appeared in the papers, to the effect that the matter was one of contract between the patient who needed the certificate and the doctor. The discussion was quite general, and numerous instances were given of the undesirability and also of the futility of the demand from the societies. The motion was unanimously adopted, with a rider proposed by Dr. Trotter, that the name of the disease should be inserted only at the express request of the patient. As further points uniformity of certificates was demanded, and a recommendation was adopted:

> That Local Medical Committees be asked to inform their constituents that all certificates for purposes outwith the Act should be charged for, and to fix a local scale.

Mileage.

On the question of mileage the debate was mainly in the hands of the representatives of rural areas, who agreed that the grant of £16,000 is insufficient, and that the problem could only be fairly settled on the basis of a one-mile limit.

Income Limit: Unqualified Practitioners: Seamen.

From a motion for a general £2 income limit the meeting passed to the next business, and agreed that contracting out to get the services of unqualified practitioners should not be allowed. The right of the members of the Seamen's National Insurance Society to free choice of doctor was then affirmed in opposition to the practice of having one appointed doctor in each port.

Midwives (Scotland) Bill.

Dr. Whyte (Dundee) submitted a recommendation in favour of the early passage of the Midwives (Scotland) Bill,

which he said was necessary to protect patient, midwife, and doctor from the handy neighbour. He was supported by Dr. DICKSON, and the proposal was agreed to unanimously, though Dr. STEVEN (Edinburgh) desired the approval to be general and not in detail.

Secretary and Adviser for Scotland.

Dr. COLMAN, emphasizing the need of the profession for legal advice with regard to the draft agreements offered to them, initiated a discussion in which Dr. EASTERBROOK was specially urgent on the need of a good paid organizer for Scotland. The discussion issued in a recommendation that a paid legal secretary and adviser should be appointed by the Scottish Committee for the purpose of organizing the whole profession in Scotland.

Expenses of Medical Committees.

A motion for the payment of the expenses of the Medical Committees as administrative expenses under the Act was withdrawn.

Medical Members of Insurance Committees.

Dr. WHYTE (Dundee) moved:

> That efforts be made to have Regulation 7 (Scotland) altered so as to have the election of medical practitioners on Insurance Committees under Section 59 (2) (c) made by the Local Medical Committees.

He contended that the present procedure for the appointment of the representative of the profession on Insurance Committees was absurd. The procedure had to be repeated in the event of a vacancy, and experience of medical meetings showed that with the quorum fixed there was the likelihood of the profession being temporarily disfranchised. The Local Medical Committees offered a ready and fair method of electing representatives. The meeting agreed.

Card Index: Appliances: Agreements.

A series of administrative details was dealt with relating to the card index slips, the list of appliances, and other matters, and a resolution was adopted asking Insurance Committees to send any proposed new agreement to the Medical Committees at least six weeks before the date by which the agreement must be signed.

Malingering: Medical Referees.

Dr. WHYTE (Dundee) proposed:

> That a service of medical referees should be established. That the appointments should be made by the Insurance Commissioners, and should not be for a limited period, and that remuneration should be by salary.

He accepted the suggestion of Aberdeen that the appointment should be made after consultation with the Local Medical Committees. Dr. STEVEN (Edinburgh) thought that this was not the best way to deal with malingering, and would be likely to lead to inspection. He also thought that the existence of malingering had not been proved, and that the high sickness-rate was the natural result of admission without medical examination. The motion was carried, and then, on the motion of Dr. DREVER (Glasgow), the following resolution was ordered to be sent to the press:

> That this conference protests emphatically against the charges of encouraging malingering which have been brought against practitioners by officials of approved societies and others in recent utterances published in the press, and demands that such charges should at once be substantiated or withdrawn.

General Policy.

The following resolution, passed on behalf of Glasgow, was freely debated:

> That this conference of representatives of Local Medical Committees strongly urge the British Medical Association to depart from its attitude of opposition to the Insurance Act, and to reconsider the decision of the Representative Body that the Act and the Regulations are unworkable and derogatory.

The debate elicited considerable divergence of opinion, and was terminated by proceeding to the next business. Various questions of organization were discussed, and then the TREASURER of the Association made an appeal to those who had not contributed to the expense of the work which it had been doing, and from which they had so greatly benefited.

The thanks of the conference were given to the Council for inaugurating the conference, to the authorities of University College, to the Students' Union, and the Dundee Branch for their hospitality, and to the Chairman for his admirable conduct of the business.

Dinner.

In the evening some of the representatives dined with the Dundee Branch in the Royal British Hotel, Dr. KINNEAR, President, in the chair, and an enjoyable evening crowned the labours of the day.

NATIONAL INSURANCE ACT.

FIRST REPORT OF THE COMMISSIONERS (1912–13).

THE first report on the administration of Part I of the National Insurance Act,[1] dealing in full with the period ending March 31st, 1913, the close of the financial year, but bringing the statistics up to the latest possible date, has been presented to Parliament.

The Chairman of the Joint Committee of Insurance Commissioners, in a prefatory memorandum, states that it has been thought desirable to give a full description of the difficulties encountered and the means adopted to meet them. It is recognized that this may detract from the interest of the report as much as it increases its bulk, but the details have been included owing to the number of inquiries received with regard to every branch of the administration from correspondents both in the United Kingdom and in other countries who are interested in health insurance. The report, Mr. Masterman says, includes an account of the formation of an insurance fund of nearly £20,000,000, the bringing into insurance of nearly 14,000,000 persons, the constitution and work of 236 insurance committees, and the making of regulations and special orders under the Act to meet the case of insured persons working under a variety of particular conditions. It also contains an account of the work of the approved societies in respect of the payment of sickness and maternity benefit and in the performance of other duties under the Act. Mr. Masterman concludes by an expression of indebtedness to those who have shared in the task of initiating the system of national health insurance, including employers and employed, officials of approved societies, members and officials of insurance committees, and the medical profession.

The report consists of six parts: the first contains a brief outline of the provisions of the Act, the second deals with the work of the Joint Committee (31 pages), the third is concerned with England (233 pages), the fourth with Scotland (147 pages), the fifth with Ireland (55 pages), the sixth with Wales (63 pages), and to each section there is an appendix.

ENGLAND.

The volume is not indexed, but it has a very excellent table of contents, with subject headings, which renders it comparatively easy to discover what is wanted. In the concluding paragraph of the part of the report dealing with England, Sir Robert Morant, Chairman of the English Commission, speaks of the difficulty under which the report has been compiled owing to the abnormally heavy pressure of work inseparable from the first six months' working of benefits under the Act. The Commissioners have refrained from offering any expression of opinion because they think that the experience has been too brief; they have, therefore, aimed at giving no more than a statement of administrative facts. The hope is expressed that in future years the diminishing pressure and improved organization of the work and of the staff, and the development of opportunities for skilled observation and investigation, will render it possible to construct future annual reports on more scientific, and perhaps on more convenient, lines. It is intended that such future reports shall contain detailed information of the actual working of the measure, with carefully compiled and collated statistics to illustrate its main effects. This has not been found

[1] Report for 1912-13 on the Administration of the National Insurance Act, Part I (Health Insurance) (Cd. 6907). Price 2s. 9d.

possible in this first report, but the Commission, we are told, fully realizes that the matter is one of the highest importance for the proper appreciation of the result of the scheme, whether from the sociological, the medical, the economic, or other points of view.

The section on sanatorium benefit in the English report occupies 15 pages, and on medical benefit 35 pages. The latter section is largely concerned with a history of the negotiations and conflicts with the British Medical Association, and will remain as evidence of the great amount of work done by the Association and the importance of what it achieved for the benefit of the profession which it represents. The record is, perhaps, all the more valuable because it is written in a very restrained tone, and certainly without any prejudice in favour of the Association and its activities.

The paragraphs dealing with the subject of allowing insured persons to make their own arrangements make it plain that the Commissioners desire it to be understood that one of their chief anxieties is that Insurance Committees should take care that the persons making application fully understand the liabilities they propose to undertake, and in particular that they will be liable to recoup any margin in the doctor's bill in excess of the Committee's contribution.

In the paragraphs dealing with the approval of systems or institutions under Section 15 (4) (Harmsworth amendment), the Commissioners state that in the interpretation of the term "system or institution" they were guided in deciding whether any particular arrangement fell within the subsection by the following criteria:

(*a*) The "system or institution" must be of the provident type, and its members must be entitled to medical treatment through it.

(*b*) It must be an organization under or in connexion with which medical treatment is supplied to persons connected with it by doctors standing in some specific relation to it. It must be more than merely a method of contributing towards doctors' bills.

(*c*) It must be a separate organization or entirety of which the provision of medical treatment is certainly the primary, if not the sole, object.

The conditions of approval which must be satisfied by systems and institutions are governed by the provisions of the Act and by the medical benefit regulations, and in particular by paragraph 15, and by the conditions attaching to any parliamentary grant. The main conditions are set out as follows:

(*a*) The medical attendance and treatment (including medicines and appliances) provided must be adequate.

(*b*) Compliance with the conditions attached to any scheme of distribution of any parliamentary grant must be secured, and the system or institution must accordingly undertake, among other points—

(i) To provide domiciliary treatment for tuberculosis for any of its insured members who are recommended for this form of sanatorium benefit, and

(ii) To furnish free of charge such certificates as may be required by an insured member for the purpose of claiming sickness or disablement benefit.

(*c*) Such accounts and returns as may from time to time be required by the Commission, or by the Insurance Committee with the consent of the Commission, must be furnished.

(*d*) Freedom must be secured to insured members to withdraw from membership at the end of the medical year upon giving reasonable notice, without incurring any pecuniary loss or other penalty.

(*e*) No alteration in the rules is to be made unless notice has previously been given to the Commission and to the Insurance Committee, and, in the case of any rule affecting insured members, without the previous consent of the Commission and the Committee.

It is stated that the Commission's approval of a system or institution has so far in all cases been provisional, formal approval being reserved until the rules of the institution have been amended so as to secure compliance with the regulations as to medical benefit and the conditions of any parliamentary grant.

With regard to the financial provisions which are governed by paragraph 48 of the Regulations as to medical benefit, the report states:

All moneys available for medical benefit of insured persons receiving their treatment through approved systems and institutions in the area of any Insurance Committee are carried to the credit of a fund called the Institutions Fund. The payments to systems and institutions out of this fund are in the nature of contributions towards expenses incurred by each system or institution in furnishing medical attendance and treatment to its insured members. The amount to be contributed will be "an amount not exceeding the aggregate amount standing to the credit of the Institutions Fund available for the medical benefit" of those persons. The Committee must decide the sum payable within the maximum, by ascertaining the actual expenditure incurred by the system or institution in connexion with the medical treatment of its insured members from such sufficient evidence as is presented for the purpose.

With regard to the Special Mileage Fund of £50,000 a year for increasing the remuneration of doctors for the treatment of insured persons in areas in which the population is exceptionally sparse or access difficult, the Commissioners state that they have prepared a scheme for the allocation of the proportion of the grant credited to England after considering the representations made by various Insurance Committees.

It is stated that on January 15th the names of 17,796 doctors were on the panel, and that at the expiration of the first period of three months the agreements were extended by practically all the doctors who had previously accepted service. On April 14th the number on the panels was 18,584, and this is stated to be between 80 and 90 per cent. of the total number of doctors engaged in industrial practice, but the relevancy of this statement is not very clear, unless by "industrial practice" it is meant to include rural practice; whether care has been taken in this calculation to eliminate duplicates is not stated.

WALES.

The Welsh Commissioners state that the total number of insured persons in Wales during the first quarter was 689,429 (582,509 men and 106,920 women). The number of names of medical practitioners on the lists in the various counties and county boroughs issued during January was 1,217, but the total number of individual practitioners was 984. According to *Churchill's Directory*, the total number of practitioners in Wales is 1,405.

In the industrial areas many systems and institutions which had provided medical attendance and treatment before 1913 sought approval under Section 15 (4) of the Act. The Insurance Committees approved forty of these systems, and they have received provisional approval from the Commission; they include about 50,000 insured and 140,000 non-insured persons. The number of individual applications from insured persons to make their own arrangements has been small, but in the counties of Glamorgan and Monmouth applications were received from insured persons to make collective arrangements for obtaining medical attendance and treatment. The Insurance Committee for Glamorgan granted approval to seven applications providing for about 6,000 insured persons and their dependants, and the Insurance Committee for Monmouthshire approved of one such application for about 4,000 insured persons and their dependants. In the counties of Anglesey, Denbigh, and Flint, the Insurance Committees have required voluntary contributors whose income exceeds £104 per year to make their own arrangements for medical benefit.

The Commission has found the provision of medical benefit to insured persons in areas sparsely populated, or where there is special difficulty of access, a difficult problem. The amount available for Wales out of the special mileage grant of £50,000 for Great Britain will be £8,000, and practitioners on panels in county areas have been requested to furnish particulars of insured persons accepted for treatment in respect of whom a claim for a share of this grant could be entertained.

The problem of tuberculosis has been materially simplified for the Commissioners by the existence of the Welsh National Memorial Association, and the Commissioners have suggested to the Insurance Committees to continue their agreements with the National Memorial Association for the current year and subsequent years, subject to determination by three months' notice on either side. There is, the Commissioners state, no part of the United Kingdom where special provision for the treatment of tuberculosis is more necessary than in Wales. The death-rate from tuberculosis in the Principality is excessive, but varies very notably in different counties; it was, for instance, 84 per 100,000 in Monmouth, and 219 per 100,000 in Cardigan, the average rate for the whole of Wales being 118. An investigation into the incidence and etiology of tuberculosis by a medical expert has been instituted, and already valuable observations have been

made in the tuberculosis institutes. It is stated that patients with pulmonary discharges sent to a sanatorium as suffering from pulmonary tuberculosis have after investigation turned out to be suffering from pulmonary actinomycosis, while in others the sputum has shown the presence of streptothrix and the absence of tubercle bacilli.

The Memorial Association estimates that 518 sanatorium beds will ultimately be required in Wales. It has now provided 204 sanatorium beds either in institutions controlled by itself or by way of temporary contracts with existing institutions. Its complete scheme includes a permanent sanatorium with 250 beds for South Wales, and another with 150 beds for North Wales. For the South Wales Sanatorium the Pontywal Hall Estate, between Brecon and Hay, has been acquired. Arrangements have also been made with various hospitals—in some cases of a temporary character—for the use at once of 196 beds, and for 176 others in hospitals shortly to be ready. Included in the latter category is the Glan Ely Tuberculosis Hospital for Cardiff, which will at first provide 50 beds and ultimately 120. Altogether it is expected that 571 hospital beds will be available when the various schemes contemplated are completed, and of these the association will own 372.

SCOTLAND.

In the part of the report dealing with Scotland it is stated that on January 15th, 1913, when medical benefit came into operation, though local difficulties remained to be adjusted, the panels constituted in the country generally were adequate. A list of the practitioners on the medical lists in Scotland at March, 1913, is set out; it appears that in only five counties are there more than 500 insured persons on the average to each practitioner; in the burghs the highest proportion is 1,638 in Dundee.

Interesting paragraphs in this report are devoted to the subject of mileage, and to the conditions of medical service in the Highlands and Islands. Mileage in this special connexion is defined as the distance which has to be annihilated in order to place doctors who are remote from insured persons on an equality with those who live closer by them, but it is pointed out that the question is not one of distance merely, but involves such further considerations as deficiency or absence of roads, crossing of moors, or mountains, and frequently passage by water. "It is," the report says, "closely related to economic conditions especially in the Highlands, of which it may be said that wherever the doctors' journeys are longest and most arduous the means to lighten the burdens of travel will be found to be least available." The case of the island of Soay at the mouth of Loch Scavaig in Skye is given as an instance. In order to attend persons in the island the nearest doctor goes by a hilly road to Glenbrittle. He then walks three miles by a rough track over the shoulder of Sgurr Dearg, one of the Cuchullin Hills, to An Leac, whence by prearrangement he is ferried in an open boat to Soay, a distance of 1½ miles. From the landing place he then walks about a mile to the township. The Soay Sound is frequently dangerous to an open boat, especially in winter. Another instance given is the following:

Fair Isle stands in the midst of the sea between Orkney and Shetland. It is twenty-nine miles SSW. of Sumburgh Head, in Shetland, from which it is separated by the troubled waters of Sumburgh Roost. The Atlantic breaks upon it on the west and the North Sea on the east. The coast is precipitous and exposed; there is no shelter; landing is usually difficult and often impossible. On the isle, which is three miles in length and two in breadth, there are nine insured persons. The nearest doctor resides at Levenwick, in the parish of Dunrossness, Shetland. Summoned recently to attend a patient at Fair Isle, the doctor of Levenwick, after a journey of forty miles, was unable to effect a landing, and had to return without setting foot on the island. His second visit was successful; he was able to reach the shore and to see and attend to his patient. He was now in readiness to make the return journey. The weather, however, was unpropitious, and no craft approached the isle to take him off. After a fortnight he got a passage by a trawler to Kirkwall, in Orkney, a distance of sixty miles. From Kirkwall he travelled by steamer to Lerwick, in Shetland, some hundred miles away, and from Lerwick, by a drive over twenty miles of road, reached Levenwick once more.

The report recalls the action of the British Medical Association in putting forward for consideration the subject of financial provision for mileage at the conference held on November 25th and 26th, 1912, with the Chancellor of the Exchequer. The Government then recognized that in some parts of the country sparsely populated and presenting special difficulties of access practitioners would be placed at a special disadvantage, and thereupon decided to ask Parliament to provide a special fund. As a consequence, a meeting was held on January 3rd, 1913, between the Chancellor of the Exchequer, the Commission, and the Chairman and Clerks of the Scottish County Insurance Committees, when a committee was formed to obtain information from the various Scottish Counties Insurance Committees. Doctors were asked to furnish approximate statements of the miles to be travelled by them, and it was settled that miles should be regarded as of two varieties: "normal miles"—that is to say, miles beyond three measured along a driving road; and "special miles"—that is to say, miles beyond three of any of which a quarter or more could not be so travelled, but only on foot, as on a hill or moor, or by ferry. These returns, it is stated, have proved of considerable service by indicating the numerical scope of the problem in Scotland.

The share of Scotland, apart from the Highlands and Islands, in the special mileage fund of £50,000 voted for sparsely populated rural areas in Great Britain is £16,000, and it is pointed out that the whole Lowland area outside the towns is sparsely peopled and contains districts where the conditions of transit are exceedingly trying. An inquiry is now on foot to ascertain the basis for distribution of the extra grant for mileage, with a view to its apportionment among individual doctors as speedily as possible.

With regard to the vote in subvention of the Insurance Medical Service in the Highlands and Islands of Scotland, which for 1912–13 amounts to £10,000 for mileage and other special charges, the Commissioners state that they are engaged through their inspectors in obtaining data for the preparation of a scheme for the distribution of the amount among the County Insurance Committees concerned. Cases of difficulty and danger in the medical service in the Highlands and Islands such as those already quoted, have come under the observation of the Commission, and it is hoped that the grant will suffice to treat the cases of exceptional hardship with the consideration they merit.

With regard to the systems or institutions referred to in Section 15 (4) of the Insurance Act, it would appear from certain paragraphs in the report that the Commissioners have not yet come to any very definite conclusions. The general principles by which they will be guided are the same as those adopted in England.

The number of insured persons in Scotland is stated to be 1,480,577; of these 6,444, or 0.44 per cent., have been allowed to make arrangements independent of the panel, but the majority are nurses, attendants, or other persons employed in hospitals or similar institutions. The number of persons who have been allowed to make their own arrangements individually is only 1,931, or 0.13 per cent. of the total of insured persons.

With regard to sanatorium benefit, it is stated that this was received between July 15th, 1912, and March 31st, 1913, by 1,557 insured persons. On March 31st, 80 per cent. of the cases in counties and 55 per cent. of those in burghs were receiving treatment in sanatoriums. The institution of comprehensive schemes for dealing with tuberculosis in the several areas is shown to be still under consideration by the local authorities concerned, and only seven have submitted provisional schemes to the Board for its approval.

IRELAND.

The conditions under which an attempt has been made to bring the Insurance Act into force in Ireland differ from those in the rest of the United Kingdom in several respects. In the first place, the Commissioners point out that the ordinary system of insurance through benefit societies had hitherto been unknown, practically speaking, outside the six county boroughs. Industrial insurance was in existence only to a very limited extent, and in the case of many classes of workers was unknown. With the exception of some thirty small branches of English and Scottish affiliated societies existent in Ireland at the passing of the Act, friendly society work was almost entirely in the hands of two Irish societies—the Irish

National Foresters and the Ancient Order of Hibernians. Owing to the fact that medical benefit was not provided under the Act in Ireland, certain charges fell upon approved societies and Insurance Committees which in Great Britain are paid for out of the funds available for medical benefit. To meet this difficulty a grant-in-aid of £50,000 was voted by Parliament towards the cost of medical certificates, the treatment of tuberculosis, and expenses of administration.

The Commissioners refer to the difficulty with regard to medical certificates and the steps taken with a view to overcoming it. The Commissioners state that panels of doctors willing to give medical certificates to insured persons had been formed in the following areas:—*County boroughs:* Belfast, Cork, and Londonderry. *Counties:* Antrim, Armagh, Clare, Cork, Donegal, Down, Fermanagh, Londonderry, Longford, Mayo, Monaghan, and Sligo.

The Commissioners state that, at a meeting of the Advisory Committee on April 15th, when thirty-two members attended, the following resolutions were adopted after a lengthy discussion, five medical members dissenting:

1. That in certain insurance areas where the panels have failed to fill, the Commissioners, after consultation with the approved societies and Insurance Committees of those areas, appoint medical practitioners for purposes of certification.
2. That in the case of societies which already have medical officers, certificates from these officers will be accepted and paid for per capita in accordance with the number of insured members of these societies in those areas covered by the first part of the resolution.

The report shows that the arrangements at present made for dealing with tuberculosis are very incomplete, but the Commissioners state that Insurance Committees have been assiduous in urging upon local authorities the advisability of formulating schemes for the treatment of tuberculosis amongst all classes of the population. It is stated that the councils of nearly all counties and county boroughs in Ireland have schemes in preparation. Owing mainly to the action of the Women's National Health Association, it was possible to treat 645 insured persons and their dependants in residential institutions up to March 13th.

The total number of insured persons in Ireland does not seem to be given anywhere in the report, but it exceeds 684,000. The Commissioners state that their labours have been relieved by some gleams of humour. In one case an employer dismissed all his domestic servants, and told them that they could remain in his house as his guests, and that he would make them presents from time to time. On the case being brought before the magistrates, it was decided that the householder was responsible for the insurance of his "paid guests," and the decision was confirmed at quarter sessions. Another incident which the Commissioners regard as humorous is that in Cork the custom arose of pawning partially or fully stamped contribution cards; the fact, they say, that the cards are the property of the Commission and that the regulations provide that any assignment of cards is void did not deter certain enterprising pawnbrokers from advancing as much as eighteen pence on a fully stamped card.

LOCAL MEDICAL COMMITTEES.

LIVERPOOL.

A MEETING of the profession resident in the Liverpool Insurance area was called by the Liverpool Local Medical Committee on June 27th at the Liverpool Medical Institution. Mr. LARKIN, the Chairman of the Committee, presided, and fifty-six members were present.

Expenses of Committee.—The Committee reported that the response to the request for a subscription from each member of the profession to the expenses of the Committee had been poor. Out of 210 panel practitioners 99 subscribed, and only 79 non-panel practitioners had responded. If sufficient funds were not forthcoming to enable the Committee to carry on its work and meet the profession at frequent intervals, it would have to give up its attempt to act for and protect the interests of the profession.

Allocation of Insured Persons.—The Insurance Committee had been persistently urged to allocate those insured persons who had not yet chosen their doctor, and the Medical Committee had suggested certain principles on which the allocation should be made. The Insurance Committee, however, had so far found it impossible to get a correct list of these persons.

Distribution of Accrued Funds.—The Insurance Committee had also been asked to distribute the money which had accrued on behalf of the unallotted persons, but on account of the imperfection of the list the amount to be distributed could not yet be ascertained.

Formulary.—A formulary has been published by the Committee. It will be subject to periodical revision, and practitioners are requested to make any suggestions for additions or alterations to the Formulary Subcommittee, care of the Honorary Secretary, Dr. W. T. D. Allen (111, Mount Pleasant).

Special Drugs and Proprietary Preparations.—The prescribing of special drugs and proprietary preparations is thought by the Local Medical Committee to be inadvisable, except such as have been approved by the Committee.

Repetitions.—After a long controversy the Medical Committee has established the right to use the form "Repeat mixture."

Midwifery Service.—Certain schemes for instituting a midwifery service under the Insurance Act, in which doctors and midwives were to take certain proportions of an allotted fee, have been rejected.

Seamen.—The scheme of the Seamen's National Insurance Society had been opposed on the grounds that it deprived its members of the right of free choice of doctor.

Temporary Residents.—In a circular letter the Committee had urged all practitioners on the panel in the Liverpool insurance area to refuse to consent to any deduction from the capitation allowance on account of insured persons temporarily resident in other areas, and not to attend insured persons temporarily resident in the area (on presentation of their green vouchers) except as private patients.

Diseases Due to Misconduct.—The Committee having been informed that certain societies are asking for an expression of opinion as to whether an illness is due to misconduct, has warned practitioners that by making such statements they may incur very serious liability.

Certificates.—As regards certificates, it was pointed out that the only certificates a practitioner was required to give were the declaring on, the continuing (weekly or less frequently), and the declaring off. It was urged that a uniform certificate should be used for all insured persons, and that it was in the interest of the patients that the nature of the disease should be omitted on these certificates.

Medical Attendance on Uninsured Persons.—After the adoption of the report, Dr. LIMERICK drew attention to the fact that certain practitioners were accepting uninsured persons at contract rates considerably below the Insurance Act rate. It was stated that the Corporation Tramway Committee and the Watch Committee were paying lower rates for attendance on their employees than the Insurance Act rates. The CHAIRMAN pointed out that, inasmuch as these persons were outside the Act, they could not be dealt with by the Medical Committee, and he advised that the matter should be brought before the local Division of the British Medical Association.

KINGSTON-ON-HULL.

A LOCAL Medical Committee was formed at Kingston-on-Hull on December 27th, 1912, as follows:

Chairman.—Dr. C. H. Milburn.
Honorary Secretary.—Dr. John Divine, St. Mungo's, Holderness Road, Hull.

Dr. J. McNidder.
Dr. D. H. Davy.
Dr. G. W. Lilley.
Dr. E. Barker.
Dr. H. Robinson.
Dr. T. Cameron.
Dr. D. R. Moir.
Dr. E. E. Laslett.
Dr. O. L. Appleton.
Dr. Mary C. Murdoch.
Dr. G. T. Hartley.
Dr. H. G. Falkner.
Dr. R. Grieve.
Dr. A. H. Johnston.
Dr. E. Turton.

The Committee was recognized by the Commissioners on January 23rd, 1913.

From the beginning this Committee has kept the local profession in touch with its proceedings, and from time to time has issued circulars calling the attention of indi-

vidual medical men and others concerned to recommendations drawn up by it and formally approved at mass meetings of medical men within its area. In addition, it has recently issued a kind of interim report on its work up to the middle of the third week in June. The main statements in this document are to the following effect:

The Committee as a whole met thrice in December, thrice in January, once in February, twice in April, and thrice in June. It had a number of conferences with the Medical Subcommittee of the Local Insurance Committee, and a subcommittee did much other work in regard to contract practice in general, and on charges for drugs and appliances in conference with representatives of the pharmacists.

Allocation of Insured Persons.—Hope was expressed that it would be possible shortly to complete the assignment of insured persons who had not chosen their doctor, the assignment being in equal shares, except in cases in which individual practitioners signified a wish for no further or for only a limited number of additional patients. To facilitate the work the city has been provisionally divided into three areas, which are open to modification as circumstances may dictate, with the object of securing that within each of them there shall be practically an equal number of insured persons to each practitioner after allowing for any limitation of numbers requested by any individual medical man. This initial work done, the practitioners in each area will be requested to meet representatives of the Local Insurance Committee and proceed to an assignment. When this is complete, allocation of funds pertaining to insured persons who did not choose a doctor in the first quarter will become possible.

Certificates.—The Committee has been in communication with the Commissioners on the subject of certificates, and hopes that at an early date forms for universal use will be issued. The only certificates demandable under the Insurance Act contract are "signing on," "weekly continuing," and "signing off" for the approved society, if any, of insured persons. For certificates required for any other purpose a charge will be made. A final decision on the question of inserting a diagnosis on a certificate has yet to be reached, but meantime practitioners are advised to give no certificate containing a diagnosis, except to the insured person himself or to his accredited agent. It is also pointed out that it has been decided that a certificate for insurance purposes is equally valid whether signed by a panel doctor or a non-panel doctor.

Drugs and Appliances Supplied by Practitioners.—The Local Insurance Committee has been asked to agree to a flat rate of 1s. for the supply of medicines by practitioners in emergencies, but no reply has yet been received; meantime, practitioners are asked to keep back any claims they may have in this connexion. In response to ts suggestion, the Committee has been asked by the Local Insurance Committee to draw up for approval a scale of fees for the loan of splints, nursing, and surgical appliances.

Expenses of Committee.—It was agreed at a meeting of the local profession on March 14th that a subscription of 10s. 6d. towards the expenses of the Local Committee should be paid by each doctor on the panel at the beginning of each year, but about 50 per cent. of the subscriptions due had not been received at the date of the report.

Maternity Benefit.—Attention is drawn to the fact that under his contract of service a medical practitioner has nothing to do with the maternity benefit, and that practitioners should decline to receive a fee for attendance at a confinement either from a midwife or from any midwives' institution. The fee should be arranged between the patient and the practitioner.

Pharmacopoeia; Prescriptions.—A pharmacopoeia for local use and containing some eighty useful formulae has been drawn up, and is nearly ready for issue. Some time ago the Local Insurance Committee accepted the decision reached at a meeting of the whole profession in the area on March 14th in regard to a prescription book which dispensed with the necessity of writing prescriptions in triplicate. In view, however, of representations subsequently made on behalf of the pharmacists, the Committee hopes that for the time being practitioners will be good enough to issue duplicate prescriptions, and to give the date of the original prescription when the term "rep. mist." is used.

Records.—Stress is laid on the imperative necessity of keeping accurate records of all work done under the Insurance Act, in view more particularly of possible alterations of the conditions of service.

Seamen.—On April 5th the Committee drew attention by a circular to the fact that the Seamen's National Insurance Society was endeavouring to provide for its members by engaging the services of a limited number of practitioners, and that in consequence of the representations made to them by the Committee three practitioners had resigned the appointments accepted by them. Since then this society has given its members the right of free choice of a doctor.

Temporary Residents.—In regard to the treatment of temporary residents, the Committee passed the following resolutions:

1. That, with regard to insured persons temporarily absent from home, the members of the Local Medical Committee are not willing to consent to, and protest against, any deduction from the remuneration of the practitioners greater than the proportion of the capitation fees which covers the periods for which the practitioners cease to be responsible for the treatment of such insured persons.
2. That this Committee cannot advise practitioners to treat temporary residents, the bearers of green vouchers, except as private patients, until the Committee are satisfied as to the source from which payment therefor is to be made.

Attendance on Uninsured Members of Societies.—The circulars issued by the Committee included one drawing attention to the scale of fees approved by it as the minimum charges to be made for attendance on uninsured members of friendly societies, which was as follows:

	£	s.	d.
Visit, with or without medicine	0	2	6
Attendance at surgery, with or without medicine	0	2	0
Visit, between 8 p.m. and 9 a.m., extra ...	0	2	6
Attendance at surgery, between 8 p.m. and 9 a.m., extra	0	2	0
Sick certificate (where no medical fees are claimed)	0	1	0
Mileage: beyond three miles, extra per mile ...	0	1	0
Administration of anaesthetic	1	1	0

Meeting with consultant: double ordinary fee.

Treatment of fractures and dislocations, operations, and the making of reports are to be subject to private arrangement between practitioner and patient.

ALLOCATION OF PATIENTS: PROCEEDINGS OF INSURANCE COMMITTEE.

At the meeting of the Hull Insurance Committee on July 2nd the following resolution from the Medical Subcommittee led to a long discussion:

> That the Insurance Committee be recommended to pay the practitioners on the panel the sum of £900 on account of the moneys due to them in respect of persons who have not selected a doctor during the first quarter, and also a sum in respect of the second quarter based on the mean of the members on the practitioners' list at the beginning and end of the quarter.

Alderman ASKEW moved an amendment to defer the matter until the Committee had obtained a legal opinion on the subject.

Dr. DIVINE, Secretary of the Hull Local Medical Committee, said that the agreement was distinctly that all insured persons must be paid for, and that the money for those not on the lists of the medical practitioners must be shared among the practitioners who undertook the treatment of insured persons. The doctors were entitled to the money under the Act, and this had been repeatedly stated by Mr. Masterman in the House of Commons. Dr. Divine further argued that in opposing this resolution the Committee would indubitably stultify itself. This method of dealing with the funds had been suggested by the Insurance Committee through its Medical Subcommittee for acceptance by the profession on March 3rd, and had been confirmed by the full Insurance Committee on March 5th. The method had been formally accepted at a meeting of the whole profession on March 14th, notified to the Insurance Committee on March 15th, entered on the minutes of the Medical Subcommittee March 26th, and finally again confirmed by the full Committee on April 2nd.

One member of the Committee argued that doctors were clamouring for money they had not earned, in reply to which Dr. MCNIDDER observed that the system of payment by capitation had been deliberately chosen. The proposal

seemed to show a disposition to go back to the system of payment for services rendered.

The amendment was defeated, and the recommendation of the Medical Subcommittee adopted.

WEST RIDING OF YORKSHIRE.

THE tenth meeting of the Local Medical Committee of the West Riding of Yorkshire was held at Wakefield on June 13th. Dr. MAY was in the chair, and eighteen members were present.

Rules for the Administration of Medical Benefit.—Dr. RUSSELL reported that at the meeting of the Insurance Committee on June 5th the refusal of the Medical Benefit Subcommittee to supply these rules to insured persons was confirmed, and the action of the chairman and honorary secretary in addressing a letter to the Commissioners, asking how it was intended that these rules should be brought to the notice of insured persons and doctors, was approved.

District Insurance Committees.—A letter was read from the Clerk of the Insurance Committee stating that the request of the Local Medical Committee of May 9th, with regard to medical representation on all the District Insurance Committees, had not been allowed as promised under the West Riding scheme; it had been submitted to the Medical Benefit Subcommittee, who did not propose, for the present, to alter the scheme.

Range of Medical Services.—In reply to an inquiry from a panel doctor, the Committee decided that vaccination was not included in medical benefit. In answer to a question as to what constituted disablement from pregnancy in order to guide doctors in giving certificates to pregnant women to obtain insurance benefit, it was agreed that it was only when pathological (not physiological) conditions were present that women were entitled to such certificates, which should not be given in cases in which the pregnancy was running a normal course without complications.

Pharmacopœia Subcommittee.—The final report of the Pharmacopœia Subcommittee was received and its members, Drs. Eames, Fry, and Gabriel, were thanked for their services. The proposed West Riding Pharmacopœia, with the addition of some formulae found to be in general use in the West Riding, was approved and adopted. A list of foods, special drugs, and other items not to be prescribed at the expense of the drug fund, and a list of trade terms, or proprietary names of drugs with their chemical or therapeutical equivalents, were also agreed to.

BRADFORD.

AT a largely-attended meeting called by the Bradford Local Medical Committee, held on June 20th, to which all practitioners practising in the Bradford insurance area were invited, it was unanimously agreed:

That the Bradford Insurance Committee and the Insurance Commission (England) be notified by the Local Medical Committee on behalf of the practitioners it represents that practitioners concerned do not agree to any deductions being made from the money due to the latter for the purpose of forming a Central Fund to pay for the attendance upon temporary residents (as outlined in Commissioners' Memo. 159/I.C.).

That temporary residents presenting green vouchers be attended as private patients only.

"That the only certificates required under the Insurance Act are (i) a certificate of inability to work, (ii) a 'continuing certificate' which may be demanded weekly or seldomer as required by the rules of the approved society, and (iii) a 'declaring-off' certificate. The first certificate should only be given on the date on which the approved society begins to pay benefits." This is usually the fourth day, but some, such as the Corporation, pay on the first day. All other certificates must be charged for. The Division decided that the minimum charge should be 1s. for each certificate.

"That it is no part of the duty of the insurance service practitioners under their agreement to visit maternity cases for the purpose of giving certificates when such cases have been under the care of midwives."

"That medical benefit shall not include any right to medical treatment or attendance in respect of a confinement."—Insurance Act, Sec. 8, p. 6.

"That a levy of 5s. be made on all practitioners in the Bradford insurance area to meet the expenses of the Local Medical Committee." Practitioners are accordingly requested to forward 5s. to Dr. Sharp, Craigielea, 669, Manchester Road, who has been appointed Honorary Treasurer.

That having previously resolved that *no contract work outside the National Insurance Act was to be taken*, aged and infirm members of friendly societies must only be taken in same way as other insured persons, and paid for by the Insurance Committee.

The Secretary was instructed to send a copy of these resolutions to all practitioners practising in the Bradford insurance area.

NORFOLK.

A MEETING of the Norfolk Local Medical Committee was held on June 28th, in the Medical Library, Norwich. In the absence of the Chairman (Dr. B. D. Z. Wright), the chair was occupied by Dr. R. C. M. COLVIN-SMITH (Cromer); there were also present eighteen members, including Dr. D. G. Thomson, Honorary Secretary.

Distilled Water.—Dr. BELDING reported that the County Insurance Committee had passed a resolution that only distilled water be used in dispensing, on the ground that it is the only water mentioned in the *Pharmacopœia*. The meeting expressed considerable surprise at this, but Dr. Belding, who is a medical representative on the Insurance Committee, pointed out that the Committee felt very strongly on this and were practically unanimous.

Chemists' Hours.—Complaints that chemists' premises were generally shut after evening "surgery" hours were received, delaying the dispensing of medicines till next day unless marked "Urgent," when an extra charge was made for dispensing. The difficulty of arranging hours convenient to the doctors and chemists throughout the county was discussed, and the suggestion that the matter be referred to the District Committees on which both doctors and chemists are represented was approved.

Drugs for Tuberculous Patients.—A circular issued to every practitioner on the panel was read. The Insurance Committee requested the practitioners attending cases of tuberculosis who had been ordered domiciliary treatment to send their accounts for medicines dispensed to the Insurance Committee marked "Domiciliary Treatment." While the meeting expressed the opinion that it was a regrettable result of the working of the Act that doctors should be expected to send in separate bills for drugs, just like a chemist, and apart from advice, there seemed to be no alternative.

Temporary Residents.—An adjourned discussion then took place on the question of medical attendance on temporary residents. The policy of the Association, as voiced by the State Sickness Insurance Committee, the protest of the Committee to the Insurance Commissioners and their reply, and the lead given by several Local Medical Committees throughout the country were clearly set forth by various members, as also the views of the County Insurance Committee. Eventually Dr. VAUGHAN moved, Dr. CUTTING seconded, a resolution, which was carried by 10 votes to 3, recommending the panel practitioners of Norfolk to attend temporary insured residents on presentation of the green vouchers, thus agreeing to the Commissioners' scheme. As a corollary of this agreement, the Honorary Secretary was directed to inform the Insurance Committee that the doctors were prepared to attend temporary residents passing from one part to another of the same area, on presentation of vouchers on the same plan as the green voucher.

WEST SUFFOLK.

Temporay Residents.

AT a meeting of the West Suffolk Local Medical Committee, held on June 12th, it was decided unanimously to follow the advice of the State Sickness Insurance Committee of the British Medical Association, and ask practitioners on the panel to decline to treat bearers of green vouchers except as private patients. The County Insurance Committee were informed of this decision. On June 24th the Secretary received a letter from the Clerk to the Insurance Committee intimating that the Medical Benefit Subcommittee had decided to call a general meeting of practitioners on the panel on June 27th at 5 p.m., and that, if desired, a preliminary joint meeting with the Local Medical Committee could be held at 4.30 p.m.

The Local Medical Committee met on June 27th, and the CHAIRMAN stated that inquiries from various authorities as to the legality of the course adopted by the Medical Benefit Subcommittee had elicited no definite reply, but that the opinion invariably expressed was that such a course should be strongly opposed. No reply was received from the Commissioners.

At the joint meeting with the Emergency Medical Benefit Subcommittee at 4.30 p.m. a strong protest was lodged, and the Local Medical Committee contended that they should be allowed to confer with their constituents before any discussion took place. This was agreed to.

At the general meeting the following resolution was carried unanimously:

> The practitioners present accept the Local Medical Committee as their official mouthpiece, and leave the matter to them to discuss with the County Insurance Committee.

The members of the Medical Benefit Subcommittee then joined the meeting and a heated discussion took place, in which it was repeatedly explained that practitioners object to the summoning of a general meeting in any way except through the Local Medical Committee, and challenge the legality of such a proceeding. The CHAIRMAN stated that the authority of the Medical Benefit Subcommittee for calling such a meeting was a verbal instruction from the Commissioners to the clerk to the County Insurance Committee.

Finally, it was agreed:

1. That the Local Medical Committee shall summon a general meeting and discuss the whole question with practitioners on the panel, and report the decision to the County Insurance Committee.
2. The County Insurance Committee to reconsider the question as to their right to summon a general meeting of practitioners without consulting the Local Medical Committee.
3. Meanwhile, the County Insurance Committee may rest assured that no temporary resident will be refused treatment, though the green voucher is not recognized.

A general meeting of practitioners on the West Suffolk panel summoned by the Local Medical Committee was held at Bury St. Edmunds on July 2nd. The position of the Local Medical Committee in view of the general meeting on June 27th was considered. The SECRETARY read the following telegram from the Commissioners: "It is open to Insurance Committees to invite any persons or bodies to consultation on questions affecting work of Committee." It was agreed that this reply evaded the question which had been put to the Commissioners as to whether the Insurance Committee acted "rightly or fairly" in summoning a general meeting without consultation with the Local Medical Committee. It was also agreed that it would be advisable for the Local Medical Committee to pass at its next meeting a resolution to the effect that it would be willing to summon a general meeting at the request, signed in writing, of not less than seven practitioners on the panel.

Temporary Residents.—The question of temporary residents was discussed, and in view of a telegram from the Medical Secretary of the British Medical Association stating that a further explanatory memorandum will shortly be issued by the Commissioners, it was decided to issue the following letter to all practitioners on the panel:

West Suffolk Local Medical Committee.

6, Angel Hill, Bury St. Edmunds,
July 3rd, 1913.

Dear Sir,—At a general meeting of practitioners on the West Suffolk panel, held on July 2nd, the following resolution was carried unanimously:

> This general meeting of practitioners on the West Suffolk Panel undertakes that all patients presenting "green vouchers" shall receive proper and adequate medical treatment.
>
> And this meeting decides that the question of temporary residents be left to the Local Medical Committee to consider, after they have received fresh communications from the Commissioners.
>
> And this meeting leaves it to the discretion of the Local Medical Committee to decide as to whether they summon a meeting of the panel before they take action.

It was recommended that meanwhile all practitioners fill up the "green vouchers."—Yours faithfully,

BERNARD E. A. BATT,
Honorary Secretary.

HERTFORDSHIRE.

A MEETING of the Local Medical Committee was held on June 17th.

Temporary Residents.—The Memorandums 159 and 161/I.C. were considered, and a subcommittee was appointed to obtain further information.

Medical Committee Expenses.—It was agreed to raise a levy of 2s. for each complete 100 accepted persons upon the practitioner's panel, and to communicate further particulars to practitioners by post.

MIDDLESEX.

Temporary Residents.—At a meeting of the Middlesex County Medical Committee, held at 429, Strand, on July 3rd, the following resolution, proposed by Dr. BRACKENBURY, seconded by Dr. BUSFIELD, was passed unanimously:

> That this Committee object entirely to the principle of any deduction for the purpose of providing for attendance on temporary residents; the members of this Committee refuse to recognize the green vouchers provided for this purpose, and are recommending the medical men throughout the county to take similar action.

Conference at Brighton.—Dr. Macevoy and Dr. Shanks were deputed to attend the conference of representatives of the Local Medical Committees at Brighton on July 24th with instruction to press for the above resolution and for less harsh terms for the non-panel doctors who accept insured persons who are permitted to "contract on."

SURREY.

THE twelfth meeting of the Surrey Local Medical Committee was held at Surbiton on June 20th.

Expenses of the Committee.—Dr. WALTERS, the Honorary Treasurer, reported that 166 practitioners in Surrey had, up to date, responded to the appeal for the subscription to the funds for carrying on the work of the Committee.

Payments to Practitioners.—A letter having been received from the Surrey Insurance Committee suggesting quarterly payments to practitioners on the panel instead of monthly payments, the Honorary Secretary was directed to reply that the Committee saw no reason for altering the decision previously arrived at that medical men on the panel be paid monthly, but that there seemed no objection to allowing doctors who preferred it to be paid quarterly.

Temporary Residents.—The SECRETARY read letters from the Insurance Commissioners and the British Medical Association on the question of temporary residents. In view of the importance of this matter and the replies sent to the Insurance Commissioners and to the Surrey Insurance Committee, it was agreed that a report on the subject be drawn up and sent to every practitioner in the county.

Conference of Representatives at Brighton.—Dr. Clarke (Horley) and Dr. Pain (Leatherhead) were asked to attend the conference of Local Medical Committees to be held at Brighton, and it was decided to defray their out-of-pocket expenses out of the Local Medical Committee's funds.

Dr. ELLIS moved and Dr. LYNDON seconded that the Surrey Local Medical Committee uses its influence to bring about the cessation of the treatment of diseases due to misconduct as part of medical benefit, as also the treatment of miscarriage or abortion or any condition arising therefrom within twenty-eight days.

PORTSMOUTH.

THE Portsmouth Local Medical Committee, which has been recognized by the Commissioners, is composed as follows:

Chairman.—Mr. C. P. Childe, F.R.C.S.
Honorary Treasurer.—Dr. A. Milne-Thomson.
Honorary Secretary.—Dr. L. K. H. Hackman, 28, Kingston Road, Portsmouth.

Drs. Blackman, Blackwood, Brown, Burrows, Cole-Baker, Colt, Dewey, Farncombe, Jas. Green, Kirkness, McEldowney, Geo. McGregor, A. V. Maybury, L. Maybury, Mumby, Ridout, Roberts, Routh, Salmond, Sheahan, Taylor, H. S. Thomas, and A. B. Wright.

Representatives on the Portsmouth Local Insurance Committee.—Mr. C. P. Childe, nominated by the Local Medical Committee and appointed by the Commissioners; Drs. Milne-Thomson and A. B. Wright, directly elected by the local medical profession. They have been appointed by the Insurance Committee to serve on the Medical Benefit Subcommittee, the Sanatorium Subcommittee, and Dr. Wright to serve on the Finance Committee; they also represent the profession on the Medical Service Subcommittee.

Thirteen meetings of the Committee have been held, in addition to meetings of the local profession and of the panel doctors.

Arrangements with Chemists.—Arrangements have been made with the local chemists by which a list of basic mixtures is recognized and prescriptions may be repeated without writing in full. The new drug tariff has been accepted, including the charge for copying prescriptions, with the proviso that such charge does not come out of the Drug Suspense Fund.

Income Limit.—The Committee has not been successful in obtaining a local income limit nor a general system of "contracting out," though every effort was made in these matters, including the submitting of questions in Parliament.

Allocation of Insured Persons.—The Committee decided "that the allocation of unplaced insured persons be made equally among the doctors on the panel who are prepared to take more on their list and who have less than 2,000 at present"; the Local Insurance Committee, however, resolved to allocate them equally among all who had not refused to take more.

Arrangements with Insurance Committee.—A satisfactory understanding has been arrived at with the Local Insurance Committee on the following points, namely: Issue of model rules, reference of all matters affecting medical benefit to the Medical Service Subcommittee, privacy of discussions, and the urgency of the issue of uniform certificates.

Temporary Residents.—The scale of fees contained in Memorandum 159/I.C. has been accepted, but the mode of payment is still under consideration.

Conference at Brighton.—The Honorary Secretary, Mr. L. K. H. Hackman, has been appointed representative at the conference to be held at Brighton, and the question of drafting rules for the permanent constitution and management of the Committee, as required by the Commissioners in their letter of recognition, has been postponed until after that meeting.

DUMBARTON.

A MEETING of the Dumbarton County Local Medical Committee was held in Glasgow on June 19th.

Illness Records.—Form Med. 15 was unanimously chosen, and it was decided that the card should come into use on July 1st. It was intimated that the County Insurance Committee had adopted the card system for the "lists" of insured persons for whom each practitioner was responsible, and that these "lists" would be supplied as soon as complete.

Conference at Dundee.—To attend the conference in Dundee between representatives of Scottish Local Medical Committees and the Scottish Committee of the British Medical Association Dr. A. W. Sutherland was appointed, with Dr. C. L. Kerr as deputy if necessary. The representative was instructed to bring to notice at the conference the matters which this Committee had from time to time considered to require alteration in the Insurance Act or otherwise.

Temporary Residents.—It was decided to forward a letter to the Insurance Commissioners and Committee, refusing to allow any deduction to be made from the capitation fee to form a Central Fund for payment of attendance upon temporary residents and holiday makers, and stating that such insured persons would be treated as private patients meanwhile. The Local Medical Committee desires that all on the county panel should particularly note this decision.

Drugs and Appliances.—The list of drugs and appliances to be supplied direct to doctors for use among insured persons (Reg. 30 (2)) was submitted by the SECRETARY, amended in details, and approved.

Expenses of Committee.—It was unanimously agreed that to meet expenses a temporary levy of 2s. 6d. be made on every practitioner resident within the county insurance area, and also that all other doctors on the county panel be asked to pay the same amount.

Rules for Insured Persons.—The SECRETARY intimated that the Commissioners had approved of the rules for insured persons in receipt of medical benefit with the modifications desired by the Committee and the addition of a rule limiting Sunday work to cases of emergency.

MEETINGS OF INSURANCE COMMITTEES.

MIDDLESEX.

Temporary Residents.

AT the meeting of the Middlesex Insurance Committee on July 7th a letter was read from the Hampton, Teddington, and Hampton Wick Local Medical Committee, intimating that in regard to the treatment of temporary residents it could not consent to the deductions from the sums received by practitioners, as proposed by the Insurance Commissioners. Such a method appeared to be sanctioned neither by the agreements made by the practitioners nor by the Regulations, and the Local Medical Medical Committee gave notice that persons holding green vouchers could only be attended as private patients.

The matter had been submitted to the Commissioners, and their reply, dated July 7th, was also read. The Commissioners said that the sole effect of the arrangements proposed was to carry out in accordance with Regulation 22 the system of making adjustments required thereby, which was equitable as between the Committees and the practitioners concerned. The Commissioners instructed the Committee, in any case in which an insured person experienced difficulty in obtaining treatment, to take steps with a view to his acceptance by a doctor on the panel.

A letter was also read from the Middlesex Local Medical Committee stating that it objected entirely to the principle of any deduction, and would recommend the profession to refuse to recognize the green vouchers.

The Chairman, Mr. GLYN-JONES, M.P., pointed out that the question was one arising throughout the country. The Committee had no power in the matter, and could only follow the instructions of the Commissioners, and it was decided to take this course.

INSURANCE NOTES.

LONDON.

DEPOSIT CONTRIBUTORS.

THE Deposit Contributors Subcommittee of the London Insurance Committee has reported that the number of deposit contributors resident in the county of London on June 30th was 82,599—comprising 53,828 men, 28,722 women, and 49 of the Army and Navy. The number of claims for sickness benefit was 2,511 and for maternity benefit 469, and there were 19 claims on the Navy and Army insurance fund and 100 by emigrants under Section 42 (*g*) of the Act.

ASSOCIATION OF NON-PANEL DOCTORS.

At a meeting of the London Medical Committee on July 3rd it was unanimously decided to recommend the formation of an association of non-panel doctors for the county of London, who will accept no service under the medical benefit section of the National Insurance Act unless the following amendments are incorporated in the Act:

1. Free choice of doctor.
2. An income limit.
3. No one section shall have a permanent majority on any Insurance Committee.
4. Medical discipline shall be in the hands of the Medical Committee.

To further this object a representative for each borough on the London Medical Committee is asked to convene local meetings. In many parts of London there are already local non-panel societies in existence, and the London Medical Committee will act as the central co-ordinating body. It being known to members of the Committee that there were many complaints that the Act is working detrimentally to the interests of the insured, the Committee decided that if there were reasonable ground for complaint the insured person be advised to place his grievance before the Insurance Committee in writing.

Any communication should be addressed to the Secretary of the London Medical Committee at 45, Welbeck Street, W.

NATIONAL INSURANCE PRACTITIONERS' ASSOCIATION.

The following resolutions were passed at a meeting of the London members of the National Insurance Practitioners' Association, held at Caxton Hall, on June 27th, Dr. Lauriston Shaw presiding. A copy of the first two were sent to the London Insurance Committee, and of the third to the Government:

1. That this meeting is of opinion that the money available, during any quarter, for the payment of medical benefit in respect of insured persons who have not been allocated to any practitioner on the panel, should be divided amongst those doctors who were on the panel during the quarter

in question, in proportion to the number of insured persons on each practitioner's list and the duration of his service, and that the sum available in London, in respect of the first quarter of the year, should be distributed at the earliest possible date.

2. That this meeting is of opinion that the resolution of the London Insurance Committee proposing that no panel list should exceed 2,000 insured persons is *ultra vires*, and that practitioners should resist this proposal so long as they are confident that the conditions of their practice enable them to give efficient service to the persons for whom they have made themselves responsible, and further that at present any general limitation upon the numbers on doctors' lists is inadvisable as interfering with the insured person's privilege of free choice of doctor.
3. That this meeting of London members of the National Insurance Practitioners' Association is strongly of opinion that the National Insurance Act should be so amended that the power of election to the Local and District Medical Committees should be entirely in the hands of the doctors on the panel for the district.

SURREY.

Temporary Residents.

THE Medical Benefit Subcommittee reported to the last meeting of the Surrey Insurance Committee in favour of supporting the protest of the Local Medical Committee against the method suggested by the Commissioners for raising a central fund in respect of temporary residents (Memo. 159 I.C.). It was decided to communicate with the Commissioners on the subject.

LEICESTER.

Claim in Respect of Alleged Excessive Sickness.

AN attempt has been made by a Leicestershire branch of the Boot and Shoe Union to set in motion the provisions of Section 63 of the Insurance Act. The Insurance Committee has received a claim for the sum of £48 for excessive sickness, alleged to be due to the insanitary condition of the village of Barwell. Dr. T. Robinson, the medical adviser, has reported that the list of illnesses given him by the trade union did not suggest that they were traceable to housing, sanitary conditions, or water supply, although from a sanitary point of view Barwell had been sadly neglected. Amongst the cases visited were persons suffering from influenza, neuralgia, carbuncle, and one of ingrowing toenail.

In the course of a discussion of the report by the Hinckley and District Insurance Committee it was suggested that, whereas the Shoe Union formerly accepted only its own members, it now accepted any one and might be feeling the effects of an accession of bad lives. The Committee passed a resolution declaring that the charges against the sanitary condition of Barwell were groundless.

WORCESTER.

Arrangements with Herbalists.

THE medical members of the Worcester City Insurance Committee made a vigorous but unavailing protest, at a meeting of the Committee on July 2nd, against a proposal to allow four insured persons to make their own arrangements with a herbalist. The Chairman (Mr. R. R. Fairbairn) said the Subcommittee had interviewed the applicants and examined the proposed agreement between them and the herbalist, and was satisfied that the treatment would not be inferior in "nature, quality, and extent," to that under the panel doctors. The applicants maintained that they had a right under the Act to make their own arrangements with the herbalist, and presented the speech of Mr. Masterman in the House of Commons stating that a clause was inserted in the Act to admit the herbal practitioner. If the Committee rejected the application it would mean that those persons would be shut out from the benefits under the Act. The Chairman read a letter from Dr. Wellesley Coombs, Secretary of the Worcester Medical Committee, stating that he would be unable to attend, and asking that the proposal should be either negatived or adjourned until the next meeting. He said the suggested arrangement did not conform with the standard laid down by the Commissioners in "nature, quality, and extent."

Mr. Haywood opposed the application, asking what a herbalist would do in a case of appendicitis or diphtheria? He could not give a death certificate. He asked if the approved societies would accept the herbalist's certificate.

The Chairman said that was not the business of the Committee.

Mr. Duckworth, in supporting the application, said that those men had been treated by the herbalist in the past, and maintained that they had the right to make their own arrangements with him under the Act.

After an amendment to adjourn the subject had been defeated, Dr. G. W. Crowe protested strongly against the recommendation of the Subcommittee. He was not satisfied that the treatment would be adequate. The herbalist was not qualified; he could not sign a death certificate. If the Committee passed the application it would be establishing a precedent, and an insured person might be allowed to be treated by a chemist. Nor could the Committee refuse an application if persons wanted to be treated by a faith-healer.

Dr. Neville Crowe moved that the question be referred back to the Subcommittee to obtain more evidence, some of which he hoped would be from doctors.

The Chairman said that postponement would not be fair to the insured persons, but Dr. G. W. Croe said they ought to protect those persons.

Dr. Mabyn Read, M.O.H. for the City, said if these persons wanted that treatment the Committee should let them have it. He did not think for a moment that it would be proper treatment; but the Act had provided for the treatment which they wanted, so that it seemed to be waste of time to discuss the matter. He should not vote.

The Chairman said the applicants gave the Committee to understand that they would still go to the herbalist whatever the Committee decided.

Dr. G. W. Crowe: It is your duty to protect these people from being so foolish.

The amendment was lost, and then Dr. Nevill Crowe remarked that they were going to allow anybody to undertake the treatment of these people.

The Chairman: That is not in the resolution.

Dr. Neville Crowe, continuing, said the law of the land was that no unqualified person was to attend insured persons.

The Chairman said they had nothing to do with the law of the land. All they were concerned about was the Insurance Act.

Dr. Neville Crowe protested against interruptions by the Chairman, who said that he did not mean to be discourteous.

The resolution to allow the four persons to make their own arrangements was carried by 11 votes to 6.

SHEFFIELD.

Discussion on Malingering.

A RECOMMENDATION to the Sheffield Insurance Committee that a medical referee be not appointed, in view of the fact that the Committee already had a medical adviser, led to a somewhat heated debate on the subject of malingering. It was alleged by various speakers that medical certificates were being given too easily, and that sickness claims were exceeding actuarial estimates by, in some cases, 50 per cent. Amongst the causes of illness stated to have been given on certificates were "toothache," "headache," and "backache." The Chairman (Sir William Clegg) gave the authority of a medical man in Sheffield for the statements that some doctors were attending patients who were quite fit for work, but the doctors had not the courage to tell the people so, and that some doctors were purposely putting people on benefit in order to make the Act a financial failure.

Dr. Forbes said the medical profession would welcome the appointment of a referee, and had in fact suggested it. He strongly denied the statements quoted by the Chairman, and deprecated "wild charges of dishonesty." Medical men were giving whole-hearted service. He attributed the difficulties experienced to the inclusion of all classes of lives. The recommendation not to appoint a referee was referred back for further consideration.

IRELAND.

Sligo County Council and the Tuberculosis Scheme.

THE Sligo County Council has adopted a scheme for the provision of sanatorium benefit in the county for insured and non-insured persons. A report from the county tuberculosis officer, Dr. Burke, suggested that a small sanatorium to provide 75 beds would be sufficient to meet the needs of the county, and could be erected in connexion

with the central dispensary. A statement on behalf of the Irish Women's National Health Association was made by Dr. Irwin, inviting the council to send its patients to Peamount, where the capital cost would not exceed £75 for each bed, and the cost of maintenance and treatment would be £1 a week. The scheme adopted provides for 15 beds, 5 of which would be reserved for uninsured persons, at a capital cost of £70 each, the provision of central and branch dispensaries at a capital expenditure of £870 for alteration and equipment, and the purchase of 20 shelters at £12 each; the total estimated expenditure up to £2,160 would be covered by the grant from the Treasury.

SANATORIUM BENEFIT.

At the weekly meeting of the County Borough of Dublin Insurance Committe, held on July 3rd, Alderman Dr. James C. McWalter in the chair, Dr. Rowlette moved in accordance with notice:

> That the County Borough of Dublin Insurance Committee continue in the future the same arrangements as regards applications for sanatorium benefit as heretofore, such arrangements having been made in the first instance at the suggestion of the Insurance Commissioners, and having proved satisfactory.

The resolution was seconded by Dr. Garland. On being put to the meeting it was declared lost, and the following motion was adopted by a majority:

> That the clerk be instructed to furnish applicants for sanatorium benefit the Health Insurance Commissioners' list of doctors on the certifying panel with a view to their medical examination and certification for benefit.

At a meeting of the doctors of co. Wexford held recently, the following resolution was unanimously passed:

> That we refuse to work the sanatorium part of the Insurance Act in view of the action of the Insurance Commissioners in appointing medical men for purpose of certification for sickness and sanatorium benefits in opposition to the wishes of the Irish Medical Association.

A second resolution was passed refusing to send delegates to attend any meeting summoned on the authority of the "Conjoint Committee" in future.

SCOTLAND.

ACTION BY AN INSURED PERSON AGAINST A DOCTOR.

The case reported under this title in the SUPPLEMENT to the JOURNAL of June 28th, p. 592, was further heard in the Glasgow Sheriff Court on July 2nd, when, according to the report in the *Scotsman*, the pursuer claimed £2 10s. in respect of loss and damage averred to have been sustained by him in respect that being an insured person under the Insurance Act, 1911, and the defender being a medical practitioner who had accepted the pursuer as his patient under the Act, and had contracted to give attendance from January 15th to April 30th, had failed, when the pursuer was injured, to give such attendance, whereby the pursuer was compelled to call in another doctor. A further claim of one guinea was made in respect of a medical report concerning the nature of the injuries sustained by the pursuer. The sheriff at the close of the evidence gave judgement in favour of the defender.

INSURANCE ACT IN PARLIAMENT.

NATIONAL INSURANCE ACT AMENDMENT BILL.

Cost of its Provisions.

1. An actuarial report has been issued giving the cost of the different extensions of benefits proposed to be made in the amending bill. It is estimated that there are in all 240,000 persons either aged or disabled who fall within the provisions of the bill entitling them to the additional grant of 2s. 6d. per member. The cost of this extension, therefore, is estimated to be £30,000 for the first year, and afterwards to be subject to annual deductions of £2,000 a year.

2. The cost of giving full sickness benefit to insured persons entering into insurance between the ages of 50 and 65 is estimated to amount to £442,700 in 1915, of which the State proportion would be £99,700. This has been met by adding the capital sum in question of £2,462,000 to the reserve values and prolonging the period of redemption by ten months. The cost to the State on this account will progressively diminish.

3. The cost of the provision of ordinary benefits to persons who are aged between 65 and 70 at their entry into insurance has similarly been met by adding a capital sum of £827,000 to the reserve values and extending the period of redemption by ten weeks. The cost to the State during 1915 is estimated to be £60,200; but this, on account of the age of the persons referred to, is a rapidly diminishing amount, and is estimated, for example, to fall in four years to £31,800.

4. The grant in respect of the payment of the employers' section of the arrears is limited to a charge not exceeding £100,000 a year on the sinking fund set up to redeem the reserve values, and equivalent to an extension of the redemption period of six months. The data for a precise calculation of the amount which will be annually required are not sufficient to enable an accurate estimate to be made; but it is anticipated that a charge of £20,000 a year will be a maximum.

5. The extension of medical and sanatorium benefits to exempted persons, who are believed to number about 90,000 in Great Britain, is estimated to cost the societies about 7s. 6d. a person per annum; the State contribution of two-ninths is estimated to amount to £7,800 a year. In addition to this, there is the additional State grant of half a crown a person, amounting to £11,250 per annum. The total cost, therefore, of this provision is estimated to amount to £19,000 a year.

The total cost to the State, therefore, of this bill as introduced is estimated to be £206,900 during 1915, the amount falling in 1919 to £158,600. The extension of the period for the redemption of the reserve values amounts in all to a little more than eighteen months, and thus prolongs the total period from eighteen and a half to twenty years.

ADMINISTRATION.

In reply to Mr. Cassel, who asked the Prime Minister whether he had had time to consider the suggestion that the department responsible for the administration of the National Insurance Act should not be the Treasury, Mr. Asquith said that the matter was receiving careful consideration.

NUMBER OF INSURED PERSONS OVER 65 YEARS.

Mr. Cassel asked what was the number of persons over 65 and over 50, respectively, who had become insured persons by July 1st, 1913, or the latest date for which the figures were available. Mr. Masterman said that the number of insured persons who were over 65 years of age on July 15th, 1912, as shown by the return for January 12th, 1913, which was the latest date for which figures were available, was approximately 106,000. The actual number of insured persons (excluding those mentioned above) who were over 50 at the date of entry into insurance was not at present known, but might be put at about 1,626,000, and this figure, which was based on the census returns, had been used for the purpose of the actuarial calculations.

MEDICAL BENEFIT.

Doctors' Assistants.

Mr. King asked the Secretary to the Treasury whether his attention had been called to cases in which the demand of doctors on the panel to engage a temporary assistant for times when panel work was especially heavy had led to friction and resulted in difficulty in working the National Insurance Act; whether the Insurance Commissioners had power to deal with the right of doctors to engage assistants; and, if so, what action would be taken.—Mr. Masterman said that under the regulations an assistant who was not himself on the panel could only treat insured persons on behalf of his principal when the latter was precluded by urgency of other professional duties, absence from home, or other reasonable cause, from giving personal attendance to the insured persons under his care.

Confidential Medical Certificates.

Sir Henry Craik asked the Secretary to the Treasury whether he was aware that certain societies had refused to pay sick allowance to insured persons unless the specific nature of the illness were stated in the medical certificate; what security such insured persons had against the publicity which might be given to confidential medical certificates by the travelling agents of the society; and whether the Commissioners could give some protection in such a case, especially to women, upon whose health such a specification of disease might have serious detrimental effects.—Mr. Masterman, in reply to the first part of the question, referred to his answer to Viscount Dalrymple (SUPPLEMENT, June 28th, p. 595). With regard to the second and third parts, he had not the slightest doubt

that a society would take the severest measures in any case in which one of their agents divulged confidential information of the character referred to, given to him by the insured person, and if any case were brought to their notice the Commissioners would at once communicate with the society concerned. Sir H. Craik: Is not the right hon. gentleman aware that doctors are often unwilling to give specific information even to patients?—Mr. Masterman: I agree. We are trying to see if that can be met in these special cases.

Withholding Sick Benefit.

Mr. F. Hall asked the Secretary to the Treasury if members of approved societies had any, and, if so, what remedy when sickness benefit was withheld from them: if a society accepted an insured person on receiving evidence that he was duly employed, was it justified in withholding sickness or other benefit after he had made the requisite number of contributions and to expel him from the society; and, if so, whether the man was entitled to the return of his contributions in order that he might become a Post Office contributor.—The Financial Secretary to the Treasury said that Section 67 of the Act provided that any member of an approved society who was dissatisfied with a decision of the society terminating his membership had a right to appeal, first to the tribunal appointed under the rules of the society for the settlement of disputes, and then, subject to the regulations made under the Act, to the Commissioners.

Treatment by Herbalists.

Sir James Yoxall asked the Secretary to the Treasury whether persons insured under the National Insurance Act, 1911, might choose and receive medical treatment other than that practised by panel doctors, as, for example, treatment by herbalists; and if so, whether it was within the power of a Local Insurance Committee to forbid this.—Mr. Masterman said that there was no provision in the regulations dealing specially with those cases, but, subject to the conditions therein prescribed, it was open to an Insurance Committee to allow insured persons to make their own arrangements, instead of receiving medical treatment from a duly qualified medical practitioner on the panel.

CORRESPONDENCE.

SECTION OF MEDICAL SOCIOLOGY.

DR. R. J. RYLE (President of the Section of Medical Sociology) writes: I shall be obliged if you will allow me to reply to the letter of Dr. Raymond Shaw in the SUPPLEMENT for July 5th.

For the meeting of this Section on Friday, July 25th, the question of "Hospitals in relation to the State, the Public, and the Medical Profession" has been selected for study and discussion.

We are fortunate in having secured papers by eminent German practitioners who are recognized authorities upon the various problems concerned as they occur in German experience. We have also papers from others whose views deserve to receive careful consideration at the present time.

The Section of Medical Sociology is open, as your correspondent is doubtless aware, to invited members of the laity as well as to members of the medical profession, and accordingly invitations to this meeting have been issued to prominent representatives of every class which is likely to be interested in the subject, whether they represent the State, the public, or the profession of medicine. This is not the same thing as saying that they are invited "to attend and address" the Section of Medical Sociology.

The Insurance Act is on the Statute Book, and of course it is inevitable that either the present Government or its successor must proceed before long to take in hand the question of hospital treatment for insured persons. Now, it is a generally recognized fact that those who drafted the National Insurance Bill had only a very scanty knowledge of important data which should have been before them, and also that they were utterly ignorant of the wishes and opinions of those who were to be made responsible for the medical work of the Act. It is for the medical profession to see to it that whatever Government comes to deal with the hospitals there shall be no lack of carefully collected knowledge.

We are hoping to discuss "eugenics" and "crime and punishment" in a detached and scientific spirit, and there would seem to be every reason for treating the difficulties which we have to consider on Friday, July 25th, in a similar frame of mind.

If we do so it will surely be for the advantage of the State, the public, and the profession if prominent members of the Legislature should be present. The Section of Medical Sociology will then have done what it could to secure that the draft of the Hospitals Bill, when it comes, shall be more in harmony with the best interests of medicine than was that of the Insurance Bill.

So much for the Section of Medical Sociology and the arrangements which we have tried to make for a thorough ventilation of the hospitals question as a question of medical sociology. May I say that I think that in this connexion matters concerning panel or non-panel are irrelevant? I am not on the panel, and am not going on the panel, and I know no language but that of the sternest condemnation for the methods which were adopted by the present Government to force the Act upon the profession.

I think, nevertheless, that it might be possible for members of the Government to learn a good deal which they do not yet know at our meeting, and that a little less ignorance would diminish the probability of a repetition of such regrettable incidents.

Dr. S. J. Ross (Bedford), in a letter on the same subject, writes: Surely Dr. Shaw knows well that there are many men on the panel who resent this action of the organizers of the Section of Medical Sociology as much as he does; and the members of the Association who would resent this action will outnumber those who approve thereof. Therefore, far from the minority or non-panel members alone suffering, a large majority of the panel members will also suffer. I can even conceive it possible that Mr. Masterman may give us more food for reflection; and reflection is a useful and profitable occupation for every member of a learned profession. Let Dr. Shaw rest contented as he watches the friendly societies enjoying the rare and refreshing fruits; and how cheerfully the insured person pays his 4d., and how patiently he awaits his 9d. in return.

Dr. THOMAS GOODALL NASMYTH (Edinburgh) writes: Members of the British Medical Association are indebted to Dr. Raymond H. Shaw for the information that Mr. Lloyd George and Mr. Masterman have been invited to address the Section of Medical Sociology at the Annual Meeting at Brighton. If this is true, it is a piece of great folly, which will surely recoil on the Association, and make many members seriously consider whether they will continue their membership. If Mr. Lloyd George has been asked and accepts to deliver an address, I shall certainly forthwith resign.

Mr. R. BALFOUR GRAHAM, F.R.C.S.E. (late Honorary Secretary, Fife Branch), writes: I beg to add my protest to that of Dr. Raymond Shaw as to Mr. Lloyd George and Mr. Masterman having been asked to the Brighton meeting. I think it is surely too undignified and puerile a proceeding to be true. I have not the least doubt, after all that has transpired and looking to the manner in which the Chancellor spoke of and treated the profession, of which both must have a lively recollection, that he (the Chancellor) and his lieutenant will laugh heartily up their sleeves at our weakness. What is the meaning of it, and who, or what, is at the bottom of it?

Dr. STANLEY YEOMAN (Prestwich, Manchester) writes: Referring to Dr. Raymond H. Shaw's letter, I can hardly believe that it is possible that Mr. Lloyd George and Mr. Masterman have been asked to address any meeting of our Association at Brighton. They are responsible for the National Insurance Act that was declared only seven months ago as derogatory to our profession by an overwhelming majority. If the overwhelming majority has gone over in a body to Mr. Lloyd George (this was due to threatened ruin), that is no reason why those who still hold the same opinion as they did last year should be insulted. To confer an honour on men who have brought

the profession to what it is, is surely not the policy of the British Medical Association? That policy should be to elevate the profession and not to assist an Act that last year was called derogatory to the profession. Has the British Medical Association sunk so low, and is it with them a question of money-making? The British Medical Association has in the past been looked up to for guidance; if this goes on I am afraid in the future that they will degenerate into the worst form of trade union, and that the money-making question will become more important than the interests of medical science.

*** The fact that Mr. Masterman had intimated his intention to be present, if his engagements permitted, at the discussion on hospitals in relation to the State, arranged by the Section of Medical Sociology for Friday, July 25th, was formally announced in the programme of that Section published in the Supplement of June 28th, p. 603. Statements to the effect that Mr. Masterman proposed to join in the discussion and that Mr. Lloyd George had also been asked to contribute his views were contained in the article on the Annual Meeting published in the Journal of June 7th, p. 1230.

Temporary Residents:
Conference with the Insurance Commissioners.

Dr. Henry Thomas Barton (Secretary, Blackpool Medical Committee, and Representative of Blackpool Division) writes: In your report of the conference with the Insurance Commissioners on the question of temporary residents you state (p. 45, Supplement, July 5th): "There was a consensus of opinion among the deputation that after the explanations given it was probable that if the payments for temporary residents were to be provided by a system of deductions, the case-value system seemed to be as equitable a method as could probably be devised."

Now, Sir, I most emphatically protest against this description. There was no such consensus of opinion expressed. Whoever is answerable for this report must surely have heard the criticisms of the scheme delivered by Dr. Roberts and myself, and such a misstatement as this is calculated to cause grave dissatisfaction among the members of our respective Divisions.

Dr. Reginald J. Roberts (Ventnor) writes: As one of those who took part in the conference with the Insurance Commissioners, I write to say that I totally disagree with the opinion expressed in last week's Supplement, that the method suggested by the Commissioners is at all a fair solution of the question of the treatment of temporary residents.

The bulk of those who come away to the seaside for a holiday are quite capable of paying a doctor, and should do so. Doctors who take practices at seaside and health resorts naturally look to the visitors as a source of income, but this has been completely upset by the action taken by the Commissioners in regard to temporary residents.

So strongly do we in the Isle of Wight feel in respect to this, that at a meeting of the Local Medical Committee we passed the following resolution:

> That this meeting advises all practitioners on the panel to refuse to treat insured persons temporarily resident outside their own district, except as either private or non-paying patients, until arrangements satisfactory to the profession have been formulated by the Commissioners, and we also decline to agree to any deduction from the amount which they should receive under their agreement for a capitation payment, for the purposes of forming a fund for the provision of medical benefit for temporary residents.

The Future Policy of the Profession in Relation to the Act.

Dr. J. Cuthbertson Walker (Rochdale) writes: Is it still possible to formulate and follow a policy in regard to the medical benefit portion of the National Insurance Act, which shall be at once simple, acceptable to the profession generally and to the large number of the insured who would greatly prefer to be attended in the way they have always been accustomed to? I venture to suggest that it is possible. The Act should be amended so as to provide that any insured person who brings from a qualified practitioner a guarantee of attendance, should such insured person need medical attendance, should be allowed to make his own arrangement for such. For all other insured persons some such arrangement as the present would have to be made. Exempted insured persons would have their attendance guaranteed so that the sick funds would be protected. They might receive in lieu of medical attendance such further benefits as would be considered equivalent to the 8s. 6d. per annum at present devoted to medical benefit. I purposely refrain from going into details.

Things cannot possibly remain as they are. Either some such scheme as I have proposed must be introduced into an amending Act, or we must drift steadily on towards a State Medical Service, free to all. It is for the profession to decide which alternative to strive for. The present condition of matters is intolerable.

The Position in London.

Dr. J. H. Keay (Greenwich) writes: When Dr. Worth appealed to those who are still refusing to go on the panel to unite and conquer, and based his appeal on the ground that medical attendance under the Act is a complete failure in London, I ventured to give certain facts and figures as to the working of the Act and challenged Dr. Worth to contradict them. In face of facts which he evidently admits, he continues to assert that the London Insurance Committee is in a hopeless muddle, but can give no proof beyond saying that it must be so, as it has been so stated by a body he evidently regards as infallible—namely, the National Medical Union. More proof is needed. When he can name an insured person in London who has applied to the Insurance Committee and not received the names of one or more willing to attend him, one might admit that there is sound ground for his statement, but not otherwise.

When facts, figures, and argument fail to support one's contention there remains another method—namely, to put them all aside and personally vilify your opponent. Passing over the usual allegations of treachery and falsehood, which are now somewhat stale, and the epithets employed by Dr. Worth, I may as well say at once that I signed the undertaking, that I joined the panel, and that I did not wait for nor want any absolution. When the time came to sign on I pondered the matter night and day, in view of the undertaking, till I arrived at a clear decision. A period of enforced leisure has again given me an opportunity to read and re-read the reports of Representative Meetings, and the result is that I am now still more fully convinced that the course I took was the right one. My reasons for so doing I shall endeavour to compress in a few sentences, but they are given on a clear understanding that I have nothing to apologize for nor retract. In May, 1911, a long series of questions was sent down to Divisions and carefully considered. In answer to the first the Divisions, by more than 30 to 1, affirmed that they believed it would be in the interests of the profession that increased facilities should be given to enable those who could not pay regular fees to insure against cost. In answer to the second, the Divisions, by more than 5 to 1, expressed the desire that provision for medical attendance should be included in the Insurance act. At a subsequent meeting it was agreed that the best method of carrying out the Act was by the preparation of lists; in other words, by panel. Meantime the six cardinal principles were formulated, and an undertaking given to adhere to these principles, which, according to a statement issued by the Chairmen of Council and Representative Meetings, were regarded as the "declared policy" of the Association. Notwithstanding the large number who signed the undertaking, there was still an acute division of opinion in the Association. There were some, like myself, who regarded the six principles as, for all practical purposes, embodied in the Act. There were a large number who held an entirely contrary opinion. Had the time then come for signing on to the panel, and the Association taken no further action, it seems somewhat doubtful if a sufficient number would have been found to work the Act. There would certainly not have been the 18,000 or more who are on the panel at present. The fact that one's neighbours were going on the panel and the threat of a whole-time service influenced many, but I do not think it can be denied that the large accession was mainly due to the astounding and acrobatic performance witnessed at the Representative Meeting in December last. The minority who had opposed working the Act then came into power; they began by doing away with two of the

leading cardinal principles, namely, that there should be no arrangements with friendly societies and that there should be an income limit. When this became known, men rushed on the panel in shoals. With a leadership consisting of men who had so fiercely accused others for not adhering to the six principles, and yet abandoning them themselves, it was felt to be hopeless to oppose the Act. In what position was the undertaking? If the "declared policy" of the Association was the six cardinal principles, two of them had been abandoned, notwithstanding the fact that no mandate to that effect had been given by the Divisions, and the others might follow. If the "declared policy" meant the general policy of the Association, the action of the December Representative Meeting had rendered adherence to the undertaking simply impossible, involving as it did an adherence to two absolutely contradictory policies. I shall not follow the example of Dr. Worth and others by hurling opprobrious epithets against those who are of a different opinion, but shall leave it to any fair-minded man to judge who is responsible for departure from their principles, and for the present painful differences among medical men.

Allow me to correct another statement made by Dr. Worth. He tells us I have been writing to induce men to go on the panel. I have never asked any one to go on the panel. There are many who on conscientious grounds have not gone on the panel, and whom I highly respect. At the same time, as I heartily desire the best possible attendance for the people and an ideal panel, there are others whose names I would be sorry to see on the list.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ABERYSTWITH INFIRMARY AND CARDIGANSHIRE GENERAL HOSPITAL.—House-Surgeon and Secretary (male). Salary, £175 per annum, increasing to £200.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BIRKENHEAD BOROUGH HOSPITAL.—Junior House-Surgeon (male). Salary, £80 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House-Surgeon. Salary, £75 per annum.

BIRMINGHAM CITY.—Resident Medical Officer at the Salterley Grange Sanatorium for Consumption, near Cheltenham. Salary, £300 per annum.

BIRMINGHAM: RUBERY HILL ASYLUM.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM UNION.—Second and Third Assistant Medical Officer at the Dudley Road Infirmary. Salary, £160 and £150 per annum respectively.

BOLTON INFIRMARY AND DISPENSARY.—Third House-Surgeon. Salary, £90 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

BRISTOL ROYAL INFIRMARY.—Obstetric and Ophthalmic House-Surgeon. Salary at the rate of £75 per annum.

BURNLEY: COUNTY BOROUGH.—Assistant to the Medical Officer of Health. Salary, £250 per annum, rising to £300.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—(1) House-Surgeon; (2) Second House-Surgeon. Salary at the rate of £80 per annum each.

CANCER HOSPITAL, Fulham Road, S.W.—Senior and Junior House-Surgeons. Salary £80 and £70 per annum respectively.

CANTERBURY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £160 per annum.

CARDIFF: KING EDWARD VII'S HOSPITAL.—House-Surgeon (male). Honorarium, £30 for six months.

CARLISLE DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

CHARING CROSS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

CHESTER: CHESHIRE COUNTY COUNCIL.—Tuberculosis Officer. Salary, £500 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £90 per annum.

COBHAM: SCHIFF HOME OF RECOVERY.—Resident Surgical Officer. Honorarium, £100 for six months.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Physician. Salary, £80 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—House-Physician and Junior House-Surgeon. Salary, £90 per annum, increasing to £100.

DENBIGHSHIRE INFIRMARY.—House-Surgeon. Salary, £110 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House-Surgeon. Salary, £120 per annum.

DOWNPATRICK: DOWN DISTRICT LUNATIC ASYLUM.—Junior Male Assistant Medical Officer. Salary, £130 per annum, rising to £150.

DUBLIN: PEAMOUNT SANATORIUM. Hazelhatch.—Resident Medical Superintendent. Salary, £400 per annum, rising to £500.

DUNDEE ROYAL INFIRMARY.—House-Physicians and House-Surgeons.

EDAY PARISH.—Medical Officer. Salary, £170 per annum.

EDINBURGH: THE HOSPICE.—Qualified Medical Woman as Resident. Honorarium, £25 per annum.

ESSEX COUNTY ASYLUM, Brentwood.—Two Assistant Medical Officers. Salary, £160 per annum, rising to £200, and on promotion to £400.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of 100 guineas per annum.

FERMANAGH COUNTY HOSPITAL, Enniskillen.—House-Surgeon (male). Salary, £72 per annum.

FOLKESTONE: ROYAL VICTORIA HOSPITAL.—Resident House-Surgeon. Salary, £100 per annum.

GLASGOW ROYAL ASYLUM.—Senior Assistant Physician. Salary, £250 per annum. (The name of this institution was incorrectly printed last week.)

GLOUCESTER ROYAL INFIRMARY AND EYE INSTITUTION.—(1) Physician; (2) Assistant House-Surgeon, remuneration at the rate of £80 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second House-Surgeon (male). Salary, £100 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary, £70 per annum.

HEREFORD COUNTY AND CITY HOSPITAL.—Assistant Medical Officer. Salary, £155 per annum.

HERTS COUNTY ASYLUM, Hill End, St. Albans.—Second Assistant Medical Officer. Salary, £200 per annum, rising to £240.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE. Virginia Water.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £250.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House-Physician. Honorarium, 30 guineas for six months.

JOHANNESBURG HOSPITAL.—Resident X-Ray Medical Officer. Salary, £750 per annum.

KENT COUNTY ASYLUM, Chartham.—Junior Assistant (Third) Medical Officer (male). Salary, £220 per annum.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

LEEDS GENERAL INFIRMARY.—(1) Resident Medical Officer at the Ida and Robert Arthington Hospitals; salary, £60 per annum. (2) Ophthalmic House-Surgeon; salary, £50 per annum. (3) Two House-Physicians.

LEICESTERSHIRE AND RUTLAND LUNATIC ASYLUM, Narborough.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

LINCOLN MENTAL HOSPITAL.—Assistant Medical Officer. Salary, £150 per annum.

LONDON LOCK HOSPITAL.—House-Surgeon and Assistant House-Surgeon at the Female Hospital. Salary, £100 and £80 per annum respectively.

MAIDSTONE: KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer. Salary, £200 per annum, rising to £220.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Resident Medical Officer for In-patient Department, Bowdon. Salary, £100 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—House-Surgeon and Assistant House-Surgeon. Salary at the rate of £60 and £40 per annum respectively.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—Resident Medical Officer. Salary, £150 per annum.

NEWARK-UPON-TRENT: THE HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

NEWCASTLE-UPON-TYNE: UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Demonstrator of Anatomy. Salary, £200 per annum.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Resident Medical Officer. Salary at the rate of £80 per annum for first four months, increasing to £120 per annum.

NORTHAMPTON: ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES.—Third Assistant Medical Officer (male). Salary, £200 per annum, rising to £250.

NORTH RIDING ASYLUM, CLIFTON.—Second Assistant Medical Officer. Salary, £200 per annum, rising to £250.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Assistant Resident Medical Officer. Salary at the rate of £80 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary, £75 per annum.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £200 per annum, rising to £250.

ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL.—Resident House-Physician. Salary at the rate of £110 per annum.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon (male). Salary, £100 per annum, rising to £120.

ROYAL EYE HOSPITAL, Southwark, S.E.—Junior House-Surgeon. Salary, £50 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Assistants to the Clinical Pathologist. Salary, £50 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—House-Physician. Salary at the rate of £60 per annum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.—House-Surgeon. Salary at the rate of £50 per annum.

SALISBURY GENERAL INFIRMARY.—(1) House-Surgeon; (2) Assistant House-Surgeon. Salary, £100 and £50 per annum respectively.

SHEFFIELD: EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £75 per annum.

SHEFFIELD: JESSOP HOSPITAL FOR WOMEN.—(1) Assistant House-Surgeon. (2) Third Anaesthetist. Salary, £80 and £25 per annum respectively.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £80 per annum.

SHEFFIELD ROYAL INFIRMARY.—Two Resident Medical Officers. Salary, £70 per annum.

SOMERSET COUNTY COUNCIL.—Assistant Tuberculosis Officer. Salary, £300 per annum.

SOUTH AFRICA.—Junior Medical Officer for the Lunatic and Leper Asylum Service in South Africa. Salary, £280 per annum, rising to £360.

SOUTHAMPTON: FREE EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTHOE DISPENSARY.—Junior House-Surgeon (male). Salary, £90 per annum.

SOUTHWARK UNION.—(1) Medical Officer for the No. 4 District. Salary at the rate of £130 per annum. (2) Public Vaccinator for the Second District.

STAFFORDSHIRE EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £250 per annum, rising to £300.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY, Hartshill.—House-Surgeon. Salary, £100 per annum.

STOKE-ON-TRENT UNION.—Assistant Medical Officer for the Workhouse and Hospital. Salary, £160 per annum.

STRATHLACHLAN: PARISHES OF STRACHUR AND STRATHLACHLAN.—Medical Officer. Salary, £94 per annum.

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House-Surgeon. Salary, £130 per annum.

SUNDERLAND: ROYAL INFIRMARY.—(1) House-Physician. (2) Two Junior House-Surgeons (males). Salaries, £90 per annum.

THREE COUNTIES ASYLUM, near Hitchin.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £250.

TORQUAY: TORBAY HOSPITAL.—Resident Medical Officer (male). Salary, £100 per annum.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

UNIVERSITY COLLEGE MEDICAL SCHOOL, W.C.—Demonstrator in Department of Bacteriology.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—House-Surgeon. Salary, £40.

WANDSWORTH UNION INFIRMARY, St. John's Hill, S.W.—Male Junior Assistant Medical Officer. Salary at the rate of £150 per annum.

WARWICK ASYLUM.—Assistant Medical Officer. Salary, £200 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £75 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—(1) Senior and Junior House-Physicians. Salary, £100 and £75 per annum respectively. (2) Honorary Dental Surgeon.

WESTMINSTER DISPENSARY, Soho, W.—Resident Medical Officer. Salary, £120 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WOMEN'S HOSPITAL FOR CHILDREN, Harrow Road, W.—Honorary Dental Surgeon (female).

WORCESTER GENERAL INFIRMARY.—House-Physician. Salary, £120 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointment: Fermoy (co. Cork).

APPOINTMENTS.

EDINGTON, G. H., M.D., D.Sc., F.R.F.P.S.G., Visiting Surgeon to the Western Infirmary, Glasgow, vice Sir G. T. Beatson, K.C.B., M.D., retired.

HOFFMAN, H. D., M.B.Camb., District Medical Officer of the Godstone Union.

JACKSON, C. E. S., M.B., B.S.Lond., F.R.C.S., Surgeon to the West Norfolk and King's Lynn Hospital.

LUFFMAN, W. C., M.D.Brux., L.R.C.P.and S.Edin., District Medical Officer of the Southwark Union.

MCCLELLAND, R. S., M.D.Edin., Certifying Factory Surgeon for the Pontyberem District, co. Carmarthen.

MILLER, E. S., M.B., Ch.B.Liverp., Assistant Medical Officer of the Mill Road Infirmary of the West Derby Union.

MOWAT, Harold, M.D.Edin., Physician in charge of the *X* Ray and Electrical Department, Metropolitan Hospital.

O'BRIEN, W., M.B., B.Ch., N.U.I., Certifying Factory Surgeon for the Aughrim District, co. Wicklow.

PIRIE, A. J., M.B., Ch.B.Aberd., District Medical Officer of the Congleton Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in Post Office Orders or Stamps with the notice not later than Wednesday morning in order to ensure insertion in the current issue.

DEATH.

KLOSTER.—(By cablegram). On June 28th, at Kamaran, Arabia, Olaf Kloster, M.B., C.M.Edin., in his forty-seventh year.

DIARY FOR THE WEEK.

WEDNESDAY.

BRITISH OTO-LARYNGOLOGICAL SOCIETY, 11, Chandos Street, W., 4.30 p.m.—Clinical Meeting.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION, S.W.—Wednesday, 4.30 p.m., Intrathoracic Hodgkin's Disease.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics, daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Wednesday. Radiography: Saturday.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock, E.—Lectures daily (Saturday excepted) at 12 and 4 p.m. Practical Laboratory Work daily (Saturday excepted), 10 to 12 a.m., and 2 to 3.30 p.m. Medical Clinics, Tuesday and Thursday at 3 p.m. Operations, Friday at 3 p.m.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin. Tuesday, Medical. Wednesday, Surgical. Thursday, Medical. Friday, Ear, Nose and Throat. Special Lectures at 5.15 p.m. daily except Friday and Saturday.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Medical and Surgical Clinics and Operations at 2.30 p.m. daily. Also Monday, Throat; Tuesday, Gynaecology; Wednesday, Skin, Eye, Children, *X* Rays; Friday, Eye. Special Lectures and Demonstrations as announced.

ROTUNDA HOSPITAL, DUBLIN.—Continuation of the Post-Graduate Course on Obstetrics and Gynaecology daily throughout the week, except Saturday.

THROAT HOSPITAL, Golden Square, W.—Monday, 5.15 p.m., Special Demonstration on Selected Cases. Thursday, 5.15 p.m., Clinical Lecture.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday. A lecture at 5 p.m. daily except Saturday.

[*For further particulars of Lectures consult the Index to Advertisements.*]

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		JULY.
12	Sat.	London: Science Committee, 11 a.m.
14	Mon.	Leinster Branch, Annual Meeting, Dublin.
15	Tues.	London: Metropolitan Counties Branch Council, 4 p.m.
		North Wales Branch, Annual Meeting, Llandudno, 3 p.m.
16	Wed.	Cambridge and Huntingdon Branch, Annual Meeting, Cambridge.
		Central Division, Birmingham, 3.45 p.m.

ANNUAL MEETING, BRIGHTON, 1913.

Annual Representative Meeting, July 18th, and following days.

Date.	Meetings to be Held.
	JULY.
	ANNUAL MEETING, BRIGHTON, 1913 (*continued*).
	Presidential Address, Tuesday, July 22nd.
	Conference of Honorary Secretaries, 4 p.m.; Dinner, 7 p.m., Wednesday, July 23rd.
	Sections—Wednesday, July 23rd; Thursday, July 24th; and Friday, July 25th.
	Conference of Representatives of Local Medical Committees, Thursday, July 24th, 2.30 p.m., and following days if necessary.

International Medical Congress in London, August 6th to August 12th.

Printed and Published by the British Medical Association at their Office, No. 429, Strand, in the Parish of St. Martin-in-the-Fields, in the County of Middlesex.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, JULY 19TH, 1913.

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British Medical Association.

EIGHTY-FIRST ANNUAL MEETING, BRIGHTON, JULY, 1913.

PROGRAMME OF BUSINESS.

President: Sir JAMES BARR, M.D., LL.D., F.R.S.E., Consulting Physician, Royal Infirmary, Liverpool.

President-elect: WILLIAM AINSLIE HOLLIS, M.A., M.D., F.R.C.P., Consulting Physician, Sussex County Hospital, Brighton.

Chairman of Representative Meetings: THOMAS JENNER VERRALL, M.R.C.S., L.R.C.P., Consulting Surgeon, Sussex County Hospital, Brighton.

Chairman of Council: JAMES ALEXANDER MACDONALD, M.D., LL.D., M.Ch., R.U.I., Honorary Physician, Taunton and Somerset Hospital, Taunton.

Treasurer: EDWIN RAYNER, M.D.Lond., B.A., F.R.C.S. Eng., Consulting Surgeon, Stockport Infirmary, Stockport.

The Eighty-first Annual Meeting of the British Medical Association will be held in Brighton in July, 1913. The President's Address will be delivered on Tuesday, July 22nd, and the Sections will meet on the three following days. The Annual Representative Meeting will begin on Friday, July 18th, at 10 a.m.

The Address in Medicine will be delivered by Professor GEORGE R. MURRAY, M.D., F.R.C.P., Physician, Royal Infirmary, Manchester, on Wednesday, July 23rd.

The Address in Surgery will be delivered by Sir BERKELEY MOYNIHAN, M.S., F.R.C.S., Surgeon, Leeds General Infirmary; Professor Clinical Surgery, University, Leeds, on Thursday, July 24th.

The Popular Lecture will be delivered by EDMUND JOHNSON SPITTA, L.R.C.P.Lond., M.R.C.S.Eng., Hove, Brighton, on the evening of Friday, July 25th.

THE SECTIONS.

THE scientific business of the meeting will be conducted in sixteen Sections, which will meet at 10 a.m. on Wednesday, July 23rd, Thursday, July 24th, and Friday, July 25th. The work to be done by each of them is represented, so far as information has been received, by the following programme.

It should be noted that the President, Vice-Presidents, and Honorary Secretaries of each Section constitute a Committee of Reference for that Section, and exercise the power of inviting, accepting, or declining any paper, and of arranging the order in which accepted papers shall be read. Communications with respect to papers should be addressed to one of the Honorary Secretaries.

A paper read in the Section must not exceed fifteen minutes, and no subsequent speech must exceed ten minutes.

Papers read are the property of the British Medical Association, and cannot be published elsewhere than in the BRITISH MEDICAL JOURNAL *without special permission.*

BACTERIOLOGY AND PATHOLOGY.

President: J. W. H. EYRE, M.D., M.S., London. *Vice-Presidents:* G. MORGAN, F.R.C.S.Edin., Brighton; MYER COPLANS, M.D., Leeds; Professor E. J. MCWEENEY, M.D., F.R.C.P.I., Dublin. *Honorary Secretaries:* H. MILLER GALT, M.B., F.R.F.P.S.Glasg., Sussex County Hospital, Brighton; J. A. BRAXTON HICKS, M.D., Westminster Hospital, London, S.W.; C. H. BENHAM, M.D., M.R.C.P., 27, Sackville Road, Hove.

Wednesday.—Papers:

FARRANT, R. (London). Hyperthyroidism.
MCWEENEY, E. J., CROFTON, W. M., and MOORE, H. F. On Paratyphoid Infection.
GALT, H. Miller. On the Value of the Blood Count in Obscure Bacterial Infections.

Thursday.—Joint discussion with the Section of Pharmacology, Therapeutics, and Dietetics on Anaphylaxis: To be opened by Professor W. E. DIXON; followed by Pro-

fessor G. Sims Woodhead (General Pathological Aspects), Drs. Thiele and Embleton (Special Bacteriological Aspects), E. W. Goodall (Clinical Aspects), H. H. Dale (General Experimental Point of View).

Papers:

COPLANS, Myer (Leeds). On the Action of Asbestos and other Finely Divided Substances on certain Toxins, Ferments, Protein and other Materials.
COPLANS, Myer, and LLOYD, Mr. W. Gibbs. On the Action of Asbestos on Certain Physiological Substances.

Friday.—Papers:

The Staff of the John Howard McFadden Research Fund. Some Researches on the Jelly Method of Staining Cells Alive.
BUCHANAN, R. M. (Glasgow). On *Empusa muscae* as a Trajector of Bacterial Infection.
LYONS, W. C. On the Specific Diagnostic and Therapeutic Value of Proteose-free Tuberculin.
GALT, H. Miller. Microscopical Demonstrations on Haematology.

SECTION OF CLIMATOLOGY AND BALNEOLOGY.

President: F. J. PALEY, M.D., Hove. *Vice-Presidents:* R. WHITTINGTON, M.D. B.Ch., Brighton; W. GORDON, M.D., F.R.C.P., Exeter; R. ACKERLEY, M.B., B.Ch., Llandrindod Wells. *Honorary Secretaries:* A. H. COPEMAN, M.D., Pavilion Parade, Brighton; D. DURWARD BROWN, M.D., Norfolk Lodge, Leeds Road, Harrogate.

Wednesday.—Discussion on Sea Bathing: To be opened by Dr. W. J. TYSON. (For synopsis see SUPPLEMENT, June 7th, p. 506.)

Thursday.—Discussion on International Aspects of British Health Resorts: To be opened by Dr. NEVILLE WOOD. (For synopsis see SUPPLEMENT, June 7th, p. 506.)

Friday.—Papers:

HOBHOUSE, E. Some Remarks on the Climate of Brighton.
ACKERLEY, R. Massage in Fibrositis and other Painful Affections.
FOSTER, Michael. Some Balneological Methods used in Italy.
BOYD, Shepherd. Notes on Egypt and the Nile as a Health Resort.
GORDON, W., and THOMAS, J. R. Distribution of Cancer Cases in two Registration Districts of North-East Cornwall.
BUCKLEY, C. Rationale of the Plombières System of Treatment.
BROWN, Durward. Panniculitis.
WOODCOCK, H. de C. Tuberculosis from the Climatological Point of View.

DERMATOLOGY.

President: J. H. SEQUEIRA, M.D., F.R.C.P., London. *Vice-Presidents:* A. W. WILLIAMS, M.B., Brighton; F. H. BARENDT, M.D., F.R.C.S., Liverpool; W. GRIFFITH, M.B., M.R.C.P., London. *Honorary Secretaries:* A. M. DALDY, M.D., F.R.C.S., 17, Palmeira Square, Hove; F. GARDINER, M.D., F.R.C.S.Edin., 60, George Square, Edinburgh.

Wednesday.—(1) Demonstration of Cases. (2) Discussion on the Fungous Affections of the Glabrous Skin: To be opened by Dr. H. G. ADAMSON, followed by Professor Alfred Bolam, Sir Malcolm Morris, Dr. G. Pernet, Dr. Goodwin Tomkinson, and others. (3) Paper:

PERNET, George. On Veronal Rashes.

Thursday.—(1) Demonstration of Cases. (2) Discussion on the Nature, Varieties, Causes, and Treatment of Lupus Erythematosus: To be opened by Dr. J. M. H. MACLEOD, followed by Dr. Robert Wild, Professor Bolam, Sir Malcolm Morris, Dr. Alfred Eddowes, Dr. Haldin Davis, Dr. Pernet, Dr. A. W. Williams, and others. (3) Papers:

MEACHEN, Norman. A Preliminary Note upon the Treatment of Tuberculosis of the Skin by means of Copper.
BUNCH, J. L. On the Treatment of Skin Affections by Solid Carbon Dioxide.

Friday.—Papers:

WALSH, David. Circulatory Disorders in Relation to Alopecia Areata and other Forms of Baldness.
DAVIS, Haldin. On Ointments.
WILLIAMS, A. W. On the Treatment of Chronic Ulcer of the Leg.
DORE, S. E. The Use and Action of *X* Rays in Psoriasis and other Skin Diseases.
HOBSON, L. J. The Treatment of Common Skin Diseases at the Harrogate Spa.
TOMKINSON, J. G. An Unusual Form of Keloid.

Abstracts of the papers introductory to the two formal discussions will be found in the SUPPLEMENT for June 7th, p. 507.

DISEASES OF CHILDREN, INCLUDING ORTHOPAEDICS.

President: G. F. STILL, M.D., F.R.C.P., London. *Vice-Presidents:* W. C. CHAFFEY, M.D., Hove; L. A. PARRY, M.D., F.R.C.S., Hove; A. F. VOELCKER, M.D., F.R.C.P., London; P. N. BLAKE ODGERS, F.R.C.S., Northampton. *Honorary Secretaries:* A. G. BATE, M.B., F.R.C.S.Ed., 8, Palmeira Avenue Mansions, Hove; A. E. NAISH, M.B., M.R.C.P., 5, Clarkehouse Road, Sheffield.

Wednesday.—Discussion on Affections of the Heart in Childhood: To be opened by Dr. POYNTON and Dr. CAREY COOMBS; followed by Drs. Mary C. Murdoch, R. Miller, W. P. S. Branson, and R. A. Chisholm. (For synopses see SUPPLEMENT, June 7th, p. 507.)

Papers:

LANE-CLAYPON, Janet. Some Statistical and Experimental Data as to Infant Feeding.
MUMFORD, Dr. The Heart in relation to Athletic, Gymnastic, and Swing Exercise in Adolescent Boys.
NICHOLL, J. H. The Surgery of Childhood; a Plea for the more Extensive Use of the Out-patient Department for Operations on Children. Coupled with an account of the Organization necessary for After-care.
CHAFFEY, W. C. Some Records of Heart Disease, with special reference to a Family History of Phthisis or Rheumatism.

Thursday.—Discussion on the Choice of Methods in Dealing with Paralytic Deformities in Children: To be opened by Mr. T. OPENSHAW, C.M.G.; followed by Professor Foerster, Breslau (Posterior Root Section in the Treatment of Spastic Paralysis), and Messrs. Robert Jones, Edred Corner, Laming Evans, F. W. Goyder, Kellett Smith, R. Ollerenshaw, W. J. Midelton, H. H. Rayner, and Douglas Drew. (For synopsis see SUPPLEMENT, July 5th, p. 38.)

Friday.—Discussion on the Diagnosis and Treatment of Acute Inflammatory Affections of the Abdomen in Children: To be opened by Mr. C. B. LOCKWOOD; followed by Messrs. Edred Corner, R. H. A. Whitelocke, C. H. Milburn, Keogh Murphy, W. J. Tyson, F. C. Pybus, and Douglas Drew. (For synopsis see SUPPLEMENT, June 98th, p. 602.)

Papers:

SMITH, Kellett. The Necessity for Selection and for Skilled Supervision in the Treatment of Spinal Deformities by Exercise.
BANKART, Blundell. The Treatment of Poliomyelitis.

ELECTRO-THERAPEUTICS.

President: W. DEANE BUTCHER, M.R.C.S., London. *Vice-Presidents:* C. F. BAILEY, M.D., M.R.C.P., Brighton; A. F. HERTZ, M.D., F.R.C.P., London; W. IRONSIDE BRUCE, M.D., London. *Honorary Secretaries:* W. B. PROWSE, M.R.C.S., 31, Vernon Terrace, Brighton; L. E. CREASY, M.R.C.S., L.R.C.P., 36, Weymouth Street, London, W.

Wednesday.—Introductory address by Professor C. G. BARKLA, F.R.S., on Secondary *X*-ray Radiations in Medicine.

Papers on Roentgen Diagnosis:

HERTZ, A. F. Suggested Normal Standards of the *X*-ray Examination of the Alimentary Canal.
BRUCE, Ironside. Collargol Injections in the Diagnosis of Diseases of the Urinary Tract.
JORDAN, A. C. Cardiospasm.
BYTHELL, W. J. S. The Radiography of Tuberculous Sinuses injected with Bismuth.
MORTON, Dr. R. The Present Position of the *X*-ray Diagnosis of Pulmonary Tuberculosis.

Thursday.—Papers on Electro-diagnosis and Electro-therapeutics:

JONES, Lewis. On the Use of Condensers in Electrical Testing.
NAGELSCHMIDT, Professor (Berlin). On Electrical Treatment of Nutritional Disorders.
BAILEY, C. F. Electro-therapeutics in Neuron Lesions.
CUMBERBATCH, E. P. Results of Muscle Testing by the Condenser Method.
LEWIS, T. The Electrocardiograph.
HARRIS, J. D. Secondary *X* Rays in connexion with Ionization.
HUMPHRIS, F. H. Electricity in the Reduction of High Arterial Tension.

Friday.—Discussion on the Use of the Gamma Radiations in Surgery: To be opened by Sir A. PEARCE GOULD and Dr. ROBERT ABBE (New York).

Papers on Roentgen-therapy and Radium:

HERNAMAN-JOHNSON, F. Indication for *X*-ray Radiation Before, During, and After Operation for Cancer.
FOWLER, F. The Technique of *X*-Ray Treatment of Cancer.
SAVILL, Agnes. Two Cases of Fibroma cured by *X* Rays (Bordier's Method).
BATTEN, G. B. *X*-Ray Treatment of Ringworm.
GAUSS, Professor (Freiberg). The Radio-therapeutic Treatment of Gynaecological Cases at Freiberg.

GYNAECOLOGY AND OBSTETRICS.

President: R. SANDERSON, M.B., Hove. *Vice-Presidents:* CONSTANCE E. LONG, M.D., London; T. H. IONIDES, M.B., F.R.C.S., Hove; R. J. JOHNSTONE, M.B., F.R.C.S., Belfast; Professor BENJAMIN P. WATSON, Toronto. *Honorary Secretaries:* LOUISA MARTINDALE, M.B., B.S., 10, Marlborough Place, Brighton; W. RITCHIE, M.B., 10, St. James Terrace, Glasgow.

Wednesday.—Discussion on the Best Methods of dealing with Malpositions of the Uterus, especially with reference to Retrodisplacements and Prolapse: To be opened by Dr. MARY SCHARLIEB, Dr. HANS SCHLIMPERT (Freiburg), and Professor H. CORBY; followed by Drs. Cuthbert Lockyer, A. E. Giles, May Thorne, Christopher Martin, N. T. Brewis, G. B. Marshall, Frances Ivens, W. Ritchie, F. Edge, W. D. Macfarlane, and C. P. Childe. (For synopses see SUPPLEMENT, June 14th, p. 539, and June 28th, p. 602.)

Thursday.—Discussion on Affections of the Urinary Tract complicating Pregnancy: To be opened by Sir JOHN HALLIDAY CROOM, followed by Messrs. H. O. Nicholson, W. H. P. Newnham, H. Williamson, Bryden Glendining, F. Edge, and W. D. Macfarlane. (For synopsis see SUPPLEMENT, June 14th, p. 539.)

Friday.—Papers and pathological demonstrations:

GILES, A. E. Reasons for Early Operation on Uterine Fibroids.
MCILROY, A. Louise, WATSON, H. Ferguson and MCILROY, J. Hamilton. The Significance of the Wassermann Reaction in Gynaecological Diagnosis.
SCHLIMPERT, Dr. Hans. Abderhalden's Serum Reaction of Pregnancy.
IONIDES, T. H. Notes on General Peritonitis due to the Appendix and Complicating Pregnancy.
DICKINSON, R. L. (New York). International Clinical Travel by Specialist Groups.

LARYNGOLOGY, RHINOLOGY, AND OTOLOGY.

President: A. J. HUTCHISON, M.B., Brighton. *Vice-Presidents:* H. S. BARWELL, F.R.C.S., London; C. E. WOAKES, London. *Honorary Secretaries:* A. J. MARTINEAU, F.R.C.S.Edin., 22, Cambridge Road, Hove; W. S. SYME, M.D., 10, India Street, Glasgow; E. D. DARELAN DAVIS, F.R.C.S., 81, Harley Street, London, W.

Wednesday.—Discussion on the Technique and After-Treatment of the Radical Mastoid Operation: To be opened by Dr. WILLIAM MILLIGAN. (For synopsis see SUPPLEMENT, June 14th, p. 539.)

Thursday.—Discussion: The Care of Patients after Operations on the Nose and Naso-pharynx. To be opened by Mr. HERBERT TILLEY and Sir R. H. WOODS. (For synopsis see SUPPLEMENT, June 7th, p. 508.)

WATSON-WILLIAMS, P. Exploration of the Accessory Sinuses of the Nose (Demonstration).
HILL, William. A New Form of Oro-Tracheal Catheter for Administering Anaesthetics without Admission of Blood to the Air Passages (Demonstration).

Friday.—Papers:

MAURICE, A. (Paris), and HUMPHRIS, Howard. The Re-education of the Powers of Hearing.
O'MALLEY, J. F. Suggestive Points of Analogy in Oto-sclerosis and Arthritis Deformans.
HETT, G. Seccombe. The Physiology, Anatomy, and Embryology of the Palatine Tonsils.
RICHARDS, Professor Owen (Cairo). Rhino-scleroma.
HORNE, Jobson. A Tumour of the Ventricle of the Larynx.

MEDICAL SOCIOLOGY.

President: R. J. RYLE, M.D., M.A., J.P., Brighton, *Vice-Presidents:* G. E. HASLIP, M.D., London; H. GERVIS, M.B., J.P., Brighton. *Honorary Secretaries:* E. R. FOTHERGILL, M.B., B.S., 38, Dyke Road, Brighton; H. D. LEDWARD, M.A., M.B., 123, Norton Way, Letchworth, Herts.

Wednesday.—Discussion on Eugenics: To be opened by Mr. EDGAR SCHUSTER, M.A., B.Sc., Dr. HARRY CAMPBELL, and Dr. STEWART MACKINTOSH; followed by Dr. R. R. Rentoul, Sir James Barr, Mr. E. J. Lidbetter, and Miss A. H. B. Kirby (Secretary, National Association for the Feeble-minded). (For synopsis see SUPPLEMENT, June 28th, p. 603.)

Thursday.—Discussion on Crime and Punishment: To be opened by Dr. JAMES SCOTT, Dr. C. A. MERCIER, and Sir H. BRYAN DONKIN; followed by Dr. F. J. Smith, Mr. A. O. Jennings, LL.B. (Registrar, High Court of Justice), Major Atcherley (Chief Constable for the West Riding), the Rev. W. D. Morrison (late Chaplain H.M. Prisons), Mr. Hugh Elliott, the Rev. C. B. Simpson (Chaplain Inspector H.M Prisons), and Dr. Drury Pennington. (For synopsis see SUPPLEMENT, June 28th, p. 603.)

Friday.—Discussion on Hospitals in relation to the State, the Public, and the Medical Profession: To be opened by Professor BENJAMIN MOORE, Mr. I. G. GIBBON, D.Sc., Professor W. PFEIFFER, Dr. ADOLF GOTTSTEIN (Charlottenburg), and Professor GROBER (Jena); followed by Dr. Christopher Addison, M.P., Sir Henry Burdett, Mr. C. A. Parker, and Mr. W. P. Wright (Grand Master, Independent Order of Oddfellows). (For synopses see SUPPLEMENT, June 25th, p. 603, and July 12th, p. 64.)

The following are the headings of Professor PFEIFFER's paper on German Hospitals in their Relation to the Medical Profession: (1) The scientific position, equipment, and remuneration of physicians and their assistants who practise at the hospitals—(*a*) State hospitals and clinics; (*b*) Municipal hospitals; (*c*) Private hospitals. (2) The relation of private practitioners to the hospitals. (3) Medical practitioners who confine their practice to hospital work only.

MEDICINE.

President: E. HOBHOUSE, M.D., F.R.C.P., Hove. *Vice-Presidents:* J. F. GORDON DILL, M.D., M.R.C.P., Hove; R. HUTCHISON, M.D., F.R.C.P., London; W. BROADBENT, M.D., M.R.C.P., Hove; A. P. BEDDARD, M.D., F.R.C.P., London. *Honorary Secretaries:* DONALD HALL, M.D., M.R.C.P., 29, Brunswick Square, Hove; T. FRASER, M.B., 45, Elmbank Terrace, Aberdeen; W. LANGDON BROWN, M.D., F.R.C.P., 60, Welbeck Street, London, W.

Wednesday.—Discussion on Non-diabetic Glycosuria: To be opened by Dr. A. E. GARROD, F.R.S. (For synopsis see SUPPLEMENT, June 7th, p. 509.)

Thursday.—Discussion on Fibrositis and Muscular Rheumatism: To be opened by Dr. A. P. LUFF. (For synopsis see SUPPLEMENT, June 7th, p. 509.)

Friday.—Papers:

HOBHOUSE, Dr. On Sporotrichosis, with special reference to its Diagnosis from Syphilis and Tubercle. (Demonstration of specimens lent by Dr. Gougerot, of Paris.)
BROADBENT, W. The Heart as Affected by the Stomach.
MACKINNON, Dr. The Blood Pressure in Aneurysm.
RAW, Nathan. The Amount of Tuberculosis Conveyed from Animals to Man.
KING, Preston. Differentiation in Chronic Arthritis.

NAVY AND ARMY, AND AMBULANCE.

President: Colonel J. TURTON, V.D., F.R.C.S., late Assistant Director of Medical Service, T.F., Brighton. *Vice-Presidents:* Lieutenant-Colonel C. J. JACOMB-HOOD, R.A.M.C.T.F., Brighton; Deputy Surgeon-General P. B. HANDYSIDE, R.N., Plymouth; Major E. T. BIRRELL, R.A.M.C., Queen Alexandra Military Hospital, Grosvenor Road, S.W.; Colonel C. H. MILBURN, V.D., Hull. *Honorary Secretaries:* Lieutenant J. R. STEINHAEUSER, M.D., T.F., St. Andrew's Place, Lewes; Captain J. A. ROOTH, R.A.M.C.T.F., 1, Goldsmid Road, Brighton.

Wednesday.—Papers:

BIRRELL, Major, R.A.M.C. Notes on the Work of a British Red Cross Unit with the Bulgarians.
DONEGAL, Lieutenant-Colonel, R.A.M.C. The Relation of and Utility of Aeroplanes in connexion with Medical Services in the Field.

Thursday.—Papers:

Durey, Louis. French Army Service. Study of the Use of Kinesitherapy in the After-treatment of Injuries received in the War.

Kennard, Lieutenant D. G., R.A.M.C.(T.F.) A Proposed Light Ambulance for Yeomanry Regiments.

Houghton, Major J. W., R.A.M.C. Spinal Analgesia in Military Service.

Beveridge, Lieutenant-Colonel W. W. O., R.A.M.C. The Factors Essential to the Construction of a Military Ration.

NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

President: J. Taylor, M.D., F.R.C.P., London. *Vice-Presidents:* A. W. Mackintosh, M.D., Aberdeen: W. H. B. Stoddart, M.D., F.R.C.P., London; Helen Boyle, M.D., Hove. *Honorary Secretaries:* J. L. Baskin, M.D., New Church Road, Hove; T. Grainger Stewart, M.D., 54, Queen Anne Street, London, W.

Wednesday.—Discussion on Sleep and the Treatment of Sleeplessness: To be opened by Sir George H. Savage, to be followed by Drs. W. H. Butter Stoddart, Hubert Bond, Constance E. Long, J. R. Lord, and D. G. Thomson. (For synopsis see Supplement, June 28th, p. 604.)

Thursday.—Discussion on Vertigo, its Significance and Treatment: To be opened by Dr. J. S. Risien Russell; followed by Drs. E. Farquhar Buzzard, Harry Campbell, Leonard Guthrie, Ashley Mackintosh, Aldren Turner, W. B. Warrington, H. J. Davis, and Mr. Sidney Scott. (For synopsis see Supplement, June 28th, p. 605.)

Friday.—Papers:

Boyd, William, and Brunton, G. L. On the Occurrence of Micrococci in the Blood and Cerebro-spinal Fluid of Two Cases of Mania.

Klein, S. R., New York. Determination of Urea in Epilepsy Before and After the Attack.

Wingfield, Hugh. Suggestion in the Treatment of Alcoholism.

Brown, William. Case of Extensive Amnesia of Remote Date Cured by Psycho-analysis and Hypnosis.

Eder, M. D. The Present Position of Psycho-analysis.

Brown, Professor. The Psycho-Analytical Method of Freud.

Anderson, R. J. Some Aspects of Reflex Action in Man and the Lower Animals.

OPHTHALMOLOGY.

President: T. H. Bickerton, M.R.C.S., Liverpool. *Vice-Presidents:* H. H. Taylor, F.R.C.S., Hove; W. W. Griffin, F.R.C.S., Hove; A. Nicholson, M.B., Hove; J. H. Parsons, F.R.C.S., London. *Honorary Secretaries:* W. B. Inglis Pollock, M.D., F.R.C.P.S., 276, Bath Street, Charing Cross, Glasgow; W. H. Brailey, M.D., 21, Lansdown Place, Hove.

The following subjects will be discussed, and it is hoped that all members attending the Section will express their views.

1. The question of Excision in cases of Injury of the Eye.

2. School Clinics in relation to the prevention of myopia.

3. The Treatment of Chronic Dacryocystitis.

PHARMACOLOGY, THERAPEUTICS, AND DIETETICS.

President: W. Hale White, M.D., F.R.C.P., London. *Vice-Presidents:* J. C. Uhthoff, M.D., Hove; H. Batty Shaw, M.D., F.R.C.P., London; H. C. Cameron, M.D., M.R.C.P., London. *Honorary Secretaries:* V. Cow, M.D., The Bridge House, Great Shelford, Cambridge; E. R. Hunt, M.D., 3, Goldsmid Road, Brighton.

Wednesday.—(1) Paper:

Haig, A. The Acid Child in Relation to Dietetic Errors.

(2) Discussion on Urinary Antiseptics: To be opened by Mr. J. W. Thomson Walker; followed by Professor Bradbury, Dr. Gray Barbour (Yale), and Mr. A. R. Jordan. (For synopsis see Supplement, June 7th, p. 510.)

(3) Paper:

Barbour, H. Gray (University of Yale). The Pharmacology of Body Temperature.

Thursday.—(1) Discussion on Anaphylaxis. (Joint discussion with Section of Bacteriology and Pathology. For a list of those taking part in the discussion see p. 506.)

(2) Paper:

Price, F. W. Some Further Investigations of the Action of Digitalis on the Blood Pressure in Man.

Friday.—(1) Discussion on The Use and Abuse of Hypnotics: To be opened by Dr. W. H. Willcox, followed by Dr. Maurice Craig, Dr. Gray Barbour, and Dr. Uhthoff. (For synopsis see Supplement, June 7th, p. 510.)

(2) Papers:

Muthu, C.: Continuous Antiseptic Inhalation in the Treatment of Pulmonary Tuberculosis.

Winslow, H. F.: Some Errors in Dietetics.

STATE MEDICINE.

President: E. W. Hope, M.D., D.Sc., Liverpool. *Vice-Presidents:* A. Griffith, M.D., Hove; G. V. Benson, M.R.C.S., Lewes; W. A. Bond, M.D., M.O.H., London. *Honorary Secretaries:* G. W. Stone, M.R.C.S., L.R.C.P., Cumnor, Dyke Road, Brighton; T. B. Heggs, M.D., Town Hall, Sittingbourne.

Wednesday.—Discussion on the Prevention and Treatment of Tuberculosis: To be opened by the President and Dr. H. O. West, followed by Drs. Camac Wilkinson and McWalter.

Thursday.—(1) Discussion on Port Sanitary Administration and the Importation of Disease: To be opened by Dr. Herbert Williams, M.O.H. Port of London, followed by Dr. Foy (Rangoon). (For synopsis see Supplement, June 7th, p. 510.)

(2) Discussion on The Need for Popular Education in matters affecting the Public Health: To be opened by Professor H. R. Kenwood; followed by Dr. T. A. Williams (Washington, U.S.A.). (For synopsis see Supplement, June 7th, p. 510.)

SURGERY.

President: W. Thelwall Thomas, F.R.C.S., Liverpool. *Vice-Presidents:* R. F. Jowers, F.R.C.S., Hove; W. Taylor, F.R.C.S.I., Dublin; Stanley Boyd, F.R.C.S., London; J. W. Batterham, F.R.C.S., St. Leonards-on-Sea; W. Furner, F.R.C.S., Hove. *Honorary Secretaries:* H. J. Walker, F.R.C.S., The Priory, Springfield Road, Brighton; C. A. R. Nitch, F.R.C.S., 69, Harley Street, W.; F. K. Smith, M.B., 207, Great Western Road, Aberdeen.

Wednesday.—Discussion on the Diagnosis and Treatment of Primary Carcinoma of the Stomach. To be opened by Mr. G. H. Makins, C.B.; followed by Messrs. Hey Groves, J. K. Dalziel, Paterson, R. F. Jowers, Buck, and C. P. Childe. (For synopsis see Supplement, June 7th, p. 511.)

Papers:

Wilkie, D. P. D. Experimental Observation on the Cause of Death in Acute Intestinal Obstruction.

Warden, A. A. Radium and Inoperable Cancer.

Thursday.—Discussion on the Diagnosis and Treatment of Injuries of the Knee-joint other than Fractures and Dislocations: To be opened by Mr. A. M. Martin (Newcastle-on-Tyne); followed by Messrs. Openshaw, Walters, Deanesly, Whitelocke, Hey Groves, Dalziel, Pinch, and A. J. Walton. (For synopsis see Supplement, June 7th, p. 511.)

Papers:

Groves, E. W. Hey. The Operative Treatment of Fractures.

Dalziel, J. K. Chronic Intestinal Arteritis.

Friday.—Papers:

Wade, H. Prostatism.

Dalziel, J. K. Neuralgia of the Twelfth Nerve Simulating Visceral Lesions.

TROPICAL MEDICINE.

President: Lieutenant-Colonel Sir William Leishman, M.B., F.R.S., R.A.M.C., London. *Vice-Presidents:* E. Irwin Scott, M.D., Hove; Professor W. J. R. Simpson, C.M.G., M.D., F.R.C.P., London; Major W. S. Harrison, R.A.M.C., Royal Army Medical College, Grosvenor Road, S.W. *Honorary Secretaries:* E. Curwen, M.A., M.B., B.C., 1, St. Aubyn's, Hove; F. W. O'Connor, M.R.C.S., London School of Tropical Medicine, Royal Albert Dock, E.

Wednesday.—Discussion on the Causes of Invaliding in the Tropics: To be opened by Dr. G. Basil Price and Colonel R. J. S. Simpson, C.M.G., A.M.S. (ret.). (For synopsis see Supplement, June 14th, p. 540.)

Thursday.—Discussion on Dysentery: To be opened by Captain S. R. Douglas. (For synopsis see Supplement, June 14th, p. 540.)

Friday.—Discussion on Filariasis: To be opened by Dr. Low. (For synopsis see Supplement, June 7th, p. 511.)

Paper:

Birt, Colonel C. Dengue and Phlebotomus Fever.

RAILWAY FACILITIES.

The railway vouchers issued by the Financial Secretary on application to him at 429, Strand, should be used for the first journey to and the last journey from Brighton.

The London, Brighton, and South Coast Railway will issue, on presentation of member's card, return tickets from Brighton to all places within a radius of 50 miles, including London, at a single fare and a third for the double journey (minimum reduced fare 1s.). The member's card is issued at the Reception Room, Brighton.

The London and North-Western Railway will have an inquiry office in the Entrance Hall at the Pavilion to give information to members. There is a daily through train each way between Liverpool, Manchester, Birmingham, etc., and Brighton.

ENTERTAINMENTS.

In addition to the provision of various entertainments during the afternoons and evenings of the week of the meeting, the following special arrangements have been made:

Golfing.

Members attending the Annual Meeting will find that excellent arrangements have been made for golf. Practically all the greens within easy reach of Brighton have been thrown open to members by the clubs owning them. The furthest afield are the links of the Pyecombe Club (5 miles), the Worthing Club (10 miles), and the Seaford Club (16 miles); the nearest to head quarters are the East Brighton, Brighton and Hove, West Hove, and Southdown Clubs. The general arrangements are in the hands of Dr. P. Stanhope Eves (14, North Street, Brighton), the honorary secretary of the Golfing Subcommittee, who is now ready to receive the names of entrants for the principal golfing event—namely, the competition for the Ulster Cup.

This competition, which is open to all members of the Association, is to be held on Thursday, July 24th, on the grounds of the East Brighton Golf Club. Play will be over 18 holes against bogey, each competitor being given the advantage of the lowest handicap ordinarily allotted to him by any golf club to which he belongs, provided that handicap is not more than 18. The particulars which should be sent to the honorary secretary are the name and address of the competitor (as also, if possible, the name and address of his partner), the name and address of the golf club at which the player has his lowest handicap, and a statement of what that handicap is. Each entrant should also state at what hour he prefers to start play, the recognized hours being from 9 a.m. to 4 p.m. The cup was presented to the Association by the Ulster Medical Society in 1909, and the first competition for it took place during the Annual Meeting at Belfast in that year.

The arrangements for ladies are in charge of Mrs. Sanderson, 57, Brunswick Square, Hove. If members of recognized golf clubs, they will be made honorary members of the Brighton and Hove Ladies' Golf Club, which has its links at the Dyke, from July 21st to July 26th inclusive. On Friday, July 25th, there will be a medal competition for a prize kindly offered by the Mayoress of Hove. Ladies wishing to take part in this competition should send their names and handicaps (L.G.U. or club) to Mrs. Sanderson by July 23rd.

Cricket.

A cricket match has been arranged for July 26th—The Profession *v.* Brighton College. Play will commence at 11.30 on the College Ground. Any members wishing to play are requested to send their names as soon as possible to Mr. Geoffrey Bate, 8, Palmeira Avenue Mansions, Hove. In the afternoon the Head Master (the Rev. W. R. Dawson) and Mrs. Dawson will be glad to entertain members and their friends to tea, and the college will be open for inspection.

Masonic Meeting.

The Worshipful Master, Wardens, and Brethren of the Hova Ecclesia Lodge, No. 1466, extend a cordial invitation to all medical Masons to attend a special lodge which has been summoned for the purpose of giving a Masonic greeting to all Masons attending the Annual Meeting. A reception and tea (at 4.30 p.m.) at the Old Ship Hotel will follow the Church Service on Wednesday, July 23rd. The lodge will be opened at 5.15 and closed at 5.45 p.m. Morning dress. Brethren who cannot be vouched for are either requested to bring their Grand Lodge certificates or to be prepared to give proofs. All brethren who wish to be present are asked to communicate with Bro. C. H. Benham, 14, North Street, Brighton, as early as possible, and in any case not later than Monday, July 21st.

Representative Meeting: Afternoon Excursions on Sunday.

On the Sunday during the Representative Meeting, that is to say, on Sunday, July 20th, the Excursions Committee of the annual meeting proposes to arrange excursions to Shanklin, Isle of Wight, and to Crowborough, where Sir Arthur Conan Doyle has kindly invited a party to tea.

Honorary Local Treasurer—
H. H. TAYLOR, F.R.C.S.,
36, Brunswick Square, Hove.

Honorary Local Secretary—
LEONARD ARTHUR PARRY, M.D., F.R.C.S.,
5, The Drive, Hove.

PROVISIONAL PROGRAMME.

The following is the provisional time table for the Brighton meeting:

FRIDAY, JULY 18TH.
10 A.M.—Annual Representative Meeting.
7.45 for 8 P.M.—Representative Dinner at the Hotel Metropole, Brighton.

SATURDAY, JULY 19TH.
9.30 A.M.—Representative Meeting.

MONDAY, JULY 21ST.
9 A.M.—Council Meeting.
10 A.M.—Representative Meeting.

TUESDAY, JULY 22ND.
9.30 A.M.—Representative Meeting.
2 P.M.—Annual General Meeting.
8.30 P.M.—*Adjourned General Meeting, President's Address.

WEDNESDAY, JULY 23RD.
9 A.M.—Roman Catholic Service at St. John Baptist Church.
9 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Medicine.
3.30 P.M.—*Service at St. Peter's Church.
4 P.M.—Secretaries' Conference.
7 P.M.—Secretaries' Dinner.
8.30 P.M.—*Soirée by the Mayor of Brighton.

THURSDAY, JULY 24TH.
8 A.M.—National Temperance League Breakfast.
10 A.M. to 1 P.M.—Sectional Meetings.
12.30 P.M.—Address in Surgery.
2.30 P.M.—Conference of Representatives of Local Medical Committees, to be continued on following days if necessary.
7.30 P.M.—Annual Dinner.

FRIDAY, JULY 25TH.
9 A.M.—Council Meeting.
10 A.M. to 1 P.M.—Sectional Meetings.
8 P.M.—Popular Lecture.
8.30 P.M.—*Reception by the Brighton Division.

SATURDAY, JULY 26TH.
Excursions.

The Local Executive Committee request that Academic Dress may be worn on the occasions indicated by an asterisk (*), but they desire it to be understood that in Brighton it is not customary to wear town dress—tall silk hat, etc.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the Journal.*]*

BIRMINGHAM BRANCH:
Central Division.

The eleventh annual meeting of this Division was held at the Medical Institute, Edmund Street, on Wednesday, June 25th. Mr. A. Lucas, Chairman of the Division, presided. Forty members were present.

Ambulance Report.—Mr. Lloyd Owen and Dr. Nelson asked whether the Executive Committee had taken any further action. The Chairman replied that Dr. Lilley and Dr. Trumper had been elected members of the committee of the local centre of the St. John Ambulance Association, upon the recommendation of the Executive Committee, for the purpose of furthering the wishes of the Division upon that committee as far as possible and of furnishing a report in due course to the Executive Committee.

Election of Officers.—Mr. Woodman and Dr. Herbert Quirke were appointed scrutineers. The Chairman then declared that Dr. C. E. Purslow was elected Chairman of the Division. The election was applauded; thereupon Dr. Purslow took the chair vacated by Mr. Albert Lucas. The other offices were filled as follows:

Vice-Chairman.—Dr. F. Lilley.

Honorary Secretaries.—Dr. Ernest C. Hadley and Mr. Bernard J. Ward.

Representatives upon the Branch Council.—Drs. Alldridge, Lydall, Marsh, Trumper, Whaite, Thomas Wilson.

Executive Committee.—Drs. Atkins, Boeddicker, J. Furneaux Jordan, W. Ross Jordan, Knott, Lucas, Wilkes.

Annual Report.—The annual report of the Executive Committee was received, approved, and adopted. The report was to the following effect:

During the past year the Division has held eleven general meetings, three of which were also special, and three special meetings; the attendance at these meetings has averaged 125.4, against an average of 98 during the previous twelve months. The high-water mark of attendance for this Division was reached at the special meeting of the Division held at the Temperance Hall on December 11th, 1912, when 313 members of the medical profession were present. The National Insurance Act, a measure which has caused the medical profession throughout the country the greatest anxiety and alarm on account of its revolutionary effect upon medical practice and the disturbance of the vested interests of the profession, has of course accounted for the phenomenal attendances.

The Executive Committee wish to impress upon the members of the Division the great need that there is still for united effort upon their part to improve the conditions of service under the Act, so that the danger may be averted of the scientific aspect of their professional work being neglected for the purely mercenary side, with the ultimate lowering of the standard of professional work and the status and prestige of the profession.

The area of the Central Division now corresponds with that of Greater Birmingham. The Division also now forms a constituency in itself for Association purposes, with four Representatives upon the Representative Body. The membership of the Central Division on December 31st, 1912, was 428. As there were 563 medical men resident in the area of this Division—89 holding whole-time appointments, 67 retired or not in medical practice, 407 in private practice—there are 68 medical men only in active practice in the city not members of the Association. The Executive Committee expressed the hope that during the coming year every one of these non-members would be induced to join the Association, so that in this Division, one of the largest and most important in the kingdom, the medical profession shall be united for the common good.

The Executive Committee of the Division desire most urgently to call the attention of members to the important resolution which was carried *nemine contradicente* at a special meeting of the Division on Wednesday, October 23rd, 1912. The Representatives of the Division subsequently received instructions to move this resolution at the Special Representative Meeting held in London on November 20th, 1912, with the object of getting it adopted as the policy of the Association. This they successfully accomplished. The resolution, as amended, was carried in the following form:

> That until some general scheme of contract or other form of medical service is approved by the Association the members of the British Medical Association decline, after March 25th, 1913, to undertake or conduct any form of contract practice for non-insured persons, except upon such terms as shall be approved in Great Britain by the Council of the Association and in Ireland by the Conjoint Committee,

and in this form expresses the policy of the whole Association.

A Public Medical Service has been established in this Division upon the lines laid down by the Assoociation, and is the *only* contract-scheme for attendance upon non-insured persons that has been locally approved by this Division and by the Council of the Association. The importance of a strict and loyal adherence to this policy is that when persons at present uninsured are eventually brought into a national scheme for medical attendance, the profession will be in a position to get adequate remuneration for attendance upon these persons with a greater chance of success, for, as all know, much more attendance is required by women and children than upon the present insured class of workers.

Vote of Thanks.—A vote of thanks to the retiring officers, Executive Committee, and scrutineers was passed.

Ethical Case.—A resolution, of which due notice had been given upon an ethical case referred to this Division from an adjacent Division, was carried *nemine contradicente.*

Instructions to Representatives.—Instructions were given to Representatives upon matters referred to Divisions as contained in the Supplements of the British Medical Journal of May 3rd and 10th. Very little interest was taken by members in this part of the meeting, most of the members leaving. Many of the questions were left to the discretion of the Representatives.

DORSET AND WEST HANTS BRANCH.

The summer meeting of the Branch was held at the Town Hall, Wareham, on July 9th. The President, Dr. H. G. Lys, was in the chair, and thirty-six members signed the attendance register.

Letter of Thanks.—A letter from Dr. J. Roberts Thomson was read, thanking the members for their congratulations on the occasion of the conferment on him of the honorary freedom of the Borough of Bournemouth.

Resignation.—Dr. W. C. Spooner wrote resigning the Vice-Presidency.

Autumn Meeting.—It was decided to hold the autumn meeting at Weymouth.

Papers.—Dr. Charles Mercier read a most interesting paper entitled A Problem in Diagnosis, which was discussed by Drs. Macdonald, Johnson-Smyth, Gosse, Midelton, Wright, and Snell. The President thanked Dr. Mercier for the paper, and Dr. Mercier replied. The Honorary Secretary read notes of a case of paralysis in a child, for Dr. Broadway, who was unable to be present. Dr. Mercier and Dr. Snell discussed the case.

Votes of Thanks.—Votes of thanks were passed to Rev. Canon Blackett, Rector of Wareham, for very kindly showing some of the objects of interest in the town; to Drs. Courtenay and Bell, who kindly provided tea; and to the Mayor and Council of Wareham, who had allowed the use of the town hall for the meeting.

Luncheon.—Twenty-one members met for luncheon at the Red Lion Hotel before the meeting.

EAST ANGLIAN BRANCH:
Mid-Norfolk Division.

The annual meeting of the Mid-Norfolk Division was held in the Medical Library, Norwich, on July 5th, and was preceded by a meeting of the Executive Committee.

After formal business, Dr. Sydney Harrison, North Walsham, being in the chair, the following officers were duly elected for the ensuing year:

Chairman.—Dr. R. C. M. Colvin-Smith, Cromer.

Vice-Chairman.—Dr. C. A. O. Owens, Longstratton.

Honorary Secretary and Treasurer.—Dr. D. G. Thomson, Thorpe, Norwich.

Representative to the Branch Council.—Dr. R. J. Horn, St. Faith's, Norwich.

Executive Committee.—Drs. Davidson, Gillett, Harrison, Howard, and Howlett.

(The Representative at Representative Meetings, Dr. D. G. Thomson, was elected in April.)

Proposed Subdivision of the Branch.—The question of the subdivision of the East Anglian Branch was then discussed. The SECRETARY gave a short history of the movement based on information which had been circulated among the members of the Division, pointing out the inconveniences to members of meeting in the various parts of the huge area of the Branch from King's Lynn in the north, to Southend in the south. Eventually it was unanimously resolved that, in the opinion of this Division, the Branch be divided up into three Branches—namely, one for Norfolk, one for Suffolk, and one for Essex. The Secretary was instructed to inform the Branch Secretary of this resolution.

Rearrangement of the Boundaries of the Division.—With a view to unifying the Division and Insurance Act areas, it was resolved to incorporate the rural portion of the present East Norfolk Division with the Mid-Norfolk Division, leaving the Yarmouth portion of the East Norfolk Division to form a separate Division under the name of the Great Yarmouth Division, both Divisions concerned having approved this rearrangement. It was further suggested that when this is carried out the Mid-Norfolk Division should be renamed the East Norfolk Division, in which event there would be the four Divisions in the geographical county of Norfolk—namely, the West Norfolk, the East Norfolk, the Norwich, and the Great Yarmouth Divisions.

Annual Representative Meeting.—The meeting did not find the time at its disposal sufficient fully to consider the report of the Council and instructed the Representative at the Annual Meeting at Brighton to speak or vote as he considered best, he being well acquainted with the views generally of the Division on matters of present interest to the local profession.

Local Medical Committee.—The meeting terminated after a short explanation had been given to the members present of the work of the Local Medical Committee for the past three months.

EDINBURGH BRANCH:

LOTHIANS DIVISION.

THE annual meeting of the Lothians Division was held on June 19th at Bangour Village, Linlithgowshire.

The Chairman's Hospitality.—Dr. John Keay, Chairman, had kindly invited the resident medical men of the Lothians to lunch, at which about twenty members sat down. Dr. KEAY occupied the chair, and Mr. J. W. FORBES (Advocate, Edinburgh), representing the Board of Bangour Asylum, occupied the croupier's chair. After lunch Dr. KEAY addressed the company, saying that it was his privilege and pleasure to have the honour of entertaining the Lothians Division for the first time at such a social gathering, and hoped that such functions might recur with greater frequency in the future. He expressed the great pleasure it had been to him to preside over the meetings for the last two years, and that the Division was to be congratulated upon its awakening interest in affairs medical, and trusted that for the future even greater success in this respect was before them. Mr. J. W. FORBES, on behalf of the Bangour Board, extended his welcome, and said that the Chairman of the Board would have been present had he not unavoidably been unable to come that day.

Business Meeting.

The business of the meeting was then entered upon.

Model Ethical Rules.—The ethical rules were considered, and unanimously adopted.

National Insurance Act.—The correspondence received from the Council relating to: (1) Co-ordination of Local Medical Committees; (2) temporary residents; (3) aged and infirm members of approved societies; (4) medical certificates for sickness benefit in respect of cases attended by midwives; (5) relation of Divisions and insurance areas, was all considered, and the policy of the British Medical Association was approved.

Election of Officers.—The following office-bearers were unanimously elected for the year 1913–14:

Chairman.—Dr. W. R. Martine, East Lothian.
Vice-Chairman.—Dr. A. D. R. Thomson, Midlothian.
Honorary Secretary.—Dr. A. M. Easterbrook.
Executive Committee.—Drs. John Keay, R. Kirk, G. A. Dickson, West Lothian; Drs. McEwan, J. F. Crombie, East Lothian; Drs. S. C. Fowler, H. S. Ballantyne, James Cameron, Midlothian.

Watching Committee.—It was unanimously resolved to appoint a Watching Committee, consisting of Drs. A. D. R. Thomson, W. R. Martine, R. Kirk, and A. M. Easterbrook, in relation to impending legislation in the forthcoming Amending Act, and they were instructed to wait as a deputation upon the members of Parliament for the three counties (the Lord Advocate, Major Hope, and Mr. J. D. Hope) if it were possible for this to be arranged.

LANCASHIRE AND CHESHIRE BRANCH:

ROCHDALE DIVISION.

A MEETING of the Rochdale Division was held in the Wellington Hotel, Rochdale, on July 10th, when eight members were present. Dr. GEDDES was in the chair.

Annual Representative Meeting.—The provisional agenda in the SUPPLEMENT of May 10th was discussed, and the Representative instructed to vote as follows: In favour of Motions 12, 13, 21, 22, 23, 24, 25, 27, 36, 37, 38, 39, 40, 42, 43, 45, 56, and against Rider 11 and Motions 14, 15, 57, and 58. He was also directed to support Motion 60, and instructed how to act in regard to the following motion, No. 61. In respect of Motions 16, 28, 29, 30, 31, 55, and 59, and Rider 44 his discretion was left unfettered. The amendments in the SUPPLEMENT of June 21st were considered, and the Representative was instructed to vote as follows: In favour of 3, 7, 8, and against 1, 2, 4, while Nos. 5 and 6 were left to his discretion. With regard to the recommendations published in the SUPPLEMENT of July 5th, the Representative was directed to vote in favour of A and B, N, O, and P, D, F, and I, J, K, and M, and of free choice of doctor, and also in favour of recommendation *re* voluntary system of hospitals. The following resolution was carried unanimously for the consideration of the Representative Meeting:

> That the National Insurance Act should be so amended as to provide that any insured person who can bring a certificate from a qualified practitioner to the effect that that practitioner is prepared to attend him or her should be exempted from the medical provision of the Act.

SOUTHPORT DIVISION.

A SPECIAL meeting of the Southport Division was held on July 7th at the Temperance Institute. Dr. MACKAY was in the chair, and ten other members were present.

Expenses of Representatives.—The SECRETARY reported that the Division's share of the Branch fund for payment of expenses of Representatives at Representative Meetings and of members of Branch Council had been raised.

Election to Central Council.—The Representative was requested to nominate Dr. Garstang for election on to the Council of the Association, and to support his candidature at the Representative Meeting.

Reorganization of the Association.—Matters referred to Divisions published in the SUPPLEMENTS of June 21st and July 5th were considered, and the following resolutions carried *nemine contradicente*:

> That this meeting expresses a general approval of the Report of the Council on the scheme of the Metropolitan Counties Branch for the reorganization of the Association; recognizes the desirability of making the Representative Meeting more deliberative and not a meeting of pledged delegates only; also that the reduction of numbers of the Representative Meeting is impracticable while retaining its representative character, and that a change of mode of election of the Council is not desirable. It recognizes the desirability of economy, but does not approve of increasing the amount of the ordinary subscription.
>
> That this Division realizes the desirability of the establishment by the Asssciation of a fund for the better organization of the medical profession, especially as a trust administered by the Association, and objects to the formation of a trade union, but, recognizing the legal difficulties which may attend the formation of such a trust, commends the subject to the consideration of its Representative in Representative Meetings.

Medical Attendance on Juvenile Members of Clubs.—A letter was read from Dr. HENDERSON, in which he suggested that all the doctors practising in the area should have the opportunity of threshing out with the club officials the question of paying the adult rate for medical attendance on their juvenile members. It was decided that as the question had been settled on February 25th, Dr. Henderson's suggestion could not be carried out

without rescinding the motion of that date which approved the decision of the Local Medical Committee that no contract practice, adult or juvenile, be taken at a less fee than 8s. 6d.; and that if any member of the Division desired that this should be rescinded he must give due notice.

Local Medical Committee.—Dr. Penrose reported, as secretary of the Local Medical Committee, that he had received a communication from the Insurance Commissioners requesting him to submit a scheme for the next election of a Local Medical Committee. After discussion of the position a committee—consisting of Drs. Mackay, Harris, and Penrose—was appointed to formulate a scheme for submission to the next meeting of the Division, to which all resident members of the profession should be invited.

State Medical Service Association.—An application from the State Medical Service Association that a meeting might be devoted to its object, and offering the services of a reader of a paper, was referred to the Southport Medical Society.

METROPOLITAN COUNTIES BRANCH:

East Hertfordshire Division.

A meeting of this Division was held at the Shire Hall, Hertford, on July 9th, with Dr. J. H. Gilbertson in the chair; fourteen members were present.

Contract Practice Committee of Branch.—Drs. Odell (Hertford) and Charles (Hitchin) were elected to represent the Division on this Committee.

Special Report of Council.—The special report of Council on certain proposals made by the Metropolitan Counties Branch Council for the reorganization of the Association was considered, and the Representative was instructed to vote against the proposed limitation of powers of Divisions and in favour of making the Representative Body an assembly with full deliberative powers.

Supplementary Report of Council.—The suggestion contained in the Supplementary Report of Council to create a special fund for the better organization of the profession was discussed. The proposal was supported by Drs. Addison, Charles, Reckitt, and Wells, and opposed by Drs. Boyd and Gilbertson. A motion that the Representative be instructed to support the proposal was carried, but about half of those present abstained from voting.

Hampstead Division.

A meeting of the Division was held at the Central Library on July 11th, Dr. Picard in the chair.

Contract Practice Committee.—Drs. Oakley and George were elected to represent the Division on the Contract Practice Committee of the Branch.

Deputy Representative.—Dr. Oakley was appointed Acting Deputy Representative for the Brighton Meeting.

Section of Medical Sociology at Brighton.—Dr. Pritchard inquired whether any steps had been taken as to the invitation to Mr. Masterman and to Mr. Lloyd George to attend and speak at the Section of Medical Sociology of the Brighton Meeting, and read the resolution passed by the Lewisham Division and supported by Marylebone, Wandsworth, and Islington, namely:

> That owing to the present conditions of working the Insurance Act this Division emphatically protests against any politician of prominence being invited to attend any meetings of the British Medical Association.

He proposed that the Hampstead Division should support the motion. This was seconded by Dr. Shuttleworth and carried.

Instruction of the Representative.—The meeting then proceeded to instruct the Acting Representative as to the motions in the provisional agenda which had not previously been considered; also as to the proposals for reorganization of the Association on the supplementary report of the Council.

District Insurance Committee.—It was pointed out by the Medical Officer of Health that the District Insurance Committee was now in being, and that at its next meeting it would proceed to allot those of the insured not yet on a doctor's list. He pointed out that there was no medical representative on this committee. Mr. Ware moved, and Dr. Pritchard seconded, the following resolution, which was carried unanimously:

> That the Honorary Secretary of the Provisional Medical Committee be asked to again put forward the name of the selected medical representative to the District Insurance Committee.

On the motion of Dr. Scrase, seconded by Dr. Coode Adams, it was unanimously resolved:

> That the Honorary Secretary of the Hampstead Provisional Medical Committee be requested to send a copy of the letter of application to the Chairman of the District Insurance Committee.

Lewisham Division.

A meeting of the Division was held at the Co-operation Hall, Catford, on July 8th. Dr. Thornton Comber presided.

Instruction of Representative.—The Representative to Representative Meetings, Dr. T. Macnamara, received his final instructions for the Representative Meeting at Brighton. In particular, great exception was taken to Amendment 4 (Supplement, June 21st, p. 565). It was further proposed by Dr. Macnamara, and seconded by Dr. Blue:

> That this meeting of the Lewisham Division of the British Medical Association protests emphatically against politicians of any party being permitted, under present conditions, to address any of the meetings to be held during its annual meeting at Brighton, beginning Friday, July 18th.

Vote of Thanks.—A vote of thanks to the Chairman terminated the meeting.

Marylebone Division.

A general meeting was held at the Rooms of the Medical Society of London on July 11th. Mr. Charles Ryall, Chairman of the Division, presided, and fifteen members and one visitor were present.

Ethical Rules.—On the motion of Dr. F. J. Smith, seconded by Dr. W. Griffith, the model ethical rules of a Division not in itself a Branch was adopted.

Annual Representative Meeting.—Dr. F. J. Smith proposed, Dr. Gordon Lane seconded, and it was agreed that the Representatives be instructed to vote against increasing the subscription and in favour of the expenditure being decreased as much as possible. On the motion of Dr. Goodbody, seconded by Dr. Halls Dally, it was decided that the Representatives be instructed to vote against the Association being made into a trade union. Dr. F. J. Smith proposed, seconded by Dr. Halls Dally, and the Representative was instructed to move at the Brighton Meeting:

> That power be given to any Division to refer to a postal vote within its boundaries any question which the Division considers should be so referred.

Dr. Halls Dally proposed, and Dr. Gordon Lane seconded:

> That the Representatives take up an attitude of determined opposition to the medical part of the Insurance Act.

This was carried, after Dr. Park (by permission of the meeting) had made a statement as to the position at Chiswick. The Representatives were left a free hand on all other questions that might arise. Dr. J. F. Halls Dally was appointed Deputy Representative in place of Dr. Roxburgh, who found that he would be unable to attend the Brighton Meeting. The Representatives were instructed to move the following resolutions at the Representative Meeting:

1. That if hospitals and other institutions are to be represented on the Statutory Local Medical Committees, a certain number of Poor Law Service representatives should be elected.
2. That the Insurance Act is derogatory to the best interests of the profession, and that the policy of the Association be to demand the following amendments: (1) That an income limit be fixed; (2) free choice of doctor; (3) freedom from lay control; (4) that no one interest be given a permanent majority over all the other interests.
3. That medical practitioners be advised to refrain from signing all public medical certificates until they are indemnified from any pecuniary consequences.

On the motion of Dr. Montgomery-Smith, seconded by Dr. Roxburgh, it was resolved:

> That the Marylebone Division record its strong disapproval of the action of the Committee of the Section of Medical

Sociology in inviting the Right Honourable Mr. Lloyd George, M.P., and Mr. Masterman, M.P., to a section of the Association.

Mr. McADAM ECCLES moved, and Dr. HALLS DALLY seconded, the following resolution, which was carried:

That a copy of the above resolution be sent to the President, Vice-Presidents, Honorary Secretaries, and members of the Committee of the Section of Medical Sociology.

The appointment of any other Deputy Representatives that may be required was left in the hands of the Chairman. The proceedings then terminated.

WESTMINSTER DIVISION.

A MEETING of the Westminster Division was held on June 23rd, when the following officers were elected:

Chairman.—Mr. J. Howell Evans.
Vice-Chairman.—Dr. B. O'Connor.
Honorary Secretary and Treasurer.—Dr. W. A. Milligan.
Representatives at Representative Meeting.—Mr. J. Howell Evans, Dr. G. E. Haslip, and Dr. F. H. Humphris.
Representatives on Branch Council.—Dr. K. R. Hay, Dr. B. O'Connor, and Dr. F. J. Allan.
Executive Committee.—Drs. Humphris, Kennard, Maitland, Bennett, Hay, Mullings, Pennington, Longinotto, Barlet, Allan, Whitehouse, Ewart, G. E. Haslip.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.

KENDAL DIVISION.

A GENERAL meeting was held on July 9th. The following officers for the ensuing year were appointed:

Chairman.—Dr. Graham, Orton.
Vice-Chairman.—Dr. G. A. Johnston, Ambleside.
Secretary and Treasurer.—Dr. David Riddell, Kendal.
Representative to Representative Meeting.—Dr. W. B. Cockill, Kendal.
Representatives on Branch Council.—Dr. W. D. Chapman, Windermere; and Dr. D. Riddell, Kendal.
Executive Committee.—Drs. G. A. Johnston, Highet, Fuller, Holroyd, Dick, Cockill, Sturridge, and Riddell.
Model Ethical Rules.—The Model Rules for ethical procedure have been adopted by the Division.

OXFORD, READING, AND MAIDENHEAD BRANCH.

THE annual meeting of the Branch was held on July 11th at the Radcliffe Infirmary, Oxford.

Installation of President.—Dr. Freeman (Reading) vacated the chair, and Sir Wm. Osler (Regius Professor of Medicine, Oxford) was installed as President of the Branch.

Annual Report of Branch Council.—The SECRETARY read the Branch Council's report. It referred to the work of the three Divisions during the past session, and in particular to the establishment of the Local Medical Committees. Attention was drawn to the schemes for attendance on non-insured persons—namely, the Oxfordshire minimum scale of contract fees and the Berks Public Medical Benefit Service. The number of members in the Branch was 337. The Council recorded their sense of obligation to Dr. Turrell for his work on the Central Council, and regretted that he was unable to offer himself for re-election.

Financial Statement.—The TREASURER (Dr. Freeman) submitted the financial statement, which showed a balance in favour of the Branch. The report and balance sheet were approved.

Election of Officers.—The following officers were elected:

President-elect.—Mr. W. Maurice, Reading.
Vice-Presidents.—Dr. Turrell and Dr. Freeman.
Secretary.—Dr. Squire, Reading.
Treasurer.—Dr. Freeman, Reading.
Three New Members of Council.—Dr. Murrell, Dr. Lambert, and Dr. Duigan (Dr. Moore, Dr. Munro, and Dr. Price retiring).

Vote of Thanks.—A cordial vote of thanks was unanimously accorded to Dr. Duigan, the retiring Secretary.

Clinical Meeting and Dinner.—A series of clinical cases, reported elsewhere (JOURNAL, p. 123), were described and discussed, and afterwards the members dined together at Christ Church.

SOUTH-EASTERN BRANCH:

BRIGHTON DIVISION.

THE annual meeting of the Brighton Division was held on June 17th. Dr. RYDING MARSH, Chairman of Division, presided, and thirty-two members were present.

Election of Officers.—The principal business was the election of officers, committees, etc., which resulted as follows:

Chairman.—Dr. Henry Gervis.
Chairman-elect.—Dr. C. H. Benham.
Vice-Chairman.—Dr. C. Ryding Marsh.
Secretary and Treasurer.—Dr. E. Burchell, 5, Waterloo Place, Brighton.
Assistant Secretary.—Dr. L. A. Parry, 5, The Drive, Hove.
Representatives in Representative Meetings.—Drs. E. Rowland Fothergill and C. H. Benham.
Deputy Representatives in Representative Meetings.—Drs. H. H. Taylor and P. Stanhope Eves.
Representatives on Branch Council.—Drs. E. Burchell (*ex officio*) and C. Rawdon Wood.
Executive Committee.—Drs. R. J. Ryle, Helen Boyle, Shrubshall, E. Hobhouse, H. Vallance, J. McGlashan, Allfrey, and H. M. Langdale.
Medico-Political Committee.—Drs. E. Hobhouse, A. M. Daldy, T. Johnston, H. H. E. Scatliff, S. B. Figgis, and H. N. Fletcher.
Organization Committee.—Drs. Ryding Marsh, H. N. Fletcher, J. R. Steinhauser, and C. Rawdon Wood.

BROMLEY DIVISION.

THE annual meeting of the Division was held at Bromley, Kent, on June 5th.

Election of Officers.—The following were appointed as office-bearers for the ensuing year:

Chairman.—Dr. Yolland.
Vice-Chairman.—Dr. Umney.
Representative.—Dr. Tennyson Smith.
Deputy Representative.—Dr. Stilwell.
Representative on Branch Council.—Dr. Tennyson Smith.
Honorary Secretary and Treasurer.—Dr. Tennyson Smith.
Executive and Ethical Committee.—Drs. Michael and Clarke, for Penge area; Drs. Stilwell and Hawke, for Beckenham area; Drs. Grant-Wilson, Codd, and Lewis, for Bromley area; Dr. Bailey, for rural area.

The following motions were proposed, seconded, and carried:

1. That the Bromley Division adheres to its resolution passed in March, 1913, and again advises medical men acting on the panel to sign contracts only for periods of three months until contentious matters are settled to the satisfaction of the local medical profession.
2. That the Bromley Division instructs the Kent Medical Committee to consider the desirability of advising during the month of October all medical men acting on the panel to ask the Kent Insurance Committee for fresh contract forms, and also of advising them not to sign those contracts for longer periods than three months.

ROCHESTER, CHATHAM, AND GILLINGHAM DIVISION.

A MEETING of this Division was held at the Rochester Hospital on July 10th. Dr. SALISBURY was elected Chairman for the meeting.

Election of Officers.—The following office-bearers were elected:

Chairman.—Dr. Godfrey Taunton, Gillingham.
Vice-Chairman.—Dr. H. Smith, Chatham.
Executive Committee.—Drs. Shelley and F. Jefferiss were elected to fill two vacancies.
Deputy Representative.—Dr. F. Jefferiss (re-elected).

Expenses of Representative.—A recommendation by the Committee that there should be a levy of 5s. on members in order to pay the expenses of the Representative at Representative Meetings at the rate of 1 guinea a day was carried unanimously.

Instruction of Representative.—The meeting then proceeded to instruct the Representative on the various matters referred to Divisions.

Death of Dr. Milward.—The HONORARY SECRETARY drew the attention of the meeting to the sad death of Dr. Milward of Cardiff, and appealed for subscriptions to the fund. A sum of 4 guineas was subscribed in a small meeting, several of those present having already subscribed individually.

SOUTHERN BRANCH.

THE fortieth annual meeting of the Southern Branch was held on July 3rd, at the Institute, Shanklin, Isle of Wight. In the absence of the President, Dr. F. W. Jollye, the chair was occupied by Dr. B. H. MUMBY, the newly-elected member of the Council of the Association, who thanked the members for conferring upon him that honour.

Annual Report.—The annual report of the Council was read and confirmed on the motion of Dr. C. FRYER,

seconded by Dr. L. L. Preston. The balance sheet was taken as read and adopted.

Election of Officers.—The scrutineers' report on the election of the officers of the Branch for 1913–14 declared the following elected:

President-elect.—G. H. Cowen, F.R.C.S., Southampton.
Vice-Presidents.—Drs. Wm. Carling, Southsea, and A. E. Bodington, Winchester.
Honorary Secretary and Treasurer.—Dr. James Green, Portsmouth.

President's Address.—The ordinary business being concluded, Dr. Mumby vacated the chair in favour of the incoming President, Dr. John Cowper, who delivered an address on "Medicine and Eugenics," at the close of which Dr. J. Ward Cousins (Southsea) moved, and Dr. H. C. Major (Jersey), seconded, a vote of thanks to Dr. Cowper, which was carried by acclamation.

Recreation.—At the President's invitation the members then adjourned to luncheon, during which a collection was made on behalf of the Epsom Medical College and the Royal Medical Benevolent Fund. Afterwards some members went to the Webster Memorial and Scio Hospitals, some attended a garden and tennis party at the Shanklin Tennis Club, and others played golf on the Shanklin and Sandown links.

SOUTH WALES AND MONMOUTHSHIRE BRANCH

Cardiff Division.

The letter of Mr. J. Lynn Thomas which appeared in the British Medical Journal of July 12th, and which within a few hours after publishing in the Journal found its way into the local papers, calls for notice and reply.

Mr. Lynn Thomas states: "The policy of the Association, as I understand it, should be carried by its Divisions," etc. May we venture to call Mr. Lynn Thomas's attention to a resolution of the Representative Meeting of July, 1912, as follows:

> Minute 194.—Resolved: That no tuberculosis dispensary should be opened or beds provided for treatment of those in receipt of sanatorium benefit at a voluntary hospital or infirmary, except on the condition that the organization is entirely independent of that of the voluntary hospital or infirmary, the account of the departments being kept separate, and that the services of all medical practitioners are paid for.

The principle there laid down is that which the Cardiff Division of the British Medical Association is endeavouring to carry out.

This question arose as a result of a letter from head quarters on April 29th, 1913, enclosing a copy of an advertisement for a medical officer for the Cardiff Tuberculosis Hospital of the King Edward VII Welsh National Memorial Association, at a salary of £200, with board, lodging, and usual allowances. The candidate appointed to be a whole-time officer and have special experience in the diagnosis and treatment of all forms of tuberculosis, the use of tuberculin, and bacteriology.

The Executive Committee of the Cardiff Division felt that although the terms offered were inadequate, they could not take action while the consulting surgeon of the Memorial Association—Mr. Lynn Thomas—was acting in an honorary capacity. They thereupon communicated with Mr. Lynn Thomas on *May 27th, 1913*, asking if it were true, as reported, that he had been appointed honorary consulting surgeon to the Glan Ely Sanatorium, and calling his attention to the fact that the institution was a State-aided one, and that it was not desirable in the interests of the profession that he should act in an honorary capacity. To this courteous letter, as well as to *two* subsequent letters, Mr. Lynn Thomas has not yet had the courtesy to reply, beyond a mere formal acknowledgement on *July 4th, 1913*.

At the opening of the Barry Municipal Hospital Mr. Lynn Thomas was asked to become its consulting surgeon. He, however, refused, unless he were paid a fee, as the hospital was maintained out of the local rates.

This shows a strange inconsistency of attitude on the part of Mr. Lynn Thomas, as the patients at the Glan Ely Sanatorium are not merely rate-aided but State-aided as well.

Allusion is made by Mr. Lynn Thomas to the fact that he had the honour in the past of being a member of Council of the British Medical Association. We would remind him that he owed that honour to the loyalty of his professional brethren in this Division; nor do we think that he can complain of the sympathy and support which he received at a critical moment of his own career. Surely then it is not unreasonable that the profession should demand loyalty from Mr. J. Lynn Thomas.

Mr. Lynn Thomas's reference to the valuable advice which he gave to the whole of the profession during the crisis in connexion with the National Insurance Act is not within the knowledge of any of the members, as this former member of the Council was conspicuous by his absence at the Division meetings.

Mr. Lynn Thomas's loyalty to his profession seems to be limited to parochial matters; when it is a question of a national institution he professes to be superior, and will only condescend to discuss matters "with the highest tribunal of the Association itself." The only way in which the highest tribunal of the Association can obtain information upon local matters is through the local Division.—We are, etc.,

R. J. Smith,
Chairman, Cardiff Division.
William Martin,
W. B. Crawford Treasure,
Representatives, Cardiff Division.
A. L. Thornley,
D. C. Evans,
Honorary Secretaries, Cardiff Division.

SOUTH-WESTERN BRANCH:

Exeter Division.

A meeting of the Exeter Division was held at the Royal Devon and Exeter Hospital, on July 11th, at 4.30 p.m. Mr. A. C. Roper was in the chair, and fourteen members were present.

Annual Representative Meeting.

Dr. Duncan was instructed to hand over to head quarters the moneys in his keeping due to the Central Defence Fund after paying such small accounts as were still outstanding on behalf of the Provisional Local Medical Committee.

Mr. A. C. Roper moved on behalf of Mr. Russell Coombe that:

> On page 555 of the Supplement of June 21st to add at the end of paragraph 7—"as should also amalgamations of Divisions or parts of Divisions for special or other purposes; these amalgamations to have such powers as are conferred on them by the Divisions creating them; these powers to include that of adopting the Model Ethical Rules of the Association for a Division not in itself a Branch, with power to report direct to the Branch Council concerned on ethical matters which may come before the amalgamation.

This was seconded by Dr. Deas, and after some discussion carried *nemine contradicente*.

In the discussion upon the preceding motion the following principle was put from the Chair and agreed to:

> That (on consideration of paragraph 7 of the report on the Metropolitan Counties Branch Council scheme) the Exeter Division would approve of amalgamations of Divisions (or parts thereof) and of the formation of Subdivisions for special purposes rather than any scheme of general reorganization of Divisions and Branches.

On the motion of Dr. Gordon, seconded by Dr. Steele Perkins, the following resolution was carried *nemine contradicente:*

> That (especially if the Council is elected by the Representative Body) the Association needs a Referendum, not only on the present plan, but also on the Swiss—that is, on the demand of a certain (reasonable) number of Divisions or Branches containing a certain (reasonable) number of members.

Dr. Gordon moved, and Mr. Roper seconded, the following motion, which was carried *nemine contradicente:*

> That the Representative Body elect at least five-sixths of the Council.

On the motion of Dr. Gordon, seconded by Dr. Deas, it was resolved *nemine contradicente:*

> That the present expenditure is excessive, and urgently needs reduction.

Dr. GORDON proposed, and Dr. SOLLY seconded, the following resolution, which was carried *nemine contradicente*:

That the Representative Body should be reduced at least to half its present numbers.

On the motion of Dr. GORDON, seconded by Dr. SOLLY, it was resolved *nemine contradicente*:

That committees be smaller and means taken to reduce unnecessary journeys.

Mr. WORTHINGTON moved, and Dr. DEAS seconded, the following, which was carried *nemine contradicente*:

That the Representatives be instructed to vote against any proposals for converting the Association into a trade union.

WEST SOMERSET BRANCH.

THE seventy-first annual meeting of the West Somerset Branch was held at Taunton on July 11th. Dr. BALFOUR STEWART took the chair and nineteen members were present.

Annual Report and Balance Sheet.—The annual report and balance sheet were presented and adopted.

Vote of Thanks.—Dr. Balfour Stewart then retired from the chair in favour of the new President, Mr. P. L. W. WILLIAMS, F.R.C.S.Edin., who proposed a hearty vote of thanks to Dr. Balfour Stewart for the very able manner in which he had presided over the Branch during the past year, which was carried with acclamation.

Election of Officers.—The following officers were elected:

President-elect.—Dr. Ardagh, Stogumber.
Council of the Branch.—Messrs A. R. Iles and A. D. Willcocks.
Honorary Secretary and Treasurer.—Mr. C. Farrant.
Ethical Committee.—The Council of the Branch was elected as the Ethical Committee of the Branch.

Luncheon.—The meeting then adjourned to luncheon, at which twenty-two members sat down.

The meeting was resumed at 2.30.

Annual Representative Meeting.—At the invitation of the President, Dr. MACDONALD explained to the meeting the various recommendations of the Council in view of the Meeting of Representatives. After considerable discussion the following were voted on as below. On other points Dr. Macdonald was given a free hand.

SUPPLEMENT, May 10th. Recommendations B, H, I, J, and paragraph 154, were adopted.
On the question of reform of the present constitution of the Association (SUPPLEMENT, June 21st), Dr. Macdonald was given a free hand.
Paragraph 9, Section (d), was adopted.
Paragraph 11, Section (vi), was not adopted.
Paragraph 26, Section (l), was adopted.
D. On the election of the Council, it was decided that it should not be altered.
Paragraph 40. A Parliamentary Committee was voted for.
Paragraph 41. An Organization Committee was negatived.
The Referendum by postal vote was rejected.
Paragraph 15, Sections (a), (b), (c), (d), (e) (SUPPLEMENT, June 21st), were accepted.
Section (f) was negatived.
SUPPLEMENT, July 5th. Recommendations M, N, O, P, A, B, D, E, F, G, H, J, M, were adopted.

It was decided that the present voluntary system of hospitals should be maintained.

It was resolved that the report on the special fund for the organization of the profession be discussed at the meeting of Representatives and referred back to the Divisions.

At the close of business the President entertained the members to tea.

YORKSHIRE BRANCH:

HALIFAX DIVISION.

A MEETING of the Halifax Division was held at Halifax on July 9th, when Dr. A. DRURY was in the chair, and eleven other members were present.

Annual Representative Meeting.

Report of Council.—As to recommendations A, B, and C, it was decided, on the motion of Dr. MARSHALL, seconded by Dr. BROWN, that the Representative be allowed to use his own discretion.

Constitution of Representative Meeting.—After some discussion, the following resolution, proposed by Dr. STEELE and seconded by Dr. MARSHALL, was carried *nemine contradicente*:

That this Division agrees to the proposed reduction in the numbers of the Representatives, and to giving them discretionary powers.

Areas of Divisions.—The question of making Division areas coterminous with Insurance Committee areas was discussed, and considered unpractical. It would be unpopular with the non-panel doctors and very inconvenient for those members whose practices lay on the borders of the insurance areas.

Extension of Powers of Branch Councils.—The suggestions in the report of the Metropolitan Counties Branch Council for increasing the powers of Branch Councils were strongly disapproved of, and the following resolution, proposed by Dr. STEELE and seconded by Dr. PERRIN BROWN, was carried unanimously and ordered to be sent for inclusion in the Agenda of the Annual Representative Meeting:

That this Division disagrees with the recommendation of the Council that Branch Councils should be given greater powers over their Divisions. Considerations of time prevent in this neighbourhood men of active interest having a dominant influence on the Council of the Branch. This Division recommends that a Division should have power to refer all matters to headquarters, should it think fit to do so. This would not remove the power of the Division to refer certain matters to the Branch Council in cases where co-ordinate action with other Divisions was necessary.

Proposal to Transform the Association into a Trade Union.—This was disapproved of, and a motion to that effect, proposed by Dr. HARRIS and seconded by Dr. MARSHALL, was carried unanimously.

Resignation of a Contract Appointment.—At the last meeting of the Division a member had agreed to resign a contract appointment. The SECRETARY reported that the appointment had been resigned, and it was resolved that a formal letter from the Division be sent to the member, approving of his action.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

Association Notices.

DISCONTINUANCE OF AN EXISTING BRANCH: FORMATION OF TWO NEW BRANCHES.

THE following changes have been made in accordance with the Regulations of the Association, to take effect from the date of publication of this notice (July 19th, 1913):

Discontinuance of Transvaal Branch: Formation, in Substitution therefor, of Two New Branches.

That the existing Transvaal Branch of the Association be discontinued, and that, in substitution therefor, the present Divisions of the Branch—namely, Pretoria and Witwatersrand Divisions—be constituted as two independent Branches, as follows:

1. *Pretoria Branch.*—To consist of the districts of Rustenburg, Waterberg, Zoutpansberg, Lydenburg, Middleburg, Carolina, Barberton, Swaziland, and that portion of the Pretoria district lying north of latitude 26 S.

2. *Witwatersrand Branch.*—To consist of the remainder of the Transvaal.

Representation in Representative Body.—The formation of the two new Branches does not affect existing arrangements as regards representation in the Representative Body, for, assuming that the principle at present adopted by the Council whereby each Division and Division-Branch outside the United Kingdom possessed of an Honorary Secretary and the necessary organization is granted independent representation in the Representative Body is continued in operation for the year 1914–15 by the Council, each of the two new Branches will, like the existing Divisions, be entitled to independent representation, each to return one Representative.

NATIONAL INSURANCE ACT AMENDMENT BILL.

Second Reading.

This bill was discussed on second reading on Tuesday, July 15th, and at the conclusion of the debate was passed without a division and committed to Standing Committee. A division was taken on the question that the bill should be considered in Committee of the whole House, and rejected by 284 to 260. A motion that the matter should not be proceeded with further, but that a committee of inquiry into the whole question of the Act and its workings should be appointed, was defeated by a similar vote.

Mr. H. W. Forster dealt with various matters in connexion with the bill. With reference to medical benefit he said: I am not going to argue this in any controversial spirit, but I do want to bring before the Government the reason for extending the scheme of medical benefit as it was intended to be extended in the Act as it originally stood. There is no doubt the Act originally contemplated a provision of medical attendance, broadly and generally speaking, upon the panel system; there is no doubt about it. The Chancellor of the Exchequer used to tell us periodically that the doctors were coming in to work the Act, and we all hoped and expected that it was so. The whole House expected the provision of medical benefit in the main would be carried out under the panel system. The Chancellor of the Exchequer, the House will remember, said we want something more. The House intended, the Chancellor of the Exchequer intended, that people not satisfied with panel doctors and doctors not satisfied with the panel system should each be able to obtain—the doctor employment among patients and the patients a doctor, without having recourse to contracting out. The bill contained a provision of that kind. The Commissioners themselves before last year contemplated it should be done, and they issued a pink ticket to people who, not satisfied with the panel doctors, wished to make their own arrangements. It was only when the controversy with the medical profession reached an acute crisis that the Government placed upon the wording of the Act an interpretation which I believe to be entirely foreign to the meaning of the Act when it left the House of Commons. There is no doubt the report of the Commission proves, and our own experience proves, that now you have got a panel system, broadly and generally speaking, working throughout the country. It may be working satisfactorily in some places, but why do you not go further and extend the provision of medical benefit in the direction we contemplated two years ago—that is to say, allowing people to make their own arrangements outside the panel system. It is quite useless for the Government to say that there is not a strong desire on the part of many people to make their own arrangements. It is not a question of doctors trying to break down the Act or of some people in the State entering into an alliance with the doctors to break down the Act. There is a very strong and genuine desire on the part of many persons to go outside the panel system. With respect to excessive sickness claims, he said: We read a good deal about malingering and its effects in the country under the operation of this Act. We also read a great deal about excessive sickness claims, and something about them being due principally and primarily to malingering. I am forced to believe, after doing all I can to inform myself on this matter, that there is something more than malingering. Although no doubt malingering may play some part, I think the excessive sickness claims arise from the fact that you have admitted into the ranks of the societies a large number of weak lives and bad risks. We read of sickness claims increasing by 10, 20, 30, 40, 50, and even up to 70 per cent. What is going to be the result of that? This is a point which strikes me as being most grave. I said a moment ago that the whole fabric of the present scheme of benefits rests upon actuarial calculations derived from the experience of picked lives under a voluntary system of insurance, where a considerable portion of the members took pride in never coming on to the funds of the society at all. An unexpected development such as that to which I have referred threatens to upset the calculations on which the present system is based, and, in fact, threatens the stability of the whole structure.

Mr. Masterman, in reply, in referring to the questions of medical benefit and excessive sickness claims raised by Mr. Forster, said: Let me deal for a moment, if I may, with the criticisms which the hon. gentleman made for what was not in the bill. There were two important points. One was the question of medical benefit, and the other was the question of the approved societies, especially in connexion with the problem of excessive sickness. First, as to the extension of medical benefit. I listened to him very carefully, but I could not understand what it was that he desired inserted in the Act, but, of course, any amendment put down by him will have most serious consideration from us. He seemed, as far as I could understand, to be acting under a sense that the Insurance Commissioners were now preventing Insurance Committees from doing that which they have a right to do—that is, to arrange for medical benefit for all the insured persons for whom they are responsible under conditions they think satisfactory for all the insured persons. We have got the panel system established. It was passed by this House by an overwhelming majority, and the statutory duty of Insurance Committees is to ensure that medical attendance is given to all insured persons under the Act. There is only one reason, so far as I know, why exception has been taken to what the hon. gentleman calls "contracting out." The Insurance Committee must ensure that all persons, and not simply some selected lives, are treated in the area over which they have control, and in every case where contracting out has been demanded the doctors who wish to have patients contracted out have desired to choose selected lives and not to take the average of good, bad, and indifferent, whilst at the same time obtaining the same remuneration, per life, as the doctor who does not contract out. The hon. gentleman is a perfectly fair-minded man, and he must realize the difficulty of an Insurance Committee in the matter. If the Committee allows, say, five doctors among ten to choose all the good lives and leave the other five to have the indifferent and bad lives, and allows the money to be equally divided between the two, it is obviously and scandalously unfair on those who have to take all the bad lives. That is the sole reason, as far as I understand, why Insurance Committees are limiting the conditions of contracting out. May I point out one other thing in connexion with this matter? If contracting out is to be done, it cannot be limited to doctors who want to be on the panel. There are many systems, especially in South Wales and elsewhere, whereby the miners arrange for doctors who take the man, his wife, and children for a certain fee, and there is a very great demand for an extension of that system. It is thoroughly welcome to the miners and to insured persons, but the free doctors, who are anxious to promote contracting out where this system does not exist, are anxious to stop contracting out where it does exist. If the hon. gentleman will examine the pages of the British Medical Journal for the last few weeks, he will see that they are in a hopeless dilemma as to what they want, whether contracting out or not. Surely, the sensible thing to do is this: Let every doctor come on to the panel, and let doctors come on to the panel, if they like, for limited attendance, say, to twenty persons, so long as they do not gather their cloaks around them and say, "We will have nothing to do with this thing," and so long as the doctors are not divided into two classes—panel and non-panel. I know that every Insurance Committee has been anxious to welcome doctors on to the panel, even for a limited number of cases, in order that the medical profession now so divided should be joined up again to work the Act. I would strongly submit to hon. gentlemen opposite that their attitude has a very considerable influence in connexion with this particular point, and that they should endeavour with us to try and get the free choice of doctor, for which they voted, established as the universal system, with every doctor on the panel, and no doctors fighting the panel system in this country. Surely that, without any legislation at all, could be done if they would join their influence with ours in endeavouring to persuade the doctors. In any case, I know of no amendment to the Act which would meet the point. More and more doctors are coming on to the panel, and I think that only a little effort is required to

make for a lasting peace, but it ought to be an effort made by both sides. Let me come to a point which the hon. gentleman said was of considerable interest and seriousness. It is not a point we could have met by legislation in this bill. We have heard a good deal outside in recent newspaper correspondence of the point which the hon. gentleman put with great force and gravity. It is the question whether excessive sickness claims are going to so develop as to break down the financial arrangements of the Act. It is grotesque to imagine that in six months' working of an Act of this sort any reliable statistics can be obtained. The Act has brought in perhaps five million persons who were insured before, and perhaps seven million persons who had never really been insured at all. It has been working six months, and at the end of those six months we hear certain statements referring especially to certain districts and to certain approved societies that the sickness benefit of their own members—not the new members who have come in—has gone up in comparison with last year. If the hon. gentleman will look at the report he will find some rather remarkable figures in connexion with this question. We asked for special figures on the first quarter from seven or eight societies as to their sickness experience, and we found that, so far from there being any balance against the societies for excessive sickness, the sickness experience had not come up to the amount allowed for in the actuarial calculations. There were some of the largest societies. I do not want to mention their names, because I do not wish to seem to give a preference to some over others. They include societies of all types, trade unions, industrial societies, and large friendly societies. With no allowance for it being the worst three months in the year, from January to April, the actuarial allowance was £470,000, and, with allowance for the season, it was £567,000. That was the allowance in the actuarial calculations, and the actual money paid out was £400,000. That was not only very much less than the allowance made for the season between January and April, but very much less than the allowance made for even a normal season. I think that fact ought to be before the House before they accuse us of being indifferent to rather vague statements of excessive sickness. On the other hand, as the hon. gentleman rightly suggests, it would be very foolish on our part, and very much against our duty, if we did not consider very seriously whether, and in what degree if at all, excessive sickness did exist, and how far that was genuine sickness, and how far it might be due to what is ordinarily called malingering. On that point I have just three considerations to represent to the hon. gentleman and to the House. I think that it has been established—I do not quite know the reason why it is so—that there has been an excessive sickness above the normal during the past few months, and especially in the second quarter. The result has been that in some cases the line of sickness, which generally rapidly drops from April until about October, has not been dropping as was expected. Secondly, there is undoubtedly, as attested by evidence, a number of persons drawing sick pay who have no right under the Act to do so. Curiously enough, that specially refers to Lancashire. A very large number of complaints have been received from societies with branches in Lancashire, and it must have some connexion with the fact that Lancashire has never had experience of the contract system. Lancashire doctors have been working under a different system to that which obtains in the rest of the country. I can only hope, so far as the sickness excess depends on doctors carelessly giving certificates, or in some cases giving them deliberately because they are opposed to the Act, that the great influence of the medical profession, as a whole, will be exercised to prevent that kind of thing going on, for if there is one thing more than another which would bring the whole medical profession into disrepute it would be the finding out by the leaders of friendly societies, in testing these certificates, that they were given unfairly.

Sir HENRY CRAIK: Have you any ground for saying that?

Mr. MASTERMAN: I do not speak without grounds.

Sir HENRY CRAIK: Bring them forward.

Mr. MASTERMAN: If the hon. member will consult the leaders of some friendly societies with whom I have been in consultation I think he will find he would have grounds for saying this and even more. If he will consult the committee the doctors themselves have set up in Manchester, a committee of doctors and insured persons equally represented, to prevent this sort of thing going on, I shall be very glad to hear what they say. I do not think they will challenge me across the floor of this House. As to the whole question, I agree with the hon. gentleman opposite—it is worthy serious consideration. As he fairly says, these considerations have arisen in the operation of the bill, and no man could have foreseen them. It is because such considerations must arise from time to time that amending bills must be introduced, even on the happy anniversary of July 15th. I think we had better appoint a Committee to go into this subject—a Committee of representatives of approved societies, representatives of the doctors, and perhaps one or two other members. Let them fruitfully spend their time in the coming autumn and winter in examining exactly into these charges—charges of malingering, and charges against the doctors. It is very desirable, if they are without foundations, such charges should be got rid of. The Committee might also inquire relative to the case of the man who is only earning 15s. per week but is insured for 20s. a week, and gets that increase in sick pay. I think, also, the alleged increase of benefit in the case of women might be inquired into. If the Committee went into the whole subject, although I do not think it would be possible to embody much on the result of their inquiry in legislation, at any rate their report would enable us to put right anything which may be wrong in these particular matters, and the remedy could be applied in a very short time. In conclusion, Mr. Masterman dealt with questions of deposit contributors, casual labour, the payment of arrears, and other matters.

Mr. WOTHINGTON-EVANS dealt for the most part with the financial proposals of the bill, with questions of administration, and with outworkers and aged persons. With respect to the excessive sickness claims, he said: I quite agree that a period of six months is too short to lay down for any actuarial calculations, but it is a period which you can compare with a similar period in the year before. Although it is short, it is the only period we have which enables us to make any comparison. I dare say hon. members saw the very interesting reports in the *Times* of July 12th and 14th. I am not going to read them, but practically they are from all parts of the country, and especially the Midlands and the North. These reports have been got from officials of various approved societies, and I think that without exception the officials report that the claims have been hugely in excess of expectation from the actuarial point of view. In a lodge in Essex, taking State and voluntary benefits together, the number of days sickness has increased from 6.4 in 1911, and 6.8 in 1912, to 11.5 in 1913. There has been a 40 per cent. increase in the number of days sickness per member insured. In another South country lodge I find there has been the same experience, though not quite so bad. It shows a 25 per cent. increase in sick benefit. I have three or four more here in North Wales. I thought the Chancellor of the Exchequer, if present, might have liked to hear what was happening there. These are on the voluntary side only, and they are not State benefit. The figures show the effect of the Act on the voluntary side. In 1912 the average was 3.5 and in 1913 it was 4.8, showing an increase of 27 per cent. Another society in Carnarvon shows an increase of 33 per cent., and still another an increase of 40 per cent. In Anglesey one has an increase of 33 per cent. and another of 50 per cent. In Merionethshire, I have got one with a 12 per cent. increase. In view of these figures, I venture to think that no one who really wished to use whatever money was available in the best way for national insurance would do otherwise than use it for the purpose of strengthening the position of the societies. I do not think there can be any doubt, in view even of these short comparisons, that the financial position does require strengthening, for the consequences, if a large number of lodges and approved societies failed, are too horrible to contemplate.

Mr. HODGE, the Labour member for Gorton, speaking on the excessive sickness claims, said: With reference to the experience of the hon. member for Colchester as to sickness, as the secretary of an approved society having 20,000 members who are connected with the steel and tin-

plate and iron trades—trades which are supposed to have more than the average of sickness, our experience under the Act has been that the sickness is less than the actuarial expectations. Another fact: averages are fallacious unless you have got the average age of the members. In the society with which I am connected we have been careful to have the ages of the members taken for each quarter, and the average of sickness which we had under the Act not only for the first, but for the second quarter, proved to be considerably less than the actuarial calculations. In a later part of his speech he attributed blame to the medical profession in the following terms: May I say in this connexion that those of us who have to do with the administration of the Act have not received very much support from the medical faculty. Medical men, within recent times at any rate, have talked a great deal about the honour of the profession, but from my knowledge and experience of the administration of the Act I should like to see it in practice instead of in speech. If only the doctors would rise to the standard that they would have us believe they have set for themselves, it would do very much to prevent what one might describe as malingering.

Mr. Charles Bathurst spoke chiefly of the difficulties and claims of rural and small societies. His experience of a large rural society in respect of sickness claims had been different from the cases brought forward by Mr. Worthington-Evans. During the first quarter in which the Act was in operation the amount of sickness benefit paid during the period ending April 13th this year was, in the case of this large rural workers' society, £3,564 6s., and the amount of maternity benefit paid during the same quarter amounted to £1,305, making together an aggregate sum of £4,869 6s. On the other hand, he was entitled to point out what the Insurance Commissioners estimated as the average cost of sickness and maternity benefit per head of the whole population, agricultural and rural, taken together for the year. For that period they estimated that it would be at the rate of 3d. per week for the men and 2d. per week for the women. Those figures, taken on the basis of the membership of this society, represented £662 per week, or, in respect of the quarter, a sum of £8,206; that is to say, the amount estimated by the Commissioners would, if their facts and figures and estimates were correct, upon sickness and maternity benefit, have amounted to over £8,000, whereas in fact the amount actually paid out amounted to no more than £4,800. It might be said that the first quarter might for certain reasons be somewhat misleading and form no guide to future quarters. The speaker also had the figures for the present quarter, or rather for the last quarter, so far as figures were available—that is to say, for the nine weeks ending June 14th. There again the aggregate figures for sickness and maternity benefit amounted in fact to £4,038 10s., as compared with an amount which, on the basis of the Commissioners' calculation, should have been £6,228. It was perfectly evident from those figures that, as the result of realized experience, agricultural workers did not make anything like so large a claim upon the sick fund of their societies as workers in other industries.

The debate was continued by Sir Luke White, Viscount Wolmer, Mr. Robertson, and Mr. Cooper, who dealt with questions chiefly of a non-medical character.

Dr. Addison, answering the criticisms of Mr. Worthington-Evans, discussed the financial proposals of the bill with respect to the sickness benefit of aged persons and other matters connected therewith. With respect to the excessive sickness claims, he said: I should have expected that generally rural societies would be much more likely to have the experience represented by the hon. member for Wilton than the experience stated to the House by the hon. member for Colchester. It is very unlikely that rural societies will present very heavy claims for sickness benefits upon their funds, and I think that a good deal of these statements are founded on newspaper reports, which are often of a very one-sided character. We have had in the course of a campaign with which we are all perfectly familiar various newspaper reports generally prejudicial to the efficient and smooth working of the Act. Those cases which are favourable to the general scheme of the Act, such as have been brought out by the hon. member for the Wilton division, do not receive the same amount of publicity as those which are unfavourable. As a matter of fact, as the right hon. gentleman himself stated, the claims which have been made on these societies, so far as the first quarter is concerned, are really rather less than was anticipated. There has been a considerable amount of sickness during the past quarter—rather more than the average, and we also have to recognize that many people are being brought into the societies who are really relatively poor lives. Dr. Addison continued: These excessive claims are due to two causes. They are due in the first place to the novelty of the Act. A large number of persons for the first time in their lives have found themselves able to have medical attendance and sickness benefit. We have had a good deal said about medical men not doing their duty properly by the Act. I dare say that there may be cases to be found of medical men who are not doing their duty by the Act, though I do not know of any myself. It is quite conceivable there may be some, and, if there are, and such cases can be established, I sincerely hope that they will be dealt with with the utmost severity. The General Medical Council issued a general instruction on this question, and I hope that the Commissioners, if they can establish a case, will press it through to its proper conclusion; but I think myself that there are very few of these cases. I have consulted a large number of medical men and they all say the same thing. They go round among their patients and they say that these people are not, as a matter of fact, malingering; they are really ill. Take, for instance, the case of married women. It is exactly what one with a real experience of the problem would expect to find. Large numbers of these married women, who are insured persons, are home workers, and they have never been able to have proper treatment in the whole of their lives. They have done the household work and have had to earn the family living, and they have been underfed and underpaid for years. For the first time these women when they are ill are able to receive medical attendance and sick pay and to lie in bed for a week. One medical man told me he had made it his business to go round the whole of his female patients to ascertain whether or not there had been malingering, and he said: "I could not honestly say that any of these women, if they had been your relatives or mine, would not have been sent for six weeks' holiday." That is exactly what has happened. It is not a case of malingering with these married women. I dare say there are some cases of malingering, but, in the main, it is due to the fact that a large mass of sickness has been revealed for the first time. It is mainly due to the fact that these people have never had a chance of having sick pay before. They have gone on with their work when they ought to be resting. I have no doubt that as this fact becomes revealed it may make increased demands upon the State, but I do not think that the State could contribute to a worthier object. I am quite convinced that, whatever may be said in general, the additional sickness which has been revealed is genuine sickness in the main. It is not malingering, except in a small degree, and it is not negligence on the part of the doctors except in a very trivial degree; it is real sickness with which the Act is dealing effectively for the first time. Dr. Addison concluded by referring to the question of contracting out as raised by Mr. Forster, and said: There is no real reason for contracting out except in special cases, such as were frankly contemplated when the amendment was introduced. Any self-respecting medical man can put his name on the list, and there are some of the very best men in the medical profession whose names are on the list. If it were not for the fact that a certain number of medical men have contracted an unholy alliance with a party in the State, we should have at least one thousand more medical men on the panel in London to-day. We had a body frankly set up to break down the medical machinery of the Act in league with the Moderate party at the recent London County Council election. It is no good hon. members dissenting; it is an actual fact. This organization, which was called "The London Medical Committee," gave official support to the Moderate county council candidates. We had the same organization in the *Times* newspaper the other day setting up a non-panel medical practitioners' association. The men who are organizing this kind of opposition would not, as a matter of fact, be reconciled by anything which the Chancellor

of the Exchequer could do, and, in my opinion, it is just as well to recognize it. I believe and sincerely hope the Government and the Commissioners will do everything they can to meet every reasonable and fair objection, but you cannot satisfy the people who are carrying on this agitation, and I certainly hope they will make no attempt to do so. You will not satisfy them by giving contracting out. There is only one thing which would satisfy them, and that is for the medical machinery of the Act to break down.

Sir HENRY CRAIK, referring to the charges made by Mr. Hodge against medical men, said that the hon. member had made grave and offensive charges against the medical profession, but he had followed the same line of inconsistency as the Secretary to the Treasury. He said in one sentence that malingering was the outcome of certain conduct on the part of members of the medical profession who had forgotten their honour, their principles, and their conscientious convictions. In the next sentence he declared that malingering did not exist in reality at all, and that it was a great deal better that a sick man should seek medical aid early and give himself a proper rest. The charge of malingering was a false calumny. Continuing, Sir Henry said: I wish rather to deal with the accusation because it was nothing but a very grave accusation accompanied by no proof, which was brought by the Secretary to the Treasury, not only against the medical profession as a whole, but against a particular section of it in a particular county. He told us that if he could only bring forward the evidence he had in his possession, he would show that medical men in the county of Lancashire were guilty of a grave dereliction of duty and were encouraging malingering. Is that the sort of accusation that should be brought by a Minister of the Crown in his place in Parliament without producing ample proof of every word used? Many of these doctors in Lancashire are my own constituents, and I know how eager they are for their work. To bring an accusation of this sort based upon so little evidence is wrong, and I should term it an indecency on the part of a Minister of the Crown. In the very next sentence, however, the right hon. gentleman contradicted himself. First, he said the Lancashire doctors were betraying their confidences and lowering their professional reputations by putting themselves in league with those who attempted malingering. He gave no proof that this charge of malingering has no foundation at all, but he went on to say that there was abundant evidence to prove that there was a great increase of illness during certain months to which the suggestion of malingering applied. He indicated, in fact, that the charge against the doctors was baseless, and that malingering did not even exist to any great extent, because there had been an epidemic of illness, which, in the right hon. gentleman's opinion, accounted for the increased sickness, and the consequent demands upon the friendly societies. It is perfectly plain, and I am sure the Chancellor of the Exchequer will admit it, that the working of medical relief under this Act has not been entirely satisfactory. The hon. member for Hoxton (Dr. Addison) admitted that, and every speaker one after another has agreed that a change must be made, and that if you wish for an improvement you must ask the help, counsel, and co-operation of the medical profession. And they are ready to give it. The right hon. gentleman himself told me last year, after some of the conferences, that we had to the best of our ability helped him to try and bring about a compromise on various points. You must have the doctors' help. With reference to the general attitude of medical men, Sir Henry Craik said: Men have gone on the panel, and the implied accusation of the right hon. gentleman that they have encouraged malingering because they hated the contract system disappears, when contract practice has actually been brought in and the free choice of doctors done away with. I am quite convinced, however, that the doctors would help in any reasonable plan. They are not impracticable or impossible people. I know from personal knowledge that they are anxious, above all things, to help their suffering fellow creatures, and I reiterate my own opinion that greater elasticity with regard to choice of doctors and in regard to the medical fee is an absolute necessity. No amendment of this Act will be satisfactory until you give greater freedom of choice of medical attendants, which never had a more eloquent and fervid supporter than the Chancellor of the Exchequer when he pointed it out as one of the advantages of the bill, but which, like many of the refreshing fruits, has vanished in the working of this Act. I am not speaking for any one else, and I have no right to speak for the party, but I must say plainly that I am in favour of greater elasticity in regard to the whole principle of this bill.

Mr. ROWNTREE agreed with Dr. Addison that in the main the increased sickness claims were due to sickness which was for the first time duly revealed. He referred to complaints which had arisen in connexion with the administration of maternity benefit, and indicated amendments which would be moved in Committee.

Mr. HUNT moved that a special commission of inquiry should be set up; this was seconded by Mr. STANIER.

Mr. CHIOZZA MONEY expressed his surprise at the success which had been achieved against great difficulties in so short a time, and joined in the tribute which had been paid to the Commissioners. With respect to questions which had been raised in connexion with medical men, he said: One word with regard to what was said by the hon. member for Glasgow and Aberdeen University about the medical profession. One seeks to speak of that profession with as much respect as possible, but it is true that Parliament has put millions into the pockets of the medical profession by passing this Act, and while it is true that the medical profession, which is one of the noblest, has a right to ask for all respect, we have a right to ask those of the medical profession to give us good value for their money and to serve the people well whom they are called upon to serve. I am sorry to point to some things that came to my notice which are not particularly creditable to some members of the medical profession. For instance, it does not please me to learn that in a little town the local doctors have raised their charge for attending lying-in patients from 12s. 6d. to £1 at the present time. Is it necessary to do that because Parliament passed the National Insurance Act, which put millions into the pockets of the medical profession? The same criticism applies to the fact that they raised their charges to the old members of friendly societies. These things, I say, are not to the credit of the profession, and they make it hard for many of us to regard that profession with all the honour in which we used to hold it. As to the panel system, I listened to such criticism as fell from the hon. member for Aberdeen University, and I found it difficult to remember that the panel system was invented by the medical profession and that Parliament went out of its way to alter the Act to please them and to put that into the Act. I say this, further, that it must be a very great comfort and credit to everybody who took any part whatever in the passing of this measure into law to think of the nature of the opposition which obtains in this country at this hour because of the passing of the Act. It is perfectly true there are occasionally complaints, and that here and there a man has to wait for his doctor and that a woman is not attended as quickly as might be. There is a failure perhaps in certain cases to give benefits where desired to give it. In spite of the defects which are exceptional, what is the broad fact at this moment? It is that the greater number of the working people in this country have now medical attendants at their disposal, where before they had no medical attendants. You hear of a case where a man has had to wait three days or four for his medical attendant, but these cases were constant in the old days and you never heard of them at all. Something like 2,500 women are getting maternity benefit every day under this Act. What an extraordinary thing that is to think of. Need we wonder there is scarcely an hon. member opposite who in criticizing this Act found it possible to use anything but moderate language? Need we wonder there have been few utterances from the other side at which any moderate minded man need cavil? The fact is the virtues of the Act are making their way, and there is not an hon. member opposite, except perhaps the hon. member for Walsall, who would not have deprecated attempting advancing destructive criticism to-day.

Mr. RUPERT GWYNNE, Mr. THOMAS, and others joined in the debate.

Mr. BONAR LAW, winding up on behalf of the Opposition, dealt chiefly with actuarial and other matters, with

questions of administration and other problems which had arisen in the debate; but did not refer in any detail to medical questions.

Mr. Lloyd George, in conclusion, dealt in detail with the points raised by Mr. Bonar Law and other speakers, but made no special reference to medical questions.

The bill has been referred to a Standing Committee, and already ten pages of amendments have been put down. Among these special importance appears to attach to some of those of which Mr. Godfrey Locker-Lampson (Salisbury, Opposition) has given notice. They are as follows:

Limitation of Number on Doctor's List.

Clause 5, page 4, line 5, at end, add,—

Every insurance committee shall have power to limit the number of insured persons to be treated by a medical practitioner who has made arrangements with any insurance committee for the provision of medical benefit under this or the principal Act, provided that such number be not less than two thousand five hundred, or where the medical practitioner has one or more partners an extra two thousand five hundred for each such partner, but so that the average number for each partner shall not exceed two thousand five hundred.

Transfer of Administration of Medical Benefit to Approved Societies.

Clause 5, page 4, line 5, at end, add,—

Where in any town or district an approved society proves to the satisfaction of the Commissioners that it can provide adequate medical benefit for its members and that it has made arrangements with one or more resident local medical practitioners to that end, it shall be at liberty to administer such benefit, and the provisions of the principal Act shall be varied accordingly, but so, however, that any member of such society shall be at liberty to take medical benefit as provided by the principal Act.

Contracting Out.

Clause 5, page 4, line 5, at end, add,—

An insured person, on satisfying the local insurance committee that he desires the services of a medical practitioner who has not entered into arrangements with such committee under subsection (1) of section fifteen of the principal Act, and that he understands the consequences of making arrangements under subsection (3) of that section, shall be at liberty to take such services under that subsection.

Temporary Residents.

Clause 5, page 4, line 5, at end, add,—

Insured persons temporarily resident away from their homes shall be entitled to call on the services of any local medical practitioner who is willing to supply the necessary treatment on terms to be prescribed by the Commissioners, and the Commissioners shall remunerate such medical practitioners out of moneys to be provided by Parliament.

Mr. Locker-Lampson has also given notice of the following new clause:

Certificate of Midwife.

At the end of subsection (6) of section eight of the principal Act, the following words shall be inserted: "Where a woman is entitled to sickness or disablement benefit under this section, a certificate of the midwife in attendance (if one be in attendance) shall be accepted by approved societies instead of a doctor's certificate as showing that the mother is incapable of work for the first four weeks after confinement.

QUESTIONS.

Medical Research.

Mr. Chancellor asked the Chancellor of the Exchequer whether, in view of the public feeling against vivisection, he could give an assurance that experiments on living animals would not be allowed to form part of any scheme of research to be financed by the moneys provided for research under the National Insurance Act.—Mr. Lloyd George replied that all research work undertaken under the auspices of the Medical Research Committee, under the National Insurance Act, would be carried out under precisely the same restrictions that obtained under the Act of 1876 and the Regulations of the Home Office thereunder in other cases of research work.

Mr. Lee hoped that nothing would be done to hamper the useful labours of this Committee.—Mr. Lloyd George replied, "I think that is all-important."

Hospital Patients and Sickness Benefit.

Mr. Stewart asked whether it was with the sanction of the Insurance Commissioners that certain approved societies paid nothing to voluntary hospitals towards the maintenance of their members without dependants; and was it within the power of approved societies to retain the sickness benefit for themselves, and thus turn the sufferer into a source of income without doing anything for him.—Mr. Masterman said that the Insurance Commissioners had no power to compel approved societies to make payments to hospitals. Societies had in certain circumstances discretion to retain the benefit in their own hands; but the Commissioners had issued a circular which set out the various ways in which the money could be expended (including payments to hospitals), and added that societies were bound to exercise their discretion reasonably, and that the Commissioners did not suppose that they would find many occasions on which the benefit could properly be withheld altogether.

Mr. MacCallum Scott asked the Secretary to the Treasury whether he was aware of the fact that there was nothing in Section 12 of the National Insurance Act which discriminated between benefits accruing in respect of a single event and benefits accruing in respect of periods of time; and if he would state on what grounds the Insurance Commissioners advised approved societies that they must not pay to an insured person after he had left hospital sickness benefit which, under Section 12, was not paid to him during the period he was in hospital, and which had not been paid either to his dependants or to the hospital authorities.—Mr. Masterman said the grounds for the advice referred to were stated in the answer given on June 30th. The distinction between maternity and sickness benefits referred to in the first part of the question was a fundamental distinction in the character of the two benefits as determined by Section 8 of the Act, and the Commissioners were advised that it affected the interpretation of Section 12. Societies had a wide discretion in using any sums which under Section 12 could not be paid as sickness benefit and had not been paid to the hospital or to dependants, for the benefit of the insured person himself.

Half-Yearly Contribution Cards.

Mr. Masterman stated, in reply to Mr. Stanier, that the subject of a six months' card had been under careful consideration, and was very strongly pressed by representatives of approved societies. It would involve an alteration in the Arrears Section of the Act, which made the rate of sickness benefit dependent upon average arrears since entry into insurance. The subject would be appropriate for discussion on the Insurance Act Amendment Bill.

Medical Benefit.

Payment of Doctors.

Mr. F. Hall asked the Secretary to the Treasury if uniform arrangements were prescribed by the Insurance Commissioners for the method and time of payment to doctors working under the National Insurance Act.—Mr. Masterman said that the Regulations provided that the Insurance Committee should make payments in advance at the end of each quarter of such amounts as might be agreed for this purpose between it and the doctors on the panel; but the precise amount actually due to any particular doctor could only be finally determined when all the various factors in the year's working of the Act had been ascertained and allowed for. Of course, no doctor would receive any payment in respect of any quarter during which he was not on the panel.

Medical Certificates.

In reply to Captain Jessel, Mr. Masterman said that a model form of initial medical certificate would shortly be issued by the Commissioners, who realized the importance of so drafting it that the society would know whether the doctor had examined the patient on the date from which he certified him to be incapable of work.

Maternity Benefit.

Mr. Morrell asked the Secretary to the Treasury whether his attention had been called to the cases that had recently occurred in the industrial dispute in the Midlands, in which women who were lying-in had been ejected from their homes on account of arrears of rent;

whether, in view of the danger to life that was thus caused, medical officers had power under Section 68 of the National Insurance Act to prevent such a practice; and, if so, whether he would take steps to call the attention of the Local Insurance Committees of the district to these provisions.—Mr. Masterman said that his attention had not been called to the cases referred to in the first part of the question. Under Section 68 of the National Insurance Act, where the doctor attending on any insured person in receipt of sickness benefit certified that the taking of any proceedings to enforce any judgement in ejectment against such person would endanger his or her life, and such certificate had been sent to the Insurance Committee and duly recorded, it was not lawful during any period named in the certificate to enforce any such judgement.

SANATORIUM BENEFIT.

Payments for Medicine.

Mr. Masterman stated, in reply to Mr. MacCallum Scott, that the cost of medicines supplied to insured persons in receipt of domiciliary treatment for tuberculosis was payable out of the Sanatorium Benefit Fund. The Commissioners had suggested that special prescription forms should be used, or alternatively that the ordinary prescription forms should bear the words "Sanatorium Benefit," or some other distinctive mark, in order to avoid the possibility of the cost of the items ordered thereon being charged to the Medical Benefit Fund. It was because of the danger of the two being confused that the Commissioners had suggested this special arrangement.

PAYMENT FOR DRUGS.

Mr. Henry Terrell asked the Chancellor of the Exchequer whether an insured person who was in sickness attended by a doctor not on the panel was entitled to receive free medicine.—Mr. Masterman replied in the negative. It was, he said, impossible to require chemists on the panel, whose remuneration was based on a capitation system, and accordingly limited to the sum available, to supply medicine to an unlimited extent on the prescriptions of doctors who had not, like those on the panel, a collective responsibility with regard to the arrangements made for medical benefit in the area.

MANCHESTER AND SALFORD.

THE SALFORD SCHEME FOR MEDICAL BENEFIT.

THE following are the terms of the agreement for giving medical attendance and treatment from July 14th to the end of the year which the Salford Insurance Committee has invited practitioners to sign:

The Salford Insurance Committee are prepared to make the following arrangement with medical practitioners in accordance with the National Insurance Act, 1911, and the Regulations of the Commissioners for the continuance of the provision of medical benefit for insured persons in their area and the domiciliary treatment of such persons suffering from tuberculosis, namely:

Subject as herein provided, the committee undertake that the sum available for medical attendance and treatment—namely, the quarter's (*sic*) proportion of the annual 6s. 6d. per head for each insured person and the 6d. per head for the domiciliary treatment of insured persons suffering from tuberculosis—shall be paid into a fund and shall be distributed among the medical practitioners giving medical attendance and treatment to insured persons in accordance with the scale of fees settled by the Insurance Committee and the Salford Local Medical Committee.

The amount available shall be the total amount for which the Insurance Committee shall be responsible to the medical practitioners, and each medical practitioner undertakes that he will not make any claim against the Insurance Committee, the Local Medical Committee, or any insured person for higher remuneration, or bring any action against either the said committees or any insured person in respect of the payment of any such remuneration. If the total amount is insufficient to meet all the charges of the medical practitioners in accordance with the scale before mentioned, there shall be a pro rata reduction made in the charges of the medical practitioners.

The medical practitioners shall make an arrangement among themselves whereby every insured person in the said area shall receive adequate medical attendance and treatment.

If the total amount available for the period ending January 14th, 1914, shall be in excess of the amount required, the balance, or such part thereof as the Local Medical Committee shall decide, may be applied in payment in whole or in part of any deficit in the payment to any medical practitioner for the previous quarter.

The account of each medical practitioner for fees or remuneration shall be submitted to the Local Medical Committee, who must examine it and certify the amount of the account as passed by them, and then send the account to the Insurance Committee for payment out of the said fund in accordance with the foregoing arrangement. The Local Medical Committee shall have power to reduce or disallow any item of any medical practitioner's account submitted to them in respect of the period ending January 14th, 1914, or the previous quarter, and the Local Medical Committee may, if they so think desirable, in passing the accounts for payment, take the average per patient for any specified period as the basis upon which payment shall be allowed.

The sum of 2s. per head for each insured person available for drugs and medical appliances shall in like manner be ascertained, and so much of it as is assignable to the medical practitioners for supplying drugs and medical appliances shall be distributed among them according to a scheme to be settled by the Insurance Committee and the Local Medical Committee, and the remainder thereof shall be distributed in accordance with Articles 43 and 45 of the Regulations made by the Insurance Commissioners.

The medical practitioners shall undertake to afford such medical attendance and treatment as is required by the Regulations of the Commissioners to every insured person within the said area to the satisfaction of the Insurance Committee, and also, subject to the conditions of Section 15 (e) of the National Insurance Act, to old and disabled members of friendly societies. Every insured person shall have the free right of arranging with any medical practitioner among those accepting service in the said area to attend him during the continuance of this scheme.

Every medical practitioner undertakes to give the persons attended by him such certificates as are necessary to enable them to establish their claims for sickness and disablement benefits under the Act, or to stop such benefits, and to keep the day-books or record cards in the form required by the Commissioners, which day-books or record cards will be provided by the Insurance Committee. Any dispute arising under this scheme shall be determined in manner provided by Regulations 52 to 56 inclusive.

All accounts for attendance and treatment and drugs shall be submitted as herein provided within fourteen days after the expiration of the quarter in which such attendance and treatment have been given or such drugs supplied.

Nothing in this scheme shall prevent the Insurance Committee from allowing insured persons to make their own arrangements for medical benefit through an institution or privately under the National Insurance Act, 1911, and deducting from the amount available for medical attendance and treatment and drugs any sums payable to them in respect of such insured persons, and the Insurance Committee shall be entitled to make such arrangements as may be approved by the Insurance Commissioners under Article 22 of the National Health Insurance (Administration of Medical Benefit) Regulations, 1912, for the provision of medical benefit to insured persons temporarily resident outside the Committee's area.

I, the undersigned, being a registered medical practitioner, hereby agree to give medical attendance and treatment to insured persons in the area of the Salford Insurance Committee for the half-year ending January 14th, 1914, on the terms and conditions set out above.

(Signed) .....

(Address) .....

Date .....

NOTE.—Kindly state if any alterations have been made in your surgery hours compared with those set out in the current medical list, and, if so, state particulars of such alterations.

The above form of agreement has been approved by the Local Medical Committee for Salford, which has also circulated to practitioners a statement showing how the Committee adjusts the bills of the panel doctors before passing them for payment by the Insurance Committee out of the pool. The system of averages which is adopted by the Medical Committee was alluded to in general terms on June 28th (SUPPLEMENT to BRITISH MEDICAL JOURNAL, page 592), but as the system is peculiar to Salford and

Manchester, the following more precise details may be of interest: Every doctor on the panel is expected at the end of each month to send in to the Local Medical Committee all the used sheets of his day-book properly filled up, and stating the amount of his bill for each patient attended, calculated according to the adopted scale of fees. The sheets show, of course, the number and character of the attendances on each patient, together with the diagnosis in each case. Each doctor then receives an average obtained by dividing his total bills for the month by the number of patients attended, the result being expressed in shillings and decimals of shillings. Thus, if Dr. A.'s total bills amount to £40 (that is, 800 shillings) for attendance on 100 patients during the month, his average charge per patient will clearly be 8s. In the same way, a grand average is obtained for the whole of the panel. If, for example, the total bills sent by the whole panel amount to £1,000 (that is, 20,000 shillings), and 4,000 patients have been attended, the grand average will be 20,000 divided by 4,000, that is, 5s. a patient; and before Dr. A.'s account is allowed to rank for payment it is reduced to this, so that instead of receiving 8s. a patient he is credited with 5s., that is to say, only five-eighths of his account is allowed to rank for a share in the pool, his bill for £40 being reduced to £25. It is acknowledged that if a particular doctor has only a small list and the patients include one suffering from a severe illness, the rule of averages will press severely, and it then becomes a matter for consideration whether in such circumstances he is well advised to keep his name on the list. It should be added that doctors whose average happens to be below the grant average are not raised, but only rank to receive the amount of the bill sent in. In addition to this, if on comparing the diagnoses with the number of attendances in each case it appears that any unnecessary attendances have been made, a further reduction may be made, unless the doctor concerned is able to give satisfactory explanations. As previously stated, when all this pruning of accounts has been done, the pool has only sufficed to pay 56 per cent. of the bills.

The Manchester Medical Committee has issued a comparative statement, which has also been sent to the Salford practitioners, of the advantages and disadvantages of the systems of payment per attendance and capitation payment under the Insurance Act, with special reference to the system now in force in Salford and Manchester. It is claimed that under this system free choice of doctor is exactly as in private practice, and there is consequently less work for the Complaints Committee, while under capitation payment changes of doctor are only arranged with difficulty except yearly, and all complaints go to the Complaints Committee. With regard to statistics, on which alone claims for better remuneration can be based, the system makes correct records necessary in order to obtain payment, while under the capitation system there is no inducement to keep correct records and every excuse not to do so. Under the Salford system districts with high sickness incidence get proportionately larger shares of the pool, though income can only be estimated as in private practice, while under the capitation system high sickness incidence means more work without increased pay, though the income for each year can be nearly correctly estimated. Under the Salford system the Local Medical Committee is essential, and thereby influential with lay authorities, and can control attempts at exploiting the fund and sweating the profession as individuals, while under the capitation system the Medical Committee is not so essential nor influential with lay authorities, and there is no control over individual action nor progress towards united action. The freedom of the doctor under the Salford scheme is as in private practice—there are no undistributed surplus funds, and the book-keeping consists of a simplified day-book with yearly summary cards, while under the capitation system there is considerable lay control over the freedom of the doctors, the legal method of distributing surplus funds is not yet settled and is likely to cause considerable delay, and as to book-keeping two card cabinets are necessary, with cross-references. It is further claimed that the present system protects the patients as compared with the approved societies, while the capitation system protects the societies as compared with the patients; and also that the Medical Committee is the controlling factor under the present system, whereas under the capitation system the approved societies would undoubtedly become the controlling factor. The statement ends: "Your Committee, therefore, are strongly of opinion that the present system should be continued for the full twelve or fifteen months, depending on whether the official first insurance year began in January or April; and more particularly as Manchester and Salford are the only districts working under this system, and therefore the only districts where reliable statistics can be obtained."

Manchester.

Treatment of Convalescents under the Insurance Act.

The General Secretary of the Manchester City League of Help draws attention to a question which is peculiar to Manchester and the surrounding districts with regard to the convalescent treatment of insured persons who have no dependants. It appears that the Cotton Districts Fund has been able in the past to send poorer patients to the convalescent homes at Southport and Buxton at much reduced charges, the fund itself making the arrangements with the homes. Under Section 12 (1) and (2) (*c*) of the Insurance Act, if a member of an approved society who has no dependants is an inmate of a convalescent home supported by voluntary contributions, his sickness benefit shall, if an agreement for the purpose has been made between the society and the home, be paid, in whole or in part, towards his maintenance in the home. But difficulty has arisen as to the possibility of the society making arrangements through the Cotton Districts Fund so as to get the advantage of the reduced charges. The point has been submitted to the Commissioners, and they have decided that though Section 12 (2) does not provide for payment to the Cotton Districts Fund, under proviso (1) of Section 12 (2) the sickness benefit may be applied otherwise for the benefit of the insured person. This proviso will authorize payment out of the sickness benefit of insured persons who have no dependants to the Cotton Districts Fund for convalescent treatment, and the balance may be used for the payment of railway fare, etc. The importance of this will be obvious to panel doctors who may wish their convalescent patients to have a week or two at a health resort before returning to work.

MEETINGS OF INSURANCE COMMITTEES.

London.

A special meeting of the London Insurance Committee was held on July 10th.

Permission to make "Own Arrangements."

The Medical Benefit Subcommittee reported that, after consideration of each case on its merits, 293 insured persons had been allowed to make their own arrangements for medical attendance and 40 applications had been refused. The Chairman (Mr. J. A. Dawes, M.P.) explained that the applications granted were of the following classes: (1) Persons desiring treatment by a woman doctor; (2) persons already under treatment by a doctor not on the panel; and (3) persons who had been under the care since birth of a doctor not on the panel. Thirty-five of the cases refused consisted of employees of the Army and Navy Club, and the other five of persons who gave no reason but put down on their papers extremely rude remarks.

Complaints against Practitioners on the Panel.

The Committee approved the action recommended by the Medical Service Subcommittee to be taken in certain cases of complaints against practitioners on the panel. The following are the brief particulars:

Case K.—A patient, after a quarter of an hour's conversation with the doctor who had just accepted her, mentioned that she had a pain in her side. The doctor ascertained that she was constipated, and prescribed accordingly. Feeling no better on the next day, the patient called in another doctor, who diagnosed appendicitis, for which the patient subsequently underwent an operation.

The Subcommittee was of opinion that the patient did not make it clear that the pain she was suffering from was acute, and that she gave the impression that her request for treatment was merely incidental to her visit and not the main cause of it. On finding her condition did not improve, she should have again consulted her doctor. The Subcommittee found that the complaint had not been substantiated.

Action Taken.—A copy of the report was sent to doctor and patient, and arrangements were ordered to be made for the transfer of the insured person to another doctor.

CASE L.—A complaint that a medical practitioner did not advise an insured patient correctly and did not provide adequate treatment. The doctor had been interviewed, and stated that on March 8th he treated the patient for influenza and tonsillitis. On April 22nd the doctor's brother—a duly qualified practitioner who was temporarily assisting him—saw the patient, diagnosed her ailment as lumbago, and prescribed accordingly. The insured person did not attend before the Committee, though invited to do so. No evidence had been submitted which in any way bore out the complaint, and the Subcommittee found that it had not been substantiated.

Action Taken.—The practitioner and the insured person were informed that the complaint was of a frivolous and vexatious character.

CASE M.—In the matter of complaints that a medical practitioner had neglected to attend at one of the addresses at which he had undertaken to provide treatment (Cases C. and I., BRITISH MEDICAL JOURNAL SUPPLEMENT, July 5th, p. 49), the Subcommittee reported that several further complaints of a similar character against the same practitioner had been considered. These had been found to be substantiated, and the Subcommittee thought the decision to call upon the practitioner to refund the cost to the insured persons of obtaining treatment elsewhere met the case. The amount to be paid by the practitioner should be considered by the Medical Benefit Subcommittee.

Action Taken.—Reference to the Medical Benefit Subcommittee accordingly.

CASE N.—Three complaints against a doctor on the panel that he did not visit patients when requested, even after (in one case) two urgent messages that the patient was very ill. The insured persons obtained treatment from other doctors.

The doctor's explanation was that he did not consider the first two cases very urgent, and that he was prevented from visiting them by accident and a serious illness of another patient, who required all his attention at the time. He was more than usually busy in visiting patients on the day the message to visit the third case was received, and he did not return home until after 9 p.m. He did not then visit as he had heard that another doctor had been called in, and he desired not to interfere with the treatment.

Action Taken.—The doctor was severely reprimanded, and informed that in the event of any further complaint being substantiated representations would be made to the Insurance Commissioners that his continuance on the panel would be prejudicial to the interests of insured persons. The practitioner was requested to refund to the insured persons concerned the cost of treatment, and their tranference to another list was ordered to be arranged.

It was also reported by the Subcommittee that complaints against a doctor had been lodged in the case of an insured person now deceased. The Committee approved a recommendation that an investigation be made.

The CHAIRMAN suggested that the Committee should consider the desirability of publishing the names of doctors against whom complaints were substantiated. It might act as a deterrent.

Mr. WARBURG, the Chairman of the Subcommittee, promised to bring up a report on the subject.

Effect of Improved Conditions of Medical Service.

Mr. F. COYSH asked how many doctors had joined the panel since the recent concessions to the medical profession had been announced. He believed it was said that 1,300 to 1,500 would be added almost immediately. Mr. Coysh also asked as to the effect of an announcement in the daily press of July 7th that a certain Committee was recommending doctors not to go on the panel until further concessions were granted.

The CHAIRMAN, however, ruled this latter question out of order, and added that the number of doctors at present on the panel was 1,398 or 1,399.

Mr. COYSH: The 1,500 have not materialized.

Dr. H. H. MILLS: Have Mr. Turner or Mr. Evan Jones anything to say on this?

Mr. E. B. TURNER said the fact that the concessions had been made had produced a very good effect generally, although among a certain number they had produced no effect at all. He had carefully guarded himself against saying that practitioners would join the panel in large numbers.

Deposit Contributors.

With regard to the figures as to the number of deposit contributors, published in the SUPPLEMENT last week (p. 74), it was mentioned that over 5,000 of the deposit contributors in London have now gone out of benefit.

COUNTY OF CHESHIRE.

Supply of Drugs and Dressings.

AT a meeting of the Cheshire Insurance Committee on July 12th it was announced that the Commissioners approved of a recommendation by the Insurance Committee, on the instance of the Local Medical Committee, that practitioners on the panel should be supplied, on sending a signed requisition to the chemist, with an adequate supply of materials for surgical dressings to hold in stock, instead of ordering what is required for each patient in detail. The ordinary prescription forms may be used, with the words "for stock," instead of the patients' names. The same arrangement applies to the five kinds of hypodermic tablets which appear in the drug list and to other emergency drugs.

The drug list in its finally agreed form is undergoing revision and the doses are being stated, and the drugs, of which physiologically pure or standardized qualities are to be supplied, are being indicated.

Publication of Medical List.

The Insurance Committee decided to issue the panel list for the whole county in alphabetical order, instead of by districts as heretofore, and to state the usual surgery hours against each doctor's name. On the cover of the list, which will be hung in post-offices and other public places, will be a brief abstract of the rules of medical benefit, calling attention to the condition that, except in emergency, doctors must only be consulted during surgery hours, etc.

LOCAL MEDICAL COMMITTEES.

COUNTY OF SOMERSET.

A MEETING of the County of Somerset Medical Committee was held at Weston-super-Mare on July 3rd, at which Dr. WALLACE occupied the chair, and fifteen members were present.

Conference of Local Medical Committees.—Dr. Balfour Stewart was appointed representative of the Somerset Medical Committee for the meeting at Brighton on July 24th.

Finance.—The HONORARY SECRETARY reported that there had been a fair response to the levy of 5s. a head of the doctors on the medical list for the county, but he asked the honorary secretaries of the twelve District Medical Committees to remind those members who had not yet paid their subscription towards the expenses of the committee to do so at their earliest convenience. It was decided that the expenses of the twelve District Medical Committees should not be met out of the above fund, but by a small special subscription in each district.

Temporary Residents.—A circular letter was read from the Medical Secretary of the British Medical Association of date June 6th, *re* temporary residents, etc., and Dr. BRISTOWE proposed the following resolution, which was seconded by Dr. MARSH, and carried *nemine contradicente*:

> This Committee, confirming its views expressed and minuted on April 17th, 1913, considers that the scheme of the Insurance Commissioners for dealing with temporary residents as explained in Memo. 161/I.C is thoroughly practical and equitable, although it would welcome a special Government grant to form the central fund, and believes that a grant would clear away all opposition to the scheme. But the Committee is of opinion that it is inexpedient to adopt the method for obtaining such grant proposed by the British Medical Association in its letter of June 6th, 1913.

Pharmacopoeia and Prescriptions.—The question of adopting a local pharmacopoeia with stock formulae was fully discussed. While it was recognized that a list of such formulae would greatly reduce the prescription writing, it was felt by some members of the Committee that patients might probably prefer individual prescriptions, and some of the chemists in sparsely populated areas had stated that it would not be worth their while to stock special mixtures. It was finally decided that a local pharmacopoeia should not be adopted.

A letter from the Clerk to the County Insurance Committee made it clear that many prescriptions of a complex character, which had been handed to patients during the last five months, were proving so expensive that it was doubtful if the cost could be met out of the Chemists' Drug Fund, even if the chemists' share of the money due on account of the unallocated persons were included.

The HONORARY SECRETARY pointed out that the expense was often greatly increased by drugs being prescribed under trade protected names and other commercial designations, instead of under a chemical name which any one

is free to use. As an example, a practitioner had prescribed 16 oz. of a proprietary petroleum emulsion at a cost of about 4s., when he might have prescribed emuls. petrolei c. hypophos. (*B.P.C.*) at a cost of about 1s. 2d. Scented soap was not included in the drug tariff, yet even that article had occasionally been ordered. He advised practitioners to keep this point in mind when prescribing.

INSURANCE NOTES.

The Position of Friendly Societies.

A copy of a circular issued by Mr. A. H. Warren, President of the National Conference of Friendly Societies, appeared in the *Times* last week, and was followed by the publication of reports of interviews with officials of prominent friendly societies in large towns in the provinces, of a corresponding interview with the Medical Secretary of the British Medical Association, and of various letters, including one from Mr. E. B. Turner, and others from other medical men.

Mr. Warren's statements were to the effect that since January the number of claims made on the sickness benefit funds of the friendly societies had progressively and so enormously increased, as compared with the record for the early months of 1912, that friendly societies would be ruined unless some drastic step were promptly taken. By way of remedying matters, the appointment of medical referees had been advocated, but the right step was for the House of Commons to amend the Act in such fashion as to restore to friendly societies a right which, the writer claimed, had originally been promised them by Mr. Lloyd George—namely, that of administering medical benefit.

> If the societies again had the right to administer medical benefit it would prove of the highest value; the societies and their branches would again be brought into intimate association with their medical officer, the old mutual understanding in the course of a short time would probably again exist, and it would immensely make for more satisfactory supervision and assist in checking malingering.

This claim was supported by such provincial officials of friendly societies as were interrogated on the point, and all indicated that the drain on their funds was of an alarming kind. In addition a side-light on the subject was thrown by Mr. Kingsbury Wood, who, quoting figures obtained from the Tramways Committee of the London County Council, showed that there had been this year a very large increase in the number of absentees among motor men and conductors owing to alleged illness, and also increased duration of absence.

Another correspondent was Sir Edward Brabrook, who, after pointing out various reasons why the Insurance Act had done, and must continue to do, a great deal of mischief, stated that the only remedy he could see was to repeal the clauses relating to sickness benefit and substitute for them a method of subsidizing the friendly societies out of such funds as might remain after the other purposes of the Act had been met. The Legislature ought to have recognized from the beginning that neither the insurance of temporary "sickness benefit," nor the approval of voluntary and self-managed bodies was within the competence of the State; that sickness benefits were best administered by small local societies; that the experience of voluntary societies was not a trustworthy guide to the future of a compulsory scheme; and that the charging of a "flat rate" of contribution for different risks was unjust and unsound.

Mr. E. B. Turner, in his letter on the subject, pointed out that among the reasons for the increase of which complaint was made was the fact that societies had recently been admitting members without preliminary medical examinations, and were also including women, who, in the past, "owing to want of time and money were compelled to suffer without seeking relief." Approved societies now largely consisted of persons who were compulsorily insured, and many of these were only too glad of a chance "to get a bit of their own back" from the State, and were careless of the welfare of their society. In medical as distinct from surgical connexions malingering was so difficult to detect that even with the assistance of referees there would always be a certain amount of leakage from this cause. The whole profession, including those who from the first were willing to go on the panels, would revolt against amendment of the Act in the fashion advocated by Mr. Warren.

Much the same attitude was adopted by the Medical Secretary of the British Medical Association. Independently of other objections, the insured would be entirely deprived of free choice of doctor if administration were placed in the hands of friendly societies.

Among the other writers, Dr. H. M. Raven emphasized the point that while so far he had met with no case of malingering, he had had several cases of severe illness in insured persons who would not have been accepted by a businesslike insurance company "at any price"; and Dr. C. E. S. Flemming expressed an opinion to the effect that the collecting societies and trade unions, which between them had a larger membership than the friendly societies, were not anxious for the administration of medical benefit. He also suggested that Mr. Warren, in speaking of restoration of the previous relations between friendly societies and the medical profession, should not have used the term "old mutual understanding," but "old mutual misunderstanding."

Sickness Certificates by Midwives.

The Medical Benefit Subcommittee reported to the last meeting of the Gloucestershire Insurance Committee that a difficulty had arisen with respect to the issue of certificates for sickness benefit in confinement cases. A doctor on the panel was not liable to give a certificate as to sickness due to confinement, seeing that he was not required under his agreement to treat any woman in respect of confinement. In two cases women entitled to sickness benefit were attended in their confinement by a midwife, and the panel doctor in each case had not given the sickness certificate because he had not seen the patient. The Subcommittee had decided to accept a certificate of a midwife in such cases when the married woman was a deposit contributor, and it thought that a midwife's certificate might be similarly accepted by approved societies. The matter was within the discretion of the societies, and, when the rules of a society required a doctor's certificate in all claims for sickness benefit, the question arose whether the doctor, who was under no obligation to treat the case, was obliged to visit the patient merely for the purpose of giving her a certificate. A communication had been addressed to the Insurance Commissioners on the subject.

LANCASHIRE.

Statement of Nature of Disease upon Certificate.

With a view to meeting the objection of the medical profession to the disclosure of the nature of the illness upon certificates under the Insurance Act, the Lancashire Insurance Committee on July 14th adopted, by 16 votes to 8, the following recommendation of the Medical Benefit Subcommittee:

> That the Lancashire Insurance Committee be recommended to approve of the form of certificate Med. 34 (proof No. 7), on the understanding that the word "illness" will be accepted in lieu of the name of the specific disease in those cases which the medical attendant considers exceptional, and in which the statement in the certificate of the specific name of the illness would be detrimental to the patient, provided that in all such cases the medical attendant will meet without fee in consultation a duly appointed medical referee; and, further, that the Insurance Commissioners be requested to indemnify those approved societies which pay sickness benefit under the above-mentioned exceptional circumstances.

SCOTLAND.

Highlands and Islands Mileage and other Special Charges.

In a memorandum issued by the Scottish Commissioners, dated July 11th, they give the outline of a scheme framed by them, and approved by the Lords Commissioners of the Treasury, for distribution of the parliamentary grant of £10,000 in aid of mileage and other special charges in the Highlands and Islands of Scotland in respect of the year 1913.

It is explained that the scheme is an interim and provisional arrangement applicable only to the current calendar year, and that the future distribution of the grant will be subject to the arrangements to be made under the Highlands and Islands (Medical Service) Bill about to be introduced into Parliament with the object of determining the amount of grant in respect of mileage apportionable to the various counties of Scotland concerned. Instructions were given to the inspectors to

ascertain, from the index slips in the possession of clerks to Insurance Committees, the names and addresses of all insured persons in respect of whom a mileage allowance would be payable, the distances being classified as follows:

1. *Normal miles*—along driving roads, excluding first three miles;
2. *Special miles*—along paths or roads not used for vehicular traffic or across moorlands, excluding first three miles;
3. *Water miles*—by loch or sea—the whole distance being included.

From the data so ascertained the Commission have calculated the amount of grant payable to each Insurance Committee under Section 3 of the scheme at the mileage rates specified—namely, 1s. for each normal mile, and 2s. 6d. for each special mile, and 4s. for each water mile. Out of the total grant of £10,000, the sum of £8,220 will fall to be so distributed.

The balance of the grant—£1,780—has been set apart under Section 8 of the scheme to meet special charges in respect of medical benefits and purposes ancillary thereto, and is to be paid to the Insurance Committees in such proportion and applied by them in such manner as the Commissioners may determine. Special consideration is, however, to be given by the Commission to the question of mileage in respect of:

1. Persons resident in the county who entered into insurance after October 29th, 1912; and
2. Persons who temporarily remove into the county in the course of their employment.

In addition to the foregoing, the purposes on which the Commission propose to expend the balance include the provision of improved facilities for obtaining medical treatment in the case of certain islands and districts which present special difficulties, and of mileage allowances in respect of members of the Seamen's National Insurance Society resident in the area covered by the grant.

The area deemed to be included within the Highlands and Islands for the purposes of the grant shall be the counties of Argyll, Caithness, Inverness, Orkney, Ross, Sutherland, and Shetland, and that portion of the county of Perth containing the parishes of Blair Atholl, Fortingall, Logievail, Kenmore, Dull, Weem, Little Dunkeld, Dunkeld and Dowally, Moullen, Killen, Balquhidder, Callender, Connie, and Kirkmichael.

The Insurance Committees shall distribute the sum so paid to it in respect of mileage for the year ending January 14th among the practitioners on the panel who may be deemed by the Committee to be entitled to participate therein on such basis as the Committee may determine; provided that in making such distribution and in determining the sum, if any, payable to each practitioner on the panel the Committee may take into account any special circumstances of their area or any representations made by any such practitioners or by the Local Medical Committee in regard thereto, such as—

(*a*) The allowance, in very exceptionable circumstances, of milage for distances of less than three miles from the residence of the nearest available practitioner on the panel.
(*b*) The sum to be allowed in respect of each normal, special, and water mile.
(*c*) The facilities for travelling by rail, steamboat, ferry boat, mail coach, or other public conveyance; and
(*d*) The aggregation or the segregation of insured persons on the practitioner's list.

The basis of distribution adopted by the Committee, including any allowance for special circumstances, shall be such as to secure that the sums to be distributed by the Committee to the practitioners on the panel as aforesaid shall not in any year exceed the total sum payable to the Committee by the Commissioners in respect of mileage.

As already indicated, the balance of the grant is to be set apart by the Commissioners for special charges, and shall be paid in such proportion to and applied by the respective Committees in such manner and circumstances as the Commissioners may determine in aid of medical benefit and purposes ancillary thereto; provided that special consideration shall be given by the Commissioners to the circumstances of any county in which numbers of persons entered into insurance after October 29th, 1912, and are resident, or to which numbers of persons temporarily remove in the course of their employment—at places which would have entitled the Committee to an allowance for mileage in respect of such persons had they been insured or resident within the county on that date.

IRELAND.

Medical Advisers.

At the meeting of the Cork County Borough Local Medical Committee, held on July 11th, the following resolution was unanimously adopted:

> That, in consequence of the tyrannical action of the Irish Insurance Commissioners in appointing medical advisers for certification of insured persons for sickness and sanatorium benefits in Dublin, Limerick, and Waterford, in opposition to the unanimous opinion and wish of the Irish medical profession, we, the members of the Cork County Borough Local Medical Committee, will, at the earliest possible date (legally) take the necessary steps to effect the repudiation of the panel system as at present administered, and to obtain the resignations of all the members of the profession in the borough who have signed agreements with the Commissioners.

It was also decided that copies of the resolution should be sent to the Secretaries of the Conjoint Committee and the Irish Medical Association, the BRITISH MEDICAL JOURNAL, and the Honorary Secretaries of the Local Medical Committees of Belfast and Derry, with a request to the latter that their Committees will consider the advisability of adopting a similar course.

CORRESPONDENCE.

Section of Medical Sociology.

DR. ARTHUR W. ALDRICH (Leyton, Essex) writes: I cannot see that Dr. Ryle's letter (in the SUPPLEMENT of July 12th, p. 77) makes the prospective presence of Mr. Lloyd George and Mr. Masterman at a British Medical Association meeting any more welcome. The idea that those gentlemen will consent to be instructed is highly improbable. I agree with Dr. Ryle that it is not a question of panel and non-panel doctors, but I do contend that it is an outrage that a person, however prominent a member of the legislature he may be, who has insulted and threatened the Royal Colleges of Physicians and Surgeons, calling them "rude and inept," and hinting at taking away their Charters, and who is responsible for an Act which an overwhelming majority of the profession has described, and rightly described, as "degrading and derogatory," should be the particular prominent individual selected.

The strain on the loyalty of members of the Association has been very great during the past year, and such occurrences as this bring the breaking point very close.

Dr. L. A. PARRY (Local Honorary Secretary, Annual Meeting at Brighton, British Medical Association) writes: As there appears to be some misunderstanding concerning invitations issued to Ministers by the officers of the Section of Medical Sociology, I shall be glad if you will allow me to state officially the actual facts.

Mr. Lloyd George and Mr. Masterman were invited to be present to listen to the views of the profession on an important subject selected for debate—namely, hospitals in relation to the State, the public, and the medical profession.

Mr. Lloyd George has declined; Mr. Masterman has accepted, but to listen only, not to discuss.

Dr. Ryle, on p. 76 of the SUPPLEMENT of last week, points out the advantages of this arrangement, and I need not repeat his argument.

The statement made in your issue of June 7th, for which I am responsible, was incorrect, and I desire to put the matter right.

P.S.—I have just received an intimation from Mr. Masterman that his duties in the House will prevent him attending the Section of Medical Sociology.

We have received the following communication, but we feel sure that the signatories will excuse us from adding anything to the statements of the President of the Section (Dr. Ryle) last week and of Dr. Parry above:

Haverfordwest, July 14th, 1913.

Dear Sir,

We should like to know whether the invitation to Mr. Lloyd George and Mr. Masterman to address Association

at Brighton was given with the official sanction of the British Medical Association. If not, who gave it and by whose authority? We fail to see any useful purpose (except kissing the rod, etc.) that is likely to be obtained by such discussion with members of His Majesty's Government; it savours too much of inspiration from such Government, and we do not think such an invitation is consistent with the dignity of the profession, which has been subjected to such undeserved abuse at their hands.—We remain,

Yarnold H. Mills, F.R.C.S.,
Chairman, Pembrokeshire Medical Committee.
Chas. A. Brigstocke, M.R.C.S.,
Honorary Secretary, Pembrokeshire Medical Committee; Chairman, South Wales Division, British Medical Association.
James Wilson, F.R.C.S.,
J. H. H. Williams, M.R.C.S.,
P. A. Lloyd, F.R.C.S.E.

The Position in London.

Dr. E. H. Worth (Streatham), writes: Dr. Keay evidently cannot see that it is a dishonourable action to sign a pledge and then break it; in fact he glories in the breaking, for he states in his long rigmarole to you, "I signed the undertaking, I joined the panel, and I did not wait for nor want any absolution."

The large majority of the London medical men, however, are of a different stamp, and I am pleased to read in the report of the special commissioner of the *Lancet* in this week's paper that about two-thirds of the Liverpool men also understand the value of a written pledge. The commissioner writes:

> That the non-panel doctor is holding his own at Liverpool may be considered established by the fact that not much more than a third of the available practitioners are on the panel and *some are coming off*. The patients also in many cases are showing their preference for the independent practitioner.

Mr. Lloyd George promised free choice of doctor to insured persons. In London they have to take their choice from a quarter of the profession only, and if the letters from panel doctors and reports of the approved societies are to be believed they have a most inadequate service to choose from. I would specially refer to the letters and reports in the *Daily Mail* during the last month. The ideal panel that Dr. Keay would like to see will not be found under the present conditions of service; it will only appear where the profession having said what the terms of the contract are to be, has the courage to stick to its written statement and not give in before the first shot of the battle has been fired.

The London Medical Committee.

Mr. E. Arthur Dorrell (Honorary Secretary, London Medical Committee) writes: In the Supplementary Report of Council published in the Supplement of July 5th, on p. 5, paragraph 230, there appear these words, "in consequence of action taken by the London Medical Committee, which later became the National Medical Guild." The conclusion arrived at on reading this is that the London Medical Committee is defunct, whereas it is active, and is on the point of becoming the co-ordinating centre for the non-panel associations which are coming into existence in every borough in London. The London Medical Committee and the National Medical Guild are quite separate organizations, and I am at a loss to understand how such an error found its way into the official report of the Council, and I shall be glad if you will give this correction due prominence.

Free Choice of Doctor.

Dr. J. T. Macnamara (London, S.E.) writes: In the Supplement of July 5th last I read the following in the Report of Council, 237, p. 7:

"In order that every insured person should be able to select as his medical attendant one who is not on the panel without any possibility of veto on the part of an Insurance Committee . . . it would be necessary that there should be an alteration of Section 15 (3) so as to compel every Insurance Committee to allow every person so applying to make his own arrangements. The position at present is that the Committee may allow him to do so." The question as I understand it is: Does the Act authorize the Commissioners to allow the Committees the privileges which it would seem the Council of the British Medical Association is prepared to concede them? To enable your readers to be fully seized of this point, may I quote in parallel columns the appropriate sections of the Act and Regulations as published in the Supplement of January 6th, 1912, and December 7th, 1912, respectively, pages 10 and 629:

The Act, Section 15 (3).	*Regulations Section 14 (7).*
The Regulations made by the Insurance Commissioners *shall* authorize the Insurance Committee . . . to require any person whose income exceeds a limit to be fixed by the Committee and to allow any other persons to make their own arrangements.	The Committee *may* allow any insured person resident in the County whether individually or collectively . . . to make their own arrangements.

From this it is evident that the intentions of the legislature were to give absolute and individual free choice of doctor (may I add in passing an income limit). It is equally evident that the Commissioners in drafting their Regulations entirely departed from the intentions of Parliament and thereby struck a heavy blow at domestic as well as individual liberty. I take it, however, that neither Commissioners nor Committees have the power to so alter a statute as to convert a positive section into a conditional one. I also take it that it only requires our Council to insist on the *ipsissima verba* of the Act to secure for us, in this respect at least, all that the profession desires.

The Scottish Conference—A Correction.

Dr. David Rorie (Cults, Aberdeenshire) writes; In your report of the Scottish Conference of Local Medical Committee with the British Medical Association Scottish Committee (Supplement, p. 66, July 12th) there is a mistake, which I should like to correct, in the motion regarding sick certificates brought forward on behalf of Aberdeenshire. The report gives Section (C) as running "such action constitutes a legal action under Scots law to the practitioner issuing such a certificate." This should read, "such action constitutes a legal danger," etc.

Your report also mentions the withdrawal of the motion regarding payment of the expenses of Local Medical Committees. This was done on the suggestion of the chairman after hearing the statement made by Dr. Cox.

Temporary Residents.

Conference with the Insurance Commissioners.

Dr. John Divine (Hull) writes: Your report of the conference with the Commissioners on July 1st (Supplement, July 5th, p. 45) is substantially correct. A good deal of the argument used by representatives from seaside resorts would have been relevant only if the subject under discussion had been as to whether 9s. was sufficient for medical benefit. This the chairman, Sir Robert Morant, pointed out, and declared emphatically that argument on that line was futile, inasmuch as the Commissioners had no more than 9s. to deal with, and had no power to raise more. Granting so much it was, I believe, distinctly felt that the method of the Commissioners, so far as it was understood, was an attempt at equitable adjustment, and I believe that the better the plan is understood the more equitable it will appear.

Are not the men at the seaside crying out before they are hurt? What proportion of visitors—men, women, and children—who visit a resort for a month, or even for a fortnight, will be insured persons? A good many heads of households who take a house or rooms for a month at the seaside spend only a week or a fortnight there on holiday, and for the remainder of the time travel to town every day. In any case, if serious illness threatened their first thought would be to get home again, and the first thought of their landlady would be to get rid of them. In the very near past, before the Insurance Act came into force, I can remember seaside practitioners bewailing the bad debts made through visitors. For insured persons there will now be sure payment.

One picture drawn before the Commissioners was that that of a lady, fairly well off, who was insured because she did a little typewriting, or such like, and of the doctor at the seaside being made responsible for her treatment for a month on insurance terms. Why should he not be? The lady is insured for fifty-two weeks in the year and someone inland has to be responsible for forty-eight

weeks—including the worst seasons of the year—at the same rate, and feels quite as much that she is able to pay privately.

Regulation 22 is part of our contract, and under it it is left to the Commissioners to make "such adjustment" between Committees as may be "equitable." The manner of that adjustment is not specified, but is left to the Commissioners. If the method suggested in Memos. 159/I.C. and 161 I.C. is not accepted, what remains? The doctor of the temporary resident will have to be content with 1½d. per week for such people as he treats, because under Regulation 22 he is bound to treat an insured person "who changes his residence to the area of another Committee."

I would advise all practitioners to think carefully and accurately, and to look at the question from the points of view—(1) of the insured person entitled to fifty-two weeks' insurance, including medical benefit, every year; (2) of the Commissioners with only 9s. per insured person to deal with; and (3) of other practitioners who are interested alike with them in the equitable division of the money available for medical benefit.

HERBALISTS: AN APPEAL.

Mr. E. J. ROBERTS, B.Sc., M.R.C.S., L.R.C.P. (London, W.) writes: I request every medical practitioner worthy of the name who has joined the panel to forward a three months' notice to the Insurance Commissioners on August 1st next, and terminating on October 31st, intimating that he is unable to render any further service under the Insurance Act.

I maintain that this action is no less than our plain duty in view of the fact that the Chairman of the Worcester City Insurance Committee is satisfied that "the treatment" (by a herbalist) "would not be inferior in nature, quality, and extent to that under the panel doctors," and the Committee allowed four insured persons to be treated by a herbalist. A similar standpoint was taken up by Mr. Masterman in answer to a question in the House of Commons. Can the degradation of the once honourable medical profession possibly become more complete?

I make bold to assume that the above appeal will command instant and general acceptance, and happily for us now we have no fear of blacklegs or strikebreakers.

I further propose that the conditions of resumption of service should include our original six cardinal points, with a minimum remuneration of 10s. 6d. per insured person. I also propose a seventh cardinal point—namely, that the members of the medical profession insist on the right to choose their own associates in the treatment of insured persons.

To ensure the attainment of the above proposals I beg to submit that we need no fund, and that the spending of a single copper is unnecessary. A general response to the above appeal will, with masterly inactivity as our motto, result in a complete victory and a regain of lost prestige in the short space of fourteen days.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns 8,754 births and 3,824 deaths were registered during the week ending Saturday, July 5th. The annual rate of mortality in these towns, which had been 11.8, 11.6, and 11.3 in the three preceding weeks, further fell to 11.2 per 1,000 in the week under notice. In London the death-rate did not exceed 10.7, against 11.4, 11.0, and 10.3 in the three preceding weeks. Among the ninety-five other large towns the death-rates ranged from 2.3 in Ealing, 2.9 in Gillingham and in Southend-on-Sea, 4.2 in Acton, 4.3 in Devonport, and 4.4 in Enfield to 15.0 in Bury, 15.3 in Burnley, 15.4 in West Hartlepool, 15.8 in Barnsley, 16.2 in Dudley and in Stockport, 17.6 in Halifax, and 19.6 in West Bromwich. Measles caused a death-rate of 2.8 in Stoke-on-Trent and in Walsall, and 3.0 in West Bromwich. The mortality from the remaining infective diseases showed no marked excess in any town, and no fatal case of small-pox was registered during the week. The causes of 17, or 0.4 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 4 were registered in Birmingham and 2 each in Warrington, Blackburn, and Preston. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had been 1,418, 1,499 and 1,604 at the end of the three preceding weeks, further rose to 1,697 on Saturday, July 5th; 314 new cases were admitted during the week, against 186, 273, and 286 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,251 births and 595 deaths were registered during the week ending Saturday, July 5th. The annual rate of mortality in these towns, which had been 14.3, 14.8, and 14.9 in the three preceding weeks, further fell to 13.7 in the week under notice, and was 2.5 per 1,000 above the rate recorded in the ninety-six large English towns. Among the several towns the death-rate ranged from 4.5 in Perth and 7.8 in Kirkcaldy to 19.0 in Falkirk, 19.9 in Ayr, and 22.8 in Greenock. The mortality from the principal infective diseases averaged 2.1 per 1,000, and was highest in Aberdeen and Hamilton. The 288 deaths from all causes registered in Glasgow included 27 from measles, 11 from whooping-cough, 9 from infantile diarrhoeal diseases, 3 from scarlet fever, 2 from diphtheria, and 1 from enteric fever. Measles caused 6 deaths in Aberdeen and 2 in Dundee; scarlet fever, 3 in Edinburgh; whooping-cough, 2 each in Edinburgh, Aberdeen, and Hamilton; and diarrhoeal diseases, 3 in Greenock, and 2 each in Edinburgh, Dundee, and Aberdeen.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, July 5th, 580 births and 378 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 624 births and 384 deaths in the preceding period. These deaths represent a mortality of 16.4 per 1,000 of the aggregate population in the districts in question, as against 16.7 per 1,000 in the previous period. The mortality in these Irish areas was, therefore, 5.2 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.2 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 16.8, as against an average of 17.5 for the previous four weeks, in Dublin city 19.1 (as against 19.3), in Belfast 15.9 (as against 16.1), in Cork 16.3 (as against 16.7), in Londonderry 15.3 (as against 15.0), in Limerick 13.5 (as against 13.9) and in Waterford 17.1 (as against 25.2). The zymotic death-rate was 1.2 as against 1.4 in the previous week.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ABERYSTWITH INFIRMARY AND CARDIGANSHIRE GENERAL HOSPITAL.—House-Surgeon and Secretary (male). Salary, £175 per annum, increasing to £200.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—(1) Resident Medical Officer; (2) Junior Resident Medical Officer (males). Salary at the rate of £60 and £40 per annum respectively.

BIRKENHEAD BOROUGH HOSPITAL.—Junior House-Surgeon (male). Salary, £80 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House-Surgeon. Salary £75 per annum.

BIRMINGHAM CITY.—Resident Medical Officer at the Salterley Grange Sanatorium for Consumption, near Cheltenham. Salary, £300 per annum.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer. Salary, £220 per annum.

BIRMINGHAM: RUBERY HILL ASYLUM.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM UNION.—Resident Assistant Medical Officer (male) at the Selly Oak Infirmary. Salary, £160 per annum.

BOOTLE BOROUGH HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

BRISTOL ROYAL INFIRMARY.—House-Physician. Salary at the rate of £100 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—(1) Senior and Junior House-Surgeons; salary, £80 and £70 per annum respectively. (2) First Assistant to the Research Department; salary, £350 per annum.

CANTERBURY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £160 per annum.

CARLISLE DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C.—Bacteriologist. Honorarium, £50 per annum.

CHESTER GENERAL INFIRMARY.—House-Physician. Salary, £90 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £90 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House-Physician (male). Salary at the rate of £75 per annum.

COLCHESTER: ESSEX COUNTY ASYLUM.—House-Physician. Salary, £80 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—(1) House-Physician; (2) Junior House-Surgeon. Salary, £90 per annum each, rising to £100 after six months.

CROYDON GENERAL HOSPITAL.—Junior House-Surgeon. Salary at the rate of £80 per annum.

DENBIGHSHIRE INFIRMARY.—House-Surgeon. Salary, £110 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

DEWSBURY AND DISTRICT GENERAL HOSPITAL.—House-Surgeon. Salary, £120 per annum.

DUBLIN: ROYAL VICTORIA EYE AND EAR HOSPITAL.—House-Surgeon. Salary, £40 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—(1) Assistant Surgeon: (2) House-Physician and Assistant Casualty Officer (male). Salary at the rate of £75 per annum.

ECCLES AND PATRICROFT HOSPITAL.—House-Surgeon. Salary, £70 per annum.

EDAY PARISH.—Medical Officer. Salary, £170 per annum.

EDINBURGH: THE HOSPICE.—Qualified Medical Women as Resident. Honorarium at the rate of £25 per annum.

EDMONTON UNION INFIRMARY.—Second Assistant Medical Officer. Salary, £140 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of 100 guineas per annum.

FERMANAGH COUNTY HOSPITAL, Enniskillen.—House-Surgeon (male). Salary, £72 per annum.

GLOUCESTER ROYAL INFIRMARY AND EYE INSTITUTION.—Physician.

GRETNA PARISH COUNCIL.—Medical Officer.

HAMMERSMITH PARISH.—Second Assistant Medical Officer of the Infirmary and Workhouse. Combined salary, £110 per annum, rising to £130.

HARROGATE: HEATHERDENE CONVALESCENT HOME.—Honorary Surgeon.

HEREFORD COUNTY AND CITY HOSPITAL.—Assistant Medical Officer. Salary, £155 per annum.

HERTFORD COUNTY COUNCIL.—Assistant Tuberculosis Officer. Salary, £300 per annum.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £250.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Assistant Resident Medical Officer. Salary, £100 per annum

HULL: VICTORIA CHILDREN'S HOSPITAL.—(1) House-Surgeon; (2) Assistant House-Surgeon. Salary, £50 and £45 per annum respectively.

HULME DISPENSARY, Manchester.—House-Surgeon. Salary, £160 per annum.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITAL.—(1) Vacancy on Honorary Medical Staff. (2) Locumtenent: four guineas a week.

KENT COUNTY ASYLUM, Chartham.—Junior Assistant (Third) Medical Officer (male). Salary, £220 per annum.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

LANCASHIRE EDUCATION COMMITTEE.—School Medical Inspector. Salary, £250 per annum, increasing to £400.

LEEDS: HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary at the rate of £50 per annum.

LEICESTERSHIRE AND RUTLAND LUNATIC ASYLUM, Narborough.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Assistant Resident Medical Officer. Salary, £150 per annum.

MAIDSTONE: KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer. Salary, £200 per annum, rising to £220.

MANCHESTER TOWNSHIP.—Assistant Medical Officer for the Workhouse at Crumpsall. Salary, £110 per annum.

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham.—Resident Medical Officer. Salary at the rate of £80 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—House-Surgeon and Assistant House-Surgeon. Salary at the rate of £60 and £40 per annum respectively.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—Resident Medical Officer. Salary, £150 per annum.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Northwood.—House-Physician. Salary, £75 per annum,

NATIONAL SANATORIUM, Benenden.—Assistant Medical Officer. Salary, £120 per annum.

NEWARK-UPON-TRENT: THE HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

NEWCASTLE-UPON-TYNE: UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Demonstrator of Anatomy. Salary, £200 per annum.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Resident Medical Officer. Salary, £80 per annum for first four months, increasing to £120.

NORTH RIDING ASYLUM, Clifton, York.—Male Senior Assistant Medical Officer. Salary, £250 per annum, rising to £400.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

OLDHAM COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary, £260 per annum, rising to £300.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Assistant Resident Medical Officer. Salary at the rate of £80 per annum.

PLYMOUTH, SOUTH DEVON, AND EAST CORNWALL HOSPITAL.—House-Physician. Salary, £75 per annum.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon (male). Salary, £100 per annum, rising to £120.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.—House-Surgeon. Salary at the rate of £50 per annum.

SHEFFIELD ROYAL HOSPITAL.—Assistant House-Physician. Salary, £80 per annum.

SHEFFIELD: JESSOP HOSPITAL FOR WOMEN.—Assistant House-Surgeon. Salary, £80 per annum.

SHEFFIELD ROYAL INFIRMARY.—Two Resident Medical Officers. Salary, £70 per annum.

SHREWSBURY: SALOP INFIRMARY.—House-Surgeon. Salary, £150 per annum.

SOMERSET COUNTY COUNCIL.—Assistant Tuberculosis Officer. Salary, £300 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £90 per annum, increasing to £115 at the end of one month.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

STIRLING DISTRICT ASYLUM, Larbert.—Third Assistant Medical Officer (lady). Salary, £120 per annum.

STOKE-ON-TRENT UNION.—Assistant Medical Officer for the Workhouse and Hospital. Salary, £160 per annum.

STRATHLACHLAN: PARISHES OF STRACHUR AND STRATHLACHLAN.—Medical Officer. Salary, £94 per annum.

SUNDERLAND: ROYAL INFIRMARY.—(1) House-Physician. (2) Two Junior House-Surgeons (males). Salaries, £90 per annum.

THREE COUNTIES ASYLUM, near Hitchin.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £250.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

UNIVERSITY COLLEGE MEDICAL SCHOOL, W.C.—Demonstrator in Department of Bacteriology.

WARWICK ASYLUM.—Assistant Medical Officer. Salary, £200 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £75 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—(1) Senior and Junior House-Physicians; salary, £100 and £75 per annum respectively. (2) Honorary Dental Surgeon.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY.—Senior House-Surgeon. Salary, £120 per annum.

WILTS COUNTY COUNCIL.—County School Dentist. Salary at the rate of £250 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WOMEN'S HOSPITAL FOR CHILDREN, Harrow Road, W.—Honorary Dental Surgeon (female).

WORCESTER GENERAL INFIRMARY.—House-Physician. Salary, £120 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Hoo (Kent); Kidsgrove (Stafford).

APPOINTMENTS.

BENNETT, E., L.R.C.P. and S.Edin., Certifying Factory Surgeon for the Lydbrook District, co. Gloucester.

DYSON, William, M.D.Vict., Honorary Special Lecturer in Dermatology to the Victoria University of Manchester.

FAWCETT, R., M.B., B.S.Edin., Certifying Factory Surgeon for the Broughton-in-Furness District, co. Lancaster.

GREAVES, H. G., M.B., B.C.Camb., District Medical Officer of the Godstone Union.

GRIFFITHS, Philip Rhys, M.B., B.S.Lond., Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 24, and to be attached more particularly to the Cardiff and Barry County Courts.

WILLIAMS, D. R., L.R.C.P. and S.Edin., Certifying Factory Surgeon for the Penmachno District, co. Carnarvon.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

PRINGLE.—On July 13th, at 195, Croydon Road, Anerley, the wife of Ernst George Pringle, M.D., of a daughter.

MARRIAGE.

HALL—MEIN.—On July 10th, at Jesmond Parish Church, Newcastle-on-Tyne, George Hall, M.B., B.Sc., M.R.C.P., of Newcastle-on-Tyne, to Margaret, elder daughter of Mr. N. and the late Mrs. Mein.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics, daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Wednesday. Radiography: Saturday.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following Clinical Demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin. Tuesday, Medical. Wednesday, Surgical. Thursday, Surgical. Friday, Eye. Special Lectures at 5.15 p.m. daily, except Saturday.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Medical and Surgical Clinics and Operations at 2.30 p.m. daily. Also Monday, Throat; Tuesday, Gynaecology; Wednesday, Skin, Eye, Children, X Rays; Friday, Eye. Special Lectures and Demonstrations as announced.

ROTUNDA HOSPITAL, DUBLIN.—Continuation of the Post-Graduate Course on Obstetrics and Gynaecology daily throughout the week, except Saturday.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, X Rays, and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday. A Lecture at 5 p.m. on Monday, Tuesday, and Wednesday.

[For further particulars of Lectures consult the Index to Advertisements.]

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SUPPLEMENT
TO THE
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EIGHTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

BRIGHTON, 1913.

ANNUAL REPRESENTATIVE MEETING.

Mr. T. Jenner Verrall (Chairman of Representative Meetings) in the Chair.

The proceedings of the Annual Representative Meeting began on Friday, July 18th, 1913, at the Town Hall, Hove, at 10 a.m.

The return of the election of Representatives of Divisions for the year 1913–14 was received, approved, and entered on the minutes. Notices of appointment of substitutes for Representatives were also received.

Personal Matters.

The Chairman alluded to the deaths, since the last Representative Meeting, of two Representatives—Dr. J. E. Garner (Preston) and Mr. W. G. Booth (Manchester, Central); and of Dr. Courtenay Milward, who had been Deputy Representative of the Cardiff Division. Motions of sympathy and condolence were carried.

The Chairman congratulated the Representatives upon the honour conferred upon the Association through the knighthood conferred on Sir T. E. Flitcroft (Bolton).

Sir T. E. Flitcroft, who was received with applause, briefly returned thanks.

Standing Orders.

The Standing Orders of the last Representative Meeting were adopted with the following additions to Standing Order 33 (i):—

A card vote shall be taken in the following manner:

At the commencement of the Representative Meeting a list of those entitled to vote shall be prepared, with, in a column opposite the name of each, the number of votes to which the voter is entitled in accordance with By-law 39 (3).

The names of the Representatives shall be grouped together under their respective Branches in the alphabetical order of their constituencies and the reply "Aye" or "No" entered opposite his name in another column.

The necessary additions shall then be made.

The Standing Order was further amended to provide that a roll call shall not be taken if the meeting has decided to take a card vote.

The Chairman explained that the object of the amendments was to facilitate the proceedings of the Representative Meetings.

Order of Business.

The Chairman announced that the Agenda Committee recommended that whatever stage had been reached at the conclusion of business that day, the first business on the following day should be the report of the State Sickness Insurance Committee, and this was agreed to.

MUNICIPAL WELCOME TO THE ASSOCIATION.

The Mayor of Hove (Alderman Barnett Marks, J.P.), accompanied by Dr. Taylor, Dr. Parry, Dr. Gervis, and Dr. Burchell, visited the meeting during the morning session and extended a welcome in the name of the Corporation and citizens of the borough to the Representative Body and the Association generally.

The Mayor, who was received with loud applause, said he was proud as the civic head of the borough to have the privilege of welcoming the Association to Hove. He was voicing the feeling of every resident in welcoming them most heartily. He had a keen recollection of the Association's visit to Brighton twenty-seven years ago, when Mr. Verrall was the honorary secretary of the meeting. The British Medical Association had grown since then. In those days the Association was 9,000 strong; to-day he believed it was nearer 25,000. During the same period Hove had not stopped still. Twenty-seven years ago it contained something like 24,000 inhabitants, whereas to-day the population numbered 44,000. The rateable value of the borough had risen during that time from £220,000 to over £420,000. It was a great honour to Hove to have one of its most eminent citizens acting as President of the Association for the coming year. He had heard it said over and over again that doctors were not business men. Judging from the manner in which he had conducted a recent meeting in Brighton, he could only express the wish that some of the business men would take a leaf out of Mr. Verrall's book. (Applause.)

The Chairman, in thanking the Mayor, expressed the gratitude of the Representatives to the municipality for having placed the Town Hall at their disposal.

Alderman Gervis, ex-Mayor of Brighton and Chairman of the Brighton Division of the British Medical Association, on behalf of the borough of Brighton offered a warm welcome to the Association. The Brighton Division asked the Representative Meeting to accept a set of time glasses, supported by the serpent of Aesculapius, which he had great pleasure in handing to the Chairman. The stand and glasses were described in the Journal last week.

The Chairman, on behalf of the Representative Meeting, conveyed to Alderman Gervis and his colleagues of the Brighton Division warm thanks for the gift, which formed a worthy addition to what he might call the Representative Meeting's collection of plate.

ANNUAL AND SUPPLEMENTARY REPORTS OF COUNCIL.

The Annual Report of Council was published in the Supplement to the Journal of May 3rd, the Supplementary Report in the Supplement of July 5th.

The paragraphs 1 to 10 of the Annual Report of Council ("Preliminary") were approved.

Annual Meeting, 1914.

The recommendation that the Annual Representative Meeting, 1914, shall be held at Aberdeen and commence on Friday, July 17th, was approved, and the recommendation that Sir Alexander Ogston, K.C.V.O., M.D., LL.D., be chosen President-elect, was carried by acclamation.

THE FINANCIAL STATEMENT.

The Treasurer, Dr. Rayner, submitted the recommendations of the Council attached to the financial statement and balance sheet. He moved a recommendation intended to save expense in printing, as follows:

That the minutes of the Representative Meeting issued at the end of the Representative Meetings to members of the Representative Body shall be the daily minutes corrected and collected together. That honorary secretaries of Divisions and Branches who are not members of the Representative Body be also supplied with a copy.

This was agreed to.

The Treasurer also moved:

That the taking of verbatim shorthand notes of the Representative and Council Meetings is unnecessary and should be discontinued. In order to minimize the risk of any inaccuracy occurring in the preparation of the minutes, the Chairmen of these bodies respectively be requested to enforce that a written copy of a motion or amendment to be submitted to the meeting be furnished for the information of the Chairman.

This was carried after a brief discussion, and it was also decided to discontinue the practice of sending bound copies of the half-yearly volumes of the Supplement to Secretaries and Representatives of Divisions, but to send a separate copy of all Supplements containing matters referred to Divisions to the Honorary Secretary of each Division.

Legal Expenses: An Explanation.

The Treasurer, in dealing with the balance sheet—Abstract A (Report of Council, Supplement, May 3rd, p. 365)—said that the sum of £7,964 appearing under the head of "Legal Expenses for 1912" was largely made up by the inclusion of the damages and costs against the Association in connexion with various libel actions.

The Solicitor was invited to make a statement, in the course of which he read a letter he had addressed to the Treasurer of the Association shortly after the Report of Council was published. The substance of his statement was that the total, as expressed in the balance sheet, might cause, and—as he had reason to know—had caused, a misapprehension, in so far as he was

concerned. As a matter of fact, the expenses had been incurred in connexion with the various libel actions which had been fought out, and were for the most part accounted for by the damages and costs against the Association. Of the total thus shown the entirety of the professional fees received by him in respect of the Association's work, including all these serious actions, had amounted to about £1,500.

MEMBERS' SUBSCRIPTION.

On the motion of Dr. T. B. HEGGS the question of raising the subscription was postponed until the proposals as to the organization of the Association had been considered.

ORGANIZATION.

PROPOSED FORMATION OF NEW COMPANY.

The Chairman of the Organization Committee, Mr. LARKIN, said that as the Report dealt with the matter very fully, he would only move formally:

That the Association do not proceed further at present with the proposed formation of a new company.

This was agreed to.

POWER TO BORROW MONEY.

On the motion of the CHAIRMAN OF THE ORGANIZATION COMMITTEE the Council was instructed to take the necessary steps to obtain an extension of the Memorandum of the present Company, to include the power of borrowing money on mortgage or otherwise.

REFORM OF PRESENT CONSTITUTION OF ASSOCIATION.

On the motion of the CHAIRMAN OF THE ORGANIZATION COMMITTEE, the Report of Council on the scheme of reform of the present constitution of the Association submitted by the Metropolitan Counties Branch Council was received (the report was published in the SUPPLEMENT for June 21st). He then moved that the Report of Council on the scheme of reform of the present constitution of the Association submitted by the Metropolitan Counties Branch Council (other than the Recommendation as to the composition of Branch Councils) be approved.

Dr. BIGGS, representing the Metropolitan Counties Branch Council, deprecated the suggestion that there was any rivalry between the Council of the Branch and the Council of the Association. Both were animated by one desire, which was that the Association should be benefited, and that the mistakes of the past should not recur. It had been felt that it would be best to put both the schemes before the meeting, and leave it to decide which would best serve the interests of the Association. The Council of the Metropolitan Counties Branch had given a great deal of time and trouble to the matter, and believed that its scheme, if carried out, would be to the advantage of the Association. There were four points to be considered: (1) Efficiency, (2) economy, (3) rapidity of action, and (4) non-interference with any of the Articles of Association. To alter an Article involved an application to the Board of Trade, which might wish to force upon the Association regulations which it considered objectionable. He held that the scheme of the Metropolitan Counties Branch did not involve such an application. One of the main proposals in the scheme was that the Representative Body should be reduced in numbers; very often the larger the meeting the less the work done. It was therefore suggested that the Representative Body should be reduced to 98 members, with in addition about 20 for the Army, the Navy, and the Dominions. Had the proposal to reduce the number to 150 been persevered with he would have been prepared to accept that figure. The next point was that all the members of the Representative Body should be really representatives, and not delegates. The principle of delegation was bad, because it might happen that a man came up instructed by a Division which only knew its own local conditions; on hearing the remarks of others under quite different conditions his opinion might be entirely altered, but he was bound, being a delegate, to vote on the instructions of his own Division. The next suggestion was that the Council should be the Executive of the Representative Body. That was the original idea in 1902, but it had not been pressed. The Council of the Metropolitan Counties Branch thought the time had come to carry this out; because it would obviate any friction between the Representative Body and the Council. The Council of the Metropolitan Counties Branch wished, further, to give the Branch Councils more important duties. At present they had to do merely with finances and the boundaries of Divisions. A body like a Branch Council could negotiate with Government, municipal or Poor Law bodies much more effectively than could a local Division. The Branch Council should have the power of co-ordinating the work of the Divisions. If a Division happened to report to a Branch Council that it was adopting decisions which were at variance with the other Divisions, the point might be settled by a conference. With regard to the formation of wards or subdivisions, it had been found extremely difficult, during the passage of the Insurance Act, to get at the opinions of many Divisions, because every member could not attend a Divisional meeting.

Dr. RATCLIFFE (Birmingham) moved as an amendment:

That the reorganization of the Association suggested by the Metropolitan Counties Branch is insufficient, and that a special Committee be appointed by the Representative Body to draw up a scheme of reorganization of the whole machinery of the Association.

The Association was first formed for scientific purposes, but it had gone on to deal with the relations between medical men and their patients, and now a third party—the State—had come into the field. In the Midlands it was thought that neither the report of the Metropolitan Counties Branch nor the comments on it by the Council went far enough. The situation had changed very greatly. In the late fight the organization of the Association had broken down. ("No.") It was antiquated. The Association's machinery must be put into an efficient state for acting when an emergency arose. Under the present organization it was impossible to act promptly in defence or attack. As it was impossible in an assembly so large as the Representative Meeting to formulate a scheme, he suggested that the matter be referred to a special Committee, to be elected territorially, which after mature consideration should draw up a scheme to be submitted to the Association. He had four suggestions to offer. The first was a bold one—to abolish the Representative Meeting as being too cumbersome to act quickly and well; (2) the establishment of combined committees elected by the Divisions for districts in which the conditions of practice were similar; (3) to make possible a postal referendum to apply either to the whole or a part of the Association; and (4) the appointment of a strong Central Council to be elected by the Divisions.

Dr. FOTHERGILL (Brighton) protested against shuffling the duties of the Representative Meeting on to the proposed special committee.

The CHAIRMAN OF COUNCIL objected to the statement of Dr. Ratcliffe that the organization of the Association had broken down; it was the individual members of the Association who had broken down. (Loud and prolonged applause.) Until they could get members of the Association to be loyal to the organization nothing could be effected. He supported Dr. Fothergill in opposing referring the matter to a special committee. The existing Organization Committee was territorially elected; the Council was territorially elected. The Organization Committee had gone into the matter very carefully and it had been very carefully considered by the Council on the report of the Metropolitan Counties Branch, and in his opinion it was time to take action.

The amendment was lost.

Dr. BENHAM (Brighton) suggested that the meeting should consider the general principles on which reorganization ought to be carried out. He moved, therefore, that the meeting proceed forthwith to consider the motion on the agenda inviting the Representative Body to take into consideration the general principle of the desirability or otherwise of the areas of Divisions and Branches being brought definitely into harmony with Insurance areas under the National Insurance Act.

Dr. HEGGS (Canterbury and Faversham) seconded, on the ground that it was desirable, before considering the powers to be given to Branches and Divisions, to know the size of those Branches and Divisions.

The motion, on being put to the meeting, was lost by 66 votes to 64.

Mr. LARKIN said that the Council in its report on the scheme of the Metropolitan Counties Branch had desired to do nothing to prejudice the scheme of the Metropolitan Counties Branch, and very strong recommendations had not for that reason been put forward. In the case of

some of the suggestions the Council considered the ideas contained therein were better expressed in the Council's words. In order to put the matter formally before the meeting, he moved the adoption of the following paragraph of the Council's report:

General Powers.

The Divisions shall consider all matters referred to them by the Representative Body and Council, and in the case of matters to be brought before the Representative Meeting shall convey their views to their Representatives.

Save as regards the above-mentioned matters, Divisions shall report to the Branch Council all their decisions and all matters they may wish to bring forward. Decisions of Divisions shall not become effective until confirmed by the Branch Council, but in cases of special emergency the President and Secretary of the Branch shall be empowered to act for the Branch Council.

In reply to Dr. FOTHERGILL, the CHAIRMAN said that Mr. Larkin had made it clear that the Council really made no recommendation, but it made comments which were before the meeting. On any point with which Dr. Biggs, as representing the Metropolitan Counties Branch, was dissatisfied he could move an amendment.

Dr. BIGGS (Metropolitan Counties Branch) moved the deletion of the following words in the second paragraph: "And all matters they may wish to bring forward." The suggestion as it stood meant that no Division would be in a position to consider a matter without first getting the permission of the Branch Council. He could not agree with that; it would reduce the Divisions to a state of imbecility.

Mr. LARKIN accepted the suggestion, and the words were deleted.

Dr. BIGGS then moved, at the invitation of the CHAIRMAN, the suggestions of the Metropolitan Counties Branch Council on this point as follows:

(i) The Divisions would consider all matters of local interest and all matters referred to them by the Representative Body and Council. In matters of purely local interest the Divisions should report their decisions to the Branch Council and the Branch Council shall have power to forward reports received direct to the Central Authority, otherwise to consider them from the point of view of its Divisions collectively, and then report upon the whole question to the Central Authority.

(ii) The powers of a Division in ethical matters brought before its notice be limited to the making of necessary preliminary inquiries, and to forwarding complaints to the Branch Council; the power to go direct to the Central Ethical Committee and the right of appeal being preserved as at present.

The CHAIRMAN OF COUNCIL, in reply to Dr. TENNYSON SMITH, said the Council had expressed no opinion for or against the advisability of adopting these proposals, because they more immediately concerned the Representatives than members of the Council. The Metropolitan Counties Branch was proposing to curtail the autonomy and powers of the Divisions and make them more subservient to the Branches, which might be advisable in some areas, because it was always well to co-ordinate work, but the Council deliberately gave no advice on the matter. Dr. Macdonald added that his Division instructed him to vote against the proposal.

Mr. LARKIN thought the Council had given the Representative Meeting a pretty fair indication as to the way in which it thought it would be wise to act.

An amendment proposed by Dr. HEGGS (Canterbury and Faversham) and seconded by Dr. MEADE (Scarborough, Yorks) was carried as follows:

That the powers of Divisions remain as at present, but the decisions of Divisions shall be notified to the Branch Council.

On being put as a substantive motion, it was proposed by Mr. LARKIN and carried:

That the words "that the powers of Divisions remain as at present, but" be deleted.

Whereupon an amendment was proposed by Mr. BISHOP HARMAN (Marylebone), and seconded by Dr. J. T. MACNAMARA (Lewisham and Woolwich):

That all proposals and decisions of Divisions shall be notified to the Branch Council.

Mr. Bishop Harman said that he did not wish any idea of veto to be implied, but it was desirable to know what Divisions proposed to do.

Mr. LARKIN thought it was no use making regulations to which no penalty attached, as it was not possible to enforce them.

Dr. BUIST (Stirling Branch) asked whether there was anything in the present Regulations which prevented the introduction of such a provision into the organization of the Metropolitan Counties Branch.

Mr. LARKIN replied in the negative. He considered the scheme might be very good for the Metropolitan Counties Branch, but was not adapted to the conditions of many Branches. He thought that of the alterations in the organization desired by the Metropolitan Counties Branch, nearly the whole, if not all, could be carried out within the four corners of the Regulations of the Association.

The amendment was lost, and the motion was carried as a substantive resolution in the following form:

That all the decisions of Divisions shall be notified to the Branch Council.

Dr. BIGGS accepted an amendment that the next paragraph of the report should be deleted, as the Central Ethical Committee, the Council, and the Organization Committee had declared against it. The paragraph read:

The powers of a Division in ethical matters brought before its notice be limited to the making of necessary preliminary inquiries and to forwarding complaints to the Branch Council, the power to go direct to the Central Ethical Committee and the right of appeal being preserved as at present.

With regard to the next paragraph, as suggested by the Metropolitan Counties Branch, as follows:

Arrangements to be made for the enlargement of scientific and social meetings, to which non-members resident in the Division would be, as far as possible, invited,

Mr. LARKIN said the alternative wording proposed was:

That the Council should increase its efforts to encourage the Divisions to hold more scientific and social meetings, and to use these meetings as a means of inducing non-members to join the Association.

It was not desirable to make it incumbent upon Divisions to invite non-members to social functions.

Dr. BIGGS accepted the alternative wording, and the paragraph was approved in that form.

On the next paragraph, proposed by the Metropolitan Counties Branch—"The system of wards to be encouraged in each Division"—Mr. LARKIN said the Council preferred this form:

The system of Subdivisions should be encouraged in suitable Division areas, Subdivisions to have such powers only as are conferred upon them by the Division.

Mr. LARKIN said the Council's paragraph suggested that Subdivisions should be encouraged in suitable areas. There were many areas in the country where Subdivisions were not suitable.

Dr. BIGGS accepted the alteration.

Mr. LARKIN said that it was desirable to make it clear what power the Subdivisions were to have. Conflict of authority was to be avoided, and it was felt necessary to lay down that the Subdivisions should have only such powers as were conferred upon them by the Division.

Dr. STEELE PERKINS (Exeter) moved as an amendment:

The system of Subdivisions should be encouraged in suitable Division areas and also amalgamations of Divisions, or parts of Divisions for special or other purposes. These amalgamations to have such powers as are conferred on them by the Divisions creating them; these powers to include that of adopting the Model Rules of the Association for a Division not in itself a Branch with power to report direct to the Branch Council concerned on ethical matters which might come before the amalgamation.

The CHAIRMAN OF COUNCIL asked what was meant by the words "to the Branch Council concerned." If there were an amalgamation of a Division in Somerset with a Division in Devon for the purpose of establishing an area, what would be the application of the words?

Dr. STEELE PERKINS explained that they referred to the Council of either or both Divisions concerned. He illustrated his meaning by an example: Devonport and Plymouth were two very big towns, both of which were separate Divisions. Stonehouse, a populous town, was in the middle of the two, and was part of the Devon Division. A man might commit an ethical offence in one Division, and might be dealt with by it, and yet, unless the matter could be dealt with by an amalgamated area, he might transfer himself out of the area into the county or the town. North Cornwall and Devon came close together, and it had been found difficult to deal with the

matter unless what might be called a super-area were allowed, rather than a smaller area.

It was agreed to omit the last part of the amendment, stating what the powers were to include, and in that form the amendment down to the words "creating them" was carried as a substantive motion.

The next proposals of the Metropolitan Counties Branch were as follows:

Election to Branch Council.

That each Division be allowed to have one Representative up to 200 members, and an extra Representative for every 200 members in addition or to the nearest 100 over 150 members.

Composition of Branch Council.

(*a*) To be composed of one Representative up to 200 members from each Division, and an extra Representative for every 200 members in addition or to the nearest 100 over 150 members.

That the President, President-elect, Treasurer, and two Honorary Secretaries of the Branch be *ex officio* members of this Council.

Dr. BIGGS desired to make it clear that the Metropolitan Counties Branch had no desire to force its scheme on an unwilling Branch. It had been proposed that this matter should be left for local determination, and he was, therefore, willing to drop this proposal altogether.

Mr. LARKIN understood Dr. Biggs to accept the Council's suggestion, which was that By-law 16, governing the composition of a Branch Council, should be amended. The by-law as it stood directed that in the case of a Branch comprising more Divisions than one, members should be elected in each Division in such manner that the number to be elected should be as nearly as possible proportionate to the membership of such Division. The by-law, he said, was not easy to carry out, and the Branches had very great difficulty in drawing up their local rules in accordance with it. The Council suggested that this part of the by-law should read:

(*d*) Such other members as the Branch may by its rules decide.

It was then agreed that the Council be instructed to take the necessary steps to carry out this alteration.

Size of Representative Body.

The following recommendation of the Metropolitan Counties Branch was next considered:

Proposed Reduction of Numbers of Representatives.

The Representative Body to be elected directly by the Divisions, or group of Divisions, in the proportion of one Representative for every complete 200 members.

Dr. BIGGS said that the Metropolitan Counties Branch considered that 118 would be a number large enough for any assembly like the Representative Meeting. The Council had arrived at the conclusion that the body should be reduced, but had gone on to say in its report that this was impracticable. It had been proposed that the numbers should be reduced by reducing the numbers representing the large constituencies. There was, he believed, general agreement that the Representatives should be elected by a postal vote. ("No, no.") At any rate, if they could be elected in that way there would be no objection to the constituencies being somewhat scattered.

Dr. C. G. MEADE (York) opposed any reduction in the number of Representatives. A difficulty which already existed was that the Divisions were too big in some places. They wanted to put the responsibility on every man in the Division, who should be made to feel that his voice could be heard throughout the Association. If several widely separated places were grouped together the members would not be properly represented.

The CHAIRMAN OF COUNCIL opposed the proposal on the fundamental principle that it would spoil the representation of the profession. He did not think the members of the Metropolitan Counties Branch really understood the position of affairs throughout the country. They were in a ringed fence, and could meet easily, and one man could represent them as well as seven, because their opinions were practically consolidated and they knew what was wanted; but the man residing in the North Riding of Yorkshire, for instance, worked under conditions entirely different from those of the man residing in Doncaster. It was true that in the big centres, as in the case of Marylebone, one man could represent the constituency as well as seven. In the matter of voting he would let the single Representative have the collective number of votes equal to those the several Representatives had at the present moment. By reducing the number of Representatives of big constituencies it would be possible to reduce the Representative Meeting by forty members. At the same time his personal opinion was that the Representative Meeting was not too big to represent the views of such a body as the medical profession.

Dr. TENNYSON SMITH (Bromley and Sevenoaks), in opposing the proposal, thought that under it a Representative might be quite unable to keep in touch with a group of Divisions. The Division having the larger number of members would predominate. In his opinion the scheme was immature, and he suggested that it should be referred back to the Organization Committee.

Dr. POCHIN (Oldham) also opposed the proposal. Under the proposed scheme the representation of London would be reduced 29 per cent., but the representation of other parts of the country 42 per cent., which was not fair.

Dr. DOUGLAS (Maidstone) could not go so far as Dr. Macdonald and say that one Representative would represent a big centre as well as seven, because the Representative was not always bound by instructions, but was very often given an entirely free hand to vote in the way he thought best. A reduction could be effected in such places as London, Manchester, and Birmingham, and he did not think it would work unfairly if their votes were counted according to their value.

Mr. LARKIN opposed the proposal on the ground that it would link together areas that might have on some points conflicting interests. Moreover, on many questions it would mean the disfranchisement of members in the smaller areas.

Dr. HASLIP (Westminster), in supporting the proposal of the Metropolitan Counties Branch, said the whole question was whether the meeting was to be a meeting of delegates or a meeting of Representatives to deliberate upon the questions brought before it. If it was to be a meeting of delegates, then he agreed with the Chairman of Council that one Representative from Marylebone could vote just as well as seven, but in his opinion the meeting should be a deliberative assembly. He saw the difficulties pointed out by Dr. Meade and Mr. Larkin, but those difficulties did not apply to London. The scheme, of course, included a postal vote.

After further discussion, the motion was put and lost.

Dr. HEGGS (Canterbury and Faversham) moved:

That the size of the Representative Body ought to be reduced.

The motion was carried by 66 votes to 62.

Mr. LARKIN said, having regard to the decision to reduce the size of the Representative Body, he would move that the meeting agree to the method of reduction suggested by the Council, which was that stated in the following paragraph of its report:

The Council is therefore of opinion that any attempt to reduce the size of the Representative Body should be directed to the cutting down of the number of Representatives coming from large constituencies. This the Council considers can be done without any injustice to these constituencies by arranging that on a vote by show of hands or by roll call the votes of members representing large constituencies shall have their due weight.

Dr. L. J. PICTON (Stockport, Macclesfield, and East Cheshire) thought that if a special value had to be given to a hand held up the work of the meeting would be impeded.

Mr. E. B. TURNER (Deputy Chairman) said the objection could be easily overcome, and his experience of a body almost as big as the British Medical Association was that a similar procedure to that proposed had been followed with success for some years past.

Dr. WALLACE HENRY (Leicester) suggested that the proposal would not have the result of reducing the number of Representatives, because larger Divisions would subdivide so as to have more Representatives.

Dr. W. GRIFFITH, as a Representative of Marylebone, objected to the reform being carried out chiefly at the expense of that Division. Marylebone was a very important Division, and he maintained that the Association had not been able hitherto fully to interest medical men in that Division, which contained a large number of members of the profession standing apart from the Association. Nothing must be done to increase that aloofness.

Dr. R. M. Beaton (St. Pancras and Islington) argued that it was an impossible proposition to suggest that Divisions in the country should take away nearly all London's representation. London had made a splendid fight during the last eighteen months, and it would be wrong to take away its representation. As the meeting had decided to reduce the number of Representatives the best thing to be done was to refer the question of how this could be done to the Organization Committee for its consideration and report. The matter could then be brought up next year on a good scheme which would apply all round and not affect London alone.

Dr. Morison (St. Pancras and Islington) supported this proposal.

Mr. Larkin said that whilst as Chairman of the Organization Committee he had moved on behalf of the Council for a reduction of the number of Representatives, yet on behalf of his Division he voted against the reduction. His Division desired its number of Representatives not to be reduced, and for that reason did not think it fair to vote for a reduction in the representation of other Divisions. With regard to the proposition that the Organization Committee should consider the matter, the matter had been considered *ad nauseam*, and it had been found to be impossible to evolve any scheme which was at all fair and reasonable to all the Divisions. If the membership of the Representative Body was reduced, its representative character and its value as a deliberative and debating assembly would be destroyed. His Division felt the matter was not one merely of the numbers voting, but that a large Division was entitled to extra debating power as well as mere representation.

The Chairman said the motion before the meeting would take the following form:

> That the decision to reduce the size of the Representative Body be sent to the Council for consideration and report.

Dr. Ewart (Eastbourne) understood that it would be open to the Council to say that the number should not be reduced.

Dr. W. Duncan (Chesterfield) urged the desirability of considering any difficulties rather than postponing the question. In order to preserve the autonomous character of the small Divisions it was necessary that the unit of 50 should be retained, that for two Representatives 300 should be required, and 600 or over for three representatives. This would have a tendency to reduce slightly the number of members of the Representative Body, and would also obviate the necessity for a card vote ever being taken.

The Chairman, in reply to a question as to the procedure which must be followed to give effect to the expression of opinion that the size of the Representative Body ought to be reduced, said there would be first the consideration of the exact form of the by-law by which this could be carried out; the by-law would then come before the Representative Meeting, and it would be necessary that it should be carried by a two-thirds majority.

Dr. Beaton's motion was then declared to be carried.

Mr. Todd (Sunderland) moved the following amendment:

> That no Division shall have more than three Representatives.

This, he said, would save the Organization Committee trouble, and would put an end to the controversy.

The Chairman said that that would have been a competent amendment to the proposal that the representation should be distributed on the basis of 1 in 200, but was not competent on the question that the matter should be referred to the Council.

The reference to the Council for report was then put as a substantive resolution and declared lost.

The Chairman pointed out that the effect of what the meeting had now done was that nothing further could take place on the matter for twelve months.

Powers of Branch Council.

Dr. Biggs moved the following recommendation of the Council of the Metropolitan Counties Branch with reference to the powers of Branch Councils:

> To deal with all questions that concern their areas, and to co-ordinate their constituent Divisions, reporting upon the questions involved to the Representative Body or Council, when it is necessary or desirable or when so directed by either of these bodies.

Mr. Larkin said the powers of the Divisions had been left exactly as they were. He doubted whether it was wise to pass a resolution of this character, because it would give rise to two conflicting authorities in the area of the Branch.

Dr. Haslip (Westminster) moved that the meeting proceed to the next business. He said the meeting was only wasting time when every proposal of the Metropolitan Counties Branch was opposed by the Chairman of the Organization Committee. The voting had shown that the metropolitan members were voting one way and the majority of the members the other.

The Chairman declined to put the motion, observing that it would not be wise in the middle of the report to proceed to the next business.

Mr. Bishop Harman (Marylebone) said that in the Branches a weighty organization was provided which did nothing but share out the money to the Divisions. The Divisions sent up men to the Branch Council, and when they got there they were allowed to do nothing, and the time of the Representative Meeting was frittered away on local questions which could be dealt with by the Branch Councils if they only had the chance.

Dr. Duncan (Chesterfield) moved:

> That the following words, "deal with all questions that concern their areas and to," be deleted.

This was agreed to.

An amendment by Mr. Bishop Harman (Marylebone), seconded by Dr. Biggs (Wandsworth and Wimbledon), that the opening words should be

> To consider all questions that concern their areas and to,

was lost, and the motion as amended was carried.

Special Representative Meetings.

On the question of the calling of Special Representative Meetings, Dr. Douglas (Maidstone) moved an addition to Standing Order 36 (2), which provides for at least fourteen days' notice in the Journal. The proposed addition was:

> In case of urgency the period of notice may be shortened at the discretion of the Council.

The delay which must occur in summoning a meeting of the Council having been pointed out, Dr. Douglas proposed to alter "Council" to "Chairman of Council."

Dr. Macdonald thought the proposal impracticable unless the Chairman of Council were to call a Representative Meeting, without the matter having been discussed by the Divisions; he submitted that there was no use or effect in that.

Dr. Beaton was in sympathy with the motion. If the articles prevented its being done, the sooner they were altered the better. There should be some power in the Council or the Chairman to call a meeting without the delay at present experienced.

Dr. Stevens (Edinburgh and Leith) said that his Division had instructed its Representatives to make a recommendation to the effect that all Divisions should adopt a rule to allow meetings to be called at forty-eight hours' notice by the Chairman and Secretary in case of urgency.

On the suggestion of Dr. Heggs (Canterbury and Faversham), the further consideration of the question was deferred until after the discussion on the question of the Representative Body being an assembly with full deliberative powers.

Representative Body to be Deliberative.

Dr. Biggs moved:

> That the Representative Body be an assembly with full deliberative powers, and be responsible for formulating the policy of the Association.

This was a point, he said, on which at last the Council of the Metropolitan Counties Branch, the Central Council, and the Chairman of the Organization Committee were in agreement.

Dr. Major Greenwood (Council) thought the proposal revealed an attempt to do away with one of the most important principles decided at the reorganization of the Association some twelve years ago. Any Division that chose

could give its Representative full freedom. Was a Representative to be allowed to reverse the matured opinion of his Division because he was influenced by eloquent (and perhaps erroneous) speeches at the Representative Meeting?

Dr. JOHNSON SMYTH said there were matters on which Representatives could be given a free hand, but on others it was only right that the Representative should be told how he should vote.

Dr. BUIST (Stirling) moved the following amendment of By-law 39 (4):

> In voting on any matter the Representative of a constituency is expected to give effect to what he believes would be the opinion of his constituents on the question at issue.

[The by-law referred to reads:

> In voting upon any matter upon which a constituency has passed a resolution within the three months immediately preceding such meeting, the Representative or Representatives of that constituency shall be under obligation to vote in accordance with such resolution.]

Dr. Buist said that it was within the discretion of the Divisions at present to use or not use the principle of delegation. There was a widespread opinion that this power might prove dangerous, and, lest they should go to the opposite extreme and leave it in the mind of any Representative that he was entitled to record his own opinion, he thought it advisable that the by-law should be amended to make it clear that a man was expected to represent the opinion of his constituents so far as he could in circumstances that arose at the Representative Meeting. There was nothing to prevent a Division giving very definite instructions to its Representative.

Dr. MAJOR GREENWOOD thought the amendment merely amounted to an expression of opinion by the Representative Body that a Representative ought to act as he was instructed.

Dr. LANGDON-DOWN (Richmond) gave a concrete instance of the bad working of the present by-law in his Division last December. At a meeting at which the Division considered the Report of the Council prior to the December Representative Meeting, when opinion as to the policy to be pursued was in a state of uncertainty, a resolution to refuse to work the Act was passed. A week or so later the Division met again, and was anxious to get out of the resolution it had passed, but the Representative was bound, in spite of the fact that the Division had altered its opinion, to vote in accordance with the resolution originally come to. This seemed to tie the hands of the Representative in a very unsatisfactory manner.

Dr. MACNAMARA said that under the present system the Representative Body, before it came to any decision, advertised to the world that it was being discussed, and thus enabled its adversaries to prepare pitfalls. The Divisions should select men they believed to be men of honour, and, having selected them, should trust them to do their duty.

Dr. BUIST accepted a proposal by Dr. HEGGS, seconded by Dr. MEADE, that the words "under obligation to" should be substituted for the words "expected to," and to add the words, "in speaking and" in the first line.

Dr. BIGGS thought that the amendment was in fact a direct negative of his proposal, and suggested that the word "full" should be omitted.

Dr. EVAN JONES said the proposal of the Metropolitan Branch Council, as modified by the amendment, came very nearly to the present position. The power of a Division to tell its Representative the way in which it wished him to vote should not be taken away. If any Division wished to give its Representative a free hand it could do so now. The only advantage he could see in carrying out the suggested alteration was that if any urgent question came up in the future, if the Representative Meeting had full deliberative power it would be possible to call it together at twenty-four hours' notice.

Mr. BISHOP HARMAN endorsed the sentiments of the last speaker. Some method was wanted of getting the opinion of the Association in very urgent circumstances, and the resolution as originally put by Dr. Biggs was the way to get it.

Dr. B. G. MORISON (St. Pancras and Islington) contended that no good work could be done for the Association by a man who was not free. The Representative should be in agreement with his Division in essential matters, but details should be left to his discretion.

Mr. E. H. WILLOCK (Croydon) thought that any attempt to interfere with the present arrangement was fraught with danger. The Association had been through bad times, but it was to go through worse, and the only way to keep the profession together was to get Divisions interested, and to have their opinions voiced at the Representative Meeting.

Dr. PORTER (Edinburgh) said that his Division had passed by a large majority a resolution that matters should remain *in statu quo*. If the Representatives had deliberative powers the interest in the Divisions would diminish.

Dr. HEGGS (Canterbury) thought the amendment was a compromise, because if a Division passed a resolution the Representative was bound to take notice of it, yet there would be the advantage that a Representative Meeting could be called at very short notice.

The CHAIRMAN OF COUNCIL pointed out that the Metropolitan Counties Branch scheme proposed to give Divisions power to call upon their Representative to resign if he did not express the views of the Division at the Representative Meeting.

Dr. DUNCAN (Derby) thought the position might be met by the deletion of By-law 39 (4) (above). That would leave the constituency with an absolute right to bind its Representative on any specific point.

Dr. JOHNSON SMYTH (Bournemouth) urged that the resolutions of the Representative Meeting would lose their weight if the quality of delegate were removed from the Representatives.

Dr. BICKERTON EDWARDS (Swansea) considered the Representative Meeting did not truly represent the opinion of the Divisions, and in that respect alteration was desirable.

After further discussion a motion was carried to amend By-law 39 (4) as follows:

> In speaking and voting upon any matter the Representative of a constituency shall be under obligation to give effect to what he believes would be the opinion of his constituents on the question at issue.

The CHAIRMAN explained that the position was that the meeting had before it a proposal that the Representative Body should be an assembly with full deliberative powers, and be responsible for formulating the policy of the Association. He suggested that Dr. Biggs should be allowed to cut out the word "full."

The proposal was approved, and the motion was then carried as a substantive motion in the following form:

> That the Representative Body should be an assembly with deliberative powers, and be responsible for formulating the policy of the Association, but in speaking and voting on any matter the Representative of a constituency shall be under obligation to give effect to what he believes would be the opinion of his constituents on the question at issue.

Mr. LARKIN moved that the following words be added to the end of paragraph 2 of By-law 36, dealing with calling of Representative Meetings:

> In case of urgency the period of notice may be shortened at the discretion of the Council.

Dr. HEGGS suggested that the matter be referred to the Council for further consideration, and this was agreed to.

Delegation of Power to Council.

Dr. BIGGS moved:

> The Representative Meeting to be empowered to delegate specific powers to the Council to take action upon its behalf until the next meeting of the Representative Body.

If this resolution were carried, he said, it would materially affect some of the questions previously discussed. No delay need occur in the future.

Dr. MAJOR GREENWOOD said if it were decided that the Council of the Association was to be appointed directly by the Representative Body, then he agreed that executive power must be given to it to act in the interval, when the Representative Body was not sitting.

Dr. BEATON said the powers possessed by the Council were very hazy, and should be clearly stated.

In reply to Dr. FOTHERGILL, Mr. LARKIN said that all that was asked was that the Representative Body should

be empowered to delegate such powers as it thought fit. The Council could not do certain things that other bodies were deputed by the Articles to do; but if the Representative Meeting chose with its eyes open to give certain powers to the Council, he did not see why it should not have that power.

Dr. HASLIP (Westminster) said that the power was necessary. If it had existed, the negotiations of the Association with the Government would have been more successful.

The CHAIRMAN observed that the motion proposed to empower the Representative Meeting in the exercise of its judgement to delegate to the Council specific powers on one particular point, except in so far as there was some legal bar to it.

The motion was carried.

Mode of Election of Council.

Dr. BIGGS moved the following proposal of the Metropolitan Counties Branch:

> That the Council should be elected by the Representative Body, and at least five-sixths to be members of the Representative Body; special provision to be made for Colonial Representatives.

Mr. E. B. TURNER (Kensington) supported the proposition, the result of which would be that the Representative Meeting would formulate the policy of the Association, and would elect a Council to carry out the policy so formulated. If this had been done in the past the Association would have been in a much better position. The Association had passed through times bad for the profession as a whole, but there were worse things in front, and it was essential to be prepared. If the Representative Meeting elected a Council which reflected its opinions, the Association would not again be left in the ludicrous position it was in last November, when the most confidential propositions to be submitted to the Chancellor of the Exchequer and the Commissioners were discussed with a gallery full of auditors. Every one of the propositions went straight to head quarters on the other side, so that when the deputation from the profession met the Government the latter knew not only what the proposals were, but also the arguments by which they were to be supported.

The CHAIRMAN OF COUNCIL took the opposite view, for the fundamental reason that it would make the Association a body governed by a single chamber, which, to his mind, was the most dangerous form of government. The proposal would practically deprive the Council of the power of taking a referendum on any resolution passed by the Representative Meeting, for only men of very strong determination and individuality would take a referendum on a resolution passed by a body that had actually elected them. The election of the members of Council by the Representative Meeting would take out of the hands of the ordinary members throughout the country an election in which they were interested. The interest now taken might not be so great as was desirable, but the object should be to increase the interest and not to lessen it.

Dr. C. COURTENAY LORD (Rochester, Chatham, and Gillingham) thought the proposal, if carried, would do harm. It had been said that members did not take any interest in the election of the Council. Why was that? To many of them the members of Council were nothing more than names. A campaign should be undertaken by members of Council, who should travel about and make themselves known to Divisions and to individual members of Divisions. The proposal would destroy the territorial interest in the election of the Council. It was incumbent upon the extremists at both ends to see if they could not come to some arrangement by which they could weld the whole organization together.

Dr. MAJOR GREENWOOD (City) supported the Chairman of Council, on the ground that he doubted whether the Representatives really represented the Divisions. He thought much more use might be made of the postal vote.

Dr. STEVENS (Edinburgh and Leith) strongly supported what had been said by the Chairman of Council. He was instructed by his Division to oppose the changes proposed to be made in the manner of election of Council. The whole tendency of these changes had been in the direction of diminishing the democratic character of the Association in which lay its strength.

Mr. BISHOP HARMAN (Marylebone) said the curse of the democratic machine was that there were so many checks and counter-checks that nothing was done. Representatives were elected to formulate the policy of the Association, and at the same time another body was elected to carry it out. One body was played off against the other and nothing was done. For his part he was not afraid to trust his interests to the Representatives to carry out things necessary to be done. The Representatives were the members' servants, and they might reasonably be expected to exert their utmost efforts to do the best they could.

The meeting adjourned at 6.30 p.m.

Saturday, July 19th.

THE proceedings were resumed on Saturday, July 19th, at 9.30 a.m., Mr. T. JENNER VERRALL (Chairman of Representative Meetings) in the chair. The minutes of the previous day's proceedings were corrected and confirmed.

SECTION OF MEDICAL SOCIOLOGY.

THE INVITATIONS TO MEMBERS OF THE GOVERNMENT.

Dr. GORDON R. WARD (Chelsea) moved to vary the order of business to call attention, as a matter of urgency, to the invitation issued to certain members of the Government to be present at a meeting of the members of the Association. It had been bruited abroad in the JOURNAL and in the lay press that Mr. Lloyd George and Mr. Masterman were expected to address a meeting of one of the Sections of the Association. Having regard to some of the statements made, and some of the methods used by those two gentlemen in the past, it seemed to many members of the Association that such a statement should not appear in the public press, and the impression should not go out that there was any desire to have either of those gentlemen at the annual meeting.

Dr. G. J. LANE (Marylebone) seconded the motion, which was carried.

Dr. GORDON WARD then moved:

> That the Annual Representative Meeting expresses its disapproval of any action which might seem to condone the methods used by the Government in bringing the Insurance Act into operation.

Dr. Gordon Ward said that many members expected the Representative Meeting to make some comment upon the matter at the earliest possible opportunity. It affected the organization of the Association; many would agree that something unfortunate had happened, and a recurrence ought to be guarded against. Further, the meeting owed a duty to the public to let it know what precisely was felt by the Association on the matter. Mr. Masterman in a recent speech had said in effect that a man on the panel was forced by circumstances, and presumably against his will, to give an honest certificate, and the man who was off the panel, being comparatively free, would presumably not do so. Mr. Masterman had said, "There is no check upon him; he is not on the panel." That was an insult. On another occasion Mr. Masterman received a deputation from the People's League of Medical Freedom, which desired that herbalists and other unqualified practitioners should be given every facility for working their will upon the bodies of the people, and Mr. Masterman cordially agreed with them. The meeting would remember the attitude of Mr. Masterman when it was a matter of an ordinary medical practitioner of repute and standing asking for precisely the same privilege. The answer was, No, you cannot have it at all. But herbalists yes. A more recent statement by Mr. Masterman appeared in the official Parliamentary Reports for July 15th, during the debate on the second reading of the Insurance Act Amending Bill (SUPPLEMENT, July 19th, p. 92), from which could be gathered what Mr. Masterman thought of the Association. In reply to observations by Mr. W. H. Forster, Mr. Masterman said:

> If the honourable gentleman will examine the pages of the BRITISH MEDICAL JOURNAL for the last few weeks he will see that they are in a hopeless dilemma as to what they want, whether contracting out or not.

Was that complimentary? That was not the sort of man the Association wanted to receive. That was the mildest remark made by the Minister on that occasion. Dr. Ward also quoted the remarks of Mr. Masterman with reference to practitioners in Lancashire and excessive sickness

claims due to laxity in giving medical certificates. There had been no attempt to substantiate the reflection then made on members of the profession, and a man who made unsubstantiated charges of that sort was not wanted at the meeting of the British Medical Association.

Dr. G. J. LANE (Marylebone), who seconded the motion, said that having been on the London Medical Committee he knew the feeling of the members in the counties of London, Middlesex, and Surrey as to what they considered derogatory to their profession in the Insurance Act. The Association had exhausted its finances in order to obtain justice for the profession, and in contesting certain actions on the part of the Government which had been initiated by the Chancellor of the Exchequer and Mr. Masterman. The Association could not hold together unless it was unanimous. Although some men had gone on the panel, and some had not, there was a bond of union and friendship among the members of the Association. He asked them to do nothing to condone the action of those Ministers of the Crown who had brought them to the present standstill.

The President-elect (Dr. W. AINSLIE HOLLIS) said he had been somewhat unwittingly mixed up in this matter. Incidentally he observed that Mr. Masterman, in allowing herbalists and others to treat diseases, was reverting to a practice that obtained under Henry VIII. He thought the meeting might well excuse the issue of the invitations which had been so much criticized, though he thought it was unfortunate that the Ministers referred to had been invited to attend.

Mr. W. MCADAM ECCLES (Marylebone) said that a large number of medical practitioners residing in Marylebone who were connected with the voluntary hospitals in London, when they heard a suggestion that the Chancellor of the Exchequer and the Secretary to the Treasury were to be present at the meeting of the Section of Medical Sociology, when the relation of hospitals to the State was to be discussed, immediately took action in the matter, and he had been instructed to enter a very decided protest. No one had done more to rouse the ire of the profession than these two Ministers. If the hospitals were to be protected, the Association would have to be very careful what it did in the next six months. As a teacher in one of the large London hospitals he would point out that it was now becoming apparent that the Insurance Act would not do any good to the nation so far as the instruction of doctors was concerned. To have a discussion on this question and give away all their points to a member of the Government would be very bad policy.

Dr. BUIST (Stirling) proposed:

That the meeting proceed to the next business.

He thought the Association could not at the proper time and place express too strongly its disapprobation of the methods used in introducing the Insurance Act, but he did not think it could allow differences with a party in the State to disturb its relations as a scientific body.

Dr. FOTHERGILL (Brighton), one of the honorary secretaries of the Section of Medical Sociology, expressed regret that he did not know that the matter was to be raised in order that he might have brought various documents relating to what had taken place. However, he would state his recollection of the course of events. There was a meeting of the officers of the Section last January. They regarded the question decided upon for discussion—namely, the hospitals in relation to the State, the public, and the medical profession—as one not limited to members of the Association, or even to the medical profession, but as one which would be the means of exchanging views, and it was decided to invite persons from all parts of the United Kingdom to the debate. The want of knowledge of medical politics was apparent in the first draft of the National Insurance Act, and as an amending Act was to be introduced the question arose whether an opportunity should be given to those who were riding roughshod over the profession to hear the views of the medical profession and others who really understood the hospital question; it was therefore decided to invite certain members of the Cabinet and of the various political parties in the House. It was made clear that the visitors were not to take part in the debate, that they were not to read papers nor to express their views. An answer was received from the Chancellor regretting his inability to attend, but stating that he would be glad to receive a report of what took place. Mr. Masterman had replied that he would attend if he possibly could. Nothing more took place until quite recently, when a notice was put into the JOURNAL of June 7th by the Honorary Local Secretary of the meeting to the effect that the Chancellor and Mr. Masterman were going to address the Association. That statement was made without the authority of the Section officers and had been taken up by newspapers, and letters had appeared in the JOURNAL with reference to it. He was entirely in favour of the resolution proposed. He acknowledged that the action of the Section officers might have been indiscreet, having regard to the temper of the profession, but it had been done in the interests of the profession. If his action had been wrong, he apologized. In his opinion the Association was the only body through which such a question should be discussed.

The CHAIRMAN OF COUNCIL thought that the invitation, having regard to the way in which the profession had been treated by Mr. Masterman, was indiscreet. The profession had been treated by Mr. Masterman in a manner that was intolerable. (Applause.) Dr. Macdonald thought that an error of policy had been committed, but that the meeting might leave it there.

The amendment to proceed to the next business was negatived, and the resolution was then adopted.

REPORT
OF THE
STATE SICKNESS INSURANCE COMMITTEE.

The meeting proceeded to deal with national insurance business and the reports of the Council and State Sickness Insurance Committee thereon.

SEAMEN'S NATIONAL INSURANCE SOCIETY.

The meeting approved the following recommendation:

That steps be taken to so amend Section 48 (5) of the National Insurance Act as to allow of a similar representation upon the Committee of the Seamen's National Insurance Society as is accorded the profession on Insurance Committees.

TREATMENT OF PERSONS IN RECEIPT OF MATERNITY BENEFIT IN HOSPITALS.

The CHAIRMAN OF COUNCIL explained that the Council asked the Representative Meeting, in view of the differences of opinion existing in regard to the treatment by maternity hospitals of cases in receipt of maternity benefit, to give a lead on the subject. The minute passed at Liverpool (No. 246) was as follows:

Resolved: (i) That inability to pay for adequate treatment, or the recommendation of a medical practitioner, shall be the consideration for the participation of parturient women in the benefits of maternity and voluntary hospitals and other charitable institutions; (ii) that women in receipt of maternity benefit under the National Insurance Act should not be regarded as eligible for charitable treatment except in cases of difficulty and danger, and on the recommendation of a medical practitioner.

Mr. MCADAM ECCLES (Marylebone) said he wished to approach this matter from the point of view of medical education. The London hospitals had been anxiously looking for a lead from the British Medical Association in that and other matters concerning the Insurance Act. It would be recollected that at the Representative Meeting held in London St. Bartholomew's Hospital ventured to put forward a series of suggestions. Those suggestions had been very seriously considered by the joint committee of the hospital. It was felt that the Representative Meeting ought to have been prepared to bring forward definite strong resolutions on the matter. Time had slipped by again in connexion with maternity benefit. St. Bartholomew's had been waiting since last December for some definite resolution from the State Sickness Insurance Committee, or the Council of the British Medical Association, or the Representative Meeting, in connexion with the maternity benefit question. The London hospitals were being depleted of parturient women because the matter had not been settled. St. Bartholomew's could wait no longer, and the joint committee of the lay and medical boards had just passed a resolution stating definitely that the time had come when they must make up their minds to accept the maternity benefit for two reasons: First, that the women might understand

when they came into the hospital that the maternity benefit was secured; and, secondly, that the hospital might in a sense be recouped for the expense incurred in receiving these women. He hoped a strong resolution would be passed as to what should occur in connexion with parturient women in lying-in wards of general hospitals. The universities required that students should see a certain number of obstetric cases in the lying-in wards of a hospital, and not do their work as they had in the past in the maternity districts. As long as that regulation stood it was incumbent upon teachers to see that students witnessed maternity cases, and women must be induced to come into the hospitals.

Mr. BISHOP HARMAN (Marylebone) suggested a rider, which after discussion took the following form:

That Minute 246 shall not apply to hospitals which are recognized for teaching purposes.

Dr. FOTHERGILL moved that the words "for medical students" be added at the end of the rider. No useful purpose would be served by organizing the training of medical students in midwifery if its practice was to be handed over to midwives.

Dr. C. H. BENHAM (Brighton), who seconded, said the question was acute in Brighton because an institution took the greater part of the midwifery of the district out of the hands of the general practitioner. However well trained a man might be in the hospitals it was very little use to him if the work was to be done by someone else. The Association was anxious to support the teaching hospitals, but not the large midwifery institutions throughout the country which were doing harm to the general medical profession.

Dr. E. C. MONTGOMERY-SMITH (Marylebone) said that unless there were some safeguards against cases able to pay fees being taken at hospitals medical men would lose further in the matter. Very soon it would be a case of the midwife being in charge of the patient and the doctor coming in to assist. In every large town there must be cases that would go to a hospital, but the number ought to be limited.

Dr. J. HERN (Darlington) thought the meeting should not concern itself as to the education of midwives, but should try to secure that facilities were provided for educating the medical student. Unless a woman was qualified in medicine and surgery she should not attend a midwifery case. The wisest course would be to leave the midwives severely alone and legislate for the qualified medical practitioner.

Dr. J. T. MACNAMARA (Lewisham) said that Mr. McAdam Eccles had spoken of the hospitals being depleted, but there was also the fact that the pockets of the general medical practitioner were becoming depleted. He suggested that the motion should be so worded that all maternity cases necessary for the training of the student should be provided in the wards of the hospitals, and by that means a large portion of the present midwifery practice would be left to the practitioner residing outside.

Mr. LARKIN asked the meeting not to do anything that would weaken the effect of Minute 246. The meeting was asked to agree that charitable institutions should take certain people, whether they were proper recipients of charity or not, in order to afford facilities for teaching medical students, but if that policy were pursued in respect of maternity cases it would have to be followed in every other case. University regulations would have to be altered, if necessary, to suit the conditions of practice. He urged the meeting to stand by the principle that inability to pay for adequate treatment should be the only qualification for admission to charitable institutions.

The motion that the minute should not apply to hospitals which were recognized for teaching purposes for medical students was carried by 77 votes to 29.

On being put as a substantive motion, Mr. MONTGOMERY-SMITH (Marylebone) proposed and Dr. MACNAMARA (Lewisham) seconded the addition of the following words:

but that the teaching in such hospitals shall be limited to attendance in the wards.

Dr. NAPIER JONES (Reading), though of opinion that charitable institutions ought not to be allowed to do the work, thought it would be folly for the meeting to take a line that the teaching institutions of London did not support.

Dr. L. J. PICTON (Stockport) said that if the minute under discussion were sustained, it would necessarily follow that there would be less teaching or teaching would be more concentrated. He would suggest adding as a rider that the State Sickness Insurance Committee should communicate with the great teaching hospitals the purport of the views of the meeting and try to get them carried out.

Mr. MCADAM ECCLES said that underlying the maternity teaching question was that of the whole of medical education. There were two classes of hospitals dealing with maternity—the general lying-in hospital, where only obstetric cases were admitted, and the general hospital with lying-in wards. When the universities made these regulations, they were approved by the General Medical Council, and therefore the teaching schools had to follow them. Every hospital with a school had to make provision for medical students being instructed in midwifery, and the larger hospitals in London, such as St. Bartholomew's, the London, Guy's, and St. Thomas's, instituted there and then a lying-in ward in the general hospital. Most of the cases, however, were cases sent in by medical practitioners in the neighbourhood as difficult. Hospitals which had not the opportunity of establishing a lying-in ward were sending their students to the lying-in hospitals in order that they might conform with the regulations. As teachers they were desirous to teach for the good of the nation, and at the same time do nothing unfair to the medical practitioners. In London nothing had been done in connexion with the Insurance Act against the medical practitioner. The hospitals had considered that the fact of the insured persons receiving money through the approved societies under the National Insurance Act took them out of the category of the necessitous poor; at the same time the cases were necessary for teaching purposes, but everything would be done to prevent any abuse of charity.

The amendment was lost.

Dr. GOODBODY (Marylebone) moved an amendment:

That the Council be asked to confer with representatives of the teaching hospitals on the whole question of teaching midwifery, and to take the necessary action.

It was, he said, a necessity for the profession that present and future medical students should be taught midwifery, unless the profession was content that the whole practice of midwifery should in twenty years or so lapse into the hands of midwives. The Council, or the State Sickness Insurance Committee, to which the question would probably be referred, could be trusted to represent the interests of the profession against the imaginary autocratic action of the hospitals.

Dr. BEATON (St. Pancras and Islington), in seconding, said that if the hospitals and the Council would work together, a conclusion would be arrived at which would be good for the hospitals, the practitioner, and the students of the future.

After some further discussion a motion by Dr. GOODBODY, seconded by Dr. BEATON, to rescind the Minute under discussion, was carried by the requisite two-thirds majority, and Dr. GOODBODY then proposed the following resolution, which was seconded by Dr. BEATON, and carried:

That the Council be instructed to take into consideration the question of the acceptance by maternity and voluntary hospitals of patients in receipt of maternity benefit under the National Insurance Act, to confer on the matter with representatives of teaching institutions to find a temporary *modus vivendi*, and to report to the next Representative Meeting.

AMENDMENT OF THE INSURANCE ACT.

PROPOSED RESUMPTION OF FRIENDLY SOCIETY CONTROL.

The CHAIRMAN OF COUNCIL called attention to the amendment published last week (SUPPLEMENT, page 96), which had been placed on the order paper of the House of Commons by Mr. G. Locker-Lampson. The Amendment (to Clause 5 of the Amending Bill) is as follows:

Where in any town or district an approved society proves to the satisfaction of the Commissioners that it can provide adequate medical benefit for its members, and that it has made arrangements with one or more resident local medical practitioners to that end, it shall be at liberty to administer such benefit, and the provisions of the principal Act shall

be varied accordingly, but so, however, that any member of such society shall be at liberty to take medical benefit as provided by the principal Act.

Dr. Macdonald said that if this amendment were carried through Parliament it would mean reversion to the old club practice. The Council had received information that there was most serious lobbying going on, that friendly societies were moving heaven and earth to get the amendment carried, and that members on both sides of the House were prepared to vote for it. It would be necessary to call upon the members of the Representative Meeting and others to use their influence on behalf of the profession to get any members of Parliament whom they knew to oppose it in the Grand Committee to which the amending bill had been referred.

Mr. TURNER (Deputy Chairman of Representative Meetings) moved:

That this meeting strongly protests against the amendment to the National Insurance Act proposed by Mr. Locker-Lampson, having for its object the transference of the administration of medical benefit to the approved societies, and will offer the most uncompromising opposition to this or any other attempt of the kind, in the interests both of the public and of the profession.

It was clear to him that the medical profession was being used as a pawn in the game. Medical men's votes were of no consequence in comparison with the votes of the large organized friendly societies, and it was apparent that both sides in the State were prepared to sacrifice everything that was just and right with regard to the profession to catch votes. If Mr. Locker-Lampson's amendment were carried it would be a distinct breach of faith on the part of Parliament. After conference between the Association and the friendly societies bargains were made and the administration of medical benefit was taken out of the hands of the approved societies and placed under Insurance Committees. He did not say that the administration of the Act by the Insurance Committees was ideal or perfect, but it was better than the condition Mr. Locker-Lampson's amendment proposed to bring about—the setting up of the old friendly society control reinforced by Government money and Government influence. The passing of the amendment would not only be bad for the profession but bad for the public. For the profession it would mean that pressure would be brought upon those who were on the panel and those not on the panel to attend dependants and other uninsured persons at lower fees, in the same way as was already being done in some parts of Kent, where whole-time men imported by the Government were being allowed to contract and arrange to attend dependants of insured persons at a lower price than was right or just. This would be a lever put into the hands of the friendly societies, and they would use it vigorously and without scruple. Friendly societies were agitating for this amendment for two reasons. The one ostensibly put forward was that the money the societies had to pay—3d. a member, which went in payment of the expenses of the Insurance Committees—could be very much better expended by the societies themselves. On the other hand, there was the fact that sickness had gone up remarkably lately. That had been put down by the societies to malingering, but they had entirely ignored the fact that they had taken in an enormous number of unsound, unexamined male lives, as well as women, and that the natural and normal rate of sickness amongst those people—sickness which deserved and should have sick pay—was bound to be very much higher than it was among the picked lives of the friendly societies of the past. The friendly societies also alleged that the doctors had been too lenient in giving certificates. If, however, the societies had the profession absolutely and entirely under their thumb it would be coerced in this matter in many cases, very much to the detriment of the patient.

Mr. WILLOCK (Croydon), in seconding, said that the profession must make every effort to combat the lobbying that was going on in favour of the amendment, and bring pressure to bear upon every member or candidate to support the Association at this juncture.

Dr. DOUGLAS (Maidstone) inquired whether words pointing out that the adoption of the amendment by the House of Commons would be a breach of faith could be included in the motion.

Mr. TURNER said that Mr. Locker-Lampson had had nothing to do with the bargain between the Association and the Government, and therefore on his part it would not be a breach of faith, although if it were passed by the House of Commons it would be a breach of faith on the part of the Government.

Dr. WALLACE HENRY (Leicester and Rutland), supporting the motion, drew attention to the difficulty the Association was in, as evidenced by the attitude of the three candidates at the last by-election at Leicester. The Local Medical Committee asked the Conservative candidate whether he would support an amendment to the Act to hand over the administration of medical benefit to the societies. Before printing his reply a copy was sent to him for confirmation, and he withdrew it. In the interval he had been interviewed by the friendly societies, and had said he would support any amendment giving the administration to the societies, subject to no injustice being done in respect of any existing compact with the doctors. The Liberal candidate refused to give an answer one way or the other, but said: "I will consider the matter; the question is of too great importance for me to give a definite pledge. The only thing I can say is that I will not embarrass the Government." The Socialist candidate said: "I will definitely pledge myself to oppose any attempt to hand back the administration to the friendly societies." The incident showed that the two main parties were equally out for votes. The medical profession had few votes to give, and it had a difficult fight against the influence of those who had a large number of votes to give.

A suggestion made by Mr. WARD and seconded by Mr. OSBORNE (both Birmingham Central) to insert the words "which would be a distinct breach of faith between Parliament and the medical profession" after the words "approved societies," was agreed to.

Dr. BUTTAR (Kensington) asked what was meant by "uncompromising opposition." He was a most strenuous opponent of the conditions under which the profession was working under the Act, and in his opinion the profession had shown throughout the campaign far too much fear of friendly societies; the psychological moment had come, and if the profession took its courage in its hands it would succeed. He implored all members of the medical profession to stand together and not be frightened by bogeys.

Dr. MEADE (York) thought the danger very real. It was not a bogey. The profession had no chance of success unless the individual medical man could be taught the duty to adhere to honourable obligations. He suggested a house-to-house visitation.

Dr. EVAN JONES (City) agreed that uncompromising opposition should be offered to the proposed amendment to the Act. He had discussed the matter with three representatives of friendly societies, and had been told that when they got back the control in their hands, provided the former friendly society doctors attended for the sum allowed by Parliament and by the societies, they would be asked to attend. The words of those three leaders of the friendly societies had been, "We want nothing to do with panel men. We will form our own committee." The profession, he believed, was in for the biggest fight it had ever had, and it behoved every one to try and unite the profession as one whole. The friendly societies would very shortly, within a week or so, try to make individual bargains, and unless the profession were united, and refused anything but collective bargaining, the last state would be worse than the first. The only hope lay in the members of the profession acting together.

Dr. PEARSE (Trowbridge) associated himself with Mr. Turner, although he thought it not certain that Mr. Locker-Lampson's amendment would be passed. It would not be considered advisable to have a dual system of medical benefits under the Act; the proposed amendment would allow an alternative system to the panel system and would produced chaos in the administration of the Act. Further, a very large number of medical men would emphatically and entirely decline in any way to place themselves once more under the heel of the friendly societies. The feeling of the rank and file of the profession was still emphatic against friendly society control. In his district 95 per cent. of the men would absolutely decline to accept the proposed amendment to the Act. It should be made

known, as the motion before the meeting stated, that if the proposed amendment to the Act were passed the whole battle with the medical profession would begin again, as in fact it would; the announcement would have a great effect.

Dr. Oldham (Lancaster), who also supported the motion, protested against the assumption that the amendment would be passed by the House of Commons. Whilst it was true that it would receive a certain amount of support from members of both political parties yet there were strong forces in entire opposition to it which the Government itself and the Insurance Commissioners could not disregard. The friendly societies had been threatening for some time to make this proposal, but the industrial societies and Insurance Committees were against them, and the whole influence of the latter strength would be thrown against the amendment. Again, if the amendment became law the panel system would go by the board at once. That was shown by the fact that the only argument ever advanced against the system of contracting out was that it would break into the panel system. To allow approved societies to make their own arrangements would break down the panel system at once, and the Insurance Committees all over the country would find themselves face to face with the impossibility of carrying out their contracts with the men they had brought upon the panels. The amendment was a last effort on the part of the friendly societies. He thought it necessary to pass as strong a resolution as possible declaring that the Association would oppose in every possible manner power being given to the friendly societies to control medical benefit.

Mr. Turner, with the consent of the seconder of the motion, accepted the suggestion of Dr. Buttar to substitute the word "strenuous" for "uncompromising," and the meeting accepted the alteration. In reply to questions, he said that he would propose if the motion were carried that steps should at once be taken to get into touch with the medical men who would be affected by the suggested amendment, and point out to them that if it were carried by the House of Commons it could not affect present contracts, and they should not consent to enter into any provisional arrangements or undertakings. When the contracts had expired there should be an absolute refusal to renew them in the circumstances. Every member of the Association should back up this line of action. His suggestion, in fact, amounted to this, that the campaign should be renewed with the advantage of knowing from previous experience where the weak spots were.

Mr. Turner's motion was carried unanimously in the following terms:

> That this meeting strongly protests against the amendment to the National Insurance Act proposed by Mr. Godfrey Locker-Lampson, having for its object the transference of the administration of medical benefit to approved societies, which would be a distinct breach of faith between Parliament and the medical profession, and in the interests of the public and the profession, will offer the most strenuous opposition to this or any other attempt of the kind.

The Chairman of Council proposed that a copy of the resolution be sent to the Prime Minister, the Chancellor of the Exchequer, the Right Hon. C. F. G. Masterman, the leaders of the Opposition, of the Irish and of the Labour Parties, to every member of the Grand Committee which was considering the amending bill, and to the press. It had been suggested also that each member of the Representative Meeting should communicate with the member of Parliament for his constituency, and, if possible, obtain a personal interview with him to get him to assist the Association in the matter.

The motion to send the resolution to the politicians mentioned was approved, and it was agreed also to send the resolution direct to each member of both Houses of Parliament and to the Insurance Commissioners.

It was moved by Dr. Morison (St. Pancras and Islington), seconded by Mr. Ward (Birmingham Central), and agreed:

> That this meeting calls upon all members of the British Medical Association and all other members of the medical profession to resist all attempts to carry out the transfer of the administration of medical benefit to the hands of approved societies, and resolves that in so doing they shall have the full and active support of the Association, and further that the Council be empowered to take all steps necessary to this end.

The Solicitor said that his attention had been called that day to a further concerted effort which was being made to put the medical profession under the heel of approved societies. The matter arose under Section 15 (2) (*e*) of the National Insurance Act. A Memorandum, 155/A.S., had been issued by the Insurance Commissioners to induce members of the profession on the panel to enter into an agreement direct with the approved society for attendance upon the person coming under that section. He warned the profession against signing that agreement. It appeared to him that the Memorandum was *ultra vires;* it had not the force of a regulation, and he did not believe such a regulation if issued could be enforced. The threat held out against the doctor if he refused to sign this agreement was that his name would be removed from the panel. This appeared to be a further effort to subject the profession to the approved societies, and ought to be resisted.

[The memorandum to which the Solicitor referred (Memo. 155/A.S.) points out that the Exchequer grant of 2s. 6d. per annum is payable in respect of every insured person receiving medical attendance and treatment including insured persons over 65 on July 15th, 1912. The latter class it is stated may be divided into (1) persons for whom the society has decided to provide medical attendance and treatment wholly out of State funds as one of the benefits under Section 49 of the Act; (2) persons for whom medical attendance has been provided out of the private funds of the society, and for whom their society has decided not to provide medical attendance and treatment as one of the benefits under Section 49 of the Act.

Under the Act and Regulations the Insurance Committee is required to make arrangements for this purpose, and paragraph 8 of the Memorandum states that Section 15 (2) requires Insurance Committees to make it a condition of their arrangements with the doctors on the panel that the latter shall, if required, afford medical attendance to the aged members of societies at the same rate of remuneration as that payable in the case of other insured persons. It is stated that the section refers to medical attendance only, and not to the provision of medicines, and that it "merely affords a maximum rate of remuneration at which, if no lower rate can be arranged by private negotiation, doctors on the panel can be *required** to attend insured persons of the classes in question." The Memorandum goes on to point out that the Insurance Committees are not involved in the administration of the medical treatment concerned, their duty being limited to enforcing upon doctors on the panel, if called upon to do so, the obligation to attend persons of the class indicated, and to fix the rate of remuneration (a figure between 6s. 6d. and 7s.) at which doctors on the panel can be required to agree with societies for the treatment of these members. Paragraph 11 is as follows:

For the exceptional cases in which societies call upon Insurance Committees to put into operation the provisions of Section 15 (2) (*e*), the enclosed form of undertaking and voucher has been prepared. This form provides for an undertaking by the society in accordance with paragraph 51 of the Medical Benefit Regulations, to pay the prescribed fee, and for a request by the society to the Committee to allot the member specified to a doctor on the panel. On the receipt from the society of the form, with the undertaking duly filled in, the Committee will fill in the name of the doctor selected by them, and forward the form to that doctor for his signature, at the same time notifying the member of the doctor who has become responsible for his attendance. The doctor in question will then sign the document and return it to the society.]

Draft Amendment of National Insurance Act.

The Chairman of Council submitted a series of amendments drafted to carry out the wishes of the Association with regard to the defects of the Insurance Act. Prefixed to the draft amendments where necessary were brief explanations. Dr. Macdonald said that with other Representatives of the Association he had had an interview with the Insurance Commissioners, but the deputation had quite failed to get any information from them, although afterwards they had been favoured with a reply running to some ten type-written pages, the whole of which might

* Italics in original.

be summed up in the one single word "No." Not one single concession had been made. He had told the Commissioners plainly that the fact of the matter was that no matter how just their complaint was they could get nothing conceded because they had not enough votes to back them up. They could get no concession from either the Conservatives or the Radical party until they could force their hands. It was time that members of the Association ceased girding at each other. There were certain things on which they could not see eye to eye, but he suggested they should find some common ground on which they could work together. If this were not done he felt very gloomily about the outlook for the profession and the Association. The fact that the Act had come to stay and was on the Statute Book must be faced; if it were true that medical men were bound to work the Act, then it was their business to act together to obtain such amendments of the Act as would make it less objectionable. Although the Association had failed to get any assistance from the Commissioners it was still intended to put as many of these amendments before the House of Commons as possible, and amendments to carry out the recommendations of the Memorandum forming Appendix XIX of the Supplementary Report of Council (SUPPLEMENT, July 5th, p. 20), and certain others decided upon later by the State Sickness Insurance Committee had been carefully framed by a parliamentary draughtsman.

The meeting then proceeded to consider and adopt the following amendments to the National Insurance Act (1911) Amending Bill in Committee.

The Memorandum, it was reported, had been forwarded to the Commissioners.

"Aged" and Medical Benefit.

Clause 2 (2) of the Amending Bill provides that persons over 65 at the time of entering into insurance shall not be entitled to medical benefit after they attain the age of 70 unless the number of weekly contributions paid by or in respect of them exceeds fifty. This would appear to leave an opening for a grievance in respect of this small class of insured persons similar to that experienced during the last few months in regard to the "aged" and "disabled" members of friendly societies under Section 15 (2) (*c*) of the principal Act. As it was thought undesirable that this exception should be made, the following amendment was adopted:

Clause 2, page 2, line 14, omit the words beginning "Provided that" to the end of Subclause (2).

Exempted Persons and Medical and Sanatorium Benefit.

Clause 4 of the amending bill provides that persons who hold certificates of exemption under Subsection 4 of Clause 4 of the principal Act shall be entitled to medical and sanatorium benefit, whereas at present they are not so entitled. As by the very fact of their exemption this class of person were in possession of a small private income it had been thought desirable to prevent their making use of the normal panel arrangements, and to so amend the bill as to provide that they shall be required to make their "own arrangements" with respect to medical benefit. The following amendment to meet this point was approved:

Clause 4, page 3, line 28. Omit the words "members of approved societies" and insert in place thereof "employed contributors whose total income from all sources exceeds one hundred and sixty pounds a year."

Miscarriages and Abortions.

The Memorandum pointed out that the objection of the profession generally to the inclusion among the services to be rendered as part of medical benefit of the treatment of miscarriages and abortions or any condition arising therefrom within twenty-eight days, was as strong as ever. The following amendment was therefore adopted:

Clause 4, page 3, line 34. At the end of clause insert a new clause:

5. Medical benefit shall not include any right to medical treatment or attendance in respect of miscarriage or abortion, or any condition arising from, and within twenty-eight days after miscarriage or abortion, and Subsection 6 of Section 8 of the principal Act shall be amended accordingly.

Extra Payments for Night Calls.

The Memorandum stated that experience of the bill during the first three months showed that the sick persons making undue calls upon medical practitioners had not been exaggerated. The Commissioners had recognized the sick by framing and urging Insurance Committees to circulate model rules imposing a penalty on insured persons who made frivolous calls. The Memorandum pointed out that there would be great difficulty in enforcing such rules, and that as regards night visits the knowledge that practitioners were entitled to make a small charge would be a far more effectual deterrent to prevent unnecessary calls, while not preventing calls in really serious cases. The following amendment was approved to meet this point:

Clause 5, page 4, line 5. Insert the following new subclause:

3. The following paragraph shall be inserted after paragraph (*e*) of Subsection 2 of Section 15 of the principal Act:

(*f*) The right for practitioners whose names are on the lists to make an additional charge to insured persons not exceeding such amount as may be fixed by the Insurance Commissioners, in respect of any attendance on an insured person between the hours of 8 p.m. and 8 a.m.

Provision of the Services of a Second Practitioner.

The Memorandum expressed the intention of the Association to press for amendments of the Act or Regulations, or both, to make it clear that a practitioner who found it necessary, in connexion with medical attendance on an insured person, to obtain the services of another practitioner should not be compelled as part of his agreement to provide such services. The following amendment dealing with this matter was approved:

Clause 5, page 4, line 5. Insert the following new subclause:

4. The following proviso shall be inserted after paragraph (*f*) of Subsection 2 of Section 15 of the principal Act:

Provided that no insured person shall be entitled to require attendance by any practitioner other than the practitioner selected by, or allotted to, the insured person.

Income Limit: Total Income from all Sources.

The Memorandum pointed out that a good many cases had occurred in which the sons of well-to-do fathers, whose earned income was a small proportion of their total income, were taking advantage of the medical attendance provided under the arrangements made by the Insurance Committees. Such persons did not need the medical attendance so provided, and it had never been intended that they should receive it. The following amendment was designed to stop this abuse:

Clause 11, page 6, line 25. At end of clause insert a clause:

In Part 1 of the principal Act and this Act the expression "income from all sources" includes all sums habitually received by way of allowance, annuity, or otherwise, whether under any enforceable contract or not.

Seamen's National Insurance Society.

The claim of the medical profession to be represented on the Committee of the Seamen's National Insurance Society was formulated in the following amendment:

In Subsection 5 of Section 48 of the principal Act [which relates to the Seamen's National Insurance Society] after the word "proportions" there shall be inserted the words, "and representatives of the medical profession of the United Kingdom to the extent of one-tenth as nearly as may be of the Committee, to be appointed one-half by the Commissioners and one-half by the British Medical Association."

Composition of Insurance Committees.

The Association being of opinion that the representation of insured persons on Insurance Committees was excessive and that no one interest should form more than two-fifths of the total membership of an Insurance Committee, the following amendment was approved:

In paragraph (*a*) of Subsection 2 of Section 59 of the principal Act [which relates to the composition of Insurance Committees] "two-fifths" shall be substituted for "three-fifths."

Income Limit.

To carry out the objects expressed in paragraphs 236 to 245 of the Supplementary Report of Council the following amendment to the amending bill was approved:

Clause 5, page 4, line 5. Insert the following new subclause:

5. The following subsection shall be substituted for Subsection 3 of Section 15 of the principal Act:

The Regulations made by the Insurance Commissioners shall provide that the Insurance Committee by which

medical benefit is administered shall require any contributor whose total income from all sources exceeds £160 a year or such smaller sum as may with the approval of the Commissioners be fixed by that Committee (not being a voluntary contributor whose total income from all sources exceeds £160 a year) and also any such person who holds a certificate of exemption, and shall allow any such other person as the Local Medical Committee may in writing approve, in lieu of receiving medical benefit under such arrangements as aforesaid, himself to make his own arrangements with any duly qualified medical practitioner selected by himself (whether the name of the practitioner be on any such list or not) for receiving for himself alone medical attendance and treatment, and on the personal applications of such contributors and persons the Committee shall, subject to the regulations, contribute from the funds out of which medical benefit is payable towards the cost of medical attendance and treatment for such contributors and persons sums not exceeding in the aggregate the amount which the Committee would otherwise have expended in providing for them medical benefit (including medicine and appliances).

Diseases due to Misconduct.

The meeting decided to seek an amendment providing that

No insured person shall be entitled to require attendance or treatment for any disease or disablement caused by his own misconduct, *other than venereal diseases.*

The words in italics at the end were not in the amendment as drafted. They were inserted after a discussion raised by Dr. Haslip (Westminster), who urged that early efficient treatment of venereal disease was desirable in the interest of the individual patient, of the public, and of the medical practitioner. It was most undesirable in the interests of the patient that he should be induced to go for treatment to the chemist or to a quack. As to the public interest, it was clear that early treatment would tend to check the dissemination of these diseases. As to the doctor, early treatment would in the long run be to his advantage, for the chronic nervous degenerations would not ensue.

Dr. Major Greenwood supported the proposal, but Dr. Treasure (Cardiff) hoped the meeting would not alter its previous decision. In seaports these diseases were very prevalent, and the proposed change would seriously affect medical practitioners in such places. He referred to the serious risk of infection to which the doctor attending these cases was exposed. He personally knew of four men who had contracted syphilis from patients they were treating, and he also knew of one practitioner who had lost one eye through having to treat a case of gonorrhoea. He maintained that medical men should not be called upon to treat these cases as a matter of right.

Dr. Robertson (Glasgow Southern) argued that, as the Government and approved societies refused to give men suffering from venereal diseases sickness benefit, the medical profession should not be required to give them treatment.

Dr. Picton (Stockport) suggested a special fund for dealing with patients suffering from venereal disease.

Mr. Bishop Harman (Marylebone) supported Dr. Haslip's suggestion for the treatment of patients suffering from venereal disease. Of the children attending the blind schools of the London County Council which he had under his charge, more than two-thirds were blind for life from gonorrhoea or syphilis in their parents. If there was anything the medical profession could do to stop such atrocities it ought to be done.

Dr. Sheahan (Portsmouth) said that in days gone by the friendly societies paid for the treatment of venereal disease cases, and held that the Government should now pay.

Dr. Haslip (Westminster), in reply, reiterated his opinion that it was the duty of the profession to do what it could to prevent the large proportion of pauperism and insanity due to syphilis and gonorrhoea. He pointed out to Dr. Robertson that the friendly societies did not grant their members benefit when suffering from venereal disease, and he contended that if the friendly societies were ignorant of their duty the medical profession should educate them.

The motion to add the words "other than venereal diseases" was carried.

Trade Accidents and Industrial Diseases.

Mr. H. S. Hall (Leigh and Wigan) moved:

That steps be taken in any amending Act which is brought before Parliament to secure that trade accidents and industrial diseases be deleted from medical benefit under the Insurance Act.

In Leigh a large number of persons were receiving benefits under the Lancashire and Cheshire Miners Relief Society, who paid the medical profession at the rate of 2s. 6d. a year for attendance in case of accidents. It was desired to secure that trade accidents should not be included in the Act, and that industrial diseases should be paid for extra.

After some discussion, during which the Chairman pointed out that it would be difficult at the last moment to add to the series of amendments which were to be submitted to members of Parliament, the meeting decided to proceed to the next business.

ATTENDANCE ON UNINSURED PERSONS.

The meeting proceeded to consider the following recommendations of the State Sickness Insurance Committee:

That the Representative Body adopt the following principles as essential to the formation of any schemes for the provision of medical attendance and treatment of uninsured persons:

1. That, in general, in considering the necessity for obtaining the approval of the Council for schemes for the treatment of uninsured persons upon contract terms, the following principles and conditions must be adhered to:
   (*a*) Free choice of doctor by patient and of patient by doctor;
   (*b*) Remuneration to be not less than that paid in respect of insured persons—that is, 9s. per annum, including medicines;
   (*c*) Persons earning over £104 per annum not to be treated under contract terms at all.
2. That the Representative Body realizes that the conditions in certain areas will not allow of the above terms being obtained, and that in these circumstances the approval of the Council may be given provisionally to a scheme involving a less payment when the local profession can show that the economic conditions in the area demand it.
3. That one of the conditions necessary for the approval of schemes containing lower rates of payment shall be the inclusion amongst the rules, in a prominent position, of a statement that approval by the Association has been given to the rates only because of special economic conditions.

Dr. Porter (Edinburgh and Leith) moved as an amendment to Clause 1:

That no contract practice be undertaken outside of the National Insurance Act.

He believed that before the Act came into operation the Association was against contract practice, and a number of its members hoped that there would have been an opportunity during the passage of the Act to kill contract practice. For himself, he thought it possible to kill this particular form of contract practice, and that certainly there should be no extension of it. Contract practice was not good for the patient or for the profession. It was derogatory to the profession. If a resolution stating that the Association was opposed to the further extension of contract practice were passed, a great number of problems that would come up for discussion would be solved. There were two parties in the profession, but both were looking for the same thing—the good of the profession. The unity of the profession could, he believed, only be achieved by establishing a system of private practice. In Edinburgh, where the number of members of the British Medical Association was 342, there were 73 members on the panel. He urged the adoption of one system to extend all over the country—a system like the National Deposit Friendly Society's—which, if adopted, would unite the profession once and for all. In reply to Dr. Fothergill, Dr. Porter said that he did not intend to include under the term "contract service," the Poor Law Service, the Naval and Military Services, the Public Health, and similar services.

The Chairman said that the terms of the amendment were too wide and vague.

Dr. Wallace Henry (Leicester and Rutland) said that

in certain areas nothing but contract practice would be accepted, and in other areas nothing but payment for work done would be accepted. Each area must be left to work on lines it considered right.

Dr. STEVENS (Edinburgh) said that it was not intended to include appointments at the Post Office or medical officers of health. Unless the action suggested by the amendment were taken the way would be paved for the inclusion within a short time of dependants as well as workers under the medical benefits of the Act. After some further discussion the amendment was lost.

The meeting adjourned at 6.30 until Monday, July 21st.

Monday, July 21st.

THE Representative Meeting continued its proceedings on Monday, July 21st, at 9.30 a.m. Mr. T. JENNER VERRALL (Chairman of Representative Meetings) presided, and the minutes of Saturday's proceedings were corrected and confirmed.

MEDICAL ATTENDANCE ON UNINSURED PERSONS.

The meeting resumed consideration of the question of the fees and conditions for provision of medical attendance and treatment of uninsured persons.

Rate of Remuneration.

Dr. WALLACE HENRY (Leicester and Rutland) moved to alter the recommendation of the Council that one of the principles of schemes of treatment of uninsured persons should be as follows (SUPPLEMENT, May 3rd, p. 384, par. 133 (1) (*b*)):

> Remuneration to be not less than that paid in respect of insured persons, that is, 9s. per annum, including medicines.

He suggested that it should read as follows:

> Remuneration to be not less than that which is deemed by the Council to be equivalent to that paid in respect of insured persons.

The CHAIRMAN OF COUNCIL accepted the amendment, and it was carried.

Income Limit.

The CHAIRMAN OF COUNCIL accepted an alteration of words by which Recommendation 1 (*c*) of the Council on this matter would read as follows:

> Persons whose total income from all sources exceeds £104 per annum not to be treated under contract terms at all.

Dr. I. W. JOHNSON (Bury) urged that dependants should also be specified. One injustice of the Insurance Act was that a man with £1,000 a year might have two or three sons working for nominal wages and coming under the medical benefits of the Act.

Dr. PICTON (Stockport) urged that some differentiation should be made in the case of persons with incomes just over £104.

Dr. FOTHERGILL (Brighton) moved that the income limit be £160 instead of £104. The limit in the Act was £160, the work had been accepted on those terms, and medical men were receiving for the insured persons a total of 8s. 6d. or 9s. These persons were State-aided, but it was now proposed not only to ask practically the same rate from a class of people not State-aided, but to keep out from the medical service persons with an income between £104 and £160. There were medical services in many parts of the country with income limits of over £104 a year, and provisional approval had been given to them.

Dr. MAJOR GREENWOOD seconded.

The CHAIRMAN OF COUNCIL (by way of correction) pointed out that in schemes sent to the State Sickness Insurance Committee approval had never been given to a clause providing for an income limit of £160. The position taken up by the State Sickness Insurance Committee was that it was still dissatisfied with the £160 in the Act, and every effort was being made to get that altered. It would be an utterly illogical position if, whilst fighting to get that amount reduced in the Act, the income limit of £160 were acknowledged in any way.

Mr. S. NOY SCOTT (Plymouth) wished to enter an emphatic protest against the suggestion made by Dr. Fothergill that people earning £104 a year could not pay the rate proposed. The limit of £160 had been fixed by the Act, but he hoped the Association would abide by its opinion that the limit should be £104.

Dr. TREASURE (Cardiff) urged that the motion did not carry out the wishes of the meeting, because it did not include the dependants of people who were earning over £104. There were persons earning £1,000 who yet had sons coming under the Act.

Dr. B. G. MORISON (St. Pancras and Islington) said if the limit were left at £104 it would include, according to trade returns, nine-tenths of the working population. The remaining one-tenth would be quite able to pay a doctor under ordinary conditions.

The amendment to substitute the words "£160" for "£104" was then put and lost.

Dr. C. G. MEADE (York) thought that the meeting was making regulations it would not be possible to enforce.

The recommendation, amended as follows, was carried:

> Persons with an income from all sources of £104 per annum or upwards, or the dependants of any such person, not to be treated under contract terms at all.

Free Choice of Doctor.

On the recommendation of Council that in schemes for the treatment of uninsured persons there should be free choice of doctor by patient and of patient by doctor, Dr. FOTHERGILL (Brighton) moved to add the words:

> From among those taking part in the service,

so that the motion would read:

> Free choice of doctor by patient and of patient by doctor from among those taking part in the service.

Dr. BENHAM (Brighton) seconded.

Dr. MACNAMARA (Lewisham) objected that Dr. Fothergill wanted the Association to associate itself with the panel list.

Dr. R. M. BEATON (St. Pancras and Islington) said this question had been raised very often in the State Sickness Insurance Committee, and the line taken by Dr. Fothergill and those who had voted with him was that the free choice of doctor should be inside the panel. That was not his view.

Dr. FOTHERGILL said the point he had raised had nothing to do with the Insurance Act, but merely with private arrangements.

Mr. E. C. MONTGOMERY-SMITH (Marylebone) said the question of free choice of doctor was one that would divide the profession at every turn. The main thing was to get unity in the profession. In London movements were afoot which would drag the medical profession once more into the ditch, and all these little differences would only bring them deeper in the mire.

Dr. BUIST said that if men wished to take advantages which arose from entering into a voluntary organization, they must submit to the conditions of membership, and unless the words proposed by Dr. Fothergill were inserted, the motion would be made to mean something quite different from what was intended.

Dr. TOMKINS (South-West Essex) said the meeting was discussing a medical service entirely outside the Act. It seemed to be thought that rules must be subscribed to, but this was quite unnecessary. A general medical service could be worked with absolutely free choice of doctor and patient, and no time need be spent in discussing rules.

Dr. BENHAM (Brighton) said that care should be taken to ensure that the ideals of the men who were working these schemes were in accordance with those of the British Medical Association.

The amendment was lost, and the recommendation of Council was approved.

THE CHESHIRE PUBLIC MEDICAL SERVICE SCHEME.

Dr. PICTON (Stockport) moved:

> That in the event of any proposal to extend medical benefits to dependants the lines of the system formulated in the Stockport, Macclesfield, and East Cheshire Division be sanctioned.

Outline of Medical System formulated in East Cheshire.

1. *General.*—The extension of medical benefit to women and children in the near future is inevitable. Extension on the present capitation terms is, even if desirable, unlikely; because:—

(*a*) The expense would be too great; and

(*b*) A whole-time service, which would be unsatisfactory and expensive where only the employed members of the

household were attended (as at present) would be quite easily workable and relatively inexpensive when the whole family was insured.

In the opinion of this Division such a whole-time service would destroy the whole edifice of private practice, and is intrinsically undesirable.

2. *The Alternative Suggested.*—As an alternative to a whole-time service on the one hand, or a reduced capitation fee on the other, the Division is anxious that a scheme which it has drafted should be thoroughly considered by the profession.

3. *Pool and Deposit System.*—The scheme is based on the principle followed by some companies which insure against damage to motor cars, in which the insured person pays the first portion of any claim himself, up to a limited amount, the balance to an unlimited amount being covered by the insurance.

It is suggested that this principle might be applied to insurance of families for medical benefit. The liability of the insured would have to be covered by a *deposit* payable in advance in small instalments. The balance would come from the *pooled* medical benefit fund taken by the Act.

4. *The Family the Unit.*—The whole family would be treated as a unit, the insured worker receiving his medical benefit on the same footing as his dependants.

5. *Payment of Doctors.*—Under such a scheme the doctors would not be paid by capitation, but their bills would be paid in full. Not that they would send out actual bills. Their "daily record" filled up as at present under the Insurance Act, would be the basis of their payment.

Thus the only change the system would introduce into the doctor's work in this respect would be that he would enter the names of dependants in his daily record as well as those of insured workers; and each entry would have a fixed value according to an agreed tariff. He would be paid accordingly not a proportion of his earnings, but the full amount according to the tariff.

6. *The Additional Payment Required from the Insured to cover the Introduction of the Family:* The only change the system would introduce in respect of the contributions by insured persons would be that each worker, in addition to his contributions under the Act as at present, would have to pay the instalments required to create his deposit, or to refill it if it had been depleted.

7. *Proportion of Deposit to Wages.*—Assuming that the scheme would be solvent if the deposit were fixed at the amount of *two weeks' wages*, and allowing *three years in which to deposit this sum*, then the actual weekly instalment may be calculated at 3d. in £1 of wages.

8. *Full Cover from First Payment.*—From the date of the first instalment paid, so long as payments were kept up, the insured worker and his family would be fully covered for medical benefit.

Advantages.—(1) *To the Insured:* Doctoring for dependants. No doctor's bills beyond at worst 3d. in £1 of weekly wages.

To Insured Persons who have no Dependants: It is calculated that there would be a considerable balance of the pool. A portion of this would be payable as a bonus on deposits, which would thus be an excellent investment. This bonus would be attractive. Just as the "Dividend" of Co-operative Stores is at present.

To Dependants of Insured.

The deposits would form a death benefit.

(2) *To Approved Societies: There would be no malingering and no valetudinarianism.*

The fact of the deposit being the source of the first payment would be a better check against these than any system of medical referees.

(3) *To the Government:* The provision of medical benefit to the dependants without further demands on the Treasury.

(4) *To the Medical Profession:* Full payment for work done for insured and dependants.

Entire free choice of doctor from the *Medical Register*.

No accountancy or bill making whatever, except filling up the visiting record.

The patients themselves, as in private practice, would exercise a check against over-attendance.

The proposal, as outlined above, is capable of development as a voluntary optional alternative to the present form of medical benefit. As such it is suitable for trial as an experiment on a large scale. If such an experiment were tried (under the aegis of the Government, or, at least, with its necessary sanction) and proved a success, the scheme would readily lend itself to expansion into a really national system.

One of the chief benefits anticipated from it, the establishment of special clinics, each staffed by a consultant and a group of general practitioners (paid) who devoted a part of their time to the work, would not be realized until the national development referred to had taken place.

Dr. Picton thought it inevitable that medical benefit would be extended to dependants, and the suggestions of Stockport were put forward to meet that probability. Country and provincial members desired to support the metropolitan area in endeavouring to retain what was still left of private practice, and to regain if possible some part of the freedom lost. The whole outlook, however, especially for provincial members, was certainly coloured by a feeling that in some respects the Act had done good. The Insurance Act had assisted to remove the profession from friendly society control; and there was a feeling that if it were drastically altered it might lead to improved conditions and greater efficiency. It was that feeling which inhibited country members from a more cordial and active support of the metropolitan area. The Council had forewarned and had endeavoured to forearm the Association by putting forward a policy; all three points of that policy were highly contentious matters, and it had been suggested that the proposals should be referred to a Committee. If, while retaining the essential conditions of private practice, some of the economies and advantages of a co-operative system could be obtained, the profession would have a policy which could be worked with enthusiasm. The scheme formulated by his Division was not intended to replace all other schemes, but to be a scheme in which other schemes, perhaps more elaborately organized, might be embedded. If those on the panel would multiply their panel receipts by three, which would be the case if dependants were included, there would be a sum of money which would probably be sufficient to provide an efficient whole-time service. The alternative proposed by his Division was that the co-operative arrangement should become incorporated with the system of private practice, and the essentials of that system would be that the patient himself should contribute something towards the cost of actual attendance in the same manner as under the system of the National Deposit Friendly Society. He thought that would lead to economy, would prevent accusations being made against the doctor of over-attending in order to increase the payment he would receive, and would be a better check on malingering and valetudinarianism.

Mr. Dearden (Manchester West) observed that the motion laid down certain principles to guide the Council in considering any local scheme, and expressed the opinion that the better way to deal with the scheme was to leave the matter to be considered by the Council.

Dr. Gordon Ward (Chelsea) thought that it was necessary to ascertain the opinions of general practitioners on the scheme, which in his opinion would not be of any use for fighting purposes. It was desirable to have the Association's policy enunciated so as to be able to produce it at short notice.

Mr. T. D. Bell (Leeds) supported the reference of the matter to the Council.

Dr. Daniel (Croydon) said he had been a member of a Committee the previous year which had discussed the question of the principles of a Public Medical Service thoroughly, and the Council was thoroughly aware of all the bearings of such principles. He thought the matter might safely be left to that body.

Dr. Haslip (Westminster) asked whether it was proposed to pass the matter on to the Council without expressing any opinion.

The Chairman said that if the whole matter were submitted to the Council it would be without any expression either of approval or disapproval.

It was agreed to refer the scheme to the Council.

Special Conditions in Certain Areas.

At the conclusion of the consideration of the recommendations of the report of Council with regard to the fees and conditions of attendance upon uninsured persons, the Chairman of the State Sickness Insurance Committee made the following motions, which were agreed to:

That the Representative Body realizes that the conditions in certain areas will not allow of the above terms being obtained, and that in these circumstances the approval of the Council may be given provisionally to a scheme involving a less payment when the local profession can show that the economic conditions in the area demand it.

That one of the conditions necessary for the approval of schemes containing lower rates of payment shall be the inclusion amongst the rules, in a prominent position, of a statement that approval by the Association has been given to the rates only because of special economic conditions.

WHOLE-TIME MEDICAL SERVICE.

On the motion for the approval of the remainder of the report of the State Sickness Insurance Committee, Dr. Benham (Brighton) moved the following amendment:

That the subject of whole-time medical service has not yet been sufficiently discussed for any opinion on it to be adopted as the policy of the Association.

Dr. Benham said that the effect of the amendment would be to delete from the report of the State Sickness Insurance Committee the following paragraph: "That the Association should strongly oppose any effort to institute a whole-time service of practitioners for the purpose of treating insured persons." He did not think it would be wise to pass any resolution, which would become the policy of the Association, to the effect that the Association disapproved of a whole-time medical service, because that matter had never been before the meeting on its merits.

Dr. MEADE (York) seconded; he believed the panel system would shortly break down, and that the only alternative was a whole-time medical service.

Dr. MAJOR GREENWOOD (City of London) said that the main ground of the opposition of the profession to the National Insurance Act had been its direct tendency towards a whole-time medical service. That would result in something like the national education system, and the medical profession would be on a par with board school teachers.

Mr. MONTGOMERY-SMITH (Marylebone) contrasted the position of the Association with that of the miners. The Sunday papers had as their headlines, "State Insurance," "The Doctors' Attitude," "The Doctors' Protest." Further on in the same paper there were the words "Miners' Demands." It was easy to imagine the Premier receiving the Association's telegram of Saturday, and a smile passing over his face as he put it on the edge of the desk, whence it fell into the waste-paper basket. When he got another telegram telling him of the miners' demands the Premier had forgotten the Association's telegram, and it was the miners' demands which were considered. The reason was that the miners had learnt the secret of unity, and until the Association learnt the same lesson it would be unable to achieve its aims.

Dr. HASLIP (Westminster) pointed out that the State Sickness Insurance Committee said nothing about salaried officers paid by the State, or any proposition as to a general whole-time medical service. What it objected to was the institution of a whole-time medical service to treat insured persons, which was a totally different thing. There was a great deal of difference between a contributory having a whole-time service and the State coming in, as he hoped it would, to treat persons who were not under the Insurance Act, and who could not afford to pay for proper medical service. The poor patients who could not get any proper attendance were being forgotten.

The CHAIRMAN OF COUNCIL agreed with Dr. Haslip. The object of the State Sickness Insurance Committee was to protest against whole-time men being appointed under the National Insurance Act. That was the meaning of the paragraph. The proposal made by Brighton had, in fact, nothing to do with the matter before the meeting.

The motion was lost.

FEES FOR CONFINEMENTS.

On the paragraph of the Report of the State Sickness Insurance Committee with regard to fees for confinements in respect of which maternity benefit was received (SUPPLEMENT, May 3rd, p. 383), suggesting 6s. 6d. in the £ as the share of the doctor as a basis of discussion with approved societies and Insurance Committees, Dr. BENHAM (Brighton) moved that in no case should the fee be less than 10s. 6d. The Brighton Division had arranged with the local maternity institution that the payment should be 10s. 6d. The patient saw the doctor and was given a note for presentation on admission to the institute, and the doctor received 10s. 6d. in respect of that patient.

The CHAIRMAN OF COUNCIL said that the State Sickness Insurance Committee really expressed no opinion upon the matter. There had been great divergence of opinion upon the subject in different parts of the country, and application had been made to the Commissioners to keep the Regulation provisional until a common ground was arrived at.

The amendment was carried.

Disapproval of Contract System for Midwifery.

On the motion of Dr. NOY SCOTT (Plymouth), seconded by Dr. S. H. SHAW (Liverpool), it was resolved:

> That this meeting disapproves of any scheme on the contract system for attendance upon confinements.

MEDICAL REPRESENTATION ON DISTRICT INSURANCE COMMITTEES.

Dr. MINA DOBBIE (Hampstead) moved an amendment to delete the words "the same as" and insert the words "not less than" in the following clause of the State Sickness Insurance Committee Report (SUPPLEMENT, May 3rd, p. 379), so that it should read:

> That the medical representation on all District Insurance Committees shall be the same as is accorded the profession on Insurance Committees.

The CHAIRMAN OF COUNCIL having accepted the amendment, it was unanimously agreed to.

CENTRAL INSURANCE DEFENCE FUND.

On the report of the State Sickness Insurance Committee with regard to the Central Insurance Defence Fund (SUPPLEMENT, May 3rd, p. 384), Dr. WOOD (West Suffolk) moved:

> That unless the Council is prepared to enforce payment of money guaranteed to the Central Insurance Defence Fund, a complete statement of the receipts, expenditure, and outstanding liabilities of the fund should be published immediately with a view to the early closure of that fund.

Dr. Wood said the Guarantee Fund was established at a time of special stress, and many medical men guaranteed sums thinking that the majority of their neighbours would join them. If medical men had subscribed as they should, a defence fund would have been obtained sufficient to defeat the Act, whereas the sum guaranteed was nothing like sufficient, being only £138,000. Two calls had been made on the fund, the first of which should have produced £27,000, and only brought in £13,000, and a second call, which was estimated to produce £7,496, only produced a miserably small sum. Unfortunately, a large number of men thought that they were excused from the pledge given by their guarantee. He suggested it was time that the fund was closed, and that the total amount, some £12,000 odd, standing to its credit, should be set aside to meet any further claims that might be made.

Mr. NEWTON (Cambridge) seconded, and

Dr. MAJOR GREENWOOD supported the amendment.

The TREASURER said it was disappointing to think that after men had promised to subscribe certain sums they should take no notice of the appeal made to them.

In reply to questions, the CHAIRMAN OF COUNCIL said that the allocation of the money to applicants was private as between the State Sickness Insurance Committee and individual members.

The amendment was lost.

FUTURE POLICY OF THE ASSOCIATION ON THE INSURANCE ACT.

Discussion on this subject was initiated by Dr. ADAMS (Glasgow, Central), who moved:

> That in order to preserve union in the Association, to secure co-ordination of Local Medical Committees, and to promote harmonious working within the profession, Minute 45 of the Special Representative Meeting, January, 1913, be rescinded, and that the policy of the Association in relation to the National Insurance Act, 1911, be based on Minute 48 of the same meeting.

Minute 45 of Special Representative Meeting of January, 1913, referred to.

Resolved (one dissentient): That this meeting records its emphatic protest against the discreditable methods adopted by the Government whereby a position of urgency was created under which many practitioners, finding themselves faced with financial ruin, were compelled to give unwilling service under the National Insurance Act, on terms which this meeting considers to be derogatory to the profession and against the public interest.

Minute 48 of Special Representative Meeting of January, 1913, referred to.

Resolved: That the Council be instructed (*a*) to take all necessary steps to watch and protect the interests of the profession under the National Insurance Act; (*b*) to take any opportunity that may be afforded for placing the representatives of the Association on the Advisory and Insurance Committees; (*c*) to obtain statutory recognition of Local Medical Committees in every insurance area; (*d*) to collect information as to defects in the Act and Regulations and to take all possible opportunities of remedying them.

Dr. Adams said that this question had been troubling every member of the Association, and it seemed to his

Division that the aims of the Association—the preservation of unity, the securing of co-ordination of Local Medical Committees, and the promotion of harmonious working within the Association—could not be attained so long as Minute 45 of the last Special Representative Meeting stood as the policy of the Association. It contained a confession of want of foresight. It was already recorded on the minutes of the Association that some form of State insurance was desirable, and that the Association would do all it could to help the Government to establish a system of State insurance. He was sorry when the Association agreed to that. He did not like Government work nor contract practice at all, but when the Association gave its approval it was bound to stand by that decision. The result of the work of the Association was that it secured very considerable concessions and certain modifications in the Regulations and in the Act, which made acceptance of service more tolerable than it would have been. They had also obtained an increase in the annual money grant of £1,650,000 per annum, which, capitalized at 2½ per cent., amounted to £66,000,000. Three things had been suggested as being derogatory to the profession—namely, signing individual contracts, contract practice, and lay control. Could anybody say that the actual signing of an individual contract was a thing derogatory to the profession? Contract practice was not desirable, but contract practice had been carried on for a very long time by men who occupied high positions in the profession and in the Association. How long had lay control been considered derogatory to the profession? Many men were doing work under lay control and were doing nothing which was thought to be derogatory.

Mr. TURNER (Kensington) said that he had been given a free hand by his Division except on this matter, and his instructions were to vote against the motion. The minute referred to was now just as expressive and as relative as it was when passed. He held that the methods of the Government in forcing men on to the panel were discreditable, and still remained discreditable. Men to his knowledge had been driven on by sheer threat of financial ruin. Minute 45 did not declare that it was the work that was derogatory to the profession, but the terms and conditions under which the work was carried on, and those terms and conditions had not been altered, and were as derogatory now as last January. Then, was the service now in existence to the public good? He could speak with intimate knowledge of what was going on in London, and in his opinion it emphatically was not.

At this point a motion by Dr. MILBURN (East York), seconded by Dr. HASLIP (Westminster), to proceed to the next business was carried.

PANEL AND NON-PANEL PRACTITIONERS.

Debate next took place with regard to the following paragraphs of the report of the State Sickness Insurance Committee (SUPPLEMENT, May 3rd, page 385, paragraph 142):

(*a*) That inasmuch as the Representative Body considers the Act unworkable and derogatory, the action of the Council and the State Sickness Insurance Committee shall continue to be in opposition to the Act and Regulations as at present constituted;

(*b*) That the interests of those practitioners not on the panel, out of loyalty to the Association, shall continue to be paramount; and

(*c*) That steps be taken to assist those practitioners who wish to resign from the panels in April next if the Association calls upon them to do.

Dr. BOLAM (Hexham) brought forward the following motion on behalf of the Newcastle Division:

> That in the opinion of this meeting the Council should not in future be guided by its resolution in paragraph 142 (*b*), and that it is against the welfare of the Association that the interests of any particular section of its members should be considered paramount.

Dr. Bolam said he spoke solely as a Representative with a mandate from his Division, but the views he was expressing had his entire sympathy, and were echoed by most sections of the profession in the district surrounding Newcastle. They did not demur to the expression of opinion as to the difficulty of working the Act, and as to certain of its provisions being derogatory, nor did they wish to oppose any action to amend the Act in order to bring it into harmony with the feelings of any section of the profession in the United Kingdom. But there were members of that Association in his Division who were working the Act, and were taking steps to amend its defects as far as they were able. They did not feel that it was in the interests of the Association that it should consider the interests of any one section, small or large, paramount, and he asked the meeting to give to all members what they had a right to demand—namely, equal consideration and reasonable treatment. He begged of all Representatives who had the same feelings to express on behalf of their Divisions to do so.

The CHAIRMAN thought it might assist the meeting if he intervened at this point. Everything should be done to make it clear to every member of the Association that all were determined, so far as they could, to preserve the Association as the exponent and supporter of the views of every single section. He did not consider the policy of belittling difficulties was wise, but, on the other hand, they need not be magnified. Infinite harm would be done if it were not admitted that everybody had a right to his opinion. He spoke on behalf of general peace—even if they were moving in two different directions simultaneously—and he wished every one to believe that the Executive would do its best to help every member of the Association who was doing justifiable work. If either side would bring before the State Sickness Insurance Committee, not the general cry that they were being left in the cold, but a specific indication of something which the Committee was not doing, they might accept his assurance that the Committee would at once look into it.

Dr. PEARSE (Trowbridge) was in favour of the motion for two reasons: First, that they should bury the hatchet, and secondly, that it was essential that the Association should be the recognized medium for communications between the Government, or the Commissioners, and the profession in matters relating to the Insurance Act. As matters at present stood it was impossible for either the Government, or the Commissioners, or the Association to take that line. In many rural or semi-rural or semi-urban districts there was no distinction between panel men and non-panel men. Nearly all the medical men in Wiltshire were general practitioners, and there were not more than half a dozen who were not on the panel. As those men were members of the Association, it was essential that their interests should be considered and that the interests of no special section should be paramount.

Dr. BEATON (St. Pancras and Islington) did not think anybody could have any serious objection to the motion. There was a feeling in the minds of some that the only way for the man not on the panel to get his rights was to go on the panel, but if a man suffered through loyalty to the Association. the Association had no right to force him to go on the panel, and, therefore, he deserved first consideration in the way of compensation. When the trumpet called to battle it should give a certain sound. Up to now the Association had given an uncertain sound. Why had they shelved the matter? Because they were afraid of a split. To his mind the unfortunate uncertainty in which they now were was worse than a split. He hoped that by next year a *modus vivendi* would have been found by which uncertainties would be removed and that all would try to get the principles of the Act put right and work loyally under it.

The CHAIRMAN OF COUNCIL stated that as far as the State Sickness Insurance Committee was concerned there had been no question of party: the justice of the claim was the only thing that guided it.

The motion was carried.

IMPROVEMENT IN LOCAL ADMINISTRATION.

On the recommendation of the State Sickness Insurance Committee that efforts be made in every area to secure that all matters connected with the administration of medical benefit be referred, in the first place, to the Medical Service Subcommittee (SUPPLEMENT, May 3rd, p. 379), Dr. POCHIN (Oldham) moved to substitute "statutory Local Medical Committee" for "Medical Service Subcommittee." The Medical Service Subcommittee had quite enough to do judicially already; further, it consisted of medical and lay members, and in the interests of justice it was important that no dissension should arise between the medical and lay members of the Committee.

Both sections must work harmoniously together in order to find out the facts of any particular case and do justice.

Dr. FOTHERGILL suggested that an evenly balanced Arbitration Committee would be a better committee to deal with the matter.

Dr. MAJOR GREENWOOD observed that it was quite possible that it would be enacted that the statutory Local Medical Committee should be chosen entirely by men on the panel, and thought it would be premature to fasten the duty on the Local Medical Committee.

The amendment was lost.

Co-ordination of Divisions and Local Medical Committees.

The section of the report of the State Sickness Insurance Committee suggesting methods by which the action of Divisions and Local Medical Committees could be co-ordinated (SUPPLEMENT, May 3rd, p. 380) was approved, subject to amendments on points of detail.

The motion that the remainder of the Annual Report of the Council under heading "State Sickness Insurance," as amended, be approved was then agreed to.

CONTRACT CONSULTING SERVICE FOR INSURED PERSONS.

On the motion of the CHAIRMAN OF COUNCIL, Minute 128 of the Special Representative Meeting of November, 1912, to the effect that any arrangements whereby the staffs of hospitals and other consultants agreed to give consulting service at the homes of insured persons on the introduction of the medical attendant, for an agreed honorarium, would be a highly objectionable extension of contract practice, was reaffirmed.

TREATMENT OF TUBERCULOSIS.

DOMICILIARY ATTENDANCE ON TUBERCULOSIS CASES.

The CHAIRMAN OF COUNCIL moved the recommendation of Council (SUPPLEMENT, July 5th, p. 6):

> That Minute 205 of the Annual Representative Meeting, 1912, be rescinded in order to leave to the local profession in any insurance area the right of deciding whether the profession of that locality shall be paid upon a scale of fees or by a capitation fee for the treatment of tuberculosis under the National Insurance Act.

Dr. STEVENS (Edinburgh and Leith) moved an amendment:

> That the payment to be made to medical practitioners for domiciliary attendance on patients certified to be suffering from tuberculosis shall be on a scale of fees with a minimum of 2s. 6d. per visit or consultation, and not by capitation, with free choice of doctor from the *Medical Register* and without the necessity of any form of certificate on the part of the practitioner.

The amendment was lost and the original motion carried.

MINIMUM SALARIES OF TUBERCULOSIS MEDICAL OFFICERS.

On the motion of the CHAIRMAN OF COUNCIL, the following recommendation of Council was approved:

> That all possible steps be taken by the Association to prevent the appointment at less salaries than £500 per annum of tuberculosis medical officers whose duty, whatever their designation, includes the charge of the clinical arrangements concerning tuberculosis cases, and whose relation as regards such cases to the local profession will be that of consultant.

ATTITUDE TOWARDS TUBERCULOSIS TREATMENT.

On the motion of the CHAIRMAN OF COUNCIL, the following resolution was also carried:

> That in connexion with Minute 63 of the Special Representative Meeting of January, 1913, instructing the Council to consider the question of the attitude of the profession towards the tuberculosis treatment under the National Insurance Act in view of the conditions as altered by that meeting, the Representative Body adopt the following Recommendation G of Council:
>
> That further action in connexion with Minute 63 of the Special Representative Meeting, January, 1913, be postponed pending further developments in the subject.

HONORARY STAFFS OF VOLUNTARY HOSPITALS AND TUBERCULOSIS.

The CHAIRMAN OF COUNCIL moved to reaffirm Minute 194 of the Annual Representative Meeting, 1912, as follows:

> That no tuberculosis dispensary should be opened or beds be provided for treatment for those in receipt of sanatorium benefit at a voluntary hospital or infirmary, except on the condition that the organization is entirely independent of that of the voluntary hospital or infirmary, the accounts of the departments being kept separate, and that the services of all medical practitioners are paid for.

Dr. FOTHERGILL asked whether it was wise to take up a position which in the future it might not be possible to hold.

Mr. TURNER (Kensington) said that in the London Insurance Committee the question of extra beds and hospitals had come up a short time ago, and it was stated by one of the Government representatives on the Insurance Committee, who was also on the staff of Guy's Hospital, that that hospital would be prepared to provide such beds in order to get a sufficient number of cases of tuberculosis for teaching, and the staff would look after such cases as they looked after the rest of the hospital.

The CHAIRMAN OF COUNCIL said the position was somewhat difficult. The State Sickness Insurance Committee held that where tuberculosis cases were received into a general hospital they should be kept apart, and that the members of the staff who treated them should be paid in the same way as if they were treated outside, because they were not charity cases. The difficulty had been accentuated by the Commissioners' action with regard to the treatment of surgical tuberculosis. The medical officer for the county of Somerset recently suggested that surgical cases should be treated by the hospitals in the same way as they had been before. The position of the Association with regard to this question required careful consideration.

Mr. MCADAM ECCLES (Marylebone) wished to approach this subject, as he had others, from the point of view of medical education. An attempt to denude the hospitals of all tuberculosis cases, both medical and surgical, had to be faced; the instruction of students was necessarily affected. At St. Bartholomew's Hospital the propriety of allotting special beds for these cases, and separating the expense from that of the rest of the hospital, had been considered, but the lay authorities had come to the conclusion that it was almost impossible to introduce a precedent of that kind, because it might come to be adopted in time for every type of disease, which would introduce too much complication into the administration. He wanted to be fully informed as to the definite desire of the profession at large. Hospital staffs had been waiting for six months, and hoped that the Representative Meeting would now come to some definite conclusion as to what the profession desired.

Mr. RUSSELL COOMBE (Exeter) said the greater number of the cases of surgical tuberculosis would be children who were not insured persons, so that Mr. McAdam Eccles would find there was a large number of cases to whom the county councils had not extended tuberculosis treatment. Tuberculosis officers were men appointed to sanatoriums with a residence and a salary, but as soon as a gland had to be excised or a joint injected it appeared to be thought that it must go to the hospital. He regarded it as of the utmost importance that surgical tuberculosis should be properly provided for. It was the duty of all medical men to impress on county authorities that tuberculosis was not only medical but surgical, and that proper provision should be made for surgical attendance. He wished to emphasize the importance of not moving joint cases, and that arrangements should be made to treat them locally. It was important also that these cases should not be treated along with lung cases. All cases of tuberculosis in dependants should be paid for, and this could be done without unduly diminishing teaching facilities.

Dr. W. MARTIN (Cardiff) agreed that surgical cases ought to be paid for. In reply to Mr. McAdam Eccles he would say, What was to prevent the London tuberculosis authorities getting all the cases into one large hospital, and letting the students receive their teaching there in the same way as they did in infectious cases? In Wales the National Association treated tuberculous cases, whether surgical or medical, insured or uninsured. In South Wales a surgeon had accepted the position of honorary surgeon, and the executive of the Cardiff Division thought this was a great hardship, and that he ought to be paid for the work he did. He would like the opinion of the Representative Meeting on this.

Mr. EVAN JONES (City of London) hoped the meeting would keep to the minute as it stood. There was no probability of the London County Council for some years to come making arrangements for dealing with tuberculosis in the whole of London. Therefore in the immediate future the only people dealt with would be insured persons. He agreed that the teaching hospitals should have plenty of cases. The minute was not directed to stopping the hospitals getting a sufficient number of cases, but to stop the movement that was going on in London and other places to open tuberculosis dispensaries in connexion with the hospitals. Negotiations were going on to attach a tuberculosis dispensary to each of the teaching hospitals and to the chest hospitals. The object of the minute was to retain the treatment of tuberculosis in the hands of the general practitioner.

The motion was carried.

On the proposition of Mr. MCADAM ECCLES, seconded by Dr. PICTON, it was decided to send a copy of the minute to the various hospitals in London and the provinces.

LOCAL MEDICAL AND INSURANCE COMMITTEES.

DEPUTIES FOR MEDICAL MEMBERS OF INSURANCE COMMITTEES.

On the motion of the CHAIRMAN OF COUNCIL, the following recommendation of Council was approved:

That no steps be taken for the time being to obtain any amendment of the Act or Regulations allowing for the appointment of deputies for the directly elected practitioners on Insurance Committees.

CO-ORDINATION OF LOCAL MEDICAL COMMITTEES.

The CHAIRMAN OF COUNCIL moved the adoption of the following recommendation of Council:

That the Representative Body is of opinion that no system of reorganization of the Association can be effective which does not take into consideration the position of Local Medical Committees, and devise some means of co-ordinating their work with that of the Association.

He said that throughout the country Local Medical Committees were assuming a very important position. The Association desired to work in harmony with those gentlemen and to get them to work in harmony with, and to carry out the policy laid down by the British Medical Association. In order to bring this about the State Sickness Insurance Committee agreed, on the invitation of the Brighton Division, to summon a meeting of the Secretaries of the Local Medical Committees to meet in Brighton. It was hoped that great assistance would be derived from that meeting. It was absolutely essential that these bodies should be co-ordinated with the Association.

Dr. HASLIP (Westminster) said it became a question of finance, and might in the future affect the subscriptions to the Association, because men who were keen on working the Act would attend meetings of the Local Medical Committees, and there would be a tendency to drop out of the Association. In London, where there was no statutory Medical Committee, the expenses of the Provisional Committee had in the past been borne by the Association, but it could not be expected that this would continue.

The CHAIRMAN OF COUNCIL said that if the Association could finance these bodies it would have some hold over them, but to do this would involve a large expenditure.

The motion was agreed to.

MODEL RULES.

Resolutions were adopted approving of model regulations for the constitution of Local Medical Committees and model rules for their procedure in considering complaints.

SUGGESTED TRADE UNION.

Discussion on this question arose on the Special Report on the position of the Association as regards extension of its powers (SUPPLEMENT, July 5th, p. 15), which included a statement of counsel's opinion on the subject; and on the following minute of the last Annual Representative Meeting:

That the consideration of this subject be postponed to the next Annual Representative Meeting.

The CHAIRMAN OF THE ORGANIZATION COMMITTEE (Mr. Larkin), in proposing the reception of the report, said that to clear up all misapprehension he would mention that the Solicitor had advised that it was quite impossible to turn the Association into a trade union.

Dr. WALLACE HENRY (Leicester and Rutland) moved:

That it be an instruction to the Council to consider the advisability of forming a union of medical practitioners registered under the Trade Union Acts for such of the members of the Association and other medical practitioners as might desire to join such a union, and to report to the Divisions.

He said that in no sense was the motion brought forward because his Division thought that the organization of the Association had broken down at the beginning of the year. The Division had quite realized what the Chairman of Council had said—that it was not the organization that had broken down, but that it had been the fault of the men. The question of the formation of a trade union had been considered by the Leicester Division for over a year, and in order to prove that it was possible to form a union of the profession under the Trade Union Acts, and to prove that if such a union were formed members of the profession would be ready to join it, medical men in Leicester took the step of forming a trade union of the practitioners of Leicester and Rutland; this had been registered under the Trade Union Acts, and he had the honour of being chairman of the first medical trade union in existence. The following were some of the powers it was desirable that members of the Association should have, and they were mentioned in the Report of Council: (1) benevolent provision for members and their families; (2) promotion of candidature for any British legislative assembly; (3) taking or defending legal proceedings for or on behalf of any member involved in his professional capacity; (4) sale or transference of practices or partnerships, and the undertaking of general medical agency business; and (5) execution of any trusts which the Association might deem to be conducive to the interests of the Association and profession. The existing powers were not deemed sufficient, and the Committee which had been considering the question during the past few months thought that the further powers necessary were (*a*) the provision of legal and clerical assistance to and payment of administrative expenses of Local Medical Committees; (*b*) the provision of the services of the British Medical Association in protecting the interests of medical practitioners as affected, directly or indirectly, by the National Insurance Act, not only in contract medical work but in all other forms of medical practice; (*c*) the provision of a reserve for the support of medical practitioners affected by action undertaken by the Association in pursuit of any policy adopted by it. An attempt was made some time ago to obtain a new charter which would give further powers. That attempt failed through no fault of the Council, because it had pressed for it with vigour before the Privy Council. The Committee which had been considering the question recently had four possible courses before it. The first was that the Association as it stood should take the risk and do the work, but it was realized very soon, on the advice, no doubt, of the Solicitor, that the risk was too great. At any time some one might call attention to the fact that the Association was acting in restraint of trade and transgressing Article 4 of the Memorandum of Association, and it might be possible that the Association's licence would be withdrawn and the Charity Commissioners would intervene to administer its funds. The second course put forward was to form a new company, but it had not been found politic to pursue this policy. Two remaining courses were open, either to form a trust, or form a trade union in connexion with the Association for those members who desired to join. The two latter courses had been put, through the Solicitor, to Mr. Colquhoun Dill, for his opinion, and in the letter addressed to him the suggestion was made that he had formerly advised the formation of a trust in order to administer the Central Emergency Fund, and it was also suggested that a large number of the profession were opposed to trade unionism. However, "Balaam" when he was called in did not bless the trust, but the trade union. Mr. Colquhoun Dill gave various reasons why he thought it desirable that these special funds, which it was proposed should be used, should be administered by a trade union and not a trust. In the first place he said there was considerable risk to the Association if the members of the Council tried to conduct it as a trust.

because the various things which were aimed at were so closely bound up with the Association that it would be almost impossible to keep the accounts distinct. Further, there were, in counsel's opinion, still more serious objections to the course proposed. Certain of the objects, although not expressed in precise terms, appeared to him to contemplate the regulation by the Association of the terms upon which medical practitioners were to carry on their practices. The Committee had understood so well Mr. Colquhoun Dill's fears that action might lie against officials if a trust and not a trade union were established, that in a paragraph of the report it said, "It would appear that probably the only plan which would make such a fund for such purpose quite safe would be its registration as a trade union." Again, in Section 12 there appeared the statement that if it was desired to bind members of the profession by direct bonds of pecuniary interest, it would be necessary to register as a trade union. The Committee also pointed out that "such risks as attach to the adoption of the trust method would be enhanced as the trust increased its activities and its success drew public attention to its operations." The question of regulation of practice must be considered. In many parts of the country it was desired to restrain men in the way they conducted their practices, and the only possible method was by means of a trade union. The last point, in Mr. Colquhoun Dill's opinion, was, "If it is the desire of the Association to adopt a policy involving the regulation of the mode in which medical men are to conduct their practices, the best course appears to me to form a separate society and register it as a trade union." The advantages of a trade union were that the trust funds were protected; that full powers were obtained to carry on in various ways the powers it was desired to exercise, and there was a greater amount of protection (he would not argue the question whether full protection was obtained) for the officials, even if working without protection of the Trades Union Act. Turning to the objections, the first was that of sentiment. It was interesting to know that in a Charter granted by King William III to medical men in certain parts of Ireland to form the Guild of St. Luke, there was a provision permitting it to regulate the rates and charges in the area in which the Guild was. Therefore this was not a new thing. It was said that men would not join. That had been tested in Leicester, where out of 230 practitioners (some retired) on the *Medical Register* 202 had joined the local union. Practically the whole of the general practitioners in Leicestershire and Rutland had laid aside their objection and realized the advantages of joining a union, which went to prove that with a similar union started on a larger scale men would not be so opposed to the idea as might at first be thought. As to the effect upon people at large, it was said at first that it would create a feeling of hostility on the part of the public. What had happened at Leicester was that the day after the announcement of the union the local papers published congratulatory leading articles on the doctors' action, and said the right thing had been done. In support of the view that there would be no hold upon the members of the union, it had been said that the medical profession would not resort to intimidation. But when the Association desired a man to do something it (in effect) intimidated him, and said he would be turned out of the Association or black listed if he did not obey. Was that not intimidation? As regards financial loss, it was said that they could not hold their members. In Leicestershire, if a man were a member of the Public Medical Service and broke the rules of the union, he was turned out of the union and turned off the staff, and would lose £150 to £300 a year. No member of the union would face that. It was said that the union's policy could not be carried out without striking, and no medical man would strike. But a strike against the Insurance Act had been advocated in the Representative Meeting. In Leicester the profession had struck against all contract practice under lay control and all insurance service not carried on under the control of the medical profession, and the strike was successful. It was said that a union would be a rival to the Association. He would point out that it would be a far greater rival if it were not organized by the Association, or with its help and sympathy. Dr. Wallace Henry instanced what happened in Germany, where, when the Insurance Act was passed, the only association of medical men was a scientific one, which did not give the necessary help and assistance. An organization was formed on trade union lines, and in two years it had grown to such great power that the old scientific body, recognizing its influence, conferred with it, and the two bodies were now working together in harmony. In conclusion, he urged that the Council should encourage the formation of a trade union. If it did not the Divisions would consider the question, and would, he believed, recognize that the trade union course was the best. He firmly believed that the course he urged was likely to be of the greatest benefit to the medical profession, especially in the large Midland towns, because it would raise the standard of professional service, and if that were done then the work would be better and the profession would be better off from a scientific point of view.

Dr. T. LAFFAN (Carlow, etc.) seconded the motion. The organization of the profession had recently been put to a severe test and had failed. They should unite to convert themselves into the one agency that would enable them to succeed.

Dr. HASLIP, on a point of order, observed that the wording of the motion was "That it be an instruction to the Council to consider the desirability;" whereas it had been held that the Council had no power to do anything in the matter.

Mr. LARKIN said the Council had already considered the matter, and had presented a full report.

Dr. C. G. MEADE (York) supported the motion. He held that no useful purpose would be served by letting matters stand over for a year. They could still be members of the British Medical Association while becoming associated with a trade union. It was worth while to try anything that would bring about unity, if only up to a certain point. Every motion brought forward at present simply meant loss of prestige, because the Association was not able to enforce it. If a trade union were formed penalties could be imposed and a black list established, as in Australia. The profession wanted a fighting force, and could only get that by forming a trade union.

The CHAIRMAN OF COUNCIL said Dr. Wallace Henry had drawn a very rosy picture of what would happen when the profession formed a trade union, but for a trade union to be effective the profession must have a policy on which it was agreed. Had it one at present? In order to enforce that policy there must be unity. That they had not now; would it be obtained by means of a trade union? What more power was there in a trade union? It all depended on the individual's power to combine and his determination to act up to what he said he would stand by. There was no more power in a trade union than in the British Medical Association, unless they accepted the power of the brickbat. The real truth of the matter was, if medical men had a policy on which they were agreed, if they were honourable men who would stand by what they said, no such thing as a trade union was needed to enforce that policy. Medical men had the British Government at their feet in December last if they had stood by their words. If they had even kept their mouths shut until December 30th they would have had the Government at their feet. If the profession had no more determination than it showed last December, what was the good of a trade union? In addressing them as "gentlemen" he used the strongest argument he could adopt. They were by law gentlemen, and they made a promise to the Association that they were going to stand by what they said they would do. Was there anything in a trade union that would make their resolutions any stronger? He considered the proposal was not doing an honour to the profession. It was more honourable and more worthy of the dignity of the profession to carry out the regulations and promises already made. He did not know whether his appeal would have any effect, but he was very jealous of the honour of the profession, and he did not think it would add to the honour of the profession to use such powers as a trade union would give them. (Applause.)

Dr. EVAN JONES (City) said the only argument brought forward against the formation of a trade union, with the exception of the sentimental argument mentioned by Dr. Macdonald, was that a trade union must at some time become a rival to the British Medical

Association. It had been asked, What could a trade union do that the British Medical Association could not do? No greater argument for a trade union was ever printed than the Report of the Council. While supporting the motion, he wished to make a variation in the form of the wording, and would suggest that it should run :

> That in the opinion of this meeting it is desirable that a union of medical practitioners registered under the Trade Union Acts should be formed for such members of the medical profession as may desire to join such a union.

The Chairman ruled that this amendment would require a two-thirds majority.

Dr. Gordon Ward (Chelsea) seconded the amendment. He wanted the meeting to give an expression of its opinion without embarrassing its executive on the subject of trade unionism. A trade union had been formed, but had nothing to do with the Association, although by chance it had on its council some members of the Council of the Association and several of the Representatives. There were two reasons why such action had been taken. He considered that the profession had been misled by the report on the subject of trade unions, because those who drew up the report and the counsel advising them knew that the fund proposed for the Association was not safe unless brought under the Trade Union Acts. That raised the question of policy. Dr. Macdonald had asked whether the trade union had any policy. Its policy was the defence of all its members, and that involved the need for a fund which could be used as necessity arose; not a hampered fund, such as a trust fund. A trade union would protect members both on and off the panel; it would not wait while medical aid institutions were set up, but it would dictate to those who proposed to form them. The Association had never had the courage to expel some of its worst members, but a trade union would expel all those who worked contrary to it. The advantages of a trade union were that the funds could safely be used as might be required, and a member of Parliament pledged to the interests of the trade union could be supported; this the Association could not do.

Dr. Haslip (Westminster) said that his Division had given him a strong mandate against trade unionism, but at the same time he came prepared to listen to any practical arguments in favour. Dr. Wallace Henry had not given one practical argument in favour of trade unions. He drew a pretty picture, but everything he had said could be done under trade unionism could be done under a strong organization. The British Medical Association had been the envy for years of all trade unionists. Any working man would tell them that the medical profession and the Bar were absolutely unique unions. Dr. Wallace Henry had been carried away by his own local knowledge. He had formed first of all a Public Medical Service and then a trade union to keep the members of the service united. Nothing had been said about levies and fines, nor about the strong arm of trade unions—namely, a strike. Could the medical profession strike? A man working with mechanical appliances, if not satisfied, could throw down his tools and walk out. The medical profession could not do that; therefore it was no use talking about trade unionism. Union could be secured without trade union. It was said that the funds of a trade union could not be touched, but as to this Dr. Haslip referred to the doubtful state of the law shown by recent cases. An important question in trade unionism was the number of men that could be enrolled. If they numbered 25,000 out of 30,000 the trade union could do as it wanted, but if it consisted of only 5,000 or 10,000 it would be absolutely useless. He prophesied that a medical trade union would not enrol 5,000 men in England. Some of his friends in London were very enthusiastic about it, but he did not believe a thousand men would be secured in London. The only men that would join would be those who had already broken the personal pledge they had given. If a union outside the Association came to a different decision to that of the Association the result would be chaos. Fidelity could not be obtained by a trade union, registered or not. Fidelity could not be bought, but infidelity could. The profession had lowered itself quite enough; let it now try to raise its dignity. If medical men remained gentlemen, and, instead of becoming trade unionists, simply became unionists, all that was needed would be secured.

Mr. Tredinnick (Shropshire) said that only a small proportion of his Division had any sympathy with the trade union suggestion. If the profession accepted the principle of trade unionism it would place itself in the position of a working man who was cursed by the evil of majorities. Doctors could not strike, and if they accepted the principles of trade unionism the honour of the profession would be lost. In saying that he was voicing the opinion of the large majority of the Division he represented.

Mr. Willock (Croydon) said he did not believe in fighting with bows and arrows if machine guns were the proper weapons to use, but before adopting new machines it was necessary to be sure that they would carry out all the work they were wanted for. After trying to elicit the secret of the labour leaders' success in their trade unionism, he had come to the conclusion that intimidation was the basis of success. It had been said that the Association had used intimidation, but if so it was of a very mild kind.

Dr. S. Gillies (New South Wales) said several members had expressed a wish to know how affairs were managed in New South Wales, where, medical men flattered themselves, they were a fairly strong union in everything but name. The general rules were the same as those in this country, and the organization was a part of the British Medical Association; but there was a regulation to the effect that any member of the Association who held a lodge or other appointments which in the opinion of the Association were inimical to the interests of the Association should be ineligible for membership; that his name should be placed on a list; that he should not be met in consultation by any member of the Association during such time as he held the appointment or for five years after he ceased to hold it. In the event of any member of the Association meeting him in consultation during that period that member was liable to be expelled. This regulation was adopted because it was realized that a man could defy the rules of the Association so long as he could get a consultant to meet him. When a lodge offered rates that the Association considered inadequate the Council decided that the lodge was inimical to the interests of the profession. Dr. Gillies gave an instance of the success of this policy. Another measure taken by the Association was to send out every quarter a confidential document containing the names of the members who would not be met in consultation. When severe difficulties arose a doctors' lodge was inaugurated and the allegiance of every medical man was obtained.

The Solicitor, in reply to Dr. Wallace Henry, who asked as to the legality of a black list in England, said that members of a society were entitled to pass condemnation upon offending members, and to resolve amongst themselves not to meet offending members, but there was a danger in putting the names down upon a black list because knowledge of the fact was sure to leak out.

Mr. Turner (Kensington) said he proposed to vote for the motion on two grounds: first, because it was logical that those who fought during the fight on trade union grounds should not be afraid of calling themselves what they were and taking whatever advantages they could get from the fact of what they were; and, secondly, because he considered it so essential that the profession should have representation in Parliament.

Dr. Mary Bell (Norwich) opposed the formation of a trade union. She said the conditions in Norwich were somewhat similar to those in Leicester. Norwich was the first to start a Public Medical Service, and had found no need so far for a trade union, for the simple reason that all the members were also members of the British Medical Association. An institute in Leicester was mentioned as a difficulty. Norwich, too, had an institute with three whole-time medical officers who were not recognized. They, however, snapped their fingers at the Association, and the institute was growing, especially since the National Insurance Act, because people could get cheaper terms, especially for their juvenile clubs. The Norwich workman was much too independent to care whether the doctor was on a black list or not; he would have the doctor he chose, and probably the cheapest. The Norwich Division wanted the question referred back for further discussion by the Divisions, in view of the short time which had elapsed since the report was published.

Dr. MACNAMARA (Lewisham and Woolwich) remarked that it was in consequence of his motion at Liverpool that the question of trade unionism was postponed. Now a trade union had been formed, and the only question was whether it should be under the aegis of the British Medical Association or not. Whatever the Association did would not prevent those who had joined from carrying on their propaganda. On the question of the safety of the funds the Council had reported that it had been legally advised that the funds would only be safe if the Association were registered as a trade union. He would ask the meeting to forget sentimentality and vote for trade unionism.

Mr. LARKIN felt that most of those who talked about changing the organization did so because they blamed the organization for their own faults. He was convinced that trade unionism offered the profession nothing more than the Association offered. Was the Association prepared to adopt trade union methods? If not, trade unionism would be of no use. Would the Association adopt the trade union argument—the "peaceful picketing," with all its modifications? He did not think so. Was the profession to adopt the weapon of the strike? He did not believe one in a hundred medical men would do that. Unless medical men would trust one another they would never do any good, and the particular label they worked under would not help them in the least. He very much doubted the value of the argument with regard to the protection of the funds. Whilst the law protected trade union funds it did not protect the officials. That was all very well with ordinary trade union officials, who were men of straw, but it was a different thing when it came to the elected officials of the British Medical Association. Furthermore, he did not believe medical men would contribute to a medical trade union the same proportionate amount that workmen contributed from their wages to their trade unions.

Dr. WALLACE HENRY (Leicester and Rutland), replying on the debate, said that as regards the question of strike it was perfectly true medical men would not refuse to see patients as individuals, but if it were necessary to strike would refuse to see them as members of an organization. Contract practice had been struck against, and medical men had refused to attend people sent by the friendly societies, but had seen them as private individuals, and the friendly societies gave way. With regard to the argument that nothing more should be required than the pledged word of members, whilst that was true, yet the union was necessary in order to force those who were not gentlemen to keep their word. As to the funds, it was perfectly true that the question whether the officials were protected was a doubtful one. It was a question which had never been decided, and there were only a few observations on the part of the judges, such as Mr. Justice Darling, who was opposed to trade unionism, to suggest that officials were liable; but protection for officials was a matter that could easily be arranged. With regard to hospital staffs refusing to meet practitioners, they refused to meet any member of the profession who charged anything below the rates laid down by the medical service. As to trade union sentiment, in Leicester a strong appeal had been made to trade union sentiment, and he believed in all towns where trade unionism was prevalent medical men would find great assistance in being able to say, "We, too, are unionists." In conclusion, he based his whole case upon the report issued by the Council of the Association, and upon the opinion obtained through their solicitor.

A card vote being demanded and twenty members rising in their places, this method of voting was adopted, with the following result:

For the amendment ... 5,259 votes— 53 Representatives
Against the amendment 11,408 votes—107 Representatives
Two Representatives present did not vote.

After the declaration of the result of this vote, at 6.40 p.m., the meeting adjourned until the following day.

Tuesday, July 22nd.

The proceedings of the Representative Meeting were continued on Tuesday, July 22nd, at 9.30 a.m. Mr. T. JENNER VERRALL (Chairman of Representative Meetings) presided. The minutes were corrected and confirmed.

The CHAIRMAN said he was ready, with the consent of Dr. Wallace Henry, and in view of the full debate of the previous evening, to take a vote at once on the motion:

That it be an instruction to the Council to consider the desirability of forming a union registered under the Trade Union Acts for such of the members of the Association and other medical practitioners as may desire to join such a union, and to report to the Divisions.

Dr. BUIST (Stirling) was of opinion that the issues raised by the motion and by the amendment respectively were of a different character. The question now was whether there should be an instruction to the Council to consider certain matters on which opinions had been expressed the previous day and to report to the Divisions.

The CHAIRMAN agreed that the issues were different, but thought the Representatives were now in a position to vote.

The motion was put, and, upon a show of hands, there voted 55 for and 67 against. The motion was accordingly declared lost.

CONSTITUTION OF INSURANCE ACT COMMITTEE OF THE ASSOCIATION.

The CHAIRMAN OF THE ORGANIZATION COMMITTEE moved that steps be taken to constitute an Insurance Act Committee as a standing committee of the Association. The Council felt that the Insurance Act had come to stay, and that the matter was of sufficient importance to call for the appointment of a standing committee to deal with it. If the motion were carried the Council would prepare the necessary alteration of the by-laws, which would have to be submitted to a Representative Meeting before it became effective. For the present a committee *ad hoc* would have to be formed as on previous occasions, and it would be convenient if that committee were formed of those who would be elected ultimately to form the Standing Committee.

Dr. WALLACE HENRY (Leicester and Rutland) moved an amendment:

That, in place of a standing committee to deal with the Insurance Act, a National Health Committee be appointed to deal with all questions affecting the health of the nation.

The Association already had committees dealing with contract practice, school clinics, and public health matters, and their work sometimes overlapped. It was very desirable to have one strong committee to deal with the whole question of national health, leaving particular matters to be dealt with by subcommittees.

Mr. DOMVILLE (Council) supported the amendment.

The CHAIRMAN OF COUNCIL thought the committee proposed by Dr. Wallace Henry would be so large and its meetings so frequent as to make the proposition impracticable.

Mr. TURNER (Kensington) opposed the amendment on the ground that it would involve large expenditure.

With the consent of the meeting, Dr. Wallace Henry withdrew the amendment, and the motion was carried.

The CHAIRMAN OF THE ORGANIZATION COMMITTEE moved according to notice:

That the Insurance Act Committee consist of the *ex officio* members, four members to be elected by the Council, twelve members to be elected on a territorial basis by the Representative Body, and one representative of each of the following organizations, to be elected by the Council on the nomination of these bodies respectively, such nominees to be also members of the British Medical Association:

(*a*) Association of Registered Medical Women;
(*b*) Northern Association of Registered Medical Women;
(*c*) Society of Medical Officers of Health.

Dr. OXLEY (Tower Hamlets) moved an amendment:

That at least one-fifth of the members of this Committee shall have practical experience of the working of the National Insurance Act.

He thought it would probably be agreed that a large proportion of the new Committee should be men working the Act.

Dr. TOMKINS (South-West Essex) thought it would be still more advantageous if men who were members of the Local Medical Committees were elected to the Committee.

The amendment was carried.

An amendment that at least four members of the Committee should be officers of Local Medical Committees was lost.

On the motion of Dr. Major Greenwood, it was agreed that one member of the Committee should be nominated by the Poor Law Medical Officers' Association of England and Wales.

Mr. Larkin moved that the reference to the Insurance Act Committee be as follows:

> To deal with all matters arising under the National Insurance Act that are dealt with by the National Insurance Commissioners, Insurance Committees, and Local Medical Committees; to watch the interests of the profession in relation to the National Insurance Act; and report to the Council.

The motion was agreed to.

Medical Benefit and Approved Societies.

The following letter from Mr. Handel Booth's private secretary, in reply to the resolution of the Representative Meeting upon the proposal to hand over the administration of medical benefit to approved societies, was read amid loud applause:

> Mr. Handel Booth directs me to acknowledge receipt of your circular letter of the 19th inst. hereon, and to say that he feels honourably bound to support the profession in the matter.

PROPOSED SPECIAL FUND FOR THE ORGANIZATION OF THE PROFESSION.

A protracted discussion took place on the report of the State Sickness Insurance Committee on the scheme for the establishment of a fund for the better organization of the profession (Supplement, July 5th, p. 25).

The Chairman of Council moved:

> That a fund be formed for the development of the organization and protection of the medical profession.

Investigation had shown that there were many things the Association could not do with the money arising from subscriptions of members. Various plans had been suggested. There was the suggestion to form a trade union, and there was the suggestion to establish a separate fund as a trust, which should not be part of the Association, but should be managed by trustees to some extent in connexion with the Association. The Chairman of the Subcommittee appointed to deal with the matter, Dr. Beaton, was thoroughly familiar with the question, and he would ask him to deal with that part of the agenda.

Dr. Beaton hoped there would be full discussion upon the matter, because the subject was exceedingly difficult. Important improvements might be suggested by members of the Representative Meeting, and he felt sure that if anything were to be done in the way of organization, the discussion must follow some such plan as had been laid before the members in the report, which was divided into two parts. The first dealt with the establishment of a fund for the better organization of the medical profession, and the second contained suggestions for the provision to members of that fund of certain insurance advantages. With regard to organization, every Representative would feel that better organization was absolutely necessary. He was at one with the Chairman of the Council in saying that the breakdown in the past was the result of the failure of the men, and not of the Association. If the men were to fight, and fight well, they would fight all the better as an organized force than if they were simply a mob. From all parts of the country the cry had come—What was the Council doing or what was the Representative Meeting doing? and asking for a lead here or a lead there. The report before the meeting was a lead. Of course, money would be wanted. He was inclined to think part of the failure in the last fight was because there was not a big fighting fund behind the Association. There were 32,000 members of the profession in the United Kingdom, and what was wanted was a subscription from each medical man of £5 every year. Subscriptions would be asked from men outside the Association, because it was felt that, if the Association fought and won, men outside the Association would share in the benefit. As it could not be assumed that every one of the 32,000 would come into the Association, calculations had been made on a basis of 10,000 medical men subscribing, which would give an income of £50,000 a year. It was proposed to expend the fund in grants towards Local Medical Committees, whose expenses were estimated at £100 each; that would absorb £24,000. Legal expenses would be heavy, and £1,000 had been allocated to that. An important point was to have organizing secretaries in England, Ireland, Scotland, and Wales, paying them, say, £600 a year each, and allowing travelling expenses. Their duty would be to go into the country, to every isolated place, and get into contact with individual practitioners and with the secretaries of the different organizations, and so unite the medical profession throughout the whole country. In connexion with that a modified home rule was suggested. In Edinburgh, Dublin, and Cardiff, an office should be appointed in which the work should be done for the particular country, having the Imperial Parliament of the Strand in control. It was felt, too, that there should be a department in the Central Office for insurance work alone. There was already an Editorial Department, a Business Department and a Medical Secretary's Department, and another department was wanted which would do nothing else but work connected with the Insurance Act. At the present time the officers in the Central Office were overworked, and, though they did their work exceedingly well, yet the new department would make for the work being done in the very best way. Then it was felt that the Representatives who attended the meeting should not be out of pocket, and it was suggested that out-of-pocket expenses should be paid; that for every day a Representative was away from home he should receive 30s. The whole cost would come roughly to £37,000, leaving a balance of £13,000 per annum for a fighting fund. Those were the main lines of the organization scheme, and it supplied, at any rate, a basis for discussion. Although it might look meagre on paper, yet it was the result of a lot of hard work by the members of the Subcommittee, who had interviewed many medical men and obtained much information on the subject. Turning to the proposals as to individual insurance, he said that whilst no man would be asked to leave any society to which he already belonged, the scheme suggested that every man should be a member of a medical protection society, of which there were three in the kingdom. It was suggested that every man who had not already joined a protection society should join through the British Medical Association, which would arrange the matter for 17s. 6d. without entrance fee, and for that sum the defence organization would take up any case, and if the medical man were unsuccessful, would pay damages up to £2,000. With regard to sickness and accident, every medical man would be advised to join a sickness and accident society through the British Medical Association. He would be given the best possible terms and a contract which would last for the whole of his life. That was an improvement upon the ordinary insurance contract which only lasted for a year; under such contracts, if a man were unfortunate for a year or two, he was not accepted again. Medical men would be able to join for a sum varying with age; that subscription would bring in four guineas a week for the first twenty-six weeks of the illness, and two guineas a week after that. Then every medical man would be advised also to insure his life by an endowment assurance policy, in which case, if he lived till 65, he would get practically £500, or if he died before, his relatives would get the same sum. At 65 he would get £500 or alternatively £50 a year as long as he lived. The Committee advised the members to take their courage in their hands and go on. An efficient organization required funds, and if the money was not raised by the suggested means it would have to be raised in some other way, because in the present state the Association could not help the members out of the subscription of 25s. a year. He commended the scheme to the reasonable consideration of the Representatives, and sincerely hoped they would endorse it.

Dr. Lawson (Aberdeen) was sure that no one who had carefully read the Report of the Council could be otherwise than impressed with the tremendous amount of work put into it. He yielded to no one in his admiration of the work or the merits of the scheme, but having said so much, he would proceed to criticize the scheme. He assailed the principle underlying it—namely, that the method of raising the money was to be by voluntary effort on the part of the members. Regarded in that light the scheme was fantastic. Every effort to raise money in past years on a voluntary basis had been a dismal failure, and in justification of this he would only refer to the

unsuccessful efforts to raise money during the Insurance Act campaign. It would not be right to embark on a large scheme of this nature in the faint hope that men would come forward and support it. He had inquired and been told that even if the Association had the money it was not in its power legally to pay the Representatives anything more than travelling expenses. Dr. Lawson also raised the point that many men were already insured. He was adverse to the scheme on the broad lines that it was absolutely impracticable; the money would not be forthcoming.

Dr. C. COURTENAY LORD (Rochester, Chatham, and Gillingham) hoped the scheme would not be thrown out without careful consideration. Members must constitute themselves evangelists, and go into the wilderness and preach the doctrine. The great cause of the failure of the profession in the past was want of co-ordination and want of knowledge of what was going on in other districts. If there were organizing secretaries going about a very much better idea of the state of feeling in the country would be obtained. Hundreds of pounds were being poured out on meetings that were absolutely futile. If it could be seen that a tangible result would be obtained for the money it was worth while spending it. Had any man during the campaign denied himself a single luxury in order to contribute to the fund? Had any members (except, of course, the Council and Committees) gone without a meal or even given up smoking? The men belonging to the trade unions were ready to back their principles to the point of starvation. An annual subscription of £5 would not hurt many members of the medical profession. He begged the meeting to pass the general principles of the scheme, go back to the Divisions, seriously consider it, and organize in such a way that the scheme could be put before the members who did not come to those meetings. There was wide dissatisfaction in the outlying districts because the men did not get in touch with what was going on, and thought that nothing was being done for them.

Dr. BRADBROOK (Buckingham) said there had been no time to call the Divisions together to discuss the scheme, consequently the missionary effort referred to would certainly be required. In his Division the secretary had sent out a postcard to every member, and as an illustration of the fact that even a postcard referendum would not be taken notice of, out of 70 postcards sent out less than half had been returned. Two questions were put, the first being, Did the member think that 10,000 of the profession would be willing to subscribe £5 a year for the purposes specified? Of the answers received, 25 gave an unqualified "No," 7 only gave a qualified "Yes." The next question was, "Will you yourself be willing to join?" Eighteen gave an unqualified "No," 6 only gave a qualified "Yes." All this showed that the scheme had not been fully considered. A definite decision could not be arrived at until it had been again debated by the Divisions.

Mr. MONTGOMERY-SMITH (Marylebone) said the scheme had evidently been drawn up by a committee with no experience as company directors. It was practically an intimation to one portion only of the Association to put their money up to fight their troubles. In the Division of Marylebone there were over 3,000 members, and he was sure not one-third would come in. The Government had not given the profession its minimum demands, and he did not think the profession should be asked to give up £24,000 to make the Act workable. He quite agreed that organizing secretaries should be appointed. The whole work of the Association had been too much centralized. When the work was in the hands of a few people, it was only right to expect that the building where the work was being done should be open day and night in a time of crisis. It was a matter of surprise to him that the whole of the Association offices were shut up during Christmas week, when the approved societies and the members of Parliament were working day and night to smash them. There must be organizing secretaries, telling the men in the various Branches and Divisions what was being done. The keynote was unity. He deprecated the payment of the expenses of members attending the Representative Meeting out of the official funds of the Association, but recommended the raising of the money in the Divisions.

Dr. HEGGS (Canterbury) wished to raise three points: (1) The necessity, (2) the practicability, (3) the equity of the scheme. As regards the first point, in the opinion of his Division lack of cohesion in January last was due to over-centralization in the Association; there was no Branch organization; the Branch Councils were useless because they were not used. To ask a busy practitioner to do the efficient organization work of a Branch was not feasible. More financial assistance was required than had been available in the past, and his Division suggested the payment of part-time officers as Secretaries of Branches. He contended that it was not practicable to ask men voluntarily to give £5 towards this work. It meant asking the few who had paid before to pay again; he did not consider it equitable to expect a small section to pay for the work necessary for the benefit of the whole. He had hoped that an increase in the annual subscription would have been one of the recommendations of the Council.

The CHAIRMAN OF COUNCIL desired to correct one or two misapprehensions. The proposal was to pay the expenses of Representatives not out of the common fund of the Association but out of a special fund. It did not propose to combine insurance and organization in the subscription of £5. That subscription was purely for organization purposes. If any man wanted to take up the insurance part of the scheme the payment in respect of that would be entirely different, but no man would be permitted to take part in the insurance scheme who had not already taken part in the organization scheme. Raising the subscription would not effect the purpose under consideration, because the Association was limited by its Articles, and could only use the funds of the Association for certain purposes. His Division did not ask the Representative Meeting to come to a decision now, because the Divisions had not had sufficient time to deal with it. He welcomed the keenest criticism, but courted constructive rather than destructive criticism.

Dr. MILBURN (East York) pointed out that the meeting was assuming that all medical defence societies would accept every name that was put forward. The greatest care was exercised in accepting members of the Medical Defence Union. It would be necessary to introduce safeguards to ensure that the principle of defence by insurance should not be severely damaged. He endorsed the view that it would be a mistake if the payment of members' expenses were met from a central fund. If these charges were met by the Divisions it would stimulate interest in the Representatives' doings at the Representative Meeting.

Mr. TODD (Sunderland) thought the scheme brought forward by Dr. Beaton was too comprehensive. It was admitted on all hands that the Association urgently required a fund such as that suggested. In his opinion the wisest plan would be first of all to increase the subscription, and, secondly, to ask all men on the panel to be prepared to allow one farthing a quarter for each insured person on their list. This, in his opinion, should be done through the Branches, because it was only through personal influence that anything of the kind could be carried out. Such a scheme had been received favourably in many Divisions. He was surprised to hear the staff adversely criticized; such criticism, he thought, should be resented by the Representative Meeting.

The SOLICITOR, in answer to a question, explained that the proposed fund would not be mixed up in any way with the moneys of the Association. The necessity for the fund arose from the inability to expend the moneys of the Association on objects to which the fund was to be directed. Speaking generally, he saw nothing in the objects for which the fund would be raised which would imperil the funds of the Association if the scheme were administered in the manner proposed. As to the existence of any peril to the fund itself, the point was really answered in the published opinion of counsel. As to the suggestion that the use of the fund might be stopped on the ground that it was in restraint of trade, such an action would be very unlikely to succeed.

Dr. FOTHERGILL (Brighton) said that if the outcry against the organization last December were genuine he failed to see how any one could say there should not be a fund like that suggested. The head office was undoubtedly overworked, and money must be provided to increase its efficiency. Organizing secretaries were necessary in various districts in the country where secretaries and honorary officials could not do all the work. There was

no proper link between the head office and the Divisions in the way of organization. There must be money provided to pay the organizing secretaries, to meet the expenses of the Local Medical Committees, and others engaged in the work of organization. It was incredible that medical men would not find 2s. a week, which was all that was asked. If they would not do that, then their outcry against the National Insurance Act was false.

Dr. Buttar, for the moment, opposed the suggestion on the ground that it was necessary first to create a business organization, without which anything in the nature of what was proposed would be a failure. He criticized the lack of business aptitude shown in connexion with the Guarantee Fund, and was confident that economies could be effected by the Council in the administration of the Association's affairs without impairing efficiency.

Dr. Gordon Ward (Chelsea) said that as Representatives had been asked not to make destructive criticisms, the only criticism he would offer would be that those objects which were dangerous should be removed from the scheme. Dr. Beaton had said that it was necessary to face the risks. This showed that lack of business instinct they had been suffering from all along. He did not see how they could ask people to put money into a fund that was as good as lost beforehand.

Dr. Sellers (Preston) was struck by the fact that the individual practitioner in the country had no idea of what was being done for him. If the fund was to succeed the Association must concentrate on missionary work. He had made it his business to ask some of his fellow Representatives how many men had attended the Divisional meetings and given them instructions, and found that not more than 5 per cent. attended. In face of this indifference, no good could be done until the individual practitioner was reached, and time, money, and patience must be expended in getting at him.

After some discussion as to the course of procedure,

The Chairman of Council put his amendment in the following form:

That no decisive action be taken by the Representative Body till the scheme has again been submitted to the Divisions and sufficient time given for consideration, and that a Special Representative Meeting be called to consider the matter.

Dr. Beaton (Council) said there was a distinct difference between the Insurance Fund and the Special Fund; the latter would be put into the hands of the Council as trustees. The aim in view would not be achieved unless a distinct missionary effort were made throughout the country to bring the members into line. If the scheme went to the Divisions with the blessing of the meeting, it would come up again and be carried at a Special Representative Meeting.

The amendment was carried, and subsequently passed as a substantive motion.

Future Policy of the Association as regards Extension of the Insurance Act.

On the motion of the Chairman of Council, the following Recommendations of Council were adopted:

(*a*) That in view of the fact that it is exceedingly likely that the scope of the National Health Insurance Act will be so extended as to include in its operations various additional matters (for example, the treatment of children and dependants of insured, dental treatment, hospital treatment, alterations in the method of dealing with deposit contributors and casual labourers), it is desirable that the Association should be ready with its policy as to what a National Health Insurance Act should be, not merely from the point of view of the interests of the profession but also from that of public health and the advancement of medical science.

(*b*) That the preparation of a full report upon the above lines be referred to the . . . Committee; that such report be issued to the Divisions for their consideration and comment; and that the report, together with a statement of the views of the Divisions thereon be submitted, if possible, to the next Representative Meeting, and that the Council be given power to act for the Representative Body should an emergency arise in the meantime.

Certificates for Purposes of Sick Benefit.

Mr. H. S. Hall (Leigh and Wigan) moved:

That the nature of illness be not inserted on any certificate issued for the purpose of sickness benefit under the Insurance Act.

His Division considered that to state the nature of the illness would be a gross breach of professional secrecy, an injustice to the patient, and give the large insurance societies the opportunity of using certificates for their own financial advantage.

The Chairman remarked that when the State Sickness Insurance Committee discussed this matter with the Commissioners the latter pointed out that if the nature of the disease were stated at the request of the patient in order that the patient should get certain benefits he desired, he being willing that his society should require the information in order to enable him to get those benefits, then the profession was protected. The amendment meant that practitioners should be urged to resist any agreement which contained a demand upon them to fill into a certificate the nature of the illness.

The amendment was carried.

Mr. Bishop Harman (Marylebone) moved the following amendment:

That every effort be made to secure that medical practitioners required to sign medical certificates in conformity with the requirements of any Act of Parliament or other public authority be rendered immune from any pecuniary consequences flowing therefrom.

He remarked that this proposal did not relate only to insurance matters. Certificates were greatly increasing in number in all branches of medical work. Notification had put a large responsibility upon the medical profession, because it was now required to certify diseases which might carry with them a moral stigma. Doctors could only do their best; they were not superhuman. It should be indicated on certificates that medical men would use their best endeavours, but would take no responsibility for omissions or inaccuracies arising from the use of the certificate. In sickness doctors were protected by giving the certificate to the patient, and he took the responsibility, but in the case of notification certificates were given directly to the public authority.

The Chairman of Council said he did not object to the principle, but doubted whether a saving clause as suggested by Mr. Bishop Harman would afford protection.

Medical Secretary's Appointment to Advisory Committee.

On the report of Council that Dr. Cox, as an official of the Association, had been nominated and appointed to the Joint Advisory Committee (Supplement, July 5th, p. 8),

Dr. Stevens (Edinburgh and Leith) on behalf of his Division moved a protest against the appointment. He explained that the Division felt that, as the Association still regarded the terms of service under the Act as derogatory to the profession, it was inconsistent for the Association to take any part in the working of the administration of the Act. He was willing, however, to withdraw the amendment.

The meeting refused permission for the amendment to be withdrawn, and without further debate the proposal was negatived, and the paragraph of the report approved.

Conference of Representatives of Local Insurance Committees.

On the paragraph of the report of the Council dealing with the conference of representatives of Local Medical Committees (Supplement, July 5th, p. 9),

Dr. Stevens moved that this action be approved only if equal facilities were granted for a conference of non-panel practitioners.

Dr. Haslip thought the proposal was more important than was apparent at first sight. Two towns—Edinburgh and London—had no statutory Local Medical Committee and were threatened with statutory Medical Committees formed entirely of men working the Act. Consequently it was reasonable to suggest that non-panel men should have an opportunity of looking after their own interests.

Mr. Todd asked whether either of the two towns had approached the Council to have a conference.

Dr. Haslip replied that at present there was a deadlock.

The amendment was lost.

Diseases due to Misconduct.

Mr. C. S. Young (Dundee) moved:

That on medical grounds it is desirable that sickness and disablement benefit should not be suspended in cases of disease supposed to be caused by personal misconduct.

It was explained that this rider was intended to give immediate effect to the resolution already passed, and it was thereupon agreed to.

VEXATIOUS AND FRIVOLOUS COMPLAINTS.

Dr. ROBERTSON (Glasgow) moved the following:

That in order to prevent vexatious and frivolous actions, the Association should press upon the Government the desirability of providing in the amending Act that insurance service practitioners should be protected against the necessity of defending actions in the law courts for damages for failure to give service, unless the Local Insurance Committee or the Insurance Commissioners have first considered the complaint, and have decided that the complainant has reasonable grounds to proceed.

The CHAIRMAN mentioned that not only had it been decided not to undertake any more proposed amendments to the Act, but the Solicitor said that in the proposed form the rider was against the common law.

Dr. ROBERTSON said the whole matter arose out of a case in Glasgow in which the Sheriff decided quite definitely that the panel patient had a right to sue the doctor. This would give rise, it was thought, to many frivolous actions. If the proposal were illegal he would withdraw it.

The SOLICITOR said the object of the rider was to protect the profession against the necessity of defending actions. He was treating the matter in no sense of levity when he said that if men did not defend actions they let them go by default, and would have to submit to judgement for want of defence. The Sheriff to whom Dr. Robertson had referred seemed to have gone hopelessly wrong. The law was such that if circumstances justified an action being brought it might be brought, and those attacked had to defend themselves. No resolution of the kind proposed would afford protection.

The motion was withdrawn.

INSURED MEMBERS OF POOR LAW STAFFS.

Dr. MAJOR GREENWOOD (City) moved:

That this meeting strongly condemns any arrangement made by indoor Poor Law medical officers with boards of guardians with reference to insured members of their staffs, whereby the whole or a portion of the fees paid to the said medical officers by the Insurance Committee is handed over to the treasurer of the guardians; that it is the opinion of the meeting that any Poor Law medical officer who accepts such a condition is acting in a manner derogatory to the medical profession and against the interests of the Poor Law medical officers.

Dr. BIGGS (Wandsworth and Wimbledon) seconded the motion, which was carried.

FEES OF PRACTITIONERS CALLED IN BY MIDWIVES.

Dr. MAJOR GREENWOOD (City) moved:

That as in those cases in which a midwife requires the assistance of a medical practitioner the mother is most in need of extras, it is against the public welfare that she should be deprived of any portion of her maternity benefit, that the fee for the medical practitioner called in should be found from some other source, preferably from the Health Board as an item of expenditure in promoting the public health.

It must be clear to every one, he said, that in those cases amongst the working classes in which it was necessary to call in a medical practitioner no deduction should be made from the maternity benefit. Yet it was precisely in those cases that the mother was docked of one-half of her medical benefit by the proposals of the Insurance Commissioners. Admitting that the medical practitioner was entitled to a larger fee than 15s., in his opinion it should be paid from some other source. It might not be possible to carry out what he had suggested, but none the less he thought an expression of opinion should be given that this system was preferable to that of the Act.

Dr. FOTHERGILL (Brighton) advocated a pooling system out of which the fees payable for an emergency call should be paid; but Mr. TODD (Sunderland) observed that it was useless to deal with a matter which the proposer himself had said was only a pious opinion, and the CHAIRMAN OF COUNCIL agreed.

A motion to proceed to the next business was carried.

THE SEAMEN'S NATIONAL INSURANCE SOCIETY.

On the motion of Dr. TREASURE (Cardiff), seconded by Mr. TODD (Sunderland) it was agreed:

That the Seamen's National Insurance Society be asked to withdraw the posters containing a selected list of doctors, and to allow their members free choice of doctor in every port.

TEMPORARY RESIDENTS.

Dr. BARTON (Blackpool and Isle of Man) moved:

That this meeting advise members of the medical profession to refuse the terms laid down in Memoranda 159/I.C. and 161/I.C. for the treatment of temporary residents.

He said the motion was really only carrying out the lead given by the State Sickness Insurance Committee two months previously, when it wrote to Secretaries of all the Medical Committees, and also to the Secretaries of Divisions. He had carefully read the accounts in the JOURNAL of the opinions that had been expressed by different Medical Committees, and at different meetings, and, judging by what he had read, he thought the motion would be passed unanimously.

Dr. HAMILTON SHAW (Liverpool) seconded the motion, which was agreed to.

REFORM OF PRESENT CONSTITUTION OF ASSOCIATION.

The meeting returned to the consideration of the Report of Council on the scheme of reform of the constitution of the Association submitted by the Metropolitan Counties Branch Council.

ELECTION OF COUNCIL OF ASSOCIATION.

On that section of the report dealing with the election of Council,

Dr. BIGGS (Wandsworth and Wimbledon) moved:

That the Representative Body shall in future elect the entire Council, with the exception of Colonial Representatives.

The motion was lost.

The following motion by Mr. L. NEWTON (Cambridge and Huntingdon) was referred to the Council:

That the election of Council shall take place as heretofore, except that in the case of members elected by grouped Branches in the United Kingdom the candidates shall be the Representatives already elected by Divisions in each group of Branches, and the electors shall be the whole body of members of the Association in each group.

REMAINDER OF THE SCHEME.

Dr. BIGGS (Wandsworth and Wimbledon) moved:

That the remainder of the scheme of the Metropolitan Counties Branch for the reform of the constitution of the Association, together with other relevant items on the agenda, be referred to the Council, and that the Council be instructed to draft the alterations and regulations necessitated by the resolutions arrived at as the result of the discussions of the scheme, and submit them to the Divisions and the next Representative Meeting, together with any other alterations that would seem naturally to arise therefrom.

This motion was carried.

A WELSH COMMITTEE.

Dr. TREASURE (Cardiff) moved:

That a Welsh Committee be established having the same duties and powers assigned to it as to the Scottish and Irish Committees.

He claimed that Wales should be placed in the same position in this respect as Scotland and Ireland. The conditions of practice in South Wales, for instance, were special, and it would be an advantage to have power to deal with matters on the spot instead of having to refer them to the Council in London.

The motion was carried.

INCREASE OF ANNUAL SUBSCRIPTION.

Mr. COURTENAY LORD (Rochester, Chatham, and Gillingham) moved:

That the time has arrived when the Representative Body should seriously consider the advisability of raising the annual subscription.

He thought the better course to pursue with regard to this question was to arrive at a conclusion as to whether the subscription should be raised or not, and then, if necessary, at once proceed to say to what sum it should be raised. The time had come when the Association must really seriously consider whether it could expect to get the necessary organization for the price of a sixpenny paper. One could buy the JOURNAL at a railway station for 6d., but a member

could obtain it from the Association for 25s. a year. But, in addition to the JOURNAL, members expected to receive a first-class organization, and complained because they did not get it. It would be an advantage to take a leaf out of the book of the much-maligned trade unionists; they were men who would put their hands in their pockets for their principles. The medical profession would not; members put down 6d. and expected to get 10s. back. If the subscription were raised the Association would lose a certain number of members, and it might be a large number; but did that matter?

Dr. J. WISHART KERR (Glasgow Eastern) said his Division had instructed him to say that it was not opposed to raising the subscription, but considered that the Representative Meeting ought to go about it gently. His Division might be willing to go to two guineas, but would prefer that it should be 30s. first.

Mr. TODD (Sunderland) considered that the time had not only arrived, but had passed, when the subscription should be raised. The matter must be dealt with at once; it was the most urgent matter before the meeting. The right thing to do was to pass a motion to increase the subscription. It was true that some members might be lost, and it might be recalled that when the subscription was raised to 25s. all sorts of fears were expressed. They were not realized, and it would be the same if the subscription were raised to two guineas. With the increased subscription the Association could give so much more in the way of benefit that members could not afford to stay outside the Association. Without more money better organization could not be obtained.

Dr. LAWSON (Aberdeen, Orkney, and Shetland) said that any one reading the balance sheet would recognize a trend of things which, if continued, must lead to bankruptcy. No less than £8,000 had been drawn from the reserve during the year. The Association had charged members 25s. a year, and spent last year £3 1s. 7d. on each man. In the face of that it was incredible that the Council should have put forward a recommendation not to raise the subscription. Further economies could be only effected at the expense of efficiency; no items of expenditure could be cut down so as to show a surplus on the year's working. To raise the subscription by 17s. per annum meant two farthings a day; that would give an increased income of £17,000 a year. There were men who said that some of the members of the Association were so poor that they could not afford two farthings a day. He was sure the Representatives' hearts would go out in sympathy to those poor members ot the profession—if they existed. But if they existed there was no stronger argument in favour of increasing the subscription, because those men were not able to fight their own battles, and the Association must fight for them. It was seriously argued that if the Association went to the men for whom by the operations of the British Medical Association during last year something like 1½ millions sterling had been obtained from the Government, and said to them, "We want you in virtue of what we have already done for you, and in order that we may be able to do more for you in the future, to pay this extra two farthings a day," that those men would say they would leave the Association. If there were a section of the Association united to it by so slender a thread that the weight of two farthings a day was going to break it, he, for his part, would say, "Let them go." The strength of the Association did not depend upon its numbers. He would infinitely rather lose such members than that the Association should go on working with its hands tied as they were. From the commercial point of view, and leaving sentiment, medicine, and profession out of it altogether, if the subscription were raised to two guineas the Association could afford to shed no less than 8,000 members.

The CHAIRMAN OF COUNCIL had no hesitation in supporting the motion for an increased subscription; he had always maintained that the subscription was too low. When the reorganization of the Association took place in 1902, he proposed that the subscription should be five guineas, and when that was not carried he proposed that it should be two guineas. If there had been a two-guinea subscription in 1902, the Association by now would have had a fund worth dealing with. The Representatives, however, must recollect that they were at the same time asking for subscriptions to the external fund, and if the subscription were increased he thought the contributions to the external fund could be reduced, because certain objects were included in the proposed scheme with regard to the external fund that could be dealt with by the funds of the Association.

Dr. HASLIP (Westminster) thought that the present was not an opportune time for raising the subscription, especially as members were being asked to contribute to a special fund for fighting purposes. It was useless to ask people to subscribe 5s. or 10s. more unless something more was offered by the Association. That was a business proposition. He suggested that the matter should be referred to the Council for consideration, a Special Representative Meeting being called at an early date to settle the question.

Dr. GORDON (Sheffield) said that his Division was prepared to pay a subscription of two guineas. If it required thousands of pounds from the reserve fund to make the balance sheet straight, it was high time the subscription was increased and the Association put on a business footing.

Dr. STARLING (Tunbridge Wells) said his Division was unanimous in supporting the proposal for an increased subscription. As to Dr. Haslip's suggestion that the subscription could not be raised without offering more for the money, the answer was that in the past the Association had been given too much for too small a subscription. No skilled union of working men, much less any profession, had an organization giving members anything like the privileges and advantages of the British Medical Association at so contemptibly cheap a rate. It was regrettable to see that last year the Association depended upon advertisements in the JOURNAL to the extent of £29,000, whereas the annual subscriptions produced only £33,000.

Dr. PARKER (Bristol) said that about 4,000 men had come into the Association at a time of great crisis, and to keep them every effort was necessary. If the subscription were raised hundreds of men would say they were not getting value for their subscription, and would resign. He desired to have the matter referred to the Divisions before any resolution became operative.

Mr. LARKIN (Liverpool) pointed out that a change in the by-laws necessitated the matter going to the Divisions.

Dr. MAJOR GREENWOOD (City) said that all the Representatives in London did not agree with Dr. Haslip.

The motion was amended as follows:

That the time has arrived when the annual subscription should be raised,

and declared carried by more than the necessary two-thirds majority.

AMOUNT OF SUBSCRIPTION.

Dr. LAWSON (Aberdeen) moved:

That the annual subscription be raised to two guineas.

Dr. PICTON (Stockport) moved as an amendment:

That the amount of increase in the subscription be referred to the Council for consideration.

Dr. HASLIP (Westminster) seconded the amendment, which was lost.

Mr. WELLS (West Herts) moved an amendment, and Dr. MILLS (Connaught) seconded:

That the amount of the subscription be £1 11s. 6d.

This was lost.

It having been agreed, on the motion of Mr. TURNER, that the question be now put, the proposal to increase the subscription to two guineas was carried amid applause.

ELECTION OF OFFICERS AND COMMITTEES.

During the various sessions of the Representative Meeting announcements were made as to the election of officers and standing committees.

THE CHAIRMAN.

The Chairman (Mr. T. JENNER VERRALL) announced that there had been only one nomination for this office—namely, himself; therefore he became *ipso facto* elected.

THE DEPUTY CHAIRMAN.

In this case also Mr. E. B. Turner only was nominated, therefore he became elected.

THE HONORARY TREASURER.

Two nominations had been received for this office—namely, Dr. Rayner and Dr. Haslip; but Dr. Haslip withdrew his candidature in favour of Dr. Rayner, who was accordingly elected.

ELECTION OF MEMBERS OF COUNCIL.

The results of the election of members of the Council by Representatives voting in grouped Branches were announced as follows:

Dr. R. M. BEATON	Metropolitan Counties Branch. North and East Metropolitan Group: City, Stratford, South-West Essex, North Middlesex, St. Pancras, and Hampstead Divisions. Central Metropolitan Group: Marylebone and Westminster Divisions.
Dr. W. BIGGS	West Metropolitan Group: Richmond, Ealing, Chelsea, Kensington, and Watford Divisions. South Metropolitan Group: Lambeth, Norwood, and Wandsworth Divisions.
Dr. CLOW	Glasgow and West of Scotland Branch (four City Divisions). Glasgow and West of Scotland Branch (four County Divisions). Border Counties and Stirling Branches.
Professor A. H. WHITE ...	Connaught and South-Eastern of Ireland Branches. Leinster Branch.
Dr. J. S. DARLING	Munster Branch. Ulster Branch.
Dr. H. F. OLDHAM	North of England Branch. North Lancashire and South Westmorland Branch. Yorkshire Branch.
Mr. T. W. H. GARSTANG ...	Lancashire and Cheshire Branch.
Dr. C. H. MILBURN	East York and North Lincoln Branch. Midland Branch. Cambridge and Huntingdon Branch. East Anglian Branch. South Midland Branch.
Dr. H. C. MACTIER	Birmingham Branch. Staffordshire Branch. North Wales Branch. Shropshire and Mid-Wales Branch. South Wales and Monmouthshire Branch.
Dr. D. E. FINLAY	Bath and Bristol Branch. Gloucestershire Branch. West Somerset Branch. Worcestershire and Herefordshire Branch. Dorset and West Hants Branch. South-Western Branch.
Dr. NAPIER JONES	Oxford and Reading Branch. Southern Branch. South-Eastern Branch.
Dr. J. MUNRO MOIR ...	Aberdeen, Northern Counties, Dundee, and Perth Branches. Edinburgh and Fife Branches.

The members of Council elected by the Representative Meeting as a whole:

Dr. G. E. HASLIP (London).
Dr. J. PEARSE (Trowbridge).
Mr. E. B. TURNER (London).
Mr. E. H. WILLOCK (Croydon).

THE STANDING COMMITTEES.

The results of the voting for the Standing Committees were declared as follows:

Finance Committee.—Dr. R. L. Langdon-Down (Richmond), Mr. D. F. Todd (Sunderland), Mr. J. H. Ewart (Eastbourne), Dr. David Lawson (Banchory).

Organization Committee.—Mr. Russell Coombe (Exeter), Mr. T. W. H. Garstang (Altrincham), Dr. Gordon R. Ward (Chelsea).

Journal Committee.—Mr. A. Lucas (Birmingham), Dr. C. H. Milburn, Dr. J. Stevens.

Central Ethical Committee.—Dr. M. G. Biggs, Dr. A. G. Bateman, Dr. R. L. Langdon-Down, Dr. C. H. Milburn, Mr. J. H. Ewart, Mr. P. G. Lee.

Medico-Political Committee.—Dr. J. T. Macnamara, Dr. R. W. Wallace Henry, Mr. W. J. Greer, Mr. D. F. Todd, Dr. W. Duncan, Dr. C. E. Robertson.

Public Health Committee.—Dr. T. Barrett Heggs, Mr. E. J. Domville, Mr. Herbert Jones, Dr. L. J. Blandsford.

Hospitals Committee.—Dr. T. Bushby, Dr. J. Eason, Mr. W. McAdam Eccles, Mr. N. Bishop Harman, Dr. H. C. Mactier, Dr. Harding H. Tomkins.

Naval and Military Committee.—Colonel J. Raglan Thomas, Surgeon-General Benson.

Colonial Committee.—Surgeon-General J. P. Greany, Surgeon-General Bentham.

MEMBERS OF THE INSURANCE ACT COMMITTEE ELECTED BY THE REPRESENTATIVE MEETING.

No Contest.

Group B ...	Dr. J. W. Johnson (Bury).
Group D ...	Dr. W. B. C. Treasure (Cardiff).
Group K ...	Dr. John Adams (Glasgow Central).
Group L ...	Professor A. H. White (Dublin).
Group M ...	Dr. J. S. Darling.

Groups where Contested.

Group A ...	Mr. D. F. Todd (Sunderland).
Group C ...	Dr. G. K. Smiley (Derby).
Group E ...	Dr. R. M. Beaton (St. Pancras).
Group F ...	Mr. E. B. Turner (Kensington).
Group G ...	Dr. D. E. Finlay (Gloucester).
Group H ...	Dr. E. R. Fothergill (Brighton).
Group J ...	Dr. McKenzie Johnston (Edinburgh).

The Representative Meeting sat until 6.30 p.m. on Tuesday, July 22nd, and again on Wednesday, July 23rd. The conclusion of the report of its proceedings will be published in our next issue.

ANNUAL GENERAL MEETING.

THE eighty-first Annual General Meeting of the British Medical Association was opened at the Town Hall, Hove, on Tuesday, July 22nd, at 2 p.m., Sir JAMES BARR, President of the British Medical Association, being in the chair.

The FINANCIAL SECRETARY having read the notice convening the meeting, the minutes of the last general meeting were read and confirmed.

Sir JAMES BARR (who was received with loud applause) said it was now his duty to vacate office in favour of his successor. He did so with a certain amount of reluctance because the past year had been a fighting one. If there were any fighting, he always liked to be in the midst of it, and there had been a certain amount of amusement in that respect in carrying out his duties as President during the last twelve months. (Laughter.) There were, unfortunately, some medical men who seemed to think a president had no right to have an opinion of his own. He had found that was very prevalent among the friends of Mr. Lloyd George, and he had had any amount of threatening letters with regard to the action he had taken, and the retribution which would be visited upon himself, and saying that he would be boycotted. But, like the gentle rain from heaven, that was all that had happened to him. The Association had passed through troubles, and he did not think they were yet ended; there was a good deal of fighting for the Association in the future as there had been in the past. Although he was retiring from office, he was not going to retire into private life. If he could do anything for the profession or the public in the future he would be very pleased to do so. He never felt inclined to sink his own individuality except in cases where the interests of the profession or the public were concerned, but then he would never think of putting his own interests in front of those of his profession. So far as the fight which the Association had passed through was concerned, his views were the same as they were twelve months ago. He had not altered his opinion with regard to the Insurance Act one iota. (Applause.) He thought, as he said then, that it was a fraud on the public, and he thought so still, and was prepared to prove it. (Renewed applause.) It seemed to him monstrous that the administration of an Act like the National Insurance

Act should cost seven or eight millions, when medical men who did the work got only five or six millions. That seemed a wrong distribution—that the men who did the work should get the smallest amount of pay. Therefore, the medical profession had to fight on until its just claims were amply rewarded. It had to fight not only in its own interests, but the interests of the public. He hoped and believed there was a great future before the British Medical Association. He had often been told that the British Medical Association was split in twain, but he did not believe anything of the kind. It was the only Association that could guide and do a great work for the medical profession, and it was the duty of every medical man to stick closely to the Association. It was by cohesion and by united efforts that medical men could prevail. He thought, notwithstanding all that had happened, that there was a great future for the Association and also for the profession. With regard to the profession, it was desirable to narrow the portals of entrance, and by that means he thought the profession at large, and the public especially, would benefit. Having said so much, it was now his duty to retire from the chair and pave the way for his successor. Dr. Hollis had the good wishes of the medical profession in his own town, and he had no doubt that the honour and dignity of the profession would be quite safe in his hands. He had, therefore, great pleasure in handing over to his keeping the badge of office.

Sir James Barr then vacated the chair, which was occupied by the President, WILLIAM AINSLIE HOLLIS, M.A., M.D., F.R.C.P., who was received with loud applause.

The PRESIDENT said: I much appreciate the honour that you have shown me in electing me President of this great Association, and I shall strive to deserve your confidence during my year of office. It is now my pleasant task, in conjunction with my colleagues the members of this Division, to bid you a cordial welcome to this well-known health resort.

Brighton is now a very different place to what it was 400 years or so ago, when as a small fishing hamlet it used to forward its *gablum* or yearly rent of 4,000 herrings to the tonsured friars of the wealthy monastery of St. Pancras at Lewes. Now, I believe, our chief exports to that ancient assize town consist of the wreckage of our police courts, the wastrels and the ne'er-do-wells, who are forwarded in black Marias to the castellated building on the outskirts of the town—the county gaol.

Since the beginning of the last century the growth of Brighton has been exceedingly rapid. At that time the population was about 6,000. In 1886, when this Association held its last annual meeting here, there were 116,071 inhabitants in the combined districts of Brighton and Hove. In 1912 the residents approximately numbered 174,000. Rapid as was this general increase of population during the past quarter of a century, the growth in numbers of the resident doctors during the same period was at a still more rapid rate. Whilst in 1886 there was about 1 doctor to every 800 residents, in 1912 each doctor could only count on 700 potential patients as an average. Your Past-President, Sir James Barr, in his eloquent address of welcome to the guest-members of the Association, if my memory serves me aright, intimated that, whilst his Division were anxious that all of us should have a thoroughly good time (as, indeed, we did), during the annual meeting, they were by no means anxious that any of us should stop behind as residents after the meeting was ended.

I do not know whether the President's warning has been effective in preventing alien practitioners from invading during the past year his wealthy and attractive city; what I specially wish to emphasize on the present occasion is the position of Brighton in this regard. The statistics I have just quoted do not favour a very rosy outlook even for the resident doctors. Our guests (specially those from far distant northern climes) will accept this warning in the kindly spirit in which it is given.

Although Brighton is not a large seaport city, and it cannot display the extensive dock and harbour accommodation that Liverpool can, yet it was not always so. In the sixteenth century Andrew Borde, physician to Henry VIII, writes of Bright Hempston as among the "noble ports and havens of the realm." If no trace of this haven on the estuary of the "Wellesbourne"—the stream which runs underground from Patcham to the sea—now remains, we yet have one of the oldest harbours in England near by. Shoreham harbour was probably the *portus Adurni* of the Romans, and is still in working order. The conjoint pride of Brighton and Hove is, however, the extensive sea frontage which they possess, and the rolling Downs at the back. Many old-time villages and hidden beauty spots are revealed to the wanderer over these grassy slopes. Excursions have been planned to show some of these interesting localities.

Mr. TURNER moved:

> That the warmest thanks of the Association be given to Sir James Barr, M.D., LL.D., F.R.C.P., for the distinguished services he has rendered to the Association during his year of office.

The fates had allotted to Sir James a year of office full of incident, stress, and strife, and during that year he had been not only ornamental but useful. His journeys up to London to sit for hours on the State Sickness Insurance Committee and the Council meetings and Committees had been numerous and frequent, and on all those Committees he had been a most admirable committeeman, sitting absolutely silent unless he had something to say which really wanted saying, with the result that when he said it everybody listened to him. That was what the Association wished for in a President—that he should take a working interest in its Committees and in its Council. Sir James Barr had distinguished himself during his period of office by so doing. Sir James Barr had said that he left the position as an official of the Association with reluctance; the Association parted with him as an official with reluctance also, that reluctance being tempered only by the fact that not Amurath an Amurath succeeded but Hollis, Barr.

Mr. TODD (Sunderland) said that it was with mingled feelings of pleasure and sadness that he rose to second the motion. There was always a note of sadness in bidding farewell to a President, but when they looked back to the work that Sir James Barr had done for the Association, and knew that they were not going to lose him altogether, that feeling of sadness somewhat disappeared. As had been pointed out by Mr. Turner, Sir James had not only been ornamental but useful; he had made great sacrifices of time and convenience to himself in the interests of the Association; and if his speeches and writings at all times had not been in accord with the opinions of other members of the Association, they must admire him for having the courage of his convictions, and expressing his opinions in forcible language. If they had had a little more of that spirit in the Association they would not have been in the position they were last year. They wanted courage, boldness, firmness, and straightforwardness in the ranks of the profession, and if they emulated the work which Sir James had done he was sure that in years to come the profession would rise above all pettiness and become the true dignified body they all desired.

The motion was carried by acclamation.

Sir JAMES BARR, in reply, thanked the meeting for their kind vote of thanks. He had been connected with the British Medical Association for nearly forty years, and his connexion with it had culminated in his occupying the highest position in the profession. He had always striven to do his best for the Association, and very many honours had been conferred upon him during his connexion with the Association. He saw present Professor Reeve, from Toronto, who was President of the Association in the year in which he, Sir James, delivered an address on Medicine; he had many pleasant recollections in connexion with the meetings of the Association.

Dr. MACDONALD (Chairman of Council) announced that the annual meeting of the Association would be held in Aberdeen next year. The President of the Association for that year would be Sir Alexander Ogston, K.C.V.O., LL.D., M.D. He was sorry it was impossible for Sir Alexander to be present, so that he might be introduced to the meeting as was usual. He also had to announce that his old friend Dr. Rayner had been elected Treasurer. It had never occurred before that the Treasurer of the Association had been elected for a third period. Dr. Rayner had, during the past six years, devoted his time to the business of the Association, and no one, unless he

was connected with the head quarters of the Association, could realize how the Treasurer allowed nothing to interfere with his duty to the Association. Nobody but a good financier could have kept the Association in such a sound financial position.

The Treasurer (Dr. RAYNER) moved:

> That Messrs. Price, Waterhouse and Co. be and that they are hereby appointed auditors of the British Medical Association at a remuneration of 150 guineas.

The work of auditing the accounts of the Association was arduous; although the amount, perhaps £55,000 or £60,000 a year, was not so very large, it was made up of small sums, each of which had to be accounted for, and that was why the remuneration was fixed at 150 guineas.

The motion was carried.

The meeting adjourned till 8.30 the same evening.

ADJOURNED ANNUAL GENERAL MEETING.

THE proceedings of the Annual General Meeting were resumed at The Dome, Brighton, at 8.30 p.m. on Tuesday, July 22nd.

Among those present upon the platform were: The President (Dr. William Ainslie Hollis, M.A., M.D., F.R.C.P.) and Mrs. Hollis, the late President (Sir James Barr), the Mayor and Mayoress of Brighton, the Mayor and Mayoress of Hove, the Chairman of Council (Dr. J. A. Macdonald), the Chairman of Representative Meetings (Mr. T. Jenner Verrall), the Deputy Chairman of Representative Meetings (Mr. E. P. Turner), the Treasurer (Dr. Edwin Rayner), and the Local Honorary Secretary (Dr. Leonard Parry).

The MAYOR OF BRIGHTON said that it was with the greatest satisfaction he availed himself of the opportunity to extend an official welcome to the members of the British Medical Association on their visit to Brighton. The British Medical Association was the representative body of a most important and dignified and learned profession. The medical profession was one with which every one was more or less closely in contact from the day of his birth to the day of his death, and as the years rolled by most people learnt to hold the profession in ever-increasing esteem. The visit of the British Medical Association to Brighton had for that town a special significance and importance. Aspiring as it did to be a health resort, the citizens of Brighton considered themselves at any rate as one of the camp followers of the great army to which the medical profession belonged. There was indeed high literary authority for Brighton enrolling itself as a member of the medical profession under the style and title of "Dr. Brighton." It was not unusual for the mayor of a town on such an occasion as the present to blow the town trumpet, and it would not be altogether unreasonable if he were to point out the merits of the corporation of which he had the honour to be the head; he might not unreasonably dilate upon the perfection of the main drainage system, upon the unexampled purity of the water supply, or upon the intense brilliancy of the electric light. He might point out the sovereign attractions of King's Road or King's Cliff, and the more sheltered charms of the Madeira Road. He might even wax poetical over the glorious estate of breezy down and fertile dale which the town had recently acquired on its eastern frontier. He might direct attention to the municipal golf links, to the Public Art Gallery and Museum, and to the high level attained by the municipal orchestra, or even the scientific value of the much underrated Aquarium. He did not propose to speak of any of those things, for this audience, by professional training and habit, were accustomed to form their own judgement based upon their own observation, and might perhaps be rather disposed to be of a sceptical turn of mind if he were to spend much time in dilating upon the virtues of Brighton, and might be perhaps led to consider that there were some defects he was anxious to conceal. He proposed to leave their judgement upon the town and upon its ordering to their own observation, and he did so with supreme confidence that the result would be a great increase in prescriptions to patients of "a dose of Brighton air to be taken at regular intervals." (Laughter.) The medical profession, with its lofty traditions in the past and its unending tale in the present of continual scientific progress and personal self-sacrifice, was one of the great national assets. It was filling a part ever more important in the life of the people. They who were especially engaged in local government were year in and year out, as fresh duties were cast upon them by the Legislature, always tending to rely more and more upon the co-operation and advice of the medical profession. It was of the utmost consequence to the administrators of local government that that co-operation and advice should be freely available. To them it was a matter of great concern that the high professional status of the medical profession should be maintained, and that its counsels should be guided by wisdom and that its work should be conditioned by contentment and prosperity. In the confident hope that the Association's deliberations would tend in that direction, he gave them a most sincere and cordial welcome to the town. (Loud applause.)

Dr. MACDONALD (Chairman of Council), returning thanks on behalf of the Association, said that in a very few words he wished to thank the Mayor of Brighton and those associated with him, on behalf of the Association, for the reception given to the British Medical Association on its visit to Brighton and Hove. In the course of the Association's peregrinations through the country its members saw many places, but he took it from what had been seen of Brighton and Hove during the last few days that the present visit was going to be one of the pleasantest the Association had paid for a long time; and from the admirable arrangements made by the Executive Committee for the conduct of business, he felt quite certain it would be one of the most effective in the carrying on of the work of the many meetings held during the past year. (Applause.)

PRESENTATION TO PRESIDENT.

Dr. LEONARD ARTHUR PARRY presented the President, on behalf of the Brighton Division, with a replica of the President's badge. Addressing the President, he said that when that afternoon the Association conferred on him the highest honour within its power by electing him its President for the coming year his colleagues felt very proud indeed of the distinction bestowed upon their fellow-townsman. They wished the President every prosperity during his year of office, and trusted it might prove one of peace and advancement both to the President and to the Association which he was going to guide. On behalf of the local Division, he handed the President the token of esteem with which he was held by all, and trusted it would prove a very happy memento of what must be to him and every one of them a very memorable occasion. (Applause.)

The PRESIDENT, in returning thanks, expressed his extreme gratitude to the Division for the honour they had done him. He thoroughly appreciated the kind words with which the presentation had been made.

INTRODUCTION OF FOREIGN GUESTS AND VISITORS.

Dr. LEONARD PARRY made the following presentations:

Dr. Louis Durey (Paris), Professor Dr. O. Foerster (Breslau), Dr. Henry R. Harrower, (Chicago), Prince Peter Kropotkin, Dr. John B. Roberts (Philadelphia), Dr. Scratchley (New York), Dr. Auguste Voyer, Dr. A. Weinstein (St. Petersburg), Professor Kent K. Wheelock (Fort Wayne, Indiana), Dr. J. Torrance Rugh (Philadelphia), Dr. Truman Abbe (Washington), Dr. Robert Abbe (New York, U.S.A.) Dr. Louis P. Ferriere (Geneva), Professor E. D. Fisher (New York), Dr. Henry G. Barbour (Newhaven), Dr. Orville Edson Johnson (Massachusetts).

DELEGATES FROM THE OVERSEA DOMINIONS.

British Guiana Branch.—Dr. W. S. Barnes, Dr. J. E. Godfrey, Dr. W. F. Law.

Cape of Good Hope, Eastern Province Branch.—Dr. T. Duncan Greenlees.

Ceylon Branch.—Dr. Frank Grenier.

Hong Kong Branch.—Dr. Charles Forsyth, Colonel J. M. Irwin, R.A.M.C., Dr. W. M. V. Koch, Dr. Oswald Marriott.

Malaya Branch.—Dr. R. D. Keith, Dr. E. A. O. Travers.

Natal Branch.—Dr. J. H. Balfe, Dr. P. Murisen, Dr. J. B. Wood.

New South Wales Branch.—Dr. Eustace Couper Black, Dr. Sinclair Gillies, Dr. C. R. A. Pye, Dr. W. W. Greer, Dr. G. R. P. Hall, Dr. Langloh P. Johnston, Dr. Herbert W. J. Marks, Dr. W. Cecil McClelland, Dr. James McBain Ross, Dr. W. J. Tilley, Dr. H. C. Taylor Young.

New Zealand Branch.—Dr. J. J. Edgar, Dr. W. E. Herbert, Dr. A. G. Talbot.

South Indian and Madras Branch.—Surgeon-General P. H. Benson, M.D., I.M.S., Lieutenant-Colonel G. G. Giffard, I.M.S., Lieutenant-Colonel W. Molesworth, I.M.S.

Tasmania Branch.—Dr. G. H. Butler, Dr. R. D. Campbell.

Toronto Branch.—Professor Richard Andrews Reeve, M.D., LL.D.

Victoria Branch.—Dr. James Jamieson, Dr. C. G. D. Morier.

Presentation of the Gold Medal of the Association to Dr. Macdonald.

The Chairman of Representative Meetings, who was received with loud and continued applause, said that it was with the very keenest pleasure he found himself entrusted with the task of the presentation of the gold medal of the Association to his very old friend, Dr. Macdonald. (Cheers.) For the sake of those who did not know, perhaps, the conditions under which the gift was made, or perhaps did not know Dr. Macdonald and his title to receive the medal, he would briefly explain something about both those subjects. First, the medal was instituted in 1877 in three grades of gold, silver, and bronze, and was to be awarded for any or all of the following reasons: It was to be awarded to any gentleman who should have conspicuously raised the character of the medical profession by scientific work, by extraordinary professional services, or by special services rendered to the British Medical Association. When he gave the names of some of the recipients of the gold medal since its institution in 1877 it would be observed that so far as concerned raising the character of the medical profession by extraordinary professional services, that clause had been liberally interpreted. It was given first in 1877 to Dr. Davis in connexion with his action at the colliery disaster at Pontypridd. It was followed by being given to Surgeon-Major Reynolds, V.C., the hero of Rorke's Drift, in 1879. In 1886 Dr. Waters, of Chester, received it for his work in medical reform. Surgeon-Major Parke received it in 1890 for his work with the Emin Pasha relief force. Surgeon-Captain Harry Whitchurch, V.C., received it for his distinguished conduct in the Chitral expedition in 1896. Lord Ilkeston (then Sir Walter Foster) and Mr. Wheelhouse received it in 1897 for their eminent services to the medical profession, and Mr. Andrew Clark, the only living holder, received it for his work in connexion with the Association. With regard to Dr. Macdonald's title to receive the medal, the Council had bestowed it upon him for his special services to the British Medical Association. (Applause.) For years past the name of Macdonald in connexion with the Association's work had been a household word, and in every capacity almost that a man could work for the Association centrally and in his home in Somerset Dr. Macdonald had done his best in good and evil repute in all times to further the interests of the Association, and in doing so to help forward the medical profession. The Council had bestowed the medal upon Dr. Macdonald gladly and with unanimity. If he did not mistake Dr. Macdonald, he would be very far indeed from disclaiming the fact that he had been of great service to the Association; being a man of sense and genius in many ways, he would recognize that he had been of great service to the Association, and he would glory in the fact that the opportunity had been given him to be so. Dr. Macdonald had been of such service to the Association largely for the following reasons: The first was—and it was an interesting fact—that Dr. Macdonald came from Ulster. (Laughter and applause.) Therefore, he was naturally possessed of the characteristics of Ulstermen. He was strenuous, shrewd, good humoured, and, should he say it?—he did not know why he should not—just the least bit combatant. Every one of those qualities in its proper place had been of service to the Association, and without trenching upon the troublesome province of politics he (Mr. Verrall) would just say with regard to the future that whatever might be the outcome of certain proposals at present before the country, he hoped future arrangements might not result in such a condition of things being established as prohibitive legislation in the matter of exporting articles from the other side of St. George's Channel and importing them on this side, so that they on this side could fail to get their proper supply of Macdonalds. (Laughter.) It was in the interests of public morality that he threw out the warning that if any difficulty arose, and if the supply of Macdonalds could not be obtained legally and openly, it would be smuggled. (Renewed laughter.) He might say a good deal about Dr. Macdonald, but he would not say more than that he was one of those living instances which proved that Euclid was not infallible; Dr. Macdonald was a man of no angles, but many sides. (Laughter.) As to each of those sides he might say a great deal, but he would spare his audience, and he would spare Dr. Macdonald. But when he said that he realized that as Dr. Macdonald was not in the chair of the Council and could not stop him or call him to order, whatever pretty things he might say about him, and when, as the opportunity was so great, he might say, with Lord Clive, "I stand astonished at my own moderation." Mr. Verrall had only one thing to add before he asked the Chairman to present the medal to Dr. Macdonald, and that was that one of the conditions of possession of the medal was that the recipient should receive year by year an invitation to the annual dinner of the Association, and that at that dinner he was expected to wear the medal suspended by its ribbon. Mr. Verrall asked the meeting to join with him in expressing the hope that Dr. Macdonald might be for many years the guest of the Association. (Loud cheers and continued applause.)

During the presentation of the gold medal of the Association to Dr. Macdonald the audience rose, and the singing of "For he's a jolly good fellow" was followed by three cheers.

Dr. Macdonald, who rose to the accompaniment of renewed applause, said he was sure the meeting would pardon him if he found it rather difficult to express himself in terms adequate to show them how he appreciated the honour conferred upon him that night. If he were one of the silver-tongued dwellers of the South of Ireland he might be able to do so in fitting terms, but coming as he did from the dark and silent north, he was afraid he must be content with expressing what was at any rate his heart-felt sentiment, and to say that it was almost impossible for him fully to express his appreciation of the high honour which had been bestowed upon him. When he came to think of his name being enrolled in such a list as had been given by the Chairman of Representative Meetings it made him very humble, and made him feel how little worthy he was to stand in such a company. He had to thank Mr. Verrall personally for the much too flattering terms in which he had referred to him, but of course his generosity of heart and his good comradeship prompted that. He could acknowledge, as Mr. Verrall had said, that he had spent a good deal of time and given his best endeavours to do what he could for the British Medical Association. (Applause.) He trusted that the Association would continue to progress until there was realized what was his dream—namely, that the Association should be coterminous with the medical profession of England. The possession of that medal would to him ever remain one of the greatest pleasures that he could possibly desire. He could but simply say that he thanked the Association very much for the honour which they had done him. (Loud and continued applause.)

Presentation of Stewart Prize.

The President presented the Stewart Prize of £50 to Mr. William Leonard Braddon, F.R.C.S., which had been voted to him by the Association for his researches in the epidemiology of beri-beri.

President's Address.

The President then delivered the address, which is published at p. 157 of the Journal.

Vote of Thanks.

Alderman Gervis, M.D. (Brighton), proposed:

> That the warmest thanks of the Association be given to Dr. William Ainslie Hollis for his able and instructive Presidential Address on the occasion of the eighty-first Annual Meeting of the British Medical Association.

Those of them who lived in Brighton would congratulate the President most heartily on his choice of a subject, because Brightonians had one small fault, which was that they did not fully appreciate the glories of their own town. The President had given a picture of medical science in the district from neolithic times down to the present. The surgeons in those early days, he thought, must have had a very happy time. There were no *x* rays

to show up the mistakes they made in bone-setting, and no *post-mortem* examination to reveal their errors was made until some thousands of years afterwards. (Laughter.) When the President came to deal with more recent times, Alderman Gervis could not help thinking that he must have just given a glance at the guide-book of the Association, and he was perfectly right, in the speaker's opinion, in thinking that Russell did not altogether rely upon sea-water in effecting his cures. There was no doubt that his sea water did good to the people of that time. It was an age too freely given to the pleasures of the table, and the sea water often acted as an emetic. That, however, was not his only means of curing them. He was ahead of his time. He advised them to have their windows open—a thing unheard of in those days. He advised them to clothe their children lightly—advice which was very much needed at the present day. He also advised them to take open-air exercise, the value of which the present generation was only now coming back to appreciate. In conclusion, Alderman Gervis, on behalf of the Brighton Division of the British Medical Association, said that they were very proud to present the Association with such a President, and in thanking him for his address they congratulated him upon his accession to such high office, and wished him all health and strength to carry out his important duties during the coming year. (Applause.)

Dr. M. G. BIGGS, in seconding the vote of thanks, congratulated his hearers on living in the twentieth century, with all its accessories such as motor cars and anaesthetics, instead of in the paleolithic or neolithic ages, when surgeons seemed to have performed operations with flint instruments and without anaesthetics. The President had referred to the fact that in past ages jealousy existed amongst medical men. Of course, in the present day nothing of that sort existed. (Laughter.) Dr. Biggs was quite sure that all members of the Association felt nothing but the warmest regard for the President, with whom he (the speaker) had sat side by side upon the Council and had seen his work. The address which had been given showed that the history of medicine went back long into the mists of the past ages and reached down to the present time, and that certain operations which had been revived of late were done in those days. In conclusion, he most heartily seconded the vote of thanks.

The motion was carried by acclamation.

The Chairman of Council, Dr. J. A. MACDONALD, addressing the President, said he had great honour and pleasure in presenting to him the thanks of the meeting, and saying, on behalf of the British Medical Association, with what pleasure he was welcomed, and that that body looked forward to a very successful year under his care.

The PRESIDENT expressed his thanks, and the proceedings terminated with the singing of the National Anthem.

ADDRESS IN MEDICINE.

The Address in Medicine was delivered in the Music Room, Royal Pavilion, on Wednesday, July 23rd, by Professor GEO. R. MURRAY, which is published at p. 163 of the JOURNAL.

The PRESIDENT, introducing Professor Murray, said that he was Professor of Systematic Medicine at the University of Manchester, and was well known to the medical profession as one of the pioneers in investigating the physiology and pathology of the thyroid and other ductless glands. He was glad to find that Professor Murray had selected the subject of the secretion of those glands for his address that day.

At the conclusion of the address the President called upon Sir James Barr, the late President of the Association, to move a vote of thanks.

Sir JAMES BARR moved:

> That the best thanks of the Association be accorded Professor George R. Murray for his able and instructive Address in Medicine delivered at Brighton on the occasion of the eighty-first Annual Meeting of the British Medical Association.

He thought from the applause accorded Professor Murray at the conclusion of his very able address that very few words would be necessary in moving this vote. The subject was one to which Professor Murray had devoted very great attention, and his work on the thyroid gland had led in more recent years to very important work in connexion with other ductless glands, and knowledge of those glands was rapidly increasing. It was not merely the effect of excessive secretion, and it was not merely the different effects of the different glands and their internal secretions, that played a most important part so far as clinical medicine was concerned, but it was also the association of the glands one with another, and how, if one was not acting properly, its function was taken on by other glands and their secretions. That was a matter for serious consideration. Professor Murray in his address had given more or less an extension of the address in medicine delivered by the late Dr. Gibson last year at Liverpool, in which that gentleman instanced the case of a boy who had grown eight inches under the effect of the administration of thyroid, and was able to pass into the army. It was known by all that cretinism, for example, was largely concerned with the deficiency of the thyroid secretion, and there was no doubt in middle age people began to get a little senile through a deficiency of the thyroid gland secretion. The defective secretion in those cases was very marked, and the intellectual capacity of the individual suffered. A little thyroid gland would do some of them, no doubt, a considerable amount of good. (Laughter.) Those were points as to which, if people only paid attention to their own health, they would not require the attention of the physician so often. Professor Murray's address was one which would be read with interest not only by those present but by the profession at large. It was a very thoughtful address, which had carried his audience along the road of progress, and he had no doubt that as the result of observations and experiments which were being carried on in many of the medical schools, further advance and knowledge in the subject would be obtained, and great advance would take place. With regard to what the lecturer had said about cretinism, he had shown how very useful a supply of thyroid gland might be in those districts where cretinism was prevalent. Sir James Barr thought, however, that a better plan would be to start investigation and find out why in those districts cretinism was so prevalent, and then try to eliminate the cause. That was a comparatively simple matter, and could easily be done. As prevention was far better than cure, it would be an advantage that cretinism should be eliminated rather than cured. For himself, he highly appreciated the very able address Professor Murray had given, and he therefore moved on behalf of those present, and on behalf of the Association, that a very hearty vote of thanks be accorded to Professor Murray for his very able and instructive address.

Dr. TYSON had great pleasure in seconding the vote of thanks. Addresses were described as "good," "bad," and "indifferent." It was fortunate for the proposer and seconder of the vote of thanks before the meeting that they were able to place the address under the first category. The address had been pleasant in its diction, erudite in its learning, and practical in its substance. He need add nothing more than that he was quite sure he would have their approbation in seconding the vote of thanks.

The motion was put by the PRESIDENT, and carried by acclamation.

Professor MURRAY, in returning thanks for the vote, said it had been a great pleasure to him, although at the same time a great responsibility, to speak there that day.

The proceedings then terminated.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

BIRMINGHAM BRANCH:

Central Division.

An ordinary meeting was held at the Medical Institute, Edmund Street, on July 16th. The Chairman (Dr. C. E. Barlow) and Vice-Chairman (Dr. F. Lilley) both being unable to attend, Mr. Albert Lucas was elected Chairman. Sixteen members were present.

Instructions to Representatives.— The Chairman, on behalf of the Executive Committee, proposed, and it was unanimously resolved, that the Representatives be instructed to move the following resolution as an amendment to the Metropolitan Counties Branch scheme:

That the organization of the Association suggested by the Metropolitan Counties Branch is insufficient, and that a special Committee be appointed by the Representative Body to draw up a scheme for reorganization of the whole machinery of the Association.

Mr. F. Marsh, speaking in support of the motion, said that he hoped to see a new body formed with the widest possible powers, and suggested that the main features of any scheme of reform should embrace the following principles: (1) Abolition of the Representative Body; (2) appointment of salaried secretaries and organizers for territorial divisions; (3) the establishment of a Division Council for each district elected by the Division; (4) the making of a postal referendum possible, applicable to the whole or any part of the Association; (5) the appointment of a strong central council, who should have all their expenses paid and who should be elected territorially. Mr. Marsh strongly approved of paragraph 18, page 18 (Supplement, July 5th), of Council's Supplementary Report. Drs. Ratcliffe and Oakes and Mr. B. J. Ward also spoke in support. It was agreed that the Representatives should nominate and press for the election of Mr. Marsh to the suggested Committee, should the above amendment be carried at the Representative Meeting. The Representatives were instructed to oppose the rescinding of the whole of Minute 45, but only support the rescinding those words after "Insurance Act" in fourth line. The Division left most of the points arising in the Agenda to the discretion of its Representatives, and passed the following resolution:

That matters upon which the Division have not instructed Representatives be left to the discretion of the Representatives.

Local Insurance Committee.—The Division unanimously nominated Dr. E. Osborne secretary of the Local Medical Committee as the City Council's Medical Representative upon the Local Insurance Committee, in the event of the City Council again inviting the profession to so nominate.

BORDER COUNTIES BRANCH

English Division.

An influential meeting of the English Division (Border Counties Branch) was held in the County Hotel, Carlisle, on July 11th. Dr. F. R. Hill presided.

Treatment by School Medical Officers.—A letter from Dr. Morison, M.O.H. for the County, replying to one from the Division protesting against the gratuitous granting of prescriptions by the school medical officers, was read by the Secretary, and he was instructed to reply, stating that the previous letter was intended merely as a protest against the undertaking of treatment by the school medical officers.

Annual Representative Meeting.—The Representative (Dr. Crerar) was instructed to oppose any tendency towards the formation of the Association into a trade union at the forthcoming Representative Meeting. No definite instructions were given with regard to the various recommendations of Council, it being left to his discretion how he ought to vote.

Expenses of Provisional Medical Committee.— Dr. Fisher drew attention to the Central Insurance Defence Fund as stated in the Supplement of July 5th, and asked if the late Provisional Medical Committee for Cumberland had received any grant from this. It was explained that having a local defence fund all the expenses of the Provisional Committee were defrayed therefrom, and that nothing had been received from the Central Fund. The balance sheet of the late Provisional Medical Committee was presented by the Chairman, and unanimously adopted. It was resolved that any balance accruing should be sent to the Medical Benevolent Fund.

Next Meeting of Division.—It was decided that the next meeting of the Division should be held in Whitehaven, and that it should take the form of a purely medical meeting so far as possible.

Presentations.—Dr. Hill then presented souvenirs to Drs. Anderson, Crerar, and Fisher, in token of the appreciation of the medical men of Cumberland for their services in connexion with the National Insurance Act controversy during 1912. In making the presentation Dr. Hill spoke as follows:

Gentlemen, the first duty you have put upon me as your chairman is one which, while it honours and pleases me to perform it, is one which I am conscious of being unable to do proper justice to, for I am called upon to express for you your sense of appreciation of the services of three of our most eminent members; and to do justice to the theme is a task which is quite beyond my scope.

Throughout a long period of storm and stress the English Division confided itself to the direction of three men—Dr. Fisher, Dr. Anderson, and Dr. Crerar. Since March, 1911, over forty meetings have been held on the subject of National Insurance, and I need not dwell upon the secretarial work involved in preparation for these meetings and subsequently carrying out their instructions.

Throughout the whole of this time Dr. Anderson has devoted himself most assiduously to his duties, to reading up the voluminous literature, and in endeavouring to put before the medical men of his district all the available information on the subject.

All this he carried out admirably and promptly, and he has shown himself to be an excellent secretary by his complete impartiality and non-exhibition of partisanship, indefatigable in his labours, and of an unruffled patience.

The Local Provisional Medical Committee recognized his value, and believed that they would be meeting the wishes of the contributors to the local defence fund in devoting a portion of the balance to the purpose of giving him a definite token of their appreciation.

Dr. Crerar has, as every man in the Division is well aware, without exception been the most accurately informed man on all the varying vicissitudes of the National Insurance Act in all their details of all our speakers, and he has been as unsparing of his time as he has been of himself; his logic, his rhetoric, and his purse have alike been at the services of his fellow-practioners, and to him also your Committee were well assured that you would wish to give an earnest of your appreciation of his invaluable services.

To Dr. Fisher, too, we owe a debt of gratitude which we wish to acknowledge, as it is impossible for us ever to pay it.

Out of the forty meetings already referred to, Dr. Fisher has attended no less than thirty-nine.

During the most arduous period of the campaign he was our Chairman, and he shares with Dr. Anderson and Dr. Crerar our admiration for his patience, impartiality, and ungrudging self-sacrifice in the interests of the fellow members of his profession.

Dr. Anderson, as Chairman of this meeting I have the honour to give you this gold watch from the members of the English Division of the Border Counties Branch and from all those who contributed to the local fund, and it is their wish that you may live long to enjoy its use and to be reminded by it of their appreciation of your efforts on their behalf.

Dr. Crerar, to you I give on behalf of the subscribers this set of fish knives—a small, but very sincere, expression of our thanks to you for all you have done for us.

Dr. Fisher, we hope that you will accept from the subscribers this piece of plate, with the thanks and the affectionate goodwill of all those over whose deliberations you have so successfully presided.

Drs. Anderson, Crerar, and Fisher having suitably replied, the meeting terminated.

CAMBRIDGE AND HUNTINGDON BRANCH.

The sixty-ninth annual meeting was held in Cambridge on July 16th, Dr. Max Tylor, President, in the chair; thirty-two members were present.

Financial Statement.—The balance sheet was presented and adopted.

Induction of President.—Dr. Tylor then inducted Dr. Joseph Griffiths to the chair.

Election of Officers.—The following officers were elected for the year 1913–14:

President-elect.—Dr. W. R. Grove.
Honorary Secretary and Treasurer.—Dr. G. S. Haynes.
Representative.—Dr. L. Newton.
Branch Council.—Dr. Roderick, Dr. Webb, Dr. Garrood, Dr. Williams, Dr. Meacock, Dr. Waters, with the Chairmen of the two Divisions, Dr. Fordyce and Dr. Curl.

Annual Meeting of Association, 1915.—The following resolutions were carried unanimously:

That the British Medical Association be invited to hold the Annual Meeting in Cambridge in 1915.
That Professor Sir Clifford Allbutt be nominated as President for that year.

Model Ethical Rules.—The model ethical rules, as approved by the Representative Meeting of 1912, were adopted.

Luncheon.—The President, Dr. Griffiths, very generously entertained the members with their wives to luncheon in the hall of King's College. There were 150 present, including the Vice-Provost of King's, Mr. Durnford. After the usual loyal toast the healths of the President, Past-President, and Secretary were proposed, and a vote of thanks was heartily accorded to the Governing Body of King's College on the motion of Dr. GRIFFITHS.

President's Address.—The members adjourned to the medical school, where Dr. GRIFFITHS delivered the Presidential address on the large intestine and its work. A hearty vote of thanks was accorded to him on the motion of Professor SIMS WOODHEAD, seconded by Mr. DEIGHTON.

CONNAUGHT BRANCH.

THE annual general meeting of the Connaught Branch was held at the Railway Hotel, Galway, on June 27th. Dr. WILLIAM BRERETON was in the chair.

Election of Officers.—The following were unanimously elected for the ensuing year:

President.—Dr. D. Crowley, Loughrea.
President-elect.—Dr. W. W. Brereton, Galway.
Honorary Secretary.—Dr. John Mills, Ballinasloe.
Representatives on Council of Association.—Dr. Denis Walshe, Graigue; Professor A. H. White, Dublin.
Representative jar Representative Meeting.—Dr. T. B. Costello, Tuam.
Deputy Representative.—Dr. John Mills.
Representatives on Irish Committee. — Dr. R. B. Mahon, Ballinrobe; Dr. John Mills, Ballinrobe.
Executive Committee.—Drs. C. L. Birmingham, J. Carroll, T. B. Costello, D. Crowley, C. H. Foley, J. A. Hanrahan, R. W. Kelly, R. J. Kinkead, Joseph MacDonnell, M. McDonough, John Mills.

Vote of Condolence with Dr. Crowley.—The following resolution was unanimously passed:

That the deep sympathy of the meeting be conveyed to Dr. Crowley on the death of his mother.

Copies of the following resolutions relating to National Insurance were directed to be sent to every practitioner in Connaught and to the press:

That this meeting of the Connaught Branch of the British Medical Association strongly disapproves of the proposal of the Galway County Council to appoint part-time medical officers to administer the sanatorium benefit under the National Insurance Act, as such appointments would be an unwarrantable interference with the rights of private medical practitioners.
That the Connaught Branch of the British Medical Association begs to point out, that as the Irish Insurance Commissioners have cancelled the system of attendance on insured persons suffering from tuberculosis, provisionally adopted by general medical practitioners and friendly societies, and have not, to date, submitted a working scheme which all medical men can accept—that if, as a consequence, insured persons and others suffering from tuberculosis should in any way suffer, the responsibility does not rest with medical men.
That this Branch has given very serious consideration to the proposal to introduce into the county Galway and appoint part-time medical men to visit insured persons, for purposes of certification who are being medically attended by other medical practitioners, and declare that such appointments, if made, will cause us to refuse our co-operation in any way with any medical man appointed under the Insurance Act.

South-Eastern of Ireland Branch and Insurance Act.—A letter was marked read from the South-Eastern of Ireland Branch, calling on members of the Conjoint Committee who are on the panel to retire from it before the Irish Medical Association co-operate with it.

New Members.—The Executive Committee met subsequently and elected as members: Drs. John W. Beirne, Norman Hitchcock, M. D. Staunton.

EAST ANGLIAN BRANCH.

THE annual meeting of the East Anglian Branch was held at the Town Hall, Ipswich, on July 10th. The Council meeting was held at 12 o'clock. Dr. HERBERT H. BROWN, in the absence of the President, was unanimously voted to the chair.

New Members.—It was proposed by Dr. THOMSON, seconded by Dr. BARTON, and unanimously agreed, that Dr. Norman Stuart Carruthers (Reedham) and Dr. Dudley Beckett Truman (Wivenhoe) be elected members of the Association.

Annual Report.—The report of the Council was read by the SECRETARY, and was unanimously approved of. The report stated that the Branch was in a prosperous condition, 50 new members having been elected during the year, making a total of 550. At the spring meeting, held at East Dereham, Sir Alan Reeve Manby opened a discussion on the fees to be accepted by practitioners from the Education Committees for the treatment of minor ailments amongst school children; and Dr. A. J. Blaxland read a paper on acute pancreatitis. The annual meeting was held at Brentwood, under the presidency of Dr. John Turner, who delivered an address on insanity, which was subsequently published in the JOURNAL. Dr. W. Aldren Turner read a paper on the curability of epilepsy. The autumn meeting was held at Bury St. Edmunds. Reports regarding the division of the Branch were considered. Dr. J. P. Atkinson opened a discussion on the treatment of persons suffering from tuberculosis in the county. Mr. Hamilton A. Ballance read a paper on Wertheim's operation for cancer of the uterus, and showed specimens. Dr. C. S. Kilner, Bury St. Edmunds, showed a specimen of renal calculus, and read notes of the case. Dr. Wisdom, Sudbury, showed some specimens. A special meeting of the Council was held at Ipswich, and reports of the Divisions were considered and capitation grants fixed, on Thursday, March 13th. The spring meeting was held at Colchester.

The report of the election of officers was unanimously approved as follows:

President.—Dr. Herbert H. Brown, F.R.C.S., Ipswich.
President-elect.—Dr. James Ryley, Great Yarmouth.
Vice-Presidents.—Dr. Burton Fanning, Dr. D. G. Thomson, and Dr. John Turner.
Secretary for Essex.—Dr. B. H. Nicholson, Colchester.
Secretary for Norfolk.—Mr. Hamilton A. Ballance, Norwich.
Secretary for Suffolk.—Dr. J. Gutch, Ipswich.
General Secretary and Treasurer for the Branch.—Dr. B. H. Nicholson, Colchester.

Reorganization.—A letter from Dr. D. G. Thomson was read regarding the alterations of Norfolk Division. It was agreed that the rural members of the East Norfolk Division should be absorbed into the Mid-Norfolk Division, and that in the future the four Norfolk Divisions should be named Norwich, East Norfolk, West Norfolk, and Great Yarmouth.

Autumn Meeting.—It was agreed to hold the autumn meeting at Kings Lynn on Thursday, September 25th.

Reports regarding Division of Branch.—It was agreed that the Subcommittee should meet again and consider the reports received from all the Divisions, and report to the council at the next meeting.

GENERAL MEETING.

The general meeting was held at the Town Hall, Ipswich, on Thursday, July 10th. The council meeting was held at 12.30 o'clock. In the absence of the president, Dr. John Turner, who wrote regretting his absence owing to a professional engagement. The meeting was presided over by the President-elect (Dr. HERBERT H. BROWN).

Annual Report.—The annual report was read by the SECRETARY, and it was proposed by Dr. ELLISTON, and seconded by Dr. BARTON, and unanimously agreed, that it be adopted.

Election of Officers.—The election of officers was approved, and also the financial report was passed. A letter was read from Dr. James Ryley of Great Yarmouth, accepting the post of President-elect.

Paper.—Dr. MUIR EVANS of Lowestoft read a paper on flatulence and shock.

Luncheon.—Luncheon was partaken of by the kind invitation of the President-elect, Dr. Herbert H. Brown, at the Crown and Anchor Hotel, and about seventy members sat down. Dr. Herbert H. Brown proposed the health of His Majesty King George, and Dr. Edgar Barnes, of Eye, proposed the health of the President-elect, Dr. Herbert H. Brown.

Testimonial to Dr. Gutch.—Dr. Herbert H. Brown presented Dr. Gutch with a testimonial, consisting of a grandfather's clock and silver tray, suitably inscribed, for the very able way in which he has fulfilled the duties of secretary of the South Suffolk Division ever since its formation. Dr. Gutch, in responding, thanked the subscribers for the great kindness that had always been shown him in his past work, and he paid a high tribute to the assistance Mrs. Gutch had given him in the work of the Division.

Resumed Meeting.—The meeting was resumed in the Town Hall at 2.30 o'clock, when Dr. D. G. Thomson, one of the Vice-Presidents, was voted to the chair, in the absence of the President of the Branch. Dr. Thomson thanked Dr. Turner in the name of the Branch for his able and meritorious service during his year of presidency. At the close the following resolution was adopted:

> That a hearty vote of thanks be accorded Dr. Turner for the assiduous way in which he has performed his duties as President of the Branch, and for his great kindness and hospitality during his year of office; and that he hereby be elected a Vice-President of the Branch for the term of three years.

President's Address.—Dr. Thomson thereupon introduced Dr. Herbert H. Brown, F.R.C.S., as President of the Branch for the year 1913–14, and Dr. Brown thereupon took the chair and delivered his address on "The Importance of Early Diagnosis of Abdominal Disease." At the close the address was discussed by several of the members present, and Dr. Brown replied.

Papers.—Dr. H. L. Heath (Ipswich) read a paper on "The Use of Vaccines in Cases which have not Responded to Ordinary Treatment." A telegram was received from Dr. D. G. Blaxland (Norwich), regretting his inability to read his paper, owing to a professional engagement.

At 4.30 afternoon tea, to which ladies were invited by the kind invitation of Dr. Herbert H. Brown, was partaken of at the Museum Street.

Instruments were shown by Messrs. Down Brothers.

West Suffolk Division.

Meeting of Executive Committee.

A meeting of the Executive Committee of the West Suffolk Division was held on July 7th, 1913. The Committee considered all the decisions in regard to fees for various services arrived at by the Division since 1903, and the Secretary was instructed to issue a leaflet to every practitioner in the area stating these decisions.

After some discussion the Committee decided that 6d. should be the minimum fee for all certificates under the Insurance Act, other than those to which the insured person is entitled.

The Committee then considered the agenda for the next Division meeting and decided the main points upon which the opinion of the Division should be obtained and the Representative instructed.

Meeting of Division.

The Division met on July 15th, 1913.

Proposed Division of East Anglian Branch.—The following resolution was carried unanimously:

> That as division has been forced upon us, the West Suffolk Division considers that the Branch should be subdivided into three Branches of which the entire County of Suffolk should form one.

Instructions to Representative.—As suggested by the Executive Committee the following points were considered:

1.—*Proposed Reorganization of Association* (See British Medical Journal, Supplement, July 5th, Appendix XIX).

The meeting decided that the Representative should be given a free hand in voting, but expressed the opinion that there would be difficulty in persuading men to pay the £5 subscription.

2.—*Referendum or Postal Vote.*

The meeting was of opinion that this would be of no real value.

3.—*Representative Meeting.*

It was agreed that in the opinion of this Division the Representative Body should be reduced in size at any cost and made a deliberative assembly.

4.—*The Council.*

The meeting felt strongly that the Council should be elected by the Representative Body and act as the Executive Committee of that Body.

The Representative was instructed to vote as seemed best to him on all points, bearing the above decisions in mind.

Fife Branch.

A special meeting of the Fife Branch was held in the Station Hotel, Kirkcaldy, on July 11th. In the absence of the President, Dr. Balfour Graham, President-elect, took the chair. There was a small attendance, only ten members being present.

Reorganization of the Association.—The meeting was called specially to consider the supplementary report of the Council as contained in the Supplement of July 5th with reference to organization and the formation of a special fund. After an expression of opinion by several members, the Chairman moved that the Branch instruct the Representative to support Minute 18, which proposed the formation of an entirely new limited company and the putting of the property of the Association into trust to be used for the purposes for which it was raised. This seemed the best of the alternatives offered and preferable to the special fund scheme, which was only a halfway house to a trade union, and insufficient time had been allowed in which to come to a finding on such an important matter, however desirable. The motion was seconded by Dr. Craig and unanimously agreed to. Dr. Craig moved that the Branch instruct the Representative to oppose the scheme for the establishment of a special fund for organization, etc., as contained in Appendix 19 of Supplement of July 5th, and this was seconded by Dr. Dickson and unanimously agreed to. Dr. Craig then raised the subject of a Representative voting according to his own judgement and not as his Branch had instructed him, as had been somewhere proposed, and he took the view that a Representative should always vote as he had been instructed. It was pointed out by Dr. Orr and others that the custom in Fife had always been for the Representative to vote on any point as he had been specially instructed, but to leave him to exercise his discretion on any other, as it was not always advisable to tie a Representative's hands too much and make him a mere delegate. It was agreed to call the Representative's attention to this matter. It was reported that neither Dr. Anderson nor Dr. Douglas, who had been appointed Representative and Deputy Representative respectively, would find it convenient to attend the forthcoming Representative Meeting at Brighton, and on the motion of Dr. Dickson, seconded by Dr. Orr, it was agreed to appoint Dr. Sneddon (Cupar) to be the Branch Representative, it being understood that Dr. Sneddon had signified his willingness to accept office.

Lancashire and Cheshire Branch:

Manchester West Division.

A special meeting to transact the business of the annual general meeting was held in the Technical Institute, Old Trafford, on June 27th. Dr. Edge occupied the chair, and eleven other members were present.

Election of Officers.—The following officers were elected:

Chairman.—Dr. Scanlon.
Vice-Chairman.—Dr. Westwood.
Secretary.—Dr. Helm.
Assistant Secretary.—Dr. Hamilton.
Executive Committee.—Drs. D'Ewart, R. Boyd, Loudon, J. Brown, Wolstenholme, Mockler, Steele-Smith, Worswick, Floyd, Eales, Paterson, Lund, and O. H. Woodcock.
Representatives on Branch Council.—Drs. Dearden and Helm.
Representative to Representative Meeting.—Dr. Dearden.
Representatives on the Manchester and Salford Joint Committee.—The Chairman, the Secretary, Drs. Paterson, O. H. Woodcock, and Wolstenholme.

Annual Report.—The annual report of the Executive Committee was read and adopted. The report stated that:

The membership of the Division on December 31st, 1912, was 90—the same number as on December 31st, 1911.

In June, 1912, the Division suffered a severe loss in the death from accident of its Secretary, Dr. C. G. Knight.

The accounts of the Division showed a small deficit on December 31st, 1912.

The large attendance at the meetings during the year indicated the great interest taken by the members in the work of the Association.

The matters that had chiefly occupied the attention of the Division related to the Insurance Act, contract practice, and the Early Notification of Births Act.

National Insurance Act.

1. The Division has striven hard to get the Act and its Regulations amended so as to make it possible for the profession to undertake service under the Act, and still maintain the freedom and dignity of the profession. Although we have failed, we can still look back with satisfaction to the fact that in a Division numbering 115, only 7 medical men went on the original panel against the expressed wishes of their *confrères*. After the annual meeting last year a strong Local Provisional Medical Committee was appointed, representing all the districts which go to make up the Division. The work done by this Committee was very satisfactory. The signatures of practically the whole of the medical practitioners in the Division to the original undertaking and pledge were obtained. Resignations of contract practice were handed in almost unanimously. The response to the Guarantee Fund was, however, poor. The British Medical Association schemes for a public medical service were one and all rejected by this Division. The resolution finally condemning the Act and Regulations of the Insurance Commissioners and refusing to work the Act as it stood on the panel system was unanimously passed by 66 members, 8 non-members, and 10 proxies.

After the special agreement between the Insurance Commissioners and the Joint Committee of Manchester and Salford, fifty members of the Division went on the lists to give medical service provisionally under the Act.

2. In regard to contract practice, resignations from members holding contract appointments were tendered to their respective societies, and definite terms for uninsured members of societies were issued by the Joint Committee—namely: (*a*) Income limit of £2 per week; (*b*) free choice of doctor; (*c*) payment per attendance on a tariff based on a visiting fee of 2s. 6d., or a capitation fee of 8s. 6d. per member; (*d*) all arrangements to be made through the Joint Committee.

3. The adoption of the Early Notification of Births Act by the Manchester City Council was strongly condemned by this Division.

4. The Division has adopted the Model Ethical Rules of the British Medical Association.

5. The Division has resolved to pay the expenses of the Representatives to the Representative Meeting and the Branch Council by means of a levy from its members.

Business of Representative Committee.—On the motion of Dr. SCANLON, seconded by Dr. LOUDON, it was decided to refer the matter to an Executive Committee meeting, which should subsequently report the result of its deliberations to a general meeting of the Division. At the close of the meeting, votes of thanks to Dr. Edge for his chairmanship, and to Dr. Scanlon for his work as Secretary, were carried unanimously.

METROPOLITAN COUNTIES BRANCH:

GREENWICH AND DEPTFORD DIVISION.

A MEETING of the Greenwich and Deptford Division was held on July 16th, Dr. R. D. MUIR in the chair.

Appointment of Deputy Representative.—The Representative, Dr. H. W. Roberts, being prevented by illness from attending the annual meeting, Dr. S. Bhabha was elected as Deputy Representative.

Annual Representative Meeting.—The SUPPLEMENTS of the JOURNAL of June 21st and July 5th, containing matters referred to Divisions, were then considered, and the Representative instructed.

Division A.—Against No. 2; agreed Nos. 6 and 7.
Division B.—No. 8 left to discretion of Representative.
Division C.—No. 11 (vi). The Representative Body should be reduced in size. No. 20 against.
Division D.—No. 34 favoured.
Recommendations M, N, O, P, A, B, D, E, F, G, H, I, J, K, L all agreed to.
Free choice of doctor, No. 240, agreed.

The following resolution was agreed to:

That the future policy of the Association be in the interest of the profession, both on and off the panel; where the interest appears to conflict, the Representative is instructed not to vote.

Dr. BHABHA, as Deputy Representative, agreed to act in accordance with this resolution and to vote according to the instructions given him.

SOUTH-WEST ESSEX.

A SPECIAL meeting of the Division was held on July 11th, in the Wesleyan Church Schoolroom, High Road, Leyton, for the purpose of considering the report of the Council and Memorandums 159/I.C. and 161/I.C. of the National Health Commissioners. Dr. TOMKINS presided, and eight members were present.

Report of Council.—With regard to the question of free choice of doctor (SUPPLEMENT, July 5th, No. 240, p. 8), it was proposed by the CHAIRMAN, seconded, and carried:

That the following words be added to the resolution: "That each such person shall prove to the satisfaction of the Insurance Committee that he or she has been attended at a rate not less than the maximum allowed by the Act."

With reference to duties of Committees (SUPPLEMENT, July 5th, p. 3, Recommendation O), it was resolved, on the motion of the CHAIRMAN:

That the following words be inserted after the word "body" in line 4: "of which at least four shall be officers of Local Medical Committees."

The Secretary was instructed to forward these resolutions to the Central Office in time for printing in the agenda paper of Representative Meeting as resolutions of the South-West Essex Division. The Representative was instructed to support the first eleven recommendations of the Council with reference to the organization of the profession.

Temporary Residents.—On the motion of Dr. SHADWELL, seconded by Dr. PANTING, it was unanimously resolved:

That this Division approves of the Local Medical Committee signing the letter issued by the British Medical Association refusing to agree to the terms of Memoranda 159/I.C. and 161/I.C.

The meeting then ended.

MIDLAND BRANCH:

BOSTON AND SPALDING DIVISION.

THE eleventh annual meeting of the Division was held at Spalding on June 27th. Dr. WHITE occupied the chair.

Annual Report for 1912.—The SECRETARY reported a deficit in the year's accounts. Owing to the loss of certain members—due to the formation of the Kesteven Division—the number of members for 1913 would be much reduced. The Branch Council had again made a grant to the funds of the Division. All non-members residing within the Divisional area had been invited to the meetings, and the average attendance of members was twenty-two.

Election of Officers.—The following were elected:

Chairman.—Dr. H. G. White.
Vice-Chairman.—Dr. R. E. South.
Honorary Secretary and Treasurer.—Dr. A. E. Wilson.
Representative on Branch Council.—Dr. Mason.
Representative in Representative Meeting.—Dr. Frier, Grantham.
Executive Committee.—Drs. Allan, Husband, Mann, Mason, Munro, Moxham, Pilcher, W. H. Smith, R. Tuxford, Witham, and Wrinch, Dr. Munro superseding Dr. Miller.

Temporary Residents.—The following resolution of the Local Medical Committee was adopted with reference to the payment for treatment of "temporary residents":

That the Holland Insurance Committee be urged not to deduct payment for these from the capitation fees.

Maternity Fees.—This subject was discussed at some length. It was agreed that the only satisfactory method was for the Holland Insurance Committee to pay these fees to the doctors directly. It was resolved to ask this Committee to urge that a certificate of confinement should only be accepted from a *certified* midwife in the event of a doctor not being called in.

Lincoln Division.

A meeting of this Division was held on July 14th.

Representative Meeting.—The following resolution was passed:

That the Representative be given a free hand to vote as he thinks fit after hearing the discussion at the Representative Meeting, except that the Representative be instructed to support Recommendation 219 D (Supplement, British Medical Journal, page 5, July 5th, 1913).

NORTH WALES BRANCH.

The annual meeting of the Branch was held at the Imperial Hotel, Llandudno, on July 15th. Dr. Hugh Jones (Dolgelly), President, was in the chair, and fifty-one other members were present.

Correspondence.—A letter was read from Dr. Emyr O. Price stating that, owing to the action taken by the British Medical Association, the medical officer of the Penhesgyn Sanatorium had been granted nine months' salary in lieu of notice, on its being taken over by the Welsh National Memorial Association. The announcement was received with applause.

Vote of Sympathy.—The President proposed, Dr. R. M. Williams (Menai Bridge) seconded, and it was carried unanimously:

That the sympathy of this meeting be sent to Dr. Emyr O. Price, who had that day undergone an operation, together with our deep appreciation of his past services, and a sincere wish for a speedy recovery.

Introduction of President-elect.—The President introduced the President-elect (Dr. Enoch Moss, of Wrexham), who took the chair, and proposed a hearty vote of thanks to the retiring President for his services during the past year. This was seconded by Dr. H. Drinkwater and carried unanimously.

Report of Branch Council.—The Honorary Secretary read the annual report of the Branch Council. The report dealt chiefly with the work of the Branch during the year, and an appreciative reference was made to the valuable services rendered by the three Divisional secretaries—namely, Mr. E. D. Evans, of the Denbigh and Flint Division; Dr. John Evans, of the North Carnarvonshire and Anglesey Division; and Mr. H. Gladstone Jones, of the South Carnarvonshire and Merioneth Division, who, after several years' work, the amount and importance of which the majority of the members had no idea of, had resigned their appointments. Reference was also made to the services rendered by Dr. Emyr O. Price as a member of the State Sickness Insurance Committee. The proposal of Mr. C. E. Morris—that free choice of doctor should be given to patients in voluntary hospitals—which had been referred to the Council for its consideration, was reported upon as follows:

That in view of the unsettled state of the treatment of insured persons in institutions the Council is of opinion that it will be wise to defer the matter for the present.

On the proposition of Dr. H. V. Palin, seconded by Dr. H. Drinkwater, the report was received and adopted:

Election of Officers.—The following officers were elected:

President.—Mr. J. D. Lloyd, Chirk.
Honorary Secretary.—Dr. H. Jones Roberts (re-elected).

The Honorary Secretary reported the names of the members elected to serve on the Branch Council for the ensuing year.

Places of Meeting for 1914.—It was decided to hold the spring meeting of 1914 at Bala and the annual meeting at Beullech, Red Wharf Bay.

Testimonial to Dr. Emyr O. Price.—Dr. J. R. Prytherch reported the steps taken, and which had been approved of by the Branch Council, to recognize in some way the services rendered to the profession in North Wales by Dr. Emyr O. Price, and that, as Dr. Price was now in indifferent health, the opportunity had arisen for his fellow-practitioners to express in some tangible form their appreciation of those services. Up to the present subscriptions to the amount of £140 had been received, which sum was likely to be largely augmented. Dr. Richard Jones proposed, Mr. J. W. Rowlands seconded, and it was unanimously resolved:

That Dr. Price be presented with a motor car, and that the purchase of the same be entrusted to Drs. J. R. Prytherch, J. E. Thomas, and the Honorary Secretary.

Presidential Address.—The President delivered his address, taking as his subject the history and influence of the medical profession. Dr. W. Lloyd Williams proposed, Dr. J. Medwyn Hughes seconded, and it was unanimously carried:

That the best thanks of the meeting be accorded to the President for his able and interesting address, and that Dr. Moss be asked to publish it in some form.

Cases.—Dr. H. Drinkwater presented a boy, aged 13½ years, showing obligatory bimanual synergia with allocheiria. Also several models of excellent workmanship of brachydactylous hands.

Papers.—The following papers were read:—Dr. John Hay: Some Points in Prognosis in Heart Disease. Mr. G. P. Newbolt: Large scrotal hernias. Dr. R. J. M. Buchanan: (1) The Association of Venous Thrombosis with Visceral Malignant Disease; (2) Tuberculous Peritonitis. Mr. Arthur Evans: Acute Pancreatitis: its Causes, Symptoms, and Treatment, with a Description of Three Cases. Dr. F. P. Wilson: The Value of the Luetin Test in Syphilis.

Vote of Thanks.—On the proposal of the Honorary Secretary, seconded by Dr. Hugh Jones, a vote of thanks was accorded to the readers of the papers and to Dr. Drinkwater.

Luncheon.—Before the meeting the members lunched together at the Imperial Hotel.

Denbigh and Flint Division.

The annual meeting of the Division was held at the Castle Hotel, Ruthin, on May 23rd. Dr. J. Owen Jones (Chairman) presided, and eleven other members were present.

Report of Executive Committee.—A meeting of the Executive Committee (which had been held immediately before the annual meeting) reported that a mass of correspondence relating to remuneration for attendance upon wives and families had been received, and, after full consideration of the matters submitted, the committee approved of the replies sent by the Honorary Secretary to the persons concerned. Further correspondence on ethical matters was also considered by the committee, and the action of the Honorary Secretary with regard to them was approved. The meeting received and adopted the report of the Executive Committee, and it was resolved:

That, in the case of the Ruabon and District Society of Brickworkers, a committee of three members, with power to act, be appointed from this Division to meet a deputation from the society at some convenient place and date, to be decided upon by the subcommittee, and to confer with the deputation touching the points referred to in the letters received from their representatives. The subcommittee for this purpose to consist of the following members: Drs. Moss, S. Edwards-Jones, and E. D. Evans.

Nomination to Central Council.—Dr. H. Jones-Roberts was unanimously nominated to represent the North Wales Branch in the Central Council of the Association.

Election of Officers.—The following officers were elected for 1913-14:

Chairman.—Dr. J. E. H. Davies.
Vice-Chairman.—Dr. B. J. E. Wright.
Honorary Secretaries (Joint).—Drs. F. S. Rowland and C. E. Morris.
Representative of Division at Representative Meetings.—Dr. J. E. H. Davies.
Honorary Treasurer.—Dr. E. D. Evans.
Representatives on Branch Council.—Drs. H. Drinkwater, David Lloyd, E. Moss, and E. D. Evans.
Executive Committee.—Dr. W. S. Sprent, Dr. W. Goodwin, Dr. W. F. Byford, Dr. H. W. S. Williams, together with the officers of the Division and the members of the Branch Council.

Annual Representative Meeting.—The Honorary Secretary stated that Dr. J. E. H. Davies would probably not be able to attend the Representative Meeting, and the meeting decided that if Dr. Davies was unable to do so he should be requested to appoint some member as his deputy. It was resolved:

That the "Matters Referred to Divisions" be referred for consideration to the Executive Committee, with power to act and to instruct the Representative in Representative Meetings.

Model Ethical Rules.—The Model Ethical Rules were adopted.

County Insurance Committee.—Dr. F. S. ROWLAND opened a discussion on certain matters affecting the profession in relation to the County Insurance Committee. Several members took part in the discussion.

STAFFORDSHIRE BRANCH.

THE fortieth annual meeting was held at Wolverhampton on June 26th. Twenty-five members were present.

Representative's Report.—The report of the Representative of the Branch on the Central Council for 1912–13 was read, and a cordial vote of thanks was carried unanimously to Mr. Albert Lucas for his valuable services and report. Mr. LUCAS replied.

Vote of Thanks.—A vote of thanks to the retiring President, Mr. E. C. Stack, F.R.C.S.I., was carried unanimously.

Annual Report.—The report of the Branch Council and the financial statement, as circulated to members, and as recorded in the minutes of the annual Council meeting of May 22nd, and of the Council meeting of February 27th, were approved.

Election of Officers.—The following officers, as nominated by the Branch Council for the ensuing year, were duly elected:

President-elect.—Dr. John Russell, Burslem.
Secretary.—Dr. Harold Hartley, Stoke-on-Trent.
Treasurer.—Dr. John Clare, Hanley.

Next Annual Meeting.—It was decided to hold the next annual meeting at Stoke-on-Trent.

President's Address.—The President (Mr. W. F. CHOLMELEY, F.R.C.S.) then delivered his address. He referred to the great advance in abdominal surgery during the last twenty years, due not only to improved technique, but chiefly to the knowledge of the great resistance to pathogenic organisms possessed by the peritoneum—this making the opening and closing of an abdomen a simple and safe operation. He laid great stress on the uncertainty of what might be found when operating on these cases, the apparently simple case sometimes proving the most difficult, which caused abdominal operations, in his opinion, to be most fascinating, and a very risky undertaking for any one who was not prepared or did not feel equal to tackle any condition that might be found. He considered that the most important qualities necessary for the successful abdominal surgeon to possess were: The knowledge of when to operate; rapidity of operating; deftness and delicacy of touch; sangfroid; quick decision; the knowledge of when to stop and when to continue. After expatiating on these qualities, he read the notes of several interesting abdominal cases illustrating some of the points in his address. The cases were arranged in three groups: (1) Those with acute symptoms operated on after an unsuccessful trial of peaceful means, nothing definite being found to account for the symptoms. (2) Those proving an operation to be quite different, and very much more difficult, than was expected. (3) Interesting case in which the diagnosis was correct or nearly so.

Vote of Thanks.—On the proposition of Dr. MILNES BLUMER, seconded by Mr. STACK, a very hearty vote of thanks was passed to Mr. Cholmeley for his address.

Dinner.—The meeting was followed by a dinner, at which twenty-eight members were present. A collection in aid of Epsom College realized £1 6s.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

BOOKS NEEDED TO COMPLETE SERIES.

THE Librarian will be glad to receive any of the following volumes, which are needed to complete series in the Library:

American Association of Genito-Urinary Surgeons. Transactions. 1906.
American Climatological Transactions. Vols. 1, 4, 5, 6.
American Dermatological Association Transactions. Vols. 5, 7, 8, 11, and 29.
American Journal of the Medical Sciences. New series, vols. 4, 5, 1842–3; vols. 14, 15, 1847–8; vols. 18–30, 1850; vol. 33, 1857; vol. 46, 1864–5; vol. 59; or any parts of these vols.
American Journal of Ophthalmology. Vols. 1–9.
American Laryngological Association. Transactions. Vols. 1–6, 8–9.
American Medical Association. Transactions, 2, 4, 6, 7, 11, 12, 14, 15, 16, 19, 20, 22, 31, after vol. 33, and the *Journal*, up to 1903 inclusive.
American Medico-Psychological Association. Transactions. Vol. 13, 1906.
American Otological Society. Transactions. Vol. 3, part 2, 1883.
American Public Health Association. Transactions. Any vols.
Analyst. Vols. 1–24.
Annals of Surgery. Vols. 13, 14, 26.
Archiv für Dermatologie und Syphilis. Bd. 24 and 25 (1892 and 1893).
Archives générales de médecine. Third new series 7–8 (1839–40); 4th series, 10–17, 20–25, 1852–55, 1858–64, 1872–1897; 1846–55 inclusive; 1857–64 inclusive; 1871.
Archives of Ophthalmology. Vols. 1–3, 6, 7, 14, 15, 16 and 20.
Archives of Otology. Vols. 1–7, and 20–22.
Archives de Parasitologie. Vols. 1–8.
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LOCAL MEDICAL COMMITTEES.

ESSEX.

The eighth general meeting of the Essex Local Medical Committee was held on July 11th.

Temporary Residents.—Memos. 159 and 161/I.C. were considered for the second time in the light of the reports from twenty-one District Medical Committees which contained strong resolutions protesting against the memorandums, or requests that the British Medical Association form of protest should be sent to Insurance Committees and Commissioners; and also the reports of forty-five Local Medical Committees also objecting to the memorandums. A resolution was passed *nemine contradicente* (two abstaining) that the protest be sent to both bodies. A letter from the West Suffolk Local Medical Committee was laid before the meeting by the Secretary, who had been appealed to in consequence of the Insurance Committee of that area having ignored a protest against 161/I.C. by calling upon all panel men to meet them to discuss the matter afresh. It was considered that the Insurance Committee's action was illegal, as by inference from the Act and Regulations only in the case of no Local Medical Committee being recognized could the Insurance Committee consult any other body of practitioners upon matters of medical benefit. If this action created a precedent the actions of any or all Local Medical Committees could be rendered useless, and individual practitioners would soon be at the mercy of the Insurance Committees. The Secretary was instructed to write to the West Suffolk Committee suggesting that it should get a member of Parliament to put a question in the House as to the legality of this action. If 159 and 161/I.C. be forced upon the profession there is a probability of the insured suffering, since the number of practitioners in the seaside and holiday resorts is many times in excess of the requirements of the resident population, and doctors are only able to live by reason of fees from this very class in a few months of the year; hence many must give up practising there, and then though the insured be sent down to these places to be treated by the panel there would not be sufficient doctors to attend them. The places of those ruined could not be filled, as already the number of students at schools of medicine are rapidly declining.

Certificates.—Questions were directed to be sent to the Commissioners as to the legality of requiring weekly certificates to obtain friendly society sick pay without payment for them, and as to whether the Commissioners had drafted or accepted any simple uniform certificate for all friendly societies, and whether panel doctors can be legally required to fill in the nature of the disease.

Income Limit.—A resolution was passed *nemine contradicente:*

> That the Local Medical Committee requests the Essex Insurance Committee to fix an income limit, and require all income taxpayers and dependants of such to provide their own medical attendance, and that the Secretary send a copy to their representative on the Insurance Committee and ask him to bring the matter forward and use his best endeavour to secure this.

The Vice-Chairman (Dr. J. D. Walls) and Secretary (Dr. Harding H. Tomkins), as representatives to the conference of Local Medical Committees, were requested to bring up the matter of income limit, 159 and 161/I.C. and action of West Suffolk Insurance Committee, and the drafting of a simple uniform certificate for all friendly societies at that conference.

WEST SUFFOLK.

The ninth meeting was held on July 15th.

Rules.—It was decided to adopt the following rule, as suggested at the general meeting of the panel on July 2nd:

> A general meeting of practitioners on the panel shall be summoned by the Local Medical Committee at the written request of not less than seven practitioners on the panel.

The adoption of other rules was deferred until after the subject has been discussed at the Representative Meeting of the British Medical Association.

Monthly Payment on Account.—A letter was read from the Medical Benefit Subcommittee of the County Insurance Committee, suggesting a monthly payment on account to practitioners on the panel. It was agreed that it is desirable that the Insurance Committee should make such payment "to the full extent of their powers."

Expenses.—The Secretary reported that the expenses of the Committee from its recognition on March 7th, 1913, to date amounted to £5 17s. 8d.

Other Business.—The Secretary was instructed to write to the Clerk to the Insurance Committee, inquiring why the payment for medical attendance for the first quarter has not yet been completed; and to ask whether arrangements have been made for a prompt payment on account of 75 per cent. for the quarter ending July 14th. The Secretary was also instructed to write to the Chairman of the Medical Benefit Subcommittee: (1) Pointing out that the omission of the Insurance Committee to issue the pink forms for special drugs may in certain cases seriously impair treatment and retard recovery; (2) requesting that the "rules for insured persons in receipt of medical benefit" passed on May 15th may be issued at once; (3) inquiring whether the Insurance Committee has made any preliminary application to the Commissioners for a grant from the mileage fund on behalf of the Fen district of this area.

LANCASHIRE.

The Local Medical Committee for the Lancashire County Area No. 10, constituted as follows, has been recognized as a statutory committee for the current year.

Dr. John F. Gordon, Maghull.	Dr. V. O'Reilly, Skelmersdale.
Dr. A. Duckworth, Croston.	Dr. F. Prosser, Rainford.
Dr. Edmiston, Southport.	Dr. F. Carter, Formby.
Dr. H. H. Marsden, Ormskirk.	Dr. J. P. Pendlebury (Honorary Secretary), Knowles House, Ormskirk.
Dr. Wm. Anderton, Ormskirk.	
Dr. J. C. Laing, Lathom.	

Dr. Duckworth has been elected to represent this committee at meetings of the county Insurance and Medical Committees, and instructed to vote as he thought best on the form of medical certificates.

INSURANCE NOTES.

Formation of Non-panel Doctors' Federation.

A meeting of non-panel doctors who are also Representatives was held on July 20th at Brighton, and as a result a Federation was formed to consist entirely of non-panel doctors. The Representatives attending included men from all parts of the country and the broad line of policy was laid down that the Insurance Act should be so amended as to make it acceptable to the medical profession throughout the country. It was recognized at the meeting that several of those on the panels are in complete sympathy with the policy of the Federation, and it was only after very careful consideration that it was decided to restrict the membership to those who have refused to join the panels. Membership is open, however, to those serving on Insurance Committees provided that they hold no office of profit under the Act. In coming to the conclusion that the Federation should be restricted to non-panel doctors, those responsible for the formation of the new organization were careful to emphasize the fact that the aim of the Federation is to work in the interests of the profession as a whole. It was felt that those who have been obliged to work under the Act might find it difficult to press successfully for reforms, and that there would be a danger that they would be hampered by local needs when questions were being discussed on broad lines. The work of the Federation will be to consider the Act as a whole in so far as it affects the medical profession, and it is considered that, as all the members were unfettered, it would be possible to press strongly for the original cardinal points that have all along been the declared policy of the Association. A representative committee has been appointed, and the head quarters of the Federation will be in London. Mr. E. B. Turner has accepted the office of president.

Appointment of Local Medical Committee.

Dr. F. Barker (Honorary Secretary, Hampstead Insurance Medical Society) writes: At the meeting of the Hampstead Insurance Society, held on July 22nd, the following resolution was passed unanimously:

> That the Hampstead Insurance Medical Society join in a petition to Parliament that in the amending bill to the National Health Insurance Act now before Committee Clause 62 be amended to the effect that the appointment of a Local Medical Committee be in the sole control of the practitioners on the panel of the district.

KINGSTON-ON-HULL PHARMACOPOEIA.

The Local Medical Committee at Kingston-on-Hull has issued a neat booklet bound in leather containing copies of the formulae which have been arranged for use with the pharmacists working in its area. They include a series of gargles, of eye drops, of liniments and lotions, some fifty mixtures prescribed in half-ounce doses, six varieties of pill, three powders, several ointments, and nine drugs or compounds of drugs which are to be dispensed in tablet form. The volume is made additionally useful by being interleaved.

IRELAND.

FORMATION OF IRISH MEDICAL COMMITTEES.

THE period for which the Irish Conjoint Committee was elected in June, 1912, having expired, steps were taken to summon a meeting of delegates from each county in Ireland to elect another Committee. The annual meeting of the Irish Medical Association had called on its members to retire from the Committee, and they retired accordingly. This was felt to be an implied censure on the Committee. It was proposed that the delegates' meeting should consist of five or seven delegates from each county, elected at a county meeting specially convened for the purpose. Dr. MacNamara of Kilmallock was elected Chairman unanimously.

The next item on the agenda paper was the report of the work done by the Conjoint Committee, but the Chairman accepted a motion for the appointment of a secretary. A sharp division of opinion was at once evident, as it was urged that the Secretary of the Conjoint Committee, which had convened and organized the meeting, was the proper person to act, as he held all the correspondence on the subject. After some discussion, the other candidate was withdrawn, and Dr. Maurice Hayes was unanimously elected secretary to the meeting.

The report of the Conjoint Committee, which had been sent to each member of the profession in Ireland, was received and marked read.

When the constitution of the Conjoint Committee came to be considered the clauses making the Irish Committee of the British Medical Association and an equal number of the Irish Medical Association integral parts of the committee were deleted by a large majority on a division.

This was considered to have killed the committee, and an immediate effort at regeneration was made by rebaptism, it being decided to form a committee to be called the Irish Medical Committee, and to consist of a delegate from each insurance area, three each from Belfast, Cork, and Dublin, and one each from Derry, Galway, Limerick, and Waterford, together with representatives from all the teaching bodies formally invited to send representatives to the Conjoint Committee.

The first meeting of the new committee was fixed for Wednesday, August 27th, and it was arranged that county meetings should be meantime held for election of representatives on it.

It was enthusiastically resolved that each member of the profession in Ireland should contribute £1 annually to the committee, but no treasurer was appointed.

The recent action of the Irish Insurance Commissioners in appointing "medical advisers" in the county boroughs for the sole purpose of certification was severely condemned, as also the proposal, adopted by one county council, to appoint a number of part-time assistant tuberculosis officers, to be paid as such by the county, and to receive an equal sum as salary from the Commissioners for doing all the certification in the county. The meeting considered that this would be an unwarrantable interference with the patients of other practitioners.

NORTH TIPPERARY PRACTITIONERS AND THE TUBERCULOSIS SCHEME.

At a meeting of the North Tipperary Medical Committee at Roscrea the following resolutions were passed:

Resolved: That we, the medical practitioners of North Tipperary, knowing that repeated examinations and anxious watching are often necessary to make the diagnosis of pulmonary tuberculosis in its earliest stage, warn the National Health Commissioners that their present action in breaking through the arrangements made between the County Insurance Committees and the medical men of the country—thus driving the regular attendants of the insured from the administration of sanatorium benefit—will, if successful, have a disastrous effect on the early detection of consumption.

That we point out to the insured and the public generally that the National Health Commissioners have already broken the contracts made with the doctors in certain areas for certification of cases of tuberculous disease, and will in future only pay their own medical advisers in these areas for certifying on Form 2, thus forcing the enormous majority of the profession in these places to be dissociated from working a scheme meant for the early detection and treatment of consumption. And we give it as our opinion that this policy, if persisted in, will completely break down the crusade against tuberculosis in Ireland, in which we have hitherto taken part most willingly, and at reduced fees, which we had never previously accepted for any other professional services.

That the appointment of "medical advisers" for the purpose of visiting, without our consent, and certifying as to the illnesses of our patients, or of "assistant tuberculosis officers," who can also indulge in private practice, will meet with our most determined disapproval.

SANATORIUM BENEFIT.

A largely-attended meeting of delegates of the medical profession from the whole of Ireland was held in the Royal College of Surgeons on July 17th, when the following resolutions were adopted:

1. (*a*) That a committee be appointed to be called the Irish Medical Committee; (*b*) that it consist of one member to be elected by the medical men of each insurance area; (*c*) three members elected each by Belfast, Cork, and Dublin, and one by Derry, Waterford, Limerick, and Galway; (*d*) one representative of each of the following bodies: The University of Dublin Medical School, the University College Medical School, the Queen's University Medical School, the Royal College of Physicians, the Royal College of Surgeons, the Apothecaries' Hall; the Medical School, University College, Cork; the Medical School, University College, Galway; the Royal Academy of Medicine, the Ulster Medical Society, the Cork Medical Society, the Belfast Medical Guild; (*e*) two representatives appointed by the medical women of Ireland. (The first meeting of this Committee will be held on Wednesday, August 27th, at 2.30 p.m.)
2. That in our opinion the proposals made by the Galway County Council's Insurance Committee of appointing part-time tuberculosis medical officers and medical advisers are not likely to further the objects aimed at by the Tuberculosis Acts, inasmuch as the working of the Acts must depend largely on the co-operation of the whole body of practitioners, whose support is likely to be alienated by these proposals.
3. That the Insurance Commissioners be informed that if they persist in appointing medical advisers for the purpose of certification, and do not withdraw those already appointed, this meeting of delegates of the entire medical profession give notice that they will refuse to work the sanatorium benefits of the Insurance Act.
4. That this meeting of the medical profession is of opinion that the success of the sanatorium benefit will be seriously endangered by the attempt of the Commissioners in certain areas to exclude medical practitioners, other than the so-called "medical advisers," from signing the preliminary report for applicants for the sanatorium benefit.
5. That in the event of the medical benefit clauses of the National Insurance Act being extended to Ireland, the profession pledges itself not to accept lower terms than have been offered to the profession in Great Britain.
6. That this meeting of the medical profession condemns the action of the Insurance Commissioners in appointing "medical advisers" in the county borough of Dublin, and in adjoining urban districts, and in the county boroughs of Dublin, Waterford, and Limerick, as a contravention of the fundamental principle of free choice of doctor, and in consequence thereof this meeting calls on medical men to withdraw from the panels as soon as they can legally do so.
7. That we, the medical delegates, representative of all Ireland, assembled at this meeting, reiterate our determination not to accept service under the Insurance Act so long as the Chancellor of the Exchequer ignores the demands of the Irish medical profession, which for medical certification for sickness benefits are based on the terms offered by the Irish Parliamentary party.

The following resolution, received from the Cork Borough Local Medical Committee, was also adopted:

That in consequence of the tyrannical action of the Irish Insurance Commissioners in appointing medical advisers for the certification of insured persons for sickness and sanatorium benefits in Dublin, Waterford, and Limerick, in opposition to the unanimous opinion and wish of the Irish medical profession, we, the members of the Cork County Borough Local Medical Committee, at the earliest possible date (legally) will take the necessary steps to effect the repudiation of the panel system as at present administered, and to obtain the resignations of all the members of the profession in the borough who have signed agreements with the Commissioners.

INSURANCE ACT IN PARLIAMENT.

NATIONAL INSURANCE ACT (1911) AMENDMENT BILL.

PROCEEDINGS IN COMMITTEE.

THE Committee on the National Insurance Act (1911) Amendment Bill met on Tuesday, July 22nd, and it was announced that it was proposed that the Committee should meet daily, and—according to the resolution of the Prime Minister, which was adopted by the House the same afternoon—it was resolved that the sittings of the Committee might continue, notwithstanding the meeting of the House. The effect of this resolution is that the Standing Committee, which ordinarily could not sit beyond 4 o'clock without special leave of the House, is enabled to do so for the purposes of this bill.

The following is a list of the members of the Committee:

Mr. J. W. Wilson (Chairman), Worcestershire, North
Addison, Dr., Shoreditch, Hoxton
Ainsworth, Mr., Argyll
Alden, Mr., Middlesex, Tottenham
*Astor, Mr., Plymouth
Attorney-General, Mr., Reading
Baker, Sir Randolph, Dorset, North
*Bathurst, Mr. Charles, Wiltshire, Wilton
Beck, Mr., Essex, Saffron Walden
Bentinck, Lord H. Cavendish, Notts, South
*Booth, Mr., Pontefract
Bowerman, Mr., Deptford
Boyle, Mr. Daniel, Mayo, North
Boyle, Mr. William, Norfolk, Mid
Buxton, Mr. Noel, Norfolk, North
Byles, Sir William, Salford, North
*Carr-Gomm, Mr., Southwark, Rotherhithe
*Cassel, Mr., St. Pancras, West
Cawley, Sir F., Lancashire, Prestwick
Chancellor of Exchequer, Mr., Carnarvon
Clay, Captain Spender, Kent, Tonbridge
Cooper, Mr., Walsall
Craik, Sir H., Glasgow and Aberdeen Universities
Davies, Mr. Ellis, Carnarvonshire, Eifion
*Dawes, Mr., Walworth
Devlin, Mr., Belfast, West
Dickinson, Mr., St. Pancras, North
Esmonde, Dr., Tipperary, North
*Falconer, Mr., Forfarshire
Flannery, Sir Fortescue, Essex, Maldon
*Forster, Mr., Kent, Sevenoaks
Goulding, Mr., Worcester
Gwynn, Mr. S. L., Galway
Gwynne, Mr. Rupert, Sussex, Eastbourne
Hall, Mr. Fred, Dulwich
Hamilton, Mr., Cheshire, Altrincham
Harcourt, Mr. Robert, Montrose
Harvey, Mr. T. E., Leeds, West
Hazleton, Mr., Galway, North
Hinds, Mr., Carmarthen, West
Jones, Mr. Glyn-, Tower Hamlets, Stepney
Jones, Mr. Haydn, Merioneth
Keating, Mr., Kilkenny, South
*Lardner, Mr., Monaghan, North
Lawson, Mr., Tower Hamlets, Mile End
*Locker-Lampson, Mr. Godfrey, Salisbury
Lynch, Mr., Clare, West
Macdonald, Mr. Ramsay, Leicester
Macnamara, Dr., Camberwell, N.
*MacVeagh, Mr., Down, South
M'Laren, Mr. Henry, Leicester, Bosworth
M'Neill, Mr., Kent, St. Augustine's
Magnus, Sir Philip, London University
Masterman, Mr., Bethnal Green, S.W.
Millar, Mr., Lanark, N.E.
*Money, Mr., Chiozza, Northants, East
Newman, Mr., Middlesex, Enfield
Newton, Mr., Essex, Harwich
Nield, Mr., Middlesex, Ealing
O'Grady, Mr., Leeds, East
Ormsby-Gore, Mr., Denbigh
Parkes, Mr., Birmingham, Central
Pearce, Mr. W., Tower Hamlets, Limehouse
Remnant, Mr., Finsbury, Holborn
Rendall, Mr., Gloucester, South
Roberts, Mr. Charles, Lincoln
*Roberts, Mr. George, Norwich
Rolleston, Sir John, Hertford, East
Samuel, Mr. Jonathan, Stockton-on-Tees
Sandys, Mr., Somerset, Wells
Scanlan, Mr., Sligo, North
Scott, Mr. MacCallum, Glasgow, Bridgeton
Spear, Sir John, Devon, Tavistock
Thomas, Mr., Derby
Thynne, Lord Alexander, Bath
Tryon, Captain, Brighton
Walsh, Mr. John, Cork, South
Warner, Sir Courtenay, Stafford, Lichfield
*Wing, Mr., Durham, Houghton-le-Spring
Winterton, Earl, Sussex, Horsham
Wolmer, Viscount, Lancashire, Newton
*Worthington-Evans, Mr., Colchester

* Added in respect of the National Insurance Act (1911) Amendment Bill.

Some discussion took place on Clause 1 of the bill, which deals with the provision of moneys by Parliament to supplement that provided under the principal Act. It was contended by Mr. Cassel, Mr. Worthington-Evans, and others that it should properly be limited to the additional money provided for medical benefit, and not left open for Parliament to grant money for other purposes in connexion with supplementing the benefits under the Insurance Act without special bills dealing specifically with each subject. No division, however, was pressed for, and the clause was added to the bill without amendment.

Prolonged discussion took place on Clause 2, and an amendment was moved by Mr. G. Locker-Lampson, the effect of which would have been to introduce minors into the number of those who would receive the full benefits under the Act. It was stated by the Government that the cost of this proposal would amount to about £275,000 a year. Finally, it was negatived on a division by 40 votes to 19.

Arising out of a discussion on a subsequent amendment by Mr. Goulding, it was agreed by the Government that the proviso of subsection 2 of Clause 2 should provide that the number of payments entitling a member over sixty-five years of age to medical benefit should be twenty-six weekly contributions instead of fifty. A further amendment was made by Mr. Masterman in response to criticisms in Subsection 3 of Clause 2, which deals with the time at which the Act should come into operation, and it was agreed that sickness benefit should in any case commence on October 13th, 1913, and that the other benefits provided in the new bill should be definitely stated to begin at times set out in a clause to be brought up at a later stage. Otherwise Clause 2 was added to the bill without amendment.

On Clause 3 a long discussion took place on the payment of contributions by an employed person employed abroad, and finally the proposal brought forward by Mr. Bathurst to exempt these persons from the payment of their own share of the contributions was negatived without a division.

The Committee adjourned, having completed the first section of Clause 3.

Report of Proceedings in Committee.

The proceedings in Standing Committee are not as a rule reported, only an abbreviated account of the proceedings being issued with the parliamentary papers. In response to requests, however, from members of the House, a full report of the proceedings in Committee of the National Insurance Act (1911) Amendment Bill is being issued daily, and may be obtained from the Stationery Office or from Messrs. Wyman and Sons, Limited, Fetter Lane, E.C., price 3d.

Financial Resolution.

The financial resolution necessary to authorize the expenditure under the amending bill now before the House passed through Committee on Friday, July 18th, and through Report on Monday, July 21st. The discussion on Friday, apart from some references to the estimated amount of sickness claims, contained no material features of medical interest beyond those dealt with in the second reading debate. The resolution is in the following terms:

> That it is expedient to authorize the payment, out of moneys to be provided by Parliament, of such additional sums as may be required for the purposes of any Act of the present session to amend Parts I and III of the National Insurance Act, 1911.

Amendments.

The following is a list of the chief amendments of medical interest appearing on the Order Paper in connexion with the National Insurance Act (1911) Amendment Bill:

Those marked * were not discussed on Clause 5, and require, on the Chairman's ruling, to be brought up as new clauses.

Mr. Alden:—*Clause 5, page 3, line 39, at end, insert,—

(2) Where any person satisfies the insurance committee that he does not desire treatment by a duly qualified medical practitioner and does desire treatment by a person not so qualified, his right to medical benefit shall be suspended and the insurance committee shall pay to him in each year the sum equal to the sums payable to the committee in respect of his medical benefit.

Mr. Godfrey Locker-Lampson:—*Clause 5, page 4, line 5, at end, add,—

Every insurance committee shall have power to limit the number of insured persons to be treated by a medical practitioner who has made arrangements with any insurance committee for the provision of medical benefit under this or the principal Act, provided that such number be not less than two thousand five hundred, or where the medical practitioner has one or more partners an extra

two thousand five hundred for each such partner, but so that the average number for each partner shall not exceed two thousand five hundred.

*Clause 5, page 4, line 5, at end, add,—

Where in any town or district an approved society proves to the satisfaction of the Commissioners that it can provide adequate medical benefit for its members and that it has made arrangements with one or more resident local medical practitioners to that end, it shall be at liberty to administer such benefit, and the provisions of the principal Act shall be varied accordingly, but so however that any member of such society shall be at liberty to take medical benefit as provided by the principal Act.

*Clause 5, page 4, line 5, at end, add,—

An insured person, on satisfying the local insurance committee that he desires the services of a medical practitioner who has not entered into arrangements with such committee under subsection (1) of section fifteen of the principal Act, and that he understands the consequences of making arrangements under subsection (3) of that section, shall be at liberty to take such services under that subsection.

*Clause 5, page 4, line 5, at end, add,—

Insured persons temporarily resident away from their homes shall be entitled to call on the services of any local medical practitioner who is willing to supply the necessary treatment on terms to be prescribed by the Commissioners, and the Commissioners shall remunerate such medical practitioners out of moneys to be provided by Parliament.

Mr. Charles Bathurst :—*Clause 5, page 4, line 5, at end, add,—

(3) Medical benefit shall include such provisions for nursing as may be made by any insurance committee, and every insurance committee shall be authorized, with the approval of the Insurance Commissioners, to provide such nursing as may be required for the insured persons resident within their area.

* Clause 5, page 4, line 5, at end, add,—

(3) A person entitled to medical benefit shall be entitled to be provided with adequate medical attention and treatment in whatever part of Great Britain he may happen to be at the time of his illness, whether notice of his leaving home has or has not been previously given ; and the Insurance Commissioners shall as soon as may be practicable make arrangements under which the several insurance committees shall provide such medical attention and treatment as may be required by such persons for the time being within the areas of such committees, and the expenditure involved thereby shall be shared among all such committees in proportion to the total number of insured persons residing in their areas respectively.

* Clause 5, page 4, line 5, at end, add,—

(3) The regulations of the Insurance Commissioners shall provide for arrangements being made by every insurance committee for the provision of adequate medical attention and treatment, as required by the principal Act for insured persons entitled to medical benefit whose condition requires services beyond the competence of an ordinary medical practitioner, or any of the forms of medical treatment not included in the agreements entered into with the medical practitioners.

Mr. Rendall :—*Clause 5, page 4, line 5, at end, add,—

Any insured person being a member of an approved society shall be entitled when ill to medical attendance and treatment in whatever part of Great Britain he may be, irrespective of notice having been given of change of residence, and every insurance committee in Great Britain shall, as soon as practicable, with the approval of the Insurance Commissioners, make arrangements for the provision of medical attendance and treatment of insured persons only temporarily within the area of such Committee, and the Insurance Commissioners may provide for the reinsurance with them of the liabilities thus incurred by all approved societies in respect of the medical benefit of their members when away from home as if these liabilities were in respect of maternity benefit, and Section 20 of the principal Act shall apply to reinsurance of medical benefit in the same way as maternity benefit.

Sir Philip Magnus :—Clause 5, page 4, line 5, at end, add—

(3) The following paragraph shall be inserted after paragraph (*e*) of Subsection (2) of Section 15 of the principal Act :

(*f*) The right for practitioners whose names are on the list to make an additional charge not exceeding such amount as may be fixed by the Insurance Commissioners in respect of any attendance on an insured person between the hours of eight p.m. and eight a.m.

Dr. Addison and Mr. Glyn-Jones :—*Clause 5, page 4, line 5, at end, add—

Where it is made the duty of an insurance committee under the provisions of this Act or of the principal Act, or of regulations made thereunder, to ascertain, in respect of any matter affecting the administration of medical benefit in the area, the opinions and wishes of medical practitioners who have entered into agreements with the insurance committee for the attendance and treatment of insured persons whose medical benefit is administered by the committee, they shall do so through a committee appointed by such practitioners in accordance with regulations made by the Insurance Commissioners, and such committee shall perform such duties and shall exercise such powers as may be determined by the Insurance Commissioners.

Mr. Godfrey Locker-Lampson :—Clause 8, page 5, line 9, leave out from "Any," to "dispute," in line 12.

Clause 8, page 5, line 17, at end, add,—

Provided that where an approved society or a medical practitioner suspects that an insured person who is a member of such society and is in receipt of sickness or disablement benefit, is fit to return to work, the member may be submitted to examination by a medical referee or body of referees appointed by an insurance committee with the approval of the Commissioners, and the decision of such referee or body of referees shall be final and conclusive, if no appeal to the Commissioners is made within three days after such decision has been notified to the member, and if notice that such an appeal has been made is not given to the society within four days after such decision has been notified.

Mr. Astor and Dr. Addison :—To move the following Clause :

Section sixty-four, subsection (2), of the principal Act shall be read as containing, after the word "institution," in line 5, the words "and to provide therein or otherwise treatment of tuberculosis or such other diseases as aforesaid."

Mr. Glyn-Jones and Dr. Addison :—To move the following Clause :

In every county or county borough there shall be elected in accordance with regulations made by the Insurance Commissioners, by the persons, firms, and bodies corporate, who have agreed to supply drugs, medicines, and appliances to insured persons whose medical benefit is administered by the committee, a local pharmaceutical committee, and it shall, subject to regulations made by the Insurance Commissioners, be consulted by the insurance committee on all general questions affecting the supply of drugs, medicines, and appliances to insured persons, and shall perform such duties and exercise such powers as may be determined by the Insurance Commissioners.

In addition there are amendments in the names of several members, the effect of which would be to delete the prescribed fee in respect of cases of maternity where a midwife, under the provisions of the Midwives Act, requires to call in the services of a medical man in cases of difficulty, and further providing that sickness benefit should be obtained by an insured woman after maternity for four weeks on the production of satisfactory evidence of maternity, and in effect providing that the maternity benefit should be the property of the woman herself.

HIGHLANDS AND ISLANDS (MEDICAL SERVICE) GRANT.

The necessary resolution to authorize the expenditures under this bill passed through Committee on Friday, July 18th, and through Report on Monday, July 21st.

Considerable discussion took place with reference to the fact that part of Perthshire had been recommended by the Committee as one that should be included within the scope of the grant. It was urged with considerable warmth that, if the scope of the grant was to extend beyond the districts hitherto described as the Highlands and Islands, there were many other parts of Scotland equally, or even more, in need of the grant than the district referred to, and it was claimed that if any district outside that so defined could be included the discussion on the bill should be allowed to take an independent review of the needs of other parts.

It is evident, however, that, if the grant is to be extended beyond the Highlands and Islands as hitherto understood, the money provided is insufficient, and it is difficult to discover a sufficient reason for scheduling

West Perthshire whilst other parts of the country containing scattered districts are omitted.

The resolution was reported to the House without a division.

QUESTIONS.

Inspectorships and other Posts.

Mr. Masterman informed Mr. G. Locker-Lampson that there were vacancies under the Insurance Act in the grades of assistant-inspector and health insurance officer, but not in the grade of inspector.

Costs of Benefits to Aged Persons.

Mr. Masterman informed Mr. Worthington-Evans that the total estimated amount in the year 1915 of the benefits conferred by the bill on persons who entered insurance at ages 65 to 70 was £400,000. This amount must be reduced by the amount of the corresponding benefits which would have been paid to those persons under the conditions of the present Act, which amount cannot be definitely stated because such benefits were discretional with the societies. So far, however, as an estimate could be made in the circumstances, the amount to be set off under this head might be stated as £150,000, the net additional expenditure thus being £250,000. The number of insured persons of this class estimated to be entitled to benefits in January, 1915, was 190,000. This number would be considerably diminished during that year. The full number of persons estimated to benefit by the clause was stated in paragraph (10) of the actuarial report.

Medical and Maternity Service (Ireland).

Mr. Masterman said, in reply to Mr. Patrick White, that the certificate required by an insured person for claiming sickness benefit might be issued to him by the medical officer of a dispensary district in Ireland at a charge agreed upon between the patient and the doctor; the certificate required by an insured woman or the wife of an insured person to support a claim for maternity benefit might be given by a dispensary midwife in attendance on the case.

Medical Benefit.

Views of Medical Corporations.

Dr. Chapple asked the Prime Minster whether he had received a communication from the President of the Royal Faculty of Physicians and Surgeons of Glasgow, asking that the aid of the Royal Medical and Surgical Corporations should be sought in order to so modify the National Insurance Act (1911) Amendment Bill that efficient medical and surgical treatment might be assured to insured persons; whether he accepted this as evidence of the goodwill of the medical profession in Scotland towards the National Insurance Act; and whether he proposed to accede to the request. The Prime Minister replied that he had received the communication referred to. The amending bill only dealt with medical benefit under the Act to a very limited extent, but the Government would, of course, be happy to receive any representations from the bodies in question.

Contracting-out Payments.

Major Hope asked the Secretary to the Treasury whether the Scottish Insurance Commissioners had refused to pay any part of a bill incurred by Mr. David Douglas, of Stow, Midlothian, for medical attendance from March 2nd to March 23rd; and whether, having regard to the fact that Mr. Douglas was a member of an approved society and had paid his full contributions since July 15th, 1912, and that no panel doctor was available on March 2nd, he would take steps to fulfil the contract for medical benefit for which Mr. Douglas paid from July 15th, 1912, to March 2nd, 1913.—Mr. Masterman said he was informed that the insured person in question was aware at the time when he required attendance of the arrangement made by the Insurance Committee in February last for the attendance and treatment of insured persons in Stow by a doctor on the panel, and that he nevertheless chose to consult a doctor who had no contract with the Committee. The Insurance Committee had no power to make any payment for treatment obtained otherwise than under arrangements made by them, and he was so informed by the Committee.

Maternity Benefit.

Mr. Masterman stated, in reply to questions by Mr. Glazebrook and Mr. Leach, that amendments to the National Insurance Act Amendment Bill had been put down and would be considered in Committee to provide that maternity benefit should be paid to the woman herself, whether she be an insured person herself or the wife of an insured worker; that the clause in the National Insurance Act dealing with the prescribed fee of the doctor called in under the Midwives Act be struck out of the Act, and it should be compulsory for approved societies to pay sick benefit for four weeks in maternity cases of employed married women.

Sanatorium Benefit.

Mr. C. Bathurst asked the President of the Local Government Board if in several of the first annual reports of the county tuberculosis officers lately issued attention was drawn to the evil effects both to tuberculous patients and members of their families of the neglect of such patients after their discharge from a sanatorium; and whether, seeing that there was admittedly in those cases a gap for which the National Insurance Act made no provision, and which might result in physical recidivism as well as additional expenditure on the part of County Insurance Committees, the Government proposed either in the National Insurance Act (1911) Amendment Bill, now before the House, or through the Board's administration, to remedy this defect.—Mr. Burns said that the reports which had been at present received by the Local Government Board made no special reference to the point, but the value of after-care of patients who had received treatment in sanatoriums was generally well recognized, and, in the view of the Department, it should form an important part of the work of the dispensaries which were now being established. He had brought this view to the notice of local authorities.

CORRESPONDENCE.

The Locker-Lampson Amendments.

Mr. Oliver Locker-Lampson, M.P., writes: I beg you will forgive my troubling you, but a mistake has arisen, and I have been blamed by many doctors for an amendment to the National Insurance Act, which will transfer the administration of medical benefits to approved societies. May I say that this amendment is not mine, is not down in my name, and has never had my knowledge or approval? It is proposed by my brother, Mr. Godfrey Locker-Lampson, with whom I have as yet had no opportunity of discussion.

Having received no less than eighteen letters to-day alone from doctors upon the subject, I shall be very grateful if you would publish this contradiction. The mistake has arisen owing to the fact that I am conducting a "fighting fund" and appealing for help; and politicians interested in damaging this "fighting fund" have tried to suggest that I was opposed to the interests of the medical profession.

May I say that no member of the House of Commons is more entirely determined to do his best to secure fair play for the doctors than myself; and may I add that one of the objects of the "fighting fund" is to see justice done to every class and trade regardless of its voting power, and in particular to support at this juncture that great medical profession upon which our lives and well-being so largely depend?

Mr. Masterman and Contracting Out.

Dr. Charles J. Cooke (Plymouth) writes: If Mr. Masterman and his political friends really want those of us who are still holding aloof to "come on to the panel," it might be as well for them to adopt a less offensive tone than that which pervaded their remarks during the discussion on the second reading of the National Insurance Amendment Bill.

Mr. Masterman states that "*in every case where contracting out has been demanded the doctors who wish to have patients contracted out have desired to choose selected lives.*" That is untrue. Even in my small circle I know of several cases where an invalid applied (with the consent of the doctor who had been attending him or her) to

contract out, and was refused. In other cases the staff of a large establishment applied to be allowed to have the doctor to whom they were used, and were refused.

He states that the desire to choose selected lives was the "*sole reason*" for refusals on the part of Insurance Committees to contracting out. This is open to question. Is it not rather part and parcel of a deliberate scheme to force men on to the panels?

It is interesting to learn that "*it does not please*" Mr. Chiozza Money "*to learn that in a little town the local doctors have raised their charge for attending lying-in patients from 12s. 6d. to £1.*" I daresay the profession will survive, but one does not know whether to be most sorry for the unfortunate doctors who have been obliged to accept such fees in the past, or for the political turpitude which prevents a man from seeing more than one side of a question.

THE AMENDMENT OF THE ACT.

Dr. W. COODE ADAMS (Hampstead) writes: Dr. Palm (June 14th, p. 530) writes to you feelingly and eloquently upon the subject of the Insurance Act and rightly concludes that no amending of it will satisfy him. He opines that it should be repealed and enforces this opinion by picturesque analogies.

That it never will be repealed is absolutely certain, so he has my commiseration for being "in parlous state." But he goes on to inveigh against "lay control," and talks about "despotic Chancellors" and "butchers, bakers, and grocers."

But why wait so late in the day to raise such objections? Has not the profession accepted and acknowledged lay control for nearly a century? What about the services (navy, army, and civil), all which contain doctors, some whole-timers and some on contract? What about the numerous institutions (industrial schools *et haec genera*)? Then hospitals and dispensaries, and, finally, the most flagrant cases of all—clubs and friendly societies. What are the "bakers and butchers" to these? Has not the profession worked under such control with more or less satisfaction, and at all events without such blatant dissatisfaction? Finally, I ask in what way, as far as lay control is concerned, has the Insurance Act altered the *status quo ante*?

Dr. Palm wishes to rather see "England free than thrifty by compulsion." There are many more, I submit, that would prefer to see "England thrifty by compulsion than free and thriftless." He somewhat grudgingly admits that "freedom to make one's own arrangements" would "break down the Act," and approves of this course. Let him continue to approve. No Government of whatever stripe will permit such a proceeding.

THE FUTURE POLICY OF THE PROFESSION IN RELATION TO THE ACT.

Dr. G. C. CRICHTON (South Kensington) writes: Mr. Courtenay Lord says (July 5th): "Panel work is either derogatory or it is not." "A definite pronouncement will have to be made at Brighton."

It appears that there are already local non-panel societies in existence in many parts of London (SUPPLEMENT, p. 74) who will accept no service under the Act. Also there are seventy-six doctors in Wandsworth who take exception to the "pro-panel atttitude" of the Executive of the Association (p. 58).

If I turn to the JOURNAL (p. 66), in Mr. Stanger's address as President of the Yorkshire Branch, I read: "When the time came to decide, a large majority of medical men, driven by economic necessity, resolved to accept the Act." "As we have accepted the Act, it behoves us to try and improve it by pressing for improvements in the local administration of the present Act."

Another correspondent remarks, "those (including himself) who are loyally working the Act."

May I venture, as an old advocate of medical reform, to urge that the clear and weighty words of Mr. Stanger be adopted as the policy, in brief, of a united Association? As we have accepted the Act, it behoves us to try and improve it.

The policy of the St. Pancras Division was to expel from the Association all who had accepted service. There are about twenty Divisions in the Metropolitan Branch, and the Branch Council contains about 100 members. I should be surprised to hear if there be as many as twenty panel doctors amongst all the Committees within the area. There is, moreover, a widespread impression, for which there is some excuse, that the motive influence of the Association in the metropolis is intentionally to injure those who are "loyally working the Act." The newly elected Council should at the earliest opportunity formally repudiate the leaflets issued by the Chairman of the "London Medical Committee," who is a member of the Council.

Further, the State Sickness Insurance Committee, if it is to be renewed, should consist as to two-thirds or, at least, half of doctors whose names are on an insurance panel. They need not all have 2,000 on their list, 100 will do, but only thus will they have the requisite understanding.

It is useless to discuss any alterations in the constitution unless we have a mutual tolerance and an adequate representation of the various opinions. I have no personal grievance, can complain of no want of courtesy, nor unfriendliness. But if the policy of the Association, either as a whole or as interpreted in the metropolis, be hostile to those who have accepted service, then I must be loyal to them, and assume that my name is struck off the list of members.

HERBALISTS: AN APPEAL.

Dr. S. J. Ross (Bedford) writes: Mr. E. J. Roberts reminds your readers that the Worcester City Insurance Committee has allowed four uninsured persons to be treated by a herbalist, and suggests that we should all resign our panel appointments as a protest. Surely the logical attitude of the profession is that all registered medical practitioners in the area affected should resign. You cannot punish all Insurance Committees for the folly of one or two.

KINGSTON-UPON-HULL LOCAL INSURANCE COMMITTEE.

Dr. JOHN DIVINE (Hull) writes: On Tuesday, July 15th, there were signed and issued to the practitioners on the panel cheques to the value of £7,531 4s. This amount represents payment on the practitioners' lists for the second quarter, calculated on the mean of the number on the lists at the beginning and the number at the end of the quarter, after the assignment of those who had not chosen their doctor, 10 per cent. of those assigned being withheld on account of duplications, etc. The sum also includes £900 on account of the amount due for those who had not chosen their doctor in the first quarter.

The chemists were paid 75 per cent. of their accounts for the first two months of the second quarter.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns 8,930 births and 5,920 deaths were registered during the week ending Saturday, July 12th. The annual rate of mortality in these towns, which had been 11.6, 11.5, and 11.2 in the three preceding weeks, rose again to 11.4 per 1,000 in the week under notice. In London the death-rate did not exceed 11.1, against 11.0, 10.3, and 10.7 in the three preceding weeks. Among the ninety-five other large towns the death-rates ranged from 3.8 in Ealing, 5.2 in Hastings, 5.4 in Willesden, 5.7 in Gillingham, and 6.0 in Hornsey and in Ilford to 17.2 in Dudley, Stockport, and Burnley, 18.0 in Swindon, 18.1 in Salford, 18.9 in Stockton-on-Tees, and 19.5 in West Hartlepool. Measles caused a death-rate of 1.7 in Stoke-on-Trent and 3.0 in Dudley, and whooping-cough of 1.1 in Hull. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was recorded during the week. The causes of 33, or 0.8 per cent. of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 5 were registered in Birmingham, 4 in Liverpool, and 3 each in Manchester and in Burnley. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had been 1,499, 1,604, and 1,697 at the end of the three preceding weeks, further rose to 1,833 on Saturday, July 12th; 315 new cases were admitted during the week, against 273, 286, and 314 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,136 births and 591 deaths were registered during the week ending Saturday, July 12th. The annual rate of mortality in these towns, which had been 14.8, 14.9, and 13.7 in the three preceding weeks, further fell to 13.6 in the week under notice, and was 2.2 per 1,000 above the rate recorded in the ninety-six large English towns. Among the several towns the death-rates ranged from 5.9 in Falkirk and 8.1 in Hamilton to 16.8 in Coatbridge and 19.3 in Perth. The mortality from the principal infective diseases averaged 1.6 per 1,000, and was highest in Motherwell and Hamilton. The 276 deaths from all causes registered in Glasgow included 17 from measles, 8 from whooping-cough, 8 of children under 2 years of age from diarrhoea and enteritis, 4 from diphtheria, and 2 from scarlet fever. Measles caused 4 deaths in Dundee and 4 in Aberdeen, diarrhoea 3 in Aberdeen and 2 each in Edinburgh and in Motherwell, whooping-cough 2 in Aberdeen and 2 in Hamilton, scarlet fever 2 in Edinburgh, and diphtheria 2 in Aberdeen.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

The following announcements have been made by the Admiralty:—The following have been noted for special promotion for services in the Antarctic: Surgeon George Murray Levick for promotion to Fleet Surgeon on November 21st, 1915, subject to his qualifying for advancement to Staff Surgeon. Surgeon Edward L. Atkinson for promotion to Staff Surgeon with seniority of May 12th, 1913, on qualifying for that rank.

Staff Surgeon O. Mills to the *Halcyon*, on recommissioning. Staff Surgeon John O'Hea to the *Excellent*, temporary, vice Wilson, July 8th. Staff Surgeon Reginald R. St. G. S. Bond, M.B., F.R.C.S., to the *Commonwealth*, temporary, July 10th. Staff Surgeon F. C. Robinson to the *Adventure*, temporary, July 15th. Staff Surgeon Horace B. Hill to the *Audacious* (lent on trial), July 21st. The following Surgeons have been promoted to the rank of Staff Surgeon: Walter G. Edwards, June 9th, 1910; Robert F. MacMahon, November 21st, 1910; Walter G. Moore Anderson, M.B., November 23rd, 1911; Edward M. W. Hearn, M.D., Samuel H. Vickery, M.B., Maurice W. Haydon, November 21st, 1912. Surgeon Leonard Warren to the *Halcyon*, additional, for the *Wear*, on commissioning, July 15th. Surgeon G. B. Scott to the *Pembroke*, additional, for disposal, August 26th. Surgeon F. H. Stephens to the *Vivid*, additional, for disposal, July 9th. Surgeon R. J. G. Parnell to the *Pembroke*, additional, for Chatham Hospital, July 15th, and vice Scott, August 26th. Surgeon G. T. Verry, to the *Victory*, for Haslar Hospital, temporary, July 10th.

ARMY MEDICAL SERVICE.

Colonel William F. Stevenson, C.B., late Army Medical Service, has been granted the honorary rank of Surgeon-General.

Royal Army Medical Corps.

Colonel W. W. Pike, D.S.O., to officiate as Deputy Director of the Medical Services, Poona District.

Lieutenant-Colonel R. Caldwell has been posted to the Southern Command.

The following Captains to be Majors: Alexander W. Sampey, Henry Rogers, M.B., June 27th, 1913, and Alfred W. A. Irwin, July 1st, 1913.

Captain E. D. Caddell to command the Station Hospital, Aden.

Captain J. A. Turnbull has been ordered to York for recruiting duties.

Captain H. W. Farebrother has been appointed to hold collateral charge of the Civil Surgeoncy, Meiktila District, during the absence of Captain Walker.

Captain J. W. Lane has been granted six months' leave ex India.

The following Lieutenants are restored to the establishment, July 1st: Robert B. Price, M.B., William V. Corbett.

Captain William V. Boyce is placed temporarily on the half-pay list on account of ill-health, June 29th.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Lieutenant Charles S. Sandeman, M.B., to be Captain, June 17th.

Lieutenant Ian D. Dickson to be Captain, June 17th.

The following Lieutenants are confirmed in their rank: Samuel Wright, Frederick Jefferson, M.B., Walter E. Elliott, M.B.

The following to be Lieutenants on probation: Norman V. Lothian, M.B., late Cadet Sergeant, Glasgow University Contingent, Officers' Training Corps, May 8th. Cadet Robert Taylor, from the Glasgow Contingent, Officers' Training Corps, June 9th. Arthur P. Kennedy, June 6th. Cadet Corporal William Bird, from the Edinburgh University Contingent, Officers' Training Corps, June 19th. Cadet George H. Haines and Cadet Sergeant Howell G. Jones, from the University of London Contingent, Officers' Training Corps, June 17th and 20th respectively.

Lieutenant Philip S. Vickerman, M.B., resigns his commission, July 5th.

INDIAN MEDICAL SERVICE.

Colonel Sir Arthur M. Branfoot, K.C.I.E., late I.M.S., has been granted the honorary rank of Surgeon-General, July 16th.

Colonel A. O. Evans has been confirmed as Inspector-General of Civil Hospitals, Burma, with effect from June 30th, 1913, *vice* Colonel Carruthers.

Lieutenant-Colonel Bruce G. Seton to be Brevet Colonel, June 30th.

The King has approved of the retirement of Colonel Herbert St. C. Carruthers, Lieutenant-Colonel Henry Robert Woolbert, and Lieutenant-Colonel John B. Jameson.

The services of Captain J. H. Horton, D.S.O., have been placed temporarily at the disposal of the Government of Bombay for civil employment.

Lieutenant-Colonel E. V. Hugo, Professor of Surgery, Medical College, Lahore, has been granted furlough for one year, with effect from October 1st, 1913.

Captain F. E. Wilson has been granted combined leave for two years, with effect from May 6th, 1913.

Captain H. H. Thorburn has been posted as Agency Surgeon, Meshed, and *ex officio* Assistant to His Britannic Majesty's Consul-General and Agent to the Government of India in Khorasan, with effect from June 1st, 1913.

Major C. A. Sprawson has been appointed Professor of Medicine at King George's Medical College, Lucknow, with effect from July 1st, 1913.

Captain T. S. B. Williams has been posted temporarily as Agency Surgeon in the Eastern States of Rajputana.

Captain J. G. B. Shand, I.M.S., is appointed to the substantive medical charge of the 40th Pathans.

Captain W. D. Wadia, I.M.S., is appointed to the substantive medical charge of the 97th Infantry.

Captain W. E. Brierley, I.M.S., is appointed a Specialist in Advanced Operative Surgery with effect from June 16th, 1913.

Captain P. M. Rennie, I.M.S., is appointed to the substantive medical charge of the 32nd Sikh Pioneers.

Captain F. Stevenson, I.M.S., is appointed to the substantive medical charge of the 39th Central India Horse.

TERRITORIAL FORCE.

Royal Army Medical Corps.

Lieutenant-Colonel and Honorary Surgeon-Colonel William R. Smith, M.D., on completion of his period of service as Sanitary Officer of a Territorial Division, is retired, and is granted permission to retain his rank and to wear the prescribed uniform, July 2nd.

Major Peter C. Smith, M.D., from the Second London Sanitary Company, is appointed Sanitary Officer of a Territorial Division, July 2nd.

Second London Sanitary Company.—Major Charles E. Goddard, M.D., from the Unattached List for the Territorial Force to be Major, July 2nd.

Attached to Units other than Medical Units.—Captain Donald G. Campbell, M.B., to be Major, May 20th; Captain Charles E. Humphreys, to be Major, June 7th; Major John L. Thomas, C.B., F.R.C.S., resigns his commission and is granted permission to retain his rank and to wear the prescribed uniform, July 2nd; Lieutenant William J. Gray, to be Captain, July 1st; Lieutenant C. P. Lafage, Manchester University, Officers' Training Corps, to be Captain. Lieutenant Harold L. Heslop, M.D., to be Captain, July 11th. Major John Ritchie, M.B., resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform, July 12th, 1913. Lieutenant-Colonel H. G. Falkner, from the Unattached List for the Territorial Force, to be Lieutenant-Colonel, July 16th. Lieutenant Hugh Davies, M.B., F.R.C.S., resigns his commission, July 19th.

For Attachment to Units other than Medical Units.—Joseph W. Scott, M.D., to be Lieutenant, May 19th; Alfred T. Griffiths (late Surgeon-Lieutenant, 1st V.B. Duke of Wellington's—West Riding Regiment), to be Captain, July 5th. George J. M. Martin to be Lieutenant, June 5th, 1913. James G. Hayes to be Lieutenant, May 30th. John Wotherspoon, M.B., to be Lieutenant, June 17th. Noel G. Chavasse, M.B. (late Cadet Lance-Sergeant Oxford University Contingent, Senior Division, Officers' Training Corps), to be Lieutenant, June 2nd. Peyton T. Warren to be Lieutenant, June 9th. Charles S. Wink (late Second Lieutenant, 5th Battalion, The Essex Regiment), to be Lieutenant, July 12th.

Sixth London Field Ambulance.—Lieutenant Joseph Ernest Ryan, M.D., from the South Eastern Mounted Brigade Field Ambulance, to be Lieutenant, June 1st.

First London (City of London) General Hospital.—Robert J. W. Oswald (late Captain, List of Officers attached to units other than Medical Units), to be Captain in the permanent personnel, May 22nd.

Eastern Mounted Brigade Field Ambulance.—Lieutenant Meredith S. Doubble to be Captain, April 30th.

Third Highland Field Ambulance.—Captain Arthur M. Davie resigns his commission, July 12th.

Third North Midland Field Ambulance.—Lieutenant Charles A. Stidston, M.D., to be Captain, June 7th.

First West Riding Field Ambulance.—Herbert B. Pope to be Lieutenant, June 2nd.

Second Welsh Field Ambulance.—Lieutenant-Colonel Alfred W. Sheen, M.D., is seconded under the conditions of Paragraph 112 of the Territorial Force Regulations, July 10th.

Second Eastern General Hospital.—Captain James A. Booth to be Major, July 12th.

Supernumerary for Service with the Officers' Training Corps.—Lieutenant Rudolph A. Peters (serving with the Cambridge University Contingent, Senior Division, Officers' Training Corps) resigns his commission, July 12th, 1913.

First East Anglian Field Ambulance.—Lieutenant-Colonel Francis A. Brooks resigns his commission and is granted permission to retain his rank and to wear the prescribed uniform, July 19th.

Second London (City of London) Field Ambulance.—Leonard A. Harwood to be Lieutenant, June 2nd; Hubert Pinto-Leite to be Lieutenant, June 16th.

First Northern General Hospital.—Lieutenant-Colonel David Drummond and Lieutenant-Colonel Sir Thomas Oliver, M.D., have resigned their commissions; Major Thomas Beattie, M.D., and Major William E. Hume, M.B., to be Lieutenant-Colonels: Captain George R. Turner, M.B., F.R.C.S., and Captain Alfred Parkin, M.D., F.R.C.S., to be Majors, July 16th.

Lowland Mounted Brigade Field Ambulance.—Captain James Bruce, M.B., to be Major, June 10th.

Third Home Counties Field Ambulance.—Frederic E. H. Keogh to be Lieutenant, June 13th.

Third North Midland Field Ambulance.—Lieutenant Ernest W. Strange, M.D., to be Captain, June 24th.

Second Eastern General Hospital.—Herbert J. Walker, F.R.C.S. Edin., to be Lieutenant, July 16th.

TERRITORIAL FORCE RESERVE.

Infantry.

Surgeon-Major Charles J. Macalister, M.D., from the Tenth (Scottish) Battalion, the King's (Liverpool Regiment), to be Surgeon-Major, June 2nd, 1913.

Royal Army Medical Corps.

Lieutenant-Colonel Charles J. Jacome-Hood, from the Second Eastern General Hospital, to be Lieutenant-Colonel, July 15th.

COLONIAL MEDICAL SERVICE.

The following changes have been notified by the Colonial Office:

West African Medical Staff.

New Appointments.—The following gentlemen have been selected for appointment to the Staff: K. K. Grieve, M.B., B.Ch.Edin., D.T.M. Liverp., Southern Nigeria: D. T. Birt, M.B., B.S.Durh., Southern Nigeria.

Retirement.—R. M. Forde, L.R.C.P., L.R.C.S., Principal Medical Officer, Sierra Leone, retires on pension.

Death.—W. H. Langley, F.R.C.S.Ire., L.R.C.P.Ire., F.Z.S., Principal Medical Officer, Southern Nigeria.

Other Colonies and Protectorates.

Miss S. O'Flyn, M.B., Ch.B.Edin., has been selected for appointment as a Lady Medical Officer in the Federated Malay States; W. T. P. Meade King, M.R.C.S.Eng., L.R.C.P.Lond., F. C. Double, M.R.C.S.Eng., L.R.C.P.Lond., and R. J. A. MacMillan, M.B., Ch.B.Edin., have been selected for appointment as Medical Officers in Uganda.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ABERYSTWITH INFIRMARY AND CARDIGANSHIRE GENERAL HOSPITAL.—House-Surgeon and Secretary (male). Salary, £175 per annum, increasing to £200.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BATH: BAILBROOK HOUSE.—Locumtenent.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—(1) Resident Medical Officer; (2) Junior Resident Medical Officer (males). Salary at the rate of £60 and £40 per annum respectively.

BIRKENHEAD BOROUGH HOSPITAL.—Junior House-Surgeon (male). Salary, £80 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House-Surgeon. Salary £80 per annum, with £5 laundry allowance.

BOOTLE BOROUGH HOSPITAL.—Clinical Assistant. Salary, £50 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Junior Resident Officer (male). Salary, £80 per annum.

BRISTOL ROYAL INFIRMARY.—House-Physician. Salary at the rate of £100 per annum.

BURNLEY: VICTORIA HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—(1) House-Surgeon; (2) Second House-Surgeon. Salary, £80 per annum each.

CANCER HOSPITAL, Fulham Road, S.W.—First Assistant to the Research Department. Salary, £350 per annum.

CANTERBURY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £160 per annum.

CARLISLE DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C.—Bacteriologist. Honorarium, £50 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £90 per annum.

CHESTER GENERAL INFIRMARY.—House-Physician. Salary, £90 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House-Physician (male). Salary at the rate of £75 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—(1) Senior House-Surgeon; (2) House-Physician; (3) Junior House-Surgeon. Salary, for (1) £120 per annum; for (2) and (3) £90 per annum, increasing to £100 after six months.

CROYDON GENERAL HOSPITAL.—Junior House-Surgeon. Salary at the rate of £80 per annum.

DENBIGHSHIRE INFIRMARY.—House-Surgeon. Salary, £110 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

DEWSBURY AND DISTRICT GENERAL HOSPITAL.—House-Surgeon. Salary, £120 per annum.

DUFFERIN HOSPITALS.—Medical Women. Pay, Rs. 300 per mensem.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Assistant Surgeon.

ECCLES AND PATRICROFT HOSPITAL.—House-Surgeon. Salary, £70 per annum.

EDAY PARISH.—Medical Officer. Salary, £170 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of 100 guineas per annum.

FERMANAGH COUNTY HOSPITAL, Enniskillen.—House-Surgeon (male). Salary, £72 per annum.

GATESHEAD DISPENSARY.—Assistant Medical Officer (non-resident). Salary, £200 per annum.

GLOUCESTER ROYAL INFIRMARY AND EYE INSTITUTION.—Physician.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

GRIMSBY AND DISTRICT HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second House-Surgeon. Salary, £100 per annum.

HARROGATE: HEATHERDENE CONVALESCENT HOME.—Honorary Surgeon.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £70 per annum.

HERTS COUNTY ASYLUM, Hill End, St. Albans.—Second Assistant Medical Officer. Salary, £200 per annum, rising to £240.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £250.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Assistant Resident Medical Officer. Salary, £100 per annum.

HULME DISPENSARY, Manchester.—House-Surgeon. Salary, £160 per annum.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITAL.—(1) Vacancy on Honorary Medical Staff. (2) Locumtenent; four guineas a week.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LANCASHIRE EDUCATION COMMITTEE.—School Medical Inspector. Salary, £250 per annum, increasing to £400.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LEICESTER POOR LAW INFIRMARY.—Second Resident Assistant Medical Officer. Salary, £130 per annum.

LIVERPOOL PARISH.—Resident Assistant Medical Officer for the Workhouse Hospital. Salary, £100 per annum and £20 for examining applicants for outdoor relief.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Assistant Resident Medical Officer. Salary, £150 per annum.

LONDON HOSPITAL MEDICAL COLLEGE, E.—Demonstrator of Pharmacology. Salary, £200 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—(1) Physician for Diseases of the Skin. (2) Ear, Nose, and Throat Surgeon; (3) Surgeon to Out-patients; (4) Surgical Registrar; honorarium at the rate of 40 guineas a year.

LOWESTOFT HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LURGAN UNION.—Female Resident Medical Officer for the Workhouse and Fever Hospital. Salary, £80 per annum.

MAIDSTONE: KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer. Salary, £200 per annum, rising to £220

MANCHESTER TOWNSHIP.—Junior Resident Assistant Medical Officer of the Workhouse. Salary, £110 per annum.

MERTHYR TYDFIL UNION.—Assistant Medical Officer for Workhouse and Portsarn Sanatorium. Salary, £150 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—Resident Medical Officer. Salary, £150 per annum.

NATIONAL SANATORIUM, Benenden.—Assistant Medical Officer. Salary, £120 per annum.

NEWARK-UPON-TRENT: THE HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Resident Medical Officer. Salary at the rate of £80 per annum for first four months, increasing to £120.

OLDHAM COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary, £260, rising to £300.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL. Casualty House-Surgeon. Salary at the rate of £80 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Assistant Resident Medical Officer. Salary at the rate of £80 per annum.

PRESTON ROYAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Physician. Salary at the rate of £80 per annum.

ROYAL EYE HOSPITAL, Southwark, S.E.—Junior House-Surgeon. Salary at the rate of £50 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—House-Physician. Salary at the rate of £60 per annum.

ROYAL NATIONAL MISSION TO DEEP SEA FISHERMEN.—Young Medical Men for Service on the hospital vessels. Salary, 4 guineas a week.

SALISBURY GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £50 per annum.

SHEFFIELD: JESSOP HOSPITAL FOR WOMEN.—Senior and Assistant House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD ROYAL INFIRMARY.—Two Resident Medical Officers. Salary, £70 per annum.

SHREWSBURY: SALOP INFIRMARY.—House-Surgeon. Salary, £150 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House-Surgeon (male). Salary, £90 per annum, increasing to £115 at the end of one month.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Surgeon, Salary at the rate of £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY, Hartshill.—House-Surgeon. Salary, £100 per annum.

STRATHLACHLAN: PARISHES OF STRACHUR AND STRATHLACHLAN. Medical Officer. Salary, £94 per annum.

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House-Surgeon. Salary, £130 per annum.

SUNDERLAND: ROYAL INFIRMARY.—(1) Senior Resident; (2) House-Physician; (3) Two Junior House-Surgeons (males). Salary, for (1) £150 per annum, and for (2) and (3) £90 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

THREE COUNTIES ASYLUM, near Hitchin.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £250.

TOXTETH PARK TOWNSHIP.—Assistant Resident Male Medical Officer of the Workhouse and Infirmary. Salary, £125 per annum.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

WARWICKSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary, £250 per annum, rising to £300.

WEST HAM AND EASTERN GENERAL HOSPITAL.—(1) Senior House-Surgeon; (2) Senior House-Physician; (3) Junior House-Physician. Salary for (1) and (2) at the rate of £100 per annum, and for (3) £75 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £125 per annum.

WORCESTER GENERAL INFIRMARY.—House-Physician. Salary, £120 per annum.

YORKS: ELDWICK SANATORIUM, Bingley.—Resident Medical Officer. Salary, £100 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Beith (Ayr), Chipping Norton (Oxon).

APPOINTMENTS.

ALLOTT, H. C. W., L.A.H.Dubl., District Medical Officer and Public Vaccinator to the No. 2 District Alston-with-Garrigill Union.

BURTON, A. H. G., M.D.Lond., D.P.H.Camb., Resident Medical Officer of the Isolation Hospital, Deptford.

CATES, Joseph, M.D.Lond., D.P.H.Camb., Medical Officer of Health for the County Borough of St. Helens.

COOMBE, T. S., M.R.C.S., L.R.C.P., District and Workhouse Medical Officer of the Hoo Union.

DARBY, W. S., M.B., B.C.Camb., Certifying Factory Surgeon for the Harrow District, co. Middlesex.

EDE, C., M.B., District Medical Officer of the Calne Union.

EDWARDS, K. C., L.R.C.P. and S.Edin., L.F.P.S.Glasg., District Medical Officer of the Linton Union.

FINLAY, D. E., M.B., B.S.Lond., Certifying Factory Surgeon for the Gloucester District, co. Gloucester.

HANBURY, Langdon Fuller, M.R.C.S., Medical Superintendent of the West Ham Borough Asylum, Ilford.

HEY, S., M.R.C.S., L.R.C.P., Medical Officer of the Workhouse of the Ripon Union.

HUNTER, David, M.A., M.B., etc., Medical Superintendent of The Coppice Mental Hospital, Nottingham.

KANN, Miss A. L., M.B., B.S.Lond., Anaesthetist to the New Hospital for Women, Euston Road, N.W.

MANDANA, K. C., M.R.C.S.Eng., L.R.C.P.Lond., has been appointed House-Surgeon of the Italian Hospital, Queen Square, W.C.

MEARNS, Alexander, M.B., Second Assistant Medical Officer of the Infirmary and Gordon Road Workhouse of the Camberwell Union.

MORTON, Hugh, M.D.Glasg., Lecturer in Medicine, Western Medical School, Glasgow.

PEAKE, Cicely M., M.B., B.S.Lond., Junior Assistant Medical Officer of the Infirmary and Gordon Road Workhouse of the Camberwell Union.

PERNET, George, M.D., M.R.C.S., L.R.C.P., Dermatologist to the West London Hospital, and Lecturer on Dermatology, West London Post-Graduate College.

PHILLIPS, N. R., M.R.C.S., L.R.C.P., Medical Superintendent of the County Asylum, Abergavenny, vice J. Glendenning, M.D.Glas.

POPE, H. B., M.D., Certifying Factory Surgeon for the Clevedon District, co. Somerset.

RICHARDSON, A., M.B., B.S.Lond., F.R.C.S., Surgical Tutor in the University of Leeds and Surgical Registrar at the General Infirmary, Leeds.

SHAW, John Custance, M.R.C.S., Deputy Medical Superintendent of the West Ham Asylum.

THOMPSON, Charles J., B.Sc., L.M.S.S.A.Lond., reappointed Clinical and Surgical Assistant to the Midland Hospital for Skin and Urinary Diseases.

TIGHE, J. B., M.B., B.Ch., B.A.O.Irel., Medical Superintendent of the Gateshead Asylum, Stannington, Northumberland.

WELSH, J. G., L.R.C.P. and S.Edin., L.F.P.S.Glasg., District Medical Officer of the Bellingham Union.

WHITEHOUSE, Beckwith, M.S.Lond., F.R.C.S.Eng., one of the Hunterian Professors at the Royal College of Surgeons of England.

GUY'S HOSPITAL.—The following appointments have been made:
Orthopaedic Surgeon.—W. H. Trethowan, M.B., M.S.Lond.
Obstetric Surgeon.—Harold Chapple, M.A., M.B., M.C.Cantab.
Consulting Anaesthetist.—Dr. H. F. Lancaster, M.D.Brux., L.R.C.P., M.R.C.S.
Honorary Anaesthetist.—H. T. Depree, B.A., M.B., B.C.Cantab.
Physician.—John Fawcett, M.D., F.R.C.P.Lond.
Fifth Assistant Phyeician.—G. H. Hunt, M.A., M.B., B.Ch.Oxon.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—The following appointments have been made:
Assistant Anaesthetist.—Miss Moss, M.B., B.S.
Clinical Assistant to Mr. Pannett.—Miss Hunt, M.D.
Clinical Assistant to Mr. Legg.—Miss Kann, M.B., B.S.
Clinical Assistant to Gynaecological Department.—Miss Hunt, M.D.
Clinical Assistant to Throat, Nose, and Ear Department.—Miss Kann, M.B., B.S.
Clinical Assistant to Skin Department.—Mrs. Addison, M.B., B.S.

UNIVERSITY COLLEGE HOSPITAL.—The following appointments have been made:
Assistant to Ear and Throat Department.—F. J. Cleminson, M.C.Camb., F.R.C.S.
House-Physician.—B. Woodhouse, M.R.C.S., L.R.C.P.
House-Surgeon.—J. L. Davies, M.B., B.S.
Obstetric Assistant.—J. W. Tonks, B.A., M.R.C.S., L.R.C.P.
House-Surgeon.—F. H. Rees, M.B., B.S.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

CANE.—On July 19th, at Kirkee, near Poona, India, the wife of Captain Arthur S. Cane, R.A.M.C., of a son.

HUNT.—On July 18th, at 3, Goldsmid Road, Brighton, the wife of Ernest Rivaz Hunt, M.A., M.D.Cantab., of a son.

MARRIAGES.

PSIMENOS—SCANES SPICER.—On July 17th, at the Church of the Hagia Sophia, St. Petersburg Place, London, W., by special licence and with the full sacramental rite of the Holy Greek Church, by his Reverence the Great Archimandrite, Constantine Pagonis, and afterwards at St. George's, Hanover Square, by the Rev. Angel Spicer, B.A., Rector of E. and W. Anstey, Devon (uncle of the bride), assisted by the Rev. Charles Brown, M.A., Vicar of St. Mary's, Ramsey (uncle of the bride), and the Rev. Norman Thicknesse, M.A., Rector of St. George's, George John, son of Mr. and Mrs. Psimenos, of Pyrgos, Ilidos, Greece, to Maud Mary Bullen (Dornie), daughter of Dr. Robert Henry Scanes Spicer, Consulting Throat Surgeon, St. Mary's Hospital, London, W., and Mrs. Scanes Spicer, of 28, Welbeck Street, Cavendish Square, W., and Lynmead, Carlisle Road, Eastbourne.

MAWHOOD—PEEL.—On July 23rd, at St. Paul's Church, Bedford, Reginald Hawksworth Mawhood, M.B., F.R.C.S.Eng., of Ascot, son of Mr. and Mrs. John Mawhood, of Sheffield, to Phyllis, eldest daughter of the late E. Lennox and Mrs. Peel, of Bedford.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics, daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Wednesday. Radiography: Saturday.

ROTUNDA HOSPITAL, Dublin.—Continuation of the Post-Graduate Course on Obstetrics and Gynaecology, daily throughout the week, except Saturday.

[For further particulars of Lectures consult the Index to Advertisements.]

PUBLISHERS' ANNOUNCEMENTS.

MESSRS. J. AND A. CHURCHILL will shortly publish a new work by Dr. F. J. Poynton and Dr. Alexander Paine, entitled *Researches on Rheumatism*. The work will contain 106 black-and-white plates and a frontispiece in colour. The same firm has nearly ready the eleventh edition of Swayne's *Obstetric Aphorisms*, which is now edited by Dr. W. C. Swayne, Professor of Obstetrics in the University of Bristol; also the seventh edition of *The Microtomist's Vade-Mecum*, by Mr. A. B. Lee; the sixth edition of the late Professor Campbell Brown's *Practical Chemistry*, edited by Dr. Bengough; and the third edition of a *Textbook of Physics*, edited by A. Wilmer Duff.

DIARY.

Date.	Meetings to be Held.
	AUGUST.
	INTERNATIONAL MEDICAL CONGRESS.
6 Wed.	Inaugural Ceremony, 11 a.m. Address in Medicine, 5.30 p.m. (Professor Chauffard, Paris).
7 Thur.	Address in Surgery, 2 p.m. (Professor Harvey Cushing, Harvard University). Sections.
8 Fri.	Address in Pathology, 2 p.m. (Professor Paul Ehrlich, Frankfort). Sections.

Date.	Meetings to be Held.
	AUGUST.
	INTERNATIONAL MEDICAL CONGRESS (*continued*).
9 Sat.	Sections.
11 Mon.	Address on Heredity, 2 p.m. (Professor W. Bateson, F.R.S.). Sections.
12 Tues.	Address on Public Health, 3 p.m. (Right Hon. John Burns, M.P.). Sections. Closing Meeting, 4 p.m.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

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THE NATIONAL INSURANCE ACT (1911) AMENDMENT BILL.

OBJECTIONS OF THE ASSOCIATION TO CERTAIN PROPOSED AMENDMENTS.

PROCEEDINGS OF THE STANDING COMMITTEE.—GOVERNMENT DECISIONS.

OBJECTIONS OF THE ASSOCIATION TO CERTAIN PROPOSED AMENDMENTS.

THE following letter, pointing out the objections the Association urges against certain amendments of which members of the Standing Committee of the House of Commons, to which the Insurance Act Amendment Bill has been referred, have given notice, has been addressed by the Medical Secretary to the Honorary Secretaries of Divisions in the United Kingdom. The letter invites each Honorary Secretary to communicate the nature of the objections to the member of Parliament for the district, but other members of the Association will also do well to use their influence in the same direction. A list of the Standing Committee was published in the SUPPLEMENT for last week (July 26th, p. 146).

According to a compromise arranged on Wednesday the Standing Committee was to conclude this business on Thursday afternoon, the bill as amended being then reported to the whole House.

British Medical Association,
429, Strand, London, W.C.
July 29th, 1913.

Dear Sir,—I wish to draw your attention to certain amendments on the Order Paper of the Committee of the National Insurance Act Amending Bill which appear to be most dangerous to the interests of the medical profession, and should therefore be resisted to the utmost.

First in order of importance is an amendment by Mr. Godfrey Locker-Lampson, which, if carried, will allow arrangements to be made between approved societies and medical practitioners, and the administration of medical benefit so far as the members of those approved societies are concerned would be transferred from the Insurance Committee to the approved societies. As to this the Representative Meeting passed a strong resolution which has been circulated to every member of Parliament, but nothing but good could result from representations made direct to your local member. You will see that this is a distinct infringement of one of the cardinal points for which the Association fought most strenuously.

There are other two amendments standing in the names of Mr. George Roberts, M.P. for Norwich, and Mr. J. H. Thomas, M.P. for Derby, which together would have the effect of so altering Section 15, Subsection 4 of the National Insurance Act (Harmsworth Amendment) as to allow *all* medical aid institutions in the future to be recognized by the Commissioners. At present, as you are aware, only such institutions can be so recognized as were in existence at the time of the passing of the National Insurance Act. The amendment of Mr. Roberts opens up a prospect of the unlimited extension of these institutions all over the country, and in the interests both of the public and of the profession it must be resisted with the utmost vigour. It should be pointed out that the profession has always objected to these institutions, and that the passing of the amendment would be regarded as a distinct breach of faith inasmuch as it was understood that the Harmsworth Amendment was introduced merely to safeguard the interests of existing institutions, though it was recognized that these institutions could not offer as good a service to the insured as could be given under the ordinary panel

arrangements. As these latter arrangements are now working satisfactorily in most areas it is difficult to see what reason there can be for the extension of these institutions so far as the Act is concerned.

There is an amendment in the names of Dr. Addison and Mr. Glyn Jones providing that where no Local Medical Committee has been recognized a Committee appointed only by panel practitioners shall be recognized as the Local Medical Committee for that area. As this is an infringement of the principle that the Local Medical Committee shall be a Committee of the whole profession, representations should be made to Members of Parliament on this point. There is no section of the profession which is not affected by the working of the Insurance Act, and it is most important that the Local Medical Committees should represent all sections.

There is also an amendment in the name of Dr. Esmond to the effect that the election of representatives of the medical profession on the Insurance Committees shall be carried out only by practitioners who for three months preceding the election have been included in the list of medical practitioners who have agreed to attend and treat insured persons. As this is also an infringement of the principle alluded to in the above paragraph it is hoped that you will get your Member of Parliament to use his influence against it.

The Committee of the House of Commons is sitting from day to day and there is not a moment to lose if the medical profession desires to protect its interests. You will find in the SUPPLEMENT of July 26th, p. 146, a list of the names of the Members of Parliament acting on the Committee and representations should *at once* be made from every insurance area. Representations by electors in the areas represented by the members on the Committee will of course be specially valuable. I trust you will act at once. I am attending the meetings of the Committee and members of the Committee are being interviewed by London practitioners, but it is most important that we should be backed up by letters from all over the Kingdom.

I am, yours faithfully,

ALFRED COX,
Medical Secretary.

To Honorary Secretaries of Divisions, Branches, and Local Medical Committees.

PROCEEDINGS OF THE STANDING COMMITTEE OF THE HOUSE OF COMMONS.

ON Wednesday, July 23rd, substantial progress was made with the bill.

Clauses 4 to 6.

On Clause 4, under which an additional grant is made for the purpose of providing exempted persons with medical and sanatorium benefits, considerable discussion took place as to whether these were the most suitable benefits to be provided by the contributions. Finally, however, the general principles of the clause were approved without a division.

Discussion took place on an amendment by Sir Philip Magnus with regard to exempted persons who might have a greater income than £160 a year, and words were inserted, on the motion of Mr. Masterman, to carry out, in respect of these persons, the pledge given to the medical profession. The words were to the following effect, that "when the total income of such person from all sources exceeds £160 a year, he shall be required to make his own arrangements for receiving medical attendance and treatment, and Section 15 (2) of the principal Act shall apply accordingly."

It was agreed, in view of the fact that medical benefit is at present not extended to Ireland, that the benefits which should be provided for exempted persons in Ireland should be dealt with under regulations made by the Commissioners as the funds available might permit.

Considerable opposition was manifested to Section 5 of the bill, which stood as follows:

5.—(1) No voluntary contributor whose total income from all sources exceeds one hundred and sixty pounds a year shall be entitled to receive medical benefit, but in that case the weekly contribution which would otherwise be payable by him shall be reduced by one penny.

(2) Paragraph (*c*) of subsection (2) of section fifteen of the principal Act shall extend to members of societies other than such friendly societies as are mentioned in that paragraph who were at the date of the passing of the principal Act entitled as such members to medical attendance and treatment in like manner and subject to the like conditions as it applies to members of such friendly societies.

Mr. Masterman announced that, as the Government had introduced this clause in fulfilment of a pledge made to the medical profession when they took service under the Act, he could not admit material amendment. A motion to exclude from its provisions those who are or subsequently become voluntary contributors and who were insured persons previous to the passing of this Act, was defeated on a division.

An amendment by Mr. Cecil Harmsworth, providing that Section 2 of Clause 5 should apply, in addition to those mentioned in the section, to members of any registered friendly society or trade union who have subscribed for or been entitled to medical treatment and medicine for a continuous period of not less than twenty years prior to July 15th, 1912, was withdrawn. An understanding was arrived at that conferences should be held with a view to determining what would be the cost of such an extension, and it was promised by Mr. Masterman that he would consider what could be done before the Report stage was reached.

According to the ruling of the Chairman, a number of amendments, including the one in the name of Mr. G. Locker-Lampson, which would enable approved societies to administer medical benefit, were not discussed at this stage, as the Chairman held that they should be submitted subsequently as new clauses. Clause 5 was added to the bill without a division.

A long discussion took place on Clause 6, which deals with the additional provisions relating to sickness benefit, and an amendment was moved by Mr. Goulding which would have had the effect of extending sick pay to the first three days. Mr. Masterman pointed out that the cost of this extension would probably be at least £800,000 a year, and that the carrying of it would destroy the whole bill. After an appeal by Mr. Forster to members of the Opposition, the amendment was negatived without a division.

An amendment in the name of Mr. Bathurst was under discussion at the adjournment of the meeting. The effect of the amendment, which related to maternity cases, would extend the sickness benefit in cases of maternity to all insured women whether married or single.

Clauses 6 to 10.

On Thursday, July 24th, the debate was resumed on Clause 6, which relates to the conditions of payment of sickness benefit. Some amendments relating to maternity benefit were withdrawn, as it was ruled that they would more properly be discussed as new clauses.

Mr. Rupert Gwynne proposed that instead of "incapable of work," being the expression in the principal Act entitling an insured person to receive sickness benefit, the words "incapable of following his ordinary employment" should be inserted. The amendment was eventually withdrawn and the clause added to the bill.

Clause 7, which relates to the powers given to the Commissioners to make provisional schemes for dealing with casual labour, occupied a considerable part of the time of the Committee, and, with certain amendments moved by the Government with regard to the procedure in connexion with the orders made under the clause, it was added to the bill without a division.

Except for an amendment moved by Dr. Addison, enabling the Commissioners to determine which was the employer of an employed contributor in doubtful cases, no alteration was made to Clause 8.

On Clause 9, which deals with the powers of the Commissioners to make regulations, an important amendment was moved by Mr. Bathurst to provide that such regulations should not have the effect of limiting medical attendance and treatment. During the discussion of this, a strong desire was manifested by the Committee to have a general discussion in relation to the attitude of the medical profession to the Insurance Act, and the amendment was withdrawn in order that it might be brought up in a suitable form as a new clause later on. Other amendments on the Order Paper also were held over to be brought up as new clauses, and the clause was added to the bill without a division.

On Clause 10, which relates to the constitution in statutory form of the Joint Committee of the Insurance Commissions, an amendment was moved by Mr. J. H. Thomas

and subsequently withdrawn. Another amendment, having substantially the same effect, which was moved by Mr. Worthington-Evans to bring about the abolition of the four separate Commissions, was the subject of prolonged debate. It was finally rejected by 29 votes to 24.

Clauses 11 to End.

On Friday, July 25th, Clause 10 was added to the bill, and some amendments were made to Clause 11, with a view to making more definite the provisions as to the penalties which may be imposed upon an employer for making improper deductions from employees' wages. An amendment by Mr. Worthington-Evans to provide that the deductions must have been made knowingly was rejected on a division.

Other amendments to the remaining clauses were ruled out of order or were arranged to be brought up as new clauses, and, with some additions moved by the Government, the remainder of the clauses were added to the bill.

New Clauses.

A large number of new clauses appear on the Order Paper, and will doubtless form the subject of prolonged discussion.

The first of these, relating to the name of the Post Office Fund, was brought up by Mr. Masterman, read a second time, and added to the bill.

Maternity Benefits.

The remainder of the sitting until 4 o'clock was occupied in a long and interesting debate on the first point raised in connexion with the amendments which are suggested relating to maternity benefit. The discussion was as to whether maternity benefit should be expressly stated as being the mother's benefit in the case of women who are not themselves insured but are the wives of insured men. Under Subsection 1 of Section 18 of the principal Act, it is provided that the benefit in these cases shall be the benefit for the husband. An amendment moved by Mr. Roberts, to the effect that the matter should be left to the discretion of the approved societies, was rejected on a division by 29 votes to 11.

At the conclusion of the sitting the following words had been agreed to: "Maternity benefit shall in every case be the mother's benefit."

In this way therefore the Committee had decided that the benefit must be regarded as the woman's benefit, the ways and means whereby this principle could be carried out being reserved for the next sitting.

It was generally agreed that the number of cases in which maternity benefit was misused was small, and that the methods by which the benefit should be applied must be such as not to reflect unfavourably upon the husbands, who, with rare exceptions, at the present time hand over the benefit wholly to the mother.

On Monday, July 28th, the greater part of the sitting was again devoted to a discussion on the question of maternity benefit. To a great extent it overlapped that of the previous sitting. It was mainly concerned with the question as to how to give effect to the decision arrived at on the previous day.

The effect of that decision is that in the definition of benefits in Section 8 (1) (*e*) of the principal Act the definition of maternity benefit will now be as follows:

Payment to the *mother of the child* in the case of the confinement of the wife or, where the child is a posthumous child, of the widow of an insured person, or to any other woman who is an insured person, of the sum of 30s.

(The words in italics were those inserted by the Committee.)

Much confusion prevailed in the debate as to the machinery by which the benefit in the new form should be administered, and finally the new clause, moved by Mr. Locker-Lampson, as amended is as follows:

Maternity benefit shall in every case be the mother's benefit and paragraph (*e*) of subsection 1 of Section 8 of the principal Act shall be altered accordingly by the insertion of the words "to the mother of the child" after the first word "payment" in that paragraph and in subsection 1 of Section 18 of the principal Act for the words, "treated as a benefit for her husband and shall be administered in cash or otherwise by the approved society of which he is a member" there shall be substituted the words "shall be administered in the interests of the mother and child in cash or otherwise "by the society of which the husband is a member."

It is evident that this clause will have to be redrafted and put into a more comprehensible form on the Report stage. It was evident at the Committee that a good many of the members at the end of the discussion were very uncertain as to what actually had been done. It is an interesting object lesson in the difficulties of legislation by reference.

Stamp Duty.

A new clause in connexion with the stamp duty brought up by Mr. Masterman was added to the bill.

Casual Employment.

An amendment in connexion with the exclusion of certain persons in casual employment, proposed by Mr. Locker-Lampson, was defeated.

Sickness Benefit after Maternity.

Mr. Masterman stated that the Government had decided to support the policy involved in the adoption of an amendment to the effect that in the case of insured women who are themselves entitled to sickness benefit in addition to maternity benefit through their husbands' or through their own societies, as the case may be, there will in future be a double maternity benefit, consisting of the ordinary maternity benefit of 30s. and a further benefit of 30s., equivalent to four weeks' sick pay at 7s. 6d. a week. In cases, however, in which the woman has been already sick and is on a reduced scale of sickness benefit, or is receiving disablement benefit, the amount received in this connexion would vary accordingly, so that if a woman were confined and at the same time receiving disablement benefit, she would receive the maternity allowance of 30s. and 20s. in addition, or four weeks' pay at 5s. a week. The reason for this change is that considerable difficulty has been experienced in many cases owing to the fact that the women did not obtain the sickness benefit to which they were entitled because they were attended by a midwife and could not furnish a medical certificate, as is required by some societies in these cases.

Sickness Benefit in Hospitals.

At the adjournment of the Committee a proposal by Mr. Bathurst to repeal Section 12 of the principal Act was under discussion.

The debate was resumed at the commencement of the sitting on Tuesday, July 29th. The section deals with the payment of sick pay in the case of insured persons who are inmates of hospitals and other institutions. The object of Mr. Bathurst's amendment was to secure that insured persons who have no dependants, equally with those who have, should have sickness benefit in some form secured to them.

There was general agreement on the Committee as to the purpose Mr. Bathurst had in view, but it was urged by Mr. Masterman that a more convenient course would be not to negative the whole of Section 12 of the Act but to amend Subsection 2, which was the one concerned. This was eventually agreed to, and the new clause brought up by Mr. Masterman and finally added to the bill in an amended form reads as follows:

Section 12 of the principal Act shall have effect as though the first provision of Subsection (2) of that Section were omitted therefrom, and that any sum which, but for the provisions of that Section, would have been payable to any person on account of sickness, disablement, or maternity benefit, if and so far as it is not paid or applied in accordance with the provisions of that Section while the person to or in respect of whom it would have been payable is an inmate of any workhouse, hospital, asylum, convalescent home or infirmary, may if the society or committee administering the benefit thinks fit, be applied in the provision of any surgical appliances required by the person or otherwise for his benefit, after he ceases to be an inmate, or, if it is not so expended, shall be paid in cash to the person after leaving the institution in a lump sum or in instalments as the society or committee thinks fit.

Maternity Benefit.

The next question debated was the provisions of Section 18 (1) of the principal Act with respect to prescribing a fee as a first charge upon the maternity benefit in those cases in which medical practitioners are summoned in cases of difficulties by midwives under the provisions of the Midwives Act, 1902. The experience of working this provision has been unsatisfactory, and it was agreed that it would be desirable to delete it from the bill.

It has been found that in a large number of cases societies keep back the whole or part of the benefit money for ten days in case there should be a demand upon the fee, and it was stated that in a large number of instances disappointment and hardship had occurred in consequence, notwithstanding that in only a few of them had the provisions of the section to be made use of. It was not possible to earmark for this specific purpose more than half of the maternity benefit at the utmost, and it was therefore not possible to provide for the full fees which medical men were entitled to in difficult cases, and it appeared that no satisfaction had been given either to insured persons or to societies or to the medical men, and it was finally deleted without a division.

A new clause enabling a copy of the marriage certificate to be obtained at the fee of 1s. was inserted, on the motion of Mr. Chiozza Money.

Seamen Voluntary Contributors.

Clauses relating to the Merchant Shipping Act and voluntary contributors were added to the bill.

Proposed Extension of Medical Benefit to Ireland.

A debate arose on a proposal to extend medical benefit to Ireland, and there was hearty agreement on all sides that it would be desirable to do so. In view, however, of the fact that the report of the Committee appointed to consider this subject was not yet available, and as the Committee had no authority to set aside the deliberate decision of the House without the House itself having reconsidered the matter, the clause was finally withdrawn.

Medical Amendments.

The chief amendmends dealing with medical questions were not reached before Wednesday, July 30th, and a few notes upon the prospects and feeling of members in regard to some of them may be of interest.

Metropolitan Asylums Board.—The position of the Board is raised by an amendment by Mr. Cassel to the Insurance Bill and in the fourth clause of the Public Health (Prevention and Treatment of Disease) Bill brought in by Mr. Burns. Considerable opposition has been manifested to the fourth clause of that bill by Dr. Addison on the Ministerial side and Mr. Astor on the Opposition, and it is stated that negotiations took place on Tuesday, July 29th, with a view to obtaining a settlement. The position is difficult, as so many interests are involved. The Insurance Commission, the Local Government Board, the County Council, and the Metropolitan Asylums Board are all closely interested. Mr. Dickinson and Mr. Radford, amongst the London members, had amendments on the Order Paper, and it was understood that Lord Alexander Thynne, Mr. Cassel, and other Conservative members were very interested in the question. On the Order Paper on Wednesday, July 30th, an amendment appeared in the names of Mr. Dawes, the Chairman of the London Insurance Committee, Mr. Astor, Dr. Addison, and Mr. Rupert Gwynne, which on the face of it appeared to represent the results of the efforts to arrive at a settlement. The clause as finally accepted by the Government is given below in the note of the proceedings of Thursday, July 31st.

Friendly Societies.—Active lobbying is taking place in respect of Mr. Godfrey Locker-Lampson's proposal, but it is experiencing strong opposition, led by Sir Henry Craik and Sir Philip Magnus on the Opposition side, and by Dr. Addison and Mr. Glyn-Jones on the Government side. In view also of the profound alteration that it would make in the arrangements which have already been come to by the Insurance Committees, it does not appear likely that it will find a majority on the Committee. It has not been accepted by the Government.

Income Limit.—Sir Philip Magnus has given notice of a new clause embodying the proposals of the British Medical Association in respect of the income limit and free choice of doctor as regards contracting out. It has, however, not been accepted by the Government.

Medical Committees.—The amendment of which Dr. Addison and Mr. Glyn-Jones had given notice on this subject, modified by the addition of the lines italicized in the clause here quoted, was adopted on July 31st.

Where it is made the duty of an Insurance Committee under the provisions of this Act or of the principal Act, or of regulations made thereunder, to ascertain, in respect of any matter affecting the administration of medical benefit in the area, the opinions and wishes of the medical practitioners who have entered into agreements with the Insurance Committee for the attendance and treatment of insured persons whose medical benefit is administered by the Committee, they shall do so through a committee appointed by such practitioners in accordance with regulations made by the Insurance Commissioners, and such committee shall perform such duties and shall exercise such powers as may be determined by the Insurance Commissioners, *and in any area in which, within six months of the time of the passing of this Act, no Local Medical Committee has been recognized under the provisions of Section sixty-two of the principal Act, a committee elected in the manner hereinbefore provided may be recognized as the Local Medical Committee for that area.*

Dr. Addison has stated that, apart from legalizing the position of the Medical Committee which is required to be set up under the Regulations, he desires to give powers to the Commissioners to recognize a committee elected by the practitioners on the panel in an area where satisfactory arrangements for the recognition of a Local Medical Committee have not been made. The position in London appears to be the cause mainly for this proposal, and we understand that the words "within three months after the passing of this Act" have been inserted by Dr. Addison in response to representations made to him by leading members of the Association. He appears, however, to entertain a strong view as to the action which has been taken in some quarters against the medical men on the panel in London, and is determined to persevere with the amendment.

The Harmsworth Clause.—Mr. George Roberts and Mr. Thomas have given notice of an amendment which in effect would remove the provisions of Section 15 (4) of the Act requiring that the institutions and systems recognized should have been existing at the time of the passing of the principal Act. If this amendment were carried, it would obviously open the door to the setting up of new systems or institutions all over the country. It met with active opposition on both sides by the members who are equally opposed to Mr. Locker-Lampson's amendment with respect to friendly societies' control, and is not among those accepted by the Government.

Power of the Commissioners and Committees to make Arrangements.—A most important amendment appears in the name of Mr. Ramsay Macdonald, Mr. George Roberts, and Dr. Addison, in the following terms:

Alternative Arrangements for the Panel System.—If the Insurance Commissioners are satisfied that the insured persons or any considerable proportion of them within an area, or part of an area, are not receiving satisfactory medical treatment under the panel system the Commissioners may authorize the Insurance Committee to make, or may themselves make, such other arrangements as will secure to insured persons within the area, or part, such better medical service as is practicable having regard to the funds available for the purpose, or arrangements whereunder insured persons within the area, or part of the area, may be required to make their own arrangements for receiving medical attendance and treatment, including medicines and appliances, and whereunder the Insurance Committee or the Insurance Commissioners undertake to pay the cost of such medical attendance and treatment, or such part thereof, as may be practicable having regard to the funds at their disposal for the purpose.

This amendment, which is among those accepted by the Government, is obviously designed to give the Commissioners and Committees power, where required, to set up a service organized by themselves. It plainly expresses the desire of the movers, which, we believe, is shared by many other members of the Committee, that the ultimate development of the service should be on the lines of a State service, it being accepted that the powers are only to be exercised where the panel system is inadequate.

Other New Clauses.—Other new clauses are as follows: Clauses by Mr. Locker-Lampson relating to the setting up of medical referees; by Mr. Glyn-Jones to the establishment of local Pharmaceutical Committees and to the provision of expenses of Medical and Pharmaceutical Committees; by Sir Philip Magnus for restricting medical benefit in cases where a second opinion is required in cases of abortion and miscarriage, and in cases of diseases

due to misconduct other than venereal diseases, in accordance with the recent resolutions of the British Medical Association. Other amendments by Mr. Hinds and Mr. Haydn Jones would give to the Welsh Insurance Commissioners in respect of Wales powers exercised in general by the Local Government Board; another by Sir Henry Craik would give powers to county councils in Scotland to provide institutions and treatment for tuberculosis; another by Mr. Astor and Dr. Addison would give similar powers to county councils generally in respect of any disease, but excluding domiciliary and such other treatment as persons are able to provide for themselves.

A POLITICAL COMPROMISE.

The proceedings on Wednesday, July 30th, resulted in a somewhat unexpected agreement as to the conclusion of the Committee stage, the result of which was that a great many of the new clauses of which notice had been given will not be discussed.

During the afternoon Mr. Masterman made a statement as to the future progress of the bill, and indicated that the Government regarded it as very important that the Committee stage should conclude this week. Mr. Forster, on behalf of the Opposition, said that the Government must accept the whole responsibility; but that, after the statement made, he was willing on that understanding to co-operate in completing the Committee stage this week, as the Opposition had no wish to prevent the passage of the bill into law.

Sir Philip Magnus and Sir Henry Craik raised the question of the fate of the new clauses relating to the medical profession, and Mr. Masterman agreed that these clauses, which were acutely controversial in regard to the administration of medical benefit, such as that of Mr. Locker-Lampson, as well as those of whom Sir Philip Magnus had given notice on behalf of the British Medical Association, should be dealt with in the same way. In other words, they would not be proceeded with.

It was agreed that Mr. Masterman should place his name to those new clauses which the Government was prepared to accept, and that they should all be dealt with at the sitting on Thursday, which it was agreed should be prolonged beyond the usual hour, so as to bring the Committee stage to a conclusion on that day. As a result of this arrangement the bill as amended could be printed and circulated before the end of the present week.

Local Pharmaceutical Committees.

During Wednesday's sitting various clauses were added to the bill, the one of chief professional interest being the following clause in the names of Mr. Glyn-Jones and Dr. Addison:

Local Pharmaceutical Committee.—In every county or county borough there shall be elected in accordance with regulations made by the Insurance Commissioners, by the persons, firms, and bodies corporate, who have agreed to supply drugs, medicines, and appliances to insured persons whose medical benefit is administered by the committee, a local committee, and it shall, subject to regulations made by the Insurance Commissioners, be consulted by the insurance committee on all general questions affecting the supply of drugs, medicines, and appliances to insured persons, and shall perform such duties and exercise such powers as may be determined by the Insurance Commissioners.

CONSEQUENCES OF THE COMPROMISE.

The Order Paper on Thursday, July 31st, shows that the proposal of Mr. Locker-Lampson regarding the friendly society administration of medical benefit is not adopted, and that the new clause proposed by Mr. Roberts and Mr. Thomas, deleting the provision in Section 15 (A) that systems and institutions recognized must have been existing at the time of the passing of the principal Act, is dropped also.

The clauses quoted earlier in these notes regarding the power of the Commissioners and the Insurance Committees, if necessary, to make other arrangements, of which Mr. Ramsay Macdonald had given notice, as well as that proposed by Dr. Addison in regard to Medical Committees, were accepted by the Government.

Another clause, referred to above, with reference to the powers of the Metropolitan Asylums Board, and appearing on the paper in the name of Mr. Cassel, is also accepted. It is in the following terms:

Metropolitan Asylums Board.— Notwithstanding anything in any Act, it shall be lawful for the managers of the Metropolitan Asylums District, with the sanction of the Local Government Board, to enter into agreements with any County Council or, with the consent of the County Council, with any authority in a county for the reception of persons suffering from tuberculosis, or any such other disease as the Local Government Board, with the approval of the Treasury, may appoint under the Sections of the principal Act, into hospitals provided by the managers, and for this purpose the managers shall not be deemed to be a Poor Law authority. Any such agreements may provide that the cost of the treatment of the patients so received, or some part thereof, shall be borne otherwise than as provided by section eighty of the Public Health (London) Act, 1891.

It will be seen that under this amendment, the Metropolitan Asylums Board will be enabled to receive patients by agreements with the London County Council from the London Insurance Committee, and, if necessary, from other county councils. The Poor Law disqualification of the Board in this respect is removed, but it is not constituted a sanitary authority as proposed in Mr. Burns's bill or a local authority as proposed in Mr. Cassel's new clause. It is rumoured that, if a settlement were arrived at on this question in the Insurance Bill Committee, the Local Government Board would withdraw Clause 4 of the Public Health Bill, and thereby doubtless secure the easy passage of the remaining clauses of that measure.

Other clauses of much professional interest which the Government has adopted are the following:

County Councils in Scotland may provide Treatment for Tuberculosis.

A clause relating to the powers of the county councils in Scotland, previously down in the name of Sir Henry Craik, in the following terms:

A county council in Scotland that has been authorized by the Board to provide an institution in terms of Section 64, subsection (2), of the principal Act shall have the same powers of providing treatment for all persons suffering from tuberculosis as are possessed by local authorities under the Public Health (Scotland) Act, 1897.

Administration of Maternity Benefit.

The following new clause relating to the administration of maternity benefit appears under the names of Mr. Masterman, Mr. Thomas, and Mr. Bowerman:

Where a woman confined of a child is herself an insured person and is a married woman, or, if the child is a posthumous child, a widow, she shall, in lieu of any sickness or disablement benefit to which she may be entitled under Subsection (6) of Section eight of the principal Act, be entitled to receive a maternity benefit from the society of which she is a member or the insurance committee, as the case may be, in addition to any maternity benefit to which she may be otherwise entitled in respect of her husband's or her own insurance, and every approved society and Insurance Committee shall make rules to the satisfaction of the Insurance Commissioners requiring any woman in respect of whom any such sum is payable in respect of her own insurance to abstain from remunerative work during a period of four weeks after her confinement.

Power to make Payment in Lieu of Medical Treatment for Treatment by Unqualified Persons.

The following clause, moved by Mr. Alden, was accepted by the Government:

Where any person satisfies the Insurance Commitee that on conscientious grounds he does not desire treatment by a duly qualified medical practitioner, his right to medical benefit shall be suspended, and the Insurance Committee shall pay to him in each year the sum equal to the sums payable to the Committee in respect of his medical benefit.

Expenses of Medical and Pharmaceutical Committees.

A clause relating to the financing of the Medical and Pharmaceutical Committees previously down in the name of Mr. Glyn-Jones as follows:

The Insurance Committee, if requested so to do by any committee elected by the medical practitioners who have entered into agreement with the Insurance Committee for the attendance and treatment of insured persons whose benefit is administered by the Insurance Committee, and if requested by the Local Committee elected in manner provided by the last foregoing section, may be authorized by the Insurance Commissioners out of moneys available for the provision of medical benefit within the area to allot to and for the administrative expenses of each of the said committees, respectively, such a sum not exceeding one penny in all in respect of each insured person entitled to obtain medical attendance and treatment from the practitioners who have entered into agreement with the Insurance Committee as may be determined by the Insurance Committee with the consent of the Commissioners.

Provision of Medical Benefit for Persons away from Home.

The following new clause, moved by Viscount Wolmer, is starred on the order paper, but does not appear to have been adopted by the Government:

A person entitled to medical benefit shall be entitled to be provided with adequate medical attention and treatment in whatever part of Great Britain he may happen to be at the time of his illness, whether notice of his leaving home has or has not been previously given; and the Insurance Commissioners shall, as soon as may be practicable, make arrangements under which the several Insurance Committees shall provide such medical attention and treatment as may be required by such persons for the time being within the areas of such committees, and the expenditure involved thereby shall be shared among all such committees in proportion to the total number of insured persons residing in their areas respectively.

Thursday, July 31st.

The Committee resumed at 11 a.m. on Thursday, July 31st, and proceeded to consider the accepted new clauses and amendments. It was still sitting when we went to press. The Committee intended to sit late to complete its work with the view of having the bill as amended printed and circulated at the end of this week. In that case the Report stage in the House of Commons will, it is anticipated, be taken next week.

INSURANCE NOTES.

The State Medical Service Association.

Meeting at Brighton.

A meeting of the State Medical Service Association was held at Steine House, Brighton, on July 25th, when a fairly large audience assembled to hear addresses on the objects of the association by a number of speakers, including Mr. G. Bernard Shaw.

Professor Benjamin Moore, F.R.S. (Liverpool), who presided, explained that the meeting was not one officially connected with the proceedings in Brighton of the British Medical Association, although called at the same time as a matter of convenience. It was the view of the State Medical Service Association that medical attendance and treatment were provided at present entirely on a wrong basis. The doctor waited until disease was far advanced, and until the patient knew he was ill, before he gave any help. The health of the community was of primary importance, and medicine should be put on a national basis. The whole body of medical men should be organized to teach the people the laws of health.

Dr. Walter Malden, of Cambridge, who was introduced as the founder of a new paper called the *Medical World*, the first number of which is shortly to appear, said that it had only just dawned on governments that the health of a nation was part of their concern. A Ministry of Public Health was needed in every civilized country to co-ordinate the medical functions of half a dozen Government offices. In 1904 the British Medical Association considered the question of a Ministry of Public Health and passed a resolution that, inasmuch as the nation recognizes more and more the importance of social and sanitary, as distinct from purely political reforms, a Royal Commission should be appointed to inquire into the reorganization of the Local Government Board, in order to provide for a Ministry of Public Health. An undisciplined body of medical men, the speaker concluded, should be converted into a highly disciplined army to wage a campaign against disease and death.

Mr. F. Lawson Dodd remarked that medical men were so distributed throughout the country that they were fewest where the death-rate was highest. Dealing with attempts thus far made to organize the services of medical men, Mr. Wood said there had never been a more iniquitous sweating of doctors than that which occurred under what were called "friendly" societies. Adequate medical treatment was not guaranteed under the Insurance Act, because important vital operations were not included and dentistry was not provided, although dental caries was exceedingly prevalent. Moreover, the Act provided no solution of the hospital question, but had only made it more urgent. The answer of the Insurance Act to the problem of the medical provision for the people was thoroughly inadequate; it made no provision for most women and all children, and it provided a fixed service for an essentially migratory population. Mr. Lawson Dodd said the principle of free choice of doctor was only an inadequate buttress of a system which was on wrong lines; the danger in regard to free choice was that the balance was weighted against the most scrupulous doctors. The system of "restrained free choice of doctor," adopted in Germany to meet the difficulty, had only resulted in serious tyranny. Medicine should be organized under public control, in connexion with a well-endowed hospital system, the work should be paid for by the community, and be available to every citizen. Every doctor should be connected with the hospital of his district, and be able to carry out treatment there when necessary.

Mr. G. Bernard Shaw gave a characteristic address, containing many shrewd thrusts delivered in a style that was grave and gay by turns. He poked fun at the work of Public Health Committees, but admitted that they did good; not because the reforms they enforced were of any real use in themselves, but because the householder thereby was compelled incidentally to have his sanitary appliances overhauled. The Insurance Act, similarly, for the purpose for which it was intended was a fraud, but it gave employment to a vast number of clerks—who were very estimable persons. Then Mr. Shaw told the audience the story of the career of a doctor resident in a district which had greatly deteriorated. From driving in his carriage this doctor had reached the stage in which remarks on the following lines were to be heard at his end of the speaking tube when the night-bell rang: "What street did you say?" (Pause.) "Have you brought the money?" (Pause.) "Rattle it in the speaking tube, then!" The audience had scarcely finished laughing before Mr. Shaw had launched out into a vigorous diatribe against a system which drove doctors to "all sorts of mean shifts to gain a livelihood." He declared that the only way to overcome a growing distrust of medical men—which was exemplified by the great extension of Christian Science—was to reorganize the medical profession on an entirely different basis.

Dr. H. Beckett-Overy said that after ten years in practice he supported almost entirely what the various speakers had said as to the desirability of a State Medical Service. He did not know which was the worst feature of the present system—the weary waiting at the beginning of a career or the busy time when one was up all night. The best work could not be done under such uncertain conditions.

Dr. Jane Walker also spoke; and the proceedings concluded with a vote of thanks to the Chairman and speakers.

Medical Members of Cambridgeshire Insurance Committee.

At the quarterly meeting of the Cambridgeshire County Council, held on July 26th, Councillor J. W. Ellis, M.D., was unanimously elected to serve on the County Insurance Committee to fill the vacancy caused by the resignation of Alderman Sir H. G. Fordham. There are now five medical men among the forty members who constitute that Committee, and this fact should stimulate the profession elsewhere to secure the election of doctors as county council representatives on Local Insurance Committees.

Mr. Masterman's Allegations against Lancashire Doctors.

At the last meeting of the Southport Insurance Committee Dr. Limont called attention to Mr. Masterman's allegations against Lancashire doctors, and said that, as the practitioners on the panel in Southport wished to clear themselves of any imputation, and to know the views of the Insurance Committee, he moved:

That this Committee is satisfied that the doctors working on the panel are doing their work faithfully.

In the course of the discussion several members deprecated the passing of the resolution, on the ground that the Committee would be going somewhat outside its duties, but confidence in the practitioners on the panel was generally expressed, and ultimately Dr. Limont withdrew the motion.

EIGHTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

BRIGHTON, 1913.

ANNUAL REPRESENTATIVE MEETING.

Mr. T. JENNER VERRALL (Chairman of Representative Meetings) in the Chair.

Tuesday, July 22nd, 1913 (continued).

ORGANIZATION AND ADMINISTRATION OF ASSOCIATION.

REFERENDUM AND POSTAL VOTE.

THE Chairman of the Organization Committee (Mr. LARKIN) presented the recommendations of the Council with regard to the method of obtaining the opinion of the Association by means of a Referendum by postal vote. The recommendations, which were published in the SUPPLEMENT of June 21st, p. 563, were unanimously adopted by the meeting in the following form:

That, in the opinion of the Representative Meeting,

(*a*) The Council should be empowered to take a referendum on any decision of the Representative Body either in the way suggested in Article 32 (that is by meetings of the Divisions), or by a postal vote, and should also be empowered to extend the referendum or postal vote if it thought fit to the whole profession.

(*b*) The Council should have power to consider whether the question to be submitted was one which affected one or more parts of the kingdom—namely, England, Scotland, Ireland, Wales, or some Dominion, and to take the vote in any one or more of these parts as it thought fit.

(*c*) In taking a referendum or postal vote on any question the Council should have power to decide what majority of the votes received would justify it in making the result of the vote binding upon the members of the Association in those parts of the country consulted.

(*d*) The Representative Body should be empowered, when passing any resolution, to say to what portion of the kingdom the resolution should apply. In this case, if the Council decided to take a referendum or postal vote it would consult only that portion of the country designated by the Representative Body.

(*e*) It should be competent for the Representative Body to discuss and come to decisions upon matters of policy which are only to affect and to be made applicable to certain portions of the Association.

(*f*) The Division shall be empowered to lay down in their rules that the opinion of the Division may be ascertained either by a postal vote of its members or by a vote in meeting as the Division shall decide.

The CHAIRMAN OF THE ORGANIZATION COMMITTEE thereupon, in accordance with the instruction of Council, asked the meeting to consider the question whether the Representative Body should have power to suspend the operation of a decision by it until a postal vote had been taken.

The CHAIRMAN explained that the position was that the submission to the Council would be delayed until the postal vote was taken. If the Representative Meeting decided to adopt the course suggested, an alteration of the Articles of Association would be necessary, and would have to be put before the Divisions before anything could be done.

The motion was carried in the following form:

That the Representative Body deems it desirable, after having decided that a certain procedure or policy is advisable, that it should be able to declare that its decision on the matter should not be considered "the policy of the Association," and should be ignored by the Council until the result of a postal vote of the Association or profession to be taken forthwith by the Council, either on the whole question or on some portion thereof, has been ascertained.

To the question also submitted on behalf of the Council:

Would it be possible and desirable for the Representative Body at the same time to lay down the majority, either of voters or of the whole members of the Association or profession, it considered necessary for the carrying of the question?

the meeting returned a negative answer, but the next following question it answered in the affirmative—namely:

That it is desirable that the policy laid down in a specific resolution be able to be declared to be the policy of the Association in certain areas, and not in others, or in areas where a certain majority is reached—not in others, and if it is possible to have such local policy, it is desirable to have all matters connected with it kept local to the area affected.

The Council was instructed to draft the alterations in the regulations necessitated by the passing of the above resolutions, and to submit them to the Divisions and the next Representative Meeting.

MODE OF ELECTION OF MEMBERS OF COUNCIL BY BRANCHES OUTSIDE UNITED KINGDOM.

On the motion of the CHAIRMAN OF THE ORGANIZATION COMMITTEE, the following new By-law 46 was approved in substitution for existing By-law 46:

Mode of Election by Groups not in United Kingdom.

46.—(1) The election of seven members of Council by the groups of Branches not in the United Kingdom shall be conducted in the manner prescribed by this by-law.

(2) All nominations of candidates shall be in writing sent to the Association so as to be received at the head office on or before such day, not being later than the 15th February in each year, as shall be specified for the purpose by a notice published in the JOURNAL during the second or third week of October in the preceding year, and no nomination paper received after the day so specified shall be valid.

(3) The said notice shall prescribe a form in which the nominations are to be made, and the nominations shall be made in the form so prescribed, or in a form to the like effect. Nomination papers may be signed by not less than three members of any Branch comprised in the group.

4. As soon as may be after the 15th day of February in each year:

(*a*) In the case of any group for which one candidate only has been duly nominated, there shall be published in the JOURNAL a notice that such candidate has been elected as member for that group; and

(*b*) In the case of any group for which more candidates than one have been duly nominated, a voting paper shall be sent by post from the head office to each member of every Branch comprised in that group.

5. Every voting paper shall contain a statement that the same must be returned to the Association so as to be received at the head office on or before a specified day (not being later than the succeeding 15th day of May), and no voting paper received after the day so specified shall be counted.

6. Not later than the second week in the succeeding month of June a notice of the result of the elections shall be published in the JOURNAL.

GROUPING OF BRANCHES FOR ELECTION OF MEMBERS OF COUNCIL.

The following recommendations were approved:

That the Branches in the United Kingdom be grouped for election of members of Council for the year 1914–15 in the same way as for the year 1913–14.

That the Branches outside the United Kingdom be grouped for the election of members of Council for the year 1914–15 in the same way as for the year 1913–14.

Subject to the following amendment desired by the Bombay Branch:

That the Ceylon Branch be grouped with the Far Eastern Branches, leaving Indian Branches grouped into one.

PAYMENT OF EXPENSES OF REPRESENTATIVES.

The following recommendation of the Council was approved:

That having regard to the existing state of the finances of the Association, the time is still inopportune for acceding to the proposal that the out-of-pocket expenses of Representatives at Representative Meetings, other than their travelling expenses as at present, be paid out of the funds of the Association.

ELECTION OF MEMBERS BY BRANCHES.

The CHAIRMAN OF THE ORGANIZATION COMMITTEE, in moving

That the regulations as to election of members remain as at present.

said that the Victorian Branch had reported that it found that certain undesirable persons arrived in the area of the Branch and claimed membership. The matter had been considered by the Council, but the evidence did not show that the abuse was very great, and the remedy proposed involved a system of inquiry which would be cumbersome and involve much delay.

Dr. Greenlees (Cape of Good Hope) said that, notwithstanding the statement of the Chairman of the Organization Committee, he was prepared to vouch for the fact that many difficulties were experienced. He desired the meeting to make the rule applicable to the Branches that complained, but not to the United Kingdom.

After some further consideration, however, the meeting adopted the recommendation not to alter the system at present in force.

Representatives and Deputy Representatives.

The Chairman of the Organization Committee said that it had been found that a Representative could not resign, and that a Division could not get rid of its Representative. Even if a Representative died a successor could not be elected in his place. The Council therefore made the following recommendations:

1. The Representative of a constituency should be able to resign his position.
2. Any vacancy arising should be filled by the constituency in accordance with the rules of the Division or Divisions forming the constituency.
3. If a Representative be permitted to resign, the constituency should not be empowered to dismiss a Representative, but should be able, at a special meeting called for the purpose and by a two-thirds majority of those present and voting, to call upon a Representative to resign.
4. It would be inadvisable to allow a Deputy to act for a constituency during such portion only of a meeting as the Representative might be unable to attend.

Mr. Macnamara (Lewisham) suggested the addition of the words "and he should resign accordingly" to the end of Clause 3.

The Chairman thought the best way to deal with this would be to leave it to a man's honour to resign, and the suggestion was not pressed.

The recommendations of the Council were approved.

Appeals to Council by Branches outside the United Kingdom in Ethical Matters.

The Chairman of the Organization Committee moved the addition of the following clause to the minute (256 of the Annual Representative Meeting, 1912) defining the powers of the Central Ethical Committee:

> Provided that, notwithstanding the foregoing provisions, the Committee shall not adjudicate in or entertain any such matter of dispute as aforesaid which has arisen in a Branch not in the United Kingdom having a membership of not less than thirty, except upon the request of the Council of that Branch.

He said the motion arose out of representations from Colonial Branches, which possessed the power of expulsion. Certain members, dissatisfied with the decisions of the Colonial Branches, had appealed to the Central Ethical Committee from the Branch. It was felt that such an appeal placed the Committee in an impossible position.

The motion was agreed to.

Co-ordination between the Association and Committees under the Insurance Act Administration.

The Chairman of the Organization Committee moved various verbal amendments to the by-laws to provide for the co-ordination of the action of Divisions and Branches with that of Local Medical Committees and medical members of Insurance Committees.

The rules as referring to Branches and Divisions were similar, and those for Divisions are here given as amended by the meeting and adopted.

> The management of the affairs of each Division shall, save as otherwise provided in the by-laws, be vested in an Executive Committee composed of the following members:
> (*a*) The member or members representing the Division on the Representative Body;
> (*b*) The member or members representing the Division on the Branch Council;
> (*c*) Such members (if any) of any Local Medical Committee formed under the National Insurance Act, 1911, and such medical members (if any) of any Insurance Committee formed under that Act, being (in either case) ordinary members of the Association resident within the area of the Division as the Division may declare to be members *ex officio* of the Executive Committee;
> (*d*) Such other members elected by the Division as the Division may determine.

Relation of the Areas of Divisions and Branches to Insurance Areas.

The Chairman of the Organization Committee moved:

> That the following paragraph contained in the letter issued to Divisions and Branches on May 30th, 1913, by the Organization and State Sickness Insurance Committees on behalf of the Council be adopted by the Representative Body:
>
> (i) That it is desirable that the boundaries of the Branches should be so arranged that each insurance area should fall wholly within the territory of a single Branch—that is, that there should be no insurance area (county or county borough) lying partly within one Branch and partly within another Branch.

Dr. Courtenay Lord (South-Eastern Branch) moved the following amendment:

> That the Association be reorganized into Branches coinciding with the areas of administrative counties.

He said it appeared to the South-Eastern Branch that the changed state of affairs made it necessary to do this. Although it would disturb existing conditions to a very large extent, it would, he thought, simplify matters in the end by making these areas coterminous with insurance areas.

Surgeon-Lieutenant-Colonel Decimus Curme (West Dorset) opposed the proposal to make insurance areas coterminous with Division areas on the ground that in some cases a Division embraced two insurance areas.

The hour of adjournment having arrived, the discussion was suspended.

Wednesday, July 23rd, 1913.

Mr. T. Jenner Verrall took the chair at 9 a.m., and the minutes of the proceedings of the previous day were read, amended, and confirmed.

The discussion of Dr. Courtenay Lord's amendment was resumed.

The Chairman of the Organization Committee submitted that everything had been done in this matter that reasonably need be done. In various parts of the country it was impossible to reorganize the Divisions of the Association to coincide with the administrative county. Resolutions had already been passed agreeing to the Divisions breaking themselves up into wards or amalgamating in any way they thought fit, and he believed that up to the present everything that was wanted had been fully covered. If Dr. Lord would withdraw his amendment he would be quite ready to withdraw his motion.

Dr. Lord said that it had been pointed out to him that there would be great difficulty with regard to railway communication, and after what had been said he would be willing to withdraw his amendment.

Dr. Benham (Brighton) said, in his opinion, this was the most important point on the agenda. It was a question whether the authority of the Association should slip out of its hands and be handed over to the Local Medical Committees. He spoke both as a member of the Association and as Chairman of a Local Medical Committee. Practitioners in the country were paying much more attention to what was going on in the Medical Committees than to what was done in the Divisional meetings.

With the permission of the meeting the motion and amendment were withdrawn.

Proposed Insurance Department.

Mr. Russell Coombe (Exeter) moved:

> That it be an instruction to the Council to consider the desirability of creating a separate National Insurance department, and, if it deem such a course desirable, to carry out the necessary arrangements as soon as possible.

The work of the Medical Secretary's department had, he said, very greatly increased; the work in connexion with the Insurance Act alone was now greater than the whole of the departmental work previous to the inception of the Act. The Medical Secretary's department should be set free to deal with the ordinary work of the Association.

and this could only be done by setting up a separate department for Insurance Act work. His proposal left the Council to deal with the matter in the way it thought proper.

Dr. R. M. Beaton (St. Pancras), in seconding, said that the staff could not go on working in the way it had worked recently. It was absolutely essential that the Insurance Act work should be separated from the general work of the department.

The motion was carried.

Appointment of Welsh Committee.

Dr. W. E. Thomas (North Glamorgan) proposed, pending the establishment of a standing Welsh Committee:

> That it be an instruction to the Council to appoint the Representatives and Secretaries of the Welsh Divisions, the Welsh members of Council, and one member to represent the counties of Radnor and Montgomery as an *ad hoc* Welsh Committee for this year.

This was seconded by Dr. W. Bickerton Edwards (Swansea), and adopted.

Journal Committee.

The Chairman of the Journal Committee (Mr. Lucas) moved the approval of the paragraphs of the Annual Report of Council referring to the British Medical Journal.

Dr. Biggs (Wandsworth) moved:

> That the policy of the Association, as declared in Minute 51 of the January Meeting of Representatives, be more strongly supported by the Journal.

He had been instructed to move this by his Division, but he warned the meeting that it was a question of non-panel against panel doctor.

Whereupon a motion to proceed to the next business was carried.

In reply to a question as to what precautions had been taken with regard to articles in the Journal.

The Chairman of the Journal Committee stated that the Editor had authority to consult the Solicitor on any matter he deemed advisable.

In reply to Mr. Todd (Sunderland) as to when the Solicitor was first consulted with reference to the libel actions,

The Solicitor said that none of the articles out of which the libel actions arose had been previously submitted to him. He was not suggesting for a moment that they ought to have been. He merely made the statement to make his own position clear. He held no brief for the Editor, but he thought the Editor's position was an extremely difficult one. If enough sting was not put into the articles the profession were not satisfied, and if too much the Association might be involved in a libel action. The case of Stevens *v.* the British Medical Association arose out of the publication by the Association of the book *Secret Remedies*. That case lasted nine days; the jury did not record a verdict in connexion with it, but virtually the victory was with the Association, and the result, he thought, made it improbable that any one of those pilloried in that book would think of bringing an action against the Association. He did not want to advertise the book in any way, but when an application was made in Chambers before one of the Masters, who was informed that the action arose out of a book called *Secret Remedies*, he said: "I know it very well indeed. I have read it with very great interest, and I think it is doing a great deal of good work not only for the profession but for the public." The Solicitor concluded by thanking the meeting for allowing him to make the explanation.

The motion was accepted.

Science Committee.

The paragraphs of the Annual Report of Council dealing with the work of the Science Committee were approved.

Ethical Committee.

Upon the motion of the Chairman of the Central Ethical Committee (Dr. Biggs) the paragraphs of the Annual Report of Council under the heading "Medical Ethics" were approved.

The Chairman of the Committee then moved:

> That the Supplementary Report of the Council under the heading "Medical Ethics" be approved.

Whereupon Dr. Tennyson Smith (Bromley and Sevenoaks) called attention to the latter part of paragraph 206, stating that the Committee had rescinded its minute of 1903, forbidding the assumption of the title of "Dr." by practitioners who did not hold the degree of M.D. Dr. Tennyson Smith, while recognizing that the Royal College of Physicians of London occupied a very high position in the country, did not think that the Association should following its lead without full consideration. From time immemorial the title "Dr." had been kept entirely to that body of men who were graduates of a university; and he moved that the opinions of the universities should be obtained.

The Chairman of the Ethical Committee said that the Committee was only animated by the one desire—to maintain the honour and interests of the profession. He joined issue with Dr. Tennyson Smith on the statement that from time immemorial the title "Dr." had been limited to those who held the title of M.D. Every curer or attempted curer of diseases was called by the title "Dr.," and the public insisted upon using it. The matter had been fully debated by the Central Ethical Committee; it had been considered by the Council also, and the Council agreed with the Committee.

Dr. Tennyson Smith's amendment was lost, and the motion was carried.

Medico-Political Committee.

Medical Inspection and Treatment of School Children.

The Chairman of the Medico-Political Committee (Mr. T. W. H. Gaekstang) moved the adoption of the following recommendations in the Annual Report of Council, and they were unanimously agreed to:

> That the Council be instructed to codify the various decisions of the Association in connexion with the medical inspection and treatment of school children, and at the same time to consider and report to the Divisions and Representative Body as to any modification of that policy which may seem to the Council to be desirable.
>
> That the Representative Body empower the Council to use for the present its discretion as to putting into action or otherwise the policy of the Association concerning medical inspection and treatment of school children.

Public Health and Poor Law Committee.

Salary for Combined Whole-time Appointment of Medical Officer of Health and School Medical Officer.

On the motion of the Chairman of the Public Health and Poor Law Committee (Mr. E. J. Domville), it was agreed:

> That in no case where a less salary than £400 is offered for a combined whole-time appointment as medical officer of health and school medical officer should the advertisement be accepted for insertion in the Journal.

Hospitals.

The paragraphs of the Annual Report of the Council dealing with the work of the Hospitals Committee were approved, and, on the motion of the Chairman of Council, the following expression of opinion was adopted:

> That the Representative Body is of opinion that the voluntary system of hospitals prevalent in this country should be maintained so long as possible, and that in order to assist in maintaining such voluntary system, the services of the visiting medical staff should continue to be given on an honorary basis.

Naval and Military Committee.

On the motion of Surgeon-General Greany, Colonel Waller Barrow, A.M.S., was elected to represent the Army Medical Service upon the Council for the remainder of the period of office of Lieutenant-Colonel Davie-Harris, R.A.M.C., resigned.

The Chairman of Council said that Inspector-General Bentham, R.N., Representative of the Medical Service, R.N., had resigned on account of ill health, and the Council was authorized to appoint a representative for the remaining year of that gentleman's office.

Scottish Committee.

On the motion of Dr. John Adams, the Annual Report of Council under heading "Scotland" was approved; he then moved the adoption of the paragraph under this head in the Supplementary Report of Council; whereupon Dr. Porter (Edinburgh and Leith) moved:

That as the British Medical Association has definitely stated that the interests of those who refused service under the Insurance Act shall continue to be paramount, this can be obtained in Scotland only by a large representation of non-panel doctors on the Scottish Committee.

The Chairman took the opinion of the meeting as to whether the question of paramountcy, having regard to a previous decision, could be raised. The meeting was of a negative opinion, and Dr. Porter's motion was referred to the Council.

The remainder of the Report was approved.

Irish Committee.

The Annual Report of Council and the Supplementary Report of Council under the heading "Ireland" were approved.

Dominions Committee.

Dr. Greenlees (Cape of Good Hope, etc.) moved:

That the following Recommendation of Council be adopted:
That steps be taken to alter the title of the Colonial Committee to that of "Dominions Committee," and that it be referred to the Council to carry out the necessary alteration of the by-laws.

The Colonies, he said, had hitherto thought imperially, and desired the Association to think in the same way. It was a matter of importance to change the name of the Committee to the "Dominions Committee."

The motion was agreed, and the remainder of the Report was approved.

Eligibility for Membership in Overseas Dominions.

Dr. Greenlees (Cape of Good Hope) moved on behalf of the Natal Branch that the Council of the Association be instructed to take the necessary steps to have Section 4 of the Articles of Association of the British Medical Association deleted and the following substituted:

Any medical practitioner registered in any portion of the British Empire shall, subject to the by-laws, be eligible for admission as an ordinary member of the Association.

And that in applications for membership a declaration should be made that the applicant is registered in a certain portion of the Empire. Dr. Greenlees said that this matter had been placed in his hands by Dr. Murison, the Representative of Natal, who had waited four days for the opportunity to submit this motion, and had then been compelled to leave. The matter was of great importance to Natal. In Great Britain the country was mapped out into Branches and Divisions, and every man *ipso facto* belonged to some Division, but in the dominions over the seas that state of things did not exist. Natal had Pondoland on the one side and Swaziland on the other side, and there were medical men in Pondoland and Swaziland who did not belong to the Natal Branch and had no *locus standi* in the Association. The proposed alteration of the Articles of Association was for the purpose of getting over that difficulty.

Dr. Forsyth (Hong Kong and China Branch) opposed the motion. A university had recently been started in Hong Kong, and if the proposed alteration were made, in a few years the profession there would be swamped by Chinese graduates. As a Britisher he deprecated that. Further, Hong Kong was a free port, frequented by persons of many nationalities. If the change were made a doctor of practically any nationality could claim to be elected a member of the Association. He recognized that Natal was peculiarly situated, but even in Natal it might be found that the British would be swamped by the Dutch vote. He did not want to stand in the way of Natal, but he opposed the application of the alteration to the empire generally.

The Chairman of the Organization Committee (Mr. Larkin) supported Dr. Forsyth in his opposition to the proposed alteration. He was quite sure it could not be applied throughout the Association—in India, for example. It must be left to the Branches to say what qualifications they were prepared to accept locally. He therefore moved:

That the matter be referred to the Council for consideration.

This was seconded by the Chairman of Council, and accepted by Dr. Greenlees in the expectation that the matter would be brought up again at the next Representative Meeting.

Dr. Forsyth pointed out that all the Colonial Branches had special powers by which they could admit members as associates if they wished, but not as full members of the Association.

The motion to refer the matter to the Council was agreed.

Proposed Election of Members by Divisions.

Mr. Bradbrook (Buckinghamshire) moved:

That the election of members be by the Divisions, and not, as heretofore, by the Branch Council.

The motion was lost.

Composition of Branch Councils.

On the motion of the Chairman of the Organization Committee, the following recommendation, contained in paragraph 9 of the Special Report of Council on the scheme of the Council of the Metropolitan Counties Branch, was adopted:

That steps be taken for the amendment of present By-law 16 (*d*), in connexion with composition of Branch Councils, which at present reads as follows:
(*d*) In the case of a Branch comprising more Divisions than one, members elected by such Divisions in such manner that the number to be elected by each Division shall be as nearly as possible proportionate to the membership of such Division,
to read as follows:
(*d*) "Such other members as the Branch may by its rules decide."

Shortening of Period of Notice for Special Representative Meetings.

The Council, in its special report on the suggestions of the Council of the Metropolitan Counties Branch for the reform of the constitution of the Association (Supplement, June 21st), pointed out (paragraph 25) the practical impossibility of any advantage arising from the adoption of the following motion, of which the Maidstone Division had given notice:

That in the case of urgency the period of notice may be shortened at the discretion of the Council.

The motion having been formally moved by Dr. W. Douglas, the Representative of the Maidstone Division.

The Chairman of Council said there would be no objection in principle to such a regulation, but if such a clause were added to the by-laws it could have no practical effect. The other regulations made it impossible, physically, to shorten the time.

The Chairman of the Organization Committee said more time would be spent in calling the Council together to get the time shortened than could possibly be saved.

Dr. W. Douglas (Maidstone) said it might be left to a small committee of the Council.

The Chairman of the Organization Committee pointed out that the meeting had already decided on machinery which would render the calling of a Representative Meeting an easier matter than formerly.

The Chairman ruled that, having regard to a resolution passed on the first day referring back to the Council the consideration of the question of shortening the time of calling Special Representative Meetings, the present motion was out of order.

Notices as to Election of Council.

Mr. W. Bradbrook (Buckinghamshire) moved:

That the mode of election of the Council be altered so that more notice is given of any vacancy and an opportunity given of publishing the addresses of candidates in the Journal.

He said the present mode of selecting members of Council was very cumbersome, and many members had no opportunity of forming an opinion.

The Chairman of Council opposed the motion. In the first place it would, he said, be very expensive, and in the second it proposed the publication in the Journal, which would go to every member of the Association all over the empire, of a matter that could only interest a small section.

With the permission of the meeting the motion was withdrawn.

Mode of Election of Members of Council by Groups in the United Kingdom.

Dr. Wood (West Suffolk) moved that the election of

twenty-four members of Council by the Branches or groups of Branches and Divisions in the United Kingdom should be carried out as follows:

Candidates shall be nominated either (*a*) by a Division or (*b*) in writing signed by not less than three members of any such Branch.

Such nominations shall be sent to the Association at the head office on or before an appointed day, of which not less than fourteen days' notice has been given to the JOURNAL and to the Secretary of each Division of the Branches concerned.

Voting papers, containing the names of those candidates who have been nominated, together with the names of the Divisions or members by whom they were nominated, and such other particulars as the Council may from time to time prescribe, shall be sent by post by the Association from the head office to each member of every Branch comprised in the group.

The said voting papers shall be returned to the Association at the head office within such time as the Council may from time to time prescribe by notice given as aforesaid.

The expenses of the said election shall be borne by the Association.

The object of the proposed change was, he said, to ensure that the names of the members suggested for election to the Council should be brought more prominently before the various Divisions.

The CHAIRMAN OF THE ORGANIZATION COMMITTEE said that in order to economize the expense, advantage had been taken of the legal right to send out the notices through the JOURNAL. There was something to be said for letting members know what backing a man had, and in his Branch this used to be stated on the voting papers; it had been given up because it was thought that it gave some candidates an unfair advantage. On the voting paper each man should stand on his merits.

The motion was lost.

ELECTION OF SIR JAMES BARR TO BE VICE-PRESIDENT.

The CHAIRMAN moved:

That Sir James Barr, M.D., LL.D., be elected a Vice-President of the Association.

He said he thought there would be no difficulty in procuring the acceptance by the meeting of this motion. To whatever section of the community they belonged they knew that Sir James Barr was a man of strenuous opinions. They recognized that in every action he had taken he was guided by what he believed to be the best course to pursue to further their interests and the movements they had at heart. They were all indebted to him for the care and attention, the zeal and energy that he had given to their interests during his year of office, and the least they could do would be to confer this distinction upon him as a mark of their approval and gratitude.

The motion was carried by acclamation.

Sir JAMES BARR, in returning thanks, said that he was quite overwhelmed by the high favour conferred upon him, for which he thanked them very sincerely.

STANDING ORDERS.

Dr. J. C. WALKER (Rochdale) said that according to the interpretation which the Chairman of Representative Meetings had placed upon Standing Order 29, it was impossible to rescind a resolution of a Representative Meeting which had been arrived at after due consideration of the Divisions without notice, but that it was possible to rescind a resolution of the Representative Meeting which had been arrived at without the consideration of the Divisions without notice given in the JOURNAL. He proposed to omit from the Standing Order the clause which read, "arrived at after due consideration of the Divisions." That was desirable on two grounds. First, because the clause was ungrammatical—he thought it was intended to mean consideration by the Divisions; and, secondly, for the reason that it was possible for the Representative Meeting to rescind without any notice to the Association a resolution arrived at possibly after anxious consideration by a preceding Representative Meeting. At the time when they were asking for larger powers for themselves as a deliberative assembly, he thought it desirable that any limitation of those powers should be clearly and unequivocally laid down. The effect of the proposed alteration would be that no resolution of the Representative Meeting could be rescinded under ordinary circumstances by a subsequent Representative Meeting unless two months' notice had been given to the Divisions through the JOURNAL. There were still two safeguards. First of all, it would be possible at the same meeting to rescind any resolution which had been discovered to be unreasonable without such notice; and, secondly, it would be possible at any subsequent Representative Meeting to rescind a previous resolution by the suspension of the Standing Orders.

Dr. H. E. ROBINSON (Burnley) seconded.

The CHAIRMAN, after consultation with the Solicitor, advised the meeting to accept the alteration, and the motion was carried.

ANNUAL REPRESENTATIVE MEETING, 1914.

The CHAIRMAN OF COUNCIL announced that the date, July 17th, 1914, which had been fixed for the Aberdeen meeting, was found to be impracticable, owing to the succeeding week being the annual holiday in that city. Without suggesting a date, he moved that the meeting rescind the resolution adopted on the first day of the session that the Annual Representative Meeting of 1914 in Aberdeen should begin on July 17th.

The motion was carried, and it was agreed that the matter be left in the hands of the Council to fix a date.

CONDUCT OF BUSINESS AT REPRESENTATIVE MEETINGS.

Mr. TODD asked that the sending out of the Council's reports to the Divisions should be expedited. The late arrival of the reports from the Council very often delayed the work of the Representative Meeting, because fresh amendments and motions were brought up which could have been considered and dealt with by the Divisions if the reports had been issued earlier. He moved that such an expression of opinion be sent to the Council.

Mr. E. J. DOMVILLE moved:

That it be an instruction to the Agenda Committee that in preparing the agenda for future Representative Meetings they shall secure that principles only shall be the subject of resolution and debate, and that all questions of detail involving action brought forward by Representatives be referred to the Council.

There were many questions that had been brought forward in the debate which could quite competently have been dealt with by the Council direct, and if more power were given to the Agenda Committee the debates could be shortened.

Dr. MILBURN (East York), in seconding, said the adoption of the proposal would not only save a great deal of time but a considerable amount of money.

The TREASURER supported the motion. Each paragraph on the agenda cost between ten shillings and a sovereign, and many of these paragraphs had been withdrawn in the course of the debate. Therefore the fewer that had to be withdrawn, the better for the finances of the Association.

The CHAIRMAN also supported the motion, and observed that by passing it the Representative Meeting would not be depriving itself of any power.

The motion was adopted.

Dr. GOODBODY (Marylebone) moved:

That, with a view to facilitating the business of the Representative Meeting, it be an instruction to the Council to consider what steps, if any, are necessary to enable the Representative Meeting to form itself into several Committees for the preliminary discussion of confidential or controversial matters coming before such Representative Meeting.

Dr. Goodbody said that in the course of debate on a previous day a controversial subject had arisen in connexion with a proposed amendment of Section 15 (3) of the Insurance Act. It had then been suggested that the South Wales members, the metropolitan members, and others interested should have an informal meeting to discuss the matter, and it had then been possible in an hour and a half to arrive at a compromise which saved the Representative Meeting several hours' debate.

Dr. HALLS DALLY (Marylebone) seconded. He thought that if questions of local interest only, not affecting the Association generally, were settled out of the Representative Meeting much time might be saved.

The motion was carried.

SUGGESTED TIME-TABLE.

On the motion of Dr. DUNCAN (Chesterfield), seconded by Dr. HOUFTON (Nottingham), it was resolved:

That it be a suggestion to the Agenda Committee that an approximate time-table for each day should be drawn up,

allotting reasonable time for discussion of principles, subject always to the suspension of Standing Orders for the consequent varying of the order of business.

INSURANCE ACT AMENDMENT BILL.

The Locker-Lampson Amendment.

During the course of business on this day (Wednesday, July 23rd) the Chairman of Council obtained permission to bring up a matter of urgency. At its meeting on Saturday, July 19th, the Representative Body had unanimously passed a resolution condemning the amendment to the Insurance Act amending bill of which Mr. Godfrey Locker-Lampson had given notice. The *Morning Post* on that occasion gave a strong support to the resolution, but in its issue for Wednesday, July 23rd, it had published the following statement under the heading, "From our Special Correspondent, Brighton."

> There has been a remarkable change of opinion among the representatives since last Saturday as regards the Locker-Lampson amendment. Then, as I wrote, the amendment was rejected with almost complete unanimity, but to-day, partly as a result of the explanation given by Mr. Locker-Lampson in the *Morning Post*, and partly as a result of more mature consideration, there is a growing feeling among the non-panel section of representatives that the amendment, if carried, might form a means of allowing those who at present are outside the Act to give medical treatment to insured persons. I have discussed the matter with two medical men who have been prominent in connexion with the controversy, and who took a leading part in the work of the London Medical Committee in organizing the profession against taking service under the Act. Dr. Gordon Lane and Mr. Evan Jones. Dr. Lane inclines to the view that the amendment, if carried, would prove the salvation of those who have refused to go on the panels. The fact, he said, that the Government has found it necessary to bring forward an amending bill is a confession of failure.

Dr. Macdonald said that he did not think it necessary to go into all the correspondence in the *Morning Post*, but the paragraph he had read contained a distinct statement with regard to the opinion of the Representative Meeting which was clearly untrue. He did not know what foundation the correspondent of the *Morning Post* had for the statement. He moved that the Representative Meeting send a strong protest to the *Morning Post* explaining that the Representative Meeting was still of the same opinion, and that the amendment of Mr. Godfrey Locker-Lampson was distinctly disapproved by the British Medical Association. At the conclusion of Dr. Macdonald's speech there was prolonged applause.

Dr. Major Greenwood proposed that the gentlemen mentioned should be afforded an opportunity of making an explanation.

The Chairman agreed, although he judged from the applause with which the remarks of the Chairman of Council had been greeted that the meeting desired to endorse its previous opinion. He called upon Dr. Evan Jones.

Dr. Evan Jones (City of London) explained that he was prepared to father every word in the *Morning Post* as far as related to himself. It was the result of talking to a good many men during Sunday and Monday, and he could vouch for the truth of the concluding remarks in his interview with the representative of the *Morning Post*. Knowing a month ago that the amendment was coming on, he put the case to some gentlemen as to what the position would be if the amendment were carried, and what he said in the *Morning Post* was, in his opinion, correct.

Dr. W. E. Thomas (North Glamorgan) protested strongly that the communication ought not to have been made.

The Chairman agreed that it had been worth while to raise the matter, and that steps should be taken at once by telegram to express the meeting's determination to adhere to the resolution already passed. He thought, however, that enough had been said on the personal side of the question.

The motion was carried *nemine contradicente*.

Mr. Meade (York) was strongly of opinion that the meeting should pass a vote of censure; but, on the suggestion of the Chairman, the matter was dropped.

PROPHYLAXIS OF VENEREAL DISEASES.

The Chairman moved:

> That this meeting expresses its sympathy with the recent appeal made in the press by Sir Thomas Barlow and his co-signatories in favour of a more candid recognition by the public of the danger of venereal disease.

He was in sympathy with the appeal. It would be foolish for the profession in these candid, outspoken days not to grasp thoroughly and bravely such a question as this, which was at the root of much modern disease.

The motion was adopted.

THE MILWARD FUND.

Mr. Courtenay Lord (Rochester) obtained leave to bring to the notice of the meeting the extremely unsatisfactory condition of the fund being raised on behalf of the late Dr. Milward. He brought the matter forward with the full permission of the Representative of Cardiff. Although Cardiff and the locality had done most nobly, the rest of the country was very badly represented in the subscription list. It was probably because the profession were not acquainted with the sadness of the facts that the list was so small. Dr. Milward was one of their company captains and was the first to be shot down in the firing line. There was no doubt that his death had been accelerated by the work he did not only for his own Division but for the profession in general, and he left behind him, almost unprovided for, a wife and three children, aged respectively 2, 7, and 14. It was pitiable to think that any one in their walk of life should suddenly find that they were without means at all. He thought that a subscription list of £1,000 or less would be a standing disgrace to the profession. But £1,000 capitalized would not produce £1 a week. Would the profession allow the wife and children of one who had given his life for it to be reduced to penury? He sincerely trusted the Representatives would put the matter before their Divisions, and he appealed to them, in spite of the calls they had upon their purse, to subscribe generously to the Milward Fund.

Dr. Walker (Rochdale) suggested a collection being made at once among the members of the Representative Body.

The Chairman of Council thoroughly endorsed all that Dr. Lord had said, and thought the Representative Meeting might suggest to the Insurance Act Committee that it should deal generously with the case. It was certainly one of the saddest cases that had come within his knowledge. Dr. Milward had been a mainstay of the work of the Association in South Wales.

The Chairman said the Chairman of Council would take care that the matter was not forgotten by the Committee.

Dr. Crawford Treasure (Cardiff), as the Representative of the Cardiff Division, wished to render his thanks to Dr. Lord and Dr. Macdonald for their kind expressions of opinion, and to say how much the Cardiff Division would appreciate the action the Representative Meeting had taken. Only those who had been in contact with the late Dr. Milward would know the work that he had done on behalf of the Association, and it was not too much to say that he laid down his life for the Association.

CONFIRMATION OF MINUTES: VOTES OF THANKS.

The minutes of the meeting that day were then read and confirmed.

The Chairman moved:

> That the best thanks of the meeting be tendered to His Worship the Mayor and the Corporation of Hove and to the Local Committee for the arrangements made for the comfort and entertainment of the members of the Representative Body.

The motion was received with applause, and carried unanimously.

Mr. D. F. Todd (Sunderland) moved:

> That the very hearty thanks of the Representative Meeting be accorded to Mr. T. Jenner Verrall for his courteous conduct in the chair and his able management of the meeting.

He said that Mr. Verrall had carried out his duties in a way that could not have been surpassed.

Dr. Langdon-Down (South Middlesex), in seconding the motion, said the Representative Body had been extremely fortunate in the Chairmen it had had to preside over the Representative Meetings, but particularly fortunate in the case of Mr. Verrall, because he was gifted, above all things, with two qualities—namely, unfailing good

temper and indomitable patience. The physical strain of presiding over the meeting must have been very severe.

The motion was carried by acclamation.

The CHAIRMAN briefly returned thanks, and the proceedings terminated.

EDINBURGH STATUTORY LOCAL MEDICAL COMMITTEE.

DR. MICHAEL DEWAR (Edinburgh) writes: I wish to correct a misstatement made by Dr. Haslip at the Representative Meeting last Tuesday. He is reported in the JOURNAL to have said that "Two towns—Edinburgh and London—had no Statutory Local Medical Committee." I cannot speak for the position of affairs in London, but I can for Edinburgh. A provisional Medical Committee did duty in 1912, and a new committee was appointed at a meeting of the profession in January of this year, which was provisionally recognized by the Scottish Commissioners as a Statutory Local Medical Committee till April. The Committee was then re-elected at another practitioners' meeting, and was duly recognized as the Statutory Committee for the Edinburgh insurance area till the end of the medical year.

ANNUAL DINNER.

THE annual dinner was held at the Hove Town Hall, on Thursday, July 24th, and was attended by over 300 guests. Among those present were: The President, the Mayors of Brighton and Hove, Captain G. C. Tryon, M.P., the Hon. John Gordon, M.P., the Dean of Chichester, the Vicar of Brighton, Professor Pfeiffer, Professor Grober, Sir William Leishman, the Rev. Canon Wakeford, Professor Foerster, the Rev. J. B. Figgis, Dr. G. Morgan, Mr. H. D. Roberts, Mr. F. H. Toyne, Sir Berkeley Moynihan, the Rev. Mgr. Canon Johnston, the Rev. W. R. Dawson, Dr. L. A. Parry (Local Honorary Secretary), Sir James Barr (late President), Mr. T. Jenner Verrall (Chairman of Representative Meetings), Alderman Gervis (Chairman of the Brighton Division), Dr. J. A. Macdonald (Chairman of Council), Dr. Rayner (Treasurer), and Mr. E. B. Turner (Deputy Chairman of Representative Meetings).

LOYAL TOASTS.

The PRESIDENT proposed the toasts of "The King" and of "The Queen, Queen Alexandra, the Prince of Wales, and other Members of the Royal Family," which were duly honoured.

THE MUNICIPALITIES OF HOVE AND BRIGHTON.

Dr. J. A. MACDONALD (Chairman of Council), in proposing the toast of "The Municipalities of Brighton and Hove," said that, on behalf of the British Medical Association, he could assert, without fear of contradiction, that in no town throughout the kingdom it had visited had it met with a better reception than it had had from Brighton and Hove. (Cheers.) It was a little difficult, when dealing with twin municipalities, to know how to describe them—whether to say "Brighton and Hove" or "Hove and Brighton." He understood that there was only one thing in which those two municipalities did not see exactly eye to eye, and that was with regard to the question of light. Whatever might be the question as to light between them, there was no doubt that they had shed the light of their countenance and hospitality on the British Medical Association, and that it appreciated very highly the way in which it had been received.

The MAYOR OF BRIGHTON (Alderman C. Thomas-Stanford, J.P.) said that Hove and Brighton were partners. The municipality of Brighton was on the whole thoroughly representative of the more permanent elements of the town. He had heard it said of Brighton (he was not armed with any statistics on the point) that there were more medical men to the square mile than in any other part of the United Kingdom, and he thought it was curious and noteworthy that so far as the death-rate was concerned it was abnormally low. The medical profession, he believed, had always been in close touch with the municipality of Brighton. Among the many distinguished men who had worn the mayor's chain of office was the late Sir John Cordy Burrows, whose name was a household word in the town and, he believed, in the medical profession. He need scarcely remind his audience that among the aldermen who had passed the chair was Dr. Gervis, and among the councillors whom he hoped would occupy it before long was Dr. Ryle. Those names showed that the corporation of Brighton fairly represented the medical profession. He would like to correct one misunderstanding with regard to their corner of England which had grown up through an unfortunate alliteration. Long ago some misguided person spoke of "Sleepy Sussex." He did not think "sleepy" was a proper epithet to apply to Sussex to-day. He might fully claim that that corner of the county of Sussex which lay within the limits of the borough of Brighton was anything but asleep. On the contrary, it was rather wide awake. The borough of Brighton had not hesitated to undertake important public works, and it had not feared the stigma of municipal trading. It was intended to establish in Brighton a University College for Sussex, which would be a constituent of the London University, in accordance with Lord Haldane's scheme. Brighton was greatly gratified by the visit of the British Medical Association.

The MAYOR OF HOVE (Alderman Barnett Marks, J.P.), who also replied to the toast, said that Hove was greatly gratified by the visit of the Association, and was proud to have given a President to the Association. Dr. Hollis was one of the grand old men of Hove. It was not only in the medical profession that the President of the British Medical Association had shone; Hove claimed him some time back as one of its municipal workers. He had been a member of the local governing body some years ago, and had served as a Hove Commissioner for eight years, being elected in 1890. He had served on several committees, but his chief service was as Chairman of the Library Committee; but for his energy and efforts it was possible that Hove would not have possessed a library at all. Hove was very grateful to him for his generous gift to the Museum of a large and most important collection of butterflies and moths. In Dr. Parry, the energetic Honorary Local Secretary, Hove was again fortunate in having a man who had done excellent work for the municipality. He had been a member of the Hove Town Council, and was now School Medical Officer of Hove, and he was on the Education Committee. Hove appreciated his work as one of the *ex officio* members of that Committee. No man could take a keener interest in the children than Dr. Parry did, and Hove was already reaping the benefit of his work during the short period he had been School Medical Officer. Dr. Taylor, the Local Treasurer of the Executive Committee, was a hard-working and energetic member of the Town Council, and a member of one of the most important committees—namely, the Traction Committee. Dr. Taylor had also taken a very keen interest in matters affecting infant life, and particularly in the milk supply. There were no fewer than six medical men on the Hove Town Council. The Mayor proceeded to dilate upon the many attractions of the borough, and aroused considerable amusement by disclaiming any idea of advertisement. In conclusion, he said that Hove was very proud to have been able to welcome and receive the Association, and if anything they had done had made the visit enjoyable, Hove would be more than recompensed.

THE ULSTER CUP.

Captain TRYON, at the request of the PRESIDENT, presented the Ulster Cup to the deputy of Dr. L. Hatch, the winner, who was unable to be present. It had, he said, been won by one stroke, and five other players were only one stroke behind the winner, who was one up on bogey. He congratulated the winner on his success after a very close competition.

THE BRITISH MEDICAL ASSOCIATION.

The Rev. CANON HOSKINS (Vicar of Brighton), who gave the toast of "The British Medical Association," said that he was particularly glad, in the name of the great profession which he had the honour to represent, the Church, to give a cordial welcome to the Association on its visit to the towns of Brighton and Hove. The best welcome the Church could give was the welcome afforded in the Parish Church, St. Peter's, the previous afternoon. Perhaps it was not unfitting that a member of the Church should move the toast of the evening, because if there were any two professions that ought to work shoulder to shoulder, hand to hand, and heart to heart, it was the great professions of the Church and the medical profession.

Clergymen had opportunities that few others had of seeing with their own eyes the work the medical profession carried out, and the great devotion, the singular unselfishness and the great kindness exhibited by medical men to the poor. Being a vicar of a very large parish of some 15,000 people, almost all of whom were entirely poor, he had many opportunities of seeing and knowing what was done by members of the medical profession, and their great kindness, patience, and long suffering. It was impossible for him to add to the words which had been so eloquently spoken during the past week with regard to the Association. The words had not been mere empty compliments. Praise had been poured out unstintingly on all sides. When it was remembered that in the Association's not very long career, beginning with 40 members, it had attained a membership of some 26,000 men; when it was remembered that almost all the leading and most distinguished men of the profession belonged to the Association; when it was remembered that it carried its Branches into all the distant parts of the world, wherever the British flag flew; when it was remembered that the Association voted annually a very large sum of money for scientific research and for the betterment of the medical profession and the help of men who were very often working at great odds and difficulties—when all those things were considered, that was the best testimony to the work of the Association and the extensive influence which it exercised throughout the whole community. Brighton and Hove felt it a very great honour that the Association had chosen those towns for the annual congress, and in response those towns had in every way at their disposal endeavoured to show the Association similar honour. The German poet and philosopher Goethe said that whenever any man did anything which was worth doing, the world generally conspired to prevent him ever doing it again; but he hoped it would not be the last visit of the Association to Brighton. He had had the opportunity of attending two or three of the most interesting lectures and discussions, and had come away from one of them feeling very great doubts that he was fit to live. (Laughter.) After another discussion he had come to the conclusion that by all proper rights and laws he ought to have spent the greater part of his time in prison. (Renewed laughter.) The visit was drawing to a conclusion, and he hoped and trusted that the members of the British Medical Association would carry away with them an impression, not merely of the kindly feeling of those who had tried to do them honour, but an impression that their deliberations would further the general purpose and the interests of the Association. Brighton's only industry was to make well people sent to her. If there were any doubt whatever as to the heathfulness of Brighton, he would give one unconscious testimony to it. He was the fortunate, or possibly the unfortunate, recipient of certain fees for certain cemetaries in Brighton. After he had been in Brighton a few months a certain official of a certain cemetery wrote to him enclosing a cheque in a letter, in which he said: "My dear sir, I am extremely sorry to enclose so small a cheque, but the fact of the matter is we have been having very bad seasons of late." (Laughter.) He ventured to say that the very unconscious and grim humour of the official to whom he referred was the very highest tribute to the health of Brighton and also to the unfortunate medical men of Brighton. (Laughter.) In conclusion, he hoped the Association would carry away very pleasant impressions and that the result of the congress would be for the general welfare of the Association and the community throughout the country. He had great pleasure in proposing the toast of the evening, "The Health and Prosperity of the British Medical Association."

Mr. T. Jenner Verrall (Chairman of Representative Meetings), replying on behalf of the British Medical Association, said that the Representative Body was by constitution the centre of the energies of the Association, and he was bound to confess that the good wishes which had been expressed were by no means inopportune, for, on account of certain recent public events, the joints of the Association's armour had been somewhat strained—not seriously and not permanently, but for the time being tried. It was said in a letter, which all would recollect, that the writer understood that among those who were to receive it there were dissensions, and he went on to say that he partly believed it. Had the letter been written to the Association the writer need have had no demur as to the truth of the report. But if asked, were those divisions incurable? he would reply, "Certainly not"; those dissensions were not incurable. If he had any doubt about that he would certainly have no pleasure in continuing to work for the Association at all. It had been intimated to him that by continuing in office as Chairman of the Representative Meetings for another year he might help in the healing of any temporary feelings of soreness. It was for that reason that he had accepted a further term of office. His friends might be wrong as to their estimate of his personal influence, and he thought very likely that that was the case. ("No, no.") He might miscalculate his capacity and physical energy—he thought that was very probable. If so he would fail, but as things were he would rather fail than not try. (Applause.) As scientific men they were well aware that there was no stability in any body politic. There must be, as time went on, change and improvement, and they were not assuming that there was no change possible in the constitution of the Association which would make it more easy to further the interests of all sections of the medical community. He would, however, suggest that any changes of that kind should be introduced gradually and quietly. He might recall to their recollection Aesop's fable wherein a middle-aged husband had two wives—one who was jealous of the black hairs of her husband and the other of his grey hairs. They both pursued a depilatory process which resulted in uncomfortable baldness for the husband. (Laughter.) Applying that to the present circumstances, he would ask them to let the process of depilation take place as became the character of the subject with which they had to deal. If the constitution of the British Medical Association was to be thrown into the melting pot, out of the fine material which would be available for use, he suggested it would be as possible to construct a colossal statue of Peace as a 4.7 gun. In conclusion, Mr. Verrall could hardly tell those present what, as a Sussex man, Brighton born, it meant to him to come back to that town in the position he held on the present occasion. He could not trust himself to say all he should like to say on that head, and therefore, having thanked them on behalf of the Association and himself personally for their response to the toast, he would sit down. (Loud applause.)

The Guests.

Dr. H. Gervis (Chairman of the Brighton Division), proposing the toast of "Our Guests," said they were glad to see among their guests men of high standing and men of good judgement, because it was to be believed that, by dining with the Association, they would come to the conclusion that the members of the British Medical Association were, after all, human beings, and not the inhuman monsters that had been portrayed in some sections of the press and by the leaders of the friendly societies. It might be a matter of astonishment to those who came into doctors' consulting-rooms to witness the fact that the doctors could eat; for in the consulting-rooms patients were often advised to take a diet of dry toast and a little hot water at appropriate times. He believed by the natural association of ideas that the guests would say to themselves that, "After all, it is evident that doctors must eat. Possibly, these men have dependants on them—wives and families—for whom they have to provide nutriment," and, possibly, if at that late hour of the evening they were capable of inductive ratiocination, they would conclude that, if the force of circumstances enrolled the whole of their patients as gratuitous clients, they would no longer have the wherewithal even to supply themselves with food and drink. Possibly those who, like Canon Hoskins, had been attending the Section of Medical Sociology and had discussed eugenics, would say it would be an excellent thing when medical men were extinct, because the feeble and weakly would no longer have their lives prolonged to procreate still more feeble and weakly descendants. In welcoming the presence of their guests who were of the medical profession, perhaps, as had been already hinted, they in Brighton were not altogether disinterested, knowing as they did—it would be the merest affectation to pretend they did not—that Brighton was the very best place where invalids could be

sent. It was impossible not to be gratified at the presence of so many medical men who had no doubt come to that conclusion, and he hoped the result would be a benefit not only to Brighton but to the whole world. Having referred to the excellent arrangements made by the Honorary Local Secretary, Dr. Parry, the speaker said that the presence of guests from all parts of the world spoke volumes for the solidarity of medicine and for the unselfishness of the medical practitioner. No matter in whatever part of the world it might be, if a medical man made a discovery that he believed would be of benefit to humanity in general, he did not selfishly exploit it for his own aggrandisement, but hastened to the meetings of the British Medical Association, and did his best to impart to all his medical brethren what he believed to be for the good of the race. There were present that evening many distinguished guests—the Mayors of Brighton and Hove, two members of Parliament, members of the Church, many distinguished foreign representatives of medicine, and men in all ranks of life. They were the guests to whom the toast was given, and in proposing it he coupled with it the names of Professor Pfeiffer of Essen and the Rev. W. R. Dawson, Head Master of Brighton College, with regard to whom he must say that Brightonians were very proud, because in the very important profession of teaching the young he had shown a capacity for organization which had brought Brighton College to the highest pinnacle among the public schools of England.

Professor Pfeiffer, responding on behalf of the guests, tendered thanks on behalf of them and himself for the opportunity of being present among their British colleagues. To many it had been the first opportunity to take part in a meeting of such a large and illustrious society, and it had therefore given them great pleasure to be able to be present during the conference. Their thanks were more especially due because the meeting had made it possible for them to communicate their views and knowledge, and they only hoped that they had been able to say something which would prove of value and interest. He also tendered thanks for the part the guests had been able to take in the Association's functions. Independently of nation or country, a common brotherhood linked all doctors together, and that was the common interest of helping the sick and infirm. That would create an *entente cordiale* wherever doctors of different nations meet, and a good example of that was afforded by the Brighton meeting. For himself he considered it a great honour to be chosen to respond for all foreign doctors. He was sure he would be voicing the feelings of all the guests when he said that they would carry away with them very pleasant recollections of that very interesting meeting, and they would never forget the proverbial British hospitality.

The Rev. W. R. Dawson also said that the guests were very proud to dine with the British Medical Association, not only because of the ability and versatility of the medical profession, or the progress made in its own sphere during the last few years, but because it was realized that of all professions the medical profession came first. Its self-sacrifice and devotion to duty and unfailing sympathy put the profession before any others. He said "unfailing sympathy" because there was not a family in the land which was not proud to claim the doctor as its best friend. It had been truly said that a doctor not only received a man into the world, but was his friend and counsellor throughout his life and closed his eyes for the last time. Recompense from a worldly point of view the doctor might not have; few, indeed, sought it, but, because the doctor's vision was of the highest, his recompense was a consciousness of duty well and nobly done, and the feeling that he left the world a little better than he found it. When an enlightened historian wrote the history of the times, and touched upon the social conditions and treated of the improvement of the conditions under which all classes of the community worked, that historian would conclude by stating that the most potent and the most important factor in development on those lines had been the work unselfishly and magnificently done by the medical profession.

The President.

The toast of "The President" was proposed by Sir James Barr, the late President. Dr. Hollis, he said, had been spoken of as the "grand old man of Hove," but he for his part did not look upon him as an old man, and he had no doubt that he would become rejuvenated during his year of office. Sir James humorously dilated upon the large number of medical men in Brighton, and it puzzled him as to how they all lived. It rather reminded him of the Irishman who, when he was before the magistrate, was asked, "How do you live?" The Irishman said, "I don't live; I merely exist." (Laughter.) He thought it an unjust distribution in the care of Brightonians that Canon Hoskins should have charge of 15,000 souls, and that there was one medical man to every 450. (Laughter.) He thought that showed that there was a good opening for more clergy in Brighton. The esteem in which Dr. Hollis was held was well known. He was not only the leader of the profession in Brighton and Hove, but he was now the leader of the great British Medical Association, and that he would succeed in the high office to which he had been appointed during the next twelve months there was no doubt. The honour and dignity of the medical profession would be perfectly safe in his hands. Sir James proposed the toast from his heart, because he had found Dr. Hollis to be a man whom he could sincerely esteem, and he wished him long life. (Loud applause.)

The President, rising to respond, was received with loud and continued applause. He thanked those present most heartily for the kind way in which they had drunk this toast. He scarcely felt that he deserved the great honour conferred upon him. One of his distinguished predecessors some few years ago likened himself to a figure-head, and he was not sure that that president was not right when he said that the great work of the Association was in other hands. At the present time the Association was really ruled by a triumvirate, and the President was a figure-head to the great liner to which he might liken the British Medical Association. The real work of the Association was carried on by the Chairman of Council and the Chairman of Representative Meetings. The triumvirate worked very well as long as the president or figure-head stuck to the front of the vessel and did very little.

ADDRESS IN SURGERY.

The Address in Surgery was delivered by Sir Berkeley Moynihan, M.S., F.R.C.S., in the Music Room, Royal Pavilion, Brighton, on Thursday, July 24th.

The President, Dr. Ainslie Hollis, introducing Sir Berkeley, said he was known to every one by repute, if not personally. He was surgeon to the Leeds General Infirmary and also Professor of Clinical Surgery of the University of Leeds. He had made his reputation by his operative skill and his wonderful insight into abdominal disease. More especially he had taught surgical measures and treatment for duodenal ulcers, and also the clinical features and the surgical treatment of gall stones. Whilst these were two special operations for which he was justly celebrated, he was also renowned, of course, as a general operative surgeon. The title of his address was, "The Gifts of Surgery to Medicine."

[The address was published in the Journal of July 26th, p. 169.]

Mr. Robert Jones, moving a vote of thanks, said it was impossible for any one, no matter how gifted he might be, to express in words their great appreciation for the most brilliant oration to which they had listened. Sir Berkeley's friends knew that there was no height which he could not reach. His memory and his wealth of imagery, his beautiful and lucid diction, invariably excited admiration. Apart from that, he was not a "ferocious" surgeon, but had always been known as the surgeon of the gentle hand. Not only had surgery a gift from the gods in Sir Berkeley, but his clinic was a Mecca to which nearly every distinguished surgeon all the world over came to pay respectful homage. He moved:

> That the best thanks of the British Medical Association be accorded to Sir Berkeley Moynihan, M.S., F.R.C.S., for his able and instructive Address in Surgery delivered in Brighton on the occasion of the Eighty-first Annual Meeting of the British Medical Association.

Dr. Willoughby Furner, in seconding, said that the meeting, composed as it was of scientists, surgeons, and physicians, would accord with all the pleasure which there always was in granting honour and thanks where both were due, its hearty vote of thanks to Sir Berkeley for his excellent address. He had been very glad to hear him speak upon the gifts of surgery to medicine which had resulted in a rectification of the artificial boundaries which had hitherto existed between surgery and medicine. For his part he had always felt that the abdomen had slipped away from the physician when the appendix came off in the hands of the surgeon. (Laughter and applause.)

The vote of thanks was carried by acclamation.

Sir Berkeley Moynihan briefly returned thanks, and the proceedings terminated.

CONFERENCE OF REPRESENTATIVES OF LOCAL MEDICAL COMMITTEES.

On July 24th a conference of representatives of Local Medical Committees was held at the Royal Pavilion, Brighton. A representative was invited from the Local Medical Committee of each county borough and two from that of each county, because it was thought desirable that the larger area, with, no doubt, diverse local conditions existing in its several parts, should have a double representation. Members of the Council and of the State Sickness Insurance Committee of the British Medical Association were also invited, and some were present. Mr. E. B. Turner presided. Dr. Burchell (Brighton) acted as Secretary.

Dr. Parry, in the absence of Dr. Ainslie Hollis, having welcomed the representatives to Brighton, the rules of debate contained in the Standing Orders of the Representative Body of the British Medical Association were adopted for the purposes of the conference.

Co-operation between Local Medical Committees and the Association.

The State Sickness Insurance Committee had suggested the future relations of the Local Medical Committees to the British Medical Association and its Branches and Divisions, as one of the questions for the consideration of the Conference.

On this Dr. Macevoy (Middlesex) moved the following declaration, of which he had given notice:

> That as far as possible there be fusion between Local Medical Committees and Divisions of the British Medical Association.

He thought it was important, as Local Medical Committees had only just been started, that there should be a preliminary opportunity of discussing their status and constitution. Every member of the profession realized the difficulty of getting busy practitioners to attend meetings, so that one of the first requisites was not to multiply organizations and meetings. It should be the ideal to have only one association of doctors. When a separate organization was started the interest was lessened and disunion encouraged. There had been a tendency recently amongst those who were the strongest advocates of unity to start new organizations in different places, but the most obvious way of obtaining unity was to belong to one association which would allow the two extremes to come to one mean. At the Representative Meeting the feeling evidently was that the concerns of Local Medical Committees were distinctly the concerns of the British Medical Association, and that there would be every willingness to give the view of Local Medical Committees fair hearing at the meeting of the Representative Body. The idea was to get a common executive body for the profession; the Council and officials of the British Medical Association should form one executive for the whole of the profession. After all, if one objected strongly to the policy of the British Medical Association, his best means of getting it altered was to join the Association and come forward and air his views. It would be perfectly reasonable for Local Medical Committees to be in touch with the Insurance Act Committee of the British Medical Association, and to be represented on it. The Local Medical Committee areas should coincide as far as possible with the Divisions of the British Medical Association. He came from a constituency where the two areas coincided, and he was Chairman of the Division and of the Local Medical Committee. Although the members of the Division were divided in their views concerning the working of the Act, nevertheless members of all shades of opinion attended the meetings, and practically the constituency that elected officials of the Division was the constituency that elected the Local Medical Committee.

Dr. Drury (Halifax) seconded; and the Chairman remarked that rules had been passed at the Representative Meeting making this co-operation much easier.

Dr. Tomkins (Essex) moved an amendment to express the view that there should be fusion also between Divisions of the British Medical Association "and all other medico-political bodies."

The Chairman remarked that this proposal appeared to mean trade unions and similar bodies with which the British Medical Association had decided not to have any dealings.

The amendment was lost, but another amendment to substitute the word "co-operation" for the word "fusion" in the original resolution was carried.

Representation of Local Medical Committees.

A proposal by Dr. Mahomed (Bournemouth) to ask the Representative Body to co-opt two members representative of Local Medical Committees was ruled out of order by the Chairman as impossible under the rules of the British Medical Association. Mr. Turner also remarked that many members of the Representative Meeting were in touch with Local Medical Committees. On another proposal by Dr. Mahomed that Councils of Branches be asked to receive the honorary secretaries of Local Medical Committees as *ex officio* members, the Chairman said that the Representative Meeting had passed certain resolutions which would allow this to be done.

Co-operation between Adjacent Insurance Areas.

Dr. James Melvin (Rochdale) moved:

> That each Local Medical Committee should consider the advisability of co-opting or otherwise providing for the election of one or more members of committees of adjacent areas, with a view to co-ordination of policy and co-operation of action.

He explained that in Rochdale it had been found that adjoining areas were taking up different views with undesirable results. Fortunately an understanding had been arrived at, but the threatened difficulty had suggested the present proposal.

Dr. Robinson (Burnley) seconded.

Dr. John Hunter (West Lothians) pointed out that if a Local Medical Committee were constituted otherwise than as provided by the Act the Commissioners would not recognize its decisions; and Dr. Adams (Glasgow) observed that members of Local Medical Committees were required to be resident in the area.

Dr. Newton (Huntingdon) moved an amendment:

> That members of Local Medical Committees whose practice is in more than one area be *ipso facto* members of each committee.

Dr. Thomson (Norwich) seconded.

In reply to Dr. E. R. Fothergill, who suggested that the proposal was contrary to the Act, the Chairman agreed that there might be difficulty in getting a Committee so constituted recognized by the Commissioners.

Dr. Holmes (Bury) thought that the practice followed in that neighbourhood might be usefully adopted. This was to invite members of other Committees to the meetings without the power to vote.

The Chairman said he would take a vote as to whether the meeting favoured the idea of members being asked to attend meetings unofficially.

This was agreed to.

Mr. Todd (Sunderland) said that the British Medical Association, through its Branch Councils, afforded the means of carrying out what the meeting desired.

Dr. T. B. Heggs (Kent) thought that the case would be met if decisions of Local Medical Committees were communicated to adjacent areas, and moved:

> That in the opinion of this Conference it is desirable, for the purpose of co-ordination, that decisions of Local Medical Committees should be communicated to the secretaries of adjacent areas.

Dr. Meade (York) seconded, and this was agreed to.

Guild of Panel Practitioners.

Dr. Mills (North Riding of Yorkshire) said he had been instructed to move for the formation of a National Guild of Panel Practitioners.

Dr. Meade said his instructions were to second it; he, however, indicated that his own views were adverse to it.

The motion was lost, no one voting in its favour.

Negotiations with the Profession only through Medical Committees.

Dr. Bernard E. A. Batt (West Suffolk) raised the question of the right or desirability of an Insurance Committee summoning a meeting of the practitioners on the panel, instead of consulting them through the Local Medical Committee. In West Suffolk the Local Medical Committee passed a resolution on the subject of temporary residents, which was forwarded to the Insurance Committee. That body summoned a meeting at forty-eight hours' notice of the men on the panel. The Local Medical Committee wrote to the Commissioners on the matter, and the reply was that it was open to the Insurance Committee to invite consultation on its work with any other bodies or persons. The only method of dealing with the question appeared to be to ask panel practitioners not to attend meetings called by the Insurance Committee. He moved accordingly.

Dr. Holmes (Bury) seconded.

Dr. Shanks (Middlesex) said he believed that the Act entitled Insurance Committees to consult panel practitioners only on certain matters. ("No, no.") To meet this the Local Medical Committee in his area had appointed a subcommittee consisting entirely of panel practitioners.

Mr. Todd (Sunderland) said he was surprised at the remarks of the last speaker. Insurance Committees had no right whatever to consult panel practitioners only.

Dr. Shanks said the Act used the word "shall," and the Regulations said "may consult."

Dr. Paterson (Liverpool) said the Insurance Committee in Bootle consulted the Local Medical Committee formally, and then consulted a second committee of panel men.

Dr. Wood (North-West Suffolk) urged the importance of not allowing bad precedents to be established in connexion with the Act. In Suffolk the Insurance Committee had made one or two attempts to appeal to the practitioners on the panel behind the backs of the Local Medical Committee.

Dr. Cox, the Medical Secretary to the Association, intervening at the request of the meeting, said the West Suffolk men consulted him on this matter, and he advised that it was one on which there could be no compromise. He considered it was a question of great importance, in view of the undesirability of setting up evil precedents. The proposal before the meeting did not appear to be strong enough; the meeting might very well express the opinion that practitioners should decline to be consulted, except through the Local Medical Committee.

Dr. Burchell (Brighton) moved, and Dr. Mahomed seconded, the following resolution:

> That this Conference is of opinion that practitioners in any insurance area should decline to be consulted in any way by Insurance Committees or Commissioners except through the medium of the Local Medical Committee when such had been legally constituted.

Dr. Morris reminded the meeting that under the Act Local Medical Committees did not represent practitioners on the panel but all practitioners in the area. However, in different parts of the Act it was stated that the Insurance Committee shall consult "doctors resident in the area" and "doctors on the panel list." In Yorkshire the Insurance Committee recognized the Local Medical Committee with this distinction, that if it wanted to discuss any point with the practitioners on the panel list then only those men were consulted.

Dr. W. E. Thomas (Glamorgan) was very surprised to find any opposition to the proposal before the meeting. The statutory committee had been formed to safeguard the rights of the whole profession. Men on the panel should be loyal to the profession, and decline to be consulted separately.

The resolution was carried, and, on the motion of Dr. Eustace (West Sussex), it was decided to send a copy to the Commissioners.

Dr. Buist (Dundee) asked whether it was wise to establish the precedent of any other body going to the Commissioners except the British Medical Association.

It was agreed, on the motion of Dr. Adams (Glasgow), seconded by Dr. L. J. Picton (Cheshire), that instead of sending the resolution from the Conference it should be sent through the British Medical Association on behalf of the Conference.

Finances of Local Medical Committees.

The next item on the agenda was the suggestion by the State Sickness Insurance Committee that the question of future methods of financing Local Medical Committees should be considered.

Dr. Milburn moved:

> That the financing of Local Medical Committees be carried out by subscriptions obtained from practitioners in the district.

He said there were four ways of raising the money. It might be obtained from the Government—if the Government would provide the funds. The money might be obtained from the British Medical Association, but this he did not think would be the right thing to do. It might be obtained from the practitioners on the panels; but this, again, was not right, because the Committees were trying to act for the benefit of medical men generally, and not panel men alone. The method he recommended was the fourth—to obtain the requisite funds from the practitioners in the respective areas.

Dr. Holmes (Bury) seconded.

Dr. Burkett (Leicester) thought the money should be obtained from the administration grant to the Local Insurance Committees. In Leicester an application had been made by the Local Medical Committee, as a statutory committee, to the Local Insurance Committee to make a grant for administration. The question was under consideration, and it was hoped that the money would be obtained from that source. The Insurance Committee was told by the Commissioners that the Government had no funds for the purpose, and that if the money was found it must come out of the sum allotted to local administration.

Dr. J. W. Bone (Bedfordshire) moved an amendment:

> That the Local Medical Committees be financed by a voluntary levy on the amounts received by the panel practitioners.

This method, he said, had been adopted in Bedfordshire, and had been found to work admirably. Each man paid in proportion to his income from the panel, and the money was deducted by the clerk to the Insurance Committee. The deduction was one-half per cent. In reply to a question as to how the levy was obtained, Dr. Bone said the Commissioners required a definite signed agreement. Ten per cent. of the practitioners did not sign, and got the benefit of the work of the Committee without paying for it.

Dr. Lockhart Stephens (Hampshire) seconded the amendment. The method suggested had, he said, been working satisfactorily in Hampshire, where the relations between the Insurance Committee and the profession were most amicable. The men on the panel were asked to give their written consent to a deduction of 1d. for each insured person on their list, and 199 men out of 226 had agreed to this.

Dr. Macevoy urged that if there were a voluntary levy all the doctors in practice in the area—who were interested in the administration of the Act, whether they were on the panel or not—should contribute. This was the only sound way of raising a levy, and was far better than appealing to the Local Insurance Committee.

Dr. Cleveland (Herts) said that a scheme similar to that in force in Bedfordshire had been adopted in Herts, but the levy was ½d. per head.

Dr. Vernon (West Sussex) said in that area practitioners on the panel paid ½d. in respect of each insured person on his list. Practitioners not on the panel had been invited to contribute, and there had been a very considerable response.

Dr. Larking (Bucks) said the levy in that area was ½d. for each insured person. He regarded the estimate of the cost of working a Local Medical Committee given by the Association—namely, an average of £100 per annum—as much too high. In Buckinghamshire it was estimated that the cost of the Local Medical Committee for an insured population of from 50,000 to 60,000

would not be more than £60 per annum. The separate items were—railway fares, £30; typists and clerical assistance, £20; telegrams and stationery, £4; postage, £10; printing, £20. (There was some laughter when Dr. Larking gave these figures, and he was invited to add up his separate items.) In Buckinghamshire the Committee had got so far as to draw up a constitution and rules, and had sent these to the Commissioners with a request for their approval. The Commissioners promised to bear these rules in mind when the constitution of Local Medical Committees came up for consideration.

Dr. L. J. Picton (Cheshire) hoped that as the Association had under consideration the question of financing Local Medical Committees, the Conference would postpone action until after the next Representative Meeting.

The Chairman endorsed this view, and said that as these Committees were for the benefit of the whole profession they should be supported by every member. For the present each area should work out its own salvation in this matter.

The motion and the amendment were then withdrawn.

Local Medical Committees and the Representative Meeting.

The State Sickness Insurance Committee raised the question of the desirability of instituting annual conferences of representatives of Local Medical Committees, or, alternatively, of leaving all matters which might be discussed at such conferences to be dealt with at the Annual Representative Meeting of the British Medical Association. On this,

Dr. Eustace (West Sussex) moved:

> That it is desirable that annual conferences of representatives of Local Medical Committees should be held, and should be called by the British Medical Association.

He said he had no desire to injure the British Medical Association, and it was because he felt that a meeting of representatives of Local Medical Committees would not damage the Association that he had made this proposal. The agenda of the Annual Representative Meeting was always very full, and to put all this additional work upon that body would be undesirable. Another reason was that there were on the panels five or six thousand practitioners who were not members of the Association. Every one regretted that, and hoped that these practitioners would come into the Association. Whatever body dealt with matters on behalf of the profession would be the medium of official communications with the Commissioners, and it was essential that that body should be able to speak in the name of the practitioners working the Act. If a practitioner contributed to the expenses there should be an annual meeting at which his views could be expressed.

Dr. Hackman (Portsmouth) seconded.

Dr. Macevoy moved an amendment:

> That matters for discussion concerning Local Medical Committees should be dealt with at the Annual Representative Meeting of the British Medical Association.

He thought this would be a legitimate means of encouraging those men who were not members of the British Medical Association to join. There were always a number of Representatives who were members of Local Medical Committees and in touch with the working of the Act.

Dr. Tomkins seconded.

Dr. Milburn said that if another piece of machinery were set up there was always the possibility of disuniting the profession. The policy of the profession should be voiced by the Association. He questioned whether it would be wise to set up a fresh body, and remarked that if such a Conference as this were necessary again the Council or the Association would always call one.

On this point Dr. Fothergill, at the request of the Chairman, explained that the present Conference was not called by the Association; it had no fund enabling it to do so. When the suggestion of a conference was made the local Executive of the Brighton meeting felt that the proposal was sufficiently important for it to undertake the expense. Incidentally Dr. Fothergill pointed out that the Association in the past had called conferences of sections of the profession—for example, the colliery surgeons—and he would suggest that this Conference should send its resolutions through the Association, which could act as its mouthpiece.

A Representative suggested that if the affairs of the Local Medical Committees were handed over to the Association those constituents of the Local Medical Committee who were not members of the Association might object.

Dr. Macevoy's amendment was lost by a large majority, and the discussion continued as to the most suitable time for the Conference. Ultimately the motion was carried in the following form:

> That it is desirable that annual conferences of representatives of Local Medical Committees should be held and should be called by the British Medical Association; and that the British Medical Association be asked to convene the Conference at the time of and in connexion with the Annual Meeting of the Association, or at such earlier time as the Council shall determine.

Statement of the Nature of the Disease upon the Certificate.

Dr. John Hunter (West Lothian) moved:

> That there should be no intimation of the nature of the disease on the certificate.

The Chairman said this matter had been before the Advisory Committee and the Commissioners, and sympathy with the objection of the profession had been expressed. The certificate would now be worded as given to the insured person, and it was believed that under English law (he was doubtful about the intricacies of Scottish law) this amendment would make the English medical man immune from any consequences. The certificate would be handed to the patient on whom would lie the responsibility for publishing it. In reply to a question as to whether a doctor was bound to sign a second sheet brought by an approved society, the Chairman said this was a matter of grace and the doctor could charge for it.

Mr. Todd reminded the Chairman that there were three societies in the country which formed an exception to the rule he had just laid down.

Dr. Eustace said it was not just to assist in any way in the publication of the nature of the disease. The proposal of the Commissioners to put the responsibility on the patient was not an adequate way of dealing with the matter. The patient was in the position of losing benefits if he did not disclose the certificate.

Dr. Adams (Glasgow) said that in Scotland it was not only undesirable but actually dangerous to state the name of the disease on the certificate. There was a law in Scotland which allowed a man to sue for reparation of wounded feeling, and a doctor had had to pay in such an action. The certificate contained the name of a disease which the man receiving it considered was a slander on his moral character, and the mere fact that the name was written was taken as a ground of action.

The Representative of Oldham said this question had caused great friction and trouble in Lancashire. The societies refused to pay in respect of certificates which did not contain the name of the disease. The difficulty was that there were diseases, such as heart weakness, sufferers from which were liable to lose their employment if the fact became known. In this connexion the speaker quoted the resolution on the subject passed by the Lancashire Insurance Committee, as reported in the Supplement of July 19th, p. 100.

The resolution proposed by Dr. John Hunter was carried by a large majority.

Supply of Medicines by Practitioners.

A proposal by Dr. D. H. Davy (Kingston-upon-Hull) that there should be a flat rate of 1s. for which supplies of medicines by practitioners in emergencies should be remunerated was lost, as it was felt that it would be best for the meeting to refrain from expressing opinions on matters of detail.

Medical Representation on Insurance Committees.

A motion by Dr. L. A. Wilson (Barrow-in-Furness):

> That provision be made in the amending Act that all medical representatives on Insurance Committees be directly elected,

was withdrawn.

Temporary Residents.

Dr. Hackman (Portsmouth) moved:

That doctors on the panel be paid quarterly for attending temporary residents.

Dr. Napier Jones (Berkshire) said that in his district the profession regarded the green vouchers as a pretty fair way of dealing with the matter, but, although they were comfortably situated, they were ready, in view of the decision of the Association, to join the rest of the profession. He therefore moved that the green vouchers be ignored.

Dr. Picton seconded, and the Chairman announced the amendment to be carried by a large number to 1.

The Chairman, continuing the discussion of the matter, asked what would be done when the agreements for service on the panel came up for renewal. The Government had declared that no more money would be found, and what action would be taken by the profession?

Dr. Campbell moved:

That the British Medical Association be requested to draw up a form of agreement which will secure the full amount of 7s. per insured person without any deduction; the duties of the doctor to be definitely stated.

The Chairman pointed out that the Commissioners had said that, whether the present agreements allowed a deduction to be made or not, a clause would be introduced into the new agreements which would place the matter beyond doubt.

Mr. Todd seconded for the purpose of discussion. He remarked that the profession had always been accused of being too late in any action it took. On this occasion it could be beforehand. The Commissioners were most anxious to work on friendly lines with the profession; it only remained to take united action to have this matter put right. The principle of making any deduction whatever should not be admitted.

Dr. Eustace strongly supported this view, and quoted the document issued by the Commissioners to medical men on the panel when the Act first came into operation, promising that at least 7s. would be received by every practitioner.

Dr. Burchell did not believe a strike would take place on this question when the agreements came up to be signed again.

Dr. Napier Jones said he gathered from the proceedings of the Representative Meeting that the British Medical Association was not going to talk any more, but individual members were going back to their Divisions to organize. The Association should draw up a form of contract which members would be willing to sign.

Dr. Cox, again intervening at the wish of the meeting, said he would like to point out one or two difficulties about this proposal. It would be a perfectly futile motion unless the Association knew that it had the profession definitely behind it. The Association was asked to draw up an agreement to secure the full payment of not less than 7s., but on the other hand the Commissioners stated that attendance on temporary residents had to be provided. So far from there being any evidence of weakening on this point, several amendments to the amending bill had been put down demanding that temporary residents should be attended whether they gave notice of removal or not. Therefore the profession was not only fighting the Commissioners but a tendency in Parliament. The Government proposed to make next year's agreements perfectly explicit. If the Association presented a form of agreement to the Commissioners on different lines what would the Commissioners do? They would simply ignore it unless they knew quite definitely that the profession was staunchly behind it. He put it to the meeting, could that be said? He would ask the meeting not to put the British Medical Association into the position of demanding things by threats which the individual members of the profession were not prepared to carry out. He knew at least twelve areas which were quite prepared to accept the green vouchers, and were, in fact, doing so. He was as ready to fight as anybody, but the British Medical Association should not be put in the position of making demands which the profession was not prepared to back up, if necessary, by refusing to sign new agreements.

Dr. H. T. Barton (Blackpool) described the difficulties of this matter as they affected Blackpool.

Dr. Picton agreed that the Association should not be asked to take the matter up unless practitioners were ready to fight; but if they did not fight this deduction they might as well give in altogether.

In reply to a question, the Chairman said that if an Insurance Committee threatened to allot temporary residents to a practitioner he could say that his list was full and disclaim all responsibility.

Dr. Buist said the cost of covering the sickness rate for ten days in each area was 3d. a head, and for fifteen million insured persons that represented a sum of £180,000. Some of it would flow from a district and flow back again, but there was a margin flowing to the practitioners in places largely visited during holiday time. He asked whether practitioners, for the sake of the amount in question, would be able to risk resisting the new agreements, and whether such a risk would be worth while.

Dr. Meade said that he did not believe the profession would fight this matter through.

Ultimately it was agreed to send a deputation on the subject to the Insurance Commissioners, and Mr. Todd, Dr. Barrett Heggs, and Dr. Eustace were appointed as the deputation, with instructions to report the result of their interview through the columns of the Journal.

Dr. H. T. Barton (Blackpool) asked whether any of these members were representative of seaside towns; and the Chairman replied that they were quite familiar with the problems involved.

Accidents and Trade Diseases.

The meeting decided to express the opinion that trade diseases and accidents under the Compensation Acts should be treated apart from the Insurance Act in areas where this had been the custom in the past.

Date of Payment.

On the motion of Dr. John Hunter (West Lothian), the meeting agreed to the following resolution:

That practitioners should be paid earlier than is at present the custom, and should not be subject to a deduction of 25 per cent. for purposes of future adjustment.

Sums Accrued for Unallotted Persons.

A proposal by Dr. Hackman that the money accumulated in respect of persons who had not chosen a doctor should be divided equally among the doctors on the panel was received with a chorus of Noes, and found no seconder.

The Chairmann remarked that probably the action of the London Committee in taking legal opinion on this matter would help the whole country.

Intercommunication between Committees.

Finally, the meeting discussed the possibility of exchange of views and experiences between Local Medical Committees without general disclosure through publication in the columns of the Journal. Dr. Napier Jones pointed out that sometimes matters were under discussion which it was not desirable to publish, but which other committees would be glad to know of. He proposed that the British Medical Association should be asked to establish a clearing house for these reports and to circulate them at intervals amongst Local Medical Committees without publication in the Journal.

Dr. Cox expressed the view that this suggestion was impracticable, but mentioned that the central office maintained a digest of the reports received and could reply to a question as to what was being done throughout the country on any particular matter.

The meeting decided to urge secretaries to send full reports to the Journal.

It was agreed that the deputation which waited upon the Commissioners should also place before them the various resolutions passed by the meeting.

Vote of Thanks.

A vote of thanks to the Brighton Division for organizing the meeting and to the Chairman for presiding concluded the proceedings.

Dr. H. T. Barton (Blackpool) writes with regard to the discussion on temporary residents:

Dr. Napier Jones, on behalf of Berkshire, proposed that we should adhere to the policy of the Association as

expressed at the recent Representative Meeting and refuse the terms laid down in Memoranda 159/I.C. and 161/I.C. The resolution was easily carried. Dr. Cox explained that when next the time came for renewing agreements we should find a clause inserted which made it a condition that temporary residents should be attended on the terms already laid down in these memoranda. After discussion the meeting decided to appoint a deputation to confer with the Commissioners, and if possible advise them as to making some arrangements other than those proposed in the memoranda.

I took exception to the Committee as formed, on the ground that it contained no representatives of health resorts. It was understood that on this or any other question brought before the Commissioners, the policy of the Association as formulated at the recent Representative Meeting should be adhered to.

Temporary Residents.

A further memorandum, 171/I.C., on the provision of medical benfit for temporary residents was, we understand, issued by the National Insurance Commission (England) to members of the medical profession on July 29th, and to the press on the following day. As a copy of the memorandum will be in the hands of all our readers we may be excused from reproducing its arguments and explanations. We may quote as bearing particularly on the discussion of the subject at the Conference of Representatives of Local Medical Committees the following portion of paragraph 38:

> Insurance Committees have an absolute duty to provide treatment for the insured persons in question, and it will be necessary for them to protect themselves against a recurrence of the doubts and difficulties which have arisen in the present instance by making explicit and specific provision in the matter on any future occasion which may arise for the extension or revision of their arrangements for the administration of medical benefit. Hence, even if the existing contracts afforded the fullest support for the contentions which are understood to be upheld by certain sections of the medical profession, it cannot be too clearly understood that the continuance of such support could not be relied upon beyond the currency of the existing agreements.

We have received the following comments on this new memorandum from Dr. W. H. F. Oxley, London, E.:

I have to-day received from the Insurance Commissioners Memo. 171/I.C., which is stated to be an explanatory memorandum on the case value system. I have carefully read this through twice, and have come to the conclusion that the word "explanatory" had better have been left out. So far as I can see, it would be absolutely impossible to work out a case value for any insurance area on the data provided by the attendance cards. Also I think that the Commissioners are confusing "case value" with "yearly patient value," which is a much higher figure. My case value works out at something between two and three shillings, which is very different from the Commissioners' £1 1s. 6d., and which is due to the persistence with which they always will underestimate the yearly attendance rate.

If panel doctors must submit in the future to a deduction from the amount promised, the only simple way to arrive at the proper sum to deduct would be to base the calculation upon the actual attendance fee obtained by the doctors in each area. This can be arrived at by the following simple calculation:

$$7s. \times \frac{\text{total number of insured persons in area}}{\text{total number of attendances per annum.}}$$

The doctors attending patients temporarily resident within their area would receive payment per attendance on this scale out of a central fund. The necessary bookkeeping by the central fund would be simple, the accounts against each insurance committee being sent in quarterly and payment made by them out of the panel fund.

It would be still simpler if an attendance fee were calculated for the whole country.

Is it not time that we all refused to juggle with "tokens" and "counters," and methods of payment involving the use of logarithms, the differential calculus, and other abstruse mathematical processes, and demanded a right to be paid a definite sum of money for our work.

Association Intelligence.

PROCEEDINGS OF COUNCIL.

FINAL MEETING OF COUNCIL OF 1912–13.

A meeting of the Council was held at the Town Hall, Hove, Brighton, on Monday, July 21st, 1913, at 9 a.m.

Present:

Dr. J. A. Macdonald, LL.D., Taunton, Chairman of Council, in the Chair.

Sir James Barr, M.D., LL.D., Liverpool, President.

Dr. W. Ainslie Hollis, Hove, President-elect.

Mr. T. Jenner Verrall, Bath, Chairman of Representative Meetings.

Dr. Edwin Rayner, Stockport, Treasurer.

Dr. John Adams, Glasgow
Dr. R. M. Beaton, London
Dr. M. G. Biggs, London
Dr. W. Clow, Paisley
Dr. D. E. Finlay, Gloucester
Dr. B. E. Fordyce, Cambridge
Mr. T. W. H. Garstang, Altrincham
Dr. John Gordon, Aberdeen
Surgeon-General J. P. Greany, I.M.S., Ealing (Indian Medical Service)
Dr. T. G. Greenlees, Weymouth (South African Branches)
Dr. Major Greenwood, London
Dr. J. R. Hamilton, Hawick, N.B.
Dr. R. Wallace Henry, Leicester
Mr. C. Courtenay Lord, Gillingham
Mr. Albert Lucas, Birmingham
Dr. H. C. Mactier, Wolverhampton
Dr. C. H. Milburn, Hull
Dr. H. F. Oldham, Morecambe
Dr. George Parker, Bristol
Mr. D. F. Todd, Sunderland
Mr. E. B. Turner, London
Mr. E. H. Willock, Croydon

The Royal Navy Medical Service.

The resignation, owing to ill health, of Inspector-General R. Bentham, R.N., representative of the Royal Navy Medical Service upon the Council, was accepted with regret, and the Chairman was instructed to report the fact to the Representative Meeting. That meeting subsequently authorized the Council to appoint a representative of the Royal Navy Medical Service for the remainder of Inspector-General Bentham's term of office.

Science Committee.

On the recommendation of the Science Committee, it was resolved that the Stewart Prize for 1913 should be awarded to Dr. W. Leonard Braddon, F.R.C.S., for his researches into the epidemiology of beri-beri. The following recommendations of the Science Committee were also adopted:

Organization of Scientific Work in Divisions and Branches.

1. That the Divisions be invited to suggest at an early meeting in the autumn session subjects for consideration by Sections at the annual meeting.
2. That Branches be encouraged to form Science Committees in their areas having some or all of the following duties and powers:
   - (*a*) Organizing the scientific meetings of the Branch.
   - (*b*) Considering information as to the scientific work of the Divisions contained in their annual reports to the Branch, and advising the Branch Council thereon.
   - (*c*) Assisting Divisions in the organization of their scientific work by:
     - (i) Advising Division Committees when desired in the organization of meetings.
     - (ii) Preparing a list of speakers willing to give addresses on special subjects.
     - (iii) Organizing special local inquiries—for example, as to the hygiene of local industries or conditions.
     - (iv) Organizing post-graduate lectures.

Scholarships and Grants.

Alexander Philip Mitchell, M.B., of Edinburgh, was reappointed Ernest Hart Memorial Scholar for a further period of one year. Emily H. Morris, M.D., B.S., of Cambridge, was appointed research scholar for a second year; and Richard R. Armstong, M.B., B.C., of London, and S. P. Bedson, M.B., B.S., of London, were appointed research scholars for a year.

Grants for scientific research were renewed to the amount of £145, and new grants were made to the amount of £104.

Election of Candidates.

Candidates for membership of the British Medical Association were elected by the Council under the powers given to it by the Regulations.

Minutes of Annual Representative Meetings.

The Chairman of Representative Meetings presented the minutes of the Representative Meeting for Friday, July 18th, 1913, which were considered and approved. This was the last meeting of the Council for 1912–13.

THE FIRST MEETING OF COUNCIL OF 1913–14.

The first meeting of the Council of 1913–14 was held on Wednesday, July 23rd, 1913.

Present.

Dr. J. A. Macdonald, LL.D., Taunton, Chairman of Council, in the Chair.
Mr. T. Jenner Verrall, Bath, Chairman of Representative Meetings.
Dr. Edwin Rayner, Stockport, Treasurer.

Dr. John Adams, Glasgow
Dr. R. M. Beaton, London
Colonel H. J. Waller-Barrow, London
Dr. M. G. Biggs, London
Dr. H. J. Campbell, Bradford
Dr. D. E. Finlay, Gloucester
Dr. B. E. Fordyce, Cambridge
Dr. Frank Fowler, Bournemouth
Mr. T. W. H. Garstang, Altrincham
Dr. John Gordon, Aberdeen
Surgeon-General J. P. Greany, I.M.S., Ealing (Indian Medical Service)
Dr. T. D. Greenlees, Weymouth (South African Branches)
Dr. Major Greenwood, London
Mr. P. Napier Jones, Crowthorne
Mr. F. Charles Larkin, Liverpool
Mr. C. Courtenay Lord, Gillingham
Mr. Albert Lucas, Birmingham
Dr. H. C. Mactier, Wolverhampton
Dr. C. H. Milburn, Hull
Dr. C. G. D. Morier, London (Victoria, South and West Australian Branches)
Dr. B. H. Mumby, Portsmouth
Dr. George Parker, Bristol
Mr. D. F. Todd, Sunderland
Dr. Denis Walshe, Graigue
Mr. E. H. Willock, Croydon

Election of Chairman.

Dr. J. A. Macdonald reported that his term of office had ended, and tendered his thanks to the Council for the manner in which the members had supported him during his three years of office. He then vacated the chair, which was taken by Mr. T. Jenner Verrall.

On the motion of Mr. Todd, seconded by Dr. Biggs, Dr. J. A. Macdonald was unanimously re-elected Chairman of Council for a period of three years.

Dr. Macdonald thereupon resumed the chair, and expressed to the Council his thanks for this further proof of its confidence.

Standing Orders.

The Standing Orders were readopted, subject to an amendment of No. 40 with regard to the return of attendances of members of Council and committees and subcommittees. In future this will be made up to April 30th, and published shortly afterwards.

Election of Members of the Council and Committees.

The Chairman of Representative Meetings reported the returns of the election of members of Council by the Representative Meeting, and the Chairman of Council reported the returns of election by grouped Branches. The Chairman also reported the result of the election of Committees for 1913–14.

A complete list of the Council and Committees is published on this and following pages.

Future Annual Meetings.

The Chairman of Council reported that the Representative Meeting had accepted an invitation to hold its Annual Meeting in Aberdeen in 1914, and the Council, in order to meet the wishes of the executives, agreed that the Annual General Meeting should commence in Aberdeen on Tuesday, July 14th.

A formal invitation from the Cambridge and Huntingdon Branch, asking the Association to meet in Cambridge in the year 1915, and nominating Sir Clifford Allbutt, K.C.B., F.R.S., Regius Professor of Physic in the University of Cambridge, for the office of President, was received. The Council resolved to notify the Cambridge and Huntingdon Branch that it looked forward with much pleasure to accepting the invitation to meet in Cambridge in 1915.

It was reported to the Council that invitations had been received from Portsmouth, Leeds, and Newcastle-on-Tyne, asking the Association to holds its annual meetings in those cities. The invitations were referred to the Organization Committee for its consideration with an instruction to report to the Council as to the desirability of adopting a rota system for the purpose of selecting places for the annual meeting a certain time in advance.

Medico-Political Committee.

The Medico-Political Committee was authorized to invite the attendance of the Chairman of the Public Health Committee at its meetings, and the Journal Committee that of the Chairman of the Central Ethical Committee.

British Medical Association.

COUNCIL AND COMMITTEES.

The following is a complete list of the Council and Committees of the Association for 1913-1914:

COUNCIL.

Chairman: J. A. Macdonald, M.D., LL.D.

Ex Officio:

W. Ainslie Hollis, M.D. (Brighton), *President.*
Sir Alexander Ogston, K.C.V.O., M.D. (Aberdeen), *President-elect.*
Sir James Barr, M.D., LL.D. (Liverpool), *Past-President.*
Mr. T. Jenner Verrall (Bath), *Chairman of Representative Meetings.*
Dr. E. Rayner (Stockport), *Treasurer.*

Elected by Branches.

England and Wales.

North of England, and North Lancashire and South Westmorland Branches.	Mr. D. F. Todd.
Yorkshire Branch.	Dr. H. J. Campbell.
Lancashire and Cheshire Branch.	Dr. T. A. Helme. Mr. F. C. Larkin.
East York and North Lincoln, and Midland Branches.	Dr. Adam Fulton.
Cambridge and Huntingdon, East Anglian, and South Midland Branches.	Dr. B. E. Fordyce.
Birmingham and Staffordshire Branches.	Mr. Albert Lucas.
North Wales, Shropshire and Mid-Wales, and South Wales and Monmouthshire Branches.	Mr. W. F. Brook.
Metropolitan Counties Branch.	Dr. F. J. Smith. Dr. Chas. Buttar. Dr. Major Greenwood. Mr. E. C. Montgomery-Smith.
Bath and Bristol, Gloucestershire, West Somerset, and Worcestershire and Herefordshire Branches.	Dr. George Parker.
Dorset and West Hants and South-Western Branches.	Dr. Frank Fowler.
Oxford and Reading and Southern Branches.	Dr. B. H. Mumby.
South-Eastern Branch.	Mr. C. Courtenay Lord.

Scotland.

Aberdeen, Northern Counties, Dundee, and Perth Branches.	Dr. John Gordon.
Edinburgh and Fife Branches.	Dr. J. R. Hamilton.
Glasgow and West of Scotland Branch (4 City Divisions).	Dr. John Adams.
Glasgow and West of Scotland (4 County Divisions), Border Counties, and Stirling Branches.	Dr. J. Livingstone Loudon.

Ireland.

Connaught and South-Eastern of Ireland Branches.	Mr. Denis Walshe.
Munster Branch.	Professor H. Corby, M.D.
Ulster Branch.	Mr. R. J. Johnstone.

Dominions.

New South Wales and Queensland Branches.	Dr. C. J. Martin, F.R.S.
New Zealand Branch.	Dr. David Ewart.
Baluchistan, Bombay, Punjab, Burma, South Indian and Madras, Ceylon, and Assam Branches.	Lieutenant-Colonel C. H. L. Meyer, I.M.S. (ret.)
Malaya and Hong Kong and China Branches.	Dr. J. Mitford Atkinson.
Victoria, Tasmania, South and West Australian Branches	Dr. C. G. Drummond Morier.
South African Branches.	Dr. T. D. Greenlees was elected two years ago for a period of three years.

Services.

Royal Navy Medical Service.	(Vacant).
Army Medical Service.	Colonel WALLER BARROW, A.M.S.
Indian Medical Service.	Surgeon-General J. P. GREANY, I.M.S.

Elected by the Representative Body Voting in Grouped Divisions.

Metropolitan Counties Branch.	
North and East Metropolitan Group: City, Stratford, South-West Essex, North Middlesex, St. Pancras, and Hampstead Divisions.	Dr. R. M. BEATON.
Central Metropolitan Group: Marylebone and Westminster Divisions.	
West Metropolitan Group: Richmond, Ealing, Chelsea, Kensington, and Watford Divisions.	Dr. W. BIGGS.
South Metropolitan Group: Lambeth, Norwood, and Wandsworth Divisions.	
Glasgow and West of Scotland Branch (four City Divisions).	Dr. CLOW.
Glasgow and West of Scotland Branch (four County Divisions).	
Border Counties and Stirling Branches.	
Connaught and South-Eastern of Ireland Branches.	Professor A. H. WHITE.
Leinster Branch.	
Munster Branch.	Dr. J. S. DARLING.
Ulster Branch.	
North of England Branch.	Dr. H. F. OLDHAM.
North Lancashire and South Westmorland Branch.	
Yorkshire Branch.	
Lancashire and Cheshire Branch.	Mr. T. W. H. GARSTANG.
East York and North Lincoln Branch.	Dr. C. H. MILBURN.
Midland Branch.	
Cambridge and Huntingdon Branch.	
East Anglian Branch.	
South Midland Branch.	
Birmingham Branch.	Dr. H. C. MACTIER.
Staffordshire Branch.	
North Wales Branch.	
Shropshire and Mid-Wales Branch.	
South Wales and Monmouthshire Branch.	
Bath and Bristol Branch.	Dr. D. E. FINLAY.
Gloucestershire Branch.	
West Somerset Branch.	
Worcestershire and Herefordshire Branch.	
Dorset and West Hants Branch.	
South-Western Branch.	
Oxford and Reading Branch.	Mr. P. NAPIER JONES.
Southern Branch.	
South-Eastern Branch.	
Aberdeen, Northern Counties, Dundee, and Perth Branches.	Dr. J. MUNRO MOIR.
Edinburgh and Fife Branches.	

Voting as a Whole.

Dr. G. E. HASLIP (London).
Dr. J. PEARSE (Trowbridge).
Mr. E. B. TURNER (London).
Mr. E. H. WILLCOCK (Croydon).

STANDING COMMITTEES.

The President, the Chairman of Representative Meetings, the Chairman of Council, and the Treasurer are members of all Committees, *ex officio*.

FINANCE COMMITTEE.

By the Representative Meeting.	*By the Council.*
Mr. J. H. Ewart, Eastbourne.	Dr. R. M. Beaton, London.
Dr. R. Langdon-Down, London.	Dr. Charles Buttar, London.
Dr. David Lawson, Banchory, N.B.	Dr. B. E. Fordyce, Cambridge.
Mr. D. F. Todd, Sunderland.	Dr. George Parker, Bristol.

Together with the Chairman of the Organization, Journal, Science, Medico-Political and Central Ethical Committees.

ORGANIZATION COMMITTEE.

By the Representative Meeting.	*By the Council.*
Mr. Russell Coombe, Exeter.	Mr. F. Charles Larkin, Liverpool.
Mr. T. W. H. Garstang, Altrincham.	Mr. C. Courtenay Lord, Gillingham.
Dr. Gordon R. Ward, London.	**Dr. J. Munro Moir, Inverness.**

JOURNAL COMMITTEE.

By the Representative Meeting.	*By the Council.*
Mr. A. Lucas, Birmingham.	Mr. W. F. Brook, Swansea.
Dr. C. H. Milburn, Hull.	Dr. D. E. Finlay, Gloucester.
Dr. J. Stevens, Edinburgh.	Dr. F. J. Smith, London.

SCIENCE COMMITTEE.

By the Council.

Professor William Bulloch, M.D., London.	Dr. J. S. Haldane, F.R.S., Oxford.
Dr. J. Mitford Atkinson, London.	Dr. C. J. Martin, F.R.S., London.
Professor W. E. Dixon, F.R.S., Cambridge.	Dr. F. J. Smith, London.
	Professor Ralph Stockman, Glasgow.
	Professor A. H. White, Dublin.

CENTRAL ETHICAL COMMITTEE.

By the Representative Meeting.	*By the Council.*
Dr. A. G. Bateman, London.	Surgeon-General J. P. Greany, I.M.S., London.
Dr. M. G. Biggs, London.	Dr. G. E. Haslip, London.
Mr. J. H. Ewart, Eastbourne.	Mr. P. Napier Jones, Crowthorne.
Dr. R. Langdon-Down, London.	Dr. J. Wishart Kerr, Glasgow.
Mr. P. G. Lee, Cork.	Dr. Milner Moore, Eastbourne.
Dr. C. H. Milburn, Hull.	Dr. George Parker, Bristol.

MEDICO-POLITICAL COMMITTEE.

By the Representative Meeting.	*By the Council.*
Dr. W. Duncan, Chesterfield.	Dr. B. E. Fordyce, Cambridge.
Mr. W. J. Greer, Newport (Mon.).	Dr. A. Fulton, Nottingham.
Dr. R. Wallace Henry, Leicester.	Mr. T. W. H. Garstang, Altrincham.
Mr. J. T. Macnamara, London.	Dr. H. C. Mactier, Wolverhampton.
Dr. C. E. Robertson, Glasgow.	Dr. J. Munro Moir, Inverness.
Mr. D. F. Todd, Sunderland.	Mr. E. C. Montgomery-Smith, London.

PUBLIC HEALTH COMMITTEE.

By the Representative Meeting.	*By the Council.*
Dr. L. J. Blandford, Stockton-on-Tees.	Dr. J. Mitford Atkinson, London.
Mr. E. J. Domville, Bristol.	Dr. Wm. Clow, Paisley.
Dr. T. Barrett Heggs, Sittingbourne.	Dr. Major Greenwood, London.
Mr. Herbert Jones, Hereford.	Dr. B. H. Mumby, Portsmouth.

HOSPITALS COMMITTEE.

By the Representative Meeting.	*By the Council.*
Dr. T. Bushby, Liverpool.	Dr. M. G. Biggs, London.
Dr. J. Eason, Edinburgh.	Mr. W. F. Brook, Swansea.
Mr. W. McAdam Eccles, London.	Dr. H. J. Campbell, Bradford.
Mr. N. Bishop Harman, London.	Miss Mina L. Dobbie, M.D., London.
Dr. H. C. Mactier, Wolverhampton.	Dr. Frank Fowler, Bournemouth.
Mr. Harding H. Tomkins, London.	Mr. R. J. Johnstone, Belfast.

NAVAL AND MILITARY COMMITTEE.

By the Representative Meeting.	*By the Council.*
Surgeon-General P. H. Benson, I.M.S., Walmer.	Lieutenant-Colonel C. H. L. Meyer, I.M.S., London.
Colonel J. Raglan Thomas, Exeter.	Dr. B. H. Mumby, Portsmouth.

Together with the Representatives on the Council of the Royal Navy Medical Service, the Army Medical Service, and the Indian Medical Service—namely, Colonel H. J. Waller Barrow and Surgeon-General J. P. Greany, I.M.S.; the representative of the Royal Navy Medical Service is not yet appointed.

COLONIAL COMMITTEE.

By the Representative Meeting.	*By the Council.*
Surgeon-General P. H. Benson, I.M.S., Walmer.	Dr. C. W. Daniels, London.
Surgeon-General J. P. Greany, I.M.S., London.	Dr. James Metcalfe, London.

Together with the members of the Council who represent Colonial Branches, namely: Dr. J. Mitford Atkinson, Dr. David Ewart, Dr. T. D. Greenlees, Dr. C. J. Martin, F.R.S., Lieutenant-Colonel C. H. L. Meyer, I.M.S., and Dr. C. G. D. Morier.

ARRANGEMENTS COMMITTEE.

Six members to be appointed by the Local Executive.

Elected by the Council.

Dr. B. E. Fordyce, Cambridge.	Dr. L. A. Parry, Brighton.
Dr. J. R. Hamilton, Hawick, N.B.	Dr. F. J. Smith, London.
Professor G. R. Murray, Manchester.	Professor A. H. White, Dublin.

INSURANCE ACT COMMITTEE.

By the Representative Meeting.

Dr. John Adams, Glasgow.
Dr. R. M. Beaton, London.
Dr. J. S. Darling, Lurgan.
Dr. D. E. Finlay, Gloucester.
Dr. E. R. Fothergill, Brighton.
Dr. I. W. Johnson, Bury.
Dr. R. McKenzie Johnston, Edinburgh.
Dr. G. K. Smiley, Derby.
Mr. D. F. Todd, Sunderland.
Dr. W. B. Crawford Treasure, Cardiff.
Mr. E. B. Turner, London.
Professor A. H. White, Dublin.

By the Council.

Dr. Charles Buttar, London.
Dr. H. F. Oldham, Morecambe.
Mr. E. C. Montgomery-Smith, London.
Mr. James Pearse, Trowbridge.

Together with one representative of each of the following organizations: Association of Registered Medical Women; Northern Association of Registered Medical Women; Society of Medical Officers of Health, and Poor Law Medical Officers Association of England and Wales.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN ninety-six of the largest English towns 8,859 births and 3,871 deaths were registered during the week ending Saturday, July 19th. The annual rate of mortality in these towns, which had been 11.3, 11.2, and 11.4 per 1,000 in the three preceding weeks, fell to 11.3 per 1,000 in the week under notice. In London the death-rate did not exceed 10.4, against 10.3, 10.7, and 11.1 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rates last week ranged from 1.9 in Devonport, 4.6 in Northampton, 4.8 in Eastbourne, 5.2 in Swansea, 5.6 in Smethwick, and 5.7 in Willesden to 16.2 in Blackpool, 16.4 in Middlesbrough, 17.5 in Gloucester, 17.9 in West Hartlepool, 18.8 in Bootle, and 19.6 in Stoke-on-Trent. Measles caused a death-rate of 3.0 in West Bromwich and 3.7 in Stoke-on-Trent, and diphtheria of 1.1 in Tottenham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 30, or 0.8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 7 were registered in Birmingham, 3 in Liverpool, 3 in Bootle, 3 in Gateshead, 2 in Rochdale, and 2 in South Shields. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had been 1,604, 1,697, and 1,833 at the end of the three preceding weeks, had further risen to 1,978 on Saturday last; 357 new cases were admitted during the week, against 286, 314, and 315 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN the sixteen largest Scottish towns 1,177 births and 570 deaths were registered during the week ending Saturday, July 19th. The annual rate of mortality in these towns, which had been 14.9, 13.7, and 13.6 per 1,000 in the three preceding weeks, further fell to 13.2 in the week under notice, but was 1.9 per 1,000 above the rate recorded in the ninety-six large English towns. Among the several towns the death-rates ranged from 9.0 in Kilmarnock, 9.5 in Hamilton, and 9.8 in Clydebank to 16.8 in Ayr, 17.6 in Falkirk, and 18.9 in Dundee. The mortality from the principal infective diseases averaged 1.4 per 1,000, and was highest in Dundee and Motherwell. The 245 deaths from all causes registered in Glasgow included 20 from measles, 8 from whooping-cough, 4 from infantile diarrhoeal diseases, 3 from scarlet fever, 3 from diphtheria, and 1 from typhus. Three deaths from measles were recorded in Aberdeen and 2 in Dundee, and 4 deaths from infantile diarrhoeal diseases in Dundee and 3 in Motherwell.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, July 12th, 584 births and 356 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 580 births and 378 deaths in the preceding period. These deaths represent a mortality of 15.5 per 1,000 of the aggregate population in the districts in question, as against 16.4 per 1,000 in the previous period. The mortality in these Irish areas was, therefore, 4.1 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate on the other hand was equal to 25.4 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 19.9 as against an average of 17.3 for the previous four weeks, in Dublin city 21.8 (as against 19.1), in Belfast 14.2 (as against 15.3), in Cork 15.6 (as against 16.3) in Londonderry 8.9 (as against 13.4), in Limerick 16.2 (as against 14.9), and in Waterford 11.4 (as against 23.3). The zymotic death-rate was 1.7, as against 1.2 in the previous week.

Naval and Military Appointments.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL H. D. ROWAN has been ordered to Dublin as officer in charge of King George V Hospital and in command of No. 14 Company.

Lieutenant-Colonel A. A. SUTTON, D.S.O., has been ordered to Tidworth for temporary duty.

Major L. L. G. THORPE has been ordered to India.

Captain G. W. G. HUGHES has been appointed a specialist in ophthalmology at Devonport.

Captain STAFFORD M. ADYE-CURRAN to be Major, July 26th.

Captain G. S. PARKINSON has taken up duty in the Scottish Command.

Lieutenant W. STEWART has been appointed to India.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ABERYSTWITH INFIRMARY AND CARDIGANSHIRE GENERAL HOSPITAL.—House-Surgeon and Secretary (male). Salary, £175 per annum, increasing to £200.

AYRSHIRE SANATORIUM, New Cumnock.—Assistant to the Resident Medical Officer. Salary, £150 per annum.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BATH: BAILBROOK HOUSE.—Locumtenent.

BEDFORDSHIRE COUNTY COUNCIL.—Tuberculosis Medical Officer. Salary, £500 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House-Surgeon. Salary £80 per annum, with £5 laundry allowance.

BIRMINGHAM UNIVERSITY.—Lecturer on Pathology and Bacteriology in the University and Visiting Pathologist to the General Hospital.

BOOTLE BOROUGH HOSPITAL.—Senior House-Surgeon (male). Salary, £100 per annum.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary, £100 per annum.

BRIDGE OF WEIR: CONSUMPTION SANATORIA OF SCOTLAND AND ORPHAN HOMES OF SCOTLAND.—Assistant Lady Medical Officer. Salary at the rate of £75 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House-Surgeon (male). Salary, £80 per annum.

BRISTOL ROYAL INFIRMARY.—(1) House-Physician; salary at the rate of £100 per annum. (2) House-Surgeon; salary at the rate of £100 per annum.

BURNLEY: VICTORIA HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—(1) First Assistant to the Research Department; salary, £350 per annum. (2) House-Surgeon; salary at the rate of £70 per annum.

CANTERBURY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £160 per annum.

CARDIFF: KING EDWARD VII'S HOSPITAL.—House-Surgeon (male). Salary at the rate of £60 per annum.

CARLISLE: CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Junior Assistant Medical Officer. Salary, £180 per annum, rising to £200.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C.—Bacteriologist. Honorarium, £50 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £90 per annum.

CHESTER GENERAL INFIRMARY.—House-Physician. Salary, £90 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Two House-Physicians (male). Salary at the rate of £75 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Physician. Salary, £80 per annum.

COLONIAL MEDICAL SERVICE.—(1) Six Temporary Medical Officers for the East Africa Protectorate; salary, £400 per annum. (2) Vacancies in the West African Medical Staff; salary, £400 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

DUFFERIN HOSPITALS.—Medical Women. Pay, Rs. 300 per mensem.

EDAY PARISH.—Medical Officer. Salary, £170 per annum.

EDINBURGH: THE HOSPICE.—Qualified Medical Woman as Resident. Honorarium, £25 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of 100 guineas per annum.

FOLKESTONE: ROYAL VICTORIA HOSPITAL.—House-Surgeon. Salary, £100 per annum.

GATESHEAD DISPENSARY.—Assistant Medical Officer (non-resident). Salary, £200 per annum.

GLASGOW DISTRICT MENTAL HOSPITAL, Gartloch.—Junior Medical Officer. Salary, £150 per annum.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

GRIMSBY AND DISTRICT HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second House-Surgeon. Salary, £100 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £70 per annum.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £250.

IMPERIAL BACTERIOLOGICAL (VETERINARY) LABORATORY, Muktesar, India.—(1) Assistant Bacteriologist, (2) Pathologist, (3) Physiological Chemist. Salary for (1) and (2) not less than £480 per annum and not more than £640, rising to £1,040; for (3), £480 per annum, rising to £640.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

LOWESTOFT HOSPITAL.—House-Surgeon. Salary, £150 per annum.

MAIDSTONE: KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer. Salary, £200 per annum, rising to £220.

MANCHESTER: HULME DISPENSARY, Dale Street.—House-Surgeon. Salary, £160 per annum.

MANCHESTER TOWNSHIP.—Junior Resident Assistant Medical Officer of the Workhouse. Salary, £110 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY. — Senior House-Surgeon. Salary at the rate of £100 per annum for first six months, rising to £120.

MIDDLESEX HOSPITAL, W.—Assistant Medical Officer to the Electrical Department. Honorarium, £50 per annum.

NEWARK-UPON-TRENT: THE HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

NEWPORT: ROYAL GWENT HOSPITAL. — Resident Medical Officer. Salary at the rate of £80 per annum for first four months, rising to £120.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL. —Casualty House-Surgeon. Salary at the rate of £80 per annum.

PICKERING UNION.—Medical Officer for the Lastingham (Poor Law) District. Salary, £20 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Assistant Resident Medical Officer. Salary at the rate of £80 per annum.

PLYMOUTH BOROUGH.—Tuberculosis Officer. Salary, £500 per annum.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £200 per annum, rising to £250.

PRESTON ROYAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

READING: ROYAL BERKSHIRE HOSPITAL. — Second House-Surgeon. Salary at the rate of £80 per annum.

RICHMOND ROYAL HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon. Salary, £125 per annum.

SALISBURY GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £50 per annum.

SHEFFIELD ROYAL INFIRMARY.—Two Resident Medical officers. Salary, £70 per annum.

SHOREDITCH: PARISH OF ST. LEONARD.—Junior Assistant Medical Officer for the Infirmary. Salary, £150 per annum.

SOMERSET COUNTY COUNCIL, Weston-super-Mare. — Male Assistant School Medical Officer. Salary, £275 per annum, rising to £350.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL. — House-Surgeon. Salary at the rate of £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE INFIRMARY.—Junior House-Surgeon (male). Salary, £90 per annum, increasing to £115 at the end of one month.

STROUD GENERAL HOSPITAL. — House-Surgeon. Salary, £120 per annum.

SUNDERLAND: DURHAM COUNTY AND SUNDERLAND EYE INFIRMARY.—Locum for House-Surgeon. Salary, £5 5s. per week.

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—House-Surgeon. Salary, £130 per annum.

SUNDERLAND: ROYAL INFIRMARY. — (1) Senior Resident, (2) House-Physician, (3) Two Junior House-Surgeons. Salary for (1) £150 per annum, and for (2) and (3) £90 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

THREE COUNTIES ASYLUM, near Hitchin. —Junior Assistant Medical Officer. Salary, £200 per annum, rising to £250.

WARWICKSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary, £250 per annum, rising to £300.

WEST HAM BOROUGH.—Two Temporary Assistant School Medical Officers. Salary at the rate of £250 per annum, and, if appointed to permanent staff, rising to £400.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House-Surgeon.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £125 per annum.

WORCESTER GENERAL INFIRMARY.—House-Physician. Salary, £120 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Beith (Ayrshire), Dufftown (Banffshire), Ramsgate (Kent).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

AITKEN, Robert Y., M.D., F.R.C.S., Medical Referee under the Workmen's Compensation Act, 1906, for County Court Circuit No. 4, and to be attached more particularly to the Blackburn and Darwen, Haslingden and Accrington, Bacup and Rawtenstall, and Clitheroe County Court, vice D. R. Hunt, deceased.

AVERILL, C., M.B., Assistant Medical Officer of the Holborn Union Infirmary.

BURTON, A. H. G., M.D.Lond., D.P.H.Camb., Tuberculosis Officer and Assistant Medical Officer of Health for the Metropolitan Borough of Deptford.

DOLAN, E. M., M.R.C.S., L.R.C.P.Lond., District and Workhouse Medical Officer of the Wigton Union.

DOLL, H. W., M.R.C.S., L.R.C.P.Lond., District Medical Officer of the Kingston Union.

EVANS, T. Benson, M.B., Ch.B.Liverp., Junior Assistant Medical Officer to the North Wales Counties Lunatic Asylum.

FULTON, W., M.B., District and Workhouse Medical Officer of the Thakham Union.

GLASS, G. S., M.B., D.P.H., Assistant Medical Officer of Health for the Borough of Southampton.

HEWER, C. M., F.R.C.S.Eng., District Medical Officer of the Tarvin Union.

HIGGINS, T. Shadrick, M.B., B.S., M.D.State Med., Medical Officer of Health for St. Pancras, vice Dr. Sykes, deceased.

LONDON TEMPERANCE HOSPITAL, N.W.—The following appointments have been made:

Surgeons.—McAdam Eccles, M.C., F.R.C.S.: Arthur Henry Evans, M.S., F.R.C.S.; H. J. Paterson, M.C., F.R.C.S.
Surgeon to Out-Patients.—James McLure, F.R.C.S.
Ophthalmic Surgeon.—John Stroud Hosford, F.R.C.S.Edin.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—The following appointments have been made:

Ophthalmic Surgeon.—M. L. Hepburn, M.D., B.S., F.R.C.S.
Consulting Ophthalmic Surgeon.—H. Work Dodd, F.R.C.S.
Surgeon in Charge of the Throat, Nose, and Ear Department.—J. Gay French, M.B., M.S., F.R.C.S.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

CARMICHAEL.—At 4, Wellington Crescent, Manchester, on July 28th, 1913, the wife of Captain D. G. Carmichael, R.A.M.C., of a son.

GAUDY.—On July 23rd, at Norwood, the wife of E. Worsley Gaudy, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGES.

DOWBIGGIN—CLARK.—On July 19th, at St. Laurence's Church, Oxhill, Warwickshire, by the Rev. James Carter, Rector, assisted by the Rev. F. T. Johnson, Rector of Little Castleton, Rutlandshire, and late Chaplain of the Cathedral, Hong Kong, Hugh Blackwell Layard, son of Mrs. Dowbiggin, of Colta, Ceylon, and of the late Rev. R. T. Dowbiggin, and grandson of the late Sir Charles Peter Layard, K.C.M.G., to Hilda Gertrude Mallard, only child of Dr. Francis Clark, Colonial Civil Service, Dean of the University, Hong Kong, and granddaughter of the late Francis Mallard Clark, of the Admiralty.

PENMAN—SMITH.—On July 26th, at St. Philip's Church, Southport, John Penman, M.B., Ch.B., son of John Penman, Springburn, Glasgow, to Amy Margaret, eldest daughter of J. Lawrence Smith, of Southport and Manchester.

DIARY.

Date.	Meetings to be Held.
	AUGUST.
	INTERNATIONAL MEDICAL CONGRESS.
6 Wed.	Inaugural Ceremony, 11 a.m. Address in Medicine, 5.30 p.m. (Professor Chauffard, Paris).
7 Thur.	Address in Surgery, 2 p.m. (Professor Harvey Cushing, Harvard University). Sections.
8 Fri.	Address in Pathology, 2 p.m. (Professor Paul Ehrlich, Frankfort). Sections.

Date.	Meetings to be Held.
	AUGUST (*continued*).
	INTERNATIONAL MEDICAL CONGRESS (*continued*).
9 Sat.	Sections.
11 Mon.	Address on Heredity, 2 p.m. (Professor W. Bateson, F.R.S.). Sections.
12 Tues.	Address on Public Health, 3 p.m. (Right Hon. John Burns, M.P.). Sections. Closing Meeting, 4 p.m.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 9TH, 1913.

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British Medical Association.

CONFERENCE OF HONORARY SECRETARIES OF DIVISIONS AND BRANCHES.

THE annual Conference of Honorary Secretaries of Divisions and Branches was held at the Hôtel Métropole, Brighton, on Wednesday, July 23rd, when sixty-seven Honorary Secretaries were present. Dr. A. TENNYSON SMITH, Honorary Secretary of the Bromley Division, was elected to the chair.

The MEDICAL SECRETARY reported the action taken with reference to the resolution of the Conference held at Liverpool in 1912. In future the Chairman of the Conference of one year would receive the Secretaries at the next year's Conference and take the chair at the dinner held in connexion with it. The Council had not approved the action of the 1912 Conference in appointing a committee of nine to consider matters referred to it by the Conference, but had decided that the work could be better carried out by the Organization Committee through its Conference of Secretaries Subcommittee. The Council had directed that three members nominated by the Conference of Secretaries should be co-opted to the Conference of Secretaries Subcommittee. The CHAIRMAN announced that the Organization Committee had decided that the agenda for the meeting should be an address by the Medical Secretary on questions affecting the relations between the central office and the Honorary Secretaries, and the local work of the latter.

Address by Medical Secretary.

The MEDICAL SECRETARY said that he desired to assure the Conference that the Central Executive thoroughly realized how far the work of the Association depended upon the devoted services of its honorary officials. No number of paid organizers or other officials could ever supersede the need for that personal influence which could only be brought to bear by honorary officials. The problem before the central office as to which it desired the help of that Conference was how far it could help the honorary secretaries to do the work of the Association more effectually. He wished to assure his hearers that many formalities insisted on by the central office were due not to any liking for red tape, but to protect the Association and its honorary officials in the duties which had to be carried out. He referred particularly in this connexion to Warning Notices and the Ethical Rules.

The Association had recently tightened up the machinery as regards Warning Notices, and now declined to insert notices from Divisions which had not adopted the new Ethical Rules. In addition, greater care was being taken to elicit from the Divisions applying for Warning Notices full particulars of the disputes in connexion with which Warning Notices were requested, and Warning Notices would not be continued in cases where the honorary secretaries failed to transmit regularly to the central office an account of how the dispute in question was progressing. The insistence on these precautions might be a little irritating to secretaries who did not thoroughly understand the necessity for it, but experience had shown that such precautions were essential. A good deal of difficulty had been found in working the new Ethical Rules, and he confessed that that difficulty had not been confined only to honorary secretaries. Even in the central office the new rules had proved to be surrounded with many difficulties, but it must be remembered that they had been elaborated as the result of experience and in close consultation with the Association's legal advisers, and no doubt a little experience would soon bring familiarity. He urged his hearers in all cases involving ethical disputes to communicate at once with the central office and lay the responsibility on the paid officials. Several cases had occurred in which secretaries, through a desire to avoid giving trouble at head quarters, had got ethical cases so involved that it was found impossible to proceed further with them, and all the labour had been thrown away. He laid special stress on the necessity in local ethical inquiries for due formality being observed, and the desirability of the case being conducted with strict impartiality, careful minutes being taken.

He then went on to point out ways in which the officers of Divisions and Branches could be more useful to the central office, and instanced the case of advertisements which either distinctly infringed the policy of the Association or seemed to be opposed to the interests of the local profession. In many cases these were sent for insertion in the JOURNAL without any previous intimation from the local officials. This was not as it should be, because it was obviously open to the officials of the Division to ascertain what was going on in the various local public bodies and give due warning to the central office, so that immediate steps could be taken on the presentation of the advertisement either to reject it or to try to get it amended. It was impossible that the secretary in a large area could keep his eye on all the public bodies in that area. Every member of the Executive Committee of a Division should be expected to hold a watching brief for the Association in his own locality. If this were done and full advantage were taken of the early knowledge gained by medical members of town or county councils, boards of guardians, etc., there should be no possibility of advertisements being sprung upon the central office without full notice from the Division concerned. The Medical Secretary then referred to the non-member lists which are circulated to all secretaries of Divisions at regular intervals, and urged the importance of these lists being kept as correct as possible. There was now in the central office a card register which he ventured to say was the most correct and up-to-date list of medical practitioners in this country, but as regards the non-members there were still many errors in it which could only be avoided if local secretaries would do their best to correct the lists sent to them. This duty, again, he suggested should in large areas be placed upon the different members of the Executive Committee. The importance of having correct lists had been fully brought home to the profession during the recent campaign on the Insurance Act, and he asked secretaries, even at the cost of some extra trouble to themselves, to do their best to make the list as correct as possible in view of emergencies which might arise at any time.

In dealing with the local work the Medical Secretary said it was clear from the reports from the Divisions that there had been a reaction after the strenuous period the profession had gone through. This was evidenced by small meetings in many areas which had been accustomed to have large and enthusiastic meetings. Some secretaries had grown pessimistic about this, but he assured them that there was no reason for despair. It was inevitable that there should be such a reaction, but it depended greatly upon secretaries and other local officials how long that reaction lasted. He would suggest that, as the medico-political side of the Association's work had necessarily occupied nearly all the time during the past two years, it would be well that a little more attention should be paid to the scientific and social side in order to emphasize the comprehensive nature of the work of the Association, and to interest those members of the profession who were not specially concerned with medical politics, and who must latterly have felt rather out in the cold. He suggested that there should be more social events, and that in these the ladies should not be overlooked. Another important point was that leading local public men should be invited to dinners held by Divisions and Branches in order to establish cordial relations between members of the profession and public bodies. For this purpose there should be a local hospitality fund in each area, and he ventured to think that, from the social point of view as well as from the point of view of mere self-interest, the expenditure would be found to be a very good investment. The Divisions should not neglect the consultants and the men in special practice. These members of the profession were generally men of considerable influence, and their assistance was often needed, and it was very important that their interest in the Association should be enlisted as far as possible. He had been struck in this connexion to find how many of the most active workers for the Association were men whose line of practice and social position might well have led them to decline to give attention to the details of Association work. Though some of these gentlemen had not had the advantage of experience in general practice, they often had what was of at least equal importance—namely, a clear head and sympathetic outlook. He advised secretaries to call on all new practitioners without waiting for the latter to make their courtesy call. Some young practitioners did not understand the necessity for making such calls, and honorary secretaries could often give useful advice to a young beginner which would be gratefully received. Apart from that, it was necessary that the secretary should be able to know what kind of man the new arrival was.

He next dealt with the question of how to handle materials sent down to the Divisions. He admitted that he himself was sometimes appalled at the amount of material which the Divisions were called upon at short notice to digest, and he hoped that it would be possible in future years to send these reports out at intervals, but the Divisions might always expect in the months of May and June or July to have the Annual and Supplementary Reports of the Council. He desired to impress upon secretaries the necessity of getting some of the members of their Executive Committee to study the various reports and take upon themselves the duty of introducing them to the meetings of the Divisions. This division of labour was good in two ways. It made the members of the executive feel that they were more than merely ornamental officers, and it resulted in the reports being placed before the Divisions in an attractive way which would probably lead to a debate.

Finally, he dealt with the questions of the alterations of the areas of Divisions and Branches. This was a question which was engaging a good deal of attention at the present time, and the Representative Meeting had after discussion decided to leave the matter as it was—that is, to allow the Divisions to make such alterations as were found to be best in the local interest. In his opinion this was much better than laying down a fixed principle to which every Division must conform irrespective of local conditions. He urged that the Divisions and Branches should look at the question all round, and if it were found desirable to so alter their areas as to fit the insurance areas they should bring it about as quickly as possible, and he indicated the way in which this could be done without unnecessary delay.

Discussion.

An interesting discussion then took place in which many questions were asked which were answered by the MEDICAL SECRETARY and the DEPUTY MEDICAL SECRETARY. During this discussion it was mentioned that the Council had on more than one occasion doubted whether it was worth while continuing these conferences, as some of those who had attended them had expressed doubts as to their usefulness. It was proposed by Mr. ALCOCK (North Staffs), seconded by Dr. T. BARRETT HEGGS (Canterbury and Faversham), and unanimously resolved:

> That it is desirable that the Annual Conference of Secretaries of Divisions and Branches be continued, and that it be held during the Annual Meeting.

The meeting then proceeded to nominate by ballot three members to serve on the Conference of Secretaries Sub-committee. The result of the ballot was as follows:

Elected.

Mr. W. J. GREER (South Wales and Monmouthshire).
Dr. A. TENNYSON SMITH (Bromley).
Dr. A. G. SOUTHCOMBE (City).

Vote of Thanks: Dinner.

The meeting concluded with a hearty vote of thanks to the Chairman and the Medical Secretary. A dinner was afterwards held at which some forty secretaries sat down. The chair was occupied by Mr. W. J. Greer.

INSURANCE ACT COMMITTEE.

THE first meeting of the Insurance Act Committee was held at the offices of the Association on Thursday, July 31st.

The reference made to the Committee by the Representative Meeting was as follows:

> To deal with all matters arising under the National Insurance Act that are dealt with by the National Insurance Commissioners, Insurance Committees, and Local Medical Committees; to watch the interests of the profession in relation to the National Insurance Act, and report to the Council.

Dr. J. A. Macdonald was elected to the chair, and the following nominations to the Committee were reported:

Association of Registered Medical Women, Dr. Constance Long (London). Northern Association of Registered Medical Women, Miss Mary F. Ivens (Liverpool). The Society of Medical Officers of Health, Mr. Herbert Jones (Hereford). The following members were present:—*England and Wales:* Mr. D. F. Todd (Sunderland), Dr. D. E. Finlay (Gloucester), Dr. E. R. Fothergill (Brighton), Dr. H. F. Oldham (Morecambe), Dr. R. M. Beaton (London), Mr. E. B. Turner (London). *Scotland:* Dr. John Adams (Glasgow). *Ireland:* Dr. J. S. Darling (Lurgan). *Ex officio:* Dr. W. A. Hollis (President), Dr. E. Rayner (Treasurer).

National Insurance Act (1911) Amending Bill.

The CHAIRMAN reported that action had already been taken with a view of having all the amendments desired by the Representative Meeting brought to the notice of the House of Commons.

Treatment of Cases in Receipt of Maternity Benefit.

The Committee considered the resolution of the Annual Representative Meeting with regard to the question of the acceptance by maternity and voluntary hospitals of patients in receipt of maternity benefit, and resolved to address a letter to the chairman or secretary of the medical board or medical committee of those voluntary hospitals used for the training of medical students in midwifery. The letter, it was directed, should draw attention to the position of such institutions under the Insurance Act in the matter of the treatment of cases in receipt of maternity benefit, should state that the Association was endeavouring to formulate a policy to meet the views of all the parties concerned, and should ask for the views of the members of the medical staff upon the matter for the information of the Committee.

Proposed Transference of Medical Benefit to Approved Societies.

With reference to the minutes of the Annual Representative Meeting as to the amendment of which Mr. Godfrey Locker-Lampson had given notice, it was reported that communications had already been issued in accordance with the instructions of the Representative Meeting, but that during the proceedings in the Standing Committee the amendment had been withdrawn.

Attendance on Uninsured Persons.

After considering the minutes of the Annual Representative Meeting in reference to this matter, the Committee resolved to address a letter to the Honorary Secretary of the Division of any district where it was known that fees lower than those approved by the Representative Body were being accepted for the treatment of uninsured persons, pointing out that such action was contrary to the policy of the Association, and jeopardized the position of practitioners in other parts of the country who were endeavouring loyally to carry out that policy.

Treatment of Tuberculosis.

The minutes of the Annual Representative Meeting with regard to this matter were considered, and Mr. TODD reported that he had been approached by the voluntary hospitals in the area of the North of England Branch to call a conference of the members of the medical staffs of those hospitals with a view to arriving at some decision in the matter of the treatment of surgical tuberculosis. The Committee, after discussion, expressed the opinion that any arrangement entered into between the medical staffs and the Boards of Management of the voluntary hospitals with regard to the treatment of tuberculous cases should be temporary pending a final decision on the matter. The subject was referred to a subcommittee consisting of Mr. D. F. Todd, Dr. Fothergill, and Dr. Beaton, with authority to co-opt three members of the Hospitals Committee, one member of the Public Health Committee of the British Medical Association, three members of the British Hospitals Association, and three members of the committee appointed for the consideration of the Insurance Act by the staffs of the London hospitals. It was proposed that the meeting of this subcommittee should be held in the second week of September. It was resolved to issue a circular letter to the staffs of the voluntary hospitals in London and the provinces, requesting them not to enter into permanent arrangements for the treatment of tuberculous cases pending the formulation of a definite policy by the Association.

Special Fund for the Organization of the Profession.

A Special Fund Subcommittee was appointed, consisting of Drs. Beaton, Fothergill, and McKenzie Johnston, Mr. Herbert Jones, Mr. D. F. Todd, and Mr. H. H. Tomkins. The committee was instructed to consider the scheme of the proposed special fund, and to draft a report which could be issued along with the original scheme to the Divisions for consideration by the Special Representative Meeting to be held in the autumn as an alternative scheme based upon the proposed raising of the subscription to the Association to 2 guineas.

Operations Requiring General Anaesthesia.

The Committee resolved to invite the attention of Local Medical Committees to the following minute of the Annual Representative Meeting, which it was thought might afford an alternative method to the amendment of the Act or Regulations:

> That in the meantime it should be a recommendation to Local Medical Committees to exclude operations requiring general anaesthesia from the scope of the panel doctor's duties.

Co-operation with Insurance Commissioners.

Attention was drawn to the desirability of the Association being consulted by the Insurance Commissioners upon regulations affecting the medical profession, and the following resolution was adopted:

> That the Medical Secretary be instructed to inform the Insurance Commissioners that the Association would be glad to be given the opportunity of being consulted upon questions affecting the medical profession in its relation to the National Insurance Act prior to the Commissioners' ideas thereon being formulated in the shape of regulations, etc.

Compensation Cases.

Letters of thanks from two members who had received compensation were read. Another member who had made an application expressed his willingness to stand aside in favour of more pressing claims, and another merely asked that he should be excused from further calls under his guarantee, and this was agreed to. The Committee arranged to make an immediate grant to one applicant. The Committee then considered an application from the Cardiff Division for a grant to the relatives of the late Dr. Courtenay Milward, who had suffered financially through his loyalty to the policy of the Association. Full information as to the circumstances was placed before the Committee, which decided that a sum of £200 be granted out of the compensation fund for the benefit of the widow and family of the late Dr. Milward.

Next Meeting.

It was arranged that the next meeting of the Committee should take place on September 4th.

IRISH COMMITTEE.

A SPECIAL meeting of the Irish Committee of the British Medical Association was held at 12.30 p.m. on July 17th, to consider the agenda of the meeting of delegates from each county in Ireland, and representatives of universities and teaching bodies, to be held on that day. There were present: Drs. R. J. JOHNSTONE (in the chair), J. S. Darling, Joseph Giusani, Frederick William Kidd, G. Warnock, J. M. S. Renny, Joseph Power, A. H. White, and John Mills, Honorary Secretary.

The agenda paper was discussed, and it was agreed, on the motion of Dr. DARLING, to support a proposal:

> That a Central Committee for Ireland is necessary.

The members afterwards attended the meeting of delegates and took part in the proceedings.

Meetings of Branches and Divisions.

BOMBAY BRANCH.

THE ordinary meeting was held in the University Library on April 10th. Dr. SORAB NARIMAN, occupied the chair, and about twenty-two other members were present.

It was announced that the Branch Council had elected Lieutenant-Colonel Ashton Street, I.M.S., as Vice-President, and Major Evans, I.M.S., as a member of the Branch Council in place of Colonel Meyer, I.M.S., who had retired.

An ordinary meeting was held on June 26th, when Colonel Street presided; about twenty-four other members were also present.

New Members.—It was announced that Dr. G. V. Deshmunkh and Dr. A. Mukerji were elected members of the Branch by the Branch Council.

Grant Medical College.—It was announced that the report of the Grant Medical College for 1912–13 was received.

Vote of Condolence. — Lieutenant-Colonel ASHTON STREET then very feelingly referred to the death of one of the members of the Branch, Dr. Habib Ismail Jan Mahomed, M.D.Lond., F.R.C.S.Eng., late Honorary Surgeon, Jamsetjee Jeejeebhoy Hospital, who had endeared himself to every one with whom he came in contact, and specially so on account of his medical and scientific attainments, which were of a very high order. It was resolved to send a letter of condolence to his family at their very sad loss, with the sympathy of the members of the Branch.

METROPOLITAN COUNTIES BRANCH:

EALING DIVISION.

A GENERAL meeting of the Division was held at the Ealing Town Hall on July 31st, when there were present the Chairman and twenty-one members and non-members of the Association.

Votes of Thanks.—On the motion of Dr. A. HERBERT HART, seconded by Dr. BROWN, and supported by Dr. GILLINGHAM, it was resolved:

> That the best thanks of the Ealing Division of the British Medical Association are due to the late Chairman, Vice-Chairman, Secretary, and Executive Committee for the strenuous and successful way in which they have conducted the affairs of the Association during their term of office.

Address by Chairman. — The CHAIRMAN then gave his inaugural address, in which he sketched the advantages to the profession of the British Medical Association. He suggested that a meeting should be held every month, commencing in October, at 3 p.m., on the last Thursday in the month, at which leading members of the profession should be invited to speak, and that every third month a clinical afternoon be held and addresses given by local men. An invitation was extended to all men practising in the neighbourhood to join the Association. Under the heading "Need for Action" the following subjects were touched upon: (1) Need for protection; (2) a union for self-defence; (3) an association for social service; (4) a scientific society; (5) a propagandist organization. The Chairman then formulated a forward movement, in which he urged that doctors should not only desire to sit on Insurance Committees, but also take an active part in the work of parish, district, urban, and county councils. It was, he said, the duty of the profession to be more strongly represented in the House of Commons, and indicated the lines on which a medical party should be run. It should be at least fifty strong; be non-political, non-sectarian, and non-controversial: and should be a medical brotherhood for the elucidation of medical questions and the furtherance of medical affairs. He touched upon the burning questions of socialism, suffragism, and State Insurance, maintaining that all these movements were for the amelioration of the conditions of the people. Doctors were in touch with the various classes more intimately than any other men, and he thought that if this medical party were formed in the House of Commons the interests of women and children would be more fairly, equitably, and adequately represented.

HAMPSTEAD DIVISION.

THE Acting Honorary Secretary of the Hampstead Division (Dr. MINA L. DOBBIE) requests us to state that the Executive Committee of that Division wishes it to be known that it desires to associate itself with the Marylebone and Harrow Division in calling attention to the Mount Vernon Hospital question by means of a Warning Notice. The Hampstead Division, Dr. Dobbie adds, has not seen its way to adopt the Model Ethical Rules of the Association in so far as they concern non-members (over whom it has no jurisdiction), and is therefore debarred from the use of the Warning Notice by the recent decision of the Representative Meeting supporting the recommendation of the Council in this matter.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH:

HEREFORD DIVISION.

THE annual meeting of the Hereford Division was held at St. Peter's Church House, Hereford, on June 16th.

Election of Officers.—The following gentlemen were elected as office-bearers for the ensuing year:

Chairman.—Mr. Gerard Steel.
Vice-Chairman.—Mr. F. H. Thompson.
Representative at Representative Meetings.—Mr. Richard Harding.
Honorary Secretary and Treasurer.—Dr. Wm. Ainslie.
Representatives on Branch Council.—Dr. Steed, Mr. A. R. Green, and Dr. Ll. B. Green.
Executive Committee.—Dr. Gold, Dr. Miller, Dr. Hamilton Williams, Dr. Wood, Dr. Gornall, Mr. Darling, and Mr. McMichael.

Reorganization.—The following resolution was passed:

> That the Council be instructed to take such steps as are requisite to make the Divisions of the Association, where necessary, coterminous with the insurance areas under the National Insurance Act.

Association Notices.

CHANGE OF BOUNDARIES OF DIVISIONS OF LANCASHIRE AND CHESHIRE BRANCH.

THE following change has been made in accordance with the Articles and By-laws of the Association, and takes effect as from the date of publication of this notice:

Alteration of Areas of Manchester (South) and Altrincham Divisions.

That the Urban District of Wilmslow be transferred from the area of the Manchester (South) Division of the Lancashire and Cheshire Branch to that of the Altrincham Division of the same Branch, and that the boundaries of the two Divisions be adjusted accordingly.

Representation in Representative Body.—No necessity for modification of the present scheme of representation of the two Divisions, whereby each forms an independent constituency in the Representative Body, arises from the carrying into effect of the above change.

BRANCH AND DIVISION MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—Dr. A. G. Southcombe (Honorary Secretary, 83, Sidney Road, Homerton, N.E.) gives notice that a special general meeting of the Division will be held at Balfour Hall, Dunston Street, Kingsland Road, on Wednesday, August 20th, at 3.30 p.m., in accordance with a requisition, signed by twenty-five members of the Division, to discuss the following resolution, which will be moved by Dr. Rushbrooke and seconded by Dr. Jaffe: "That this meeting of the City Division of the British Medical Association calls upon Dr. Evan Jones to explain the attitude apparently taken up by him in regard to the G. Locker-Lampson amendment, as reported in the *Morning Post* of July 23rd, 1913, in which he is reported to have advocated the restoration to the friendly societies of the control of the administration of the medical benefit under the National Insurance Act, thereby violating two of the cardinal points of the British Medical Association so strongly upheld by him at the Representative Meeting at Brighton." Rule 12: The business of a special meeting shall be set forth in the circular convening the meeting, and no business shall be dealt with by the meeting except that which it may have been specially convened to consider.

NATIONAL INSURANCE ACT (1911) AMENDMENT BILL.

Effect of the Proceedings in Committee.

A summary of the provisions of this bill as it emerged from Grand Committee on Thursday, July 31st, so far as the medical provisions are concerned, may be of interest.

Scotland: County Councils.

A new clause in the name of Sir Henry Craik was added to those proposed by Mr. Duncan Millar with respect to the powers of county councils and the treatment of disease in Scotland, and it will be seen that the effect is to enable county councils to undertake treatment of tuberculosis and all infectious diseases throughout their course. This is similar to what is provided in the first three clauses of the Public Health and Prevention of Diseases Bill presented by the Local Government Board in respect of England, and which is now before Parliament.

Medical and Pharmaceutical Committees.

A clause was introduced by Dr. Addison setting up in statutory form the committee of practitioners on the panel as required for certain purposes by the regulation. It provides for the recognition of such a committee in any area in which no local medical committee has been recognized. The clause was amended, on the motion of Sir Philip Magnus, by the extension of the waiting period from three to six months, and afterwards, at the suggestion of Sir Henry Craik, by the insertion of the word "may" for "shall" in the last line but one. This clause should be read in conjunction with the one brought up by Mr. Glyn-Jones which appears in the amending bill as Section (2) of Clause 31. Under this latter provision, if the committee of practitioners and the Pharmaceutical Committee (as set up in Section 1 of Clause 31) request, the sum of 1d. can be set aside out of the Drugs Suspense Account (the floating sixpence) for the financing of these two committees in respect of their checking of accounts and other matters.

Alternative Medical Arrangements.

The clause brought up by Mr. Ramsay Macdonald with respect to the powers of the Commissioners and Insurance Committees to make alternative arrangements for the panel system if such might be required was withdrawn after some discussion, and it was agreed that it should be brought up again on Report in a form which would not leave it open for it to be used to set up a more limited service as it was suggested might be the case in view of the words "having regard to the funds available for the purpose" which appeared in the suggested clause.

Mr. Masterman gave an assurance to the Committee that there was no intention of using the powers conferred under the clause except after a full opportunity had been afforded to provide a service under the normal panel system. The powers conferred under the clause do not appear to be greater than those already possessed by the Commissioners under the latter part of Section 15 (2) of the principal Act. In this connexion, however, it was pointed out by Dr. Addison that the clause specially provided that it could be used only in a part of an area, if required, as distinct from the whole area as appeared to be implied in the principal Act.

Maternity Benefit.

The clause relating to the administration of maternity benefit, brought up by Mr. Thomas, and appearing as Section 3 of Clause 13, materially modifies the provisions of the principal Act in respect of sickness benefit payable to insured women after maternity. Such women in future will be entitled, in addition to the ordinary maternity benefit provided through their husbands' societies, to a double maternity benefit through their own society in respect of sick pay for four weeks, provided that the woman abstains from remunerative work for a period of four weeks after her confinement.

Section 4 of Clause 13 of the amending bill deletes the provision of the principal Act with respect to the prescribed fee in cases where a practitioner is called in by a midwife. The other portions of the new Clause 13 have been commented on in previous notes.

Wales.

An important addition to the powers conferred upon the Commissioners in Wales in respect of the administration of sanatorium benefit is contained in Clause 40 of the amending bill. In effect they enable the Welsh Insurance Commissioners, in respect of arrangements made by county councils alone or in conjunction with the Welsh National Memorial Association, to be substituted for the Local Government Board.

Metropolitan Asylums Board.

Clause 37, relating to agreements with the Metropolitan Asylums Board, was given in our notes of last week.

Conscientious Objectors.

An interesting discussion took place on a proposal of Mr. Alden, the principle of which had been approved by Mr. Masterman, with respect to persons who conscientiously object to be treated by medical men. The new clause, as submitted by Mr. Alden, was in the following terms:

Power to Make Payments in Lieu of Medical Treatment in Certain Cases.—Where any person satisfies the Insurance Committee that on conscientious grounds he does not desire treatment by a duly qualified medical practitioner, his right to medical benefit shall be suspended and the Insurance Committee shall pay to him in each year the sum equal to the sums payable to the Committee in respect of his medical benefit.

Mr. Masterman explained that it was brought forward in accordance with the pledge made by Mr. McKenna in 1911.

The Committee, however, was strongly in disagreement with the proposal, and the clause was negatived without a division.

Witnesses on Oath.

A new clause, which may prove to be of considerable importance, and which is No. 36 in the bill as amended, provides that, where the Insurance Commissioners are required or authorized to hold an inquiry, the witnesses shall, if the Commissioners think fit or if any one of the parties so demand, be examined on oath.

This proposal was brought forward by Mr. Alden and Dr. Addison, and it was explained, amongst other things, that inquiries affecting medical men might have the result of depriving them of a large part of their livelihood, and that it was necessary, therefore, that they should have the protection in respect of an inquiry which such a provision would entail.

Sickness Pay whilst in Hospital.

An important amendment of the principal Act is contained in Clause 14, by which an insured person in hospital who has no dependants is entitled to receive from the society in full the amount of sickness benefit to which they otherwise would be entitled.

Clauses affecting Medical Benefit.

The text of the clauses affecting medical benefit in the bill, as reported to the House, is as follows. Clause 1, however, affecting the money grant, which was passed unamended, is omitted:

> 10. *Medical Benefit.*—(1) No voluntary contributor whose total income from all sources exceeds one hundred and sixty pounds a year shall be entitled to receive medical benefit, but in that case the weekly contribution which would otherwise be payable by him shall be reduced by one penny.
>
> (2) Paragraph (e) of subsection (2) of section fifteen of the principal Act shall extend to members of societies other than such friendly societies as are mentioned in that paragraph who were at the date of the passing of the principal Act entitled as such members to medical attendance and treatment in like manner and subject to the like conditions as it applies to members of such friendly societies.
>
> 13. *Maternity Benefit.*—(1) Maternity benefit shall in every case be the mother's benefit, and paragraph (*e*) of subsection one of section eight of the principal Act shall be altered accordingly by the insertion of the words "to the mother of the child" after the first word "payment" in that paragraph; and in subsection (1) of section eighteen of the principal Act, for the words "treated as a benefit for her husband, and shall be administered in cash or otherwise by the approved society of which he is a member," there shall be substituted the words "administered in the interests of

the mother and child in cash or otherwise by the approved society of which the husband is a member."

(2) At the end of subsection (1) of section eighteen of the principal Act the following words shall be inserted:

Where a woman who is an employed contributor is the wife of an insured person, then—

(*a*) If her husband is a member of an approved society, and by reason of an insufficient number of contributions having been paid by or in respect of him, or on account of arrears, no maternity benefit is payable in respect of his insurance, she shall on her confinement be entitled to receive in respect of her own insurance such sum as she would have been entitled to receive if he had not been an insured person; and

If her husband is a deposit contributor, and by reason of an insufficient number of contributions having been paid by or in respect of him or of the insufficiency of the sum standing to his credit in the Deposit Contributors Fund, no maternity benefit or a sum less than the full maternity benefit is payable in respect of his insurance, she shall on her confinement be entitled to receive, in respect of her own insurance, such sum as, with the sum (if any) payable in respect of her husband's insurance, is equal to the sum she would have been entitled to receive if he had not been an insured person.

(3) Where a woman confined of a child is herself an insured person and is a married woman or, if the child is a posthumous child, a widow, she shall, in lieu of any sickness or disablement benefit to which she may be entitled under subsection (6) of section eight of the principal Act, be entitled to receive a maternity benefit from the society of which she is a member or the insurance committee, as the case may be, in addition to any maternity benefit to which she may be otherwise entitled in respect of her husband's or her own insurance, and every approved society and insurance committee shall make rules to the satisfaction of the Insurance Commissioners requiring any woman in respect of whom any such sum is payable in respect of her own insurance to abstain from remunerative work during a period of four weeks after her confinement.

(4) So much of subsection (1) of section eighteen of the principal Act as provides that if a duly-qualified medical practitioner is summoned in pursuance of the rules made under the Midwives Act, 1902, the prescribed fee shall, subject to regulations made by the Insurance Commissioners, be recoverable as part of the maternity benefit shall cease to have effect.

14. *Insured Persons in Hospital.*—Section twelve of the principal Act shall have effect as though the first proviso to subsection (2) of that section were omitted therefrom, and any sum which, but for the provisions of that section, would have been payable to any person on account of sickness, disablement, or maternity benefit, if and so far as it is not paid or applied in accordance with the provisions of that section while the person to or in respect of whom it would have been payable is an inmate of any workhouse, hospital, asylum, convalescent home, or infirmary, may, if the society or committee administering the benefit thinks fit, be applied in the provision of any surgical appliances required for the person or otherwise for his benefit after he ceases to be an inmate, or, if it is not so expended, shall be paid in cash to the person after leaving the institution, in a lump sum or in instalments as the society or committee thinks fit.

30. *Consultation with Practitioners who have Entered into Agreements with Insurance Committees.*—Where it is made the duty of an insurance committee under the provisions of this Act or of the principal Act, or of regulations made thereunder, to ascertain, in respect of any matter affecting the administration of medical benefit in the area, the opinions and wishes of the medical practitioners who have entered into agreements with the insurance committee for the attendance and treatment of insured persons whose medical benefit is administered by the committee, they shall do so through a committee appointed by such practitioners in accordance with regulations made by the Insurance Commissioners, and such committee shall perform such duties and shall exercise such powers as may be determined by the Insurance Commissioners, and in any area in which within six months of the time of the passing of this Act no local medical committee has been recognized under the provisions of section sixty-two of the principal Act, a committee elected in the manner herein-before provided may be recognized as the local medical committee for that area.

31. *Local Pharmaceutical Committee.*—(1) In every county or county borough there shall be elected in accordance with regulations made by the Insurance Commissioners, by the persons, firms, and bodies corporate, who have agreed to supply drugs, medicines, and appliances to insured persons whose medical benefit is administered by the committee, a local committee, and it shall, subject to regulations made by the Insurance Commissioners, be consulted by the insurance committee on all general questions affecting the supply of drugs, medicines, and appliances to insured persons, and shall perform such duties and exercise such powers as may be determined by the Insurance Commissioners.

(2) The insurance committee, if requested so to do by any committee elected by the medical practitioners who have entered into agreement with the insurance committee for the attendance and treatment of insured persons whose benefit is administered by the insurance committee, and if requested by the local committee, elected in manner provided by the last foregoing subsection, may be authorized by the Insurance Commissioners out of moneys available for the provision of medical benefit within the area to allot to and for the administrative expenses of each of the said committees, respectively, such a sum not exceeding one penny in all in respect of each insured person entitled to obtain medical attendance and treatment from the practitioners who have entered into agreement with the insurance committee as may be determined by the insurance committee with the consent of the Commissioners.

37. *Agreements with Metropolitan Asylums Board.*—Notwithstanding anything in any Act it shall be lawful for the managers of the Metropolitan Asylums district, with the sanction of the Local Government Board, to enter into agreements with any county council or, with the consent of the county council, with any authority in a county for the reception of insured persons and their dependants suffering from tuberculosis or any such other disease as the Local Government Board, with the approval of the Treasury, may appoint under section eight of the principal Act, into hospitals provided by the managers, and for this purpose the managers shall not be deemed to be a poor-law authority. Any such agreements may provide that the cost of the treatment of the patients so received, or some part thereof, shall be borne otherwise than as provided by section eighty of the Public Health (London) Act, 1891.

39. *Special Provisions as to Scotland.*—(1) For the purpose of providing institutions for the treatment of tuberculosis or any such other disease as the Local Government Board for Scotland, with the approval of the Treasury, may appoint, a county council in Scotland shall have power to borrow in terms of the Local Government (Scotland) Act, 1889, on the security of the general purposes rate, as applied by Section 80 of the principal Act, such sums as may be required, and shall have power to acquire, purchase, or take on lease any land; and the provisions of Section 5 of the Local Government (Scotland) Act, 1908, shall apply accordingly as if this Act were specified therein.

(2) Expenses of a district committee defrayed out of the public health general assessment within the district in pursuance of an agreement under the principal Act or this Act, or in the exercise of any power of dealing with tuberculosis as an infectious disease, shall not be reckoned in any calculation as to the statutory limit of that assessment.

(3) A county council in Scotland that has been authorized by the Board to provide an institution in terms of section sixty-four subsection (2) of the principal Act shall have the same powers of providing treatment for all persons suffering from tuberculosis as are possessed by local authorities under the Public Health (Scotland) Act, 1897, for the treatment of infectious diseases.

(4) At the end of subsection (4) of section eighty of the principal Act, the following shall be added:—

And provided further that for the purposes of subsection (3) of section sixty-four of the principal Act, relating to the provision of sanatoria, burghs, and police burghs so held to be within

the county shall be entitled to direct representation on the joint committees, joint boards, or otherwise therein referred to, in such manner as may be determined by the Board.

(5) All proceedings for any contravention of or non-compliance with any of the provisions of Part I or of Part III, so far as relating to matters under Part I of the principal Act or this Act, or the regulations made thereunder, shall in Scotland be instituted and carried on under the provisions of the Summary Jurisdiction (Scotland) Acts, and may be taken at the instance of the procurator fiscal or of the Scottish Insurance Commissioners.

(6) Where an employer in Scotland has failed or neglected to pay any contributions which, under Part I of the principal Act, he is liable to pay in respect of an employed contributor, the amount which he has so failed or neglected to pay shall be a debt due from the employer to the Commissioners, and shall be recoverable by the Commissioners summarily as a civil debt: Provided that the powers conferred by this section on the Commissioners shall be deemed to be in supplement of and nowise in restriction of the powers conferred upon them or upon members of approved societies by the principal Act.

40. *Special Provisions as to Wales.*—(1) Where the area of an insurance committee making an arrangement under subsection (1) of section sixteen of the principal Act is situate in Wales, the Welsh Insurance Commissioners shall be substituted for the Local Government Board as the authority whose approval is required under that subsection for the purpose of enabling that committee to enter into such an arrangement.

(2) The council of a county or county borough in Wales may agree with King Edward the Seventh Welsh National Memorial Association to make such annual or other payments, subject to such conditions and for such periods as may be approved by the Welsh Insurance Commissioners, and any expenses incurred under this subsection shall, in the case of a county council, be defrayed in like manner as expenses under subsection (2) of section sixty-four of the principal Act, and, in the case of a county borough council, as part of their expenses incurred in the execution of the Public Health Acts.

Valuable provisions empowering expenses to be allowed to members of Insurance Committees are contained in Sections 1 and 2 of Clause 29.

Report Stage.

Tuesday and Wednesday, August 5th and 6th, were devoted by the House of Commons to the consideration of the Report stage of the bill.

At the commencement of the proceedings the Speaker ruled out of order a large number of new clauses which had been put down on the Order Paper, stating that many of them should be moved as amendments to clauses. The result of this ruling was greatly to simplify and possibly to shorten the debate.

Alternative for Panel System.

The only clause which the Speaker allowed was one brought up on report as agreed in Standing Committee, dealing with alternative arrangements for the panel system. Mr. Ramsay Macdonald, in whose name it stood, explained that it would enable the Commissioners to make arrangements where the panel system was defective in parts of an area as distinguished from a whole insurance area. In conclusion he said: This is not an attempt to supersede the panel system. My intention is simply to arm the authorities with powers to give that medical attendance which is promised to insured persons under the principal Act, and to enable them to overcome unnecessary and unreasonable difficulties that the working of the panel system presents to-day. The second part of the new clause enables the committee to cause other arrangements to be made so that insured persons may receive certain monetary payment if medical attendance cannot be provided owing to any breaking down of the arrangements that are made. Again, I want to safeguard the rights of insured persons, and the final words of the new clause read:

The medical attendance and treatment so secured shall be of a quality not inferior to that provided under the panel system.

Everybody who has had experience of the working of the Act knows that it has broken down or threatens to break down—not all round, but only in certain special districts—and the purpose of my clause is to arm the authorities with powers to meet the difficulty.

Mr. Masterman, in accepting the clause, said: This clause is to enable arrangements to be made where there is no satisfactory panel system. We are obliged to give medical benefit to the persons concerned, and I think that it is necessary in the interests of the insured persons that we should be in a position to give that medical benefit if there is no satisfactory panel. Two examples occur to my mind. One was raised by the hon. gentleman the member for Mile End (Mr. Harry Lawson), and was strongly supported by him. There are certain districts in East and South London where at present, owing to the persistent under-doctoring of the people for many years, although all the doctors are on the panel, or nearly all, yet we cannot give medical attendance sufficient for the people. We hope in time, as was said in Committee, that doctors will drift into those areas and come on the ordinary panel system. It may be necessary to attract some doctors to those areas by some sort of support, and I think I can say that in many of those areas the doctors who are being overworked would welcome some such alteration as this. Another question which is very uppermost in the minds of people at present is that of seaside resorts where there is a sudden influx of people who demand treatment as insured persons. There, I think, it is quite likely that some arrangement will have to be made to supplement the panel system to meet this sudden influx of insured persons. There may also be a necessity for dealing with those cases where the insured persons are few in number, and where it cannot be arranged under the ordinary panel system. I want it to be clearly understood that, in accepting this clause, I do not wish to accept anything which interferes with the panel system so long as it is satisfactory. This is an alternative and supplementary method of procedure to be adopted in cases where, for one reason or another, insured persons are not able at present to get satisfactory treatment.

Some points of the clause were criticized adversely by Mr. Forster and Mr. Lawson, but there was general agreement as to its main intention, and it was added to the bill without amendment.

Medical and Sanatorium Benefit.

The first nine clauses of the bill were added without much discussion, and the remainder of the evening was occupied in a prolonged debate of various amendments connected with medical benefit which were moved to Clause 10. An amendment moved by Mr. Fred. Hall to Clause 5, exempting persons employed in hospitals from the operations of the Act, led to some discussion, but was finally withdrawn.

A short discussion also took place on the general value of the medical and sanatorium benefits as provided for exempted persons under Clause 9. It followed generally the lines of the discussion in Committee, and an amendment moved by Mr. Locker-Lampson to provide the choice of other benefits in lieu of those mentioned in the clause was negatived, on a division, by 259 to 94.

Clause 10 of the bill carries out the pledges given by the Government to the medical profession in regard to the exemption from medical benefits with a reduced rate of contribution of voluntary contributors with an income of more than £160 a year. Mr. Bathurst moved and Mr. Locker-Lampson seconded the omission of the clause, but this was negatived without a division.

Mr. Goulding moved an amendment which gave rise to a long discussion. The effect of it would have been to exempt any of those who had come under insurance up to the present. His main contention, in which he was supported by Mr. Harry Lawson, who seconded the amendment, was that it would be a breach of faith with the insured persons in question, and Mr. Lawson described it as a sop to the medical profession which it was hardly worth their while to accept. Sir Henry Craik, in opposing the amendment, said: I dissent from the view that this is a sop to the medical profession. I do not look upon it from that point of view in any way whatever. Let us look at it from a common-sense point of view. Is it the case, as an ordinary matter of common sense, that men in

receipt of incomes above £160 measure their medical benefit by 8s. 6d. or 9s. 6d. per week, or wish to measure it in that way? To suppose that a man enjoying an income of over £160 a year is likely to make use of a mere panel doctor and to be content with that without the choice he would ordinarily have is not in accordance with the real social facts of the position. Such a man resents mere contract practice. He would naturally be prepared to get his own doctor and to pay for him even if he had the right, under the strict terms of his contract with the friendly society under the Insurance Act, to get medical attendance without any charge whatever. It is not the case that these people will be content with such medical attendance as is secured for them under the Insurance Act. Sir Henry referred to the case of clerks, and in reply to Mr. Lawson said that he repeated his objection to its being described as a sop to the medical profession, and continued: It matters very little to the medical profession. It is in accordance with their wish to preserve those close, those confidential, and those friendly relations with their patients which had prevailed in the past and which they think are now being upset by the introduction, in a class which does not wish it and for which it is not suited, of a mechanical sort of relation between medical adviser and his patient. I am positively certain after conferring with these teachers that many of them will welcome this change. The payment is something which they considerably grudge, knowing that the last thing in the world they would think of doing would be to use this medical attendance provided for them under the Act. I am perfectly sure, if the right hon. gentleman sticks to the bill as it is, that he will find he is conferring a boon not so much upon the medical profession as upon many of those very people who are brought within the range of this clause in the bill.

Mr. Masterman defended it on the ground of its equity, and as a part of the undertaking which the Government had given to the medical profession. He contended that there could be no question of breach of faith with the insured persons involved. He criticized adversely some of Sir Henry Craik's remarks with reference to the medical men on the panel in the following terms: We are no more breaking faith with them than any Insurance Committee would be breaking faith with them if they laid down a limit of £160, and said that everyone with £160 a year would have to make their own arrangements for medical attendance. It is exactly similar to that, and you cannot say that is breaking faith with anybody. It is a possibility which might come to them ordinarily under the Act, and to persons who cannot at present prophesy whether they will come under it at all.

In reply to Mr. Goulding, in connexion with the charge of breaking faith with the insured persons, he said: We certainly compel some to come under the Act, and as long as they are under the Act and paying for medical attendance they will receive full medical attendance. They will receive full medical attendance for all the five years during which they are paying for it. After that their condition will merely be the same as if a limit of £160 were imposed by an Insurance Committee, and any committee can impose such a limit at this moment. It is therefore idle to talk about some solemn pledge having been broken in the matter. We are giving them back exactly the equivalent of what it would cost the approved society. If we gave back more than the penny, we should be imposing a charge upon the approved societies in connexion with these persons, and there is no reason why that charge should be imposed. I do not think that it was an unfair pledge for the Government to have given, and I do not think that it does injury to any person. It may be that in some cases the suggestion of the hon. member for the University of London will be carried out, and that one of these gentlemen joining at the age of 16, and subsequently gaining an income of several thousand pounds a year, may prefer not to have the doctor but to have the money, one penny per week, to spend as he likes. Apart from that, I think the hon. gentleman will realize that this is a not unfair thing to give the doctors, of whom 18,000 have come on the panel.

The amendment was supported by Mr. Pringle, Sir Frederick Banbury, and other speakers.

Sir Philip Magnus, in supporting the attitude taken by the Government, said: I have some difficulty in dealing with this matter, because the amendment now in the bill ought to have formed part of the original Act. But when the hon. member for the City of London speaks of a contract having been entered into between two parties I should like him to inform me who were the parties to this particular contract. I take it that they were the medical profession on the one hand and the approved societies or insured persons on the other. It will be recollected that the medical profession entered into their part of the contract on the understanding that this particular clause, which ought not to have been inserted in the original bill, should be amended on the very first occasion, and it was under this condition that they entered into their part of the contract. Therefore, if we do not give the medical profession the advantages which they expected to receive we shall certainly be breaking our contract with them, and I think the hon. gentleman will realize it is quite as important not to break a contract with one party as it is not to break it with another party.

In further reference to the remarks made by Sir Henry Craik with respect to the medical men who were enrolled on the lists, he said that he was quite correct when he said that secondary teachers in the schools wished to be exempted entirely from the operation of the bill. "I recognize, as everybody does, that thousands of the doctors on the panel are men of very great eminence, and what the secondary teachers desire is not so much to avoid having to be treated by panel doctors as not to be compelled to have medical attendance under the conditions imposed by the Act. That is a somewhat different proposition to the one attributed to my hon. friend, and I am sure it is what he really intended to say."

Dr. Addison defended the clause on the ground of it being a fulfilment of the pledge of the Government, and, in reply to the statement that it involved a breach of faith with insured persons, said: The point here is that under Section 1, Subsection 3, of the principal Act voluntary contributors who have been insured persons for a period of five years or upwards are allowed to continue in insurance. It is quite evident that no voluntary contributors can be deprived of anything referred to in Section 1 of the principal Act until July, 1917. As a matter of fact, the persons with whom we are dealing are not now entitled to take advantage of the provisions of Section 1. All that we are now doing is to say that in July, 1917, this particular provision shall not apply as originally proposed. The contributions for medical benefit are not carried forward. The hon. member for Worcester (Mr. Goulding) seemed to think that we were depriving voluntary contributors of something because something was carried forward. Nothing is carried forward. The amount is paid out every year towards the doctors on whose lists these persons are.

Mr. Glyn-Jones also defended the clause on the ground that it was inequitable to expect the medical profession to attend insured persons who might become well-to-do at the ordinary rates, and the Chancellor of the Exchequer also took this ground.

The amendment was ultimately rejected by 228 to 100. The minority was composed mainly of members of the Opposition and of members of the Labour Party with a few Liberals. Some members of the Opposition, such as Mr. Harry Forster and Mr. Worthington-Evans, abstained from voting, and a few Conservatives supported the Government in the Lobby.

A further amendment by Mr. Locker-Lampson with regard to contracting out was moved in the following terms:

> 3. An insured person, on satisfying the Local Insurance Committee that he desires the services of a medical practitioner who has not entered into arrangements with such committee under Subsection (1) of Section fifteen of the principal Act, and that he understands the consequences of making arrangements under Subsection (3) of that Section, shall be at liberty to take such services under that Subsection.

In introducing his amendment, he said: It is quite impossible to make a new speech on the question of the free choice of doctors. If the Chancellor of the Exchequer were here, I do not believe he would deny that over and over again, while the principal bill was passing through this House, he promised in the country that insured

persons should be able to have the doctors of their choice. Practically every speech which contained that promise has been quoted in this House, and I do not propose to quote the old speeches again. But I happen to have got a copy of the British Medical Association Journal, which contains a statement by the right hon. gentleman which, I think, has never been quoted in this House. When the bill was going through the House originally, the hon. member for Hoxton (Dr. Addison) appeared to be very anxious indeed as to whether persons were really going to get their choice of doctors, and he contended that there should be provision for enabling patients to choose their own doctor. The Chancellor of the Exchequer, in reply to the hon. member, used these words:

> There is nothing in the bill to prevent the free choice of doctors.

Subsequently, at a Special Representative Meeting on June 1st, the Chancellor of the Exchequer said:

> Personally I am strongly in favour of it—

that is, the free choice of doctors—

> I think one of the essentials of cure is that the patient should have faith in his doctor, and you cannot have faith in your doctor if you have a doctor thrust upon you whom you have not chosen.

I agree that there is no guarantee in the principal Act that insured persons shall have the doctors of their choice. The principal Act simply says that the Insurance Committees, if they think fit, shall be allowed to make their own arrangements outside the panel. Although there is no guarantee in the Act, I submit that the Chancellor of the Exchequer, over and over again, while the bill was passing through the House, gave his personal undertaking that insured persons should have the doctor of their choice. I submit that the refusal of the free choice of doctors all over the country over and over again is having results which have probably never occurred to, or impressed themselves upon, the mind of the Chancellor of the Exchequer. I move this amendment in order to give hon. gentleman an opportunity of repairing what I consider a very great injustice at this moment.

In further remarks he said that the principle of the amendment was supported by the British Medical Association, and continued: I may now read a statement in the British Medical Journal showing that the British Medical Association are also in favour of this amendment. In its issue of the 12th of July, the British Medical Journal says in a leading article:

> Both on public and professional grounds it appears to be essential that no obstacle should be put in the way of placing at the disposal of the insured the services of medical men whose practices lie among the working classes.

They go on to say:

> Full opportunity should be taken on Clause 15 (Subsection (3).

As I have already pointed out, the provision under the subsection is merely to obtain the permission of the Insurance Committee to allow private arrangements to be made. That is to say, unless the Insurance Committee agrees, the member of a society is not able to make private arrangements outside the panel. I do submit that it is enormously important, and, as the Chancellor of the Exchequer has told us, faith is nine points of all healing, that the insured person should really have confidence in his doctor. I believe it is one of the most important parts of pathological treatment that you should really have confidence in the doctor attending you, and confidence cannot possibly exist if you are forced to accept the services of a doctor whom you do not want and whom you do not believe in.

Sir Robert Finlay also supported the amendment.

Mr. Masterman, in opposing it, contended that sufficient powers were already given under Section 15 (3) of the Act. Insurance Committees in January and February had rightly resisted an attempt by this means to break down the panel system, and he also contended that if free choice were to be given outside the panel system it would be impossible to resist the demand that such free choice should similarly be extended to systems and institutions and to friendly society practice. His remarks are of such importance that they are quoted in full: I thank the hon. gentleman for the way in which he has moved this amendment. He did so on strictly business lines. He realized that all the old complaints as to what was said and what was not said were appropriate in their right position, but are not appropriate to the Report stage of this bill. I wish the hon. gentleman had seen his way to doing what we agreed to do on the Committee stage of the bill—that is, that all amendments as to the relations between the Insurance Committees and approved societies on the one hand, and the medical profession on the other, should be withdrawn, and that those who sought to obtain further amendments desired by the doctors should withdraw at this time their suggestions, on the condition that all those who sought amendments which might put the doctors in a worse position, or which the doctors might think would put them in a worse position, should also withdraw their proposals. Curiously enough, the hon. gentleman occupies the position of proposing both those kinds of amendments, and one of them he has put on the paper again on this Report stage and the other he has not. So, while on the one hand he is now advancing an amendment, which I have no doubt will be supported by a considerable bulk of the medical profession, he is not advancing an amendment which drove the medical profession into a special arrangement at their last conference to alter their business in order to pass resolutions repudiating that amendment altogether. The carrying of the one, as I think, would carry as an inevitable consequence the carrying of the other. If the one was carried, I think the other ought to be carried also. The hon. gentleman who moved this amendment proposed an amendment allowing the friendly societies to make their own arrangements with the insured persons who were their own members with certain doctors, such doctors as they could get to become whole-time servants under the societies. The doctors, as I think every one knows, at once entered into a very considerable agitation in order to prevent that amendment being carried. In that case I cannot quite understand why the whole British Medical Association opposed the amendment. There is not the slightest doubt—and I do not want to misrepresent the doctors—of what they think of that particular amendment of the hon. gentleman. Apart from such questions as that, what does this amendment mean? It means by the use of an autocratic power from above to break through the discretion given to the Insurance Committees. The hon. gentleman said his amendment had the support of the approved societies. I doubt if it has of the actual rank and file. The Insurance Committee is the most democratic body existing in this country, more than guardians or borough councils or any other body, and we are keeping them democratic by a clause later on in this bill which allows opportunity for poor men to serve on those committees. Three-fifths of each of those committees, that is a clear majority, are appointed by approved societies, and their sole object in being on the Insurance Committees must be to look after the interests of the approved societies, including all the members of the approved societies. These Insurance Committees have absolutely unfettered discretion to give free choice of doctor outside the panel system to any member who chooses to ask for it. You are going to take away that discretion. You will smash the Insurance Committees, you will lose the panel doctors, who have come in to the number of 18,000 to work the panel system, and you will violate the principle which the Insurance Committees were set up to carry out—that of local autonomy suited to the needs of the particular districts which they represent. Hon. members seem still to wonder why the Insurance Committees have a difficulty in giving this free choice. I cannot tell any one at present to what extent they exercise that discretion. Many of them have exercised it on a comparatively large scale; some on a comparatively small scale. They have to consider what we here and the Insurance Commissioners have not to consider, and that is how they can provide an efficient medical service for all the people in their locality. As I have repeated again and again, and have never been answered, if the conditions are such that persons who want to contract out with their own doctors are persons of healthier lives than those persons who do not want to contract out, the Insurance Committees have no moral right to see all those healthy lives going out from the panel system, at the same time leaving all the bad lives to be treated at the same cost by the panel doctors. That is really the vital position. It is because

the Insurance Committees must of necessity have that discretion that I ask the House not to smash it up by such an amendment as this. I think that this question will settle itself if hon. members are not too impatient. A committee is to be appointed to consider certain aspects of the question, and I believe that if time is given—we have had only six months since the great fight with the doctors—hon. gentlemen will find that the great majority of the doctors in any possible area will come in either fully under the panel system or for a limited number of patients so long as there is an average number, or that in the few exceptional cases which remain the Insurance Committees, without any fear as to what will happen to the general bulk of their insured persons, will be able to allow insured persons to make their own arrangements. I am quite sure that if this amendment is carried the whole controversy, which we hope is dying down, will flare up again, and we shall be in the midst of a controversy, not between the Insurance Commission and the doctors or the insured persons, but between the insured persons themselves and the committee which represents them on the one hand and the medical profession on the other—a controversy above all things to be avoided. Those who speak for the medical profession cannot have it both ways. If we are to make it compulsory, without any discretion in the Insurance Committees, that any one is to be allowed to have medical attendance outside the panel system, they must be allowed to choose any medical treatment they like outside the penal system. Hon. members below the gangway had an amendment on the paper suggesting that we should compel Insurance Committees to allow insured persons to choose institutes, medical clubs, or any of the various kinds of arrangements which treat not only insured persons, but women and children as well—the arrangements which we sanctioned under Section 15 (3), but not under Section 15 (4). In large parts of the country the controversy now developing is not whether persons will be allowed to have free choice of doctor, which means the institute, but the medical profession themselves are asking us not to allow this free choice. If you have free choice of doctor outside the panel system you must have free choice of institute as well, and there inevitably follows free choice of friendly society doctors. That is why I urge the hon. member and his friends not to carry this question further. If the amendment were carried it would mean the destruction of the panel system. It would mean the friendly societies trying to reassert the old friendly society system, which may be quite right, but out of which the House, by a large majority, helped the doctors under the implied agreement that the doctors in their turn would come in and help us under the panel system. I would appeal to the House to leave the discretion, as at present, to the Insurance Committees, and to consider the situation as it develops between the doctors and the insured persons during the coming time.

The amendment was supported by Sir Philip Magnus, Mr. Worthington-Evans, Mr. Jonathan Samuel, and other speakers.

Mr. Dawes, the Chairman of the London Insurance Committee, in opposing the amendment, explained the attitude of the London Committee in this respect. He said: I fail entirely to understand the object of this amendment, because it seems to me that it does not carry the matter in the least bit further than Section 15, Subsection (3) of the Act. That gives Insurance Committees full discretion to do what they think fit, subject, of course, to certain circumstances warranting persons being allowed to make their own arrangements. The last speaker said that this was really a democratic amendment. Let us see who really are the people who have the discretion. Who are the Insurance Committees to whom this discretion is permitted? They are not Government officials. They are not persons selected by the doctors, or by the Government, or by anybody else. Three-fifths of them are people democratically elected, people representing insured persons who have in the last two or three months been actually elected by a democratic vote, and, I believe, by proportional representation, of which hon. gentlemen opposite are so very fond. Those are the people who have the discretion. My hon. friend the member for Stockton (Mr. J. Samuel) said that he believed instructions were sent out by the Insurance Commissioners to do this or that. No such instructions at all have been given in the county of London, and I cannot understand that the Insurance Commissioners would interfere in a matter with which they have absolutely no concern, and as to which the Insurance Committees could tell them to mind their own business. No regulations have been issued fettering the discretion of the Insurance Committee. We have had no trouble in London except at the beginning, when we had a circular sent out by a few members of the British Medical Association, and it has since been admitted to me that it was done intentionally with the idea of breaking down the medical system. That was absolutely admitted to me by one of the gentlemen who sent out the circular. The last statistics of the hon. member for Colchester (Mr. Worthington-Evans) were apparently in February, which, of course, was when this agitation was at its highest. Since then every application has been considered on its merits. I myself had certain lines laid down by my Committee, and I this morning went through forty or fifty applications, and there were only two which had to be refused. When you get a case such as that quoted by the hon. member for Colchester, where a person has been treated for eight years, it is granted as a matter of course, and I believe that it would be granted by any Insurance Committee. I believe that even the Stockton Committee or the Committee for the county of Durham would grant it. Such cases are the very cases which come under Section 15. I do not believe that the trouble exists at all or that the amendment is of the least use, and, if it were carried, it would stir up the whole of the agitation again.

Mr. Forster also supported the amendment. He said: I want to give my view with reference to the necessity for passing the amendments proposed. He has said that he does not wish to break down the panel system, but that he wishes to supplement it. We are told by the Government that the panel system is securely established. We are told that they have got upwards of 18,000 doctors on the panel at the present time. We were told by the Chancellor of the Exchequer some time ago that if he could only get the services of 10,000 doctors he could work the Act under the panel system. He has therefore now got nearly double the number of doctors he declared to be essential. If you have really got the panel system firmly established as you say that you have, then you will not be running any risk in giving the insured person the right of choosing his doctor. I know that the hon. member for Stockton (Mr. J. Samuel) speaks with great authority in this matter and has a great knowledge of the real wishes of the people who live in his constituency. I know from my own experience the real wishes of a great many of the working classes in my own constituency. I know—we all know—that it used to be even under the old friendly society practice quite a common occurrence for friendly society members to pay out of their own pockets the fees of their own doctors, although they were entitled by the subscriptions they paid to their society to the contract service of the society doctor. You have not in the least removed the objection which is sincerely felt by a great body of the working-class population in this country to contract medical service. You have not removed that simply by passing the Act. The objection to contract service still remains. I believe it is largely at the bottom of what appears to be the neglect of a great many people to select their doctor on the panel at the moment. Evidently they do not intend to have a panel doctor. You compel them to subscribe for one, but you cannot make them go to one. They are driven, when ill, to call in a medical man of their own free choice, because the Insurance Committees exercise their discretion in the way pointed out by hon. gentlemen opposite, and, consequently, these people are denied the right which I say the Act gives them, and which they ought to have.

At this stage the reflections which had been made by different speakers in the debate upon the attainments and standing of the medical men who were enrolled on the panel lists caused Dr. Addison to make a short and vehement speech in denunciation of the distinctions which were being made between those members of the medical profession who were on the panel and those who were off, to the disadvantage of the former. It had some effect in prolonging the discussion, but it was

evident that he gave expression to a considerable feeling of resentment in the House in respect of the reflections which had been made by some speakers on the men who had taken service under the Act. He said: What is the meaning of the various amendments on this point which have been put forward? The first proposal was that you should inaugurate a system in which you have no choice at all. This amendment proposes there should be indiscriminate choice, and the next amendment suggests it shall be limited to 2,500. They are absolutely incompatible, and I want to find out what system the Opposition really wants. That is the whole question before us. It was the question in February. What was the reason why the Insurance Committees declined the wholesale applications from people who wanted to make their own arrangements? The object of the application was to break down the system, and it would have been broken down. There is no question about that. The powers which it is proposed to confer under this amendment are already in the Act, in Section 15, Subsection (3), and, as the Chairman of the London Committee has explained, they are now being carried out in all cases where they are really needed. Insurance Committees did not carry them out in February because of the campaign to defeat the whole system and take away the foundation stone. Now this discretion on the part of Insurance Committees is being largely exercised. But I have no doubt that if we introduced this amendment into the bill it will only have the effect of stirring up strife again, and that, I am inclined to think, is the main purpose of the Opposition. It is of no use the hon. member for the Wilton Division to shake his head. It is the inevitable effect of an amendment of this kind. The powers are already in the bill, and there can be no other result of introducing an amendment of this kind than to lead to another wholesale agitation against the panel system. Hon. members opposite are incurring a responsibility which some day they will regret. They tell us not to draw this distinction between panel doctors and non-panel doctors. But who has drawn the distinction? It has arisen because a most malicious campaign was engineered in January and February to depreciate the qualities of the men who went on the panel. We have had the hon. member for Glasgow University talking to-day about "mere panel doctors"; but I know for a fact that in a large number of counties every man in general practice is on the panel. This is a vast campaign to detract from the very large number of men on the panel. That campaign has been dying down. I want it to die down. This amendment will only resuscitate the whole thing, and I hope the House will not make itself a party to putting into the bill words which will simply reopen these miserable controversies. We have already in the bill what is proposed in this amendment, and I believe that the Insurance Committees will exercise the power with wisdom and discretion.

The amendment was ultimately rejected by 245 votes to 114.

A short discussion took place on two amendments brought forward by Mr. Bathurst. The first was with respect to the provision of adequate medical attendance apart from the services of specialists and consultants; the clause was ultimately withdrawn. The second was an amendment on similar lines with respect to insured persons who moved from one place to another. A short discussion ensued on the general arrangements which have been made by the Commissioners with a view to meeting this difficulty. It was contended that unnecessary delays occurred in obtaining the green vouchers, which were to be made available for some of these cases. The amendment was ultimately rejected by 215 to 128.

Clauses 10, 11, and 12 were then added to the bill, and it was arranged that the discussion on Wednesday should open on the amendments to Clause 13 with respect to the administration of maternity benefit.

Maternity Benefit.

The Report stage was concluded on Wednesday, August 6th.

A prolonged debate took place on the question of the administration of maternity benefit, and the first section of Clause 13 was eventually altered so as to read as follows:

13. (1) Maternity benefit shall in every case be the mother's benefit, but where the benefit is payable in respect of the husband's insurance, the wife's receipt or his receipt on her behalf, if authorised by her shall be a sufficient discharge to the society or committee, and where the benefit is paid to the husband, he shall pay it to the wife or apply it for the maintenance and care of the wife and child; and in subsection (1) of section eighteen of the principal Act for the words "treated as a benefit for her husband, and shall be administered in cash or otherwise by the approved society of which he is a member" there shall be substituted the words "administered in the interests of the mother and child in cash or otherwise by the approved society of which the husband is a member."

A motion by Sir Philp Magnus as to the medical representation on the committee of the Seamen's Society, after an explanation by Mr. Masterman, was negatived without a division.

A motion by Mr. Worthington-Evans to leave out the latter portion of Clause 30, by which the Committee of Practitioners on the lists in the absence of a Local Medical Committee in any area may be recognized as the Local Medical Committee for that area, was the subject of a short discussion and a division on which Mr. Worthington-Evans's motion was only supported by 33 votes.

The Four National Commissions.

The remainder of the sitting was taken up by discussion of the question of the four separate Commissions and the position of the national commissions as affected by the provisions of the amending bill. Eventually these clauses were passed without substantial amendment.

End of Report Stage.

At a late hour the bill was reported to the House, and it was agreed that the third reading should be taken after 11 p.m. on Thursday, August 7th.

QUESTIONS.

Treatment of Tuberculosis.

County Scheme.

Mr. Astor asked the President of the Local Government Board how many local authorities had intimated to the Board that they were prepared to treat tuberculous persons, who were other than insured persons or dependants, under the grant promised by the Chancellor of the Exchequer in a letter to Mr. Hobhouse, dated July 31st, 1912; and if he would give the names of these authorities?—Mr. Burns: Ninety-four councils have submitted to the Board schemes for providing treatment for persons suffering from tuberculosis, making no distinction as to whether such persons are insured or non-insured. The names are given in List A below. It also appears from estimates submitted to the Board in connexion with the new maintenance grant that eleven other councils intend that their schemes shall relate to the whole community. See List B below:

List A.

County Councils.—Bedford, Berkshire, Buckinghamshire, Cambridge, Cheshire, Cornwall, Cumberland, Devon, Dorset, Durham, Essex, Hereford, Hertford, Hunts, Kent, Lancashire, Leicestershire, Lincoln (Holland), Lincoln (Kesteven), Lincoln (Lindsey), Middlesex, Northamptonshire, Northumberland, Notts, Rutland, Shropshire, Somerset, Staffs, Suffolk (East), Suffolk (West), Surrey, Warwick, Westmorland, Wiltshire, Worcestershire, Yorks (E. R.), Yorks (W.R.).

County Borough Councils.—Barrow-in-Furness, Bath, Birkenhead, Birmingham, Blackburn, Blackpool, Bolton, Bootle, Bradford, Brighton, Bristol, Burnley, Burton-on-Trent, Bury, Canterbury, Chester, Coventry, Croydon, Derby, Dudley, Eastbourne, Exeter, Halifax, Hastings, Huddersfield, Hull, Ipswich, Leeds, Leicester, Lincoln, Liverpool, Manchester, Middlesbrough, Newcastle-on-Tyne, Northampton, Norwich, Oldham, Plymouth, Portsmouth, Rochdale, Rotherham, St. Helens, Salford, Sheffield, Smethwick, Southampton, South Shields, Stockport, Stoke-on-Trent, Tynemouth, Wallasey, Walsall, West Bromwich, Wigan, Wolverhampton, Worcester, York.

List B.

County Councils.—Derby, Gloucester, Isle of Ely, Southampton, Sussex (East), Sussex (West).

County Borough Councils.—Nottingham, Southport, Warrington, West Ham, West Hartlepool.

Tuberculosis Officers.

Mr. Astor also asked how many areas in England and Wales were now without whole-time tuberculosis officers; and if he would give the names of these areas. Mr. Burns replied: According to my information twenty-four county councils and twenty-eight county borough councils have appointed whole-time tuberculosis officers, and four county

councils and eleven county borough councils part-time tuberculosis officers. The part-time tuberculosis officers are men wholly engaged in public appointments, but whose whole time is not given to the office of tuberculosis officer. The names of the areas are given in the List A below, and the cases in which part-time officers have been appointed are indicated by an asterisk. It must not be assumed that all the remaining councils have not yet appointed tuberculosis officers, because application for the Board's approval of the appointment is sometimes not made until after the officer has been appointed. In the metropolis a certain number of whole-time tuberculosis officers have been appointed by voluntary bodies. List B below contains the names of those areas in respect of which no appointment has been notified to the Local Government Board. The particulars given relate to England (excluding Monmouth). I have no information as regards Wales and Monmouth.

LIST A.—*Areas in respect of which the appointment of tuberculosis officers has been notified to the Local Government Board.*

1. *Counties.*—Kent, Cornwall, Essex, Somerset, Gloucester (joint with city), Durham, Northamptonshire, Buckinghamshire, Wiltshire, Hertfordshire, Yorks (West Riding), Derbyshire, Leicestershire, Devonshire, Westmorland, Worcestershire, Lancashire, Surrey, Berkshire, Salop, Herefordshire, Middlesex, *Sussex (East), Yorks (East Riding), Dorset, *West Suffolk, *East Suffolk, *Lincoln (Lindsey).

2. *County Boroughs.*—Kingston-on-Hull, Gloucester (joint with county), Stoke-on-Trent, Leeds, Birkenhead, York, St. Helens, Blackburn, West Ham, Middlesbrough, Bradford, Liverpool, *Burnley, Southampton, Brighton, *Worcester, *Halifax, *Lincoln, *Tynemouth, *South Shields, *Ipswich, Newcastle, *Southport, Leicester, Manchester, Birmingham, Eastbourne, Nottingham, Sheffield, Portsmouth, *Salford, *Burton-on-Trent, Croydon, Wallasey, Bootle, Bristol, *Derby, Wigan (joint with Lancs. county), Rotherham.

3. *Metropolitan Boroughs.*—Hampstead, Lambeth, Wandsworth, Greenwich, Deptford.

LIST B.—*Areas in respect of which no appointment of tuberculosis officers has been notified to the Local Government Board.*

1. *Counties.*—Bedford, Cambridge, Isle of Ely, Cheshire, Cumberland, Huntingdon, Lincoln (parts of Holland), Lincoln (parts of Kesteven), Norfolk, Soke of Peterborough, Northumberland, Nottingham, Oxford, Rutland, Southampton, Isle of Wight, Staffordshire, West Sussex, Warwickshire, Yorks (North Riding).

2. *County Boroughs.*—Barrow-in-Furness, Bath, Blackpool, Bolton, Bournemouth, Bury, Canterbury, Chester, Coventry, Devonport, Dudley, Exeter, Gateshead, Great Yarmouth, Grimsby, Hastings, Huddersfield, Northampton, Norwich, Oldham, Oxford, Plymouth, Preston, Reading, Rochdale, Smethwick, Stockport, Sunderland, Walsall, Warrington, West Bromwich, West Hartlepool, Wolverhampton, Barnsley, Dewsbury.

In reply to Mr. Ormsby-Gore, the President of the Local Government Board said that the Board had in seven instances, with the concurrence of the Insurance Commissioners, approved arrangements under which medical officers of health had been appointed to perform the duties of tuberculosis officer in addition to their other existing duties.

Mr. Ormsby-Gore asked whether, in giving approval to or withholding it from tuberculosis schemes submitted by local authorities, the Board had taken into consideration the staffing of dispensaries and sanatoriums, including the tenure and other conditions of appointment of the staff and the qualifications and experience of tuberculosis officers.—Mr. Burns replied that in reviewing the schemes put before it by local authorities, the Local Government Board had regard to all relevant considerations, including such as those referred to in the question.

Mr. Astor asked whether any medical officers of health had been appointed tuberculosis officers; and, if so, if he would give the names of the local authorities whose medical officers had been appointed to these posts.—Mr. Burns said: In all cases I am advised that it is desirable that the medical officer of health should be the chief executive and organizing officer in connexion with schemes for the treatment of tuberculosis. Occasionally the medical officer of health has had the requisite special training and has sufficient time to enable him to act also as clinical tuberculosis officer. In the following cases the Local Government Board, with the concurrence of the Insurance Commissioners, have approved of this arrangement:—County boroughs: Lincoln, Ipswich, Worcester, and Burton-on-Trent; county councils: West Suffolk, East Suffolk, and Lincoln (Lindsey).

Mr. Astor asked, further, how many tuberculosis officers had been appointed; and how many of them did not possess the qualifications recommended by the Departmental Committee on Tuberculosis and approved by the Local Government Board in its Memorandum of May 14th, 1912, and repeated in their Memorandum of July 6th, 1912.—Mr. Burns said that the appointments of seventy-eight tuberculosis officers had been approved by the Local Government Board; approval had been given in these cases after obtaining the concurrence of the Insurance Commissioners, and the officers appointed possessed the necessary qualifications. There might be some cases of appointments which had been made but had not yet been reported to the Board.

County Sanatoriums.

Mr. Astor also asked how many councils of counties or county boroughs owned sanatoriums; how many were now building sanatoriums themselves or in conjunction with other councils; and how many neither owned nor were building their own sanatoriums.—Mr. Burns: In many instances the accommodation required by county councils is being provided by agreement at existing institutions. Sometimes this is being done by appropriating for tuberculosis the whole or a part of the institution, and sometimes by the addition of buildings; in many instances the institution is owned by some other local authority or by a voluntary body, and not by the county council. The number of councils of counties and county boroughs who themselves own, or have acquired by lease, buildings which are used for the reception of persons suffering from tuberculosis is fifty-two. I am not able to state exactly the number of councils who are actually building at the present time, but the Local Government Board have approved the acquisition of land for the erection of buildings in three cases; they have approved of the acquisition of mansions with large grounds in four cases; they have approved of plans for the extension of existing buildings in sixteen cases; and in several other cases plans are under consideration. The Board are also aware that thirteen councils are now negotiating for the acquisition of sites which have been inspected by the Board's medical inspectors, and approved subject to conditions. As regards the last part of the question, twenty-six county councils and twenty-four councils of county boroughs have not at present acquired buildings or the use of beds in existing institutions, but in respect of eighteen of these counties and ten of these county boroughs schemes have been submitted to the Board which include proposals for providing sanatorium accommodation. The foregoing statement relates only to England (excluding Monmouth).

*Part-time officers.

LOCAL MEDICAL COMMITTEES.

EDINBURGH.

A MEETING of the Burgh of Edinburgh Local Medical Committee was held on July 22nd.

The first business was the election of seven new members to fill vacancies caused by resignations; also the election of a Chairman, Vice-Chairman, Secretary, and certain members of the Executive. The statutory Local Medical Committee is now composed as follows:

Chairman.—Dr. Michael Dewar.
Vice-Chairman.—Dr. Robert Robertson.
Treasurer.—Dr. A. M. McIntosh.
Honorary Secretary.—Dr. John Craig, 216, Bruntsfield Place, Edinburgh.

Dr. D. McF. Barker	Dr. M. McLarty
Dr. L. F. Bianchi	Dr. W. L. Martin
Dr. W. S. Murdoch Brown	Dr. R. M. Matheson
Dr. Wilson Buchanan	Dr. A. F. Wilkie Millar
Dr. J. Aitken Clark	Dr. W. Morrison Milne
Dr. W. J. Crow	Dr. J. Murray
Dr. J. M. Darling	Dr. John Orr
Dr. T. B. Darling	Dr. R. McD. Robertson
Dr. T. Finlay	Dr. A. Aitken Ross
Dr. W. B. Hendry	Miss E. Selkirk
Dr. John Jamieson	Dr. J. W. Senter
Dr. R. T. Johnston	Dr. J. A. Shoolbread
Dr. J. W. Keay	Dr. A. T. Sloan
Dr. Angus Macdonald	Dr. Alex. Veitch
Dr. J. McLaren	Dr. A. Wilson
Dr. R. McLaren	Dr. James Wilson

The report by the Drugs Subcommittee was submitted and agreed to.

Questions regarding the payment of remuneration, the election by the practitioners of a member to fill a

vacancy on the Insurance Committee, the inclusion of Clause 30 of the Constitution, and the financial arrangements of the Committee were further considered.

SURREY.

At a meeting of the Surrey Local Medical Committee held on July 18th the following resolution was, on the motion of Dr. Cowie, seconded by Dr. Cran, carried *nemine contradicente*:

> That the Secretary be directed to reply to the Surrey Insurance Committee that the Surrey Local Medical Committee has given its careful consideration to the difficulty arising in the matter of "temporary residents," and regrets that it is unable to suggest any other solution of the difficulty pending the publication of the Memorandum of the Insurance Commissioners. The Surrey Local Medical Committee considers that any arrangement arrived at must be one that will apply to the whole country.

It was agreed that the Surrey Insurance Committee be asked to fix an income limit of not more than £160 per annum for insured persons.

INSURANCE NOTES.

CONFERENCE OF LOCAL MEDICAL COMMITTEES.

Deputation to Insurance Commissioners.

With reference to the deputation appointed by the conference of Local Medical Committees at Brighton to interview the Insurance Commissioners regarding payment for medical attendance on insured persons temporarily absent from home, we are informed that it will probably not be possible to arrange for the interview till early in September.

LONDON.

Proposed Local Medical Committee for the County of London.

A well-attended meeting of the panel medical practitioners of the borough of Shoreditch took place on July 30th to consider a circular sent by the "Provisional Committee for the County of London." It was headed:

Resolutions carried at the meeting of the Local Medical Committee for the County of London, held July 17th, 1913:

1. To consider and, if deemed advisable, to pass a resolution to petition Parliament that in the Amending Bill to the National Health Insurance Act now before Committee, Clause 62 be amended to the effect that the appointment of a Local Medical Committee be in the sole control of the Practioners on the Panel of the District.
2. To elect representatives to serve on the Local Medical Committee or to a Committee of an independent organization of Insurance Practitioners, as the case may be.
3. To appoint a Committee to consider the question of the allocation of the unallotted insured persons.
4. Generally to maintain a permanent local organization, which shall consider the working of medical benefit in their borough.
5. Any other business.

Dr. Major Greenwood was elected to the chair and, after some discussion, moved the following resolution:

> That, in the opinion of this meeting of Shoreditch practitioners, the Local Medical Committee for the County of London should be elected in accordance with Section 62 of the National Health Insurance Act; and that it strongly protests against the proposed disfranchisement of their professional brethren not on the panel.

To this an amendment was moved by Dr. Froggett

> That Section 62 of the Act be amended to the effect that the appointment of a Local Medical Committee for the County of London be in the sole control of the practitioners on the panel.

On being put to the vote, the amendment was lost and the resolution duly carried.

Paragraph 2 above was then considered, and after some discussion the following resolution carried:

> That this, being a matter affecting the whole of London, it is wiser to leave the organization for electing a Local Medical Committee to a body representing the whole area. That, as the Council of the Metropolitan Counties Branch of the British Medical Association is about to organize such an election by calling meetings of all practitioners in the various boroughs, this meeting considers it desirable to leave the arrangements for the election of a Local Medical Committee to that body, provided always that the representatives for the various boroughs be elected solely by the resident practitioners in those boroughs.

No amendment was proposed, and the resolution was carried *nemine contradicente*.

The third paragraph was then considered and the following resolution proposed:

> That, as the allocation of unallotted insured persons must always affect more than one borough, any committee to consider this question be chosen by the Local Medical Committee for the whole of London.

To this an amendment was proposed by Dr. Ladell:

> That the Committee to consider the allocation of the unallotted insured persons consist only of practitioners on the panel.

The mover said that at a similar meeting of the Islington panel practitioners such a resolution had been carried; and further, that the Committee consist of all such practioners in the borough. The amendment was rejected, and the original resolution was carried *nemine contradicense*.

The following resolution was unanimously carried:

> That this meeting strongly protests against the Locker-Lampson amendment, and considers that, if accepted, it would be disastrous both to the medical profession and the public.

Copies of these resolutions were ordered to be sent to Dr. Addison, the parliamentary representative of the Hoxton Division of the borough.

LIVERPOOL.

A well-attended meeting of doctors on the panel was held at the Municipal Buildings on July 16th. It was summoned for the purpose of electing a committee distinct from the Local Medical Committee. Dr. J. Ernest Nevins having been elected to the chair, a resolution "that a committee of doctors on the panel be elected" was proposed and seconded.

This was supported by Drs. J. C. Baxter, J. D. McFeeley, Robertson Dunn, D. Donnelley, J. G. Moyles, R. Paterson, O. Belcher, and A. S. Parkinson, who thought such a committee would give particular attention to the special needs of the panel doctors. It was, however, opposed by Drs. A. W. German, W. B. Bennett, J. J. O'Hagan, G. W. Procter, and E. T. Davies, who contended that such a committee would eventually hamper the work of the Local Medical Committee and tend to destroy the unity of the profession. The resolution was lost by a large majority, most of those present being of opinion that the Local Medical Committee was quite competent to safeguard their interests.

SALFORD.

Sanatorium Treatment in Salford.

It is most unfortunate that just when the temporary arrangements for giving institutional treatment to insured persons suffering from tuberculosis were working most satisfactorily, a serious interruption has occurred. The Salford Corporation decided some months ago to erect a sanatorium for phthisis and a suitable site was found at Marple, but a strong local opposition has been raised to the proposal to erect a sanatorium in what is largely a residential district and a Government inquiry is to be held. It was of course evident that some considerable time must elapse in any case before a new building could be erected and equipped; but there were many cases of tuberculosis awaiting institutional treatment and accommodation in existing sanatoriums was extremely limited. Accordingly the Salford Corporation decided to adapt for temporary use the Drinkwater Park Small-pox Hospital, as there had been no cases of small-pox in the borough for about eight years and the hospital was standing empty. This adaptation cost several hundred pounds. The Salford Insurance Committee then entered into an agreement with the Corporation for the institutional treatment of tuberculous insured persons and 35 cases have been in residence at Drinkwater Park for some months. Unfortunately a few days ago 4 cases of small-pox were discovered in the borough, and as one of the patients had been going about there were certainly a considerable number of contacts and some danger of fresh cases arising. It was necessary immediately to remove the whole of the thirty-five cases of tuberculosis from Drinkwater Park. For four or five of them beds were obtained at Delamere Sanatorium, but the remainder had to be sent home at a few hours' notice, and as residence in a sanatorium is regarded by the ordinary insured person as the only satisfactory form of sanatorium benefit, some discontent is certain to arise. The possibility that the

Drinkwater Park Hospital might at any time be required for small-pox had constantly been before the authorities, and there has been no unnecessary delay in looking for a permanent site for a sanatorium. Every possible attempt is being made to find beds in existing institutions, but apparently all the available sanatoriums are practically fully occupied, and it may be necessary for the present to rely mainly on domiciliary treatment and treatment at the tuberculosis dispensary.

CORRESPONDENCE.

Temporary Residents.

DR. ATTRIDGE WILLIAMS (Birmingham) writes: I have carefully studied Memo. 171 I.C. I agree with Dr. Oxley that the word "explanatory" had better have been left out. I draw the following conclusions from its perusal:—

1. Compared with pleasure and health resorts, deductions for case value would be excessive in industrial districts, for example, Birmingham, Leicester, etc. Probably 50 per cent. of insured population have an annual holiday.

2. Undue preference is given to panel doctors in pleasure resorts. Not alone would they be paid on a capitation basis, but also per attendance in a manner out of all proportion greater than could be hoped for in an industrial district. I am assuming, and I believe correctly, that case-value payment would be higher for work done than capitation payment.

3. The case value will vary with each *initial* Committee (namely, upon which insured person is originally registered), but the amount of case value a given initial committee pays to a temporary committee will be the same, *no matter what attendance the insured person may require.* For example, assume that the case value, £1 1s. 6d. for a given committee is correct. Suppose that an actor has originally registered on the Birmingham Committee. He has some minor ailment which does not incapacitate him, but for which he requires treatment each week. He is in constant employment and spends one week in each town. Consequently, in the course of the year he will have had treatment from fifty-two committees. Am I correct in stating that for this person £1 1s. 6d. × 52 = £55 18s. will be yearly deducted from the Birmingham funds? If so, such a person is a curse to his original committee. Also if his original doctor has a small panel and takes his own risk of case value, it would be possible, while not probable, that he receives no payment for attendance on his other panel patients, but actually owes money to the Insurance Committee!

4. Payment by case value will be long-deferred payment. Each year it will be necessary to wait until case value can be ascertained, and Heaven alone knows when this will be done.

5. According to Paragraph 32, apparently a doctor can claim case value, which will be collected from his own committee for partial treatment of a case which is actually registered on his own committee—that is to say, if he sends a patient after partial treatment by him to recuperate in another insurance area he can claim payment from the Central Fund at temporary rates, although he has contracted with his own committee to attend this case at a capitation rate. If I am correct in this conclusion, there will be a temptation to order patients away for a change so as to get payment at temporary rates.

6. Apparently the definite fees mentioned in previous memorandums have been abolished and "token fees" substituted. We will, therefore, never know what payment for work done we shall receive until we are paid out of a central fund. Also the fees for visits, consultations, anaesthetics, etc., will be the same amount. In my opinion Dr. Oxley's plan of payment by "attendance value" is sound and reasonable. He arrives at it by the following simple calculation:

$$\frac{7s. \times \text{total number of insured persons in area}}{\text{Total number of attendances per annum.}}$$

We are paid this ourselves, and we could not logically object to others who do our work being at the same rate. No one could grumble. Either have this plan for each committee or for the whole country. The chief objection would be the inevitable delay (same as in case value) of calculating what this value was.

I would suggest a still simpler plan. Issue green vouchers as before. Have a definite tariff—that is, so much a visit, a consultation, etc. The vouchers are sent by doctors to Central Fund. To meet them, ascertain the total amount due and divide this amount between all Insurance Committees *in the proportion to numbers on their registers.* The advantages of this scheme would be: (1) Simplicity; (2) adjustments and case values done away with; (3) all panel doctors would have an equal risk; (4) payments would be more prompt—that is, every three months; (5) it would do away with any possible jealousy between pleasure resorts and industrial centres—every one would pay their share.

DR. MAJOR GREENWOOD (London) writes with reference to the same memorandum to express the opinion that it must produce misgivings as to the equity of its bearing towards those who have signed contracts with the various Insurance Committees throughout the country. It begins with a general statement that under the National Insurance Act all insured persons are entitled to medical benefit, wherever they may happen to be within Great Britain. Admitting the general accuracy, it is quite another thing to say that the Act permits of the compulsory application of a scheme such as is here described. A duty is thrown by the Act on insured persons to make application for medical benefit from the Insurance Committee of the area in which they happen to be, and an obligation is put on the latter to provide it in the way indicated in S. 15 (c), (d). Art. 22 of the Regulations applies properly only to the carrying out of the above-quoted section, and might be thought by some to extend the privileges of insured persons further than was ever contemplated in the Act. So that although I have admitted that the general scope of the Act is in the direction of providing medical benefit for insured persons in all parts of Great Britain, it might be easily contended that S. 15 was to be strictly interpreted, and that insured persons could only obtain medical benefit from the practitioners they had chosen on the panel.

The emphatic statement that the right to medical benefit when temporarily absent from their own district "is conferred on them by the Act itself" is certainly open to challenge, and it is to be presumed the Commissioners have taken legal opinion on the subject.

However that may be, the whole scheme of the circular requires careful consideration. The very basis of it appears to me unsound. Take paragraph (10)—*Principle of Case Value.* Dealing with the attendance at health resorts of insured persons away from their own homes by the health resort doctors, it says:

> In the absence of any known reason for believing that the proportion between ill and well among Dr. A.'s insured persons in Dr. B.'s district differed materially from the proportion among those persons, when resident in Dr. A.'s district, both doctors would come to the conclusion that there had been other persons in Dr. B.'s area, who should have reported themselves, and in respect of whom he should have been able to charge Dr. A.

Then in paragraphs (12), (13), it proposes to take an average of the number of Dr. A.'s insured persons probably present in Dr. B.'s district temporarily from the number of applicants Dr. B. receives for treatment: assuming that the ratio will be the same as that between the number of applicants for treatment Dr. A. gets, and the number of insured persons on his panel.

It would seem that if any considerable number of Dr. A.'s patients go to a favourite health resort on account of ill health, the average thus obtained might prove that nearly all Dr. A.'s panel had migrated there, and nearly the whole of his emoluments therefrom would be temporarily arrested.

Next, as to the way this average is deduced.

> Dr. A., on examining his books, would ascertain that he had on an average 50 persons under treatment each week. That is to say an average 50 out of 2,000; 1 in 40 of the persons on his list required treatment each week.

On what figures is this average based? There has been no time up to the present to obtain any reliable statistics.

To test the figures, I took three weeks at random during the last quarter in my own practice—one in May, June, and July. The result was May 58, June 58, and July 59, out of a panel of 900, showing not 1 in 40, but 1 in 15.

I should advise other practitioners to follow my example, and calculate their average, and compare it with that laid down in paragraph (12).

Lastly, in paragraph (21), green vouchers are mentioned, which are to be presented to doctors by insured persons when out of their own districts. The former may, or may not, accept these vouchers, but if, as seems likely from paragraphs (37), (38), it is proposed to compel their acceptance by practitioners on the panel, I would respectfully ask how this can be legally done in districts where the panel system is in force. The very essence of that system is that both doctors and insured persons shall have the option of choice, with the exception that where no doctor will accept an insured applicant, he must be allotted to some doctor on the panel, "so far as practicable under arrangements made by the several practitioners, whose names are on the list" (S. 15, (d)).

It is to be hoped that in the interests of the medical profession the Insurance Act Committee of the British Medical Association will give attention to this circular, and take legal opinion on some of the points I have indicated.

Party Politics and the Act.

Dr. B. G. M. Baskett (Rayleigh, Essex) writes: The cruel remarks of Dr. Addison (British Medical Journal Supplement, July 19th) are a fitting climax to the series of charges we have heard from lay people—that other than pure motives determine medical opposition to the Act. We are to blame in not having insisted on our supreme fitness as a body to judge its merits, as being men educated often to a high degree, always in scientific habits of thought, living in constant contact with the poor, and forced to estimate their needs as few others, and their potentialities as no other educated class can. Every one must have noticed that the average M.P., inevitably a doctrinaire, as being a party man, loses touch with actual life and learns to believe in the power of Parliament to overcome evils springing from moral causes. But I think it will be generally allowed that medical men, when fallen "into the sere, the yellow leaf," as I am, look upon party with a good deal of contempt. Dr. Addison seems to think it impossible that you should object to the Act unless you are a Conservative. May I, who was bred in the strictest sect of the Radicals, say why I hate the Act with a hate which grows with each day's experience?

1. The reintroduction of status must be a retrogression. This is an attempt to graft on a nation grown old in the traditions of freedom a system foisted by a military despot on a country in a stage of political development corresponding with England under George III at the height of his power, when, by the way, this system was repudiated by the House of Commons. The moral effect of putting one-third of the people of England under the offensive patronage of what is really a Board of State Relief must necessarily be bad.

2. The problem of the public health, in the long run, must patently be mainly economical. What constructive legislation, for example, has ever done so much for the health of the poor as the work of the men who made the cheap bicycle possible? It follows that it is a cardinal sin against a nation to reduce real wages, a sin only less heinous than to reduce them in such a way that the workman does not know why they are reduced. These sins every Radical M.P. must have denounced in protection. They are equally committed by the Act. The result has appeared with startling rapidity. Working men's wives in this (rate favoured) district have shown me that a weekly budget for five people—parents and children—has risen by 7½d. for food alone; with coal and the hundred necessities for the house it cannot well be less than 1s. from July, 1912, to July, 1913. Unquestionably a large part of the rise was due to the Act; apart from many cases where work has been lost or money wages reduced, I am convinced that they are even now paying more than 5d. for the employer's 3d. and the State's 2d. This means that at the next cycle of bad trade there will necessarily be deterioration in quality, if not quantity, of the food of the working class, and that the blow will be severe in the case of the very poor, for whom alone there was a shadow of justification for medical benefits on Poor Law terms. Already the 10s. benefit, the 7s. doctor's money, means less than it would last year; already the tax means more. It is hard to believe that some Ministers did not see that the imposition of the whole 9d. on the insured person would have cost him less in the long run. In the pious hope that the law of the economic wage would be suspended in deference to aims so high, they have chosen the wrong way; and as Tony Weller says, "It's like helping an outside passenger up ven he's been pitched off a coach, and puttin' your hand in his pocket vile you ask him with a sigh how he finds hisself."

"Force is no remedy" was the maxim of one of the men to whom the working class of Great Britain owes a larger debt than to any whoever lived, and by whose exertions has been achieved our superiority in death-rate and national health over that nation whose feudal system we are copying. The truth of the maxim has over and over again been proved, and no man can admire this law who does not think of the poor as on a different plane from himself. That Dr. Addison and his party sincerely believe that in this case force will not breed true, nor give rise to its proper progeny, compulsion and chicane, we have always believed, though we are quite certain that they have done appalling harm. The least return he and they can make is to believe that there are men whose lives have been actuated by a passionate desire for the welfare and the freedom of the working classes, and who see in this Act—if it succeeds in establishing itself firmly—the frustration of their dearest hope.

We need not yet despair. We owe it as a duty to our panel patients to get them to inquire what is the price they really pay for these benefits. My experience is that they are quick to see. Once they grasp the facts, once they see that the only way which pays is the honest and manly way of direct payment for what they get, the proper English method must follow, and the Act have an optional clause added. It is a sad confession for a democrat to make, but its advocates admit that compulsion is of the esssence of the Act, and that without it the whole baleful structure will collapse.

Owing to the length of the report of the proceedings in Parliament on the Insurance Act Amendment Bill we are unable to find space for some letters on the insurance question recently received.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ABERGAVENNY: MONMOUTHSHIRE ASYLUM.—Second Assistant Medical Officer (male). Salary, £225 per annum.

AYRSHIRE SANATORIUM, New Cumnock.—Assistant to the Resident Medical Officer. Salary, £150 per annum.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BEDFORDSHIRE COUNTY COUNCIL.—Tuberculosis Medical Officer. Salary, £500 per annum.

BELGRAVE HOSPITAL FOR SICK CHILDREN, Clapham Road, S.W.—(1) Resident Medical Officer, (2) Junior Resident Medical Officer (males). Salaries at the rate of £75 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House-Surgeon. Salary, £80 per annum, with £5 laundry allowance.

BIRMINGHAM GENERAL DISPENSARY.—Resident Medical Officer. Salary, £220 per annum.

BIRMINGHAM GENERAL HOSPITAL.—House-Surgeon to special departments; also a Resident Pathologist. Salary at the rate of £50 per annum.

BIRMINGHAM UNIVERSITY.—Lecturer on Pathology and Bacteriology in the University and Visiting Pathologist to the General Hospital.

BRADFORD ROYAL INFIRMARY.—(1) House-Surgeon; (2) House-Physician (males). Salary, £100 per annum each.

BRISTOL ROYAL INFIRMARY.—(1) House-Physician; salary at the rate of £100 per annum. (2) House-Surgeon; salary at the rate of £100 per annum.

BURNLEY: VICTORIA HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—(1) First Assistant to the Research Department; salary, £350 per annum. (2) House-Surgeon; salary at the rate of £70 per annum.

CANTERBURY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £160 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—House-Surgeon (male). Salary at the rate of £60 per annum.

CARLISLE: CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Junior Assistant Medical Officer. Salary, £180 per annum, rising to £200.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary, £150 per annum.

CHESTER GENERAL INFIRMARY.—House-Physician. Salary, £90 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Physician. Salary, £80 per annum.

DERBYSHIRE COUNTY COUNCIL.—Assistant Tuberculosis Officer and School Medical Officer. Salary, £400 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

DORSET COUNTY COUNCIL.—Two Assistant County Medical Officers of Health. Salary at the rate of £250 per annum.

DURHAM COUNTY COUNCIL.—Assistant Tuberculosis Medical Officer. Salary, £300 per annum.

EDAY PARISH.—Medical Officer. Salary, £170 per annum.

EDINBURGH: THE HOSPICE.—Qualified Medical Woman to act as Resident. Honorarium, £25 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of 100 guineas per annum.

EXMINSTER: DEVON COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £220, and on promotion to £250.

GATESHEAD DISPENSARY.—Assistant Medical Officer (non-resident). Salary, £200 per annum.

GLASGOW DISTRICT MENTAL HOSPITAL, Gartloch.—Junior Medical Officer. Salary, £150 per annum.

GRIMSBY AND DISTRICT HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Second House-Surgeon (male). Salary, £100 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £70 per annum.

HERTS COUNTY ASYLUM, Hill End, St. Albans.—Second Assistant Medical Officer. Salary, £200 per annum, rising to £240.

HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £250.

IMPERIAL BACTERIOLOGICAL (VETERINARY) LABORATORY, Muktesar, India.—(1) Assistant Bacteriologist, (2) Pathologist, (3) Physiological Chemist. Salary for (1) and (2) not less than £480 per annum and not more than £610, rising to £1,040; for (3), £480 per annum, rising to £640.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LIVERPOOL INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer. Salary, £120 per annum.

LOWESTOFT HOSPITAL.—House-Surgeon. Salary, £150 per annum.

MANCHESTER CORPORATION.—Third Medical Assistant at the Monsall Fever Hospital. Salary, £100 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER ROYAL INFIRMARY.—House-Surgeon (Casualty Officer). Salary at the rate of £100 per annum.

MANCHESTER: ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—House-Surgeon for the Gynaecological and Children's Departments. Honorarium at the rate of £50 per annum.

MANITOBA MEDICAL COLLEGE, Winnipeg.—Professor of Anatomy. Salary, £500 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Senior House-Surgeon. Salary at the rate of £100 per annum for first six months, rising to £120.

MIDDLESBROUGH UNION.—Resident Workhouse Medical Officer and Medical Officer of the Children's Home. Salary, £220 and £75 per annum respectively.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary at the rate of £80 per annum for first four months, rising to £120.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—House-Surgeon. Salary, £80 per annum.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer (male). Salary, £150 per annum, rising to £175.

PARK HOSPITAL FOR CHILDREN, Hither Green, S.E.—Two Assistant Medical Officers. Salary, £150 per annum, rising to £180.

PICKERING UNION.—Medical Officer for the Lastingham (Poor Law) District. Salary, £20 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Assistant Resident Medical Officer. Salary at the rate of £80 per annum.

PLYMOUTH BOROUGH.—Tuberculosis Officer. Salary, £500 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £75 per annum.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £200 per annum, rising to £250.

READING: ROYAL BERKSHIRE HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

ST. GILES AND BLOOMSBURY PARISHES.—Assistant Medical Officer for the Infirmary, Cleveland Street, W. Salary, £150 per annum, rising to £180.

SHEFFIELD INFECTIOUS DISEASES AND TUBERCULOSIS HOSPITALS.—Junior Assistant Medical Officer. Salary, £130 per annum.

SHEFFIELD ROYAL INFIRMARY.—Two Resident Medical Officers. Salary, £70 per annum.

SMETHWICK COUNTY BOROUGH.—Tuberculosis Officer and Assistant Medical Officer of Health. Salary, £500 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

SOUTH SHIELDS COUNTY BOROUGH.—Assistant Medical Officer (Tuberculosis). Salary, £300 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE INFIRMARY.—Junior House-Surgeon (male). Salary, £90 per annum, increasing to £115 at the end of one month.

STROUD GENERAL HOSPITAL.—House-Surgeon. Salary, £120 per annum.

SUNDERLAND: DURHAM COUNTY AND SUNDERLAND EYE INFIRMARY.—Locum for House-Surgeon. Salary, £5 5s. per week.

SUNDERLAND: ROYAL INFIRMARY.—(1) House-Physician, (2) Two Junior House-Surgeons (males). Salaries, £90 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £80 per annum.

THREE COUNTIES ASYLUM, near Hitchin.—Third Assistant Medical Officer. Salary, if married, £250 per annum, rising to £300; if unmarried, £150 per annum, rising to £200.

WEST HAM BOROUGH.—Two Temporary Assistant School Medical Officers. Salary at the rate of £250 per annum, and, if appointed to permanent staff, rising to £400.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House-Surgeon.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £125 per annum.

WORCESTERSHIRE COUNTY COUNCIL.—Assistant School Medical Officer. Salary, £250 per annum.

WORCESTER GENERAL INFIRMARY.—House-Physician. Salary, £120 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointment: Manchester East (Lancashire).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

KILNEE, H. G., M.B., B.S.Lond., District and Workhouse Medical Officer of the Bury St. Edmunds Union.

MANIFOLD, Robert F., M.B., B.Ch.Dub., Senior Assistant Medical Officer to the North Wales Counties Lunatic Asylum.

RADCLIFFE, Frank, M.D.Vict., Honorary Acting Surgeon to the Oldham Royal Infirmary, vice Dr. Robertson, retired.

ROBERTSON, J. C., M.D., F.R.C.S.Edin., Honorary Assistant Gynaecological Surgeon at the Sydney Hospital.

VENABLES-WILLIAMS, W. M., L.R.C.P. and S.Edin., Certifying Factory Surgeon for the Colwyn Bay District, co. Carnarvon.

ST. THOMAS'S HOSPITAL.—The following appointments have been made:

Casualty Officers and Resident Anaesthetists.—W. J. Hart, B.A., B.M., B.Ch.Oxon., M.R.C.S., L.R.C.P.; M. J. Petty, B.A.Cantab., M.R.C.S., L.R.C.P.; F. McG. Loughnane, M.R.C.S., L.R.C.P.; E. N. Butler, B.A.Cantab., M.R.C.S., L.R.C.P.; A. L. Sutcliffe, B.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P.; H. C. Attwood, B.A.Cantab., M.R.C.S., L.R.C.P.; W. B. Foley, M.B., B.S.Lond., M.R.C.S., L.R.C.P.; A. Viney, M.R.C.S., L.R.C.P.

Casualty Assistants.—E. L. K. Sargent, B.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P.; L. G. Bourdillon, M.R.C.S., L.R.C.P.

Resident House-Physicians.—H. P. Dawson, B.A.Cantab., M.R.C.S., L.R.C.P.; E. Wordley, B.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P.; S. G. Askey, B.A.Cantab., M.R.C.S., L.R.C.P.; D. B. I. Hallett, M.A., M.B., B.Ch.Oxon, M.R.C.S., L.R.C.P.

Resident House-Surgeons.—F. E. Daunt, M.B., B.S.Lond., M.R.C.S., L.R.C.P.; W. J. F. Symons, B.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P.; P. G. Doyne, B.A.Oxon., M.R.C.S., L.R.C.P.; L. N. Reece, M.R.C.S., L.R.C.P.

House-Surgeon to Block 8.—P. H. Mitchiner, M.B., B.S.Lond., L.R.C.P.Lond., F.R.C.S.Eng.

Obstetric House-Physicians.—A. R. Chavasse, B.M., B.Ch.Oxon., M.R.C.S., L.R.C.P.; F. J. Humphrys, M.B., B.S.Lond., M.R.C.S., L.R.C.P.

Ophthalmic House-Surgeon.—G. N. Brandon, M.R.C.S., L.R.C.P.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s., *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

WOODWARK.—On July 31st., at 38, Queen Anne Street, Cavendish Square, W., to Dr. and Mrs. Stanley Woodwark—a son.

MARRIAGE.

SCOTT—DENMAN.—On August 2nd, at St. Mary's Church, Swansea, by the Rev. J. E. Evans, Vicar of St. Matthew's Church, assisted by Rev. Jones, David Wolseley Scott, L.R.C.S., L.R.C.P.Edin., L.F.P. and S., L.M Glasg., Pontrhydyfen, Port Talbot, to Miss Gladys Denman, Colwyn Bay.

DEATH.

MIDDLEMISS.—On August 4th, at his residence, Wear Court, Darlington, George Middlemiss, M.D.Durh. (1889), L.R.C.P.Edin. and L.M. (1871), L.F.P.S.Glasg. and L.M. (1871) Glasg., late Surgeon-Colonel (V.D.), 1st V.B. Durham L.I. and Army Medical Reserve of Officers, aged 68 years.

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TO THE

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British Medical Association.

EIGHTY-FIRST ANNUAL MEETING,
BRIGHTON, JULY, 1913.

THE PATHOLOGICAL MUSEUM.

IN the gymnasium of the Municipal Training College a collection of pathological exhibits had been arranged. But it was evident that the proximity of the International Congress of Medicine had prevented many of the usual contributors to the Museum from sending specimens. This, however, resulted in a pleasing feature, for it allowed due appreciation being given to the work of the Royal Sussex County Hospital, which not only contributed most of the specimens, but had also induced the Royal College of Surgeons to lend a varied collection of specimens that had, indeed, been presented to it in the past by the County Hospital; so that it was evident that much valuable work has been perpetuated by this institution.

Some of the specimens deserve special notice. A rare example of melanosis of the central nervous system was accompanied by photographs showing diffuse bilaterally symmetrical, congenital, pigmented moles on the trunk of a female, aged 28. A tongue with proliferated lymphoid tissue at its posterior parts was from a boy aged 15, who died *suddenly* with no symptoms: from the fact that all the deep lymphatic structures were proliferated, a diagnosis of status lymphaticus was justifiable. A gall bladder the seat of primary cancer had been excised from a patient who appears to have recovered (Jowers).

A pretty example of atheroma of the circle of Willis was met with amongst a fine series of infective endocarditis, in which the lesions were of varied distribution. A heart showing general fibrosis with destruction of the bundle of His had come from a case of heart-block in a male aged 49 (Hobhouse), and another from a male of 19 had hypertrophied to 35 oz. as a result of valvular disease and adherent pericarditis. A series of specimens showed the bone marrow in various diseases of the blood.

Specimens of gynaecological interest included a case of pregnancy in one cornu of a bicornuate uterus, removed by operation, an early tubal gestation showing the ovum *in situ*, and an ovarian cyst—the size of an orange—from a girl aged 10 (Jowers).

A series of injected specimens formed a striking demonstration, and included tuberculous disease of joints, a pulsating sarcoma of the femur, intestine with typhoid ulcers, and a uterus and appendages with multiple fibroids, the avascularity of which latter was well shown. Amongst several examples of disease of the liver and spleen was one of cirrhosis of the liver from a child, aged 4½ years, who suffered from splenic anaemia.

The Royal College of Surgeons loan included a fine case of psorospermosis of the ureter which was studded with small cysts, a villous growth of the bladder, and a fine example of myoma of the small intestine.

A case of lymphadenoma of the pharynx and fauces was specially striking. The ribs of a lunatic showed excessive cancellation which had resulted in spontaneous fracture, and a skull showed extensive erosion of the orbit from pressure of a malignant tumour. There were also a large branching diphtheritic cast of the trachea and bronchus, a lung of an elephant with hydatid disease and an extreme example of enlargement of the clitoris from venereal warts.

Dr. Jowett also exhibited a patella which had been wired (four years before death) for a comminuted fracture, and which showed perfect bony healing; also a tooth-plate removed by oesophagostomy.

An ancient specimen from a case of croup in a boy, aged 5 years, showed the false membrane *in situ* with larynx.

There were several monsters. Of historical interest was a skull unearthed in 1912 in Old Sarum, which had evidently been buried there in 1200 A.D.

From the Westminster Hospital Museum Dr. Braxton Hicks had brought some familiar though none the less interesting specimens. A case of chloroma included some beautifully preserved olive-green tumours in the skull, and if anything the deep colour of these seems to have improved by keeping. Two cases of chorion-epithelioma of *the testicle*, with metastases in the lungs, must certainly form the finest example of this paradoxical condition extant. These were first noted by Dr. Hebb in 1898, and were further detailed by Dr. Bernstein in the general discussion on this subject at the Pathological Society some years later. The colour preservation of these is, like the chloroma specimens, a striking tribute to modern methods of preserving museum specimens. A fine example of infantile scurvy (scurvy rickets) included the entire lower half of a child—a tribute to the enthusiasm of Dr. Colcott Fox. From the same source there had come also a fine example of osteomalacia, a series of specimens illustrating congenital heart disease, and a case of cancer of the male breast. A small dermatological exhibit included some coloured plates by Dr. David Walsh.

The surgical pathology of prostatism was illustrated by a beautiful series of celloidin sections through the entire organ (Henry Wade). Dr. Hans Schlimpert (Freiburg) illustrated the technique of perineal operations by numerous coloured plates and anatomical specimens. Radiography was represented by plates and photographs by Drs. Hall-Edwards, Alfred Jordan on cardiospasm, W. A. Griggs (Brighton), Bythell and Barclay (Manchester), and F. Bailey of the Sussex County Hospital. These included prints of bismuth meals and of collargol injections into the pelvis of the kidney. Dr. Galt exhibited a complete set of apparatus used by him in his haematological work, and Messrs. Hearsons their well-known incubators and centrifuges.

A series of exhibits which aroused much curiosity and interest, and part of which has already received Government recognition, was shown by Dr. Myer Coplans (Leeds). It included: (1) A collection of crude and manufactured "asbestos" minerals, to illustrate his paper on the action of asbestos on bacterial and other substances. The exhibit included finely carded asbestos made up in the form of surgical swabs, which, we understand, are being tried by several surgeons who recognize the absorptive action of asbestos on toxins.

(2) A continuous type of centrifugal separator fitted with device for automatic self-cleansing. A machine drawing was included in the exhibit, together with sketches illustrating the path of the liquid during separation and cleansing respectively. This apparatus was devised for the purpose of water purification.

(3) Conductance Salinometer: The exhibit included the whole of the apparatus used by the exhibitor in taking a continuous record of the salinity of the Northern Atlantic and River St. Lawrence between Avonmouth and Niagara last September. A special feature of this apparatus is the device by which the variation in the resistance of liquids due to alterations of temperature is automatically compensated, so that the readings furnished are those due to alterations of salinity alone.

In a room adjoining the museum microscopic demonstrations were held and aroused much interest. Professor v. Wasielewski (Heidelberg) described and illustrated his method of staining amoebae—which had been grown in symbiosis with *B. fluorescens* on agar (he had failed, however, to grow *A. coli*), and showed how the nucleus can be differentiated into a blue-stained central area and a peripheral chromatin area. His specimens had been fixed with alcoholic mercuric chloride and stained with Romanowsky's stain. His coloured plates illustrated *A. coli* in the blood vessels, and in the alimentary canal of cats which had been inoculated directly per rectum with the mucus from infected cases.

Dr. Braxton Hicks showed slides of *Spirillum obermeieri*, filaria, trypanosomiasis, etc., and Dr. Galt demonstrated the more common histological features of the blood.

Dr. Bahr (Tropical School) demonstrated some features of filariasis in Fiji, including blockade of the lymphatics by adult filariae, and the developmental stage in the mosquito, in which the parasites could be seen proceeding towards the proboscis ten hours after feeding on the blood of infected patients.

Dr. Ross, on behalf of the Howard McFadden Researches, demonstrated the jelly method of observing the *intra-vitam* staining of spirochaetes.

To Dr. Galt we have to express our indebtedness for his kindly assistance in detailing the various exhibits.

Meetings of Branches and Divisions.

BORDER COUNTIES BRANCH:

Scottish Division.

A meeting of the Division was held at Newton Stewart on July 10th, to consider the report of Council and recommendations contained in the Journal of July 5th, and incidentally to commemorate the jubilee of Dr. Dickson (Newton Stewart), who has been fifty years in practice. The recommendations were generally approved, and the Representative was instructed to support them at the Representative Meeting.

Division Area.—A resolution was passed in favour of Langholm area being again included in the Division, and the Secretary of the Scottish Committee stated that the Committee would be asked to approve of it. A letter from the English Division was read, asking if the Scottish Division was in favour of its being incorporated with the Cumberland Division, and this was agreed to.

Expenses of Local Medical Committee.—The Representative was instructed to move or support a motion that the expenses of the Local Medical Committee be defrayed from a central fund if the subscription to the Association were increased. The Secretary then drew attention to the members present of the desirability of contributing to the Benevolent Fund, and the advantage of so doing.

Luncheon to Dr. Dickson.—After the meeting the company adjourned for lunch, at which Dr. Dickson was the honoured guest. Dr. McKie (Newton Stewart) proposed the toast of their guest, and in felicitous terms spoke highly of the esteem and respect that Dr. Dickson had gained for himself among his fellow-practitioners and among his patients. In reply, Dr. Dickson thanked the members for their consideration and courtesy in having asked him to be their guest, and gave a very interesting review of his career for the past fifty years, which was much appreciated.

After the luncheon golf and bowling were participated in by the members present.

METROPOLITAN COUNTIES BRANCH:

Greenwich and Deptford Division.

A meeting of the Greenwich and Deptford Division took place on August 8th, the Chairman, Dr. R. D. Muir, presiding.

Insurance Act Amendment Bill.—The communication from the Medical Secretary dealing with certain amendments in the Insurance Act Amendment Bill was considered, and the following resolutions were carried:

1. That no powers be granted to the approved societies to make arrangements with practitioners for the medical benefit for insured persons.
2. That no alteration be allowed in Section 15, Subsection 4.
3. That a Local Medical Committee consist of two-thirds panel and one-third non-panel practitioners.

MIDLAND BRANCH:

Boston and Spalding Division.

A special meeting of the Division was held in Boston on August 6th, when Dr. White was in the chair and nine other members were present.

Office of Secretary.—Dr. Wilson resigned the post of Secretary, which he had held for the past eleven years. Dr. Wilson's resignation was accepted with regret. On the motion of Dr. White, it was agreed *nemine contradicente* that a secretary be appointed for the Division for Association work only, and that the Local Medical Committee elect its own secretary. It was proposed by Dr. Pilcher, seconded by Dr. Wrinch, and carried *nemine contradicente*, that Dr. R. Tuxford be elected Secretary to the Boston and Spalding Division.

Presentation to Dr. Wilson.—Dr. White, in presenting a testimonial, consisting of a cheque for £30 for the purchase of a microscope, to Dr. Wilson in recognition of his many services to the Division, spoke in eulogistic terms of the late Secretary, and wished him health and happiness in his new sphere of life. All those present associated themselves with the Chairman in his remarks. Dr. Wilson returned thanks briefly.

Proposed Public Medical Service.—The Secretary was directed to write to the Medical Secretary of the British Medical Association as to the advisability of starting a medical service, as the clubs had not assented to the terms offered by the medical men, and as to the insertion of a warning notice in the Journal for the post of medical officer to the clubs.

[Readers are requested to refer to the Warning Notices published this week in our advertisement columns.]

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Metropolitan Counties Branch: City Division.—Dr. A. G. Southcombe (Honorary Secretary, 83, Sidney Road, Homerton, N.E.) gives notice that a special general meeting of the Division will be held at Balfour Hall, Dunston Street, Kingsland Road, on Wednesday, August 20th, at 3.30 p.m., in accordance with a requisition, signed by twenty-five members of the Division, to discuss the following resolution, which will be moved by Dr. Rushbrooke and seconded by Dr. Jaffé: "That this meeting of the City Division of the British Medical Association calls upon Dr. Evan Jones to explain the attitude apparently taken up by him in regard to the G. Locker-Lampson amendment, as reported in the *Morning Post* of July 23rd, 1913, in which he is reported to have advocated the restoration to the friendly societies of the control of the administration of the medical benefit under the National Insurance Act, thereby violating two of the cardinal points of the British Medical Association so strongly upheld by him at the Representative Meeting at Brighton." Rule 12: The business of a special meeting shall be set forth in the circular convening the meeting, and no business shall be dealt with by the meeting except that which it may have been specially convened to consider.

LOCAL MEDICAL COMMITTEES.

WEST RIDING OF YORKSHIRE.

The eleventh meeting of the Local Medical Committee of the West Riding of Yorkshire was held on July 18th. Dr. May was in the chair, and twenty-six representatives were present.

New Representative.—Dr. H. A. L. Banham, having been appointed the representative for Worsbro', was welcomed by the Chairman.

West Riding Pharmacopeia.—It was announced that the Medical Benefit Subcommittee was considering the question of the cost of printing the pharmacopoeia.

Finance.—The financial statement presented by the Treasurer showed a small balance in hand.

Expenses of Committee.—It was resolved:

That every practitioner on the West Riding panel be asked to subscribe a sum of five shillings (5s.) to the expenses of this Local Medical Committee, each representative on this committee to collect the money from the practitioners of his own district and forward it to the Treasurer.

Excessive Ordering of Drugs.—A letter was read from the clerk of the Insurance Committee, drawing attention to prescriptions by a panel doctor in a particular district, the average cost of dispensing which was 10d., as against 6.4d. throughout the West Riding area. As no request for an inquiry had been received from the Pharmaceutical Committee, it was decided to take no action in the matter.

Death of Panel Doctor.—It was reported that in answer to an inquiry with regard to the transfer of patients on the death of a panel doctor, the Honorary Secretary had, on the authority of the clerk of the Insurance Committee, replied to the effect that when a panel doctor died and his practice was sold the insured person on his list passed automatically to his successor, subject to their right to choose any other doctor on the panel, which desire must be communicated to the clerk of the Insurance Committee by the insured person or persons concerned.

Treatment of Tuberculosis.—A correspondence was submitted with the County Medical Officer and others as to the attendance of non-insured persons at tuberculosis dispensaries for examination and treatment without reference to their usual medical man. It was decided to report the whole matter to the British Medical Association with a request that it would deal with it as quickly as possible.

Allocation of Patients.—It was decided to defer the consideration of this matter in view of information from the Clerk of the Insurance Committee that no allocation could be attempted for months to come, as the register was not yet nearly complete.

Rules for Administration of Medical Benefit.—The Committee decided to postpone the matter of the circulation of rules for the administration of medical benefit until after the next meeting of the Insurance Committee.

Temporary Residents.—The Committee approved of the action of the Chairman and Secretary in addressing on their behalf a letter to the Commissioners on this subject.

Conference of Local Medical Committees.—Drs. Eardley and Russell were appointed as Representatives of the Committee at the conference at Brighton.

WIGTOWNSHIRE.

A meeting of the Wigtownshire Local Medical Committee was held in Dr. Selby's house, Portwilliam, on July 7th, when there were present: Dr. Selby, Chairman; Dr. N. J. McKie, Clerk to the Committee; and Dr. J. McKie.

Dundee Conference.—Dr. N. J. McKie gave a report of the Dundee meeting. He stated that, as instructed, he had put the following motion before the conference, which was carried by 19 votes to 8:

That medical benefit be given and sickness or disablement benefit be paid in all cases of venereal diseases and their sequelae.

The Chairman thanked Dr. N. J. McKie for his action at the conference.

Standing Orders.—On the motion of the Chairman, seconded by Dr. J. McKie, the Model Standing Orders recommended by the British Medical Association (Supplement, July 5th, p. 23) were adopted unanimously.

Certificates.—The question of certificates was again considered, and the following motion by the Chairman, seconded by Dr. McKie, was unanimously agreed to:

In view of the replies given in Parliament to the questions put by Viscount Dalrymple, and the reply given to our inquiry by Dr. Cox, Medical Secretary, British Medical Association, we consider it expedient that at present it be left to each individual practitioner to write what he thinks necessary, and in all cases recommend that the certificates be handed to the patient personally.

Another meeting of the Committee was held at Newton Stewart on August 1st.

National Insurance Act Amending Bill.—The Secretary was instructed to send the following letter to Viscount Dalrymple, M.P. for Wigtownshire:

My Lord,—I am instructed to thank your lordship for the valuable service you have rendered the Wigtownshire Local Medical Committee and the whole of the medical profession in Scotland by asking several questions on our behalf in Parliament *re* medical certificates. We now draw your lordship's attention to certain amendments on the order paper of the Committee of the National Insurance Act Amending Bill which we consider most dangerous to the interests of the medical profession, and most certainly not of advantage to the insured person, and we ask you to do your best for us and resist their being carried.

1. An amendment by Mr. Godfrey Locker-Lampson which, if carried, will allow arrangements to be made between approved societies and medical practitioners, and the administration of medical benefit, so far as the members of those approved societies are concerned, would be transferred from the Insurance Committee to the approved societies.

We consider this a distinctly retrograde step, and strongly condemn its adoption.

2. Two amendments standing in the names of Mr. George Roberts, M.P. for Norwich, and Mr. J. H. Thomas, M.P. for Derby, which would allow the recognition of all medical aid institutions, we also condemn as prejudicial both to the profession and the public.

3. The amendment in the names of Dr. Addison and Mr. Glyn-Jones limiting the election of a Local Medical Committee to panel practitioners we would have you reject as narrow, as well as (4) the amendment by Dr. Esmond that the election of representatives of the medical practitioners on the Insurance Committees be limited to panel practitioners for a similar reason, because there is no section of the profession which is not affected by the working of the Insurance Act, and it is important that these committees should represent all sections.

The National Health Insurance Act has been worked on broad lines from its inception, and in this county the Insurance Committee and the Local Medical Committee are working quietly together, without the slightest friction, and getting to understand our interdependence the longer we so work together, we consider that the adoption of any one of the above amendments would be damaging to the present harmonious working of the Act, and tend to diminish its usefulness to those whom it ought to benefit. We are sure the insured person would suffer from their adoption more than any one.

(Signed) N. J. McKie.

Brighton Conference.—Dr. Selby, in his report on the Conference of Representatives of Local Medical Committees at Brighton, said that while his visit was very pleasant, he did not advise the Committee to send a representative to an English Conference in future, provided always that a conference similar to that held at Dundee in July was held in Scotland. He considered that in matters of administration Scotland was in advance of England; that the recommendations of the Scottish Conference were adopted at the Representative Meeting, and that the English Conference was too late to be of any use, and that in some cases its findings clashed with those of the Representative Meeting. He also mentioned that the motion which was carried at the Dundee meeting was accepted by the Representative Meeting, and included in the proposed amendment. He further stated that the finding of the Representative Meeting with regard to sickness certificates was practically the same as the motion he himself put before the meeting of the Committee on July 7th.

MEETINGS OF INSURANCE COMMITTEES.

Sheffield.

Statement of the Nature of the Disease upon Certificate.

At the meeting of the Sheffield Insurance Committee on August 7th discussion took place on the following motion proposed by Dr. A. Forbes:

That in the opinion of this Committee it is not advisable, in the interests of insured persons, that the nature of the illness should be inserted on sick certificates, but that "illness" or "accident," as the case may be, should be sufficient to enable insured persons to obtain their sick benefit.

Dr. Forbes placed very fully before the Committee the objections of the medical profession to disclosure, but the motion was rejected by a large majority.

INSURANCE NOTES.

IRELAND.

Dispensary Doctors as "Medical Advisers."

A DEPUTATION from the Irish Medical Association recently waited on the Local Government Board for the purpose of bringing before it some matters in connexion with the recent appointments of dispensary and other doctors as medical advisers under the Insurance Act. The deputation consisted of the President of the association, Dr. Storey, Dr. McArdle, Dr. Donnelly, and Dr. Keenan. They were received by the Right Hon. Sir Henry Robinson, vice-president, Mr. Commissioner Bourke, and Dr. Bigger, medical adviser. Mr. A. R. Barlas, secretary, was also present.

Dr. STOREY said many of the men appointed were dispensary doctors, and it had occurred to the members of the committee of the Irish Medical Association that it was very probably incompatible with the efficient discharge of the duties of the Dispensary Medical Service that they should be permitted to undertake work outside their own districts in the matter of certifying for sickness benefit. If a practitioner were appointed an insurance certifying officer for a whole county, he must necessarily go outside his own district, and the association would be glad to know whether the Local Government Board considered such an arrangement permissible under the Medical Charities Act.

The VICE-PRESIDENT said the Board's views were set out in their annual report for 1911–12, as follows:

> We have received during the year a few complaints which, on investigation, showed that the medical officers concerned had absented themselves from their districts on the plea of professional duties or of urgent private affairs, and had remained away from their headquarters not only for a few hours but even for an entire day or night, without having obtained permission from, or given any notification to, the guardians, and without having made definite and satisfactory arrangements for the care and treatment of urgent cases occurring during their absence. Medical officers, or their responsible substitutes, must hold themselves always in readiness for duty, and be available within easy reach when their services are called for by their patients. The sick poor are entitled under the Medical Charities Act to prompt and efficient attendance from the medical officers, and have the first claim on their professional skill and services, and a medical officer who absents himself from his district to the serious inconvenience and neglect of his dispensary patients, is guilty of grave dereliction of duty and liable to removal from office.

The Vice-President said he hoped that eventually there would be an amicable settlement of the dispute. In the meantime he would write to the Insurance Commissioners pointing out the difficulties and dangers in the way of employing dispensary doctors outside their own districts, and would ask them, if possible, to confine the certifying work of the dispensary men to their own districts.

General Medical Council.

At a general meeting of the medical profession in Ireland recently held in the Royal College of Surgeons the following resolution was passed unanimously:

> That in the opinion of this meeting no person should be elected a member of the General Medical Council who has accepted the post of medical adviser under the National Insurance Act.

Dr. Magennis, J.P., retiring governor, presided at the annual meeting of the Apothecaries' Hall, when Alderman J. C. McWalter, M.D., LL.B., M.A., was unanimously elected governor for the ensuing year, and Dr. T. G. McGrath, J.P., deputy governor. Dr. Henry Mason was re-elected secretary.

A letter was read from the meeting of the medical practitioners held at the College of Surgeons suggesting that no person who had accepted the post of Medical Adviser under the Insurance Act should be elected as representative of the Hall on the General Medical Council. Colonel Adye-Curran, M.D., was appointed representative by 10 votes to 7. Immediately after his appointment as governor Dr. McWalter handed in his resignation, on the ground that Dr. Adye-Curran, who had accepted the post of Medical Adviser under the Insurance Act, had been appointed representative of the Hall on the General Medical Council.

CORRESPONDENCE.

TEMPORARY RESIDENTS.

DR. J. W. PRIDMORE (Ryde, I.W.) writes: On reading through the recent letters on this subject, the point which strikes me most forcibly is that the various correspondents are inclined to lose sight of the fact that our main objection to the proposed methods of the Commissioners is one of principle; this is the most powerful argument which we can employ, and too much stress cannot be laid upon it. We object to the principle of deducting any sum, whether large or small, from what we have been promised as our minimum fee for attending insured persons (vide Section 22 of the Explanatory Statement published last December). As I pointed out when the question was first raised, if we consent to deductions of any kind, there is no saying to what extent this may be carried. Already the friendly societies have given it as their opinion that the doctors ought to be made to pay for medical referees; this suggestion was made at a meeting held last week, when the necessity of appointing referees was freely admitted by the society delegates. If we give way on the former point we shall soon find the latter coming home to roost. Dr. Major Greenwood gives the result of his calculations of the number of attendances given during three weeks taken at random. I may say that I have done the same, and, although my deductions do not coincide with his, they go to show that the conclusions arrived at by the Commissioners are inaccurate and therefore valueless. The recently published Memorandum 171/I.C. may be described as a needlessly long-winded document, which sets out to explain the methods the Commissioners propose of obtaining a case-value, and ends by explaining nothing. Let us take care that we are not taken in by it.

PAYMENTS BY THE LONDON INSURANCE COMMITTEE.

DR. J. CECIL CONSTABLE (Streatham) writes: On July 23rd I received, in reply to an inquiry, a letter from the Clerk to the London Insurance Committee, stating "that payment for each quarter will be credited on the basis of the average of the numbers standing to the credit of the medical practitioner at the commencement and end of each quarter."

On July 30th one of my colleagues received a cheque on account of moneys due to him. A portion of the sum was in respect of, first, persons accepted and not paid for in the first quarter of the year; secondly, the moiety in respect of acceptances during the second quarter, calculated at 1s. 6d. (on account of 1s. 9d.) per head on the mean number on his list at the beginning and end of the quarter.

The gross unfairness of this is obvious on consideration of the following facts:

His acceptances for the second quarter are composed of two classes—(*a*) people entitled to medical benefit since January 1st last, probably over 90 per cent. of the total in both classes, and (*b*) people transferring from one doctor to another on account of removal or becoming entitled to medical benefit during the second quarter. The schedule to the regulations which provides for this method of payment in respect of the second of the above classes is a just arrangement, but it presupposes a compliance with the regulations in their entirety; had they been complied with class (*a*) would be non-existent, because immediately after the advertised date (March 31st, 1913), the London Committee should have allocated all persons who had not then chosen their doctor, and at the end of that quarter they would have been paid for at the rate of 1s. 9d., and again at 1s. 9d. for the second quarter.

The result of the Committee's action is that they have received 3s. 6d. from their respective approved societies on account of each person in the *a* (90 per cent.) class for the payment of their medical benefit, of which sum they have paid to the doctor in question the half of 1s. 6d.—namely, 9d.—on account of 10½d., which they say is due to him, retaining for themselves 2s. 7½d., which is equitably due to the practitioner.

If the doctor added 50 names in the second quarter, the Committee has paid on the mean of x (acceptances in first quarter) and $x+50$ equal to $x+25$. Therefore he is credited with 25 1s. 9d.—that is, 50 10½d. For myself I shall certainly return any sum offered on account of

such acceptances if they are credited in this manner, and resort to other means of obtaining what is justly due.

Friendly Society Control.

Dr. W. J. Deighan (London) writes: The Locker-Lampson amendment has been withdrawn, but this does not lessen the amazement with which one read the views *re* friendly society control, expressed by Dr. Gordon Lane and Dr. Evan Jones, and published in the *Morning Post* of July 23rd. Nor does it lessen the necessity for a protest against the statements with which they endeavoured to support those views. Dr. Lane and Dr. Jones having changed completely their attitude towards friendly societies, would appear to have simultaneously developed a virulent hostility to the men at present working the Act.

Dr. Gordon Lane was of opinion that the Locker-Lampson amendment might have formed a basis of negotiation with the friendly societies, whereby the latter could have *again* secured the services of their *old and trusted* advisers instead of the "indifferent medical officers" they are now "compelled to employ," and who in Dr. Lane's view, have brought the societies to the "verge of ruin."

Dr. Evan Jones held a *similar view*, thought that if the amendment were passed, "and the societies approached the men not now on the panels, and a section of those who are, with the money terms of the Act," the offer would be accepted, and he (Dr. Jones) would advise acceptance. Dr. Jones was also of opinion that, in the light of Mr. Locker-Lampson's interpretation of the amendment, the doctors would be in the position of "contracting" with the societies instead of being their "servants."

I would like to point out to both of these gentlemen that under the Insurance Act the societies do not "employ" any medical officers, "indifferent" or otherwise. As a result of that Act medical men are doing contract work under conditions which are Utopian compared with the conditions under the old club system, and the doctor's interests are safeguarded in a way which would be quite impossible under any form of society control. It is difficult to follow the line of reasoning which leads Dr. Jones to the conclusion that a doctor can contract with a society without becoming its servant. Dr. Jones must know that the only effective method of control which the friendly societies could possess would be the power of appointment and dismissal, and it is inconceivable that they would agree to any contract which did not embody this principle. I think even Dr. Evan Jones will agree that the admission of this principle would again very effectually bring the doctors under the heel of the friendly societies, and practically undo all that has been gained by the profession during the last two years.

Dr. Jones's and Dr. Lane's solicitude for the medical requirements of the friendly societies is touching, but how do they reconcile their present attitude with their attitude less than fourteen days ago; and how do they reconcile it with the keeping inviolate of two of the most vital of the cardinal points?

One more question I would like to ask Dr. Lane and Dr. Jones. Can they not propagate their opinions and and promote their schemes without joining in the friendly society vilification of the men now on the panels? Out of the 1,400 doctors now on the London panel, how many can Dr. Lane put his finger on as being "indifferent" or incompetent? Dr. Lane and Dr. Jones know that, of the men now on the panels, 95 per cent. held friendly society appointments previously to the operation of the Act, and these men were presumably the "trusted" advisers of the societies which appointed them.

Dr. Lane and Dr. Jones also know perfectly well that the societies have been brought to their alleged "verge of ruin" not by incapacity or dishonesty on the part of the present panel doctors, but by the wholesale grabbing for members carried on by the friendly societies during the last year. They know that the taking of members by the friendly societies without medical examination has resulted in the admission of a large percentage of bad lives, and the societies are now atoning for their greed by the excessive drain on their funds.

The vast majority of the doctors working the Act are men whose sense of duty, code of honour, and standard of ethics are not inferior to those of even Dr. Lane or of Dr. Jones, and I think that the whole profession—panel and non-panel—ought to protest vigorously against the wholesale vilification of more than half its members in this country.

Dr. Evan Jones is an elected representative of the profession on the London Insurance Committee. As his views and those of the great majority of his constituents are no longer in sympathy, ought he not to resign his position on the London Insurance Committee and give place to a man who will correctly represent the views of those who elect him?

INSURANCE ACT IN PARLIAMENT.

Insurance Act Amendment Bill.

Third Reading in the House of Commons.

On the order of the third reading of the Insurance Act (1911) Amendment Bill in the House of Commons, on August 7th, Mr. H. W. Forster (Opposition) criticized the course the Government took in introducing the bill at so late a period of the session. The time allowed for discussion in Standing Committee was, he said, inadequate, and if the bill which emerged from the Committee quite a respectable measure conferred any benefit on insured persons and helped those engaged in its administration, neither he nor any of his friends would grudge the strain of the efforts they had been called upon to make. Dr. Macnamara bore testimony to the goodwill with which the Opposition had helped the Government to improve and extend the usefulness of the bill. After a short debate the bill was read a third time amid cheers.

Passed in the House of Lords.

The House of Lords went into Committee on the bill on August 13th, and, after several drafting amendments proposed on behalf of the Government had been agreed to, the bill as amended was reported to the House, read a third time, and passed.

Excessive Sickness (Scotland).

In reply to Mr. James Hogge, Mr. Wedgwood Benn said that it was still too early to make any generalization as to the actual claims for sickness benefit in comparison with the actuaries' estimates. The Commissioners were, however, taking steps to obtain information from approved societies on the points raised, and the whole subject would be the matter of an inquiry by a Departmental Committee.

Medical Benefit.

Payment to Panel Doctors.

Mr. Frederick Hall asked the Secretary to the Treasury if an amount of 3s. 6d. was credited to the London Insurance Committee in respect of the second quarter of the present year for each insured accepted person on the list of one or other of the panel doctors; had the doctors only received 2s. 7½d. of the amount; and, if so, what had been or was proposed to be done with the balance.—Mr. Masterman said that the answer to the first two parts of the question was in the negative. The doctors had received on account of the first two quarters a sum equivalent to 3s. 3d. per insured person on their lists as a payment in advance of the amount due to them at the end of the year.

Wisbech.

Sir Henry Craik asked the Secretary to the Treasury whether, in view of the fact that the choice of doctor was materially restricted in the case of insured persons in Wisbech owing to the exclusion of several local doctors from the panel, he was prepared to grant a special inquiry into the administration of medical benefits in the Isle of Ely.—Mr. Masterman, in reply, said that he had fully explained the circumstances which led to the suspension of the normal panel arrangements in the area referred to. No representations had been received from the Insurance Committee or from insured persons resident in the area that the arrangements which had been sanctioned for the provision of medical benefit to insured persons were inadequate, and he therefore saw no reason for instituting such an inquiry as was suggested.

Norwich Institute.

In reply to Sir Frederick Low, who asked a question as to Norwich Friendly Societies' Medical Institute, Mr. W. Benn said that any payments made at the present

time to approved institutions must be in the nature of advance payments only, and the amount of such advances must depend upon the expenditure actually incurred in the provision of medical attendance and treatment for insured persons. He understood that the Insurance Committee was prepared to make a further advance on receiving the necessary evidence of such expenditure.

TUBERCULOSIS OFFICERS.

Qualifications.

Mr. Astor asked whether all tuberculosis officers appointed with the approval of the Local Government Board had previously held house appointments for at least six months in a general hospital in addition to a similar period of attendance at a special institution for the treatment of tuberculosis.—Mr. Burns said that the Board had adopted the suggestion contained in the Interim Report of the Departmental Committee on Tuberculosis, that it was not desirable to lay down any hard and fast conditions on this matter. Some of the officers who had been appointed had not possessed the particular qualifications mentioned, but in all cases, before approving, the Local Government Board, in consultation with the Insurance Commissioners, had been satisfied that the approval might properly be given.

Salaries.

Mr. Astor asked how many tuberculosis officers received salaries of £500 or over per annum, how many received salaries between £400 and £500, how many salaries between £300 and £400, and how many receive salaries below £300 per annum.—Mr. Burns said that so far as the information in the Board's possession showed 47 of the tuberculosis officers already appointed received salaries of £500 or over per annum, 22 received salaries between £400 and £500, 18 received salaries between £300 and £400, and 1 assistant tuberculosis officer a salary below £300.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following announcements have been made by the Admiralty: Fleet Surgeons ROBERT D. JAMESON to Devonport Dockyard, vice Andrews; CHARLES M. BEADNELL to the *Achilles*, vice Jameson; EDWARD C. CRIDLAND, M.B., to the *Wildfire*, additional for Sheerness Dockyard and R.N. Barracks, vice Walsh; ALBERT X. LAVERTINE to the *Monarch*, vice Cridland; and JAMES J. WALSH to the *Good Hope*, vice Lavertine, all to date on termination of manœuvres. Fleet Surgeon MONTAGUE H. KNAPP to the *Dido* on replacing *Minerva* as Captain of Destroyers' ship, undated. Fleet Surgeon OCTAVIUS W. ANDREWS, M.B., has been placed on the retired list at his own request, with the rank of Deputy Surgeon-General, July 26th. Staff Surgeon FRANCIS BOLSTER, M.A., to Chatham Hospital, vice Philip, on termination of manœuvres. Staff Surgeon BRITON S. ROBSON, M.B., to *Victory*, additional, for Haslar Hospital, on termination of manœuvres, and to Haslar Hospital, vice Gowans, September 18th. Staff Surgeon WALTER G. MOORE-ANDERSON, M.B., to the *Royal Arthur* on recommissioning, undated. Staff Surgeon SAMUEL H. VICKERY, M.B., to the *Orion*, vice Nicholls, on termination of manœuvres, undated. Staff Surgeon PERCIVAL T. NICHOLLS, to the *Hightlyer* on becoming cadets' training ship, undated. Surgeons HENRY D. DRENNAN, M.B., to Chatham Hospital, vice Richardson; ALBERT V. J. RICHARDSON, M.B., to the *Pembroke*, additional for disposal; HAROLD H. BABINGTON, to Gibraltar Hospital, vice Rooney; and DAVID H. C. GIVEN, M.B., to the *Indus*, vice Babington, all to date on termination of manœuvres. Surgeon JAMES P. SHORTEN to the *Dido* on replacing *Minerva* as Captain of Destroyers' ship, undated. Surgeons RICHARD CONNELL, M.B., GILBERT B. SCOTT, GUSTAVUS W. M. CUSTANCE, CHARLES J. AVELING, FRANK H. STEPHENS, ROBERT M. RIGGALL, JOHN H. BURDETT, and ALBERT V. J. RICHARDSON, M.B., to the *President*, additional, for five months' course of instruction, August 30th (to join Greenwich College same date). Surgeon CHARLES J. AVELING, to the *Pembroke*, additional, for disposal, undated.

ROYAL NAVAL VOLUNTEER RESERVE.

CHARLES S. MCKAY MURISON, M.B., has been appointed Surgeon and attached to the Mersey Division, July 25th.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Army Medical service have been officially reported to have taken place during June, 1913:

		FROM		TO
Colonel	R. H. Firth, F.R.C.S.	Peshawar	...	Cherat.
Lieut.-Colonel	R. Caldwell, F.R.C.S.	Pretoria	...	S. Command.
,,	J. Thomson, M.B.	London	...	Record Office, Aldershot.
,,	G. S. McLoughlin, D.S.O., M.B.	Winchester	...	Tidworth Pk.
Major	I. A. O. MacCarthy	Hounslow	...	Woolwich.
,,	H. S. Thurston	Malta	...	Dublin Dist.
,,	H. W. K. Read	Secunderabad.		Rangoon.
,,	F. A. Symons, M.B.	Gosport	...	Tidworth Pk.
,,	P. J. Probyn, D.S.O., M.B.	Londonderry	..	York.
,,	A. H. Waring	Wool Camp	...	Gosport.
,,	W. A. Ward	Bulford	...	London Dist.
,,	M. H. Babington	Malta	...	Scutari.
,,	T. E. Fielding, M.B.	Devonport	...	Wellsworthy.
Major	P. H. Henderson, M.B.	Portsmouth	...	Tidworth Pk.
,,	A. D. Waring, M.B.	Hilsea	...	Wool Camp.
,,	L. L. G. Thorpe	Rollestone Camp		Winchester.
,,	R. V. Cowey	Bulford	...	Tidworth.
,,	M. C. Beatty, M.B.	Devonport	...	Tregantle.
,,	T. F. Ritchie, M.B.	—		London.
,,	D. L. Harding, F.R.C.S.I.	Belfast	...	Finner Camp.
,,	C. G. Thomson	Glasgow	...	Glencorse.
Captain	J. W. S. Seccombe	Topsham	...	Tidworth Pk.
,,	J. G. Bell, M.B.	Seaforth	...	Altcar Camp.
,,	F. C. Lambert	Brownslade Camp		Pembroke Dock.
,,	J. B. Meldon, M.B.	Brighton	...	Eastbourne.
,,	F. M. M. Ommanney	Dublin	...	Belfast.
,,	G. A. Kempthorne	Tregantle	...	Tidworth Pk.
,,	A. C. Osburn	Hilsea	...	Rolleston Camp.
,,	R. R. Lewis	Aldershot	...	West Africa.
,,	E. C. Whitehead, M.B.	Glasgow	...	Dinapore.
,,	J. A. Turnbull	Oxford	...	Wedgnock Park Camp.
,,	R. J. Cahill, M.B.	Belfast	...	Athlone Camp.
,,	R. C. Hallowes, M.B.	Holywood	...	Ballykinler Camp.
,,	H. St. M. Carter, M.D.	Netley	...	Tidworth Pk.
,,	J. St. A. Maughan	..		.. ..
,,	G. H. Rees, M.B.	Belfast	...	Mosney Camp.
,,	H. E. Priestley	Warwick	...	Woodham Camp.
,,	H. Stewart, M.B.	Ferozepore	...	Halifax.
,,	W. Egan, M.B.	Curragh	...	Granmore Camp.
,,	C. T. Edmunds	Peshawar	...	Bulford.
,,	E. W. M. Paine	Monmouth	...	Pembrey Camp.
,,	F. D. G. Howell	Shrewsbury	...	Brackenbir Moor Camp.
,,	W. C. Smales	Portsmouth	...	Lulworth Camp.
,,	W. H. Forsyth, M.B.	Netley	...	Tidworth Pk.
,,	J. W. Houston, M.B.	Peshawar	...	Cherat.
,,	A. M. Pollard	Wynberg	...	Eastern Com.
,,	G. S. Parkinson	Pretoria	...	Scottish Com.
,,	C. T. V. Benson	Bangalore	...	Calicut.
,,	R. H. Nolan	Glencorse	...	Glasgow.
Lieutenant	T. J. Hallinan, M.B.	Lucknow	...	Calcutta.
,,	J. K. Gaunt, M.B.	Malta	...	Scutari.
,,	W. A. Frost, M.B.	Poona	...	Kamptee.
,,	J. M. Elliott, M.B.	Cosham	...	Hilsea.
,,	R. T. Vivian	Kildare	...	Curragh.
,,	S. P. Sykes, M.B.	Kingston-on-Thames		Woolwich.
,,	W. McNaughtan, M.B.	Netley	...	Tidworth Pk.
,,	D. T. M. Large, M.B.	Glasgow	...	Stobs.
,,	E. A. Strachan, M.D.	Edinburgh	...	Barry.
,,	S. J. Higgins	Cork	...	Scartnaglo-raine Camp.
,,	J. Hare, M.B.	Belfast	...	Magilligan Camp.
,,	E. C. Lang, M.B.	Curragh	...	Maryboro' Heath Camp.
,,	R. E. Porter, M.B.	Waterford	...	Poeghane Camp.
,,	H. J. S. Shields	Windsor	...	Pirbright Camp.
,,	P. M. J. Power	Cosham	...	Tidworth Pk.
,,	N. W. Stevens, M.B.	Shorncliffe	...	Dover.
,,	R. B. Phillipps	Cork	...	Ballcannon Camp.

Vital Statistics.

VITAL STATISTICS OF LONDON DURING THE SECOND QUARTER OF 1913.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

IN the accompanying table will be found summarized the vital statistics of the metropolitan boroughs and of the City of London based upon the Registrar-General's returns for the second quarter of the year. The mortality figures in the table relate to the deaths actually belonging to the several boroughs, and are obtained by distributing the deaths in institutions among the boroughs in which the deceased persons had previously resided. The 28,342 births registered during the quarter were equal to an annual rate of 25.2 per 1,000 of the population, estimated at 4,518,191 persons in the middle of the year; in the corresponding quarters of the three preceding years the rates were 26.8, 25.2, and 24.7 per 1,000 respectively. The lowest birth-rates last quarter were 12.9 in the City of Westminster, 15.1 in Hampstead, 17.8 in Holborn, 19.1 in Chelsea, 19.5 in Paddington, and 19.7 in Kensington; among the highest rates were 28.5 in Shoreditch, 29.4 in Bermondsey, 30.1 in Southwark, 30.5 in Stepney, 31.0 in Poplar, 31.1 in Bethnal Green, and 37.1 in Finsbury.

During last quarter the deaths of 14,960 London residents were registered, equal to an annual rate of 13.3 per 1,000; in the corresponding quarters of the three preceding years the rates were 12.5, 13.2, and 12.4 per 1,000. The death-rates last quarter ranged from 9.8 in Wandsworth, 10.5 in Hampstead, 11.1 in Lewisham, 11.2 in Paddington, 11.3 in Fulham, and 11.4 in Woolwich to 15.0 in the City of London, in Holborn, and in Shoreditch, 15.2 in Poplar, 16.6 in Southwark, 17.5 in Finsbury, and 17.4 in Bermondsey.

The 14,960 deaths from all causes included 20 from enteric fever, 549 from measles, 41 from scarlet fever, 264 from whooping-cough, 107 from diphtheria, and 273, among children under 2 years of age, from diarrhoea and enteritis. Enteric fever was proportionally most fatal in the City of Westminster, St. Marylebone, Hampstead, and Stepney; measles in Kensington, Islington, Southwark, Bermondsey, Deptford, and Greenwich; whooping-cough in Hammersmith, Islington, Finsbury, Poplar, Bermondsey, Deptford, and Greenwich; and diphtheria in Islington, Finsbury, Bethnal Green, Poplar, Lambeth, Lewisham, and Woolwich. The 41 deaths from scarlet fever included 4 in Wandsworth, 4 in Woolwich, and 3 each in St. Pancras, Islington, Poplar, and Lambeth. The mortality from diarrhoea and enteritis among children under 2 years of age in proportion to the births registered during the

Analysis of the Vital Statistics of the Metropolitan Boroughs and of the City of London after Distribution of Deaths occurring in Public Institutions during the Second Quarter of 1913.

Boroughs.	Estimated Population middle of 1913.	Births.	Deaths.	Annual Rate per 1,000 Living.		Deaths from								Deaths of Children Under 1 Year of Age to 1,000 Registered Births.
				Births.	Deaths.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping cough.	Diphtheria.	Diarrhœa, and Enteritis (Under 2 Years).	Phthisis.	
COUNTY OF LONDON	4,518,191	28,342	14,960	25.2	13.3	20	—	549	41	264	107	273	1,428	81
Paddington	142,210	691	396	19.5	11.2	1	—	17	1	8	3	[illegible]	34	67
Kensington	171,284	842	542	19.7	12.7	1	—	34	2	4	2	8	55	89
Hammersmith	123,745	754	410	24.4	13.3	—	—	10	1	11	3	11	42	88
Fulham	157,117	1,043	442	26.6	11.3	—	—	21	—	6	1	7	51	75
Chelsea	64,598	308	198	19.1	12.3	—	—	5	—	—	—	3	21	84
City of Westminster ...	154,810	496	474	12.9	12.3	2	—	10	2	2	1	9	37	95
*St. Marylebone ...	114,532	974	397	34.1	13.9	2	—	10	—	4	1	5	47	44
Hampstead	86,346	326	227	15.1	10.5	1	—	5	1	4	2	2	15	52
[illegible]	214,330	1,266	797	23.7	14.9	1	—	14	3	12	5	13	79	71
Islington	325,585	2,084	1,200	25.7	14.8	—	—	49	3	31	11	22	102	91
Stoke Newington ...	50,518	265	164	21.0	13.0	—	—	5	—	4	1	2	11	87
*Hackney	223,353	1,399	690	25.1	12.4	1	—	15	2	6	1	15	62	76
*Holborn	46,949	208	176	17.8	15.0	—	—	4	—	1	—	3	17	115
*Finsbury	84,679	785	365	37.1	17.3	—	—	4	—	8	3	11	40	83
City of London	17,916	103	67	23.1	15.0	—	—	—	—	1	1	—	7	39
Shoreditch	109,654	778	403	28.5	15.0	—	—	10	1	4	1	8	40	98
Bethnal Green	127,824	992	423	31.1	13.3	1	—	11	1	5	4	[illegible]	39	75
*Stepney	275,300	2,093	947	30.5	13.8	4	—	20	1	4	4	27	117	76
Poplar	160,913	1,245	610	31.0	15.2	1	—	22	3	18	9	9	63	90
Southwark	188,487	1,413	781	30.1	16.6	1	—	48	1	15	2	14	95	105
Bermondsey	124,739	914	540	29.4	17.4	1	—	43	1	30	3	9	45	124
Lambeth	297,139	2,051	1,032	27.7	13.9	2	—	40	3	17	13	23	81	80
Battersea	167,464	983	540	23.5	12.9	—	—	18	2	10	5	14	50	85
Wandsworth	330,395	1,670	806	20.3	9.8	1	—	37	4	8	2	19	68	65
Camberwell	261,805	1,660	733	25.4	12.0	—	—	23	2	16	5	17	67	75
Deptford	109,280	738	399	27.1	14.6	—	—	33	1	13	2	1	37	92
Greenwich	96,015	630	330	26.3	13.8	—	—	22	1	10	3	4	36	81
Lewisham	168,822	834	466	21.2	11.1	—	—	14	1	10	12	5	34	73
Woolwich	122,382	739	349	24.2	11.4	—	—	5	4	2	7	1	36	55

*No correction is made for births in lying-in institutions; the boroughs principally affected are marked thus (*).

quarter was greatest in Hammersmith, the City of Westminster, Holborn, Finsbury, and Battersea.

The deaths from phthisis among London residents last quarter numbered 1,428, and were equal to an annual rate of 1.27 per 1,000, against 1.14, 1.27, and 1.21 in the corresponding quarter of the three preceding years. The death-rates from this disease last quarter ranged from 0.70 in Hampstead, 0.81 in Lewisham, 0.83 in Wandsworth, 0.87 in Stoke Newington, and 0.96 in Paddington and in the City of Westminster to 1.57 in the City of London and in Poplar, 1.65 in St. Marylebone, 1.70 in Stepney, 1.89 in Finsbury, and 2.02 in Southwark.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 81 per 1,000 last quarter, against 88, 89, and 82 per 1,000 in the corresponding quarters of the three preceding years. Among the lowest rates recorded last quarter were 39 in the City of London, 52 in Hampstead, 55 in Woolwich, 65 in Wandsworth, and 67 in Paddington; the highest rates were 92 in Deptford, 95 in the City of Westminster, 98 in Shoreditch, 105 in Southwark, 115 in Holborn, and 124 in Bermondsey.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns 9,021 births and 3,774 deaths were registered during the week ending Saturday, July 26th. The annual rate of mortality in these towns, which had been 11.2, 11.4, and 11.3 per 1,000 in the three preceding weeks, fell to 11.0 per 1,000 in the week under notice. In London the death-rate did not exceed 10.6, against 10.7, 11.1, and 10.4 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rates ranged from 2.6 in Enfield, 2.9 in Eastbourne, 3.6 in Hornsey, 4.8 in Gillingham, 5.1 in Southampton, and 5.4 in Wimbledon, in Ealing, and in Ilford to 15.8 in Barnsley, 16.2 in Rotherham, 16.7 in Walsall, 17.2 in Dudley, 17.4 in Dewsbury, and 18.3 in Great Yarmouth. Measles caused a death-rate of 1.7 in Sunderland, 2.2 in Walsall, 2.6 in Stoke-on-Trent, 3.0 in Aberdare, and 5.0 in Dudley, and scarlet fever of 1.6 in St. Helens. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 25, or 0.7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 4 were registered in Birmingham and 2 in London. The number of scarlet fever patients under treatment in the Metropolitan Asylum Hospitals and the London Fever Hospital, which had been 1,697, 1,833, and 1,978 at the end of the three preceding weeks, had further risen to 2,100 on Saturday last; 346 new cases were admitted during the week, against 314, 315, and 357 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,068 births and 566 deaths were registered during the week ending Saturday, July 26th. The annual rate of mortality in these towns, which had been 13.7, 13.6, and 13.2 per 1,000 in the three preceding weeks, further fell to 13.1 in the week under notice, but was 2.1 per 1,000 above the rate in the ninety-six large English towns. Among the several Scottish towns the death-rate last week ranged from 7.1 in Leith, 8.5 in Clydebank, and 8.8 in Falkirk to 14.7 in Glasgow, 14.9 in Hamilton, and 15.7 in Dundee. The mortality from the principal infective diseases averaged 1.5 per 1,000, and was highest in Kirkcaldy and Hamilton. The 287 deaths from all causes registered in Glasgow included 19 from infantile diarrhoeal diseases, 16 from measles, 9 from whooping-cough, 3 from scarlet fever, 1 from enteric fever, and 1 from typhus.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, July 19th, 608 births and 349 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 584 births and 356 deaths in the preceding period. These deaths represent a mortality of 15.2 per 1,000 of the aggregate population in the districts in question, as against 15.5 per 1,000 in the previous period. The mortality in these Irish areas was, therefore, 3.9 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 26.4 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 15.9, as against an average of 16.9 for the previous four weeks, in Dublin City 16.1 (as against 18.3), in Belfast 15.8 (as against 15.7), in Cork 13.6 (as against 15.5), in Londonderry 14.0 (as against 13.4), in Limerick 14.9 (as against 13.9), and in Waterford 24.7 (as against 19.9). The zymotic death rate was 1.3, as against 1.7 in the previous week.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ABERGAVENNY: MONMOUTHSHIRE ASYLUM.—Second Assistant Medical Officer (male). Salary, £225 per annum.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BEDFORD COUNTY HOSPITAL. — Assistant House-Surgeon. Salary, £80 per annum.

BIRKENHEAD UNION.—Senior Male Resident Assistant Medical Officer. Salary, £150 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House-Surgeon. Salary, £80 per annum, with £5 laundry allowance.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—(1) Resident Medical Officer; (2) Resident Surgical Officer. Salary, £80 per annum each.

BIRMINGHAM GENERAL DISPENSARY. — Resident Medical Officer. Salary, £220 per annum.

BIRMINGHAM UNIVERSITY.—Lecturer on Pathology and Bacteriology in the University and Visiting Pathologist to the General Hospital.

BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

BRADFORD ROYAL INFIRMARY.—(1) House-Physician; (2) House-Surgeon (males). Salary, £100 per annum each.

BRIDGE OF WEIR: CONSUMPTION SANATORIUM OF SCOTLAND.—Resident Lady Medical Assistant. Salary, £75 per annum.

BRISTOL ROYAL INFIRMARY.—House-Physician. Salary at the rate of £100 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—House-Surgeon. Salary at the rate of £70 per annum.

CANTERBURY MENTAL HOSPITAL. — Assistant Medical Officer (male). Salary, £160 per annum.

CARDIFF: KING EDWARD VII HOSPITAL. — House-Surgeon (male). Salary at the rate of £60 per annum.

CARNARVONSHIRE EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £150 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £90 per annum.

CHESTER GENERAL INFIRMARY.—House-Physician. Salary, £90 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL. — House-Physician. Salary, £80 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—(1) Senior House-Surgeon; (2) House-Physician; (3) Junior House-Surgeon. Salary for (1) £150 per annum, increasing to £160; and for (2) and (3) £110 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL. — Assistant House-Surgeon. Salary at the rate of £75 per annum.

DONCASTER: GENERAL INFIRMARY AND DISPENSARY.—Senior House-Surgeon. Salary, £150 per annum.

DORSET COUNTY COUNCIL. — Two Assistant County Medical Officers of Health. Salary at the rate of £250 per annum.

DURHAM COUNTY COUNCIL.—Assistant Tuberculosis Medical Officer. Salary, £300 per annum.

DURHAM COUNTY SANATORIUM. — Medical Superintendent. Salary, £400 per annum, rising to £500.

EAST RIDING COUNTY COUNCIL, Beverley.—School Medical Inspector. Salary £300 per annum.

EDAY PARISH.—Medical Officer. Salary, £170 per annum.

EXMINSTER: DEVON COUNTY ASYLUM. — Junior Assistant Medical Officer. Salary, £200 per annum, rising to £220, and on promotion to £250.

GATESHEAD DISPENSARY. — Assistant Medical Officer (non-Resident). Salary, £200 per annum.

GLASGOW EYE INFIRMARY.—Resident Assistant House-Surgeon. Salary, £75 per annum.

GLOUCESTERSHIRE COUNTY COUNCIL AND GLOUCESTER CORPORATION JOINT COMMITTEE. — Tuberculosis Medical Officer. Salary, £500 per annum.

GRIMSBY AND DISTRICT HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

HALIFAX: ROYAL HALIFAX INFIRMARY. — Second House-Surgeon. Salary, £100 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £70 per annum.

IMPERIAL BACTERIOLOGICAL (VETERINARY) LABORATORY, Muktesar, India.—(1) Assistant Bacteriologist, (2) Pathologist, (3) Physiological Chemist. Salary for (1) and (2) not less than £480 per annum and not more than £610, rising to £1,040; for (3), £480 per annum, rising to £640.

KENSINGTON UNION.—Second Assistant Resident Medical Officer for the Workhouse and Infirmary. Salary, £110 per annum, rising to £130.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon.

LANARK COUNTY: DISTRICT OF THE MIDDLE WARD.—Tuberculosis Officers and Assistant Medical Officers of Health. Salary, £200 per annum, rising to £400.

LEEDS GENERAL INFIRMARY. — Resident Ophthalmic House-Surgeon. Salary at the rate of £50 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) Two House-Physicians; (2) Three House-Surgeons. Salary at the rate of £60 per annum.

MAIDSTONE: KENT COUNTY ASYLUM. — Fourth Assistant Medical Officer. Salary, £200 per annum, rising to £220.

MANCHESTER CORPORATION.—Third Medical Assistant at the Monsall Fever Hospital. Salary, £100 per annum.

MANCHESTER EDUCATION COMMITTEE.—Assistant School Medical Officer (male). Salary £250 per annum, increasing to £350.

MANCHESTER ROYAL EYE HOSPITAL—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER: ROYAL INFIRMARY.—Medical Officer for Out-patients and Accidents at the Central Branch. Salary at the rate of £100 per annum.

MANITOBA MEDICAL COLLEGE, Winnipeg.—Professor of Anatomy. Salary, £500 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY. — Senior House-Surgeon. Salary at the rate of £100 per annum for first six months, rising to £120.

NEWCASTLE-UPON-TYNE DISPENSARY. — Vaccancies on the Visiting Medical Assistants' Staff. Salary, £200 per annum.

NEWCASTLE-UPON-TYNE HOSPITAL FOR SICK CHILDREN.—Junior Medical Officer. Salary, £80 per annum.

NEWCASTLE-UPON-TYNE: NORTHUMBERLAND LOCAL EDUCATION AUTHORITY.—(1) Chief School Medical Inspector; (2) School Medical Inspector. Salary, £300 to £350 and £250 to £300 per annum respectively.

NEWCASTLE-UPON-TYNE UNION.—Second Assistant Resident Medical Officer (female) at the Workhouse. Salary, £100 per annum, rising to £130.

NEWPORT: ROYAL GWENT HOSPITAL. — Resident Medical Officer. Salary at the rate of £80 per annum for first four months, rising to £120.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD COUNTY ASYLUM, Littlemore — Assistant Medical Officer (male). Salary, £150 per annum, rising to £175.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Assistant Resident Medical Officer. Salary at the rate of £80 per annum.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £200 per annum, rising to £250.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum, rising to £60 on appointment as Senior.

RAINHILL: COUNTY ASYLUM. — Assistant Medical Officer. Salary, £200 per annum, increasing to £250.

READING: BERKSHIRE EDUCATION COMMITTEE.—Assistant Medical Inspector of Schools. Salary, £300 per annum.

READING: ROYAL BERKSHIRE HOSPITAL. — Second House-Surgeon. Salary at the rate of £80 per annum.

RICHMOND: ROYAL HOSPITAL. — Assistant House-Surgeon. Salary, £70 per annum.

SHEFFIELD: ROYAL INFIRMARY.—(1) House-Surgeon; (2) Ophthalmic House-Surgeon; (3) Ear and Throat House-Surgeon. Salary for (1) £80, and for (2) and (3) £70 per annum.

SHEFFIELD UNIVERSITY.—Junior Demonstrator in Pathology. Salary, £150 per annum.

SIDLAW SANATORIUM.—Resident Medical Officer. Salary, £125 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

SOUTH SHIELDS COUNTY BOROUGH.—Assistant Medical Officer (Tuberculosis). Salary, £300 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE INFIRMARY.—Junior House-Surgeon (male). Salary, £90 per annum, increasing to £115 at the end of one month.

STOCKTON-ON-TEES EDUCATION COMMITTEE. — Assistant School Medical Officer, Salary £250 per annum.

SUNDERLAND: ROYAL INFIRMARY.—House-Physician (male). Salary, £120 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

WARRINGTON UNION.—Assistant Resident Medical Officer (male). Salary, £125 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL.—(1) Senior House-Surgeon; (2) Junior House-Physician. Salary, £100 and £75 per annum respectively.

WESTMINSTER GENERAL DISPENSARY, Gerrard Street, W.—Resident Medical Officer. Salary, £120 per annum.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House-Surgeon. Salary, locum fees to end of September and then £120 per annum.

WILTS COUNTY COUNCIL.—County School Dentist. Salary at the rate of £250 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £125 per annum.

WORCESTER GENERAL INFIRMARY.—House-Physician. Salary, £120 per annum.

WORCESTERSHIRE COUNTY COUNCIL.—Assistant School Medical Officer. Salary, £250 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Aberfeldy (Perth); Boston (Lincolnshire); Glenavy (co. Antrim); Pewsey (Wiltshire).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

BAYLIS, Misak, L.M.S.S.A., Assistant Medical Officer of the Dewsbury Union Workhouse.

BEDFORD, G. H., L.M.S.S.A., District Medical Officer of the Rothbury Union.

BYWATER, H. Haward, M.D.Viet., F.R.C.S.Edin., D.Ch.O.Liverpool, Assistant Honorary Surgeon to the Liverpool Eye and Ear Infirmary, also Assistant Honorary Surgeon to the Eye, Ear, and Throat Department of Wigan Royal Infirmary.

CEDD, R. G. Whitworth S., L.M.S.S.A.Lond., Public Vaccinator of the Second District of the Southwark Union.

CURTIS, Henry, B.S., F.R.C.S., Surgeon to the Metropolitan Hospital, Kingsland Road, N.E.

JONES, C. E. M., M.B., B.C.Camb., District Medical Officer of the Alton Union.

METCALFE, James, M.D., Medical Officer in Charge of the *X*-Ray Department of the German Hospital, London.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

DEATHS.

CAMPBELL.—At Cardowan, Edzell, on August 8th, Donald Campbell, M.D., J.P.

GAYTON.—On August 7th, at "Ravensworth," Regent's Park Road, Finchley, William Gayton, M.D., F.R.S., J.P., aged 74.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

LONDON HOSPITAL MEDICAL COLLEGE, E. — Demonstrations in Clinical Medicine at 2.15 p.m. daily, except Saturday.

ROTUNDA HOSPITAL, Dublin.—Continuation of the Post-graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Special Vacation Course on Gynaecology, Pediatrics, Dermatology, and Diseases of the Eye, Throat, Nose, and Ear.

[For further particulars of Lectures consult the Index to Advertisements.]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 23RD, 1913.

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British Medical Association

ANNUAL REPRESENTATIVE MEETING, 1913.

SYNOPSIS OF PROCEEDINGS.

[NOTE.—It is particularly requested that members of the Association will preserve this Synopsis for reference.]

Composition and General Proceedings.

ONE HUNDRED AND SEVENTY-ONE Constituencies entitled to appoint Representatives made returns, out of a possible 222. Of the fifty-one Constituencies making no return thirty-nine were Constituencies outside the United Kingdom, seven in England, three in Ireland, and two in Scotland. One hundred and eighty-three Representatives were present, a decrease of thirty-four on last year's attendance.

Of sixty-two members of the Council (including in this number the 1912–13 Council and members of the 1913–14 Council elected at the time of the meeting) twenty-seven were present as Representatives, and fifteen others took part in the meeting.

The Meeting sat on Friday, July 18th, from 10 a.m. to 6.30 p.m., on Saturday from 9.30 a.m. to 6.30 p.m., on Monday from 9.30 a.m. to 6.30 p.m., on Tuesday from 9.30 a.m. to 6.30 p.m., and on Wednesday from 9 a.m. to noon.

A Representatives' dinner, organized by the local Entertainments Committee, was held at the Hôtel Métropole on Friday, July 18th, under the presidency of Mr. T. Jenner Verrall. It was very well attended, and was successful from every point of view.

Arrangement of Decisions of Meeting.

Mere expressions of approval of reports are not noted in the following synopsis, but other decisions of the meeting are classified under the various departments of the Association's work into which they naturally fall, as:

(1) Declarations of policy of the Association.
(2) Instructions to the Council to take action.
(3) References to the Council for consideration and report.

The concluding section of the synopsis contains decisions which affected the internal business of the meeting itself.

FINANCE.

Declarations of Policy.

Annual Subscription.

(Minutes 228 and 234.)

That the time has arrived when the annual subscription should be raised.

That the annual subscription of members of the Association be raised to £2 2s., such change not to apply to foreign or colonial members.

Suggested Reasons for Increase of Subscription.

(Minute 226.)

That the following motion be referred to the Council:

That among the reasons for increasing the subscription shall be:

1. The appointment of paid Organizing Secretaries.
2. The appointment of paid part-time clerical assistants to Branches.
3. The establishment of separate offices at Edinburgh, Dublin, and Cardiff.

NOTE.—The proposal to raise the subscription cannot become effective until the matter has been reported on by the Council to the Divisions, their opinion obtained through a Representative Meeting, and the By-law altered after due notice given.

Instructions to Council.

Minutes of Representative Meetings.

(Minutes 18 and 19.)

That the Minutes of the Representative Meeting issued at the end of the Representative Meetings to members of the Representative Body shall be the daily minutes corrected and collected together. That Honorary Secretaries of Divisions and Branches who are not members of the Representative Body also be supplied with a copy.

That the taking of verbatim shorthand notes of the Representative and Council Meetings is unnecessary and should be discontinued. In order to minimize the risk of any inaccuracy occurring in the preparation of the Minutes, the chairmen of these bodies respectively be requested to enforce that a written copy of a motion or amendment to be submitted to the meeting be furnished for the information of the chairman.

Sending of Bound Volumes of Supplements to Honorary Secretaries.

(Minutes 20 and 28.)

That the Representative Body rescind Resolution No. 187 passed at Leicester, 1905, which authorizes the sending of a bound volume of the SUPPLEMENT to the Secretaries of all Divisions—namely, that the SUPPLEMENTS be bound and sent down twice annually to Secretaries and Representatives of Divisions, and that such volumes remain the property of Divisions.

That the foregoing resolution do not interfere with the supply of the bound volume of the SUPPLEMENT for the past six months.

Matters Referred to Divisions.

(Minute 27.)

That a separate copy of all SUPPLEMENTS containing matters referred to Divisions be sent to each Honorary Secretary of a Division, and that they be marked on the top right-hand corner with identification letters and numbers as heretofore.

ORGANIZATION.

Declarations of Policy.

Question of a New Company.

(Minute 30.)

That the Association do not proceed further at present with the proposed formation of a new company.

Question of Power to Borrow Money.

(Minute 31.)

That the Council be instructed to take the necessary steps to obtain an extension of the Memorandum of the present Company to include the power of borrowing money on mortgage or otherwise.

Question of Association and Trade Unionism.

(Minutes 182-9.)

A motion proposing to instruct the Council to consider the advisability of forming a union of medical practitioners, registered under the Trades Union Acts, for such of the members of the Association and other medical practitioners as might desire to join such a union, and report to the Divisions, was lost by 55 votes to 67 (Minute 189), an amendment thereto proposing that in the opinion of the Representative Body it was desirable that a union of medical practitioners, registered under the Trades Union Acts, should be formed for such of the members of the medical profession who might desire to join such a union having previously (Minute 186) been lost on a card vote by 5,259 votes (53 Representatives) to 11,408 votes (107 Representatives).

Reorganization of Association.

NOTE.—The following declarations of policy were referred to the Council, together with other items on the agenda relevant to reorganization of the Association, with instructions to draft the required alterations in the Regulations of the Association, and submit them to the Divisions and the Representative Body, together with any other alterations which would seem naturally to arise therefrom. (Minutes 223, 225, 241.)

Decisions of Divisions.

(Minute 42.)

That all the decisions of Divisions shall be notified to Branch Councils.

Scientific and Social Functions of Divisions.

(Minute 44.)

That the Council should increase its efforts to encourage the Divisions to hold more scientific and social meetings, and to use these meetings as a means of inducing non-members to join the Association.

Subdivision and Amalgamation of Divisions.

(Minute 46.)

That the system of subdivisions should be encouraged in suitable Division areas, subdivisions to have such powers only as are conferred upon them by the Division. As should also amalgamations of Divisions or parts of Divisions for special or other purposes, these amalgamations to have such powers as are conferred on them by the Divisions creating them.

Size of Representative Body.

(Minutes 49-53.)

That the size of the Representative Body ought to be reduced. (Carried by 66 votes to 62.)

[The proposal to refer the foregoing resolution to Council for consideration and report having been lost, the Chairman pointed out to the meeting that no steps could be taken in respect of reduction or otherwise of the Representative Body until the matter had been brought before another Representative Meeting.]

Powers of Branch Councils.

(Minutes 55-8.)

The following paragraph was approved:—

"To co-ordinate their constituent Divisions, reporting upon the questions involved to the Representative Body or Council, when it is necessary or desirable or when so directed by either of these bodies."

Proposed Change in Nature of Representative Body.

(Minutes 64-7.)

That the Representative Body should be an assembly with deliberative powers, and be responsible for formulating the policy of the Association, but in speaking and voting on any matter the representative of a constituency shall be under obligation to give effect to what he believes would be the opinion of his constituents on the question at issue.

Delegation (by Representative Body) of Duties to Council.

(Minute 70.)

The following paragraph was approved:—

"To be empowered to delegate specific powers to the Council to take action upon its behalf until the next meeting of the Representative Body."

Referendum and Postal Vote.

(Minutes 236-7.)

(*a*) That the Council should be empowered to take a referendum on any decision of the Representative Body either in the way suggested in Article 32 (that is, by meetings of the Divisions) or by a postal vote, and should also be empowered to extend the referendum or postal vote if it thought fit to the whole profession.

(*b*) That the Council should have power to consider whether the question to be submitted was one which affected one or more parts of the kingdom—namely, England, Scotland, Ireland, Wales—or some Dominion, and to take the vote in any one or more of these parts as it thought fit.

(*c*) That in taking a referendum or postal vote on any question, the Council should have power to decide what majority of the votes received would justify it in making the result of the vote binding upon the members of the Association in those parts of the country consulted.

(*d*) That the Representative Body should be empowered, when passing any resolution, to say to what portion of the kingdom the resolution should apply. In this case, if the Council decided to take a referendum or postal vote, it would consult only that portion of the country designated by the Representative Body.

(*e*) That it should be competent for the Representative Body to discuss and come to decisions upon matters of policy which are only to affect and to be made applicable to certain portions of the Association.

(*f*) That the Divisions shall be empowered to lay down in their rules that the opinion of the Division may be ascertained either by a postal vote of its members or by a vote in meeting, as the Division shall decide.

Formation of Policy of Association.

(Minutes 238-239.)

That the Representative Body deems it desirable that, after having decided that a certain procedure or policy is advisable, it should be able to declare that its decision on the matter should not be considered "the policy of the Association," and should be ignored by the Council until the result of a postal vote of the Association or profession to be taken forthwith by the Council, either on the whole question or on some portion thereof, has been ascertained.

That it is not desirable that the Representative Body at the same time should lay down the majority, either of voters or of the whole members of the Association or profession, it considers necessary for the carrying of the question.

Question of Formation of Policy of Association as Regards Certain Areas Only.

(Minute 240.)

That it is desirable that the policy laid down in a specific resolution be able to be declared to be the policy of the Association in certain areas, and not in others, or in areas where a certain majority is reached—not in others, and if it is possible to have such local policy, it is desirable to have all matters connected with it kept local to the area affected.

Question of Payment of Expenses of Representatives.

(Minute 247.)

That having regard to the existing state of the finances of the Association, the time is still inopportune for acceding to the proposal that the out-of-pocket expenses of Representatives at Representative Meetings, other than their travelling expenses as at present, be paid out of the funds of the Association.

Election of Members by Branches.

(Minute 248.)

That the regulations as to the election of members remain as at present.

Welsh Committee.

(Minute 224.)

That a Welsh Committee be established, having the same duties and powers assigned to it as are possessed by the Scottish and Irish Committees already in existence.

Relation of Division to Insurance Areas.

(Minutes 261-7.)

After discussion, the proposals of the Council on this question, together with the various amendments on the Agenda, were withdrawn, the effect being to leave the question of the desirability of accommodating the Division areas to insurance areas as it is at present, namely, at the discretion of the Divisions concerned.

Instructions to Council.

Representatives and Deputy Representatives.

(Minute 249.)

That the Council be instructed to prepare the alterations in the Regulations of the Association necessary to carry out the following suggestions contained in paragraph 36, subparagraph 2, of the Annual Report of Council:

1. The representative of a constituency should be able to resign his position.
2. Any vacancy arising should be filled by the constituency in accordance with the rules of the Division or Divisions forming the constituency.
3. If a representative be permitted to resign, the constituency should not be empowered to dismiss a representative, but should be able, at a special meeting called for the purpose and by a two-thirds majority of those present and voting, to call upon a representative to resign.
4. It would be inadvisable to allow a deputy to act for a constituency during such portion only of a meeting as the representative might be unable to attend.

Grouping of Branches in United Kingdom for 1914–5.

(Minute 244.)

That the Branches in the United Kingdom be grouped for election of members of Council for the year 1914–15 in the same way as for the year 1913–14.

Grouping of Branches outside United Kingdom for 1914–5.

(Minutes 245-6.)

That the Branches outside the United Kingdom be grouped for the election of members of Council for the year 1914–15 in the same way as for the year 1913–14.

That the Ceylon Branch be grouped with the Far Eastern Branches, leaving the Indian Branches grouped into one.

Election of Members of Council, 1913–14 and 1914–15, by Grouped Representatives under By-laws 43 (c) and 47.

(Minutes 259-60.)

That the Representative Body approve the action taken by the Council on behalf of the Representative Body in adjusting the groups of constituencies under By-laws 43 (c) and 47 for the election of two Members of Council, 1913–14, by the grouped representatives of constituencies within the area of the Metropolitan Counties Branch.

That the grouping of constituencies for election of twelve members of Council, 1914–15, be similar to that for 1913–14, discretion being, however, left to the Council to make any modifications in the grouping rendered necessary or desirable owing to formation of new Divisions or constituencies or modification of those bodies as at present existing.

Welsh Committee.

(Minute 271.)

That it be an instruction to the Council to appoint the representatives and secretaries of the Welsh Divisions, the Welsh members of Council, and one member to represent the Counties of Radnor and Montgomery, as an *ad hoc* Welsh Committee for this year.

Composition of Branch Councils.

(Minute 308.)

That steps be taken for the amendment of present By-law 16 (*d*), in connexion with composition of Branch Councils, which at present reads as follows:

(*d*) In the case of a Branch comprising more Divisions than one, members elected by such Divisions in such manner that the number to be elected by each Division shall be as nearly as possible proportionate to the membership of such Division,

to read as follows:

(*d*) "Such other members as the Branch may by its rules decide."

Dates of Council Meetings.

(Minute 318.)

That the meetings of the Council for the ensuing year should be so fixed as to allow of the Supplementary Report of Council being placed before the Divisions at an earlier date.

Agenda of Representative Meetings.

(Minutes 319-322.)

That it be an instruction to the Agenda Committee that, in preparing the agenda for future Representative Meetings, they shall secure that principles only shall be the subject of resolution and debate, and that all questions of detail involving action brought forward by representatives be referred to the Council.

That, with a view to facilitating the business of the Representative Meeting, it be an instruction to the Council to consider what steps, if any, are necessary to enable the Representative Meeting to form itself into several Committees for the preliminary discussion of confidential or controversial matters coming before such Representative Meeting.

That it be a suggestion to the Agenda Committee that an approximate time-table for each day should be drawn up, allotting reasonable time for discussion of principles, subject always to suspension of Standing Orders for the consequent varying of the order of business.

Formation of a Standing Insurance Act Committee.

(Minutes 191-200.)

That steps be taken for the constitution of a State Sickness Insurance Committee as a Standing Committee of the Association, to be named the Insurance Act Committee.

That the Insurance Act Committee consist of the *ex officio* members, 4 members to be elected by the Council, 12 members to be elected on a territorial basis by the Representative Body, and one representative of each of the following organizations, to be elected by the Council on the nomination of these bodies respectively, such nominees to be also members of the British Medical Association:

(*a*) Association of Registered Medical Women;
(*b*) Northern Association of Registered Medical Women;
(*c*) Society of Medical Officers of Health;
(*d*) Poor Law Medical Officers' Association of England and Wales.

That at least one-fifth of the members of this Committee hall have practical experience of the working of the National Insurance Act.

That the reference to the Insurance Act Committee in the Schedule to the By-laws be as follows:

To deal with all matters arising under the National Insurance Act that are dealt with by the National Insurance Commissioners, Insurance Committees, and Local Medical Committees; to watch the interests of the profession in relation to the National Insurance Act; and report to the Council.

Insurance Act Committee for 1913-14.

(Minute 201.)

That a Committee to be called the Insurance Act Committee be elected for the year 1913-14, in accordance with, and having the reference contained in, the foregoing Minutes.

Referred to Council for Consideration.

Special Representative Meetings called upon Requisition of Council.

(Minute 68.)

That paragraphs 24 and 25 (of Report of Council on scheme of reform of present constitution of Association submitted by the Metropolitan Counties Branch Council), dealing with the question of possible shortening of time of calling Special Representative Meetings, be referred back to the Council for further consideration and report.

Question of a Separate National Insurance Department.

(Minute 269.)

That it be an instruction to the Council to consider the desirability of creating a separate National Insurance Department, and, if it deems such a course desirable, to carry out the necessary arrangements as soon as possible.

Eligibility for Membership.

(Minute 306.)

That the following motion be referred to the Council for further consideration, and that a report be brought up at the next Representative Meeting:

(1) That the Council of the Association be instructed to take the necessary steps to have Section 4 of the Articles of Association of the British Medical Association deleted, and the following substituted:

"Any medical practioner registered in any portion of the British Empire shall, subject to the By-laws, be eligible for admission as an ordinary member of the Association."

(2) That By-law 17 (2) (*v*) be deleted, and that any other by-law in conflict with the foregoing new section of the Articles be deleted or so altered as to be in conformity therewith.

(3) That in applications for membership a declaration should be made that the applicant is registered in a certain portion of the empire.

[Existing Article 4 and By-law 17 (2) (*v*):

ARTICLE 4.
Eligibility.

4. Any Medical Practitioner registered in the United Kingdom under the Medical Acts, and any Medical Practitioner residing within the area of any Branch of the Association situate in any part of the British Empire other than the United Kingdom, who is so registered or possesses such medical qualification as shall, subject to the By-laws, be prescribed by the Rules of the said Branch, shall be eligible as an ordinary Member of the Association. Subject as aforesaid the mode and conditions of election to membership shall from time to time be determined by or in accordance with the By-laws.

By-law 17 (2) (*v*), relating to Special Powers of Branches not in the United Kingdom:

17 (2). A Branch not in the United Kingdom shall be competent from time to time to adopt by the vote of a General Meeting of the Branch, and without the approval of the Council, Rules dealing with all or any of the following matters, which Rules shall be binding upon the Members of the Branch:

* * * *

(*v*) The eligibility of practitioners not registered in the United Kingdom for election by the Branch as Members of the Association.]

MEDICAL ETHICS.

Declarations of Policy.

Use of Title "Dr."

(Minutes 279-81.)

The meeting, after discussion, approved the decision of the Central Ethical Committee, as reported in the Supplementary Report of Council, to rescind its resolution of 1903 to the effect that practitioners, other than graduates in medicine and surgery, were not justified in styling themselves "Dr."

MEDICO-POLITICAL.

Declarations of Policy.

Fees and Conditions for Provision of Medical Attendance and Treatment of Uninsured Persons.

(Minute 141.)

That the Representative Body adopt the following principles as essential to the formation of any schemes for the provision of medical attendance and treatment of uninsured persons:

1. That, in general, in considering the necessity for obtaining the approval of the Council for schemes for the treatment of uninsured persons upon contract terms, the following principles and conditions must be adhered to:

(*a*) Free choice of doctor by patient and of patient by doctor;
(*b*) Remuneration to be not less than that which is deemed by the Council to be equivalent to that paid in respect of insured persons—that is, 9s. per annum, including medicines;
(*c*) Persons with a total income from all sources of £104 per annum or upwards, or the dependants of any such persons, not to be treated under contract terms at all.

2. That the Representative Body realizes that the conditions in certain areas will not allow of the above terms being obtained, and that in these circumstances the approval of the Council may be given provisionally to a scheme involving a less payment when the local profession can show that the economic conditions in the area demand it.

3. That one of the conditions necessary for the approval of schemes containing lower rates of payment shall be the inclusion amongst the rules, in a prominent position, of a statement that approval by the Association has been given to the rates only because of special economic conditions.

Medical Certificates.

(Minute 208.)

That every effort be made to secure that medical practitioners required to sign medical certificates in conformity with the requirement of any Act of Parliament or of any public authority, be rendered immune from any pecuniary consequences flowing therefrom.

Instructions to Council.

Medical Inspection and Treatment of School Children.

(Minutes 283-4.)

That the Council be instructed to codify the various decisions of the Association in connexion with the medical inspection and treatment of school children, and at the same time to consider and report to the Divisions and Representative Body as to any modification of that policy which may seem to the Council to be desirable.

That the Representative Body empower the Council to use for the present its discretion as to putting into action or otherwise the policy of the Association concerning medical inspection and treatment of school children.

NATIONAL INSURANCE ACT.

Declarations of Policy.

Disapproval of any Action appearing to condone Methods of Government.

Minutes 75-7.

That this Annual Representative Meeting expresses its disapproval of any action which might seem to condone the methods used by the Government in bringing the National Insurance Act into operation.

Treatment of Cases in receipt of Maternity Benefit by Maternity Hospitals.

Minutes 79-87.

That Minute 246 of the Annual Representative Meeting, 1912, be rescinded.

[MINUTE 246 OF A.R.M., 1912:
Resolved: (i) That inability to pay for adequate treatment, or the recommendation of a medical practitioner, shall be the consideration for the participation of parturient women in the benefits of maternity and voluntary hospitals and other charitable institutions; (ii) that women in receipt of maternity benefit under the National Insurance Act should not be regarded as eligible for charitable treatment except in cases of difficulty and danger, and on the recommendation of a medical practitioner.]

That the Council be instructed to take into consideration the question of the acceptance by maternity and voluntary hospitals of patients in receipt of maternity benefit under the National Insurance Act, to confer on the matter with representatives of teaching institutions, to find a temporary *modus vivendi*, and to report to the next Representative Meeting.

Proposed Transference of Administration of Medical Benefit to Approved Societies.

(Minutes 96-103, 305.)

That this meeting strongly protests against the amendment of the National Insurance Act proposed by Mr. Godfrey Locker-Lampson, having for its objects the transference of the administration of medical benefit to approved societies, which would be a distinct breach of faith between Parliament and the medical profession, and, in the interests of the public and the profession, will offer the most strenuous opposition to this or any other attempt of the kind.

This meeting calls upon all members of the British Medical Association and all other members of the medical profession to resist all attempts to carry out the transfer of the administration of medical benefit to the hands of approved societies, and resolves that in so doing they shall have the full and active support of the Association; and further that the Council be empowered to take all steps necessary to this end.

That this meeting send by telegram a strong protest to the *Morning Post*, the Press Association, and to Mr. Locker-Lampson, stating that the Representative Meeting is still of opinion that the amendment by Mr. Locker-Lampson is distinctly *disapproved* of by the Association.

Copy of Telegram Sent.

Statement in *Morning Post* that there has been remarkable change of opinion among the Representatives as regards Locker-Lampson amendment brought this morning before Representative Meeting, which reiterated its opinion of Saturday last (*nemine contradicente*).—*Medical Secretary.*

AMENDMENTS TO NATIONAL INSURANCE ACT (1911) AMENDMENT BILL.

"Aged" and Medical Benefit.

(Minute 106.)

That the following amendment to the National Insurance Act (1911) Amendment Bill be approved:

Clause 2 (2) of the amending bill provides that persons over 65 at the time of entering into insurance shall not be entitled to medical benefit after they attain the age of 70 unless the number of weekly contributions paid by or in respect of them exceeds fifty. This would appear to leave an opening for a grievance in respect of this small class of insured persons similar to that experienced during the last few months in regard to the "aged" and "disabled" members of friendly societies under Section 15 (2) (*e*) of the principal Act. As it is thought undesirable that this exception should be made, the following amendment has been drafted:

Clause 2, page 2, line 14, omit the words beginning "Provided that" to the end of Subclause (2).

Exempted Persons and Medical Benefit.

(Minutes 107 to 109.)

That the following amendment to the bill be approved:

Clause 4 of the Amending Bill provides that persons who hold certificates of exemption under Subsection 4 of Clause 4 of the principal Act shall be entitled to medical and sanatorium benefit, whereas at present they are not so entitled. As by the very fact of their exemption persons of this class are in possession of a small private income, it has been thought desirable to prevent their making use of the normal panel arrangements, and to attempt to so amend the bill as to provide that they shall be required to make their "own arrangements" with respect to medical benefit.

Counsel has, accordingly, drafted the following amendment which, in conjunction with the proposed amendment of Section 15 (3) of the principal Act, will ensure that these exempted persons shall not take advantage of the normal panel arrangements:

Clause 4, page 3, line 28. Omit the words "members of approved societies" and insert in place thereof "employed contributors whose total income from all sources exceeds one hundred and sixty pounds a year."

Miscarriages and Abortions.

(Minute 110.)

That the following amendment to the bill be approved:

(See paragraph 5 of the Memorandum of Amendments to the Insurance Act desired by the Association and forwarded to the Insurance Commissioners, Appendix XVI to Supplementary Report of Council, BRITISH MEDICAL JOURNAL SUPPLEMENT of July 5th, 1913, p. 20.)

Clause 4, page 3, line 34. At the end of clause insert a new clause, as follows:

5. Medical benefit shall not include any right to medical treatment or attendance in respect of miscarriage or abortion, or any condition arising from, and within twenty-eight days after miscarriage or abortion, and Subsection 6 of Section 8 of the principal Act shall be amended accordingly.

Extra Payment for Night Calls.

(Minute 116.)

That the following amendment to the bill be approved:
(See paragraph 6 of above-mentioned Memorandum to the Insurance Commissioners.)

Clause 5, page 4, line 5. Insert the following new subclause:

3. The following paragraph shall be inserted after paragraph (*e*) of Subsection 2 of Section 15 of the principal Act:

(*f*) The right for practitioners whose names are on the lists to make a special charge to insured persons, not exceeding such amount as may be fixed by the Insurance Commissioners, in respect of any attendance on an insured person between the hours of 8 p.m. and 8 a.m.

Provision of Services of a Second Practitioner; Diseases Caused by Misconduct.

(Minutes 117-122.)

That the following amendment to the bill be approved:
(See paragraphs 2, 3, and 4 of above-mentioned Memorandum to Insurance Commissioners.)

Clause 5, page 4, line 5. Insert the following new subclause:

4. The following proviso shall be inserted after paragraph (*f*) of Subsection 2 of Section 15 of the principal Act:

Provided that no insured person shall be entitled to require attendance by any practitioner other than the practitioner selected by or allotted to the insured

person, or attendance or treatment for any disease or disablement caused by his own misconduct other than venereal diseases.

Income Limit (Total Income from all Sources).

(Minute 123.)

That the following amendment to the bill be approved: (See paragraphs 9 and 10 of above-mentioned Memorandum to Insurance Commissioners.)

Clause 11, page 6, line 25. At end of clause insert a clause:

12. In Part I of the principal Act and this Act the expression "income from all sources" includes all sums habitually received by way of allowance, annuity, or otherwise, whether under any enforceable contract or not.

Diseases due to Misconduct; Seamen's National Insurance Society; Composition of Insurance Committees.

That the following amendments to the bill be approved:

(1) *Diseases due to Misconduct.*

(Minute 124.)

(As to (1) *see also* above; as to (2) *see* paragraph 235 of Supplementary Report of Council (British Medical Journal Supplement of July 5th, 1913, page 7): and as to (3) *see* paragraph 11 of above-mentioned Memorandum to the Insurance Commissioners.)

Clause 12, page 6, line 32. At end of clause insert a new clause, as follows:

13. (1) Subsection 4 of Section 14 of the principal Act is hereby repealed.

(2) *Seamen's National Insurance Society.*

(Minute 125.)

(2.) In Subsection 5 of Section 48 of the principal Act after the word "proportions" there shall be inserted the words "and representatives of the medical profession of the United Kingdom to the extent of one-tenth as nearly as may be of the Committee, to be appointed one-half by the Commissioners and one-half by the British Medical Association."

(3) *Composition of Insurance Committees.*

(Minute 126.)

(3.) In paragraph (a) of subsection 2 of Section 59 of the principal Act "two-fifths" shall be substituted for "three-fifths."

Income Limit: Free Choice of Doctor.

(Minutes 145-8.)

That the following be the form of amendment of Section 15 (3) of the Insurance Act to be placed before Parliament in connexion with the amending bill:

Clause 4, page 4, line 5. Insert the following new Subclause:

5. The following Subsection shall be substituted for Subsection 3 of Section 15 of the principal Act:

The Regulations made by the Insurance Commissioners shall provide that the Insurance Committee by which medical benefit is administered shall require any contributor whose total income from all sources exceeds one hundred and sixty pounds a year or such smaller sum as may with the approval of the Commissioners be fixed by that Committee (not being a voluntary contributor whose total income from all sources exceeds one hundred and sixty pounds a year) and also any person who holds a certificate of exemption, and shall allow any other such person as the Local Medical Committee may in writing approve, in lieu of receiving medical benefit under such arrangements as aforesaid, himself to make his own arrangements with any duly qualified medical practitioner selected by himself (whether the name of the practitioner be on any such list or not) for receiving for himself alone medical attendance and treatment, and on the personal applications of such contributors and persons the Committee shall, subject to the regulations, contribute from the funds out of which medical benefit is payable towards the cost of medical attendance and treatment for such contributors and persons sums not exceeding in the aggregate the amount which the Committee would otherwise have expended in providing for them medical benefit (including medicine and appliances).

Question of a Contract Midwifery Service.

(Minute 153.)

That the meeting disapproves of any scheme on the contract system for attendance upon confinements.

Medical Representation on District Insurance Committees.

(Minute 154.)

That the medical representation on District Insurance Committees shall be not less than is accorded the profession on Insurance Committees.

Central Insurance Defence Fund.

(Minute 161.)

That in the opinion of this meeting the Council should not in future be guided by its resolution in paragraph 142 (b) of the Annual Report of the Council, and that it is against the welfare of the Association that the interests of any particular section of its members should be considered paramount.

Paragraph 142 (b) of the Annual Report of Council was as follows:

Grants from Fund.

142. Important matters at once arose as to the policy to be pursued in making grants from the Fund, and this was left entirely in the hands of the State Sickness Insurance Committee, guided by the following decisions of the Council as to general policy:

Resolved (*nemine contradicente*): (*a*) That inasmuch as the Representative Body considers the Act unworkable and derogatory, the action of the Council and the State Sickness Insurance Committee shall continue to be in opposition to the Act and Regulations as at present constituted;

(*b*) That the interests of those practitioners not on the panel, out of loyalty to the Association, shall continue to be paramount; and

(*c*) That steps be taken to assist those practitioners who wish to resign from the panels in April next if the Association calls upon them to do so.

Rules of Local Medical Committees.

(Minute 165.)

That the members of the Local Medical Committee shall hold office for one year, and at the end of that time shall be eligible for re-election.

Suggested Contract Consulting Service for Insured Persons.

(Minute 167.)

That the Representative Body, having considered the following motion by the Brighton Division, contained in Minute 128 of the Special Representative Meeting, November, 1912, is of opinion that any arrangements whereby the staffs of hospitals and other consultants agreed to give consulting service at the homes of insured persons on the introduction of the medical attendant, for an agreed honorarium, would be a highly objectionable extension of contract practice:

That . . . the Council also consider the desirability of the staffs of hospitals and other consultants arranging to give consulting services at the homes of insured persons on the introduction of the medical attendant, for an agreed annual honorarium to be paid by the approved society or other body.

Mode of Remuneration of Practitioners for Domiciliary Attendance on Tuberculosis Cases.

(Minute 168.)

That the following Minute 205 of the Annual Representative Meeting, 1912, be rescinded in order to leave t the local profession of any Insurance area the right deciding whether the profession of that locality shall b paid upon a scale of fees or by a capitation fee for th treatment of tuberculosis under the National Insuran Act:

Minute 205, A.R.M., 1912.—Resolved: That the payme to be made to medical practitioners for domiciliary atten ance on patients certified to be suffering from tuberculo shall be on a scale of fees, and not by capitation.

Minimum Salaries of Tuberculosis Medical Officers.

(Minute 171.)

That all possible steps be taken by the Association prevent the appointment at less salaries than £500 annum of tuberculosis medical officers whose duty, wh

over their designation, includes the charge of the clinical arrangements concerning tuberculosis cases, and whose relation as regards such cases to the local profession will be that of consultant.

Question of Attitude of Profession towards Tuberculosis Treatment under the Act.

(Minute 172.)

That, in connexion with Minute 63 of the Special Representative Meeting of January, 1913, instructing the Council to consider the question of the attitude of the profession towards the tuberculosis treatment under the National Insurance Act in view of the conditions as altered by that meeting, further action be postponed pending further developments in the subject.

Honorary Staffs of Voluntary Hospitals and Treatment of Tuberculosis Cases.

(Minutes 173-174.)

That the Representative Body, having considered the following motion by Brighton, contained in Minute 128 of of the Special Representative Meeting of November, 1912, namely:

> Motion: That it be an instruction to the Council to consider and report at an early date upon the question of the payment of the medical staffs of voluntary hospitals for the treatment of patients under the Tuberculosis Medical Service,

reaffirms the following Minute 194 of the Annual Representative Meeting, 1912, namely:

> *Minute* 194.—Resolved: That no Tuberculosis Dispensary should be opened or beds be provided for treatment for those in receipt of Sanatorium Benefit, at a Voluntary Hospital or Infirmary, except on the condition that the organization is entirely independent of that of the Voluntary Hospital or Infirmary, the accounts of the departments being kept separate, and that the services of all medical practitioners are paid for.

That the substance of the foregoing resolution be sent to the various hospitals in London and the provinces.

Deputies for Medical Members of Insurance Committees.

(Minute 175.)

That no steps be taken for the time being to obtain any amendment of the Act or Regulations allowing for the appointment of deputies for the directly elected practitioners on Insurance Committees.

Co-ordination of Local Medical Committees.

(Minute 176.)

That the Representative Body is of opinion that no system of reorganization of the Association can be effective which does not take into consideration the position of Local Medical Committees, and devise some means of co-ordinating their work with that of the Association.

Model Regulations as to Constitution of Local Medical Committees: Standing Orders for Meetings of these Committees.

(Minute 178.)

That the Representative Body approve the Model Regulations concerning the constitution of Local Medical Committees, and the Model Standing Orders for the conduct of the business at the meetings of such Committees, submitted by the Council in Appendix XVII to the Supplementary Report of Council, 1912-13 (see British Medical Medical Journal Supplement of July 5th, 1913, page 22), as suitable for adoption by Local Medical Committees.

Model Rules for Local Medical Committees in Considering Complaints under Medical Regulation 53.

(Minute 180.)

That the Representative Body approve the Model Rules contained in Appendix XVIII to the Supplementary Report of Council, 1912-13 (see British Medical Journal Supplement of July 5th, 1913, page 24) as suitable for adoption by Local Medical Committees for the conduct of inquiries into complaints arising under Medical Regulation 53.

Certificates for Purposes of Sick Benefit.

(Minute 207.)

That the nature of the illness should not be inserted on any certificate issued for the purpose of sickness benefit under the Insurance Act.

Operations Requiring General Anaesthesia.

(Minute 211.)

That in the meantime it should be a recommendation to Local Medical Committees to exclude operations requiring general anaesthesia from the scope of the panel doctor's duties.

Fees Payable in Respect of Insured Members of Poor-Law Staffs.

(Minute 213.)

That this meeting strongly condemns any arrangement made by indoor poor-law medical officers with boards of guardians in reference to insured members of their staffs, whereby the whole or a portion of the fees paid to the said medical officers by an Insurance Committee is handed over to the treasurer of the guardians.

Temporary Residents.

(Minute 217.)

That this meeting advises members of the medical profession to refuse the terms laid down in Memoranda 159/I.C. and 161/I.C. for the treatment of temporary residents.

Instructions to Council.

Rules of Local Medical Committees.

(Minute 179.)

That Local Medical Committees be requested to forward copies of their rules to the Council in order that the Council may be kept in touch with the subject.

Proposed Special Fund for the Organization of the Profession.

(Minutes 202-3.)

With reference to the following recommendation contained in the Special Report of the State Sickness Insurance Committee appended to the Supplementary Report of Council (see p. 31 of British Medical Journal Supplement of July 5th, 1913) as to a proposed Special Fund for the organization of the profession, namely:

> That a Fund be formed for the development of the organization and protection of the medical profession,

it was decided that no decisive action be taken by the Representative Body until the scheme had been again submitted to the Divisions and sufficient time been given for its full consideration, and that a Special Representative Meeting be convened to consider the matter.

Future Policy of Association as regards Developments in the National Health Insurance Act.

(Minutes 204-5.)

That in view of the fact that it is exceedingly likely that the scope of the National Health Insurance Act will be so extended as to include in its operations various additional matters (for example, the treatment of children and dependants of insured, dental treatment, hospital treatment, alterations in the method of dealing with deposit contributors and casual labourers) it is desirable that the Association should be ready with its policy as to what a National Health Insurance Act should be, not merely from the point of view of the interests of the profession but also from that of public health and the advancement of medical science.

That the preparation of a full report upon the above lines be referred to the Insurance Act Committee; that such report be issued to the Divisions for their consideration and comment; and that the report, together with a statement of the views of the Divisions thereon, be submitted, if possible, to the next Representative Meeting, and that the Council be given power to act for the Representative Body should an emergency arise in the meantime.

Referred to Council for Consideration.

Fees and Conditions for Provision of Medical Attendance and Treatment of Uninsured Persons.

Minutes (142-3.)

That the following motion be referred to the Council for consideration:

That in the event of any proposal to extend medical benefit to dependants, the lines of the system formulated in the Stockport, Macclesfield, and East Cheshire Division be sanctioned, namely:

Outline of Medical System formulated in East Cheshire.

1. *General.*—The extension of medical benefit to women and children in the near future is inevitable. Extension on the present capitation terms is, even if desirable, unlikely; because:

(A) The expense would be too great; and

(B) A whole-time service, which would be unsatisfactory and expensive where only the employed members of the household were attended (as at present), would be quite easily workable and relatively inexpensive when the whole family was insured.

In the opinion of this Division such a whole-time service would destroy the whole edifice of private practice, and is intrinsically undesirable.

2. *The Alternative suggested:* As an alternative to a whole-time service on the one hand, or a reduced capitation fee on the other, the Division is anxious that a scheme which it has drafted should be thoroughly considered by the profession.

3. *Pool and Deposit System:* The scheme is based on the principle followed by some companies which insure against damage to motor cars, in which the insured person pays the first portion of any claim himself, up to a limited amount, the balance to an unlimited amount being covered by insurance.

It is suggested that this principle might be applied to insurance of families for medical benefit. The liability of the insured would have to be covered by a *deposit* payable in advance in small instalments. The balance would come from the *pooled* medical benefit fund taken by the Act.

4. *The Family the Unit:* The whole family would be treated as a unit, the insured worker receiving his medical benefit on the same footing as his dependants.

5. *Payment of Doctors:* Under such a scheme the doctors would not be paid by capitation, but their bills would be paid in full. Not that they would send out actual bills. Their "daily record," filled up as at present under the Insurance Act, would be the basis of their payment.

Thus the only change the system would introduce into the doctor's work in this respect would be that he would enter the names of dependants in his daily record as well as those of insured workers; and each entry would have a fixed value according to an agreed tariff. He would be paid accordingly not a proportion of his earnings, but the full amount according to the tariff.

6. *The additional payment required from the insured to cover the introduction of the family:* The only change the system would introduce in respect of the contributions by insured persons would be that each worker, in addition to his contributions under the Act as at present, would have to pay the instalments required to create his deposit or to refill it if it had been depleted.

7. *Proportion of Deposit to Wages:* Assuming that the scheme would be solvent if the deposit were fixed at the amount of *two weeks' wages*, and allowing *three years in which to deposit this sum*, then the actual weekly instalment may be calculated at 3d. in £1 wages.

8. *Full Cover from First Payment:* From the date of the first instalment paid, so long as payments were kept up, the insured worker and his family would be fully covered for medical benefit.

Advantages:—(1) *To the insured:* Doctoring for dependants. No doctor's bills beyond, at worst, 3d. in £1 of weekly wages.

To insured persons who have no dependants:

It is calculated that there would be a considerable balance of the pool. A portion of this would be payable as a bonus on deposits, which would thus be an excellent investment. This bonus would be attractive. Just as the "dividend" of co-operative stores is at present.

To dependants of insured:

The deposits would form a death benefit.

(2) *To Approved Societies: There would be no malingering and no valetudinarianism.*

The fact of the deposit being the source of the first payment would be a better check against these than any system of medical referees.

(3) *To the Government:* The provision of medical benefit to the dependants without further demands on the Treasury.

(4) *To the Medical Profession:* Full payment for work done for insured and dependants.

Entire free choice of doctor from the medical register.

No accountancy or bill making whatever, except filling up the visiting record.

The patients themselves, as in private practice, would exercise a check against over-attendance.

The proposal, as outlined above, is capable of development as a voluntary optional alternative to the present form of medical benefit. As such it is suitable for trial as an experiment on a large scale. If such an experiment were tried (under the aegis of the Government, or, at least, with its necessary sanction) and proved a success, the scheme would readily lend itself to expansion into a really national system.

One of the chief benefits anticipated from it—the establishment of special clinics, each staffed by a consultant and a group of general practitioners (paid) who devoted a part of their time to the work—would not be realized until the national development referred to had taken place.

Tuberculosis Treatment and Medical Charity.

(Minutes 218-19.)

That the following motion be referred to Council for consideration:

That in the opinion of this meeting it is not desirable that medical practitioners should undertake the treatment of insured persons suffering from tuberculosis in any institution in an honorary capacity, such being a contravention of Minute 194 of the Annual Representative Meeting, 1912.

[Minute 194 of Annual Representative Meeting, 1912:

Resolved: That no tuberculosis dispensary should be opened or beds be provided for treatment of those in receipt of sanatorium benefit at a voluntary hospital or infirmary, except on the condition that the organization is entirely independent of that of the voluntary hospital or infirmary, the accounts of the departments being kept separate, and that the services of all medical practitioners are paid for.]

PUBLIC HEALTH AND POOR LAW.

Declarations of Policy.

Salary for Combined Whole-time Appointment of Medical Officer of Health and School Medical Officer.

(Minute 286.)

That in no case where a less salary than £400 is offered for a combined whole-time appointment as medical officer of health and school medical officer should the advertisement be accepted for insertion in the Journal.

Venereal Diseases.

Minute 321.)

That this meeting expresses its sympathy with the recent appeal made in the press by Sir Thomas Barlow and his co-signatories in favour of a more candid recognition by the public of the dangers of venereal diseases.

HOSPITALS.

Declaration of Policy.

Question as to Advisability or otherwise of the Staffs of Voluntary Hospitals being Paid for their Services.

(**Minute 290.**)

That the Representative Body express the opinion that the voluntary system of hospitals prevalent in this country should be maintained so long as possible, and that in order to assist in maintaining such voluntary system the services of the visiting medical staff should continue to be given on an honorary basis.

SCOTLAND.

Referred to Council for Consideration.

Scottish Committee.

(**Minute 298.**)

That the Council be asked to consider whether, as the powers of the Scottish Committee are proposed by the Council to be increased, it is necessary that it should be reconstituted on a basis properly representing the different sections of the profession in Scotland.

BRANCHES OUTSIDE UNITED KINGDOM.

Instruction to Council.

Title of Colonial Committee.

(**Minute 301.**)

That steps be taken to alter the title of the Colonial Committee to that of "Dominions Committee," and that it be referred to the Council to carry out the necessary alteration of the By-laws.

ALTERATIONS OF BY-LAWS.

Declarations of Policy.

Question of Mode of Election of Members of Council by Branches Outside United Kingdom.

(**Minute 243.**)

That the following new By-law 46 be adopted by the Annual Representative Meeting, 1913, in substitution for existing By-law 46:

Mode of Election by Groups not in the United Kingdom.

46. (1) The election of seven members of Council by the groups of Branches not in the United Kingdom shall be conducted in the manner prescribed by this By-law.

(2) All nominations of candidates shall be in writing sent to the Association so as to be received at the head office on or before such day, not being later than the 15th February in each year, as shall be specified for the purpose by a notice published in the JOURNAL during the second or third week of October in the preceding year, and no nomination paper received after the day so specified shall be valid.

(3) The said notice shall prescribe a form in which the nominations are to be made, and the nominations shall be made in the form so prescribed, or in a form to the like effect. Nomination papers may be signed by not less than three members of any Branch comprised in the group.

(4) As soon as may be after the 15th day of February in each year:

(*a*) In the case of any group for which one candidate only has been duly nominated, there shall be published in the JOURNAL a notice that such candidate has been elected as member for that group; and

(*b*) In the case of any group for which more candidates than one have been duly nominated, a voting paper shall be sent by post from the head office to each member of every Branch comprised in that group.

(5) Every voting paper shall contain a statment that the same must be returned to the Association so as to be received at the head office on or before a specified day (not being later than the succeeding 15th day of May), and no voting paper received after the day so specified shall be counted.

(6) Not later than the second week in the succeeding month of June, a notice of the result of the elections shall be published in the JOURNAL.

Question of Appeals to Council in connexion with Ethical Decisions of Councils of Branches outside United Kingdom.

(**Minute 250.**)

That in order to carry out the proposal contained in Minute 256 of the Annual Representative Meeting, 1912, the following words be added by the Annual Representative Meeting, 1913, to the definition of the "Duties, Powers, etc.," of the Central Ethical Committee, contained in the Schedule to the By-laws:

"Provided that, notwithstanding the foregoing provisions, the Committee shall not adjudicate in or entertain any such matter of dispute as aforesaid which has arisen in a Branch not in the United Kingdom having a membership of not less than thirty, except upon the request of the Council of that Branch."

[Extract from present Schedule to By-laws:

DUTIES, POWERS, ETC., OF CENTRAL ETHICAL COMMITTEE.

To advise the Council on questions connected with rules of Divisions and Branches relating to professional conduct, to investigate and report to the Council upon the cases of members whose conduct is to be considered by the Council on the representation of Divisions or Branches pursuant to the Regulations, and generally to advise, and where so directed act for the Council on all questions of professional conduct; also to adjudicate in matters of dispute as to professional conduct arising between members of the Association or members of the profession, or at the discretion of the Committee to refer any question arising in connexion with such a dispute to any Division or Branch, or to any Divisions or Branches jointly, for investigation or for adjudication, subject to an appeal to the Committee; and so that any person directly concerned in such a dispute shall have a right of appeal to the Council from the decision of the Committee, and that the decision of the Committee, subject to such appeal and the decision of the Council upon any such appeal, shall be binding upon the parties and upon all members of the Association.]

Co-ordination of Action of Divisions and Branches with Action of Local Medical Committees and Medical Members of Insurance Committees.

(**Minutes 251-6.**)

That By-laws 16 and 18 of the Association be amended to read as follows respectively (words to be inserted are printed in italics):

By-law 16:

Local Management: Branches.

16. The management of the affairs of each Branch shall, save as otherwise provided in the By-laws, be vested in a Branch Council, composed of the following members:

(*a*) Those members of the Council who are elected (as hereinafter provided) by the Branch or by any group of Branches to which the Branch belongs, or (wholly or in part) by Representatives of Constituencies comprised in the Branch.

(*b*) The members elected to represent on the Representative Body the Divisions comprised in the Branch.

(*c*) Such officers of the Branch as the Branch shall declare to be members *ex officio* of the Branch Council.

(d) *Such members (if any) of any Local Medical Committee formed under the National Insurance Act, 1911, and such medical members (if any) of any Insurance Committee formed under that Act, being (in either case) ordinary members of the Association resident within the area of the Branch as the Branch may co-opt to be members of the Branch Council.*

(*e*) In the case of a Branch comprising more Divisions than one, members elected by such

Divisions in such manner that the number to be elected by each Division shall be as nearly as possible proportionate to the membership of such Division.

By-Law 18:

Local Management: Divisions.

18. The management of the affairs of each Division shall, save as otherwise provided in the By-laws, be vested in an Executive Committee composed of the following Members:

(a) The member or members representing the Division on the Representative Body;

(b) The member or members representing the Division on the Branch Council;

(c) *Such members (if any) of any Local Medical Committee formed under the National Insurance Act, 1911, and such medical members (if any) of any Insurance Committee formed under that Act, being (in either case) ordinary members of the Association resident within the area of the Division as the Division may co-opt to be members of the Executive Committee.*

(d) Such other members elected by the Division as the Division may determine.

STANDING ORDERS.

Method of taking Card Vote.

(Minute 9.)

The meeting adopted an addition to Standing Order 33 (i), to the following effect:

A card vote shall be taken in the following manner: At the commencement of the Representative Meeting a list of those entitled to vote shall be prepared with, in a column opposite the name of each, the number of votes to which the voter is entitled in accordance with By-law 39 (3).

The names of the Representatives shall be grouped together under their respective Branches in the alphabetical order of their Constituencies, and the reply "Aye" or "No" entered opposite each name in another column. The necessary additions shall then be made.

Vote by Roll Call.

(Minute 10.)

An addition was also made to Standing Order 33 (iii) to make clear that a demand for a vote by roll call must of necessity give way to a demand for a vote by card, if any, made at the same time.

Rescission of Resolutions.

(Minute 314.)

That Standing Order 29 be amended by the deletion of the following words:

"arrived at after due consideration of the Divisions."

[STANDING ORDER 29 REFERRED TO:

29. *Rescission of Resolutions.*—No motion to rescind any resolution of a Representative Meeting, arrived at after due consideration of the Divisions, shall be in order at any subsequent Representative Meeting, unless at least two months' notice of such proposed motion shall have been given to the Divisions through the SUPPLEMENT to the JOURNAL.]

ELECTIONS.

A. *Officers.*

Mr. T. Jenner Verrall (Bath) was elected Chairman, and Mr. E. B. Turner (Kensington) Deputy Chairman of Representative Meetings for the year 1913–14.

Sir Alexander Ogston, K.C.V.O., LL.D., (Aberdeen), was elected President-elect of the Association for the year 1913–14.

Sir James Barr, LL.D. (Liverpool), was elected a Vice-President of the Association.

Dr. Edwin Rayner (Stockport) was re-elected Treasurer of the Associaton for the period 1913–16.

B. *Council and Committees.*

A full list of the Council, indicating those members elected by the Branches, by the Representatives, and by the Representative Body respectively, was published in the SUPPLEMENT of August 2nd (page 173).

To fill the vacancy on the Council created by the resignation of Lieutenant-Colonel Davie-Harris, R.A.M.C., representing the Army Medical Service, the Representative Body appointed Colonel Waller Barrow, A.M.S., to hold office for the remainder of the triennial period terminating at the close of the Annual Representative Meeting, 1914.

The Council was instructed to fill the vacancy caused by the resignation of Inspector-General Bentham, Representative on the Council of the Royal Navy Medical Service.

A full list of the members of the Standing Committees, indicating those elected by the Representative Body and by the Council respectively, was published in the SUPPLEMENT of August 2nd (page 174), together with a classified list of the members of the Insurance Act Committee (page 175).

MISCELLANEOUS.

Votes of Thanks.

The thanks of the meeting were voted to His Worship the Mayor and the Corporation of Hove and the Local Committee for the arrangements made for the comfort and entertainment of the Representative Body.

The thanks of the meeting were voted to the Brighton Division for a set of minute glasses presented by the Division.

The meeting also expressed its cordial appreciation of the manner in which the Chairman had conducted the business of the meeting.

Place and Time of Annual Representative Meeting, 1914.

The Annual Representative Meeting, 1914, will be held at Aberdeen, at a date to be fixed by the Council.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

LEINSTER BRANCH.

THE annual meeting of the Leinster Branch of the British Medical Association was held in the Royal College of Physicians, Kildare Street, on July 15th.

Sir ROBERT H. WOODS, outgoing President, occupied the chair at the opening of the proceedings. Thirty-two other members were present.

Election of Officers.—The following were declared as duly elected officers for the coming year:

President: Sir W. J. Thompson, M.D.
President-elect: R. L. Heard, M.B.
Vice-Presidents: H. Jellett, M.D., J. M. Day, M.D.
Representatives on Irish Committee: F. W. Kidd, M.D., J. M. S. Kenny, M.B.
Honorary Secretary and Treasurer: Professor White, Royal College of Surgeons, Dublin.

Hereupon Sir Robert Woods vacated the chair in favour of the newly-elected President.

Vote of Thanks to Retiring President.—Dr. GARLAND proposed. Dr. KING seconded, and it was carried by acclamation:

That a cordial vote of thanks be accorded to Sir Robert Woods for his services as President during the past year.

President's Address.

Sir WILLIAM THOMPSON having taken the chair, returned thanks for his election as President. In the course of a paper, entitled "The Medical Inspection of School Children," the President said the subject was an urgent national one, and although it had been put before the public previously, still it would appear as if the whole community were not yet aroused to its importance,

and until they were it was useless to hope for legislation in the matter. The medical profession had on numerous occasions been the pioneers of, and had given valuable and effective help in bringing about social reforms and useful legislation, and if the profession took up this subject there was little doubt that their opinion would have great weight with the general public. It was only comparatively recently that public attention in this country had been directed to the health of children, although in different countries on the Continent the matter was taken up in a practical manner many years ago. The subject aroused much attention, and was considered so important that in 1907 an Act was passed in England for the medical inspection of school children. It was difficult to say why the Act was not applied to Ireland. Children in this country required medical inspection just as much as the children in England; in fact the necessity for such was more urgent in Ireland. Examining the deaths of the children of school age from 5 to 15 years, it was found Ireland compared unfavourably with England and Scotland. In 1910 in Ireland 36.1 of all the deaths of children between these ages were due to tuberculous disease; in Scotland the corresponding proportion was 28.9 per cent., and in England and Wales it was 23.7 per cent. Going into figures, Sir William Thompson computed that there were in Ireland on April 2nd, 1911, over 595,000 children who were attending school between the ages of 5 and 15, and who, if the same law was in force in Ireland as in England, would be under medical inspection. Of this number about 200,000 attend school in civic districts—that is, towns with a population of 2,000 or upwards, and the remaining children, 395,000 children, in rural districts. The actual number of all ages, however, attending school, as returned by the National Board of Education, was 634,000. The system of medical inspection adopted in England was that children should get a full and complete medical examination on their entrance to school; again, about the third year of school life—this was not compulsory; and, lastly, on their leaving school, or about the sixth year of school life. It was computed in England that about one-third of all children attending school were examined each year, which for Ireland would mean that about 200,000 school children would be medically examined each year under such an Act. In a properly organized and constituted school the course of study should be regulated by the physical and mental condition of the pupils. Those who were not of full mental and physical capacity should not be asked to do all the lessons that were supposed to be sufficient for ordinary normal healthy children. Then, again, those who were found to be below the normal state of health should get the necessary treatment to raise them to that state of health. Inspection and examination not only dealt with diseased and abnormal conditions, but must necessarily detect some affections in such an early stage that under proper care the disease was prevented from fully developing. Medical inspection was more urgent and more necessary amongst the poorer class of children than amongst those of the better class who attended the secondary or high-class schools. In Ireland it was a notorious fact that the sanitation and hygienic condition of many national schools was most pernicious, and the Commissioners of National Education had themselves, in different annual reports, called attention to the defective and undesirable state of many of their schools. If this were so, what alarming reports might they not expect from school medical officers, had they such officials? The last medical examination, as conducted in England, was about the sixth year of school life, or when the pupil was about to leave school, such pupils being known as "leavers." This examination was of vital importance; and in view of the fact of the early employment of the child, and of the requirements of the certifying factory surgeon, and the post-office medical examinations, particular attention should be paid to its condition of health generally. In Germany, where in some parts medical inspection had been going on for a great number of years, use was made of this examination to the advantage both of the State and of the child. In the matter of schools and school children in Ireland, it was only fair to refer to the work that her Excellency the Countess of Aberdeen had done in connexion with this, through the different branches of the Women's National Association. It was through her exertions that a Treasury grant was given for the cleansing and disinfecting of schools, although half the amount spent had to be raised locally. This was, from a health point of view, a welcome and useful innovation. Many branches also had placed at the disposal of the teacher and manager of different schools the services of their nurse, with most satisfactory results. Quite a number of the branches also have organized free, or almost free, school meals for children; and in the rural districts, where children have a long distance to go to school, the benefit of this cannot be overestimated. The association has also in some of the branches instituted dental treatment, and has also started "toothbrush clubs" amongst school children, which are very popular. In all health lectures delivered to children in centres where the Health Exhibition visited attention has been directed to the care of the teeth. In conclusion, Sir William Thompson said all he pleaded for was that the medical profession should bring before all sections of the public the evils arising from non-medical inspection of schools. All sections of the community should be interested in this, and if they could succeed in arousing the attention of all to the benefit that would accrue from having stronger and healthier young people to deal with, he predicted that in a short time they would have medical inspection of schools in Ireland. It would be the most important link in the chain which of late years had tended to the prosperity and health of the country.

Dr. Story, in proposing a vote of thanks to the President for his address, said he did not think that this or any other Government would give any attention to these proposals. The only thing that governments paid attention to was agitation. The President had not suggested any financial plan, but he (Dr. Story) understood £23,000 would be the total cost of the medical inspection of school children in the National Board Schools alone. There were only two sources from which they could get the money. One was the Treasury, but that was practically hopeless, as they saw how the Treasury behaved in dealing with urgent Irish needs. They saw how it dealt with the grant to the teachers in secondary schools, with that for dental clinics, and other matters. The other source from which they could get the money was the rates, but that would require an Act of Parliament.

Dr. Gogarty, in seconding, said there was too much money coming to Ireland from the Treasury, but it was going in the wrong direction. There was a deluge of grants in some places in the country, while others were parched. There would, he added, be a strike of school children in the city if the corporation did not feed them in the coming winter. The only way that attention could be secured for the suggestion of the medical inspection of children was by notoriety, and it meant the preservation of the health of the future generation of the country.

Dr. Joyce supported the motion, which was passed unanimously, and the President replied.

Model Ethical Rules.—On the motion of the Honorary Secretary, it was decided to adopt the Model Ethical Rules as revised and adopted by the Representative Meeting of 1912 in substitution of those adopted by the Branch in 1904.

Insurance Act.—On the motion of Dr. Rowlette, seconded by Dr. Delahoyde, it was unanimously resolved:

> That, in the opinion of the Leinster Branch of the British Medical Association, the tenure of the post of "Medical Adviser" in respect of insured persons, either to the Irish Insurance Commissioners or to an approved society, without the sanction of the profession of the district, as expressed by the Local Medical Committee, is contrary to professional ethics.

Dr. McWalter proposed, Dr. Jackson seconded, and it was unanimously resolved:

> That, in the opinion of the Leinster Branch of the British Medical Association, the action of the Insurance Commissioners concerning the certification of persons seeking sanatorium benefit under the Insurance Act, especially in the City of Dublin, renders the Insurance Act practically useless as a means of stamping out tuberculosis; deprives insured persons of the right of skilled advice in the earlier and only curable stages of the disease, and is bound to result in the almost complete waste and loss of the money spent in the city on the treatment of tuberculosis.

The proceedings then terminated.

EIGHTY-FIRST ANNUAL MEETING
OF THE
British Medical Association.

Held at Brighton, July 22nd to 25th, 1913.

EXHIBITION
OF
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

We commence in this issue our usual notice of the collection of foods, drugs, instruments, books, and other accessories to practice, held annually in connexion with the Annual Meeting of the British Medical Association. In Brighton this year it was displayed in a building which was not only convenient in itself, but had the further advantage of being part of the general group of buildings which served as the head quarters of the Association during the week of the meeting. The exhibition was once again accorded the honour of a formal opening ceremony, which took place at midday on Tuesday, July 22nd, when the Mayor of Brighton, accompanied by the new President of the Association, Dr. Ainslie Hollis, made a round of the stalls, and delivered a happily phrased address, of which some account was furnished at page 191 of our issue for July 26th. Informally the exhibition was open some twenty-four hours earlier, for the agents of the various firms who had taken stalls managed to complete the task of arranging their goods by 10 o'clock on Monday morning. The exhibition was therefore open five days instead of four; it was open also during one of the evenings of the week when a conversazione was in progress in the adjoining building. As for the accounts of the different stalls which now follow, it should be observed that, as in former years, no intentional selection has been exercised in the matter of those which shall be noticed first. The accounts appear simply in the order in which they happen to have been completed.

John Henry Moore, 200, Woodstock Road, Oxford. The intelligent interest in questions of a medical order nowadays evidenced among the public was exemplified by this exhibitor, whom we understand to be a cleric. His exhibit took the form of a demonstration of a fashion in which the most natural attitude to assume when emptying the bowels and bladder can be adopted in the house. The central feature of the appliance designed for this purpose by Mr. Moore and shown by him at Brighton was a water-closet basin of unusual length from back to front, and closely resembling what the French call a *bidet*. This was connected below with an ordinary S-tube, and stood about 6 in. from the ground; while towards the front part at each side was a block sloping sharply downwards and forwards and covered with an indiarubber fabric. Surrounding the basin was a low railing ending in two posts, with a passage between them to afford access to it. The object of these arrangements was to enable a person about to empty his bowels or bladder to adopt, not a sitting position, with his feet perhaps dangling, as in an ordinary watercloset, but to squat over the pan with his heels raised on the two elevations mentioned, and the abdominal walls and their internal rings supported by his uplifted thighs. Few other than very obese or weakly persons experience any difficulty in attaining and preserving the attitude in question; but, as an added facility, as well as to fulfil a subsidiary purpose, the posts and railings mentioned have been provided. The former were sufficiently close to the front of the pan to be easily grasped by a person crouching over it in the fashion indicated, and were of adequate strength to form a grasping post and thus afford a fulcrum for muscular effort. The railings served a double purpose, they being placed sufficiently near the pan to keep bulky clothing out of the way and at the same time enable a very short-armed person to secure the same support as that offered to ordinary adults by the uprights. In ordinary circumstances any kind of seat would be a superfluity in a watercloset of this order, but, by way of providing a *via media* for those who adopt new fashions with reluctance, the ordinary movable wooden top familiar in this connexion was also provided. There is reason to believe that the general adoption of closets of this order would constitute an advance in the sanitary arrangements of households, so we can wish Mr. Moore good luck in the task of reform which he has taken upon himself. It is no light one, in view of the many prejudices which he will have to overcome.

W. B. Saunders Company, 9, Henrietta Street, Covent Garden, W.C. The exhibit of this firm of medical book publishers made appeal not less to book lovers than to those in search of informing and up-to-date works in regard to various departments of medicine and surgery. To the former it was attractive owing to the presence of a large number of well-printed, admirably illustrated volumes, old and new. In this connexion may be mentioned *Keen's Surgery*, a monumental production of which the final or sixth volume has now appeared. Though it is published under the name of one authority—Mr. W. W. Keen, Emeritus Professor of Surgery at Jefferson Medical College—the actual writers of the contained articles number eighty-one. This sixth volume, which, like the rest, contains a little over 1,000 pages and supplies a general index to the entire work, brings up the number of illustrations to 3,100, of which 150 are in colours. There were also on view some copies of the *Surgical Clinics* of Dr. John B. Murphy, this being a two-monthly serial of a very original kind, since it consists of verbatim accounts of the observations made by this surgeon when examining patients before post-graduate students. Among some half-dozen books on ophthalmology we noted a sixth edition of *Diseases of the Eye*, by de Schweinitz, Professor of Ophthalmology in the University of Pennsylvania—a comprehensive, clearly-written manual, containing a good many plates in addition to over 300 black and white text illustrations; and a book dealing with the same subject in relation to horses and other domesticated animals — *Sharp's Veterinary Ophthalmology*. Two books both bearing on subjects of special interest at the present moment were Brill's *Psychanalysis*, a volume of 337 pages dealing with the practical application of Freud's theories; and *Blood Pressure*, by Dr. F. A. Faught, whose aim has been to meet the needs more especially of general practitioners. Also attractive was a new work on the *Principles and Practice of Obstetrics*, by J. B. de Lee. The subject matter is very logically distributed, and included in its 1,060 pages there are as many as 913 illustrations, of which 150 are coloured. We also noted the edition for 1912 of the Collected Papers by the staff of St. Mary's Hospital—the Mayo Clinic; a second edition of *Elements of Bacteriologic Technic*, by Dr. J. W. H. Eyre, of Guy's Hospital; and issues of the various hand-atlases which bear the firm's name and relate to almost all branches of medicine and surgery. Also on view was a comprehensive volume on the building, equipment, and administration of *The Modern Hospital*, whose joint authors—Dr. J. A. Hornsby, secretary of the Hospital Section of the American Medical Association, and Mr. R. E. Schmidt, an architect—have been careful to supply an illustration whenever the particular point discussed seemed capable of being rendered clearer thereby.

Ronuk, Ltd. (Portslade, Brighton). This firm is the manufacturer of the floor polish from which it derives its name, as also a contractor for the upkeep of flooring, and its exhibit at Brighton was designed to show what may be expected when its polish and appliances are used. The condition of a floor, including its appearance and the ease with which it can be kept free from dust, is of such importance in medical connexions that the exhibit may safely be presumed to have been of considerable interest to members, since many of these have a seat on the managing boards of institutions, and others are requested to give advice when new hospital units are in course of erection or when the question of renovating old buildings is under consideration. The polish itself was shown in more than one form—a concentrated paste and a liquid—as also Ronuk stain for colouring and hardening the surface of ordinary deal flooring, and in addition a series of small model floors in oak, teak, maple, pitchpine, and other relatively hard woods. Once polished with Ronuk the appearance of a floor is easily preserved by the brushes

which the firm supplies, these being of various weights according to the special requirements of the case—heavy brushes for wards and corridors with a wide extent of uncovered flooring, and others of a lighter kind for domestic use. In regard to its contracting work, though there is no difficulty in keeping floors in good order when once they have been treated with Ronuk, the firm, in addition to undertaking the original preparation of floors, also contracts for their annual maintenance. The accessories shown included brushes of various forms, polishing cloths, and steel shavings for the removal of stains and accumulations of polish—under radiators and in other places which cannot be reached by friction brushes.

The Liverpool Lint Company (Mark Street Mills, Liverpool). This is a wholesale firm which devotes itself to the production of various fabrics for use in major and minor surgery and in general nursing, and an examination of the samples it had on view proved interesting. One of them was Vulnoplast, with which we have had considerable experience, and which we regard as one of the most practical forms of ready-made dressing yet produced. It is a gauze tissue impregnated with a choice of various well-recognized antiseptics and very easy to use, since all that is required is to cut off a piece of the size desired and place it over the cleansed wound, which is thereby and at once efficiently dressed. No bandaging is required, because the dressing has a backing of adhesive plaster. Another excellent product shown was Impermiette. It is a substitute for rubber or other waterproof material, of which we have a high opinion; it keeps well in the hottest weather and is not affected by chloroform or carbolic acid in 5 per cent. solution. In the heavier qualities it makes very good bed sheets. Another speciality of the firm is Splint Padding, which can be obtained either in compressed or natural form, and in either case, when laid on the splint, makes a thick elastic pad. It is composed of a mixture of carbolized tow, absorbent cotton wool, and other fabrics, and is very easily handled. The firm also showed absorbent wool between layers of gauze in three qualities and weights, and a series of body belts and underclothing specially designed for those who perspire freely. Finally should be mentioned an array of compressed bandages, lint, wool, and other aids to dressing. In this form they occupy so little space that enough lint, wool, and bandages to dress several cases can be carried about with ease, either in a small surgical bag or even in the pocket. They are slightly more expensive, we believe, than ordinary dressings, but this difference is often outweighed by the saving in surgery space effected by the small size of the packets.

The chief novelty on the stall of Messrs. Brand and Company (Mayfair Works, 74–78, South Lambeth Road) was a preparation named "ferrocarnis," this term being stated to represent a raw meat juice in combination with a solution of an organic salt of iron. The raw meat juice in question is known as Brand's Meat Juice, and is stated to be simply the liquid obtained by pressure from beef. In our experience, a teaspoonful of it in a wineglassful of cold water makes a very stimulating beverage, and if the flat bottles in which it is vended are corked with a scorched pledget of wool, the contents keep good for many days. According to an analysis which we have seen, it contains 30 per cent. of beef extractives and 10 per cent. of mineral matter, chiefly in the form of soluble phosphates and common salt. About the earliest product of this firm, concentrated beef tea, is still vended in its original form—the sausage-like skins, in which it has been familiar to many generations of medical men. The firm's essence of beef is put up in round glass pots, corresponding preparations of chicken, mutton, and veal being vended in the same style. Of the same general character, and specially intended for hospital use, is Brand's beef broth; like the similar preparations of mutton, chicken, and game, it is really a jelly which can be eaten with a spoon or turned into a fluid to be drunk. Also useful at times are the firm's beef tea tabules, since they can be carried about in the pocket, and, with the help of a little hot water, can be converted into beef tea at a moment's notice. We also noted glaxo, a dried milk, which figured very creditably in a number of trials of artificial foods for infants which were undertaken on a large scale at Sheffield some five years ago. Finally may be mentioned the firm's "fever food," a mixture of meat essence, yolk of egg, and fresh cream. It sounds a curious combination, but is certainly palatable, and appears to have been carefully thought out on scientific lines. It is intended more particularly for use in the tropics, but should be useful anywhere.

Only two of its products were shown by the Charles H. Phillips Chemical Company (14, Henrietta Street, Covent Garden), the one being a fluid magnesia, the other a compound syrup of quinine. The former—an odourless, white, palatable fluid with the physical appearance of milk—is known by the registered title, milk of magnesia. It is hydrated oxide of magnesia, each fluid ounce representing, we understand, magnesium hydrate, 24 grains. Under the microscope it is seen to be homogeneous, a fact which supports the firm's statement that their milk of magnesia is not, as are many magnesia preparations, merely a triturated magnesia suspended by mucilaginous or glycerine solutions. Special value is claimed for it as a neutralizer of free acids on the ground that being entirely free from carbonates, it does not give rise to discomforting evolutions of carbonic acid gas. It combines readily with tinctures as well as with iodides and other solutions of salts, and is useful as a suspender of fixed and volatile oils. We have had considerable experience of its use in the diarrhoea of children and in gastric irritability, and consider it an excellent form in which to administer magnesia when indicated in such cases. Owing to its persistent alkalinity and tastelessness, it forms a good mouth wash for use at bedtime, and it may be substituted for lime water in the modification of cow's milk. The special claim made for the firm's compound syrup of phosphomuriate of quinine is that phosphates instead of hypophosphites are used in its preparation, and the muriate of quinine instead of the sulphate. Hence, the preparation is slightly acid, which obviates the risk of the contained strychnine being thrown down, as sometimes happens in the case of hypophosphite syrups. However this may be, it constitutes a convenient method of administering quinine and strychnine in suitable cases, being very stable and not commonly productive of headache.

In addition to instruments for various purposes, Messrs. H. W. Bailey and Son (38, Oxford Street, W.) showed several excellent specimens of hospital and consulting-room furniture. These included the firm's "Perfection" consulting-room couch, a very well thought-out piece of furniture; its top is made in three parts, each being adjustable to a different angle, thus enabling the patient to be placed in desirable position for gynaecological, urological, and other examinations. For laryngoscopy the couch is easily converted into a kind of chair. Several forms of the "Perfection" examination lamp were shown, differing in respect of the degree to which they concentrated light, but being all alike in their general formation; a strong, heavy base bears an electric globe at the end of an arm some 2 ft. in length. This arm is made of coils of some metal which can not only be easily bent, but bears bending unharmed, however often repeated. There is no spring about it, and the arm once bent keeps the lamp steady in whatever position it is placed. It is one of the best examination lamps we have seen. Also well constructed was the registered Oxygen Trolley, which consists of a framework of tubing, borne on four wheels sufficiently low for the apparatus to be placed under the patient's bed. A Wolfe's bottle is interposed between the oxygen cylinder and the tube by which the gas passes to the mouthpiece, and since the latter is supported by an adjustable arm constant attendance by a nurse is unnecessary. An improved form of the firm's apparatus for the preparation of carbonic oxide crayons was also exhibited. The principle of the original has been preserved, but greater compactness secured. Several forms of apparatus for the administration of anaesthetics were shown, among them being one to which the somewhat awkward title "aseptic automatic open mouth inhaler" has been applied. Its special purpose is to avoid irregularity of dosage—to the dangers of which attention has been drawn more than once in our columns. Finally may be mentioned the firm's registered General and Gynaecological Operating Table, which though easily moved when required, is

steady, and besides providing by means of hot water tanks for keeping up the patient's temperature, enables him to be placed conveniently in every accepted operation position.

The various books shown by Messrs. D. APPLETON AND COMPANY (25, Bedford Street, Covent Garden, W.C.) covered fairly well the whole field of medicine and surgery and the subordinate studies. Conspicuous among them was a second edition of *Therapeusis of Internal Diseases*. It is a book in four volumes, or five including the index volume, dealing with prophylaxis and treatment from a medical standpoint; its author is Dr. F. Forchheimer, professor of medicine and clinical medicine at Cincinnati. Another was a volume by Dr. E. Garceau of Boston, dealing in much detail with subjects which receive comparatively little attention in most textbooks—namely tumours in the neighbourhood of the kidneys and ureters, and actinomycotic and hydatid disorders of this organ. In the same connexion may be mentioned a treatise on *Urology*, by Ramon Guiteras, professor of genito-urinary surgery at the New York Post-Graduate Medical School, which is intended for the use of general practitioners, and includes an account of the diseases and injuries of the urinary organs of both sexes. It is in two volumes, containing nearly a thousand illustrations, several of them being in colour. Two volumes of special interest perhaps at the present moment were *Tuberculin in Diagnosis and Treatment*, by Hamman and Wolman; and the *Textbook on Psychotherapy*, by J. J. Walsh, professor of nervous diseases at Fordham University and of physiological psychology at the Cathedral College, New York. A third edition of Professor Whitridge Williams's *Obstetrics* was also shown, and its 950 pages include 666 illustrations in the text, as well as eight coloured plates. Also noted were a new edition of *Medical Gynaecology*, by Professor H. A. Kelly, which may be regarded as an invaluable guide both to general practitioners and gynaecological specialists; the latest edition of Osler's *Principles and Practice of Medicine*; the *Textbook of Bacteriology*, by Hiss and Hans Zinser, the former of New York, the latter of the Leland-Standford University, California; and a sixth edition of Holt's *Diseases of Infancy and Childhood*.

Of the four mineral waters shown by the APOLLINARIS COMPANY (4, Stratford Place, Oxford Street, W.), the most distinctly medicinal was Apenta. This is the natural aperient which long ago won high praise from a good many Continental authorities, and has now established a distinct place of its own in this country. Bottled from springs near Budapest, it depends for its laxative qualities on the sulphates of soda and magnesium, the latter predominating. A second exhibit of a distinctly medical character was one which had as basis Johannis, a sparkling table water drawn from springs near Neidelselter, in Rhenish Prussia. Being of fresh, pleasant taste and sufficiently charged with carbonic acid, it is well adapted for use as an ordinary meal-time beverage; but it also claimed to be specially useful in the sick room, on the ground that it mixes unusually well with milk and wine, and that such salts as it contains are compatible with the requirements of those who suffer from dyspepsia or from gouty diathesis. It is not, however, a highly mineralized water, and to increase its therapeutic activity the proprietors, besides bottling Johannis straight from the springs, also bottle this water under the name of Johannis Lithia, adding in this case to each bottle a small quantity of lithium carbonate. A fourth exhibit was the water from which the firm derives its name, namely, Apollinaris water, a natural mineral water of the earthy alkaline class. It has long been popular, its strong points being the freshness of its flavour and the proportion of natural carbonic acid that it contains. It can be obtained in glass bottles, the larger of which are stated to hold a great deal more than ordinary siphons; and it is also put up in stone bottles which, being supplied with patent stoppers, enable a bottle to be opened and closed without material loss of effervescence in the water. The slight porosity of the material used in making these stone bottles also serves to keep the water cool even in a hot room. Use of these stone bottles makes Apollinaris quite an inexpensive table water.

The appliances shown by the DONGOR HYGIENIC COMPANY (New Steine Mansions, Brighton) were all designed for the use of Dongor, the name applied to a cleanly smelling aromatic fluid, which is stated to contain a considerable proportion of formaldehyde. One of them in point of size and general shape resembles the syringes often used in gardening work, but at its extremity had a bulb capable of containing about half a pint of fluid; inside this bulb were tubes of the kind familiar in nasal and throat sprays. On driving home the piston of this syringe a very fine cloud of Dongor fluid is produced. There were also some neat little clips for attachment to telephones, each of which carried a pad of absorbent paper perforated with holes, and some metal pots looking very much like powder-puff cases for the reception of artificial teeth when not in use during hours of sleep. Inside their caps was an arrangement by which a pad soaked in Dongor could be held in place and the dentures exposed to the fragrant humidity given off by such pad. There are certainly attractive points both about the syringes which have been mentioned and these receptacles for artificial teeth.

Though the DOWSING RADIANT HEAT COMPANY (105, Great Portland Street, W.) now manufactures many different kinds of apparatus for the therapeutic use of electricity, it showed at Brighton only its radiant heat bed, a kind of solarium for the treatment of an arm or leg, and the Barker vibrator. The bed, which is hired out to medical institutions, has undergone a good many changes in appearance during the last ten years, but there has been no alteration of principle. In all the modifications the object has been to increase the ease and comfort with which a patient can be kept exposed to the light and heat emanating from a number of electric lamps for periods of thirty and forty minutes, and to perfect the control exercised by the attendant over the amount of current which is allowed to pass through these lamps. In this year's pattern these various objects seem to be attained very efficiently. The patient undergoes his treatment in an easy position and there is no danger of his accidentally coming into contact with a live wire, while by turning one or other of the various switches which are all in a row on the footboard, the attendant can regulate the amount and incidence of the light rays to a nicety. Equally well constructed seemed the apparatus for immersing arm or leg in a light bath. In this, too, the whole current could be lowered or one or more lamps cut out of the current. Decidedly attractive also is the Barker vibrator, a very easily used machine, furnished with applicators made for the most part of rubber, sometimes stiff, sometimes flexible. It works almost noiselessly whether a direct or alternating current is in use, and permits of great variation in the rapidity and strength of the vibration. In addition to issuing licences to various institutions for the use of its radiant heat bed the firm maintains a nursing home in Dorset Square where patients can be sent for treatment under the supervision of their own medical advisers.

The stall of JEYES' SANITARY COMPOUND COMPANY (64, Cannon Street, London, E.C.) was almost entirely taken up by preparations containing Cyllin, now a well-known antiseptic, which originated, it is stated, in a suggestion thrown out by Sir Lauder Brunton in his Croonian Lecture on the relation between chemical structure and physiological action. The special claim made for it is that, in spite of its great bactericidal power, its toxic properties are much lower than those of carbolic acid. As it lends itself readily to a great number of different purposes, it was shown in numerous forms—for example, as Cyllin-medical, which is stated to have a Rideal-Walker coefficient of 28 in the case of *B. typhosus*; as a Cyllin liquid soap for use before operating; as Cyllin sanitary powder, guaranteed to have three times the bactericidal strength of the 15 per cent. carbolic acid powder commonly sold; and as an ordinary household disinfectant. It was also shown as Cyllin tooth-powder, in pastilles for use in sore throats, as an inhalant, and in perles for internal administration. Other forms in which it appeared were as a surgical soap, guaranteed, like the liquid soap, to be equal in power to 50 per cent. pure carbolic acid; as a grease-free lubricant for use during labour; as combined with lanolin for use in eczema, pruritus, and other skin disorders; as a dusting powder; and as syrup fo

administration to infants in putrefactive intestinal conditions. There was also an array of lint, wool, and gauze impregnated with cyllin for dressing purposes, and cyllinettes—ordinary sanitary towels—containing 5 per cent. cyllin. Samples of all these products and literature relating to their use and efficacy can be obtained on application by any medical man.

Although the firm of G. H. Zeal (83, Turnmill Street, E.C.) conducts a wholesale business, its name has become known to medical practitioners owing to the fact that it has put in an appearance at all annual exhibitions of late years. It manufactures thermometers of all kinds, but pays special attention to those intended for bedside use. These are of many forms; specially attractive is that known as the Repello. This is so constructed that the trouble and risk of shaking down the mercury into the bulb is eliminated. At the end opposite to the bulb there is a second small flattened bulb containing mercury and having a wall of elastic glass. To drive down the ordinary column of mercury into the bulb all that is necessary is to press this upper bulb slightly between the finger and thumb. This thermometer looks fragile, but experience shows that it is not more easily broken than an ordinary thermometer. Different patterns of it are constructed to return the true temperature at rates of time varying from 30 seconds to 2 minutes. Another good variety is the aseptic clinical thermometer, which is designed to serve a double object—namely, to prevent the patient knowing what is the temperature observed and to secure asepticity of the tube. This is done by placing the scale on an exterior glass case into which the thermometer itself fits like a stopper, and there lies in any antiseptic fluid preferred. A third variety is intended for domestic use; in this, "the family thermometer," temperatures above 99° are marked in red, and further indications of the condition of the patient and of the need for careful watching or of at once summoning medical attendance are supplied by the words "fever" and "high fever" against the points 101° and 104° respectively. Corresponding indications are supplied against the lower figures. All the thermometers of this firm, whatever their price, are made, we are informed, of what is known as normal glass, with the object of rendering them free from a defect not uncommon in the cheaper kinds of thermometer. The contraction of ordinary glass does not cease entirely when solidity is reached after fusion, and owing to this fact temperature scales tend to become inaccurate.

The central feature of the exhibit of Claudius Ash, Sons, and Co., Ltd. (5 to 12, Broad Street, Golden Square), was an operating chair which presented several points of interest. One was the ease with which different elevations of the seat and of the foot rest could be obtained, and a second the readiness with which the angle of the back could be altered from nearly vertical to a little below horizontal. Thanks to this a patient can rapidly be placed in such a position that his head is dependent. A third good feature was that from the angle described any upward angle of the back could be reached and secured for any period desired without the turning of any screws or levers. In the attainment of none of these positions was there any sense of friction, the explanation being that the whole chair works through an oil pump. The mechanism of this chair is, in short, of the same order as that used in hydraulic lifts, and for this reason its general name is the "pump chair," this title being modified according to the variety of head-rest selected. Another exhibit was a sterilizer called the Monarch, an appliance of thick clear glass, with a heavy aluminium cover and base. It is filled with water, which is rapidly brought to a boiling point by the insertion of an electric bulb. It is a thoroughly practical appliance, and enables instruments to be sterilized in full view of the patient, thus assuring him that everything used in his mouth is absolutely cleanly. A well-devised and compact instrument cabinet was another exhibit, while the array of different patterns of drills, extractors, and gags, showed that dental surgeons are at least as fertile in devising special instruments as their colleagues in general surgery. Among several well-designed appliances for the administration of anaesthetics we noted in particular one entitled the No. 4 Nasal Inhaler. It is provided with a Spurge bag, which secures a constant pressure of gas, while the nose-piece allows the patient to expire as well as inspire through the nose, and is self-retaining. All parts are easily cleaned, and the anaesthetist has full control of the proportions of gas and air that are used. Provision is also made for administering the gas through the mouth in the case of patients who cannot breathe freely through the nose. This No. 4 nasal inhaler will certainly repay examination.

The Friedrichshall springs at Saxe Meiningen in Germany are represented in this country by C. Oppel and Co. (10 and 12, Milton Street, London, E.C.). The waters of this spring were among the first to be used away from the locality in which they arise, and under the name of Friedrichshall they must now have been employed in this country for close upon a hundred years. Friedrichshall, indeed, so long since attained a position of a classic among remedies of its kind that it would hardly be necessary to draw attention to it but for the circumstance that in the crush of modern drugs there is a tendency to overlook old and well-tried therapeutic friends, among which Friedrichshall must certainly be placed. Sir Henry Thompson, many years ago, said of this water: "One of the characteristics of this water is that the longer it is taken the smaller is the quantity necessary to effect the purposes. It leaves the patient less constipated after discontinuing it than he was before and may be taken habitually without lowering the system. As an occasional aperient and corrector of digestion I know of nothing at all equal to Friedrichshall." The composition of the water is very constant; the proportion of the contained salts per 1,000 parts being as follows: Magnesium sulphate, 6.2; sodium sulphate, 5.2; sodium chloride, 7.9; magnesium chloride, 4.9. There are also present small quantities of lime and potash salts and of magnesium bromide. It is entirely free from suspended matter. In its action it is not drastic, and may usually be taken in ordinary doses for prolonged periods without setting up dyspepsia. Its taste is much on a par with practically all natural mineral waters which have any claim to possess medicinal properties of the same character. Some persons who dislike its flavour find it comparatively easy to take when milk is added.

Ward furniture of all kinds is made by Messrs. J. Nesbit and Co. (Floodgate Street, Birmingham), but practically they confined their exhibit to bedsteads for certain special classes of patients. Among them was a wheeling-out or balcony bedstead, which presented many good points. Resembling in its general appearance an ordinary bedstead, it had the legs at the head fitted with small rubber-tyred wheels instead of castors; the legs at the foot ended in rubber-shod pads, and between them was a fifth leg ending in a wheel. When it is desired to move the bed its end is lifted about an inch from the ground, and this action automatically releases a bar which extends the third wheel-bearing foot about half an inch downwards. The bed is then freely movable in any direction by a mere touch. When this third or central wheel is not in use the bed is immovable. A very large number of these wheeling-out or balcony beds, we were informed, are now in use in different parts of the world, and owing to the simplicity and completeness with which they meet their object the fact is not surprising. Two beds for children were also shown, one of them—the "anti-accident children's cot"—presenting several good points. Apart from being entirely free from projections to catch clothing or scratch hands, either of its two sides could be instantly lowered to the ground, and as easily replaced and there locked. It can be obtained fitted with the wheeling-out device. The other was a swinging cradle for use in maternity wards. It was suspended between two uprights connected by a horizontal bar, and being made of zinc basket work could very easily be kept absolutely clean. Also shown was an appliance for raising the head or the foot of a bedstead, to which we drew attention last year, known as the "bed-inclining stand." It is a triangular pedestal some 2 ft. long, built of strong enamelled iron tubing, and bears on its front surface three pairs of semicircular steps at different heights. The foot or head of the bed having been raised is placed on one of these pairs of steps, and remains firmly fixed at the level attained until intentionally lowered or further raised. It is a simple appliance, being much safer to use than ordinary wooden blocks, and the alternative heights vary from a few inches to a foot and a half. In all mattresses antisagging wire webbing is used.

THE MEDICAL CLAUSES OF THE NATIONAL INSURANCE ACT, 1913.

A full account has been given in the Supplement from week to week of the progress of the National Insurance Act (1911) Amendment Bill, now the National Insurance Act, 1913, but a general survey of the changes in and additions made to the principal Act so far as they affect the medical profession may be found useful. In addition, valuable lessons may be drawn from a consideration not only of the clauses which were passed but of those amendments which were defeated or withdrawn, and from the impressions gained by listening to the various debates. It may be said at once that during the debates the medical profession was on the defensive, the energies of those who represented it having to be directed mainly to repelling dangerous attacks on the advantages gained with such difficulty in the past two years. The attempts to secure amendments put forward by the Association were, with small exceptions, defeated, or perforce withdrawn, in spite of the strenuous exertions of Sir Philip Magnus, who took charge of the amendments and was loyally backed by Sir Henry Craik.

It is well that the leaders of the Association have never been under any delusion as to the help the profession might expect from any political party when questions arose in which the interests of the profession conflicted with party interests. If such delusion had existed the events in the Grand Committee and in the House during the discussion of the bill on Report would have dispelled it. Motions to which the strongest possible exception was taken by the Association were moved by members of the Unionist party and strenuously resisted by Liberals. The Unionist party in the House with few exceptions went into the lobby against the clause of the bill which redeemed the promise made by the Chancellor of the Exchequer to the Association that the voluntary contributor whose total income exceeds £160 per annum should be excluded from medical benefit. And there were combinations of Unionists, Labour members, and Scottish Liberals on points which if carried could only have weakened the position of the profession as a whole. To anyone who still needs convincing that the profession can depend on no political party, but must rely only on the inherent justice and reasonableness of its cause, the reading of the debates during the report stage in the House is strongly recommended.

Medical Treatment of the Aged and Disabled.

Clauses 1 (2) and 10 (2) of the 1913 Act taken together seem to dispose of the difficulty which has arisen in regard to the aged and disabled members of friendly societies referred to in Section 15 (2) (*e*) of the 1911 Act. The additional contributions of the Government are made applicable to members of all approved societies (not only friendly societies as in the original Act). Though no amendment on this point was put forward by the Association, there is no doubt that its persistence in its determination to remain faithful to the spirit and letter of its bargain with the friendly societies, and to insist on the other parties also fulfilling their obligation, has had its effect. Persons who are 65 and over at the time of entering into insurance are not entitled to medical benefit after attaining the age of 70, unless the number of weekly contributions paid exceeds twenty-six (Clause 3 (2)). This proviso is intended to prevent aged persons getting medical benefit for the rest of their lives at the expense of the fund by merely becoming employed for a week or two just previous to reaching the age of 70.

Medical Benefit for Exempted Persons.

The new Act provides (Section 9) that exempted persons on whose behalf contributions are made by their employers, though they pay nothing themselves, shall in future be entitled to medical benefit. The Association put forward an amendment which was accepted, though not in exactly the same words, by Mr. Masterman, providing that those exempted persons whose total income from all sources exceeds £160 per annum shall be required to make their own arrangements. In Ireland, where medical benefit at present does not apply, these persons are to have some other benefit prescribed by the Irish Commissioners.

Voluntary Contributors with Income of over £160 per Annum.

Clause 10 redeems the promise made by the Chancellor to the Association. It deprives voluntary contributors with an income from all sources of over £160 per annum of the right to medical benefit which they enjoyed under the 1911 Act if they had been insured persons for five years. The clause was stoutly opposed, both in committee and in the report stage, by a combination of Unionists and Labour members and as stoutly defended by the Government and the Irish members, with whom voted Mr. H. W. Forster, Mr. G. Locker-Lampson, Mr. Worthington Evans, Sir P. Magnus, and Sir Henry Craik. The matter was pressed to a division on both occasions. The impression given by the debate was that had the Chancellor of the Exchequer not made the matter a question of a vote of confidence in the Government, the clause would probably have been defeated.

Alternative Arrangements for Panel System.

This new section should be read carefully (Section 11). Shortly, it may be said to give authority to the Commissioners to make any arrangements, outside the panel system, in any area or part of an area in which the Commissioners are satisfied that the insured persons, or any considerable proportion of them, are not receiving satisfactory treatment under the panel system. Mr. Ramsay Macdonald, in moving the clause, stated that it was not so much for use as to put the Insurance Committees in a better position for bargaining with the doctors, and to protect the insured. Mr. Masterman was careful to explain that the Government had no intention of using it so long as the panel system works satisfactorily, but quoted the state of the East End of London as justification for the provision of such an alternative. There, he said, though nearly all the doctors are on the panel, the district was under-doctored, and it might be necessary to attract doctors to that district by offering them some sort of support. Mr. Harry Lawson also spoke very strongly of the inadequacy of the East End panel. There is no doubt that whatever the intentions of the Government may be, the Labour Party look upon this clause as the thin edge of the wedge of a whole-time service. On many occasions during the debate members of that party showed their anxiety for the establishment of a whole-time service. To any one with experience of working-class practice who knows the tenacity with which the artisan and his family cling to the doctor of their choice, often making considerable sacrifices to retain him, it is astonishing that any party which claims to speak for the working classes can put such a system forward as an improvement on the choice which the working man now has in the panels of most industrial areas, and more especially on the free choice which will prevail where Insurance Committees do their duty under Section 15 (3) of the 1911 Act. The fact of the matter is that, outside a small body of enthusiasts for a State service, the demand for a whole-time service is the demand of the officials of certain approved societies, who would find such a system much easier to work from an administrative point of view. The attitude of the Labour Party is, however, unmistakable, and should be noted by all those who prefer, with all its faults, the panel system to a whole-time service. That is evidently the choice the profession has before it for the future.

Maternity Benefit.

Maternity benefit now becomes the property of the mother (Section 14). This may raise some interesting questions as to liability for the doctor's or midwife's fee. Section 19 of the 1911 Act places upon the husband, *where maternity benefit is given or paid to the husband*, the duty, under penalty, of making adequate provision for his wife, but under Section 14 of the new Act the payment is to be made to the mother of the child, or if made to her husband he is to pay it to her. That part of Section 18 of the 1911 Act is repealed which provided for the recovery by the doctor of a prescribed fee from the maternity benefit when summoned by a midwife. This was agreed to practically without opposition, Mr. Masterman explaining that he thought it was a mistake that the payment of the doctor in these cases had ever been mixed up with the Insurance Act. He said the arrangement had been unpopular with everyone con-

cerned—doctors, midwives, insured persons, and approved societies. It is true that strong objection has been made by the profession to the maximum prescribed fee (15s.), and this decision of Parliament makes it imperative that the local authorities should be made responsible for such fees, as is already the case in some areas, and was recommended a few years ago by a Departmental Committee. So far as the medical man is concerned, except in the areas just mentioned, he is now in the old position of having to look to the woman or her husband for the fee, his chances of recovering it being, however, improved by the fact that insured married women now have £3 more than they had before the Act came into force, while uninsured wives of insured men have 30s. more, from which they may reasonably be expected to pay for the services rendered to them at the time of their need.

Section 14 (3) incidentally gets rid of a small grievance which was caused by insured women who had been attended by midwives sending for their panel doctors in order to get a certificate which would enable them to claim sickness benefit in addition to maternity benefit. The new subsection provides that a married insured woman shall have, in lieu of sickness benefit, a special maternity benefit equivalent to four weeks' sickness benefit, on condition that she abstains from remunerative work for four weeks after her confinement.

New Panel Committee.

Section 32 of the Act sets up a new committee, which, for convenience, we may call the Panel Committee, inasmuch as it is to be elected only by practitioners who have entered into agreements with the Insurance Committee for the attendance of insured persons. This section was moved by Dr. Addison, who dwelt on the necessity for such a committee for dealing with certain things which under the Regulations are to be the subject of consultation between the Insurance Committee and the practitioners on the panel. So far as we have been able to ascertain, these matters are only three—namely, (1) distribution of unallotted patients (Regulation 17 (3)); (2) the amount to be paid to practitioners in advance (Regulation 42 (4)); (3) the accounts of practitioners on panel (Regulation 42 (2)). As was pointed out to Dr. Addison, there has been no difficulty about this in most areas, the Local Medical Committee appointing a subcommittee sometimes of panel practitioners, for these purposes. But the section goes on to give the Committee powers to "perform such duties and exercise such powers as may be determined by the Insurance Commissioners," and this addition naturally gives rise to a strong suspicion that it is intended to use the Panel Committee as a means of insidiously undermining the power and status of the Local Medical Committee. Mr. Worthington-Evans, supported by Mr. H. W. Forster and Sir P. Magnus, tried on the report stage to get the words last quoted eliminated, but the Government would not consent, and the matter was not pressed to a division. Sir P. Magnus, seconded by Mr. Goldsmith, moved to insert words allowing the panel practitioners to appoint the Local Medical Committee as the Panel Committee, but nobody rising to continue the debate, the matter fell to the ground. It is, however, within the power of the panel practitioners to elect the Local Medical Committee as their committee, as the Panel Committee, though elected *by* panel practitioners, need not necessarily be composed entirely of such practitioners. It is to be hoped that this course will be followed in every case. There is hardly a member of the profession whose interests are not affected more or less directly by the Insurance Act. The Local Medical Committee is a statutory committee elected by the whole profession in each area, and it behoves the profession to see that nothing is done to undermine the prestige of that committee. When the time comes we trust that the panel practitioners will nominate the Local Medical Committee as their Panel Committee, and the Local Medical Committee can then quite easily refer small matters of detail which only affect those on the panel to a subcommittee composed, if thought desirable, of panel practitioners only.

But there is a second part of Section 32 which is of equal importance, at any rate to London. It provides that wherever no Local Medical Committee has been recognized by the Commissioners the above-described Panel Committee may be recognized as the Local Medical Committee for that area. As it first appeared no time limit was inserted, and the section would have come into force when the Act became law; but, in deference to representations made to him, Dr. Addison inserted a period of six months after the passing of the Act, after which time this part of the clause will become operative if no Local Medical Committee has been approved in the meantime. In response to a request from Mr. Masterman, this part of the section was made optional instead of compulsory. The position now is that in London and any other place where a Local Medical Committee has not yet been set up, unless this be done before the middle of February, 1914, a committee, elected by practitioners on the panel only, *may* be recognized as the Local Medical Committee. It seems most important that the London profession should take steps with as little delay as possible to prevent this being done. A committee elected by the practitioners on the panel might be a good and representative committee, but it could never have the weight and status of a committee elected by the whole London profession.

Expenses of Panel Committee and of Pharmaceutical Committee.

Section 33 sets up a committee elected by persons who have entered into contract with the Insurance Committee to supply drugs and appliances, and provides that it shall be consulted on matters pharmaceutical, as the Local Medical Committee is consulted on matters connected with medical benefit. Subsection (2) gives the Insurance Committee the right, where authorized by the Insurance Commissioners, to allow for the administrative expenses of the Panel and Pharmaceutical Committees, if requested by these committees, a deduction from the moneys available from medical benefit (presumably out of the "floating sixpence") of a sum not exceeding a penny in respect of each insured person entitled to medical treatment from the doctors on the panel. It is to be noted that the money is not available for the expenses of the Local Medical Committee.

Power to take Evidence on Oath.

Section 38 allows the Insurance Commissioners to examine witnesses on oath in any inquiry which the Commissioners are empowered to hold. Dr. Addison, in moving this section, specially referred to the inquiries relating to doctors which might result in practitioners being deprived of their practice under the Act, and emphasized the necessity of evidence which might have this effect being taken under the most solemn conditions.

Amendments which were not Carried.

(A) *Amendments put forward by the Association;*
(B) *Mr. G. Locker-Lampson's Amendment.*

On the last day but one of the Committee discussion Mr. Masterman stated that if the bill were to be secured in the time at the disposal of the Government, it would be necessary that some arrangement should be arrived at for greater dispatch of business, and promised to consult with the various parties, and to agree to put his name to those amendments and new clauses which the Government were prepared to accept. After considerable discussion this course was accepted. Mr. Masterman pointedly referred to the amendments of the Association, which were down in the name of Sir Philip Magnus, and said that as they reopened questions which had recently been settled so far as the Government were concerned, none of them could be accepted. Sir P. Magnus, Dr. A. Lynch and Sir Henry Craik thereupon urged that if that were to be the case it was only fair that amendments which would worsen the position of the doctors should also disappear from the Order Paper, and Mr. Masterman accepted that view, Sir P. Magnus reserving to himself the right to move such of his amendments as he thought fit on the Report Stage. In pursuance of this arrangement the amendments of the Association, and that of Mr. Locker-Lampson allowing medical benefit in certain cases to be administered by the approved societies, disappeared from the Order Paper. Mr. Locker-Lampson, who stated that his new clause was honestly intended as a fair compromise between the societies and the doctors, was informed by the representatives of the Association that on this point there could be no compromise, and he

reluctantly accepted that position. There is no doubt that the action taken by the Representative Meeting, and by medical men all over the country, in approaching Members of Parliament on this subject, had created a very great impression, and the amendment, if it had been persisted in, would have been lost. Dr. Addison was particularly active in interviewing members of the Committee in opposition to the amendment.

(c) "*Harmsworth Amendment Extension.*"

A most dangerous new clause, which was introduced by the Labour Party, also disappeared in consequence of the arrangement above described, but it is an open secret that the Labour members were only persuaded to drop it by the determined opposition of Dr. Addison. The new clause, if carried, and it had been promised powerful support, would have enabled the Commissioners to approve not only those medical aid institutions which existed at the time of the passing of the 1911 Act, and which were protected by the Harmsworth Amendment (Section 15 (4)), but also any new institutions of the kind. It is well that the profession should realize the possibility of great pressure being put on the Government in regard to these institutions, and a note which appeared in the *Times* of August 11th in relation to the by-election at Chesterfield is very significant. It says: "It is not unlikely that the Insurance Act will have its effect on Mr. Kenyon [the Liberal-Labour candidate]. The Chesterfield Medical Association alone is 4,000 strong, and many of its members, Liberal in politics, are incensed at the regulations of the Insurance Commissioners." The profession must be prepared for developments in regard to this question, which must be resisted with all the force at its command. Any extension of recognition of these institutions would be a breach of the understanding with the profession, which has never ceased to express its conviction that these institutions embody the worst vices of the contract system, and are unfit to be recognized as an integral part of the working of a national system of medical insurance.

(d) *Dr. Esmond's Amendment re Election of Medical Representatives on Insurance Committees.*

Dr. Esmond had an amendment on the Order Paper of the Committee which sought to provide that the elected representatives of the medical profession on Insurance Committees should be elected only by practitioners serving on the panel. The amendment was withdrawn in consequence of the appeal made by Mr. Masterman referred to above, and was not put down again on Report.

(e) *Free Choice of Doctor Amendment.*

Mr. Locker-Lampson brought forward an amendment to Clause 15 (3) of the 1911 Act, which if carried would have compelled any Insurance Committee, on being satisfied that an insured person wished to make his own arrangements with a doctor not on the panel, and understood the consequences of his action, to allow him to make his own arrangements. Mr. Locker-Lampson claimed that this amendment had the approval of the British Medical Association, but to those who have followed this controversy and remember the anxious care which was taken by the Representatives at Brighton to formulate an amendment which would allow of effective free choice while carefully guarding against the known risks, it will be obvious that the passing of Mr. Locker-Lampson's amendment would probably have had most serious consequences for the profession. There was no mention of any safeguards in it, and nothing to prevent wholesale contracting out, with its attendant evils. Indeed, Mr. Worthington Evans, in supporting it, expressly stated that a person allowed to contract out must, of course, have the choice of any alternative system he preferred. Mr. Locker-Lampson also stated that his amendment had the support of a Joint Committee representing all kinds of approved societies, and further stated that his abandoned amendment contained a contracting-out clause which would probably have the same effect as this amendment. The amendment was supported in a division by the Unionist members as a body, and by one Liberal (Mr. Jonathan Samuel, Stockton-on-Tees), and opposed by the Liberals, Labour Party, and Irish Nationalists. The discussion of the question of free choice on this amendment and the result of the division rendered it futile, in Sir P. Magnus's opinion, to introduce the carefully framed and safeguarded amendment of the Association on the subject.

(f) *Amendment Proposing to Widen Scope of Medical Benefit.*

Mr. Charles Bathurst, on the Report stage, moved an amendment having for its object the widening of the scope of medical benefit. He strongly objected to the present limitation of the services which are to be rendered to the insured person, and urged that everything should be provided which did not require the services of a specialist or consultant. The amendment was supported by Mr. Goulding, Mr. Rupert Gwynne (Unionists), and by Mr. Hogge and Mr. Pringle (Scottish Liberals), but opposed by Mr. Masterman chiefly on the ground that the new definition would be more confusing and indefinite than the present one. At the request of Sir P. Magnus, Mr. Bathurst withdrew the amendment.

(g) *Amendment allowing Insured Persons to claim Attendance anywhere without giving notice of Removal.*

Mr. Bathurst moved an amendment to the above effect, and urged that the cost should be shared by all the Insurance Committees in proportion to the total number of insured persons resident in their areas. This was seconded by Mr. J. H. Thomas (Labour), and opposed by the Government on the ground that the amendment was unnecessary, as all insured persons already had a right to attendance wherever they went, and that the proposed method of financial adjustment was unfair. The amendment was not pressed to a division, but the discussion showed that all parties were agreed that insured persons should have the right to attendance when they removed from their own areas, if for only a short time, and also that the Government had not the least intention of providing any more money for the purpose.

(h) *Provision of Services of a Second Practitioner.*

Sir Philip Magnus moved the amendment of the Association, which would have had the effect of denying the right of any insured person to claim, as an insured person, the services of any practitioner other than his own panel doctor. This, if carried, would have removed the grievance felt by the panel doctor who is at present bound to provide, in certain cases, the services of an anaesthetist at his own expense. Mr. Masterman evaded the issue by stating that there were only two alternatives, (1) provision of more money by the Government, which was impossible; (2) arrangement by which the doctors could set aside a small special fund out of the money payable to them; this latter he suggested as the proper course. He entirely ignored the third course, which is the one the Association has suggested, namely, that the insured person should find the money. No one rising to continue the debate, the amendment was negatived without a division.

(i) *Diseases Due to Misconduct.*

Sir Philip Magnus moved the Association's amendment excluding persons suffering from diseases due to misconduct (other than venereal diseases) from the right to attendance as part of medical benefit. Mr. Masterman refused the concession point blank, and as no one rose to support Sir Philip Magnus this amendment was also negatived without a division.

(j) *Medical Representation on Seamen's Society Committee of Management.*

Sir Philip Magnus moved the amendment of the Association asking for representation of the profession on this committee as being analogous to the Insurance Committee. Dr. Macnamara, in asking Sir Philip to withdraw the amendment, said it would disturb the balance of the three interests concerned in the management, and that, so far as medical benefit was concerned, he "was advised that satisfactory arrangements have been made between the society and the profession." This statement was, of course, either made in ignorance or was a mere piece of bluff, in either case being inexcusable. If there is good reason for representation of the profession on the Insurance Committee there is just the same reason for its representation on this committee, and no arrangement for such representation is possible without an amendment of the 1911 Act.

Conclusion.

The general position may perhaps best be summed up by saying that if the profession has gained little, the most dangerous attacks have been repelled, thanks to various members of the House, not confined to one side, among whom Sir Philip Magnus and Sir Henry Craik deserve the special thanks of the Association. The debates have had the effect of giving warning to the profession of the nature of the attacks which the profession may shortly expect, and the sources from which they may be expected. Forewarned is forearmed.

MEDICAL SECTIONS.

So much of the Act has little or no direct bearing on medical matters that it does not seem necessary to go to the expense in money and space which printing it in full would entail, but the sections dealing with medical interests are as follows:

1. *Provision of Additional Money by Parliament.*—(2) Any additional sums so contributed for the purpose of medical benefit shall be applicable towards the payment of medical attendance and treatment of members of societies who are not insured persons mentioned in paragraph (*e*) of subsection (2) of section fifteen of the principal Act as amended by this Act in like manner and to the like extent as if such medical attendance and treatment were medical benefit.

3. *Abolition of Reduction of Benefits in Certain Classes.*—(2) Part I of the principal Act shall apply to persons who at the commencement of the principal Act were of the age of sixty-five or upwards and under the age of seventy, and to persons who have since the commencement of the principal Act attained or may hereafter attain the age of sixty-five in like manner as it applies to other persons, and accordingly subsection (4) of section one, paragraph (*a*) of subsection (4) of section four, and section forty-nine of the principal Act shall be repealed:

Provided that a person who is of the age of sixty-five or upwards at the time of entering into insurance shall not be entitled to medical benefit after he attains the age of seventy unless the number of weekly contributions paid by or in respect of him exceeds twenty-six.

9. *Benefits of Exempted Persons.*—(1) Regulations made by the Insurance Commissioners under subsection (4) of section four of the principal Act shall provide for applying the contributions paid in respect of persons who hold certificates of exemption in providing medical benefit and sanatorium benefit for such persons and the cost of the administration of such benefits, and such persons shall, if they fulfil such conditions as may be imposed by those regulations, become entitled to medical benefit and sanatorium benefit as if they were members of approved societies, and the provisions of the principal Act and this Act with respect to the payment and administration of those benefits (including those relating to the application of moneys provided by Parliament towards the cost of those benefits and the expenses of the administration thereof) shall, subject to any modifications, adaptations, and exceptions contained in the regulations, apply accordingly.

Provided that—

(*a*) The conditions so imposed shall not require payment of upwards of twenty-six weekly contributions before the person becomes entitled to such benefits;

(*b*) Where the total income from all sources of any such person exceeds one hundred and sixty pounds a year, he shall be required to make his own arrangements for receiving medical attendance and treatment, and Subsection (3) of Section fifteen of the principal Act shall apply accordingly.

(2) This section shall apply to persons in Ireland with this modification, that the benefits to be provided shall be such as may be specified in a scheme framed by the Irish Insurance Commissioners, but the sum to be contributed out of moneys provided by Parliament towards the cost of those benefits and the administration thereof shall be the same as if the benefits were benefits to insured persons.

10. *Medical Benefit.*—(1) No voluntary contributor whose total income from all sources exceeds one hundred and sixty pounds a year shall be entitled to receive medical benefit, but in that case the weekly contribution which would otherwise be payable by him shall be reduced by one penny.

(2) Paragraph (*e*) of subsection (2) of section fifteen of the principal Act shall extend to members of societies other than such friendly societies as are mentioned in that paragraph who were at the date of the passing of the principal Act entitled as such members to medical attendance and treatment in like manner and subject to the like conditions as it applies to members of such friendly societies.

11. *Alternative Arrangements for the Panel System.*—If the Insurance Commissioners are satisfied that the insured persons or any considerable proportion of them within an area, or part of an area, are not receiving satisfactory medical treatment under the panel system, the Commissioners may authorize the insurance committee to make, or may themselves make, such other arrangements as will secure to insured persons within the area, or part, such better medical service as is practicable having regard to the funds available for the purpose, or arrangements whereunder insured persons within the area, or part of the area, may be required to make their own arrangements for receiving medical attendance and treatment, including medicines and appliances, and whereunder the insurance committee or the Insurance Commissioners undertake to pay the cost of such medical attendance and treatment upon such scale as they may determine with the approval of the Commissioners so calculated that the medical attendance and treatment so secured shall be of a quality not inferior to that provided under the panel system.

14. *Maternity Benefit.*—(1) Maternity benefit shall in every case be the mother's benefit, but where the benefit is payable in respect of the husband's insurance, the wife's receipt, or his receipt if authorized by her, on her behalf shall be a sufficient discharge to the society or committee, and, where the benefit is paid to the husband, he shall pay it to the wife, and in subsection (1) of section eighteen of the principal Act for the words "treated as a benefit for her husband, and shall be administered in cash or otherwise by the approved society of which he is a member" there shall be substituted the words "administered in the interests of the mother and child in cash or otherwise by the approved society of which the husband is a member."

(3) Where a woman confined of a child is herself an insured person and is a married woman or, if the child is a posthumous child, a widow, she shall, in lieu of any sickness or disablement benefit to which she may be entitled under subsection (6) of section eight of the principal Act, be entitled to receive a maternity benefit from the society of which she is a member or the insurance committee, as the case may be, in addition to any maternity benefit to which she may be otherwise entitled in respect of her husband's or her own insurance, and every approved society and insurance committee shall make rules to the satisfaction of the Insurance Commissioners requiring any woman in respect of whom any such sum is payable in respect of her own insurance to abstain from remunerative work during a period of four weeks after her confinement.

(4) So much of subsection (1) of section eighteen of the principal Act as provides that if a duly-qualified medical practitioner is summoned in pursuance of the rules made under the Midwives Act, 1902, the prescribed fee shall, subject to regulations made by the Insurance Commissioners, be recoverable as part of the maternity benefit, shall cease to have effect.

31. *Expenses of Insurance Committees.*—(1) In addition to any allowances for travelling expenses which may be paid under subsection (2) of section sixty-one of the principal Act an insurance committee may pay to the members of the committee subsistence allowance and compensation for loss of remunerative time in accordance with a scheme prepared by the committee and approved by the Insurance Commissioners, and there shall be paid out of moneys provided by Parliament towards the expenses of an insurance committee under such scheme, such sum (if any) as the Insurance Commissioners, with the consent of the Treasury, may determine so, however, that the aggregate amount so paid shall not exceed thirty thousand pounds in any one year.

(2) After the words "Provided that, if the special circumstance of any county" in subsection (2) of section sixty-one of the principal Act, there shall be added the words "or county borough."

32. *Consultation with Practitioners who have entered into Agreements with Insurance Committees.*—Where it is made the duty of an insurance committee under the provisions of this Act or of the principal Act, or of regulations made thereunder, to ascertain, in respect of any matter affecting the administration of medical benefit in the area, the opinions and wishes of the medical practitioners who have entered into agreements with the insurance committee for the attendance and treatment of insured persons whose medical benefit is administered by the committee, they shall do so through a committee appointed by such practitioners in accordance with regulations made by the Insurance Commissioners, and such committee shall perform such duties and shall exercise such powers as may be determined by the Insurance Commissioners, and in any area in which within six months of the time of the passing of this Act no local medical committee has been recognized under the provisions of section sixty-two of the principal Act, a committee elected in the manner herein-before provided may be recognized as the local medical committee for that area.

33. *Local Pharmaceutical Committee.*—(1) In every county or county borough there shall be elected in accordance with regulations made by the Insurance Commissioners, by the persons, firms, and bodies corporate, who have agreed to supply drugs, medicines, and appliances to insured persons whose medical benefit is administered by the committee, a local committee, and it shall, subject to regulations made by the Insurance Commissioners, be consulted by the insurance committee on all general questions affecting the supply of drugs, medicines, and appliances to insured persons, and shall perform such duties and exercise such powers as may be determined by the Insurance Commissioners.

(2) The insurance committee, if requested so to do by any committee elected by the medical practitioners who have entered into agreement with the insurance committee for the attendance and treatment of insured persons whose benefit is administered by the insurance committee, and if requested by the local committee elected in manner provided by the last foregoing subsection, may be authorized by the Insurance Commissioners out of moneys available for the provision of medical benefit within the area to allot to and for the administrative expenses of each of the said committees, respectively, such a sum not exceeding one penny in all in respect of each insured person entitled to obtain medical attendance and treatment from the practitioners who have entered into agreement with the insurance committee as may be determined by the insurance committee with the consent of the Commissioners.

38. *Power to take Evidence on Oath.*—Where under any provision of the principal Act or any regulations made thereunder the Insurance Commissioners are required or authorized to hold, or to appoint any committee or person to hold an inquiry, the witnesses shall, if the Commissioners think fit, or if any one of the parties so demand, be examined on oath, and the committee or person appointed to hold an inquiry shall have power to administer oaths for the purpose.

43.—(3) This Act shall, save as otherwise expressly provided, come into operation on the first day of September, nineteen hundred and thirteen, or such later date or dates as the Joint Committee may by order appoint, and different days may be appointed for different purposes and different provisions of this Act, so, however, that no date later than the thirteenth day of October, nineteen hundred and thirteen, shall be appointed for the coming into operation of the provisions of this Act altering the rates of sickness or disablement benefit in respect of any class of insured persons, nor later than the fifteenth day of January, nineteen hundred and fourteen, in respect of any other purpose or provision.

LOCAL MEDICAL COMMITTEES.

BOOTLE.

A MEETING of the County Borough of Bootle Medical Committee was held on August 7th.

Resignations.—The SECRETARY reported that he had received notice of the resignation of four members—Drs. Clemmey, Macleay, Macpherson, and Stevenson.

Temporary Residents.—The question of the provision of medical benefit for temporary residents was further discussed. In view, however, of the issue of Memo. 171/I.C. by the Insurance Commissioners, it was decided to take no further action in the matter.

Proposed Joint Committee.—A letter from the Clerk of the Local Insurance Committee was read inviting the Medical Committee to appoint three representatives on a proposed joint committee of the Medical Benefit Subcommittee, the Pharmaceutical Committee, the Panel Doctors' Committee, and the Medical Committee. The Chairman, Secretary, and Dr. Paddock were appointed to act as representatives of the Medical Committee.

Conference at Brighton.—The SECRETARY reported that he had not been able to attend the conference of representatives of Medical Committees at Brighton, and that he had asked the representative of the Liverpool Committee to act as his deputy. He referred to the report of the proceedings of the conference published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of August 2nd, p. 168.

KINGSTON-UPON-HULL.

THE Local Medical Committee for Kingston-upon-Hull, in a printed communication signed by Dr. C. H. Milburn, Chairman, and Dr. John Divine, Honorary Secretary, is calling the attention of practitioners on the panel to the desirability of preventing extravagant prescribing and requests them to refrain from prescribing excessive quantities and also from prescribing proprietary articles. Instances are mentioned of prescribing under trade names, and the committee suggests the necessity for more care and consideration being shown.

With regard to temporary residents, the committee is of opinion that the method proposed by the Commissioners as set out in the explanatory circular 171/I.C. is the most equitable in the circumstances.

The committee calls attention to the fact that a complaint was recently lodged against a practitioner on the panel because he refused to give a certificate to an insured person under treatment by a bonesetter. The committee upheld the practitioner; this action was confirmed by the General Medical Council, the British Medical Association, and the Medical Defence Union. The committee advises practitioners that to give certificates to persons under the treatment of an unregistered practitioner of any kind whatsoever renders them liable to a charge of covering, which, if sustained, may entail their removal from the *Medical Register*.

The Local Insurance Committee has agreed to the charge of a flat rate of 1s. for the supply of emergency medicine to an insured person by practitioners on the panel, as suggested by the Local Medical Committee.

OXFORD.

A MEETING of the Oxford Medical Committee was held at the Town Hall on August 5th.

Conference at Brighton.—Dr. RIVERS-WILLSON, the Delegate to the Brighton meeting of Medical Committee Representatives, read his report of the proceedings at that meeting, and was thanked by the CHAIRMAN for the clear and lucid account he gave of the different items discussed, and the report was ordered to be embodied in the minutes.

Temporary Residents.—Circular 171/I.C. was then considered, and it was decided to adopt the scheme, under protest, as it was not considered that there was any choice, in face of the Commissioners' threat to embody it in the next agreements. The meeting was distinctly of opinion that the scheme was not equitable, and the Secretary was instructed to write to the Commissioners and inform them of this opinion, and to suggest that a system of estimating the value per attendance, in each area, and deducting according to that value, would be a much more equitable arrangement; this is the system put forward by Dr. Oxley, in his letter in the SUPPLEMENT of August 2nd.

Extravagant Prescribing.—Communications were read from the Clerk to the Insurance Committee and the Secretary to the Pharmaceutical Committee *re* extravagant prescribing; the meeting decided to take no action under Regulation 46 on this occasion, but the Secretary was instructed to write to every member of the panel pointing out that proprietary articles must not be ordered, where similar preparations were in the tariff, at a much

less cost, and that only such appliances as were in the tariff could be supplied, other than at the patient's own cost; it was also decided that such articles as were foods could not be prescribed at the expense of the drug fund. The Committee felt that in future they would be bound, in the interest both of the panel and chemists, to enforce Regulation 46, but hoped that there would be no need to take such a course.

Secretary's Report.

The SECRETARY reported (1) the acceptance by the Insurance Committee of the proposed tuberculosis scheme; (2) that the allocation had been carried out in accordance with the wishes of the panel; (3) that the pharmacopoeia, drawn up by the London Committee, had been adopted and issued; (4) that Dr. Duigan had been appointed, as the Commissioners' nominee, to the Insurance Committee; (5) that the Insurance Committee had given permission for the panel doctors to order stocks of dressings for use in their surgeries for panel patients.

Emergency Committee.—At the request of the Secretary, the following were appointed, as an Emergency Committee, to deal with matters as they arose: The Chairman (Dr. Ormerod), Dr. Duigan, Dr. Rivers-Willson, and the Secretary.

Payment to Panel Doctors.—The SECRETARY also reported that the panel had been paid for the second quarter on all cases accepted as well as those allocated, and that the payments were for the six months on the allocated persons and also for those cases accepted since April 15th, 10 per cent. being retained by the Commissioners for the final settlement at the end of the year.

PLYMOUTH.

A MEETING of the Plymouth Local Medical Committee was held on August 2nd.

National Insurance Act Amending Bill.—It was considered that the amendments by Dr. Addison and Mr. Glyn-Jones and by Dr. Esmond respectively were calculated to cause disunion between the panel doctors and those not on the panel, and that the setting up of committees of panel doctors only would undermine the work of the Local Medical Committees which should, and were evidently intended to, represent the profession as a whole in each area. The Honorary Secretary was instructed to write to the local members of Parliament to that effect.

Panel Subcommittee.—A "Panel Subcommittee" was formed comprising Drs. E. B. Thomson, Rosa Bale, R. H. Wagner, and H. B. Palmer, the latter to be Honorary Secretary.

Temporary Residents.—The question of medical benefit for temporary residents was reintroduced, and was referred to the Panel Subcommittee.

INSURANCE NOTES.

MEDICAL AID INSTITUTIONS.

IT appears that the Medical Alliance, which has its head quarters at Kidderminster, and is stated to represent all the medical aid associations or medical aid institutes in the country, has been for some time in communication with the Chancellor of the Exchequer with regard to the position of such institutions under the Act, and especially with regard to payments made to them. A deputation met the Chancellor of the Exchequer on June 4th, and there have been several conferences since. The exigencies of the by-election in Chesterfield appear to have led the Commissioners to give their reply somewhat earlier than might otherwise have been the case. The position is set out in the following correspondence:

National Health Insurance Commission, (England),
Buckingham Gate. 13th August, 1913.

Dear Sir,—I am desired by Mr. Masterman to enclose a copy of a memorandum showing the general policy in regard to institutions approved under Section 15 (4) of the National Insurance Act, which has been agreed upon between the Commissioners and the representatives of these institutions as a result of the deputation to the Chancellor of the Exchequer on the 4th June. You will observe that the details set out in this memorandum are in accordance with the explanations given to you by Mr. Masterman at his interview with you yesterday.—Yours faithfully,

MICHAEL HESELTINE.

To E. F. Hind, Esq., Oxford House, Chesterfield.

Memorandum.

1. Any existing approved institution will receive 9s. a head for every insured person who selects the institution to provide his medical treatment, upon the principal officer signing a statement that an average of 9s. per head has been expended in respect of insured persons for medical treatment (including provision of drugs) and general establishment charges: treatment to be not inferior to that given by doctors on the panel.

2. Arrangements will be made as soon as possible whereby insured persons receiving benefit from medical associations will be given green tickets when temporarily away from home.

3. Arrangements will also be made as soon as possible whereby insured persons, when permanently changing residence, shall have the option either of joining another medical association in their new location or of selecting a panel doctor.

The regulations for medical benefit provide in paragraph 48 that all moneys available to an insurance committee for the purpose of medical benefit of insured persons obtaining treatment through an approved institution shall be carried to the credit of a fund called the Institutions Fund. The committee "may contribute towards the expenses of the treatment furnished by any approved institution to insured persons obtaining treatment through it an amount not exceeding the aggregate amounts standing to the credit of the Institutions Fund available for the medical benefit of those persons." Provided that accounts are kept by the institutions showing separately the amount expended by them in respect of treatment, and of the supply of medicines and appliances respectively. Finally, it is provided that any sum standing to the credit of the Institutions Fund at the end of any year shall be carried to the credit of the Fund for the succeeding year. In Memorandum 163/I.C. issued last April it was stated that the maximum amount available for any institution from the Institutions Fund was 8s. 6d. for each insured person receiving treatment from the approved system or institution within the area of the committee. The actual amount was to depend upon the examination of the audited accounts of the institution, and would take into account the average expenditure on all persons both insured and non-insured, and it was added: "Where the amount claimed by the system or institution is such that the average cost per insured member exceeds the average cost of treatment of all members, it will be for the system or institution to prove to the satisfaction of the Committee, by statistical or other evidence, that the treatment given to insured persons is, owing to its superior quality or wider scope, such as would, when compared with that given to non-insured members, justify a greater cost."

In addition, the Insurance Committee was to pay "6d. per member per annum from the sanatorium benefit fund in respect of the domiciliary treatment of tuberculosis." This made up the 9s. to be paid to an approved institute, and that sum, it would seem, is now to be paid upon the certificate of its "principal officer" that an average of 9s. a head has been expended in respect of insured persons members of the institute for medical treatment, including provision of drugs and establishment charges, and including also, it would appear, the domiciliary treatment of tuberculosis. It seems clear that the sum will be subject to deductions, as in the case of the panel practitioner, in respect, for instance, of green tickets for persons temporarily away from home.

We should be glad to see a detailed statement of how it is proposed that the new scheme shall work out. It would seem that the chief concessions obtained from the Government, under pressure apparently of the Chesterfield election are, first, that the institutions shall receive special assistance in making individual provision for any one of its members who transfers his residence, temporarily or permanently, to a district where there is no reciprocating institution, and secondly, that the rule with regard to ascertaining the special extent of the treatment of insured persons in an institute, should the cost prove to be higher than that of other members of the institute, is to be relaxed.

The Chairman of the Derbyshire Insurance Committee, at its meeting on August 18th, protested against the action of the Insurance Commissioners in making a regulation in direct contradiction to a resolution of the Committee without first consulting it. There were, he said, 170,000

insured persons in the county of Derby, of whom some 5,000 were dealt with by the Medical Association. If the new plan were to be put into force it would, he said, considerably imperil the medical benefits of the remaining 165,000 persons.

INSURANCE ACT IN PARLIAMENT.

Insurance Act (1911) Amendment Act.

The Lords' amendments were considered by the House of Commons on August 14th and agreed to, and the bill received the Royal assent on August 15th.

Payments in Respect of Medical Benefit.

Mr. Masterman, in replying to Mr. Fred Hall, said that the precise amount actually due to any particular doctor could only be finally determined at the end of the year. The regulations, however, provided that the Insurance Committee should make payments in advance at the end of each quarter of such amounts as might be agreed for this purpose, and London doctors had accordingly received advanced payments at the rate of 1s. 9d. per insured person on their list for the first quarter, and 1s. 6d. for the second quarter. Payments were made on:

	s.	d.
March 15th	0	9
April 22nd	1	0
June 10th	0	9
July 15th...	0	9

To facilitate this latter payment on the last day of the quarter and to avoid delay, the amount paid was based on the figures for the first quarter. A further payment would be made on August 23rd, based on the figures for the second quarter, and any balance found to be payable would be added thereto.

Mr. Butcher asked the Chancellor of the Exchequer whether, in view of the fact that a sum of 7s. per insured person per annum was paid to doctors on the panel for medical treatment, exclusive of drugs and medicine, he would state the reason why a sum of only 4s. per insured person per annum was allowed to friendly societies' medical associations for providing medical treatment, including drugs and medicine. Mr. Masterman replied that the hon. member had been misinformed. Where the expenditure of an approved institution in respect of their insured members upon medical treatment (including the provision of medicines and appliances) and all reasonable establishment charges amounted to 9s. per head, the amount of the contribution to be made to the institution by the Insurance Committee would be a sum equal to 9s. per insured member of the institution.

We have received from Dr. J. Cecil Constable (Streatham) the following note bearing upon the above:

On the 29th of last July, nearly a fortnight previous to the above incident, Dr. C. H. Pring received a cheque, a portion of which—namely 19s. 6d., was to complete a total of £1 17s. 6d., which latter sum represented the amount stated to be due to him for the 50 insured persons accepted in the second quarter of the medical year. Therefore Dr. Pring was paid 9d. per insured person in respect of a moiety of the names on his list, instead of the 3s. 3d. stated in the above reply.

Even if the quibble is raised as to the proper way of estimating the number of names on a doctor's list at the end of a quarter, no arithmetical feat or tortuous regulation can convert the 9d. into 3s. 3d.

Sickness and Medical Benefit.

In reply to Sir John Jackson, the Financial Secretary to the Treasury said that arrangements were being made whereby insured persons who were frequently moving from place to place in the course of their employment—such as labourers engaged in the construction of public works—would be enabled to obtain medical benefit wherever they might happen to be in Great Britain.

Cost of Sanatoriums in Scotland.

Mr. McKinnon Wood stated, in reply to Mr. Duncan Millar, that in allocating the building grant for sanatoriums the Local Government Board would give consideration to the provisions already made for the treatment of phthisis by public health authorities in Scotland.

IRELAND.

Medical Certificates.

Mr. John Redmond asked the Chancellor of the Exchequer whether he could now make any statement as to the further financial assistance to be placed at the disposal of the National Health Insurance Commissioners (Ireland) for the purpose of enabling medical certificates to be obtained under the National Insurance Act in Ireland. Mr. Lloyd George said that he was satisfied that the grant of £50,000 at present available for expenses due to the absence of medical benefit in Ireland was insufficient to provide for adequate arrangements for certification. The Insurance Commissioners were engaged in negotiation with the medical profession and with the approved societies, and, if a scheme could be devised which was satisfactory to the parties concerned, he should be prepared to ask Parliament to increase the grant by such amount as might be necessary, subject to the limit of 2s. 6d. per insured person which had been imposed in Great Britain not being exceeded in Ireland.

CORRESPONDENCE.

The British Medical Association and the Local Medical Committees.

Dr. Arthur E. Larking (Secretary of the Bucks Division British Medical Association, Secretary of the Bucks Local Medical Committee) writes: There must be a feeling of profound disappointment among all those who desire to see a working arrangement between the British Medical Association and the Local Medical Committees that the only result of the Representative Meeting and the recent Conference of Local Medical Committees is to postpone the matter still longer. A whole year has elapsed since the Act came into operation, and we are no nearer any agreement than then. There is little doubt that unless some definite proposal is put forward in the near future the Local Medical Committee will decide the matter for themselves, and take their own line. Undoubtedly the difficulty arises from a fear that these statutory bodies will in time usurp the place of the British Medical Association, and carry on direct negotiations with the Government. Consequently there is, I think, a strong feeling among those at head quarters to prevent any autonomy on the part of the Committees, and a desire to retain full control of everything making these Committees entirely subsidiary to the British Medical Association.

But this desire, however commendable, will never work, for it must be recognized that there are on these committees many men who are not members of the British Medical Association, and many who are frankly inimical to it. Moreover, there is just now in the minds of many a marked lack of confidence in the British Medical Association. The extraordinary decisions of the Representative Meeting last December is not calculated to establish a reputation for business aptitude. The still more extraordinary suggestions for raising money are also not very likely to be very enthusiastically received. Both methods put forward, being based on the voluntary principle, are doomed to failure. To raise the subscription to two guineas a year in order to provide funds for the benefit of the whole profession is too altruistic for Insurance Act times, while to expect these same willing and enthusiastic few to pay in addition the sum of £5 a year to a special fund shows a reliance on the financial response of the profession which is entirely unjustified by recent experience.

Every one recognizes that the profession must act together, and that the British Medical Association is the body to do the negotiating. Is it not possible to adopt some method whereby this can be secured without that entire subservience on the part of the Local Medical Committees that some seem to expect?

It is acknowledged that the British Medical Association has seriously crippled itself financially by its work in connexion with the Insurance Act. Year after year an estimated deficit appears in the balance-sheet. Moreover, the severe exertions necessitated during the last few years have interfered with its work in other directions. Why should a willing few pay for the expenses which ought to be borne in proportion by every member of the profession? Is it not time that this was stopped?

The funds to meet expenses connected with the Insurance Act should be provided by a levy primarily on all those who are concerned in working the Act and any other voluntary subscribers who care to give. No more of the funds of the British Medical Association shall

be expended in this direction; they shall be utilized entirely in securing better organization and in extending its scientific work as originally intended by its founders.

An entirely separate department should be started at once to deal with insurance work. It should have a medical man as head and an efficient staff to deal with the whole country.

The funds should be provided by a contribution from each Local Medical Committee at the rate of 1s. per 100 insured persons in its area. This would produce an annual sum of £7,000, which would be ample to commence with. Out of this could be paid the salaries of the secretary and his staff, the solicitor, the office expenses, travelling expenses, and also the cost of the Central Insurance Committee. Then there would be a balance to the good at the end which could be expended in pamphlets to Members of Parliament and others. The special duty of the Central Office would be to keep each committee informed of the doings of the others, to publish full reports of meetings, and to supply any information asked for.

There is no doubt that each Local Medical Committee can manage its own affairs and pay its own expenses and a share towards the central co-ordinating body, by means of a levy as is now made in many districts. By this means would be obtained that uniformity of action and unanimity of opinion which is necessary to ensure the efficient administration of the Act and the recognition of the just demands of the profession. I commend this brief outline of a scheme to my professional colleagues in the hope that it may be amplified and possibly lead to a definite scheme.

THE METHODS OF INSURANCE COMMISSIONERS.

Dr. J. CUTHBERTSON WALKER (Rochdale) writes with reference to the new memorandum of the Commissioners 171 I.C. on temporary residents: The system, the Commissioners say, is in no way in conflict with Regulation 22. That, however, is not the point. The system is *not provided for* by Regulation 22, which obviously refers only to permanent change of residence. Our whole case rests on the simple fact that treatment during temporary change of residence is not provided for at all in the Regulations, with reference to which our agreements have been signed. Precisely the same expression "change of residence" is used in the very next Regulation (23) to describe the removal of a panel practitioner from one district to another. So far the profession have pulled well together in opposition to this new and unwarranted construction of Regulation 22. Let us try to remain united in this regard.

It is, he adds, rather surprising that the Commissioners have not got rid of Regulation 22 by the simple expedient of revoking it and introducing another. This course has already been followed in regard to Regulation 54, which deals with inquiries into the conduct of practitioners on the panel. It has been revoked, apparently without any sort of consultation with the profession as a body, and replaced by a new set of Regulations, dated June 10th, 1913. These are more elaborate in detail, and allow the Commissioners to initiate an inquiry on their own account. The last of this new set, Regulation 25, reads:

"25. The Commissioners or the Inquiry Committee may dispense with any requirement of these Regulations respecting notice, applications, documents, or otherwise, in any case where it appears to the Commissioners or the Inquiry Committee just and proper to do so."

The possible star-chamber nature of the inquiry is, Dr. Walker thinks, clear.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns 8,887 births and 3,957 deaths were registered during the week ending Saturday, August 2nd. The annual rate of mortality in these towns, which had been 11.4, 11.3, and 11.0 per 1,000 in the three preceding weeks, rose to 11.6 per 1,000 in the week under notice. In London the death-rate did not exceed 10.4, against 11.1, 10.4, and 10.6 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rates last week ranged from 3.0 in Hornsey, 5.7 in Gillingham, 5.8 in Dewsbury, 5.9 in East Ham and in Southend-on-Sea, 6.1 in Enfield, and 6.2 in in Lincoln to 16.0 in Halifax, 16.9 in Middlesbrough, 17.3 in Walsall, 18.7 in Barnsley, 19.2 in Dudley, and 20.0 in Stoke-on-Trent. Measles caused a death-rate of 2.2 in Walsall, 3.0 in Dudley and in Aberdare, and 3.3 in Stoke-on-Trent. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 27, or 0.7 per cent. of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 5 were registered in Birmingham, 3 each in Stoke-on-Trent, Liverpool, St. Helens, and Warrington, and 2 in London and in Sheffield. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,833, 1,978, and 2,100 at the end of the three preceding weeks, had further risen to 2,125 on Saturday, the 2nd inst.; 258 new cases were admitted during the week, against 315, 357, and 346 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,144 births and 643 deaths were registered during the week ending Saturday, August 2nd. The annual rate of mortality in these towns, which had been 13.6, 13.2, and 13.1 per 1,000 in the three preceding weeks, rose to 14.8 in the week under notice, and was 3.2 per 1,000 above the rate in the ninety-six large English towns. Among the several towns the death-rate ranged from 7.1 in Leith, 8.8 in Falkirk, and 8.9 in Perth to 17.4 in Greenock, 19.9 in Ayr, and 20.3 in Hamilton. The mortality from the principal infective diseases averaged 1.4 per 1,000, and was highest in Paisley, Clydebank, and Hamilton. The 317 deaths from all causes in Glasgow included 12 from measles, 12 from infantile diarrhoeal diseases, 10 from whooping-cough, 3 from diphtheria, 1 from scarlet fever, and 1 from typhus. The mortality from the individual infective diseases showed no marked excess in any of the Scottish towns.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, July 26th, 699 births and 378 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 608 births and 349 deaths in the preceding period. These deaths represent a mortality of 16.4 per 1,000 of the aggregate population in the districts in question, as against 15.2 per 1,000 in the previous period. The mortality in these Irish areas was, therefore, 5.4 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 30.4 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 15.1, as against an average of 16.9 for the previous four weeks, in Dublin City 16.2 (as against 18.3), in Belfast 15.8 (as against 15.4), in Cork 25.2 (as against 17.7), in Londonderry 12.7 (the same as in the previous period), in Limerick 19.0 (as against 15.9), and in Waterford 19.0 (as against 18.0). The zymotic death-rate was 1.3, or the same as in the previous week.

During the week ending Saturday, August 2nd, 663 births and 381 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 699 births and 378 deaths in the preceding period. These deaths represent a mortality of 16.6 per 1,000 of the aggregate population in the districts in question, as against 16.4 per 1,000 in the previous period. The mortality in these Irish areas was therefore 5.0 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 28.8 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 17.3 as against an average of 17.0 for the previous four weeks, in Dublin city 17.8 (as against 18.0), in Belfast 15.9 (as against 15.4), in Cork 25.8 (as against 20.0), in Londonderry 19.1 (as against 13.7), in Limerick 8.1 (as against 14.6), and in Waterford 22.8 (as against 19.5). The zymotic death-rate was 2.0, as against 1.3 in the previous week.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ABERGAVENNY: MONMOUTHSHIRE ASYLUM.—Junior Assistant Medical Officer (male). Salary, £225 per annum.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BEDFORD COUNTY HOSPITAL. — Assistant House-Surgeon. Salary, £80 per annum.

BELFAST: QUEEN'S UNIVERSITY.—Demonstrator in Physiology. Salary, £120 per annum.

BIRKENHEAD UNION.—Senior Male Resident Assistant Medical Officer. Salary, £150 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House-Surgeon. Salary, £80 per annum, with £5 laundry allowance.

BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

BRIDGE OF WEIR: CONSUMPTION SANATORIA FOR SCOTLAND. — Resident Lady Medical Assistant. Salary, £75 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £125 per annum.

BRIGHTON: ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—House-Surgeon. — Salary at the rate of £80 per annum.

BRISTOL ROYAL INFIRMARY.—House-Physician. Salary at the rate of £100 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House-Surgeon. Salary, £80 per annum.

BURY INFIRMARY.—Senior House-Surgeon. Salary, £110 per annum.

CAMBERWELL: PARISH OF ST. GILES.—(1) Third Assistant Medical Officer to Infirmary; (2) District Medical Officer. Salary for (1) £150 per annum, increasing to £160, and for (2) £120 per annum and fees.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL. — House-Surgeon. Salary at the rate of £100 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—House-Surgeon (male). Salary, £70 per annum.

CANTERBURY MENTAL HOSPITAL.—(1) Assistant Medical Officer (male); salary, £160 per annum. (2) Locumtenent Assistant Medical Officer; salary, £5 5s. a week.

CARDIFF: KING EDWARD VII HOSPITAL. — House-Surgeon (male). Salary at the rate of £60 per annum.

CARLISLE: CUMBERLAND INFIRMARY. — Resident Medical Officer (male). Salary at the rate of £80 per annum for first six months, rising to £100.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary, £200 per annum.

CARNARVONSHIRE EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £150 per annum.

CHESTER GENERAL INFIRMARY.—House-Physician. Salary, £90 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £90 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Physician. Salary, £80 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL. — Assistant House-Surgeon. Salary at the rate of £75 per annum.

DONCASTER: ROYAL INFIRMARY AND DISPENSARY.—Senior House-Surgeon. Salary, £150 per annum.

DURHAM COUNTY SANATORIUM. — Medical Superintendent. Salary, £400 per annum, rising to £500.

EAST RIDING COUNTY COUNCIL, Beverley.—School Medical Inspector. Salary, £300 per annum.

EDAY PARISH.—Medical Officer. Salary, £70 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House-Surgeon. Salary at the rate of £75 per annum.

GATESHEAD DISPENSARY. — Assistant Medical Officer (non-resident). Salary, £200 per annum.

GLASGOW MATERNITY AND WOMEN'S HOSPITAL. — Two Indoor and Two Outdoor House-Surgeons at the Hospital, and One Outdoor House-Surgeon at the West End Branch.

GRIMSBY AND DISTRICT HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

HALIFAX: ROYAL HALIFAX INFIRMARY.—(1) Senior House-Surgeon; (2) Third House-Surgeon (males). Salary, £120 and £80 per annum respectively.

HAMMERSMITH PARISH.—Second Assistant Medical Officer of the Infirmary and Workhouse combined. Salary, combined, £110 per annum, rising to £130.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £70 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—House-Surgeon. Salary, £30 for six months, and £2 10s. washing allowance.

HULL: ROYAL INFIRMARY.—Casualty House-Surgeon. Salary at the rate of £60 per annum for six months' appointment, or £80 for twelve months.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon.

LEAMINGTON SPA: WARNEFORD GENERAL HOSPITAL.—House-Physician. Salary, £85 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LEWES: VICTORIA HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon. Salary at the rate of £100 per annum.

LIVERPOOL: ROYAL INFIRMARY.—(1) Two House-Physicians; (2) One House-Surgeon; (3) One Gynaecological House-Surgeon.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) Two House-Physicians; (2) Three House-Surgeons. Salary at the rate of £60 per annum.

LIVERPOOL: STANLEY HOSPITAL. — Junior House-Surgeon. Salary, £75 per annum.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Assistant Resident Medical Officer. Salary, £150 per annum.

MAIDSTONE: KENT COUNTY ASYLUM. — Fourth Assistant Medical Officer. Salary, £200 per annum, rising to £220.

MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES.—House-Surgeon. Salary, £75 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Officer (male). Salary for six months at the rate of £100 per annum, rising to £120.

MANCHESTER EDUCATION COMMITTEE. — Assistant School Medical Officer (male). Salary, £250 per annum, increasing to £350.

MARGATE: ROYAL SEA-BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary, £120 per annum.

MEDICAL MISSIONARIES.—(1) Woman Doctor for Maternity Hospital in China; (2) Two Women Doctors for Central China and South India.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Senior and Junior House-Surgeons. Salary at the rate of £100 and £80 per annum for first six months, rising to £120 and £100 respectively.

NEWPORT: ROYAL GWENT HOSPITAL. — Resident Medical Officer. Salary at the rate of £80 per annum for first four months, rising to £120.

NORTHAMPTON COUNTY ASYLUM, Berrywood.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £225.

NORWICH: NORWICH AND NORFOLK HOSPITAL.—Two House-Surgeons. Salary, £80 per annum each.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD COUNTY ASYLUM, Littlemore. — Assistant Medical Officer (male). Salary, £150 per annum, rising to £175.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Senior Resident Medical Officer (male). Salary at the rate of £100 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £75 per annum.

PRESCOT UNION.—Medical Officer and Public Vaccinator of the Workhouse. Salary, £400 per annum, rising to £500.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer (male). Salary, £200 per annum, rising to £250.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum, rising to £60 on appointment as Senior.

READING: BERKSHIRE EDUCATION COMMITTEE.—Assistant Medical Inspector of Schools. Salary, £300 per annum.

READING: ROYAL BERKSHIRE HOSPITAL.—Second House-Surgeon. Salary at the rate of £80 per annum.

SALISBURY GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £50 per annum.

SHEFFIELD: ROYAL INFIRMARY.—(1) House-Surgeon; (2) Ophthalmic House-Surgeon; (3) Ear and Throat House-Surgeon. Salary for (1) £80, and for (2) and (3) £70 per annum.

SHEFFIELD: ROYAL HOSPITAL. — Assistant House-Physician. Salary, £80 per annum.

SHEFFIELD UNIVERSITY.—Junior Demonstrator in Pathology. Salary, £150 per annum.

SIDLAW SANATORIUM.—Resident Medical Officer. Salary, £125 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE INFIRMARY.—Junior House-Surgeon (male). Salary, £115 per annum.

STOCKTON-ON-TEES EDUCATION COMMITTEE. — Assistant School Medical Officer. Salary, £250 per annum.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY. Hartshill.—Two House-Surgeons. Salary, £110 per annum, rising to £150.

SUNDERLAND: ROYAL INFIRMARY.—(1) House-Physician (male) Salary, £120 per annum. (2) Resident Medical Officer to the Children's Hospital. Salary at the rate of £80 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

TAUNTON AND SOMERSET HOSPITAL. — Resident Assistant House-Surgeon. Salary at the rate of £80 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Two House-Physicians and Three House-Surgeons.

WESTMINSTER GENERAL DISPENSARY, Gerrard Street, W.—Resident Medical Officer. Salary, £120 per annum.

WINDSOR: KING EDWARD VII HOSPITAL.—Second House-Surgeon. Salary, £75 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Two House-Surgeons. Salary, £125 per annum.

WORCESTER GENERAL INFIRMARY.—(1) Resident Medical Officer; (2) House-Physician. Salary, £150 and £120 per annum respectively.

YORK DISPENSARY AND MATERNITY HOSPITAL.—Resident Medical Officer (male). Salary, £140 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces the following vacant appointment: North Belfast (co. Antrim).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

ALLOTT, H. C. W., L.A.H.Dub., Honorary Visiting Medical Officer to the Alston and District Cottage Hospital.

BANNERMAN, James, M.B., C.M.Edin., Medical Officer of Health for the combined Weardale Rural District.

BRADLEY, Burton, M.B., Ch.M.Sydney, Demonstrator in Physiology, University of Sydney.

BRIDE, T. Milner, M.D., Honorary Ophthalmic Surgeon, Northern Hospitals for Incurables, Manchester.

BRYAN, T. L., M.B.Durh., District Medical Officer and Medical Officer of Children's Home of the Barrow-upon-Soar Union.

POPE, H. B., M.D., District Medical Officer of the Long Ashton Union.

EVATT, Evelyn John, M.B., B.S., Professor of Anatomy, Royal College of Surgeons in Ireland.

HELLIER, John Benjamin, M.D.Lond., an Examiner in Midwifery and Diseases of Women to the Royal College of Physicians, London.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s., *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

HELY-HUTCHINSON.—On August 14th, at 6, Brock Street, Bath, the wife of G. Hely-Hutchinson, M.A., B.M., B.Ch.Oxon, M.R.C.S.Eng., L.R.C.P.Lond., of a son.

LAING.—On August 16th, at Brambletye, Limpsfield, Surrey, the wife G. D. Laing, M.D., of a son.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

LONDON HOSPITAL MEDICAL COLLEGE. — Daily Demonstrations: Clinical Surgery, 2 p.m.; Clinical Medicine, 2.15 p.m.

ROTUNDA HOSPITAL, Dublin.—Continuation of the Post-Graduate Course on the Theory and Practice of Obstetrics and Gynecology.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Special Vacation Course on Gynecology, Pediatrics, Dermatology, and Diseases of the Eye, Throat, Nose and Ear.

[For further particulars of Lectures consult the Index to Advertisements.]

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, AUGUST 30TH, 1913.

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Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

METROPOLITAN COUNTIES BRANCH:

CITY DIVISION.

A SPECIAL general meeting of this Division was held at Balfour Hall, Dunston Street, Hackney, on August 21st, on a requisition signed by twenty-five members, to discuss the following resolution, moved by Dr. RUSHBROOKE, and seconded by Dr. JAFFÉ:

> That this meeting of the City Division of the British Medical Association calls upon Dr. Evan Jones to explain the attitude apparently taken up by him in regard to the G. Locker-Lampson amendment, as reported in the *Morning Post* of July 23rd, 1913, in which he is reported to have advocated the restoration to the friendly societies of the control of the administration of the medical benefit under the National Insurance Act, thereby violating two of the cardinal points of the British Medical Association so strongly upheld by him at the Representative Meeting at Brighton.

Dr. HOBBS CRAMPTON, Chairman of the Division, presided, and there was an attendance of about thirty members.

Dr. RUSHBROOKE, in proposing the resolution, said that the City Division was extremely indebted to Dr. Evan Jones for his work on behalf of the profession at the Representative Meeting, and even more for his magnificent, self-denying, and very able efforts in connexion with the Insurance Act campaign. (Applause.) He was sure Dr. Evan Jones would recognize that personal motives did not actuate those who called attention to the question before the meeting. The medical profession had been fighting fairly unanimously up to a certain point, but now it seemed as though there were division into two hostile camps, and internecine war had resulted. Through the action of Dr. Evan Jones, the Division had been placed in the position of giving foundation to Mr. Masterman's statement that the medical profession did not know its own mind. Dr. Rushbrooke proceeded to relate the story of events at the Representative Meeting at Brighton and subsequently, the account of which has been given in recent issues of the SUPPLEMENT. In conclusion he said he had the most perfect faith in the honesty of Dr. Evan Jones, but these apparent inconsistencies in regard to important matters of principle seemed to call for explanation, which it was asked, in the most friendly spirit, that Dr. Evan Jones should give.

Dr. JAFFÉ, who seconded, said he heartily endorsed Dr. Rushbrooke's testimony to the extremely valuable work performed by Dr. Evan Jones; the earnestness with which he had applied his abilities to the service of the profession had won the admiration, respect, and esteem of all his colleagues.

The resolution was carried.

Dr. EVAN JONES, who was received with applause, said he hoped members would not think he had come to eat his words; he still adhered to every word he said to the press representative, and he did not find anything illogical in taking up that view. He had carried out the instructions of the Division, and had voted conscientiously in opposition to the G. Locker-Lampson amendment; but, having done that, he was not going to shut his eyes to the future. Having mentioned that he had not waited until the requisition was sent in, but had asked the honorary secretary of the Division immediately after the proceedings at Brighton to arrange a meeting with his constituents, Dr. Evan Jones proceeded to discuss the the effect of the Locker-Lampson amendment. If it had been passed, what cardinal points of the British Medical Association would it have traversed? It provided that friendly societies in any district might make arrangements with one or more medical practitioners to attend their members, but there was no compulsion; members were free to take medical attendance under the panel system if they wished. If that was curtailing the choice of doctor the English language was foreign to him. Dr. Jaffé assumed that friendly societies were going to individual medical men. That was not in his mind, or in the minds of those who held the same view. Was it to be supposed that the men whom the greatest Government in the world had been unable to bend, and whom the Commissioners had been unable to bribe, would tumble over one another to do the bidding of the friendly societies? The friendly societies would have to come to the medical committees; there would be no individual bargaining, and when all the members of the medical profession were working the Act in one way or another the curtailment of free choice of doctor would not be the result. It was necessary to consider what would be the position twelve or fourteen months hence. The friendly societies wanted to get back the control of medical benefit, and one of the great parties of the State, he was told on good authority, was exacting a pledge from every candidate that he would vote for this. When one party was seeking to catch votes in this way he did not believe it would be possible for the other party to do nothing. Supposing the friendly societies obtained control and came to a committee of non-panel doctors, were the doctors to refuse them? Supposing the friendly societies came to the panel doctors, what would be the reply? That was the crux of the views he expressed in the interview; if events came to this pass, could those on the panel be relied upon not to touch the work under the friendly societies? If so, the non-panel practitioners were with them wholeheartedly. But could those on the panel be relied upon after what happened last time? Without the support of the non-panel practitioners those who were working the Act would have had much worse conditions; what were they doing in return? The non-panel practitioners had given up their clubs and given much of their time to fighting the Act; now they found a great number of their friends, through economic pressure, were working an Act which the British Medical Association still regarded as

derogatory. Very few of those who accepted service, however, declined to accept insured persons on the ground that they were other practitioners' patients. He had heard it said that those now on the panel had vested interests and the non-panel practitioners should not do anything to damage the panel. He did not think any one would say it was a sin for a man to do his best to regain his old practice. The British Medical Association was doing nothing for the non-panel practitioners; everything had been done for those on the panel. As to his views on the quality of the service under the panel system, Dr. Evan Jones said he had used the word "indifferent" as the mildest one he could apply. The friendly societies were noting very carefully instances in which doctors were guilty of an outrage on the profession by accepting responsibility for persons from whom they lived four, five, and seven miles distant. Such service was indifferent, and every medical practitioner should see that such a state of things did not continue. He had been very much blamed for declaring that 2,000 should be the maximum for an insured list. Those who were playing the Government game and whose goal was a State service were watching this. There were gentlemen, single-handed and with a fairly large private practice, who had 4,000 persons on their list. The highest salary offered to medical practitioners acting as tuberculosis officers was £500 a year; at that salary the competition of the very best men in that line was being secured. A man with 4,000 persons on his list received £1,400 a year from that source, and for this sum the Government could get two first class men and an assistant and have £150 a year to spare. It was for the good of the profession that these huge lists should not be allowed. (Applause.) Dr. Evan Jones said it had been suggested that he had been responsible for the delay in distributing the money accumulated in respect of insured persons in London who had not chosen a doctor. He gave that the lie direct, and explained that the whole of the Insurance Committee had favoured taking legal advice on the matter. Most of the insured persons in question were the patients of non-panel practitioners, who had not made a choice, hoping that their own doctor would go on the panel. When the allotment took place, would those on the panel accept these people? (A Voice: "There will be no option.") Dr. Evan Jones replied that no one was compelled to take additional patients. It had been stated on behalf of panel practitioners that they were willing and anxious to accept the 400,000. In other words, they were anxious to take other men's patients, and he could not sympathize with that attitude. He did not for one moment regret having warned the profession of the danger of a split. He was strongly opposed to estranging the panel practitioners from the rest of the profession, but if those on the panel agreed to take over the 400,000 and left their brethren high and dry, his position would be altered.

Dr. T. F. KEENAN expressed the view that in apparently welcoming friendly society control for the sake of non-panel practitioners Dr. Evan Jones, from his point of view, had chosen the lesser of two evils. From the point of view of the profession, however, friendly society control was disadvantageous. He wished Dr. Evan Jones could see his way to join the panel. There was nothing derogatory to the profession in working the panel system, and it would shortly be extended to women and children. When that happened those who stood outside would be in a worse position even than they were now.

Dr. EVAN JONES said he did not go on the panel for the same reason as thousands of others. He was not going to cast reflections, but there were men in London and all over the country who, when they gave their pledge, meant to stand by it until the six cardinal points had been granted. Not one single cardinal point had been granted, and yet the resolution before the meeting implied a censure on him for advocating the breaking of two of them. As a matter of fact, he hoped he had shown that he had no intention of breaking any of the cardinal points. In conclusion, Dr. Evan Jones said he foresaw that the present position was likely to arise, and in consequence he refused nominations to the Council and Committees of the Association. He felt he was right in warning both sections of the profession of the dangers ahead, and he had done so without regard for his own interests and convenience.

The CHAIRMAN having ruled that no vote would be taken as to whether the meeting was satisfied or not with Dr. Evan Jones's explanation, the proceedings terminated.

EAST ANGLIAN BRANCH:

WEST SUFFOLK DIVISION.

THE following fees have been approved by the Division at various times since 1903:

1. *Life Insurance Examinations.* — Fee not less than 10s. 6d.

2. *Certificates under Workmen's Compensation Act.*—(*a*) All initial examinations with report (given by a medical practitioner, not as a member of the staff of a voluntary hospital), fee not less than 10s. 6d.; (*b*) any medical certificate of fitness or unfitness to follow employment, or any report on such cases, fee not less than 2s. 6d.

3. *Certificates under National Health Insurance Act.*—All certificates other than those to which an insured person is entitled under the Act, fee not less than 6d. (sixpence).

4. *School Children.*—(*a*) The Borough of Bury St. Edmund's Education Department has agreed to pay for (1) tonsils and adenoids, £1 1s. (to include anaesthetic); (2) eye cases, 5s. 6d. each. (*b*) The West Suffolk County Council has agreed to pay for certificates of fitness to return to school a fee of 2s. 6d. (These are given on a white form for cases of non-notifiable general infectious diseases, or on a blue form in cases of certain skin diseases.)

5. *Juvenile Club Members.*—Fee not less than 4s. per annum.

6. *Examination for Admission to Benefit Society.*—Fee not less than 2s.

NORTH WALES BRANCH:

DENBIGH AND FLINT DIVISION.

Presentation to Retiring Honorary Secretary.—In recognition of the services of Dr. E. D. Evans as Honorary Secretary of this Division since its formation, a complimentary dinner was given to him on August 15th at the Imperial Hotel, Wrexham. Dr. J. E. H. DAVIES presided, and there was a good muster of the local profession. During the course of the evening Dr. RD. WILLIAMS, on behalf of the subscribers, presented to Dr. Evans a handsome silver tray bearing the following inscription: "Presented to Dr. E. D. Evans by the members of the Denbigh and Flint Division of the British Medical Association in appreciation of his services as Secretary for ten years." Dr. Williams referred to the long and excellent service rendered by the recipient and the high esteem in which he was held by his colleagues in the two counties. Dr. EVANS, in responding, thanked the subscribers for their gift and gave an interesting summary of the work of the Division from its inception to the period of his retirement from the honorary secretaryship. Musical items were rendered and a most enjoyable evening was spent by all present.

Association Notices.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

EAST ANGLIAN BRANCH.—Dr. B. W. Nicholson, General Secretary, gives notice that the autumn meeting of the Branch will be held at King's Lynn on Thursday, September 25th. Members wishing to read papers or to show cases or specimens should communicate at once with the Secretary for Norfolk, Mr. Hamilton A. Ballance, M.S., All Saints Green, Norwich.

EIGHTY-FIRST ANNUAL MEETING
OF THE
British Medical Association.

Held at Brighton, July 22nd to 25th, 1913.

EXHIBITION
OF
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

(*Continued from page 215.*)

So many of the synthetic preparations of the Bayer Company (19, St. Dunstan's Hill, E.C.) have eventually proved useful additions to general therapeutic resources that its exhibit always demands attention. One of its more recent products is Adalin, a derivative of urea combined with bromine, which is put forward as an efficient sedative and hypnotic. Bromine also enters into the composition of sabromin, an organic salt of bromine recommended as being less likely to cause unpleasant symptoms than ordinary bromide. A corresponding salt of iodine, for which like claims are made, is Sajodin, which also figures with iron in ferro-sajodin tablets. These are chocolate-flavoured, and are put forward as being specially useful in the treatment of children, each tablet containing 0.125 gram of iodine and 0.025 gram of iron. A further organic preparation of iodine, but one intended for external application, is Jothion; though stated to contain as much as 80 per cent. of iodine it does not stain. Other products for external use which were shown were spirosal and mesotan; both of these are said to be of value in the local treatment of rheumatic pain, the former being used as an ointment, the latter as a liniment by solution in alcohol. Several preparations of somatose, which is now a well-known meat derivative, were on view, one of them being irocose, which is stated to be an organic salt of iron dissolved in somatose, and another phosphocose, a term which represents a 5 per cent. solution of sodium glycero-phosphate in liquid somatose. Tablets of hydrastinine hydrochloride were also on view, the hydrastinine in question being of synthetic origin and stated to possess the same utility in gynaecology as the natural alkaloid. A modification of aspirin, which is stated to cause less diaphoresis, was shown under the title of novaspirin, while cycloform was shown in an ointment containing 10 per cent. each of this drug and of witch hazel. Cycloform itself is a benzoic acid derivative, which is claimed to relieve the pain of burns, ulcers, and allied conditions, to assist materially in their healing, and also to be useful in the treatment of haemorrhoids and eczema. Being almost insoluble its action is purely local. Tannigen, an intestinal astringent intended more especially for the treatment of summer diarrhoea of children; aristol, an iodoform substitute free from odour; capsules of thyresol, a santalol derivative but free from odour, and the two hypnotics, luminal and luminal-sodium, were also on view.

The Jenyns corsets shown by Messrs. J. and N. Phillips and Co. (20, Cheapside) represent an idea which is not without merit. One of the defects of ordinary stays is that unless the wearer remains perfectly still the anterior spring, whatever its initial rigidity, tends after a time to employ the abdominal wall just above the umbilicus as a fulcrum, and thus exerts pressure thereon in such fashion as to thrust the lower part of the abdomen downwards and outwards. In these Jenyn's corsets this defect is obviated by a band fixed to the corsets posteriorly by the interlacing of the ordinary laces at the level of the fourth lumbar vertebra. From this point the two ends pass forwards and downwards to the level of the top of the pubes, each of them being fixed by a stud just above the corresponding iliac curve, and finally meeting its fellow at the point mentioned. There they are again fixed by studs and straps, the effect being that when the laces are drawn together the part of the stay extending between the waist line and the pubes is braced upwards and backwards. No doubt the original aim of this device was merely to secure that relative flatness of the portion of the abdomen known by the French as *le galbe*, which is an ordinary characteristic of young, slim figures, but it has also an anatomical advantage, since stays thus constructed play much the same part as that fulfilled by ordinary abdominal belts. These stays are easily put on and taken off, and since the amount of pressure that they exert is under easy control they appear to merit examination by medical men whose patients show a tendency towards enteroptosis.

Nearly all the appliances shown Messrs. Holland and Son (46, South Audley Street, W.) aimed at the relief or removal of the various defects which lead to difficulty in walking, among them being the "improved instep support" in connexion with which the firm's name long ago became known to many medical men. Several varieties of this support were shown, two being known as "half socks" and "whole socks" respectively. Both terms represent a kind of curved sole extending, in the case of the half sock, along the tangent of the arch which should be formed by the instep, but leaving the toes free, while the whole sock extends from toe to heel. The metal of which they are now constructed is only about a third of the weight of steel, and does not rust, while, thanks to its springiness, the support afforded remains constant. The curve which these socks present is made to suit the particular needs of each case, special support for the scaphoid being provided in some forms. Appliances for straightening the great toe in cases of bunion were also shown; they are intended to be worn at night, and supplemented in the daytime by the use of elastic toe braces. Also shown were a number of specimens of boots and shoes which, though constructed on strictly anatomical principles, presented a reasonably neat appearance. Some of them were fitted with stiffened sides, prolonged heels, and other devices to meet the needs of those with weak ankles or shortened limbs. The experience of the firm in meeting the demands of orthopaedic surgeons has been so prolonged that its name should never be forgotten when foot gear of a surgical order is in question.

In one way and another the special preparation of Horlick's Malted Milk Company (Slough, Bucks) has become fairly familiar to most people, at any rate by name, and it enjoys a popularity which in respect of its many uses is by no means unmerited. It is a dry powder, derived, it is stated, from malted wheat and milk and dried cow's milk, and, according to an analysis by Holt, contains 8.7 per cent. fat, 16.3 per cent. protein, 3.8 per cent. inorganic salts, and some 68 per cent. soluble carbohydrates in the form of dextrin, lactose, and maltose. It is put up in wide-mouthed bottles, and if kept closely corked remains good, in our experience, for an indefinite period. The desired quantity is rubbed up into a paste with a little milk or water, and is then at once ready for use on the addition of whatever quantity of hot water or cold water it is desired to add. In view of the ease and rapidity of its preparation, the nature of its contents, and the variety of ways in which it can be taken, it is certainly entitled to be regarded as a very convenient food preparation for invalids. It is also well suited for use by adults who are not invalids—for instance, as a warm "night-cap" at bedtime, or as a long cool drink during hot weather, by shaking it up with some soda water. In the latter form it is very useful when a meal has to be deferred. It is in such connexions that our own experience of it is most extensive, but it appears also to be largely used as a food for infants, and its claims to consideration in this connexion may be regarded as on a par with those of its rivals. For its use in this way the firm has prepared a special bottle, which has some good points as a feeder, being easily kept clean, and furnished with a special valve to allow of the admission of air. Horlick's Malted Milk is also put up in tablet form, some of these having the natural malty flavour of the product itself and others having a chocolate admixture.

Specimens of various mineral waters formed the staple of the exhibit of Messrs. Ingram and Royle (Bangor Wharf, Belvedere Road, S.E.). The firm are the official agents in this country of a very large number of Continental and other spas. Since there are approximately two hundred bottled waters possessing medicinal or dietetic reputation, the firm limited its display to some of the best-established varieties. Among the more powerful aperient waters were Rubinat Llorach and Hunyadi

Janos, while Levico represented the arsenical class, Evian and Montreux the table waters. Contrexéville (Pavillon), Vichy-Célestins, Carlsbad and Montdore—a muriated alkaline water—were also shown. So, too, was Geisshubler, a pleasantly effervescent alkaline water which deserves more popularity in this country than it has hitherto attained. It contains the bicarbonates of sodium, potassium, magnesium and lithium, and is esteemed to be of value in dyspepsia, but in the more Eastern parts of Europe is chiefly used as a table water. The salts and pastilles shown included Vichy Etat pastilles and natural Carlsbad Sprudel salts; the latter are prepared at the spring itself, and the qualification "natural" is employed in their description, because this salt has been widely imitated, and if the term, "Carlsbad Sprudel salts," alone is used in prescribing, the patient may receive an artificial preparation which is not what the physician intended him to have. Specimens were also shown of the twelfth edition of a kind of catalogue of all natural mineral waters which the firm brought out a good many years ago. It is entitled, *Natural Mineral Waters: Their Properties and Use*, and contains either a complete analysis of each water, or other information as to its chemical constitution, together with brief particulars as to the locality in which the spring arises, and a statement of the purposes for which the use of the water has been advocated. Copies can be obtained on application, and may be found useful by many practitioners.

At the stall of Messrs. Cadbury Bros. (Bournville, Birmingham) visitors were afforded an opportunity of taking a lesson in the art of making cocoa, which, though less difficult than that of making coffee, still requires some skill. They were also shown some cacao butter and cacao beans, and the various forms which the latter are made to assume during the process of their conversion into chocolate and cocoa. The two cocoas produced by the firm are Cocoa Essence and Bournville Cocoa; the former was one of the earliest cocoas to appear, and has long been accepted as one of the best preparations on the market. It is undoubtedly of high value as a combined beverage and food, and, apart from its intrinsic value in these respects, is rendered acceptable to many persons by its freedom from added sugar and absence of grittiness in solution. The second product is of much later appearance and considerably sweeter. The same term "Bournville" is also applied to one of the chocolates of the firm, this in point of flavour being comparable with the more expensive foreign brands. Dairy Milk Chocolate is another variety, and meets Swiss manufacturers on their own ground. It is a very good specimen of this class of chocolate preparation which many people prefer either on account of its characteristic flavour or owing to the superior dietetic value which it is claimed to possess. As is well known, the chocolates and cocoa of this firm are produced in admirably hygienic surroundings, Bournville being a model manufacturing village.

A considerable variety of concentrated and preserved foods is prepared by Bovril, Ltd. (152 and 156, Old Street, London, E.C.), but it showed only two of them, namely, Bovril and Invalid Bovril. Of the former little need be said beyond stating that its popularity is quite easy to understand, since, with some hot water and a tin of this speciality to hand, nothing is easier to prepare than a cup of pleasantly flavoured and stimulating soup or broth. Its chemical composition, according to an analysis by Allen, is as follows: Insoluble proteins and meat fibre, 8.5 per cent.; insoluble proteins and gelatine, 3.8 per cent.; meat bases, 12 per cent.; non-nitrogenous extracted matters, 19.7 per cent,; mineral substances, 17.8 per cent. It is, in fact, a meat extract plus albumin and fibrin. The latter two ingredients are, we have been informed, separately prepared from fresh meat, and are then blended with what may be called the beef-tea part of the product. As for Invalid Bovril, this is very much the same preparation, but somewhat more concentrated and free from anything in the way of seasoning. This is an advantage in the sick-room, as anything required in the way of pepper and salt can be added in just such quantity as happens to suit any individual patient's taste. It is a preparation deservedly in favour at a very large number of hospitals and other public institutions.

LOCAL MEDICAL COMMITTEES.

NORFOLK.

A meeting of the Norfolk Local Medical Committee was held in the Medical Library, Norwich, on August 19th, when the Chairman (Dr. B. D. Z. Wright), the three Vice-Chairmen (Drs. Back, Colvin-Smith, Dr. Steele), the Honorary Secretary (Dr. Thomson), and eleven other members were present.

Allocation of Patients.—Correspondence received by the Secretary from panel practitioners was read, describing the confusion caused in the allocation of patients by the District Committees, of those persons, about a fourth of the whole, who had not made their choice of doctor. These were allocated on a plan agreed upon between the Local Medical Committee and the Insurance Committee, namely, to the nearest doctor, or if there were more than one doctor in a place then equally among those doctors. Much less confusion occurred in those districts—for example, Downham, where the District Committee had called a meeting of the local doctors to assist in the allocation.

Adjoining Areas.—A letter from Dr. Leach (Bungay) was read, pointing out the necessity of intercommunication between Local Medical Committees in adjoining counties, as many practitioners resided in one area and practised in another, the methods and resolutions passed by one Local Medical Committee differed from those passed by another Local Medical Committee, and Suffolk practitioners practising in the Norfolk area had no voice or representation on the Norfolk Local Medical Committee. In the letter from the Insurance Commissioners giving statutory recognition it was stated such recognition was given "because the list of names appeared to represent the practitioners *resident* in the area." Meantime, pending further consideration of the matter the Secretary was instructed to invite a representative of the Suffolk Local Medical Committee to future meetings of the Norfolk Local Medical Committee.

Mileage Limit.—A letter from Dr. Ransome of Bungay, but who practises on the Norfolk panel, was read, stating that in Norfolk a limit of ten miles was entered on the contracts, while in Suffolk four miles was the limit of compulsory attendance, a further hardship occurring in respect of any mileage limit was that an accepted insured person might move from, say, a two mile distance to a ten mile distance and still be able to claim attendance the first time he was ill, not having taken the trouble to apply for a transfer to a nearer doctor's list. It was, however, decided that during the existence of the present contracts nothing could be done, and that before the next contracts were entered into this subject would be seriously reconsidered.

Fee for Operation.—The opinion of the Local Medical Committee was asked by a member on the following case: He performed an operation for epithelioma of the lip under a local anaesthetic on an insured person, and sent the account for a fee to the Insurance Committee and then to the patient's society; both these bodies repudiated liability. The Local Medical Committee was of opinion that the operation was not a minor one or medical attendance within the meaning of medical benefit, and that the practitioner could not be called upon to perform the operation under his contract, but that having done so he had no claim on either the Insurance Committee or the approved society.

A letter from the Insurance Committee was read to the effect that the Insurance Commissioners had approved of the "green voucher" system being extended to apply to temporary residents within different parts of the same area.

Circular letters from the British Medical Association were received and read on the following subjects:

No. 1, model rules for Local Medical Committees.

No. 2, operations requiring anaesthetics.

No. 3, general co-operation between the British Medical Association and Local Medical Committees.

No. 4, the Insurance Act Amendment Act.

No. 1 was deferred to next meeting, Nos. 2 and 3 were noted and approved, and No. 4 the most recent information on the Amendment Act about to become law was given by the Secretary, who reported he had written to local M.P.'s on the various amendments objected to by the

British Medical Association, all of which had been withdrawn or defeated.

The SECRETARY sent a letter resigning his position as Honorary Secretary, having held the same for the first year of the Committee's existence, first as a provisional, and since as a statutory, Committee. His many other similar engagements preventing him devoting the necessary time to the work of the Local Medical Committee as well as that of Secretary of the Division, which he hoped to retain, also believing that the post should be held by a practitioner having practical and intimate acquaintance with insurance work on the panel. Dr. Thomson was pressed to continue his services for a time, but on regretfully refusing to do so, the Chairman moved that the resignation be accepted with regret.

Drs. COLVIN-SMITH and HORN proposed that the best thanks of this Committee be given to Dr. Thomson for his valuable services, and that the election of his successor be on the agenda for the next meeting.

DEPARTMENTAL COMMITTEE ON ALLEGED EXCESSIVE CLAIMS FOR SICKNESS BENEFIT.

WE are officially informed that Mr. C. F. G. Masterman has appointed a Departmental Committee to inquire into and report upon the alleged excessive claims upon, and allowances by, approved societies in England in respect of sickness benefit, and any special circumstance which may cause any such claims or allowances. The constitution of the Committee is as follows:

Sir Claude Schuster, Insurance Commission.
Walter Davies, Esq., National Secretary of the Order of the Sons of Temperance; Chairman, Manchester Insurance Committee.
Adam Fulton, Esq., M.B.
Miss M. H. Frances Ivens, M.B.
Miss Mary McArthur, Secretary of the Women's Trade Union League.
William Mosses, Esq., Secretary of the Federation of Engineering and Shipbuilding Trades of the United Kingdom; Secretary of the United Pattern Makers' Association (Approved Society).
James Pearse, Esq., M.D., Medical Officer of Health, Trowbridge Urban District Council.
Lauriston Elgie Shaw, Esq., M.D., F.R.C.P.
A. C. Thompson, Esq., President of the National Conference of Industrial Assurance Approved Societies.
A. H. Warren, Esq., J.P., President of the National Conference of Friendly Societies.
A. W. Watson, Esq., Chief Actuary, National Health Insurance Joint Committee.
J. S. Whitaker, Esq., M.R.C.S., Deputy Chairman, Insurance Commission.
Miss Mona Wilson, Insurance Commission.
Walter P. Wright, Esq., Grand Master, Independent Order of Oddfellows (Manchester Unity).

The Secretary of the Committee is A. Grey, Esq., Insurance Commission, Buckingham Gate, S.W., to whom all correspondence should be addressed.

INSURANCE NOTES.

MANCHESTER AND SALFORD.

Private Arrangements with Panel Patients.

SEVERAL questions have recently arisen in Manchester and Salford with regard to the rights of panel doctors to accept private payments for medical treatment from panel patients instead of, or in addition to, the amount received from the insurance funds, and the Salford Insurance Committee has decided to inform the doctors of certain decisions at which it has arrived. The panel doctors by their agreements have no right to demand anything from a panel patient, but the questions that have arisen refer rather to voluntary offers from panel patients, such as the following: An insured person who imagines that the doctors give better and more careful attention to private patients than to panel patients, goes to his old family doctor who is now on the panel and says: "I have not brought my pink card, as I don't want to come to you as an insurance patient. I want you to attend me privately, as before, and to give me medicines yourself, and I'll pay your usual fee just as I did before the Insurance came in." To this the Salford Insurance Committee makes no objection, provided that the doctor does not enter the case in his insurance day-book for a second payment from the panel fund. There is nothing to prevent any person voluntarily waiving his right to free treatment and paying private fees, if these are not demanded but spontaneously offered.

Again, it is generally known by the public that in Manchester and Salford the panel doctors are only receiving from the insurance funds a little over 60 per cent. of their nominal fees owing to the insufficiency of the pools, and it is by no means rare for a former private patient who is now insured to go to his panel doctor, who has been his family doctor perhaps for years, and to say: "I don't want you to lose anything by attending to me, and yet I don't want to pay my 4d. a week to the insurance for nothing, and so I shall be glad if you will make out your bill as formerly, but subtract from it whatever you receive from the insurance, and I will pay you the difference." Thus if the full fee formerly charged to the patient were 2s. 6d. and the doctor now only gets 1s. 7d. from the panel fund, the patient would pay him the other 11d. In such a case it would be necessary for the doctor to enter the one attendance twice over, once in his private ledger and in his insurance day-book. It is understood that the Salford Insurance Committee considered that such transactions would open the door to abuses, and has passed the following resolution, which is to be sent to all the practitioners in the district working under the Insurance Act:

> That medical practitioners are not entitled to make arrangements with insured persons whereby the insured persons will pay the doctors' usual fees minus any sum such doctors may receive from the Insurance Committee in respect of them.

Again, the Manchester Warehousemen and Clerks' Provident Association has an arrangement by which its members may insure for medical treatment twice over—that is, by paying a contribution to the society in addition to the ordinary insurance contribution the members may go to any doctor when ill and the doctor's fees will be paid up to a certain amount per attendance by the society. This plan allows the member to go to a non-panel doctor as well as a panel doctor; it also allows the doctor to supply medicines, and further entitles to specialist treatment, which is not provided under the Insurance Act. But it has frequently happened that a member of the society requiring only ordinary treatment for some slight ailment has gone to his former medical attendant who is now on the panel, has presented his insurance pink card which the doctor has signed, and the question has then arisen, May the doctor receive payment both from the Panel Fund and also from the funds of the Warehousemen and Clerks' Association for one and the same attendance? To this the Salford Insurance Committee has replied by the following resolution, which is being sent to all practitioners working under the Insurance Act in the district:

> That medical practitioners cannot be allowed to charge against the Panel Fund for the medical attendance and treatment of insured persons in respect of whom they have already received or will receive payment from another source.

Some fine points are raised by the above questions; for example, when the question of mileage is involved. A former private patient who is now insured may be living three or four miles away from his old medical attendant, who is now on the panel; but, as there are numerous other panel doctors within a short distance of the insured person's residence, and mileage cannot on that account be claimed from the Panel Fund, the doctor is unwilling to go so far, even though the patient may urgently request him. In such a case it has been generally understood that there would be no objection to the doctor receiving the ordinary fees without mileage from the Panel Fund, while the patient agreed to pay mileage out of his own pocket, seeing that, if this were not done, the doctor would be quite at liberty to refuse to attend at all.

BLACKPOOL.

Temporary Residents.

ON August 18th the Medical Benefits Subcommittee of the Blackpool Insurance Committee met the Local Medical Committee and the panel practitioners for the purpose of making arrangements for the treatment of temporary residents. Mr. Vivian was present on behalf of the Commissioners.

After discussion Mr. VIVIAN explained the liability of the Commissioners in the matter, and stated that if the members of the panel refused the terms offered, the panel would be declared inadequate, and advantage would be taken of Section II of the new Act and arrangements made outside those at present in force.

It was urged that an immediate settlement should be arrived at, and the medical men present were asked to adjourn to another room in the building, and if possible come to some decision.

On a vote being taken, it was found that a large majority were in favour of deferring matters until a further meeting of members of the Panel and Medical Committee had been held.

The Medical Benefits Subcommittee thereupon appointed a small committee to deal temporarily with urgent cases.

A meeting of the Blackpool Medical Committee and members of the panel was held on August 22nd, when Dr. BUTCHER moved that a former resolution passed on April 30th be rescinded and the terms for treatment of temporary residents be accepted. Dr. DAY moved as an amendment that the meeting should adhere to the former resolution and refuse the terms laid down in Circulars 159/I.C., 161/I.C., and 171/I.C. The amendment was carried by 9 votes to 6.

An emergency meeting of the panel was held on August 24th, when it was announced that three local medical men had signified their willingness to accept the Commissioners' terms for the treatment of temporary residents.

Dr. BUTCHER announced that he had received a telephonic communication from the Commissioners on the previous day to the effect that they were prepared to send to the town two medical men to attend to the temporary residents if necessary. After discussion, the meeting decided by 9 votes to 7 to abandon the attitude hitherto held and to recommend that practitioners on the panel be free to accept green vouchers if they so wished.

CORRESPONDENCE.

THE BRITISH MEDICAL ASSOCIATION AND THE LOCAL MEDICAL COMMITTEES.

DR. J. CAMERON TURNBULL (Secretary of the Bury Division of the British Medical Association and of the Bury Local Medical Committee) writes: I should like to endorse the views of Dr. Larking, as stated in his letter in the SUPPLEMENT of August 23rd, page 222. If the Council wishes to raise and maintain a special fund, it must first organize a scheme which will not only raise money easily, economically, and equally, but will impress the members with its capability for doing the utmost amount of good work with the smallest percentage of waste.

A central fund raised by voluntary subscriptions can never fulfil these conditions for reasons which are apparent to all who have done divisional work in the last few years. The experience in this Division may help to show this.

My Division consists of a county borough with surrounding boroughs and rural districts. Two years ago, it was divided roughly into five districts each with a local secretary who is also a member of the executive. The duties of the local secretaries are mainly (1) to represent their districts, (2) to obtain new members, and (3) to collect money, and they have been extremely useful in all respects. In regard to the third point most particularly they are now engaged in collecting a third levy of 5s. a head from members and non-members alike. This levy goes to form an extraordinary fund from which are paid the expenses of the Representative and other expenses not allowed by head quarters. They have also by this means raised guarantees for the Central Defence Fund amounting to nearly £1,000, an average of £13 a member.

Since the beginning of this year Local Medical Committees have been instituted, and we are now discussing means of co-ordination. This should be fairly easy as regards boundaries, as the Division almost exactly corresponds with three insurance areas. Coming to finance, we have the proposal of the Council to collect a fund centrally and distribute doles to local areas. In this, however, I foresee great difficulties. In the first place, it would be difficult to collect. Without local effort the Central Defence Fund would have been a greater failure than it is at present. To put it bluntly, a call from London is more easy to evade than a call from one's neighbouring practitioners. In the second place, there will be no interest in economical administration, a fact which has been obvious in the ordinary financing of the Division.

I should suggest, therefore, (1) that the subscriptions should be fixed and collected locally, (2) that the area of the Local Medical Committee should be the unit. The committee contains or represents every class of practitioner, whether members of the British Medical Association or not, and it is not necessarily confined to insurance work. It should collect its subscriptions in whatever way it may decide, pay its own expenses and its prearranged contribution to the Division. In all local details it should be autonomous, subject to the Division and decisions of the Association. The Division should co-ordinate the Local Medical Committee's areas to make conditions of service correspond as much as is necessary. From its special fund it should pay its representative and its "capitation" contribution to the Central Fund. The experience of Leicester and Rutland has even shown that the Division may register itself as a trade union to administer its special fund, and so it may be left to each Division to have this option.

The advantages of this scheme are: (1) That it takes the Local Medical Committees which are now statutorily recognized and in which most practitioners are now pecuniarily interested and fits them into the plan of the British Medical Association. It guards against separation from the Association by making no attempt to "capture" them but simply offering them the advantages of the British Medical Association organization—at a price. They need not contribute, but if they do not they lose the privilege of a national organization. (2) That the fund will be more easily collected. (3) That there will be a great saving to head quarters.

At first sight it would appear as if this proposal would add another burden to the poor secretaries, but as it will unify all levies and funds previously in existence, it will tend to lighten the obnoxious duty of dunning, especially with the forthcoming contribution from the panel fund—an amendment to the Insurance Act which all secretaries will hail with delight.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN ninety-six of the largest English towns 7,589 births and 4,125 deaths were registered during the week ending Saturday, August 9th. The annual rate of mortality in these towns, which had been 11.3, 11.0, and 11.6 per 1,000 in the three preceding weeks, further rose to 12.0 per 1,000 in the week under notice. In London the death-rate was equal to 11.4, against 10.4, 10.6, and 10.4 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rates ranged from 4.5 in Wimbledon, 4.6 in Cambridge, 5.0 in Merthyr Tydfil, 5.1 in Willesden, 5.8 in Oxford, and 6.0 in Ilford to 18.3 in St. Helens, 18.4 in Walsall, 19.4 in Dewsbury, 19.5 in Wigan, 19.8 in Aberdare, and 21.2 in Birkenhead. Measles caused a death-rate of 1.3 in Norwich, 2.8 in Stoke-on-Trent, and 3.0 in West Bromwich, in Dudley, and in Aberdare. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 43, or 1.0 per cent. of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 8 were registered in Birmingham, 3 each in London, Gloucester, and Liverpool, and 2 each in Portsmouth, St. Helens, Southport, Darlington, and Carlisle. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 1,978, 2,100, and 2,125 at the end of the three preceding weeks, had risen to 2,131 on Saturday, August 9th; 244 new cases were admitted during the week, against 357, 346, and 258 in the three preceding weeks.

In ninety-six of the largest English towns 9,266 births and 4,569 deaths were registered during the week ending Saturday, August 16th. The annual rate of mortality in these towns, which had been 11.0, 11.6, and 12.0 per 1,000 in the three preceding weeks, further rose to 13.3 per 1,000 in the week under notice. In London the death-rate did not exceed 12.1, against 10.6, 10.4, and 11.4 in the three preceding weeks. Among the ninety-five other large towns the death-rates ranged from 2.4 in Ilford, 2.9 in Eastbourne, 4.4 in Bournemouth, 5.4 in Ealing, and 5.5 in Cambridge, to 18.8 in Bootle, 18.9 in St. Helens, 21.2 in Walsall, 21.8 in Wigan, and 21.9 in Birkenhead. Measles caused a death-rate of 1.3 in Norwich, of 2.0 in Stoke-on-Trent and of 3.0 in Aberdare. The mortality from the remaining infective diseases showed no marked excess in any of the large towns and no fatal case of small-pox was registered during the week. The causes of 33, or 0.7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; of this number, 7 were registered in Birmingham and 5 in Liverpool. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,100, 2,125, and 2,131 at the end of the three preceding weeks, slightly fell to 2,124 on Saturday, August 16th; 230 new cases were admitted during the week, against 346, 258, and 244 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,081 births and 609 deaths were registered during the week ending Saturday, August 9th. The annual rate of mortality in these towns, which had been 13.2, 13.1, and 14.8 per 1,000 in the three preceding weeks, fell to 14.1 during the week under notice, but was 2.1 per 1,000 above the rate recorded in the ninety-six large English towns. Among the several towns the death-rates ranged from 6.0 in Kilmarnock, 9.1 in Leith, and 10.4 in Perth to 15.6 in Kirkcaldy, 16.8 in Ayr, and 22.6 in Dundee. The mortality from the principal infective diseases averaged 1.8 per 1,000, and was highest in Greenock and Motherwell. The 288 deaths from all causes registered in Glasgow included 25 from infantile diarrhoea, 16 from measles, 5 from whooping-cough, and 2 from diphtheria. Two deaths from measles were recorded in Paisley and 2 in Greenock; 2 from scarlet fever in Edinburgh; 2 from diphtheria in Aberdeen; and 4 from infantile diarrhoea in Dundee and 3 in Motherwell.

In the sixteen largest Scottish towns 1,103 births and 567 deaths were registered during the week ending Saturday, August 16th. The annual rate of mortality in these towns, which had been 13.1, 14.8, and 14.1 in the three preceding weeks, further fell to 13.1 per 1,000 in the week under notice, and was 0.2 per 1,000 below the rate in the ninety-six large English towns. Among the several Scottish towns the death-rates last week ranged from 6.0 in Kilmarnock, 8.4 in Leith, and 8.5 in Clydebank to 14.9 in Perth, 17.6 in Hamilton, and 19.2 in Coatbridge. The mortality from the principal infective diseases averaged 1.8 per 1,000, and was highest in Greenock and Hamilton. The 281 deaths from all causes registered in Glasgow included 28 from infantile diarrhoeal diseases, 9 from measles, 7 from whooping-cough, and 5 from diphtheria. Diarrhoeal diseases caused 6 deaths in Dundee and 3 in Hamilton.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, August 9th, 551 births and 357 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 663 births and 381 deaths in the preceding period. These deaths represent a mortality of 15.5 per 1,000 of the aggregate population in the districts in question, as against 16.6 per 1,000 in the previous period. The mortality in these Irish areas was therefore 3.5 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 24.0 per 1,000 of the population. As for mortality of individual localities, that in the Dublin registration area was 17.9, as against an average of 16.5 for the previous four weeks, in Dublin city 19.6 (as against 17.4), in Belfast 15.1 (as against 15.7), in Cork 15.0 (as against 19.9), in Londonderry 12.7 (as against 14.6), in Limerick 9.5 (as against 12.9), and in Waterford 30.4 (as against 24.2). The zymotic death-rate was 2.8, as against 2.0 in the previous week.

During the week ending Saturday, August 16th, 616 births and 442 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 551 births and 357 deaths in the preceding period. These deaths represent a mortality of 19.2 per 1,000 of the aggregate population in the districts in question, as against 15.5 per 1,000 in the previous period. The mortality in these Irish areas was therefore 5.9 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 26.8 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 18.6, as against an average of 17.2 for the previous four weeks; in Dublin city, 21.0 (as against 18.6); in Belfast, 20.9 (as against 14.7); in Cork, 25.2 (as against 22.8); in Londonderry, 17.8 (as against 15.6); in Limerick, 16.2 (as against 13.2); and in Waterford, 20.9 (as against 23.3). The zymotic death-rate was 4.0, as against 2.8 in the previous week.

Naval and Military Appointments.

ARMY MEDICAL SERVICE.

Colonel Edmund J. E. Rish has retired on retired pay, August 20th.

Royal Army Medical Corps.

Lieutenant-Colonel Walter C. Beevor, C.M.G., M.B., has retired on retired pay, August 20th.

Lieutenant-Colonel H. D. Rowan appointed to take charge of King George V Military Hospital, Dublin, from October 1st.

Major C. G. Spencer and Major E. M. Williams have been placed on retired pay, July 29th.

Major H. K. Palmer appointed Senior Medical Officer, British Troops, Aden.

Major D. J. Collins appointed to the command of the Station Hospital, Kirkee.

Major R. G. Meredith appointed to Ceylon.

Major C. C. Cumming appointed Clinical Pathologist at Malta.

Major G. B. Crisp has been selected for service in South China.

Captains L. A. A. Andrews and C. E. W. Fawcett appointed to Cork for duty.

Captain G. G. Tabuteau appointed a Specialist in Operative Surgery at Cork.

Captain C. F. White appointed a Specialist in Dermatology at Dublin.

Captain T. H. Gibbon appointed a Specialist in Bacteriology at Dublin.

Captains R. G. G. Meredith, C. W. O'Brien, and H. G. Sherren appointed to the London District for duty at Queen Alexandra Military Hospital.

INDIAN MEDICAL SERVICE.

Colonel A. O. Evans has been confirmed as Inspector-General of Civil Hospitals, Burma, with effect from June 30th.

Colonel R. N. Campbell, C.B., C.I.E., has been granted combined leave for eight months, with effect from August 2nd, 1913, and Lieutenant-Colonel H. E. Banatvala, I.M.S., has been selected to succeed him.

The services of the undermentioned officers have been replaced temporarily at the disposal of His Excellency the Commander-in-Chief in India, with effect from the dates mentioned against their names: Lieutenant-Colonel W. E. Jennings, M.D., July 14th; Lieutenant-Colonel T. E. Dyson, M.B., July 15th.

Lieutenant-Colonel P. Carr-White has, on return from leave, been posted as Agency Surgeon, Kotah and Jhalawar, with effect from July 1st, 1913.

The services of Lieutenant-Colonel D. M. Davidson have been replaced at the disposal of the Government of the Punjab with effect from June 26th, 1913.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The following Lieutenants to be Captains: G. R. Ward, July 8th; G. E. Shand, July 20th; S. J. Steward, M.D., July 28th; Philip W. Mathew, June 30th.

The following to be Lieutenants on probation: Cadet Lance-Corporal John F. W. Meenan, from the Belfast University Contingent, Officers' Training Corps, June 27th; Cadet Claud A. Slaughter, from the Edinburgh University Contingent, Officers' Training Corps, July 14th; Cadet Sergeant Stanley W. Hoyland, from the Edinburgh University Contingent, Officers' Training Corps, July 25th; Frederick L. Tulloch, M.B., late Cadet Lance-Sergeant, Edinburgh University Contingent, Officers' Training Corps, June 16th; Cadet Staff-Sergeant Thomas W. E. Elliott, from the Belfast University Contingent, Officers' Training Corps, July 7th; R. Montgomery, M.B., July 11th; Cadet Sergeant W. A. Lethem, from the Edinburgh University Contingent, Officers' Training Corps, July 20th.

TERRITORIAL FORCE.

Royal Army Medical Corps.

Eastern Mounted Brigade Field Ambulance.—Captain Meredith S. Doubble resigns his commission, July 23rd.

Third Northern General Hospital.—Captain George H. Pooley, F.R.C.S., from the list of officers whose services are available on mobilization, to be Captain in the permanent personnel, July 30th.

Third Highland Field Ambulance.—Captain John Tait, from the list of officers attached to units other than medical units, to be Captain, July 12th; Captain John Tait is appointed to act as Transport Officer, July 12th.

Second London (City of London) Field Ambulance.—Lieutenant Leslie Rawes, from the Third Wessex Field Ambulance, R.A.M.C., to be Lieutenant, July 9th.

Third South Midland Field Ambulance.—David W. Rintoul, M.B., (late Cadet, St. Andrews University Contingent, Senior Division, Officers' Training Corps) to be Lieutenant, June 1st.

First London (City of London) Field Ambulance.—Lieutenant Duncan C. L. Fitzwilliams, M.D., F.R.C.S., to be Captain, July 3rd.

Fourth London Field Ambulance.—Lieutenant Alfred J. Williamson, M.B., from the First Highland Field Ambulance, R.A.M.C., to be Lieutenant, June 19th.

First North Midland Field Ambulance.—Captain James D. Allen, M.B., resigns his commission, August 9th.

First Northern General Hospital.—William F. Wilson, M.B., to be Captain whose services will be available on mobilization, August 9th.

Supernumerary for Service with the Officers' Training Corps.—Harold K. Griffith, M.B. (late Lieutenant 9th, City of London, Battalion London Regiment, Queen Victoria's Rifles) to be Lieutenant, for service with the medical unit of the University of London Contingent, Senior Division, Officers' Training Corps, July 23rd.

Sanitary Service.—Major David Smart, M.B., to be Lieutenant-Colonel, March 20th.

Attached to Units other than Medical Units.—Captain Hugh Dickie M.D., resigns his commission and is granted permission to retain his rank and to wear the prescribed uniform, July 26th. Captain George R. Livingston, M.B., to be Major, May 26th. Lieutenant Herbert E. Corbin to be Capiain, May 20th. Captain Robert W. Forrest, M.B., to be Major, June 24th. Captain Mark P. M. Collier, M.B., F.R.C.S., resigns his commission, August 9th.

For Attachment to Units other than Medical Units.—James A. Stenhouse, M.B., to be Lieutenant, June 9th. William J. Cruickshane, M.B., to be Lieutenant, May 30th. George B. H. Jones to be Lieutenant, June 5th. John M. Hamill (late Lieutenant, Fourth London Brigade Company, Second London Divisional Transport and Supply Column, A.S.C.) to be Lieutenant, August 6th.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

BANBURY: HORTON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BARNSTAPLE: NORTH DEVON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BATH: ROYAL UNITED HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BEDFORD COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £80 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant to the Electrical Department. Honorarium at the rate of 52 guineas per annum.

BRADFORD: CHILDREN'S HOSPITAL.—House-Surgeon. Salary £100 per annum.

BRENTFORD UNION.—Medical Superintendent of Infirmary and Medical Officer of Workhouse and Schools. Salary, £400 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £125 per annum.

BRIGHTON: THE ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—House-Surgeon. Salary at the rate of £80 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House-Surgeon. Salary, £80 per annum.

BRISTOL ROYAL INFIRMARY.—House-Physician. Salary at the rate of £100 per annum.

BURY INFIRMARY.—Senior House-Surgeon. Salary, £110 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—House-Surgeon (male). Salary, £70 per annum.

CANTERBURY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £200 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—House-Surgeon (male). Salary at the rate of £60 per annum.

CARLISLE: CUMBERLAND INFIRMARY.—Resident Medical Officer (male). Salary at the rate of £80 per annum for first six months, rising to £100.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary, £200 per annum.

CARNARVONSHIRE EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £150 per annum.

CHESTER GENERAL INFIRMARY.—House-Physician. Salary, £90 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £90 per annum.

CORNWALL COUNTY SANATORIUM.—Medical Superintendent. Salary, £300 per annum.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £75 per annum.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House-Surgeon. Salary, £120 per annum.

DORCHESTER COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £200 per annum.

EDAY PARISH.—Medical Officer. Salary, £70 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of 100 guineas per annum.

GATESHEAD DISPENSARY.—Assistant Medical Officer (non-resident). Salary, £200 per annum.

GRIMSBY AND DISTRICT HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

HALIFAX: ROYAL HALIFAX INFIRMARY.—(1) Senior House-Surgeon; (2) Third House-Surgeon (males). Salary, £120 and £80 per annum respectively.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £70 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—House-Surgeon. Salary, £30 for six months, and £2 10s. washing allowance.

HULL ROYAL INFIRMARY.—(1) Assistant House-Surgeon; salary, £100 per annum. (2) Casualty House-Surgeon; salary at the rate of £60 per annum for six months' appointment, or £80 for twelve months. (3) House-Physician; salary, £100 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LEICESTER POOR LAW INFIRMARY.—Second Resident Assistant Medical Officer. Salary, £150 per annum.

LINCOLN COUNTY HOSPITAL.—Junior Male House-Surgeon. Salary at the rate of £100 per annum.

LIVERPOOL INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer. Salary, £140 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) Two House-Physicians; (2) Three House-Surgeons. Salary at the rate of £60 per annum.

LIVERPOOL: STANLEY HOSPITAL.—Junior House-Surgeon. Salary, £75 per annum.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Assistant Resident Medical Officer. Salary, £150 per annum.

MAIDSTONE: KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer. Salary, £200 per annum, rising to £220.

MANCHESTER AND SALFORD HOSPITAL FOR SKIN DISEASES.—House-Surgeon. Salary, £75 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Officer (male). Salary for six months at the rate of £100 per annum, rising to £120.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Out-Patients and Accidents. Salary at the rate of £100 per annum.

MARGATE: ROYAL SEA-BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary, £120 per annum.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary at the rate of £80 per annum for first four months, rising to £120.

NORTHAMPTON COUNTY ASYLUM, Berrywood.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £225.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer (male). Salary, £150 per annum, rising to £175.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Senior Resident Medical Officer (male). Salary at the rate of £100 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £75 per annum.

RICHMOND (SURREY): ROYAL HOSPITAL.—House-Surgeon. Salary, £100 per annum.

SALISBURY GENERAL INFIRMARY.—Assistant House-Surgeon. Salary, £50 per annum.

SHEFFIELD: ROYAL INFIRMARY.—(1) House-Surgeon; (2) Ophthalmic House-Surgeon; (3) Ear and Throat House-Surgeon. Salary for (1) £80, and for (2) and (3) £70 per annum.

SHEFFIELD: ROYAL HOSPITAL.—Assistant House-Physician. Salary, £80 per annum.

SHEFFIELD UNIVERSITY.—Junior Demonstrator in Pathology. Salary, £150 per annum.

SOUTH AFRICA.—Junior Medical Officer for Lunatic and Leper Asylum Service. Salary, £280 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE INFIRMARY.—Junior House-Surgeon (male). Salary, £115 per annum.

STOCKTON-ON-TEES EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £250 per annum.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMARY, Hartshill.—Two House-Surgeons. Salary, £110 per annum, rising to £150.

SUNDERLAND: ROYAL INFIRMARY.—Resident Medical Officer to the Children's Hospital. Salary at the rate of £80 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £80 per annum.

TRINIDAD.—Two Supernumerary Medical Officers for Colonial Medical Service. Salary, £250 per annum.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL: DEPARTMENT OF BACTERIOLOGY.—Demonstrator.

WEST HAM AND EASTERN GENERAL HOSPITAL.—(1) Junior House-Physician. (2) Junior House-Surgeon. Salary, £75 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Two House-Physicians and Three House-Surgeons.

WINDSOR: KING EDWARD VII HOSPITAL.—Second House-Surgeon. Salary, £75 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £100 per annum.

WARRINGTON UNION.—Assistant Resident Medical Officer (male). Salary, £150 per annum.

WEST HAM UNION INFIRMARY.—Third and Fourth Assistant Resident Male Medical Officers. Salary, £130 and £120 per annum respectively.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £125 per annum.

WORCESTER GENERAL INFIRMARY.—Resident Medical Officer. Salary, £150 per annum.

WREXHAM INFIRMARY.—Resident House-Surgeon. Salary, £120 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Harleston (Norfolk), Lisbellaw (co. Fermanagh), Skibbereen (co. Cork), Sunderland (Durham).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

DROUGHT, P. J., L.R.C.P. and S.Irel., District Medical Officer of the Romford Union.

O'BRIEN, M. A. A., L.R.C.P. and S.Irel., Certifying Factory Surgeon for the Fermoy District, co. Cork.

O'KELLY, T., M.D.R.U.I., Certifying Factory Surgeon for the Chipping Norton District, co. Oxford.

PEYTON, Thomas Henry, M.A., M.D., D.P.H.(T.C.D.), Chief Tuberculosis Officer to the County Council of Cheshire.

PICKARD, Miss, M.B., B.S., Assistant to the Clinical Pathologist at the Royal Free Hospital, Gray's Inn Road, W.C. (half time).

RICHARDS, Miss, M.B., B.S., Assistant to the Clinical Pathologist at the Royal Free Hospital, Gray's Inn Road, W.C. (half time).

SMITH, John, M.A., M.D.Edin., M.R.C.S.Eng., L.R.C.P.Lond., Medical Referee under the Workmen's Compensation Act (1906) for the Sheriffdom of Fife and Kinross (Kirkcaldy District).

TEBBUTT, Hamilton, M.B., Ch.M., D.P.H., Chief Resident Pathologist, Royal Prince Alfred Hospital, Sydney, N.S.W.

WARD, E. L., M.R.C.S., L.R.C.P., Medical Officer of the Merthyr Tydfil Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

ALMOND.—On August 14th, at 6, Brock Street, Bath, the wife of G. Hely-Hutchinson Almond, M.A., B.M., B.Ch.Oxon., M.R.C.S.Eng., L.R.C.P.Lond., of a son.

GOING.—At Erinagh, Littlehampton, Sussex, the wife of R. M. Going, F.R.C.S., a son.

GRÜNBAUM.—On August 25th, at St. Helens, Adel, to Dr. and Mrs. Grünbaum, a son.

MARRIAGES.

KNOX—VANCE.—On August 23rd, at Rosslyn Hill Chapel, Hampstead, by the father of the bride, Robert Knox, M.D., of 7, Harley Street, London, to Alice Vance, M.B., third daughter of the Rev. G. H. Vance, B.D., of Highgate, late of Stephen's Green Church, Dublin.

KERR—DEAN.—On August 20th, at St. George's Church, Jesmond, Harold Kerr, M.D., D.P.H., Medical Officer of Health, Newcastle-upon-Tyne, to Elsie, daughter of Mr. and Mrs. Frank Dean, of Mitchell Avenue, Jesmond, Newcastle-upon-Tyne.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.—Continuation of the Post-graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

EDINBURGH POST-GRADUATE COURSES.—(*a*) General Course: Clinics in Obstetrics, Surgery, Skin, and Eye Diseases; Demonstrations in Medical and Morbid Anatomy and Histology. (*b*) Surgical Course: Operative Surgery and Surgical Anatomy and Pathology. (*c*) Special Course: Vaccine Therapy and Ophthalmoscopy.

LONDON HOSPITAL MEDICAL COLLEGE.—Demonstrations in Clinical Surgery, Monday, at 10.30 a.m.; other days at 2 p.m., except Saturday.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Continuation of the Vacation Course on Gynaecology, Ophthalmology, Pediatrics, and Throat, Nose, Ear, and Skin Diseases.

[*For further particulars of Lectures consult the Index to Advertisements.*]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 6TH, 1913.

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Meetings of Branches and Divisions.

[The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the JOURNAL.*]*

YORKSHIRE BRANCH:
HALIFAX DIVISION.

A MEETING of the Division was held at Halifax on August 22nd, when Dr. DRURY was in the chair, and fifteen other members were present.

Dr. DRURY, the Representative of the Division, gave a short but interesting account of the main features of the Annual Representative Meeting.

Appointment of new Honorary Secretary.—A vote of thanks to the retiring Secretary, Dr. J. F. Gill, was proposed by Dr. SHAW and seconded by Dr. MARSHALL, and carried. On the motion of Dr. STEELE, seconded by Dr. HARRIS, Dr. W. B. Wishart was unanimously appointed Honorary Secretary to the Division.

Medical Referees under the Insurance Act.—A letter was read from the Honorary Secretary of the Halifax Local Medical Committee, drawing the attention of the Division to the fact that medical referees were already being sent by approved societies to examine insured persons, and asking that the Division should lay down definite rules as to fees and ethical procedure in these cases. After some discussion the following resolution, proposed by Dr. DRURY and seconded by Dr. STEELE, was carried, and ordered to be placed on the agenda of the next Division meeting and a copy to be sent to every medical man in the Division:

> That this Division considers that the minimum fee charged by a medical referee under the Insurance Act should be one guinea per examination, and that the medical referee should make no examination without first communicating with the patient's own doctor.

In the resolution as originally proposed, the minimum fee was fixed at 10s. 6d., but this was thought to be inadequate, and on the motion of Dr. HUNT, seconded by Dr. BRANSON, an amendment fixing the fee at one guinea was carried unanimously.

Contract Practice outside the Insurance Act.—At a meeting of the Division held on June 11th last, a resolution of which due notice had been given was carried by a sufficient majority, disapproving of contract practice outside the Insurance Act. This became binding on all members of the Division. The Executive Committee instructed the Secretary to write to two members who were known to be carrying on such practice, to ask whether they intended to discontinue doing so. Their replies were read to the meeting, and instructions were given with regard to future action.

Milward Fund.—A letter was read from the Honorary Secretary of the Milward Fund, asking for a collective subscription from the Division. It was decided, on the motion of Dr. MARSHALL, seconded by Dr. HUNT, to take a collection at once, and a further collection at the next meeting. The first collection realized £2 5s.

Ambulance Lectures for the Halifax Education Committee.—Dr. HUNT reported that he was asked to lecture at the Technical School last winter, at £1 1s. a lecture. After giving a course of eight lectures he was offered five guineas, which he refused to accept. The reason given for offering lower fees than those agreed on was that he had only lectured for an hour instead of two hours. No agreement as to the length of lecture had been made beforehand, and it was found that the London County Council paid one guinea a lecture of whatever duration. Those present were advised not to give ambulance lectures without first having a satisfactory agreement as to fees and conditions in writing. The subject was ordered to be placed on the agenda of the next meeting of this Division.

Examination, with Especial Reference to Phthisis, for Admission to a Club.—A member reported that he had been asked to examine a candidate applying for membership of an approved society, who had been treated for pulmonary tuberculosis four years ago, and to report especially as to the condition of the applicant's lungs. The member wished to know whether he ought to charge a higher fee than the 2s. 6d. fixed by the Division. It was decided that he need not do so.

SOUTH AFRICAN COMMITTEE.

A MEETING of the South African Committee of the British Medical Association was held on July 9th and 12th at East London, when the following members were present: Sir Kendal Franks, Drs. G. A. E. Murray, Barcroft Anderson, Ganteaume, Alexander, Moffat, Richardson (for Jasper-Anderson), Reynolds (for Matthew Hewat), F. Murray (for J. Petersen), and Campbell Watt. Dr. Tomory (for Dr. Ward) attended the last meeting only. Dr. G. A. E. Murray also represented Dr. Maynard, and Dr. Watt represented Drs. Hyslop and Strapp.

Elections to the Committee.—Intimation was made that the Rhodesian Branch had elected Dr. Strong (with the Branch president *ex officio*), and the Orange Free State Branch Drs. Ward and De Kock with the Branch president *ex officio*) the members of the committee.

Annual Report.—The annual report for the year ending December 31st, 1912, and the treasurer's report and balance sheet were adopted, and the Secretary was instructed to send printed copies to each member of the Association in South Africa.

Treasurership.—Dr. CAMPBELL WATT resigned the office of treasurer, as the work of secretary was as much as he could manage, and Dr. Barcroft Anderson was elected to the treasurership.

Defence Force: Medical Administration.—Certain correspondence with Ministers was read as to the medical work of the new Defence Force, in which the Minister for

Defence expressed his gratification with the work done by the subcommittee in consultation with Dr. Stock in the way of preparing a scheme for the permanent organization of the medical administration. The President made a report of the action taken by the subcommittee. A summary of the scheme above mentioned was considered by the Committee, and certain queries and observations formulated. The Secretary was instructed to forward the comments of the Committee to the Minister, and to send each Branch a copy of the summary and comments for its consideration.

Relation of the Committee to the Branches.—Two sets of resolutions passed by the meeting of Branch delegates held during the Congress were laid before the meeting and approved. These resolutions were the result of a discussion on the relation of the South African Committee to the Branches, and were to the effect:

1. That the members of this Committee, representing each Branch, should meet together and discuss the agenda of each forthcoming meeting of Committee, and, if need be, to take the opinion of their Branch on important matters. Further, that they ought always to furnish to the Committee at its meetings their views on all questions of consequence.
2. That the Committee, in considering the question of recruit examination, arrived at its decision after consideration of such information as had been laid before it by its members; that Branches knew of the circular in question, and that there had been no time to consult the Branches on the subject; that Branches are pledged by the regulations to abide by the decisions of the South African Committee, and that the decisions of the Committee should be supported, otherwise the unity of the profession would be destroyed.

Examination of Recruits.—The meeting approved of the President acceding to the request contained in a resolution to be submitted to a special meeting of Congress, and give a full statement of the reasons the Kimberley meeting had for coming to the decision it did as to examination of recruits.

Fees for Medical Evidence.—Regarding the question of court fees for medical evidence, the SECRETARY reported that the Branches had not yet taken the subject in hand.

Proposed Meeting of the Association in South Africa.—The proposal that the Association should hold one of its annual meetings in South Africa had to be abandoned owing to the many difficulties the officials of the Association foresaw.

Proposed New Branches.—The desire of each of the Natal and Transvaal Branches to dissolve and create each of their two Divisions respectively into a Branch was approved.

Eligibility for Membership.—The proposal by the Natal Branch to alter Article 4 of the Articles of Association so as to make all practitioners registered anywhere within the Empire eligible for membership of the Association was approved.

Medical Benevolence and Defence.—As regards medical benevolence and defence schemes, the Secretary was instructed to submit the question of their formation to the Branches, the Medical Secretary of the Association having pointed out that such schemes could be established locally on a voluntary basis.

Proposed Legislation in Natal.—The Western Branch members of the Committee were appointed a subcommittee to watch the Natal Health Bill and the University Bill if they came before Parliament again.

First Aid and Ambulance.—On the subject of medical services to first aid and ambulance societies the Committee resolved to remit to Branches its recommendation that there should be uniformity of examinations and payment of lecturers and examiners.

Referendum.—Notice to alter the Regulations of Committee was given so that any two members might, within forty-eight hours of receiving a copy of the minutes, demand a referendum, and that any member found guilty of unprofessional conduct by the Medical Council should *ipso facto* cease to be a member of the South African Committee.

Expenses of Members.—Notice was also given to consider the expediency of paying the fares of members attending meetings of committees not held at a congress and 21s. per day subsistence allowance.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

EAST ANGLIAN BRANCH.—Dr. B. W. Nicholson, General Secretary, gives notice that the autumn meeting of the Branch will be held at King's Lynn on Thursday, September 25th. Members wishing to read papers or to show cases or specimens should communicate at once with the Secretary for Norfolk, Mr. Hamilton A. Ballance, M.S., All Saints Green, Norwich.

INSURANCE NOTES.

IRELAND.

Irish Medical Committee.

THE new Irish Medical Committee, which to a certain extent takes the place of the recent Conjoint Committee, held its first meeting in Dublin on August 27th. Dr. MacNamara (Kilmallock) was appointed chairman and treasurer, Dr. R. J. Johnston (Belfast) was appointed vice-chairman, and Dr. M. R. J. Hayes was appointed medical secretary.

A deputation was appointed, consisting of the officers along with Dr. McArdle and Dr. Marlay Blake, to interview the Insurance Commissioners and take the necessary steps to secure the additional grant promised by Parliament for certification purposes. Finance and Executive Committees were then appointed. A resolution was passed requesting all the medical corporations not to appoint to any of their offices any doctor who had accepted the post of "Medical Adviser" to the Insurance Commissioners. And a further resolution was passed requesting consultants throughout Ireland to make inquiry *re* "Medical Advisers" before seeing a patient in consultation. The question of whether he will meet a "Medical Adviser" or not is in each case left to the discretion of the consultant, but the general opinion of the profession in Ireland is that a consultation with a "Medical Adviser" should be refused except in special circumstances.

Limerick Doctors and Certification.

At a meeting of the County Limerick medical practitioners, held at Limerick, Dr. P. J. MacNamara, Kilmallock, was elected representative of the county on the Irish Medical Committee. The following resolution was passed unanimously:

That as the Commissioners have continued to appoint medical advisers for certification, contrary to the unanimous wish of the medical profession, we refuse to work the tuberculosis scheme until the pledge given by the Irish Parliamentary Party is redeemed, and until the Treasury pays over to this country the equivalent grant of £120,000 due to it.

Another resolution was passed condemning the action of those medical men who accepted the post of medical advisers under the Insurance Act.

Ancient Order of Hibernians and the Doctors.

The Athy division of the Ancient Order of Hibernians has communicated a resolution passed at the last meeting of that body to the press. The resolution condemned the attempts made to prevent medical officers holding appointments as medical advisers under the Insurance Act by demanding that such doctors should not travel outside their dispensary districts, and offered every facility to any of their medical officers who accepted such appointments.

Dublin Insurance Committee.

At a recent meeting of the County Borough of Dublin Insurance Committee the following resolution was passed with reference to the complaints received from certain patients concerning their treatment at Crooksling Sanatorium:

That this Committee requests that a joint inquiry committee be elected, consisting of five members of the Insurance Committee and five members of the Joint Hospital Board, to inquire into recent complaints sent in by patients who were at Crooksling Sanatorium, and also to inquire into any future complaints which may be made.

With regard to the proposed payment of 10s. per week in respect of the treatment of extern patients at Dr. Steevens's Hospital, the Commissioners stated that, in their opinion, the amount was excessive, in view of the fact that the charge for intern patients at the institution was £1 per week. It was pointed out by the Committee that the latter charge did not cover light treatment. A letter was read from Sir Charles Cameron, intimating that the Municipal Council had directed the Tuberculosis Committee of Management to consult with the Insurance Committee regarding the lack of accommodation for advanced cases. This letter was referred to a subcommittee.

Increased Grant for Certification.

In a printed answer to a question the Chancellor of the Exchequer said that he was prepared to ask Parliament to increase the grant of £50,000 to Ireland by such an amount as might be necessary, subject to the limit of 2s. 6d. per insured person, which has been imposed in Great Britain not being exceeded in Ireland. This would mean an addition of £41,000, or £91,000 in all. At last the Chancellor of the Exchequor has admitted the correctness of the claims of the medical profession in Ireland that the original grant of £50,000 was totally inadequate for the purposes of certification. This is the first stage of the fight, and has ended in an unqualified success for the profession. But the second, and possibly the more important, part of the fight still remains, and that is, who is to receive and have the distribution of the money in their hands—the Insurance Committees or the friendly societies. If the latter obtain control of the money it is obvious that the medical profession will be worse off than if the grant had never been made, as it will be completely at the mercy of the societies in making terms for payment of certificates, as the societies, many of which are small and in a more or less bankrupt condition, will attempt to pay as little as possible for certificates in order to retain the more for their organization expenses. The first fight has been won by the much-abused Conjoint Committee, and it remains for the new Irish Medical Committee to spare no efforts until it is finally decided that the Insurance Committees and not the societies are to make arrangements and pay the doctors for the certificates.

Medical Adviser appointed in County Longford.

At their last meeting the Granard Board of Guardians received a letter from the Local Government Board, informing them that Dr. Reynolds had been appointed as medical adviser under the Insurance Act for the Granard Union. A letter was also read from Dr. Reynolds, stating that should he have occasion to leave the dispensary for any length of time in performance of his new duties he would make suitable arrangements at his own expense. The guardians considered this letter satisfactory.

Medical Advisers and Tuberculosis Medical Officers.

The following resolutions were passed by the County Galway Medical Committee at a recent meeting:

That we refuse, officially or unofficially, directly or indirectly, to co-operate in any way with the "Medical Advisers" appointed under the Insurance Act in the County Galway.

That, in our opinion, the proposals made by the Galway County Councils Insurance Committee of appointing part-time tuberculosis medical officers and "Medical Advisers" are not likely to further the objects aimed at by the Tuberculosis Acts, inasmuch as the working of the Acts must depend largely on the co-operation of the whole body of medical practitioners, whose support is likely to be alienated by these proposals.

LOCAL MEDICAL COMMITTEES.

CHESHIRE.

THE fifteenth meeting of this Committee was held on August 26th at Manchester. Dr. GARSTANG was in the chair, and ten members were present.

Dr. Percy Cooper having, to the regret of the Committee, resigned from the Insurance Committee, there was a vacancy for a direct representative of the profession. The name of Dr. Gray was proposed and accepted; but further action was postponed until the Commissioners have intimated what method of election (under Section 59 (*c*) of the Act) they will sanction. It was resolved:

That Drs. Okell, Oldershaw, and Wilson, as doctors appointed to the Insurance Committee otherwise than by the nomination of the profession, be invited as guests to the meetings of this Committee.

The CHAIRMAN outlined his proposals for bringing the British Medical Association areas into accord with the insurance areas; they were accepted in principle, and a committee was appointed to work out the details. The Chairman said that wherever local arrangements permitted, the areas should be rearranged to coincide. In future, district committees would be the starting-point of any action to be taken. Unless district committees were vigorous and active bodies under the control of this Committee, united action would not be attained. This Committee for the moment was capable of representing, on the one hand, the British Medical Association Divisions, for they elected it; and on the other hand the insurance interests, inasmuch as it was recognized by the Commission. It was therefore a suitable body to undertake the proposed rearrangement. The Divisions partly in Lancashire and partly in Cheshire would naturally be most affected. The profession in each county borough would properly form a separate Division.

Dr. HUGHES announced that the attempt to place a doctor, to whose conduct the profession had taken exception as unethical, upon a District Insurance Subcommittee had been keenly debated at the County Insurance Committee, and had failed.

Dr. GARSTANG reported on the meeting of representatives of Local Medical Committees at Brighton, and he and the Secretary were thanked for attending.

The following scale of payment asked from the extra mileage fund in South-East Cheshire was approved:

(*a*) 3s. extra capitation fee per mile beyond 3 miles, ordinary gradients.
(*b*) 4s. 6d. extra capitation fee per mile from doctor's house, extreme gradients.
(*c*) 1s. 6d. extra capitation fee per ¼ mile walking or bridle roads.

ESSEX.

THE ninth general meeting of the Local Medical Committee for Essex was held on Aagust 14th.

Repetitions.—A request by the Pharmacists' Association that fresh prescriptions should be written every month and after every quarter was forwarded through the Insurance Committee. As the Medical Services Subcommittee had previously agreed to the practice of using "Rep. mist.," it was decided to leave the matter *in statu quo*.

Temporary Residents.—Memorandum 171/I.C. was considered at length, but in the face of the fact that it has been admitted that the present agreement with practitioners did not warrant the innovation, it was decided to leave the Memorandum on the table.

New Agreements.—The question of the Insurance Committee consulting the Local Medical Committee on the matter of new agreements was discussed, and the following resolution was unanimously adopted:

That the Insurance Committee be requested to lay a draft of any new agreement before the Local Medical Committee three months before the date of its coming into force, in order that any necessary alterations may be submitted to practitioners before the final publication and issuing of such agreement.

It was considered that the regulations made it necessary for the Insurance Committee to consult the Local Medical Committee on this matter, it being a matter concerning medical benefit.

Tabulated List of Practitioners' Payments.—It was resolved to inform the Insurance Committee that it was undesirable to publish such a list except in so far as it was kept at the head office for reference.

Form of Certificate.—It was resolved that the wording on the certificate should be altered to "is unable to follow his usual employment," since great injustice has already resulted through insured persons having had certificates refused on account of their being able to work (though not able to follow their usual employment) yet being unable to obtain different work.

Resignation of Secretary.—The Secretary, Dr. Harding H. Tomkins, tendered his resignation, and a vote of thanks was passed after the CHAIRMAN had personally thanked

him and a proposition had been made to consider the possibility of remunerating the secretary. Dr. TOMKINS replied that while thanking the Committee he should prefer to retire, even if offered a salary, though he would remain on the Committee as an ordinary member.

Conference of Local Medical Committees.—As representative at this conference at Brighton Dr. TOMKINS said he did not consider there was sufficient unanimity to make the conference a success. The proposals for organizing the Local Medical Committees were indefinite and not likely to be successful.

Finance Fund.—Dr. TOMKINS reported that the response had been insufficient, partly on account of members thinking the British Medical Association Special Fund would supplant it; but he pointed out that the Special Fund could not come into force this year; and another member opined that it would be referred from the next Representative Meeting to the one following. Another member suggested that the amendment to deduct 1d. from every insured person's payment to the Drug Suspense Fund might be in force by next year; this would supply ample funds for working and organizing committees.

HALIFAX.

WE have received from Dr. P. Kingsley Steele, Honorary Secretary of the Halifax Local Medical Committee, an interesting report of the arrangements made in Halifax under the Insurance Act.

The proportion of insured persons in Halifax to the total population is very high, there being 42,000 insured persons in a population of 103,000 persons. The Committee has received statutory recognition.

Relations with the local chemists have been on the whole cordial. "Ordinary" drugs include all drugs and preparations in the *British Pharmacopoeia* and the *B.P. Codex*. For emergency drugs a flat rate of 6d. is charged to the drug fund. An arrangement has been adopted for the current year allowing chemists a copying fee of 1d. for each prescription copied. The cost of this is estimated at about £40 per month. Chemists are authorized to use tap water for dispensing, and methylated spirit for liniments. Many practitioners do not see insured persons on Thursday afternoon and evening (emergencies excepted); the chemists' shops are closed at these times.

The fee for uncomplicated insurance maternity cases is £1 1s.; for chloroform or forceps, or both, 10s. 6d. extra. If two practitioners are required the fee is £2 2s. Part of the borough, more than one mile from a chemist, has been declared a "rural area." The number of insured persons who have not yet chosen a doctor is about 2,000, and none are to be allocated to a panel list of more than 1,250; they are to be allotted geographically among the other panels in proportion to acceptances. Green vouchers have not yet been accepted, and negotiations are still pending as to aged and infirm members. The Committee adopted the surgical list of the Newcastle Medical Committee, but the Commissioners replied that the time had not yet come to define these services.

The Local Insurance Committee agreed to the use of the designation "patient" and "the doctor" only in cases investigated by the Medical Service Subcommittee. No agreement relating to future service has been yet drawn up; the Insurance Committee has agreed to supply copies of the agreement before it is issued. A levy of 2s. per 100 acceptances has already been made to meet expenses for the current year. Permission was sought for the use of the Insurance Committee's rooms, but an offer to sanction this at a charge of 2s. 6d. a meeting was declined. The present committee consists of ten members, which acts also as the Executive Committee.

CORRESPONDENCE.

MEDICAL REFEREES.

DR. JAMES HARRISON (Chairman, Tynemouth Local Medical Committee) writes: One of the most pressing subjects which all Local Medical Committees and all panel practitioners will have to face in the near future is the appointment of medical referees, with the object of lessening the amount of malingering so bitterly complained about by the approved societies.

We as a profession have been exceedingly slow and supine in realizing this fact, and have suggested no method of reducing the excessive sick claims made upon the societies. The Insurance Commissioners, however, have set the ball rolling, and have issued a memorandum to approved societies (Form A.S. 89), calling for proofs of the alleged excessive sick rate, and also asking for opinions as to the proper methods of appointing medical referees. As this matter is one vital to the interests of all panel practitioners, I will, with your permission, outline the schemes suggested by the Government for the consideration of the societies.

1. Part-time employment of general practitioners; if so, should they be on or off the panel?

2. Part-time employment of consulting physicians, surgeons, and specialists.

3. Whole-time employment of medical practitioners as referees.

4. Any combination of these systems, as a whole-time referee, with a large district, and part-time men to sift the cases in the first instance, also with the power to employ specialists in cases of difficult diagnosis.

5. The appointment of a small board of local practitioners acting on a rota and changing after three, six, or twelve months.

6. Whichever scheme is adopted, on what method is payment to be made? Per case or by fixed salary?

7. By whom are these appointments to be made? (1) The societies, (2) the Commissioners, or (3) Insurance Committees?

Such, Sir, is the problem which will be discussed by all the approved societies and all the Insurance Committees throughout the country during the next few weeks. Now is the time for practitioners on the panel to rouse themselves and decide which of these schemes will best serve their needs, and those of us who are upon the Insurance Committees must do our best to further the interests of the profession, but we must have concerted action. It is no use being at sixes and sevens all over the country. It is in cases like this that we find the lack of any co-ordination between the Local Medical Committees, as has been so well pointed out by Dr. Arthur Larking.

A strong union between Local Medical Committees is imperative in the interests of panel practitioners. We must adopt a common line of action on the question of medical referees, and the subject is one, Sir, that should be thoroughly threshed out in your columns.

THE CONSTITUTION OF LOCAL MEDICAL COMMITTEES.

DR. HARRY GREY (Bristol) writes: The State Insurance Committee with very little consideration has dumped down for our adoption a set of "model rules," and the Representative Meeting with no consideration at all has approved them. It seems to my judgement that these rules, apparently taken from the pigeon-hole of the defunct Public Medical Service, show no appreciation of the status or potentialities of the Local Medical Committees mentioned in the Insurance Act, and have been framed under the hypnotic influence of the word "committee." The intention of Section 62 is quite evidently that in matters medical between the insurance authority and the local profession any representative association of the latter should be used to obtain the opinion of the profession on matters of insurance interest. The objection to the local Division of the British Medical Association being recognized as the local medical insurance authority was that the British Medical Association was not large enough—that it did not comprise the whole of the profession who might be interested in insurance matters, and the logical solution of the problem was to amalgamate the Division with the men outside the Division into a new association called for the purposes of the National Insurance Act "the Local Medical Committee." If it had happened that in any area the whole of the profession were members of the British Medical Association the local Division must have been recognized by the Insurance Commission as a "representative Local Medical Committee," and its officers would have been the officers of that committee; the executive of the Division would have been the executive of the committee, not the committee itself. The present Local Medical Committees, elected mostly in the manner indicated in the "Model Rules," are executive committees which usurp the status and functions

of the whole body of practitioners, and unless they are in close communication with their electors must soon (and in some cases have already) formulate opinions and demands which will be and have been repudiated by those whom they represent. Such close communication means either frequent mass meetings or regular ward or group meetings which are not provided for in the rules, and which are at best unsatisfactory.

With the whole profession entitled to attend and vote at the meetings of the Local Medical Committee, with rules providing that no vote be taken on any matter not on the printed agenda sent previously to every member, the action of the Committee would at all times be a true reflex of medical opinion in the district, and no member would be entitled to dissent from its findings. The notice of meeting should also contain the minutes of the previous meeting, and would be to those who had been unable to attend an intimation of decisions arrived at and would furnish a bond and a guide which does not at present exist in meeting the difficulties that arise in the working of the Act.

DR. H. PRIEST SHANKS (Southall) writes: Will any German-speaking practitioner who is serving on the panel in the Crouch Hill district kindly communicate with the Honorary Secretary, Middlesex Local Medical Committee, Dr. H. Priest Shanks, 59, Abbotts Road, Southall?

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following announcements have been made by the Admiralty: Fleet Surgeon WALTER K. HOPKINS to the *Vivid*, additional, for trials of the *Fearless*, August 9th. Fleet Surgeon EDWARD SUTTON to the *President*, additional, for London Recruiting Head Quarters, temporarily, August 18th. Fleet Surgeon JAMES W. W. STANTON to Haslar Hospital, for instruction of Acting Surgeons, August 9th. Fleet Surgeon LANCELOT KILROY to the *Colossus*, August 9th. Fleet Surgeon JOHN C. DURSTON to the *Defence*, on recommissioning, September 2nd. Fleet Surgeon CHARLES H. J. ROBINSON to the *Dartmouth*, on recommissioning, September 2nd. Fleet Surgeon HENRY F. ILIEWIEZ to the *Hercules*, on recommissioning, September 2nd. Fleet Surgeon ROBERT H. MORNEMENT to the *President*, additional, for London Recruiting Head Quarters, temporarily, August 18th. Fleet Surgeon EDWARD SUTTON to Haslar Hospital, as Instructor of Acting Surgeons, vice Clayton, August 15th. Fleet Surgeon THOMAS W. PHILIP, M.B., to the *Queen Mary*, on commissioning, undated. Fleet Surgeon MATTHEW L. M. VAUDIN, M.B., to the *Triumph*, for medical charge of voyage out, August 28th, and for Wei-hai-Wei Sick Quarters, vice Boyden, undated. Fleet Surgeon WILLIAM E. MATHEW to the *Cochrane*, vice Vaudin, August 28th. Fleet Surgeon ROBERT S. BERRNARD to the *Triumph*, on relieving the *Tamar*, undated. Fleet Surgeon GEORGE GIBSON to the *Indomitable*, August 11th. Fleet Surgeon HUGH S. BURNSIDE, M.B., to the *Warrior*, August 11th. Fleet Surgeon EDWIN S. MILLER, M.B., to the *Antrim*, August 11th. Fleet Surgeon HENRY SPICER, M.B., to the *Invincible*, August 11th. Fleet Surgeon WILLIAM M. MACLEOD, M.B., to the *Cornwallis*, August 11th. Fleet Surgeon FRANCIS H. A. CLAYTON, M.D., is placed on the retired list at his own request, July 30th. Staff Surgeon WILLIAM E. GRIBBELL to the *Dublin*, vice Chater, August 15th. Staff Surgeon FREDERICK C. ROBINSON to the *Defiance*, vice Gribble, undated. Staff Surgeon HAROLD J. CHATER to the *Adventure*, temporary, vice Robinson, August 15th. Staff Surgeon JOHN N. ROBERTSON to the *Blake*, vice Brice, August 15th. Staff Surgeon REGINALD ST. G. S. BOND, M.B., F.R.C.S.Edin., to the *Excellent*, temporary, August 15th. Staff Surgeon WALTER G. EDWARDS to H.M. Dockyard, Portsmouth, temporary, August 30th. Staff Surgeon ROBERT F. MACMAHON to Plymouth Hospital, temporary, August 30th. Staff Surgeon FRANCIS J. GOWAN to the *Queen Mary*, on commissioning, undated. Staff Surgeon EDWARD A. G. WILKINSON to the *Victory*, additional, undated, and the *Neptune*, vice Burdett, August 30th. Staff Surgeon WILLIAM C. B. SMITH, to the *Pembroke*, additional, August 12th, and the *London*, vice Perkins, August 30th. Staff Surgeon HORACE B. HILL, M.B., to the *Wildfire*, additional, for R.N. Barracks and Dockyard, Sheerness, temporary, August 30th. Staff Surgeon THOMAS E. BLUNT, to the *Rosario*, on recommissioning, undated. Staff Surgeon ARTHUR I. SHELDON to the *Philomel*, on recommissioning, undated. Staff Surgeon EVELYN R. TOWNSEND to the *Forth*, vice Mathew, August 28th. Staff Surgeon FRANCIS J. L. P. MCKENNA, M.B., to the *Donegal*, vice Townsend, August 28th. Staff Surgeon LAWRENCE C. HUNT to the *Triumph*, additional, for Hong Kong Yard, on relieving the *Tamar*, undated. Staff Surgeon JOHN O'HEA to the *Hermes*, additional, for Isle of Grain Flying Station, August 11th. Staff Surgeon ALAN G. EASTMENT to the *Hermes*, additional, for Calshot Flying Station, August 11th. Staff Surgeon SAMUEL H. FACEY to the *Irresistible*, August 11th. Staff Surgeon JAMES MCA. HOLMES, M.B., to the *Achilles*, August 11th. Staff Surgeon WALTER T. HAYDON, to the *Vivid*, additional, for disposal, August 11th. Staff Surgeon JOHN FULLARTON to the *Patrol*, on recommissioning, no date. Staff Surgeon MAURICE W. HAYDON to the *Juno*, temporary, on reducing, August 16th. Staff Surgeon JOHN P. H. GREENHALGH to the *Blonde*, on recommissioning, September 9th. Surgeon JOHN S. WARD to the *Defence*, on recommissioning, September 2nd. Surgeon EDWARD P. G. CAUSTON, B.A., to the *Hercules*, on recommissioning, September 2nd. Surgeon GUY T. YERRY to the *Vernon*, undated. Surgeon ALFRED G. MALCOLM to the *Alecto*, undated. Surgeon ALBERT E. MALONE, M.B., B.A., to the *Vivid*, additional, undated. Surgeon FREDERICK ST. B. WICKHAM to the *Blake*, vice Robertson, August 15th. Surgeon JOHN BOURDAS has been promoted to Staff Surgeon, with seniority of August 10th. Surgeon ALBERT E. MALONE to the *Halcyon*, additional for the *Spanker*, vice Reggall, August 30th. Surgeon SAMUEL BRADBURY to Plymouth Hospital, vice Connell, August 30th. Surgeon HERBERT E. PERKINS to Chatham Hospital, vice Custance, August 30th. Surgeon LIONEL C. E. MURPHY to the Royal Marine Division, Chatham, temporary, August 30th. Surgeon ALFRED R. PRICE, M.B., to the *Indomitable*, August 11th. Surgeon PERCY B. EGAN, M.D., to the *Invincible*, August 11th. Surgeon JOHN P. BERRY to the *Vivid*, additional, temporarily, August 11th. Surgeon JAMES G. DANSON to the *Warrior*, August 11th. Surgeon GEORGE A. FINEGAN to the *Blenheim*, vice Fergusson, August 12th. Surgeon ARCHIBALD FAIRLEY to the *Merlin*, on recommissioning, undated. Surgeon FRANCIS H. HOLL to the *Torch*, additional, August 12th, and on recommissioning, undated. Surgeon HENRY ST. C. COLSON to the *Suffolk*, vice Holl, August 12th. Surgeon WALTER E. LLOYD to the *Triumph*, on leaving the *Tamar*, undated. Surgeon GEORGE D. G. FERGUSSON to the *Clio*, vice Orwin, August 12th.

Surgeon EDWARD J. H. GARSTIN, M.D., has been allowed to withdraw from the service with a gratuity, August 6th.

GEORGE H. S. MILLN, formerly a Staff Surgeon, has been placed on the Emergency List, June 23rd, 1913.

Staff Surgeon E. BRYAN KENNY, M.B., Royal Navy (retired), appointed Admiralty Surgeon and Agent at Weymouth, July 1st, 1913.

ROYAL NAVAL VOLUNTEER RESERVE.

SEPTIMUS HIBBERT, M.B., has been appointed a Surgeon, August 14th.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL O. L. ROBINSON, appointed Professor of Tropical Medicine at the R.A.M. College.

Captain M. KEANE ordered to join the Southern Command.

Captain J. E. POWELL appointed a Specialist in Dermatology at Hilsea.

Captain FRASER appointed Specialist in Bacteriology at Netley Hospital.

Captain W. J. E. BELL appointed for duty at Queen Alexandra Military Hospital, Millbank.

Captain JOHN C. HART, M.B., has retired on retired pay, August 20th.

Captain W. MACDOWALL has been ordered to service in West Africa.

The following Lieutenants to be Captains:—July 28th: J. GILMOUR, M.B., W. W. TREVES, M.B., J. T. SIMSON, M.B., C. ROBB, M.B., E. T. GAUNT, M.B.

Lieutenants C. C. JONES, S. D. LARGE, and A. H. BRIDGES appointed to the London District for duty at Queen Alexandra Military Hospital.

Lieutenant S. H. SMITH appointed to the Eastern Command for duty.

Lieutenants H. N. SEALY, E. C. BEDDOWS, C. V. THORNTON, C. HELM, W. P. CROKER, and A. G. BROWN appointed to Dublin for duty.

Lieutenant NOEL T. WHITEHEAD, from the seconded list, is restored to the Establishment, July 26th.

The following lieutenants have been confirmed in their rank: WALTER W. PRATT, M.B., CUTHBERT J. H. LITTLE, M.B., EDWARD P. A. SMITH, M.B., JAMES B. A. WIGMORE, CHARLES C. JONES, M.B., ARTHUR A. M. DAVIES, LESLIE DUNBAR, M.B., HENRY BEDDINGFIELD, M.B., FREDERICK C. DAVIDSON, M.B., JOHN F. O'CONNELL, M.B., STANLEY D. LARGE, CYRIL HELM, WILLIAM O. W. BALL, M.B., JOHN CROCKET, M.B., HUMFREY N. SEALY, ALBERT JACKSON, EDWARD C. BEDDOWS, CONYNGHAM V. THORNTON, M.B., JOHN ROWE, M.B., WILLIAM P. CROKER, M.B., ARTHUR H. BRIDGES, AUBREY G. BROWN, M.B., ROBERT HEMPHILL, M.B.

The following have been appointed lieutenants on probation, July 25th: ERNEST W. WADE, M.B., BERNARD WOODHOUSE, WILLIAM K. MORRISON, M.B., EDGAR PERCIVAL, M.B., HENRY C. D. RANKIN, M.B. Lieutenants seconded under the provisions of Article 300, Royal Warrant for Pay and Promotion, 1909; July 25th, 1913: ERNEST W. WADE, M.B., BERNARD WOODHOUSE, WILLIAM K. MORRISON, M.B., EDGAR PERCIVAL, M.B.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL E. H. SHARMAN, I.M.S., retires from the service from August 1st, 1913.

Major W. M. ANDERSON has been posted as Residency Surgeon, Gwalior, with effect from July 2nd, 1913.

Major L. J. M. DEAS, Agency Surgeon in Bhopawar, has been appointed temporarily to hold charge of the current duties of the Office of the Political Agent in Bhopawar in addition to his own duties, with effect from June 2nd, 1913, and during the absence on leave of Lieutenant-Colonel B. E. M. Gurdon, C.I.E., D.S.O., or until further orders.

Captain K. W. MACKENZIE has resigned the service, with effect from August 23rd, 1913.

Captain G. L. DUNCAN was appointed to the charge of the Brigade Laboratory, Nasirabad, on June 24th.

Captain J. M. HOLMES is appointed to the charge of the Brigade Laboratory, Sialkot, with effect from July 11th.

The services of Captain W. S. MCGILLIVRAY have been placed temporarily at the disposal of the Government of Burma for employment on plague duty.

The services of Captain W. A. MEARNS have been placed at the disposal of the Bombay Government for gaol employment.

The services of Captains T. G. F. PATERSON and W. H. BOALTH, I.M.S., have been placed at the disposal of the Bombay Government for civil employment.

Captain B. E. M. NEWLAND, I.M.S., has been deputed for duty with travelling dispensaries in the United Provinces.

The King has approved of the retirement of Lieutenant-Colonel MACKINTOSH A. T. COLLIE, M.B., June 30th; Lieutenant-Colonel ERIC H. SHARMAN, August 1st; and Captain RICHARD F. C. TALBOT, July 24th.

The following promotions are announced:

Captains to be Majors.—FRED. W. SUMNER, M.B., F.R.C.S.E., December 27th, 1912; WILLIAM D. RITCHIE, M.B., JOHN K. S. FLEMING, EVELYN C. HEPPER, GEORGE C. L. KERANS, CHRISTOPHER B. MCCONAGHY, M.B., JOHN B. CHRISTIAN, ANDREW MURPHY, M.B., FREDERIC T. THOMPSON, M.B., LAURENCE P. BRASSEY, M.B., COLIN F. MARR, M.B., PATRICK L. O'NEILL.

Lieutenant to be Captain.—CECIL W. HOWLETT, M.B., January 29th.

INDIAN SUBORDINATE MEDICAL DEPARTMENT.

Second Class Assistant Surgeon ARTHUR W. BROWN has been promoted to be Senior Assistant Surgeon with the honorary rank of Lieutenant, April 1st, 1913.

Analysis of the Vital Statistics of Ninety-six of the Largest English Towns during the Second Quarter of 1913.

Towns.	Estimated Population middle of 1913.	Births.	Deaths.	Annual rate per 1,000 Living.		Deaths from							Deaths of Children under 1 year of age to 1,000 Births.	Rate per Cent. of Uncertified Deaths.
				Births.	Deaths.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping-cough.	Diphtheria.	Diarrhœa and Enteritis (under 2 years of age).		
96 Towns	17,852,766	115,094	60,189	25.9	13.5	140	1	1,803	259	933	443	1,015	91	0.8
London	4,518,191	28,342	14,960	25.2	13.3	20	—	549	41	264	107	273	81	0.0
Croydon	178,094	1,002	478	22.6	10.8	1	—	30	1	9	3	6	75	—
Wimbledon	58,156	300	178	20.7	12.3	—	—	14	—	2	—	3	67	—
Ealing	67,977	334	142	19.7	8.4	—	—	3	—	3	—	—	51	—
Acton	62,230	381	162	24.8	10.4	—	—	2	1	2	2	5	81	—
Willesden	163,655	999	411	24.5	10.1	1	—	25	2	7	2	2	63	—
Hornsey	87,596	369	212	16.9	9.7	—	—	4	—	4	—	—	57	—
Tottenham	145,736	1,038	328	28.6	9.0	—	—	6	—	3	1	7	64	—
Edmonton	63,086	485	177	28.2	10.3	—	—	17	1	6	2	6	87	—
Enfield	59,597	345	139	23.2	9.4	—	—	2	—	1	1	3	78	—
West Ham	294,223	2,395	906	32.6	12.4	—	—	5	6	8	3	19	67	—
East Ham	142,467	930	335	26.2	9.4	—	—	2	—	5	1	3	60	—
Leyton	130,922	735	281	22.5	8.6	—	—	10	—	7	1	3	71	0.4
Walthamstow	131,636	823	306	25.1	9.3	—	—	11	—	7	6	9	67	—
Ilford	87,040	365	163	16.8	7.5	—	—	1	—	—	—	3	71	—
Gillingham	54,530	331	138	24.3	10.2	2	—	—	1	—	1	—	82	3.6
Hastings	60,095	226	203	15.1	13.5	—	—	2	—	1	—	—	53	—
Eastbourne	54,691	224	139	16.4	10.2	—	—	1	3	—	4	1	65	—
Brighton	133,096	618	486	18.6	14.6	2	—	19	1	27	1	3	128	—
Portsmouth	241,256	1,453	664	24.2	11.0	3	—	10	6	7	18	5	71	1.4
Bournemouth	83,205	337	182	16.2	8.8	—	—	—	1	3	2	1	62	—
Southampton	122,412	787	357	25.8	11.7	2	—	12	2	2	3	2	69	—
Reading	89,339	492	253	22.1	11.4	—	—	—	—	4	—	1	61	0.4
Oxford	53,937	248	150	18.4	11.2	—	—	—	—	1	—	1	52	—
Northampton	90,793	529	249	23.4	11.0	3	—	1	—	1	4	3	66	0.8
Cambridge	57,096	296	167	20.8	11.7	—	—	1	—	2	7	—	54	—
Southend-on-Sea	70,825	331	158	18.7	8.9	—	—	5	—	6	—	1	63	2.5
Ipswich	75,682	482	242	25.5	12.8	—	—	2	2	2	1	1	81	0.8
Great Yarmouth	57,005	292	187	20.5	13.2	—	—	2	—	—	1	4	75	—
Norwich	123,288	719	402	23.4	13.1	—	—	5	—	11	2	8	88	—
Swindon	52,128	335	127	25.8	9.8	—	—	3	—	—	1	1	75	—
Plymouth	113,083	650	394	23.1	14.0	1	—	19	1	1	2	7	97	—
Devonport	84,371	452	215	21.5	10.2	2	—	6	2	4	—	5	82	—
Bath	69,944	289	226	16.6	13.0	—	—	5	1	—	—	1	52	—
Bristol	361,362	2,062	1,103	22.9	12.2	2	—	8	—	16	3	15	79	—
Gloucester	50,533	322	190	25.6	15.1	—	—	15	—	1	6	—	78	2.6
Stoke-on-Trent	239,284	1,889	1,124	31.7	18.8	2	—	57	—	51	23	41	163	2.1
Wolverhampton	95,601	661	389	27.7	16.3	—	—	39	2	2	2	13	116	0.3
Walsall	93,477	736	444	31.6	19.1	—	—	83	—	5	6	15	154	—
West Bromwich	69,088	539	290	31.3	16.8	1	—	38	—	1	—	5	113	1.0
Dudley	51,641	408	192	31.7	14.9	—	—	12	1	6	—	9	123	1.6
Birmingham	859,644	6,228	2,839	29.1	13.3	1	—	87	42	43	18	37	83	3.2
Smethwick	74,565	495	244	26.6	13.1	—	—	26	6	5	2	3	95	0.4
Coventry	115,064	777	303	27.1	10.6	—	—	4	1	4	6	3	69	0.3
Leicester	230,970	1,369	736	23.8	12.8	—	—	4	3	2	7	14	90	0.5
Lincoln	59,322	379	184	25.6	12.4	1	—	3	—	2	—	1	55	1.1
Grimsby	77,420	569	222	29.5	11.5	1	—	3	—	—	1	3	95	1.4
Nottingham	264,735	1,580	912	23.9	13.8	3	—	7	5	8	5	15	105	0.5
Derby	125,462	795	411	25.4	13.1	—	—	2	1	—	2	6	82	—
Stockport	112,480	666	386	23.7	13.8	6	—	—	—	1	2	6	119	—
Birkenhead	135,557	1,023	441	30.3	13.0	—	—	3	—	6	4	7	82	0.2
Wallasey	84,476	513	220	24.4	10.4	3	—	2	1	—	1	1	43	—
Liverpool	756,553	5,706	3,129	30.3	16.6	7	1	94	14	57	14	94	103	1.7
Bootle	72,186	573	268	31.8	14.9	—	—	6	1	16	—	6	99	4.9
St. Helens	99,460	814	459	32.8	18.5	4	—	54	12	3	7	6	130	4.1
Southport	71,092	284	220	16.0	12.4	—	—	—	—	2	1	1	46	1.8
Wigan	90,763	645	392	28.5	17.3	3	—	18	—	5	1	4	141	0.5
Warrington	74,065	572	276	31.0	14.9	3	—	1	—	8	3	3	101	7.2
Bolton	183,879	989	707	21.6	15.4	4	—	40	1	8	7	6	126	0.1
Bury	59,159	287	197	19.5	13.4	2	—	14	1	—	—	3	111	5.1
Manchester	730,976	4,825	2,677	26.5	14.7	18	—	107	18	38	21	42	100	0.4
Salford	233,849	1,613	926	27.7	15.9	5	—	79	9	17	4	19	126	0.2
Oldham	149,936	919	601	24.6	16.1	—	—	3	3	7	3	8	86	—
Rochdale	93,420	474	329	20.4	14.1	1	—	2	2	—	2	7	93	2.7
Burnley	109,021	626	394	23.0	14.5	2	—	—	2	—	3	7	117	1.3
Blackburn	133,971	773	509	23.1	15.2	—	—	6	—	1	1	8	97	1.6
Preston	118,070	776	497	26.4	16.9	—	—	5	6	—	7	31	134	3.8
Blackpool	61,012	267	207	17.6	13.6	—	—	1	—	2	—	—	45	1.9
Barrow-in-Furness	65,252	465	228	28.6	14.0	—	—	7	—	—	4	4	112	2.6
Huddersfield	110,882	584	402	21.1	14.5	—	—	8	—	—	—	3	84	1.9
Halifax	100,740	482	388	19.2	15.4	2	—	4	—	1	2	5	93	0.5
Bradford	290,540	1,462	1,047	20.2	14.5	4	—	2	3	4	15	5	96	0.3
Leeds	457,295	2,677	1,757	23.5	15.4	3	—	42	3	33	23	20	119	0.1
Dewsbury	53,855	327	234	24.4	17.4	—	—	—	1	2	1	4	101	—
Wakefield	52,291	322	167	24.7	12.9	—	—	—	1	5	1	—	99	0.6
Barnsley	52,897	413	183	31.3	13.9	—	—	—	1	4	—	4	102	—
Sheffield	471,662	3,355	1,689	28.5	14.4	6	—	52	12	21	12	26	95	0.7
Rotherham	64,432	499	204	31.1	12.7	3	—	1	1	6	3	2	124	0.5
York	83,329	497	283	23.9	13.6	1	—	—	—	5	2	3	68	—
Hull	287,032	2,039	925	28.5	12.9	5	—	2	—	26	6	15	103	0.4
Middlesbrough	107,993	873	482	32.4	17.9	—	—	8	4	8	4	16	104	1.0
Darlington	58,295	411	204	28.3	14.0	—	—	2	—	1	1	1	80	3.9
Stockton-on-Tees	52,316	425	262	32.6	20.1	1	—	8	2	—	3	1	139	0.4
West Hartlepool	64,234	474	228	29.6	14.2	—	—	1	—	3	—	3	110	0.9
Sunderland	152,377	1,225	670	32.2	17.6	—	—	20	—	4	1	6	104	1.5
South Shields	110,513	869	426	31.5	15.5	1	—	3	1	3	2	4	93	2.8
Gateshead	118,601	940	409	31.8	13.8	4	—	3	1	8	1	10	96	3.9
Newcastle-on-Tyne	271,295	1,927	951	28.5	14.1	—	—	7	2	45	3	14	106	0.6
Tynemouth	60,601	439	190	29.1	12.6	—	—	2	5	—	1	2	89	1.1
Carlisle	52,630	313	195	23.9	14.9	—	—	—	—	3	—	5	131	2.6
Newport (Mon.)	87,626	556	249	25.4	11.4	1	—	10	9	—	1	—	88	1.2
Cardiff	186,554	1,218	592	26.2	12.7	2	—	1	5	4	2	10	85	—
Rhondda	162,137	1,322	456	32.7	11.3	1	—	11	2	3	11	8	86	0.4
Merthyr Tydfil	83,808	807	262	29.1	12.5	—	—	1	2	7	3	6	97	0.4
Aberdare	52,619	424	201	32.3	15.3	—	—	13	1	8	—	3	125	1.0
Swansea	119,485	858	370	28.8	12.4	—	—	3	—	3	3	9	85	0.8

Vital Statistics.

ENGLISH URBAN MORTALITY IN THE SECOND QUARTER OF 1913.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

In the table on the previous page will be found summarized the vital statistics of ninety-six of the largest English towns, based upon the Registrar-General's weekly returns for the second quarter of the year. The 115,094 births registered in these towns during the quarter were equal to an annual rate of 25.9 per 1,000 of the population, estimated at 17,852,755 persons in the middle of the year. In London the birth-rate last quarter was 25.2 per 1,000, while among the ninety-five other large towns it ranged from 15.1 in Hastings, 16.0 in Southport, 16.2 in Bournemouth, 16.4 in Eastbourne, 16.6 in Bath, 16.8 in Ilford, and 16 9 in Hornsey to 32.2 in Sunderland, 32.3 in Aberdare, 32.4 in Middlesbrough, 32.6 in West Ham and in Stockton-on-Tees, 32.7 in Rhondda, and 32.8 in St. Helens.

The 60,189 deaths registered in these towns during the quarter under notice corresponded to an annual rate of 13.5 per 1,000. In London the death-rate was 13.3 per 1,000, while among the other large towns it ranged from 7.5 in Ilford, 8.4 in Ealing, 8.6 in Leyton, 8.8 in Bournemouth, 8.9 in Southend, 9.0 in Tottenham, and 9 3 in Walthamstow to 17.3 in Wigan, 17.4 in Dewsbury, 17.6 in Sunderland, 17.9 in Middlesbrough, 18.5 in St. Helens, 18.8 in Stoke-on-Trent, 19.1 in Walsall, and 20.1 in Stockton-on-Tees.

The 60,189 deaths from all causes included 140 which were referred to enteric fever, 1 to small-pox, 1,808 to measles, 259 to scarlet fever, 933 to whooping-cough, 443 to diphtheria, and 1,015 (among children under 2 years of age) to diarrhoea and enteritis. The 140 deaths from enteric fever were equal to an annual rate of 0.03 per 1,000; in London the rate from this disease was equal to 0.02 per 1,000, while among the other towns it ranged upwards to 0.14 in Wallasey, in Bury, and in Gateshead, 0.15 in Gillingham, 0.16 in St. Helens and in Warrington, 0.19 in Rotherham, and 0.21 in Stockport. The 1,808 fatal cases of measles corresponded to an annual rate of 0.41 per 1,000; in London the rate was 0.49 per 1,000, and it ranged upwards to 1.19 in Gloucester, 1.35 in Salford, 1.40 in Smethwick, 1.64 in Wolverhampton, 2.18 in St. Helens, 2.21 in West Bromwich, and 3.56 in Walsall. The 259 deaths from scarlet fever were equal to an annual rate of 0.06 per 1,000; in London the death-rate from this disease was 0.04, while in the other towns the rates ranged upwards to 0.20 in Birmingham and in Preston, 0.22 in Eastbourne, 0.32 in Smethwick, 0.33 in Tynemouth, 0.41 in Newport (Mon.), and 0.48 in St. Helens. The 933 fatal cases of whooping-cough corresponded to a rate of 0.21 per 1,000; in London the rate was 0.23 per 1,000, and in the other large towns it ranged upwards to 0.43 in Warrington, 0.47 in Dudley, 0.61 in Aberdare, 0.67 in Newcastle-on-Tyne, 0.69 in Stockton-on-Tees, 0.81 in Brighton, 0.85 in Stoke-on-Trent, and 0.89 in Bootle. The 443 deaths from diphtheria were equal to a rate of 0.10 per 1,000; in London the death-rate from this disease was 0.09, while among the other large towns the rates ranged upwards to 0.26 in Walsall, 0.27 in Rhondda, 0.28 in St. Helens, 0.29 in Eastbourne, 0.30 in Portsmouth, 0 39 in Stoke-on Trent, 0.48 in Gloucester, and 0.49 in Cambridge. The fatal case of small-pox belonged to Liverpool. The 1,015 deaths from diarrhoea and enteritis among children under 2 years of age were equal to a rate of 8.82 per 1,000 births registered during the quarter; in London the proportion was 9.63 per 1,000, while in the other large towns it ranged upwards to 15.97 in Carlisle, 16.47 in Liverpool, 18.33 in Middlesbrough, 20.38 in Walsall, 21.70 in Stoke-on-Trent, 22.06 in Dudley, and 39.95 in Preston.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 91 per 1,000. In London the proportion was 81 per 1,000, while among the other large towns it ranged from 43 in Wallasey, 45 in Blackpool, 51 in Ealing, 52 in Oxford and in Bath, 53 in Hastings, 54 in Cambridge, and 57 in Hornsey to 128 in Brighton, 130 in St. Helens, 131 in Carlisle, 134 in Preston, 139 in Stockton-on-Tees, 141 in Wigan, 154 in Walsall, and 163 in Stoke-on-Trent.

The causes of 466, or 0.8 per cent., of the deaths registered in the ninety-six towns last quarter were not certified either by a registered medical practitioner or by a coroner. In 36 of the towns the causes of all the deaths were duly certified; among the other towns the highest proportions per cent. of uncertified deaths were 3.2 in Birmingham, 3.6 in Gillingham, 3.8 in Preston, 3.9 in Darlington and in Gateshead, 4.1 in St. Helens, 4.9 in Bootle, 5.1 in Bury, and 7.2 in Warrington.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns 8,695 births and 4,536 deaths were registered during the week ending Saturday, August 23rd. The annual rate of mortality in these towns, which had been 11.6, 12.0, and 13.3 per 1,000 in the three preceding weeks, fell slightly to 13.2 per 1,000 in the week under notice. In London the death-rate was 11.8, against 10.4, 11.4, and 12.1 in the three preceding weeks. Among the ninety-five other large towns the death-rates ranged from 5.4 in Ealing, 6.0 in Ilford, 6.4 in Great Yarmouth, and 6.5 in Hornsey to 20.7 in Barnsley, 20.9 in Swansea, 22.2 in Dudley, 23.4 in Walsall, and 26.8 in Aberdare. Measles caused a death-rate of 1.0 in Oldham, 1.5 in West Bromwich, 2.2 in Stoke-on-Trent, 3.0 in Aberdare, and 4.0 in Dudley. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 44, or 1.4 per cent. of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 9 were registered in Birmingham and 4 in Liverpool. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,125, 2,131, and 2,124 at the end of the three preceding weeks, further fell to 2,070 on Saturday, August 23rd; 239 new cases were admitted during the week, against 258, 244, and 230 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,048 births and 612 deaths were registered during the week ending Saturday, August 23rd. The annual rate of mortality in these towns, which had been 14.8, 14.1, and 13.1 in the three preceding weeks, rose again to 14 1 per 1,000 in the week under notice, and was 1.0 per 1,000 above the rate in the ninety-six large English towns. Among the several Scottish towns the death-rates last week ranged from 6.1 in Clydebank and in Ayr and 6.5 in Kirkcaldy to 17.6 in Hamilton and 17.7 in Paisley. The mortality from the principal infective diseases averaged 2.0 per 1,000, and was highest in Greenock and Hamilton. The 327 deaths from all causes registered in Glasgow included 37 from infantile diarrhoeal diseases, 11 from measles, 5 from diphtheria, 3 from whooping-cough, and 2 from scarlet fever.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, August 23rd, 611 births and 431 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 616 births and 442 deaths in the preceding period. These deaths represent a mortality of 18.7 per 1,000 of the aggregate population in the districts in question, as against 19.2 per 1,000 in the previous period. The mortality in these Irish areas was, therefore, 5.5 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 26.6 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 19.5, as against an average of 18.3 for the previous four weeks, in Dublin City 20.0 (as against 19.6), in Belfast 18.7 (as against 17.6), in Cork 24.5 (as against 22.6), in Londonderry 21.6 (as against 17.8), in Limerick 8.1 (as against 10.5), and in Waterford 13.3 (as against 21.8). The zymotic death-rate was 4.2, as against 4.0 in the previous week.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ABERGAVENNY: MONMOUTHSHIRE ASYLUM.—Junior Assistant Medical Officer (male). Salary, £250 per annum.

ALNWICK INFIRMARY.—House-Surgeon. Salary, £140 per annum.

BABY CLINIC, North Kensington, W.—Third Medical Officer (Woman).

BATH: ROYAL UNITED HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BEDFORD COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £80 per annum.

BIRMINGHAM GENERAL HOSPITAL.—Resident Pathologist and House-Surgeon to Special Department. Salary, £50 each per annum.

BIRMINGHAM: THE QUEEN'S HOSPITAL.—(1) Two House-Physicians. (2) Two House-Surgeons. (3) Obstetric and Ophthalmic House-Surgeon. Salary at the rate of £50 each per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—(1) Junior House-Surgeon; salary, £100 per annum. (2) Three Assistant Honorary Surgeons.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant to the Electrical Department. Honorarium at the rate of 52 guineas per annum.

BOLTON INFIRMARY AND DISPENSARY.—Second House-Surgeon. Salary, £100 per annum.

BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BRADFORD POOR LAW UNION.—Assistant Resident Medical Officer (male) for Hospital and Workhouse. Salary, £130 per annum.

BRENTFORD UNION.—Medical Superintendent of Infirmary and Medical Officer of Workhouse and Schools. Salary, £400 per annum.

BRIDGWATER HOSPITAL.—House-Surgeon. Salary at the rate of £125 per annum.

BRIGHTON: THE ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—House-Surgeon. Salary at the rate of £100 per annum.

BURY INFIRMARY.—House-Surgeon. Salary, £80 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—House-Surgeon (male). Salary, £70 per annum.

CANTERBURY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £200 annum.

CARDIFF: KING EDWARD VII HOSPITAL.—House-Surgeon (male). Salary at the rate of £60 per annum.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary, £200 per annum.

CHESTER GENERAL INFIRMARY.—House-Physician. Salary, £90 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £90 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Physician and House-Surgeon. Salary, £100 each per annum.

DORCHESTER COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £200 per annum.

DURHAM COUNTY ASYLUM, Winterton.—Third and Fourth Assistant Medical Officers (male). Salary, £200 per annum, rising to £250.

EDAY PARISH.—Medical Officer. Salary, £70 per annum.

EDINBURGH ROYAL HOSPITAL FOR SICK CHILDREN.—Anaesthetist for Out-patient Department. Salary, £25 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of 100 guineas per annum.

EXMINSTER: DEVON COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £220, and on promotion to £250.

GLOUCESTER: ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant Physician.

GRIMSBY AND DISTRICT HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

HALIFAX ROYAL INFIRMARY.—Third House-Surgeon (male). Salary, £80 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £70 per annum.

HONITON UNION.—District Medical Officer and Public Vaccinator. Salary at the rate of £90 per annum.

HOSPITAL FOR WOMEN, Soho Square, W.—Resident Medical Officer. Salary at the rate of £60 per annum.

HULL ROYAL INFIRMARY.—(1) Assistant House-Surgeon; salary, £100 per annum. (2) Casualty House-Surgeon; salary at the rate of £60 per annum for six months' appointment, or £80 for twelve months. (3) House-Physician; salary, £100 per annum.

KENSINGTON AND FULHAM GENERAL HOSPITAL, Earl's Court, S.W.—Resident Medical Officer. Salary at the rate of £75 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

KINGSTON UNION INFIRMARY.—Resident Assistant Medical Officer (male). Salary, £200 per annum.

LEAMINGTON SPA: WARNEFORD GENERAL HOSPITAL.—House-Physician. Salary, £85 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LEEDS UNIVERSITY: FACULTY OF MEDICINE.—Research Assistant in the Department of Pathology. Salary, £125 per annum.

LIVERPOOL INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer. Salary, £140 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Resident House-Surgeon and Resident House-Physician. Salary, £30 each for six months.

LIVERPOOL: STANLEY HOSPITAL.—Resident Medical Officer. Salary, £150 per annum.

MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—Resident Officer (male). Salary for six months at the rate of £100 per annum, rising to £120.

MARGATE: ROYAL SEA-BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary, £120 per annum.

MIDDLESBROUGH: NORTH ORMESBY HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £90 per annum for the first six months.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Senior House-Surgeon. Salary at the rate of £100 per annum.

NATIONAL HEALTH INSURANCE COMMISSION (ENGLAND).—Medical Officers. Salary, £500 per annum.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistants. Salary, £200 per annum.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary at the rate of £80 per annum for the first four months, rising to £120.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—House-Surgeon in charge of Septic Wards and Casualty House-Surgeon. Salary, £60 per annum.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer (male). Salary, £150 per annum, rising to £175.

OXFORD EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Senior Resident Medical Officer (male). Salary at the rate of £100 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £75 per annum.

PORTSMOUTH ROYAL HOSPITAL.—House-Physician (male). Salary, £80 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—Medical Officer in Charge of Electrical Department. Salary, £100 per annum.

ROCHDALE INFIRMARY.—Second House-Surgeon (male). Salary, £100 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Senior House-Surgeon. Salary at the rate of £100 per annum.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL.—(1) Surgical Registrar; salary, £105. (2) Resident House-Surgeon; salary, £100.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer; salary at the rate of £100 per annum. (2) House-Physician; salary at the rate of £90 per annum. (3) House-Surgeon; salary at the rate of £75 per annum. (4) Junior House-Surgeon; salary at the rate of £65 per annum. (5) Casualty House-Surgeon; salary at the rate of £65 per annum.

SHEFFIELD: ROYAL HOSPITAL.—Assistant House-Physician. Salary, £80 per annum.

SHREWSBURY: SALOP INFIRMARY.—House-Physician. Salary at the rate of £90 per annum.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer (male). Salary, £180 per annum, increasing to £200.

SOUTH AFRICA.—Junior Medical Officer for Lunatic and Leper Asylum Service. Salary, £280 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

SOUTH SHIELDS: INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE INFIRMARY.—Junior House-Surgeon (male). Salary, £115 per annum.

STAFFORD GENERAL INFIRMARY.—House-Surgeon. Salary, £120 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £80 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £100 per annum.

WARRINGTON UNION.—Assistant Resident Medical Officer (male). Salary, £150 per annum.

WEST HAM UNION INFIRMARY.—Third and Fourth Assistant Resident Male Medical Officers. Salary, £130 and £120 per annum respectively.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Two House-Physicians and Three House-Surgeons.

WESTMINSTER GENERAL DISPENSARY.—Resident Medical Officer. Salary, £120 per annum.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary, £100 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—Honorary Ophthalmic Surgeon.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £125 per annum.

WORCESTER GENERAL INFIRMARY.—Resident Medical Officer. Salary, £150 per annum.

YORK DISPENSARY AND MATERNITY HOSPITAL.—Resident Medical Officer (male). Salary, £140 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces the following vacant appointments: Ballindalloch (Banffshire), Barmouth (Merionethshire), Raphoe (co. Donegal).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

ASPLEN, W. R. W., M.B., B.S.Lond., M.R.C.S.Eng., L.R.C.P.Lond., Deputy Coroner for Central Warwickshire.

COULSON, J. E., M.R.C.S., L.R.C.P., Assistant Medical Officer of the Fulham Road Infirmary, Workhouse, and Receiving Home of the City of Westminster Union.

DUGGAN, N., M.B., Ch.B.Vict.Manch., M.R.C.S., L.R.C.P.Lond., Second Assistant Medical Officer to the St. Marylebone Parish Infirmary.

FINCH, George, M.R.C.S., L.R.C.P., D.P.H.Oxon., Assistant County Medical Officer of Health for East Suffolk.

FINLAY, D. E., M.B., B.S.Lond., M.R.C.S., L.R.C.P., Physician to the Gloucestershire Royal Infirmary and Eye Institution.

GAYTON, W. J. G., L.S.A., First Assistant Medical Officer to the Kensington Parish Infirmary.

GWYNNE, J. F., M.B., Assistant Medical Officer to the Southwark Union Infirmary.

MACWILLIAM, H. H., M.B., B.Ch.R.U.I., Assistant Medical Officer of the Walton Workhouse of the West Derby Union.

MUNDEN, M. M., M.R.C.S., L.R.C.P.Lond., District Medical Officer of the Stroud Union.

MUNRO, H. L., M.D.Edin., M.B., Ch.B., District Medical Officer of the Beverley Union.

NUTT, W. H., M.D., Ch.B.Edin., Honorary Radiographer to the Chesterfield and North Derbyshire Hospital.

SANDILAND, D. S., M.R.C.S., L.R.C.P., Medical Superintendent of the Fulham Road Infirmary, Workhouse, and Receiving Home of the City of Westminster Union.

TICKLE, F. R., M.B., Ch.B.Liverp., District Medical Officer of the Southampton Union.

WHITE, H. W., M.B., Ch.B., Assistant Medical Officer of the Fulham Road Infirmary, Workhouse, and Receiving Home of the City of Westminster Union.

WOOD, T. N., B.C.Camb., District Medical Officer of the Samford Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s., *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

SHIACH.—On August 31st, at Elgin, Llanishen, Cardiff, to Dr. and Mrs. Allen Shiach, a son.

MARRIAGE.

WATTS—HOLLOWAY.—On September 2nd, 1913, at the Church of St. Mary the Virgin, Chipping Norton, Oxfordshire, by the Rev. G. A. Littledale, M.A., John Ernest Price Watts, F.R.C.S., L.R.C.P., son of H. Ernest Watts, L.R.C.P.Lond., L.R.C.S.I., L.S.A., of Sunnyside House, Belmont Road, Ilford, to Elves Lilian Norfolk Holloway, elder daughter of William T. Holloway, of Fern Villa, Chipping Norton.

DEATHS.

LINDSAY.—At 17, Berens Road, Kensal Green, N.W., on September 2nd, Annie Martha, wife of Alexander Lindsay, M.D.

VISGER.—At Charmouth, following operation for appendicitis, Harman Reay, only son of Charles and Nesta G. Visger, of Clevedon, Somerset.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.—Continuation of the Post-Graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

EDINBURGH POST-GRADUATE COURSES.—(*a*) General Course: Clinics in Obstetrics, Surgery, Skin, and Eye Diseases; Demonstrations in Medical and Morbid Anatomy and Histology. (*b*) Surgical Course: Operative Surgery and Surgical Anatomy and Pathology. (*c*) Special Course: Vaccine Therapy, X Rays, and Ophthalmoscopy.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Continuation of the Vacation Course on Gynaecology, Ophthalmology, Pediatrics, and Throat, Nose, Ear and Skin Diseases.

[For further particulars of Lectures consult the Index to Advertisements.]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 13TH, 1913.

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INSURANCE ACT COMMITTEE.

THE second meeting of the Insurance Act Committee was held at the offices of the Association on Thursday, September 4th. Dr. J. A. MACDONALD was in the chair, and the other members present were: *England and Wales:* Dr. R. M. Beaton (London), Dr. C. Buttar (London), Dr. E. Rowland Fothergill (Brighton), Dr. Major Greenwood (London), Miss F. Ivens (Liverpool), Dr. I. W. Johnson (Bury), Mr. Herbert Jones (Hereford), Dr. Constance Long (London), Dr. H. F. Oldham (Morecambe), Dr. James Pearse (Trowbridge), Dr. G. K. Smiley (Derby), Mr. E. C. Montgomery-Smith (London), Mr. D. F. Todd (Sunderland), Dr. W. B. C. Treasure (Cardiff). *Scotland:* Dr. John Adams (Glasgow). *Ireland:* Dr. J. S. Darling (Lurgan). *Ex officio:* Dr. W. A. Hollis (President), Mr. T. Jenner Verrall (Chairman of Representative Meetings).

REPRESENTATIVE ON COMMITTEE OF POOR LAW MEDICAL OFFICERS' ASSOCIATION.

The CHAIRMAN reported that the Poor Law Medical Officers' Association of England and Wales had nominated Dr. Major Greenwood (London) for appointment upon the Committee.

PROPOSED COMMITTEE TO REPRESENT THE INTERESTS OF MEDICAL PRACTITIONERS NOT ON THE PANEL.

A proposition by Dr. BUTTAR to appoint at once a committee in connexion with the British Medical Association to represent the views and interests of medical practitioners not on the panel was defeated; whereupon Mr. TODD gave notice that he would at the next meeting propose the appointment of a subcommittee of the Insurance Act Committee for that purpose.

HONORARY STAFFS OF VOLUNTARY HOSPITALS AND TREATMENT OF TUBERCULOSIS CASES.

The DEPUTY MEDICAL SECRETARY reported that the Committee formed of members of the staffs of the London hospitals had declined to nominate three of its members to serve on the Tuberculosis Subcommittee appointed at the last meeting; and it was decided that the Tuberculosis Subcommittee be empowered to co-opt three members of the medical staffs of the London voluntary hospitals.

NATIONAL INSURANCE ACT, 1913.

A subcommittee was appointed, consisting of the Chairman (Dr. Macdonald), Drs. Beaton, Fothergill, and McKenzie Johnston, and Mr. Turner, to consider and report upon the National Insurance Act, 1913, and any regulations made or to be made thereunder, and in connexion therewith was given power, subject to the discretion of the Chairman of the Insurance Act Committee, to interview the Insurance Commissioners, and to act, if necessary, in emergencies on behalf of the Committee.

MATERNITY BENEFIT.

On consideration of the following motion:

> That for the purpose of providing on reasonable terms women attended by midwives with the services of a medical practitioner if required in accordance with the rules made under the Midwives Act, 1902, a scheme be prepared for the insurance with approved societies of the liabilities of their members for the fees payable on the scale adopted by the British Medical Association. That this scheme may provide for the method of calculating the premiums to be charged to the members concerned, and may contain such other incidental, consequential, and supplementary provisions as may appear necessary for the purpose,

the Committee decided to ascertain the attitude boards of guardians and other authorities will adopt now that such patients obtain grants under the National Insurance Act.

MEDICAL REFEREES.

Attention was drawn to the proposed appointment of medical referees by Insurance Committees and approved societies, and the following resolutions were adopted:

> That where a medical man not devoting his whole time to the work is called upon by a lay body to express an opinion as to the capacity or incapacity of an insured person, this Committee is of opinion that the lowest fee he should accept should be 10s. 6d.
>
> That whole-time medical referees under the National Insurance Act should be practitioners of not less than ten years' standing; that the appointments should be pensionable; and that the commencing salary should not be less than £750 per annum.

APPOINTMENT OF MEDICAL OFFICERS BY INSURANCE COMMISSIONERS.

The Committee considered the following advertisement for medical officers under the National Health Insurance Commission (England):

> The National Health Insurance Commissioners for England propose to appoint certain medical officers. Candidates must be registered medical practitioners of not less than ten years' standing, who have had experience of general practice. The salaries, pensionable, will be as follows: £500; after three years £600; after five more years £700, and after another five years £800 per annum. Medical officers will be required to travel and to live at head quarters approved by the Commissioners. Forms of application may be obtained from the Secretary, National Health Insurance Commission (England), Buckingham Gate, London, S.W. Letters applying for forms should be endorsed "Medical Officer" on the envelope. No application for forms will be considered if received after September 22nd, 1913,

and decided to make inquiries of the English Commissioners for information as to the nature and duties attaching to the proposed appointments.

DEPARTMENTAL COMMITTEE ON ALLEGED EXCESSIVE CLAIMS FOR SICKNESS BENEFIT.

Attention was drawn to the appointment of a Special Committee

> To inquire into and report upon the alleged excessive claims upon and allowances by approved societies in

England in respect of sickness benefit and any special circumstances which may cause any such claims or allowances.

A member having stated that he believed it was intended that the Association should be asked to submit evidence, it was resolved to appoint a subcommittee, consisting of the Chairman (Dr. Macdonald), Drs. Beaton, Constance Long, McKenzie Johnston, Treasure, and Mr. D. F. Todd, to take all necessary steps to obtain evidence upon the subject-matter of the Departmental Committee's reference.

Statement of Nature of Disease upon Sickness Benefit Certificates.

Several correspondents having asked for advice with regard to the following decision of the Annual Representative Meeting:

Minute 207.—Resolved: That the nature of the illness should not be inserted on any certificate issued for the purpose of sickness benefit under the Insurance Act,

it was resolved:

That, while the Committee cannot modify Minute 207 of the Annual Representative Meeting, 1913, it is of opinion that the model form of certificate issued by the Insurance Commissioners materially alters the situation with respect to the insertion of the nature of the disease on certificates, and goes far to get rid of the difficulties previously found to exist in this connexion.

Consideration of the remaining items of the agenda was postponed until the next meeting of the Committee.

INSURANCE NOTES.

IRELAND.

Insurance Medical Adviser for Belfast.

The Irish Insurance Commissioners have asked the Local Medical Committee and Belfast Insurance Committee to nominate three gentlemen, from whom they will select one to act as medical adviser. The conditions laid down are that he must be engaged in general practice, but must not be on the panel, and his practice must not lie among the insurable class; he must also have ten years' experience. His duties will be to examine and report upon any insured person referred to him by an approved society, by the Insurance Committee, or by the Commission. He will furnish reports as to the capacity or incapacity for work. He will also have to keep a record of all these cases. The approved societies say that the incidence of sickness among their members has been abnormally large and the average duration of illness greatly increased; it is alleged that this is due to indiscriminate giving of certificates and the consequent prevalence of malingering. The remuneration will be £300 per annum.

The Local Medical Committee met during the week, and after a prolonged sitting selected three names—Dr. James Colville, Dr. Richard C. McCullagh, and Dr. W. L. Storey, all of Belfast, and well known. It is doubtful whether better names could have been selected, and these gentlemen are to be congratulated on the high position they evidently hold in the minds of their fellow practitioners.

The post will be no sinecure; there are already some 500 cases on the books. It is very doubtful whether the appointment of any adviser will deter a medical man from the loose giving of certificates, who will probably say that he will give the applicant the benefit of the doubt in doubtful cases, as malingering can be checked by the adviser. Of course the Commissioners can probably get powers to deal with any gross delinquent whose certificates are annulled time and again on appeal. But the work of the adviser will be heavy and trying, and the suggestion at once occurs that it may become necessary to appoint a "whole-timer" at a salary of £1,000 a year, who will become in time a specialist in malingering. Suppose the sick applicant invokes the aid of specialists? In workmen's compensation cases three medical men of distinction on one side have differed markedly in their evidence from three others of equal distinction on the other. Will an appeal be made to the courts? Can there be no question of penalizing the habit? It is becoming a curse in the land, and recent legislation has fomented the growth.

CORRESPONDENCE.

Friendly Society Control of Medical Benefit.

Dr. T. F. Keenan writes: Owing to the drastic ruling of the Chairman at the special meeting of the City Division called to hear Dr. Evan Jones's explanation of his *Morning Post* interview, it was impossible to discuss the explanation there, and while there is a strong disposition in the Division generally, from personal regard for Dr. Jones, to spare him any avoidable humiliation, it is felt that his conduct is becoming so increasingly dangerous to the profession as a whole, that matters should be placed fairly and clearly before your readers.

In the first place, Dr. Jones made it plain to the meeting that, whatever his views may have been at the time of the interview with the *Morning Post* representative, he now entirely disavows any agreement with the offensive references to the panel doctors attributed to Dr. Gordon Lane. It is true, as mentioned in your report, that after doing this he sought to justify his general attitude of hostility to the panel doctors by picking on the very few instances where panel doctors live at some distance from their practices, and expending much quite unnecessary eloquence on the matter. This, of course, is a recognized device of a man beaten in the general argument "to save his face," and there was no one at the meeting who would be so ungenerous as to deny him this little refuge in his extremity. He also had some spare eloquence to expend in denouncing those panel doctors whom he considered to be making too much money, though I believe I am right in saying that his statement that "there were gentlemen single-handed, and with a fairly large private practice, who had 4,000 persons on their lists," is inaccurate. It might be instructive at this point to remind Dr. Jones that he was the author of the scheme, based on the assumption that payment for doctors provided by Mr. Lloyd George was insufficient, whereby in addition to such sums the friendly society members were to provide 2s. 2d. per year more per member. He was kind enough to allow them to raise this sum "in any way they chose."

Dr. Jones's capacity for arithmetic seems to be improving since the Insurance Act came into operation, for he now seems able to understand that 4,000 persons on a doctor's list means £1,400 a year income for that doctor, while previously it was impossible to convince him that the financial arrangements under the Act could mean anything but sheer starvation for medical men. While he now sees that a medical man may serve under the Act and still avoid starvation or the workhouse, he is yet highly indignant that this should be so, and evidently considers it dire disgrace that any medical practitioner should dare to earn such a sum as £1,400 per year. It is necessary to point out this example of the foresight of Dr. Jones (to say nothing of the contradiction of his arguments), because at the meeting he claimed credit that he "foresaw that the present position was likely to arise, and in consequence he refused nominations to the Council and committees of the Association." It does not require much foresight to know that if a man throws a stone hard enough at a window the window will be broken and the owner of the window will probably have something to say.

In the second place, Dr. Jones made it quite clear to the meeting that he is not really in favour of friendly society control of the medical benefits, notwithstanding anything to the contrary that may appear in the *Morning Post* interview. He only favours it for the reason that it offers the only hope which three or four Finsbury "die-hards" have of getting back their practices without going through the most unpleasant process of "eating their words." In other words, Dr. Jones is prepared to sell the whole profession back into the slavery of the domination of the friendly society officials, in order that he and his friends, in the process of recovering their practices, may be saved from the painful ordeal indicated; and Dr. Jones, as an ex-holder of friendly society appointments, knows as well as any man, in spite of his twaddle about "trusted medical advisers," what the degrading conditions of that slavery were. The method of regaining his practice, by eating his words, going on the panel, and acknowledging that his foresight, of which he is so proud, was at fault,

may be unpleasant, but, at any rate, it is a man's way, while the method he apparently favours cannot by any stretch of the imagination be so described. It is difficult to understand what sort of scheme he proposed should be set up under the Locker-Lampson amendment in place of the present panel system. He complained at the meeting that "Dr. Jaffé had assumed that friendly societies would go to individual medical men (to make their bargain). That was not in his mind, or in the minds of those who held the same view." Dr. Jones seems to have a short memory. He forgets that at a meeting a very short time ago he not only told us that his friends of the friendly societies would go to individual medical men, but he even mentioned the names of the individual medical men in Finsbury to whom these officials had told him they proposed to go, in the event of their getting the power of appointment. If we are to believe Dr. Jones's statement, it would seem that the "greatest Government in the world" have been going out of their way to try and "bend" him and his friends and have failed, and that the Commissioners have been trying to "bribe" them and have also failed, all of which seems very remarkable to an ordinary plain man. But it is very evident to any plain man that these friendly society officials thought they stood a very good chance of succeeding in bribing them where the Commissioners are alleged to have failed. It is useless for Dr. Jones to keep on repeating that the six points have not been conceded. He knows, as any sane man does, that all reasonable demands of the profession have been granted; in fact, he himself evidently considers we have been granted more than we have any right to, so far as money is concerned; and it is quite impossible to understand the position of a man who is prepared to serve under friendly society officials and yet refuses to serve under the Insurance Committee of which he himself is a member. Does he wish us to understand that it is "derogatory" to serve under the London Insurance Committee, and that it is a beautiful and noble thing to serve under friendly society "bosses"? It is true that some unreasonable demands of the medical profession have not been granted—for example, Dr. Jones's demand for 10s. 6d. per head per year has not been granted—and he evidently now thinks that quite right; also the administration of medical benefits is not in the sole control of the medical profession, which I at least emphatically think is quite right, for if anything could be more disastrous than friendly society control it would be sole medical control. At present each member of a friendly society has control of his or her own medical benefit and of no one's else. Each man and woman has the power of appointing and dismissing his or her own medical attendant, which is quite as it ought to be, but the great boon of the Act to doctors and insured alike is that it has removed from the hands of a few officials the power to appoint and dismiss their neighbour's doctor.

If Dr. Jones thinks, in spite of his tall talk about one of the parties in the State exacting pledges from their members, that any responsible statesman can be found on either side of the House of Commons to alter this just and fair method of dealing between patient and doctor, he is greatly mistaken, and he will find that he is leaning on a broken reed. Further, if by some miracle, such a pseudo-statesman could be found in the parties, I think I can assure Dr. Jones that, in the event of his scheme coming into operation, he and his friends in Finsbury would have the field of all England to themselves, for no medical man who has experienced the present system will ever consent to return to the old one.

At the meeting I appealed to Dr. Jones to go over his position again and think it out more carefully; and I ask him again now because, though the matter was not brought, owing to the action of the chairman, to its natural conclusion at this meeting, he must know that it cannot be left where it is. Either he must cease his alliance with the enemies of his profession, or he must expect to be asked to cease claiming to be the representative of his profession.

Dr. A. W. MILLER (London, N.E.) writes: To the casual observer it would appear, on reading the report of the special general meeting of the City Division on August 21st, that the proposer and seconder of the resolution had accorded Dr. Evan Jones salvos of applause in appreciation of his latest policy, and had gone out of their way to render a Te Deum in praise of his extraordinary views as set forth in the columns of the lay press.

I therefore take up my pen with the idea of correcting a wrong impression which easily might be conceived in the mind of any member who was unable to be present, and to judge for himself what really occurred.

All that was said by the proposer and seconder out of courtesy to their Representative has been carefully recorded. Most of Dr. Rushbrooke's remarks, and all that Dr. Jaffé pointed out as inimical to the welfare of the profession, should a reversion to friendly society control become the accepted policy, has been omitted apparently by inadvertence.

In view of the grave responsibility that has been thrust upon the members of the City Division in arriving at a decision on this question, I do not consider this at all fair. The matter is sure to come up for further discussion at the next general meeting, when it is hoped that opposing views will receive equal consideration in the report.

Further, taking into consideration the ruling of the Chairman, who, although asked repeatedly to permit discussion, refused to relax and give way to what was manifestly the feeling of the majority of members present, I think I am justified in claiming the right to publicity of this letter.

MEDICAL RECORDS ON INSURANCE CARDS.

Dr. WILLIAM MILLIGAN (Hanwell, Oxon.) writes: No longer in the hurly-burly, I should like to draw the attention of workers under the Insurance Act to a phase of the work which has come under my notice, particularly lately.

I have stayed with medical friends for a good many weeks during the spring and summer, and have thus had experience of various modes of carrying on the work of the panel. In most cases I have found a good deal of carelessness in making out and filling in the attendances on the cards, and it is to this that I wish to draw attention.

There is no doubt that at the end of the year the authorities will take these records as their guide in calculating the amount of work done by medical men under the Act. Doctors on the panel will then be in this dilemma: either they must acknowledge as excuse that they have been very remiss and careless in performing the duty of keeping the records; or the necessary attendances on patients must be calculated at a very much lower rate than has been hitherto contended for in the interests of the profession. In either case the profession receives damage—in the first case through lack of care in fulfilling a duty for which payment is made; in the other case any possible revision of fees in the future will not be to our advantage. This clerical work is irksome, but it has been undertaken as part of the duties of the doctor on the panel, and it has been paid for and should in all cases be faithfully carried out. I am confident from what I have seen that the data to be obtained from examination of the cards will be useless and any statistics based on them will be utterly unreliable, and this position is to be deprecated, as much interesting information might be forthcoming if the records were correctly made.

"THE NEW PANEL COMMITTEE."

Under this title Dr. H. Priest Shanks (Southall) writes with reference to Section 32 of the National Insurance Act, 1913:

I submit the suggestion (with a view to obtaining a better one from some other quarter) that when the meeting of practitioners is called to elect their Local Medical Committee, the meeting of panel practitioners for the election of this new Panel Committee shall take place on the same day and in the same place, immediately before or after the other meeting.

This, Dr. Shanks thinks, will be more convenient to the men who wish to attend both meetings, and will better ensure the election of a suitable committee.

Association Notices.

SUGGESTED CHANGES OF BOUNDARIES.

NOTICE OF PROPOSAL FOR (1) DISCONTINUANCE OF SOUTH-EASTERN BRANCH AND SEVENOAKS DIVISION; (2) FORMATION OF THREE NEW BRANCHES FOR KENT, SURREY, AND SUSSEX RESPECTIVELY AND OF A NEW LEWES AND EAST GRINSTEAD DIVISION; (3) ALTERATIONS (CONSEQUENTIAL AND OTHERWISE) OF BOUNDARIES OF METROPOLITAN COUNTIES AND OXFORD AND READING BRANCHES, AND OF VARIOUS DIVISIONS.

NOTICE is hereby given under By-law 73 to those members concerned of a proposal made by the Council of the South-Eastern Branch for the discontinuance of that Branch and of the Sevenoaks Division, and the formation of three new Branches for Kent, Surrey, and Sussex respectively, of areas coterminous with these counties, and to have the Divisions stated in the following scheme, including a new Lewes and East Grinstead Division. It will be observed that the scheme of the Branch Council involves the detachment of Divisions, or portions of Divisions, contained in Surrey, and at present included in the Metropolitan Counties and Oxford and Reading Branches respectively—namely, the Kingston-upon-Thames, Richmond, and Wimbledon Divisions, and a portion of the Maidenhead Division—from these Branches, to form part of the proposed Surrey Branch.

Formal written notice of the proposed change has been given pursuant to Article 13 to all the Branches and Divisions concerned, and the matter will be determined in due course by or on behalf of the Council. Any member affected by the proposed change and objecting thereto is requested to notify the fact, with his reasons therefor, to the Medical Secretary, 429, Strand, London, W.C., by October 6th, 1913.

September 3rd, 1913.

SCHEME OF SOUTH-EASTERN BRANCH COUNCIL.*

I.—KENT BRANCH.

(To embrace the whole of Kent. Ten Divisions.)

DIVISIONS.

BROMLEY (*Penge, Beckenham, and Bromley Insurance Districts*).—Comprising: Bromley M.B., Chislehurst, Foot's Cray, Beckenham, and Penge U.D.'s, and Bromley R.D.

DARTFORD (*Erith and Dartford Insurance Districts*).—Comprising: Dartford, Bexley, and Erith U.D.'s, and Dartford R.D.

ROCHESTER, CHATHAM, AND GILLINGHAM (*Rochester, Gravesend, Chatham, and Gillingham Insurance Districts*).—Comprising: Gravesend, Rochester, Chatham, and Gillingham M.B.'s, Northfleet U.D., and Hoo and Strood R.D.'s.

CANTERBURY AND FAVERSHAM (*Canterbury County Borough, Faversham, Canterbury, and Sittingbourne Insurance Districts*).—Comprising: Canterbury C.B., Queenboro' and Faversham M.B.'s, Herne Bay, Whitstable, Milton Regis, Sheerness, and Sittingbourne U.D.'s, and Blean, Bridge, Milton, Sheppey, and Faversham R.D.'s.

ISLE OF THANET (*Margate and Ramsgate Insurance Districts*).—Comprising: Ramsgate and Margate M.B.'s, Broadstairs and St. Peters U.D., and Isle of Thanet R.D.

DOVER (*Dover and Deal Insurance Districts*).—Comprising: Dover, Deal, and Sandwich M.B.'s, Walmer U.D., and Eastry and Dover R.D.'s.

FOLKESTONE (*Folkestone Insurance District*).—Comprising: Folkestone and Hythe M.B.'s, Cheriton and Sandgate U.D.'s, and Elham R.D.

ASHFORD (*Ashford Insurance District*).—Comprising: Lydd, New Romney, and Tenterden M.B.'s, Ashford U.D., East Ashford, Romney Marsh, Tenterden, and West Ashford R.D.'s.

MAIDSTONE (*Maidstone Insurance District*).—Comprising: Maidstone M.B., Wrotham U.D., Cranbrook, Malling, Hollingbourne, and Maidstone R.D.'s.

TUNBRIDGE WELLS (*Tunbridge Wells and Sevenoaks Insurance Districts*).—Comprising: Tunbridge Wells M.B., Southboro', Tonbridge, and Sevenoaks U.D.'s, and Tonbridge and Sevenoaks R.D.'s.

II.—SURREY BRANCH.

(To embrace the whole of Surrey outside the L.C.C. area. Six Divisions.)

DIVISIONS.

GUILDFORD (*Guildford and Woking Insurance Districts*).—Comprising: Guildford and Godalming M.B.'s, Farnham, Haslemere, Woking, Chertsey, Weybridge, Egham, Windlesham, and Frimley U.D.'s, and Guildford, Farnham, Hambledon, and Chertsey R.D.'s.

RICHMOND (*Richmond, Barnes, and Mortlake Insurance Districts*).—Comprising: Richmond M.B., and Barnes and Mortlake U.D.'s.

KINGSTON-ON-THAMES (*Kingston-on-Thames Insurance District*).—Comprising: Kingston M.B., the Maldens and Coombe, Esher and the Dittons, Ham, Surbiton, Molesey, and Walton-on-Thames U.D.'s, and Epsom R.D.

WIMBLEDON (*Wimbledon Insurance District*).—Comprising: Wimbledon M.B., and Merton and Mitcham U.D.'s.

CROYDON (*County Borough of Croydon and Sutton Insurance Districts*).—Comprising: Croydon C.B., Sutton, Carshalton, Epsom, Beddington, Wallington, and Leatherhead U.D.'s, and Epsom R.D.

REIGATE (*Reigate and South-Eastern Insurance Districts*).—Comprising: Reigate M.B., Dorking, Caterham, and Coulsdon U.D.'s, and Dorking, Reigate, and Godstone R.D.'s.

III.—SUSSEX BRANCH.

(Comprising the East and West Sussex County Council areas. Six Divisions.)

DIVISIONS.

WEST SUSSEX.

HORSHAM (*Nos. 1 and 2 Insurance Districts*).—Comprising: Horsham U.D., and Horsham, Petworth, Midhurst, and Thakeham R.D.'s.

CHICHESTER AND WORTHING (*Nos. 3 and 4 Insurance Districts*.—Comprising: Chichester City, Worthing, and Arundel M.B.'s, Bognor, Littlehampton, Shoreham, Southwick, and Steyning West U.D.'s, and West Hampnett, Westbourne, and East Preston R.D.'s.

EAST SUSSEX.

HASTINGS (*County Borough of Hastings and No. 6 Insurance District*).—Comprising: Hastings C.B., Bexhill and Rye M.B.'s, Battle U.D., Battle, Hastings, and Rye R.D.'s, and the parishes of Hove and Ninfield.

EASTBOURNE (*County Borough of Eastbourne and No. 5 Insurance District*).—Comprising: Eastbourne C.B., Eastbourne and Hailsham R.D.'s (except the parishes of Hove and Ninfield).

BRIGHTON (*County Borough of Brighton and No. 2 Insurance District*).—Comprising: Brighton C.B., Hove M.B., Portslade-by-Sea U.D., Steyning East R.D. (except the parishes of Fulking and Poynings), and the parishes of Ovingdean, Rottingdean, and Telscombe.

LEWES AND EAST GRINSTEAD (*Nos. 1, 3, and 4 Insurance Districts*).—Comprising: Lewes M.B., Burgess Hill, Cuckfield, East Grinstead, Hayward's Heath, Newhaven, Seaford, and Uckfield U.D.'s, Cuckfield, East Grinstead, Chailey (or Lewes), Newhaven (except the parishes of Ovingdean, Rottingdean, and Telscombe), Uckfield and Ticehurst R.D.'s, and the parishes of Fulking and Poynings.

* C.B. = County Borough; M.B. = Municipal Borough; U.D. = Urban District; R.D. = Rural District.

BRANCH AND DIVISION MEETINGS TO BE HELD.

To ensure the insertion of notices in this column they must be received at the Central Offices of the Association not later than the first post on Tuesday.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—Dr. Duncan Davidson, Honorary Secretary (15, Priory Row, Coventry), gives notice that the annual dinner will be held on Tuesday, October 7th, at 7.45, in the Masonic Hall. Replies must be posted so as to reach the Honorary Secretary at the above address not later than October 2nd. The price of the dinner will be 12s. 6d., inclusive of wine.

EAST ANGLIAN BRANCH.—Dr. B. W. Nicholson, General Secretary, gives notice that the autumn meeting of the Branch will be held at King's Lynn on Thursday, September 25th. Members wishing to read papers or to show cases or specimens should communicate at once with the Secretary for Norfolk, Mr. Hamilton A. Ballance, M.S., All Saints Green, Norwich.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—Drs. T. W. H. Garstang and A. T. Blease, Honorary Secretaries, give notice that a meeting will be held on Wednesday, September 17th, at 4.45 p.m., at the Town Hall, Knutsford.

EIGHTY-FIRST ANNUAL MEETING
OF THE
British Medical Association.

Held at Brighton, July 22nd to 25th, 1913.

EXHIBITION
OF
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

(*Continued from page 238.*)

RADIOGRAPHIC negatives were a conspicuous feature of the exhibit of Mr. C. A. HOEFFTCKE (21, Woodstock Street, Oxford Street, London, W.), their purpose being to prove the value of the various appliances of an orthopaedic order which are made by him. As to the decided merits of many of these we have had something to say on several previous occasions. Perhaps the most interesting of them are those which aim at enabling a case of fracture of the lower extremity, or of disease of the hip-joint, to be treated without any detention in bed other than during the time necessary to secure and apply the instrument used. The steel and leather instruments designed for the purpose transmit the weight of the body straight from the tuber ischii to the ground, thus freeing the limb from all weight, and from the same point exercise traction sufficient to prevent overlapping in a case of fracture or contact between the acetabulum and caput femoris in a case of hip disease. The numerous skiagrams of cases before, during, and after treatment left no doubt that these appliances are thoroughly practical and efficient when properly applied and used in suitable cases. The same may be said of the corresponding instruments for the gradual straightening of ankylosed hips and knees. In both cases the correct position is brought about by steel-bar traction which acts through steel arches in such fashion that the amount of force employed can be regulated to a nicety. Also worth examination is the artificial leg made by Mr. Hoefftcke for use after high amputation of the thigh, as also his corsets for the correction of lateral curvature and appliances for use in cases of spinal curvature.

The authorities of Droitwich contrived by the arrangement of their stall to afford a general idea of what this spa has to offer to invalids, and in particular brought out quite successfully the point on which it can truthfully claim to be unique. None of its rivals can vie with it in respect of the strength of its waters in solid constituents. Some nine or ten other waters contain considerable quantities of sodium chloride and sodium sulphate, but while Droitwich is nearly at the top in regard to the latter salt, it is many thousand grains per gallon stronger than any of them in respect of sodium chloride. Its water, indeed, so far resembles pure brine that its specific gravity and chloride contents vastly exceed those of sea water. The only European water that at all vies with it is that of Halle, but this place has never made any real bid for favour, and has not provided itself, as has Droitwich, with all the requirements of a modern hydropathic resort. In the latter direction Droitwich made great advances a few years ago, and can now claim the frankest recognition as a fully developed health resort and one not to be overlooked when patients suffering from various forms of rheumatism, neurasthenia, anaemia, and other disorders susceptible of successful balneological treatment are in question. The baths are open throughout the year.

Some very useful ophthalmic instruments were shown by Messrs. GEORGE SPILLER, LTD. (32, Wigmore Street, W.), among them being several lamp standards of excellent design. The flexibility of the lamp-bearing arm enables the light to be thrown from the side of the patient or from above, below, or in front of his head; in addition a rheostat which is controlled by a foot pedal renders it easy to vary the amount of illumination supplied according to the needs of the moment. Another device shown was entitled the orthoscope; this, in effect, is an automatically combined retinoscope and ophthalmoscope, by means of which may be obtained a view of five discs width of an evenly illuminated fundus. It is hardly likely, perhaps, to appeal to practical experts for use in connexion with ordinary clinical work, but should be of decided assistance in demonstrations. Among the specimens of ophthalmoscopes for ordinary purposes was the Morton Marple self-illuminating ophthalmoscope, which is of a decidedly convenient kind. Even a novice at ophthalmoscopy can obtain a good view of the fundus with comparative ease, while to the expert the fact that most of the troublesome reflexes are not present with instruments thus constructed is a distinct point in their favour, since the use of a dark room when examining the back of the eye becomes by no means essential. A good idea well carried out was also represented by the portable operating lamp which was shown. It had universal adjustments, and should be useful even in the conduct of so simple an operation as the removal of a foreign body from the eye. Other appliances noted were some very nicely made trial cases provided with lenses both lighter and neater than those in ordinary use, and the Maddox near-vision phorometer, which provides a simple yet quite efficient test of muscular error.

Only one preparation was shown by VIROL, LIMITED (152–166, Old Street, E.C.), this being the concentrated food from which the firm derives its name. It is a thick fluid, closely resembling honey both in appearance and consistence, while in flavour it is not unlike melted toffee. It is stated to be a compound of bone marrow, malt extract, eggs, and lime juice, while from a chemical point of view its main constituents are: Various sugars, 59 per cent.; fat, 12.3 per cent.; protein, 2.1 per cent. Being very palatable, it can be administered either just as it stands or spread on bread, or beaten up with milk or water. Testimony to the ease with which it is absorbed and its nutritive value has been forthcoming from more than one authoritative writer.

The exhibit of CEREBOS, LTD. (Tower House, E.C.), was designed to convey some idea of the lines on which the firm's product of table salt is conducted, and to bring out the special points on which the firm prides itself. Its works are situated at Greatham, in the open fields near the coast of Durham, at a considerable distance from any large centre, and by the use of machinery any handling of the salt is avoided throughout the whole of the processes which it undergoes between the time that it is first brought to the surface as brine and the stage at which it is ready for appearance on the dining table. The brine is drawn up from the interstices of large rock-salt deposits lying about 1,000 feet below ground level, and is then submitted to a series of evaporation processes. These completed, the resulting crystals are ground to a fine powder and some 3½ per cent. of phosphates are then added. One of the aims of the firm is to produce a salt which is not only absolutely clean, but is also so free from any tendency to lumpiness that it will always pour from the narrow neck of the containers in which the firm holds that salt should always be kept. A second object is to replace the phosphates which are initially present in cereal and many other food constituents, but which are destroyed in the course of their preparation for consumption. It is the presence of the phosphates in the salt and their presumed value in the maintenance of nerve tissue that seemingly account for the firm's choice of a name for its product. However this may be, Cerebos salt is certainly one of a desirable kind, and this being the case, it is not peculiar to find Cerebos salt served in restaurants and boarding-houses far outside the confines of the United Kingdom.

The various specimens of undergarments and fabrics for their manufacture shown by the CELLULAR CLOTHING COMPANY (72, Fore Street, London, E.C.) were all made of the tissue known as aertex. This is a fabric of cotton

woven not into a continuous sheet, but into a fine mesh-work, presenting a woolly feeling to the touch. The aim of its manufacture is to allow evaporation from the surface of the body to proceed slowly and steadily, but at the same time to prevent the body-heat escaping too rapidly. This is a sound conception of the principles on which a covering for the body should be built, since when the protection of the body from chills was provided by a layer of naturally warmed but dry air in the interstices of the clothing worn. Practical experience with the under-garments made of this material shows that they can be comfortably worn both in winter and summer. In addition, they do not undergo shrinkage during washing, and are more durable than merino garments of corresponding power of protection. The firm also provides sheeting made of this material, and an experiment made with it a few years ago indicated that, weight for weight, it provided considerably more protection than ordinary sheets, and that it was likely to prove useful in the sick-room when dealing with patients who, whether from fancy or otherwise, are unable to sleep when covered with a due amount of ordinary bedclothing. A further product of the same general structure is known as "non-actinic," this name being justified by utilizing in its manufacture red instead of white yarn. It is intended, of course, for the use of residents in hot climates, the object being to protect the wearer from the effects of the actinic rays of direct sunlight. The fabrics of this firm have been freely imitated since they were first brought out; but so far we have not met with any which fulfil the special purpose of their structure quite so well.

Vital Statistics.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

[SPECIALLY REPORTED FOR THE BRITISH MEDICAL JOURNAL.]

THE Registrar-General has just issued his return relating to the births and deaths in the second quarter of the year and to the marriages during the three months ending March last. The marriage-rate during that period was equal to 13.4 per 1,000, or 2.4 per 1,000 more than the mean rate in the ten preceding first quarters.

The 227,012 births registered in England and Wales during the second quarter of the year were equal to an annual rate of 24.7 per 1,000 of the population, estimated at 36,919,339 persons in the middle of the year; this rate is 2.4 per 1,000 less than the average rate in the corresponding quarters of the ten preceding years, but is 0.8 above the rate in the second quarter of 1912. The birth-rates in the several counties ranged from 17.4 in Sussex, 18.5 in Westmorland, 19.0 in Cardigan, 19.3 in Cornwall, and 19.4 in Huntingdon and in Rutland to 28.3 in Northumberland, 29.2 in Staffordshire, 29.3 in Monmouthshire, 29.6 in Carmarthenshire, 30.2 in Glamorganshire, and 31.1 in Durham. In ninety-six of the largest towns the birth-rate averaged 25.9 per 1,000; in London the rate was 25.2 per 1,000, while among the other towns it ranged from 15.1 in Hastings, 16.0 in Southport, 16.2 in Bournemouth, and 16.4 in Eastbourne to 32.4 in Middlesbrough, 32.6 in West Ham and in Stockton-on-Tees, 32.7 in Rhondda, and 32.8 in St. Helens.

The excess of births over deaths during the quarter was 105,267, against 119,154, 105,812, and 102,302 respectively in the second quarter of the three preceding years. From a return issued by the Board of Trade it appears that the passenger movement between the United Kingdom and places outside Europe resulted in a net balance outwards of 91,224 passengers of British nationality and of 26,119 aliens. From the Continent of Europe there was an inward balance of 17,545 British passengers and of 56,570 aliens; thus the total passenger movement resulted in a net balance outward of 43,228 persons.

The deaths registered last quarter in England and Wales numbered 121,745, and were equal to an annual rate of 13.2 per 1,000; this rate is 0.9 per 1,000 below the mean rate in the corresponding period of the ten preceding years, but is 0.5 above the rate in the second quarter of 1912. The lowest county death-rates last quarter were 9.2 in Middlesex, 10.0 in Essex, 10.9 in Buckinghamshire and in Bedfordshire, and 11.1 in Hampshire; the highest rates were 16.8 in Montgomeryshire and in Flintshire, 17.0 in Denbighshire, 17.2 in Carnarvonshire, and 18.7 in Cardiganshire. In ninety-six of the largest towns the death-rate averaged 13.5 per 1,000; in London the rate was 13.3 per 1,000, while among the other towns it ranged from 7.5 in Ilford, 8.4 in Ealing, 8.6 in Leyton, 8.8 in Bournemouth, 8.9 in Southend, and 9.0 in Tottenham to 17.9 in Middlesbrough, 18.5 in St. Helens, 18.8 in Stoke-on-Trent, 19.1 in Walsall, and 20.1 in Stockton-on-Tees.

The 121,745 deaths from all causes last quarter included 309 from enteric fever, 3 from small-pox, 3,236 from measles, 450 from scarlet fever, 1,593 from whooping-cough, 826 from diphtheria, and 1,692 from diarrhoea and enteritis among children under 2 years of age. The mortality from measles was slightly below the average; that from enteric fever, scarlet fever, and whooping-cough, was little more than half the average, and that from diphtheria about three-fourths of the average.

The rate of infant mortality measured by the proportion of deaths among children under 1 year of age to registered births was equal to 89 per 1,000, or 11 per 1,000 less than the average proportion in the ten preceding second quarters. Among the several counties the rates of infant mortality last quarter ranged from 43 in Huntingdonshire, 58 in Surrey, in Buckinghamshire and in Oxfordshire, 63 in Middlesex and in Essex, 65 in Wiltshire to 104 in Cornwall, 106 in Lancashire, 108 in Durham, 113 in Cardiganshire, 114 in Denbighshire, 120 in Staffordshire, and 133 in Radnorshire. In ninety-six of the largest towns the rate averaged 91 per 1,000; in London it was 81 per 1,000, while among the other large towns the lowest rates were 43 in Wallasey, 45 in Blackpool, 46 in Southport, 51 in Ealing, and 52 in Oxford and in Bath; and the highest rates were 131 in Carlisle, 134 in Preston, 139 in Stockton-on-Tees, 140 in Wigan, 154 in Walsall, and 163 in Stoke-on-Trent. The deaths among persons aged 1 to 65 years were equal to an annual rate of 7.4 per 1,000, and those among persons aged 65 and upwards were equal to a rate of 80.1 per 1,000 of the population estimated to be living at those ages.

The mean temperature of the air last quarter was above the normal in the North-East and East of England, normal over the Midland and South-Eastern Counties, and deficient in other districts. The amount of rainfall measured during the quarter was above the average except in the South-Eastern and Eastern counties; and the duration of bright sunshine was less than the normal all over the Kingdom.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns 8,588 births and 4,[illegible] were registered during the week ending Saturday, August [illegible], annual rate of mortality in these towns, which had been 12.0, 13.3, and 15.2 per 1,000 in the three preceding weeks, rose to 13.5 per 1,000 in the week under notice. In London the death-rate was equal to 12.1, against 11.4, 12.1, and 11.8 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rate ranged from 4.8 in East Ham, 5.8 in Reading, 6.6 in Ilford, 7.2 in Darlington, 7.5 in Derby, and 7.9 in Enfield and in Lincoln to 20.2 in Oldham, 20.7 in Tynemouth, 21.2 in Walsall, 21.3 in Wigan, 22.5 in Rhondda, and 23.2 in Dewsbury. The deaths of infants under 2 years of age from diarrhoea and enteritis, which had numbered 591, 581, and 649 in the three preceding weeks, further rose to 837 on August 30th; of this number 174 were registered in London, 55 in Birmingham, 51 in Liverpool, 41 in Manchester, 30 in Rhondda, 24 in Sheffield, and 22 in Leeds and in West Ham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 32, or 0.7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 10 in Birmingham, 3 in Liverpool, and 2 each in Stoke-on-Trent, St. Helens, Sunderland, South Shields, and Rhondda. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,131, 2,124, and 2,070 in the three preceding weeks, rose to 2,115 on Saturday, August 30th; 331 new cases were admitted during the week, against 244, 230, and 239 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,063 births and 611 deaths were registered during the week ending Saturday, August 30th. The annual rate of mortality in these towns, which had been 14.1, 13.1, and 14.1 per 1,000 in the three preceding weeks, was again 14.1 in the week under notice, and was 0.6 per 1,000 above the rate in the ninety-six large English towns. Among the several towns the death-rates ranged from 5.1 in Motherwell, 8.8 in Falkirk, and 10.4 in Kirkcaldy to 15.4 in Greenock, 18.3 in Paisley, and 21.4 in Ayr. The mortality from the principal infectious diseases averaged 2.3 per 1,000, and was highest in Paisley and Hamilton. The 298 deaths from all causes registered in Glasgow included 37 from infantile diarrhoeal diseases, 6 from measles, 6 from whooping-cough, 3 from scarlet fever, and 3 from diphtheria. Three deaths from scarlet fever were recorded in Aberdeen, and from infantile diarrhoeal diseases 9 deaths in Paisley, 4 in Dundee, 4 in Hamilton, 3 in Leith, and 3 in Clydebank.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, August 30th, 599 births and 475 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 611 births and 431 deaths in the preceding period. These deaths represent a mortality of 20.7 per 1,000 of the aggregate population in the districts in question, as against 18.7 per 1,000 in the previous period. The mortality in these Irish areas was, therefore, 7.2 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. As for mortality in individual localities, that in the Dublin registration area was 20.4, as against an average of 19.1 for the previous four weeks, in Dublin City 21.1 (as against 20.4), in Belfast 23.0 (as against 19.4), in Cork 24.5 (as against 22.3), in Londonderry 24.2 (as against 19.1), in Limerick 10.8 (as against 11.2), and in Waterford 24.7 (as against 22.3). The zymotic death-rate was 5.7, as against 4.2 in the previous week.

Naval and Military Appointments.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

BREVET LIEUTENANT-COLONEL THOMAS W. GIBBARD, M.B., to be Lieutenant-Colonel, vice W. C. Beevor, C.M.G., retired, August 20th.

Major HERBERT J. M. BUIST, D.S.O., M.B., to be Lieutenant-Colonel, vice O. L. Robinson, August 22nd.

Major F. J. WHELAN, appointed Deputy Assistant Director of Medical Services (Sanitary), Sixth (Poona) Division.

Captain J. MACKENZIE appointed for duty in India.

Captain ARTHUR S. CANE appointed Specialist in Dermatology, etc., Sixth (Poona) Division, India.

Captain ARTHUR W. HOWLETT, M.B., from the Indian Medical Service, to be Captain, vice Duncan Coutts, M.B., who exchanges July 29th, 1913.

Captain J. H. DUGUID appointed a Specialist in Otology, July 15th.

INDIAN MEDICAL SERVICE.

CAPTAIN DUNCAN COUTTS, M.B., by exchange from the Royal Army Medical Corps, to be Captain, July 29th, 1913, but to rank from July 30th, 1909.

Major W. H. C. FORSTER has been granted combined leave for two years, with effect from October 10th, 1913.

Major H. M. MACKENZIE has been appointed to officiate as Professor of Pathology, Medical College, Lahore, during the absence on leave of Major W. H. C. Forster.

The services of Captain R. B. S. SEWELL have been replaced at the disposal of the Government of India, in the Army Department, with effect from July 15th, 1913.

Major W. F. HARVEY has been confirmed in the appointment of Director, Central Research Institute, Kasauli, with effect from [illegible] 19th, 1913.

Captain F. P. MACKIE has been appointed to the Bacteriological Department, with effect from March 19th, 1913.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during July, 1913:

	FROM	TO
Lieut.-Colonel O. L. Robinson	Poona	R.A.M. Coll.
Major F. A. Symons, M.B.	Tidworth Park	Gosport.
,, E. C. Hayes	Lodmoor Camp	Cosham.
,, P. J. Probyn, D.S.O., M.B.	York	Sheffield.
,, W. E. Hudleston	Portsmouth	Wool Camp.
,, P. H. Collingwood	Honiton Camp	Devonport.
,, H. B. G. Walton	Bareilly	Ranikhet.
,, W. B. Winkfield	Meiktila	Maymyo.
,, A. A. Seeds, M.D.	Rawal Pindi	Kuldana.
,, E. P. Connolly	,, ,,	Murree.
,, P. H. Henderson, M.B.	Tidworth Park	Portsmouth.
,, W. S. Crosthwait	Ambala	Upper Topa.
Captain J. W. S. Seccombe	Tidworth Park	Topsham.
,, J. B. Meldon, M.B.	Eastbourne	Shorncliffe.
,, G. W. G. Hughes	R.A.M. Coll.	Devonport.
,, J. E. Powell	,,	Hilsea.
,, O. Ievers, M.B.	,,	Chatham.
,, G. A. Kempthorne	Tidworth Park	Tregantle.
,, P. J. Hanafin	Dublin	Rogerstown Camp.
,, M. C. Wetherell, M.D.	R.A.M. Coll.	Kildare.
,, A. A. Meaden	,,	Colchester.
,, J. H. Campbell, M.B.	,,	Edinburgh.
,, H. C. Sidgwick, M.B.	,,	Woolwich.
,, N. Low	,,	Cosham.
,, R. H. L. Cordner	,,	Aldershot.
,, H. St. M. Carter, M.D.	Tidworth Park	Netley.
,, R. G. Meredith, M.B.	R.A.M. Coll.	London.
,, F. E. Roberts	,,	Shorncliffe
,, T. H. Gibbon, M.D.	,,	Dublin.
,, J. E. Hoar	,,	Chatham.
,, H. O. M. Beadnell	,,	Tidworth.
,, C. W. O'Brien	,,	London.
,, G. G. Tabuteau	,,	Cork.
,, J. M. B. Rahilly, M.B.	,,	Shorncliffe.
,, R. E. Humfrey, M.B.	,,	Queenstown.
,, W. G. Maydon, M.B.	,,	Glasgow.
,, G. Ormrod, M.B.	,,	Aldershot.
,, H. G. Sherren	,,	London.
,, R. P. Lewis	,,	Aldershot.
,, J. H. Graham, M.B.	,,	Cosham.
,, W. Benson, M.B.	,,	Woolwich.
,, G. E. Ferguson	,,	York.
,, C. E. W. S. Fawcett, M.B.	,,	Cork.
,, G. H. Rees, M.B.	Mosney Camp	Belfast.
,, T. Scatchard	R.A.M. Coll.	Aldershot.
,, V. H. Symons	,,	Seaforth.
,, R. A. Bryden	,,	Preston.
,, E. L. Moss	,,	Tidworth.
,, M. J. Cromie	,,	Chatham.
,, E. T. Potts, M.D.	,,	Cosham.
,, G. W. W. Ware, M.B.	,,	Youghal.
,, W. C. Nimmo	,,	Aldershot.
,, M. Keane	,,	Warwick.
,, C. F. White, M.B.	,,	Dublin.
,, F. C. Sampson, M.B.	,,	Woolwich.
,, T. S. Blackwell	,,	Colchester.
,, A. D. O'Carroll, M.B.	,,	Aldershot.
,, C. T. Edmunds	Bulford	Sonning-on-Thames.
,, R. E. U. Newman, M.B.	Chatham	Landguard.
,, G. B. Edwards	R.A.M. Coll.	Leicester.
,, J. W. L. Scott	Durrington Camp	Netley.
,, T. C. C. Leslie	R.A.M. Coll.	Cork.
,, T. T. H. Robinson, M.B.	Lichfield	Strensall.
,, W. H. Forsyth, M.B.	Tidworth Park	Netheravon.
,, R. W. D. Leslie	Gosport	Romsey.
,, D. Coutts, M.B.	Ranikhet	Agra.
,, W. J. E. Bell, M.B.	R.A.M. Coll.	London.
,, A. H. Jacob	Dublin	Wicklow.
,, A. D. Fraser, M.B.	R.A.M. Coll.	Netley.
,, H. M. J. Perry	,,	Devonport.
,, M. P. Leahy, M.B.	Dublin	Maryborough Head.
,, L. A. A. Andrews	R.A.M. Coll.	Cork.
,, V. T. Carruthers, M.B., F.R.C.S.Edin.	,,	Colchester.
,, J. A. Renshaw	Bangalore	Secunderabad.
,, A. M. Pollard	Wynberg	Colchester.
,, H. Gall	Sialkot	Khyra Gali.
,, S. S. Dykes, M.B.	Dinapore	Dum Dum.
,, C. T. V. Benson	Calicut	Bangalore.
,, F. W. M. Cunningham, M.D.	Sialkot	Kalabagh.
,, A. W. Bevis	Belfast	Baltray Camp.
,, C. L. Franklin, M.B.	Harrismith	Potchefstroom.
,, H. F. Joynt, M.B.	Bloemfontein	Wynberg.
,, C. M. Finny, M.B.	Murree Hills	Barian.
,, D. Reynolds, M.B.	Rawal Pindi	Sialkot.
,, W. T. Graham, M.B.	Multan	Calcutta.
,, R. Davidson, M.B.	Woolwich	Hounslow.
,, R. T. Vivian	Curragh	Donard.
,, W. L. Webster, M.B.	Limerick	Nenagh.
,, H. J. G. Wells, M.B.	Poeghane Camp	Cork.
,, D. T. Richardson, M.B.	Edinburgh	Glasgow.
,, H. W. L. Allott	Curragh	Newbridge.
,, E. C. Lang, M.B.	Maryboro' Heath Camp	Curragh.
,, R. E. Porter, M.B.	Poeghane Camp	Nenagh.
,, P. M. J. Power	Tidworth Camp	Cosham.
,, J. C. Sproule	Devonport	Crown Hill.

Lieutenants W. W. Pratt, M.B., C. J. H. Little, M.B., and E. P. A. Smith, M.B., appointed on probation, January 26th, 1912, are stationed at London, North Command, and Aldershot respectively.

The following Lieutenants, appointed on probation, July 26th, 1912, have been stationed thus: J. B. A. Wigmore, Aldershot; C. C. Jones, M.B., London; A. A. M. Davies, North Command; and L. Dunbar, M.B., South Command.

The undermentioned Lieutenants, appointed on probation, January 24th, 1913, are stationed as follows: H. Beddingfield, M.B., East Command; F. C. Davidson, M.B., and J. Crocket, M.B., Scottish Command; J. F. O'Connell, M.B., W. O. W. Ball, M.B., J. Rowe, M.B., and S. D. Large, Aldershot; H. N. Sealy, E. C. Beddows, C. Helm, W. P. Croker, M.B., A. G. Brown, M.B., C. V. Thorndon, M.B., and A. Jackson, Irish Command; A. H. Bridges, London; R. Hemphill, M.B., South Command.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ALBERT DOCK HOSPITAL, Connaught Road, E.—(1) House-Surgeon; salary, £75 per annum. (2) House-Surgeon to Out-patients; salary, £75 per annum

ARGYLL AND BUTE ASYLUM, Lockgilphead.—Assistant Medical Officer (male). Salary, £160 per annum.

BATH: ROYAL UNITED HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BEDFORD COUNTY HOSPITAL. — Assistant House-Surgeon. Salary, £80 per annum.

BELFAST: ULSTER EYE, EAR, AND THROAT HOSPITAL.—Honorary Assistant Surgeon.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W. —House-Physician and House-Surgeon. Salary at the rate of £75 each per annum.

BETHNAL GREEN INFIRMARY, N.E.—Assistant Medical Officer. Salary at the rate of £100 per annum.

BIRMINGHAM CITY ASYLUM.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM GENERAL DISPENSARY. — Resident Medical Officer. Commencing salary, £200 per annum.

BIRMINGHAM: THE QUEEN'S HOSPITAL.—(1) Two House-Physicians. (2) Two House-Surgeons. (3) Obstetric and Ophthalmic House-Surgeon. Salary at the rate of £50 each per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BOLTON INFIRMARY AND DISPENSARY.—Second House-Surgeon. Salary, £100 per annum.

BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-resident House-Surgeon. Salary at the rate of £100 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Three House-Surgeons; salary at the rate of £100 per annum. (2) House-Physician; salary at the rate of £100 per annum. (3) Throat, Nose, and Ear House-Surgeon; salary at the rate of £75 per annum.

BURNLEY BOROUGH COUNCIL.—Assistant Medical Officer of Health. Salary, £300 per annum, increasing to £350.

BURY INFIRMARY.—House-Surgeon. Salary, £80 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—House-Surgeon (male). Salary, £70 per annum.

CANTERBURY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary, £200 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—House-Surgeon. (male). Salary at the rate of £60 per annum.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary, £200 per annum.

CARNARVONSHIRE JOINT COMMITTEE.—Medical Officers of Health for the Northern and Southern Divisions of the District. Salary, £464 and £486 per annum respectively.

CENTRAL LONDON OPHTHALMIC HOSPITAL, W.C.—House-Surgeon. Salary at the rate of £50 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—(1) Surgeon. (2) Surgeon to Out-patients. (3) Clinical Assistants.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—House-Physician. Salary, £90 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, N.E.—Resident Medical Officer. Salary, £150 per annum.

DREADNOUGHT HOSPITAL, Greenwich.—(1) Two House-Physicians; salary, £50 per annum. (2) Two House-Surgeons; salary, £50 per annum.

DUNDEE COMBINATION POORHOUSE AND HOSPITAL.—Resident Medical Officer (male). Salary, £225 per annum, increasing to £300.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House-Surgeon (male). Salary at the rate of £75 per annum.

EDAY PARISH.—Medical Officer. Salary, £70 per annum.

EDINBURGH ROYAL HOSPITAL FOR SICK CHILDREN. — Anaesthetist for Out-patient Department. Salary, £25 per annum.

ENNISKILLEN: FERMANAGH COUNTY HOSPITAL. — House-Surgeon (male). Salary, £72 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of 100 guineas per annum.

EXMINSTER: DEVON COUNTY ASYLUM. — Junior Assistant Medical Officer. Salary, £200 per annum, rising to £220, and on promotion to £250.

GLASGOW DISTRICT MENTAL HOSPITAL, Lenzie.—Junior Assistant Medical Officer. Salary, £150 per annum.

GLOUCESTER: ROYAL INFIRMARY AND EYE INSTITUTION. —Assistant Physician.

GRIMSBY AND DISTRICT HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

HALIFAX ROYAL INFIRMARY.—Second House-Surgeon (male) and Third House-Surgeon (male). Salary, £100 and £80 per annum respectively.

HAMMERSMITH UNION.—(1) Assistant Medical Superintendent of Infirmary and Assistant Medical Officer of Workhouse; salary, £120 per annum. (2) Second Assistant Medical Officer of Infirmary and Workhouse; salary, £110 per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—(1) House-Physician and House-Surgeon; salary at the rate of £70 each per annum. (2) Resident Casualty Officer and Assistant Casualty Officer for Out-patient Department. Salary, £140 and £60 per annum respectively.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £70 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

HULL ROYAL INFIRMARY.—(1) Assistant House-Surgeon; salary, £100 per annum. (2) Casualty House-Surgeon; salary at the rate of £60 per annum for six months' appointment, or £80 for twelve months. (3) House-Physician; salary, £100 per annum.

KENSINGTON AND FULHAM GENERAL HOSPITAL.—Resident Medical Officer. Salary at the rate of £75 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

KING'S COLLEGE HOSPITAL.—Resident Assistant Chemical Pathologist. Salary, £60 per annum.

LANCASHIRE COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £200 per annum, increasing to £250.

LEAMINGTON: WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House-Physician. Salary, £85 per annum.

LIVERPOOL INFIRMARY FOR CHILDREN.—Resident House-Surgeon and Resident House-Physician. Salary, £30 each for six months.

LONDON MEDICAL MISSION, Endell Street, W.C.—Resident Medical Officer. Salary, £120 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Senior House-Surgeon and Junior House-Surgeon. Salary, £100 and £80 per annum respectively.

MANCHESTER CHILDREN'S HOSPITAL.—Assistant Medical Officer (non-resident). Salary, £100 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER ROYAL INFIRMARY.—Assistant Medical Officer for Convalescent Hospital. Salary at the rate of £80 per annum.

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL.—Resident Medical Officer. Salary at the rate of £80 per annum.

MARGATE: ROYAL SEA-BATHING HOSPITAL FOR SURGICAL TUBERCULOSIS.—Resident Surgeon. Salary, £120 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Senior House-Surgeon. Salary at the rate of £100 per annum.

MONMOUTHSHIRE EDUCATION COMMITTEE.—Third Assistant Medical Officer. Salary, £250 per annum.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistants. Salary, £200 per annum.

NEW HOSPITAL FOR WOMEN, Euston Road, N.W.—Clinical Assistants.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary at the rate of £80 per annum for the first four months, rising to £120.

NORFOLK EDUCATION COMMITTEE.—Assistant Medical Officer. Salary, £250 per annum.

NORTHAMPTON EDUCATION COMMITTEE.—Dental Surgeon. Salary, £250 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—House-Surgeon in charge of Septic Wards and Casualty House-Surgeon. Salary, £60 per annum.

NOTTINGHAM UNION.—Resident Assistant Medical Officer. Salary at the rate of £165 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer (male). Salary, £150 per annum, rising to £175.

OXFORD EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Senior Resident Medical Officer (male). Salary at the rate of £100 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £75 per annum.

PORTSMOUTH ROYAL HOSPITAL.—House-Physician (male). Salary, £80 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—Medical Officer in Charge of Electrical Department. Salary, £100 per annum.

ROCHDALE INFIRMARY.—Second House-Surgeon (male). Salary, £100 per annum.

ROYAL NATIONAL MISSION TO DEEP-SEA FISHERMEN.—Medical Men for Hospital Ships.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL.—(1) Surgical Registrar; salary, £105. (2) Resident House-Surgeon; salary, £100.

SALFORD ROYAL HOSPITAL.—(1) Resident Surgical Officer; salary at the rate of £100 per annum. (2) House-Physician; salary at the rate of £90 per annum. (3) House-Surgeon; salary at the rate of £75 per annum. (4) Junior House-Surgeon; salary at the rate of £65 per annum. (5) Casualty House-Surgeon; salary at the rate of £65 per annum.

SALFORD UNION INFIRMARY.—Male Resident Assistant Medical Officer. Salary, £120 per annum.

SHEFFIELD: ROYAL HOSPITAL.—Assistant House-Physician. Salary, £80 per annum.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer (male). Salary, £180 per annum, increasing to £200.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary at the rate of £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

STAFFORD GENERAL INFIRMARY.—House-Surgeon. Salary, £120 per annum.

STOCKPORT INFIRMARY.—Junior House-Surgeon (male). Salary, £100 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £80 per annum.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.—Demonstrator in the Department of Bacteriology.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £75 per annum.

WEST HAM UNION INFIRMARY.—Third and Fourth Assistant Resident Male Medical Officers. Salary, £130 and £120 per annum respectively.

WESTMINSTER HOSPITAL.—Assistant House-Physician.

WINDSOR: KING EDWARD VII HOSPITAL.—Second House-Surgeon. Salary, £75 per annum.

WREXHAM INFIRMARY.—Resident House-Surgeon. Salary, £120 per annum.

YORK DISPENSARY AND MATERNITY HOSPITAL.—Resident Medical Officer (male). Salary, £140 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Broadford (co. Limerick), Clonavaddy (co. Tyrone), Lymington (Hampshire).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

BAYLOR, E. A. C., M.D.Durh., B.A., M.B., B.Ch., District Medical Officer of the Bosmere and Claydon Union.

BIRTS, C. A., M.R.C.S., L.R.C.P., Medical Officer of the Chipping Norton Union Workhouse.

BLOXSOME, H. E., M.R.C.S., L.R.C.P., District Medical Officer of the Cirencester Union.

DAVIDSON, J. A., B.A., M.D., B.Ch., D.P.H., appointed Honorary Assistant Surgeon to the Ulster Eye, Ear, and Throat Hospital, Belfast.

DAVIES, Trevor Berwyn, M.D., B.S., B.Sc., M.R.C.P.Lond., Registrar and Pathologist to the Hospital for Women, Soho Square.

DYKES, A. L., M.D.Edin., D.P.H.Lond., Assistant Medical Officer of Health to the County Borough of Oldham.

EVANS, H. L., M.R.C.S., L.R.C.P., District Medical Officer of the Bradfield Union.

GREAT-REX, J. B., M.D.St.And., M.R.C.S.Eng., District Medical Officer of the Wolstanton and Burslem Union.

HENDERSON, John, M.D., Ch.B.Glasg., F.R.F.P.S.Glasg., Visiting Physician to the Glasgow Royal Infirmary.

HERBERT, Noël M. G., L.R.C.P. and S.I., Assistant Medical Officer to Whittingham Asylum, Preston, Lancashire.

JESSEL, George, M.A., M.B., B.Ch.Oxon., D.P.H.Vict., Manch., Tuberculosis Officer for combined County District and County Borough of Wigan.

LEGGE, S. B., M.D.Edin., M.B., Ch.B., District Medical Officer of the Shifnal Union.

PARKINSON, W. Howarth, M.B., Ch.B., L.S.A., D.P.H., Assistant Medical Officer of Health for the County of Warwick.

SALISBURY, C. R., M.R.C.S., L.R.C.P., D.P.H.Lond., Medical Inspector of School Children, Rochester Education Committee, and Deputy Medical Officer to the Borstal Institution at Borstal.

THOMSON, Ruby, M.B., Ch.B.Edin., House-Surgeon at Victoria Hospital for Sick Children, Hull.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s., *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

MARRIAGE.

SMITH—CHRISTIE.—At the Palace Hotel, Aberdeen, on the 2nd inst., Frederick K. Smith, M.A., M.B., Ch.B., 207, Great Western Road, Aberdeen, to Mary Louise, daughter of the late John Christie, J.P., 55, Fountainhall Road, Aberdeen.

DEATH.

OZANNE.—On the 3rd inst., at Sheen House, Harrogate, Fanny Lydia, the beloved wife of Fred. N. Ozanne, L.R.C.P.Lond., M.R.C.S.Eng. Was interred at Guernsey, Monday, September 8th.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.—Continuation of the Post-graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

EDINBURGH POST-GRADUATE COURSES.—(*a*) General Course; (*b*) Surgical Course; and (*c*) Special Course.

LONDON HOSPITAL MEDICAL COLLEGE.—Demonstrations in Clinical Surgery, Monday, at 10.30 a.m.; other days at 2 p.m., except Saturday.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, X Rays, Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday.

[*For further particulars of Lectures consult the Index to Advertisements.*]

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, SEPTEMBER 20TH, 1913.

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INSURANCE ACT COMMITTEE.

THE third meeting of the Insurance Act Committee was held at the offices of the Association on Thursday, September 11th. Dr. J. A. MACDONALD was in the chair, and the other members present were: *England and Wales:* Dr. R. M. Beaton (London), Dr. E. Rowland Fothergill (Brighton), Dr. Major Greenwood (London), Miss Frances Ivens, M.S. (Liverpool), Dr. Constance E. Long (London), Dr. G. K. Smiley (Derby), Mr. E. C. Montgomery-Smith (London), Mr. D. F. Todd (Sunderland), Dr. W. B. C. Treasure (Cardiff). *Ex officio:* Dr. W. A. Hollis (President), Mr. T. Jenner Verrall (Chairman of Representative Meetings), Dr. Edwin Rayner (Treasurer).

RESIGNATION.

The resignation of Dr. C. Buttar from the Committee was received and accepted with regret.

APPOINTMENT OF MEDICAL OFFICERS BY INSURANCE COMMISSIONERS.

The reply received from the English Commission in reference to the advertisement of medical officers to be appointed by the English Insurance Commissioners was considered. The reply was to the effect that the appointments were administrative and not clinical. An amended advertisement was approved for publication in the JOURNAL.

RULES FOR LOCAL MEDICAL COMMITTEES—CONSULTATION WITH COMMISSIONERS.

In accordance with the resolution adopted by the Committee on July 31st, a letter had been addressed to the Insurance Commissioners with reference to the model rules adopted by the Association for the use of Local Medical Committees, and with reference also to the consultation of the Association by the Commissioners. It was reported that a reply had been received from the Commissioners to the effect:

1. That the scheme of contribution and draft rules for Local Medical Committees forwarded by the Association were receiving the careful consideration of the Commissioners, who hoped to have the opportunity of conferring with the representatives of the Association on the subject before coming to a decision.
2. That the Commissioners welcomed the suggestion that they should consult the Association in such cases affecting the medical profession as were described in its letter, and, so far as circumstances permitted, would avail themselves of the co-operation of the Association before their decisions were arrived at.

AGREEMENTS WITH MEDICAL AID ASSOCIATIONS.

In connexion with an incident in South Wales, the Committee, after congratulating the medical profession on the firm stand taken, expressed the hope that they would continue to resist any settlement which did not offer terms which were an improvement on old local contract practice conditions.

MEDICAL AID INSTITUTIONS—CHESTERFIELD BY-ELECTION.

The Committee considered the following memorandum, being the reply, dated August 13th, from Mr. Masterman, setting out the general policy of the Insurance Commissioners in regard to institutions approved under Section 15 (4) of the National Insurance Act. The memorandum was issued in response to representations of these institutions during the contest in the by-election in Chesterfield and as a reply to representations made by the institutions in a deputation to the Chancellor of the Exchequer on June 4th.

Memorandum.

1. Any existing approved institution will receive 9s. a head for every insured person who selects the institution to provide his medical treatment upon the principal officer signing a statement that an average of 9s. per head has been expended in respect of insured persons for medical treatment (including provision of drugs) and general establishment charges; treatment to be not inferior to that given by doctors on the panel.
2. Arrangements will be made as soon as possible whereby insured persons, when permanently changing residence, shall have the option either of joining another medical association in their new location or of selecting a panel doctor.

The Insurance Act Committee resolved to ask the Insurance Commissioners to receive a deputation from the Committee on the subject. It was further resolved to invite Dr. Duncan, Honorary Secretary of the Chesterfield Division, to be one of the members of the deputation, and that the other members should be nominated by the Chairman. The deputation was instructed to point out, *inter alia*, that the concessions placed the local medical practitioners who were on the panel in an unfair position, that they were not in the best interests of the insured persons, and were contrary to the spirit of Memorandum I.C./163, which the Commissioners had issued on the subject of approved institutions.

MATERNITY BENEFIT.

An instance was brought to the notice of the Committee in which it was alleged that the nurse in attendance upon a case of miscarriage, having been informed that it was a case of pregnancy of less than three months' duration, nevertheless signed the form enabling the patient to obtain the maternity benefit. The Committee expressed the opinion that the remedy in such a case lay in reporting to the Commissioners the action of the nurse in giving a certificate in such circumstances.

SEAMEN'S NATIONAL INSURANCE SOCIETY.

It was reported that, in pursuance of Minute 216 of the Annual Representative Meeting, a communication had been addressed to the Seamen's National Insurance Society concerning the publication by the society in various ports of posters containing a selected list of names of doctors willing to attend seamen. The society had replied to the effect that the intention of the posters exhibited at mercantile marine offices containing the names of the society's medical men was to enable seamen

arriving at a strange port to obtain medical attendance. It was denied that the poster was of the nature of an advertisement, and the society stated that free choice was allowed, inasmuch as each member of the society was permitted to be attended by his family doctor, the society paying the doctor's fees in accordance with its scale. It appeared from information before the Committee that the poster had been withdrawn in practically every port throughout the kingdom, with the exception of Cardiff, and the Committee expressed the opinion that the Cardiff profession should make representation to the local branch of the Seamen's Society, pointing out that the publication of the poster was an unsatisfactory arrangement which had been objected to in all other ports throughout the country. The Committee was of opinion that the practice of other ports should be followed in Cardiff, and that a complete list of members of the local profession willing to attend seamen should be drawn up, and that there was no objection to its being placed in suitable places if accompanied by an intimation that free choice among the doctors willing to act was allowed to members of the society and to seamen entering a port.

Association of Approved Societies.

A communication was read from the Association of Approved Societies that it contemplated holding an inquiry into the working of medical benefit under the Insurance Act, with a view to reporting as to its efficiency or otherwise, and of making suggestions as to possible alternative schemes, and asking whether, in the event of such an inquiry being instituted, the British Medical Association would consent to be officially represented. The Committee postponed the reply to this communication pending receipt of further information.

Compensation Cases.

A letter of thanks from Mrs. Courtenay Milward for the assistance granted to her and the family of the late Dr. Courtenay Milward from the Central Insurance Defence Fund was received. Two other applications were referred to the Medico-Political Committee, as being more suitable for consideration in connexion with the Central Emergency Fund, and the consideration of others was postponed in order that further information might be obtained. The Committee adopted the following resolution:

> That the Chairman and Medical Secretary be authorized to prepare a form of application to be filled up by future applicants for assistance from the Central Insurance Defence Fund; and that in future no application be considered by the Committee which has not been made upon such form, and that applicants be informed that the Committee will not consider any application for assistance from the Central Insurance Defence Fund unless the applicant consents to the Committee consulting one of its local officials thereon.

Subcommittee to Represent the Interests of Medical Practitioners not on the Panel.

On the motion of Mr. TODD, seconded by Dr. TREASURE, it was resolved to appoint a subcommittee of the Insurance Act Committee to represent the views and interests of medical practitioners not on the panel, and to report to the Insurance Act Committee. It was further resolved that the members of the Subcommittee should consist of those members of the Insurance Act Committee who are not on the panels.

Statement of Nature of Disease upon Sickness Benefit Certificates.

After considering various letters the Committee resolved that it must continue, in accordance with the terms of Minute 207 of the Annual Representative Meeting, 1913, to press for the adoption by approved societies and Insurance Committees of a form of certificate not demanding any statement therein of the nature of the disease. It was further resolved to draw the attention of Local Medical Committees to the issue by the Commissioners of the model form of certificate, to urge the committees to take steps to have the model form adopted in each insurance area, and to forward for the information of the Committee the views of members of the profession in their areas upon the new model form of certificate.

Temporary Residents.

Minute 217 of the Annual Representative Meeting, which advised members of the medical profession to refuse the terms of service laid down in the Memorandums 159 and 161 I.C. for the treatment of temporary residents, was considered along with Memorandum 171, It was resolved to take the opinion of the Solicitor on various matters arising therein.

Conference of Representatives of Local Medical Committees.

The consideration of the proceedings of the Conference of Local Medical Committees held at Brighton on July 24th was resumed, and it was resolved:

(*a*) That a Local Medical Committee Subcommittee be appointed.

(*b*) That such Subcommittee consist of the Chairman and four members of the Committee, with power to co-opt not more than five other members, who shall, in the opinion of the Subcommittee, be representative of the various interests of the various parts of the country.

(*c*) That the Subcommittee consider and report to the Insurance Act Committee on all subjects from time to time referred to it by that Committee.

It was further resolved that the representatives of the Insurance Act Committee upon the Subcommittee should be Drs. John Adams, Major Greenwood, D. E. Finlay, and Mr. D. F. Todd, and that the decisions of the conference at Brighton be referred to this Subcommittee for consideration and report.

Treatment of Members of the Staffs of Voluntary Hospitals.

The Committee resumed the consideration of the question whether, in those cases in which a medical officer of a voluntary hospital was required to attend insured members of the staff, the proper proportion of the moneys paid by the Insurance Committee in respect of medical attendance and treatment of such insured persons should be paid to the medical officer responsible. The Committee resolved as follows:

> That the Committee is of opinion that in those cases where the medical officer of any voluntary hospital is required to attend insured members of the staff of such institution, the proper proportion of moneys paid by the Insurance Committee in respect of the medical attendance and treatment of such insured persons should be paid to the medical officer of the institution who is responsible for such attendance and treatment, irrespective of any salary paid to such officer by the hospital authority.

Future Policy of the Association with regard to Insurance Legislation.

The Committee proceeded to consider the two following minutes of the Annual Representative Meeting, 1913:

> *Minute 204.*—That in view of the fact that it is exceedingly likely that the scope of the National Health Insurance Act will be so extended as to include in its operations various additional matters (for example, the treatment of children and dependants of insured, dental treatment, hospital treatment, alterations in the method of dealing with deposit contributors and casual labourers), it is desirable that the Association should be ready with its policy as to what a National Health Insurance Act should be, not merely from the point of view of the interests of the profession, but also from that of public health and the advancement of medical science.
>
> *Minute 205.*—That the preparation of a full report upon the above lines be referred to the Insurance Act Committee; that such report be issued to the Divisions for their consideration and comment; and that the report, together with a statement of the views of the Divisions thereon, be submitted, if possible, to the next Representative Meeting, and that the Council be given power to act for the Representative Body should an emergency arise in the meantime.

The Committee directed that a statement should be prepared of the decisions of the various committees of the Association, since the introduction of the Insurance Act, for its consideration at a future meeting.

Amending Act Subcommittee.

The Amending Act Subcommittee appointed at the previous meeting was empowered to co-opt not more than three other members.

Next Meeting.

It was arranged that the next meeting of the Committee should be held on Thursday, September 25th.

LOCAL MEDICAL COMMITTEES.

BUCKS.

A meeting of the Bucks Medical Committee was held on August 29th at the Royal Bucks Hospital, Aylesbury. Dr. Baker was in the chair, and fourteen other members were present.

Temporary Residents.—The reply of the clerk to the communication of the Committee with reference to temporary residents was read, from which it appeared that the Committee had no option but to adopt the method of green vouchers suggested by the Commissioners. Dr. Benson suggested that the sums that were due for the treatment of unallotted persons should be expended in paying for the treatment of temporary residents, but this was objected to, and it was decided to move no further in the matter.

Prescription Books.—A letter was read from the clerk in answer to several communications of the Committee last month, and the question of prescription books was settled by the Committee agreeing to adopt the Carbac method of triplicate prescriptions. Dr. Rose brought forward the question of emergency medicines, such as those on Sunday, early closing days, and at night, and suggested that 1s. per emergency supply of medicine or dressing be the method adopted instead of charging per item. This was seconded by Dr. Henderson, and after considerable discussion, in which it was pointed out that this method might lead to abuse, and others said that they had frequently given medicine free to avoid the trouble of writing out the bills for items, it decided by 8 votes to 1 to adopt the suggestion; 6 did not vote.

Balance to be Retained.—It was stated that up to the present the full amount due on the capitation fees had been paid, but the Committee now agreed that in future 95 per cent. be paid, and the 5 per cent. be retained by the Insurance Committee until the end of the year.

Letter from British Medical Association.—A letter was read from the British Medical Association dealing with several important matters in connexion with the Insurance Act, and it was agreed that a letter be sent thanking it, and stating that the Committee agreed in the main with its suggestions, but that it had already drawn up rules for the constitution of the Committee.

Agreement for Next Year.—It was decided that a request should be made to the Insurance Committee that a draft of the agreement for next year be supplied to the Local Medical Committee as soon as drawn up and before supplying it to the medical practitioners.

Certificate Books.—Dr. Deyns reported that the new certificate books would soon be issued, which seemed to meet all the objections that had been raised by the doctors in the past.

Reports of Representatives at Brighton.—The report of the Representatives at the Brighton conference was submitted and approved, and a hearty vote of thanks was passed to Dr. Henderson and Dr. Larking for their services at the conference. The report of these Representatives is appended.

Proposed Institution at Newport Pagnell.—Dr. Wickham brought forward the proposed establishment of an institution at Newport Pagnell, and after some discussion it was decided that if any mention were made of the matter at the meeting of the Insurance Committee the medical representatives should at once make strong representations of the great objection of the profession to such an institution being established.

Certificates.—With reference to certificates it was suggested that in signing off a sick person it would be very advantageous to put a.m. or p.m. on the certificate, and several members expressed the opinion that sick persons were too fond of continuing on the insurance fund until the end of the week, and that it should be the duty of the medical practitioner to suggest that it was possible for a man to resume work at the commencement of the week as well as at the end.

Complaints.—Two cases were referred to the Committee, one in which a panel patient had been treated for a fracture of the finger and, according to the doctor, had expressed a wish to be treated as a private patient, but, on the bill being sent in, he repudiated the obligation and refused to pay. The Committee decided that, in the absence of a written agreement or written evidence, it was impossible for the doctor to insist on his claim. Another case was that in which a man could get no medical man in the neighbourhood to accept him, and it was decided that the resident doctor be written to and asked to give the reasons why this man had been refused, and the decision was to be referred to a subcommittee consisting of three members of the Committee.

Particulars in Accounts.—Dr. Bell proposed and it was carried:

> That it be a recommendation from this Committee to the Insurance Committee that the clerk be asked, when paying the quarterly cheques to the respective medical men, to give details as to how the amounts are made up—that is to say,
>
> Country patients at.....per head.
> Town patients at.....per head.
> Amount of the floating 6d.
> Amount on account of unallotted persons.

Rates for Uninsured Persons.—Dr. Benson brought forward the question of the rates at which uninsured persons were being treated, and pointed out that the men who were now members of the clubs were not insured and were the best men in the clubs and quite able to pay good fees, and that they ought to pay more than they did in some districts where they were paying 5s. a year. Several members gave cases of what was done in their neighbourhood, and it appeared that, generally speaking, the fees had been raised all over the county very considerably since the introduction of the Act, but that in other neighbourhoods the medical men were waiting until the end of the year before making any move in the matter.

Report of the Representatives at the Conference of Local Medical Committees held at Brighton.

The two representatives who attended the conference at Brighton on July 24th reported as follows:

First, that in their opinion the whole meeting was so dominated by prominent members of the Representative Body of the British Medical Association, and there was such an evident desire on their part and of a number of those present to prevent any expression of opinion in the least antagonistic to what had been done at the Representative Meeting, that the Conference was mainly taken up by a reiteration of views which had already been discussed and on which most were in agreement. There was a very marked tendency on the part of those conducting the meeting to get the business over as soon as possible, and consequently the whole procedure was rushed to such an extent that the opinion of many who had practical experience of the working of the Act was not brought out. The embarrassing procedure followed, of making each speaker go up on to the platform, prevented many men from taking part in the discussions whose views are of the utmost importance. This is to be deprecated, for the consequence is that a few who possess the gift of speaking in public without any nervousness get the whole meeting in their hands and take up time in discussing matters of secondary importance, whilst practical matters are left out and many earnest workers who are not talkers are disgusted and disheartened.

The agenda had been drawn up beforehand and everything was cut and dried. The first speech was to advocate that there should be fusion between the Local Medical Committees and the Divisions of the British Medical Association, and this speech gave the keynote to the whole meeting, and showed that several who were present hoping that something more would be done than had been done by the Representative Meeting that such independent suggestions would not be tolerated, and that the evident desire was that the Local Medical Committees must be entirely subservient to the British Medical Association and the Representative Body. That this idea is resented by the men on the Local Medical Committees was evident later on when the meeting refused to hand over their business to the Representative Meeting. Moreover, we noticed that many abstained from voting on many occasions when the British Medical Association was concerned in the motion before the meeting.

A resolution was passed that the British Medical Association should convene future conferences at the same time as the Annual Meeting of the Association, but we shall be very much surprised if, before that date, something has not been done of a more practical and useful

nature to co-ordinate all Local Medical Committees than any hitherto suggested by the British Medical Association.

An account of the Conference appears in the British Medical Journal Supplement for August 2nd, and gives a fairly full account of what was done. We cannot allow this report to pass without protesting very strongly against the wholly inaccurate report of the speech of your secretary, and the insertion of an imaginary incident that only occurred in the mind of the reporter afterwards. Dr. Larking gave the estimate of the cost of the Bucks Medical Committee as £80 for the year, and stated that he now thought that it had been overestimated, and that the total would be about £60. In giving the items he mentioned the estimate and not the actual cost, and in the report in the Supplement it is made out that a mistake of £20 had been made in the addition. There was no such incident as stated, nor was any laughter aroused by the speech. It seems that any one who shows any desire to speak in favour of the Act, as your secretary did, must be held up to ridicule.

In conclusion, we beg to suggest that some method should at once be started for co-ordinating the various Local Medical Committees. We think that the experience we have had in this county proves that all medical men would be willing to contribute about one halfpenny per annum per patient on their lists, and this amount would suffice to carry on the work of the Committee locally, and also to give a donation to a central fund controlled by the Insurance Committee of the British Medical Association and Representatives of Local Medical Committees.

Signed H. J. Henderson,
A. E. Larking.

August 29th, 1913.

BERKS.

The tenth meeting of the Berks County Medical Committee was held at the Royal Berks Hospital on September 12th, Dr. Napier Jones in the chair.

Model Rules.—A subcommittee, consisting of Drs. Gordon-Paterson, Crouch, and Bokenham, was appointed to report on the model rules for Local Medical Committees drawn up by the British Medical Association.

Finance Subcommittee.—The following Finance Subcommittee was also appointed: Drs. Napier Jones, McCrea, and Joy.

A complaint as to the allocation of patients and other matters were also discussed.

ESSEX.

The tenth general meeting was held on September 11th.

Sanatorium Benefit.—Among matters mentioned were that patients notified as tuberculous were not provided with sanatorium treatment and that no cards could be obtained for case-taking.

Drug Suspense Fund.—The Secretary was instructed to write to the Commissioners and ascertain if the money to be deducted from the Drug Suspense Fund for the expenses of the Panel Committee could be used for the Local Medical Committee.

British Medical Association Model Rules.—After discussion it was decided to adopt the model rules for Local Medical Committees issued by the British Medical Association, and a subcommittee, consisting of the Chairman, Vice-chairman, and Secretary, was deputed to compare these with the present rules and report.

Appointment of Secretary.—The question of the appointment of Secretary, postponed from the last meeting for consideration, was discussed. Members expressed their satisfaction with the present Secretary and asked him to reconsider his resignation. The Chairman expressed his hope that this could be managed. The Secretary said that though he had no intention of continuing when he entered the room, yet, after the opinions expressed both by those present and many practitioners in Essex by letter, he would continue for the present year. The Committee expressed its opinion that, considering the many hundreds of doctors in the area and the large amount of work entailed, no one could be expected to do the work gratuitously, and it was proposed, seconded, and carried *nemine contradicente*, that an honorarium of £50 be given to the Secretary, and that a further amount should be granted at the close of the year. Dr. Harding H. Tomkins, the Secretary, thanked the Committee for this expression of its approval, and said he hoped funds would be forthcoming to enable him to effect some efficient form of organization which was now being further discussed in connexion with the Special Fund Subcommittee of the British Medical Association.

NORFOLK.

A meeting of the Norfolk Local Medical Committee was held at the Medical Library, Norwich, on September 2nd, Dr. B. D. Z. Wright in the chair. Sixteen members were present, including Drs. Back and R. C. M. Colvin-Smith (Vice-Chairmen), and Dr. Thomson (Honorary Secretary).

After formal business, a letter was read from the County Insurance Committee asking the Local Medical Committee to formulate a scale of fees applicable to those permitted to "contract out" and make their own arrangements. After discussion the following were agreed upon:

	s.	d.
1. Attendance on the patient at the practitioner's residence, surgery, or dispensary	2	6
2. Visit to patient's residence ... ... (Within a mile, and 1s. a mile after.)	2	6
3. Special visit—that is, visit paid by the patient's desire on the same day as a call received after 10 a.m. or on Sunday	3	6
4. Night visit—that is, visit made between the hours of 8 p.m. and 8 a.m., in response to a call received between those hours (mileage as above)	5	0
5. Minor surgical operations requiring local or general anaesthetic, or case of abortion or miscarriage...	21	0
6. Administration of general anaesthetic	21	0
7. Setting of fracture (upper extremity)	21	0
Setting of fracture (lower extremity	63	0
8. Reduction of dislocation	21	0

Another letter was read from the County Insurance Committee asking the Local Medical Committee to express its views as to the precise method of adjustment of the "nominal debit" involved in the medical attendance of temporary residents between the Committees concerned desired by the doctors on the Norfolk panel. After discussion it was resolved, *nemine contradicente*:

> That the nominal debit of the Medical Benefit Fund in the hands of the Norfolk Insurance Committee in favour of one or more other Insurance Committees in respect of Norfolk insured persons temporarily resident attended by doctors in other areas be borne by all the doctors on the Norfolk panel in proportion to their "credits" in respect of the insured persons on their lists. (See Memo. 171/I.C., par. 30.)

Model Rules.—It was the intention of the Local Medical Committee to consider the model rules suggested by the British Medical Association, and printed in the British Medical Journal Supplement for July 5th, 1913, but in virtue of a letter from the Insurance Commissioners, dated August 30th, in which it was stated that the Insurance Commissioners had under consideration "the general question of the constitution of Local Medical Committees on a permanent basis, and that the question of filling vacancies, co-opting members, and generally of making changes in the constitution of Committees, as may from time to time be necessary or advisable, will be a matter for consideration in connexion with the scheme for the permanent constitution of Local Medical Committees," it was decided to postpone consideration of adopting rules.

Election of Secretary.—Dr. Owens, of Long Stratton, was unanimously elected Honorary Secretary in succession to Dr. Thomson, resigned. Dr. Owens accepted office, but has since communicated his inability to act.

Representation of Medical Men on the Norfolk Panel but Residing out of the Area.—In the letter from the Insurance Commissioners previously quoted, and which was sent to the Committee in reply to an inquiry on this point, they state "that whilst there is no objection to the election to serve on a Local Medical Committee for any area, of a practitioner who is resident outside the area of the Committee, practitioners can only claim to have a voice in the election of a Local Medical Committee in respect of the area in which they reside." From this letter it would appear that a Local Medical Committee may elect or co-opt practitioners non-resident in the area to that Committee, but that practitioners resident in one area may not elect directly to the Local Medical Committee of another area. It was, however, decided to take no action at present as to co-opting members from other areas.

Insurance Act Amendment Act.—One or two points in this new Act were referred to, the members' attention

having been drawn to the digest of the Act published in the BRITISH MEDICAL JOURNAL SUPPLEMENT for August 23rd, p. 216. The general feeling was expressed that when the proper time came it would be desirable that the panel practitioners should elect the Local Medical Committee as their Committee.

After some further business of local interest the meeting terminated.

BIRMINGHAM.

THE eighth meeting of the Local Medical Committee was held in the Medical Institute on Tuesday, September 2nd, at 3.30 p.m. Dr. G. A. WILKES was in the chair, and twenty-one other members were present.

The SECRETARY read his report of the proceedings at the conference at Brighton.

The following resolutions were passed:

1. *Medical Referees.*—That the doctor treating an insured person should be informed of any intended examination by a medical referee.
2. *Rep. Mist.*—That this Committee suggests to the Local Insurance Committee that they should refuse to pay for prescriptions on which Rep. Mist. is written.
3. *Allocation.*—That it is the opinion of this Committee that allocation should be proceeded with at once, but should be so arranged that no man should have by allocation more than 2,000 persons on his list.

The SECRETARY reported that an approved society had objected to the use of rubber signature and rubber date stamps on medical certificates. It was pointed out that the Commissioners had approved of the use of rubber date stamps; but that rubber signature stamps should not be used.

The SECRETARY reported that to date fifty-nine practitioners had paid £20 12s. 6d. towards the expenses of the Committee.

NORTH RIDING OF YORKSHIRE.

A MEETING of the Local Medical Committee of the North Riding of Yorkshire was held at York on August 30th, when Dr. CUFF was in the chair and six other members were present. The minutes of the previous meeting were read and confirmed.

Mileage Grants.—The HONORARY SECRETARY reported that of the four schemes presented by him to the Insurance Committee the first had been received with most favour by that body, but had been returned to him for modification, inasmuch as the sum required to meet it—£3,500—was in excess of the £2,600 which the Commissioners were prepared to allow. The CHAIRMAN remarked that as Scheme I was acceptable to both the Insurance Committee and to the Local Medical Committee, every effort should be made to get its principles adopted, to which end the practitioners might accept a proportionate amount of the grants they claimed, so allowing the £2,600 to cover for this year the scheme which involved £3,500, they would be in a better position next year than if they produced a scheme to meet the inadequate grant offered by the Commissioners. It was then formally proposed by Dr. GILES, seconded by Dr. SHAND, and carried unanimously:

> That the Insurance Commissioners be asked to ratify the adoption of Scheme I for the year 1913, and under it to pay twenty-six-thirty-fifths of each mileage account due.

SCHEME I.

(Submitted to the North Riding Insurance Mileage Subcommittee for presentation to the Insurance Commissioners on August 18th, 1913.)

Distant from Doctor.	Insured Persons.		£	s.	d.
2–3 miles ...	4,813 at 2s.	extra capitation fee =	481	3	0
3–4 ,, ...	3,543 at 4s.	,, ,, =	708	12	0
4–5 ,, ...	2,469 at 6s.	,, ,, =	740	14	0
5–6 ,, ...	1,511 at 8s.	,, ,, =	604	8	0
6–7 ,, ...	650				
7–8 ,, ...	254				
8–9 ,, ...	166	1,160 at 10s. ,, =	580	0	0
10 and over ...	90				
	13,496		3,114	17	0
(2) Roads bad and difficult: 1,614 at extra capitation fee of, say, 2s. 6d. additional to above ... ... =			201	15	0
(3) More than 1 mile from road when walking is necessary: 628. Estimated average of three visits per year at 2s. 6d. extra per visit ... ... =			235	10	0
Cost of the above scheme			£3,552	2	0

It was also decided that in the event of Scheme II coming up for discussion the medical members of the Insurance Committee be requested to delete from it Section 4, which provided for the distribution of £94 amongst the twelve most difficult practices, and to use this sum for the purpose of increasing the grants in the several classes over five miles.

SCHEME II.

Miles.	Insured Persons.	Capitation Fee per annum.	£	s.	d.
2-4	8,240	2s. 0d. ..... =	824	0	0
4–5	2,567	4s. 0d. ..... =	513	8	0
5–6	1,446	5s. 6d. ..... =	397	13	0
6–7	707	6s. 0d. ..... =	212	2	0
7–8	259	8s. 0d. ..... =	103	12	0
8–9	166	9s. 0d. ..... =	74	14	0
10 and over	91	11s. 0d. ..... =	50	1	0
			2,175	10	0
(2) Number of patients over 2 miles distant and not within 2 miles of another panel doctor where the road is very bad and difficult: 1.572 insured persons at 2s. 6d. extra capitation fee per head ... ... =			196	10	0
(3) Number of patients more than 1 mile distant from the road where walking over fields and moorland is necessary (not included under No. 2): 639 insured persons, say three visits per annum at 2s. 6d. per visit ... ... =			239	12	6
		Total ...	2,611	12	6

Mileage grant, £2,600.

Allocation.—Discussing the question of 200 circulars which had been sent by the Clerk of the Insurance Committee to the honorary secretary for distribution, the action of the honorary secretary in returning the circulars to the clerk was approved, inasmuch as the Local Medical Committee has no fund at its disposal to meet the postage of circulars as to the drawing up of which they had not been consulted. It was also decided that only those practitioners whose names were on the panel for the first six months of the year could be held entitled to reap any monetary benefit from division of unallotted patients or fees for that period; comments were also passed on the detention of the money in question by the Insurance Committee, a proceeding which was felt to be extremely unjust. Dr. MURRAY proposed and Dr. SHAND seconded:

> That the Honorary Secretary, Dr. Tetley, and Dr. Murray shall represent this Committee on the Allocation Committee, and that the Sanatoriums and Medical Benefits Subcommittee be asked to send Dr. Bargent as one of their representatives.

Dr. CUFF pointed out that the Chairman of the Insurance Committee had, at a meeting two months ago, promised that the opinion of the Insurance Commissioners should at once be sought on the question of dividing the surplus moneys of the first quarter, and in event of a favourable reply the money would be at once divided. Since then nothing had been heard of this undertaking.

As the result of a discussion in which all the members joined, it was clear that a strong feeling existed that the Insurance Committee was not acting in accordance with the regulations, which direct it to consult the Local Medical Committee on all questions connected with medical benefit, and that its systematic omissions in this respect should be brought to the notice of the Commissioners.

New Local Medical Committee.—It was resolved:

(*a*) The the new Local Medical Committee should be elected by a postal vote.
(*b*) That each member should represent the practitioners residing in a district.
(*c*) That the area should be divided into districts, each containing ten practitioners or as near as may be.
(*d*) That the medical members of the Insurance Committee, by whomever elected, shall be *ex officio* members of the Local Medical Committee, with voting and other powers equal to those of the directly elected members.

The SECRETARY reported that a considerable amount of correspondence had been dealt with by him since the last meeting with the help of the Emergency Subcommittee.

The TREASURER presented balance sheets of income and expenditure, and appealed for help in collecting the subscriptions due for the current year.

Votes of thanks to the Honorary Secretary and Chairman concluded the meeting.

LANCASHIRE.

Temporary Residents.—At a meeting of the Lancashire Local Medical Committee, Area No. 10, held on September 9th at Ormskirk, it was decided not to recommend the acceptance of the "green voucher" system for insured persons temporarily resident in the area, or away from it, as the adoption of this plan involves violation of the agreement that there should be no deductions from the capitation fee, and to point out that the doctors had made arrangements to give adequate medical service to persons on their list, and that this in many cases involved expenditure of capital on motor cars, etc., calculated on the figures given. The adoption of the green voucher system would entail deductions to an extent possibly considerable, and in any case as yet unknown, and more favourable to some areas than others; a letter to this effect has been sent to the County Insurance Committee at Preston.

MEMORANDUM OF INSURANCE COMMISSIONERS (SCOTLAND).

Medical Certificates.

The National Health Insurance Commissioners for Scotland have issued, under date of September 6th, a Memorandum (411) dealing with medical certificates.

In the Memorandum the Commissioners state that they received representations from many quarters with regard to the desirability of securing, as far as may be possible, uniformity of practice in the matter of the certificates required to be furnished to approved societies in connexion with claims for sickness benefits under the National Insurance Act. To these representations, which were largely made by or on behalf of the medical profession, the Commissioners have given careful consideration, and as a result of negotiations with representatives of the medical profession on the Advisory Committee and with many of the leading approved societies, it is believed that a very general agreement has been arrived at. The form of certificate numbered 34 is the initial certificate required by approved societies; this has already been supplied to the medical practitioners in Scotland in book form. Forms A.S. 75 and 76, are the continuing and final certificates, and will be given in forms furnished by the society and produced by the member when the certificate is required. These forms have been issued to societies for their guidance in deciding as to the particular nature of the form to be adopted by them for the purpose of such certificates. The Commissioners state that some doctors have expressed doubts as to whether the initial certificate should be signed as at the first on the fourth day of incapacity for work; they state that doctors should give a certificate on the first day on which they are satisfied that the insured person is in fact rendered incapable of work by specific disease or by bodily or mental disablement, leaving approved societies to apply the provision of the Insurance Act with regard to waiting days.

Regarding the entering the name of the disease and signing a certificate in the shape indicated in the form, the Commissioners state that the doctor is not breaking any professional confidence, since he is giving the information at the request of the patient, and giving it, too, not to any third party, but to the patient himself (or herself). The question of dealing with those very exceptional cases in which the doctor would not even state to the patient himself the nature of the disease from which he was suffering, for fear of retarding his recovery, will be met, no doubt, by special arrangements.

Malingering.

In the same Memorandum opportunity is taken by the Commissioners to make some remarks on the question of malingering. They state that doctors will naturally be anxious to assist approved societies in their efforts to secure that those in need of and entitled to assistance from the funds should obtain it expeditiously; and, on the other hand, societies, in the interests of the great majority of their members, will be keenly desirous of co-operating with the doctors in their efforts to check malingering. It is obvious that, to a great extent, it will be to the mutual interest of doctors and societies to facilitate each other's work in these directions. The Commissioners remark that they have no reason to doubt that doctors in Scotland are properly conscious of their responsibility in this respect. At the same time numerous representations have been received by the Commissioners from officials of approved societies and other persons to the effect that exceedingly heavy calls are being made on the funds, and many practitioners have expressed the feeling that they would welcome some further check in those cases in which they have been persuaded to give certificates with reluctance and perhaps with doubt. The whole question, with its causes and remedies, is now receiving the attention of the Commissioners.

The Commissioners take the opportunity in this Memorandum to direct attention to certain points with reference to the granting of certificates. They state that in granting certificates it is important to distinguish clearly between conditions in which an insured person is "rendered incapable of work" and the existence of some degree of minor illness. It is necessary to discriminate between disinclination to continue at work or unwillingness to resume it—it may be through an unfounded distrust in his own fitness on the part of the insured person—and conditions in which the insured person is "rendered incapable of work." Experience suggests that the insured person will be specially prone to doubt his fitness for work if his sickness pay is equal to or nearly approaches his average wage, either because he is a low-wage earner or because he is insured for sickness benefit in more than one society. The same temptation arises if trade is depressed and work is difficult to obtain, or if absence from employment will give the insured person a chance of doing work at home. Attention is also drawn to requests for sickness benefit certificates during the holiday season or on the eve of a trades holiday, with a view to visit the coast or country.

The Commissioners conclude their Memorandum by stating that it is obvious that a certificate is an important document, and, moreover, it may have to be preserved for a considerable period. Doctors are therefore particularly requested to fill in certificates with the required particulars, including date and full signature, in ink or indelible pencil.

INSURANCE NOTES.

Migratory Workers.

The following notice was issued on September 12th by the Insurance Commission (England):

Medical Benefit under the National Insurance Act.

Special arrangements have been made for the provision of medical benefit in the case of insured persons who constantly move from place to place over a wide area in the course of their employment. Such persons if they prove that the circumstances of their employment are such as to render these special arrangements applicable will be supplied with a special yellow voucher which be available in the area of any Insurance Committee in Great Britain.

A form for use in applying for permission to be admitted to these special arrangements may be obtained from any Insurance Committee or from the Secretary, National Health Insurance Commission (England), Buckingham Gate, London, S.W.

IRELAND.

Sanatorium Treatment in Ireland.

A rather remarkable case under the National Health Insurance Act has arisen in Castlerea, and, as it is probably the first of its kind yet brought to the public notice, the determination by the Insurance Commissioners on the point will prove interesting to County Insurance Committees who have made provision for the treatment of their insured in sanatoriums, and at the same time raise a question of considerable moment to all Poor Law authorities in Ireland and to the ratepayers. Dr. Donellan, acting medical officer of the workhouse, stated, at the last meeting of the guardians that an insured person sent to Peamount Sanatorium, through the County Insurance Committee, for treatment had after some weeks been sent back by the authorities to the union hospital. As he was suffering from pulmonary tuberculosis he should be looked after by the Tuberculosis Department under the Insurance Act, instead of being sent back to the

union to be a burden on the rates. The County Council had adopted Peamount as its sanatorium, and contributed towards it. The matter had been brought under the notice of the Insurance Commissioners, who so far had merely acknowledged the receipt of the letter. The patient himself had received a letter from the Insurance Committee that nothing further could be done for him, as his home surroundings were unsuitable for domiciliary treatment. The guardians decided to write again to the Insurance Commissioners and ascertain what they proposed to do before any further action was undertaken.

County Cavan.

THE following resolutions were passed by the County Cavan Medical Committee at a recent meeting:

That we refuse officially or unofficially, directly or indirectly, to co-operate in any way with the medical advisers or the panel doctors appointed under the Insurance Act in co. Cavan except those who have signified their intention of resigning at the earliest opportunity, and that no practitioner in co. Cavan shall accept service under the Insurance Commissioners without the consent of the Cavan County Medical Committee.

That the travelling expenses of the delegates attending meetings in Dublin on behalf of the County Committee be paid.

That the best thanks of this meeting, on behalf of the Medical Committee of this county, be tendered to Drs. Hennessy, of Clogheen, and Power, of Ardfinan, and Dr. Donnelly, Dublin, for their self-sacrificing efforts to secure for Irish medical practitioners fair remuneration for their services.

That each member of the County Medical Committee be requested to pay to the Honorary Secretary, Dr. M. J. M'Quaid, Ballyjamesduff, one pound (£1) to provide for current expenses.

That an Executive Committee, consisting of Drs. Acheson, Malcomson, Clarke, Magauran, Hallowes, Fred Smith, E. W. M'Quaid, and the Chairman and Honorary Secretary *ex officio*, be appointed.

CORRESPONDENCE.

Medical Advisers or Referees.

DR. BERTRAM M. H. ROGERS, Medical Adviser to the Bristol Insurance Committee, writes: A short time ago you were so good as to publish some remarks of mine on the post of Medical Adviser that I hold under the Bristol Insurance Committee. As the question of similar appointments is being considered for other districts, a short further communication from me may be of use to those seeking such posts, or to others helping to obtain adequate remuneration for the work. You will notice that I am called an Adviser, not a Referee; but the exact terminology is unimportant.

I have held the post now for seven months and have had 433 persons referred to me, with the results that I have tabulated below:

Certified as fit to work ...	...	38.25 per cent.
Certified as unfit to work ...	...	33.25 ,,
Did not come for examination	...	21.0 ,,
Had returned to work ...	...	5.5 ,,
Workmen's compensation cases	...	2.0 ,,

I have found this the best method of classification, but it requires a little explanation. The first two need no further comment. Those who "did not come for examination" are persons who wilfully stop away for reasons best known to themselves, or finding they are to be examined by an official of the Committee, either fight shy, or see that the game of bluff or worse is up, and decide that it is best to go back to work. The "returned to work" are mostly those in whose case the society reporting them has made a mistake. I have had a case referred to me which had gone back to work three months before date, but in some cases the insured person, on receipt of the letter telling him or her to come to me, goes off to the doctor and says he or she wishes to be signed "off" as a direct result of being referred. I am always suspicious of those that do not come, and of those that have only just returned to work. With workmen's compensation cases I have nothing to do in my capacity as Adviser.

In Bristol the insured persons, amounting to 118,000, have joined about 150 societies, but only 25 of these societies have referred cases to me; the record is held by the National Amalgamated Approved Society with 36 per cent., the doctors coming next with 27 per cent.

In the SUPPLEMENT for September 13th I see two resolutions passed by the Insurance Act Committee of the Association, and though they are excellent they do not go, in my opinion, quite far enough. In a part-time appointment it is important that a clause should be inserted in any agreement made that all cases, whether they come or not, shall be paid for. I have just shown that 21 per cent. of the cases referred to me did not come, but I had to be at home to see them if they did, and the correspondence for a non-comer is almost as great as for a comer. Another important point is that the Committee should pay all expenses of correspondence. In connexion with my work during the past seven months, over a thousand letters have been sent by me or from the office, 727 of which I have stamped myself. My Committee supplies me with paper, stamps, and envelopes, but not a typewriter, without which I could not get through the large amount of correspondence I have. I trust the profession will stand out for adequate remuneration. If my Committee had paid me on the scale suggested I should be more than £100 better off, for my present remuneration works out at 5s. 8d. a case, and the more I see the worse is the pay *per caput*. During July I saw 123 cases, so that during that time I was seeing them at 2s. 7d. each.

The Insurance Act Committee does not make any reference to a very important point—that of fixity of tenure. If a medical man of some years' experience and good standing (and it is presumed that such would be necessary to command the confidence of the profession and the Committees) is to give up his private work he must have some assurance that he will not be cast adrift after some years' work at the caprice of a lay committee. The question turns very much on who has the making of the appointment, for whom will the Adviser work—the Government, the Local Insurance Committee, or the societies? The matter is a very important one, and must not be lost sight of in making an agreement with the appointing body.

I have had several letters from medical men asking me questions about the work, and if there are others who would like information I shall be very pleased to do what I can for them.

Malingering and the Insurance Act.

Dr. W. ELWOOD, Medical Referee L. and N.W. Railway Provident and Insurance Societies (Salford), writes: Since January 15th the attention of the medical profession, and of the general public also, has been focussed on this question. When the word was first coined, malingering was almost wholly confined to the services, where a man feigned sickness in order to avoid duty, and to the prison, where his object was to be sent into the prison infirmary, with its more liberal diet and freedom from irksome tasks. In civil life when a man was off work his pay ceased. Out of the thrift of the working classes the great friendly societies came into being. They provided for the time when a man was past work, and they ensured the certainty of an allowance when he was laid up by sickness. The work they have done is an excellent one, and is mainly due, in my opinion, to the fact that they were voluntary. They were imposed upon, but only to a small extent, by malingering.

The introduction of the Workmen's Compensation and Employers' Liability Acts provided that in cases of incapacity, due to an accident arising out of a man's employment, the cost of it should fall equally on the workman and his employer. Within certain limitations it enabled a workman to claim half his wages while incapacitated.

On the face of it, this is a fair and reasonable arrangement, and on the whole it has worked beneficially, but it was the means of introducing malingering into civil life.

For six years I have acted as Medical Referee for a large provident and insurance society connected with one of our great railway companies. During that time I have examined over five thousand claims for disability due to accident and to disease. My experience has been that in a very few cases of malingering there has been no basis for the man's claim, but in the majority there has been some minor accident, the resultant injury being of the slightest, or a trivial cough which has been magnified into "influenza" or "bronchitis." I have taken yards of bandage off a man's hand to find a trivial abrasion of the skin.

In the detection of malingering a great deal can be learnt from a man's demeanour and the way he tells his story. I am always suspicious of a man who begins by saying: "I am not one to claim from the society; I would much rather be at work, doctor." Then, again, men who are malingering are not always on guard. I remember a man who was unable to lift his left arm because he had "strained his shoulder." I helped him off with his clothes, and, ostensibly writing notes, I kept him under observation while dressing. He had a multiplicity of garments, and in putting each one on he put his sound arm through the sleeve first, moving the injured arm without any difficulty to get it into position. Another man had "strained his back," and had been unable to bend since. He walked in very stiffly, and held himself quite rigidly while telling his story, but inadvertently dropped his cap, and experienced no difficulty in stooping down to pick it up.

Since January 15th I have noticed an increased tendency to exaggerate a slight illness and greater disinclination to resume work. During the last six months I have had to report as fit for work nearly double the number in the corresponding months of last year.

The general cry from most of the societies is of the great increase in the number of claims they have to meet. Many of the officials blame the doctors, asserting that they are exercising no care in the granting of certificates. This is only true to a very slight extent. The fact is overlooked that to detect malingering a good deal of experience is required, and far more time than the busy doctor can afford to give to his insurance patients. To examine one case of suspected malingering will take up more time than to diagnose and treat half a dozen ordinary cases.

Mr. Masterman, in the House of Commons, went out of his way to single out the doctors in Lancashire especially for an accusation which he is quite unable to prove. My observation leads me to the conclusion that there are several causes at work to account for the large increase in claims since the introduction of the Insurance Act. The chief cause is the large number of unsound lives that are now insured. The societies have been tumbling over one another in their efforts to get new members, and thousands have been accepted without any medical examination. Another factor is the admittance of women. In the large industrial areas a large number of women workers are in a chronic state of unfitness. They are overworked, they are improperly fed, and are habitually below par.

Then, undoubtedly, malingering has been a contributory cause. This is inevitable under a compulsory scheme. Human nature being what it is, a man who would hesitate to impose upon a society of which he was a voluntary member, will have less scruples in claiming what is generally called "Lloyd George money."

If malingering could be completely eliminated, the actuarial figures of the societies would still be inadequate. The genuine claims are much greater than before, and they will continue to increase.

Friendly Society Control of Medical Benefit.

Dr. Evan Jones (London, E.C.) writes: May I briefly reply to Drs. Keenan and Miller's letters in last week's issue?

Dr. Miller writes about my "extraordinary views." I beg to refer him to the Supplement of December 28th, 1912, p. 725, and ask him to read the long resolution, about the middle of the first column, passed by the Representative Meeting, and, as far as I am aware, never rescinded; and when he has done so, will he kindly explain what the following words convey to his mind:

> That the general arrangements be made between the insured or their representatives and the committee of local doctors.

Further, will he inform the medical public of London what has occurred since last December and January, when he appeared on platforms and most strongly supported the policy of the London Medical Committee? It does appear that some gentlemen's views have changed and become extraordinary—but whose? He complains that Drs. Rushbrooke and Jaffé were badly reported, apparently by inadvertence; and though I do not wish to see offence where none may have been intended, it may be satisfactory to him to know that beyond giving notice to the Editor and reading the proof of my remarks (not one word of which was altered), I had no hand in reporting the meeting.

I am not concerned in defending the chairman, who is, I am sure, well able to defend himself—being a Finsbury man—but the last paragraph conveys to the reader the inference that my friends and myself wished to avoid a vote. Nothing is further from the fact. I personally asked the chairman that a vote should be taken.

Dr. Keenan's letter is entirely worthy of him. Ever since I have taken an active part in the affairs of the City Division he has always taken the view that the Act should be worked, even before there were any concessions granted; and when we were hard at work fighting for the profession I have heard him at a Division meeting at the Hackney Town Hall give as a reason for going on the panel that as the Division did as it liked over a Poor Law appointment at Hackney he would do as he liked over the Insurance Act and go on the panel, and as far as he could he did his best to break down the opposition of the profession from the first.

When he can put forward anything that will disprove my statements or when he has any argument to advance I will give him due attention, but I must decline to descend to mere abuse or to discuss my private affairs.

Dr. Charles Buttar (London, W.) writes: It would be well if correspondents who write about the Insurance Act would preface their remarks by stating whether they are first-panel men, second-panel men, or non-panel men. For myself, I belong to the third category. From the tone of his remarks I presume that Dr. T. F. Keenan is a first-panel man; and with such I have always held it useless to argue, because they have accepted certain axioms to which I can never agree. If the views of these men ever gain the support of the majority of the profession, then it will be only right that those former members of Council who worked to establish the present panel system should be restored to their position in the Association.

To those, however, who are not first-panel men I may be allowed, perhaps, to address an appeal for a reasonable hearing for the views of Dr. Evan Jones. I imagine that the majority of medical men still regard the panel system as degrading to the profession; that they are fully aware of the future possibilities of Government control through bodies such as the Insurance Committees. I suppose that most men still hold to an ideal of freedom in practice, and would be willing to make some sacrifices for this ideal if they saw any possibility of its attainment. Now it seems to me that so long as the present panel system holds this freedom is impossible. It may be justifiable to argue that the profession is too weak to resist the attacks of the Government, and that the only course is to make the best of things as they are. But it is not justifiable to pour forth two columns of abuse against any one who suggests that a way seems to him to be open to better things. It was for this reason that I urged the Representative Meeting at Brighton not to pass an uncompromising resolution about the G. Locker-Lampson amendment without full discussion and consideration. I pointed out that what the profession objected to was not the friendly societies themselves, but friendly society control; and that to be seized with panic at the mere mention of the words "friendly society" is a most terrible revelation of the weakness and mutual distrust of medical men.

I have no doubt whatever that when Dr. Evan Jones gave that interview to the *Morning Post* he had in his mind a state of affairs in which medical men, working through strong local committees, under the guidance of a powerful central body, would arrange with friendly societies for the proper treatment of their members under conditions approaching as nearly as possible to the original cardinal points of the Association. Such conditions would have precluded anything like the old friendly society control; would have fixed reasonable attendance for the full Government remuneration; would have eliminated all futile and harassing details. In return the friendly societies would have obtained willing assistance in suppressing malingering; whole-hearted support in the honourable ideals that bind men together to help one another in sickness; and the infusion of the best medical intelligence in making these ideals possible of realization.

and on both sides there might have been the gain of really business-like methods.

As I have said already, it is open to anybody to argue that such conditions are impossible of attainment, and that medical men would do better to sell their freedom at once. To me it appears that freedom is worth any effort and much risk. I regard it as worth while to make another attempt to treat with friendly societies as bodies of reasonable men rather than to consider them as only likely to be reasonable when labelled "Insurance Committees." And I regret that violent attacks should be made on a man who is capable of showing that courage wherein so many medical men seem at present to be deficient.

Dr. A. F. MILLAR (Fulham Palace Road, S.W.) writes: I note with increasing amazement, week by week, the air of self-satisfaction displayed in your correspondence columns by doctors who find service on the panel financially satisfactory. I do not wish unnecessarily to stir up the mud again; but when, after losing hundreds of patients through my loyalty to the policy of the British Medical Association, I am called a fool for my pains by those who have profited by their disloyalty, it is time to speak out. It may be that many of those members who broke their pledges to the Association did so under severe stress; but it ill becomes such members to exult over the diminished incomes of those who, knowing the risk, yet adhered to their undertakings. Dr. Keenan's letter in the SUPPLEMENT of September 13th is a good example.

I am not here concerned with the controversy between Dr. Keenan and Dr. Evan Jones—Dr. Jones is, no doubt, fully equal to holding his own therein—but merely with the general tone of lofty contempt assumed by Dr. Keenan towards non-panel doctors. Now I should like Dr. Keenan and those who think as he does to consider the position in the Division in which I live. Personally, I have not, and never have had, any objection to contract practice as such. But I did object to inadequately paid contract practice, and therefore gave up my clubs years ago. When, however, the Government's terms were being considered by the British Medical Association last year I strongly urged the advantages of contract practice under proper conditions, in letters which were published in the SUPPLEMENT; I also spoke strongly in favour of the capitation system at Divisional meetings, and could hardly get a single member to back me up. Payment for work done was insisted upon in vigorous terms by an overwhelming majority. Yet on December 31st nearly all the stalwarts who composed this majority rushed to do contract work on a large scale, and are now to all appearance perfectly satisfied with it! The lions who roared "Payment for work done" are now become as doves, emitting nothing more than an occasional coo of contentment, although their feathers ruffle angrily if any one ventures to remind them of their former attitude.

I laugh when I recall the speeches of redoubtable gentlemen who vowed, as they thumped the table in front of them, that they would "pawn their shirts," "eat their last crusts," and similar valiant performances, rather than accept service under the Act. They are taking their quarterly cheques now without, at any rate, audible protest. And I laugh again—rather bitterly perhaps—when I recall the eager assurances of some of my neighbours that they were going on the panel "for my own patients only, my dear chap." "Not for the world" would they take one of mine on their lists. The sequel proving that they would take the world itself if they could get it.

Does Dr. Keenan really not know that most doctors who are receiving (I do not say "earning") large incomes from panel practice are doing so by virtue of wholesale annexation of patients of other doctors—the latter having made this possible by their adherence to a rigid code of honour—too rigid it would seem for the majority?

I have been silent on this subject hitherto, and have not complained in public; but if silence on the part of us non-panel men is going to be construed as admission that we were mistaken in our action, then I for one claim the right to state our side of the case in the official JOURNAL of the Association to which I belong. To find the correspondence columns of the JOURNAL full of letters from panel doctors, not satisfied with the pecuniary advantages they have gained, but trying to shift the discredit which belongs to their behaviour on to the shoulders of the minority who have suffered for their steadfastness, is enough to make the dumb speak.

Dr. DAVID ROSS (London) writes: As Dr. Keenan and Dr. Evan Jones are foemen worthy of each other's steel, I leave them to discuss friendly society control; but I should like to support the ruling of the chairman, who invited the fullest discussion at the special meeting of the City Division on August 21st.

Three days before the meeting, Dr. Rushbrooke, who moved the resolution asking for Dr. Evan Jones's explanation, told the chairman and me that he only did so on the condition that there was to be no vote of censure proposed.

After the meeting, at my request, Dr. Rushbrooke also so informed Dr. Keenan and Dr. Miller, who then admitted to him and to me that, in the hurry of getting out the requisition, they had made the mistake of not placing a vote of censure on the agenda. *Hinc illae lacrimae!*

LOCAL MEDICAL COMMITTEES.

Dr. HARDING H. TOMKINS (Chairman, South-West Essex Division) writes: In the SUPPLEMENT of September 6th Dr. James Harrison (Tynemouth Local Medical Committe) refers to Dr. Arthur Larking's remarks (August 23rd) upon co-ordination of Local Medical Committees. The former speaks of union of Local Medical Committees only; the latter joins these with the British Medical Association, insisting, however, that no funds of that body should be expended—alternatively suggesting the contribution by Local Medical Committees of £7,000 per annum to defray expenses of secretary, staff, solicitor, office, travelling and central Insurance Committee—while themselves paying their own expenses and a "*share* towards the central co-ordinating body." (? Is this different from the Central Insurance Committee above mentioned.)

In February the Essex Local Medical Committee proposed that every committee should, by means of a combined levy upon all panel, and subscriptions from all non-panel doctors, pay their secretaries (as local organizers) and medical organizers (for grouped counties) and all other expenses, and, working in harmony with the British Medical Association, after consultation with medical unions (composed of men not members of the Association, or upon Local Medical Committees, of whom Dr. Larking speaks), form a completely organized combination for the use of the whole profession, the British Medical Association being the head organization and mouthpiece of the profession. As Secretary of the Essex Local Medical Committee I brought this under the notice of head quarters of the British Medical Association, and sent a circular letter to the then existing 140 Local Medical Committees, only five of whom approved of the idea, about fourteen giving qualified approval, and other twenty odd desiring the British Medical Association to undertake and *pay for* any system of co-ordination.

This being so, and many other committees having applied direct to head quarters (British Medical Association) for funds, the Special Fund was the outcome. This fund appears to closely follow Dr. Larking's sketch of his idea; it does not use the Association funds, it pays for all he mentions, but he has a notion the Association desires to prevent autonomy (which I do not think his plan provides) and intends to "retain full control of everything, making these committees entirely subsidiary to the British Medical Association" (a control they never yet have had). Yet he admits "every one recognizes that the British Medical Association is the body to do the negotiating."

If every one desires union, or organization and co-ordination, and recognizes that the British Medical Association should do the negotiating, why should not every one be ready to pay for a really efficient system provided under the aegis of the Association and worked as the Special Fund would be, outside the funds of that body by separate organizers who could gather local opinions, explain central ideas, compare notes, consult and formulate a policy to be ratified by the subscribers to the fund, who would include members of Local Medical Committees as well as of the Association, and in a vast number of cases officers of both, as well as all other practitioners who choose?

If Dr. Larking and others having ideas would work out the details and send these to the central association committees they would then be in a position to know the wishes of the various localities, and better able to elaborate a scheme acceptable to the majority. Such committees are now sitting. The only difference apparently between Dr. Larking's idea and the "Special Fund" in broad outline is between £7,000 per annum and £50,000, but Dr. Larking has not estimated the cost of 240 Local Medical Committees (and many hundreds of District Medical Committees; Essex has twenty-one) or taken into consideration that one secretary could not possibly do the work.

Dr. Grey (Bristol) suggests that the whole profession (presumably of a panel area) be entitled to attend and vote at Local Medical Committees and have agenda and minutes sent to them; how this is to be done he does not suggest, but as Secretary to Essex, with 629 doctors in the area, it would be impossible for me, for one, to carry out, and the expense would be enormous; nor could these men meet in any place but London, and how many could or would attend? It takes one member of my committee nine hours to get to and from the meeting in London!

The Special Fund organization could collect ideas upon and elaborate schemes for hospital reform, treatment of uninsured, etc., and be ready for emergencies, such as the inclusion of women and children in the Act, and a host of other things which are bound to crop up.

Medical Records on Insurance Cards.

Dr. B. Hall (West Mersea, Colchester) writes: Very few of us panel doctors will be prepared to dispute the assertion of Dr. William Milligan that the records of our attendance on insured patients are being very badly kept. He goes so far as to declare his confidence "that the data to be obtained from examination of the cards will be useless and any statistics based on them will be utterly unreliable," and I am completely of his opinion on this point.

Of course, we are remiss in not keeping the records accurately. Each attendance should be notched in its proper niche on the occasion the service is given, and it is very much to be deplored that as a class we should be practically incapable of "keeping books" properly. Personally I labour under a difficulty in not being able to realize the importance of keeping these records. For one's own personal use it may be desirable to have a complete chronicle of our performances, but I am unable to imagine the authorities taking any interest in it. What possible use could they make of them? What concern of the Commissioners would it be to discover that Dr. A. in Yorkshire made nine attendances a head per annum of his insured clients, whereas Dr. B. of Sussex had only put in one and a half? In case of a revision of fees at some future date, would it be justifiable on the part of the Commissioners to recommend that Dr. B. should receive six times less premium a head than his *confrère* in Yorkshire? The simple fact is that the number of attendances a head varies for reasons entirely independent of the nature of the illness of the patient, and depends almost completely upon the personal character of the doctor. When it is a fact that one doctor will attend his confinements every day for fourteen days and another will pay three visits subsequent to the delivery, what possible useful inference could be drawn from a compilation of the figures on our insurance cards?

Of immensely greater utility to the Commissioners will be the estimation of the number of sick days a head of the insured paid for in each practice. If they find in one practice that each insured person on the average has drawn sick pay for fourteen days in the year, while in the neighbouring practice, with a population similarly employed, the average worked out at only seven, then it is obvious they will find themselves confronted with a problem which it is their business to solve.

Our interest surely lies, not in endeavouring to top the list of average visits paid a head, but in keeping our "sick days" average as low as possible. The main interest of the Commissioners is to ensure speedy healing of the sick or maimed; in other words, to keep the number of sick days paid for out of the insurance funds as low as possible. Whatever the figure may be for the first year of the working of the Act, they will expect every succeeding year to show a lower figure, just as the Registrar-General shows us that every year the death-rate is falling gradually, but surely.

I do not say the records should not be kept, but I am pretty certain that no one will think of counting the attendances when once the cards have left our hands. It may be useful to classify the diseases suffered, though it is doubtful whether much reliable inference could be drawn from entries such as "illness," "backache," and "debility."

SUGGESTED HOSPITAL "DECENTRALIZATION" AND IDEAS FOR A STATE-AIDED VOLUNTARY MEDICAL SERVICE.

By Harding H. Tomkins,
Chairman and Representative, South-West Essex Division, British Medical Association.

If "health is wealth" and "prevention is better than cure," then the greatest care should be taken to ensure the highest possible skill among the greatest possible percentage of doctors. It follows that they should not only be assured of the means to acquire knowledge and skill but be kept in a position to steadily increase these by access to the use of hospitals wherein to treat cases as well as at home; also the art of medicine (and surgery) should be chiefly preventive, which includes removal of all possible drawbacks to recovery. The present custom does not fulfil any of these, for the few and ever-growing "centralized" hospitals compete for funds by advertising the number of out-patients and in-patients whereby a "hospital habit" has developed among the public, so that in case of accident or serious illness the question of ultimate good to the patient is subservient to the idea of sending the case to hospital. Hospital treatment being gratuitous and home treatment expensive accentuates this "habit." To illustrate: A man fractured his patella trying to board a moving tram; whisked off seven miles to a London hospital by five changes in trams and buses; enormous effusion and laceration occurred; many operations to evacuate pus during eighteen months; many weeks in plaster-of-Paris with resulting stiff, deformed leg, and earning capacity reduced from £300 to £80 per annum followed the skilled hospital treatment thus negatived by being applied too late after fearful damage in transit. This is the effect upon the patient.

The effect upon the practitioner is, in a way, as bad. To retain his knowledge and skill and increase his experience he must have material and opportunity—that is, he wants the cases thus removed to distant hospitals, and he wants the use of hospitals in which to treat cases requiring hospital treatment. The country practitioner near a cottage hospital becomes a skilled surgeon; the man in the outskirts of the large town rusts because of the "hospital habit," and the community suffers in proportion to the increasing number of practitioners who rust, because it never enjoys the steadily increasing knowledge and dexterity of which the practitioner is robbed by loss of his "best" cases.

The remedy is: Multiply small hospitals in proportion to density of population, scatter them throughout densely populated outlying urban districts; place them in open, healthy positions where possible, convenient to main thoroughfares but far enough away to secure quiet and rest; allow every doctor the right to send any patient requiring hospital treatment (as opposed to home treatment) to any hospital near, and the right to continue to attend the patient; require every patient to pay in proportion to his income (necessitous cases free); pay every doctor in proportion to his hospital attendance (as is done at some dispensaries now), and we have less damage to patients by removal, better environment for recovery, increasing ability of an ever-increasing proportion of doctors, together with ever-increasing benefit to a growing number of patients—in fact, the system provides automatically progressive improvement, physically and financially, to the community, and mentally and financially to the medical fraternity, while reducing the out-patients at hospitals and for ever doing away with "hospital abuse."

The Charity Organization Society compiled an immense volume some twelve years ago showing that £3,500,000 at

STATE VOLUNTARY MEDICAL SERVICE.

FRONT OF FORM.

Name and Address ...
Book Number ... ...
Illness ... ...

Date—Aug., 1913.	Su.	M.	Tu.	W.	Th.	F.	S.	£	s.	d.
Date	3	4	5	6	7	8	9			
Doctor's initials	Cd	I	L	I	L	I	Cd.		14	
Date										
Doctor's initials										
Total									14	

Doctor's Signature } H. H. TOMKINS.
Address 492, Lea Bridge Road, N.E.

Name and Address ...
Book Number ... ...

Date—Aug., 1913.	Su.	M.	Tu.	W.	Th.	F.	S.	£	s.	d.
Date	3	4	5	6	7	8	9			
Patient's initials (or representative if too ill to sign)										
Date										
Patient's initials (or representative if too ill to sign)										
Total										

Patient's Signature }
Address

The form can be ruled for four, eight, or twelve weeks if necessary.

BACK OF FORM.

SIGNS USED.

I=visit=2s. L=visit and medicine=2s. 6d. Cd=surgery attendance =1s. Cd=surgery attendance with medicine=1s. 6d. C=consultation with another doctor=10s. 6d. And so on, according to, say, National Deposit scale of fees. Higher scales for higher contributions could be made as in National Deposit. Doctor must initial each week in space allotted. Patient must initial each week in space allotted. Full signature, address, and date at end of attendance.

NOTE.

The right-hand side, when filled in, to be torn off and presented by doctor at post-office for payment. The rest of the process to be as done by Savings Bank department, G.P.O.

The fees were originally considered by friendly society officials as suitable for 4s. 8d. per annum capitation, and should therefore be ample for the lowest scale of 1d., plus 1d. State aid, per week.

As the State is paying maternity benefit, the midwifery fee could be paid through this form, also tuberculosis, or, indeed, almost anything, by crediting patient with the amount of the fee charged.

least was spent every year in London alone at hospitals upon persons well able to pay 2s. 6d. for each attendance—or, roughly, £500 per annum to every doctor in the district.

Many practitioners could not now undertake the more serious cases in consequence of the rusting process, but those coming on would (or need) never rust, and would be fully competent; in the meantime operators and consultants would be attracted centrifugally to the "decentralized hospitals," probably to their own benefit and that of numerous patients, and the "specialist" of modern times who specializes from student days, and so becomes "narrow," would cease, to the benefit of all concerned.

The *only passport to hospital treatment* must be *medical certificate*, stating that the case requires hospital treatment (as opposed to home treatment), which, with that doctor's attendance and the pooling of all charitable funds, would entirely do away with "overlapping" of charity and save the country (?) millions now absorbed by a certain class who make abuse of charity their trade. Wealth should be no bar to hospital treatment if such was actually required, as proportionate charges would be made.

The system would be self-supporting or possibly profit-bearing after building and equipment as a capital charge, which could be floated as a loan to Government, as in the war, etc., or provided by voluntary funds in part; the capital would, it is estimated, be paid for by the saving to the community through the improved treatment and shortening of recovery.

Is it not still possible to institute a State-aided *voluntary medical service*, such as I originally hoped for years ago? For example, entice every worker to pay from 1d. to, say, 2s. per week, according to wages, by offering a Government grant of a similar amount—the money to be credited to each by name (as in National Deposit Friendly Society, which works its medical benefit at a cost of less that ½d. a member, instead of the costly working expenses of the Insurance Act)—all sums not used for sickness and accident benefit to remain as a "disability" or "old pension" nest-egg.

The patient would choose his own doctor (absolute "free choice"), who would be paid a scale of fees such as National Deposit. The attendance sheet (see above) would entirely prevent "malingering," or manipulation of accounts by doctor, as no patient would rob himself, and he can see every item at each visit recorded. The second half of the sheet could be torn off when signed, and presented by the doctor for payment at a post-office, as against a "medical service book" on the lines of Post Office Savings Bank book, the rest of the procedure being the same as that of the Post Office Savings Bank (in place of the Insurance Act work, a saving, not an addition, to expense.)

These schemes combined should prove an incentive to the knowledge and practice of the rules of health (malingering and hospital abuse being impossible), which again would benefit the community—and hospital treatment would be extended to the middle classes, while hospitals could be used as centres for popular lectures on hygiene, the rearing of infants, and use and abuse of alcohol, the dangers of the "hidden plague," etc.

Last but not least, the anomaly of the most skilled of the greatest profession being expected to give of their best gratuitously, while every other trade and profession is paid according to their skill, would cease.

Meetings of Branches and Divisions.

SOUTHERN BRANCH:

GUERNSEY AND ALDERNEY DIVISION.

A MEETING of this Division was held on September 11th, when ten members attended.

Model Ethical Rules.—The HONORARY SECRETARY brought forward the motion for the adoption of the rules governing ethical procedure, of which he had given notice. The rules were adopted by a unanimous vote of the members present. The present Executive Committee, with the addition of the President-elect (Dr. H. S. Wild), was appointed to act as the Ethical Committee until the next Council meeting.

Annual Representative Meeting.—The Representative (Dr. J. F. CARRUTHERS) then gave his report on the Annual Representative Meeting of July last, which was listened to with interest. He was accorded a unanimous vote of thanks, and his action was confirmed by the meeting.

PERTH BRANCH.

A MEETING of this Branch was held in the Perth Infirmary on August 27th, jointly with the Local Medical Insurance Committees of Perth and Perthshire. Dr. Taylor (President), Dr. Lyell (Secretary), Dr. J. Hume (Treasurer), and nine other members were present.

Expenditure of Divisions and Branches.—The circular letter from the General Secretary of June 27th, relating to expenditure of Divisions and Branches, was read to the members for their information.

Milward Fund.—Attention was drawn to the Milward Fund, and the interest of members was solicited.

Secretaries' Conference at Brighton.—Dr. LYELL then referred to his visit as Secretary to the general meeting at Brighton, and to the interesting address by Dr. Cox at the Secretaries' Conference. Dr. Lyell specially called attention to Dr. Cox's recommendation that more emphasis should now be given to the scientific and social side of their work, and that leading citizens should be invited to dinners held by Branches, in order to establish cordial relations between the profession and public bodies. These suggestions were warmly appreciated by the meeting, and the Council was directed to try as far as possible to carry them out in the future when arranging any of the social events of the Branch. It was the view of members that greater prominence should be given to the work of the Branch in the town, by inserting notices of their meetings in the local press, by the attendance of the President and others in an official capacity at public functions, and in other such ways. It was agreed that the Secretary of the Local Insurance Committees should be invited to Council meetings as required, with full power of voting.

National Insurance.—A letter was read from Mr. Marshall, Clerk to the County Insurance Committee, and was considered seriatim. It was decided to adhere to the position of insisting that payment be made for work done in the case of temporary residents. It was decided to allow Major Williams to go on the panel for the limited purpose of attending the staff of Glenalmond College. It was decided that practitioners should undertake the supply of drugs to insured persons outside the one-mile area during the insurance year, but only at the beginning of the insurance year.

A SPECIAL meeting of the Branch was held on September 11th, when eleven members were present.

Defective Water and Drainage System.—The SECRETARY stated that the meeting had been called in response to a letter received from Dr. Stirling intimating a desire that corporate action should be taken by the medical profession in Perth in relation to the defective water and drainage system of the city, in view of the prevalence of diarrhoeal illness.

Dr. STIRLING proposed the following motion:

> That the medical men of Perthshire view with much anxiety the water supply and drainage system of Perth, and urge upon the local authority the necessity of taking immediate steps to remedy potential and actual dangers.

A long and interesting discussion took place, in which a number of the members participated, and the present water supply and drainage system of the city were severely criticized. The motion was passed unanimously, and the Secretary was directed to send a copy to the Town Clerk, and to insert a notice of the meeting in the local press.

Association Notices.

QUARTERLY MEETING OF COUNCIL.

THE Quarterly Meeting of Council will be held on Wednesday, October 29th, in the Council Room, 429, Strand, London, W.C.

By Order,

GUY ELLISTON,

Sept. 18th, 1913. *Financial Secretary and Business Manager.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—Dr. Duncan Davidson, Honorary Secretary (15, Priory Row, Coventry), gives notice that the annual dinner will be held on Tuesday, October 7th, at 7.45, in the Masonic Hall. Replies must be posted so as to reach the Honorary Secretary at the above address not later than October 2nd. The price of the dinner will be 12s. 6d., inclusive of wine.

DORSET AND WEST HANTS BRANCH.—Dr. Frank Fowler, Honorary Secretary (29, Poole Road, Bournemouth), gives notice that the autumn meeting will be held at Weymouth, on October 15th, for the election of officers for 1914. The Vice-President, Mr. F. Belben, will open a discussion. Members willing to read papers or show cases are requested to communicate with the Honorary Secretary.

EAST ANGLIAN BRANCH.—Dr. B. H. Nicholson, Mr. Hamilton A. Ballance, and Dr. J. Gutch, Honorary Secretaries, give notice that the autumn meeting of the Branch will be held at the Globe Hotel, King's Lynn, on Thursday, September 25th. 12.30 p.m., Council Meeting; 1 p.m., General Meeting. Agenda: Dr. C. Lillingston (Gorleston-on-Sea) will read a paper on the Treatment of Phthisis and Haemoptysis by the Induction of Artificial Pneumothorax. 1.30 p.m., Luncheon at the Globe Hotel, 3s. 2.30 p.m., Resume General Meeting. Mr. A. J. Blaxland, M.S. (Norwich), will read a short paper on the Radical Treatment of Carcinoma of the Rectum. Dr. A. Crook (Norwich) will read a short paper on certain obstetric emergencies—(*a*) Obstructed labour; (*b*) The dangers of pregnancy continuing beyond full term; (*c*) Collapse during labour. Dr. Arthur Green (Norwich) will show a patient with double cyclitis, return of some vision in one eye after previous blindness (treatment included dental vaccines), and a specimen tag of bootlace which had lain unsuspected in a boy's eye for over a week. 4.30 p.m., Afternoon tea, by the kind invitation of Dr. and Mrs. Chadwick, St. Margaret's Place. Exhibition of instruments, drugs, etc.

METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.—Dr. Hugh McD. Parrott, Honorary Secretary, gives notice that a special meeting of the Wandsworth Division will be held on Tuesday, September 23rd, at 3.15 p.m., at Stanley's Restaurant, 237, Lavender Hill, Clapham Junction, on the requisition of twenty members of the Division (see Rule 13), to discuss the question of recommending the resignation of members from the Association, and to take such steps thereupon as the meeting may think fit.

MIDLAND BRANCH: LEICESTER AND RUTLAND DIVISION.—Dr. R. Wallace Henry, Honorary Secretary (6, Market Street, Leicester), gives notice that a meeting of the Division will be held at the Royal Infirmary, Leicester, on Friday, September 26th, at 4 p.m. Agenda: Report on Representative Meeting. Clinical cases will be shown. Any other business. Members desiring to show cases are requested to communicate with the Honorary Secretary before September 25th.

EIGHTY-FIRST ANNUAL MEETING

OF THE

British Medical Association.

Held at Brighton, July 22nd to 25th, 1913.

EXHIBITION

OF

FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

(*Continued from page 246.*)

THE exhibit of Messrs. CHARLES HEARSON AND CO. (235, Regent Street, London, W.) consisted in the main of incubators, sterilizers, and sedimentation apparatus, several of them being shown at work. The precise design of the incubators varied very much according to the particular object in view; some, for instance, being intended for the ordinary cultivation of organisms, and others for use in connexion with various special classes of work, such as opsonic index observations, and the Wassermann reaction. The series also included one which allowed of the removal of any particular specimen without running the risk of the temperature of the others being lowered, and another in which provision was made for the examination of a culture under the microscope, while maintaining it at a temperature of 37°C.; a further well devised model allowed the progress of the cultures to be watched by transmitted light without removing them from the incubator at all; and a fourth was constructed to work at a constant temperature of 0° C. With the exception of the latter appliances all the incubators in the series had their temperature automatically controlled by the use of the firm's patent capsule. This capsule serves the same purpose whether the source of heat be oil, gas, or electricity, as in the case of the series known as anhydric incubators. In these the relative difficulty of using electricity as a source of heat would appear to have been entirely overcome, the steady heat available ranging from blood heat to a sterilizing temperature of 125° C. Capsular control was also employed in a kind of stove for use in rooms the temperature of which it is desired for some reason or other to keep definite for a long period. The exhibit of centrifuge and shakers included Delépine's duralumin centrifuge, which will hold sixteen buckets of 100 c.cm. capacity in addition to some four dozen 15 c.cm. test tubes, and work at speeds ranging from 6,000 to 10,000 revolutions per minute. The latter speed, however, is by no means the highest for which the firm

makes successful provision in some of its sedimentation apparatus.

Two of the stalls were occupied by bodies whose primary object is the dissemination of information, one of these being the RESEARCH DEFENCE SOCIETY, which by its display of literature made silent appeal for the support so thoroughly deserved by it. Another was the BRITISH COMMERCIAL GAS ASSOCIATION, whose object is to collect and publish accurate and scientific information respecting the numerous economic and hygienic applications of coal gas and the advantages of its use for domestic and industrial purposes. It holds, no doubt quite truly, that the more general adoption of coal gas as fuel would accelerate the disappearance of the smoke and fog nuisance in large towns, and thus benefit the health of the nation; and also that gas stoves, properly built and used with ordinary care, may prove exceedingly useful to individuals, either sick or well. The defects of the earlier patterns of gas stoves, coupled with the lack of intelligence exhibited by those who installed them in place, created a prejudice against the use of gas as a fuel for domestic purposes for which modern arrangements offer no foundation whatever. A modern gas stove, in addition to getting rid of its own fumes, ventilates a room to an extent not much short of that effected by an open fire. Some patterns, too, provide an almost equivalent cheeriness of aspect.

The firm trading under the name of CLARK'S BREAD COMPANY (Brighton) afforded members during the week several opportunities of visiting their premises and satisfying themselves by personal inspection that the demands of hygiene are thoroughly met during all the processes employed by the firm in the production of bread and confectionery. It also had a stall at which various forms of bread could be tasted.

The exhibit of R. H. WOODLAND AND SON (10, Upper Avenue, Eastbourne) consisted of several specimens of the Eastbourne invalid chair, and of some reading stands. The chair is very comfortable, and takes up little more room than an ordinary easy chair, but is so constructed that a patient who is able to sit up can move himself about the room if he desires, and in any case can be carried up and down stairs by no more than two attendants of ordinary strength. When it was first brought out some ten or twelve years ago it was so well designed that, except in minor points, it has scarcely undergone any modification in the intervening period. Its structure is very simple: the two uprights, which may naturally be regarded as the back legs, are extended upwards just sufficiently to make convenient handles, and at their lower extremity curve forwards under the front legs so as to form the base when the chair is not being used as a carrying chair. When not used as the latter the weight of the chair and the patient are carried on two wheels of such diameter that they pass easily over the treads of an ordinary stairway and thus enable a patient to be moved from floor to floor at the expense of little exertion on the part of the attendants, and without jolting or causes of nervousness to the patient. Various patterns of the chair can be obtained, but in all of them the principle is the same. They are decidedly worth inspection by those who have invalids to deal with. The book-rest shown was attachable to any table or chair, and was fitted with a long metal finger which passes through down the hollow between the book and the cover, and holds the book so firmly that even if the stand is turned upside down the book does not move.

Some half-dozen preparations were shown by LIEBIG'S EXTRACT OF MEAT COMPANY (4, Lloyd's Avenue, E.C., among them being Nursing Oxo, Bifti tablets, and Lemco. The latter is what was originally known as Liebig's Extract. It was the first meat extract ever put on the market, its author being Baron Justus von Liebig. One of its good points is its entire freedom from fat and its stability of composition. Another important preparation of the firm is Oxo, a somewhat younger claimant to popularity, but now almost equally well known to every one. It is a compound of meat extract and meat fibre, with the addition of flavouring matters, and long personal experience proves that, on addition to it of a sufficiency of hot water, a stimulating and exceedingly pleasant drink with a full beef-broth flavour results. It is this preparation which, put up in a somewhat more concentrated form, constitutes Nursing Oxo. The special point of this, however, is that all flavouring agents are omitted in order that whatever condiments are deemed desirable may be added in the room, according to the varying tastes of invalids. Also of some interest in medical connexions are the penny tablets of beef extracts known as Bifti. They are intended for use either in the sick-room or for ordinary domestic purposes. They render possible the immediate preparation of a very good soup, and, being both portable and cheap, they ought to be, and we believe are, popular with those who engage in district nursing and allied work. There were likewise shown Fray Bentos ox tongues, corned beef, and a delicately seasoned Fray Bentos soup.

The display of the G. W. CARNRICK COMPANY of New York (20, Ribblesdale Road, Hornsey, N.) included a variety of enzymes and also a series of hormones prepared in a fashion intended to fit them for use in everyday practice. Among them was Secretogen, which was stated to be a preparation of secretins from the pylorus and duodenum, and to be useful in the treatment of disorders of digestion; Trypsogen, which was described as the Langerhansian hormone and to be intended for use in cases of diabetes; Hormotone, which was described as a balanced combination of tonic hormones, and was claimed to be of utility in cases of a neurasthenic order; and Kinazyme, this term covering what was indicated to be a spleno-pancreatic preparation intended to be used as an aid to nutrition, especially in tuberculous subjects. By way of making organic products of this kind more generally known and facilitating their utilization in clinical practice, the firm is publishing a serial named the *Metabolist*, of which copies were on view. For the present the firm is prepared to send the issues of this publication for a year to any medical man who indicates a desire to receive them.

Vital Statistics.

EPIDEMIC MORTALITY IN LONDON.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

THE accompanying diagram shows the prevalence of the principal epidemic diseases during the second quarter of the year. The fluctuations of each disease and its relative fatality compared with the average in the corresponding periods of recent years can thus be readily seen, except that in the case of diarrhoea and enteritis among children under 2 years of age the average mortality is not available.

Enteric Fever.—The fatal cases of enteric fever, which had been 29, 30, and 29 in the three preceding quarters, declined last quarter to 26, and were 5 below the corrected average number in the corresponding period of the five preceding years. The greatest proportional mortality from this disease last quarter was recorded in the City of Westminster, St. Marylebone, Hampstead, and Stepney. The number of enteric fever patients under treatment in the Metropolitan Asylums Hospitals, which had been 49, 37, and 42 at the end of the three preceding quarters, had declined to 35 at the end of last quarter; 68 new cases were admitted during the quarter, against 93, 85, and 86 in the three preceding quarters.

Small-pox.—No death from small-pox was registered last quarter, and no case of this disease was under treatment in the Metropolitan Asylums Hospitals at the end of the quarter.

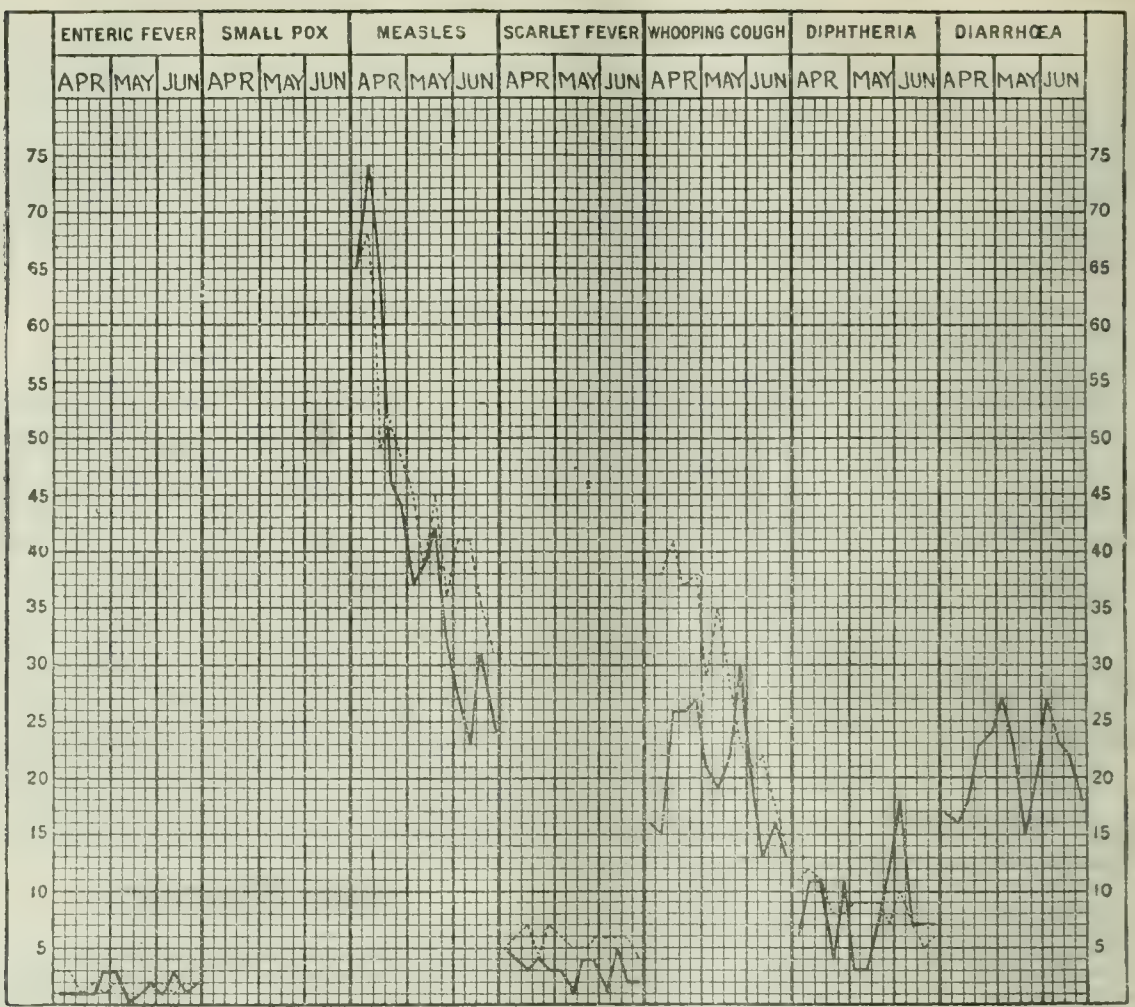
Measles.—The deaths from measles, which had been 376, 788, and 844 in the three preceding quarters, declined again last quarter to 549, and were 45 below the corrected average number. This disease was proportionally most fatal in Kensington, Islington, Southwark, Bermondsey, Deptford, and Greenwich.

Scarlet Fever.—The fatal cases of this disease, which had been 44, 50, and 52 in the three preceding quarters, declined again last quarter to 41, and were 32 below the corrected average number. Among the several metropolitan boroughs this disease was proportionally most fatal in St. Pancras, Poplar, and Woolwich. The Metropolitan Asylums Hospitals contained 1,579 scarlet fever patients at the end of last quarter, against 1,845, 2,088, and 1,436 at the end of the three preceding quarters; 2,573 new cases were admitted during the quarter, against 2,856, 3,542, and 2,366 in the three preceding quarters.

Whooping-cough.—The deaths from whooping-cough, which had been 182, 152, and 300 in the three preceding quarters, declined again last quarter to 264, and were 118 below the corrected average number. The highest death-rates from this disease last quarter were recorded in Hammersmith, Islington, Finsbury, Poplar, Bermondsey, Deptford, and Greenwich.

Diphtheria.—The fatal cases of diphtheria, which had been 113 in each of the two preceding quarters, declined last quarter to 107, and were 5 below the corrected average. The greatest proportional mortality from this disease last quarter occurred in Islington, Finsbury, Bethnal Green, Poplar, Lambeth, Lewisham, and Woolwich. The number of diphtheria patients in the Metropolitan Asylums Hospitals, which had been 941, 949, and 901 at the end of the preceding quarters, had further declined to 811 at the end of last quarter; 1,341 new cases were admitted during the quarter, against 1,513, 1,525, and 1,568 in the three preceding quarters.

DEATHS FROM EPIDEMIC DISEASES IN LONDON DURING THE SECOND QUARTER OF 1913.



NOTE.—The black lines show the *recorded* number of deaths from each disease during each week of the quarter. The dotted lines show the *average* number of deaths in the corresponding weeks of the five preceding years, 1908-12. Under the heading "Diarrhœa" are given the deaths from diarrhœa and enteritis among children under 2 years of age; the corrected average number of these deaths is not available.

Diarrhœa.—The 273 deaths under this heading are those attributed to diarrhœa and enteritis among children under 2 years of age; measured in proportion to the births registered during the quarter, the mortality from this cause was greatest in Hammersmith, the City of Westminster, Holborn, Finsbury, and Battersea.

In conclusion it may be stated that the aggregate mortality last quarter from these epidemic diseases, excluding diarrhœa, was 17.3 per cent. below the average.

HEALTH OF ENGLISH TOWNS.

IN ninety-six of the largest English towns 8,248 births and 4,733 deaths were registered during the week ending Saturday, September 6th. The annual rate of mortality in these towns, which had been 13.3, 13.2, and 13.5 per 1,000 in the three preceding weeks, rose to 13.8 per 1,000 in the week under notice. In London the death-rate was equal to 12.4, against 12.1, 11.8, and 12.1 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rates ranged from 4.0 in Swindon, 4.8 in Eastbourne and in Oxford, 5.2 in Southend-on-Sea, 5.4 in Ilford, 5.7 in Gillingham, and 6.1 in Willesden to 19.8 in Sunderland, 20.4 in West Bromwich and in Bolton, 22.7 in Barnsley, 22.8 in Aberdare, and 26.4 in Wigan. The deaths of children (under 2 years of age) from diarrhœa and enteritis, which had been 581, 649, and 837 in the three preceding weeks, further rose to 960 in the week under notice; of this number 199 were recorded in London, 60 in Birmingham, 49 in Liverpool, 34 in Manchester, 32 in Sheffield, 27 in Hull, 26 in Leeds, and 25 in West Ham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 40, or 0.8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 5 in Stoke-on-Trent, 5 in Birmingham, 4 in Sheffield, and 4 in Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,124, 2,070, and 2,115 at the end of the three preceding weeks, was 2,112 on Saturday, September 6th; 298 new cases were admitted during the week, against 230, 239, and 331 in the three preceding weeks.

In ninety-six of the largest English towns 8,755 births and 4,980 deaths were registered during the week ending Saturday, September 13th. The annual rate of mortality in these towns, which had been 13.2, 13.5, and 13.8 per 1,000 in the three preceding weeks, rose again to 14.5 per 1,000 in the week under notice. In London the death-rate was equal to 13.7, against 11.8, 12.1, and 12.4 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rates ranged from 5.6 in York, 6.0 in Swindon, 6.3 in Darlington, 6.9 in Ealing and in Bournemouth, 7.0 in Willesden, and 8.2 in Great Yarmouth, in Bath, and in Coventry, to 21.7 in Middlesbrough, 22.2 in Dudley and in Sunderland, 22.3 in Liverpool, 23.1 in St. Helens, and 23.5 in Rhondda. Measles caused a death-rate of 1.1 in Stoke-on-Trent and 2.5 in Norwich. The deaths of children under 2 years of age from diarrhœa and enteritis, which had been 649, 837, and 960 in the three preceding weeks, rose to 1,104 in the week under notice; of this number 229 were registered in London, 78 in Birmingham, 66 in Liverpool, 45 in Manchester, 38 in Hull, 32 in Sheffield, 31 in West Ham, 30 in Rhondda, and 27 in Leeds. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 28, or 0.6 per cent. of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest, and included 9 in Birmingham, 3 in Liverpool, and 2 each in Portsmouth, St. Helens, and Barrow-in-Furness. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,070, 2,115, and 2,112 at the end of the three preceding weeks, had risen to 2,211 on Saturday, September 13th; 346 new cases were admitted during the week, against 239, 331, and 298 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN the sixteen largest Scottish towns 1,083 births and 723 deaths were registered during the week ending Saturday, September 6th. The annual rate of mortality in these towns, which had been 13.1, 14.1, and 14.1 per 1,000 in the three preceding weeks, rose to 16.7 in the week under notice, and was 2.9 per 1,000 above the rate in the ninety-six large English towns. Among the several Scottish towns the death-rates ranged from 11.0 in Leith, 11.5 in Motherwell, and 13.2 in Falkirk to 16.9 in Kirkcaldy, 18.9 in Hamilton, and 19.1 in Glasgow. The mortality from the principal infective diseases averaged 2.8 per 1,000, and was highest in Clydebank and Hamilton. The 374 deaths from all causes registered in Glasgow included 53 from infantile diarrhœal diseases, 10 from measles, 3 from whooping-cough, 1 from enteric fever, and 1 from diphtheria. Three deaths from measles were recorded in Edinburgh; 2 from scarlet fever and 2 from diphtheria in Aberdeen; and from infantile diarrhœal diseases 8 in Dundee, 7 in Greenock, 4 in Aberdeen, 4 in Leith, and 3 each in Edinburgh, Hamilton, and Clydebank.

Naval and Military Appointments.

ARMY MEDICAL SERVICE.

COLONEL HENRY H. JOHNSTON, C.B., M.D., is placed on retired pay, September 13th.

Lieutenant-Colonel JAMES MAHER to be Colonel, vice H. H. Johnston, C.B., M.D., September 13th.

INDIAN MEDICAL SERVICE.

CONSEQUENT on the retirement from the service of Lieutenant-Colonel H. R. Woolbert, an Agency Surgeon of the 1st Class, the following changes have been made among the Agency Surgeons serving under the Foreign Department, with effect from June 30th, 1913: (1) Lieutenant-Colonel W. R. EDWARDS, C.M.G., to be an Agency Surgeon of the 1st Class; (2) Captain H. CROSSLE to be confirmed as an Agency Surgeon of the 2nd Class.

Lieutenant-Colonel Sir D. SEMPLE, Kt., Director of the Central Research Institute, Kasauli, has been permitted to retire, with effect from March 19th, 1913.

Major E. C. MACLEOD has been appointed to officiate as Inspector-General of Civil Hospitals and Prisons and Sanitary Commissioner, Assam, with effect from August 2nd, 1913, pending assumption of charge of that office by Lieutenant-Colonel H. E. Banatvala.

Captain J. CUNNINGHAM has been placed on special duty under the orders of the Director-General, Indian Medical Service, with effect from July 10th, 1913.

Captain F. W. CRAGG has been appointed to act as Assistant Director, Central Research Institute, Kasauli, during the absence on deputation of Captain J. Cunningham.

Captain C. H. CROSS has been appointed to be a probationer in the Chemical Examiner's Department, and has been attached to the Chemical Examiner's Laboratory at Madras.

Captain G. G. JAMES has been granted privilege leave for three and a half months, with effect from June 25th, 1913, on the expiry of which his services will be replaced at the disposal of His Excellency the Commander-in-Chief.

The orders placing the services of Captain W. S. MCGILLIVRAY at the disposal of the Government of Burma have been cancelled.

The services of Captain H. R. DUTTON have been replaced at the disposal of the Government of Bengal, with effect from June 3rd, 1913.

Captain D. COUTTS, I.M.S., is appointed to the substantive medical charge of the 37th Dogras.

The services of Captain R. S. KENNEDY have been replaced at the disposal of His Excellency the Commander-in-Chief.

The services of Captain J. F. BOYD have been placed temporarily at the disposal of the Government of the United Provinces for employment on plague duty.

Captain J. A. A. KERNAHAN, I.M.S., was appointed to the charge of the Brigade Laboratory, Shillong, on August 18th, 1913.

The King has approved of the admission of the following gentlemen to the service as Lieutenants on probation, July 26th: SAHIB SINGH SOKHEY, M.B., ATUL KRISHNA SINHA, M.B., SUBROMANYA DORALSAMY, JAMES FINDLAY, M.B., ALLAN SEDDON, M.B., JYOTISH CHANDRA DE, M.B., WILLIAM C. SPACKMAN, M.B., NANALAI MAGANLAL MEHTA, CHARLES H. P. ALLEN, PEREGRINE S. B. LANGTON, ROBERT M. EASTON, M.B., and REGINALD V. MARTIN.

The King has approved of the confirmation of the commissions of the following Lieutenants on probation, with effect from January 25th, 1913: RICHARD R. M. PORTER, M.B., ROBERT SWEET, M.B., EDWARD CALVERT, PATRICK J. WALSH, M.B., JOHN R. D. WEBB, FRANCIS PHELAN, ARCHIBALD C. MACRAE, M.B., NAWM CHAND KAPUR, ARTHUR H. C. HILL, JOSEPH F. HOLMES, NARAYAN KRISHNA BAI, HAJI SULAIMAN GULAM-HUSSEIN HAJI.

The King has approved of the resignation of Captain W. MACKENZIE, M.B., August 23rd; Captain GREER E. MALCOLMSON, M.D., September 2nd.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

THE appointment of Lieutenant-Colonel THOMAS R. GLYNN, M.D., 1st Western General Hospital, R.A.M.C., to, and the retirement of Honorary Colonel RICHARD CATON, M.D., F.R.C.P., from, the Honorary Colonelcy of the R.A.M.C., Territorial Force, of the West Lancashire Territorial Division, is dated August 13th, 1913.

First South Midland Mounted Brigade Field Ambulance.—ALEXANDER LEGGAT to be Lieutenant, July 19th, 1913.

Third North Midland Field Ambulance.—Captain JOHN MILLER, from the First Wessex Field Ambulance, to be Captain, August 27th.

Third East Lancashire Field Ambulance.—JOHN K. LUND to be Lieutenant, July 2nd, 1913.

Second West Lancashire Field Ambulance.—JOHN F. ROBERTS, M.B., to be Lieutenant, July 24th.

Second Welsh Field Ambulance.—Major EDWARD T. COLLINS to be Lieutenant-Colonel, July 10th, 1913; JOHN WALLACE, M.B. (late Lieutenant, 2nd Glamorganshire R.G.A. (Vols.)), to be Lieutenant, July 10th, 1913.

Third Wessex Field Ambulance.—Lieutenant ELLIOTT B. BIRD to be Captain, May 23rd, 1913.

First Western General Hospital.—Lieutenant-Colonel NATHAN RAW, M.D., F.R.C.S., on completion of his period of service in command of a General Hospital, is retired, August 20th, 1913; Major ARCHIBALD B. GEMMEL to be Lieutenant-Colonel, August 20th, 1913.

Third London (City of London) Field Ambulance.—Lieutenant REGINALD MARTIN VICK to be Captain, May 22nd.

Second London Sanitary Company.—WILLIAM A. PERRY, M.B., to be Lieutenant, June 23rd.

Third Highland Field Ambulance.—Major WILLIAM E. FOGGIE, M.D., to be Lieutenant-Colonel, May 19th.

First East Anglian Field Ambulance.—Charles F. SEARLE, M.B., to be Lieutenant, August 13th.

Sanitary Service.—ALFRED GREENWOOD to be Major, August 20th, 1913; Major Alfred Greenwood is appointed Sanitary Officer of a Territorial Division, August 20th, 1913; Captain ROGER MCNEILL, M.D., resigns his commission, August 23rd.

Attached to Units other than Medical Units.—Lieutenant RICHARD C. CLARKE, M.B., to be Captain, May 22nd, 1913; Lieutenant JAMES L. WILSON, M.B., resigns his commission, August 20th, 1913; MORRICE GREER to be Lieutenant, July 21st: Lieutenant THOMAS H. L. N. HEWITT to be Captain, June 18th; Lieutenant-Colonel EDWARD B. RECKITT, M.D., is retired, and is granted permission to retain his rank and to wear the prescribed uniform, September 6th; Lieutenant CHARLES E. M. JONES to be Captain, July 1st.

For Attachment to Units other than Medical Units.—DUNCAN DAVIDSON, M.B., to be Lieutenant, July 10th, 1913.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ALBERT DOCK HOSPITAL, Connaught Road, E.—(1) House-Surgeon; salary, £75 per annum. (2) House-Surgeon to Out-patients; salary, £75 per annum.

AYR DISTRICT ASYLUM.—Junior Assistant Physician (male). Salary, £140 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 each per annum.

BATH: ROYAL UNITED HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—House-Physician and House-Surgeon. Salary at the rate of £75 each per annum.

BETHNAL GREEN INFIRMARY, Cambridge Heath, E.—Assistant Medical Officer. Salary, £100 per annum, rising to £120.

BIRMINGHAM CITY ASYLUM.—Junior Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £260 for first year, rising to £310.

BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BRADFORD POOR LAW UNION.—Assistant Resident Medical Officer (male) for the Hospital and Workhouse. Salary, £130 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-Resident House-Surgeon. Salary at the rate of £100 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Three House-Surgeons; salary at the rate of £100 per annum. (2) House-Physician; salary at the rate of £100 per annum. (3) Throat, Nose, and Ear House-Surgeon; salary at the rate of £75 per annum.

BUENOS AIRES: BRITISH HOSPITAL.—(1) Senior Resident Medical Officer. (2) Assistant Resident Medical Officer. Salary, £275 and £250 per annum, rising to £300 and £275 respectively.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £80 per annum, increasing to £90.

CAMBERWELL: PARISH OF ST. GILES.—Assistant Medical Officer for the Infirmary. Salary, £150 per annum, increasing to £160.

CANTERBURY MENTAL HOSPITAL.—Assistant Medical Officer (Male). Salary to commence £200 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—House-Surgeon. (male). Salary at the rate of £60 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C.—House-Surgeon. Salary at the rate of £50 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, N.E.—Resident Medical Officer. Salary, £150 per annum.

CITY OF LONDON LYING-IN HOSPITAL, City Road, E.C.—Resident Medical Officer. Salary at the rate of £50 per annum.

DEVON COUNTY ASYLUM, Exminster.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £220, and on promotion to £250 with prospect of promotion to £350.

DREADNOUGHT HOSPITAL, Greenwich.—(1) Two House-Physicians; salary, £50 per annum. (2) Two House-Surgeons; salary, £50 per annum.

DURHAM COUNTY ASYLUM.—Third and Fourth Assistant Medical Officers (males). Salary, £200 per annum, rising to £250.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House-Surgeon (male). Salary at the rate of £75 per annum.

EDAY PARISH.—Medical Officer. Salary, £70 per annum.

ENNISKILLEN: FERMANAGH COUNTY HOSPITAL.—House-Surgeon (male). Salary, £72 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Ten Clinical Assistants.

FARRINGDON GENERAL DISPENSARY, Bartlett's Buildings, E.C.—Honorary Physician.

GLOUCESTER: ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant Physician.

HALIFAX ROYAL INFIRMARY.—Second House-Surgeon (male) and Third House-Surgeon (male). Salary, £100 and £80 per annum respectively.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—(1) House-Physician and House-Surgeon; salary at the rate of £70 each per annum. (2) Resident Casualty Officer and Assistant Casualty Officer for Out-patient Department. Salary, £140 and £60 per annum respectively.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £70 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

HOLBORN UNION.—Second Assistant Medical Officer of the Infirmary. Salary, £100 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Resident Medical Officer. Salary, £200 per annum.

HULL ROYAL INFIRMARY.—(1) Assistant House-Surgeon; salary, £100 per annum. (2) House-Physician; salary, £100 per annum.

KENT COUNTY COUNCIL.—Tuberculosis Officer. Salary at the rate of £500 per annum.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION, Cardiff.—Assistant Tuberculosis Physicians. Salary, £300 per annum.

KING'S COLLEGE HOSPITAL.—Resident Assistant Chemical Pathologist. Salary, £60 per annum.

LEAMINGTON: WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL.—House-Physician. Salary, £85 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LEEDS UNIVERSITY.—Research Assistant in the Department of Pathology. Salary, £150 per annum.

LEICESTER ROYAL INFIRMARY.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

LIVERPOOL EDUCATION COMMITTEE.—School Medical Officer. Salary, £250 per annum, increasing to £300.

LIVERPOOL STANLEY HOSPITAL.—Senior Resident Officer. Salary at the rate of £125 per annum.

LONDON HOMOEOPATHIC HOSPITAL, Great Ormond Street, W.C.—Resident Medical Officers. Salary at the rate of £80 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Senior House-Surgeon and Junior House-Surgeon. Salary, £100 and £80 per annum respectively.

MANCHESTER CHILDREN'S HOSPITAL.—Assistant Medical Officer for Out-patient Department. Salary, £100 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER TOWNSHIP.—Junior Resident Assistant Medical Officer at the Workhouse, Crumpsall. Salary, £110 per annum.

MARGARET STREET HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, W.—Honorary Laryngologist.

MIDDLESBROUGH: NORTH ORMESBY HOSPITAL.—Assistant House-Surgeon. Salary, £90 per annum, increasing to £100.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Senior House-Surgeon. Salary at the rate of £100 per annum.

MONMOUTHSHIRE EDUCATION COMMITTEE.—Third Assistant Medical Officer. Salary, £250 per annum.

NEWARK-UPON-TRENT: THE HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistants. Salary, £200 per annum.

NEWPORT: ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary at the rate of £80 per annum for the first four months, rising to £120.

NORFOLK EDUCATION COMMITTEE.—Assistant Medical Officer. Salary, £250 per annum.

NORTHAMPTON COUNTY COUNCIL.—Assistant School Medical Officer. Salary, £250 per annum, rising to £310.

NOTTINGHAM WORKHOUSE AND INFIRMARY.—Resident Assistant Medical Officer. Salary at the rate of £165 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £75 per annum.

ROCHDALE INFIRMARY.—Second House-Surgeon (male). Salary, £100 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Senior House-Surgeon. Salary at the rate of £100 per annum.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL.—(1) Resident House-Surgeon. (2) Surgical Registrar. Salary, £100 and £105 per annum respectively.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Resident House-Surgeon. Salary, £80 per annum.

SHEFFIELD UNION HOSPITAL.—Resident Assistant Medical Officer. Salary, £120 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary at the rate of £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

STAFFORD GENERAL INFIRMARY.—House-Surgeon. Salary, £120 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £80 per annum.

VENTNOR: ROYAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Assistant Resident Medical Officer. Salary, £100 per annum.

WAKEFIELD GENERAL HOSPITAL.—Second House-Surgeon (male). Salary, £100 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary at the rate of £120 per annum.

WARRINGTON UNION.—Assistant Resident Medical Officer (male). Salary, £150 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £75 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL.—Junior House-Surgeon. Salary at the rate of £75 per annum.

WEST HAM BOROUGH ASYLUM, Goodmayes.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £250.

WHITEHAVEN AND CUMBERLAND INFIRMARY.—House-Surgeon (male). Salary at the rate of £120 per annum.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Salary, £100 per annum.

WREXHAM INFIRMARY.—Resident House-Surgeon. Salary, £120 per annum.

YORK DISPENSARY AND MATERNITY HOSPITAL.—Resident Medical Officer (male). Salary, £140 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Dursley (Somerset), Passage (Cork), Wigton (Cumberland).

APPOINTMENTS.

ARMSTRONG, P., M.D.Dub., District Medical Officer of the Kingston Union, Surrey.

CARSBERG, Alfred E., M.D.Cantab., Physician to the Tuberculin Dispensary, Kennington Road, S.E.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s., *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

BLAXLAND.—On September 10th, at 29, Surrey Street, Norwich, to the wife of A. J. Blaxland, M.S.Lond., F.R.C.S., a son.

MARRIAGE.

HUTCHINSON—WHITTAKER.—On Saturday, September 6th, at Christ Church, Surbiton, Surrey, by the Rev. E. Swainson, Richard Cecil Hutchinson, M.B., Ch.B., D.P.H., of Carmarthen, South Wales, to Gwendoline Mary Bushnell Whittaker, niece of the late Alfred and Mrs. Geary, late of Kingston Hill.

DEATH.

WALLACE.—On September 3rd, at his residence, 5, Willingdon Road, Eastbourne, from sudden pulmonary haemorrhage, Richard Teale Wallace, M.R.C.S.Eng., L.R.C.P.Lond., only son of Richard Unthank Wallace, M.B.Lond., of 133, Clapton Common, aged 49 years.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.—Continuation of the Post-Graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

EDINBURGH POST-GRADUATE COURSES.—(*a*) General Course; (*b*) Surgical Course; and (*c*) Special Course.

LONDON HOSPITAL MEDICAL COLLEGE.—Demonstrations in Clinical Surgery, Monday, at 10.30 a.m.; other days at 2 p.m., except Saturday.

[*For further particulars of Lectures consult the Index to Advertisements.*]

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		SEPTEMBER.
23	Tues.	Wandsworth Division, 237, Lavender Hill, Clapham Junction, 3.15 p.m.
25	Thur.	London: Insurance Act Committee. East Anglian Branch, King's Lynn; Council, 12.30 p.m.; General Meeting, 1 p.m.
26	Fri.	Leicester and Rutland Division, Leicester, 4 p.m.
		OCTOBER.
3	Fri.	London: Central Ethical Committee, 2 p.m. London: Special Meeting Metropolitan Counties Branch Council, 4 p.m.

Date.		Meetings to be Held.
		OCTOBER (*continued*).
6	Mon.	London: Dominions Committee. London: Naval and Military Committee.
7	Tues.	London: Public Health Committee. Coventry Division, Annual Dinner, 7.45 p.m.
8	Wed.	London: Medico-Political Committee.
14	Tues.	London: Metropolitan Counties Branch Council, 4 p.m.
15	Wed.	London: Hospitals Committee. Dorset and West Hants Branch, Weymouth.
22	Wed.	London: Finance Committee, 2.30 p.m.
29	Wed.	London: Council.

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LOCAL MEDICAL COMMITTEES.

MANCHESTER.

A report of work done in Manchester under the Insurance Act for the quarter ending June 30th has been presented by the Manchester Medical Committee. The report contained an expression of regret at the deaths of Drs. Booth, Munns, Haldane Paterson, and Pell Ilderton, and of Dr. Booth it is said that he was a peacemaker who will be missed "wherever in the city deeds of love and charity are performed."

The report gives the following table:

Accounts for January to June, Corrected to End of June.

Total number of insured persons about 254,000.

	Attendances.	Visits.	Special Visits.	Night Visits.	Operations.	Anaesthetics.	Fractures or Dislocations.	Patients.
Jan...	44,945	14,862	345	110	114	5	20	24,733
Feb..	99,989	27,344	431	160	166	7	12	40,788
Mar..	106,039	26,452	585	229	154	10	13	40,230
April	110,219	24,665	600	250	132	32	24	40,838
May..	100,976	20,720	660	235	119	31	18	35,929
June	107,427	19,857	623	239	134	24	27	38,028

The report states that the astounding feature of these figures was unquestionably the large amount of sickness disclosed by the working of the Act; even when no attention was paid to the thousands of insured persons still consulting doctors not on the list, the fact that every month about one-sixth of the insured population of Manchester required medical attention was by itself sufficient to dispose of the unfair and untrue statement made recently in the House of Commons by Mr. Masterman when he charged the Lancashire doctors with a deliberate attempt to smash the Act because the sickness rate exceeded his estimate. The amount of the bills rendered from January 15th to March 31st was £34,413 8s., and the amount paid at the rate of 13s. 4d. in the £ was £20,929. From April 1st to June 30th the bills rendered amounted to £40,599 14s. 6d., and the amount paid at 10s. in the £ was £18,782 10s. The method of payment consisted in arriving at the monthly value per patient, and then reducing to that level those accounts exceeding the "patient value" where no satisfactory explanations were offered. The following table gives the case value and the number of accounts reduced, the latter number not being corrected for the late accounts:

	Patient Value.	Accounts Reduced.
January (17 days)... ...	5s. 4d.	58
February (28 days) ...	6s. 9d.	77
March	7s. 1d.	77
April	7s. 1d.	92
May	7s. 3d.	90
June	7s. 1d.	87

At the March payment 103 accounts suffered reduction, and at the June payment 134. The Committee calls attention to the marked tendency for insured persons to increase their demands for non-routine visitation, as was evidenced by the steady rise in the relation of special and night visits to ordinary visits. The report records the fact that the work done per patient per month averaged above 7s., while the money provided by the Chancellor of the Exchequer averaged about 4s., and, as the number of patients could not be reduced, practitioners were still faced with the alternatives of reducing the work done or definitely accepting the rôle of philanthropist by order of the Government.

STAFFORDSHIRE.

A meeting of the Staffordshire Local Medical Committee was held at Stafford on September 12th.

Prescriptions.—A report of the Joint Pharmaceutical Committee on the prescriptions for the first quarter was adopted, and the Secretary was instructed to draw the attention of members of the profession on the county panel to the policy of the Committee in regard to prescribing. The aim of the Committee is, first, by encouraging economical prescribing, to secure that the cost of drugs is covered by the 1s. 6d. for the insured person per annum, and, secondly, to accumulate a balance

to the drug account in order that in time the scheduled list may include such appliances and remedies as trusses, serums, and vaccines. With regard to proprietary preparations, the policy of the Committee is expressed in the following resolution:

> That all doctors on the county panel abstain from ordering proprietary medicines unless the requirements of the case will be met only by the use of such proprietary preparation.

A form of prescription book adopted by the Smethwick Insurance Committee was approved for use in the county. It was decided in reply to a letter from the Insurance Committee with regard to a proprietary preparation to recommend that it should not be put on the schedule of drugs.

Temporary Residents.—The Committee accepted the responsibility for the treatment of temporary residents under the green voucher system until a better system was devised, and in regard to the allocation of debits recommended the adoption by the Staffordshire Insurance Committee of the method suggested in paragraph 30 of the Memorandum 171/I.C., by which each doctor on the panel is debited in proportion to the numbers on his list.

Draft Rules.—The draft rules drawn up by the Subcommittee were after modification adopted, and the Secretary was instructed to forward them to the Insurance Commissioners for ratification.

WEST RIDING OF YORKSHIRE.

A MEETING of the Local Medical Committee of the West Riding of Yorkshire was held at Wakefield on September 5th. Dr. MAY was in the chair, and twenty-three representatives were present.

West Riding Pharmacopœia.—It was announced that a letter had been received from the Clerk of the Insurance Committee, dated September 4th, stating that the Medical Benefit Subcommittee had agreed to publish the pharmacopœia subject to the approval of the Insurance Committee.

Rules for the Administration of Medical Benefit.—It was reported that the Insurance Committee, at its meeting on July 24th, had confirmed the Medical Benefit Subcommittee's decision to refuse the request of the Local Medical Committee for the circulation of the rules, and to take no action in the matter. It was resolved:

> That the Secretary again write the Commissioners, pointing out the necessity for a supply of these rules for medical benefit throughout the West Riding, the terms of his letter to be drawn up in consultation with the Emergency Subcommittee.

Treatment of Tuberculosis.—Dr. May and Dr. Fry were requested to attend, on behalf of the Local Medical Committee, the special meeting of the council of the Yorkshire Branch of the British Medical Association called for September 11th to consider the question of the attendance of non-insured persons at tuberculosis dispensaries for examination and treatment without reference to their usual medical attendant.

Medical Members of Insurance Committee.—A letter was read from the Clerk to the Insurance Committee giving the names of the medical men on the Committee and Subcommittee as follows:

Insurance Committee.—(Appointed by the County Council): Dr. R. A. Forsyth, J.P. (Bradford), Dr. R. Muschamp (Guisely, near Leeds), Dr. Margaret Sharpe (Bradford). (Appointed by the Local Medical Committee): Dr. R. May (Wakefield), Dr. J. Russell (Batley). (Appointed by the Commissioners): Dr. J. A. Hargreaves (Wetherby), Mr. Walter Thompson, F.R.C.S. (Park Square, Leeds), Dr. A. C. Wilson (Doncaster).

Sanatorium Subcommittee.—Dr. May, Dr. Margaret Sharpe, Dr. Wilson.

Medical Benefit Subcommittee.—Dr. Forsyth, Dr. Hargreaves, Dr. Russell, Dr. Wilson.

Medical Service Subcommittee.—Dr. Hillman, Dr. May, Dr. Russell.

Finance.—The financial statement presented by the Treasurer (Dr. FRY) showed a balance in hand of £21 1s.

Conference of Local Medical Committees.—A report was read from Dr. Russell and Dr. Eardley, the Committee's representatives, on the conference at Brighton, on July 24th, for which they were thanked and for their services at the conference.

Medical Referees.—It was reported that the Prudential Assurance Company had recently asked its present medical referees in Keighley to examine and report on certain cases of alleged malingering in that district under the Insurance Act, and were proposing to adopt this course generally throughout the West Riding. On August 20th Dr. Hillman and Dr. Gabriel, representing the Local Medical Committee, had discussed the question with Mr. Woods, the head inspector of the Prudential Assurance Company, at the Prudential offices at Leeds, when Mr. Woods, while considering his own scheme the best, had given them a written promise on behalf of his company that (1) he would take no action in the matter until it had been discussed at the next meeting of the Local Medical Committee, and (2) would not oppose any scheme which the Local Medical Committee might bring forward on the same lines as the scheme already adopted at Bristol, in which the medical referee (or medical adviser, as he is called there) was appointed by the Insurance Committee on the nomination of the Local Medical Committee. The CHAIRMAN expressed the opinion that the Local Medical Committee, as representing the profession, should take some step. The following resolutions were adopted:

1. That, in the opinion of this Committee, it is desirable under the circumstances that some system be adopted for the establishment of medical referees.
2. That they should only be appointed on the nomination of the Local Medical Committee.
3. That, failing appointment by the Commissioners, the appointments should be made by the Insurance Committee or the approved societies.
4. That, the principle of medical referees having been adopted by this Committee, we refer all questions of detail to a Subcommittee, consisting of the Emergency Subcommittee, with the addition of Dr. Gabriel, Dr. Glover, and Dr. Hargreaves, for consideration and report to the Local Medical Committee.
5. That the practitioners of the West Riding be asked to pledge themselves not to act as medical referees under the Insurance Act at the request of any approved society or societies, but to allow the whole question of medical referees to remain in abeyance, to be dealt with centrally in accordance with the approval of the Local Medical Committee.

The Secretary was directed to notify all the other Local Medical Committees of the county, and to circularize all the practitioners in the area of the West Riding panel in regard to this last resolution (5).

Local Medical Committee Dinner.—It was decided to hold a dinner of the Local Medical Committee in October, at the Queen's Hotel, Leeds, and the Emergency Subcommittee was directed to make the arrangements.

DENBIGHSHIRE.

THE second general meeting of panel practitioners of the county of Denbighshire was held on September 16th at Chester. Dr. MEDWYN HUGHES (Ruthin) occupied the chair, and seventeen practitioners attended.

Temporary Residents.—The SECRETARY reported the case of a medical man who, in accordance with a resolution adopted by the Local Medical Committee, had refused to attend a migrant presenting a green voucher. The Clerk of the Insurance Committee informed the practitioner that unless he agreed to attend such persons the Committee would withhold payments due to him. An animated discussion took place on this matter, a minority of speakers recommending that the green vouchers be accepted; the majority, however, stated they would continue to refuse attendance, except as private patients.

Certificate for Maternity Benefit.—An attempt by a certain approved society to secure a certificate in the case of a woman worker attended in confinement by a midwife only was brought to the notice of the meeting. The doctor on whose panel the woman was stated that he had given the certificate after the necessary visit and secured a fee from the patient.

Special Mileage Fund.—Information elicited the fact that so far no payments had been made from the Special Mileage Fund allotted to Wales.

Medical Referees.—Reference was made by several members to the appointment of medical referees by approved societies. One speaker considered that the societies were justified in sending a referee to make surprise visits to patients receiving sick pay, but the feeling of the meeting was that the panel doctor should be notified and have the option of being present at the examination. It was resolved to bring the subject to the notice of the Insurance Committee.

Dispensing.—Attention was drawn to the neglect by chemists to make arrangements for dispensing after the usual hours and on Sundays. Samples of inferior dressings were also exhibited. These matters were also referred to the Insurance Committee.

Subcommittee.—It was reported that, differing from the provisional Subcommittee, the new one contains no medical representative. This Subcommittee confers with the Local Medical Committee on all medical matters, and it was resolved to request the co-option of Dr. Moss (Wrexham).

Expenses of Committee.—Some months ago an appeal was made for subscriptions of 2s. 6d. to meet the expenses of the Committee. The SECRETARY reported that 50 per cent. only of practitioners had responded, and that there was a slight deficit in the accounts.

Deduction for Mileage.—Towards the end of the meeting a lively discussion took place as to the deduction of 6d. per annum from the capitation fee to pay for mileage. It was reported that two protests had been sent to the Commissioners from different sections of the county. A further protest was drawn up, and it was resolved by a large majority to send it to Mr. Masterman, the Welsh Insurance Commission, and the Denbighshire Insurance Committee.

Vote of Thanks.—A vote of thanks to the Chairman terminated the proceedings.

INSURANCE NOTES.

THE NATIONAL CONFERENCE OF FRIENDLY SOCIETIES.

At the National Conference of Friendly Societies held at the offices of the Hearts of Oak, London, on September 18th and 19th, it was stated during the course of one of the discussions that the societies hitherto sending representatives to the conference included four million insured persons under the Act; of the remaining ten million insured persons, possibly about six millions had joined the collecting societies, leaving four millions unaccounted for.

The President, Mr. A. H. Warren, past grand-master of the Manchester Unity of Oddfellows, in the address with which he opened the proceedings gave a general view of the situation. He said that when the Act was introduced it was expected that it would afford the societies financial relief, and it was estimated that the reserves released would amount to approximately ten million sterling. This could only have happened if every member of a friendly society who came within the meaning of the Act had reduced his contribution by a sum equivalent to that required by national insurance. As a matter of fact the larger number of members paid the extra contribution required, and were thereby entitled to the benefits both of the independent side of the work of the societies and of national insurance. One effect had been in many cases to bring about over-insurance, so that in a large number of cases the sickness benefit received from the independent fund, together with that received from the State, approximated closely to, and in many cases exceeded, the wage limit. That was an aspect of the matter which would require very careful watching. The amending Act had not acceded to the desire of the societies which had previously made medical attendance one of their benefits, that the right to administer it on behalf of their members should be restored to them. The societies, however, would not rest satisfied with the existing arrangements, as they considered that the severance of the doctor from the position he previously occupied in connexion with a branch of a society was having a serious effect, and he believed that with this was wrapped up the excessive sickness claims and alleged malingering. He referred to the appointment of the Departmental Committee to inquire into the alleged excessive claims, and urged the societies affiliated to the Conference to furnish information to that Committee. The competition of the industrial insurance companies had been severe, and he believed that if the friendly societies were to maintain their position it would be necessary to give particular attention to the juvenile movement, with the view to obtaining the children before they arrived at the compulsory insurance age—in fact, to secure them from birth. He complained that the Government had not shown any desire to carry out the intention of the Harmsworth amendment by facilitating the extension and development of medical alliances, and it was only the pressure of the Chesterfield by-election that had induced the Government to yield to the demands of the societies.

The report of the Conference Committee and parliamentary agents upon the work of the year stated that the attempt to obtain for the approved societies the right to undertake the administration of medical benefit had failed. At the meeting of the Advisory Committee on October 23rd, 1912, the representatives of the Conference had opposed the proposal to establish a State medical service, and at a subsequent meeting the Conference Committee had passed the following resolution, which was forwarded to the Chancellor of the Exchequer and the Insurance Commissioners:

> That the National Conference of Friendly Societies strongly protests against the proposed establishment of a national medical service on the grounds (among others) that such a system would set up a department not responsible either to the patient or the approved society of which he is a member; that it destroys the principle of free choice recognized and laid down in the Act; that there is no security against malingering; that it savours of the Poor Law system, and tends to destroy the self-respect of the patient, and generally that such a system would be inefficient, cumbersome, and expensive.

A long discussion ensued upon a motion instructing the executive to secure the transference to approved societies of the administration of medical benefit, and a resolution was finally carried unanimously in the following form:

> That action be continued to secure the transference to approved societies of the administration of medical benefits under the National Insurance Act.

Another motion, first brought forward as an amendment during the course of the first discussion, was in its final form as follows:

> That this National Conference is of opinion that a full-time salaried medical service is the only solution of the difficulty of providing an adequate medical service.

This when put to the vote was lost by 65 to 22.

The report of the parliamentary agents made the following observations with reference to medical benefit:

> By far the greatest difficulty has arisen over this subject as one of the benefits in the Act. Whatever may have been said as to the cheap character of the provision previously made through these Orders for medical assistance, we were the best means of assisting our members to obtain this relief, and, without management charges, with practically no friction. To-day it is apparently a most expensive and costly managed scheme, gives less satisfaction to societies and their members, and is in a continual state of unrest.

A motion with regard to medical referees was proposed on the ground that the free choice of doctor had a tendency to produce an excessive sickness-rate. It was as follows:

> That, pending the medical arrangements being placed on a satisfactory basis, this Conference urge upon the Government the necessity of appointing full-time medical referees in connexion with all insurance questions.

It was opposed by, among others, the representative of the Hearts of Oak, who said that he thought that it had been made in the interests, not of the friendly societies, but of other societies which did not possess their experience. The experience of the Hearts of Oak Society of the first six months of sickness benefit was as follows:

	1912.	1913.
Average membership	314,000 ...	611,000
Payment for sick benefit	£188,249 ...	£273,205
Number of sickness claims ...	44,000 ...	77,550
Percentage of claims to membership	14.1 ...	12.6

Discounting the fifteen days, it would be seen that there had been practically no increase in sickness experience. The motion was subsequently withdrawn at the suggestion of its seconder, who said that he did not believe the alleged amount of malingering existed, and that he knew of a society where the results were even better than those of the Hearts of Oak.

Before separating the Conference decided to permit the affiliation of societies with fewer than one thousand members, and the Committee was instructed to draw up a scheme for the admission of such societies and their representation.

IRELAND.

LIMERICK.

THE Limerick Corporation has agreed to a scheme for the establishment of a tuberculosis dispensary in the city and the appointment of a whole-time medical officer at £400

per annum. The scheme was in effect that recommended by the Insurance Commissioners, who estimated the number of insured people in the city at 10,660, and the estimated number of insured persons and dependants suffering from tuberculosis at 336. The Corporation will receive a grant of £1,055 for the working of the scheme.

Queen's County.

The following resolutions were passed unanimously at a recent meeting of the Queen's County Medical Committee:

1. That whilst thoroughly agreeing with the statements of many eminent and distinguished members of the medical profession that residence in a sanatorium, even for a few weeks, is an inestimable educational advantage for all classes who suffer from consumption, we desire, as medical practitioners of Queen's County, to respectfully inform the County Council and National Health Insurance Committee of the county, as a result of our joint experience, studies, and observations, that the domiciliary treatment of tuberculosis, if properly carried out and extended to include sanitary dwellings and good food, as well as suitable medical treatment, has many paramount advantages, which we are of opinion deserve more general recognition.
2. That we further respectfully recommend that the existing system of domiciliary treatment in Queen's County be supplemented by an allowance of provisions where the circumstances of the patient or the insured person on whom they are dependent require, and should our recommendation on this point be favourably received and adopted, we would be prepared to facilitate the financing of such domiciliary treatment, if largely and universally applied, by advising the reduction of the small fee of 10s. per week now payable for medical attendance and medicine to doctors for treatment of consumptive patients at their own homes.

MEDICAL CERTIFICATES FOR INSURANCE SOCIETIES.

We are informed that the Prudential Assurance Company is trying to induce medical men who act for it as medical referees to examine and report on the ability or otherwise of insured persons to return to work, at a fee of 5s. It is to be hoped that medical men who act for this company will refuse to allow such an undesirable precedent to be set up, and we would refer them to the resolution of the Insurance Act Committee which has been transmitted to the secretaries of all Local Medical Committees. The resolution is as follows:

> That where any medical practitioner not devoting his whole time to the work is called upon by a lay body to express an opinion as to the capacity or incapacity of an insured person, this Committee is of opinion that the lowest fee he should accept should be 10s. 6d.

In commenting upon this matter the Committee in its letter to the secretaries of Local Medical Committees says:

It is to be noted that in Circular A.S. 104, issued by the Commissioners, it is stated that arrangements entered into at present by Insurance Committees or approved societies for the appointment of medical referees should be of a temporary nature pending the consideration of the findings of the recently appointed Departmental Committee upon the alleged excessive claims upon sickness benefit. It is important that in dealing with even temporary appointments undesirable precedents should not be set up, and it is hoped that Divisions and Local Medical Committees will strain every effort to secure the payment of the fees above mentioned.

Efforts will no doubt be made by societies to secure the services of medical practitioners at fees lower than 10s. 6d. for each examination, but it should be pointed out to them that this is work needing great tact and professional skill and judgement, and that if they really believe that excessive claims are being made upon them they will realize that the employment of suitable medical referees, who can only be obtained by adequate remuneration, will result in a net saving to their funds. The acceptance of lower fees might lead to a quite unnecessary and irritating use of referees, whereas if a respectable fee is to be paid in each case the Committee or society will only be likely to make use of the referee in cases of real necessity. It should further be remembered that every case of the acceptance of inadequate fees provides a precedent which will not fail to be taken advantage of whenever financial arrangements between the profession and public bodies are under consideration.

CORRESPONDENCE.

Medical Referees.

Dr. James Harrison (Chairman, Tynemouth Local Medical Committee) writes: My letter (Supplement, September 6th, p. 236) has brought me numerous inquiries from various Local Medical Committees on the above subject. The matter is the most important we have had to discuss since we accepted service on the panels, and a uniform procedure should be aimed at by all Local Medical Committees throughout the country. It is in cases like this that we feel the lack of a strong union of panel men.

The position is this: At present a committee has been elected by the Commissioners to go into the whole question of the appointment of medical referees. On this committee, the panel practitioner, who knows more about the work than anybody else, is very inadequately represented.

Two circulars have been issued to the approved societies —Form A.S. 89, which suggests five different methods of appointing referees, and Circular A.S. 104, explanatory of the former and containing details as to methods of payment. In this circular it is stated that the work of investigation will last *some months*, and Section (3) says:

> It has been represented to the Commissioners, however, that a certain number of societies consider it desirable to take some action of a provisional character *at once*, with a view to checking the claims of their members in any cases in which it may appear to be necessary to do so.
>
> 4. The Commissioners desire, therefore, to point out to societies that it is open to them to make arrangements at once to secure the services of medical referees.

Of the methods suggested in Form A.S. 89, we in this district prefer No. 5. That is, the election of a small board of medical referees in each area, selected from men serving on the panel, and acting on a rota, changing every three months.

At the request of the Insurance Committee, we have formulated the following scheme, and the principle has been accepted.

We prefer this arrangement to that of the appointment of an independent authority, because:

1. We contend that all panel work should be kept in the hands of panel men.
2. All insurance moneys should be given to men who do insurance work.
3. The introduction of outsiders may easily lead to friction.
4. The appointment of three men divides the responsibility, and is fairer to the patient.

Many Local Medical Committees have asked for an outline of our scheme, which I now forward you, and which, I may say, has been drafted, with legal assistance, by Dr. Lachlan Fraser, the respected President of the North of England Branch of the British Medical Association.

Rules for the Constitution and Procedure of Board of Medical Referees.

1. When any question arises as to whether an insured person who is in receipt of medical or sickness benefit is entitled to continue to receive such benefit, or is fit to resume work, such person shall submit himself for examination, if and when required, to a board of medical referees.
2. The medical referees shall be medical practitioners who are on the panel of the County Borough of Tynemouth.
3. Those medical practitioners on the said panel who are willing to act as medical referees shall signify in writing to the Clerk to the Tynemouth Insurance Committee their assent so to act.
4. The medical referees shall serve on a rota, and shall be on the rota in the alphabetical order of their surnames. They shall serve three at a time for a period of three months commencing with the first three on the rota. The rota shall be kept by the clerk to the Insurance Committee.
5. A board of medical referees (hereinafter referred to as "the board") shall consist of three medical referees so serving for the time being; provided always that if an inquiry is to be made into the case of an insured person who is being attended by a referee who would otherwise be a member of such board or by such referee's partner or assistant, that referee shall take no part in the consideration of such case and the place of such referee on the board shall for that case be taken by the next available referee on the rota.

6. If any referee is unable to attend a meeting of the board of which he is a member his place on the Board shall be taken for that meeting by the next available referee on the rota.

7. Each medical referee shall be paid

(*a*) Where the insured person into whose case the inquiry is being made is a member of an approved society—by that society,

(*b*) Where the insured person into whose case an inquiry is being made is a deposit contributor —by the Insurance Committee,

a fee at the rate of (as may be arranged) for each case investigated. This fee shall be paid to the referee direct by the clerk to the Insurance Committee, and the clerk shall debit the amount to the approved societies concerned, or to the Insurance Committee, as the case may be.

8. If any member or members of an approved society, or if any official appointed for the purpose of visiting the members on the sick list of such society consider that a member of such society is malingering, or that he is fit for work but still remains on the funds of the society, he or they shall report the case in writing to the secretary of the society.

9. If any member or members of the Insurance Committee consider that a deposit contributor is malingering or that he is fit for work but still remains in receipt of medical or sick benefit, he or they shall report the case in writing to the clerk to the Insurance Committee.

10. On receipt of such report the secretary or clerk to the Insurance Committee, as the case may be, shall at once forward a copy in duplicate of such report, on forms supplied for the purpose, to the panel practitioner in attendance on the case.

11. The practitioner on receiving such report shall, if he is not prepared to declare the insured person fit for work, forward one copy of the report to the clerk to the Local Insurance Committee.

12. Within seven days of the receipt of such report, the clerk to the Insurance Committee shall summon a meeting of the board. He shall give notice of the time and place of meeting to the insured person concerned, and make all arrangements for the examination of the case.

13. In every case the practitioner in attendance shall be notified by the clerk of the time and place of meeting of the board, and he shall have the right to be present and to take part in the examination of the case.

14. When after consultation on the case there is a difference of opinion between the members of the board the decision of the majority shall be the decision of the board.

15. The decision of the board shall be final, and shall be communicated by the board in writing to the clerk to the Insurance Committee.

16. The clerk to the Insurance Committee shall forward copies of such decision—

(*a*) In the case of members of approved societies to the insured person concerned, to the secretary of the society, and to the practitioner in attendance.

(*b*) In the case of deposit contributors to the insured person and to the medical practitioner in attendance.

17. If an insured person refuses to be examined by the board, or fails to attend the meeting of the board at which his case is to be considered, his benefits, medical and sickness, shall cease as from the date of his refusal to be examined or failure to attend.

18. In such cases the clerk to the Insurance Committee shall notify in writing the insured person, the secretary of his society (if he is a member of an approved society), and the practitioner in attendance that, in accordance with Rule 17 of this code, the insured person is no longer entitled to medical or sickness benefit.

Alternatives to Rules 17 and 18.

17*a*. If an insured person fails to comply with Rule 1 the board shall report him to the clerk to the Insurance Committee, who then shall summon him to a meeting of the Medical Service Subcommittee.

18*a*. Breach of Rule 1 shall be held to be a breach of the rules for the administration of medical benefit, and shall be dealt with as specified in Clause 2 of the rules for the administration of that benefit.

THE BRITISH MEDICAL ASSOCIATION AND THE LOCAL MEDICAL COMMITTEES.

Dr. ARTHUR E. LARKING (Buckingham) writes: The essential difference between the scheme that I have suggested and the Special Fund proposed by the British Medical Association Council is that mine is a compulsory one and the other is a voluntary one.

The reason why so many have not subscribed to the funds in the past is not that they object to contributing towards the objects of the fund, but because they know by experience that only a certain proportion of the profession pay up and the others escape. They do not see why all should not pay, and if they knew that all would have to pay, the contribution would be paid quite voluntarily and cheerfully.

I will explain the working of my plan by giving as an example the procedure that would be adopted in the insurance area of which I am secretary. We have in Bucks about 65,000 insured persons, and we should make a levy, say, of one halfpenny per patient on each doctor's list, and this would produce £135. This would be deducted by the Clerk to the Insurance Committee from the amounts paid, either all at one time or half at the half-year. Of course a general meeting of the profession must first decide to adopt this method.

Of this £135 we should pay to the Central Fund the sum of £32 10s., being at the rate of 1s. a hundred of the insured persons in the area. This would leave a balance of £102 10s., and this would be expended by the Local Medical Committee in paying its own expenses, which will amount in our case to a total of about £60, the items being as follows:

	£	s.	d.
Printing and stationery	12	10	0
Postage	7	10	0
Clerical assistance and typists	15	0	0
Railway fares of members of Committee...	20	0	0
Sundries	5	0	0
	60	0	0

There would be still a balance of £42 10s. remaining, and of this an honorarium could be paid to those who did the work of the Committee, and a grant could be made towards the expenses of the Representative of the Local Division of the British Medical Association.

The total of £7,000 that would be contributed by the whole of the Local Medical Committees of the country is estimated on the basis that there are 14 millions of insured persons; at 1s. a hundred the total comes to £7,000. I am aware that the Special Fund proposed by the Council of the British Medical Association is estimated to produce £50,000 a year, but it must be remembered that half of this amount is to be expended in paying the expenses of the Local Medical Committees; the other half is for administration, organization, and insurance. If every Local Medical Committee makes a levy of one halfpenny per insured person on each doctor's list this will mean a total of close on £30,000, of which £23,000 would go towards the expenses of the committees themselves and only £7,000 to the Central Fund. This is ample, as no very elaborate machinery or large staff is needed.

All that is wanted is a central office to co-ordinate all the Local Committees, and to watch and keep in touch with every phase of the movements of our opponents, and to safeguard the interests of the profession. At the present time this is being done by the British Medical Association on behalf of the profession, a large number of which are contributing nothing whatever towards the expenses.

The composition of the central body that directs and controls the £7,000 is a matter for consideration, but I can imagine no more suitable one than the present Central Insurance Committee reinforced by a few members of Local Medical Committees. At present there appears to me to be a certain small number of members of the British Medical Association who exercise too much influence and whose views want a little dilution.

In conclusion, I should like to express my agreement with Dr. Harry Grey as to the suggested model rules for Local Medical Committees. They are too stereotyped, and are not nearly so suitable as those that have been drawn up and adopted by our committee, a copy of which I shall be pleased to send to any other secretary who would like to see one.

FRIENDLY SOCIETY CONTROL OF MEDICAL BENEFIT.

Dr. A. W. MILLER (London, N.E.) writes: I should feel obliged if you would allow me space to explain an alleged

inconsistency on my part in Dr. Evan Jones's reply in last week's Supplement.

I, in common with many more, hold his views to be extraordinary; if this were not so, why should he so narrowly have escaped censure at the Representative Meeting at Brighton?

I have read the reference quoted (Supplement, December 28th, 1912, page 725), which runs as follows: "That the general arrangements be made between the insured or their representatives" (presumably the friendly societies) "and the Committee of local doctors," and wish to point out that this resolution was passed at the Representative Meeting held on December 21st and 23rd, 1912, before the pledge was withdrawn. At the next Representative Meeting the pledge was withdrawn and doctors were free to accept service under Government control.

The London Insurance Committee has refused wholesale contracting out; the evils of this method of dealing with insured persons have been pointed out by our Association and have been demonstrated in various parts of the country, so that now no one need feel any compunction in embracing Government control, which is a decided advance upon the *status quo ante*. Besides, in so doing we are falling into line with the views of the majority of the profession and in accordance with cardinal points advocated most strenuously by our Association.

I regret that Dr. Evan Jones sees anything in my letter of an offensive nature, and fail to discover how he could draw this conclusion. It is quite foreign to anything I had in my mind at the time. There is no doubt in the mind of the proposer and seconder of the resolution that the report shows a bias against them, and that view is shared by others present at the meeting.

It was felt that a wrong had been done to the prestige of our Association, universally acknowledged to be, perhaps, the most democratic one in existence. The keynote of my letter was a demand for a fair representation of our views and for fair play.

Dr. T. F. Keenan (London) writes: One may well believe that Dr. Evan Jones has found the questions raised by me in my letter in the Supplement of September 13th difficult to meet, but one may have one's own opinion as to the method he has chosen of avoiding them. I think your readers will require something more than his bald statement to convince them that my letter consisted of "mere abuse," while his statement that I have invaded his private affairs is both unwarranted and offensive. I have trenched on his private affairs only to the extent to which he himself has made them by his words (vide report of his speech in Supplement of August 30th) and actions matters of public concern to medical men, and no further. To this extent he has invited public comment, and to this extent I am not only entitled, but compelled, to go.

I am not quite sure whether he intends the rest of his alleged reply to me as a charge or a compliment. At any rate, I am certainly proud of the fact that I have "always taken the view that the Act should be worked even before there were any concessions granted," because I have always taken the view that in Mr. Lloyd George we had a highly intelligent and eminently reasonable man to deal with, and therefore any reasonable demands we might prefer were sure to be granted. The sequel has proved my views to be quite correct. I also took the view that we could not work for a safer or juster master than the State, and in spite of Dr. Buttar's extraordinary proposition that it is "degrading to the profession" to work for the State, I still maintain my view and decline to consider friendly society "bosses" as preferable alternative masters. But if Dr. Jones means to insinuate that I did not work as strenuously as he or any other man for these concessions, then I must be forgiven for convicting him of yet another inaccuracy. Those members of the City Division who were with me on the deputation to the parliamentary candidates at the Hackney by-election at the time of the fight will bear me out in that. I am also proud of the fact that I "did my best to break down the opposition of the profession from the first," and to get them to consider things calmly and dispassionately. It is true, as he hints, that my best did not amount to much, for one was treated to the astonishing spectacle of a profession of educated men suddenly transforming themselves into a howling mob, with whom any dispassionate argument or reason was totally impossible.

The reason which he says he heard me give on one occasion in the Hackney Town Hall for going on the panel I assert he heard me give on at least six occasions in various halls. And I promise to give him an opportunity at as early a date as I can of revising his own attitude on that matter, for it is my intention to raise again the question of Poor Law appointments, but this time not only in Hackney or in the City Division but throughout the area of the Branch. It would not seem to be an attitude of which he is very proud, since he found it convenient on the occasion of a meeting of the lay public in the Hackney Empire, when confronted with the action of himself and his friends, to deny all knowledge of the question.

Dr. Charles Buttar is evidently under the impression that the correct method of procedure in addressing the Editor of the British Medical Journal is that carried out by the police-constable in addressing his "Wash-up" in the police-court—that is to say, one must first reel off one's name, Division, number, etc., etc., and then get on with the story, and he suggests a sort of jingle for the purpose which brings up memories of far-way childhood (first childhood). He then proceeds to demonstrate that to a gentleman of his keen intelligence such a proceeding is quite unnecessary, for he at once penetrates my manifold disguises, and I stand revealed to his truly *x*-ray eye as a "first-panel man" (shall I say of the deepest dye?). Next he treats us to a panegyric on freedom, which it would seem we are to attain by placing ourselves under the control of friendly societies. Also it would seem we are not now free because we are under the control of those friendly societies, only by some diabolical process they have been "labelled 'Insurance Committees.'" It would seem they only become "bodies of reasonable men" when their proper label is attached to them, and altogether Dr. Buttar seems to attach to labels an amount of importance which dense persons might be inclined to regard as a little exaggerated. It seems a great pity that brilliance such as this should be withheld from the service of the unfortunate people whom a brutal Government has compelled to insure; and if anything could reconcile one to the idea of a return to friendly society control, it would be the knowledge that then the poor insured people would again enjoy the inestimable privilege of being able to command the services of such brilliant intellects as those of Dr. Buttar and Dr. Gordon Lane. Perhaps as a patriotic citizen one ought to reconsider one's attitude on the question for the sake of rescuing the societies, and perhaps ultimately the whole nation, from the ruin (financial and physical) which threatens them under the attentions which they are compelled to put up with from the incompetents who are at present working the Act. At all events it is to be hoped that when the Utopia which Dr. Buttar has so eloquently described under the benevolent despotism of the friendly societies arrives, he will not then find himself in "the third category," but will be able to help to swell that "infusion of the best medical intelligence" which is to be so freely and cheerfully placed at the disposal of these friendly society doves (correct label—sucking doves).

Dr. T. Cuming Askin (Woodbridge) writes: Dr. Keenan's cool assumption that 10s. 6d. a head was an unreasonable demand is most unwarrantable. I wonder, did he read "An Address on the Profession, the Public, and the Act." by Dr. Lauriston E. Shaw, which was published in the Supplement of May 18th, 1912. Even if it can be proved that some doctors in London and elsewhere are receiving larger salaries than they deserve or earn, it simply means that the money is not being spent in the proper way; 10s. 6d. a head would be a very small sum indeed to pay for a really efficient service with free choice of doctor, and the money could have been obtained quite easily had we only held together for another fortnight.

That chance has gone owing to our insanity, but we shall have an opportunity of compelling the Government to provide a special fund to pay for green vouchers. Are we going to avail ourselves of it? Let it not be forgotten that 2s. 8d. a year is all the insured person has to pay out of his own pocket for medical attendance; that is a little over a halfpenny a week—a sum which is literally not missed

by any except the destitute. As Mr. Churchill said at Dundee on October 4th, "The sum which the insured would have to pay was incredibly small." Wickedly small I consider for those who are earning good wages.

Dr. C. JEROME MERCIER (East Ham, E.) writes: In the last SUPPLEMENT there were references to the old question of contract payment *versus* payment for work done.

If we can imagine medical men doling out their skill and services only in proportion to the amount of reward expected, then the demand for payment per item is distinctly sordid.

To my mind payment by fee seems not a perfect system, but a compromise with average human nature in patient and doctor. I have in view poor districts where work is heavy, leisure scanty, and fees low. The only way in which the doctor in these districts can attempt to safeguard his meagre leisure is by imposing a sacrifice on patient or pooling society for every call on his time, and by increasing the amount of that sacrifice for untimely calls.

The fixed salary system is good when it goes with fixed hours on duty and off duty. As long as medical work remains private enterprise with twenty-four hours on duty in every day, so long will payment by fee remain an appropriate method of compromise.

FRIENDLY SOCIETIES: CONTROL OR CO-OPERATION?

Dr. S. NOY SCOTT (Plymstock) writes: I agree with Dr. Evan Jones and Dr. Buttar that the time is ripe for a fresh endeavour to be made for co-operation with the friendly societies. I say "co-operation," for it must be a condition precedent to any discussion that what is called "friendly society control" should be ruled out as impossible. The medical profession and the friendly societies are realizing that work under the Insurance Commissioners is leading to absolute loss of freedom and the frittering away of valuable time by compulsory work over trifling and needless details. I am one who went on the panel under pressure, and am, therefore, one whom Dr. Buttar aptly describes as a second-panel man, and I write, therefore, with many months' experience of the work. My reasoned opinion is that I would far rather go back to the old terms and conditions which prevailed before the Insurance Act was passed, for the Commissioners and Committees under whom we are now serving are slowly but effectually forging a chain which will ultimately deprive us of our individuality and freedom as surely as the chain which used to hold a gang of slaves together. I write not only as a panel man, but as a member of an Insurance Committee. I share Dr. Millar's amazement at the satisfaction which is expressed by so many men who are working as panel men, but I cannot help feeling, or at least hoping, that such satisfaction is chiefly confined to the younger members of our profession, some of whom I know have jumped at once from a small income to one of many hundreds a year. I wonder if these men realize that they are now taking the maximum of their possible incomes and are giving in return the minimum of the probable work—everything portends increased work and nothing suggests increased pay. The great bulk of people who are at present private patients will in course of time be represented by insured patients. I have realized this in some measure already, for the net result on my practice is that I shall lose at the end of the year because of the conversion of so many of my private patients into insured ones.

But, after all, it is not so much the financial loss I dread as the absolute destruction of individuality and freedom, and the dragging down of the profession to a level of dull mediocrity—a level which will be marked by deadly routine work. To prevent such a disaster it is absolutely necessary that we should be united, so that we can resist the demands of Commissioners and Committees. The great difficulty that is being experienced in obtaining reliable assistants and house-surgeons for provincial hospitals proves how groundless were the fears which we had in December last as to the introduction of "opponents" into our respective areas. The time has come for a *rapprochement* between panel and non-panel men, and I hope this will be begun at the next Representative Meeting. It is most important that the British Medical Association shall not be run in the interests of either section.

DISTRIBUTION OF INSURED PERSONS UNDER THE CAPITATION SYSTEM.

PAYMENT TO MEDICAL PRACTITIONERS ON THE PANEL IN RESPECT OF THE TREATMENT OF INSURED PERSONS.

THE first meeting of the Insurance Committee for the County of London after the recess was summoned for the afternoon of Thursday, September 25th: we are therefore unable to report its proceedings in this issue, but reproduce the report of the Medical Benefit Subcommittee, dated September 8th, on the distribution of insured persons under the capitation system, and the payment to medical practitioners on the panel in respect of insured persons who have not selected a doctor and have not been allotted.

Report.

As the Committee are aware, No. 17 of the medical benefit regulations provides that where a Committee have adopted, for the remuneration of practitioners on the panel, a system of payment either in whole or in part by capitation the Committee shall, after a date indicated in an announcement, provide for the distribution among practitioners on the panel, and, so far as practicable, under arrangements made by them, of all those insured persons for whose treatment no arrangements have been made.

So far as London is concerned the number of insured persons who had not been accepted by practitioners on the panel on April 14th, 1913, was estimated to be about 400,000, and in view of the fact that the Committee's index register is not yet sufficiently far advanced to admit of the obligations of the Committee with regard to the allocation being fulfilled in the manner contemplated by the regulations, the Committee are still unable, at the present time, to proceed on the lines intended in the regulations.

At the end of the first quarter as the compilation of the index register of insured persons was not sufficiently advanced to allow individual allocation, the Insurance Commissioners in the exercise of their powers under the regulations decided to dispense with the individual distribution of insured persons in so far as the quarter ended April 14th, 1913, was concerned, and substituted therefor a numerical distribution, as indicated in their Circular 10 I.C.

Acting on the suggestions of the Commissioners as set out in the circular referred to, the Committee on May 22nd, 1913, considered the question of the distribution among practitioners on the panel, in advance of the amount due to them, of moneys in the panel fund in respect of insured persons who had not been accepted by practitioners during the quarter ended April 14th, 1913. In view, however, of the question raised as to the power of the Committee to make the suggested distribution, the Committee on June 5th, 1913, on the recommendation of the Medical Benefit Subcommittee, decided to ask the Insurance Commissioners to take the opinion of the Law Officers of the Crown on certain points of difficulty which occurred to the Committee on the subject.

In reply to a letter addressed to them on the subject the Commissioners in a letter dated June 23rd, 1913, informed the Committee that it would be contrary to practice to adopt the procedure suggested by the Committee, and that they had taken legal advice "upon those points in connexion with which any necessity for legal advice" arose.

After considering the foregoing letter, the Committee on June 26th, 1913, decided, subject to the approval of the Finance Subcommittee, to take the opinion of leading counsel on the points set out in the resolution of June 5th, 1913, and empowered the General Purposes Subcommittee to carry the resolution into effect and to report to the Committee.

The General Purposes Subcommittee have now informed us that in accordance with the decision of the Committee they took the opinion of counsel (Mr. Danckwerts, K.C.) and have submitted for our consideration the subjoined opinion, a copy of which was forwarded on August 20th, 1913, to the Insurance Commissioners for their observations.

Opinion of Counsel.

I understand that the so-called surplus is composed of the moneys which would have been payable in respect of

the medical benefit of insured persons who did not come upon the list of any panel practitioner. But whether this is so or not does not make any practical difference for the purposes of getting at the principles by the application of which the questions at issue must be solved.

I can find no warrant in the Act or elsewhere in any regulation of the Insurance Commissioners which has been placed before me for the parliamentary statement that the whole fund for medical benefit is divisible among the practitioners on the panel. To my mind it is not so. Under Section 54 (1) the Health Insurance Fund can only be resorted to by the Insurance Committee to meet expenditure properly incurred by the Committee; there is nothing in the Act to affect this root principle. It follows, to my mind, from this, and, indeed, the general principles of law, that the Committee cannot meet out of the Insurance funds any expenditure not properly incurred. Now the practitioners on the Panel act and have taken service under a written contract (Form M.B. 4) and under Clause 10 and Schedule IV thereof, they are entitled to be paid definite sums calculated at so much per head of the insured persons on their list. I cannot find any right in the contract to claim more. It follows necessarily that the Committee cannot lawfully or properly pay more out of public funds; the Committee is not entitled to make presents or distribute largesse among the panel doctors.

Questions.	*Answers.*
1. Whether, in view of the fact that there has been no allocation either by number or by name, to practitioners of insured persons who have not been accepted by a practitioner the Committee are (i) compelled, or (ii) have the right, to distribute the amount appropriated for medical benefit and domiciliary treatment in connexion with Sanatorium Benefit in respect of such insured persons and which is approximately £34,000 among the practitioners who, on or before April 14th, 1913, had joined the London panel.	1. The answer is clearly in the negative; there is no such compulsion and no such right.
2A. If the reply is in the affirmative to either of the alternatives above-mentioned, whether the Committee are empowered to adopt all or any of the methods suggested in Circular 10 I.C., dated February 18th, 1913, and also to set aside a certain portion of the sum in hand for the purpose of refunding to insured persons who had not made use of their medical tickets, sums paid by them to practitioners on the panel for attendance upon them during the period January 15th to April 14th, 1913.	
2B. If the reply is in the negative to both the alternatives above mentioned, whether the Committee will be (i) compelled, or (ii) have the right, to distribute the amount after the allocation either by number or by name of the residue of insured persons to the practitioners has been made, and, if so, (iii) whether only to those practitioners who were on the panel during the first quarter, or (iv) to all the practitioners on the panel at the time of the allocation of the persons.	2. It is now too late to make any such allocation which can be effective in regard to the quarter in respect of which the "surplus" accrued and which has ceased to be current. It would but be in the nature of a dodge if such an allocation were made so as to give an apparent excuse for distributing the fund to the practitioners, and in my opinion it would be unlawful. Section 15 (2) (*d*) would not warrant such an allocation if not made in the quarter or before the quarter.
3. If the reply to the questions in the foregoing questions 1 and 2B is in the negative, in what way the above-mentioned sum of £34,000 should be dealt with by the Committee.	3. I think the Committee cannot, as matters stand, deal with the fund. If this surplus were the prescribed fund for purposes of Section 21, a proper way of dealing with it would exist. A properly framed regulation could accomplish that.
4. Whether the Committee are justified in treating the amount to be distributed or otherwise dealt with as at the rate of 7s. per annum per insured person, notwithstanding that of this amount 2s. 6d. per insured person has not been authorized by Act of Parliament, but rests on a resolution of the House of Commons, voting a supplemental amount to meet such 2s. 6d. per insured person.	4. Yes; it does not concern the Committee, their business is to draw upon the Health Insurance Fund and the approved contractual arrangement is their warrant for so doing.
5. In what other way (if any) could the £34,000 be dealt with by the Committee.	5. See above.
6. Generally with regard to the matter.	6. The Committee should not touch this fund as long as matters stand as they are now. Individual members of the Committee sanctioning any expenditure of the fund not in fact warranted by law would incur a personal liability to restore the money.

The Commissioners have now issued a Circular (29/I.C.) dealing with the allocation of insured persons in connexion with medical benefit and copies of this circular reached us in time for consideration at our meeting on September 18th, 1913.

The Commissioners suggest that the Committee should defer allocating for a period until such time as the index register of insured persons more closely represents the insured population for the time being resident in the area. Where the Committee desire to adopt this course the Commissioners would be prepared to dispense further, for the present, with the distribution being made in the manner contemplated in the regulations provided that (i) arrangements are made with the doctors on the panel whereby all insured persons in the area whose names have not been placed on any doctors' list in that area shall be able to obtain treatment as required, and (ii) arrangements are made for including numerically in the doctors' lists, for the purpose of their quarterly credits, the unassigned residue at the end of each quarter.

This will necessitate a numerical distribution of the residue quarter by quarter (as it is ascertained by means of the periodic counts of the index register) among the doctors on the panel upon whom rests collectively the responsibility of treating the whole of the insured persons. The total of the unallocated insured persons will be determined by deducting from the total of the count as returned to the Commissioners the aggregate of the numbers of insured persons (i) on doctors' lists, (ii) on lists of institutions, and (iii) who have been allowed to make their own arrangements. The Commissioners add that adequate arrangements should be made with the doctors on the panel, whereby insured persons entitled to medical benefit who are not yet on a doctor's list should be able to receive treatment without delay if required, and that, subject to this consideration, the principle to be adopted in effecting the numerical distribution should be subject to local variation, and that the Committee should confer with the doctors on the panel at an early date with a view to arriving at an agreement on the subject. In considering the distribution due regard should be given to geographical considerations and to the necessity for securing that the doctors' credits are proportional to their responsibilities.

Whatever arrangements are adopted by the Committee must, in due course, be submitted for the approval of the Commissioners.

After very carefully considering all the circumstances in connexion with the question, we are of opinion that it would be advisable, in the interests of the Committee, before any further action is taken in the matter, that the Commissioners should be asked to receive a deputation from the Committee on the subject. We, therefore, recommend—

(*a*) That the Insurance Commissioners be asked to receive a deputation from the Committee on the subject of the allocation of insured persons in connexion with medical benefit.

(*b*) That, subject to the Insurance Commissioners agreeing to receive the deputation referred to in the foregoing resolution (*a*), such deputation do consist of the following members: The Chairman of the Insurance Committee; the Chairman and Vice-Chairman of the Medical Benefit Subcommittee; Mr. P. Rockliff; and Mr. H. Kingsley Wood.

These recommendations were accepted by the Committee.

CERTIFICATES UNDER THE WORKMEN'S COMPENSATION ACT.

THE question of who is liable for the payment for medical certificates given to workmen for the purpose of enabling them to claim compensation under the Workmen's Compensation Act is frequently raised by correspondents, and it may be useful again to remind practitioners of the legal position and of the decisions of the Association in this respect.

The first schedule to the Act, paragraph 4, provides that any workman who has given notice of an accident as founding a claim for compensation must, if so required by the employer, submit himself for examination by a duly qualified medical practitioner provided and paid for *by the employer*.

Paragraph 14 makes a similar provision as regards evidence required by the employer of a workman's continued unfitness to work when the workman is in receipt of weekly compensation.

Knowing that most workmen used to be in some medical club, or that now they have their panel doctor, it has been the custom of many employers simply to ask the workman to bring a doctor's certificate, trusting to the ignorance of the workman and the doctor as regards the law, to provide the employer with a certificate gratuitously. As the Council reported to the Annual Representative Meeting in 1912, in order that the doctor shall be in a position to establish the employer's liability to pay for the certificate, it is necessary that the workman, when he asks for it, should be empowered to do so by the employer. The workman is nearly always unaware that if the employer requires the certificate it is the duty of the latter to pay for it. When a workman requires a certificate for presentation to an employer in connexion with a compensation claim the doctor should invariably point out that the Act of Parliament makes the employer liable to pay for every certificate of the kind, and the patient should be asked whether he has a written authority from the employer to get a certificate for which the latter will pay. If the patient says he was simply told to get a certificate, he should be requested to go back to the employer and ask for a written authorization.

At the request of the Annual Representative Meeting the Council instructed the Medico-Political Committee to draft a form of request which could be handed to a patient in circumstances of this kind. The following form of report has been approved by the Council, and it is suggested that members should keep it by them to use in the cases above described:

> I require..... .....to submit himself for examination by you in accordance with the provisions of paragraph 4 (or 14) of the first Schedule of the Workmen's Compensation Act, 1906. Please report to me as to his condition. I will be responsible for your fee.
>
> Signed.....
>
> Address.....
>
> .....

As regards remuneration for such certificates, the Annual Representative Meeting, 1912, decided that the minimum fee for a certificate should be 2s. 6d., and for initial examinations with report the minimum fee should be 10s. 6d., or, if such a report were given by a member of the staff of a voluntary hospital, not less than one guinea. This higher fee was fixed in order to discourage the exploitation of the staffs of hospitals.

SUGGESTED HOSPITAL DECENTRALIZATION.

By MILSON RUSSEN RHODES,
Vice-Chairman, State Medical Service Association.

I WAS greatly interested in the article by Dr. Harding H. Tomkins in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of September 20th on this subject, and I am and have long been in entire accord with the "decentralization" of hospitals, or at any rate the establishment in every locality or area of a certain density of population of small central dépôts or hospitals for the convenience of the medical men and population of such areas.

In the JOURNAL of April 20th, 1912, and May 4th, 1912, my advocacy of this great necessity is given in connexion with my scheme of a State medical service, the seventh item of such State or national medical service being as follows:

> 7. A central dépôt to be instituted in every locality, and thus save individual expense to medical men.
>
> (*a*) Here instruments are to be provided by Government, a proper attendant being provided to see such are kept in order, sterilized, and ready for use by any medical man in the national medical service in the neighbourhood. Thus is a great saving in the cost of instruments effected.
>
> (*b*) Here also are kept serums, testing apparatus, and a laboratory, instead of in each individual house.
>
> (*c*) Apparatus for light and electrical treatment, etc.
>
> (*d*) A library of books and periodicals.
>
> (*e*) A board-room for medical meetings.
>
> (*f*) Several wards and an operating room, where people of the poor middle class—never yet provided for—can be attended at a moderate tariff or by extra income tax, surgeons and specialists, as stated above, not requiring the great fees of the present day, as they will receive under this national medical service proper remuneration for their hospital work.
>
> This central dépôt will thus be in the nature of:
>
> (i) A cottage hospital.
> (ii) A centre of scientific work in and for the locality.
> (iii) A nursing home.
> (iv) A board room for doctors.
> (v) A medical library.
>
> The doctors in the neighbourhood constituting the committee.

It may interest Dr. Tomkins to know that the policy of a National or State Medical Service scheme, in which the above was embodied, was passed by a majority of the Manchester South Division of the British Medical Association on May 3rd, 1912, after an address I gave on that subject to that Division, and that thereafter, owing to the activity of the members of that Division, the State Medical Service Association was formed, which has embodied in its policy and in its basis the advocacy of such local dépôts or hospitals. (This address appeared in the *Lancet* of May 25th, 1912, and in the *Manchester Guardian* of May 20th, 1912.)

This State Medical Service Association advocates each week in its journal—*The Medical World*—as point 6 of its basis:

> 6. Hospitals and other institutions shall be supported and controlled by public authorities, and *made the centres round which the various branches of the State Medical Service shall be organized in the interest of all classes of the community.*

The seventh point of the basis is freedom of medical service to every man, woman, and child, rich or poor; and the eighth point is freedom of choice of doctor. Full consideration is given to all the important requirements of modern medicine so ably put forward by Dr. Tomkins—such as placing such cottage hospitals in open, healthy places; prevention thereby of the rusting process so lamentably unavoidable to all suburban doctors close to towns with large hospitals; the importance of free choice of doctor, secured by the medical men of the district having a right to treat their own patients in such local hospitals, etc. Moreover, such local hospitals would be invaluable in the training of doctors, as advocated by Dr. H. H. Mills in his letter to the *Times* of September 1st.

Thus we go a long way with Dr. Tomkins in his timely reminder of the expediency of such reform as the above. Where we differ—and such difference I believe from his article not to be insurmountable—is in the question of the financial support of such hospitals. True, as pointed out above and by Dr. Tomkins in his admirable article, the hospital treatment by such local hospitals could be extended more or less exclusively to the middle classes (a class never yet provided for, and often worse off relatively than the poorer classes), except in cases of emergencies such as he narrates may occur in any class, and a small fee could be charged, which the middle classes would gladly give for the opportunity of treatment or operation in the local hospitals—say a guinea or two guineas a week to cover everything, and thus prevent the congestion of the local hospitals which would otherwise occur. All the poor would go, as before (except in cases of emergency, as above stated), to the present general hospitals.

But the main finance of such hospitals, either in ways hinted at by him or as advocated by the State Medical Service Association, would have to be in the hands of the State or Government if all services are to be co-ordinated and these local hospitals be made the centres round which

the various branches of medical service be organized in the interests of all classes of the community, and also if these local hospitals are to extend the training of doctors.

In the coming Amending Act of the Insurance Act it would be a simple matter to include the financial cost of such great need of the community as is again brought to our notice by Dr. Tomkins. Progress—however we like or dislike it—will have to be by evolution of, or from, that Insurance Act now established among us. The simplest way, which would do away with the deplorable cost of working the present Insurance Act, is the method I advocated in a pamphlet I published on the subject of State medicine, including local hospitals,[1] in July of last year—that is, by extending State medicine to the middle and all other classes of the community, and by paying all medical men a recognized salary, as in the case of other State workers—for example, Poor Law medical officers, medical officers of health, the Indian Medical Service, army and navy doctors, etc.; the cost of such State medical service should be met by a graduated income tax extending to the poorest workers, either deducted from wages or salaries (all known among the labouring classes), or by the same machinery as at present—collected by a demand note.

EIGHTY-FIRST ANNUAL MEETING
OF THE
British Medical Association.

Held at Brighton, July 22nd to 25th, 1913.

EXHIBITION
OF
FOODS, DRUGS, INSTRUMENTS, BOOKS, AND SANITARY APPLIANCES.

(*Concluded from page 261.*)

THE Mountain Spa, as Buxton now entitles itself, was among the stall holders, and endeavoured to illustrate the more decided of its claims to attention as a health resort. It was shown, for instance, that it lies amidst hills, from which it receives a certain amount of protection, at an elevation of a little over 1,000 feet, and is thus the highest lying town in Great Britain. The climate, generally speaking, is dry and bracing, and the scenery admirable. One of the springs supplies chalybeate water, but the more important water is of the "indifferent thermal" class, and is in use in over eighty different fashions at Buxton's admirably equipped bathing establishment. The locality presents facilities for outdoor exercise of every sort, and during the winter season any opportunity that presents itself for winter sports, owing to the presence of snow, is promptly seized upon by the authorities. During the last few years there has been a considerable trade in Buxton water for ordinary table use, its relative freedom from chlorides being esteemed to render it specially suited to the needs of the gouty.

The exhibit of Messrs. OPPENHEIMER AND CO. (179, Queen Victoria Street, E.C.) was especially strong in devices for the administration of drugs in a dry form. Among these were bipalatinoids, a term representing a gelatinous disc with an internal division, which does not dissolve until the stomach is reached, and then allows the contained drugs to unite and form a new compound in a nascent condition. Another excellent idea is represented by pulverettes, this term indicating small spheres of dry powder encased in a sugar coating so thin that when pressed between the finger and thumb it cracks like an eggshell and releases the powder. This being the case it is obvious that the sugar coating can take only a few moments to dissolve after the spheres have been swallowed. The firm states that any formulae usually put up as tablets, pills, or cachets can be supplied in pulverette form. The term "Neboline" compounds is applied to a series of liquid drugs, commonly of an aromatic order, intended for the local medication of the air passages, by means of the firm's aerizers and vaporizers. The former are sufficiently small to be carried about in the pocket, and, like the Universal vaporizers, are capable of converting any liquid into a more or less fine haze. They are thoroughly effective appliances, and the subdivision of the liquid they produce varies from a spray to a vapour, the existence of which can only be realized when it is collected and precipitated by putting a tumbler, for instance, in front of the vaporizer outlet. Roboleine was put forward as a nutritive and digestive food consisting of red bone marrow, cream of malt, the hypophosphites of lime, soda, and potash. It is stated to fulfil much the same purpose as cod-liver oil, but to be more easily digested, pleasant to take, and free from any nauseating effect on the patient. The calomel and mercurial creams recommended for the treatment of syphilis by intramuscular injection by the late Colonel F. J. Lambkin, R.A.M.C., were also shown. They can be obtained if desired in what the firm terms aseptules, small glass containers with hermetically sealed necks, which are broken off when the contained fluid is to be used. A large variety of sterile liquids and other preparations can be obtained in this form. Also shown was Optis dentifrice, a pleasant preparation stated to possess antiseptic power, owing to its liberation of hydrogen peroxide; and Lactigen, a culture of Metchnikoff's Bulgarian bacilli, for the preparation of curdled milk, with a view to ridding the intestinal canal of putrefactive organisms.

The interesting display of Messrs. MEYER AND MELTZER (71, Great Portland Street, W.) included several appliances bearing the general title "Emandem." Among them were two operation tables, of which one was intended for work at patients' houses, and therefore portable. It was said to be built of an alloy of aluminium, which presented the strength and rigidity of steel although only a third of its weight. It was capable of being unpacked from its canvas case and set in position within a minute or so, and was certainly rigid. The instrument tank used by Mr. Sampson Handley was another exhibit. The tank and cover are of copper, each being furnished with a gun metal edging, which secures rigidity; while risk of escape of the contents is obviated by the lid having a V-shaped ridge, which fits into an india-rubber lined cavity in the edge of the tank, the two being fastened together by clamps. The aim of the appliance is to enable knives, forceps, retractors, and everything else required for abdominal work to be kept sterilized and immersed in methylated spirits, ready to be taken to any place where an operation is to be performed. A variety of patterns of the well-known "University" lamp which the firm makes were also shown. Most of them can be used either as hand lamps or as wall brackets, or table or floor standards. One of the latter is supplied with both Nernst and ordinary incandescent burners. Specimens of the Eukoric artificial eyes were also on view, the claim made for them being that their appearance is much more natural than that of most artificial eyes, thanks to the fact that the pupil, small and distinct in outline when examined in a bright light, suggests dilatation in shadow. For use in connexion with these and other artificial eyes the firm makes a neat and very inexpensive extractor. Also on view was the sputum pot known as the "Brompton," designed by Dr. Marcus Paterson when at Frimley, and which, in view of its many good points and inexpensive character, is certainly worth the attention of sanatorium authorities.

Enzymes and glandular extracts formed the staple of the display of Messrs. ARMOUR AND CO. (Atlantic House, Holborn Viaduct, E.C.), preparations from the corpus luteum, the mammary, orchitic, ovarian, and prostatic substances all being shown either in powder or liquid form, in addition to a standardized thyroid extract. The latter was on view as a powder, as an elixir, and in tablets, and in all cases was guaranteed to contain not less than 0.2 per cent. of iodine in thyroid combination. A liquid stated to contain the active principle of the posterior lobe of the pituitary body of the ox was another exhibit. It was shown as a clear, colourless fluid in ampoules of 1 c.cm. capacity for intramuscular injection. The enzymes, apart from trypsin and amylopsin, included some half-dozen

[1] *A National Medical Service.* July, 1912. Messrs. J. E. Cornish, Limited, St. Ann's Square, Manchester, and Charles A. Parker, Esq., F.R.C.S., Secretary of the State Medical Service Association, 24, Upper Wimpole Street, London, W.

preparations of pepsine, one of them being a glycerole; an elixir of enzymes, also shown, was stated to contain a combination of digestive ferments acting in an acid medium sufficiently strong for one teaspoonful to peptonize 300 grains of albumin. The firm's beef essence, vended under the title of Vigoral, was among the exhibits, as also its extract of red bone marrow, the latter being obtainable either as a desiccated powder or in gelatine perles, each containing, it was stated, the equivalent of 15 minims of fresh red bone marrow. They are also supplied with an admixture of iron arseniate $\frac{1}{8}$ grain to each perle. The junket powders shown seemed to offer a convenient means of preparing Devonshire junket and ordinary curds and whey.

Four varieties of Swiss milk were shown by the NESTLÉ AND ANGLO-SWISS CONDENSED MILK COMPANY (6 and 8, Eastcheap, London, E.C.), these being Ideal milk, Viking milk, Milkmaid condensed milk, and Nestlé's Swiss milk. The two former are concentrated but not sweetened milks, which owe their keeping powers to sterilization. To Ideal milk 20 per cent. of cream is stated to be added. The other two forms of milk are both condensed and sweetened, the difference between them lying in the amount of contained butter fat, the "Swiss" being stated to be the stronger in this respect. It is also the oldest product of the firm, and probably the oldest of all preserved milks. It established its reputation between thirty and forty years ago and has retained it unblemished up to the present date. A strong point in its favour is the absence of variation in its quality, and despite the number of dry milks now on the market and a certain degree of improvement in the milk trade as a whole, the demand for Nestlé's milk seems likely to continue. The exhibit also included a milk food vended under the title of Milo food, and two specimens of chocolate, both being of the milk variety, one being Peter's milk chocolate—the earliest to appear—and the other a milk chocolate of the firm's own preparation. An assortment of Kohler's chocolate and bonbons were also on view.

Glassware was the special feature of the exhibit of Mr. R. B. TURNER (11 and 12, Foster Lane, Cheapside, E.C.), well-made specimens being shown of all kinds of glass appliances used in general practice and bacteriological or other laboratory work. There was also a test tube bracket made entirely of copper, designed by Dr. Armstrong of St. Mary's Hospital, and a display of the capped vaccine bottles and pipettes used by Sir Almroth Wright at the same institution. Tubes for postal dispatch of sputum for examination were likewise on view, as also swabs provided with a glass tube, and a wooden box for corresponding use when cases of diphtheria are in question. A few incubators and Zeiss microscopes, together with a great variety of glass ampoules with readily closed necks for the keeping of serums and vaccines, and a large series of all glass or metal and glass hypodermic syringes, were other objects among this excellent display.

Bacterial products were a conspicuous feature of the exhibit of Messrs. PARKE, DAVIS, AND COMPANY (50, Beak Street, Regent Street, W.), the array including various vaccines prepared in the laboratories of St. Mary's Hospital under Sir A. E. Wright, and a series in regard to which the firm entertains great hopes and terms Phylacogens. These are prepared according to the views and methods of Dr. A. F. Schafer, of California, and are claimed to have been tried in some thousands of cases in the United States with favourable results. The conditions against which they are severally employed are erysipelas, gonorrhoea, pneumonia, and mixed infections. They are solutions of cultures of pathogenic organisms which after a few days' growth have been sterilized by the addition of phenol, and then passed through a filter to remove the dead bacteria. Among the drug preparations were an emulsion of petroleum with proposote, the latter being a creosote compound which is stated to be nearly tasteless and to pass through the stomach unchanged. This proposote, as also stearosan—a term applied to santalylstearate—can also be obtained in globules, the idea being to obtain the local and systemic action of the two oils in question without disturbing the stomach. Other articles shown were Taka-diastase, demonstrations of its starch-converting power being given; an assortment of medical equipments for town and country practitioners; a number of standardized fluid extracts; a series of the "glaseptic" nebulizers and sprays of the firm, of sterilized solutions for hypodermic use in glaseptic ampoules, and also some sealed glass tubes, each containing enough pulverized iodine to form a $2\frac{1}{2}$ per cent. solution for painting on the skin in first-aid work and general surgery when dissolved in half an ounce of 90 per cent. alcohol.

The selection of volumes shown by Mr. E. A. BROOKE-WILLIAMS, medical bookseller (8, Henrietta Street, Covent Garden), included a large number of monographs and textbooks, all of quite recent publication. Three of them, in fact, were issued only just in time to be shown, these being White and Jelliffe's *Modern Treatment of Nervous and Mental Diseases*. It is in two volumes of some 1,800 freely illustrated pages, one of its editors—for it is a book by many authors—being superintendent of the Government Hospital for the Insane at Washington, and the other a well-known psychiatrist of New York. The second was an English version of Professor Biedl's book on *The Internal Secretory Organs, their Physiology and Pathology*; and the third, Dr. G. B. Hunt's translation of the second German edition of Roepke's *Clinical System of Tuberculosis*. Among books on surgery there was an English edition of *Surgical Diagnosis*, whose author, Professor Quervain, is director of the surgical clinic of the University of Basle in Switzerland, and also the *Practice of Urology*, by C. H. Chetwood, genito-urinary surgeon of the Bellevue Hospital, New York. The books relating to special departments of medicine included a third edition of Ballenger's *Diseases of the Nose, Throat, and Ear*, which has as many as 22 full-page plates, in addition to over 500 ordinary engravings; Week's *Treatise on Diseases of the Eye*, which is even more fully illustrated; a treatise on *Diseases of the Hair*, by Dr. G. T. Jackson, Professor of Dermatology at the Columbia University, and his assistant, Dr. C. W. McMurtry; and also the volume dealing with *Accidents in their Medico-Legal Aspect*, by Mr. Douglas Knocker, which appeared last year.

Two products were shown by PRIDEAUX'S CASEIN COMPANY (Motcombe, Dorset), the one being a dried milk and the other an article named Casumen. It was stated of the former that it was simply pure Dorsetshire milk deprived of sufficient water to be reduced to a powder, and that on readding a definite quantity of hot water a fluid was formed which from a chemical point of view was identical with good milk containing a normal proportion of butter fat. It was shown in bulk and also as Prideaux's soluble milk powders, it being suggested that the latter solved the problem of milk for use in hot weather. As for casumen, this was put forward as the best Dorsetshire milk deprived of its sugar and all but 7 per cent. moisture, and thus reduced to a powder containing over 86 per cent. casein, nearly 3 per cent. lime and potassium phosphates, and over $3\frac{1}{2}$ per cent. milk fat. Stress was laid on two points—namely, that there was no attempt to "improve" the natural product by the addition of "tonics" of any kind, and that its solubility was so great that after rubbing up the powder with water and then diluting it further the resulting liquid remained clear for several days.

Various devices for the remedial treatment of foot defects were shown by the SCHOLL MANUFACTURING COMPANY (1 to 4, Giltspur Street, London, E.C.). Included among them were some half-dozen forms of instep support, the amount of resistance afforded by them to downward movement of the instep when weight is thrown on the foot varying with the extent to which the arch has already given way. Thus the Tri-Spring arch support affords triple spring upward pressure and is intended for marked cases of flat-foot, while the Airlite support is intended for feet which merely tend to ache when the patient stands for any length of time. Being made of "durabellum" metal, the support weighs only 1 oz. A series of springs for use at night, in the hope of bringing back the great toe to its normal position in cases of bunion, was also shown, it being intended that the springs should be used in conjunction with the employment during the daytime of a kind of toe-post entitled "Bunion Right." The display of various india-rubber caps for protecting

enlarged bursae and corns from pressure may be regarded as belonging to the same series.

A number of synthetic preparations were shown by WIDENMANN, BROICHER, AND COMPANY (1, Fenchurch Avenue, London, E.C.) on behalf of the well-known drug manufacturers, Messrs. Zimmer and Co., of Frankfort. The best established of them, perhaps, was Validol, the claims of which to consideration in the treatment of train and sea sickness now rest upon a considerable body of evidence. It is also stated to be of use as a general nerve and stomachic sedative, and is obtainable in capsules, in tablets, and as a liquid, which may be dropped on sugar—this is probably the best way of giving it as a preventive of sea sickness. Dymal, which is stated to be didym salicylate, a by-product of the manufacture of incandescent gas mantles, also seems to be growing in favour as a dusting powder in cases in which iodoform might otherwise be used. Hydroquinine hydrochloride, which we noticed in our issue for July 5th, was another drug shown. Its special point is its extreme solubility, this being now placed by the makers at 1 in 3 of plain water, or ten times greater than that of quinine hydrochloride. It is claimed by the makers to be of utility in the treatment not only of malaria by intramuscular injection, but also of whooping-cough. Aponal, a term for amylene hydrate carbamate, was shown in powder and in 15-grain tablets. It is put forward as a mild hypnotic capable of inducing calm sleep within about half an hour, and as exercising no ill effects on the gastro-intestinal tract. Allosan, an allophanic acid ester of santalol, has the advantage of being odourless and solid; it is claimed to be as efficient in the treatment of gonorrhoea as santalol itself. Eunatrol, which was shown in pills of various strengths, is stated to be a chemically pure oleate of sodium. Other remedies shown were lithia quinate under the title of Urosin; Estoral, a derivative of boric acid and menthol, put forward for use as a snuff in ordinary catarrh; and Eustenin, the double salt theobromine sodium-iodine sodium, suggested for use whenever these salts are required, and as of utility in arterial sclerosis.

An extensive field of disinfectant work was covered by the exhibit of the SANITAS COMPANY (Locksley Street, Limehouse), but chief prominence was given to the fragrant, if not very powerful, antiseptic from which the firm derives its name. It lends itself very readily to various toilet purposes, and consequently was shown in many different forms. The more powerful disinfectants manufactured by the firm are Bactox and Okol, the latter being stated to be an active disinfectant even in the presence of sea water. A fourth product of the firm is Sypol, intended for use in surgical work. The claims made for it are that it possesses at least four times the germicidal power of phenol, forms on dilution with soft or distilled water a bright and perfectly transparent solution, that when used in the strength of from 1 in 160 to 1 in 200 it produces slipperiness neither of the hands nor of instruments, and that it has no corrosive action on either one or the other. Various appliances were shown also for using disinfectants, such as the Sanitas formigators, and Kingzett's sulphur candles and drain testers.

Five products only were shown by the SACCHARIN CORPORATION (10, Arthur Street, London, E.C.), the principal of these, perhaps, being the well-known local anaesthetic, novocain. It was shown in tablets, powder, and solution. Among the others was pergenol, a term applied to a solid, which, on being shaken up with water, makes a neutral solution of hydrogen peroxide and boric acid. It is stated that it will keep indefinitely, provided it is stored in a dry place, and will thus enable a solution of hydrogen peroxide of any strength desired to be prepared at a moment's notice. Other preparations were trivalin, which is put forward as a harmless substitute for morphine, and diamalt, this being a malt extract in the form of a powder. It is very soluble, and when we analysed it a few years ago we found that its diastatic strength was equal to 1,060, this being much higher than that of any of the other ten malt extract preparations on which we reported on the same occasion. Also shown was an amalgam for the filling of dental cavities, called Tulloch's alloy; it was stated to be easy to use and to produce fillings which do not contract, and maintain their colour.

The exhibits of KEEN, ROBINSON, AND CO. (Denmark Street, St. George's Street, London, E.) were Colman's mustard, Robinson's patent groats, and Robinson's barley, all three being products which have been familiar by name or otherwise to many generations of medical men. The first was shown in various guises—as ordinary mustard powder, as Colman's sinapisms, as medical mustard bran, and mustard oil. Each of them is an excellent preparation, constant in strength and easy to use. The special object of the bran is for use as a kind of poultice in lumbago or any condition in which moist warmth and prolonged but very mild counter-irritation are required. It fulfils these aims very well, taking up large quantities of water and being both cleanly and comfortable. The mustard oil is intended for use as a liniment in the treatment of rheumatism, and is probably at least as effective as many other like remedies of a later date. As for sinapisms, nothing in the progress of science has occurred to throw any doubt on the wisdom of their use on suitable occasions. Counter-irritation is one of the oldest ways of attacking disease, and the work done by Head and others tends to support the view that the circulation of deep-seated organs may be favourably affected by reflex action secured through local applications to the skin. As for the two other preparations, Robinson's patent barley is flour prepared, the makers state, from Scottish barley, and offers a very suitable means of preparing barley water, a fluid which, when mixed with lemon juice or other agent, has long been used in the sick-room, and as a substitute for plain water at meals by many persons in health. There are those, too, who esteem it of value as a diluent of milk for babies and young people. The patent groats are derived, the firm states, from Scottish-grown oats, and make very palatable gruel with the help of milk. Such gruel is a form of food which, in dealing with children after weaning, with convalescents, and with nursing mothers, might well be used with greater frequency than has been the case of late years.

A capital assortment of new books and new editions was provided by Messrs. J. B. LIPPINCOTT COMPANY (16, John Street, Adelphi), one of special interest, perhaps, at the present moment being Jelliffe's translation of the volume on *The Psychoneuroses and their Treatment by Psychotherapy*, by Dejerine and Gauckler. A revised edition of Lippincott's *New Medical Dictionary*, edited by H. W. Cattell, and a fourth English edition of Fuchs's *Textbook of Ophthalmology* were also shown; the translator is Dr. A. Duane, and it is well illustrated. German work was also represented in English form by Pfaundler and Schlossmann's elaborate work on *Diseases of Children*; it was the second edition, the translators being different pediatrists in the United States, working under the editorship of H. L. K. Shaw and Linnaeus L. La Fetra, of Albany and New York respectively, while Dr. Emmett Holt has provided an introduction. The five volumes, of 500 pages each, include nearly 800 illustrations, in addition to 90 full-page plates. Books relating to anatomy and allied subjects also figured largely, the principal among them being a third edition of Piersol's *Human Anatomy*. It is the outcome of the labours of five professors of anatomy in different parts of the United States, in addition to the authority whose name it bears. Besides including histology and embryology it devotes a great deal of space to applied anatomy, the sections thereon being written with a view more particularly to the needs of practitioners in this connexion. Some 2,000 pages complete the two volumes, and as many as 541 of the 1,734 illustrations are in colours. An offshoot of this work is a series of anatomical charts based on the illustrations contained in it, but very much enlarged and coloured by hand. Numbering fifty, they are intended for teaching purposes, and can be sent on ten days' approval. Also shown were Harvey Cushing's volume on *The Pituitary Body*, which treats the subject from a clinical point of view; and translations of Villiger's *Brain and Spinal Cord*, and of Nonne's *Syphilis of the Nervous System*. The firm, it may be mentioned, has prepared a fully illustrated catalogue of its medical and surgical publications, copies of which can be obtained on application.

Meetings of Branches and Divisions.

METROPOLITAN COUNTIES BRANCH:

WANDSWORTH DIVISION.

A SPECIAL meeting of the Wandsworth Division was held on Tuesday, September 23rd, on the requisition of twenty members of the Division. Dr. WILSON was in the chair, and forty-six members were present. Dr. E. SMITH proposed and Dr. BARTON seconded:

> This meeting of the Wandsworth Division of the British Medical Association is of the opinion that the present propanel attitude of the Association is reacting detrimentally to the interests of members of the profession in general, and in particular to the interests of non-panel practitioners, and approves the action of all such members in resigning from the Association.

Various members spoke for and against the resolution, among the latter being Dr. COX and Mr. BISHOP HARMAN. On putting the motion to the meeting, 21 voted in favour of the resolution and 14 against.

[The report of the discussion had not been received at the time we went to press.]

BOMBAY BRANCH.

A MEETING of the Bombay Branch of the British Medical Association was held in the University Library on August 28th, when Lieutenant-Colonel ASHTON STREET, I.M.S., occupied the chair. About 22 members were present.

Election of Members.—It was announced that the Branch Council had elected the following new members: Captain W. D. Keyworth, I.M.S., Dr. M. M. Mehta, Dr. A. K. Contractor, Dr. R. N. Ajinkya, and Professor J. Alban de Souza.

Official Reports.—The following reports were announced to have been received: (*a*) Forty-ninth annual report of the Sanitary Commissioner for the Bombay Government, with appendices; and (*b*) report on the lunatic asylums under the Government of Bombay.

Cases.—Lieutenant-Colonel ASHTON STREET, I.M.S., showed interesting clinical cases, including three cases in which gall stones were removed by him successfully. He also showed a large kidney stone (in several pieces) that he had removed, and skiagrams. Dr. F. S. MASTER showed an unusually large salivary calculus voided by one of his patients. Dr. A. POWELL showed a girl, just returned from her holiday, with eruptions like those met with in yaws.

Bogus Degrees.—The following letter (No. 4960) from the Governor of Bombay as to bogus degrees was considered, and the Branch Council's report thereon was adopted and directed to be sent to the Government:

No. 4960. General Department,
Bombay Castle, July 4th, 1913.

To the Honorary Secretary, Bombay Branch of the British Medical Association.

SIR,—I am directed to state that the question of legislating in order to penalize the use of bogus medical degrees has for some time been engaging the attention of the Government of India, and that with that object in view they now propose that legislation be undertaken:

(1) To prohibit (*a*) Unauthorized persons or bodies from granting any degrees or diplomas or licences or colourable imitations thereof to practise the Western methods of medicine which are recognized by the Indian Universities and the General Council of Medical Education and Registration in Great Britain; and (*b*) the issue by any person of any such degrees, diplomas or licences or colourable imitations of such documents; and
(2) To penalize (*a*) the granting or issue of such degrees, diplomas, or licences; and (*b*) the use of such degrees, diplomas, or licences by medical practitioners.

2. I am to request that Government may be favoured with the opinion of the Bombay Branch of the British Medical Association on the proposals of the Government of India.—I have the honour to be, Sir, your most obedient Servant,

J. L. RIEU, *Secretary to Government.*

Report of the Branch Council.—The Branch Council cordially approve of the suggested legislation by the Government of India, and think that legislation of this nature is absolutely necessary not only to protect the properly qualified medical practitioners, but also on behalf of public health and in defence of public welfare. They will be pleased to consider a detailed draft of the scheme.

Association Notices.

QUARTERLY MEETING OF COUNCIL.

THE Quarterly Meeting of Council will be held on Wednesday, October 29th, in the Council Room, 429, Strand, London, W.C.

By Order,
GUY ELLISTON,
Financial Secretary and Business Manager.

Sept. 18th, 1913.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—Dr. Duncan Davidson, Honorary Secretary (15, Priory Row, Coventry), gives notice that the annual dinner will be held on Tuesday, October 7th, at 7.45, in the Masonic Hall. Dr. James Neal, Assistant Medical Secretary, British Medical Association, and Mr. Albert Lucas, of the Journal Committee and Chairman of the Local Medical Insurance Committee, Birmingham, have been invited as official guests to the dinner to be held on October 7th, and have signified their intention of being present. The Dinner Subcommittee hope that many members will be present, and it will facilitate the work of the Honorary Secretary if members will return their cards as soon as possible. The price of the dinner will be 12s. 6d., inclusive of wine.

COUNTY OF CHESTER.—Dr. L. J. Picton, Honorary Secretary of the Local Medical Committee for the county of Chester, of which Dr. T. W. H. Garstang is Chairman, gives notice that a meeting with representatives of the Medical Committees of all districts and county boroughs will be held at the Queen Hotel, Chester, at 4.15 p.m. on Sunday, September 28th, to discuss the reorganization of the Divisions in the county.

DORSET AND WEST HANTS BRANCH.—Dr. Frank Fowler, Honorary Secretary (29, Poole Road, Bournemouth), gives notice that the autumn meeting will be held at Weymouth, on October 15th, for the election of officers for 1914. The Vice-President, Mr. F. Belben, will open a discussion. Members willing to read papers or show cases are requested to communicate with the Honorary Secretary.

Vital Statistics.

THE REGISTRAR-GENERAL'S ANNUAL REPORT.

THE Registrar-General has just issued his Seventy-fourth Annual Report,[1] which analyses in detail the vital statistics of England and Wales for the year 1911, and presents them in a form entirely different from that in which the statistics for previous years have been shown. The fundamental changes which distinguish this report from its predecessors were discussed in the report issued last year. Briefly they may be stated to be—

(*a*) The presentation of statistics in administrative areas instead of registration areas.
(*b*) The classification of causes of death on the lines of the International List of Causes of Death.
(*c*) The distribution of births and deaths of non-residents in the several areas.

The adoption of the administrative area has led to a considerable increase in the size of the report, for the facts are tabulated for 1,885 areas instead of the 634 registration districts which had hitherto been the unit of tabulation. Further, the inauguration of a system of tabulation by means of mechanically sorted and counted cards has rendered possible the presentation of a great deal of useful information which it would have been impracticable to give formerly, notwithstanding the smaller number of areas dealt with. The new form of volume, which is of folio size, makes it more cumbrous than the old, but the larger page is found to be advantageous for the display of the tabular matter.

It is pointed out in the report that no summary of vital statistics in administrative areas compiled on a uniform plan has hitherto been available, and the value of the summary contained in this volume is enhanced by the calculation of factors for standardizing the general death-rates of the several areas, thus allowing a fair comparison which would otherwise be impossible owing to variations in the sex and age constitution of the populations of the different areas. The distinction between urban and rural mortality is also brought out in the present report in a much more complete manner than formerly. It is impossible to discuss in detail all the new features to be

[1] Cd. 6578. 5s. 8d.

found in the report, but before referring to the principal statistical facts for the year, allusion may be made to the tables showing the classification of deaths by place of occurrence, these showing the secondary classification of some of the causes of death (the first nineteen in the International List), and those showing infant mortality in relation to parents' occupation.

Marriages.

The number of marriages registered in England and Wales during 1911 was 274,943, corresponding to a rate of 15.2 persons married per 1,000 of the population at all ages. This rate was 0.2 per 1,000 above the corresponding rate in 1910, but was 0.3 below the average rate in the ten years 1901–1910. This crude rate is 0.5 below the average for the whole period of registration (1838–1911), but in comparing rates over an extended period due allowance should be made for changes in the proportion of marriageable persons in the populations, and for changes in the ages of marriageable section. The large number of unrecorded ages at marriage in earlier years makes the calculation of a corrected rate difficult, but on the assumption that the unrecorded ages are in the same proportion as the stated ages, it appears that the real decline in the marriage-rate since 1870–72, when it appears to have been at its maximum, is 23 per cent.

Births.

The births registered during the year numbered 881,138, and were equal to a rate of 24.4 per 1,000. This rate was 0.7 per 1,000 less than that recorded in 1910, and was as much as 2.8 per 1,000 below the low rates of 1901–1910. Calculated on the total population, the fall in the birth-rate since 1876–1880 has amounted to 31 per cent.; the fall in the proportion of births to the number of women of child-bearing ages has amounted to 36 per cent.; while the fertility of married women—that is, the ratio of legitimate births to wives of conceptive ages—has decreased by 34, per cent. The birth-rate in Wales is higher than that in England, where it is highest in the counties north of the Humber and lowest in the counties south of the Thames. The 881,138 births included 448,933 males and 432,205 females, the proportion being 1,039 males to 1,000 females which is exceedingly low in comparison with those of other countries, the usual range being from 1,050 to 1,060. The illegitimate births registered during the year numbered 37,633, the rate based on the numbers of unmarried and widowed women of conceptive ages having declined by 44 per cent. since 1876–1880.

Deaths.

The number of deaths registered during 1911 was 527,810, 272,512 being males and 255,298 females. These deaths were equal to a rate of 14.6 per 1,000 of the population, or 1.1 per 1,000 above the rate recorded for 1910, which is the lowest on record. The mortality of males exceeded that of females by 15 per cent., and since the period 1841–5 the standard of mortality of females has fallen by 33.8 per cent., while the fall in the mortality of males has been only 28.2 per cent. The excess of male over female mortality is due mainly to infantile deaths, deaths from violence, pneumonia and tuberculosis. The rate of infantile mortality in 1911 was 130 per 1,000 births, or 3 per 1,000 above the average in the ten preceding years, and 13 per 1,000 above that in 1906–10.

Causes of Death.

The proportion of the total deaths due to the principal causes is indicated in a diagram which shows that out of 1,000 deaths from all causes 107 were due to diseases of the nervous system, 89 to diarrhoea and enteritis, 85 to organic heart disease, 74 to pulmonary tuberculosis, 71 to pneumonia, 69 to bronchitis, 68 to cancer, 66 to old age, and 66 to premature birth or diseases of early infancy. The increase in the death-rate of 1911 over that in 1910 was almost entirely accounted for by the increased mortality of young children from diarrhoea and enteritis, in consequence of the hot and dry summer. The mortality from measles was also above the average, but as regards the other epidemic diseases the year was favourable. The death-rate from cancer showed an increase, as usual, over previous years, but the death-rates from lung diseases were low.

Inquiries respecting 12,563 deaths in which the cause was indefinitely certified were addressed to medical practitioners and 10,718 replies (nearly twice as many as for 1910) were received. The inquiries related chiefly to deaths from cancer, syncope, peritonitis, tumours of various organs, but the increase in the number of replies does not represent greater looseness of certification, but an increase in the forms of return about which inquiry is made.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns 8,465 births and 4,898 deaths were registered during the week ending Saturday, September 20th. The annual rate of mortality in these towns, which had been 13.5, 13.8, and 14.5 per 1,000 in the three preceding weeks, fell to 14.3 per 1,000 in the week under notice. In London the death-rate was equal to 13.7, against 12.1, 12.4, and 13.7 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rates ranged from 5.2 in Southend-on-Sea, 6.1 in Ealing, 6.4 in Cambridge, 6.8 in Devonport, and 7.0 in Enfield, in Reading, and in Swindon to 21.5 in Rhondda, 22.9 in Sunderland, 23.8 in Aberdare, 23.9 in Blackpool, 25.2 in Dudley, and 25.3 in Bootle. Measles caused a death-rate of 1.7 in Blackpool, and whooping-cough of 1.6 in Rotherham. The deaths of children (under 2 years of age) from diarrhoea and enteritis, which had been 837, 960, and 1,104 in the three preceding weeks, fell to 983; of this number 218 occurred in London, 78 in Birmingham, 66 in Liverpool, 42 in Manchester, 32 in Hull, and 24 in Sheffield. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 30, or 0.6 per cent. of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest, and included 4 in Preston and 3 in Sunderland. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,115, 2,112, and 2,211 in the three preceding weeks, had risen to 2,355 on Saturday, September 20th; 473 new cases were admitted during the week, against 331, 298, and 346 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,035 births and 711 deaths were registered during the week ending Saturday, September 13th. The annual rate of mortality in these towns, which had been 14.1, 14.1, and 16.7 per 1,000 in the three preceding weeks, fell to 16.4 in the week under notice, but was 1.9 per 1,000 above the rate in the ninety-six large English towns. Among the several towns the death-rate ranged from 7.5 in Kilmarnock, 9.5 in Hamilton, and 10.2 in Motherwell to 19.5 in Paisley, 20.9 in Kirkcaldy, and 21.5 in Greenock. The mortality from the principal infective diseases averaged 2.9 per 1,000, and was highest in Kirkcaldy, Paisley, and Glasgow. The 353 deaths from all causes registered in Glasgow included 56 from infantile diarrhoeal diseases, 8 from measles, 4 from whooping-cough, 3 from diphtheria, 1 from scarlet fever, and 1 from enteric fever. Nine deaths from infantile diarrhoeal diseases were recorded in Greenock, 8 in Dundee, 6 in Paisley, 5 in Aberdeen, 4 in Leith, and 3 in Kirkcaldy; and in Edinburgh 5 deaths from scarlet fever and 2 from diphtheria.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, September 6th, 644 births and 458 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 599 births and 475 deaths in the preceding period. These deaths represent a mortality of 19.9 per 1,000 of the aggregate population in the districts in question, as against 20.7 per 1,000 in the previous period. The mortality in these Irish areas was therefore 6.1 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 28.0 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 19.8, as against an average of 19.6 for the previous four weeks, in Dublin city 21.1 (as against 20.8), in Belfast 20.7 (as against 20.8), in Cork 19.7 (as against 23.5), in Londonderry 15.3 (as against 19.7), in Limerick 19.0 (as against 15.5), and in Waterford 34.2 (as against 23.3). The zymotic death-rate was 5.4, as against 5.7 in the previous week.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

The following announcements have been made by the Admiralty: Fleet Surgeon J. A. L. Campbell to the *Lancaster* on recommissioning, September 16th; Surgeon G. A. S. Hamilton to the *Lancaster* on recommissioning, September 16th; Fleet Surgeon Richard F. Clark to the *Triumph*, for medical charge on voyage out, August 28th, and for Wei-hai-Wei sick quarters undated; Fleet Surgeon Matthew L. M. Vaudin, M.B., to the *Diana*, and for group of ships of Third Fleet, August 28th. Fleet Surgeon J. E. H. Phillips to the *President*, additional, for London Recruiting Head Quarters, temporarily, September 30th. Fleet Surgeon H. Hunt to the *Superb*, vice Phillips, October 1st. Fleet Surgeon J. Shand, M.B., to the *Impregnable*, October 1st. Fleet Surgeon C. M. Beadnell to the *Shannon*, October 1st. Fleet Surgeon G. G. Borrett to the *Achilles*, October 1st. Fleet Surgeon E. T. P. Eames to the *Dryad*, for navigation school, October 1st. Fleet Surgeons C. J. Mansfield, M.V.O., M.D., T. C. Meikle, M.B., M.A., H. B. Hall, M.B., G. R. MacMahon, M.B., B.A., P. H. M. Stait, R. A. Ross, M.D., and R. H. Mornement to the *President*, additional, for senior medical officers' course, October 1st to December 30th inclusive. Fleet Surgeon W. Jackson, M.B., to the *Woolwich*, on commissioning, undated. Fleet Surgeon William R. Center, M.B., to the *Russell*, vice Ross, October 1st. Staff Surgeon C. A. G. Phipps to the *Pyramus*, September 10th. Staff Surgeon J. S. Dudding to the *Victory*, additional, for Haslar Hospital and for instruction of Acting Surgeons, September 20th. Staff Surgeon R. L. Jones to the *Pathfinder*, on commissioning, September 23rd. Staff Surgeon R. R. Horley to the *Vernon*, temporarily, October 1st. Staff Surgeon E. S. Wilkinson, M.B., to the *King Edward VII.*, October 1st. Staff Surgeon W. C. B. Smith to the Royal Marines Division, Chatham, October 1st. Staff Surgeon W. P. Dyer to the *Vengeance*, October 1st. Staff Surgeon P. M. Rivaz, M.B., to the *Bellerophon*, October 1st. Staff Surgeon W. T. Haydon to Devonport Yard, October 1st. Staff Surgeon J. Stoddart, M.B., to the *Doris* and for group of ships of the Third Fleet, October 1st. Staff Surgeon T. B. Shaw, M.B., to the *Falmouth*, October 1st. Staff Surgeon G. Taylor, M.B., B.A., to the *Formidable*, October 1st. Staff Surgeon E. C. Davidge to the *Naiad*, October 1st. Staff Surgeon

A. B. MARSH, B.A., to the *Collingwood*. Staff Surgeon E. D. RUTHERFORD, M.B., to Haslar Hospital. Staff Surgeon G. C. C. Ross, M.B., B.A., to the *Excellent*, temporarily. Staff Surgeon D. E. ADDISON-SCOTT, M.B., to the *President*, additional, for Royal Fleet Auxiliary *Maine*, October 10th. Staff Surgeon A. R. DAVIDSON, M.B., to the Royal Naval Hospital, Portland, and for Portland Yard, October 11th. Staff Surgeons R. ST. E. S. BOND, M.B., P. T. SUTCLIFFE, M.B., M.A., and E. T. BURTON, to the *President*, additional, for senior medical officers' course, October 11th to December 30th inclusive. Staff Surgeon H. R. GARDNER to the *President*, additional, for Deptford Victualling Yard, temporarily, undated. Staff Surgeon J. MACDONALD, M.D., to the *President*, additional, for Yarmouth Hospital, temporarily, undated. Staff Surgeon EDWARD P. G. CAUSTON, B.A., has been allowed to withdraw from the service with a gratuity, September 6th. Staff Surgeon CHARLES C. MACMILLAN, M.B., D.S.O., to the *President*, additional, for Senior Medical Officers' three months' course of instruction at Naval Medical School from October 1st to December 30th, 1913, inclusive. Staff Surgeon JOHN STODDART, M.B., to the *Bristol*, vice MacMillan, October 1st. Staff Surgeon W. E. ORMSBY, M.B., B.A., to the *Eclipse*, for voyage home, undated. Staff Surgeon J. H. L. PAGE to the *Hercules*, September 15th. Surgeon A. H. JOY, M.B., to the Royal Marines Division, Plymouth, September 22nd. Surgeon C. G. SPRAGUE to Devonport Yard, September 28th. Surgeon G. T. VERRY to the Royal Naval Hospital, Cape of Good Hope, October 1st. Surgeon E. MONON-BROWNE to the *Indefatigable*, October 11th. Surgeon A. L. PATERSON, M.B., to the *Eclipse*, on recommissioning for voyage out, September 23rd; and to the *Egmont*, vice Ormsby, on arrival at Malta, undated. Surgeon A. H. JOY, M.B., to the *Vivid*, additional, for disposal, September 12th. Surgeon GUY B. COCKREN to the *Pembroke*, additional, for disposal, October 1st.

ROYAL NAVAL VOLUNTEER RESERVE.

The following appointment is announced by the Admiralty: TOM D. MCEWAN, M.B., to be Surgeon, August 21st.

ARMY MEDICAL SERVICE.

COLONEL EDWARD BUTT, on completion of four years' service in his rank, is placed on the half-pay list, September 15th.

Lieutenant-Colonel GEORGE D. HUNTER, D.S.O., to be Colonel, vice E. Butt, September 15th.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel F. P. NICHOLS has been posted to Taunton for duty.

Lieutenant-Colonel O. R. A. JULIAN has been appointed for duty to the London District, vice Lieutenant-Colonel R. J. C. Cottell.

Major B. B. BURKE has been appointed to the Eastern Command.

Major S. L. CUMMINS, M.B., has been appointed an Assistant Professor in Pathology at the Royal Army Medical College, vice Captain J. C. Kennedy, M.D.

Captain D. P. WATSON has been placed at the disposal of the Colonial Office in connexion with sleeping sickness in Nyasaland.

Captain J. DU P. LANGRISHE has been appointed to Cork for duty.

Captain F. H. TREHERNE has been appointed Director of Medical Services of the Seventh (Meerut) Division.

Major GEORGE B. STANISTREET, M.B., to be Lieutenant-Colonel, vice J. Maher, September 13th.

Major WILLIAM E. HARDY to be Lieutenant-Colonel, vice G. B. Stanistreet, M.B., Supernumerary to Establishment, September 13th.

Major J. E. BROGDEN to be Lieutenant-Colonel, vice D. G. Hunter, D.S.O., September 15th.

Major H. E. M. DOUGLAS, V.C., D.S.O., has been selected for service in Egypt.

Major W. TIBBITS has been selected for a tour in India.

Major C. B. LAWSON has been posted to India.

Captain HENRY W. LONG, M.B., to be Major, June 27th.

Captain O. C. P. COOKE has been appointed to Cork for duty.

Captain B. JOHNSON has been appointed to Cork for duty.

Lieutenant O. W. J. WYNNE, S. P. SYKES, and H. C. TODD have been appointed to India.

Captain A. S. CANE has been appointed a Specialist in Dermatology, Sixth (Poona) Division.

Captain J. R. FOSTER has been granted six months' leave from August 4th, reverting to the Home Establishment at the expiration thereof.

Lieutenant WILLIAM TYRRELL is confirmed in his rank.

Lieutenant JOHN H. C. GREENE is seconded for service under the Colonial Office, August 23rd.

CHANNEL ISLANDS MILITIA.

MEDICAL CORPS.

SURGEON-LIEUTENANT CHARLES N. LE BROCQ, to be Surgeon-Captain, July 8th, 1913.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ALBERT DOCK HOSPITAL, Connaught Road, E.—(1) House-Surgeon; salary, £76 per annum. (2) House-Surgeon to Out-patients salary, £75 per annum.

ARGYLE AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer (male). Salary, £160 per annum.

AYLESBURY: ROYAL BUCKINGHAMSHIRE HOSPITAL.—House-Surgeon (male). Salary, £100 per annum, increasing to £120.

BARNSTAPLE: NORTH DEVON INFIRMARY.—House-Surgeon. Salary, £100 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 each per annum.

BATH: ROYAL UNITED HOSPITAL.—House-Surgeon. Salary, £80 per annum.

BEIT MEMORIAL FELLOWSHIPS FOR MEDICAL RESEARCH.—Ten Fellowships. Applications to the Secretary, 35, Clarges Street, Piccadilly, W.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—Assistant Physician.

BETHLEM HOSPITAL.—Resident House-Physician. Honorarium at the rate of £25 per quarter.

BETHNAL GREEN INFIRMARY. — Assistant Medical Officer. Salary, £100 per annum, rising to £120.

BIRMINGHAM EDUCATION COMMITTEE. — Assistant School Medical Officer. Salary, £260 for first year, rising to £310.

BOLINGBROKE HOSPITAL, Wandsworth Common.—Two House-Surgeons (male). Salary at the rate of £75 per annum each.

BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Assistant House-Surgeon (male). Salary, £80 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-resident House-Surgeon. Salary at the rate of £100 per annum.

BRISTOL ROYAL INFIRMARY. — (1) Dental House-Surgeon. (2) House-Physician. (3) Three House-Surgeons. (4) Throat, Nose, and Ear House-Surgeon. Salary for (1), (2), and (3) at the rate of £100 per annum, and for (4) at the rate of £75 per annum.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £80 per annum, increasing to £90.

CANTERBURY MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary to commence £200 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C. —House-Surgeon. Salary at the rate of £50 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, N.E.—Resident Medical Officer. Salary, £150 per annum.

DEVON COUNTY ASYLUM, Exminster.—Junior Assistant Medical Officer. Salary, £200 per annum, rising to £220, and on promotion to £250 with prospect of promotion to £350.

DREADNOUGHT HOSPITAL, Greenwich. — (1) Two House-Physicians; salary, £50 per annum. (2) Two House-Surgeons; salary, £50 per annum.

DUNDEE: ROYAL INFIRMARY.—Anaesthetist and Instructor in Anaesthetics in the University of St. Andrews. Salary, £200.

DUNDEE: UNIVERSITY COLLEGE.—Demonstrator of Physiology. Salary, £150 per annum.

DURHAM COUNTY ASYLUM.—Third and Fourth Assistant Medical Officers (male). Salary, £200 per annum, rising to £250.

EASTERN DISPENSARY, Leman Street, E.—Resident Medical Officer. Salary, £120 per annum.

FARRINGDON GENERAL DISPENSARY, Bartlett's Buildings, E.C.—Honorary Physician.

GLOUCESTER: ROYAL INFIRMARY AND EYE INSTITUTION. —Assistant Physician.

GOVAN PARISH SCHOOL BOARD.—Two Assistant School Medical Officers. Salary, £300 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Third House-Surgeon (male). Salary, £80 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £70 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL. — Resident Medical Officer. Salary, £100 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—(1) Resident Medical Officer; salary, £200 per annum. (2) House-Physician; honorarium 30 guineas for six months.

HULL ROYAL INFIRMARY.—(1) House-Physician. (2) Casualty House-Surgeon. Salary, £100 and £80 per annum respectively.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.— House-Surgeon. Salary, £100 per annum.

KING'S COLLEGE HOSPITAL. — Resident Assistant Chemical Pathologist. Salary, £60 per annum.

LIVERPOOL CITY.—Assistant Tuberculosis Officer. Salary at the rate of £400 per annum.

LIVERPOOL ROYAL INFIRMARY.—(1) House-Surgeon to the Senior Surgeon. (2) House-Surgeon to the Gynaecologists' Department.

LONDON HOSPITAL, Whitechapel, E.—(1) Two Surgical Registrars. (2) Medical Registrar. (3) Assistant Anaesthetist. Salary, £100 per annum each for (1) and (2).

MACCLESFIELD GENERAL INFIRMARY. — Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—House-Surgeon. Salary, £120 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary, £80 per annum.

MANCHESTER WORKHOUSE, Crumpsall.—(1) Second Assistant Medical Officer. (2) Junior Resident Assistant Medical Officer. Salary, £135 and £120 per annum respectively.

MARGATE: ROYAL SEA-BATHING HOSPITAL.—Resident Surgeon. Salary, £120 per annum.

MIDDLESBROUGH: NORTH ORMESBY HOSPITAL. — Assistant House-Surgeon. Salary, £100 per annum for six months, rising to £110.

NEWARK-UPON-TRENT: THE HOSPITAL. — Resident Medical Officer. Salary, £100 per annum.

NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.— Senior and Junior Medical Officers. Salary, £100 and £80 per annum respectively.

NORTHAMPTON COUNTY COUNCIL.—Assistant School Medical Officer. Salary, £250 per annum, rising to £310.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

NOTTINGHAM WORKHOUSE AND INFIRMARY. — Resident Assistant Medical Officer. Salary at the rate of £165 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer (male). Salary, £150 per annum, rising to £175.

OXFORD EYE HOSPITAL. — House-Surgeon. Salary, £100 per annum.

PERTH: JAMES MURRAY'S ROYAL ASYLUM FOR LUNATICS. —Physician-Superintendent. Salary, £700.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £75 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham.—(1) Honorary Assistant Ophthalmic Surgeon. (2) Senior House-Physician. (3) Senior House-Surgeon. (4) Junior House-Physician and Assistant Pathologist. (5) Junior House-Surgeon. Salary for (2) and (3) £75 per annum, and for (4) and (5) £60 per annum.

READING: ROYAL BERKSHIRE HOSPITAL.—(1) Honorary Assistant Surgeon. (2) House-Surgeon. (3) Second House-Surgeon. Salary for (2) and (3) at the rate of £80 per annum.

ROCHDALE INFIRMARY.—Second House-Surgeon (male). Salary, £100 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Senior House-Surgeon. Salary at the rate of £100 per annum.

SALOP INFIRMARY.—House-Physician. Salary at the rate of £90 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.—Resident House-Surgeon. Salary, £80 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary at the rate of £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Surgeon. Salary, £120 per annum, rising to £140.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £125 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £80 per annum.

WAKEFIELD GENERAL HOSPITAL.—Second House-Surgeon (male). Salary, £100 per annum.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary, £120 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon and Anaesthetist. Salary, £75 per annum.

WEST HAM AND EASTERN GENERAL HOSPITAL.—Junior House-Surgeon. Salary at the rate of £75 per annum.

WEST HAM BOROUGH ASYLUM, Goodmayes.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £250.

WEST RIDING ASYLUM, Burley-in-Wharfedale. Assistant Medical Officer. Salary, £180 per annum.

YORK DISPENSARY AND MATERNITY HOSPITAL.—Resident Medical Officer (male). Salary, £140 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces the following vacant appointment: Ballyward (co. Down).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

BATTLE, H. E., L.M.S.S.A., District Medical Officer of the Southwark Union.

BURKE, M., M.B., B.Ch., R.U.I., Certifying Factory Surgeon for the Skibbereen District, co. Cork.

BUTLER, T. Harrison, M.A., B.Ch., M.D., M.R.C.S., L.R.C.P., Honorary Assistant Surgeon to the Birmingham and Midland Eye Hospital.

CHARLES, S. F. A., M.D.Dub., Certifying Factory Surgeon for the Lisfellow District, co. Fermanagh.

CLARK, Lizzie M. Smith, M.B., B.S.Lond., Assistant Medical Officer to Union Hospital, Harton, South Shields.

DICKSON, Wm. Arnott, M.D., F.R.C.S.Edin., D.P.H., Tuberculosis Officer to the County of Gloucester.

FINCH, George, M.R.C.S., L.R.C.P., Assistant Tuberculosis and School Medical Officer to the East Suffolk County Council.

GYLLENCRENTZ, J. R., M.R.C.S., L.R.C.P., Assistant Medical Officer of the St. John's Hill Infirmary of the Wandsworth Union.

HUNT, E. G., M.D.Durh., L.R.C.P., M.R.C.S., District Medical Officer of the Westminster Union.

MARRETT, H. Norman, M.R.C.S.Eng., L.R.C.P.Lond., Physician to the Tuberculin Dispensary, Kennington Road, S.E.

MURDOCH, John, M.B., Ch.B.Glas., Medical Referee under the Workmen's Compensation Act, 1906, for the Sheriffdom of Fife and Kinross, and to be attached more particularly to the Dunfermline with Kinross District.

SHARPE, C. G. Kaye, M.B., Ch.B.Leeds, Ophthalmic Surgeon to the Luton Education Committee.

TODD, Alan H., M.B., B.S., B.Sc.Lond., F.R.C.S.Eng., Surgical Registrar and Tutor and Staff Anaesthetist, Guy's Hospital.

WADE, E. W., M.D.Dub., Certifying Factory Surgeon for the Harleston District, co. Norfolk.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

MARRIAGES.

BURLTON—DREW.—On September 17th, at St. Mary's Church, Brighton, by the Rev. J. H. Pilkington, M.A., Rector of Framlingham, assisted by the Rev. G. M. Hutton, Vicar of St. Mary's, Lieutenant-Colonel Ralph Burlton, Indian Army, to Dorothy, only daughter of Dr. and Mrs. Drew, late of The Hannings, Framlingham, Suffolk.

GORDON—HENDERSON.—At Parish Church, Gordon, Berwickshire, on September 13th, by the Rev. John Ritchie, M.A., B.D., Ronald Grey Gordon, M.D., M.R.C.P.E., youngest son of the late Alexander Gordon of Ashudie, D.L., J.P., of Forfarshire, and Mrs. Gordon, 51, Braid Avenue, Edinburgh, to Agnes Theodora, youngest daughter of the late George Henderson, Huntley Wood, and East Morriston.

OGSTON—TOD.—At the Roxburgh Hotel, Edinburgh, on September 19th, Alexander Ogston, M.A., M.B., C.M., 86, Rosemount Place, Aberdeen, to Elizabeth Matthewson, younger daughter of Andrew Tod, 85, Great King Street, Edinburgh.

WRAITH—GREENWAY.—On September 24th, at St. Mark's, N.W., Oswald S. Wraith, M.D.Durh., F.R.C.S.E., of Gwy-Nant, Hereford, youngest son of the late S. H. Wraith, F.R.C.S., of Darwen, to Gertrude E. Greenway, of Horsell, Surrey, youngest daughter of the late Rev. Charles Greenway, of Darwen.

DEATH.

WILSON.—On September 23rd, 1913, at the Corner House, Southwold, Francis Kenneth Wilson, M.B., B.S.Lond., aged 43. R.I.P.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.—Continuation of the Post-Graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics, daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Thursday. Radiography: Saturday.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following clinical demonstrations at 4 p.m. each day: Tuesday, Medical. Wednesday, Surgical. Thursday, Surgical. Friday, Eye. Lectures on special subjects at 5.15 p.m. daily.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, X Rays, and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday.

[For further particulars of Lectures consult the Index to Advertisements.]

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		SEPTEMBER.
28	Sun.	County of Chester, Representatives of Medical Committees, Chester, 4.15 p.m.
30	Tues.	London: Organization Committee, 12.15 p.m.
		OCTOBER.
3	Fri.	London: Central Ethical Committee, 2 p.m. London: Special Meeting Metropolitan Counties Branch Council, 4 p.m.
6	Mon.	London: Dominions Committee. London: Naval and Military Committee.
7	Tues.	London: Public Health Committee. Coventry Division, Annual Dinner, 7.45 p.m.
8	Wed.	London: Medico-Political Committee.
10	Fri.	London: Journal Committee, 2 p.m.
14	Tues.	London: Metropolitan Counties Branch Council, 4 p.m.
15	Wed.	London: Hospitals Committee. Dorset and West Hants Branch, Weymouth.
22	Wed.	London: Finance Committee, 2.30 p.m.
29	Wed.	London: Council.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 4TH, 1913.

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Presidential Addresses
TO THE
BRANCHES OF THE BRITISH MEDICAL ASSOCIATION.

STIRLING BRANCH.

THE INSURANCE ACT IN THE LIGHT OF WORKING EXPERIENCE.

By EDMUND E. DYER, M.B.,
Alloa.

Since the Act came into force, as was to be expected from so complicated a measure, many anomalies and difficulties have arisen, which in the light of experience will have to be adjusted, so much is this the case that almost as soon as medical benefits became available an amended Act was repeatedly spoken of. It is therefore the more necessary that we should discuss these anomalies so far as we are concerned and be ready when the time comes to take united action. I wish to say at once that any criticism I put forward is not meant in any sense politically; indeed, I do not think that the criticisms of the profession in the past have ever been political, although we have been accused of making comments on account of political bias; they were made because of the adverse manner in which the profession was thought likely to be affected, perhaps the most individualistic and the most independent of any profession or calling under the sun. While naturally some members accepted the principles of the Act more readily than others, we as a whole have been medical practitioners first and politicians a long way second.

Welsh Difficulty.

The first point I want to draw your attention to is the situation which has recently been created in Wales; this, while not urgent in this neighbourhood, seems to me most important, as it has risen so insidiously and may well come our way very soon. Briefly this situation has arisen by the formation of medical aid societies taking in all the insured persons they can get. Medical men are imported into the district, they join the panel and become whole-time servants of these societies; they are paid a fixed salary, and are provided with a residence and fully equipped surgery. The Local Insurance Committees, controlled as they are by an easy working majority of the labour element, agree to hand over to these societies the whole of the 9s. under the Act; the money is pooled and the medical man is required to attend not only the insured, but all his dependants, the wives and families. These are facts, and what is worse, some members of our profession have been found to accept these positions. The old control of friendly societies was bad, but this is degradation. To add to the difficulties, the Welsh Commissioners, when appealed to, refused to interfere, and Mr. Masterman admitted if certain conditions are observed it is not illegal. This state of matters may be attempted whenever there are sufficient insured persons, for they can control ample funds to enforce their own terms.

Temporary Residents.

The second point I want to draw your attention to is the treatment of temporary residents. This is one of the many points of detail overlooked in rushing the Act into operation. The Government has promised certain benefits which they cannot see their way to give, or rather to obtain, and the Commissioners, in order to get out of a very difficult position, ask us to do it for them, by calmly requesting us to consent to breaking our contracts and giving something away at the same time. Under the Act provision is made for so much being set aside to pay doctors attending those insured persons who have removed from their areas, but the method of procedure is so cumbrous and the money accruing therefrom so totally inadequate that no practitioner will look at it, and the production of circulars 159 and 161 is the best evidence that the Commissioners recognize their weakness. Three methods are suggested in these circulars to raise a pool from which to pay us for attending itinerants, and so forth, and each method involves a deduction from the contract sum of 8s. 6d. (6s. 6d. and 2s.) which we fought so hard for as an irreducible minimum.

The first method is to make a deduction based on the "case value" of each area, which may vary from 9s. (this is inclusive of medicine; the whole sum is taken since medicine has to be provided in the new area) to perhaps 36s. per head of the insured. The scheme means that the sum paid out of any area is small if the amount of the

average sickness is large, and inversely the amount paid is large if the sickness is small in an area.

The second method suggested was "illness value," in which the principle is the same but the number of illnesses is taken as the basis of calculation and not the number of persons who turn sick. This was abandoned for obvious reasons.

The third method is a deduction of 4d. per annum from each person insured in any area. This would mean that for every 300 patients we should have to give up £5 a year in addition to other deductions that are made;

	£	s.	d.
or for every 1,000 patients	16	13	4
income tax deducted would be	12	10	0
and if we have to give 2d. for mileage ...	8	6	8
means a total deduction per annum of ...	37	10	0

to every practitioner with 1,000 patients on his panel.

It is true that men in the towns would get the same fees for attending visitors and so forth, but what number would there be in comparison to those going to health resorts? Personally, I feel that we have made a contract and that we should stick to it, and let the powers that be get out of a difficulty that is not our making, but make it worth while for men in health resorts to accept their contracts, or leave them alone and treat these cases as private patients. Unless we know how we stand and are prepared to fight we shall have to face alterations in the conditions of our contracts next year.

Subsidizing Unqualified Practice.

The next point requiring your attention is the pronouncement of the Chairman of the Joint Commissioners, Mr. Masterman (through Mr. Robertson), in the House of Commons, "that there is nothing in the Act to prevent people making their own arrangements and Insurance Committees paying herbalists, quacks, bonesetters, or Christian Scientists for the treatment of insured persons under the Act." Words cannot be found strong enough to express the contempt and indignation of such a declaration coming from a responsible Minister. It is in my opinion an absolute travesty of the real facts of the case, for the Act in every clause (Clause 15, et seq.) dealing with medical benefits refers to arrangements with "duly qualified practitioners," and there can only be one interpretation of "duly qualified practitioner" in an Act of Parliament. It is to be hoped that the General Medical Council, which, being the only body with statutory powers, seems to be the proper authority, will fight this matter for us, and that Local Insurance Committees will have enough common sense to prevent this irregularity. Surely sick and other certificates given by such persons are as illegal in this case as under any other Act of Parliament, and therefore could not be accepted as authority for payment of benefits.

Sick Certificates.

This brings me to refer to the question of sick lines and the urgent necessity for us, as far as possible, to insist upon a uniform method and of one common form of certificate. It has been officially noted that 2,018 different approved societies exist, and this does not include them all. Each one of these societies has its own methods and its own documents for writing these lines on, not to mention its own methods of carrying out the provisions of the Act. The Commissioners recognize the difficulties, but also the right of the different societies to adopt their own methods, and the only remedy seems to be in having a clause put in an amending Act making one form common to all compulsory.

Doctors and Chemists.

The relationship under the Act between the chemists and doctors is somewhat more important than, it appears to me, has been generally recognized, because the doctors, unless they exercise care, can seriously injure, if not ruin, the chemists, and also injure themselves. In England (Midlands) a reduction of 20 to 30 per cent. *pro rata* of the bills have to be made to come within the money available even with the "floating sixpence." In Scotland, on the other hand, in some areas (this one) 10 per cent. has been granted already of an increase without touching the floating sixpence; of course, the year is not over, but this calculation is based upon the assumed average up till the end of April. There is evidence that we, as practitioners, have not made any great endeavour to economize so far as is consistent with efficiency. There are two reasons: First, partly because it requires the habit acquired of club work to do this, and partly because of the rigid adherence to chemical formulae in our list of drugs, and much that might be called extravagance is due to inadvertence. Perhaps it is not fully realized by many of us who have been in the habit of frequently prescribing a favourite drug going under a proprietary name that it can be obtained from the Insurance list under the chemical formula, costing anything from 50 to 400 per cent. less. Let me just mention three: Phenolphthalein costs 1s. 7½d. per oz., is sold under no less than sixteen proprietary names, and ½ oz. under the name of "laxoin" costs 4s.—over 450 per cent. difference; malourea in place of veronal has six names from different houses; acetomorphine hydrochlor. has at least three names, and hexamethylene tetramine as urotropine is put out from twelve different houses under extravagant prices. In Denbigh town the Local Medical Committee were requested to look into the matter of the cost of prescriptions—it has been so extravagant—the examiner having reported that out of 256 prescriptions examined quite a number were found to cost from 2s. 6d. to 8s. each.* As 4½d. is the rate per quarter, this, of course, cannot continue. This matter is not without its importance to us when we consider that in every area where the "floating sixpence" is saved a man with 1,000 patients on his panel gets an increase of £25 per annum to his income. Patients have not been long in learning certain tricks, and have been known to come with a complaint of slight ailment, get a bottle of medicine and administer it to some relative, not on the panel, whose complaint they had represented by proxy; then, again, efforts have been made to get medicine repeated from an insurance prescription at the usual charge for some uninsured person, thus doing the family attendant out of a consultation fee. When all is said and done, we must recognize that however little it has been the practice with us in Scotland to dispense medicine, this Act, which now prevents us doing so, except in cases regulated by mileage, has taken away from the profession a right—call it a privilege or not—which it has possessed from time immemorial.

Maternity Benefits.

Another point of importance to the profession is the question of the administration of maternity benefits. Except in the case of deposit contributors the Local Insurance Committees have no control over the money or payment of it, and the matter rests much in the hands of friendly societies, and in many cases the agents exercise a large control. Some societies have gone the length of having a form of receipt from the doctor that he has got his fee; this, however satisfactory to us, seems rather more than is strictly legal; on the other hand most societies simply hand it over unconditionally to the husband. But there is another and more important point in this connexion, and that is the position of the so-called midwife. As we have not a Midwives Act, an unskilled woman or the next door neighbour is often called in, who attends the case, till, owing to want of proper skill and cleanliness, some complication arises, the result is the doctor does not attend the confinement, but has double the trouble he would have had if he had been present, and the chance of getting the proper fee often problematical. The question arises here, Has he a legal right to sign the certificate if he was not present at the confinement?

Tuberculosis.

So far as the treatment of tuberculosis is concerned, having got "the consumptive tanner" added to the capitation grant of 6s. 6d., we must be prepared to do this work with as good a grace as possible, and cease to look to sanatoriums relieving us of these irksome and trying cases, because the money at the disposal of the local authorities having been reduced from 1s. 3d. to 8d. per head (6d. to us and 1d. for administration) is totally inadequate to provide accommodation for more than a tithe of the cases requiring admission, and local authorities

* The doctor who wrote the 8s. prescription is to have a reduction made on his account on the recommendation of the Local Medical Committee.

are not willing, even if it were desirable, to impose the burden of extra rates to make up the extra cost to the amount of one-half, as they are entitled to. As an example, Edinburgh's estimate for this work is £14,000; the sum available under the Act only amounts to £400, and it remains to be seen whether the Town Council will consent to make up half the deficiency, amounting to £5,000, off the rates.

Members over 65 Years.

We have had from time to time within the last few months some curious circulars from the Commissioners, but not the least extraordinary is Memorandum No. 155 A.S., issued in England, but which, I presume, will find its way north very soon. It deals with medical attendance on insured persons over 65 years of age, under Section 15 (2) of the Act. To put it briefly, 2s. 6d. is to be paid by the Treasury to the friendly societies in respect of each member over 65 years of age; the societies making up the difference between the 2s. 6d. and the 8s. 6d. for attendance and medicine, so the insured person only pays four-ninths of 6s. 6d., or 2s. 8d. per annum, for medicine, attendance, and medical appliance. We have been accused of charging for these lives more now than before the Act came into force. Do these people forget that the insured persons and the societies paid everything before, and that now they are assisted? that it was an inadequate sum is sufficiently shown by the Government increasing the amounts for healthy lives to 6s. 6d. or 8s. 6d. The Association gave an understanding that we would attend these old people at the same rate as the younger and more healthy members, and yet the circular advises that while we must keep to our side of the bargain and attend these cases, the societies are advised that if they can outwit us and get us to attend at a lower rate they will be able to increase the sick pay at the expense of the doctors' remuneration to the extent of 3d. a week for every 1s. saved off the doctor; and this is for a class of patients that requires more attention than all the others—in other words, a class so bad that the Government refused to insure them because the risk was too great.

Litigation between Friendly Societies and Accident Insurance Companies.

Another point which the working of the Act has brought about is one which may not affect us directly, but which I venture to think is looming ahead and will give trouble in the future. It is the contention between friendly societies and accident insurance companies—the efforts of the latter to prove everything surgical is sickness, and of the former to prove everything an accident. Personally I have already had some experience of this, and with the recent decisions of the House of Lords making almost everything an accident that may happen to a workman we may expect considerable litigation.

Medical Referees.

Further, in this connexion, because of the claims on the sick funds of friendly societies, it seems probable that before long we shall have a small army of medical referees or inspectors going round and reporting on cases where, by the kindness of the practitioner attending, disablement, from one cause or another, has been longer than the nature of the complaint appears to warrant.

Before concluding, I would especially impress on the members of our profession the extreme importance to us of the Local Medical Committees, and the large statutory powers these committees possess under the Act. The Act does not say that these committees *may* be consulted but that they *must* be recognized and consulted. It is only through these committees that local organization can be effectively maintained, and may I say with what pleasure I saw that the profession in Scotland is to be, I believe, better organized by the British Medical Association transferring many of the duties hitherto undertaken in London from the Central Council to the Scottish Medical Committee with representatives from the Local Medical Committees? The differences in the law of Scotland from other parts, the different methods of carrying on medical work, and the distance from London—not to mention the fact that the majority of the Council have chiefly only an academic interest in practice here—all make, in my opinion, a scheme of decentralization not only desirable but imperative. This, with the contemplated co-ordination of Local Medical Committees from each area and backed by the Association as a whole, will give the profession an organization of such strength as was never contemplated on July 15th last year.

It was thought when the Act came into force the fight was over. Gentlemen, it is only beginning; and the facts I have put before you for consideration will, I think, demonstrate this, and encourage us to do the work on these different bodies for the general welfare of the profession.

This Act has brought us face to face with the necessity for organization and administrative work, of which, as a profession, we have been hitherto neglectful. This indifference must be remedied if we are to cope with the demands of the various lay bodies which have become, however distasteful it is to say so, our mentors and our paymasters.

LOCAL MEDICAL COMMITTEES.

CHESHIRE.

The sixteenth meeting of the County of Cheshire Local Medical Committee was held at Chester on September 28th. Dr. Garstang was in the chair, and twenty-one members present. It was announced that the Commissioners had approved of the Committee filling the vacancy caused by the resignation of Dr. Percy Cooper as direct representative of the medical profession on the Insurance Committee. The election of Dr. Gray, which took place at the previous meeting, subject to the decision of the Commissioners, was therefore confirmed.

Green Vouchers.—A desire having been expressed by the Medical Benefit Subcommittee (of the Insurance Committee) that the Committee should reconsider its attitude of declining to accept "green vouchers." In view of the pressure being exercised by the Commission, Dr. Hodgson of Crew proposed, and it was resolved:

> That this Committee enter into negotiations with the Insurance Committee, offering to accept the green vouchers under the following conditions:
> (*a*) That no deduction shall be made from the 7s. capitation fee.
> (*b*) That no claim be made by practitioners accepting green vouchers for payment in respect of them.
> (*c*) That practitioners shall retain the right to refuse individual patients presenting green vouchers.
> (*d*) That individuals so refused shall be allotted by the District Medical Committees.
> (*e*) That these terms should continue temporarily only.
> (*f*) That this Committee is of opinion that a supplementary grant to finance the green vouchers should be provided at the earliest moment by Parliament.

Dr. MacIntyre Brown, speaking for the health resorts on the coast of Cheshire, said that if the Commissioners and the Insurance Committee could be brought to agree to these terms, the doctors of his district would loyally abide by them.

Yellow Vouchers.—It was resolved to accept the yellow vouchers for travellers.

Touting.—It was mentioned that in one area in Cheshire friendly societies desirous of introducing into their neighbourhood a practitioner who would undertake contract practice at a capitation fee of less than 8s. 6d. had circulated a handbill inviting insured persons to change their panel doctor and put their names on the list of the imported doctor. The steps it was proposed to take in dealing with this matter were detailed. It was resolved:

> That the Chairman and Secretary be empowered to take immediate action in any such emergency.

Medical Referees.—It was announced that the Medical Benefit Subcommittee (of the Insurance Committee) had passed a resolution in favour of medical referees as to malingering being appointed by and responsible to the Commission only. This attitude was endorsed by this Committee; but it was pointed out that until such referees shall have been appointed the third party interest (of the societies) had a right to be considered, that in the event of societies appointing referees of their own, the medical men appointed should observe the ordinary courtesies of the profession (as to meeting the practitioner in charge of the patient, etc.), and that a proper fee, 10s. 6d., should be paid. It was proposed by Dr. Hughes of Macclesfield and resolved that this decision should be printed and circulated to the profession of the county.

Domiciliary Treatment of Tuberculosis.—It was proposed by Dr. HODGSON and resolved:

That the Insurance Committee should be informed that the forms to be filled up in respect of persons receiving domiciliary treatment of tuberculosis constitute a system of organized tyranny, and that this Committee in conjunction with the chief tuberculosis officer should be asked to draw up a simple form.

Allocation of Insured Persons.—It was announced that the Insurance Committee desired the views of this Committee on the following proposal: That 30,000 persons would probably be found at the end of November not to have chosen a doctor, and that slips bearing the names of these would be distributed to the twenty-three district Medical Committees for distribution amongst the doctors in equal shares, but subject to considerations of distance; that the doctors should accordingly receive the capitation fees pertaining to these slips; but that, as the Index Register would still be imperfect, this distribution would not be regarded by the Insurance Committee as tantamount to allotment of the patients, but that the latter to the end of the present insurance year would still retain the right of free choice of doctor, and that if they exercised it by going to a doctor other than the one holding their slips, then their capitation fees would be transferred to the doctor of their choice. It was resolved to accept the system.

Division Areas.—At the close of the meeting a joint meeting of the Committee with representatives of the District Medical Committees and of the British Medical Association Divisions of Cheshire was held, thirty-three being present. Mr. Charles Larkin, as Secretary of the Lancashire and Cheshire Branch, was also present. The question of rearranging the Divisions in Cheshire to correspond with the insurance areas was discussed, and the general scheme was agreed to, subject to the decisions of the existing Divisions concerned.

SURREY.

A MEETING of the Local Medical Committee of Surrey was held at Surbiton on September 19th. Mr. CECIL LANKESTER was in the chair, and thirteen members were present.

Expenses of Committee.—The Treasurer, Dr. WALTERS, reported the receipt up to date of £64 5s. towards the expenses of the Committee.

Prescription Books.—As a result of complaints on the part of the chemists of the illegibility of their copy of prescriptions in the present prescription book, it was proposed that the Croydon prescription book be supplied in addition to the present one for about three months, and that at the end of that time the Insurance Committee should find out which of the two books is preferred by the doctors.

Allotment of Funds.—The question of the allotment of funds in respect of those persons who have failed to choose or to be accepted by a doctor on the panel was then considered. The method proposed by the Local Medical Committee and adopted by the Surrey Insurance Committee had not been approved by the Commissioners, and the Insurance Committee had therefore referred the matter back for consideration. It was resolved that the county should be divided into nine district committee areas, and that each district should be credited with an amount proportionate to the number of insured persons in the lists of doctors in each insured area. It was resolved further that the unallotted money for the first three quarters of the year should be allotted to practitioners on the panel in proportion to the number of insured persons on their respective lists in each quarter without prejudice to any further action in the future.

Temporary Residents.—The question of the recognition of the green voucher having been referred by the last meeting of the Committee to the doctors for their opinion, the CHAIRMAN read a few replies he had received, including one from the Camberley and District Medical Society, all objecting to the proposed system. The following resolution was thereupon carried, *nemine contradicente* (four not voting), and directed to be sent to the Surrey Insurance Committee:

The Surrey Local Medical Committee continues to protest against the principle of deduction of any sum from the capitation fee promised to the profession in the explanatory memorandum issued to it in December, 1912.

Secretaryship.—A letter was read from the Secretary (Dr. Basil H. Pain) intimating that he was retiring from the Committee at the end of October, and that he would therefore resign his secretaryship from that date. The Committee accepted his resignation with regret, and heartily thanked him for his services.

EAST RIDING OF YORKSHIRE.

A LOCAL Medical Committee was appointed by a general meeting of the practitioners in the area held at Beverley on December 30th, 1912. It consisted of twenty members, with, in addition, the Chairman and the Honorary Secretary of the East Yorks Division of the British Medical Association as *ex officio* members. The members of the Committee, which was recognized by the Insurance Commissioners up to April 30th, 1913, were:

Dr. Johns, Hornsea (Chairman)	Dr. Fordham, Bubwith
Dr. Gillespie, Sutton-on-Hull (Honorary Secretary)	Dr. Foster, Hunmanby
Dr. Ashwin, Market Weighton	Dr. Gains, South Cave
Dr. Bostock, Norton	Dr. Gregory, Beverley
Dr. Brand, Driffield	Dr. McNeill, Bridlington
Dr. Brown, Howden	Dr. Murray, Hessle
Dr. Fairweather, Pocklington	Dr. G. Savege, Beverley
Dr. Field, Roos	Dr. Sproulle, Withernsea
	Dr. Watson, jun., Cottingham
	Dr. Wetwan, Bridlington

At a meeting of practitioners in the area, held on April 10th, the Committee was re-elected, with Drs. Whitehead (Bridlington) and De Mirimonde (Malton) in place of Drs. Wetwan and Bostock. It has been recognized by the Insurance Commissioners up to October 31st, 1913, the Commissioners stipulating, however, that the panel arrangements for 1914 be left for consideration by the Committee to be subsequently appointed. Drs. Johns, Fairweather, and Soutter are the three medical members of the Medical Service Subcommittee. Drs. Soutter and Gillespie were elected as the representatives of the practitioners on the panel on the East Riding of Yorkshire Insurance Committee. There are 105 practitioners on the East Riding panel.

The Local Medical Committee has held twelve meetings and one joint meeting with a Subcommittee of the Insurance Committee, when the terms of the permanent agreements were discussed. The Local Medical Committee was successful in getting the distance within which a practitioner was bound to attend a person on his list, which in the provisional agreements was fixed at eight miles, reduced in the permanent agreements to six miles.

Mileage.—The population of the East Riding is very scattered, and therefore very strong representations were made to the Insurance Committee by the Local Medical Committee during the provisional period, urging that unless some allowance were made for mileage it would be difficult to obtain a satisfactory panel after the provisional period had expired. The Insurance Committee was entirely in sympathy with the Local Medical Committee on this matter, and, after all practitioners had given particulars of the distances all persons on their lists were from the nearest doctor on the panel, the Insurance Commissioners allocated a sum of £1,250 a year to the East Riding Insurance Committee for the payment of mileage within the area. The Insurance Committee and the Insurance Commissioners have approved of the scheme suggested by the Local Medical Committee for the distribution of the mileage grant—namely, the payment of an increased capitation fee in respect of every insured person resident more than three miles from the residence of the nearest doctor on the panel of 1s. 6d. a mile or part of a mile per annum for each mile or part of a mile beyond that distance at which the insured person is so resident. If the grant be found insufficient a proportionately smaller amount per mile is to be paid.

Assignment of Persons who Failed to Select a Doctor.—This has been carried out on the advice of the Local Medical Committee, to whom the arrangements were left, persons being assigned to practitioners, as far as was practicable, in numbers bearing the same proportion to the total unassigned as the numbers of persons already on the doctor's list bore to the total number of persons who had selected a doctor.

Treatment of Temporary Residents.—The Local Medical Committee has now advised practitioners to accept the

green vouchers issued under the scheme outlined in Memos. 159 and 161/I.C.

Finance.—The Committee has asked for a subscription of 5s. from each practitioner on the panel to defray the expenses of the Committee for the current year.

Model Rules for the Administration of Medical Benefit.—These have been adopted by the Insurance Committee, after consultation with the Local Medical Committee, and copies have been sent to practitioners to give to their patients and otherwise distributed. The Local Medical Committee has been successful in getting an additional clause inserted with reference to Sunday work. The rules for the conduct of persons in receipt of medical benefit now are:

(*a*) He shall obey the instructions of the practitioner attending him.
(*b*) He shall not conduct himself in a manner which is likely to retard his recovery.
(*c*) He shall not make unreasonable demands upon the professional services of the practitioner attending him.
(*d*) He shall, whenever his condition permits, attend at the surgery or place of residence of the practitioner attending him on such days and at such hours as may be appointed by the practitioner.
(*e*) He shall not summon a practitioner to visit him between the hours of 8 p.m. and 8 a.m., except in cases of serious emergency.
(*f*) He shall, whenever his condition requires a home visit, give notice to the practitioner, if the circumstances of the case permit, before 10 a.m. on the day on which the visit is required.
(*g*) He shall not attend on a Sunday at a practitioner's surgery or request a practitioner to visit him on a Sunday at his home except in cases of serious emergency.
(*h*) He shall not request a chemist on the list to supply drugs and appliances during hours when the chemist's place of business is closed, except in cases of serious emergency.

Treatment at Contract Rates of Persons not Insured under the National Health Insurance Act.—The following rates agreed upon by a general meeting of practitioners are now, with one or two exceptions, in force in the area.

Adults.—(*a*) *Capitation System:* 8s. 6d. per head per annum, including medicines but exclusive of operations, anaesthetics, the treatment of fractures, dislocations, and the diseases due to misconduct. *Payment per Attendance:* The scale of fees at present paid by the National Deposit Friendly Society.
Children.—(*a*) *Capitation System:* 6s. 6d. per head per annum, including medicines but exclusive of operations, anaesthetics, and the treatment of fractures and dislocations. (*b*) *Payment per Attendance System:* 1s. 6d. per visit or consultation, including medicine; double fees for either between 8 p.m. and 8 a.m.
Charges for Extras.—Anaesthetics, 1 guinea; operations, according to the nature of the case; setting of fractures and reduction of dislocations, 10s. 6d. for the first attendance. Diseases due to misconduct, ordinary private fees. Certificates (other than those required for State insurance), 1s. for each "signing on" certificate; no charge for other purposes.

PLYMOUTH.

At a meeting of the Plymouth Local Medical Committee, held on September 25th, the following business was transacted:

Model Rules for Local Medical Committees.—These rules were read and generally approved, but it was considered that before formal adoption they should be submitted to a general meeting of practitioners, and steps were taken to arrange this.

Medical Referees.—The recommendations in Circular M 7 (British Medical Association) were approved, and the Honorary Secretary was instructed to confer with the Honorary Secretary of the Division with a view to bringing the recommendations before the local profession at the earliest possible date.

Elected Medical Representatives on Insurance Committee.—It was reported to this Committee that neither of the direct representatives of the profession had been placed on the Medical Benefit Subcommittee; the Honorary Secretary was instructed to write to the Clerk to the Insurance Committee protesting in the strongest manner against their exclusion, and pointing out that the profession had now no voice (through its own representatives) in the important deliberations of that Committee.

Resignation of a Member.—The resignation of Dr. Ffennell MacCarthy, who had left the town, was accepted with regret.

MEETINGS OF INSURANCE COMMITTEES.

London.

Distribution of Insured Persons under the Capitation System.

The opinion of Mr. Danckwerts, K.C., on the question of the distribution of the funds accumulated in respect of insured persons in London who have not chosen a doctor, with the report of the Medical Benefit Subcommittee thereon, was discussed at the meeting of the London Insurance Committee on September 25th. Both documents were fully set out in the last issue of the Supplement (p. 271).

In introducing the recommendation that the Insurance Commissioners be asked to receive a deputation on the whole question, Mr. F. Briant, Chairman of the Subcommittee, remarked that the opinion of counsel was fairly distinct and difficult to evade, even if the Committee wished to do so. The doctors on the panel had made a distinct contract for distinct persons for distinct fees, and the Committee had no right to hand over any money apart from those persons in respect of whom practitioners had contracted. The Committee should not touch the accumulated funds while matters stood as at present, or individual members would incur personal liability to restore the money. The circular from the Insurance Commissioners 29/I.C., dealing with the allocation of insured persons in connexion with medical benefit, seemed to suggest certain methods of distributing the money; there were other methods—there could be a friendly action brought against the Committee by a medical practitioner or medical practitioners. Whether such a course would be taken he did not know. In view of the general desire to set the whole matter at rest, the Subcommittee thought the wisest plan would be to interview the Commissioners and explain that counsel's opinion prevented the Insurance Committee from acting as proposed in the Commissioners' circular. The Commissioners should be asked what means they suggested by which the matter could be dealt with at once.

Dr. H. H. Mills quoted counsel's statement—

> I can find no warrant in the Act or elsewhere in any regulation of the Insurance Commissioners which has been placed before me for the parliamentary statement that the whole fund for medical benefit is divisible among practitioners on the panel,

and remarked that this view struck at the very root of the arrangements made between the medical profession and the Chancellor of the Exchequer at the end of last year. In the Manchester area the medical profession had adopted a system of payment by attendance, and he understood that the whole of the money allotted to medical benefit had been, in fact, paid to the doctors working the Act in that area. Was that payment illegal? If it was legal it followed that there was a difference between payment on a capitation basis and payment per attendance, as under the first system a considerable portion of the money was held up by Insurance Committees. He was exceedingly sorry Mr. Danckwerts used the expression, "the Committee is not entitled to make presents or distribute largesse among the panel doctors." Medical practitioners throughout the country would bitterly resent such an expression. He also objected to the suggestion that the way out proposed by the Insurance Commissioners would be "in the nature of a dodge." This matter was of the very gravest importance in London. The Committee now had in its balances the sum of £105,000 under the head of funds accumulated in respect of persons who had not chosen a doctor. By the end of the year the sum would amount to £140,000. The money allocated for medical benefit was approximately £500,000 per annum, so that doctors on the panel, unless the money accumulated were paid to them, would receive 25 per cent. less than their expected income. When the arrangements were first made in London the Clerk to the Insurance Committee wrote to the doctors that the total of the sums in respect of medical benefit would be distributed amongst the doctors on the panel. Allocation presented great difficulties in every big city, but it was a perfectly practical proposition to allocate on a numerical basis, and he could not help regretting that this had not been done. The demand was that all the money earmarked for medical benefit belonged to the medical service, except the money due to the chemists and

the sums in respect of those insured persons who had made their own arrangements.

Mr. H. KINGSLEY WOOD estimated that, taking the country as a whole, a sum of about a million sterling was affected by the opinion of counsel. Whether the Committee went to the Commissioners or not, no individual member could sanction payments to the doctors out of this fund until there had been a definite decision in the courts. It was a remarkable fact that 400,000 persons in London did not require a panel doctor.

Dr. MILLS: Nor any doctor.

Mr. WOOD said there was evidence that many of them were paying their own doctor. He declared that it would shock the public conscience if payment for 400,000 persons should go to doctors on the panel when they had not done a stroke of work for it.

Dr. B. A. RICHMOND said that counsel's opinion had raised a feeling of little less than consternation amongst the medical service in London. He could not agree with Mr. Kingsley Wood's description of the 400,000 unallotted as persons for whom the panel doctors had done no work. The contention of those on the panel was that these people were the healthy residue, and had not chosen a doctor because they did not require medical attendance. Had the doctors who accepted service under the Act chosen payment per attendance, there probably would not have been any surplus at all; at any rate, the fund would probably have been very much smaller. As far as the Committee had any evidence, the work required for the insured population had been done by those who accepted service under the Act, and those practitioners should be paid for the work. He entirely denied that the work had not been done. The doctors on the panel accepted responsibility for the whole insurance sickness of the metropolis; they took the risk, and had earned the money.

Mr. W. S. BROWN thought it was unnecessary for the Committee to approach the Commissioners. Whilst the opinion now obtained held the field the Committee need not go any further. It was for the medical profession to take action and for the Committee to defend it.

Mr. F. COYSH, Chairman of the General Purposes Subcommittee, thought the Committee could not be inactive while the fund steadily grew. It would be better to go to the Commissioners, and if that body could not deal with the problem legislation must be set on foot. The longer the question was postponed, the greater would be the difficulties with the medical service.

Mr. E. B. TURNER desired to correct an error into which Dr. Mills had fallen with regard to the Manchester area. The condition of affairs in London and in Manchester was absolutely different. In Manchester there was no panel; the doctors formed a committee and undertook to give adequate insurance treatment, and the Insurance Committee handed over the whole of the medical benefit fund to the Medical Committee. The system of payment adopted was by attendance. The London Insurance Committee appeared to be in rather an unfortunate position. He had a definite idea last January that the whole of the panel fund was to be distributed; in regard to Middlesex he believed there was a definite promise. In London he thought there was a definite understanding that all the money would be paid and the arrears would be handed over after the allocation had taken place. Therefore the doctors were being hardly treated. On the other hand, self-preservation was a law of nature, and he did not propose to vote for the distribution of the money lest he were called upon to pay £1,200 as his share of money wrongfully voted.

It was then decided, as reported in the last issue of the SUPPLEMENT, to ask the Insurance Commissioners to receive a deputation.

Appointment of Medical Advisers.

The Insurance Commissioners having approved the appointment until Christmas, 1913, of part-time medical advisers to report as to the fitness or otherwise for work of insured persons referred to them by approved societies, twelve candidates for the appointments had been interviewed. The fee allowed was stated to be 7s. 6d., to include the issue of the necessary report, reasonable travelling expenses beyond two miles being allowed in addition. The General Purposes Subcommittee stated that 187 applications were received. In view of the difficulty of arranging an equitable distribution of the medical referees throughout London, it had been found convenient to divide the area into six rather than four districts. Even then each district would cover an area averaging 20 square miles. The additional appointments would not involve any additional expenditure.

The Committee made the following appointments:

West District. — Arthur Stanley Woodwark, M.D.Lond., B.S.Lond., M.R.C.S.Eng., L.R.C.P.Lond.

North District. — John Herbert Burroughs, M.R.C.S.Eng., L.R.C.P.Lond.

East District.—John Fletcher Porter, M.B.Lond., L.S.A.

South-East District. — Hugh Davies, M.B., B.S.Lond., F.R.C.S.Eng., L.R.C.P.Lond.

South District. — Eric Bayley, M.D.Lond., B.S.Lond., F.R.C.S.Eng.

South-West District.—Reginald Edward Crosse, B.A.Cantab., M.R.C.S.Eng., L.R.C.P.Lond.

Provision of Drugs for Sanatorium Benefit.

The Medical Benefit Subcommittee reported as to an administrative difficulty which had arisen in connexion with the provision of drugs and appliances for medical and sanatorium benefit. The prescription forms had been revised in order to give medical practitioners an opportunity of indicating for which benefit a drug was prescribed, but in practice doctors frequently failed to mark the forms appropriately. The suggestion of the Subcommittee that an estimate of the cost of drugs for sanatorium benefit should be adopted as a permanent arrangement, and that the Local Medical Committee and the Local Pharmaceutical Committee should be asked for their opinion as to the proper proportion was accepted.

Statistics of Complaints against Practitioners.

The Medical Service Subcommittee reported that since the formation of the Subcommittee in January, 1913, it had dealt with 40 cases of complaints made either by insured persons against medical practitioners on the panel or vice versa. Of 38 complaints made by insured persons against practitioners, the Subcommittee found after investigation that twenty had been substantiated. In the majority of these cases the insured person had been transferred to another list. In two cases only had it appeared necessary to inflict the maximum penalty on a practitioner and to make representations to the Commissioners as to the continuance of the doctor on the panel. In one of the two cases referred to the practitioner withdrew from the panel; the other practitioner had since been certified as insane. In the other eighteen cases the Subcommittee had found the complaint not to have been substantiated. Only two complaints by medical practitioners against insured persons had been considered. In both cases the allegations were proved, and the insured persons had been instructed to obtain the services of other practitioners. The Subcommittee added that it had under consideration at the present time twenty cases of complaints against medical practitioners.

Publicity in Cases of Complaints.

The Subcommittee further stated that it had considered the question of the advisability of making public the names of medical practitioners who, in the opinion of the Committee, were deserving of censure. At present the practice was for the name to be disclosed only if the Commissioners decided that the allegations had been proved on receiving representations as to the continuance of a practitioner on the panel. The Subcommittee had consulted the General Medical Council, the Law Society, the Pharmaceutical Society, and the London County Council (in regard to procedure under the Midwives Act), and it appeared that the general practice was for the name of an offender not to be published unless the trial of the charge led to his removal from the *Register*, and then only when the final tribunal had decided on this course. In the circumstances the Subcommittee had decided not to vary the present procedure.

Accessories in Domiciliary Treatment.

The Sanatorium Benefit Subcommittee stated that, having been informed by the Commissioners that a schedule of accessories to be supplied in connexion with the domiciliary treatment of tuberculosis was not con-

sidered necessary, the Subcommittee proposed to allow certain articles on the recommendation of the panel practitioner. In cases, however, in which special articles were prescribed by practitioners on the panel the Subcommittee thought that these should only be allowed on the recommendation of the Committee's expert medical adviser, to whom it was intended to refer all cases where excessive quantities of any articles were prescribed.

The Committee adopted a resolution embodying this decision.

NATIONAL HEALTH INSURANCE.

MEDICAL CERTIFICATES.

The following Memorandum (173/I.C.) was issued on Wednesday evening, October 1st:

1. The National Health Insurance Commission (England) have received representations from many quarters with regard to the desirability of securing, so far as may be possible, uniformity of practice in the matter of the medical certificates required to be furnished in connexion with claims for sickness benefit under the National Insurance Act. It has been urged also that unnecessary trouble and delay can be prevented if in all cases in which he is asked to give a medical certificate in support of a claim for sickness benefit, the doctor has before him the same form of words for signature instead of having to handle the many different kinds and forms of certificates that are at present produced to him by members of different societies. To these representations, which were largely made by or on behalf of members of the medical profession, the Commissioners have given careful consideration; and, as a result of negotiations with the representatives of the medical profession on the Advisory Committee, and with many of the leading approved societies, it would appear that a very general agreement has been secured on the basis explained below.

2. As all practitioners concerned with the treatment of insured persons are aware, the medical certificates which are required to be furnished are of three kinds, namely—(*a*) the *initial* certificate, which the insured person must forward to his society with his "declaring on" note; (*b*) the *continuing* certificate; and (*c*) the *final* certificate.

3. For initial certificates for members of approved societies it has been found possible to secure general acceptance by societies of a common form (Form Med. 34, copy enclosed), prepared by the Insurance Commissioners, which has been supplied to Insurance Committees for issue to all doctors on the panel and approved institutions. The approved societies will ordinarily accept this form of certificate duly completed as sufficient proof of incapacity for work, without the production of any further initial certificate. All doctors who have received supplies of Form Med. 34 are requested to discontinue the use of Form Med. 26 (the form previously supplied).

4. For continuing and final certificates, the necessary forms will be supplied to insured persons in receipt of sickness benefit by their societies, and will be brought by the insured person to his doctor when required. Although it has been found impracticable to arrive at a common form which can be adapted to the administrative requirements of approved societies of every type, nevertheless, such measure of agreement has been obtained as will secure the general adoption in such certificates of the same form of words for signature by the doctor in each case. Forms A.S. 75 and 76 (see next page) have been issued to societies for their assistance in framing their own forms. For the present many societies will continue to employ the forms already in use, of which stocks are still in existence, but efforts have been made to secure that when these stocks are exhausted the new forms, based on the models A.S. 75 and 76, shall be brought into use.

Thus, therefore, the doctor will in future have in his possession the necessary forms of initial certificates ready for use when required. The forms of continuing and final certificate will be brought to him by the member.

5. It will be observed that in the enclosed models forms for both continuing and final certificates are printed on the same sheet, and societies have been advised to adopt the same arrangement in the forms which they frame for their own use. Thus, whenever an insured person who is in receipt of sickness benefit applies to the doctor for a continuing certificate, the form of final certificate will also be available for immediate use if the doctor considers that the illness or disablement from which the patient was suffering has ceased to incapacitate him from work.

6. The forms provide a space for the doctor to fill in the name of the disease or injury because the rules of the great majority of approved societies require that their members shall obtain and furnish this information as a condition of receiving sickness benefit under the National Insurance Act, and the members thus need the information in support of their claim, and will, therefore, ask the doctor to give it as he is required to do under his agreement with the Insurance Committee. In entering the name of the disease and signing a certificate specifying the particulars indicated in the form, the doctor is not breaking any professional confidence, since he is giving the information at the request of the patient, and giving it, too, not to any third party, but to the patient himself (or herself), and the forms are so worded as to bring out this point. The question of dealing with those very exceptional cases in which the doctor would not state even to the patient himself the name of the disease from which he is suffering, for fear of retarding his recovery, can be met by special arrangements. Practitioners will readily understand that it is entirely a matter for the patient himself to decide whether he shall claim any sickness benefit to which he may be entitled and thereby disclose to the officials of the approved society the information contained in the medical certificate.

7. Societies must rely to a very large extent on the information contained in the medical certificates as to the pathological cause of incapacity presented to them in order to give proper effect to many of the provisions of the National Insurance Acts, to secure compliance with the societies' rules, and to guard against excessive claims on the sick fund.

8. A doctor is not required under his agreement to furnish to an insured person on his list a medical certificate required by that person for any purpose other than in connexion with a claim for sickness or disablement benefit under the National Insurance Act. The provision of medical certificates for any other purpose is outside the scope of the doctor's agreement and is a matter to be settled between the doctor and the patient.

9. On the other hand, if the insured person asks for a medical certificate in connexion with a claim for sickness benefit and the person is, in fact, incapable of work, the doctor is required to furnish it and is not entitled to decline to do so because he thinks that the person is not entitled to sickness benefit, for example, on the ground that he is entitled to compensation under the Workmen's Compensation Act. Every insured person who is rendered incapable of work by illness or injury has the right to claim sickness benefit, and it is for the society, or Insurance Committee as the case may be, to decide whether he is entitled to receive benefit or not.

10. Advantage may be taken of this opportunity to make statements for the information of medical practitioners on certain points in connexion with the giving of certificates for sickness benefit on which communications received by the Commissioners from members of the medical profession and others indicate that doubts exist.

First, as regards the signing of certificates, the medical certificate of incapacity for work is an important document, and, moreover, may have to be preserved for a considerable period. Doctors are, therefore, particularly requested invariably to use ink or indelible pencil for the filling in of certificates with the required particulars, including date, and for the signature. The full ordinary signature should be given, and should be written, not affixed by a rubber stamp or other mechanical device.

Secondly, as regards dating, the date should be that on which the certificate is given, and the doctor who signs the certificate should have himself seen the patient the same day and made such examination as is necessary to satisfy himself that the patient is on that day incapacitated for work. Circumstances arise in practice in which a doctor may feel justified in making a statement relating either to the patient's condition at a date prior to that on which the certificate is given, or to the patient's prospective incapacity for work on a subsequent date. If it is desirable for the convenience of the patient or of the society to make any statement of the kind a special communication should be made to the society, but certificates

should not in any circumstances be antedated or post-dated.

Thirdly, some doctors have expressed doubt as to whether initial certificates should be given on the first day or the fourth day of incapacity. The answer is that the initial certificate should be given on the day on which the doctor himself first becomes aware that his patient is incapacitated for work—*e.g.*, on the first day of incapacity if he has seen the patient that day.

Fourthly, it may be useful to draw attention to the distinction, which it has been suggested is not in all cases sufficiently appreciated, between illness and incapacity for work. An insured person who requires medical benefit is not therefore necessarily entitled to sickness benefit. He is only entitled to such benefit if his illness renders him in fact incapable of work.

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.,
September, 1913.

Form A.S. 76.

FORM FOR CONTINUING AND FINAL CERTIFICATES.

SEPARATE SHEET SYSTEM.

To be filled in by the Member before the certificate is presented to the doctor.

Membership No.....

Member's Address.....

.....

Society.....

Branch .....

Confidential.

To.....[The member should here insert his name before presenting the certificate to the doctor.]

Continuing Certificate.

I hereby certify that I have to-day examined you, and that you have, in my opinion, remained incapable of work owing to * (_____)
(the specific disease or bodily or mental disablement stated in my last certificate)
up to and including to-day.

.....*Signature.*

.....*Date.*

* *NOTE.—The Doctor may either enter the name of the disease on the line or utilize the words in small print as he may think preferable in the circumstances of each case.*

Final Certificate.

I hereby certify that I have to-day examined you, and that you have, in my opinion, remained incapable of work owing to * (_____)
(the specific disease or bodily or mental disablement stated in my last certificate)
up to and including _____, and are now fit to resume work.
(to-day)

.....*Signature.*

.....*Date.*

* *NOTE.—The Doctor may either enter the name of the disease on the line or utilize the words in small print as he may think preferable in the circumstances of each case.*

Form A.S. 75.

OUTLINE OF FORM FOR CONTINUING AND FINAL CERTIFICATES.

SINGLE SCHEDULE SYSTEM.

This form should always be returned to the Society at the end of the illness or the end of the quarter in which it is issued, whichever is the earlier. It should be carefully kept by the Society.

To be filled in by the Member.

Member's Address..... Membership No.....

.....

Society..... Branch.....

Confidential.

To.....

(The member should here insert his name before presenting the sheet to the Doctor.)

Continuing Certificates.	
I hereby certify that I have to-day examined you, and that you have, in my opinion, remained incapable of work owing to *the specific disease or bodily or mental disablement stated in my last certificate** (_____) up to and including the date shown below. * If preferred, the doctor may delete the italics and insert nature of illness between the brackets.	Additional columns for other information, *e.g.*, sick visitors, may be included on the sheet if the Society desires, and the position of any of the items on the sheet may be just as the Society prefers.
Signature of Doctor.	Date.
.....	.....
.....	.....
.....	.....
.....	.....

Confidential. FINAL CERTIFICATE.

I hereby certify that I have to-day examined you, and that you have, in my opinion, remained incapable of work, owing to _____ up to and including to-day 19....., and are now fit to resume work.
(the specific disease or bodily or mental disablement stated in my last certificate)

.....*Signature.*

.....*Date.*

The Society may here add the member's declaring-off note, if desired.

Name .....

Illness .....

Date.....

Society .....

Number .....

The completion of the counterfoil is at the doctor's discretion.

Form Med. 34.

NATIONAL HEALTH INSURANCE.

MEDICAL CERTIFICATE OF INCAPACITY FOR WORK.

Confidential. *Form for Initial Certificate.*

To.....

I HEREBY CERTIFY that I have to-day examined you, and that you are, in my opinion, suffering from .....,* and are thereby rendered incapable of work.

* This space is provided for the doctor to insert the name of the specific disease, or bodily or mental disablement, as required by insured persons for claiming Sickness Benefit under the Rules of the great majority of Approved Societies.

..... *Doctor's Signature.*

..... *Date.*

TO BE FILLED IN BY THE MEMBER. *Membership No.* .....

Member's Address .....

.....

Society .....

Branch.....

INSURANCE NOTES.

MANCHESTER.

THE SUPPLY OF DRUGS TO INSURED PERSONS.

IT appears that some very erroneous impressions have been spreading among insured persons in Manchester as to the range of drugs and medicines that can be prescribed by the panel doctors, and a correspondent in the *Manchester Guardian* complains that he could not get a particular ointment, as his panel doctor said the Insurance Committee would not pay any chemist for supplying it. Another person complained that he could not get a certain medicine through the insurance, and in a third case a certain brand of cascara tablets could not be prescribed, though the doctor himself was accustomed to use them. There is, of course, a simple explanation in all these cases, that the preparations referred to were proprietary preparations. The official tariff of the Manchester Insurance Committee contains over 300 items, including twenty-six ointments, but the panel doctors are not confined to these and may prescribe practically any drug, but, as has been pointed out by the chairman and secretary of the Manchester Pharmaceutical Committee, if the Insurance Committee is to be the prey of every firm who, through their plausible representations, can persuade doctors to order special brands of ordinary drugs, there can be no chance of the funds meeting the calls made on them. The Insurance Committee will pay for the costly drugs but will not pay for trade marks and proprietary values. It is difficult to find fault with the justice of this in general, but nevertheless the fact remains that many medical practitioners believe that their experience has proved that certain drugs with proprietary names, whether from superior methods in manufacture or for some other reasons, are more efficacious and have fewer concomitant bad effects than drugs which purport to be the same chemically and appear under their proper chemical names in lists. Many panel doctors, without going to the length of suggesting that permission should be given to prescribe every proprietary drug, appear to desire that some arrangements should be made by which certain well-known preparations could be supplied to insured persons, if not free, at any rate for a small extra payment by the patient himself.

GLOUCESTERSHIRE.

MEDICAL AID INSTITUTES AND HOSPITAL STAFFS.

THE governors of the Gloucestershire Royal Infirmary and Eye Institution, at their quarterly meeting on September 25th, received a resolution signed by all the members of the honorary medical staff, stating that, having been appealed to by the medical men practising in the Forest of Dean and other parts of Gloucestershire to support them in their endeavour to secure adequate remuneration for contract practice, the members of the medical staff had decided that, in the case of any medical aid association having for its object the employment of medical men under conditions not approved by the medical profession, they will not under any circumstances meet in consultation, or have professional dealings with, any medical man holding office under any such associations, either in the case of a private patient or at the Royal Infirmary; and must therefore decline to treat members of such associations, except in those cases urgently requiring hospital treatment.

At the suggestion of Dr. Dykes Bower, resolutions passed some little time ago by the Gloucestershire Branch of the Association and by a meeting of medical men practising in the City of Gloucester respectively were also read. The first resolution was in the following terms:

> It having been ascertained that medical aid associations have already been established in certain areas since the passing of the National Insurance Act, and have been sanctioned by the medical benefit subcommittees, it seems that such action is inimical to the interests of the medical profession, and constitutes a breach of faith on the part of the insurance authorities. The Gloucestershire Branch of the British Medical Association therefore calls upon the staffs of the various hospitals in Gloucestershire to refuse professional recognition to those who accept, or have accepted, such appointments, and to decline to attend in any general or cottage hospitals members of such associations or schemes, except under circumstances of great emergency.

The resolution adopted by the medical men in the City of Gloucester was to the same effect.

The communication of the resolution of the medical staff of the infirmary to the governors was followed by no discussion, though the Rev. Canon Eyre, who was in the chair, made a few comments thereon. These were of a somewhat indefinite character, but so far as they went seemed to indicate an opinion that while the decision of the staff was regrettable, the whole matter was really one which concerned the British Medical Association alone. If this statement correctly interprets Canon Eyre, it seems possible that his opinion was formed on the spur of the moment, and that he had not had time to take a sufficiently broad view of the situation. It must be regarded from the point of view not of individuals but of the community at large. The staff's decision was due to the injudicious action of the local insurance authorities, which rendered it necessary to take a strong step to stem its evil effects. The decision, which was no doubt reached with regret, is distinctly in the public interest, and will be warmly approved not only by medical men but also by laymen who have studied the working of medical aid institutes and realized their injurious effect on the standard of medical practice. The opinion that it would be gravely detrimental to the interests of insured persons for the medical profession to countenance the existence of medical aid associations has been formed after long experience of their working, and full consideration of the evils inherent in their constitution and methods. Even if they could habitually command the services of medical men of the best class, the amount of work which such medical employees would have to perform would render efficient service impossible and tend to lower the general character of the treatment afforded. A local newspaper has suggested that the reply to the action of the medical staff of the Gloucestershire Infirmary would probably be either the provision by the medical aid associations of hospitals and consultants of their own, or the municipalization of the existing hospitals. Such threats, if they are to be so interpreted, need not be taken too seriously, for our contemporary in making them has clearly failed to understand the real ground of the objection of the medical profession to the system under which medical aid associations are conducted. They are condemned with practical unanimity, because it is well established that, as we have already said, they tend to lower the standard of medical treatment and to diminish the efficiency of the medical services which members of the working class have the right to demand. Hospitals such as the Gloucestershire Royal Infirmary owe their high reputation to the fact that they are able to command the service of the best administrative and professional ability in the neighbourhood. Quite apart from financial considerations, which are, it need not be said, of a most serious nature, medical aid associations, whose methods are condemned by the profession for the reasons stated, could not command the services of members of the profession possessing competence in the least comparable with that of the staffs of existing voluntary hospitals, to which the most skilled and accomplished members of the profession think it an honour to belong.

CORRESPONDENCE.

CRITICISMS OF THE ASSOCIATION.

DR. C. COURTENAY LORD (Gillingham) writes: The resignation *en bloc* of some forty members of the Wandsworth Division of the British Medical Association is a matter of the utmost gravity, and may well strike with dismay those who have the well-being of the Association at heart. And yet this is no bolt from the blue, nor is it the result of sudden impulse, offspring of inflammatory speeches of him that is possessed of the fiery tongue. It is the result of mature deliberation, and the almost absolute certainty of its advent was well known to the powers months ago. The head of the ostrich, however, still remains buried in the sand, and will not see the coming disaster. From the meagre reports yet to hand it would appear that the non-panel men, who, by the way, are numerically very strong, see no use in remaining members of a body whose sympathies are apparently wholly with the panel practitioners. If all non-panel practitioners take this view, and follow the lead of Wandsworth, I venture to suggest that a

draught will be created which will penetrate even to the Council chamber at 429, Strand.

It is not the slightest use shutting one's eyes to the fact that the long-expected and confidently predicted landslide has begun, and unless it is promptly and energetically dealt with, it may end in irretrievable disaster. Let us face facts. We have only one organization worth talking about, and the career of others formed during the past campaign would not buoy up the most cheery optimist with any hope of creating an organization that would be any sort of use for at least two years. Meanwhile we fall an easy prey to the enemy. Let us suppose for one moment that the whole of the non-panel members were to go, what would be the plight of the panel practitioners? I am not aware of any other existing organization of theirs which would be of any value. It would seem, therefore, that neither party can stand alone. Even if our interests are diametrically opposed—and they certainly are—surely it should be possible for us to help each other by sticking together and preserving, even if we have to entirely remodel, our only organization. Another fact to be faced is that if we are to run a defensive organization as opposed to a purely scientific one, we have got to spend money on it. The days when we can expect effective work to be paid for out of the paltry sum that is left when our weekly journal has been paid for are gone for ever. The subtle move now going on by which the Commissioners hope to capture the Local Medical Committees, should cause even the blind to see. Certain Local Medical Committees are calling for a voluntary levy from the panel practitioners which amounts to a cool £4 odd per thousand insured patients. If they will not submit to this, they are faced with a compulsory levy of the same amount, from which there is no escape. This fund will be administered by the Insurance Committees, and when once this state of affairs is in vogue the only chance of effective resistance to unjust demands will be the raising of a further voluntary levy, the compulsory levy being impounded by the Insurance Committees. The suggested scheme of the Association's Committee can liberally finance Local Committees out of a £5 voluntary subscription, a large sum being left over for other useful projects, including the strengthening of the head quarters' staff, already overworked beyond endurance. Surely the latter method would be far more preferable and infinitely cheaper. The prospect of Local Medical Committees run by the Commissioners and financed by the profession is unthinkable. When once the members of the Association have recognized the absolute necessity of subscribing more generously to their organization, and have carried it into effect, the rest should be easy, and it should not surpass the ingenuity of man to devise a scheme by which separate departments of one great body could watch the interests of the two great parties into which the profession is, and will for ever remain, divided. The afore-mentioned scheme will shortly be before Divisions with a view to the Special Representative Meeting to be held in the autumn. It is sincerely to be hoped that until that meeting is over large bodies of members will not burn their boats by wholesale resignation. Should moderation and sound judgement prevail and some such scheme as I have endeavoured to suggest be brought into being, we may yet be able to raise our hats to the members of the Wandsworth Division for having performed a feat which even the cataclysm of 1912–1913 failed to do—namely, to have awakened the Association from the profundity of its slumbers.

Dr. Major Greenwood (London, N.E. writes: Observing that a special meeting of an important metropolitan Division was about to be held to consider a resolution that all the non-panel members of the same should resign their membership of the British Medical Association, I considered it my duty, as one of the metropolitan Representatives on the Central Council, to attend that meeting. When I arrived, I found some forty members of the Wandsworth profession present, and I followed closely the business that was there transacted. The Chairman, in his introductory remarks, expressed his views of the responsibility of his office, and hoped that he might fulfil its duties like his predecessors, and that its dignity might be maintained by himself and his successors.

As his office would come to an abrupt end if the object of the meeting were successfully carried out, the speech of the Chairman gave a touch of unreality to the proceedings.

In the discussion that followed it was apparent that the meeting was entirely in the hands of the non-panel section of the Wandsworth Division. Dr. Biggs, Mr. Bishop Harman, and Dr. Howell showed very clearly the absurdity of the resolution, and their arguments were strongly reinforced by Dr. Cox, the Medical Secretary, who had been invited to be present. There was, however, little argument on the other side, extreme anti-panel sentiment being everywhere in the ascendant. The resolution was finally carried by 21 to 14 in a Division whose strength is about 250.

I do not think that many Divisions will follow the example of the Wandsworth Division. For the credit of the Association in the eyes of the public it is to be hoped not. Action such as this tends to encourage the belief that the medical profession has not yet mastered the most elementary doctrines of trade unionism. Considering the enormous preponderance of panel members of the Association, how on earth can it be expected that the majority are going to bow to the minority? Where the objects of the non-panel members clash with those of the majority they must give way. Therefore, say the non-panel members, let us form a new association!

If there were no other interests to be considered by the profession except those of the Insurance Act, such a procedure would be a total abnegation of the first principle of unionism. As there are a multitude of important matters in which panel and non-panel practitioners stand on the same ground, the spectacle presented is a very deplorable one.

Where union in the profession is of the utmost importance attempts are being made to weaken the only Association that can be a rallying point and bulwark in the dark time now coming on.

Mr. Francis Heatherley, M.B., B.S.Lond., F.R.C.S.Eng. (Birkenhead), writes: I dare say there are many besides myself who now that this eventful year is drawing to its close are wondering whether it is to the interest of the non-panel man to remain a member of the Association.

Personally I am inclined to doubt it, and it is in the hope of eliciting some refutation of my belief that I now write.

My experience, I dare say in no way exceptional, is this. When I started in practice I subscribed to the *Lancet* because I preferred it to our Journal. After the first few years I realized that it behoved me to join the Association, and I accordingly dropped the *Lancet* as redundant.

When the National Insurance Bill became the subject of discussion I with many others decided that its provisions were bad both for the public and the profession, and I have seen nothing since then to alter my views. During the crisis it was my experience as a member of the National Medical Union frequently to be called a "Manchester hot-head." With all due deference to my professional colleagues who indulged in it I consider that subsequent events have shown it to be singularly inappropriate as an epithet.

Until the National Insurance Act came I had not taken any active part in the business of the Association, both because office-bearing has no attraction for me, and because the annual meeting does not appeal to me as a holiday. But as secretary of the Birkenhead loyalists I attended to watch the proceedings of the Representative Meeting which illogically decided to relieve men of their pledge, my object being to estimate the value of the Association as a fighting force against the Government. The general impression with which I returned home was that of having seen a huge stage elephant exhibiting extreme inco-ordination of its actions, owing to disagreement amongst the supers inside, whilst its path was strewn with tons of useless stationery. Of capable leaders I distinguished not a few, but they were as powerless as any army whose generalship is liable to be overthrown due to sudden panic seizing the rank and file. I was therefore not unprepared for the sudden way in which the Association dropped the loyalists, but I was disgusted to find that from that time, for all evidence to the contrary, the Journal might have been the official organ of the National Insurance Practitioners' Association, so that I had to turn to the pages of the *Lancet* to find out what was happening, and there to learn of the gallant way in which the flag was still kept flying at Gillingham.

That the impending ruin so many men pointed to as

their sole reason for going on to the panel was in all cases an idle fear bred of want of self-confidence was my opinion then, and is so now. When I decided against the advice of most of my local colleagues, not to join them in their stampede for the panel, although 80 per cent. of my patients belonged to the insured class. I relied on the fact that after twenty years' practice it was probable that many would prefer to pay me for my services, even if they could have my neighbours' for nothing. I also relied on Section 15, paragraph 3. Had I known that the Government would succeed in jockeying all my people out of their rights, and that their contributions would go to swell the pockets of my rivals, I doubt if I should have had the courage to persist. I must own that during this critical period my sleep was not of the best, for I took little consolation in the prevalent rumour that many men who had joined would come off in April, because I judged that it would take more courage to come off when once on than to keep off the panel in the first place. Fortunately for me the future was veiled, because as far as my own interests are concerned my present position is that I have preserved my freedom, whilst as far as finances are concerned I am practically in the same position as I was before the Act came into force, with the to me pleasing feature that my average fee per visit has risen, which I hail as of good omen for the future.

It seems to me that the Act is splitting the body of general practitioners into two distinct classes, and although at present the club-doctor class is exalted at the expense of the other, I do not envy its future prospects. It seems to me that in these days of grandmotherly legislation self-reliance is worth cultivating as an asset, and as I said in the beginning, I am wondering what benefit there is for the class to which I have the honour to belong in continuing our membership of the Association.

Dr. William Eardley (Goole) writes: Our thanks are due to the Medical Secretary, Dr. Cox, for the official statement he made to the Press on September 25th concerning the Wandsworth doctors and their so-called "British Medical Association split." If only these men could see how simply they are playing into the hands of the enemy (whoever the enemy may be) and how powerless any one part of the profession is unless backed by the British Medical Association representing the whole, they would think twice before doing anything to make the profession seem more disunited than it is and would cease from an agitation which can do nothing but harm. It can do no good to make invidious distinctions between panel and non-panel men; surely it is better to remember that we are all members of one great profession and have many interests, aims, and responsibilities in common.

We are glad to know that the Association is going steadily forward with its policy. Of course the British Medical Association has no intention of giving up its unique position of the mouthpiece of the whole profession, and we expect it to go on looking after our interests in the broadest possible way in the future as it has endeavoured to do in the past. This is what we expect of an Association which is established "for the maintenance of the honour and interests of the medical profession," and is co-extensive with the empire itself. If the British Medical Association stands for nothing else, it stands for the unity of our profession; that is why we belong to it, and wish all our colleagues to belong. We can wish them nothing better.

In this small Division of some eighty members, we had much discussion and sharp difference of opinion over the Insurance Act last year. In the end (as in other Divisions) we nearly all had to go on the panel, and are now honestly trying to make the best of the Act for the benefit of all concerned. So far as I know, we only lost two members as a direct consequence of what took place last January; one is now on the panel, the other is not.

On the other hand, you may like to know that in the statutory Local Medical Committee of the West Riding of Yorkshire we have panel men and non-panel men working together side by side; more than thirty out of thirty-eight are members of the British Medical Association, and one of our representatives who attended the conference of Local Medical Committees at Brighton in July (he was not then a member of the British Medical Association, but has joined since) stated in his report of the conference that "as a result of this conference" he was "very strongly impressed with the importance of belonging to the British Medical Association, the only body which can effectively represent the profession in dealing with the Government, the Commissioners, or anybody else."

The London County Insurance Committee, the Unallotted £100,000, and after.

Mr. W. McAdam Eccles, M.S. (London), writes: The meeting of the London County Insurance Committee on September 25th was unique in two directions—namely, the appointment of the first medical referees—a step in the right direction—and the discussion upon the unallotted sum for medical benefit, a sum now amounting to over £100,000.

The position created by the accumulation of this amount is very interesting, and is one which must have a distinct bearing upon several fundamental points in the future, not only in London but throughout the country.

1. The sum is money to the credit of insured persons for medical benefit. It has accumulated because at least a quarter of the insured population of the county of London has not chosen a doctor on the list (panel). This is either because the insured person, being well, has not troubled to do so, or, being ill, has preferred to go to the doctor of his or her choice—a doctor who is not on the list—and to pay him for medical attendance.

2. The sum obviously belongs to the medical profession, but the question arises to which part of the medical profession—in whole to those medical practitioners who have gone on the panel, or in part to those doctors not on the panel list who have been treating insured persons either gratuitously or with payments from the patients themselves.

3. Each practitioner who has gone on the panel has become, as it were, an unlimited insurance company. (It is true that there is the exception of those practitioners who have been allowed by the Insurance Committee—but not with the consent of their brother practitioners in their neighbourhood—to take a limited list of insured persons, often selected lives. These practitioners, of course, have their liability and remuneration limited.) Each panel practitioner may "take on" an unlimited number of insured persons who care to choose him as their prospective doctor, and becomes responsible for an unknown amount of work as the result. Each expects to receive a settled remuneration per head for each insured person on his list, but not for any other insured person.

4. For the Insurance Committee to allot those persons who have not chosen a doctor on the panel to doctors on the panel at once does away with the right of free choice of doctor by the patient and of patient by the doctor.

5. For the Insurance Committee to hand over the money due for medical benefit without allotting these persons to panel doctors is at present illegal, and savours, as counsel says, of "largesse."

6. For the Insurance Committee to hand back this sum to the insured persons who have not chosen a panel doctor would be "to allow them to make their own arrangements for medical benefit," and this the Insurance Committee will not do except in the case of a few, and in the case of certain other persons who wish to be treated by quacks and homoeopaths. The Insurance Committee by their refusal to permit contracting out pronounces the non-panel doctor to be a man of inferior calibre to the panel doctor! This is then the dilemma in which the London County Insurance Committee—and presumably, to a lesser extent, every Insurance Committee in the land—now finds itself.

7. It is just such a situation as this that the State Sickness Insurance Committee of the British Medical Association should have foreseen and upon which a definite pronouncement should have been made. It is the "masterly inactivity" of the Council and the State Sickness Insurance Committee over important matters such as this that engenders a certain want of confidence in them by the rank and file of the British Medical Association. Members throughout the country, whether on the panel or not, would welcome enthusiastically a policy on this and other matters in connexion with the Insurance Act *not after* but before the time for definite action arises.

The profession is looking to the Executive of the Association for a pronouncement as to what is to be the policy of the Association should the women and children dependants of insured persons be brought into the Insurance net. This condition of things the profession may have to face in 1914, and as yet the question as to what should be done has hardly been mooted. Perhaps the panel doctors are so satisfied with their "deal" with the Chancellor of the Exchequer that they do not wish to trouble him further; but if they are, then let them say so in an unmistakable voice, and the non-panel men will be content to stand aside and preserve as far as they can the dignity of a profession which is fast becoming a trade.

Friendly Society Control of Medical Benefit.

Dr. Harry Grey (Bristol) writes: The readers of the correspondence columns of the Journal are not altogether unaccustomed to an occasional dish of "fine confused feeding," but the Evan-Jones *entr'acte* pushes muddled thinking to the verge of imbecility. In the first place, the correspondence in its present vein should never have found place in the Journal, and I doubt not that you, Sir, are a little chagrined at the result of your desire to give every member of the Association full access to its pages. The inconsistency (or otherwise) of Dr. Jones's views is really a matter for himself alone, or, at furthest, for his Division, but it must be quite without interest for the rest of the profession; on the other hand, his action at Brighton, which is quite a different thing, concerns us all, and especially all Representatives. It was not because his views were extraordinary (*pace* Dr. A. W. Miller, Supplement, September 27th), but because he used his position as a Representative to air his views to the press, that he "narrowly escaped censure at the Representative Meeting." Dr. Jones has a perfect right to hold what views he likes and to publish them at any other time and place, but he had no right to air them to the press at a Representative Meeting as he did. Yet your correspondents give this point, which is the only point they can legitimately attack, a wide berth. Dr. Keenan (p. 270) mixes up the master and the business and misrepresents Dr. Buttar, for the conditions of service under the State may be degrading and are held to be so by many who would rejoice to be really employed by the State as civil servants and here is a point upon which clear thinking is much to be desired. As panel doctors we are neither working for the State nor employed by it. We are working for the insured persons, controlled by their elected representatives and the chemists, and governed by the Commissioners. Even could it be denied that such a state of things is degrading, the methods that were adopted to compel a free profession to accept it have left an indelible stain.

But muddled thinking is bad enough without personalities and abuse, and now that the controversy is developing so unpleasantly, would it not be wiser for the participants to drop it and turn their attention to more important matters? I commend to them p. 267 of the Supplement of September 27th—National Conference of Friendly Societies, first resolution on the matter of a whole-time service, and an article on the same subject in the *Medical World* of September 25th. From these they will see that the bogey which drove the profession helter-skelter on to the panels was of the flimsiest. Our answer to the threat of a whole-time service should have been, as I said at the time, "if Parliament will stand the expense and the people will tolerate the system, we have nothing to lose and most desirable things to gain." Many of us who find the business of panel underwriting doctor—well, not professional—feel we could serve honourably (and very comfortably) as State medical officers.

Panel and Non-Panel.

Dr. Arthur J. Brock (Edinburgh) writes: Dr. S. Noy Scott says: "The time has come for a *rapprochement* between panel and non-panel men." As a matter of fact, in many parts of the country, as here in Edinburgh, though there may be individual differences between practitioners, there is no enmity between panel and non-panel men as such. Men have obviously gone on the panel for very different reasons. Some have done so on principle, believing that the nationalization of the profession will best tend to advance our art. Others, while convinced that such an extension of contract practice will ultimately prove to be against the best interests of medicine, have yet been forced for bread-and-butter reasons to surrender their personal predilections and to take service under the Act. Many young practitioners, no doubt, having no particular views one way or the other, have gone on the panel in order to make money—and who can blame them if they were in need of money? There are also men who look on medicine simply as a trade, and who believe that money-making should take precedence of other considerations; these quite naturally went on the panel when Mr. Lloyd George raised his price sufficiently to make it "worth their while." Probably such men are in a minority.

Some who have refused to work the Act, and who are having to pay a big price for gratifying their taste for freedom, are angry at others who made great protestations about "cardinal points," about "dying in the last ditch," etc., and who yet were among the first to surrender. It was wrong, however, to take these pronouncements seriously; they were, in the main, rhetorical expressions, designed, like barristers' speeches, to overwhelm the enemy. Having failed, they may be forgotten.

Those gentlemen who have gone on the panel and who find the work to their mind are to be congratulated; the first aim in life of every one of us should be to get congenial work. Those who, like Dr. Scott, find the work galling, but who are yet forced, for pecuniary reasons, to continue it, deserve our warmest sympathy; it is very much to be hoped that all our fellow practitioners who are in Dr. Scott's position (and there are, no doubt, many) will soon be enabled to purchase their freedom and to re-enter private practice. In some parts of the country, doubtless, the panel system is an improvement on the conditions formerly obtaining; why, then, should it not continue there? Let us by all means have a State medical service alongside a private one, and we will see which gives the better results. It is pre-eminently a matter for each man to decide for himself. This is essentially a time for mutual forbearance and for self-examination. Let our motto be, "Judge not, that ye be not judged." We must not try to force our private tastes or moral standards down other people's throats. The worst thing that could happen to the healing art (and therefore to the country) at the present day would be for its exponents to "take sides," like a lot of children—or politicians.

Temporary Residents.

Dr. Chas. Buttar (London) writes: The attention of the profession should be drawn to a report on page 266 of the Supplement on the case of a medical man in Denbighshire who refused to accept a green voucher. It is stated that the Clerk of the Insurance Committee informed this practitioner that unless he agreed to attend migrants the Committee *would withhold payments due to him.* Apart from the very doubtful legality of the Clerk's proposal, it is worth while to ask whether the panel practitioners regard such action as an improvement upon friendly society behaviour. I feel some surprise that this remarkable proceeding called forth no editorial comment in your columns. The case might even be worthy of the consideration of the Insurance Act Committee.

Medical Advisers or Referees.

Dr. Shepherd Boyd (Harrogate) writes: The profession should feel deeply indebted to Dr. Bertram Rogers, Medical Adviser to the Insurance Committee, Bristol, for his very interesting letter on the subject of medical advisers or referees; also to Dr. Ellwood, Medical Referee of the London and North-Western Railway Providence and Insurance Societies.

The important point brought out in their letters is that malingering not only is increasing but is most likely to further increase unless there be very careful selection of proper men of experience for referees; for if there is a tendency for malingering to increase, even under the above acknowledged men of experience, how much so will it increase under less experienced referees?

To attract the proper referee, who must be a man of long experience in dealing with these cases, the terms offered are inadequate, and not many would care to give up their present certainty on such terms.

Meetings of Branches and Divisions.

EAST ANGLIAN BRANCH:

South-East Essex Division.

The annual general meeting of the Division was held on September 17th at Southend, when Dr. Harman Morgan presided over a somewhat small attendance.

The Annual Representative Meeting. — The Representative presented his report on the Representative Meeting at Brighton in July last. After some discussion as to the proposed increase of power to be given to Representatives, the report was accepted.

Election of Officers.—The election of officers for the ensuing year resulted as follows:

President.—Dr. Victor Hodgson.
Vice-President.—Dr. A. F. Blake.
Committee.—Drs. Adams Morgan, Bridger, Norman, Pooler, Forsyth, Eyre Lloyd, Wacher, Hinks, and Simpson.
Honorary Secretaries.—Drs. J. F. Walker and J. B. Maxwell.
Representative.—Dr. J. F. Walker.

Votes of Thanks.—Votes of thanks to the retiring President and the Honorary Secretaries were carried unanimously.

Notification of Births Act. — It was reported that the Notification of Births Act would shortly be put in force in the district, and it was agreed, on the suggestion of Dr. Forsyth, that the difficulty might be overcome by the medical man in attendance at the confinement handing a printed card stating the legal obligation to a responsible person in the household.

The Milward Fund.—An appeal by Dr. Walker on behalf of the Milward Fund resulted in the sum of £4 5s. being collected for that object.

Annual Dinner.—The annual dinner was fixed for October 21st.

METROPOLITAN COUNTIES BRANCH:

Wandsworth Division.

A special meeting of this Division was held on Tuesday, September 23rd, on the requisition of twenty members. Dr. G. D. Wilson was in the chair, and forty-five members were present. Dr. Cox, Medical Secretary of the British Medical Association, and Mr. Bishop Harman, one of the Honorary Secretaries of the Metropolitan Counties Branch, were also present. After the minutes had been read and confirmed, and a few introductory remarks by the Chairman, Dr. E. Smith proposed the following resolution:

> This meeting of the Wandsworth Division of the British Medical Association is of the opinion that the present pro-panel attitude of the Association is reacting detrimentally to the interests of members of the profession in general and in particular to the interests of non-panel practitioners, and approves the action of all such members in resigning from the Association.

Dr. E. Smith said that the three points involved were: That (I.) the attitude of the Association is pro-panel, (II.) the policy of the Association is detrimental to non-panel members, and that (III.) the correct course was resignation. (I.) Unfortunately in the early stages of the Insurance Act controversy the British Medical Association was controlled by a small group of men (including Sir Victor Horsley, Dr. Lauriston Shaw, Dr. McLean, Dr. Buist), who were determined the profession should accept the Act. Later on Dr. L. Shaw exerted powerful influence inducing men to go on the panels. At present the pro-panel attitude was obvious from such points as (1) refusal to institute non-panel Committee, (2) article in Journal *re* 400,000 unallocated patients and money involved, (3) letter of protest from Wandsworth Division shelved (*a*) by Council (*b*) by Representative meeting (4) Hurd *v.* Pickthorne, British Medical Association refused to take up the case: National Medical Guild got decision reversed. (II.) The official resolution of January Representative Meeting said the "Act was derogatory, etc." This was never rescinded. The speaker referred to the high pressure of work of panel men and the alleged absence of ethics, and to the decision of friendly societies' delegates representing 7,000,000 insured people. (III.) The Association, he said, was in an illogical position. The official statement was that the terms of service were "derogatory, etc.," yet finding men accepting work, the Association was obliged to support them, or cease to exist; the Association chose the former, and therefore could not retain non-panel members who were not accepting terms which the Association itself had called "derogatory, etc."

Dr. Barton, in seconding, said the British Medical Association was the catspaw of political intriguers—for example, when Mr. Lloyd George gave them twenty-four hours to decide whether Mr. Smith Whitaker should take service under the Government they never consulted their constituents, but gave their permission. Dr. McLean's decision with regard to freedom of voting was arbitrary. Dr. Barton also referred to the action of Dr. L. Shaw, Sir V. Horsley, and Dr. Cox, the latter having advised men to go on the panel. The British Medical Association's analysis of the last Government offer in January, 1913, was in favour of the panel. He said the profession had been hoodwinked over the sanatorium benefit, especially with regard to remuneration at sixpence a-head. It was significant that Chairman, Chairman-elect, Secretary, and past-Representative were all resigning in the Wandsworth Division. Non-panel doctors were ignored by the British Medical Association—as, for example, in amendments sent up by the British Medical Association to Government. The British Medical Association was no good to panel men, as was illustrated by the Blackpool incident. The British Medical Association was useless as a fighting body, but a good manufacturer of waste paper. A vote of censure on Dr. Cox was proposed at the Battersea Town Hall on January 16th, 1912. The resignation of forty members of this Division, he hoped, would stir up the executive of the British Medical Association to put away party politics.

Dr. T. A. I. Howell opposed the resolution. No new arguments, he said, had been brought forward. The past was done with. Probably nearly 90 per cent. of medical men were on the panels. The real difficulty of the British Medical Association was in dealing with the interests of the remainder not on the panels, when it was bound to look after the interests of the majority on the panels. Non-panel men should not resign, but try to compel the British Medical Association to look after their interests. The Insurance Act would not be repealed, and the British Medical Association had to see that it was made to work to the advantage of all sections of the profession. A sub-committee of non-panel men had been formed. What non-panel men wanted was free choice of doctor, and they were more likely to get it by remaining in the Association. Early panel men dragged in the later ones, and it would be disloyal for the non-panel men to desert the latter, since non-panel schemes would doubtless receive many panel men's support.

Dr. M. G. Biggs could not support the resolution, but he had always been and would always be a non-panel man. Referring to the letter of protest signed by seventy-seven members of the Wandsworth Division which was sent up to the Council, he said that he had strongly supported it, and although Council passed on to the next business, he was quite sure it had good effect, especially as the editor was present, and the Representative Meeting at Brighton approved of the institution of a non-panel meeting. Resignation was a suicidal, unwise, and unnecessary policy: it would leave the British Medical Association a powerful panel association. A body had no influence without numbers, and to break it up into small associations would leave each with no power whatever, and at the mercy of Mr. Lloyd George and his friends. It was a purely destructive policy. He quoted Mr. Masterman as saying "the non-panel men are impossible because they do not know what they want and would not be satisfied with whatever was given them." The policy of resignation was destructive and disruptive. Those in favour of the resolution were doing an injury not only to the Association but also to themselves.

Dr. Caudwell criticized adversely the actions of the Association from the date of the resignation of Dr. Smith Whitaker. He made a plea for a separate healthy association of non-panel practitioners on the ground of want of confidence. He stated objections to Government or other interference in the private relationship between doctor and patient.

Dr. Carswell stated that in his opinion the British Medical Association was now virtually a pro-panel body owing to the fact that the great majority of its members

were on the panel. He said that the future line of evolution of the Association was as a pro-panel organization, and that it was impossible for the interests of two such diametrically opposed elements as panel and non-panel practitioners to be attended to by one and the same Association. He also referred to the opinions expressed at the recent conference of friendly societies concerning the quality of the medical treatment given under the panel system.

Mr. Bishop Harman controverted the statement that the Association was now a pro-panel body, and pointed out that to resign from its membership was to weaken it by the withdrawal of a justified opposition.

Dr. Cox, Medical Secretary, said that he had been invited by the Secretary of the Division to attend, and the Chairman of the Council had instructed him to do so. He protested against the statement that the British Medical Association was a pro-panel Association; it could not be so unless the foundations on which it rested were broken, and he quoted from the Memorandum of the Association stating the objects of the Association. The Association was not in the hands of the panel members, but of the whole profession. Very few had realized the difficulties of the Association during the past two years. He had heard a great many reasons why members should sit in sackcloth and ashes, but he had not heard a single reason for the policy of resignation. He begged members to disabuse themselves of the idea that the Association was a body over which members had no control. Members must help the Council to arrive at a policy which would in some way recognize the two opposing elements. They could not do this by resigning. There were probably 14,000 members of the Association in the United Kingdom on the panels, and their interests must be protected, but the Association was also determined to look after the interests of every member of the profession. Men who said that the Association was disastrous to the future of the profession were better out of the Association. He asked those who said the amendments to the Act sent up by the Association did nothing for the non-panel men whom they thought the recent free choice amendment was intented to benefit? The Association had repeatedly asked non-panel men what they wanted done for them which the Association had not tried to do, but it had had no response.

Dr. Barton asked how many men Dr. Cox had advised to go on the panel. Dr. Cox replied that he could not say, but he had always tried to act within his instructions on the matter. Other members also asked questions, which Dr. Cox answered.

Dr. Stamm opposed the resolution. He thought that men were fully agreed there was a grievance against the Association, since instead of a victory there had been an absolute defeat over the Act. The non-panel men wanted their interests represented in the Association. The Journal ought to publish articles bucking up the profession and uniting them together. The policy of resignation was feeble, weak, and silly. He did not think the Association was acting as a pro-panel Association any more than a non-panel. The alternative policy was to form a strong non-panel league, and then the Association would be bound to listen and do something for the non-panel men; but the idea of resigning because the non-panel men were not properly represented was feeble.

Dr. Harry Smith supported the resolution. He spoke as a non-panel man with a so-called "better class" practice. He stated that the Association had done nothing to prevent the sons and daughters of those patients who could afford to pay respectable fees from being swept in under the terms of the Insurance Act. The Association ought to have prevented the absurdly high income limit.

Dr. G. D. Wilson vacated the chair to support the resolution. He maintained that the Journal had been pro-panel from the very beginning of this Act, and had always been in sympathy with the panel men and had neglected the non-panel men. The non-panel men could not support an Association which did not support them. The non-panel men had suffered pecuniary loss, and they could not expect anything from an Association of which 70 to 80 per cent. were panel men. The motion was then put to the vote, when 21 members voted for it and 14 against it.

Association Notices.

QUARTERLY MEETING OF COUNCIL.

The Quarterly Meeting of Council will be held on Wednesday, October 29th, in the Council Room, 429, Strand, London, W.C.

By Order,
Guy Elliston,
Sept. 18th, 1913. *Financial Secretary and Business Manager.*

CHANGE OF BOUNDARIES.

Notice of Modification of Common Boundary of Warrington and Altrincham Divisions.

The following change has been made in accordance with the Articles and By-laws of the Association, and takes effect from the date of publication of this notice:

That the Urban District of Lymm be transferred from the area of the Warrington to that of the Altrincham Division, and that the common boundary of the two Divisions be modified accordingly.

Representation in Representative Body.—Unaffected.

SUGGESTED CHANGES OF BOUNDARIES.

(I) Notice of Proposal for Reorganization of the Existing Norfolk Divisions.

Notice is hereby given under By-law 73 to all concerned of a proposal made by the East Anglian Branch for alteration of areas of Divisions lying in the county of Norfolk, the adjusted Divisions to be as follows:

Division.	*Area.*
1. Norwich Division ...	County Borough of Norwich.
2. Great Yarmouth Division	County Borough of Great Yarmouth.
3. East Norfolk Division ...	Area to consist of the area of the existing Mid-Norfolk Division *plus* the area of the existing East Norfolk Division outside of the County Borough of Great Yarmouth.
4. West Norfolk Division ...	As at present.

Formal written notice of the proposal of the Branch has been given, pursuant to Article 13, to the existing Divisions concerned, and the matter will be determined in due course by or on behalf of the Council. Any member affected by the proposed change and objecting thereto is requested to notify the fact with his reasons therefor to the Medical Secretary, 429, Strand, London, W.C., by November 4th, 1913.

October 1st, 1913.

(II) Notice of Proposal for Transfer of Hinderwell from the Area of the Scarborough Division of the Yorkshire Branch to the Area of the Cleveland Division of the North of England Branch.

Notice is hereby given under By-law 73 to all concerned of a proposal made by the Council of the North of England Branch for the transfer of Hinderwell from the area of the Scarborough Division of the Yorkshire Branch to the area of the Cleveland Division of the North of England Branch.

Formal written notice of the proposal of the Branch Council has been given, pursuant to Article 13, to the Branches and Divisions concerned, and the matter will be determined in due course by or on behalf of the Council. Any member affected by the proposed change and objecting thereto is requested to notify the fact with his reasons therefor to the Medical Secretary, 429, Strand, London W.C., by November 4th, 1913.

BRANCH AND DIVISION MEETINGS TO BE HELD

Birmingham Branch: Coventry Division.—Dr. Duncan Davidson, Honorary Secretary (15, Priory Row, Coventry) gives notice that the annual dinner will be held on Tuesday, October 7th, at 7.45, in the Masonic Hall. Dr. James Neal, Assistant Medical Secretary, British Medical Association, and Mr. Albert Lucas, of the Journal Committee and Chairman of the Local Medical Insurance Committee, Birmingham, have been invited as official guests to the dinner to be held on October 7th, and have signified their intention of being present. The Dinner Subcommittee hope that many members will be present, and it will facilitate the work of the Honorary Secretary if members will return their cards as soon as possible. The price of the dinner will be 12s. 6d., inclusive of wine.

Dorset and West Hants Branch.—Dr. Frank Fowler, Honorary Secretary (29, Poole Road, Bournemouth), gives notice that the autumn meeting will be held in the Queen's Hall, Royal Hotel, Weymouth, on Wednesday, October 15th, at 3.30 p.m. Business: Election of President, two Vice-Presidents, Honorary Secretary, and Treasurer for 1914–15. Mr. F. Belben, Vice-President, will open a discussion on "Chronic Constipation from a Surgical Point of View." Luncheon (2s. 6d.) has been arranged for at the Royal Hotel from 1.30 to 2.30.

Metropolitan Counties Branch: City Division.—Dr. A. G. Southcombe, Honorary Secretary (83, Sidney Road, Homerton, N.E.), gives notice that the inaugural meeting of the session will be held at the London Hospital, Whitechapel, E., on Friday, October 10th, at 4 p.m., when Dr. J. H. Sequeira will give a demonstration on cases from the Dermatological Department.

An extraordinary general meeting of the Division will be held in Balfour Hall, Dunston Street, Kingsland, on Wednesday, October 22nd, at 3.30 p.m., when the following resolution will be moved by Dr. Deighan: "That in the opinion of the meeting the explanation given by Dr. Evan Jones on August 20th regarding the position taken up by him in reference to the proposed friendly society control of medical benefit is unsatisfactory, and his views are opposed to those of the Division."

Yorkshire Branch.—Dr. Adolph Bronner, Honorary Secretary (33, Manor Row, Bradford), gives notice that the next meeting of the Branch will be held at the Grand Hotel, Scarborough, on Saturday, October 25th, at 4.15 p.m. Members intending to read papers, make any communications, propose new members, or show cases or specimens are requested to write to him at once. Members will dine together at 6.30 p.m. Special week-end terms will be arranged. A number of members will golf at Ganton on Saturday morning.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ABERDARE AND MOUNTAIN ASH EDUCATION COMMITTEES.—School Dentist. Salary, £240 per annum.

ABERDEEN: HOSPITAL FOR INFECTIOUS DISEASES AND TUBERCULOSIS.—(1) Senior Resident Physician. (2) Junior Resident Physician. Salary, £200 and £100 per annum, rising to £250 and £150 respectively.

ARGYLE AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer (male). Salary, £175 per annum.

BARNSLEY: BECKETT HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £120 and £100 per annum respectively.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Senior and Junior House-Surgeons. Salary, £120 per annum each.

BEIT MEMORIAL FELLOWSHIPS FOR MEDICAL RESEARCH.—Ten Fellowships. Applications to the Secretary, 35, Clarges Street, Piccadilly, W.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—Assistant Physician.

BIRMINGHAM: QUEEN'S HOSPITAL.—Radiographer. Salary, £100 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common.—Two House-Surgeons (male). Salary at the rate of £75 per annum each.

BRADFORD POOR LAW UNION.—Assistant Resident Medical Officer for the Hospital and Workhouse. Salary, £130 per annum.

BRISTOL GENERAL HOSPITAL.—(1) First House-Physician. (2) Second House-Physician. (3) Casualty House-Surgeon. Salary at the rate of £80 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House-Physician. Salary, £80 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Dental House-Surgeon. (2) House-Physician. (3) Three House-Surgeons. (4) Throat, Nose, and Ear House-Surgeon. Salary for (1), (2), and (3) at the rate of £100 per annum, and for (4) at the rate of £75 per annum.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £80 per annum, increasing to £90.

CARDIFF EDUCATION COMMITTEE.—Lady Medical Inspector of School Children and Assistant to the Medical Officer of Health. Salary at the rate of £250 per annum.

CHELTENHAM GENERAL HOSPITAL.—House-Physician. Salary, £100 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—(1) Resident Medical Officer; salary, £150 per annum. (2) Surgeon.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

EDAY PARISH.—Medical Officer. Salary, £70 per annum, and appointments £20.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Third House-Surgeon (male). Salary, £80 per annum.

HAMMERSMITH INFIRMARY.—Second Assistant Medical Officer of the Infirmary and Workhouse. Salary, £130 per annum, rising to £150.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—(1) Ophthalmic Surgeon to Out-patients. (2) Medical Officer in charge of *X*-Ray and Electrical Department, honorarium, 25 guineas per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £70 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

HEREFORD COUNTY AND CITY ASYLUM.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £225.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—(1) Resident Medical Officer; salary, £200 per annum. (2) House-Physician; honorarium 30 guineas for six months.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Assistant Casualty Medical Officer. Salary, £30 for six months and £2 10s. washing allowance.

HULL ROYAL INFIRMARY.—(1) House-Physician. (2) Casualty House-Surgeon. Salary, £100 and £80 per annum respectively.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

KIMBERLEY HOSPITAL.—Bacteriologist and Pathologist. Salary, £600 per annum.

LEICESTER BOROUGH MENTAL HOSPITAL, Humberstone.—Second Assistant Medical Officer and Pathologist. Salary, £240 per annum, rising to £280.

LIVERPOOL: PARKHILL SANATORIUM.—Resident Medical Superintendent. Salary, £400 per annum, increasing to £500.

LONDON COUNTY ASYLUM, Claybury.—Junior Assistant Medical Officer. Salary, £170 per annum.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Resident Medical Officer. Salary, £250 per annum.

LONDON HOSPITAL, Whitechapel, E.—(1) Two Surgical Registrars. (2) Medical Registrar. (3) Assistant Anæsthetist. Salary, £100 per annum each for (1) and (2).

MACCLESFIELD GENERAL INFIRMARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

MANCHESTER TOWNSHIP WORKHOUSE, Crumpsall.—(1) Second Resident Assistant Medical Officer. (2) Junior Resident Assistant Medical Officer. Salary, £135 and £120 per annum respectively.

MEDICAL MISSIONARIES.—(1) Woman Doctor for Maternity Hospital, China. (2) Two Women Doctors for Central China and South India.

MIDDLESBROUGH: NORTH ORMESBY HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £100 per annum for first six months, rising to £110.

MIDDLESEX HOSPITAL, W.—Dental Surgeon.

NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.—(1) Senior Medical Officer. (2) Junior Medical Officer. Salary, £100 and £80 per annum respectively.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer (male). Salary, £150 per annum, rising to £175.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.—House-Physician and Surgeon. Salary at the rate of £52 10s. per annum each.

PERTH: JAMES MURRAY'S ROYAL ASYLUM FOR LUNATICS.—Physician-Superintendent. Salary, £700.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £75 per annum.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—House-Surgeon (male). Salary at the rate of £80 per annum.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £200 per annum, rising to £250.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham.—(1) Honorary Assistant Ophthalmic Surgeon. (2) Senior House-Physician. (3) Senior House-Surgeon. (4) Junior House-Physician and Assistant Pathologist. (5) Junior House-Surgeon. Salary for (2) and (3) £75 per annum, and for (4) and (5) £60 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—(1) Assistant Physician. (2) Clinical Assistants.

READING: ROYAL BERKSHIRE HOSPITAL.—(1) House-Surgeon. (2) Second House-Surgeon. Salary at the rate of £80 per annum.

ROCHDALE INFIRMARY.—Second House-Surgeon (male). Salary, £100 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Clinical Assistants in Out-patient Department.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Senior House-Surgeon. Salary at the rate of £100 per annum.

SALOP INFIRMARY.—House-Physician. Salary at the rate of £90 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD UNION HOSPITAL.—Resident Assistant Medical Officer. Salary, £120 per annum.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer (male). Salary, £180 per annum, increasing to £200.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary at the rate of £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

STAFFORDSHIRE, WOLVERHAMPTON, AND DUDLEY JOINT COMMITTEE FOR TUBERCULOSIS.—Tuberculosis Officers. Salary, £500 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Surgeon. Salary, £120 per annum, rising to £140.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £125 per annum.

TAUNTON AND SOMERSET HOSPITAL. — Resident Assistant House-Surgeon. Salary at the rate of £80 per annum.

WAKEFIELD GENERAL HOSPITAL. — Second House-Surgeon. Salary, £100 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL. — Assistant Resident House-Surgeon and Anaesthetist. Salary, £75 per annum.

WESTMINSTER UNION.—Assistant Medical Officer at the Infirmary, Hendon.—Remuneration, £160 per annum, rising to £180.

WEST RIDING ASYLUM, Burley-in-Wharfedale.—Assistant Medical Officer. Salary, £180 per annum.

WHITEHAVEN AND CUMBERLAND INFIRMARY. — House-Surgeon (male). Salary at the rate of £120 per annum.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House-Surgeon, Salary, £100 per annum.

WILTS COUNTY COUNCIL.—Temporary Assistant School Medical Inspector. Salary at the rate of £300 per annum.

YORK DISPENSARY AND MATERNITY HOSPITAL.—Resident Medical Officer (male). Salary, £140 per annum.

CERTIFYING FACTORY SURGEONS. — The Chief Inspector of Factories announces the following vacant appointments: Bungay (Suffolk), Clacton-on-Sea (Essex), Gillingham (Dorsetshire), Shefford (Bedfordshire), Willenhall (Staffordshire).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

ANGUS, James, M.B., Ch.B.Glasg., Outdoor House-Surgeon to the Glasgow Maternity and Women's Hospital.

HEGARTY, G. F., L.R.C.P. and S.Edin., X-Ray Specialist at the South Charitable Infirmary, Cork.

HIRD, R. Beatson, M.D., Ch.B.Birm., F.R.C.S.Edin., M.R.C.S.Eng., L.R.C.P.Lond., Honorary Assistant Surgeon to the Birmingham and Midland Eye Hospital.

MACNAUGHT, W. W., M.B., Ch.B.Glas., Indoor House-Surgeon to the Glasgow Maternity and Women's Hospital.

RITCHIE, T. C., M.B., Ch.B.Edin., Indoor House-Surgeon to the Glasgow Maternity and Women's Hospital.

Correction.—In the notice of the appointment of Dr. E. A. C. Baylor as Medical Officer of the Bosmere and Claydon Union, the degrees were printed as from the University of Durham, they should have been Dublin.

DIARY FOR THE WEEK.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF OBSTETRICS AND GYNAECOLOGY, 8 p.m.—(1) Opening Remarks by the President, Dr. W. S. A. Griffith. (2) Short Communication: Dr. Macnaughton-Jones: Case of Complete Absence of the Internal Genitalia. (3) Papers: Dr. Frances Ivens: Report of 26 Cases of Adnexal Tuberculosis. Dr. Williamson and Dr. Mackenzie Wallis: The Serum Diagnosis of Pregnancy with a Demonstration of Apparatus and Methods.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor Road, S.W., 5 p.m.—(1) Presidential Address, by Colonel B. M. Skinner, A.M.S. (2) Problems of Mobilization specially affecting the R.A.M.C., by Lieutenant-Colonel E. M. Wilson, R.A.M.C. (ret).

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

CLINICAL SECTION, 8.30 p.m.—Dr. J. D. Rolleston: Case illustrating Local Treatment of Vincent's Angina by Salvarsan, and other cases.

SECTION OF THE HISTORY OF MEDICINE, 5 p.m.—Professor Morris Jastrow: Babylonian Medicine.

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.—Continuation of the Post-Graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics, daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Thursday. Radiography: Saturday.

LONDON SCHOOL OF TROPICAL MEDICINE, Albert Dock, E.—Lectures daily (Saturday excepted) at 12 and 4 p.m. Practical Laboratory Work daily (Saturday excepted), 10 to 12 a.m. Practical Protozoology, 2 to 3.30 daily. Advanced Protozoology, 10.30 to 1 p.m. daily. Medical Clinics, Tuesday and Thursday at 3 p.m. Operations, Friday at 3 p.m.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS. — Wednesday, 4.30 p.m.: Royal Infirmary: Chronic Infective Endocarditis. Friday, 4.30 p.m.: Royal Eye Hospital: Subjective Tests for Visual Acuity. Thursday, 4.30 p.m.: Ancoats Hospital: Liver Cirrhosis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—Clinical Demonstrations at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Medical; Friday, Ear, Nose, and Throat. Lectures on special subjects at 5.15 p.m.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday and Friday, 3.30 p.m., Regional Diagnosis.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics: X Rays and Operations 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday.

[*For further particulars of Lectures consult the Index to Advertisements.*]

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

BODY.—On September 19th, at Dowlais House, Middlesbrough, Mrs. T. M. Body, a son.

GRIFFIN.—On September 22nd, at Baldock, Herts, the wife of John P. Griffin, M.R.C.S., L.R.C.P.Lond., of a daughter.

MASON.—On September 27th, at Toll House, Great Bridge, Staffs, to the wife of Philip J. Mason, M.B., D.P.H., a son.

MARRIAGES.

GOOD—ARBUCKLE.—On October 1st, at Marylebone Parish Church, by the Rev. J. J. Littlewood, Vicar of Thorne, James Percy Good, M.D., of Harborne, Birmingham, to Phyllis, younger daughter of H. W. Arbuckle, M.D., of Thorne, Yorks.

PEARCE—STIRLING.—On September 27th, at the Church of the Holy Innocents, Fallowfield, Manchester, by the Rev. Eric G. Southam, Percival Leslie Pearce, M.B., Ch.B., second son of the late Mr. and Mrs. William Pearce, of Kingston, Jamaica, to Elizabeth Ferguson, elder daughter of William Stirling, M.D., D.Sc., Belfield Lodge, Fallowfield, Manchester. At home November 25th and 26th, Enfield House, Bury Old Road, Manchester.

ROBB—M'LARDIE.—At The Abbey, Paisley, on the 30th September, by the Rev. A. M. MacLean, B.D., and Rev. W. Fulton, B.Sc., B.D., Alex. Robb, M.A., M.D., D.P.H., Medical Officer for the County of Midlothian, Linlithgow, Peebles, etc., to Elizabeth, elder daughter of Mr. and Mrs. M'Lardie, Lag-na-Craig, Paisley.—Phesdo, Corstorphine, Midlothian.

DEATH.

NORRIS.—On September 24th, at Langley Lodge, Surbiton, Florence Emily, wife of Frank B. Norris, M.D.

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		OCTOBER.
6	Mon.	London: Dominions Committee, 2 p.m.
		London: Naval and Military Committee, 4 p.m.
7	Tues.	London: Public Health Committee, 3.30 p.m.
		Coventry Division, Annual Dinner, 7.45 p.m.
8	Wed.	London: Medico-Political Committee, 2 p.m.
10	Fri.	London: Journal Committee, 2 p.m.
		City Division, London Hospital, Whitechapel, E., 4 p.m.
14	Tues.	London: Organization Committee, 2 p.m.

Date.		Meetings to be Held.
		OCTOBER (*continued*).
14	Tues.	London: Metropolitan Counties Branch Council, 4 p.m.
15	Wed.	London: Hospitals Committee, 2.30 p.m.
		Dorset and West Hants Branch, Weymouth, 3.30 p.m.; Luncheon, 1.30 p.m.
22	Wed.	London: Finance Committee, 2.30 p.m.
		City Division, Balfour Hall, Dunston Street, Kingsland, 3.30 p.m.
25	Sat.	Yorkshire Branch, Scarborough, 4.15 p.m.; Dinner, 6.30 p.m.
29	Wed.	London: Council.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 11TH, 1913.

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INSURANCE ACT COMMITTEE.

THE fourth meeting of the Insurance Act Committee was held at the offices of the Association on Thursday, September 25th. Mr. T. JENNER VERRALL, Chairman of Representative Meetings, was in the chair, and the other members present were: *England and Wales:* Dr. R. M. Beaton (London), Dr. D. E. Finlay (Gloucester), Dr. E. R. Fothergill (Brighton), Dr. Major Greenwood (London), Dr. I. W. Johnson (Bury), Mr. Herbert Jones (Hereford), Dr. Constance Long (London), Dr. H. F. Oldham (Morecambe), Dr. James Pearse (Trowbridge), Dr. G. K. Smiley (Derby), Mr. D. F. Todd (Sunderland), Dr. Crawford Treasure (Cardiff), Mr. E. B. Turner (London). *Scotland:* Dr. John Adams (Glasgow), Dr. R. McKenzie Johnston (Edinburgh). *Ex officio:* Dr. W. A. Hollis (President), Dr. Edwin Rayner (Treasurer).

TREATMENT OF MEMBERS OF THE STAFFS OF VOLUNTARY HOSPITALS.

The Committee at its last meeting had recorded its opinion that, if a medical officer of a voluntary hospital was required to attend the insured members of the staff, the proper proportion of moneys paid by the Insurance Committee in respect of the medical attendance and treatment of such persons should be paid to the medical officer of the institution responsible for medical attendance and treatment, irrespective of any salary paid to such officer by the hospital authority. The Medical Secretary now made a report on an interview he had had with the secretary of a voluntary hospital in London, and after discussion a motion was made by Dr. Fothergill, seconded by Dr. Major Greenwood, to the effect that, after the end of this year, no advertisement for an appointment of a medical officer to a voluntary hospital should be accepted for publication in the JOURNAL unless the management of the hospital accepted the principle enunciated above. The motion was eventually withdrawn in order that it might be brought up at the next meeting after due notice.

DEPARTMENTAL COMMITTEE ON ALLEGED EXCESSIVE CLAIMS FOR SICKNESS BENEFIT.

A communication was read from the National Insurance Commissioners respecting the procedure of the Departmental Committee upon alleged excessive claims in respect of sickness benefit. The communication stated that the Committee would welcome evidence from the Association, and that a statement as to the points on which evidence from the Association was desired would be forwarded at an early date.

CANVASSING AND FREE CHOICE OF DOCTOR.

A report was received from a member of a Local Medical Committee concerning the action taken by certain friendly societies in the locality to obtain a practitioner to treat uninsured persons at fees lower than had been agreed upon by the local profession, adding that in connexion therewith attempts were being made by the societies to induce their members to transfer their names from the lists of the panel doctors to that of some doctor or doctors chosen by the society. The Committee arranged that the Medical Secretary should inquire fully into the circumstances and visit the locality.

PROPOSED SPECIAL FUND.

The Special Fund Subcommittee presented a draft scheme as an alternative to that brought before the last Annual Representative Meeting (SUPPLEMENT, July 5th, p. 25). This was considered by the Committee paragraph by paragraph, emended, and approved as emended for presentation to the Council, with the recommendation that the Council should submit it to the Divisions and Special Representative Meeting.

MEDICAL REFEREES.

The advice of the Committee was sought by the honorary secretary of a Local Medical Committee as to certain rules suggested by his committee for the constitution and procedure of a board of medical referees. The Insurance Act Committee, in reply, expressed the opinion that it was inadvisable for action to be taken in connexion with the appointment of medical referees pending the report of the Departmental Committee on malingering now sitting, but that if the local profession considered it expedient to take action in the matter, the Committee recommended that only temporary appointments of part-time officers should be made, whose payment should not be less than 10s. 6d. per case, as previously decided by the Committee.

MEDICAL AID INSTITUTIONS.

It was reported that, in accordance with the decision of the Committee on September 11th (SUPPLEMENT, September 20th, page 249), a letter had been addressed to the Insurance Commissioners, England, asking them to receive a deputation to point out, *inter alia*, that the concessions made by the Government to approved institutions at the time of the Chesterfield by-election placed the local

medical practitioners who are on the panel in an unfair position; that they were not in the best interests of the insured persons; and were contrary to the spirit of Memorandum I.C. 163 issued by the Commissioners on the subject to approved societies. The reply was to the effect that the Commissioners did not think that any good purpose could be served by receiving a deputation from the Association owing to Mr. Masterman's absence from town, but that the staff of the Commission would be pleased to explain to any representative of the Association any points upon which it might be in doubt. The Committee resolved to request Mr. Masterman, Chairman of the Joint Committee of Insurance Commissioners, to receive a deputation from the Committee on the subject.

Wandsworth Division.

The Medical Secretary informed the Committee that, on receipt of an invitation from the Honorary Secretary of the Wandsworth Division, and after consulting the Chairman of Council, he had attended the special meeting of that Division on September 23rd (see Supplement, October 4th, p. 293), and reported the terms of the resolution then adopted by the Division. The Committee empowered the Medical Secretary to make a statement of the facts of the case to the representatives of the lay press in order that the matter might be placed before the public in its proper light.

Panel Committee.

The Medical Secretary reported that he had been informed that it was the intention of the Commissioners to consult the medical members of the Advisory Committee before issuing regulations with reference to the new Panel Committee. The Committee resolved to await the result of this meeting of the Advisory Committee before carrying out its intention of communicating on the subject with the honorary secretaries of Branches, Divisions, and Local Medical Committees.

Audit of Central Insurance Defence Fund.

A letter was read from a member suggesting that the accounts of the Central Insurance Defence Fund should be submitted to professional auditors. It was decided to inform the writer that the Association had all along submitted the accounts of the Fund to professional auditors, and would continue to do so.

Attendance upon Confinements.

A letter was read from a member asking for advice as to the stage at which, in connexion with a confinement of an insured woman, a panel practitioner became responsible for her treatment as part of the medical attendance and treatment he was under agreement to give her. The Committee resolved to draw the attention of the Insurance Commissioners to the difficulty arising in connexion with this question, to point out that the Association was unable to find that either the Insurance Acts or the Regulations drew a line of demarcation between attendance upon confinements and attendance under medical benefit, and to ask the Commissioners whether they would co-operate with the Association in fixing a line of demarcation.

Extension of Medical Benefit to Dependants of Insured Persons.

The Committee resumed the consideration of the outline scheme of a medical system for East Cheshire submitted to the Representative Meeting on July 19th (Supplement, July 26th, p. 119), by Dr. Picton (Stockport, Macclesfield, and East Cheshire). The Representative Meeting had referred the scheme to the Council, and the Committee now resolved to consider it at a subsequent date along with a statement, which was in preparation, of the decisions of the Representative Body and of the various committees of the Association relative to the subject since the introduction of the Insurance Act.

Compensation Cases.

The Committee considered six applications for grants from the Central Insurance Defence Fund. Grants were made in four cases; with regard to the fifth case the Committee decided to obtain further information, and as to the sixth to inform the applicant that it had no power to grant him the concession in the form he desired.

LOCAL MEDICAL COMMITTEES.

ABERDEENSHIRE.

A meeting of practitioners on the county panel, summoned by the Local Medical Committee, was held in the Medico-Chirurgical Society's Hall, on September 12th, when the following report was issued to the panel practitioners in the county:

Index Cards.—It was reported that the clerk of the County Insurance Committee had issued to the secretaries of various approved societies "Suspense Slips," on which were the names and addresses of insured persons for whom medical application forms [Med. 5: xii (Scotland)] had been lodged with him, duly completed, but for which there were no corresponding index slips—consequently practitioners had not received payment for these. It was to be hoped that by this method the index slips would be lodged with the clerk, and payment received next quarter—the payment to be retrospective from January 15th, 1913; and the Local Medical Committee had demanded interest to date.

Emergency Dressings, etc.—It was announced that after considerable correspondence with the clerk of the Insurance Committee and Scottish Commissioners, the latter had sanctioned the list of emergency dressings, etc., and that approval was for the period ending October 31st.

Urgent Prescriptions.—The following proposal, put forward by the County Pharmaceutical Committee, was agreed to, and has received the sanction of the County Insurance Committee, namely:

> That only prescriptions which are marked by the doctors as "urgent" should be dispensed between the recognized closing and opening hours, and on Sundays, holidays, and half-holidays, when pharmacies are closed.

Proprietary Medicines.—This matter was considered in conjunction with a letter from the secretary of the County Pharmaceutical Committee. The meeting agreed to adhere to the terms of the circular.

Serums.—In some cases serums other than diphtherial may be required, which may be used if the practitioner considers necessary. In all cases practitioners should be careful in prescribing so as to conserve the "Drug Suspense Fund."

Expenses of Panel Committee and of Pharmaceutical Committee.—The National Insurance Act, 1913 (Amending Act) was discussed especially with regard to Section 33, Subsection (2) (vide British Medical Journal Supplement, August 23rd, pp. 217 and 220), and it was agreed to hold a conference with representatives from practitioners and pharmacists in county and burghs. Drs. Rorie, Rannie, and Bruce were appointed representatives of county practitioners. At this conference it was agreed to send letters to the Local Insurance Committees and the Scottish Commissioners asking what steps they were taking to safeguard the "Drug Suspense Fund," and to check the chemists' accounts. It was pointed out to these bodies that the Local Medical and Pharmaceutical Committees repudiated any legal liability under the 1911 and 1913 Acts to appoint or pay for an auditor to check accounts, and refused to recognize the liability of any deduction from the "Drug Suspense Fund" for that purpose, as such deductions would be a breach of the contracts between the practitioners and the committees.

Medical Referees.—It was considered that as the Insurance Committee had no funds for the purpose, it was not probable that a medical referee for the county would be appointed. Should any practitioner be approached by an approved society to visit another practitioner's patient, his attention was directed to the British Medical Journal Supplement, September 13th, p. 241: "Medical Referees." Due notice must be given to the practitioner attending the case, and no fee *lower* than half a guinea should be accepted.

Renewal of Contracts.—The Insurance Committee, having issued to each practitioner a notice warning that the terms of the new agreement might be [illegible] p.m.; in accordance with amending regulations of the Committee and the Scottish Insurance Commission from the commencement of the next medical year. Local Medical Committee decided to call a meeting of practitioners to consider the new agreement; notice has been sent to the Committee, reserving the practitioner's

right to alter the agreement from their point of view, and calling the Insurance Committee's notice to the fact that it must first, in accordance with the Act, consult the Local Medical Committee before adopting any alterations.

Finances.—As the levy of 2s. 6d. already imposed has proved insufficient, it was agreed to raise it to 5s. for the year ending January 14th.

DUNDEE.

Certificates.

The Local Medical Committee has recently circulated a memorandum on the issue of certificates under the National Insurance Act for the guidance of medical practitioners in the district.

1. *Sickness or Disablement Benefit.*—It is pointed out that three certificates are required by insured persons—(*a*) initial, (*b*) continuation, (*c*) declaring off—and that the nature of the incapacity should be inserted in the declaring-on certificate. It also draws attention to Paragraph 9 in Memo. 411, National Health Insurance Commissioners (Scotland), in which it is pointed out that ability to do housework disqualifies a woman from the right to sickness benefit; thus, pregnancy, complicated or uncomplicated, does not entitle a woman to sickness benefit provided she is able to do housework. The Committee recommends that if a certificate of disability be granted to a pregnant woman, the word "pregnancy" should be inserted as well as the nature of the complication.

2. *Maternity Benefit.*—The Committee points out that certificates for maternity benefit should be given by the attendant at the confinement, and that, if the panel doctor is not in attendance at the confinement, the provision of these certificates is not within his duty. Other certificates which may be required by the patient are not within the Act, and the Committee recommended that they should be charged for in accordance with the following minimum scale:

1. Duplicate certificate, 1s.
2. Workmen's compensation or employers' liability, 2s. 6d. ordinary, and 10s. 6d. for detailed report on case.
3. Examination for entrance to friendly societies, 2s. 6d.

The Committee calls attention to Sections 4 and 14 of the first schedule of the Workmen's Compensation Act, under which employers are responsible for payment of medical certificates. These certificates should only be issued when the fee is tendered at the time or on the written request of the employer.

On the general subject of certificates the Committee makes the following observations:

> On the medical profession rests the responsibility of balancing fairly the interests of the patient and the interests of the insurance funds, and the Local Medical Committee desire to emphasize the importance of due care in the issue of certificates, which are in effect cheques drawn on the insurance fund, and would direct attention to the appended pronouncement of the General Medical Council.

Appended to the memorandum is a copy of the resolution of the General Medical Council with regard to certificates in general which was embodied in a letter from the Registrar of the General Medical Council published in the Journal of October 4th, page 890.

Cost of Prescriptions.—The Committee has also issued, for the information of practitioners in the district, a report prepared by a subcommittee consisting of Drs. George W. Miller, J. Mackie Whyte, and C. S. Young. The Subcommittee was appointed in consequence of a statement made at the Dundee Insurance Committee to the effect that the Drug Fund (9d. per insured person) for the past half-year was exhausted, that the Suspense Fund (3d. per insured person) for the same period had been encroached upon to the extent of 2¾d. per insured person, and that the average cost per prescription was 10½d. The Subcommittee examined the prescriptions dispensed by chemists in the city during the quarter, and had observed (1) that some practitioners were in the habit of ordering (*a*) expensive medicines, (*b*) excessive quantities, (*c*) "multiple repeats" on one prescription. The Subcommittee also noticed that many prescription forms were unsigned, that the use of Commisarbon interleaf was not adhered to, and that 70 per cental. of the prescriptions were supplied to women, especiough women constituted one-half of the total number of insured persons in the area. An analysis of the payments showed that out of thirty-three chemists whose prescription forms ranged from 382 to 3,173 in number, 19 were below the average (10½d.), the lowest being 7.3d.; of the others three were above 1s.—namely, 1s. 2d., 1s. 1d., 1s. 0½d. In the first case (1s. 2d.) the high average was due to having dispensed stock vaccines, and many "multiple repeat" prescriptions; in the second case (1s. 1d.) to having dispensed, out of a total of 446 prescriptions, 119 for liquid paraffin and extract of malt; in the third (1s. 0½d.) to having dispensed a greater proportion of prescriptions much above the average cost. The prescriptions dispensed by the chemist whose average was 1s. 0½d. were examined, and it was found that the large majority were to the order of two practitioners, and that a comparison gave the following results: Practitioner A.: 426 prescriptions, of which 241 were above 1s., an average of 1s. 5d. per prescription; Practitioner B.; 275 prescriptions, of which 36 were above 1s., an average of 7½d. per prescription. In the first case the prescriptions under 1s. were less than half the total number; in the second the prescriptions under 1s. were nearly eight times as numerous as those over 1s.

In conclusion, the Subcommittee suggests that, without infringing the liberty of the individual practitioner, efficient medication might be maintained and more economy exercised: (1) If, where a substance occurs both in the tariff list and under a proprietary name, the tariff name were systematically used; (2) if less quantities were ordered when there was no indication for prolonged use; (3) if the practice of giving "multiple repeat" prescriptions were discontinued.

Future Agreements.—At a meeting of the Local Medical Committee on September 11th it was unanimously agreed to urge each medical practitioner in the area to refrain from signing a further agreement with the Insurance Committee until the said agreement had been considered by the Local Medical Committee.

EDINBURGH.

A meeting of the Burgh of Edinburgh Local Medical Committee was held on October 2nd under the chairmanship of Dr. Michael Dewar.

New Contract for 1914.—It was resolved that the new agreement be submitted to the Local Medical Committee for consideration before being sent to individual practitioners for signature.

Scheme of Allocation.—It was agreed to approve the scheme of allocation proposed by the Insurance Committee, namely, that the proportion of four be allotted to doctors having less than 500 on their lists, three to those having between 500 and 1,000, two to those having between 1,000 and 1,500, one to those having between 1,500 and 2,000, and to make no allocation to doctors having 2,000 and upwards.

Medical Service Subcommittee.—A vacancy having arisen, owing to the resignation of Dr. Chalmers Watson, Dr. John Orr was appointed. The other medical members of the subcommittee are Drs. Dewar and James Wilson.

Insurance Committee.—Owing to the resignation of Dr. A. A. Matheson, who was elected by the practitioners, Dr. Dewar was nominated for election.

"*Travellers.*"—The Commissioners' arrangements were agreed to.

New Medical Certificates.—Forms Med. 34 and A.S. 75 were approved.

Chemists' Proposal for Increased Dispensing Fees.—It was agreed to support the chemists in their claim.

Foods and Wines.—The Committee made a strong recommendation inviting the Commissioners to prohibit the prescribing of proprietary foods and wines for the use of insured persons by insurance doctors.

Model Rules.—It was unanimously resolved to request the Insurance Committee to issue a copy of the Model Rules to each insured person along with the new quarter's insurance cards.

ROXBURGH.

A meeting of the Executive Committee of the Roxburgh Local Medical Committee was held at Newtown St. Boswells on October 2nd, when Dr. W. L. Cullen presided, and four other members were present.

Chemists' Charges.—Messrs. Walker and Alexander, Chairman and Secretary respectively of the County

Pharmaceutical Society, were present as a deputation to lay the views of their committee on the subject of chemists' charges before the Local Medical Committee. Mr. Walker explained that in Scotland the druggists were not paid as highly for their work as in England. In England stock mixtures and pills were generally prescribed, whereas in Scotland mixtures were more concentrated, and pills had to be made up as prescribed. The patient in Scotland generally received a greater number of doses at one time than in England, where a bottle had to be refilled two or three times for each time that it would be refilled in Scotland, the result being that in the latter country the chemist only received 2d. for making up an amount of medicine that in the former would yield him 6d. or 8d. Mr. Alexander stated that even with the increased charges asked for by the chemists the margin of the capitation grant of 1s. 6d. a head under the Insurance Act would not be absorbed, and that the doctors' 6d. would not be imperilled by the adoption of the charges as suggested. The Chairman read a circular issued by the Pharmaceutical Standing Committee, and the meeting decided to give the chemists its support towards obtaining their demands.

Post Office Medical Service Scheme.—The Secretary read the opinions of members on the draft Post Office Medical Service Scheme. After discussion the Secretary was instructed to write to the Secretary of the County Insurance Committee to the effect that the Local Medical Committee approved of the scheme as printed if, assuming that treatment of tuberculosis cases was included in the work required, practitioners should receive 6d. capitation grant on all such persons included in the scheme.

Special Arrangements for Travellers.—The Local Medical Committee approved of the proposed arrangements for travellers, but considered that applications to be dealt with under the scheme should be carefully scrutinized, and only persons admitted to it who are by reason of their occupation regular travellers—that is, if the scheme was not made applicable to persons who more properly fall into the class of temporary residents. The Secretary was instructed to inquire of the Insurance Committee as to the nature of the arrangements proposed to be made in the case of doctors dispensing their own medicines to such persons.

Forms of Certificates.—The Secretary was instructed to write to the Secretary of the County Insurance Committee, stating that the Local Medical Committee was prepared to accept the forms of certificates as proposed, with the exception that it must maintain its objection to doctors being obliged to state the name of the disease from which any particular patient suffered in a document which was intended to be produced to any public body or committee of laymen. The Committee further expressed its view that medical men should only certify to that which was within their own knowledge, and therefore the date of the certificate should be that on which they first saw the patient.

Allotment of Insured Persons.—The Secretary was instructed to write to the Secretary of the County Insurance Committee to direct his attention to the fact that arrangements for the distribution amongst practitioners on the panel of those insured persons who had failed to select a practitioner had not yet been made, and to request him to draw the attention of his Committee to the urgent necessity for the distribution being carried out without further delay. The Secretary was also instructed to point out that in the event of the County Insurance Committee failing to perform in due course its statutory obligations in this respect, the members of the County Insurance Committee would render themselves liable at law for any pecuniary loss that the panel practitioners might thereby sustain.

Dispensing of Medicines by Doctors.—The Local Medical Committee recorded its opinion that in the case of such members as dispensed their own medicines payment by capitation fee was the only possible system that could be adopted under the conditions obtaining in country practice.

BUCKS.

A meeting of the Committee was held at the Royal Bucks Hospital, on September 26th. Dr. Baker was in the chair, and twelve other members were present.

Emergency Dressings and Medicines.—A letter was read from the Secretary of the Insurance Committee stating that it was agreed that a flat rate of 1s. be adopted in the case of emergency dressings or medicines supplied by panel doctors for the next three months, and also that the Committee retain 5 per cent. of the quarterly accounts until the end of the year.

New Agreements.—The Committee will ask the Commissioners to furnish the new agreements in time to submit them to the Local Medical Committee.

Disputes.—It was reported that the two cases referred to the Committee had been settled.

Repeat Prescriptions.—The following resolution, passed by the County Insurance Committee, was read:

> That the attention of the Local Medical Committee be drawn to the fact that the majority of chemists strongly object to the use of "Repeat Prescriptions," and that it is desired that there should be a separate prescription in every case, and that there should be no reference to previous ones.

It was stated that only very few out of the forty-eight chemists on the county panel did not object to the term "Repeat Mixture." After some discussion it was stated that even when a stock mixture was ordered the chemist had to copy out the full ingredients. Finally, on the proposition of Dr. Dickson, seconded by Dr. Rose, a joint committee was appointed to meet the Chemists Association and draw up a county pharmacopoeia. It was suggested that the medical men should be asked to send in copies of any prescriptions of which they make frequent use, so that the Committee would be able to consider them. It was also proposed by Dr. Harvey, seconded by Dr. E. O. Turner, and carried by 6 votes to 3, that the Secretary write to the Secretary of the Insurance Committee inquiring whether the term "Repeat Mixture" is or is not in accordance with the Act. It was pointed out that it was very unfortunate not to be able to use the term, and several members expressed the strong opinion that some amicable arrangement with the chemists should be reached. On the motion of Dr. Dickson, seconded by Dr. Shaw, it was decided to discuss the matter previously with the Chemists Association.

Vouchers.—The yellow voucher was discussed. With regard to the green vouchers, it was pointed out that for these there was no payment for mileage or certificates.

Report of Insurance Committee.—It was mentioned by Dr. Dickson that a report of the work of the Bucks Insurance Committee had been issued, and it was proposed by Dr. Rose and seconded by Dr. Harvey that application be made for copies to be sent to each doctor on the panel by the Secretary of the Local Medical Committee, and that if there were not enough copies request should be made in future for a sufficient number to be printed.

Rules.—The consideration of the rules was then proceeded with, and several additions and alterations were made.

Annual Report of Committee.—The annual report was carefully considered, and the medical representatives on the Insurance Committee were asked to submit a report which should be appended to the report of the Committee. The Finance Committee was requested to draw up the annual statement and balance sheet in time to issue with the report.

Next Meeting.—It was decided to hold the annual meeting on October 31st, and drafts of the form of nomination paper were submitted by the Secretary.

BURY.

The Local Medical Committee for Bury has held several meetings at which the following, among other matters, have received attention:

Publication of Doctors' Accounts.—In consequence of representations made to the Commissioners the amount paid to medical practitioners will in future be stated for publication as a lump sum though the individual items will be announced confidentially to the members of the Insurance Committee; formerly the individual amounts were printed on the minutes.

Certificates.—The Committee welcome the new form of certificate as an improvement, although it has hitherto been customary in the district to state the nature of the disease on the certificate.

Medical Referees.—At its meeting in July the Committee passed resolutions to the effect (*a*) that no doctor should act directly for an approved society, (*b*) that if appointments were made in any other way no doctor should act as referee in any district in which he was on the panel. Since this decision was likely to press hard on one member it is possible that an exception will be made in his case.

New Form of Agreement.—The Insurance Committee has promised to let the Local Medical Committee have a copy of the new agreement in good time for consideration.

Model Rules.—The constitution and model rules are under the consideration of the Executive of the Committee.

Medical Benefit.—The question of the scope of medical benefit has also been referred to the Executive for consideration and report.

Medical Benefit Committee.—The Insurance Committee having complied with the request to increase the medical representation on the Medical Benefit Subcommittee to three, the Secretary (Mr. J. C. Turnbull) has been appointed.

BURNLEY.

The meetings of the Local Medical Committee for Burnley have been attended by an average of fifteen out of twenty-six members. The Committee has arrived at the following decisions during the last few months:

Temporary Residents.—In June a notice was sent by the Committee to the practitioners in the district advising them only to treat the holders of green tickets—that is, temporary residents—as private patients. The letter drafted by the State Sickness Insurance Committee was approved, and copies sent to the Commissioners and to the Burnley Insurance Committee.

Proprietary Drugs and Foods.—In August a Subcommittee met the Medical Benefit Subcommittee to consider the question of prescribing proprietary drugs and foods. It was decided to send notices both to chemists and doctors stating that such proprietary drugs could not be supplied to panel patients free.

Doctors and Chemists.—A Subcommittee met the Chemists' Committee, and it was decided that a complaint either by a doctor or chemist with regard to the other, it should be made either to the Secretary of the Local Medical Committee or to the Secretary of the Chemists' Committee, and not to the Clerk of the Insurance Committee. The desirability of having a local pharmacopœia was discussed, and it was left to the Local Medical Committee to take what steps it thought fit. At the next meeting of the Local Medical Committee it was resolved that a local pharmacopœia should be drawn up by a Subcommittee and published.

Model Rules.—The Model Rules were discussed and a subcommittee instructed to go carefully through them before their submission to the general meeting.

Certificates.—Lengthy discussions have taken place regarding certificates, the general opinion being that the objection to stating the nature of the ailment or accident was sound, but that, having signed an agreement with the Insurance Committee, the doctors on the panel were bound to state the ailment or accident if the approved society demand it.

Rubber Stamps.—The question of using autograph stamps for certificates and prescriptions was discussed. Several practitioners who used such stamps had had certificates returned and had been generally annoyed by some societies; it was decided to get a legal opinion on the question. The legal opinion was against the use of such stamps.

Medical Referees.—The following resolution was adopted previous to the communication from the Medical Secretary dated September 23rd:

> That this meeting objects to the appointment of local referees who are either on the panel or in general practice for single societies in small districts. They express the opinion that a referee under the Insurance Act should be absolutely independent of general practice and should be allotted to such a sufficiently large district as to give him full-time employment.

NORTH RIDING OF YORKSHIRE.

The reports previously published of the proceedings of the Local Medical Committee of the North Riding of Yorkshire will have shown that it has given much attention to the question of mileage, which is particularly urgent in the Riding, where in many districts the distances are great. From returns recently obtained by Dr. Thomas Ingham Mills (The Old Vicarage, Easingwold), Honorary Secretary and Treasurer of the Committee, it appears that the total number of insured persons residing two miles and more from the doctor's surgery is 13,476. The returns also show the number of patients over two miles distant and not within two miles of another panel doctor where the road is very bad and difficult, indicated in the following table by the letter Y, and also the number of patients (not included in Y) more than one mile distant from the road where walking over field and moorland is necessary, indicated in the table by Z.

Distance from Doctor.	No. of Insured Persons
2 to 3 miles	4,807
3 to 4 ,, ...	3,433
4 to 5 ,, ...	2,567
5 to 6 ,, ...	1,446
6 to 7 ,, ...	707
7 to 8 ,, ...	259
8 to 9 ,, ...	166
10 miles and over	91
Total	13,476

Y (roads bad and difficult)	1,572
Z (more than 1 mile from a road)	639

In the Supplement to the Journal of September 20th two schemes which had been proposed for dealing with mileage in the North Riding were published. The figures in these have since undergone certain corrections, which, however, do not materially affect the general result. It does not seem necessary to reproduce these schemes as corrected because a third scheme has now been adopted by the Mileage Subcommittee of the North Riding of Yorkshire Insurance Committee.

A meeting of this Subcommittee was held at Northallerton on September 11th, when Dr. E. J. Burnett was in the chair, and Drs. C. G. Meade and T. I. Mills (members of the Local Medical Committee) were present, together with three lay members of the subcommittee. The clerk read correspondence from the Commissioners stating that any scheme for mileage proposed to be submitted to the Commissioners must not involve the Insurance Committee in any liability beyond the sum of £2,600 previously reported as the maximum allowance from the special mileage fund. Dr. Mills submitted the observations of the Local Medical Committee on the mileage question, and after considerable discussion, during which several schemes submitted were found to be impracticable, the subcommittee adopted the scheme embodied in the following resolution:

> Resolution: (*a*) That, having regard to the fact that the North Riding of Yorkshire is mainly made up of rural and urban areas, mileage be paid after the second mile.
>
> (*b*) That at the end of the medical year each practitioner be asked to make a return on a form to be provided by the Insurance Committee, showing the number of insured persons residing over two miles from his residence.
>
> (*c*) That the Local Medical Committee be asked to state which of the districts, in their opinion, are difficult to work from the practitioners' point of view.
>
> (*d*) That the £2,600 be distributed on a capitation rate to be decided upon, having regard to the return which is being asked for in (*b*) of this resolution.

This scheme was, in accordance with Section 62 of the Insurance Act, 1911, sent by the North Riding Insurance Committee to the Local Medical Committee for the Riding, and all the members of that committee were consulted in a circular letter issued by the Honorary Secretary (Dr. Mills). All the twenty-three members of the Local Medical Committee replied, and the committee thereupon instructed the Honorary Secretary to inform the Insurance Committee for the Riding, at its meeting at Northallerton on October 4th, that the Local Medical Committee, on behalf of the North Riding panel practitioners, accepted the scheme set out above on trial for the year 1913.

WOLVERHAMPTON.

A meeting of the Committee was held in the Bell Library on September 30th. Dr. Craig was unanimously appointed Chairman for the meeting, and seven other members were present.

Membership of the Committee.—The Secretary reported the resignations of Drs. Grout and Magrane from the Committee, which were accepted. It was decided to take no action with regard to filling the vacancies pending a communication from the Commissioners.

Model Regulations.—The model regulations concerning the constitution of Local Medical Committees (British Medical Journal Supplement, July 5th, 1913) were discussed, and with the following modifications were adopted subject to the approval of the Commissioners:

In No. 2 the word "practising" be inserted and "resident" deleted.
In 2 (i) the words "one or more" be deleted, and "Two" inserted.
In No. 3 the number "15" be inserted before "members."
That No. 5 be deleted.
In No. 8 "not less than four days" be inserted.
As a rider to 8: "That in the event of insufficient nominations being received the Executive Subcommittee be empowered to nominate the required number."
In 10, "25 per cent." be inserted.
In 13, "That the Executive Subcommittee consists of five members *and* the officers of the Local Medical Committee."
In 21, the word "Two" be inserted before "Members."
In 22, after "shall be" "7" be inserted, and after "Committee" "3."

Model Standing Orders.—On the motion of Dr. Poole seconded by Dr. Bankier, it was resolved:

That the model standing orders be adopted, but that 5 be amended to read: "A member shall address the chair, but when the chairman rises no one shall continue to speak, nor shall anyone speak until the chairman has resumed his seat."

Panel Committee.—The Secretary drew attention to the fact that the Insurance Act, 1913, set up a panel committee, and reported that he had taken a postal vote on the matter, and that out of the thirty-six members of the profession on the Wolverhampton Panel twenty-nine had voted in favour of those members of the Local Medical Committee who are also on the Wolverhampton Panel being the Panel Committee—namely, Dr. Bates, Bankier, Craig, Cooke, Galbraith, O'Meara, Poole, Somerset, Stockwell, and J. A. Wolverson.

Medical Practitioners and Certificates.—Dr. Craig reported that at the last meeting of the Medical Benefits Subcommittee of the Insurance Committee statements had been made that the doctors were granting certificates of unfitness to work in a careless manner. It was proposed by Dr. Poole, seconded by Dr. Bankier, and resolved:

That Dr. Craig and the Secretary draft a circular letter and send it to all the practitioners on the Wolverhampton Panel, drawing their attention to the matter.

MEETINGS OF INSURANCE COMMITTEES.

Middlesex.

Appointment of Medical Referees Deferred.

The Middlesex Insurance Committee on October 6th discussed the question of the appointment of medical referees. In view of the statement of the Insurance Commissioners that Insurance Committees could only appoint medical referees as agents of approved societies, the latter to bear the whole cost, the General Purposes Subcommittee recommended that consideration of the question be deferred until an application for the appointment of medical referees be received from an approved society. An amendment proposing to take the more definite course of opening negotiations with the approved societies was moved. In the discussion representatives of societies stated that there was so little malingering in Middlesex that it would not be worth while, financially, to appoint a medical referee. Dr. H. B. Brackenbury thought there were conditions which rendered the appointment of a medical referee desirable. The local secretaries of some societies were to blame, owing to their easy-going attitude towards insured persons. It was no uncommon thing for people to ask a doctor to give them a certificate because they "had made it all right with the secretary of their society," or because "the secretary of my society doesn't mind." The amendment was lost, and the recommendation of the Subcommittee to defer action was approved.

NEW CONTRACTS AND REGULATIONS UNDER THE INSURANCE ACT, 1913.

Meeting of the Advisory Committee.

As readers are well aware, the amending National Insurance Act, 1913, contains a section (32) which provides for the appointment of a committee in each insurance area to enable an Insurance Committee to ascertain "the opinions and wishes of the medical practitioners who have entered into agreements with the Insurance Committee." The section is as follows:

32. *Consultation with Practitioners who have Entered into Agreements with Insurance Committees.*

Where it is made the duty of an Insurance Committee under the provisions of this Act or of the principal Act, or of regulations made thereunder, to ascertain, in respect of any matter affecting the administration of medical benefit in the area, the opinions and wishes of the medical practitioners who have entered into agreements with the Insurance Committee for the attendance and treatment of insured persons whose medical benefit is administered by the committee, they shall do so through a committee appointed by such practitioners in accordance with regulations made by the Insurance Commissioners, and such committee shall perform such duties and shall exercise such powers as may be determined by the Insurance Commissioners, and in any area in which within six months of the time of the passing of this Act no Local Medical Committee has been recognized under the provisions of Section Sixty-two of the principal Act, a committee elected in the manner hereinbefore provided may be recognized as the Local Medical Committee for that area.

Section 33 provides for the establishment of a similar committee by persons, firms, and bodies corporate who have agreed to supply drugs, medicines, and appliances to insured persons, and the second paragraph of this section provides that if the Insurance Committee is requested by the committee of panel practitioners and by the committee of panel chemists, it may be authorized by the Insurance Commissioners to deduct from the moneys available for the provision of medical benefit a sum not exceeding one penny in respect of each insured person to cover the administrative expenses of the two panel committees of doctors and chemists respectively.

We have already on several occasions pointed out that the provisions of this Section calls for careful consideration, and it is important that in no locality should the profession allow itself to be hurried into a premature decision with regard to the mode of election and functions of this Committee.

It will be observed that the Committee, which is commonly spoken of for convenience of identification as the Panel Committee, is to be appointed by the medical practitioners concerned, "in accordance with regulations made by the Insurance Commissioners." These regulations will, in fact, form part of the new contract for 1914 with the Insurance Committees; that is to say, the contract will be a contract to carry out certain undertakings in accordance with the regulations made under the Acts of 1911 and 1913.

The Insurance Commissioners (England) called a meeting of the Advisory Committee on Wednesday, October 8th, to consider draft regulations made under the National Insurance Act, 1913, with reference to Sections 32 and 33 of that Act. We understand that the Commissioners intend to issue the regulations revised after this consultation with the Advisory Committee as soon as possible, and that they will be made public together with other revised regulations necessitated by the new Act before the end of this month. We understand further that it is intended that the new contracts of agreement for 1914 shall be in the hands of the Insurance Committees and Local Medical Committees early in November; this will leave a month for the detailed consideration of the new regulations, as individual practitioners will not be called upon to sign the new agreements until about December 10th.

Meanwhile, we would urgently counsel members of the medical profession in all districts to refrain from

committing themselves to any suggestions for immediately proceeding to the appointment of panel committees. This is clearly the only wise line of policy to follow, and has already been adopted in many districts.

That a warning in this respect is necessary is shown among other evidence by what has recently happened in Kent. The Local Medical Committee had decided to ask the medical men on the panel to submit to an annual voluntary levy of one penny for each insured person in order to put the Committee in a sound financial position. It was proposed that the money should be deducted at the source, and the clerk of the Insurance Committee had signified his willingness to do the work connected with the deduction if the written assent of the doctors on the panel was obtained. While this matter was being adjusted the Insurance Committee for the county of Kent took an extraordinary step. It issued a circular to each doctor on the panel in the county calling attention to Sections 32 and 33 of the National Insurance Act, 1913, and asking whether he was in favour of the establishment of a committee appointed by medical practitioners who had entered into agreements with the Insurance Committee. The object of asking this question, which might seem superfluous, becomes apparent when the final paragraph of the circular letter is studied. The recommendation of the Finance Subcommittee of the County Insurance Committee designed to carry out the suggestion of the Kent Medical Committee was in the following terms:

> That the suggestion of the Kent Medical Committee that medical men on the panel should be asked to pay a levy of a certain sum per insured person on their panel list to that Committee, and that, with the doctors' consent, such sums should be deducted from their quarterly payments by the Kent Insurance Committee and place to the account of the Kent Medical Committee, be adopted subject to the approval of the Insurance Commissioners.

The Kent Insurance Committee, however, has gone behind its Finance Subcommittee and the Local Medical Committee of the county by, in the circular referred to, asking the panel doctors whether, should they consider that a panel committee ought to be appointed, the arrangement suggested in the recommendation of the Finance Subcommittee would prejudicially affect the establishment of such a committee. This action has been interpreted as an attempt to set aside the plan approved by the Local Medical Committee and the Finance Subcommittee of the County Insurance Committee, and it must be confessed that this interpretation is not unnatural. The County Insurance Committee seems to be endeavouring to induce the practitioners on the panel to help it to prejudge the point at issue before all the material for a judgement has been presented in the regulations which the Commissioners are about to issue.

The second point to which attention may be directed reinforces what has already been said as to the inadvisability of any premature action. The Act does not define the duties of the panel committee; it says that it shall perform such duties and exercise such powers as may be determined by the Insurance Commissioners. But the matters with which it is concerned must be those as to which an Insurance Committee under the provisions of the Acts or regulations is required to ascertain the opinion and wishes of the medical practitioners on the panel. These matters would appear to be the distribution of unallotted patients (Regulation 17 (3)), and Regulation 42, which provides that an Insurance Committee shall pay to each practitioner a sum agreed between the Committee and the practitioners on the panel in advance of the amount due to him, and before paying the balance of the amount (after the expiration of the year) shall submit all accounts to a committee appointed by the practitioners on the panel, which committee has the power to reduce or disallow any item in any account.

INSURANCE NOTES.

IRELAND.

Irish Medical Committee.

A circular letter containing a brief statement of the existing situation has been addressed to all the members of the profession in Ireland by the Irish Medical Committee. After explaining the constitution of the Irish Medical Committee as established by the delegates' meeting of the entire medical profession in Ireland in last July, it continues: "The direct representation which has been provided for will give the profession of every district an opportunity of discussing and deciding upon, through its representatives, very grave matters concerning the welfare of the whole body of Irish medical men. The critical position in which the medical profession is placed must be apparent to every member of the profession in view of the statement of the Chancellor of the Exchequer in regard to the scheme for certification of insured persons in Ireland, which was made in the House of Commons on August 14th, when he said: 'If a scheme can be devised which is satisfactory to the parties concerned' (that is, the medical profession and the approved societies), 'I shall be prepared to ask Parliament to increase the grant by such amount as may be necessary, subject to the limit of 2s. 6d. per insured person which has been imposed in Great Britain not being exceeded in Ireland.'" Although the capitation rate of 2s. 6d. for certification purposes which has been consistently and persistently demanded by the profession has been granted, and a great victory has been won, still, money conditionally offered is not everything, and as the method of distribution, as well as conditions of service, are yet unsettled, it becomes a matter of prime importance that the medical profession should be prepared to give financial help to continue the struggle. The letter dwells on the conditions attached to the grant, and states that there can be no doubt that the approved societies will use every endeavour to secure the administration of this money, and would then appoint their own certifiers to the detriment of the vast majority of the profession. Thus trouble might arise in evolving a scheme for the removal of the difficulties now besetting the efficient working of the Insurance Act in Ireland by hampering the free intervention of those properly qualified to give a disinterested judgement between persons claiming sickness benefit and the societies in which they are insured.

The report of the Medical Benefits Committee has been published, and will no doubt be submitted for the consideration of Parliament at an early date. The Majority Report recommends the extension of medical benefits to certain undefined industrial areas at rates of remuneration for the insured person and his dependants which are paid in Great Britain for the insured individual alone. There is little doubt that an attempt will be made to foist this scheme on the medical profession in Ireland, and it is not unlikely that, although to begin with the suggested scheme may apply to certain densely populated districts only, an effort will be made to extend the same system to the whole country at a later date. The general body of medical men, therefore, will have no security except in its own united action against the gravest injury to its status, its interest, and the efficiency of its work.

It is pointed out that for such a struggle as is before the profession abundant financial support will be necessary. Up to the present the expenses have been partly defrayed by a grant of £200 from the British Medical Association and £100 from the Irish Medical Association in 1912. But the British Medical Association has no power to make a grant to any organization in Ireland of which its Irish Committee is not an integral portion, and therefore the expenses to be incurred must be defrayed by contributions received from the medical men throughout the country; unless the members of the profession determine to bear the burden themselves the organization must collapse. An appeal is therefore made for a subscription of £1 from each medical man in Ireland. As the profession in Ireland numbers about 2,600, it is estimated that if every doctor paid his subscription a sufficient sum would be collected to pay all expenses likely to be incurred during the next three years.

The letter concludes with a copy of the resolutions passed at the meeting of delegates held in Dublin in July, among which are the following:

That the Insurance Commissioners be informed that if they persist in appointing medical advisers for the purpose of certification, and do not withdraw those already appointed, this meeting of delegates of the entire medical profession give notice that they will refuse to work the sanatorium benefits of the Insurance Act.

That in the event of the medical benefit clauses of the National Insurance Act being extended to Ireland, the profession pledges itself not to accept lower terms than have been offered to the profession of Great Britain.

That this meeting of the medical profession condemns the action of the Insurance Commissioners in appointing "medical advisers" in the county borough of Dublin, and in adjoining urban districts, and in the county boroughs of Waterford and Limerick, as a direct contravention of the fundamental principle of free choice of doctor, and in consequence thereof this meeting calls on medical men to withdraw from the panels as soon as they can legally do so.

SCOTLAND.

Conference of Insurance Committees.

The first conference of the Scottish Association of Insurance Committees will be held in the Council Chambers, Glasgow, on Saturday, October 25th. It will be attended by representatives of the majority of the committees in Scotland, and it is expected that Mr. Leishmann, chairman of the Scottish Insurance Commissioners, will be present. Mr. W. M. Marshall, clerk to the County of Lanark Insurance Committee, is acting as interim secretary.

BRISTOL.

Medical Adviser.

At the meeting of the Insurance Committee held on October 6th the number of cases seen by the Medical Adviser was reported to the members. In moving the adoption of the report of the Medical Service Committee, Mr. W. Brown said that 34 out of 100 had been certified as fit to work, 43 as not fit, and 23 had not come for examination. In seconding the report, Dr. Saise said that there were 90,394 insured persons in approved societies, but only 291 had been sent to the Adviser—a little over 3 in 1,000. Of these, 186 were found fit to work—about 2 in 1,000. During the discussion of the report of the Medical Benefit Subcommittee it was stated that the number of insured persons in the city was 117,644, and reference was made to Circular 104. The subcommittee was not prepared to dispense with the services of the Adviser, and the Chairman pointed out that it was one of the agreed points with the Commissioners and the doctors that one should be appointed in the city; the Insurance Committee must insist on the Commissioners allowing it to reappoint the present Adviser, though eventually he should be appointed by the State. The report of this subcommittee suggested that a fee of 5s. a case should be paid, and 2s. 6d. for those who did not attend when told to, the fees to be paid by the society if it sent the case, and by the committee if sent by the doctors. This report was adopted, and will be referred to the Medical Service Subcommittee for further consideration.

CORRESPONDENCE.

Temporary Residents.

Dr. W. Henry Lewis (Llansantffraid) writes: Dr. Charles Buttar calls attention in his letter on page 292 of the Supplement to the statement of the Clerk of the Denbighshire Insurance Committee dealing with the refusal to accept a green voucher. The refusal came from me in the case of a Denbighshire man who came into Montgomeryshire. As a result of my refusal, the clerk wrote:

> May I point out to you that in refusing to accept these green vouchers you are not carrying out the conditions of your agreement with the Insurance Committee with which is incorporated the Medical Benefit Regulations, Article 22 of which provides that on the change of residence of an insured person from the area of one Committee to another arrangements shall be made for his treatment, and such adjustment shall be made between the two Committees as is equitable in the circumstances, and that a consequential adjustment shall be made between each of the Committees concerned and each of the doctors on their respective panels? As it is the duty of the Insurance Committees to provide treatment for the insured persons, it will be necessary for them to protect themselves in the future if the attitude now adopted by some of the medical practitioners is still maintained.

In my reply I repeated my refusal to accept the green voucher. The clerk then wrote, stating amongst other things:

> It has been clearly established that insured persons under the Insurance Act are entitled to medical benefit whenever they happen to be in Great Britain. This right is conferred upon them by the Act itself, and cannot be removed by the Commissioners by any rules or regulations. If you persist in your refusal, the Committee will have no alternative but to withhold from you any payment for medical treatment.

I should say here that my practice being on the borders, I have patients in Denbighshire, Shropshire, as well as Montgomeryshire. It does not seem quite clear whether the clerk's alternative applies to the particular case or in a more general sense. If it be adopted in the latter way and by still refusing I give the clerk his opportunity, the question of its legality can come up for decision. Bearing on the question of medical benefit for temporary residents (Memo. 161) on page 45 of the Supplement, the opinion of counsel is given, as obtained by the Medical Defence Union on the point, whether the Insurance Commissioners are entitled to deduct from the panel fund sums paid to another fund or doctor in a different area in respect of visits to an insured person temporarily residing in that area. He states: "In my view they are not entitled so to do as long as the present contract with the doctors is in force—that is, until January 14th, 1914. I do not think Regulation 22 provides for this case, and I have come to the same conclusion as that arrived at by the Scottish Commissioners."

Further, in the Explanatory Statement of Medical Benefit affecting medical practitioners, paragraph 22, the income of a doctor is calculated on the 9s. basis; for example, it states that in a rural district where the doctor did the dispensing it would be £450 for 1,000 patients. In paragraph 39 it is stated, in a rural area, doctors will be paid, where they supply drugs and treat tuberculous cases, 9s. per head. These statements are the basis of our contract, which we should regard as binding upon the Insurance Committees with whom they are made. Certain County Committees recognize this, and now pay the full amount without deduction.

On the subject of the 6d. retained by various committees as a drug suspense fund, the Clerk of the Montgomeryshire Insurance Committee, at my request, submitted to the Welsh Commissioners the question whether this should be deducted from doctors who do their own dispensing in the case of insured persons. I have to-day received from him a copy of their reply containing the statement:

> That where a doctor on the panel, under arrangements made with the Insurance Committee, supplies drugs and appliances to insured persons in accordance with Article 30 (1) of the Medical Benefit Regulations, the Commissioners consider that he may be credited at a capitation rate of 9s. per annum in respect of each insured person on his list to whom he is entitled to supply medicines, etc.

Quite clearly this is a distinct and definite statement crediting the whole amount of 9s. per annum to the doctor contracted with, and to divert any of this to the panel fund of another area to meet the case of temporary residents in such area would appear to be a breach of contract on the part of the Insurance Committee concerned, and in violation of the decision of the Welsh Commissioners.

The obvious remedy is the provision of a separate central fund by the Government rather than drive the executive authorities to the desperate expedient of interfering with funds already definitely earmarked for another purpose.

Criticisms of the Association.

Dr. Edwin Smith (London, S.W.) writes: As the mover of the resolution passed at the recent Wandsworth meeting, may I deal briefly with some criticisms which have appeared on the action of that Division?

Respecting the size of the meeting, I should have thought forty-six a representative gathering, and am surprised to see that the figures are referred to in your own leading article and by critics in the lay press; for an obvious difficulty of such criticism is to explain the fact that of 260 members, all notified of the time, place, and object of the meeting, only 14 (fourteen) thought it worth while to attend and show their sustained confidence in the Association by voting against the resolution.

Dr. Courtenay Lord says rightly that the resignation of Wandsworth members is "no bolt from the blue," but "is the result of mature deliberation, and the almost absolute certainty of its advent was well known to the powers months ago." It is three months since a letter of protest signed by seventy-seven members, including sixty Wandsworth men, was placed before the Council. The letter stated that the signatories were contemplating resignation owing to the pro-panel attitude of the executive as reflected in the JOURNAL, and it gave specific examples of the matters complained of. After a discussion, the Council, accepting a motion of which I may remind Dr. Major Greenwood he was the seconder, proceeded to the next business. None of the discussion was published, and there the matter ended. Is it surprising that this inaction of the Council should be interpreted as an admission of inability to meet our protest, and as something very like indifference to the continued membership of the seventy-seven men who had definitely stated, with specific reasons, that their resignations were impending?

It has been said that the resignations should have been tendered individually, and that a special meeting was uncalled for. I reply that the matter was thought by many to be of sufficient moment to warrant the publicity of a meeting at which approval or disapproval of the proposed step could be recorded. So far from there being a deliberate wish to damage the Association, the feeling is simply that non-panel men are out of place in it at the present time. No evidence to the contrary is forthcoming, and incidentally one may point out that the new non-panel subcommittee will be impotent, as it is a minority of the National Insurance Committee, to which it has to report, and which, though now feeling bound to consent, rejected only the other day the proposal to form a non-panel committee.

You ask what is meant by "reacting detrimentally to the interests of members of the profession in general." This question merits a lengthy reply, and would receive it did space permit. I simply give one example of what is meant. Within the past week a panel doctor has been successfully sued for fees incurred by a patient on his list who called in another practitioner on failing to secure the attendance of the panel doctor. The decision is to be the subject of an appeal on a point of law, so I say nothing beyond that in this case we have the degrading spectacle of a member of a learned profession finding himself, his housemaid, his son, and his wife all compelled to enter the witness-box to prove at what moment and with what degree of politeness—or the reverse—the message to call on the patient was delivered at his house. (See *Liverpool Daily Post*, October 3rd.) Now, despite the existence of the famous "derogatory" resolution, you, Sir, have throughout quietly encouraged the acceptance of service under the Insurance Act. On many occasions a strong leading article in the JOURNAL would have gone far towards holding us together, but it was never forthcoming when wanted. But, Sir, let the blame be in the right place. The Thirty-fifth Article of Association says the Editor of the JOURNAL "shall be appointed by and be subject to the control of the Council." It is they whose complacency is in great part responsible for the acceptance of conditions which, as we now see, are introducing new terrors into a calling already sufficiently arduous and harassing. I say that this attitude of the Association is "reacting detrimentally to the interests of members of the profession in general."

You ask, "What is the object of these gentlemen?" I reply that it has been well said, "Medicine is a noble profession, but a damnable trade." The non-panel movement, as I conceive it, hopes to do something to retard, if not to arrest, the present downward trend of medical practice, and to rescue it from complete degradation into a harassing and irksome trade. It is mindful that we hold the great profession of medicine in trust for those coming after us; and, as far as may be, it will strive to regain some, at least, of the lost dignity and freedom. The movement may yet earn the gratitude of all alike.

Dr. W. E. BARTON (Streatham) writes: The leading article in the JOURNAL of October 4th entirely misrepresents the motives of those members of the Wandsworth Division who have resigned from the British Medical Association. Any fair-minded man who compares this article with the report of the meeting on page 293 of the SUPPLEMENT of same date will verify the statement and will see an example of "When you have a weak case abuse the opposite counsel."

For example (referring to us), you state: "If it be their opinion . . . that they are determined to stand apart from it (the British Medical Association) and to damage it as much as possible there is no more to be said." Now I challenge you to give a quotation from any statement made at the Wandsworth meeting to substantiate such a false hypothesis.

I distinctly stated, when seconding the resolution, that we were accused of wishing to pull down the Association. I said this accusation was untrue, that we could not do so if we wanted to, but that, on the contrary, we meant to make the executive awake from its somnolence and sit up, put away party politics, and defy any Government that attempts to coerce us.

The present resignations are the result of no sudden impulse, but are the natural sequel, to a large extent, to the reception given by the Council last July to the letter of protest signed by sixty members of the Wandsworth Division. As this letter has been and will be frequently referred to, in justice to the signatories and for the enlightenment of all readers of the JOURNAL, it is imperative that you should publish it, for up to the present time neither it nor the Council's discussion on it have seen the light of day.

To the Medical Secretary of the British Medical Association.

Sir,—We, the undersigned, beg to inform you that we are contemplating our resignation of membership of the British Medical Association, our reason being the obvious pro-panel attitude of the executive of the Association, as reflected in the JOURNAL. This attitude has been evident for some time past, and has caused surprise and indignation to a large section of the Association.

We do not dispute the claim of panel doctors to the support and protection of the Association, but we non-panel men also have our rights, and we complain that we have failed to find in the JOURNAL any attempt to support either the letter or the spirit of such decisions of the Representative Body as the following: "That this meeting records its emphatic protest against the discreditable methods adopted by the Government, whereby a position of urgency was created under which many practitioners, finding themselves threatened with financial ruin, were compelled to give unwilling service under the National Insurance Act, on terms which this meeting considers to be derogatory to the profession and against the public interest." (Minute 45 of the January meeting—resolution carried with one dissentient.) Also "That this meeting declares that it is still of opinion that the Act is unsatisfactory, and that where men still hold out against the Act the Association will give them every assistance within its power." (Minute 51 of the same meeting.)

To any one following the JOURNAL it must be obvious that in defiance of these decisions of the Representative Body there is a clear intention to support the men on the panels as against the non-panel men, to emphasize any points about the Act that seem to merit approval, and to suppress any reference to conditions making for injustice and hardship to non-panel men. To quote specifically from recent issues of the JOURNAL, we find, "Where is the evidence that the insured persons are not receiving proper treatment?" (leading article, May 24th, p. 1126). We fancy that if this question were addressed to a meeting of insured persons an answer of no uncertain kind would be forthcoming. Again, in the same article, in speaking of the friendly societies, we read, "When will they learn that free choice of doctor gives the insured person all the protection he needs, and, in fact, places him on the level of the duke, whose only protection is that if he is not satisfied with the attention he receives he can change his doctor?" We thought it was a matter of common knowledge that the promised free choice of doctor has *not* been granted to insured persons. Lastly, we read "There can be no doubt that the money belongs to the doctors already on the panel" (May 31st, p. 1179). The money referred to is £34,000, representing the sum available in respect of 400,000 insured persons who have not selected panel doctors. We would point out that the legal position is in dispute, and that the London Insurance Committee has postponed a decision on the matter until the point has been settled. We would say further that even should it be that the money is legally payable to the panel doctors, there can be no doubt that in equity it belongs to the 400,000 insured persons, and should be handed to them as a contribution towards payment for their attendance by the doctors of their choice. They were promised this money over and over again by the Government, but it is now refused them in a contemptible effort to force on to the panels men who have no wish to accept work under the Insurance Act. Yet there is no word in the JOURNAL on the glaring injustice of the proposed distribution of the money amongst the doctors on the panels, but a mere statement as to what is supposed to be the legal position.

We have abundant evidence that resignations in large

numbers from the Association may be expected in the immediate future. We are quite aware that the withdrawal of loyal men will pave the way for unscrupulous "leaders" who may be expected to use the Association for personal advancement and political ends. This we cannot prevent, though we are sorry for those remaining members who will be the pawns in the political game which seems already to be going on.

We request that you will bring this letter before the Council of the Association.

We are, etc.,
(Signed by 77 members, 60 being members
June, 1913. of Wandsworth Division.)

When the British Medical Association is purged of political partisanship, placing principle before party feeling; when it relegates its cumbrous and antediluvian machinery to the scrap-heap, substituting modern methods and machinery for combating the insidious forms of present-day attack; when it can see clearly with both eyes—one for the non-panel doctors and one for those on the panel—then, and then only, will it rise from the ashes of the past and justify its claims to be a noble, honourable, and powerful body, possessing the confidence of its members and strong enough to win in any fight.

In conclusion, it would be interesting to know why Dr. Cox advised men to go on the panel; and, if acting under instructions, from whom were his instructions received. Perhaps one of the readers of the Journal can satisfy my curiosity?

*** It is satisfactory to know that Dr. Barton is not to be numbered among those who desire to damage the Association, but the report of his speech at the meeting at Wandsworth, published in the Supplement of October 4th, page 293, and the rhetorical sentences at the end of his present letter, might be thought by some to give colour to such an opinion.

Dr. William Pitt-Payne (London) writes: With regard to your leading article entitled "Resignations in South London," I am one of the non-panel doctors who has sent in his resignation.

We feel that the British Medical Association is useless, because it is discredited in the eyes of the Government as well as in our own. The recent stampede of the "panel" practitioners, following their loud boastings, has proved to the Government that there is no cohesion amongst them.

An association composed largely of men who can so lightly break their pledged word can have little attraction for those who are not on the panels, and little influence with any Government.

Dr. Frederick Porter (Edinburgh) writes: There appears to be some misunderstanding somewhere regarding the aims and desires of the non-panel practitioner, and the reasons why he is dissatisfied with the present policy of the British Medical Association.

I am one of those who signed the pledge of the Association under protest, and I was relieved when that pledge was no longer binding, as I believed, and still believe, that the six cardinal points were inefficient to maintain the freedom of the individual and uphold the prestige of the profession.

What are the aims of the non-panel practitioner? I can at least speak for my non-panel colleagues in Edinburgh, and I state that:

1. They are uncompromisingly opposed to a State contract system of medical practice under the control and supervision of lay bodies with no special knowledge of medical matters.

2. They resent their private patients being taken from them by State compulsion and put under a contract system.

3. They believe that freedom of the individual to choose his own doctor and a corresponding freedom on the part of the doctor are essentials for the proper treatment of disease, for without both the all-important factor in the treatment of disease, the personal factor, is destroyed.

The desires of the non-panel member of the Association are: That the Association should regain the position it held prior to the inauguration of the Insurance Act, and that it should stand as a memorial for the highest welfare, not only of its members, but of the whole profession of medicine.

These are some of the principles which we in Edinburgh are fighting for. It was the lack of such principles in the Insurance Act that determined us not to enter the ranks of the panel practitioner, and it is those principles that urge us to maintain our position.

Dr. Courtenay Lord is right when he says, "Let us face facts." What is the present policy of the Association? It appears to me that its policy is to maintain the present position of its panel members and to guard them against a further downfall. If the Association desires to retain its self-respect and the respect of the public, I have no hesitation in stating that in future it must adopt a higher policy than it holds at present, for I make bold to state that the non-panel practitioner has the sympathy of the great bulk of the public, for he stands for the freedom of the individual and he is making personal sacrifices to uphold his principles. In facing facts, one must admit that the Association is not united, nor will it ever be until the Association adopts a policy which will be acceptable to both parties. Are the majority of the panel members content to work the Insurance Act as it now stands? Will those members join the non-panel members in fighting for the freedom of the profession, even though they cannot resign from the panel? Each of these questions requires an answer, and on the answers depends the unity of the Association.

You, Sir, deprecate the step the Wandsworth Division has taken; but I am one of those who believe that it is by a solid unity of the non-panel practitioner, who is fighting for a definite object, that acceptable amendments of the Insurance Act will be secured, and not through an Association the bulk of whose members are apparently well pleased to recline on the couch that a Government carpenter has made, and of which fact the same carpenter is fully aware.

If the Association desires to retain its present membership and entice deserters back to its fold it will speedily require to formulate a policy acceptable to both panel and non-panel members, or relinquish for ever its political position and be content to be what it ought to be—an Association solely for the advance of science and the art of medicine.

Dr. Ed. J. Tyrrell (Tooting) writes: While allowing fully the greatness and value of the work accomplished or attempted by the British Medical Association, we should not forget that behind any policy there stands, or ought to stand, an ideal. A crisis has its use, and there is no better touchstone for distinguishing sound health from gilded corruption. Communities, like individuals, will declare for what they believe to be just and right, but communities, like individuals, can be led away from their principles step by step under the temptation of specific desires and supposed expediencies until the principles are a dead letter and loyalty to them is a sham. That, as I think, is a danger overhanging the Association; it is the way in which it may lose its vitality and perish.

If the Association is to retain the respect and allegiance of the best men in the profession it must be guided by no sordid motives; it must have, and steadfastly hold, a nobler policy than that of mere expediency involving sacrifice of principle with the moral drift which it entails. Above all it must jealously preserve at all times and in all circumstances the rule of principle which is eternal over the will or caprice of majorities which shift and pass away.

Dr. J. W. Malim (Harrogate) writes; I hope Mr. Heatherley and those who are wondering whether to resign from the Association will make a long pause, and think quietly what is to be gained by weakening the Association. We are more likely to benefit by strengthening our union. It is better to stick together, drop all bitterness, and fight for each other.

I am not on the panel because I believe in absolute freedom of choice of patient and payment per attendance, but this gives me no reason to try and break up our only organization, which I am sure is doing its best.

Dr. R. Boyd Robson (Ilford) writes: I am astounded at the action of some of the members of the Wandsworth Division of the British Medical Association. Many I know by name, a few I know personally, and on that account

cannot but feel that deep-seated though erroneous conviction has prompted their decision. I should like, however, to be clear on a few points.

What is to be their policy in the administration of medical benefit to the poorer classes of the community? Are they to screw fees out of them, or rely on philanthropic action on their part, obtaining the monetary benedictions of the wealthier class of patients?

Is it their object, by spreading detrimental reports of the professional capacity or exaggerated ones of the exclusive servitude of panel doctors, to seduce private patients away from the latter, and thus maintain their own livelihood?

My personal knowledge of some of the supporters of that extraordinary resolution contradicts such ideas. From the condensed report in your Supplement I gather that many are willing to do panel work but not to sign on to the panel. It is almost incredible to think that men of such professional standing should seek an obstacle to the discharge of public duty in a mere point of technicality. There is free choice of doctor for the insured; there is free choice of patients for panel doctors; but on the question of remuneration, what loyal member of the British Constitution could ever sanction the disbursement of public money without some form of public supervision and inspection? What objection can any member of the medical profession raise to such regulations when they are so framed as in no way to interfere with the sanctity of professional confidence?

Dr. J. T. Richards (Wandsworth Common) writes: It has been generally assumed, and stated in some letters, that members of the Division knew what was to come before the meeting. The history given will be more complete if you will publish the notice which convened the special meeting on the requisition of twenty members. It announced only that something concerning resignations was to be considered. The very large area of the Division includes Wandsworth, Clapham, Balham, Streatham, Tooting, Putney, and Battersea. There are 150 doctors on the panel r sident in it, and perhaps 200 not on the panel. Probably few members beside the requisitionists and those in office were aware of the nature of the business until those of us who attended heard the proposition read from the chair. I do not suggest that the attendance, or the result, would have been different in any case.

*** The notice was, we believe, correctly printed in the Supplement of September 20th, p. 260.

Dr. J. Cromie (Blyth) writes: I was much struck during the late crisis by a leading article in the *Times* (a paper which certainly could not be accused of too much sympathy with the Insurance Act) recommending the medical profession "to be united and to be reasonable." We were not united because we were not reasonable, and we were not reasonable because we did not reason.

The recent action of the Wandsworth Division goes to show that the microbe unreasonableness is still active, and that there are some amongst us who, because everything in the Association does not go exactly as they want it, either sulk, like Achilles in his tent, or start a crusade, not against the enemy, but against that portion of their own army which dared to differ in opinion from them. O wad some power the giftie gie them to see that they are emulating the Irish juryman who, when the jury were dismissed because they could not agree on a verdict, said that he had never met eleven such stubborn men in his life.

I have the greatest sympathy with those who are suffering financially, and think that no stone should be left unturned which would tend to remedy or alleviate their position. I do not know what their numbers are, as I was agreeably surprised in a very rural district to be told by a bitter opponent of the Act that his only fear now is that a new Government may attempt to repeal it, but even if their number is greater than I wot of, can any reasonable man show me what they or any other section can hope to gain by setting up such a cave of Adullam as is proposed? Perish the thought! I for one have more faith in the reasoning powers of Wandsworth and the profession generally.

I admire the attitude of Dr. Major Greenwood, who we all know has always been in uncompromising opposition to the Act. He does not talk of resignation, nor of starting a new sect which will only pronounce his particular shibboleth. No; like a man, he holds his views as pertinaciously as of old, but he is reasoning and reasonable, and is prepared to work harmoniously with those from whom he differs for the common weal.

Let us get rid of this distrust of each other and of our officials which is our bane. I am convinced of the honesty of purpose of Dr. Cox; surely we do not want him to be a slave. Let us credit those who differ from us with the pure motives we hold; let us cultivate the golden rule; let us be charitable to our neighbours; let us remember that there are two sides to every question; but, above all, let us reason and be reasonable, and with a united front we will weather the worst gales and ride safely under the shadow of the British Medical Association.

Funds accrued in respect of Unallotted Persons.

Dr. Harry Grey (Bristol) writes: May I suggest to those who are dissatisfied with Mr. Danckwerts's opinion that the reason they got the wrong answer from him is that he was asked the wrong question. As put to him, the question began: "In view of the fact that there has been no allocation either by number or name," etc., whereas it is perfectly clear to all those who accepted service that there has been an implied allocation by number, an additional proof of which (beyond the undertakings given in Parliament) lies in the fact that in many areas payment has been made in full for all patients accepted by name, although it had been agreed that a proportion should be kept back to meet the loss caused by adjustments for removals and deaths. Payment in full was made only because of the sums still due in respect of those not listed by name but by implication numerically, the method of allocating being merely a detail to be settled by the practitioners interested.

It is not perhaps surprising that Insurance Committees and even a K.C. should not understand the elementary principle of insurance, since most of the profession before the Act and a considerable number after it do not realize that they themselves are in fact underwriters, but it is not conceivable that any of His Majesty's judges can be so ignorant, and the simplest course to pursue seems to be that some Local Medical Committee should at once lay down a principle of allocation, for example, a percentage of non-listed patients to listed or to actually attended (the latter seems the more fair), and then sue the Insurance Committee in the name of one member for the amount due to him on that count. Or perhaps the Local Medical Committee could sue for the amount due to the panel, and attend to the distribution itself.

Dr. J. H. Meers (London, S.W.) writes: With regard to the question of the disposal of the money due for persons who have not yet had their cards signed, it seems to me that a useful compromise could be effected by payment being made for every person whose card or acceptance form we now sign, to date from the time he or she became actually insured. In the vast majority of cases this would be from January 14th—the commencement of medical benefit.

The *Times* of October 4th published the following:

The National Health Insurance Commissioners received on Thursday a deputation from the London Insurance Committee in regard to the unallotted surplus, amounting in London to over £100,000, which has accumulated in respect of insured persons who have not selected a doctor. In some quarters it is stated that the Commissioners are strongly of opinion that the surplus should be distributed among the panel doctors. The result of the meeting, however, was that two members of the deputation versed in the law are to meet the legal representatives of the Commissioners for the purpose of considering the question further, and of preparing a new case embodying further particulars, with a view to its submission to counsel, possibly to Mr. Danckwerts himself.

Tuberculosis and the Insurance Act.

Dr. Harold Downes (Ilminster) writes: I am surprised that more attention has not been drawn to the humiliating position of the general practitioner in regard to the treatment of insured persons suffering from tuberculosis. It is

a matter of common knowledge that in many counties—I had almost written most—the tuberculosis officer has little experience in the treatment of this disease, and small claims to be regarded as an expert on the subject. I have less hesitation in making this statement, since in the county in which I practise we possess a gentleman of high qualifications and good experience; on the other hand, I know a county where several general practitioners were appointed to these coveted posts, only one of whom had ever held an appointment at a sanatorium or special hospital, although there was no lack of candidates with special experience. Although personal influence has in many cases had more to do with the establishment of these "experts" than their previous experience of the subject, the general practitioner is apparently to work under their supervision. It may happen that the practitioner has many years' experience and has devoted much attention to the study of this speciality; at any rate, it is probable that the average man in practice knows more about it than the average tuberculosis officer, but unless he submits his insured case to the inspection of the local tuberculosis officer, the case is deprived of what is facetiously called "Sanatorium benefit." In a recent case the county authorities refused to supply me with tuberculin for an insured person unless I first sent my case to the tuberculosis officer who, in the patronizing terms of the circular letter, had "arranged to see this patient, to decide as to the nature of the treatment to be recommended." Humbly opining that possibly I was the best judge on this point, I kept the patient at home, preferring the alternative of providing tuberculin at my own cost rather than of letting the patient conclude, as he naturally might, that after twenty years' experience I was incapable of treating a case of consumption unless under the supervision of a junior man.

Friendly Society Control of Medical Benefit.

Dr. T. F. Keenan writes: The readers of Supplement, accustomed as they are to such "fine confused feeding," must be deeply grateful to Dr. Harry Grey of Bristol for the light he has shed on the "Evan Jones *entr'acte*" by his "clear thinking." For myself, he would lay me under a further debt of gratitude if he would kindly give me the result of his "clear thinking" on the following points:

1. Why had Dr. Jones no right to air his views to the press at a Representative Meeting as well as anywhere else? If I remember rightly, he did not claim in the *Morning Post* interview to be speaking on behalf of the profession, but only for himself and some friends with whom he had privately discussed the subject. We are often proudly told that England is a free country, and Dr. Jones rightly said in his speech that "he did not think it would be considered a crime for a man to try to get back his practice."
2. If I consider that the views of Dr. Jones and his friends would, if generally accepted and acted upon, be exceedingly detrimental to my interests, why "can I not legitimately attack them"?
3. If many of my friends assure me that they also consider their interests would be in great peril from Dr. Jones's views—and there are sound reasons for believing that the interests of many thousands of the readers of the British Medical Journal would also be in peril—why should the Editor be "chagrined" at the result of giving an opportunity to attack those views? If Dr. Grey would kindly consent to shed a little further "clear light" on these questions, I think he would earn the gratitude of some of the less gifted members of the profession, including the "imbeciles" amongst whom I suppose I must consider myself classed—by Dr. Harry Grey of Bristol.

Meetings of Branches and Divisions.

METROPOLITAN COUNTIES BRANCH:

North Middlesex Division.

The second ordinary meeting of the Division was held on October 1st. Dr. Brackenbury took the chair and ten members were present.

Medical Charities Committee.—Dr. Marjoribanks was appointed to represent the Division on the Medical Charities Committee of the Metropolitan Counties Branch.

Medical Referees under the Insurance Act.—The question of medical referees and their fees was discussed, and on the motion of Dr. Brackenbury, seconded by Dr. Fuller, it was unanimously resolved:

> That the North Middlesex Division is strongly of opinion that the medical referee's fee be not less than 10s. 6d.

Sickness Benefit Certificates.—Although there had not been any difficulty in the Division with regard to the statement of the nature of the disease on the certificate, at the same time the Division expressed its willingness to accept the model form of certificate of the Insurance Commissioners.

Annual Representative Meeting.—Dr. Percival Barnes, one of the direct Representatives of the Division, gave a report of the proceedings of the July Representative Meeting, which proved of much interest, and for which Dr. Percival Barnes received a hearty vote of thanks.

MIDLAND BRANCH:

Boston and Spalding Division.

A general meeting of the Division was held at the White Hart Hotel on September 26th. Dr. White, Chairman, and eleven other members were present.

Medical Inspection of School Children.—The Secretary of the Division, who is also the school medical officer, was requested to answer the questions contained in the form received from the Medical Secretary.

Club Fees.—On the motion of Dr. Monro, seconded by Dr. South, it was decided *nemine contradicente*:

> That no figure below 8s. 6d. per annum for adults and 4s. 4d. per annum for juveniles be accepted by any member of the Division until the next meeting.

Chesterfield Division.

A meeting of the Chesterfield Division, to which other practitioners of the Chesterfield and Mansfield areas and the members of the Local Medical Committees of the borough and county of Derby were invited, was held in the Board Room, Chesterfield Hospital (by kind permission of the Board), on September 24th. Dr. J. G. Shea, J.P., presided, and over thirty practitioners were present. Dr. Cox, the Medical Secretary of the Association, was also present.

Medical Attendance upon Uninsured Persons.—Dr. F. Marriott presented a report on contract practice (uninsured persons), based upon returns of contract terms sent in by the local practitioners, which was discussed and adopted. The Chairman urged that steps should be taken to obtain uniform contract rates throughout the county, and this was agreed to.

Address by Medical Secretary.—Dr. Cox then addressed the meeting on the position of the profession and the Association with regard to organization for the protection of the interests of the profession. At the conclusion of his address Dr. Cox answered questions as to the manner in which medical institutes should be regarded, the steps to be taken to obtain uniform terms, and the attitude of the Council as to variations from standard rates. Dr. Chase suggested that a leaflet should be prepared by the Association as to medical aid institutes, and circulated in every town where such an institute had been established, so that the public might become educated in this respect. Dr. Cox promised to place the suggestions before the Council, and said that the question of canvassing by institutions would be referred to the General Medical Council. The Chairman raised the question whether certificates given by locumtenents were verified by the registrars as regards registration of the locumtenents in the *Medical Register*. Dr. Cox promised to inquire into this matter. On the motion of Dr. Green, seconded by Dr. Chase, a vote of thanks was unanimously accorded to Dr. Cox for his address, who in reply thanked the meeting.

SOUTH WALES AND MONMOUTHSHIRE BRANCH:

Monmouthshire Division.

At the invitation of Dr. Glendinning a meeting was held at the Abergavenny Asylum on September 26th. Sir A. Garrod Thomas occupied the chair, and seventeen members were present.

Report of Representative at Annual Representative Meeting.—Mr. Greer briefly mentioned certain matters which had arisen at the Annual Representative Meeting.

Ethical.—The report of the Executive Committee was read, and its action regarding the joint appointment of medical officer of health and school clinic of the Abertillery Urban District Council at a salary of under £400 a year was unanimously approved.

Allotment of Insured Persons.—The honorary secretary was instructed to write to the clerk of the County and Newport Borough Insurance Committee regarding the allotment of insured persons who had not yet chosen their doctors.

Clinical.—Mr. W. J. GREER showed some radiographs of (1) calculi, (2) fractures of radius, and (3) some coloured photomicrographs. Dr. ACOMB showed (1) a continuous ether drop bottle, (2) a mask for open ether inhalation.

Vote of Thanks.—At the conclusion of the meeting the members were entertained to tea by Dr. Glendinning, and, on the proposition of the CHAIRMAN, a vote of thanks to Dr. Glendinning for his hospitality was unanimously carried.

Association Notices.

QUARTERLY MEETING OF COUNCIL.

THE Quarterly Meeting of Council will be held on Wednesday, October 29th, in the Council Room, 429, Strand, London, W.C.

By Order,
GUY ELLISTON,
Financial Secretary and Business Manager.

Sept. 18th, 1913.

BRANCH AND DIVISION MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH.—Dr. Frank Fowler, Honorary Secretary (29, Poole Road, Bournemouth), gives notice that the autumn meeting will be held in the Queen's Hall, Royal Hotel, Weymouth, on Wednesday, October 15th, at 3.30 p.m. Business: Election of President, two Vice-Presidents, Honorary Secretary, and Treasurer for 1914–15. Mr. F. Belben, Vice-President, will open a discussion on "Chronic Constipation from a Surgical Point of View." The Weymouth members invite the members of the Branch to luncheon and tea at the Royal Hotel.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—Dr. A. G. Southcombe, Honorary Secretary (83, Sidney Road, Homerton, N.E.), gives notice that the inaugural meeting of the session will be held in the Board Room of the London Hospital, Whitechapel, E., on Friday, October 17th, at 4 p.m., when Dr. J. H. Sequeira will give a demonstration on cases from the Dermatological Department.

An extraordinary general meeting of the Division will be held on Wednesday, October 22nd, at 3.30 p.m., in Balfour Hall, Dunston Street, Kingsland Road. The following notices of motion have been received:—Dr. David Ross: (*a*) "That the City Division of the British Medical Association takes immediate steps to give the fullest possible publicity that qualified medical men not on the panel can give all medical certificates required by the Insurance Act." (*b*) "Seeing that Mr. Masterman has stated in the House of Commons that insured persons are allowed to make their own arrangements with herbalists, the City Division of the British Medical Association demands that the British Medical Association immediately institutes proceedings at the Law Courts in order to allow all insured persons to make their own arrangements with qualified medical men not on the panel." Dr. W. J. Deighan: "That this meeting of the City Division of the British Medical Association is of opinion that the explanation given by Dr. Evan Jones, at the special meeting of the Division on August 22nd, with regard to the position taken up by him with reference to the proposed control of the medical benefit under the Insurance Act by friendly societies, is unsatisfactory; and that, on this—a matter of vital importance—his views are directly opposed to those of the Division of which he is a Representative." Dr. Evan Jones: (*a*) "That in the opinion of this meeting the unallocated money remaining in the hands of the London Insurance Committee should follow the disposal of the unallotted persons who contributed it." (*b*) "That in the opinion of this meeting no panel practitioner should accept on his list, or accept allocation of, other doctors' patients." (*c*) "That in the opinion of this meeting it is to the interest of the profession that no practitioner in general practice should accept more than 2,000 on his panel list."

SOUTH MIDLAND BRANCH.—Dr. E. Harries-Jones (Honorary Secretary), 16, Castilian Street, Northampton, gives notice that the autumnal meeting of the South Midland Branch will be held on Thursday, October 30th, at the Board Room, General Hospital, Northampton, under the presidency of Dr. Canning-Hartley, Bedford. The Secretary will be glad to hear from any member wishing to read a paper or show cases or specimens.

YORKSHIRE BRANCH.—Dr. Adolph Bronner, Honorary Secretary (33, Manor Row, Bradford), gives notice that the next meeting of the Branch will be held at the Grand Hotel, Scarborough, on Saturday, October 25th, at 4.15 p.m. Members intending to read papers, make any communications, propose new members, or show cases or specimens are requested to write to him at once. Members will dine together at 6.30 p.m. Special week-end terms will be arranged. A number of members will golf at Ganton on Saturday morning.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following announcements have been made by the Admiralty: Deputy Surgeon-General RICHARD A. FITCH has been placed on the retired list, September 27th. Fleet Surgeon EDWARD D. J. O'MALLEY, to the *Temeraire*, on recommissioning, September 30th. Fleet Surgeon JOHN H. STENHOUSE, to the Bermuda Hospital and Bermuda Dockyard, vice Austen, November 1st. Fleet Surgeon WILLIAM A. WHITELEGGE, M.D., to the *Queen*, vice Stenhouse, November 1st. Fleet Surgeon FREDERICK FEDART, M.B., to the *Hibernia*, vice Whitelegge, November 1st. Fleet Surgeon FRANK BRADSHAW, to the *Princess Royal*, vice Fedart, November 1st. Fleet Surgeon EDWARD DE HODNET DE COURTMACSHERRY, to Chatham Dockyard, vice Bradshaw, November 1st. Fleet Surgeon ELYSTAN G. E. O'LEARY, F.R.C.S.Edin., to the *Indefatigable*, vice Hodnet de Courtmacsherry, November 1st. Fleet Surgeon LANCELOT KILROY to the *Vivid*, additional, for the *Ajax* for trials, October 8th. Fleet Surgeon JOHN E. COAD, M.B., to the *Terrible*, additional, for group of ships of Third Fleet, October 7th. Staff Surgeon REGINALD L. JONES, R.A., to the *Victory*, additional for disposal, temporary, September 23rd. Staff Surgeon KENELM D. BELL, to the *Victory*, additional for the *Audacious*, temporary for trials, October 2nd. Staff Surgeon WALTER K. HOPKINS, to the *Vivid*, additional for the *Fearless*, October 4th, and the *Fearless*, on commissioning, undated. Staff Surgeon HAROLD J. CHESTER, to the *Calypso*, vice Carberry, October 24th. Staff Surgeon JOHN MACDONALD, M.D., to the *Adventure*, vice Chater, October 24th. Staff Surgeon MALCOLM CAMERON, M.B., to the *President*, additional for Queensferry Sick Quarters, October 7th. Staff Surgeon FREDERICK E. ANLEY to the *Weymouth* on recommissioning, undated. Staff Surgeon W. BASTIAN to the *Amethyst*, on recommissioning, October 1st. Surgeon JACKSON G. BOAL, to the *Temeraire*, on recommissioning, September 30th. Surgeon CECIL H. SYMONS, to Malta Hospital, vice Syms, November 1st.

ARMY MEDICAL SERVICE.

SURGEON-GENERAL T. M. CORKER has been appointed Deputy Director of Medical Services of the 9th (Secunderabad) Division.

ROYAL ARMY MEDICAL CORPS.

Brevet Colonel C. H. MELVILLE has been appointed to the charge of the Military Hospital, Tamworth.

Major GERALD S. MANSFIELD, M.B., retires on retired pay, October 4th.

Major J. V. FORREST has been appointed to the London District for duty at the War Office.

Major H. E. M. DOUGLAS, V.C., D.S.O., has been appointed for duty in Egypt.

Major W. P. GWYNN has been appointed to Dublin.

Major J. C. KENNEDY has been appointed to the Royal Army Medical College as a specialist in bacteriology.

Captain W. M. MACDOWALL has been appointed for service in Sierra Leone.

Captain F. L. BRADISH has been appointed to Dublin for duty.

Captain G. F. RUDKIN has been appointed to Dublin for duty.

Captain W. B. PURDON has been appointed to Belfast.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

ERNEST F. W. GRELLIER to be Lieutenant on probation, August 21st.

Lieutenant MORTON W. RUTHVEN, M.B., from the seconded list, is restored to the establishment, August 30th.

HENRY C. ROOK, late Cadet Staff Sergeant, University of London Contingent, Officers' Training Corps, to be Lieutenant on probation, September 4th.

The undermentioned Lieutenants to be Captains: CHARLES M. PAGE, M.B., F.R.C.S., September 14th; EDWARD T. HOLLAND, September 28th; WILLIAM M. BIDEN, M.B., September 30th.

INDIAN MEDICAL SERVICE.

THE services of Captain A. W. HOWLETT, M.B., have been replaced at the disposal of His Excellency the Commander-in-Chief for transfer to the Royal Army Medical Corps.

The Hon. Major J. C. ROBERTSON, M.B., Sanitary Commissioner with the Government of India, has been appointed Sanitary Commissioner for the Province of Delhi, in addition to his own duties.

Lieutenant-Colonel R. ROBERTSON, M.B., has been promoted to the rank of Colonel, with effect from June 30th, 1913, vice Colonel H. St. Clare Carruthers, retired from the service.

Captain R. H. BOTT, M.B., F.R.C.S., has been appointed to officiate as Professor of Surgery, Medical College, Lahore, during the absence on leave of Lieutenant-Colonel E. V. Hugo, M.D.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

Second West Lancashire Field Ambulance.—Lieutenant GEORGE E. SIMPSON, M.B., F.R.C.S., to be Captain, April 4th, 1913.

Second Highland Field Ambulance.—Captain JOHN INNES, M.B., resigns his commission, September 27th.

Second Northumbrian Field Ambulance.—Captain J. D. SINCLAIR, M.D., resigns his commission, September 24th.

Third Lowland Field Ambulance.—Lieutenant JAMES YOUNG, M.B., F.R.C.S.Edin., to be Captain.

Attached to Units other than Medical Units.—Lieutenant CHARLES CORFIELD and Lieutenant CYRIL H. WELCH to be Captains, May 22nd, 1913. Lieutenant F. W. SYDENHAM, M.D., F.R.C.S.Edin., to be Captain, August 11th. Surgeon-Captain W. M. MACKAY, M.B., from the 6th Battalion Durham Light Infantry, to be Captain, September 24th. CHARLES E. ANDERSON, to be Lieutenant, July 2nd, 1913.

CHANGES OF STATION.

The following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during August, 1913:

		FROM		TO
Lieut.-Col.	R. Caldwell, F.R.C.S.	—	...	Portsmouth.
Major	W. E. Huddleston	Wool Camp	...	Portsmouth.
,,	E. A. Bourke	Carlisle ...	...	Porthcawl Cmp.
,,	N. J. C. Rutherford, M.B...	—	...	Cork.
,,	H. M. Nicholls, M.B. ...	Deolali ...	...	Poona.
,,	T. E. Fielding, M.B. ...	Wellsworthy	...	Devonport.
,,	B. B. Burke	—	...	E Command.
,,	F. S. Walker, F.R.C.S.I. ...	Fort Camden, Queenstown	...	Glenbeigh.
,,	G. Baillie, M.B.	—		E. Command.
,,	J. F. Whelan, M.B.	Jhansi ...	...	Poona.
,,	M. C. Beatty, M.B.	Tregantle	...	Okehampton.
,,	D. L. Harding, F.R.C.S.I...	Finner Camp	...	Londonderry.
,,	A. W. A. Irwin	Cork ...	...	Fort Camden, Queenstown.
Captain	J. H. Dugnid, M.B. ...	Calcutta ...	...	Secunderabad.
,,	B. G. Patch	Bradford ...	...	Leeds.
,,	M. C. Wetherell, M.D. ...	Kildare ...	...	Dublin.
,,	J. A. Turnbull	Wedgnock Park Camp	...	Tidworth.
,,	H. B. Connell	—		W. Command.
,,	G. H. Rees, M.B.	Belfast ...	...	Ballykinler.
,,	H. E. Priestley	Woodbay Camp	...	Tidworth.
,,	P. J. Marett	R.A.M.Coll.	...	Malta.
,,	G. de la Cour, M.B. ...	Dublin ...	...	Wicklow.
,,	W. Egan, M.B.	Oranmore Camp	...	Curragh.
,,	C. T. Edmunds	Sonning-on-Ths.	...	Fawley Court.
,,	F. D. G. Howell	Brackenbir Moor Camp	...	Lancaster.
,,	W. C. Smales	Lulworth Camp		Portsmouth.
,,	R. W. D. Leslie	Romsey ...	...	Winchester.
,,	A. H. Jacob	Wicklow ...	...	Dublin.
,,	A. C. Elliott, M.B. ...	Rawal Pindi	...	Sialkot.
,,	E. M. Middleton	Kuldana ...	...	Campbellpore.
,,	J. B. Hanafin, F.R.C.S.I.	Gharial ...	...	Nowshera.
,,	C. P. O'Brien Butler ...	Purandhar	...	Kirkee.
,,	C. M. Rigby	Bombay ...	...	Colaba.
,,	L. Murphy	Secunderabad ...		Bangalore.
,,	G. S. Parkinson	—		Glasgow.
,,	G. H. Stack, M.B.	—		Aldershot.
,,	H. F. Joynt, M.B.	Wynberg ...	...	Capetown.
Lieutenant	T. J. Hallinan, M.B.	Calcutta ...	...	Multan.
,,	W. A. Frost, M.B. ...	Kamptee ...	...	Jubbulpore.
,,	W. L. Webster, M.B.	Nenagh ...	...	Limerick.
,,	W. McNaughtan, M.B.	Tidworth Park...		Netley.
,,	M. Burnett	—		Cosham.
,,	D.T.Richardson, M.B.	Glasgow ...	...	Edinburgh.
,,	S. J. Higgins	Scartnagloraine Camp		Cork.
,,	H. W. L. Allott ...	Newbridge	...	Curragh.
,,	J. Hare, M.B.	Magilligan Cmp.		Belfast.
,,	T. H. Balfour, M.B....	Fort George	...	Boards Camp.
,,	R. E. Porter, M.B. ...	Nenagh ...	...	Cork.
,,	R. B. Phillipps ...	Ballcannon Cp.		,,
,,	J. C. Sproule	Crownhill	...	Plymouth.
,,	J. E. Hepper	Perham Down Cp.		Bulford.
,,	H. F. Panton, M.B. ...	Fargo Camp	...	Tidworth.

COLONIAL MEDICAL SERVICE.

The following changes have been notified by the Colonial Office:

West African Medical Staff.

Resignations.—W. Morrison, M.B., Ch.B.Edin., Medical Officer, Northern Nigeria; W. Browne, L.R.C.P., L.R.C.S.Edin., L.F.P.S. Glasg., Medical Officer, Southern Nigeria.

Retirements.—C. T. Costello, B.A., M.D., B.Ch., B.A.O.Dubl., retires on pension; M. W. Ruthven, M.B., Ch.B.Edin., D.T.M.Liverp.

New Appointments.—The following gentlemen have been selected for appointment to the staff: C. J. H. Pearson, M.R.C.S., L.R.C.P., M.B., B.S., Northern Nigeria; B. W. F. Wood, M.B., B.S.Leeds, Northern Nigeria; H. North, M.R.C.S., L.R.C.P., Southern Nigeria.

Death.—P. F. Foran, F.R.C.S.Ire., L.R.C.P.Ire., Medical Officer, Southern Nigeria.

Other Colonies and Protectorates.

A. D. Clancby, L.R.C.P. and S.Ire., and Leslie Webb, M.R.C.S., L.R.C.P., have been selected for appointment as Medical Officers, Uganda; P. F. Nunan, M.D., B.Ch., B.A.O.Dubl., L.M., J. H. Thomson, M.B., B.Ch.Aberd., G. Dunderdale, M.D., B.S.Lond., M.R.C.S., L.R.C.P., and J. H. H. Pirie, M.D., M.R.C.P., F.R.C.P.Edin., have been selected for appointment as Medical Officers, East Africa Protectorate; J. H. C. Greene, B.M., B.S., has been selected for appointment as a Medical Officer, Federated Malay States.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns, 8,475 births and 4,936 deaths were registered during the week ending Saturday, September 27th. The annual rate of mortality in these towns, which had been 13.8, 14.5, and 14.3 per 1,000 in the three preceding weeks, rose to 14.4 per 1,000 in the week under notice. In London last week the death-rate was equal to 13.5, against 13.7 per 1,000 in each of the two preceding weeks. Among the ninety-five other large towns the death-rates ranged from 5.4 in Ilford, 6.5 in Hornsey, 6.7 in Gillingham, 7.3 in Willesden, 7.9 in Carlisle, and 8.0 in Northampton to 21.4 in Stoke-on-Trent, 21.8 in Rochdale, 22.0 in Bury, 22.6 in South Shields, 23.6 in Stockport, and 24.0 in Sunderland. Measles caused a death-rate of 1.4 in Oldham and 3.0 in Dudley, and whooping-cough of 1.3 in Norwich. The deaths of children (under 2 years of age) from diarrhoea and enteritis, which had been 960, 1,104, and 983 in the three preceding weeks, fell to 927 last week; of this number 191 occurred in London, 65 in Birmingham, 54 in Liverpool, 36 in Manchester, 32 in Hull, and 24 in Leeds, in Sheffield, and in Sunderland. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 30, or 0.6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 5 in Birmingham, 4 in Liverpool, 3 in Stoke-on-Trent, and 3 in Sunderland. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,112, 2,211, and 2,355 at the end of the three preceding weeks, rose to 2,570 on Saturday last, September 27th; 508 new cases were admitted during the week, against 298, 346, and 473 in the three preceding weeks.

In ninety-six of the largest English towns 8,433 births and 4,651 deaths were registered during the week ending Saturday, October 4th. The annual rate of mortality in these towns, which had been 14.5, 14.3, and 14.4 per 1,000 in the three preceding weeks, declined to 13.6 per 1,000 in the week under notice. In London the death-rate was equal to 12.6, against 13.7, 13.7, and 13.5 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rate ranged from 3.6 in Wimbledon, 6.9 in Bournemouth, 7.0 in Swindon, 7.2 in Ilford, 7.7 in Hornsey, and 7.9 in Enfield to 20.4 in St. Helens, 20.8 in Aberdare, 21.9 in Sunderland, 23.2 in Tynemouth, 25.2 in Dewsbury, and 26.5 in Great Yarmouth. Measles caused a death-rate of 1.1 in Stoke-on-Trent, 1.9 in Dewsbury, and 2.0 in Barnsley, and diphtheria of 1.3 in Preston and 1.8 in Cambridge and in Great Yarmouth. The deaths of children (under 2 years of age) from diarrhoea and enteritis, which had been 1,104, 983, and 927 in the three preceding weeks, further fell to 730; 142 deaths were recorded in London, 45 in Birmingham, 38 in Liverpool, 36 in Manchester, 26 in Hull, and 24 in Sheffield. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 35, or 0.8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 4 in Birmingham, 4 in South Shields, 3 in Liverpool, and 3 in Darlington. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,211, 2,355, and 2,570 at the end of the preceding weeks, had further risen to 2,818 on Saturday, October 4th; 499 new cases were admitted during the week, against 346, 473, and 508 in three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,061 births and 625 deaths were registered during the week ending Saturday, September 20th. The annual rate of mortality in these towns, which had been 14.1, 16.7, and 16.4 per 1,000 in the three preceding weeks, further fell to 14.4 in the week under notice, but was 0.1 per 1,000 above the rate recorded in the ninety-six large English towns. Among the several towns the death-rate ranged from 7.5 in Clydebank, 7.6 in Motherwell, and 7.8 in Leith and in Kirkcaldy to 18.3 in Ayr, 18.6 in Dundee, and 18.8 in Greenock. The mortality from the principal infective diseases averaged 2.2 per 1,000, and was highest in Kirkcaldy and Paisley. The 292 deaths from all causes registered in Glasgow included 30 from infantile diarrhoeal diseases, 6 from whooping-cough, 5 from measles, 5 from diphtheria, 3 from scarlet fever, and 1 from enteric fever. Seven deaths from infantile diarrhoeal diseases were recorded in Dundee, 6 in Aberdeen, 6 in Paisley, and 3 in Kirkcaldy: 2 deaths from measles in Leith; and 2 from diphtheria in Aberdeen.

In the sixteen largest Scottish towns 1,075 births and 653 deaths were registered during the week ending Saturday, September 27th. The annual rate of mortality in these towns, which had been 16.7, 16.4, and 14.4 per 1,000 in the three preceding weeks, rose to 15.1 in the week under notice, and was 0.7 per 1,000 above the rate in the ninety-six large English towns. Among the several towns the death-rates ranged from 7.2 in Coatbridge, 8.5 in Clydebank, and 9.7 in Paisley to 19.5 in Dundee, 19.9 in Ayr and 20.3 in Hamilton. The mortality from the principal infective diseases averaged 2.1 per 1,000, and was highest in Perth and Hamilton. The 318 deaths from all causes in Glasgow included 25 from infantile diarrhoeal diseases, 7 from measles, 4 from whooping-cough, 4 from diphtheria, 3 from scarlet fever, and 1 from enteric fever. Two deaths from measles were recorded in Hamilton; 2 from diphtheria in Aberdeen; 2 from enteric fever in Perth; and from infantile diarrhoeal diseases 9 in Dundee, 5 in Paisley, and 3 in Aberdeen.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, September 13th, 618 births and 485 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 644 births and 458 deaths in the preceding period. These deaths represent a mortality of 21.1 per 1,000 of the aggregate population in the districts in question, as against 19.9 per 1,000 in the previous period. The mortality in these Irish areas was therefore 6.6 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 26.9 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 23.2 as against an average of 20.7 for the previous four weeks, in Dublin city 23.7 (as against 21.5), in Belfast 20.4 (as against 20.7), in Cork 26.5 (as against 23.8), in Londonderry 19.1 (as against 20.0), in Limerick 27.1 (as against 16.3), and in Waterford 5.7 (as against 19.5). The zymotic death-rate was 6.3, as against 5.4 in the previous week.

During the week ending Saturday, September 20th, 587 births and 455 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 618 births and 485 deaths in the preceding period. These deaths represent a mortality of 19.8 per 1,000 of the aggregate population in the districts in question, as against 21.1 per 1,000 in the previous period. The mortality in these Irish areas was therefore 5.5 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.5 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 18.1, as against an average of 20.4 for the previous four weeks, in Dublin city 18.1 (as against 21.0), in Belfast 21.1 (as against 21.3), in Cork 30.6 (as against 25.3), in Londonderry 22.9 (as against 20.4), in Limerick 10.8 (as against 16.9), and in Waterford 13.3 (as against 19.5). The zymotic death-rate was 5.5, as against 6.3 in the previous week.

During the week ending Saturday, September 27th, 635 births and 483 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 587 births and 455 deaths in the preceding period. These deaths represent a mortality of 21.0 per 1,000 of the aggregate population in the districts in question, as against 19.8 per 1,000 in the previous period. The mortality in these Irish areas was, therefore, 6.6 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 28.9 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 21.2, as against an average of 20.6 for the previous four weeks, in Dublin City 22.8 (as against 21.4), in Belfast 19.5 (as against 20.4), in Cork 24.5 (as against 25.3), in Londonderry 22.9 (as against 20.1), in Limerick 17.6 (as against 18.6), and in Waterford 26.6 (as against 20.0). The zymotic death-rate was 5.0, as against 5.5 in the previous week.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ABERDARE AND MOUNTAIN ASH EDUCATION COMMITTEES.—School Dentist. Salary, £240 per annum.

ALL SAINTS HOSPITAL FOR OUT-PATIENTS, Buxton Street, E.—Honorary Medical Officer.

BARNSLEY: BECKETT HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £120 and £100 per annum respectively.

BARNSTAPLE UNION.—Medical Officer. Salary, £100 per annum.

BARROW-IN-FURNESS: NORTH LONSDALE HOSPITAL.—Junior House-Surgeon. Salary, £100 per annum.

BATH: ROYAL UNITED HOSPITAL.—(1) House-Physician. (2) House-Surgeon. Salary, £100 per annum each.

BELFAST COUNTY BOROUGH.—Chief Tuberculosis (Medical) Officer. Salary, £600 per annum.

BETHNAL GREEN INFIRMARY.—Assistant Medical Officer. Salary, £100 per annum, rising to £120.

BIRMINGHAM GENERAL HOSPITAL.—(1) House-Surgeon; salary at the rate of £40 per annum for three months, increasing to £50 per annum for six months. (2) House-Physician; salary at the rate of £50 per annum.

BIRMINGHAM: QUEEN'S HOSPITAL.—Radiographer. Salary, £100 per annum.

BLACKBURN EDUCATION COMMITTEE.—Male School Medical Inspector and Assistant to the Medical Officer of Health. Salary, £250 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common.—Two House-Surgeons (male). Salary at the rate of £75 per annum each.

BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

BRISTOL GENERAL HOSPITAL.—(1) First House-Physician. (2) Second House-Physician. (3) Casualty House-Surgeon. Salary at the rate of £80 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House-Physician. Salary, £80 per annum.

BRISTOL ROYAL INFIRMARY.—Dental House-Surgeon. Salary at the rate of £100 per annum.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £100 per annum.

CAMBERWELL: PARISH OF ST. GILES.—Junior Assistant Medical Officer for the Infirmary. Salary, £120 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—House-Surgeon (male). Honorarium at the rate of £60 per annum.

CHELTENHAM GENERAL HOSPITAL.—House-Physician. Salary, £100 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Surgeon.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

DUBLIN: ROYAL VICTORIA EYE AND EAR HOSPITAL.—House-Surgeon. Remuneration, £40 per annum.

EDAY PARISH.—Medical Officer. Salary, £70 per annum, and appointments, £20.

GENERAL POST OFFICE.—Male Assistant on Head Quarters' Medical Department Staff. Salary, £200 per annum, rising to £300.

GLASGOW DISTRICT MENTAL HOSPITAL, Gartloch.—Junior Medical Officer. Salary, £150 per annum.

GOVAN DISTRICT ASYLUM, Paisley.—Second Assistant Medical Officer.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Resident Medical Officer. Salary, £120 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Third House-Surgeon (male). Salary, £80 per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—(1) Ophthalmic Surgeon to Out-patients. (2) Medical Officer in charge of *X*-ray and Electrical Department, honorarium, 25 guineas per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £70 per annum.

HEREFORD COUNTY AND CITY ASYLUM.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £225.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.—Resident Medical Officer. Salary at the rate of £50 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) Medical Registrar. (2) Assistant Casualty Medical Officer. Salary for (1) £200 per annum, and for (2) £30 for six months and £2 10s. washing allowance.

HULL ROYAL INFIRMARY.—(1) House-Physician. (2) Casualty House-Surgeon. Salary, £100 and £80 per annum respectively.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £100 per annum.

KIMBERLEY HOSPITAL.—Bacteriologist and Pathologist. Salary, £600 per annum.

KING EDWARD MEMORIAL HOSPITAL, Ealing.—Resident Medical Officer. Salary at the rate of £80 per annum.

LEEDS GENERAL INFIRMARY.—(1) House-Surgeon. (2) Resident Obstetric Officer. (3) Resident Medical Officer at the Ida and Robert Arthington Hospitals. Salary for (2) £50 per annum, and for (3) £60 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LEICESTER ROYAL INFIRMARY.—Surgical Dresser. Honorarium, £10 10s. for six months.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—Resident House-Surgeon. Salary at the rate of £100 per annum.

LIVERPOOL: PARKHILL SANATORIUM.—Resident Medical Superintendent. Salary, £400 per annum, increasing to £500.

LONDON COUNTY ASYLUM, Hanwell, W.—Junior Assistant Medical Officer. Salary, £170 per annum.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Resident Medical Officer. Salary, £250 per annum.

LONDON LOCK HOSPITAL, Harrow Road, W.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £80 per annum respectively.

LONDON MISSIONARY SOCIETY.—(1) Woman Doctor for Maternity Hospital in China. (2) Two Women Doctors for Central China and South India.

MACCLESFIELD GENERAL INFIRMARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

MANCHESTER SCHOOLS FOR MOTHERS.—Full-time Officer.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—(1) Assistant Physician. (2) House-Physician. (3) House-Surgeon. (4) Assistant House-Physician. (5) Assistant House-Surgeon. (6) Pathologist and Registrar. Salary at the rate of £60 per annum for (2) and (3), £40 per annum for (4) and (5), and £120 per annum for (6) and £10 on completion of annual report.

NATIONAL DENTAL HOSPITAL, Great Portland Street, W.—Honorary Radiologist.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—Refraction Clerk to the Ophthalmic Department. Salary, £50 per annum.

NEWCASTLE-UPON-TYNE: UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Lecturer in (*a*) Diseases of Throat, Nose, and Ear, (*b*) Diseases of the Skin, (*c*) Diseases of Children.

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE.—Second Whole-time Assistant Medical Officer. Salary, £250 per annum, rising to £300.

NEWCASTLE-UPON-TYNE HOSPITAL FOR SICK CHILDREN.—Senior and Junior Medical Officers. Salary, £100 and £80 per annum respectively.

NORTHAMPTON COUNTY ASYLUM, Berrywood.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £225.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

OLDHAM ROYAL INFIRMARY.—Second and Third House-Surgeons. Salary at the rate of £100 and £80 per annum respectively.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer (male). Salary, £150 per annum, rising to £175.

PARK HOSPITAL FOR CHILDREN, Hither Green, S.E.—Assistant Medical Officer. Salary, £150 per annum, rising to £180.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £75 per annum.

POPLAR HOSPITAL FOR ACCIDENTS, E.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—House-Surgeon (male). Salary, £80 per annum.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £200 per annum, rising to £250.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham.—(1) Honorary Assistant Ophthalmic Surgeon. (2) Senior House-Physician. (3) Senior House-Surgeon. (4) Junior House-Physician and Assistant Pathologist. (5) Junior House-Surgeon. Salary for (2) and (3) £75 per annum, and for (4) and (5) £60 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—Assistant Physician.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—(1) Junior Obstetric Assistant. (2) Male and Female House-Physicians and House-Surgeons. (3) Medical Registrar.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—Honorary Ophthalmic Surgeon.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD UNION HOSPITAL.—Resident Assistant Medical Officer. Salary, £120 per annum.

SHREWSBURY: SALOP INFIRMARY.—House-Physician. Salary at the rate of £90 per annum.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer (male). Salary, £180 per annum, increasing to £200.

SOUTH AFRICA UNION.—Bacteriological Assistant at Bloemfontein. Salary, £220 per annum, rising to £360.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

STAFFORDSHIRE, WOLVERHAMPTON, AND DUDLEY JOINT COMMITTEE FOR TUBERCULOSIS.—Tuberculosis Officers. Salary, £500 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Surgeon. Salary, £120 per annum, rising to £140.

STOKE-ON-TRENT COUNTY BOROUGH.—Lady Medical Officer. Salary, £250 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—House-Surgeon. Salary, £125 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £80 per annum.

TUNBRIDGE WELLS TOWN COUNCIL.—Medical Officer of Health.—Salary, £500 per annum.

VIRGINIA WATER: HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE.—Junior Assistant Medical Officer (male). Salary, £250 per annum, rising to £300.

WAKEFIELD GENERAL HOSPITAL.—Second House-Surgeon (male). Salary, £100 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL. — Assistant Resident House-Surgeon and Anaesthetist. Salary, £75 per annum.

WEST HAM UNION INFIRMARY.—Third and Fourth Medical Officers (male). Salary, £150 and £140 per annum, rising to £170 and £160 respectively.

WEST RIDING ASYLUM, Burley-in-Wharfedale.—Assistant Medical Officer. Salary, £180 per annum.

WHITEHAVEN AND CUMBERLAND INFIRMARY. — House-Surgeon (male). Salary at the rate of £120 per annum.

WILTS COUNTY COUNCIL.—Temporary Assistant School Medical Inspector. Salary at the rate of £300 per annum.

YORK DISPENSARY AND MATERNITY HOSPITAL.—Resident Medical Officer (male). Salary, £140 per annum.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

BARLOW, W. R., M.R.C.S., L.R.C.P.Lond., Third Assistant Medical Officer to the County Asylum, Dorchester.

GERRARD, N. J., M.D.Melb., F.R.C.S.Edin., Chief Resident Medical Officer at Ballarat Hospital, Victoria.

GEDGE, A. S., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Pewsey District, co. Wilts.

HENDERSON, John, M.D., Ch.B., F.R.F.P.S.Glasg., Professor of Medicine in St. Mungo's College, Glasgow.

LYONS, W. Campbell, M.B.,Ch.B.Edin., D.P.H., Assistant Medical Officer of Health (Tuberculosis) for the County Borough of South Shields.

OWEN, A. D., M.R.C.S.Eng., L.R.C.P.Lond., Medical Officer of Health for the Urban District of Hampton.

STRATON, Arthur A., M.B., B.S., Clinical Assistant to the Chelsea Hospital for Women.

WEST, T. Ruddock, M.B., B.S.Durh., D.P.H.Cantab., Assistant School Medical Inspector to the County of Northumberland.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

SHELDON.—On October 4th, 1913, at Insein, Burma, the wife of J. H. Sheldon, M.B.Lond., Burma Railways, of a son. (By cable.)

MARRIAGE.

MOLE—HOLMES.—On September 30th, at St. Gabriel's, Warwick Square, S.W., by the Rev. L. H. Nixon, M.A., Precentor of Westminster, and the Rev. Noel Kynaston Gaskell, Curate of St. Gabriel's, Harold F. Mole, F.R.C.S., of 19, Mortimer Road, Clifton, son of the late F. M. Mole, of Westfield Road, Edgbaston, to Harriet (Hettie), youngest daughter of the late Reuben Holmes, of Heanor, Derbyshire.

DEATH.

NORMAN-ROBINSON.—On October 5th, in a nursing home at Haslemere, Surrey, Mary Elizabeth, wife of William Arthur Norman-Robinson, M.D., Ch.B., of Sheerness, and daughter of the late Francis Symes, of West Holm, Waverley, N.Z.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.—8 p.m., General Meeting. 8.30 p.m., Introductory Address by the President, Sir David Ferrier, F.R.S.; to be followed by Dr. Farquhar Buzzard's paper on Varieties of Facial Spasm and their Treatment.

ROYAL SOCIETY OF MEDICINE, 5.30 p.m.—Special Meeting of Fellows: Demonstration by Dr. Hideyo Noguchi relative to the *Treponema pallidum*.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:
SECTION OF SURGERY, 5.30 p.m.—Mr. Frank Kidd: Pyelography. Mr. Charles A. Pannett: The Selection of the Incision in Coeliotomy.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, Paddington Green Children's Hospital, 8 p.m.—Clinical Evening.

ROYAL SOCIETY OF MEDICINE:
SECTION OF DERMATOLOGY, 5 p.m. — Demonstration of Cases and Specimens.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:
SECTION OF OTOLOGY, 5 p.m.—Demonstration of Cases and Specimens.
SECTION OF ELECTRO-THERAPEUTICS, 8.30 p.m.—Clinical Evening.

SATURDAY.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 4 p.m.—Harveian Oration by Dr. J. Mitchell Bruce.

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.—Post-Graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST Brompton.—Wednesday, 4.30 p.m., The Behaviour of the Blood in Response to Tuberculous Infection.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics, daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Thursday. Radiography: Saturday. Lectures on special subjects on Monday, Tuesday, and Thursday.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock, E.—Lectures daily (Saturday excepted) at 12 and 4 p.m. Practical Laboratory work daily (Saturday excepted), 10 to 12 a.m. Practical Protozoology 2 to 3.30 daily; Advanced Protozoology 10.30 to 1 p.m. daily. Medical Clinics, Tuesday and Thursday at 3 p.m. Operations, Friday at 3 p.m.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS. — Tuesday, 4.30 p.m., Salford Royal Infirmary: Some Recent Cases of Nephritis. Wednesday, 4.30 p.m., Royal Infirmary: Demonstration of Medical and Surgical Cases. Thursday, 4.30 p.m., Ancoats Hospital: Surgical Aspect of Gastric Carcinoma. Friday, 4.30 p.m., Royal Eye Hospital: Detection of Opacity in the Media.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C. — The following clinical demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin. Tuesday, Medical. Wednesday, Surgical. Thursday, Surgical. Friday, Eye. Lectures on special subjects at 5.15 p.m. each day.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Vascular Regions of the Brain; Friday, 3.30 p.m., Inflammatory Lesions of the Brain.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, X Rays, and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday.

[*For further particulars of Lectures consult the Index to Advertisements.*]

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		OCTOBER.
10	Fri.	London: Journal Committee, 2 p.m.
14	Tues.	London: Organization Committee, 2 p.m. London: Metropolitan Counties Branch Council, 3.45 p.m. Hatfield: Herts Medical Committee, 3 p.m.
15	Wed.	London: Hospitals Committee, 2.30 p.m. London: Standing Ethical Subcommittee, 3 p.m. Dorset and West Hants Branch, Weymouth, 3.30 p.m.; Luncheon, 1.30 p.m.
		OCTOBER (*continued*).
17	Fri.	City Division, London Hospital, Whitechapel, E., 4 p.m.
22	Wed.	London: Finance Committee, 2.30 p.m. City Division, Balfour Hall, Dunston Street, Kingsland, 3.30 p.m.
25	Sat.	Yorkshire Branch, Scarborough, 4.15 p.m.; Dinner, 6.30 p.m.
29	Wed.	London: Council.
30	Thur.	South Midland Branch, Northampton.

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TO THE
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INSURANCE ACT COMMITTEE.

THE fifth meeting of the Insurance Act Committee was held at the offices of the Association on Thursday, October 9th. Dr. J. A. MACDONALD was in the chair, and the other members present were:—*England and Wales:* Dr. E. R. Fothergill (Brighton), Dr. Major Greenwood (London), Miss M. F. Ivens (Liverpool), Dr. I. W. Johnson (Bury), Dr. Constance E. Long (London), Mr. E. C. Montgomery-Smith (London), Dr. G. K. Smiley (Derby), Dr. Crawford Treasure (Cardiff), Mr. E. B. Turner (London). *Scotland:* Dr. John Adams (Glasgow), Dr. R. McKenzie Johnston (Edinburgh). *Ex officio:* Dr. Edwin Rayner (Treasurer).

MEDICAL REFEREES.

A communication was received from Dr. Lachlan Fraser, Honorary Secretary of the Tynemouth Local Medical Committee, stating that a scheme for a board of medical referees composed of members of the panel acting on a rota had been adopted at a joint meeting of that committee and of the Medical Benefit Subcommittee. The scheme, which would be in force for six months, provided, *inter alia*, that the fee for each case should be two guineas, to include clerical expenses, postage, etc. Dr. Fraser added that the local profession was opposed to the suggestion of the Insurance Act Committee as to the provisional appointment of part-time officers. The Committee resolved to inform the Tynemouth Local Medical Committee that the principle of the proposed medical board was entirely new, but though it differed from its own proposal the Committee would watch the operation of the scheme with interest, and would be glad to receive a report later of its working.

CHARGES FOR EXTRA MEDICAL CERTIFICATES.

A communication was received from the West Ham Approved Friendly Society complaining that the charge of 1s. made by practitioners in that area for extra medical certificates was excessive, and asking the Association to consider the matter with a view to a reduction in the fee. The Committee expressed the opinion that the fee of 1s. was not in any way excessive, and added that it was the fee generally charged throughout the country.

MANCHESTER UNITY OF ODDFELLOWS.

The Committee had before it a published statement to the effect that the Manchester Unity of Oddfellows, in view of the Departmental Committee appointed to inquire into alleged excessive claims in respect of sickness benefit, had issued to the secretaries of the various lodges a circular containing the following questions:

Have you discovered any cases in which the medical practitioner has (*a*) given declaring-on certificates without seeing the insured person; (*b*) given continuing certificates without seeing the insured person; (*c*) given declaring-off certificates without seeing the insured person?

Have you found it necessary to make any complaint to the Insurance Committee as to the conduct of doctors?

Have you interviewed any panel doctors with reference to any of your members? If so, have you been treated courteously, or has the doctor refused to give you any information?

If you have had reason to believe that a member has been malingering, what steps have you taken to investigate the case?

Are you of opinion that any claims are made by reason of the fact that the amount received as sickness benefit exceeds the ordinary income of the member whilst at work?

Are you of opinion that members receive adequate medical treatment from panel doctors?

Have you any members claimed sickness benefit when suffering from minor ailments? If so, give instance.

What do you consider the principal difficulties in connexion with the administration of benefits under the Act?

This document was referred to the Subcommittee on alleged excessive claims on sickness benefit and malingering.

"ASSOCIATION OF APPROVED SOCIETIES."

As reported in the SUPPLEMENT of September 20th, the Insurance Act Committee had before it at its meeting on September 11th a communication from the Association of Approved Societies, stating that it contemplated holding an inquiry into the working of medical benefit under the Insurance Act, with a view to reporting as to its efficiency or otherwise, and of making suggestions as to possible alternative schemes, and asking whether, in the event of such an inquiry being instituted, the British Medical Association would consent to be officially represented. From further information since obtained it appeared that the Association of Approved Societies was composed of about forty of the smaller approved friendly societies and trade unions, with the Prudential approved society, representing altogether some four million insured persons, but that none of the large friendly societies were represented. It had further been ascertained that the committee of inquiry proposed to be appointed by the Association of Approved Societies would be composed principally of members of its executive committee, with three or four others. The Committee resolved, Dr. FOTHERGILL dissenting, to recommend the Council to accept the invitation, and to authorize the Insurance Act Committee to select a representative of the British Medical Association.

Medical Aid Institutions.

It was reported that a reply had been sent to the request addressed by the Committee at its last meeting to Mr. Masterman, Chairman of the Joint Committee of the Insurance Commissioners, asking him to receive a deputation with regard to the concessions made by the Government to approved institutions at the time of the Chesterfield by-election. The reply was to the effect that the request would be placed before Mr. Masterman at the earliest possible date.

Free Choice of Doctor.

Facts with regard to a case in which it was alleged that there had been interference with the right of insured persons to free choice of doctor were placed before the Committee, and a further case in which such interference was alleged to have occurred was reported to the Committee. The Committee resolved to draw the attention of the Insurance Commissioners to the facts of the alleged interference with free choice of doctor in these two cases.

Distribution of Funds Available for Medical Benefit for Unallotted Insured Persons.

At the instance of Mr. Montgomery-Smith the Committee proceeded at once to the consideration of the following motion of which he had given notice:

> That those insured persons who have not chosen a doctor on the panel and who have received medical attendance and treatment from a practitioner not on the insurance panel should be entitled to have refunded to them the whole of the money, less a deduction for administrative expenses, allowed for their medical benefit.

The motion was seconded by Mr. Turner, whereupon the following amendment was moved by Dr. Fothergill, seconded by Dr. Crawford Treasure, and carried:

> That in the opinion of the Committee those insured persons who have been refused by Insurance Committees permission to make their own arrangements, or have been unable to obtain the services of a panel doctor, and have consequently incurred expense for medical attendance, should have paid to them the amount of money available for their medical benefit; and that the balance of the medical benefit fund should be distributed among the practitioners on the panel.

Possible Extension of Scope of Insurance Act.

The Committee resolved to recommend the Council to appoint a special committee to consider and report upon the following minutes of the Annual Representative Meeting, 1913:

Minute 204.—(*a*) That in view of the fact that it is exceedingly likely that the scope of the National Health Insurance Act will be so extended as to include in its operations various additional matters (for example, the treatment of children and dependants of insured, dental treatment, hospital treatment, alterations in the method of dealing with deposit contributors and casual labourers), it is desirable that the Association should be ready with its policy as to what a National Health Insurance Act should be, not merely from the point of view of the interests of the profession, but also from that of public health and the advancement of medical science.

Minute 205.—(*b*) That the preparation of a full report upon the above lines be referred to the Insurance Act Committee; that such report be issued to the Divisions for their consideration and comment; and that the report, together with a statement of the views of the Divisions thereon, be submitted, if possible, to the next Representative Meeting, and that the Council be given power to act for the Representative Body should an emergency arise in the meantime.

After a proposal that this special committee should be appointed by the Representative Body had been lost, the Committee resolved to recommend to the Council that the special committee should consist of the honorary officers of the Association, together with nine other members.

Non-Panel Subcommittee.

At its meeting on September 11th, the Committee, as reported in the Supplement for September 20th, resolved to appoint a subcommittee to represent the views and interests of medical practitioners not on the panel; that such subcommittee should consist of those members of the Insurance Act Committee who are not on the panels; and that it should report to the Insurance Act Committee. The Medical Secretary reported that the following members of the Committee were not on the panel: The President, the Chairman of Representative Meetings, the Treasurer, Dr. Beaton, Miss Ivens, Dr. McKenzie Johnston, Mr. Herbert Jones, Dr. Constance E. Long, Mr. E. C. Montgomery-Smith, Mr. D. F. Todd, Mr. E. B. Turner, and Professor A. H. White, but that Mr. Montgomery-Smith had declined to serve. The Committee asked Dr. McKenzie Johnston to act as convener of the subcommittee.

Executive Subcommittee.

The Committee resolved to appoint the Chairman, Mr. Verrall, Dr. Beaton, and Mr. Turner to be an executive subcommittee to deal in cases of emergency with any matter not coming within the scope of the references of any other subcommittee.

Change of Residence of Persons Making their Own Arrangements.

Miss Ivens drew attention to the fact that the recent concessions by Mr. Masterman to approved institutes now allowed insured persons who obtained their medical benefit through such an institution, when permanently changing residence, to have the option in their new area of joining another medical aid association, or of selecting a panel practitioner; instead of, as formerly, forfeiting the remainder of their medical benefit for the year. She stated that persons who were "allowed to make their own arrangements" were under a similar disability in the case of change of residence, but that in their case no concession had been made, and urged that representations be made to the Insurance Commissioners that insured persons who had made their own arrangements should, when permanently changing their residence, be permitted to make their own arrangements in such new location. The Committee decided to refer the matter to the Non-Panel Subcommittee.

Assignment of Temporary Residents.

The Committee had before it the following statement of case by the Medical Secretary and opinion of the Solicitor of the Association relating to the question of the treatment of temporary residents.

The Insurance Act Committee expressed the opinion that it was most important that members of Local Medical Committees should recognize the necessity of those Committees urging their respective Insurance Committees to take action under Medical Benefit Regulation 17 (3), which is as follows:

> After the date indicated in the announcement the Committee shall provide for the distribution, amongst practitioners on the panel and so far as practicable under arrangements made by them, of those insured persons for whose treatment no arrangements have been made.

It was considered to be clear that if every Insurance Committee, in consultation with the practitioners on the panel or their representatives, were to establish some method for the distribution of patients for whose treatment no arrangements have been made, many of the difficulties arising in regard to temporary residents would be obviated, though the question of the source from which practitioners are to be paid for their attendance on these insured persons would remain untouched.

Case.

September 19th, 1913.

Dear Mr. Hempson,

I am instructed by the Insurance Act Committee to draw your attention to:

(*a*) Memorandum 159, 161, and 171, copies enclosed, of the Insurance Commissioners issued in connexion with the question of medical attendance and treatment of temporary residents.

(*b*) Statements of the English and Scottish Commissioners that provision for the treatment of temporary residents is included under the Act.

(*c*) Terms of Medical Regulation 22, copy enclosed.

The statements of the English and Scottish Commissioners are contained in Memorandum 171/I.C. and in the enclosed letter, dated August 26th, addressed by the Scottish Commissioners to the Clerk of the Inverness County Insurance Committee.

The Committee has always held that Regulation 22 has no reference to insured persons who are mere visitors in an insurance area, but only to insured persons who really *change* their residence. It is evident that the Commissioners are interpreting the words "changes his residence" to include the most temporary visit to an area. Do you think the Regulation would legally bear such an interpretation? If the above statements of the Commissioners are borne out by the terms of the Regulation, under Section 15 (2) (*c*) of the Act of 1911, has a practitioner on the panel the right to refuse to attend an insured person tendering a green voucher? If he has such a right, do you think the procedure would be that the insured person would take his voucher to a practitioner, and, being refused treatment, would go to another practitioner and repeat such procedure until he is accepted by one of them or refused by all?

It would appear that if the Insurance Committee had made arrangements, under Section 15 (2) (*d*) with the practitioners whose names are on the list, for the distribution of insured persons who have failed to make a selection, or have been refused by the practitioner whom they have selected, it would be possible under any such arrangement to provide that the Insurance Committee should have the right to allocate a temporary resident to some practitioner on the list, say the nearest to him. But in few areas, if any, has such an arrangement yet been arrived at, and the Committee would like to know your opinion as to the legality of the allocation by the Insurance Committee of a temporary resident to the nearest medical practitioner. Do you consider that in a case where a person bearing a green voucher is told to go to Dr. A., and Dr. A. is told that he must accept the patient, Dr. A. could decline and claim that the insured person must first attempt to select a doctor for himself, and, having failed, any allocation must be in accordance with some arrangement made under Section 15 (2) (*d*) of the 1911 Act? That pending the making of such an arrangement no doctor on the list could be compelled to take a patient with a green voucher?—I am, yours faithfully,

ALFRED COX,
Medical Secretary.

Opinion.

October 6th, 1910.

Dear Dr. Cox,

With reference to the questions raised in your letter dated the 19th September ultimo it is clear that under the Act obligation is placed upon every Insurance Committee to provide medical attendance for every insured person resident within the area of such Committee. To carry this out every person is required, in the first instance, to select his own medical practitioner. If he fails to obtain acceptance the Committee have powers of allocation conferred upon them, and Clause 3 of the Agreement between a medical practitioner and an Insurance Committee has direct reference to this system of allocation, or, as it is termed in such clause, the treatment of persons "assigned to him."

The question then arises as to how far this general principle applies to persons temporarily resident within the area of any Insurance Committee; in other words, is an insured person temporarily resident, if even only for a short period in a locality other than his usual place of abode, a person who changes his residence within the meaning of Regulation 22?

In conjunction with Regulation 22, Regulation 26 (*b*) must also be read, in both of which the words used are "change of residence." In neither Regulation does the word "temporarily" occur, nor is it negatived in either of them, but in Regulation 22 it is provided that "such adjustment shall be made . . . regard being had to the portion of the year spent by an insured person in the areas of each of the Committees respectively."

In its ordinary acceptation the word "residence" uncontrolled would usually be taken to mean the place of abode of the individual, namely, his house where his personal effects and furniture are accustomed to be kept and where he resides with his family, as opposed to a temporary visit for reasons of health, business or pleasure to some other locality.

Without some latitude being accorded in point of construction of the interpretation of the words "change of residence" as used in Regulations 22 and 26 (*b*) the Act would be rendered a dead letter in so far as concerns the treatment of insured persons who from time to time are absent from their permanent home and temporarily resident in other localities, and I am of opinion that the Courts would give a wide mode of construction to the Regulations in question in order to make the Act fully operative rather than to seek to restrict its operation. Therefore, if the matter were adjudicated upon it would, in my view and opinion, be held by the Court that the term "changes of residence" as used in Regulations 22 and 26 (*b*) extend to and include those insured persons who from time to time are temporarily resident in another locality by reason of those causes which I have already specified.

As will be appreciated, however, it is impossible with any degree of certainty for any solicitor or counsel to say absolutely what construction the Courts would actually place upon the words in question, and I can only give my opinion, as I do, based upon my experience in my profession as guiding me in my interpretation of the trend of the judicial mind.

The Commissioners have endeavoured to evolve a plan based upon the green voucher system to which the explanatory Memorandum 161/I.C. has reference. Such Memorandum has, however, in my opinion, no force and effect as a Regulation, being merely a scheme suggested for acceptance by the medical profession, and which they are under no obligation to accept.

The position thus created resolves itself into this—namely: An insured person temporarily resident in a locality who has procured a green voucher finds necessity for obtaining medical treatment. He tenders his green voucher to a medical man on the panel and is refused acceptance, and being unable to obtain treatment under this system he applies to the Committee, who having satisfied themselves that due diligence has been observed by the insured person in endeavouring to obtain treatment under the green voucher system, proceed to assign or allocate him in accordance with the powers contained in the Act and Regulations.

I am of opinion that the Insurance Committee is acting in accordance with its powers, and that the insured person thus assigned cannot legally be refused by the medical practitioner on the panel to whom he is assigned, or if he did so refuse him he would be acting in contravention of his agreement with the Committee.

The question is raised in your letter as to whether it is necessary for the insured person to tender the green voucher to all medical men upon the panel in the locality in which he is temporarily resident before the powers of the Committee to assign or allocate him come into operation.

I am of opinion that this would be considered an unreasonable requirement. Each case would have to be judged upon its merits, and the judges of the position as to whether true and proper diligence had been exhibited by the insured person would be the Commissioners themselves, and, having satisfied themselves upon the point, their powers of assignment or allocation would come into operation.—I am, yours faithfully,

W. E. HEMPSON.

The Committee considered the letter published in the SUPPLEMENT of October 11th, page 304, from Dr. Henry Lewis (Llansantffraid), concerning his refusal to attend an insured person who had presented a green voucher, and the threat of the Local Insurance Committee to withhold moneys due to him if he persisted in such refusal, together with a letter from Dr. Rowland, honorary secretary of the Denbigh and Flint Division on the same subject. The Committee resolved to communicate the above opinion of the Solicitor of the Association to Dr. Lewis, and to inform him that it was ready to assist him if the Insurance Committee took any steps to deprive him of moneys due to him on account of the exercise of his right to decline patients.

MEDICAL BENEFIT ARRANGEMENTS FOR TRAVELLERS.

The Committee having considered the documents issued by the Insurance Commissioners in connexion with the provision of medical and sanatorium benefit to persons frequently moving from place to place in the course of their employment, resolved, in respect to Memorandum

175/I.C., to inform the Insurance Commissioners that, in the opinion of the Committee, provision should be made whereby it would be permissible for insured persons making use of the yellow voucher to obtain attendance and treatment from either a panel or non-panel practitioner. The adoption of this resolution was held by the Chairman to put out of order a motion of which Dr. Major Greenwood had given notice, to the effect that it should be the duty of every Insurance Committee to compile a list of those practitioners on its panel willing to accept the yellow vouchers, and that all temporary residents requiring medical attendance outside their own area should be required to choose a medical attendant out of that list.

Treatment of Members of Staffs of Voluntary Hospitals.

The following motions, of which Dr. Fothergill had given notice, were approved and recommended to the Council for adoption:

(*a*) That on and after January 1st, 1914, no advertisement for a paid medical officer be received for insertion in the Journal from a voluntary hospital, institution, or other body providing medical attendance and medicine for the insured members of its staff unless it is guaranteed that the proper proportion of moneys paid by the Insurance Committee in respect of the medical attendance and treatment of such insured persons shall be paid to the medical officer of the institution who is responsible for such attendance and treatment, irrespective of any salary paid to such officer.

(*b*) That a suitable memorandum be issued forthwith by the Insurance Act Committee to all such bodies, urging the adoption of this principle.

(*c*) That a copy of that memorandum be sent to all Divisions and Local Medical Committees, as also to all medical periodicals inserting such advertisements, with a request for their active co-operation on behalf of this principle.

Proposed Special Fund.

The Committee also approved the following motions by Dr. Fothergill, but in transmitting them to the Council expressed the opinion that any such campaign would be useless unless vigorously carried out:

A. That the Council be recommended to approve (i) special arrangements being made by the Insurance Act Committee for meetings of the medical profession to be held in November next in as many central districts as possible throughout the United Kingdom, at which explanatory addresses on the principles of the Special Fund shall be given by the medical staff and such members of the Association (whether members of the Insurance Act Committee or not) as are willing to act; (ii) that the out-of-pocket expenses be paid by the Association, or out of the administration account of the Central Insurance Defence Fund, should the solicitor advise it to be legal.

B. That should the Council approve the above proposal, it be left to the Chairman of the Committee, Chairman of the Special Fund Subcommittee, and the Medical Secretary to forthwith organize and conduct the campaign.

Intercommunication between Committees.

At the request of the Medico-Political Committee, Drs. Finlay and Johnson were invited to be representatives of the Insurance Act Committee upon the Contract Practice Subcommittee of the Medico-Political Committee.

In response to an invitation from the Organization Committee, Dr. Beaton and Mr. Turner were appointed representatives of the Insurance Act Committee to confer with the Organization Committee with reference to Minute 269 of the Annual Representative Meeting, 1913, recommending the creation of a separate national insurance department.

Compensation Cases.

Four applications for assistance from the Central Insurance Defence Fund were considered. A grant was made in two cases, and refused in one; the other application was postponed for further inquiries.

Letters of thanks from five members for assistance given or promised were read.

Next Meeting.

It was resolved that in view of the references to various subcommittees, the next meeting of the full committee should be held on November 6th, the Chairman being empowered to convene an earlier meeting if he deemed it necessary.

THE SCOTTISH COMMITTEE.

The Scottish Committee, at a meeting held in Glasgow on October 9th, appointed Mr. W. Finlay, of 155, St. Vincent Street, Glasgow, to be its salaried clerk. He is solicitor to the Glasgow Local Medical Committee and Secretary of the Medical and Dental Defence Union for Scotland. Correspondence for the Scottish Committee should be sent to Mr. Finlay at the above address.

LOCAL MEDICAL COMMITTEES.

ESSEX.

The eleventh general meeting of the Local Medical Committee for Essex was held on October 9th.

Treasurer Committee.—The Secretary was directed to transfer the bank account to the name of the Treasurer Committee (Chairman, Vice-Chairman, and Secretary of the Local Medical Committee), the names of two of those officers for the year being sufficient to draw cheques in payment of accounts.

Model Rules.—A letter having been received from the Commissioners saying that they would shortly publish rules for Local Medical Committees, the report of the Subcommittee was held over.

British Medical Association.—Memorandum 7 was considered and approved of, the Secretary being requested to give all information in his power to the Medical Secretary or in reports for publication.

Drug Suspense Fund.—In answer to the letter addressed to the Commissioners as to the use of Panel Committee funds from Drug Suspense Fund for Local Medical Committee (British Medical Journal Supplement, September 20th), the Secretary stated that the Commissioners would pay every consideration to his request, but that the matter of continuing the recognition of the Local Medical Committee for Essex was under consideration.

Finance and Organization.—It was reported that subscriptions based on £2 minimum and ½d. per capita on panel list were now coming in more steadily.

Allotment of Insured Persons and Allocation of Money.—Memorandum 29/I.C., together with suggestions from Mr. Burrows, the Chairman of the Insurance Committee, were discussed at length, and it was ultimately decided to agree to 29/I.C., with the addition of the suggestions named, modified by the following resolutions and some verbal alterations:

1. That the Insurance Committee be requested to send copies of 29/I.C., together with Mr. Burrows's suggestions (as altered), and the resolutions of Local Medical Committee, to every panel doctor in Essex, and that copies be sent to the secretaries of the twenty-one District Medical Committees in time to enable them to call meetings of all panel practitioners in their areas.

The decisions arrived at to be communicated to the Insurance Committee, and duplicates sent to the Secretary of the Local Medical Committee, 492, Lea Bridge Road, Leyton, N.E. This was to ensure that every panel doctor should have the opportunity of considering and agreeing to the propositions of Commissioners and Insurance Committee.

2. That the unallocated funds be distributed to practitioners on the panel proportionately to the number of patients on their lists, each quarter's money being treated separately.

It was distinctly understood that these should date as from January 15th, and be paid in full up to date. It is hoped that all panel doctors in Essex will carefully study the documents sent, and attend the District Medical Committee meetings when held (it is hoped simultaneously), as the Local Medical Committee, most of whom had small panel lists, arrived at their decision after careful study of the matter as being in the circumstances in the best interests of patients and doctors.

The following is a brief sketch of the scheme:

(*a*) Insured persons should be allotted in the form of "counters."

(*b*) That panel doctors should agree to give on demand medical treatment, as per Regulations, to all insured persons who are not on any doctor's list within the radius of the doctor's practice called upon to attend.

(*c*) That the panel doctor *may* enter on his list the name of any such persons.

(*d*) If unwilling to do so he shall give treatment until other arrangement has been made after notifying his unwillingness to include such person on the panel list to the Secretary of his District Medical Committee, who in his turn shall, after consultation or otherwise, nominate to the Medical Service Subcommittee some other practitioner willing to attend.

[Note.—The above is to avoid a practitioner being compelled to attend a patient who by accident or sudden illness seeks treatment at a considerable distance from his home, subsequently returning home.]

(*e*) Brown vouchers are to be supplied to doctors, and every person thus applying is to be entered on the form, which shall contain a notice prohibiting that person from using the form if already on the list of any other practitioner in the district.

(*f*) A maximum number of persons on the panel list of any doctor being made a *sine qua non* of the whole scheme the Local Medical Committee fixed that maximum at 2,500, it being considered that though this, together with the proportionate distribution of persons (as counters) reacted to the detriment of those who, for various reasons, had small lists, yet as those men with large lists were clearly the men who attracted most patients, it was in the interests of the insured that they should have the right to continue to choose such practitioners, while if this arrangement produced inefficient treatment, the patients finding this to be so could, by giving notice, change their doctor, and so matters would ultimately rearrange themselves. This was decided after consideration of the actual number of practitioners in Essex and the actual number of patients on each practitioner's list (the practitioner being indicated by a number, no names being divulged). It was found that very few had really large lists.

Payment of Arrears.—It was resolved:

> That the Local Medical Committee requests the Insurance Committee to pay all arrears due to doctors on the panel, and to make their payments in future at definite intervals and of a definite amount in order that the doctors may know what amount they are to receive and when.

Organization of District Medical Committees.—The following resolution was adopted:

> That a conference of secretaries of district medical committees, with the chairman and secretary and three other members of the Local Medical Committee, be arranged to discuss the subject of organization of the medical profession in Essex.

New Form of Contract.—The Secretary was directed to ask the Insurance Committee to send a rough draft of the new form of contract to the Local Medical Committee for consideration as soon as possible.

Publication of Amounts Paid to Doctors.—As a result of the resolution published in the Supplement to the British Medical Journal stating that such a procedure was inadvisable, Dr. Butler Harris stated that the Insurance Committee had agreed to confine this practice to a confidential list to be retained at the offices of the Committee.

Reports of Insurance Committee.—It was reported that in response to the request that the reports of the Insurance Committee should be sent to the Secretary of the Local Medical Committee, the clerk had since sent them.

Secretarial Duties.—The Secretary of the Local Medical Committee thanks secretaries of District Medical Committees who have sent lists of doctors in their areas and reports, and hopes that they will answer all communications as promptly as possible, as it is of the greatest assistance to him in his somewhat arduous duties. All suggestions will be most carefully considered, and individual practitioners are again invited to send any matters of difficulty to him to lay before his committee.

NORFOLK.

A meeting of the Local Medical Committee for Norfolk was held at Norwich on October 3rd. Dr. B. D. Z. Wright was in the chair, and the Vice-Chairman (Dr. H. H. Back), Dr. D. G. Thomson (Honorary Secretary), and twelve members were also present.

Allocation of Insured Persons.—After formal business, a communication from the Insurance Committee was read pointing out the difficulties of allocating the residue of insured persons in accordance with the following resolution of the Local Medical Committee:

> That they be allocated to the nearest resident practitioner (not the nearest non-resident practitioner who might merely have a place of call or surgery in a place), and if there be more than one resident practitioner in a village or place, then among those practitioners in equal numbers.

After a long discussion, in which the Secretary to the Insurance Committee, present at the meeting by invitation, joined, it was unanimously resolved that this resolution should be enforced only where the District Committees and the local practitioners convened to a meeting for the purpose could not make amicable and mutually agreeable allocation arrangements.

New Form of Contract.—Opportunity was taken to ask the Secretary to the Insurance Committee to give the Local Medical Committee the earliest possible opportunity of seeing and considering the new form of contract to be entered into at the end of the Insurance year between the Norfolk Insurance Committee and the practitioners on the panel; the Secretary promised to do this.

Secretary to the Committee.—A letter was read from Dr. Owens regretting his inability to undertake the duties of Secretary of the Committee, whereupon Dr. Thomson agreed to continue as Secretary till the end of the Insurance year at all events.

After some business of purely local interest the meeting terminated.

DUMFRIESSHIRE.

At a well-attended meeting of the Dumfriesshire Local Medical Committee, held in the County Buildings, Dumfries, on October 8th, a discussion took place on the present state of the arrangements for medical benefit. The slow progress made with the matching of index slips and the postponement of the allocation of insured persons who have not chosen a doctor occasioned great dissatisfaction, and the general opinion was expressed that the deferred payments in respect of the two classes involved would to a large extent be lost altogether on account of change of address. It was unanimously agreed, on the motion of Dr. Murdoch, seconded by Dr. Bell:

> That we refuse to attend as insured persons all those for whom matched index slips do not exist by November 11th, and that after that date bills be rendered to such of these persons as have been attended since January 15th; and, further, that the renewal of practitioners' agreements will be contingent on the allocation being also completed by the same date.

It was also unanimously agreed, on the motion of Dr. Bell, seconded by Dr. Bryson, "that the practitioners in this area refuse to accept the voucher for temporary residents."

KIRKCALDY.

A meeting of the Kirkcaldy Local Medical Committee was held on October 1st, with Dr. Curror in the chair.

New Scale of Dispensing Charges.—A deputation from the Pharmaceutical Committee was received, and after hearing the views expressed on the subject it was unanimously decided to support the chemists in their endeavour to raise the fees allowed for dispensing.

Model Rules and Standing Orders.—It was decided to postpone the alteration of the constitution till the annual meeting. The standing orders were adopted provisionally.

New Agreement.—The Secretary was instructed to ask the Clerk of the Insurance Committee to forward copies of the new agreement to practitioners early in November. It was also decided that no practitioner should sign it until it had been discussed at a meeting of the Committee.

Operations Requiring Anaesthesia.—A letter was read from a practitioner asking if he were bound by his agreement to provide the services of an anaesthetist when performing an operation on an insured person. The Committee ruled that he was not, and the Secretary was instructed to communicate this decision to the Insurance Committee.

Medical Referees.—The communication from the Medical Secretary of the British Medical Association on this subject was read.

Finances.—The original levy of 2s. 6d. a member having proved insufficient, it was decided to impose an additional levy of the same amount.

PERTH.

Meetings of the Local Medical Committee for the burgh of Perth were held on September 30th and October 10th. A scheme of allocation of insured persons was passed at the meeting on September 30th, but as it did not give satisfaction to all the members of the panel, an alternative scheme was brought forward on October 10th, the terms of which are as follows:

1. That preferential consideration be given to the two members who in virtue of their adherence to the British Medical

Association pledge did not at first go on the panel, and thereby lost heavily in the number of insured persons acquired by them.

2. That the 2,000 (or thereabout) unallocated persons be divided in such a way as first of all to make the panels of the above mentioned two practitioners up to 525 each, the remainder of the 2,000 to be divided *pro rata* amongst the other ten practitioners in proportion to the numbers at present on their panels, but with permission to any of such practitioners to renounce all or any part of their allocation if they so desire.

3. That a small committee be appointed to arrange details, and also to reallocate amongst the practitioners those insured persons who may be renounced as above mentioned.

The scheme was duly adopted by the meeting in place of that passed at the previous meeting. It was agreed at both meetings that the proportion of capitation grants for the 2,000 unallocated persons, overdue for the first three quarters of the year, should be divided amongst the whole practitioners on the panel in proportion to the insured persons at present on their lists.

Medical Referees.—At the meeting on September 30th it was agreed that a fee of not less than 10s. 6d. be charged by any practitioner called upon to act as medical referee to decide as to the capacity or incapacity of an insured person, this decision to be binding upon all the practitioners in the area.

Goodwill of Practices.—It was resolved at the meeting on October 10th that in the event of any practitioner giving up his practice in the district, no matter from what cause, and disposing of his practice, the practitioners of the district guaranteed that they would not take over any insured persons on that doctor's list during the year in which he gave up practice. The object of this motion was the very reasonable one of preserving as far as possible the goodwill of a practice thrown into the market, for the sake of a widow, for example, or other interested person.

Model Rules.—It was agreed to adopt the Model Rules for Local Medical Committees (Supplement, July 5th) in so far as they did not controvert the rules issued by the Commissioners for the conduct of Local Medical Committees. It was, however, decided that the matter should be dealt with more particularly at the next meeting of the Committee.

GALWAY.

At a meeting of the County Galway Medical Committee on October 10th the following resolution was unanimously adopted:

> That the County Galway Medical Committee has objected to the appointment of assistant tuberculosis officers in the county, for these among other reasons:
>
> The Prevention of Tuberculosis (Ireland) Act and the Sanatorium Benefit Clauses of the Insurance Act have now been in operation for two and a half years in this county.
>
> The majority of the people in the rural districts who suffer from tuberculosis are not insured persons. Up to this we have seen no steps taken to give efficient treatment to these poor people, for we cannot regard the appointment of medical advisers or assistant tuberculosis officers as being of adequate assistance to meet the exigencies of the case.

MEETINGS OF INSURANCE COMMITTEES.

Bath.

Publication of Details of Medical Accounts.

After a protracted discussion, the Bath Insurance Committee at its last meeting carried by 15 votes to 13 a proposal in favour of publication of the precise sums paid to doctors on the panel.

Dr. C. A. Marsh, the honorary secretary of the Local Medical Committee, wrote that the Committee, while fully agreeing with the publication of the total amounts paid in respect of medical benefit, strongly urged that the details be not published, believing that such a course would be detrimental to the interests of insured persons and doctors alike. The Pharmaceutical Committee added its protest.

In spite of several speeches urging that the Insurance Committee would sacrifice no important principle by acceding to the wishes of the doctors and chemists in this matter, publication was approved by the narrow majority of two votes.

INSURANCE NOTES.

SCOTLAND.

Statement of Nature of Disease on Medical Certificate.

The council of the Medical and Dental Defence Union of Scotland, having received a number of inquiries from its members as to whether they incur any risk in issuing certificates under the Insurance Act to patients suffering from a disease due to personal misconduct, has sent us a copy of a letter addressed to one of the inquirers as follows:

Your letter of 28th ult. has been submitted to the council and solicitors of the Union.

In view of the instructions issued by the Commissioners, there appear to be only two courses open in dealing with certificates under the National Insurance Act, where the illness is due to personal misconduct. You may refuse to give any certificate at all, in which case it is probable that a complaint will be made against you by the member of the society, and the result will probably be that you would not be permitted to continue your services. The other alternative is to state frankly the disease from which the patient is suffering. If the latter course is adopted the council are advised that you would expose yourself to an action of damages for slander at the instance of the party to whom the certificate is given. It is quite true, as is pointed out in the memorandum of instructions issued by the Commissioners, that, if the certificate is handed to the person applying for it, any question as to breach of confidentiality is probably overcome, and no valid claim can be made on that account. The Commissioners, however, appear to have overlooked the fact that in Scotland a claim of damages for slander will still remain open at the instance of the person who claims to be aggrieved by the statement of a disease which reflects upon his moral character. It may be that in England the regulations of the Commissioners will sufficiently protect medical practitioners in such cases, but in Scotland the situation is entirely different.

A material distinction exists between Scottish and English law on this subject. English law gives no damages for wounded feelings, but in Scotland an action lies for a slander contained in an unpublished letter sent or a certificate handed to the claimant. This matter is firmly settled by many decisions, In *Cooper on Defamation* the law is stated thus: "Words uttered or writing sent to the pursuer alone will ground an action for damages, and will entitle the pursuer to damages for his injured feelings. This is a feature of the Scots law which distinguishes it from English law, in which there must be publication to a third party."

The instructions given by the Commissioners that practitioners must state the nature of the disease without excepting cases of personal misconduct is one which is the subject of much difficulty and apprehension on the part of the council.

In a recent case defended by the Union a doctor was sued for £250 of damages for granting a certificate to a member of a friendly society that he was suffering from a venereal disease. The circumstances all pointed to the correctness of the diagnosis, but the patient claimed that it was not true in fact. The sheriff held that a relevant case had been stated, and sent it for trial; but the doctor paid the sum of £80 to avoid this, feeling that there was a risk that a jury might award even more. A large amount of expense was also incurred in defending the case.

The council are satisfied that if this regulation is enforced, the profession in Scotland will be subjected to a great deal of vexatious litigation, and that the only course which can secure practitioners from grave risk is for the Commissioners to instruct that in such cases no certificate is to be required. The council trust that such a direction may yet be issued by the Commissioners.

The letter concludes by recommending the inquirer to bring the matter to the notice of the Scottish Commissioners.

Insurance Committees and Libels.

A memorandum with regard to the position of the Medical Service Subcommittee in respect of complaints which may contain defamatory statements has been drawn up by Mr. William Jones, clerk of the Glasgow Insurance Committee. The memorandum suggests that as the Committee must take into consideration bona-fide complaints a limited circulation of such complaints is necessary, and that the Committee, its members and officials will be immune from the danger of being held guilty of

libel or slander. He considers, however, that no further circulation than can be absolutely justified should be attempted, as otherwise there will be a danger of the protection afforded by the doctrine of privilege being lost.

IRELAND.

Medical Advisers.

At a general meeting of the members of the medical profession of county Clare, held at Ennis last week, the following resolutions were unanimously adopted:

1. That as the Chancellor of the Exchequer has now promised the additional grant necessary for the purpose, we request the Irish Medical Committee to come to an equitable arrangement as speedily as may be possible with the Insurance Commissioners and approved societies for the granting of certificates.
2. That, pending the making of this arrangement, now rendered possible, we look upon any medical man who gives certificates for ordinary insurance purposes as a traitor to his professional brethren and as one who is not in reality acting in the ultimate best interests of the societies or their members.
3. That we call upon any medical man on the panel for certification to withdraw therefrom at the earliest possible moment.
4. That we protest against the attempt now being made to appoint "medical advisers" in this country. Such advisers, if appointed, can act only by breaking all rules of professional good conduct. They cannot, therefore, be looked on by their professional brethren in any light save as professional outcasts, and we shall for this reason decline to have any dealings with them.
5. That, if such "medical advisers" be appointed, we shall withdraw from any work connected with the Insurance Act, including the sanatorium benefit.

The following resolutions were passed at the last meeting of the Clogheen Branch of the Ancient Order of Hibernians:

1. That the Clogheen Branch of the Ancient Order of Hibernians strongly condemns as impracticable and vexatious the introduction into this locality at the present time of a medical adviser for the purpose of certifying sickness and sanatorium benefits, in opposition to the entire medical profession of South Tipperary, on whom the insured and their families have to rely for their medical treatment.
2. That since Mr. Lloyd George has admitted the justice of the claims of the Irish medical profession and signified his readiness to find the necessary money to meet their demands, and that as we believe the present impracticable scheme of certifying for sickness and sanatorium benefits to be responsible for the grave discontent amongst insured persons with the Insurance Act in Ireland, we call upon the medical profession and the Insurance Commissioners to proceed forthwith to adjust their differences, so that the insured in Ireland might no longer suffer for want of sufficient medical administration.

It was further ordered that copies of the above resolution should be sent to the Chancellor of the Exchequer, the Insurance Commissioners, and Dr. Hennessy.

Treatment of Tuberculosis.

The Council of Queen's County last week authorized the County Tuberculosis Committee to enter into communication with the County Councils of the adjoining counties with a view to the establishment of a joint sanatorium and a home for advanced cases of tuberculosis at the disused workhouse at Donaghmore, Ballybrophy. The Council also authorized the Tuberculosis Committee to take steps to procure a suitable site for a central tuberculosis dispensary in or near the town of Maryborough. At the last meeting of the Dublin Corporation, the following resolution was passed:

That this Council protests in the strongest manner against the proposed method of dividing the capital grant allocated to Ireland under the Insurance Act, and in particular against the proposed preferential treatment of Belfast and Cork, exempting them from contributing their share of the moneys given out of the grant to the W. N. H. A., and that copies of this resolution be sent to the parliamentary representatives of the city and county of Dublin, the Lords of the Treasury, and the Local Government Board, and that the Town Clerk be instructed to take steps to carry out the demands of the Council.

Nurses and the Insurance Act.

The Irish Insurance Commissioners have recently informed the Secretary of the Nurses' Insurance Society of Ireland that any nurse (including a midwife, or a maternity nurse not in sole charge of the case—that is, when working under the direction of a doctor, and also a paid probationer) who is employed, even if only for a week, must be insured, unless paid at a rate of over £160 a year. A nurse who is employed or sent out by an institution which retains general disciplinary control must be insured by that institution. Otherwise she must be insured by the patient or whoever employs her. The rate of sickness benefit for all nurses between 21 and 70 who entered insurance before October 13th, 1913, will be 7s. 6d. per week. It should be noted that a nurse who falls sick and is treated in the hospital to which she is attached is entitled to sickness benefit in full, and that from October 12th, 1913, if treated in any other hospital, the benefit must be paid to her when she comes out, so far as it has not already been expended upon her behalf.

A Fabian Inquiry.

Mr. Sidney Webb, Chairman of the Research Department of the Fabian Society, 37, Norfolk Street, London, W.C., announces that the society has started a detailed investigation of the various forms of industrial insurance, beginning with the working of the National Insurance Act. The object is to ascertain the actual effect of the Act and in what way its operations can be improved. He invites insured persons, doctors, nurses, members of Insurance Committees, and workers in any way connected with friendly societies to contribute facts or other information which they think will be of service. The points to which attention is particularly directed are: Particulars of admission or refusal by societies; expulsion or transfer of members, or refusal of permission to transfer; adequacy or inadequacy of medical treatment; success or failure of the sanatorium benefit; medical attendance available for persons leaving home or away from home; and the working of the maternity benefit. The society desires to hear of every example of satisfaction or success, as well as of every grievance or failure, and to explore all the results that can be yet traced.

METHODS OF THE LONDON INSURANCE COMMITTEE.

Last July the London Insurance Committee addressed a circular to medical practitioners on the panel asking for certain information as to the arrangements made by them for attending insured persons. The Committee, it would appear, did not receive a satisfactory number of replies, and has now issued the following circular letter and appended papers:

Circular M.B. 24.

Insurance Committee for the County of London.

Reference M.B. 1. 5, Chancery Lane, W.C.
10th October, 1913.

Dear Sir,—With reference to the circular letter (M.B. 19) of July, 1913, I am directed to inform you that the Insurance Committee for the County of London have now under consideration the arrangements made by practitioners on the London panel for the provision of treatment to insured persons on their lists at times other than those specially mentioned in the First Schedule to the agreements between medical practitioners and the Committee.

As you are already aware, the agreement provides as follows:

All treatment shall be given by the practitioner personally, except where he is prevented from so doing by urgency of other professional duties, absence from home, or other reasonable cause, and the practitioner will to the best of his ability provide that when he is so precluded from personal attendance some other practitioner will give attendance as his deputy on his behalf; provided that where treatment is given by a deputy the deputy shall be entitled to treat patients at places other than those mentioned in the First Schedule.

In order that the Committee may be informed of the provision made by you in accordance with your agreement, I am directed to ask you to be good enough to furnish the Committee with information on the attached form and return it to me at your early convenience.—I am, dear sir, yours faithfully,

Thomas Batey,
Clerk of the Committee.

To all Practitioners on the London Medical List.

The terms of Form M.B. 27 attached to the above letter are as follows:

INSURANCE COMMITTEE FOR THE COUNTY OF LONDON.

Return by Medical Practitioner as to Arrangements made for Provision of Medical Attendance.

1. What arrangements have been made for the provision of medical attendance and treatment to insured persons at times other than those mentioned in your agreement (which are set out in the panel)?

   (*a*) On Weekdays .....
   (*b*) On Sundays .....

2. What arrangements have been made by you for the provision of treatment by means of a deputy, in accordance with your agreement, on any occasion when you may be prevented from giving personal attendance by urgency of professional duties, absence from home, or other reasonable cause?

Signed ....
Residence .....

The proper answer would appear to be to state that the arrangements are the same as those which have always been in operation in respect of private practice—that is to say, that if a message is received at a time not within those mentioned in the agreement, and during the absence of the doctor, the course followed would depend upon whether the case were urgent or not. If not urgent the message would await the doctor's return; if urgent, his nearest medical friend would be asked to attend for him. To the second question the answer would seem to be that, if the doctor is prevented from giving personal attendance for a short period, he makes arrangements with a medical friend in the locality to attend for him, but that if the period of absence is likely to be more than a day or two he would employ a locumtenent.

Form M.B. 20 was as follows:

INSURANCE COMMITTEE FOR THE COUNTY OF LONDON.

1. Addresses at which the medical practitioner has undertaken to provide treatment for insured persons.	(a)	(b)	(c)
2. Distance from private residence.			
3. Whether there is a resident caretaker employed at each address.			
4. Whether there are means of telephonic communication between private residence and each addresss.			
5. Nature of arrangements made at each addresss for treating insured persons. (i) On Sundays.	(i)	(i)	(i)
(ii) In the case of sudden illness outside the hours stated in the panel (a) in the day, (b) at night.	(ii)	(ii)	(ii)

Signed.....
Residence .....
Date.....

Perhaps the best commentary on this fussy procedure of the London Insurance Committee is afforded by the following letters, which appear to show that there is very great need for it to put its own house in order:

Dr. E. F. O'FERRALL (Brixton) writes: It would be interesting to know whether this is a common experience. Some three weeks ago I received from the London Insurance Committee medical register cards representing about half the names for which I had signed on. As they were accompanied by a letter stating that a personal call would be of assistance to the Committee, I visited No. 5, Chancery Lane, where I was courteously received, but I failed altogether to get any explanation of why 50 per cent. of my cards had been sent to me. In fact, we tacitly agreed that the best thing I could do would be to ignore them. However, my visit has not been without fruit. The matter has occupied the attention of the staff. This morning, after many weeks' silence, I received a further communication from the Insurance Committee enclosing one additional card. It is most comforting to know that the object of my visit has not been forgotten. At this frenzied rate I calculate that in twenty-five or thirty years I shall have received the balance of my cards.

Dr. C. W. HOGARTH (Greenwich) writes: As you are aware, the Insurance Act has laid on each Insurance Committee the duty of providing every doctor accepting service under the Insurance Act with a list of the patients for whose medical care he is responsible.

Many of us have looked for the arrival of the lists with some curiosity, having had ocular evidence of the apparent want of order in the offices of the London Insurance Committee, and in view of the fact that they changed houses during the first period of pressure.

About three weeks ago I received a bundle of "traced" record cards, and by post a circular stating that it might prove incomplete, owing to varying reasons, such as the insured person changing his society, his removal, or marriage, etc.

I compared the list with the records of people actually attended for sickness, and found that I had 300 medical record cards of sickness bearing names which did not appear in the list of "traced" cards. In the circular was an invitation to go to the offices for an interview, so I wrote and asked for an interview the following week, the invitation stating that any hour would suit between 10 a.m. and 4.30 p.m.

During the interval I collected a list of those persons I had attended who lived near my residence, and I called on them to ascertain how much "removals," "changes of society," etc., had to do with the difficulty of tracing my accepted list. The result was so astonishing, that I got an experienced man to visit the whole 300 missing from my list, and the result confirmed my own investigations that the reasons given were fallacious, to use a mild term. Ninety-six per cent. were at the same address, and only one had changed his society, and one had married.

With a knowledge of these facts I called by appointment at the offices of the London Insurance Committee, and after waiting in the corridor some time I was shown into a room, and was informed that the clerk in charge of the matter was out at lunch. I inquired why his lunch interval was not stated in the invitation; of course I got no answer, but after a period the clerk appeared, and all I got from him amounted to this—that all would be well in the end. I told him directly that I doubted it, and asked how cards from the Hammersmith district came to be in my "traced" list; as he seemed to doubt it, I produced one, then he changed his tactics, and said "Yes, one." I told him there were more; he endeavoured to pin me down to the exact number; at that moment a clerk who had overheard the conversation told him that thirty names from Hammersmith had slipped into my list in error. I still wanted to know, even if so, how they came to be "traced" to me.

When I got home I went carefully through the "traced" cards and found cards also from the Southend-Catford district. The clerk who interviewed me told me that doctors who had called on him were satisfied, and blessed the Act and helped them, and that I was an exception, yet I have sat on the executive of the Panel Doctors' Committee from the start, have had the bother of both first and second editions of the Panel Pharmacopoeia thrust on me, besides other endeavours to mitigate the labour of service under the Act.

It is time the London Insurance Committee started an investigation at home instead of worrying practitioners as to where they live and how they do their work, and as to the arrangements they make if they take a walk on Sundays. It is time enough to inquire into such matters when a bona fide complaint reaches them.

CORRESPONDENCE.

Past, Present, and Future.

Dr. Charles Buttar (London, W.) writes: In the British Medical Journal of October 4th, 1913, there is a leading article on "Resignations in South London," and a leaderette on a statement made by me to the *Times* with reference to the Non-Panel Medical League. These articles may be regarded as the official defence in reply to certain expressions of dissatisfaction which are rife at present, expressions which are by no means confined to one Division in the South of London, nor even to non-panel men. The chief cause alleged for dissatisfaction is that the British Medical Association has proved itself incapable of really strong action on behalf of the profession or of any section of the profession; while subsidiary to this is the statement that the Association's "future action is bound to be limited largely to attempts at ameliorating details in panel conditions."

I do not propose to argue with the Editor of the Journal about past troubles or present conditions. But it appears to me that there is now no defined policy before the Association, and that the whole of the medical profession is at sixes and sevens. We have non-panel men who wish to resign from the British Medical Association, and non-panel men who do not; panel men who love State service, panel men who hate it, and panel men who are learning to be content with increased remuneration and cannot be brought to look into the future; bodies like the General Medical Council and the Royal Colleges, which have surrendered their powers over members without a murmur; consultants who have decided to let matters take their course, or, as one of them expressed it to me, to leave the panel men to stew in their own juice. In these circumstances it is not surprising that some men are beginning to ask for a body to represent them which shall have some definite views as to the future. But those of us who have worked with the view of establishing some sort of order in the present chaos—or shall I say what seems to us to be chaos?—feel sometimes that the task is so hopeless, that the enemies we make are so numerous, that the mutual distrust and suspicion are so insurmountable, that we are almost inclined to withdraw altogether from the contest and leave matters to right themselves as best they may.

Still, we have been placed in certain positions by some of our fellows, and, until we know that their confidence is withdrawn from us, we must continue to fight according to our lights. Lest, however, any man may say that I have betrayed his confidence, I feel it my duty to lay before the profession in the clearest manner possible the views I hold, to write a sort of *Apologia pro Vitâ Meâ*. To my enemies it may seem an impertinence that I should imagine my views to be worth this exposition; probably I shall lose many friends when my views are fully known. Nevertheless, these views appear to me to present that complete policy which is so sadly to seek at the moment.

Let me briefly describe the history of my connexion with the British Medical Association. I have never felt the need of the Association's assistance in my own case. I joined shortly after being qualified in order to receive the cheapest medical paper once a week. I took no interest in its proceedings, and I never attended a meeting until my Division found itself on one occasion without a secretary. With many misgivings I accepted the post, and for some years kept meetings down to a minimum, dodged most of the Representative Meetings, and succeeded in carrying on the traditions of the Kensington Division as one of the quietest and most unobtrusive in the Association. In process of time I became Chairman of the Division, and towards the end of a peaceful year the question of the treatment of school children became acute. Consequently I was continued in office a second year, by the end of which the Insurance Bill began to overshadow everything else, and a third year of office was required of me. Early in 1912 the dissatisfaction at the proceedings of the Council led to the formation by certain members of the Kensington Division of the Reform Committee, and attempts were made to induce me to throw in my lot with the reformers. I considered that my position as chairman precluded my doing so, although grave doubts had already arisen in my mind as a result of the famous letter signed by Drs. Macdonald and Maclean. I endeavoured to persuade the Division to leave its case in the hands of the men who should have been the leaders of the medical profession, thinking that the views continually expressed by the Divisions throughout the country would stiffen the backs of the members of Council and enable them to organize the profession for victory. In June, 1912, I was elected a member of Council, and attended the Liverpool Meeting in that capacity. I tried unsuccessfully to induce the Representatives to stand firm against the proposed methods of administering sanatorium benefits, as I considered it a mistake to throw away a strategical position. My opposition to the Act now grew more active as its evil points became clearer to my mind; and in October I endeavoured to get the Council to give a lead to the profession, and to tell men how they were to behave when medical benefits came into force in January of this year. In this attempt I was defeated by the casting vote of the Chairman, and no lead was given. On every occasion possible I tried to get those members of Council whom I considered to be using all their efforts to get the Act worked whatever the conditions to announce openly their intentions, and at last I succeeded in drawing an acknowledgement from Dr. Maclean. During all this time also I was protesting against the mismanagement of the guarantee fund and the hopelessness of obtaining any satisfactory financial support without strenuous leadership for a well defined policy. So disappointed did I become with the supine attitude of the Council in the face of the vehement declarations of successive Representative Meetings, that towards the end of the year I issued, with the assistance of one or two friends, an exposition of the meagre results obtained by negotiations with the Chancellor on the cardinal points. And my indignation at the methods of conducting the opposition to the Act was increased to boiling point when I attended a meeting at the Holborn Restaurant, where the pledge given earlier in the year was openly flouted in the presence of a chairman who was at the time a member of the Council of the Association. Then came the formation of the famous London Medical Committee, one of the few redeeming features in the whole campaign, when men voluntarily sacrificed their time, their practices, and their money, and showed what could be done by a determined body of enthusiasts, even at the eleventh hour. The work of that committee has left its mark still, and one of the most strenuous supporters of the Act has acknowledged that had it not been for that committee there would have been 1,000 more men on the London panel at the present moment.

The London Medical Committee arose out of the Provisional Medical Committee for the County of London. Certain members were appalled to find that during the Christmas holidays, only three weeks before the medical benefits were to come into force, the offices of the British Medical Association had been almost closed down for a period of ten days. It seemed to those members that at such a crisis there ought to have been a Committee of Public Safety sitting almost day and night. Consequently, by means of telephone and telegraph, a meeting of the State Sickness Insurance Committee was summoned, and an effort was made to induce this committee to embark on a campaign for the whole country. This the committee refused to do, but it gave its consent to the London Medical Committee using rooms in the offices of the Association. Then began one of the most extraordinary scenes of activity which has ever occurred at 429, Strand. Newspaper reporters, who previously had waited on the doorstep to be dismissed with mere crumbs of news, came in shoals to the office of the London Medical Committee. The newspapers were full of material furnished by the committee. It was no uncommon event to find six columns of an evening paper devoted to the campaign. The offices were kept open until midnight or later. Emissaries were continually sent to the House of Commons, and dozens of questions prompted by the committee were asked in the House. A series of meetings of insured persons was inaugurated throughout London, and medical men were sent to address these meetings. The whole of London was placarded with posters telling the insured to "insist on their own doctor." Attempts were made to canvass and classify every medical practitioner in London. The efforts of the committee extorted reluctant admiration even from the Council of the Association; but they did not succeed

in extorting emulation or substantial support; and the efforts could not be sustained indefinitely. Since that time the profession has sunk into comparative lethargy from exhaustion; spasmodic local attempts to withstand the bureaucrats of the Insurance Commission occur occasionally; but as in the case of the green vouchers, the slenderest threat generally produces instant collapse, while the Association has reverted to useless talk and the promulgation of tons of waste paper.

From the London Medical Committee, however, the National Medical Guild has sprung up, registered under the Trade Unions Acts; and more recently the non-panel men, who had formed already several local associations throughout the country, have inaugurated a federating body for these associations, the Non-Panel Medical League.

In the rest of my remarks I wish to explain and justify, as far as I can, my position as a member of the Council of the British Medical Association, the President of the National Medical Guild, and the Chairman of the Non-Panel Medical League.

In the present temper of the medical profession such justification may appear very difficult. The extreme non-panel man, urging with much reason that the Association can do little for him, while a determined non-panel body might be a force to be reckoned with, wishes to resign from the Association, and seeks a leader uncontaminated by contact with that body. At the same time the National Medical Guild appears to him under a cloud because it admits panel men to membership. The extreme panel man has willingly accepted an Act which to some of us seems degrading to our profession, and he is unable at present to grasp the future importance of such a body as the National Medical Guild. And a split into panel and non-panel does not suit his views of a united profession seeking to make a comfortable panel bed for him to lie on. Between these extremes there exists a large body of men drawn hither and thither by local considerations which affect their own personal interests, and unable at present to decide in which direction the safety of the medical profession lies.

The leadership of the extreme non-panel men who wish to resign from the Association I have felt myself for the present obliged to decline, not only because I feel myself incapable of leadership, but because, with the knowledge I have gained of the profession in the last year or two, I am very doubtful as to the power of any man to make it a success. When, in addition, the acceptance of such leadership would necessitate the abandonment of the objects at which I aim, I am even more loth to take the honour proposed to me. And, finally, my doing so would lead to my deserting and damaging the National Medical Guild, which I venture to think is the only body with any real future before it.

As regards the extreme panel man, my views are so diametrically opposed to his that no *rapprochement* is possible. It is to the men between these two that I address my ideas on the requirements of the future. These ideas may be right or may be wrong, possible or impossible of realization; they are merely personal, most likely unacceptable at present; but I hope that they are sufficiently connected to be worthy of consideration.

I wish to see the British Medical Association become again a purely scientific body. It should maintain its library, publish its Journal, hold its meetings, and help to maintain its organization. The subscription should be lowered to 10s. 6d., thus helping to retain a full membership for value received, and its income will be increased by the rent of the shops at 429, Strand, and by letting offices to the medico-political body. The latter, registered as a trade union for the protection of its funds, will take over the whole of the medico-political work of the Association, thus cutting all the constitution tinkering which seems likely to go on for ever. The trade union will pay rent to the Association for its offices, enrol members at a subscription of one guinea; use the present organization of the Association for obtaining expression of views from its members, and for the election of its Council; be managed by a strong business head; form an unassailable reserve fund by means of its power to levy; and unite the profession in a determined resistance to further encroachments on its liberties. The Non-Panel Medical League should exist for the present as a powerful body doing its best to assert the rights of non-panel men, and striving to bring about those alterations in the Act which are required to bring it into the nearest possible accordance with the original demands of the profession. In process of time it will be shown that the interests of non-panel and the better panel men are identical; in fact, modification of the panel will abolish the distinction. Then the present non-panel man will become naturally a member of the trade union body, and the profession will be as nearly united as it is possible for any assemblage of human beings to become. It seems to me that such a condition could be brought about without harm to any member of the medical profession or to the public by working strenuously for some such policy as the following:

1. The substitution of the *Medical Register* for the panel.
2. The removal of all control of medical practice from lay bodies, and the restoration of all disciplinary power to the General Medical Council, with altered constitution and wider powers.
3. The full recognition of Local Medical Committees to deal with all arrangements for the medical treatment of insured persons in each area, while the Insurance Committees watch over the financial conditions and the interests of the insured persons under their charge.
4. Proper development of Section 15 (3) of the Act, allowing every suitable person to make his own arrangements, without any such documents as 43 I.C.
5. Recognition by the medical profession that while contract practice is bad, in certain areas and certain cases contract practice is unavoidable. That for this reason contract practice should be kept within the narrowest possible limits until such time as it may be possible to abolish it altogether.
6. Realization that friendly societies are really admirable institutions, and that friendly society *control* is the true enemy. That one strong Local Medical Committee is a great deal more powerful than a dozen separate friendly societies in the same area, while 100 or 200 Local Medical Committees are as nothing against a single bureaucratic Insurance Commission. The realization of these facts may help the profession greatly to be prepared in case the friendly societies ever succeed in regaining control of medical benefit.

Such a policy should be acceptable to non-panel and to most panel men alike. Only to a Holborn Restaurant meeting should it seem destructive of professional ideals, for it does not recognize any value in State interference in matters of which the State knows very little.

Having enunciated with some trepidation the policy which I desire, I should like now to indicate to the panel man what seems to me a reasonable attitude for him to take towards that policy. He agrees, or used to agree, that the conditions of service are derogatory. Presumably, therefore, he, no less than the non-panel man, wishes these conditions altered. Yet it seems to me that in many cases, instead of supporting an attack on these conditions, panel men who used to be strongest in their opposition to the Act present the sorry spectacle of engaging in vilifying those with whom they used to work, or of subsiding silently into the enjoyment of higher pay while entirely oblivious of the ultimate good of their profession. I would ask the panel man to think over and criticize any proposals of policy, to raise objections wherever he sees them, but not to set out with a preconceived idea that the panel must be defended at all costs. His support of the non-panel man in an attempt to get alterations in the Act cannot hurt him, and should be his duty. His object should not be to make panel conditions pleasant or tolerable, but to urge, in season and out of season, that only under other conditions can the best services of the medical profession be given. To me it seems useless for the British Medical Association authorities to say that they can represent both the present points of view. It can hardly be that both sides represent the "honour and interests" of the medical profession, for which the Association stands. Either a pro-panel attitude must be taken and the non-panel man's interest sacrificed, even as his patients in certain districts have been absorbed by the other side; or some such policy as I have outlined must be elaborated with a view to the ultimate union and good of the whole profession. The third course, of drifting aimlessly along under the pleasant delusion that the

irreconcilable differences between the extreme lovers and haters of State service on its present terms can be made compatible with useful membership of the Association, seems to me impossible.

It is with considerable diffidence that I have ventured to advance my views, conscious as I am that there are many medical practitioners to whom they will not appeal at all. Moreover, I feel that it is impertinent and egotistical of me to think that these views are worth advancing. Yet I shall feel comparatively unconcerned however great the indignation that I may arouse. Just as I refused nomination to the London Insurance Committee because I thought that such a position would limit the free expressions of my views and activities, so I have always asserted that as soon as it is shown that I have lost the support of the men who placed me in the positions I hold, I will gladly retire from all connexion with the fight. I have tried to explain how I reconcile my positions in the British Medical Association, the National Medical Guild, and the Non-Panel Medical League. If either body now thinks me an obstacle to its aspirations, let it throw me out.

The Policy of the Association: A Suggestion.

Dr. F. Milnes Blumer (Stafford) writes: I am one of the many who have recently tendered their resignations of the British Medical Association. It is with reluctance I have done so, for I have been an active member of it for twenty-seven years. I have held every office in my Branch and Division, and have formed many friendships through it which I should not otherwise have done.

I have read the letters and articles that have been appearing week by week upon the present crisis in the Association, and I think enough, and more than enough, has been written for everyone to form his own opinion. Those recriminations can only tend to widen the breach which the Insurance Act has already made in our ranks. I have not hitherto written to you; but I shall be glad, if you will allow me, to make a suggestion to the Council.

I am not going over the old ground of the "cardinal points," but will deal with only one aspect of the case, and point to what, I think, is the only possible remedy. Let me first make the following statements, which, in my opinion, are axioms:

1. The non-panel men hold the ground once occupied by practically the whole profession.
2. The panel men—some deliberately, others by *force majeure*—have retired from it.
3. The latter cannot have any just grievance against the former. The absence of the former has but increased the proportion of available patients for the latter.
4. Every panel doctor must by now have secured practically every patient who desires his services; and many panel doctors have got patients driven on to their lists by compulsion—that is, patients of non-panel men.
5. The unallotted insured persons are for the most part patients of doctors who have not gone on to the panel. A small and unknown proportion may be unclaimable by any.

I think those points are incontrovertible for any district where there are non-panel practitioners.

Now, it is one of the basic principles upon which our practice of medicine is founded that we shall not tout for or in any way encourage to come to us the patients of other practitioners. Can the Insurance Act and the regulations made under it be claimed as a charter absolving us of the allegiance we have hitherto observed to the code of ethics which have governed our professional conduct towards each other? Whatever may be assumed, I have not yet seen such a claim put definitely into words.

So long as free choice of doctor is not allowed, and so long as doctors on the panel are willing to take over the patients of others, there can be no thought of reunion of the profession. It is idle to talk of it. It is the rock of all others upon which we have split, and it is better to face that fact fairly and squarely.

Your claim is that the Association has the interests of the whole profession at heart, and not those of the panel doctors only. My suggestion is a practical one, and will put that claim to the test. It is that the Council should, first, show its sympathy with the position of the non-panel men by at once advising all doctors on the panel to refuse, at the dictation of their respective Insurance Committees, to take over against their will any of the unallotted insured persons; and, secondly, to show the authority it has over the members of the Association by insisting on their doing it.

If such a policy were successfully carried into effect, it would compel the Commissioners to grant a really free choice of doctor. It would show the Government the Association can still be a power to deal with instead of being the negligible quantity it is now; and it would reunite the shattered forces of the profession, and bring harmony again where only strife now is reigning.

If your claim is a correct and substantial one, and the men who have joined the panel will take this, the only honourable course, then victory can be assured. If, on the contrary, your claim is an empty one, then our only course is to form our own society and fight the battle ourselves.

Criticisms of the Association.

Dr. Edwin Smith (London, S.W.) writes: I am surprised to read on page 955 of the Journal for October 11th that "none of the points put forward in the article published last week are seriously dealt with, and no suggestion whatever is made as to the policy which the Association should follow in order to safeguard the interests of its non-panel members." As to the first clause of the sentence quoted, I must ask any member who is following the matter to study carefully the articles and correspondence on the subject in the Journal and Supplement for October 4th and 11th. He will then be in a position to judge how far the points put forward by either side have been satisfactorily met by the other. As to the latter half of the sentence, it is for the Association itself rather than its critics to come forward at this date with suggestions for the future safeguarding of non-panel interests. Whatever might have been possible a few months ago, it is a question whether the Association is not now too deeply committed to co-operation in the working of the Insurance Act for it to be effective except as a pro-panel body.

Dr. H. Vallance (Lewes) writes: Dr. Edwin Smith says that the non-panel movement hopes to do something to retard the present downward trend of medical practice, which, I assume, he thinks is due to the working of the National Health Insurance Act. The fact that there is such a downward trend is open to question; but if there is, can you spare me a little space for a few arguments against the proposition that such downward trend is due to the Insurance Act?

The Act has not in any way altered medical practice in itself. The number of sick people and the nature of their diseases remain the same now as before the Act. It is true the Act has caused a larger number to seek medical advice, but this is because they have given up taking quack medicines. This last fact should surely cause an upward trend in medical practice. What, then, has the Act altered? The answer is, The method of remuneration has been altered from payment by attendance to payment by contract. Dr. Edwin Smith and his friends call this derogatory and degrading. They do not think it derogatory and degrading to turn oneself into a booking clerk every quarter or so and send out bills for amounts that the people can ill afford to pay and to be a cause of dread to the poor person who has not paid his bill, and so fears to call the doctor when in need.

Again, contract practice distinctly encourages the doctor to get his patient well as quickly as possible—an ideal we should all aim at. But payment by attendance does the reverse, for the longer the case lasts the greater the fees. The patient has to trust his doctor in this matter, and he might be excused for thinking that the loss of payment by attendance is what is making the non-panel doctors angry. The most derogatory and degrading thing which I know of in private practice is the tendency it induces in us to "kow-tow." There is no place for this tendency in contract practice. What is "the lost dignity and freedom"? Is it perchance the freedom to attend, say, a case of uncomplicated paralysis agitans and take daily unearned fees? A similar case in contract practice would be visited about once a week. Which is degrading? One more word and I have done: Dr. Edwin Smith alludes to "the degrading spectacle of a member of a learned profession," etc. It is an exaggeration of terms to call this

"a degrading spectacle," and the spectacle need never have occurred if the doctor had been a little more sympathetic with the excusable anxiety of the sisters. I am convinced that if all medical practice were turned into contract practice, it would raise the trend of medical practice. I am trustful of the general good sense of the profession, and hope the Wandsworth example will not be followed. And I am more than grateful, considering how small the subscription is, for the way the affairs of the Association have been and are conducted by Dr. Cox and his colleagues.

Dr. H. Elliot-Blake (Bognor) writes: The British Medical Association, whilst holding an even, detached balance, might well, with ultimate advantage, look after both sides of dependent and independent medical service. There would be very useful work ahead if the Association formed a new and larger Non-panel Committee with interested and co-opted members, and continue to strive to seek Government terms for free choice of doctoring and a free medical tariff for visits, extras, drugs, etc., for ordinary and emergency insurance patients and those travelling. Local distributing officers or restricted size of panels would be ways to accomplish this. After all, the non-panel doctors with small lists, and those in non-club districts, have just as much a claim for fair treatment after entering an expensive profession as the panel men, and they were far staunchcr than the others who "gave in" at a time of snow and mist last December and January.

Dr. Dunlop's Case.

Dr. C. R. Niven (Liverpool) writes: Your comments in the Journal of October 11th (page 955) on the above case deserve very careful consideration by every panel practitioner, because the position Dr. Dunlop finds himself in to-day any one of us may find himself to-morrow.

Supposing the judgement stands—and unless appealed, it will, I imagine, take its place in common law—it means that any panel patient can leave a message whenever he or she likes, and if the doctor does not visit by the time desired, all he or she will have to do is to call in another doctor and sue the panel practitioner for the other doctor's fees. That is not a very alluring prospect. The case now is not simply Dr. Dunlop's case; it is the case of every practitioner on the panel. But usually that which is everybody's business is nobody's business. The judgement should be appealed against. Dr. Dunlop cannot be expected to bear the whole burden. It has already cost him quite enough in his fight for the freedom of the profession. I understand that is why he fought the case. It would have been much easier for him to pay the other doctor's account, and be done with it. As it is, it will cost him, I am informed, nearly £50. An appeal will cost at the very least from £200 to £300, and probably more. One or two fellow-practitioners as well as myself have promised one guinea each.

Might I ask through your columns that those who sympathize with Dr. Dunlop, and believe that the case should be taken to a higher tribunal, will communicate with me, stating what financial aid they are prepared to give? The appeal has to be lodged within twenty-one days; fifteen of these will have passed by next Friday, the day of the issue of the Journal. The appeal could be lodged, and time taken to decide whether it should be proceeded with. A promise of aid is all that is asked at present.

Dr. Wm. Downie (Liverpool) writes: I have read the article in the Journal commenting on the action raised by a panel patient against his doctor. If this decision is allowed to stand, then the position of a panel doctor (already not an enviable one) will become intolerable.

I agree with your correspondent that a fund should be at once raised to enable the doctor to appeal against the decision. As I consider you the proper medium of such a fund, I enclose P.O. for one guinea as my contribution.

*** The facts of the case were stated in the Journal of October 11th, p. 968, but one circumstance which was not brought out in the report of the proceedings in the county court is that the case had already been considered and decided by the Medical Service Subcommittee, and it may be well to reproduce its report, which was as follows:

The insured person resides with his father. On Saturday, the 29th March, the insured person fell ill; was given attention at home by his parents, and on the next morning, Sunday, the 30th March, 1913, was much worse.

The mother of the boy tried to persuade the father to send for a doctor early in the morning, but no message was sent to the doctor until 12 o'clock noon, at which time he was out on his rounds.

The doctor did not return from his rounds until nearly 3 o'clock p.m. His surgery hours were from 3 to 4 o'clock p.m. on that day, and he was detained with his surgery work until nearly 5 o'clock p.m.

After the doctor had returned a second message was sent, again requesting him to visit the insured person.

A third message was received by the doctor at about 6 o'clock p.m., when he was told by the messenger that another doctor would be called in, and he did not therefore visit the insured person.

Under the rules made by the Insurance Committee for the administration of medical benefit, notice should ordinarily be given to the doctor before 10 a.m. on Sundays. The father of the insured person (who is the complainant) may not have known of this rule, but, having regard to the fact that he was aware of the serious nature of his son's illness, the Sub-committee are of opinion that he ought to have summoned the doctor earlier on Sunday morning.

If the rule above referred to had been carried out the doctor would have been able to visit the insured person on his ordinary rounds. As a matter of fact, he paid a visit to a patient in the same road during such rounds. They are, however, of the opinion that the doctor might have attended immediately after the second call.

The Medical Service Subcommittee, after hearing the evidence of both parties, and their witnesses, and carefully considering the matter, recommend that no action should be taken.

This circumstance seems to us to add materially to the gravity of the case as it affects the interests of medical men on the panel, for if the decision of the county court is allowed to stand it would appear that an aggrieved insured person may proceed against the doctor both in accordance with the regulations made under the Insurance Act and at common law, and may, as in this case, get a different decision from the two bodies.

We understand that steps are being taken by the British Medical Association to arrange that an appeal shall be lodged within the prescribed period.

The Unallotted Funds.

Dr. H. H. Mills (London, W.) writes: At the meeting of the London Insurance Committee on September 25th I referred to the scheme of payment adopted by the doctors in the Manchester insurance area. Mr. E. B. Turner—a medical member of the Committee and a member of the Council of the British Medical Association—rose to correct my "error" in the matter. Dr. J. H. Taylor, of Salford, a great authority on the administration of the Insurance Act, has written me a letter on the subject, and has given me permission to quote as follows:

"I notice that, according to the British Medical Journal Supplement, p. 286, Mr. Turner says you were in error about the Manchester scheme. As a matter of fact, it is he who is altogether wrong. We have a panel in Manchester and Salford in every sense of the word, and as defined in Regulation 7. All the doctors on the list had to sign an agreement conforming to the Act and Regulations and the conditions of the parliamentary grant, and the Commissioners refer to us as the panel. It is quite true that the Local Medical Committees do not like the word 'panel,' and so they use the word 'list.'

"Again, Mr. Turner said that the Manchester Insurance Committee handed over the whole of the Medical Benefit Fund to the Local Medical Committee. What really happens is as follows, and I speak with certainty here as a member of the Salford Insurance Committee appointed by the Commissioners. The system in Manchester is a copy of the Salford system, and in neither case is a single farthing handed over to the Local Medical Committee. The whole Medical Benefit Fund—that is, 8s. 6d. per insured person (*less* a few contributions to persons receiving treatment through institutions and to persons making their own arrangements, who are very few in number)—is divided up into three funds, thirteen-seventeenths going to the Panel Fund, three-seventeenths to the Drug Fund, and one-seventeenth to the Drug Suspense Fund. To the Panel Fund is then added 6d. per person for domiciliary treatment of tuberculosis, which forms the medical treatment pool out of which the doctors are paid per attendance. The important point is

that the whole of this pool is paid to the doctors, except that at each payment on account a very small sum has been kept in hand by the Insurance Committee, partly because a number of the doctors neglect to send in their accounts in time, and partly because it is impossible to tell beforehand the exact total for the year, owing to the variation in the total number of the insured, and thus with payment on account in advance something must be kept in hand; but the amount is quite insignificant, and at the end of the year the full total will be distributed. In Salford only £61 was retained in hand on July 31st, out of a total pool that will certainly be over £28,000 for the year. Practically, then, you were quite correct in saying that the whole fund available for medical treatment of the whole of the insured is paid to the doctors. Of course you know that the doctors have no lists as you have with your capitation system. We know nothing of the insured until they actually come to us for treatment, and they are allowed to go to any doctor, changing from one doctor to another as they like, Regulation 18 not being enforced. This, by the way, tends to increase the malingering, because, if one doctor refuses a certificate, the person simply goes about till he can find some other doctor ready to give a certificate. It is wrong for Mr. Turner to say that the money is handed over to the Local Medical Committee. All that Committee does is to scrutinize the doctors' bills, and it has the power, which is often used, to cut down any doctor's bill when his attendances have been above the average, as excessive attendances would, of course, unfairly deplete the pool. When the bills have thus been checked, they are sent to the Clerk of the Insurance Committee, who again checks them to see that none but insured persons have been included, and the clerk then presents them to the Insurance Committee, which may pass them for payment. Of course the Local Medical Committee has nothing to do with the Drug Fund. Up to the present the whole pool has only sufficed to pay the doctors about 60 per cent. of their bills charged according to a scale of fees agreed on between the Insurance Committee and the Local Medical Committee, but this small dividend is solely because of the large number of attendances, the insignificant sum kept in hand by the Insurance Committee making no practical difference."

As the report was widely circulated, and as the facts have a most important bearing on the question of the disposal of the accumulated funds for the medical benefit of those persons who have not selected a doctor on the medical lists throughout the country, I trust that you will afford the space for this rather lengthy communication.

The Revised Form of Medical Certificates.

Dr. W. W. Hardwicke (London, S.W.) writes: The following letter is a copy of one sent by me to the Insurance Commissioners (England) in response to the receipt of Memo. 173, I.C. concerning Medical Certificates.[1]

> Having carefully read and considered the above Memo. and three enclosed certificate forms, while wishing for uniformity in the matter of certificates, I have formed the conclusion that to attempt to bind the doctors down to a hard and fast rule as regards the dating of these, as is proposed on Section 10, par. 3, will be impossible without inflicting great hardship on the doctors, and adding a fresh duty—one entirely clerical—to his already onerous duties in the busy time of the year.
>
> Most, if not all, of the approved societies require certificates signed by the doctor every week during illness, and on one particular day, not the same day in every instance, but each seventh day from the commencement of the illness. And if the certificate is dated, say, on the day before the exact week ends, that is, on the sixth day, the pay for the missing day is deducted frou the weekly amount due.
>
> In the case of patients attending at the surgery the patient generally arranges to make one of his calls on the day his certificate requires signing. But in the case of those who have to be visited at their own homes this certificate signing on one particular day, and no other, each week will be a great hardship on the doctor, who must travel to his patient's house—frequently a considerable distance—whether the case requires a professional visit or not, *on that particular day*, simply to perform the above clerical duty. For, if he fails to do so, it is obvious that his patient will lose his pay for that week. If he calls the day before, or the day after, he cannot sign. And when these cases are multiplied indefinitely in the busy season, during the winter months, it will be seen what inconvenience and increase of labour will be involved.
>
> In order to avoid this, the question of ante-dating and post-dating should be left to the discretion of the doctor. I therefore suggest, first, that the words "to-day" in "I have to-day examined, etc." which appear in all three certificate forms, be deleted; secondly, that the words "but certificates should not in any circumstances be ante-dated or post-dated" be withdrawn.

[1] See Supplement, October 4th, p. 287.

Friendly Society Control of Medical Benefit.

Dr. Harry Grey (Bristol) writes: I trust that no one but Dr. Keenan needs the explanation he asks for. It is surely evident that Dr. Blank at home is merely one doctor out of thirty or forty thousand; at the Representative Meeting he is one out of 180 or 200, and whether he vents his opinions to the press as the opinions of the meeting or thoughtlessly gives the press a handle to do so, the result is the same, and at Brighton was such that the Representative Meeting spent an angry half-hour in attacking the offender and had to telegraph the press that "there had been no remarkable change," etc.

Questions for Dr. Keenan are: (1) Would the press have taken the trouble to interview Dr. Jones at any other time and place? (2) Had Dr. Jones been interviewed at home, would the Association have needed to take any notice of it? (3) Would Dr. Keenan himself as a Representative powerless or indifferent as to convincing the Representative Meeting, go, as it were, behind its back to promulgate his peculiar doctrine, sow dissension, and weaken the authority of the meeting?

I regret that Dr. Keenan should have thought that I placed a cap ready for him to put on. I had no such intention, but when a discussion spreads itself in such a futile manner as this one has, and is so tinged with personalities and *tu quoques* as to obscure any point it might otherwise have had, it does not seem too scathing to say it verges on imbecility. I may surely without offence describe a discussion as feeble (without strength, dictionary meaning) without deserving Dr. Keenan's not too pleasant sarcasm. More than one reader of the correspondence has asked me "What is it all about?" and I imagined, Mr. Editor, that you might feel as puzzled to say whither it was leading as did my questioners and myself.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

BIRMINGHAM BRANCH:

Coventry Division.

Annual Dinner.—The annual dinner of the Coventry Division took place on October 7th at the Masonic Hall. Dr. Soden was in the chair. Dr. J. Neal and Mr. A. Lucas were present as guests. After the dinner (at which thirty-three were present), and during the speeches and songs, a collection was made for the Milward Fund, which, with sums promised, will amount to £8 5s. 6d.

CAMBRIDGE AND HUNTINGDON BRANCH:

Cambridge and Huntingdon Division.

The annual meeting of the Division was held on October 10th in the Medical Schools, Cambridge, and the following officers were elected:

Chairman.—Dr. F. E. Apthorpe Webb.
Vice-Chairman.—Dr. F. Deighton.
Secretary and Treasurer.—Dr. C. M. Stevenson.
Executive Committee.—Drs. Ellis, Ennion, Ezard, Fordyce, Garrood, Roderick, R. A. Walker, F. E. Williams, Young.

Association Notices.

QUARTERLY MEETING OF COUNCIL.

THE Quarterly Meeting of Council will be held on Wednesday, October 29th, at 10.30 a.m., in the Council Room, 429, Strand, London, W.C.

By Order,

GUY ELLISTON,

Sept. 18th, 1913. *Financial Secretary and Business Manager.*

ELECTION OF MEMBERS OF COUNCIL BY BRANCHES OUTSIDE THE UNITED KINGDOM.

NOTICE is hereby given that in accordance with the alteration in By-law 46 made by the Annual Representative Meeting at Brighton, nominations for candidates for election as members of Council by the grouped Branches outside the United Kingdom for a period not exceeding three years as prescribed by By-law 49 (2) must be forwarded in writing so as to reach me on or before February 14th, 1914.

Nomination papers may be signed by not less than three members of any Branch comprised in the group, and must be in the form prescribed below or in a form to the like effect.

Election will be by voting papers, which will contain the names of all duly nominated candidates, and will be issued from the head office in London to each member of every Branch comprised in that group.

By order of the Council,

GUY ELLISTON,

Financial Secretary and Business Manager.

429, Strand, London, W.C.,
October 18th, 1913.

NOMINATION FORM.

BY NOT LESS THAN THREE MEMBERS OF THE GROUPED BRANCHES.

We, the undersigned, hereby nominate

.....

of.....

.....

[*Full name and address must be given*]

as a candidate for election by the (*here state the names of the Branches in the group*) Branches as a member of the Council of the Association.

Names and addresses of nominators, and Branches to which they belong.

Signature and Address.	*Branch.*
.....	.....
.....	.....
.....	.....

Date ....., 19...

This form should be forwarded to the Financial Secretary and Business Manager, 429, Strand, London, W.C.. so as to be received not later than May 15th, 1914.

Not later than the second week in June, 1914, a notice of the result of the election will be published in the JOURNAL.

N.B.—The foregoing notice is not intended to apply to the New Zealand Branch, or the New South Wales and Queensland grouped Branches, which have appointed their respective Members of Council for a period of three years under By-law 49 (2) from July, 1913.

By-laws 46 and 49 (2) are as follows:

Mode of Election by Groups not in the United Kingdom.

46. (1) The election of seven members of Council by the groups of Branches not in the United Kingdom shall be conducted in the manner prescribed by this By-law.

(2) All nominations of candidates shall be in writing sent to the Association so as to be received at the head office on or before such day, not being later than the 15th February in each year, as shall be specified for the purpose by a notice published in the JOURNAL during the second or third week of October in the preceding year, and no nomination paper received after the day so specified shall be valid.

(3) The said notice shall prescribe a form in which the nominations are to be made, and the nominations shall be made in the form so prescribed, or in a form to the like effect Nomination papers may be signed by not less than three members of any Branch comprised in the group.

(4) As soon as may be after the 15th of February in each year:

(*a*) In the case of any group for which one candidate only has been duly nominated, there shall be published in the JOURNAL a notice that such candidate has been elected as member for that group; and

(*b*) In the case of any group for which more candidates than one have been duly nominated, a voting paper shall be sent by post from the head office to each member of every Branch comprised in that group.

(5) Every voting paper shall contain a statement that the same must be returned to the Association so as to be received at the head office on or before a specified day (not being later than the succeeding 15th day of MAY), and no voting paper received after the day so specified shall be counted.

(6) Not later than the second week in the succeeding month of June, a notice of the result of the elections shall be published in the JOURNAL.

49. (2) Each member of Council elected by a Branch or Group not in the United Kingdom or elected to represent the Royal Navy Medical Service, the Army Medical Service, or the Indian Medical Service, shall hold office for such period not exceeding three years as the electing body may determine and at the expiration of such period shall be eligible for re-election provided that no such member shall be re-elected so as to make his period of continuous service as the Representative on the Council of one of the same Branch or Group exceed six years.

(3) Each of the terms of office mentioned in this By-law shall be calculated from the close of an Annual Representative Meeting.

Grouping of Branches not in United Kingdom for Representation on Council of Association, 1914–15.

(Branches bracketed are grouped.)

	Member of Council to be elected.
South Australian	1
Tasmania	
Victoria	
Western Australian	
New South Wales	1
Queensland	
New Zealand	1
Barbados	1
Bermuda	
British Guiana	
Halifax, Nova Scotia	
Jamaica	
Leeward Islands	
Montreal	
St. John, New Brunswick	
Saskatchewan	
Toronto	
Trinidad and Tobago	
Assam	1
Baluchistan	
Bombay	
Burma	
Punjab	
South Indian and Madras	
Ceylon	1
Hong Kong and China	
Malaya	
Border, South Africa	1
Cape of Good Hope (Eastern)	
Cape of Good Hope (Western)	
East Africa and Uganda	
Egyptian	
Gibraltar	
Griqualand West	
Malta and Mediterranean	
Natal	
Orange Free State	
Rhodesian	
Transvaal	

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—Drs. Ernest C. Hadley and Bernard J. Ward, Honorary Secretaries, give notice that an ordinary general meeting of the Division will be held in the Library of the Medical Institute, Edmund Street, on Wednesday, November 5th, 1913, at 3.30 p.m. Business: Birmingham and Midland Hospital for Nervous Diseases, Paralysis and Epilepsy; Representative's Report of Annual Representative Meeting. Any other business.

METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.—Dr. J. H. Clatworthy, Honorary Secretary (145, Denmark Hill, S.E.), gives notice that a meeting will be held on Thursday, October 23rd, 1913, at 4 p.m., at Guy's Hospital, St. Thomas's

Street, S.E. Agenda: (*a*) To elect one member of the Medical Charities Committee of the Branch; (*b*) two members of the Contract Practice Committee of the Branch, one of whom must be engaged in contract practice and the other must not be so engaged; and (*c*) to receive the report of Dr. Langford of the Representative Meeting. Mr. R. P. Rowlands, M.S., F.R.C.S., Assistant Surgeon to Guy's Hospital, will read a paper on The Difficulty in Abdominal Diagnosis. Tea will be served at 4 p.m., and the meeting will commence at 4.15 p.m.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—An extraordinary general meeting of the Division will be held on Wednesday, October 22nd, at 3.30 p.m., in Balfour Hall, Dunston Street, Kingsland Road. The following notices of motion have been received:—Dr. David Ross: (*a*) "That the City Division of the British Medical Association takes immediate steps to give the fullest possible publicity that qualified medical men not on the panel can give all medical certificates required by the Insurance Act." (*b*) "Seeing that Mr. Masterman has stated in the House of Commons that insured persons are allowed to make their own arrangements with herbalists, the City Division of the British Medical Association demands that the British Medical Association immediately institutes proceedings at the Law Courts in order to allow all insured persons to make their own arrangements with qualified medical men not on the panel." Dr. W. J. Deighan: "That this meeting of the City Division of the British Medical Association is of opinion that the explanation given by Dr. Evan Jones, at the special meeting of the Division on August 22nd, with regard to the position taken up by him with reference to the proposed control of the medical benefit under the Insurance Act by friendly societies, is unsatisfactory; and that, on this—a matter of vital importance—his views are directly opposed to those of the Division of which he is a Representative." Dr. Evan Jones: (*a*) "That in the opinion of this meeting the unallocated money remaining in the hands of the London Insurance Committee should follow the disposal of the unallotted persons who contributed it." (*b*) "That in the opinion of this meeting no panel practitioner should accept on his list, or accept allocation of, other doctors' patients." (*c*) "That in the opinion of this meeting it is to the interest of the profession that no practitioner in general practice should accept more than 2,000 on his panel list."

SOUTH MIDLAND BRANCH.—Dr. E. Harries-Jones (Honorary Secretary), 16, Castilian Street, Northampton, gives notice that the autumnal meeting of the South Midland Branch will be held on Thursday, October 30th, at the Board Room, General Hospital, Northampton, under the presidency of Dr. Canning-Hartley, Bedford. The Secretary will be glad to hear from any member wishing to read a paper or show cases or specimens.

YORKSHIRE BRANCH.—Dr. Adolph Bronner, Honorary Secretary (33, Manor Row, Bradford), gives notice that the next meeting of the Branch will be held at the Grand Hotel, Scarborough, on Saturday, October 25th, at 4.15 p.m. Members intending to read papers, make any communications, propose new members, or show cases or specimens are requested to write to him at once. Members will dine together at 6.30 p.m. Special week-end terms will be arranged. A number of members will golf at Ganton on Saturday morning.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ARGYLE AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer (male). Salary, £175 per annum.

BARNSLEY: BECKETT HOSPITAL AND DISPENSARY.—Senior Junior House-Surgeon. Salary, £100 per annum.

BATH: ROYAL UNITED HOSPITAL.—(1) House-Physician. (2) House-Surgeon. Salary, £100 per annum each.

BIRMINGHAM: CITY MENTAL HOSPITAL, Winston Green.—Third Assistant Medical Officer and Pathologist. Salary, £150 per annum.

BIRMINGHAM GENERAL HOSPITAL.—Surgical Casualty Officer (non-resident). Salary, £50 per annum.

BIRMINGHAM: QUEEN'S HOSPITAL.—Radiographer. Salary, £100 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Assistant (1) Pathologist (male). (2) Assistant House-Surgeon (male). Salary, £100 and £80 per annum respectively.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-Resident House-Surgeon. Salary, £100 per annum.

BRISTOL GENERAL HOSPITAL.—(1) First House-Physician. (2) Second House-Physician, (3) Casualty House-Surgeon. Salary at the rate of £80 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Dental House-Surgeon. (2) Throat, Nose, and Ear House-Surgeon. Salary at the rate of £100 and £75 per annum respectively.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £100 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—House-Surgeon (male). Honorarium at the rate of £60 per annum.

CHELSEA HOSPITAL FOR WOMEN, S.W.—Pathologist. Honorarium, £40 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Surgeon.

DUBLIN: ROYAL VICTORIA EYE AND EAR HOSPITAL.—House-Surgeon. Remuneration, £40 per annum.

EDAY PARISH.—Medical Officer. Salary, £70 per annum, and appointments, £20.

ESSEX EDUCATION COMMITTEE, Chelmsford.—School Medical Inspector. Salary, £250 per annum, rising to £300.

FERMANAGH HOSPITAL.—House-Surgeon. Salary, £104 per annum.

GLASGOW DISTRICT MENTAL HOSPITAL, Gartloch.—Junior Medical Officer. Salary, £150 per annum.

GLASGOW DISTRICT MENTAL HOSPITAL, Lenzie.—Junior Assistant Medical Officer. Salary, £150 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Third House-Surgeon (male). Salary, £80 per annum.

HAMMERSMITH PARISH.—Second Assistant Medical Officer of the Infirmary and Workhouse. Salary, £130 per annum, rising to £150.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £70 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Medical Registrar. Honorarium, £200 per annum.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £80 per annum.

KINGUSSIE: GRAMPIAN SANATORIUM.—Resident Physician.

LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer. Salary, £200 per annum, increasing to £250.

LIVERPOOL: PARKHILL SANATORIUM FOR TUBERCULOSIS. Assistant Resident Medical Officer. Salary, £140 per annum.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—Two Honorary Medical Officers, and Honorary Anaesthetist.

LONDON LOCK HOSPITAL, Harrow Road, W.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £80 per annum respectively.

MANCHESTER CORPORATION.—Two Assistant Tuberculosis Officers. Salary, £300 per annum.

MANCHESTER: NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—Junior House-Surgeon. Salary, £100 per annum.

MANCHESTER ROYAL INFIRMARY.—Surgical Registrar. Salary, £75 per annum.

MANCHESTER SCHOOLS FOR MOTHERS.—Full-time Officer. Salary, £250 per annum.

MEDICAL MISSIONARIES.—Three Male and Three Female Doctors for Mission Hospitals in India, China, and South Africa.

MIDDLESEX EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary, £300 per annum.

MILE END OLD TOWN.—Junior Assistant Medical Officer. Salary, £120 per annum, rising to £145.

NEWCASTLE-UPON-TYNE: NORTHUMBERLAND COUNTY COUNCIL.—Chief Tuberculosis Medical Officer. Salary, £500 per annum.

NEWCASTLE-UPON-TYNE: UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Lecturer in Surgery.

NORTHAMPTON COUNTY ASYLUM, Berrywood.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £225.

OCHILTREE PARISH COUNCIL.—Medical Officer. Salary, £40 per annum.

OLDHAM ROYAL INFIRMARY.—Second and Third House-Surgeons. Salary at the rate of £100 and £80 per annum respectively.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer. Salary, £150 per annum, rising to £175.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £75 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road.—(1) Assistant Physician., (2) House-Surgeon, salary at the rate of £80 per annum.

ROTHERHAM COUNTY BOROUGH.—Tuberculosis Officer. Salary, £250 per annum.

ST. BARTHOLOMEW'S HOSPITAL, E.C.—Chief Assistant in the X-Ray Department.

ST. MARYLEBONE GENERAL DISPENSARY, Welbeck Street, W.—Honorary Ophthalmic Surgeon.

ST. THOMAS'S HOME, S.E.—Resident Medical Officer.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SHEFFIELD: ROYAL INFIRMARY.—Surgical Registrar. Salary, £100 per annum.

SHREWSBURY: SALOP INFIRMARY.—House-Physician. Salary at the rate of £90 per annum.

SOUTHAMPTON PARISH INFIRMARY.—Resident Assistant Medical Officer. Salary, £150 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon (male). Salary, £80 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Surgeon. Salary, £120 per annum, rising to £140.

STRACHUR AND STRATHLACHLAN PARISH COUNCILS.—Medical Officer. Salary, £94 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House-Surgeon. Salary at the rate of £80 per annum.

VIRGINIA WATER: HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE.—Junior Assistant Medical Officer (male). Salary, £250 per annum, rising to £300.

WAKEFIELD: WEST RIDING OF YORKSHIRE DISPENSARY.—Tuberculosis Officer. Salary, £400 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House-Surgeon, and Anaesthetist. Salary, £75 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Assistant Dental Surgeon. (2) Second *X*-Ray Officer.

WESTMINSTER GENERAL DISPENSARY, Soho, W.—Resident Medical Officer. Salary, £120 per annum.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Physician for Diseases of the Skin.

WEST RIDING ASYLUM, Burley-in-Wharfedale.—Assistant Medical Officer. Salary, £180 per annum.

WHITEHAVEN AND CUMBERLAND INFIRMARY. — House-Surgeon (male). Salary, at the rate of £120 per annum.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary, £100 per annum.

YORK DISPENSARY AND MATERNITY HOSPITAL. — Resident Medical Officer (male). Salary, £140 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces the following vacant appointment: Chatteris (Cambridgeshire).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

GARVIN, S., M.B., Ch.B.Edin., Certifying Factory Surgeon for the Clonavoddy District, co. Tyrone.

NOBLE, J. W., M.D., B.C.Cantab., M.R.C.S., L.R.C.P., Medical Superintendent of the County of Durham Sanatorium at Holywood Hall, Wolsingham, co. Durham.

WADE, E. W., M.D, District Medical Officer of the Hartismere Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

PRICE.—On October 10th, at Hazelmere, Nuneaton, Warwickshire, the wife of Lawrence E. Price, M.R.C.S., L.R.C.P.Lond., of a son.

SARGENT.—On October 9th, at 20, Harley Street, W., the wife of Percy Sargent, F.R.C.S., of a son.

MARRIAGE.

THOMAS—SAUNDERS.—On October 9th, at St. Bartholomew's, Roby, by the Rev. Canon Sylvester, assisted by the Rev. C. Macready, Arthur Henry Leopold Thomas, of 83, Vincent Square, Westminster, to Violet Grace, only daughter of Mr. and Mrs. Thomas Edward Saunders, of Meadowside, Huyton, Liverpool.

DEATH.

REID.—On October 8th, at his residence, Highfield, Randolph Road, Derby, William James Reid, L.R.C.P. and S.Edin., Lieutenant-Colonel 1st N. M. Field Ambulance, R.A.M.C.(T.), aged 52.

DIARY FOR THE WEEK.

MONDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Mr. Shattock: Specimens illustrating Fibroma.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole Street, W., 5.30 p.m.—Special Meeting of Fellows. Demonstration by Dr. Hideyo Noguchi, of the Rockefeller Institute (postponed from October 13th).

TUESDAY.

CHELSEA CLINICAL SOCIETY, Medical School, St. George's Hospital, 8.30 p.m.—Opening address by the President, Dr. T. B. Hyslop, on Clinical Psychiatry.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W., 8.30 p.m.—Paper: Injuries of the Back, considered from their Medico-Legal Aspect, by Arthur S. Morley.

ROYAL SOCIETY OF MEDICINE:

SECTION OF THERAPEUTICS AND PHARMACOLOGY, 4.30 p.m.—Discussion on Diseases due to Deficiencies in Diet, to be opened by Dr. F. G. Hopkins, F.R.S.

SECTION OF PATHOLOGY, 8.30 p.m.—Presidential Address by Dr. F. W. Andrewes.

WEDNESDAY.

HUNTERIAN SOCIETY, St. Bartholomew's Hospital (Library), 9 p.m.—Address by the President, Dr. W. M. Ettles. After which Exhibition by Dr. A. S. Woodwark of Pathological Specimens recently added to the Museum of St. Bartholomew's Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5.30 p.m.—Museum Demonstration by Mr. Colyer: Specimens illustrating Irregularities and the Teeth in Animals.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF BALNEOLOGY AND CLIMATOLOGY, 8.30 p.m.—Presidential Address:—Dr. F. A. de T. Mouillot: Some Lessons derived from Twenty Years of Spa Practice. The Annual Dinner will be held at 7.15 the same evening at the Waldorf Hotel.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF DISEASES OF CHILDREN, 4.30 p.m.—Demonstration of Cases and Specimens.

SECTION OF EPIDEMIOLOGY AND STATE MEDICINE, 8.30 p.m.—Paper:—Dr. W. M. C. Wanklyn: Working-class Home Conditions in London.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Professor Keith: Specimens illustrating Anatomical and Pathological Conditions of the Great Bowel in Cases of Intestinal Stasis.

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.—Post-Graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

LONDON HOSPITAL MEDICAL COLLEGE, Mile End, E.—Tuesday, 2 p.m., Neuroses and Psychoses of Children.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics, daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Thursday. Radiography: Saturday. Lecture on special subject on Thursday.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock, E.—Lectures daily (Saturday excepted) at 12 and 4 p.m. Practical Laboratory work daily (Saturday excepted), 10 to 12 a.m. Practical Protozoology, 2 to 3.30 daily. Advanced Protozoology, 10.30 to 1 p.m. daily. Medical Clinics, Tuesday and Thursday at 3 p.m. Operations, Friday at 3 p.m.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.—4.30 p.m. each day. Tuesday, Salford Royal: Intestinal Stasis. Wednesday, Royal Infirmary: Appendicular Dyspepsia. Thursday, Ancoats: Haemoptysis. Friday, Royal Eye: Shadow and Vessel Test.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—The following Clinical Demonstrations have been arranged for next week at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Medical; Friday, Eye. Lectures on special subjects at 5.15 p.m. each day.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Posterior Root Section. Friday, 3.30 p.m., Cerebral Decompression.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Thursday, 4.30 p.m., Opening of Winter Session: Address by Sir Arbuthnot Lane, Bart., on Intestinal Stasis, illustrated by lantern slides and the exhibition of patients.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday. A Lecture at 5 p.m. daily except Saturday.

[For further particulars of Lectures consult the Index to Advertisements.]

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		OCTOBER.
17	Fri.	City Division, London Hospital, Whitechapel, E., 4 p.m.
22	Wed.	London: Finance Committee, 2.30 p.m. City Division, Balfour Hall, Dunston Street, Kingsland, 3.30 p.m.
23	Thur.	Camberwell Division, Guy's Hospital, 4 p.m.
25	Sat.	Yorkshire Branch, Scarborough, 4.15 p.m.; Dinner, 6.30 p.m.
		OCTOBER (*continued*).
29	Wed.	London: Council, 10.30 a.m.
30	Thur.	South Midland Branch, Northampton.
		NOVEMBER.
5	Wed.	Central Division, Medical Institute, Edmund Street, 3.30 p.m.
6	Thur.	Insurance Act Committee.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, OCTOBER 25TH, 1913.

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THE WORKING OF THE NATIONAL INSURANCE ACT.*

By J. STAVELEY DICK, M.B.,
Member of the Manchester Insurance Committee; Honorary Clinical Pathologist, Manchester Northern Hospital.

I PROPOSE to assume that all present have received and perused the second quarterly report to the profession issued a week or two ago by the Manchester Statutory Medical Committee; I shall consequently refrain from giving figures and from entering into details at any length. I take it the general object of this discussion is to survey the position broadly, to weigh the evidence which has now accumulated, and to form a sound, and I hope impartial, judgement upon the merits and demerits of the National Insurance Act in so far as we are at the moment able to do so.

Professional Freedom.

In the heated atmosphere which immediately preceded and succeeded the enactment of the National Insurance Act, a fundamental objection to the whole scheme which was most ably urged by many leading members of the profession was the loss of professional freedom which it involved.

How far has that objection proved to be well founded in this area? It was anticipated by some of the more extreme exponents of this view that we should all be reduced to the level of the most unfortunate club doctors of preinsurance days; that we should be subjected to all kinds of petty irritation and incivility, and that life under such conditions would be a dog's life and, to men of spirit and independence, intolerable. Now, I suggest that anticipations of this kind were unduly pessimistic. I do not think that the average practitioner in Manchester to-day feels that his liberty has been curtailed in a manner which is galling or vexatious to any considerable extent or that he is badly treated by his insurance patients. But, while that is true, I cannot help feeling that the effect of the Insurance Act, even in this area, where, of course, the system of payment adopted makes for a greater sense of freedom, its effect is seriously to curtail the liberty of the average practitioner, though the iron hand is, perhaps, enveloped in the velvet glove.

Theoretically, I am quite ready to admit that good work is its own reward, and that the very best work may be done under adverse conditions, but as a practical man I am of opinion that the restrictions introduced by this Act have, and, unless greatly modified, will continue to have a blighting influence upon that individual initiative and that genuine enthusiasm which are so essential if a high standard of professional work is to be reached and maintained.

On the other hand, we must, I think, recognize that large numbers of people among the industrial classes were, and are, unable to pay reasonable medical fees in long or serious illnesses, and that something had to be done to provide them with more satisfactory medical attendance. In face of the last Poor Law report by the Royal Commission, action of some kind became imperative. The question is whether the action taken in the Insurance Act has to any considerable extent achieved the object in view. Personally, I think it has not. I think the Act, as it is administered at present, is bad for the profession and bad for the public.

We can all remember the time when it was hoped that the regulations would remedy the defects in the Act itself. My feeling is that the Act itself is not so bad; I think it has within it the potentiality for doing a great deal of good. I dare say that is a view which will not meet with the unqualified approval of this society, but in so far as I understand the subject I think the chief defect is rather in the spirit in which it is being administered by the Commissioners and Insurance Committees than in the Act itself. It appears to me, however, that calm and careful and persistent criticism by the profession may do much to improve matters as time goes on, provided that our criticisms are not the outcome of mere prejudice and irreconcilable hostility, but are, on the contrary, made in good faith and in the public's interest as well as in our own.

Fixed Remuneration.

I propose to offer one general criticism on these lines to-night. I suggest that the principle of a fixed remuneration for ordinary medical work is bad and that under such a system the tendency is, especially when the remuneration is not merely fixed but also inadequate, the tendency is in such circumstances to do as little really good work as will pass muster and serve to obtain and retain the emolument; and that is not much, as we all know.

One can, of course, see that the sum provided from the public purse and from fixed contributions to an insurance fund must in practice be calculated beforehand, and must be inelastic or almost so. But while we give due weight to considerations of that kind the fact remains that in medical work among the rank and file of the profession the net result is to discourage and dishearten the average man.

* A paper read before the Manchester Medico-Ethical Association, September 30th, 1913.

In olden times doctors were accustomed to raise their fees when the number of patients who desired their services became greater than they could cope with. In this way it was and is possible for a man whom manner or capability had made popular to restrict his work and at the same time increase his income. This method of restricting work to reasonable limits is no longer available for the insurance doctor. Any man whose practice is wholly, or almost wholly, insurance work is doomed if he desires to increase his income—and who of us does not so desire?—to go on increasing the number of his patients. Such a practitioner, if he aims at making money out of the Insurance Act, soon gets to the point at which all depends upon the rapidity with which he can write. When this point is reached all, or almost all, intelligent interest in his work has departed. A penny-in-the-slot prescription machine would probably fulfil the same function in the social economy without serious prejudice to the death-rate. I am not at all sure that this point has not been reached already by some practitioners in this area, but as this matter is not dealt with in the recent report, and as it is under consideration by the Medical Committee, I do not propose to digress further in this direction at present. The point I wish to make is this: You have a fixed and, as the result proves, an inadequate rate of remuneration. The average man, if he is to make money out of his profession—and he is surely entitled to do so—is condemned to deal with such a large number of patients that intelligent interest, not to mention initiative and enthusiasm, becomes difficult or impossible, and his work ceases to be of any great value to his patients. On the other hand, it would be Utopian for us to anticipate that the profession will ever be given a blank cheque by the State.

I think the horns of the dilemma are apparent. But I would reiterate that without some elasticity in remuneration you tend to reduce men to one dead level; you stifle or tend to stifle enterprise, enthusiasm, and initiative; you deify routine mediocrity, and consequently tend to impede or to stop progress, and thus depreciate the value of the profession to the public. State remuneration is fixed and too low to secure really good work; at present there is no prospect that it will be increased, and still less that it will ever be sufficiently elastic to secure the objective which we are now considering.

The question to which I ask your attention is whether there is no practical way out of this dilemma—no way by which the industrial section of the community may not get the best which the average doctor has to give?

Ethical and Social Considerations.

I think there is, but whether the solution I have to offer or the arguments by which it may be supported are at the moment matters of practical politics may be open to question. However, I hope that in a discussion such as this, where our aim is simply to arrive at the truth, I may not be wasting time if I devote a few minutes to certain fundamental considerations which appear to be worth some attention in this connexion. I think it will be agreed by all, or almost all, thoughtful people that the proper and only really sound way of helping those who require help is TO HELP THEM TO HELP THEMSELVES. I think that is a bed-rock social principle to which few, if any, thinkers will take exception. In the case of individuals who are, from some cause, unfit to make any effort on their own behalf, one does not question the propriety or indeed the duty of giving complete and effective assistance.

It will be admitted, however, I think, that the number of insured persons who come into this latter category are so few as to be negligible. Insured persons as a body are in a position to help themselves to a larger or smaller extent. The present system of providing them with medical attendance is, therefore, I think, ethically and socially unsound. If we assume that medical attendance is something of intrinsic value and not a mere routine farce, if it be something which insured persons really require now and again as urgently as they require food and clothing, why should they as individuals not make some real effort to secure the one as well as the other? It cannot be seriously argued that the penny a week forcibly collected for medical benefit represents any real effort on the part of the insured individual to secure treatment in time of sickness. The special circumstances in which medical attendance is required are no doubt peculiar, and quite justify some assistance on co-operative and national lines. But is it good for the individual insured person or for the State that co-operative and national assistance should supply him absolutely and without conscious effort on his part with this particular necessity? In my opinion it is not.

In the highly complex conditions of modern civilization each and all of us require co-operative or national assistance in order that we may secure many of the necessities and luxuries of life. I say each of us requires and obtains outside assistance of this kind every day. Imagine, for example, each household in this city having to provide its own supply of water unaided by co-operative action. Of course we each pay for what we use; but by co-operation through the municipality we are able to obtain a regular supply of high quality at a comparatively cheap rate. Here there is co-operative effort up to a certain point, then individual effort and individual responsibility. I think this is the ideal method.

The necessity for individual effort and responsibility must, I think, be maintained in the interest of all concerned. If, however, the necessity for the exercise of individual effort be suspended, and if, as the result of co-operative or national effort, all the necessities and luxuries of life were at the disposal of any individual who chose to avail himself of them, I think I shall not be libelling human nature if I suggest that many individuals would be quite ready to take all and contribute nothing to the common stock. You would thus quickly create a class of drones and national paralysis would supervene. Because, of course, a nation is merely what its individual citizens make it. The efficiency of the nation is, therefore, obviously dependent upon the maintenance of a high standard of individual effort and individual responsibility. If this reasoning be sound, it follows that all and every extension of co-operative or national assistance should be carefully and deliberately limited; it should supply what is clearly required but no more. The aim, I take it, should always be to supplement; it should never gratuitously supplant individual effort and individual responsibility. Otherwise it is clear that immediate deterioration of individual and ultimate deterioration of national character becomes inevitable.

Assuming my conclusion to be sound, I think it will be agreed that it has a very direct bearing upon the present position. It will be within the recollection of all that one of the cardinal points urged by the British Medical Association was a £2 income limit. In the chaos which resulted from the *débâcle* of January last this point has been, if possible, more completely surrendered than any other. I am afraid that we must admit not merely that we were beaten all along the line; we were demoralized. I am hopeful, however, that we shall soon begin to regain our capacity for clear thinking and vigorous criticism where in our own interest and in the interest of the public such criticism is demanded.

Relevancy to Present Position.

Keeping in view the fundamental principles at which I have been hinting, can it be seriously argued that a man earning between £2 and £3 a week is unable to make any effort, as an individual and as a responsible human being, to obtain ordinary medical attendance for himself when he needs it? Of course he is able, and I submit that in the interest of scientific medicine as opposed to merely mechanical prescription writing, it is his duty to do so. It is his duty to do so if he would maintain intact his own sense of responsibility and status as a free citizen. It is in the interest of the nation, whose ultimate destiny depends upon the character of individual citizens, that he should be compelled or, at any rate, encouraged to do so. But some one may object that arguments of this kind may be sound enough, but are useless—we shall never gain this point. The question for us in advancing such criticism is not whether it will immediately secure its objective, but whether in fact it is true and right.

But the broad principles to which I have directed attention would not be satisfied with a £2 income limit. What is required in the interests of all concerned—the profession, the insured, and the State—is that every insured person should be liable for some small direct contribution to the cost of his medical attendance.

The provision made under the Insurance Act would, as I have already hinted, be accepted by the profession willingly and cheerfully in the case of individuals who, from long-continued illness, starvation wages, or other cause, were unable, without real hardship, to make any direct contribution. The profession has done so much in the past for this class gratuitously that we would not, I am sure, hesitate now, each of us, to take our share of such work for charity's sake under any scheme or under no scheme. But against the present system, which is at once demoralizing the public and degrading the profession, some of us, at all events, will continue to protest.

Malingering.

We hear a great deal nowadays about malingering. A scheme, however, which provides unlimited medical attendance of a sort and certificates practically for the asking, with 10s. or so a week thrown in, puts a quite unjustifiable strain upon the integrity of human nature. Actuaries and others who ought to be better informed, basing themselves on voluntary friendly society experience, under-estimated the temptations to abuse and to fraud introduced by the Insurance Act. They are now naturally very much upset by their own want of foresight, and, in their wrath, do not hesitate to make ridiculous charges against the medical profession. Some medical men, no doubt, grant certificates in the same rough-and-tumble manner in which most of their professional work is done, but these are the exceptions. The fact is that the average medical man resents being made a convenience of; the weekly recurring demand for certificates in doubtful cases is irritating to him. This demand has arisen, however, not owing to any fault of his. It is largely due to the mistaken policy of the Insurance Commissioners and Insurance Committees, as I shall presently try to explain. I think it is asking too much from the profession to require us, or to rely upon us, to bolster up the defects of the Act and to remedy the still greater shortcomings of its administration. When a patient consults us, the presumption always is that he is honest and genuinely in need of our services. This presumption can only be set aside on the clearest possible evidence, and such evidence is generally not available in the rush of work which has overwhelmed many of us as a result of this Act. In the recent report to which I have referred, my friend Dr. D'Ewart directs attention to the fact that each month one-sixth of the whole insured population of Manchester come up for treatment—some 40,000 patients each month. Dr. D'Ewart describes the figures as astounding. I suppose we will all agree with him. But it is surely more astounding that men of intelligence should expect the profession which, as I have said, is bound to presume that these people come to us in a bona fide manner in need of our services—I say it is surely more astounding that we should be expected to embark upon the laborious, the wholly uncongenial and unremunerative task of ferreting out positive evidence of fraudulent intent on the part of many of our patients. We simply act upon the same principle which guides every court of law in the kingdom. We give the suspect the benefit of the doubt. But while that is the general and I maintain the only possible rule in this matter, I may say that I have personal knowledge of instances where doctors refused certificates and lost their patients months before Mr. Masterman made his astonishing statement in the House of Commons.

One sees a large number of insurance patients, especially girls and women, who from indoor sedentary occupations and other causes are in a chronic state of ill health—not actual invalids, but distinctly below the average standard of health. It will be exceedingly difficult even for medical referees to draw the line sharply and justly in this class of case between fitness for work and unfitness. The Insurance Act leads these people into temptation.

The Main Point.

The main point, therefore, which I have tried to make and upon which I wish to lay stress is that for a variety of reason the great majority of insured persons should have to make some direct contribution themselves to the cost of their medical attendance. In the case of really respectable people there is no doubt they would prefer to do so. In the case of real malingerers or in the much larger class who may be described, perhaps, as not unfit for work, but below the normal standard of health, there would be an additional and, I think, valuable safeguard against abuse. Such a method would give the great majority of insured persons in this area a freer choice of doctor and would certainly secure more efficient attendance. It would enable the honest and conscientious medical worker to work without feeling himself part of a machine. It would give the average practitioner a chance of maintaining his professional status, which is at present seriously threatened, partly from without and partly from within. Lecky, in his history of European morals, says:

> Of all the great branches of human knowledge medicine is that in which the accomplished results are most obviously imperfect and provisional, in which the field of unrealized possibilities is the most extensive, and from which, if the human mind were directed to it, as it has been during the last century to locomotive and other industrial inventions, the most splendid results might be expected.

What I plead for is that all sections of the profession should have a chance of realizing some of these "unrealized possibilities." But the method I am urging would have an additional advantage. It would help to conserve among the great majority of insured persons themselves that feeling of personal freedom and that sense of personal responsibility which is so essential to the development of character, but which is, I think, unnecessarily and unduly curtailed by this Act. It is possible that the excessive drain on the funds may ultimately compel attention to this aspect of the problem. This drain, in my opinion, is primarily and fundamentally due to the fact that the Act offers temptations to people to accept assistance where no assistance is required, whilst at the same time it fails to provide any adequate check upon the cupidity and selfishness of the individual.

Prevention of Disease.

While it is probably true to say that the medical profession is getting more money for attending the low wage-earning class—that is, £1 a week and under—than formerly, it is probably also true to say that these people are getting no better treatment than before. It is a moot point whether they are not getting worse. With regard to the prevention of disease we all know what rosy anticipations were indulged in. People were to be encouraged to come up early for treatment, so that incipient illnesses might be accurately diagnosed and nipped in the bud, with an enormous gain to the health and working efficiency of the industrial community. Theoretically it is an attractive idea to encourage people to flock to doctors for such a purpose. But two essential factors have been overlooked: (1) The diagnosis of incipient ailments is difficult in practice, it requires time and care and thought; under existing conditions of Insurance practice these are of necessity curtailed to a minimum in cases where the maximum is demanded. (2) The atmosphere created by the National Insurance Act is unfavourable to this kind of work, even if the time were available.

If a man goes to a doctor and pays something for being overhauled there is an *a priori* probability that there is really something the matter with him, though it is not obvious at first sight. The doctor's interest is aroused, apart altogether from the fee; he does not relish making a mistake, and the patient is therefore likely to be pretty thoroughly examined. But if a man goes to a doctor without having to pay a fee, and with the possibility of sick-pay being the true motive of his coming, there is a conscious or subconscious inclination on the part of the doctor to assume that there is nothing wrong where obvious evidence of illness is absent. The natural result is the doctor compromises. He gives a certificate, but he does not investigate the case with the same alertness and interest. The cry of "wolf" has sounded too often; the doctor has become apathetic, even if he has the time. I suggest that this result is inevitable from the inherent defects of the present system. Of course, the Insurance Act, by providing money in time of sickness and thus securing better food, etc., will do something to improve the health of the insured classes. It will not do so, however, directly through the medical profession, or, at all events, not until the weaknesses of human nature, lay and professional, are better understood, and not until the conditions of really valuable professional work are better

provided for by the powers that be. At present the profession is being exploited, but without gain to the public. Efficiency demands that these facts be realized and remedied.

Administrative Defects.

But I am more disposed to find fault with the administration of the Act than with the Act itself. I shall briefly endeavour to justify my position, and in doing so I would first remind you that the Act contains a clause which empowers Local Insurance Committees to fix an income limit appropriate to the local conditions, and then goes on to say that insured persons above the limit thus fixed may be required to make their own arrangements for medical treatment, the Committee, however, being obliged to make a contribution to the cost of such treatment.

That is precisely the ideal for which I have been arguing—co-operative and national assistance up to a certain point, then individual effort, individual freedom, and individual responsibility.

It is a matter for regret that this clause has hitherto been practically a dead letter, and it puzzles one to think why such a clause was ever introduced into the Act if it were meant to be treated as so much waste paper. The fact that such a clause was inserted in the Act is proof that the Government considered it in the public interest. It would be said that the matter rests with Insurance Committees, but the position is that these Committees have not merely failed to use the powers of compulsion conferred on them by this clause; they have actually discouraged and put obstacles in the way of those insured individuals who have applied for the privilege of remaining comparatively free and independent. They have violated the spirit and intention of the Act. But we all know that these Committees are still in leading-strings. One hopes and anticipates that they may sometime reach years of discretion, and prove capable of discharging the functions entrusted to them as independent bodies of responsible men. At present they are puppets who dance to any tune which the Commissioners call, whether or not it be in harmony with common sense or even with the Act itself.

The Commissioners themselves are no doubt at their wits' end to find a tune which will be in harmony with all requirements. I shall give an instance.

Certificates.

The Chancellor of the Exchequer time and again reiterated the intention of the Government that the nature of a patient's illness should not be disclosed, and it is notorious that the most elaborate precautions were taken to prevent such information being given to the Commissioners. A recent decision, however, requires that a disclosure of this kind must be made to a patient's own club mates; it may be to his next door neighbours. One would think that the Commissioners, in spite of all their shortcomings, might be trusted not to make any unfair use of confidential information of this kind; and especially so if it can be given without risk to the people I have mentioned. The result proves, however, that the Chancellor can trust the average friendly society member, where he dare not trust his own highly paid and responsible officials. I suggest that the farce of it all is worthy of Gilbert in his palmiest days. Of course, this comical situation has arisen owing to the fact that some of the more old-fashioned of the friendly societies insist upon the specific nature of the illness being stated before they will pay. They are, in their simplicity, now very urgent on the point. They hope in this way to check malingering. They cannot be made to understand that a diagnosis of this kind is occasionally impossible for weeks, if then; and quite frequently impossible on the fourth day of an illness. Yet we have recently been told by the Scottish Commissioners that certificates of this kind are important and will be preserved for future reference; perhaps that was a Scottish joke. I object to the recent ruling on two grounds, first because in malignant and some other cases it is often in the patient's interest that he should not be informed of the specific nature of his ailment and, second, because one does not like being forced to do something which cannot be done—that is to say, something which I cannot do in a manner which is reasonably satisfactory to myself. A doctor can, of course, write down any name for the incipient illness which comes into his head; he will probably call it by some name in order to save the trouble and worry of refusing.

The abuse of the funds which undoubtedly exists would be better dealt with by increasing the responsibility of insured persons themselves on the lines I have pointed out, by appointing medical referees, and by more discretion on the part of insurance agents, some of whom, I am told, actually encourage their clients to declare on and remain on the funds.

Tuberculosis Problem.

Much was anticipated from the tuberculosis campaign initiated by the Insurance Act. I admit that time is required before we can take a proper reckoning of the good effected; but speaking with some knowledge of the subject, and a certain sense of responsibility as a member of the Manchester Insurance Sanatorium Committee, I cannot refrain from saying that in my judgement we have made a bad start. Our local arrangements, dependent, no doubt, to a large extent upon the policy, or want of policy, at head quarters, are calculated to kill any general professional interest in the problem. The solution of the tuberculosis problem, in spite of much loose and ill-considered talk, is not yet in sight. Before the day of its solution dawns, much genuine work will have to be done by somebody. The more workers we can enlist on fair and equitable terms in such a campaign, the more likely are we to find a man here and there with the energy, insight, and enthusiasm required from pioneers. I question whether pioneers in any department of scientific work have been produced in average proportion from the ranks of officials. I shall only add that the insurance doctor in this area is at present paid 4s. a month for treating a case of pulmonary tuberculosis at the patient's own house. "The fruit" may or may not be "rare and refreshing," it is certainly cheap. I am prepared to concede that the love of science and the love of money are to a large extent incompatible. But however that may be, the panel practitioner has certainly an opportunity of devoting himself with single eye, uncontaminated by filthy lucre to the solution of this great problem; and yet, on the other hand, a man must live. I shall leave it at that for the present.

Conclusion.

In conclusion, I may say that to any one who hoped that real good might be done, that the practice of medicine might be improved, that the industrial community might be made somewhat healthier, somewhat more hopeful and self-reliant, the present position is disappointing and depressing in the extreme. Practitioners of a better class have had their patients taken from them or their scale of fees seriously reduced, with the net result that the profession is commercialized, discouraged, cynical, or resentful; while the insured people themselves are for the most part indifferent, indignant, covetous, or fraudulent.

One does not desire to exaggerate, and it may be this description is not widely or generally applicable; it reflects accurately, however, my own personal impressions and experience.

LOCAL MEDICAL COMMITTEES.

SURREY.

The sixteenth meeting of the County of Surrey Local Medical Committee was held at Surbiton Cottage Hospital on October 17th. Dr. Lankaster was in the chair, and seventeen members were present.

New Secretary.—Dr. H. R. Cran (New Malden) was elected Honorary Secretary in place of Dr. Pain, resigned.

Membership of Committee.—Dr. Hussey (Farnham) was invited to become a co-opted member of the Committee. The resignation of Dr. Randall (Wimbledon) was received.

Drug Tariff.—An alteration in the drug tariff was agreed to by which farthings or larger fractions of a halfpenny shall be reckoned as halfpennies.

Dental Cases and Medical Benefit.—On the motion of Dr. Walters, the following resolution was adopted:

> That the Surrey Local Medical Committee are of opinion that treatment of haemorrhage, due to extraction of teeth occurring within twenty-four hours is not included i

medical benefit under the Act. They feel that the doctor should attend if sent for, but should be entitled to a fee for his services.

HERTFORDSHIRE.

A meeting was held at Hatfield on October 14th, to which all the practitioners upon the panel were invited, and about sixty were present.

Proposed Panel Committee.—The following resolution was passed unanimously:

> The practitioners upon the Hertfordshire panel authorize the Hertfordshire Medical Committee to act upon their behalf in any matter which under the Act or Regulations is to be the subject of consultation between the County Insurance Committee and the practitioners upon the panel.

Accumulated Funds.—In reply to a letter for suggestions as to the distribution of these moneys, the following embodies the opinion of the meeting:

> That the Hertfordshire Medical Committee, after consultation with the practitioners upon the panel, is prepared collectively to accept for treatment all insured persons who may require the same, including transfers, the holders of travellers' vouchers, insured persons moving temporarily from one address to another within the county, and insured persons accorded domiciliary treatment as part of their sanatorium benefit, if the County Insurance Committee is prepared to make a numerical distribution of the residue of insured persons, quarter by quarter, among the doctors upon the panel upon whom rests the collective responsibility for the treatment of such residue and of making payments to practitioners out of the panel fund in accordance with such numerical distribution.

It was offered as a suggestion that such payment should be in accordance with the numbers upon each practitioner's list, quarter by quarter. The Medical Committee was directed to point out that whilst practitioners are collectively willing to carry out the above arrangements to ensure treatment without delay, the Insurance Act gives the right to a practitioner to accept or decline for treatment an insured person. [Since this meeting the County Committee has raised an objection to "collectively," and this may involve "free choice of patient." Practitioners will be circularized as soon as the agreement is known.]

Temporary Residents.—With regard to the temporary removal of insured persons who presented green vouchers for acceptance, the Honorary Secretary was requested to obtain further information as to whether these vouchers carried a payment for the services rendered, and should a reply be received in the affirmative, then to notify the County Committee that practitioners would collectively accept these for treatment. The Honorary Secretary has since been informed that payments to practitioners will be made for those presenting green vouchers from the Central Fund as suggested in Memorandum 159 I.C. Hence practitioners are collectively prepared to accept these for treatment. The County Committee was requested to arrange that the green and yellow vouchers were issued strictly in accordance with Memorandums 159 and 175 I.C.

Medical Certificates.—Attention was drawn to the new medical certificates and to the points connected with the issuing of them. A vote of thanks to the County Committee was passed for its assistance in obtaining universal medical certificates.

Identity Cards.—The meeting again urged the necessity for a card of identity for all insured persons, similar to the present "pink ticket," or that the lower half of Form Med. 32 could even be adapted for that purpose. The meeting also requested the County Committee to be notified that the ease with which Form Med. 32 can be obtained and the absence of a card of identity opened up possibilities that non-insured persons could obtain medical benefits under the Act, and the County Committee was requested to notify any practitioner as soon as possible if it were found that any one was obtaining treatment to which he was not entitled. The County Committee was also asked whether it relieved the practitioner of any liability of being surcharged for the drugs supplied by the chemist in such cases.

New Agreements.—A request was also made that the draft of the new agreement for 1914 should be sent as soon as possible to insure proper consideration by the Medical Committee.

Expenses of Committee.—Attention was drawn to the fact that a large number of practitioners had not contributed to the expenses of the Local Medical Committee. A sum of 2s. for each complete 100 insured upon the practitioner's list on April 15th last was the sum suggested. Practitioners were asked to contribute as soon as possible.

Transference of Practice.—The meeting asked the County Committee to urge an extension of time for three months to effect the transference of the practice of a practitioner on the panel in the case of death.

Sanatorium Benefits.—The County Tuberculosis Officer gave a brief outline of sanatorium benefits, and several points were cleared up.

Confirmation of Resolutions.—After the general meeting, the Hertfordshire Medical Committee confirmed the resolutions.

EAST SUFFOLK.

Meeting with Panel Practitioners.

A meeting of the East Suffolk Medical Committee, to which all practitioners on the panel for East Suffolk were invited, was held at Ipswich on September 2nd, with Dr. Muir Evans in the chair.

Temporary Residents.—The Chairman explained that the object of the meeting was to get a clear understanding on the question of green vouchers, and he called upon the Honorary Secretary to read a letter from the solicitor to the Medical Defence Union on the legal aspect of the case. After some discussion, it was proposed and carried *nemine contradicente*:

> That this meeting of practitioners on the panel of the East Suffolk insurance area endorses the action of the Local Medical Committee in recommending that green vouchers be refused.

Tuberculosis Officers.—Dr. Evans referred to the advertisement for assistant tuberculosis officers, and explained that the Committee intended to resist the idea of having junior practitioners put into these positions.

Future Meetings.—It was resolved to hold quarterly meetings of the Committee with all doctors on the panel at Ipswich and Lowestoft alternately.

Ordinary Meeting of Committee.

The Local Medical Committee met at Saxmundham on October 16th, with Dr. Evans in the chair.

Lowestoft Institute.—The Chairman pointed out that by virtue of new regulations the institute doctor was now practically a panel doctor. Dr. Tyson reported that the minor ailments of the Scottish fish girls had been attended to by ladies from Scotland, who had applied to the institute for dressings, which they could apparently get in any quantity.

Medical Certificates.—The suggested new medical certificates were inspected, and objection was raised to the words, "I have to-day examined," and the Committee thought that these words should be deleted.

Yellow Vouchers.—It was agreed that the question of mileage and medicines for these cases should be brought before the Insurance Committee at its next meeting.

WEST SUFFOLK.

The tenth meeting of the West Suffolk Local Medical Committee was held at Bury St. Edmunds on October 15th. Dr. Wood was in the chair, and three other members were present.

Medical Special Subcommittee.—The Secretary reported that Dr. Hinnell had agreed to serve on the Local Medical Committee to the end of its year of office, but that he had definitely resigned his position on the Medical Special Subcommittee. The Secretary was instructed to ask Dr. Master to serve in Dr. Hinnell's place.

Payment of Accounts.—The Secretary stated that the County Insurance Committee had made no further suggestions as to a monthly payment to account. It was agreed that so long as quarterly payments were made promptly no further action need be taken.

Expenses of Committee.—The Committee decided to wait until the end of the year before calling a levy to meet expenses.

Mileage in the Fen District.—The Secretary reported that the Medical Benefit Subcommittee had instructed the clerk to the County Insurance Committee to interview the

practitioners concerned; and that the clerk had reported that as a result it was decided that application should be made for a grant of £150 to £175 from the special fund.

Conference of Local Medical Committees.—The CHAIRMAN reported that, as instructed, he and the Secretary had attended the conference of Local Medical Committee Representatives at Brighton in July, and that the conference had endorsed the attitude of the West Suffolk Committee in regard to the summoning of general meetings of practitioners on the panel.

New Agreements. — Circular M.6, dated August 15th, 1913, from the Insurance Act Committee of the British Medical Association was received. The Secretary was instructed to request that a copy of the new agreement with the County Insurance Committee may be placed before this Committee at the earliest possible date.

Operations Requiring Anaesthesia.—The suggestion put forward in the Circular M.6 in regard to operations requiring general anaesthesia was considered, and it was decided to take no action at present.

Medical Referees.—Circular M.7, dated September 23rd, 1913, from the Insurance Act Committee, was also received. The question of medical referees was considered by the committee to be of such importance as to warrant the circularizing of every practitioner in the area to the effect that no such work should be undertaken, even temporarily, at a lower fee than 10s. 6d. a case.

Certificates.—In regard to certificates the Secretary was instructed to inform the Insurance Act Committee that no serious objection had been raised in the area to the filling in of the name of the disease, and that the West Suffolk Committee considered the new form of certificate which which had just been issued a great improvement on the old one. The Secretary was also instructed to inquire of the Insurance Act Committee whether a friendly society could insist on having the signing-on certificate on its own special form or whether it was not obligatory for it to accept the ordinary State sickness certificate.

Model Rules.—The Committee decided to adopt the Model Rules and Standing Orders for Local Medical Committees issued in the BRITISH MEDICAL JOURNAL SUPPLEMENT of July 5th, 1913, Appendix XVII—subject to such modifications as the Chairman and Secretary might consider desirable after detailed consideration of the matter.

Aged and Infirm Members of Friendly Societies. — Circular 27/I.C. (par. 13–18) was read, and it was decided that all practitioners on the panel should be informed that Government had made provision as from January 12th, 1914, for medical benefit for aged and infirm members of friendly societies, even though not insured, at the usual Insurance Act rate of payment; and that there was no reason, therefore, why these persons should be treated at lower rates after that date.

Panel Committee.—It was decided that in the event of a "panel committee" being instituted in the area, steps should be taken to secure the election of the Local Medical Committee as the Panel Committee.

Distribution of Unallotted Funds. — Circular 29/I.C. was read and discussed. It was finally decided that the most equitable distribution of the unallotted funds would be obtained by dividing the money between the seven districts of the area in proportion to the numbers of practitioners practising in each district. Every "district share" would then be divided among the practitioners concerned in proportion to the number of their acceptances to date. The SECRETARY reported that he was informed at the meeting of the Medical Benefit Subcommittee that any method of allocation would be accepted by that Committee provided that all practitioners in the area were willing to agree to it. The Chairman and Secretary were authorized to elaborate the method proposed and to circularize all practitioners on the panel in regard to it.

Rules for Insured Persons.—The SECRETARY reported that the rules governing the conduct of insured persons, as drawn up by the Committee and issued by the Insurance Committee, had not obtained the sanction of the Commissioners, who insisted on alterations and additions to make the rules conform to the Model Rules issued by the National Health Insurance Commission. Further, that the Medical Benefit Subcommittee had appointed a special subcommittee, of which he was a member, to consider the rules. The Secretary was instructed to endeavour to secure the issue of rules in a form similar to those issued by the East Suffolk Committee.

Revision of Medical List.—Memo. 178/I.C. was considered, and the Committee agreed that the date for revision of the medical list suggested by the Medical Benefit Subcommittee—namely, December 31st—was the most suitable one.

Representation on Medical Benefit Subcommittee.—The CHAIRMAN drew the attention of the Committee to the fact that, owing to the resignation of Dr. Caie from the Medical Benefit Subcommittee in favour of a representative of the chemists—who were previously not represented—the medical profession had now only one representative on that committee. The Secretary was instructed to write to the Insurance Committee stating that the Local Medical Committee considers this state of affairs most unsatisfactory.

New Patients.—The Secretary was also instructed to write to the Clerk to the Insurance Committee requesting that the index slips of new patients accepted should be sent to practitioners immediately after acceptance.

ISLE OF ELY.

A MEETING of the Isle of Ely Local Medical Committee was held at March, on October 14th, under the chairmanship of Dr. H. C. MEACOCK; thirteen other practitioners were present.

Model Rules.—The Model Rules (SUPPLEMENT, BRITISH MEDICAL JOURNAL, July 6th, Appendix XVIII) were read and agreed to as provisional rules for the Committee, with the addition of the following clause relating to the constitution of the Investigation Subcommittee:

> That either practitioner in the case of a complaint to be tried shall have the right of objecting to any member of the Investigation Subcommittee.
> That such objection must be made in writing to the Secretary of the Local Medical Committee before the appointed day set for hearing the case.

Investigation Subcommittee.—The following were appointed a Special Investigation Subcommittee: Dr. H. C. Meacock (Chairman), with Drs. Curl, Nix, Waddelow, and Waters (Secretary).

Discussion with Clerk of Insurance Committee.—At the invitation of the Local Medical Committee, the Clerk of the Isle of Ely Insurance Committee attended the remainder of the meeting to discuss the present position as to mileage, drug account, green medical vouchers, travelling vouchers, allocation, sanatorium fund prescriptions.

Fen Mileage Grant.—The CLERK to the Local Insurance Committee stated, in answer to a question, that he had had no information from the Insurance Commissioners that the Fen mileage grant had been made. It was thereupon resolved that a letter be sent to the Commissioners deploring the delay in the settlement of this matter, and asking that the Fen mileage grant be made forthwith on the same terms as agreed between the Commissioners and the North Riding of Yorkshire.

Temporary Residents.—It was decided to rescind a resolution carried on June 10th at a meeting of the Local Medical Committee in regard to temporary residents, and to accept the green medical vouchers and travellers' vouchers as issued by the Commissioners.

Allocation.—It was resolved that in the matter of allocation it be left to the local practitioners concerned in any district to agree among themselves as to the method of allocation, but that in the event of failure to agree, allocation should be carried out in that district according to the Edinburgh scheme. (SUPPLEMENT, BRITISH MEDICAL JOURNAL, October 11th, 1913.)

Sanatorium Prescriptions.—It was resolved:

> That prescription books printed in a different colour from the ordinary prescription books be used for sanatorium drug accounts.

Vote of Thanks.—On the proposition of the CHAIRMAN, a vote of thanks was unanimously passed to the Clerk of the Local Insurance Committee for attending the meeting.

SHEFFIELD.

A MEETING of the Local Medical Committee was held on October 14th.

Temporary Residents.—It was again resolved "that temporary residents shall be treated as private patients."

Treatment of Travellers.—It was resolved that the yellow travellers' cards be accepted.

Medical Referees.—It was resolved:

That the appointment of medical referees be approved and that the appointment be made by the Insurance Committee, and that the fee for each examination be not less than 10s. 6d., and such arrangement be temporary only.

LANCASHIRE.

Medical Treatment of Temporary Residents.—The Local Medical Committee for Lancashire, at its meeting on October 10th, had before it the opinion of Mr. Hempson, the Solicitor to the British Medical Association, and the Memoranda 159 I.C. and 161 I.C. of the National Health Insurance Commissioners (England), and resolved to advise the medical practitioners who have signed agreements with the Lancashire Insurance Committee:

1. That as the refusal of individual practitioners to accept the green voucher as entitling an insured person presenting it to medical treatment under the Act could in any case be overcome by the compulsory assignment or allocation to him of the insured person by the Insurance Committee, and that as, therefore, refusal of the green voucher can lead to no good result, but can only cause friction in the administration of the Act, and possibly unpleasantness as between medical practitioners and the Insurance Committee, the Local Medical Committee recommends the acceptance of the green voucher as far as the rendering of medical treatment to those presenting it is concerned.
2. That, in the opinion of the Local Medical Committee, the method of payment for services rendered on account of the green vouchers as set forth in the Memoranda 159 I.C. and 161 I.C. is unjust, and contrary to the spirit and to the letter of the agreement entered into with the Lancashire Insurance Committee, the Local Medical Committee is prepared to co-operate with the British Medical Association in any effort to induce the Commissioners to establish a just method of payment for those services, and call on the medical practitioners in Lancashire for their loyal support in this direction. At the same time the Committee recognize that any attempt to secure just payment cannot be carried to a successful issue, or even assisted by a refusal to carry out the agreements entered into and the consequent acceptance as a temporary expedient of the terms suggested by the Commissioners, even though these are manifestly unjust.

ROCHDALE.

A MEETING of the Rochdale Medical Committee was held on October 9th, when Dr. LORD took the chair, and six other members were present.

Allocation of Insured Persons.—A letter was read from the clerk of the Rochdale Insurance Committee, dated September 29th, anent the allocation of those insured persons who had not selected a doctor, and the distribution of the panel fund moneys in respect thereof. It was resolved:

That if any insured person cannot obtain medical attendance, the matter be referred to the chairman of the Local Medical Committee.

Finance.—It was resolved to call a meeting of all the practitioners on the panel for Thursday, October 16th, and to issue a special circular to those members of the panel who have not yet paid their share of the voluntary levy of one-eighth of a penny per insured person on their list in March last.

WEST SUSSEX.

THE following is a report of the proceedings of the West Sussex Local Medical Committee for the quarter ending September 30th:

Constitution.—The regulations for the constitution of the permanent Local Medical Committee have not yet been received. The tenure of office of the present committee has been extended until October 31st, and it is likely that a further extension of the period will be made. Three members of the committee have resigned, but their places have not yet been filled owing to the imminent reconstitution.

District Insurance Committees.—The following medical members have been appointed:

Worthing.—H. Wiggins, F. Haydon, C. Rawdon Wood.
Chichester.—H. C. L. Morris, J. B. Collins, A. H. Bostock.
Midhurst.—B. Bailey, A. E. Kerr.
Horsham.—S. P. Matthews, F. Boxall.

Allocation.—Several insured persons who have been unable to obtain medical attendance have been allocated to doctors on the panel at the request of the Insurance Committee. The Index Register is now approaching completion, and there is reason to believe that the allocation of the remainder of the insured persons in the district will be proceeded with shortly.

Mileage Fund.—A claim for a grant for persons living in inaccessible places has been forwarded to the Commissioners, and is under consideration.

Standing Orders, etc.—The Local Medical Committee had adopted, with slight alterations, the model Standing Orders, regulations of the constitution of Local Medical Committees, rules as to procedure to be followed in dealing with questions arising under Med. Reg. 49 (complaints made by one practitioner against another).

Prescription Forms.—The form of prescription now in use will be continued.

Certificates.—It is hoped that the obligation to state the nature of illness upon certificates will be removed shortly.

Insurance Pharmacopoeia.—The Local Medical Committee decided against the introduction of an Insurance Pharmacopoeia.

Insured Persons desiring to Make their own Arrangements.—Acting upon a request of the Local Medical Committee to allow suitable persons to make their own arrangements, the Insurance Committee has appointed a subcommittee to consider the circumstances under which permission for this purpose may be granted.

DUMBARTON COUNTY.

A MEETING of the Dumbarton County Local Medical Committee was held in Glasgow on October 16th. Dr. W. S. YOUNG presided, and ten members were present.

Proposed Changes in Drug Tariff.—A deputation from the County Pharmaceutical Committee attended, and explained the changes desired by them—chiefly alterations increasing dispensing charges—which it was estimated would bring the annual expenditure from the drug fund up to 1s. 4½d. per insured person. It was agreed to approve the proposed changes.

Certificates.—The Secretary was instructed to write to the Scottish Commissioners impressing on them that the disease was specified on certificates under protest, that their demand led to inaccuracy, and that legal opinion had indicated plainly the serious risks run by any practitioner who stated the disease in cases where illness was due to misconduct.

Sanatorium Benefit.—It was agreed to adopt the British Medical Association scale of charges if sanatorium benefit were extended to dependants by the Insurance Committee.

Medical Referees.—It was decided that whole-time salary should be at least £750, pensionable, practitioners to have at least ten years' standing; also that part-time fees be at least 10s. 6d. per case referred for report.

Automatic Reference.—It was agreed that insured persons should be automatically referred to referees after certain fixed periods of continued incapacity.

Anaesthetics.—The Secretary was instructed to inform the Insurance Committee that the Committee had resolved that a practitioner was not bound by his agreement to provide at his own expense the services of an anaesthetist for an insured person of whom he was about to make an examination, or on whom he was about to perform an operation which required a general anaesthetic.

Incomplete "Lists."—It was resolved:

That after November 30th, 1913, any person whose name does not appear on the doctors' "lists" supplied by the Insurance Committee will be treated as a private patient (unless he has been resident less than one month in the district of the doctor to whom he applies for treatment).

Undistributed Funds.—It was resolved to press for the distribution among the doctors on the panel at the end of the financial year of all sums standing to the credit of the panel fund.

New Agreements.—It was decided that if the new agreements were found to contain any important changes, practitioners should not sign till they had been considered by the Committee.

INSURANCE NOTES.

LONDON.

THE UNDISTRIBUTED FUNDS.

WE have received from Dr. Robert J. Farman, Vice-Chairman of the Lambeth Division of the British Medical Association, and Honorary Secretary of the Borough of Lambeth Insurance Practitioners' Association, a communication stating that at a meeting of the practitioners on the panel for the boroughs of Lambeth and Southwark, attended by over 120 doctors, held at Kennington, on October 15th, two resolutions were adopted, which have been sent to the London Insurance Committee, the Insurance Commissioners, Mr. Lloyd George, and Mr. Masterman, and the local member of Parliament with the following covering letter:

16th October, 1913.

Sir,—We beg to be allowed to bring to your notice a copy of the resolutions passed at a mass meeting of insurance practitioners, and to state that they are based upon two conditions under which we agreed to accept service under the Insurance Act, and which have not been carried out.

No. 1 depends on the statement in a covering letter issued by the London Insurance Committee that the whole of the fund available would be distributed among the practitioners on the panel.

No. 2 depends upon Clause 3 of the agreement signed by each insurance practitioner, which states that the persons entitled to receive medical benefit are "——, and such other persons as have been assigned to him under those provisions"; these words, in the opinion of the meeting, clearly indicating that we were led to expect allotment of all insured persons. The subject matter of the two resolutions is causing grave discontent amongst those members of the profession who have accepted service under the Act.—We are, Sir, your obedient servants,

(Signed) ROBT. J. FARMAN, PERCY D. PYWELL } for Lambeth.
A. E. READ, for Southwark.

Resolutions.

1. This meeting of National Insurance practitioners resident or working in the boroughs of Lambeth and Southwark calls upon the London Insurance Committee to forthwith pay over to such practitioners the amount of the hitherto unallotted surplus of the Medical Benefit Fund as may be due to them individually, and as agreed upon at the time the Act came into force and according to the conditions of contract under which they distinctly accepted service. Should present regulations not provide for the distribution of the accrued money, then this meeting calls upon the proper authority to make such a regulation as shall legalize the payments demanded.
2. This meeting considers the failure of the London Insurance Committee to allot those persons who have not troubled to choose their doctors on the panel to be a breach of agreement with the practitioners on the panel, and calls upon the London Insurance Committee to allot before the end of the current year all such insured persons as may not have yet selected their doctor on the panel.

MEETING OF INSURANCE COMMITTEE.

The agenda for the London Insurance Committee on October 23rd contained a report from the General Purposes Committee stating that on July 14th, 1913, the total number of insured persons in London as ascertained by a count of the index slips was 1,505,519, of whom 73,819 were deposit contributors. The report of the Sanatorium Benefit Subcommittee stated that the number of insured persons suffering from tuberculosis, who were receiving treatment on October 6th, 1913, in sanatoriums and other institutions, was 880 (men 614, women 266), The largest number in any one institution was 290 men in the Downs Sanatorium, Sutton, Surrey; the next largest number was 195 (men 49, women 146), in the Winchmore Hill Sanatorium. There were 70 patients in the Brompton Hospital for Consumption, and 40 at the Frimley Sanatorium; 24 in the City of London Hospital for Diseases of the Chest, 4 in the Royal Hospital for Diseases of the Chest, City Road, and 85 in the Mount Vernon Hospital, Hampstead. The total number of persons receiving domiciliary treatment at the same date was 998 (men 676, women 322), including 211 discharged from institutions. The number receiving dispensary treatment was 347 (men 233, women 114), including 60 discharged from institutions. In addition 72 persons were receiving hospital out-patient treatment. The Special Medical Subcommittee has elected Sir Shirley F. Murphy to be its chairman for the ensuing year, and reports that since its appointment on May 22nd it has been consulted by the Medical Service Subcommittee in 5 cases with regard to questions involving technical, scientific, or medical details of the treatment provided by a medical practitioner. The Medical Service Subcommittee presents a long report containing 14 complaints against medical practitioners—in one instance, at least, several of the complaints were made against a single practitioner; it also contains a report on one case of complaint against an insured person by a practitioner.

SCOTLAND.

MEDICAL SERVICE FOR KINLOCH RANNOCH.

IN view of the remarkable situation created in the Kinloch Rannoch district in regard to the medical service through the difficulty in securing a resident medical practitioner in succession to Dr. Norris, who left three months ago, the following letter is of interest. It was issued on October 15th to insured persons by authority of the Perthshire County Insurance Committee:

I have to inform you that Dr. Norris, Kinloch Rannoch, who accepted your application to him for medical benefit, ceased to provide medical attendance to persons on his list as at September 15th last. So far efforts to secure a resident doctor have been unsuccessful, but it is hoped a resident doctor will be secured soon.

In the meantime my Committee have made arrangements with Dr. Beatty, Pitlochry, to make a weekly visit to Kinloch Rannoch village for consultations and necessary visits in the village and district. Dr. Beatty will pay the visit on Thursdays, and may be consulted at the Dunalistair Hotel between 12 and 1 p.m. Messages to Dr. Beatty, in other than urgent cases, can be left at the hotel during the week, and will be attended to on Thursdays.

The Committee have also arranged with Dr. Beatty to attend to any urgent calls on any other day, and such should be sent if possible to reach Pitlochry before 10 a.m.

This letter sums up the position as it at present exists, but it may be added that Pitlochry is about twenty-one miles from Kinloch Rannoch, and that residents at the head of Loch Rannoch are at least thirty miles from the doctor. The position is undoubtedly grave, and while the Committee's proposal may be the best that can be arranged in the meantime, the interests of the whole community make it imperative that an adequate medical service be provided before winter sets in, otherwise great hardships will be inflicted on the whole district.

IRELAND.

INSURANCE COMMISSIONERS AND EXTRA GRANT FOR CERTIFICATION.

ABOUT two months ago the Chancellor of the Exchequer undertook to provide an extra sum of £41,000 for the purposes of certification in Ireland, on the condition that an agreement was come to for its expenditure between the Insurance Commissioners, the medical profession, and the insurance societies. The Irish Medical Committee tried to get in touch with the Insurance Commissioners on the subject, but did not meet with a cordial reception. The Irish Insurance Commissioners have appointed a Committee of Inquiry for the purpose:

(*a*) Of investigating the question of excessive claims for sickness benefit and of the safeguards to be taken to prevent insured persons from receiving sickness benefit unless they are properly entitled thereto; and (*b*) of formulating and submitting to the Commission a scheme for the distribution of the increased Exchequer grant-in-aid of £91,000 which it is proposed to ask Parliament to grant next year towards the cost of medical certificates and other expenses of the administration owing to the absence in Ireland of medical benefits under the National Insurance Act, 1911.

A circular letter has been sent by the Insurance Commissioners to all the Local Medical Committees throughout Ireland, informing them of the appointment of this Committee and its objects and asking them to formulate a scheme for the disposal of the same for certification purposes, and to make suggestions for the control of malingering. This circular was dated October 3rd, and replies were requested to be sent in by October 11th. It is quite obvious that it would be impossible for the Local Medical Committees throughout the country to hold meetings and discuss and decide such important questions

in the few days at their disposal. There is a suspicion that the Commissioners may have adopted this plan with the hope that the Medical Committees would either refuse to formulate a scheme or would suggest various conflicting ones, and that then the Commissioners could say they had consulted the medical profession, and as it was not agreed as to a scheme, it devolved on the Commissioners to formulate a scheme of their own. On the other hand, it was stated in the letter referred to that evidence would be taken at convenient centres by the Committee of Inquiry, and that any of the Local Medical Committees who decided to give evidence would be heard. The Irish Medical Committee met on October 7th and decided to advise all Local Medical Committees to act in reference to this inquiry through the central body, the Irish Medical Committee. It was decided to appoint a subcommittee to prepare evidence for subsequent use, if required. The matter came before the Belfast Medical Committee on October 10th, and it was decided to reply that the time was far too short to prepare a report on a matter requiring such careful consideration. It appears that complaints have been made by the officials of the approved societies that excessive claims are being made for sickness benefit. This may be true, but it is no less true that many people entitled to sickness benefit have not yet obtained it. Frauds and difficulties in this matter must continue until some arrangement is made for obtaining the evidence of the medical man in attendance on each particular case. The County Cork Insurance Committee has passed a resolution declaring that better results would be secured if the Commissioners were to confer with the Medical Committee, and arrive at some definite arrangement for treatment in the future. On the question of the distribution of funds out of the special grant-in-aid, the Cork Committee decided to adhere to the terms of the previous scheme submitted on behalf of the doctors, and expressed the view that any amendments to that scheme should be adopted by the general body of the panel doctors in the first instance.

OFFICIAL PUBLICATIONS.

Amendments to the National Insurance Regulations.

The Insurance Joint Committee has published some amendments to the Regulations of 1912 regarding the administration of medical benefits; they are to be read as part of those Regulations. The points covered by them are as follows:

1. The medical year is to be the period commencing January 15th, 1913, and ending January 11th, 1914, and any successive period fixed by the Commissioners for the purpose.

2. An Insurance Committee may fix as the date for revision any day not earlier than November 1st in the existing year, or not later than January 11th of the following year.

3. When an Insurance Committee desires to vary the terms of service for the coming year, it must, after consultation with the Local Medical Committee, submit a statement of the proposed alterations for the approval of the Commissioners. If approved, the alterations will take effect as from the commencement of the succeeding medical year, or from such later date as the Commissioners may determine.

4. At the desire of a practitioner, an Insurance Committee may remove his name from the medical list before the termination of his contract.

5. Number 22 and paragraph (*b*) of No. 26 of the Regulations of 1912 are to apply to insured persons obtaining treatment through an approved institution. If they change their residence they must again, if possible, be given the option of treatment either by a panel practitioner or through an approved institution.

6. The Local Medical Committee, or, if none exists, the practitioners on the panel, is to appoint three representatives on the Medical Service Subcommittee. Those on the parent committee who represent insured persons must also appoint three representatives on this Subcommittee. In each case the parent committee, with the approval of the Commissioners, may authorize the appointment of two additional persons. If one of the representatives of medical practitioners is not a woman, then at least one of the persons chosen by the representatives of insured persons on the Committee must be a woman, but such woman need not necessarily be chosen from members of the parent committee.

7. An Insurance Committee, if it thinks fit, may appoint a vice-chairman to the Medical Service Subcommittee in the same way as it chooses a chairman, but such vice-chairman must not attend meetings at which the chairman is present.

8. An Insurance Committee, with the consent of the Commissioners, may appoint two or more Medical Service Subcommittees.

9. The second paragraph of No. 43 of the Regulations of 1912 is to be interpreted as if the words

> the sum so credited to him, or an amount bearing the same proportion to that sum as the amount in the Drug Fund bears to the aggregate amounts so credited to all those persons, whichever is the less,

were substituted for the words

> an amount bearing the same proportion to the sum credited to him as the amount in the Drug Fund bears to the aggregate amounts so credited to all those persons.

10. Paragraph (3) of No. 15 and paragraph (2) of No. 48 of the Regulations of 1912 are revoked and the following substituted:

> (1) Every approved institution shall, on dates to be appointed by the Commissioners, furnish to the Committee quarterly statements on forms to be provided by the Committee of the number of insured persons entitled to obtain treatment as their medical benefit through the institution.
>
> (2) As soon as may be, after receipt of a statement, the Committee shall pay to the approved institution submitting the statement, in advance of the amount due to it, such sum as may be agreed between the Committee and the institution, or, in default of agreement, as may be determined by the Commissioners, without prejudice, however, to the power of the Committee at such other times as they may think fit to pay to the institution such other sums on account as they may determine.
>
> (3) The Board of Management or other governing authority of an approved institution shall, as soon as may be, after the end of every medical year furnish to the Committee a certificate on a form to be provided by the Commissioners, stating the amount expended by the institution during that year upon the provision of treatment (including medicines and appliances) for insured persons obtaining treatment through the institution as their medical benefit, and the Committee shall pay to the institution a sum equal to the amount certified to have been so expended or a sum equal to the aggregate amount available for the purpose of the medical benefit of the insured persons entitled to obtain treatment through the institution, whichever sum shall be the less.

Proprietary Medicines.

The Memorandum (No. 389) issued by the National Health Insurance Commission (Scotland) as to the prescription of "proprietary medicines" and preparations of a nutritious character, is as follows:

Under Section 15 (5) of the National Insurance Act, it is the duty of an Insurance Committee to make provision for the supply of proper and sufficient drugs and medicines to insured persons in accordance with regulations made by the Commissioners, which shall provide for the arrangements made being subject to the approval of the Commissioners. Such regulations have been duly made by the Commissioners, and are now current as the Medical Benefit Regulations.

The Commissioners have been consulted as to whether the class of "proprietary medicines" can properly be prescribed by insurance practitioners and dispensed by insurance chemists.

The Commissioners are advised that, for the purpose of an Insurance Committee in the administration of medical benefit, "proprietary medicines" are to be regarded as falling under two broad but mutually exclusive groups:

(*a*) "Proprietary medicines," the composition of which is not publicly disclosed but is alleged to be known only to the proprietors or manufacturers of the medicines. This group includes what are commonly known as "patent medicines" or "secret remedies."

(*b*) "Proprietary medicines," the composition of which is made public without reserve, though the preparation may be made up in a particular form, or called by a special name.

The Commissioners consider that in general it may be taken that preparations included in group (*a*) are not proper and sufficient drugs or medicines in the sense of

the National Insurance Act, and should not be prescribed for or supplied to insured persons.

The Commissioners, on the other hand, consider that preparations included under group (*b*), the composition of which is made public without reserve, should be supplied by chemists where ordered for insured persons by insurance service practitioners.

It is assumed that practitioners will not order "proprietary medicines" under group (*b*) unless they look upon them as possessing recognized advantages over pharmacopœial or other well-known non-proprietary preparations of similar composition, and that they will in prescribing bear in mind that certain drugs which have special proprietary names figure also under other titles in the British Pharmaceutical Codex.

While the Commissioners do not at this time propose to draw up a list of the "proprietary medicines," which should be classed under group (*a*) and group (*b*) respectively, they will be willing to advise Insurance Committees with respect to substances referred to them for their opinion in any case regarding which the Committee may consider that there is reasonable ground for uncertainty.

It should be noted, in conclusion, that medical benefit does not include the ordering for, or supplying to, insured persons of preparations which are not simply of the nature of drugs or medicines, but are administered wholly or in part on account of their nutritive character. Any charges for such preparations should be disallowed, whether the analysis or composition of the preparation has been made public or not.

CORRESPONDENCE.

The Past, Present, and Future.

Dr. J. Cromie (Blyth) writes: We are indebted to Dr. Buttar for his manly, straightforward letter putting the present position as he sees it, and having clear thinking written all over it.

I admire his courage, his outspokenness, and his loyalty to principle, and though I differ from him in many essentials, I have no doubt of his honesty of purpose, which I hope he will concede to me when, in obedience to the doctrine, "As iron sharpeneth iron so a man the countenances of his friend," I venture to put the case as I see it.

The inhabitants of these islands number, roughly, 40,000,000, and in spite of what the "Sage of Chelsea" said, they are fairly shrewd. They elect a House of Commons, from which a Cabinet is selected, one member of which is Chancellor of the Exchequer. He brings in a bill, to wit, the National Health Insurance Bill, and in spite of the war of parties this bill is hailed with a perfect paean of praise from all and sundry; such a paean as must have made even its sponsor blush to find himself responsible for "a great and beneficent measure."

The medical profession in these islands numbers roughly 40,000, and it was admitted that if this great and beneficent measure became law it would alter the conditions of that profession, some said adversely, others to its advantage.

The British Medical Association, roughly representing two-thirds of the medical profession, set itself to safeguard the interests of that profession.

The Chancellor, in framing his bill, found there was certain work he wanted the medical profession to do, and he asked, "Is this work being done at present? If so, how? Is it being controlled, and what is the remuneration? And the answer was, Yes, by the friendly societies, and the remuneration varies from 2s. 6d. to 4s. Was he entirely blameworthy for his first offer of 4s. 6d.?

The British Medical Association and its officials convinced the Chancellor that this offer was too little, and it was finally increased to 6s. 6d., or half way to the 8s. 6d. suggested by the representatives of the profession, but even more than the increase of remuneration they convinced the Chancellor that the profession should not be placed under the iron heel of the friendly societies, and a clause to that effect was introduced into the Act. During the passing of the measure the party politicians set to work to manufacture political capital, and though loudly affirming the principles of the bill, equally loudly affirmed that Codlin was the friend of the profession and not Short. All changes, no matter how beneficent, are invariably accompanied by hardships and loss to some, and this, coupled with the fact that a large proportion of the medical profession had no knowledge of work by contract, and were naturally afraid of it, provided an excellent opportunity for the political press, who made the most of it and fanned the flames in every way, though funnily the greatest offender was at the same time agitating in favour of curtailing the disciplinary powers of the General Medical Council, who had meted out punishment to a member acting contrary to the established rules of the profession by covering a layman practising.

"Whom the gods wish to destroy they first make mad," and this was literally true of the profession at this period. They issued edicts which no self-respecting man could obey, they howled at their leaders, they imputed motives to one who had served them faithfully and well because he became a friend at court. They blamed everybody and everything but themselves, and, crowning blunder, they advised the making of terms with the friendly societies. How fatuous! They ceased to reason, became unreasonable, and in the end turned what was a victory into a *débâcle*.

I hear someone saying, "Why rake up these ashes?" My answer is, because I am convinced that all the difficulties of the profession arise from within, and are due in great measure, if not entirely, to flaws in ourselves, and not to external influences.

What is wrong with contract practice? There are no bad debts, no book-keeping, no wasted time over ceremonial, and if the terms are too low that is the fault of the profession itself. Excessive demands for attendances are in my experience rare, and due to competition by other practitioners, apologies for trouble given being quite as frequent. Has private practice no drawbacks? I know some myself. Are not they also due to competition? Let us face facts.

I welcome reforming zeal; we need it badly; but such useful energy must not be misplaced. A new heaven and a new earth cannot be brought about in a day, but on right lines we can regain the place we have lost with the "man in the street," and freedom of choice for the non-panel men will come when Insurance Committees are convinced that the proposed freedom does not mean an attempt to obstruct.

How are we to regain the place we have lost? We must get rid of the nice old practitioner who says that Dr. B. practising in the same town is "too young to have any experience," and of Dr. B., who says the old practitioner is "an old fogey"; of the man who is called in "too late"; of the man who certifies that "M. T. will not be able to attend school again as she is menstruating"; of the man who vaccinates for nothing rather than that the public vaccinator should get into one of his houses; of the humiliating spectacles often seen in courts of law—in other words, of all those who will not play cricket.

This cannot be accomplished by multiplying societies, which will only accentuate our divisions. In my opinion it can be done by the British Medical Association. Let us provide more money by increasing our subscriptions; let us establish in all centres where it is possible places where we can rub shoulders with each other; let us cultivate the social side to each other; let the Divisions meet often, and fine deliberate absentees from such meetings; let us set up ethical committees which will be easily accessible, and have powers to deal sternly with all offenders.

I cannot further elaborate, as my space is limited, but it does not require a very vivid imagination to prolong the vista I have merely opened up. I know this is a tall order, but we have a man at the head of affairs who is quite capable of carrying such a scheme out, and it would be well worth doing, as I am sure that if our own house were only in order all other things would be added unto us. We are members of a "noble profession" which is becoming a "damnable trade," but let us remember that what is true of the individual is also true of the institution, and if we "to ourselves be true we can be false to no man."

Dr. J. E. O'Sullivan (Liverpool) writes: The article that appeared in the Journal of October 4th, coupled with the correspondence which has taken place *re* the competence of the Association to act impartially in the

interests of its non-panel and panel members, and as to the advisability or non-advisability of remaining a member, affords food for deep consideration.

As a member of many years' standing who yields to none in due recognition of the utility of the Association to its members and to the profession as a whole up to the recent *débâcle*, and who now may be dubbed a non-panel member, I am afflicted with grave doubts as to the power of the Association to be able honestly, consistently, and constructively to continue to act as guide, philosopher, and friend in a dual capacity likely to be productive of benefit to the two sections into which its members are, owing to the force of circumstances, divided.

I am one who believes that the remarks made by the Chairman of the Council at the Brighton meeting, to the effect that the *débâcle* was not due to the Association *quâ* such, but to its individual members, are in the main correct. At the same time I am strongly of opinion that those who presumably were our leaders during the struggle that we were engaged in exhibited no real leadership or generalship; their conduct was characterized by a timorous, tentative, uncertain line of action that indicated they were not organizers of victory, but were of the class ever prepared to follow, but never constructively to lead. That attitude contributed to produce a most unfortunate and disheartening effect on the rank and file, with dire consequences.

The Association is now, on the whole, composed of the individuals to whom the Chairman of Council referred. They preponderate naturally and obviously; they will have the controlling influence in formulating and directing its future policies. They are involved in work which the Association of which they are members stigmatizes as derogatory.

I have no desire unduly to harp upon an accomplished fact; but what Sir Alan Manby remarked cannot easily be forgotten: That the profession had no just conception of the loss of prestige sustained by the violation of the pledge of honour. Facts are facts, no matter how inexpedient or impolitic it may appear to be to refer to them.

The non-panel members of the Association may pertinently ask how panel members who have acted as they have are likely to support with enthusiasm any line of action calculated to enhance their interests, which interests would or may be in conflict with the interests of those on the panel.

I take it that the principal objects sought to be attained by non-panel members are (*a*) free choice of doctor, (*b*) reduction of the income limit, (*c*) increased remuneration, and (*d*) removal of irksome, derogatory conditions of service.

To take one of the objects—free choice of doctor—is it probable that the efforts to obtain such will be heartily supported by those on the panel? The majority of the latter have been coerced, cajoled, and threatened into the service that they are engaged in, and have settled themselves down smugly to make the best of matters; if one may express a humble but convinced opinion, no authority will, for many years to come, be rendered timorous by any threatened line of policy on their part, buttressed by an apparent exhibition of cohesion, unity, and solidarity.

Dr. Buttar's letter in the Supplement of October 18th is deserving of serious attention. The outstanding factor in his letter is the importance of forming a non-panel association. I am not at present concerned with the formation of a trade union, though I presume such would be on the lines of the Incorporated Law Society. With a line of demarcation imminent in the profession, I think the time scarcely ripe for such. I am not against it in theory, but is it practicable? Are there sufficient men likely to join an association on trade union lines at present, and make it possible? I do not think so. The non-panel guild, composed, I presume, of non-panel men and of some serving still on the panel, is, I think, most unworkable, calculated to lead to confusion, and a further display of want of backbone and unity.

I am with Dr. Buttar when he says that it seems useless for the British Medical Association authorities to say that it can honestly represent both points of view.

The instituting of a non-panel association, if it be skilfully organized, not necessarily opposed to the British Medical Association, animated with enthusiasm the efforts made by such body, should go far to prove that medical men are not destitute of grit and determination.

Their endeavours to secure amendments to the Insurance Act and render it possible to undertake duties under it to which the term "derogatory" could not be applied no authority could persistently resist, emanating as such would from men determined, consistent, and sincere.

I regret to be impelled to arrive at the opinion adumbrated in this communication, but fate has ordained that an *impasse* in the affairs of the Association should take place. The forming of a non-panel body is a necessary corollary to recent events. The adage of the bundle of sticks points an excellent moral, but no such simile can properly apply in this instance. The one authority could not logically or constructively exist for non-panel and panel men. An association of their own is imperatively called for by those not on the panel if they desire to further and protect their interests in the present and probably future conditions of medical practice in this country.

In conclusion, I wish to say that I favour the principle of the Insurance Act. Further, I am of opinion that to render it generally workable it is essential it should be obligatory, but to cause it to be of real public utility, beneficial to the insured and those involved in its incidence, and to enlist and encourage the wholehearted support of the medical profession, it will need substantial and constructive amendments, for on that wholeheartedness depends its failure or non-failure. To secure such amendments and help to restore the prestige of the profession will, I earnestly trust and believe, allied with others, constitute the mission of a non-panel association.

Dr. E. Rowland Fothergill (Brighton) writes: Extending over more than four columns of your issue of October 18th, we have had placed before us by Dr. Charles Buttar what may be considered to be the history of his activities in the past in London on behalf of the medical profession, his position at the present moment, and his aspirations for the future. Interesting as no doubt the reading will prove to many of his admirers, it is impossible in one communication to deal at all adequately with all the points he touches on. But, as plain speaking seems to be the order of the day, I will deal with one or two points, with your permission.

Dr. Buttar puts in a nutshell his relation to the Association in the past, and seems to be satisfied with it. As it is typical of the medico-political career of the greater majority of those who, like him, are at the present moment agitating the profession, it will be as well to repeat it: "I have never felt the need of the Association," he says; "I joined to receive the cheapest journal"; "I took no interest in its proceedings"; "I kept meetings of my Division down to a minimum," and so on.

Just so; and yet such members had no scruples a year ago, and ever since—while acknowledging their historical ignorance, their past apathy, and their studied indifference during the past twelve years to the question of the organization of the medical profession for the fight all knew must be before it—about plotting and mutineering against their officers; about assuming the control of the ship; about voicing unauthorized, in the press and on platforms, what they considered the wishes of the profession; about urging the profession first into the arms of friendly societies, and then anywhere and everywhere so long as the National Insurance Act was made unworkable; and when, finally, they find themselves perilously near the rocks, they let go the helm and cry out that the profession—for, after all, the Association is only the profession—has failed because it had not a really strong policy, and that they are off to form guilds, federations, or leagues, as the case may be, to assist (!) the Association, urging those who still believe in them to follow. Never for a moment do they dream that it is a case of *Mea culpa*.

The troubles at the present moment of the profession with regard to the Insurance Acts—masked by these members as "panel *versus* non-panel"—are entirely limited to certain storm centres. London and Edinburgh are the chief. If Dr. Buttar and his companions would make pilgrimage into the rural and urban centres of medical life they would find no such general disunion, antagonism, and bitter feeling between these two classes of doctors as they imagine exists. The troubles of the profession at the present moment consequent on the harsh-

ness and want of sympathy of Insurance Committees and the Commissioners are, in the majority of cases, the very natural result of the failure in tactics and diplomacy of these recently arisen leaders. The profession should realize this, and not blame the Medical Department of the Association or the present or past members of the Insurance Act Committee.

Dr. Buttar desires to relegate the Association once more to the position of a purely scientific body; to remove from it all medico-political activities; to form a trade union entirely independent of the Association. Without discussing now how it is proposed by means of a trade union to make medical men act honourably to each other, it would seem fair to ask that if these are Dr. Buttar's aims, should he not see that every one of his constituents has this policy placed clearly before him, and then resign his seat on the Council, offering himself for re-election on this policy?

And now for Dr. Buttar's policy for the profession for the future. When one thinks of medical officers of health and of schools, of the tuberculosis service, of the Poor Law service (only to name a few), and then reads that this policy includes "the removal of all control of medical practice from lay bodies," and "contract practice to be kept within the narrowest possible limits and to be eventually abolished," one can only marvel at the optimistic spirit that allows of the adoption of such a destructive and reactionary creed. The problem just now before the profession is to deal with things as they are and not as they might possibly exist in Utopia.

May I, in conclusion, venture to say a word to those who are just now resigning or thinking of resigning the Association, especially to those in Wandsworth, on whose behalf I put in nine hard and strenuous years of disinterested official work, for which I feel sure they will give me credit. I would urge them to hold their hand for a year. Give us time to see how far we differ, and whether it is possible to unite on one common constructive policy. If we fail then, let them by all means go. We are only here for a day; medical science must advance in spite of all checks. Do not let one of the passing troubles of our own time blind us to these facts. No doubt a lot of scrap-heaping has to be done. The policy of autocratic centralization of the Medical Department of the Association was a vital necessity at its inception in 1902 and for years after; but it lasted too long, and in consequence failed the profession when the pinch came. We require reorganization with decentralization—development of localized organizations with responsibility. This can be had if we are determined to have it and will pay for it; for, after all, we are the Association. So I would urge the withdrawal temporarily of those resignations, and avoiding mushroom outside leagues and guilds; the consideration of the problems to be placed before the Special Representative Meeting in December; giving definite instructions to your Representatives; a willingness to trust those appointed to act for us, although for the moment their acts may seem questionable; the firing-out of office of all mutineers and sedition-mongers whenever they appear; a steady loyal adhesion to a policy when once adopted. The medical profession suffers peculiarly, through its individualism, from the faults inherent in a Britisher; but, if united, we will muddle through and once again come out on top.

Dr. G. PERCY JOY (London, N.W.) writes: There are in the medical profession those who are willing to practise medicine as a trade, and those who are unwilling. The ethical code, standards, and ideals of the one class differ fundamentally from, and are, I believe, incompatible with those of the other.

Holding these views I feel compelled—whatever degree of presumption I may be charged with for so doing—to urge that it is time (1) to admit and face the fact of the existence of the two classes; (2) to form an association of the medical profession whose members shall agree to abstain from undercutting and to conform to professional standards; and (3) to let the public decide whether they are willing to pay a fair price for professional services honestly rendered, or whether they are content to pay a trade price and receive the best they can get at the price.

I, personally, believe that no man who understood the facts would wish his own wife or child to be treated by a doctor who was avowedly "out to make money," and whose ethics were admittedly purely commercial.

If a man is not fit to be trusted to act honourably, to his own detriment if need be, he is not fit to be a member of the finest profession in the world, and if he is fit to be so trusted he is worthy of his hire, and that at other than cut-throat prices.

CRITICISMS OF THE ASSOCIATION.

Dr. GEORGE PARKER (Rock Ferry) writes: Many of us have never once swerved from the spirit or letter of the resolutions adopted by the Association, even though threatened with ruin, for we considered financial ruin preferable to ruined principles. Subsequent events have fortunately demonstrated that, as far as I personally am concerned, this attitude was a sane one, as regards both finance and honourable conduct.

There remaining but little in common as between panelites and non-panelites, and the majority now being in the former category, I must not complain if the Association is dominated by it, for the executive will be the mouthpiece of that majority, as it should be.

This being so, I consider there is propriety in severing my connexion with the British Medical Association and joining some society, if extant, which can the better promote the interests of those, like myself, who prefer freedom to State or any other control, principle to pelf, and the preservation of the best traditions of the medical profession to the degradation the Insurance Act has already imposed, and will continue to impose, on those who have been short-sighted enough to succumb to its snares.

The Association has no need for anxiety concerning those who have remained staunch, whether present or past members, for their previous conduct, in view of recent events, is a sufficient guarantee for their future deportment in a crisis threatening the best interests of the profession.

Dr. THEOBALD A. PALM (Aylesford, Kent) writes: A paragraph in the JOURNAL of October 11th announces that a congress of the medical profession in Belgium recently passed a resolution "vehemently repudiating the notion of the socialization of medicine in the name of the independence of the medical body, of the interests of science, and of the public interest." In so doing they have, it seems to me, set an example to our Association which deserves serious consideration. The profession in this country has been hurried into an acceptance of the Insurance Act without reflecting that they have taken the first step towards "the socialization of medicine." The next step, of which we are forewarned but against which we are not forearmed, is the extension of the provisions of the Act to the dependants of insured persons. This once established, the inevitable consequence will be the inclusion of the class above them, until ultimately the bulk of the population will be similarly treated under such regulations as a despotic body of Commissioners may see fit to impose upon a once free and honourable profession. By accepting the Insurance Act and endeavouring to make its terms a little more tolerable our Association has helped to fix the first fetters upon those members of the profession who, whether willingly or unwillingly, have gone on the panel. Those who have done so willingly have, perhaps without realizing the nature of the transaction, sold the birthright of their freedom for a miserable mess of pottage. Those who have done so unwillingly, under the pressure of circumstances, are smarting under a sense of humiliation with more or less of resentment. Is it too late to retrace our steps and to reverse our policy? Otherwise the only prospect before us is the socialization of medicine in England.

Granting your contention that the attitude of the Association is not exclusively "pro-panel," it seems to me incontrovertible that the Association is responsible for the fact that so many men have gone on the panel as to make the Act workable. It has in effect, if not in intention, served the Government rather than the profession. But for the action of the Association through its office-bearers the Act would have collapsed. Its efforts for the good of the profession were just so far successful that men were induced or compelled to serve under the Act. By so doing they have initiated a revolution in the status of the profession which will end in the loss of the independence

and dignity, and in the impairment of the efficiency of the profession.

Hitherto we have had to maintain our position in spite of the friendly societies; henceforth, we have to contend against them fortified by the alliance and support of the Government. The result is that we are being compelled to serve under a system which combines the evils of club practice and of the Poor Law service. It seems now to be conceded that from neither party in the State can the medical profession expect that the balances will be fairly held between them and the friendly societies, comprising, as they do, so powerful a body of voters. Those who at first were in favour of the Insurance Act were apparently under the fond hope that Government would act as a buffer between friendly societies and the profession; but if that is proved to be an unfounded confidence, the principle which has been maintained, that friendly societies must not be allowed a free hand to make their own terms for medical services, falls to the ground. Obviously the Association is better able to cope with friendly societies and blacklegs unsupported by Government than with these parties backed up by Insurance Committees and Commissioners.

My conclusion is that unless the Association is prepared to advocate and to organize a combined refusal to work the Insurance Act, it can hold out no prospect of successful effort on behalf of the profession.

Dr. James Hamilton (Chelsea) writes: Dr. Vallance, of Lewes, is entitled to hold his opinions about contract practice, but he is not justified in using the columns of our Journal to charge those who prefer the old mode of remuneration with dishonesty through over-visiting and lack of effort to hasten the recovery of their patients for the sake of extra fees to be earned by prolonging the illness. It might be left to the foul-lipped and foul-penned detractors of our profession who do not belong to it to make these unfounded charges. I protest against this use of the Journal.

The Unallotted Funds.

Mr. E. B. Turner (London) writes: In the Supplement for last week (p. 324) appears a letter from Dr. Mills covering one to himself from Dr. Taylor, which is evidently intended to prove that I was quite wrong in what I stated at the last meeting of the London Insurance Committee as to the difference between the arrangements for the treatment of insured persons in London and Manchester and Salford, and the effect that difference has on the distribution of the panel fund for medical attendance. Dr. Taylor's letter so amply supplements my arguments that I need hardly reply to it, but to prevent any misunderstanding I must ask you to allow me space to dot my "i's" and cross my "t's." Dr. Mills argued at the London Insurance Committee that in Manchester and Salford the whole of the money payable for medical attendance on insured persons had been distributed among the doctors, and that, therefore, the funds in London accruing from those persons (500,000 in number) who have not as yet selected their medical attendant should be divided at once among the practitioners on the panel. In my speech I pointed out to Dr. Mills that the conditions in the two areas were absolutely different, and that in Manchester and Salford there was no panel system as in London. In saying this I was raising no quibble as to the meaning of a "panel," a "list," or anything of the sort, but simply meant that in London, under the capitation system of payment, each panel doctor has his own list of patients and under the Act he contracts to attend them, but no one else, until he or she be on his list. His liability for treatment is thus limited to a certain section of insured persons, and does not extend to the whole number. In Manchester and Salford the Medical Committee has contracted to provide adequate treatment for the whole of the insured persons in the area, and each of the doctors on the "list" has undertaken to treat any one of them who may apply to him. There is no limitation of liability. Each and every practitioner giving service under the Act is liable to attend any insured person within the district at any time. Therefore the whole of the panel fund for attendance has been rightly distributed to the doctors who have provided treatment, if and when required, for the whole number of the insured. In London that proportion of the funds due for the liability incurred has been paid; the remainder will be divided so soon as the Commissioners issue new regulations allowing hypothetical allocation of patients by numbers, an actual allotment being a physical impossibility in London. There being no panel lists of patients in the Manchester district, any person can consult any doctor on the list and change his medical attendant every day if he so chooses. The other day I spoke from my memory of the Manchester scheme as submitted last January by Dr. Helm to the State Sickness Insurance Committee for approval. At that time it was contemplated that the whole of the money should be paid by the Insurance Committee to the Medical Committee for distribution among the doctors concerned. It was found, however, that this would entail an enormous amount of clerical labour on the Secretary of the Medical Committee, and so it was arranged that the Insurance Committee should itself pay out the money on the vouchers of the Medical Committee. I was in error when I said the original plan was in force. I did not know of the alteration, but this is simply a distinction without a difference, and in no way vitiates my argument that the whole of the premium money was paid over in Manchester because the whole of the insurance liability was undertaken, and that Dr. Mills was quite wrong in arguing that the whole premium should be now paid in London, where at present only a partial liability has been incurred.

Approved Societies and Medical Certificates.

Dr. C. E. Morris (Secretary to the Flintshire Local Medical Committee, Bodowen, Holywell) writes: A certificate was issued by a doctor the other day, on the new form, to a young woman, stating the nature of the complaint as "dysmenorrhoea." The agent of her approved society has now received from his head office the following letter which the patient was told to show to her doctor:

> I am directed by the Committee of Management to return the documents herein, and to say that no benefit is payable on cause of incapacity certified as "Dysmenorrhoea." Any special features relative to member's complaint will be considered.

The Revised Form of Medical Certificate.

Dr. T. Cuming Askin (Woodbridge, Suffolk) writes: I am glad that Dr. Hardwicke has drawn attention to the very objectionable wording of the revised form of medical certificates. I unhesitatingly say that it will be impossible to carry on a country practice unless we are allowed, occasionally at least, to delete the words "I have to-day examined," more especially in connexion with the "continuing certificates." I may say that only to-day I have been obliged to erase the words in question in order to enable a man of about 65 with chronic heart trouble to receive payment.

The present form of certificate as used by the Prudential Company is infinitely preferable to that suggested by the Commissioners. It is:

> I certify that the above-named member is still incapable of work owing to ————.

So also is that used by the Rational Association:

> I hereby certify that ———— is in my opinion still incapable of work.

We ought to insist upon the universal adoption of a similar certificate.

Temporary Residents.

Dr. Henry Thomas Barton (Secretary, Blackpool Medical Committee and Representative of Blackpool Division) writes: I have read Dr. Lewis's letter in the Supplement of October 11th, and think with him that we should have the question settled as to whether we are compelled under present agreement to attend temporary residents in the conditions laid down in Memorandum 159/I.C. and following circulars.

On August 18th last I made a proposal to a representative of the Commissioners with a view to bringing on a test case in the matter. Mr. Vivian, the representative, appeared to take my proposal as a threat, and on August 23rd the Commissioners telephoned to the Chairman of our Medical Benefits Subcommittee that two "whole-timers" would be sent to the town in the event of the

"panel" continuing recalcitrant. At the same time it was announced that three men in the area were prepared to accept the green vouchers. Taking these facts into consideration, the members of the panel by a small majority decided to give way.

In arguing the matter before Mr. Vivian on August 18th I laid stress on the fact that the policy of the British Medical Association was one of non-acceptance of the terms laid down by the Commissioners for the treatment of temporary residents, whereupon the clerk of our Insurance Committee read out a list of health resorts in which the terms had been accepted; and as the Bath area, in which Mr. Verrall, Chairman of the Representative Meetings, resides, headed the list, it was pointed out that the policy of the Association was not going very strong. This rather bears out the contention of Dr. W. E. Barton, who in his speech to the Wandsworth Division on September 23rd states that the Association is of no use to panel men, and cites the Blackpool affair in corroboration.

If Dr. Lewis chooses to make a stand as he suggests, he should have the support of the practitioners in the industrial centres, and also of the Association whose policy he would be carrying out.

Friendly Society Control of Medical Benefit.

Dr. S. F. Keenan (Upper Clapton, N.E.), in a letter continuing this correspondence, which we judge has ceased to be profitable, writes as follows: From Dr. Harry Grey's reply to one of my questions, it seems that so long as Dr. Blank remains one out of thirty or forty thousand he retains his "right to air his views in the press," but when he becomes a member of a body consisting of 180 or 200 he immediately loses that right. This is a truly remarkable piece of information, and I trust Dr. Grey will understand how much I am indebted to him for placing me in possession of it. The answers to my other questions he seems to prefer to leave to my own imagination, and perhaps, judging by the above specimen, that may be the wisest course for him to pursue.

Meetings of Branches and Divisions.

DORSET AND WEST HANTS BRANCH.

The autumn meeting was held at Weymouth on October 15th, at 3.30 p.m. The President (Dr. H. G. Lys) was in the chair, and forty-three members signed the attendance register.

Election of Officers.—The following officers were elected for 1914–15:

President.—Mr. H. H. DuBoulay (Weymouth).
Vice-Presidents.—Mr. C. Edwards and Dr. Eleanor C. Bond.
Honorary Secretary and Treasurer.—Dr. F. Fowler.

Chronic Constipation.—Mr. F. Belben (Vice-President) opened a discussion on chronic constipation from a surgical point of view, which was continued by Mr. Vernon, Dr. Midelton, Dr. Fowler, Dr. Macpherson Lawrie, Dr. H. Flower, Mr. DuBoulay, and Mr. Burrough Cosens. The President thanked Mr. Belben for his interesting paper, and the latter replied.

Right Lung with Four Lobes.—Dr. Macdonald showed an anatomical curiosity—a right lung with four distinct lobes.

Vote of Thanks.—On the motion of the President, seconded by the Vice-President, a hearty vote of thanks was accorded to the Weymouth members, who provided luncheon and tea for the members of the Branch.

GLASGOW AND WEST OF SCOTLAND BRANCH:

Dumbartonshire and Argyllshire Division.

A meeting of the Division was held in Dumbarton on October 14th, when fifteen members were present.

Medical Attendance on Uninsured Members of Friendly Societies.—Drs. C. L. Kerr, J. Cook, R. Allan, E. H. Cramb, and the Secretary were appointed to represent the Division at a conference with representatives of the Dumbartonshire friendly societies. The representatives were instructed to state the position taken up by the Division and to ascertain the views of the societies, and were given instructions as to the principal conditions which must be embodied in any scheme for the treatment of uninsured members of friendly societies. They will report to a subsequent meeting of the Division.

Formation of New Divisions.—Unanimous approval was given to the proposal to form separate Divisions for Argyllshire and Dumbartonshire (each to include the whole of the county named), and the Secretary was instructed to proceed with the necessary negotiations.

Certificates.—Contradictory legal opinions having been expressed to the liability of practitioners (in Scotland) to have damages awarded against them at the instance of insured persons for "stating the disease" in certain cases, it was decided to warn members of the Division that it was risky to insert on a certificate the name of any disease which might reflect on the character of the patient. It was agreed that certificates naming the disease were being given under protest, and that in the interests of members in Scotland the matter required continued attention at British Medical Association head quarters (see letter in Supplement, British Medical Journal, October 18th, p. 318).

Medical Referees.—It was resolved:

That whole-time referees should have at least £750 per annum, pensionable, and be of at least ten years' standing; also that part-time referees should not accept less than 10s. 6d. for each case submitted to them.

SOUTH-EASTERN OF IRELAND BRANCH.

An ordinary meeting of this Branch was held in Waterford on September 3rd, when Dr. G. Mackesy occupied the chair, and six other members were present.

Poor Law Medical Officers.—On the motion of Dr. Laffan, seconded by Dr. Morris, it was unanimously resolved:

That we hereby call on both British and Irish Medical Associations to take immediate steps to protect, as far as they can do so at this late period, the interests of the Poor Law medical officers, clerks of unions, and other Poor Law officers under the new Parliament.

That we warmly protest against the injustice perpetrated on these officers, who have been singled out in the Home Rule Bill for different treatment to that extended to every other officeholder in Ireland.

That as there is nothing now for it but to introduce a separate bill in the next session for the protection of the most hard-worked and under-paid officers in Ireland, we call on both these Associations to put forth all their influence to have such a bill introduced and so make up, as far as may be, for their unaccountable omission up to the present.

Chemists and Dentistry.—On the motion of Dr. Laffan, seconded by Dr. Quirke, the following resolution was adopted *nemine contradicente*:

That it having been brought under the notice of the meeting that the functions of a qualified dentist are being discharged by local registered pharmaceutical chemists, we desire to express our dissatisfaction with such conduct, and request these gentlemen not to do so in future, and that they confine themselves to their legitimate business for the future, as otherwise they will forfeit the confidence of the entire local profession.

Vote of Congratulation.—On the motion of Dr. Laffan, seconded by Dr. Mackesy, a resolution was adopted congratulating Drs. Morris and Coghlan on the successful result of a case exhibited to the meeting in which the former had operated with the assistance of the latter, and expressing the opinion that it is undesirable to send specialist cases to Dublin when they can be treated as advantageously in Waterford.

The meeting then adjourned, and the members dined together.

An ordinary meeting of the Branch was held in Kilkenny on October 1st. Dr. O'Gorman occupied the chair, and eight other members were present.

Vote of Condolence.—Dr. Walsh proposed, and Dr. Jellett seconded, the following vote of condolence, which was passed in silence, and copies were directed to be sent to Mrs. Hackett:

That we, the members of the South-Eastern (Ireland) Branch of the British Medical Association, desire to convey to the relatives of the late Dr. Hackett (Kilkenny) our deep sympathy with them in the loss they have sustained by his removal.

After the ordinary business was transacted the meeting adjourned, and the members dined together.

British Medical Association.

SCIENCE COMMITTEE.

The Science Committee presented to the Council on July 21st particulars of the report of the work done by research scholars and recipients of scientific grants during the year.

(A) REPORTS OF SCHOLARS.

TUBERCULOSIS.

Dr. Alexander Philip Mitchell, Ernest Hart Memorial Scholar, reported that he had continued his investigation into the relative frequency of the bovine and human types of tubercle bacilli appearing in certain forms of human tuberculosis. He presented a brief statement of his results, but in view of their important relationship to public health he is preparing a detailed account, which will shortly be published.

STROPHANTHIN.

The report of Dr. A. J. Clark, Research Scholar, upon the action of strophanthin upon the cardiac tissue was published in full in the British Medical Journal of October 11th, p. 897.

ETIOLOGY OF RHEUMATOID ARTHRITIS.

Dr. Emily H. Morris, Research Scholar, reported that the inquiry she had undertaken into the etiology of certain forms of so-called rheumatoid arthritis with a view to their rational treatment was in progress, but that the research was not yet finished, and the report was, therefore, not ready for publication.

(B) REPORTS OF GRANTEES.

WILLIAMINA ABEL, M.D.Aberd.

INNERVATION OF THE OESOPHAGUS.

An investigation was undertaken to ascertain the effect of section of one or both vagi on the functions of the oesophagus. The oesophagus, like the rest of the alimentary canal, is provided with, at least in its lower part, a local nerve mechanism, in the form of a nerve plexus, lying between and upon the muscle layers. It seemed of importance to ascertain whether this mechanism could take up the direction and regulation of the movements of the oesophageal musculature when the vagal control was removed, in the same way as the local nerve mechanism in the lower parts of the gut. Further, Langley has demonstrated that, in certain mammals at least, the vagus contained two sets of nerve fibres which supplied the oesophagus—an augmentory set and an inhibitory. The augmentory fibres supply the whole extent of the oesophagus except the cardia, which is supplied by the inhibitory, whose function is evidently correlated with the relaxation of the cardia necessary for the passage of food to the stomach. It was, therefore, interesting to ascertain whether, after both augmentory and inhibitory fibres were cut, any retardation occurred in the passage of food through the cardia.

For the purposes of this investigation cats were used, and the operations carried out in the manner described by Cannon. The right vagus was cut below the recurrent laryngeal nerve, the left above. One recurrent laryngeal nerve is sufficient to keep the larynx in a sufficiently sensitive condition. The operations were done in two sittings with varying intervals between. After the animals had recovered from the shock of the operation they were fed with a mixture of bismuth and milk or meat rolled in bismuth, and *x*-ray photographs taken of the oesophagus. A normal cat was used as a control.

As a result, the following conclusions were arrived at:

1. After section of one vagus the oesophagus dilates to an abnormal extent when the animal drinks. There is a diminution in the frequency of the peristaltic waves, but there is no actual block in the passages of the fluid. Solids distend the tube, and are slowly passed onwards to the cardia. After forty-eight to seventy-two hours these appearances disappear, and the oesophagus appears absolutely normal.

2. Where both vagi are cut the oesophagus is much distended when the animal is fed with the bismuth-milk mixture before the fluid passes into the stomach. There seems to be an almost complete atony of the oesophageal wall at least twenty-four hours after the operation. At the same time the fluid does pass through the stomach, but slowly, as if pressed through the cardiac opening by its own weight.

3. Where a week elapses between the section of the second vagus and the taking of the photograph the oesophagus is seen to be in a much more active condition. Peristaltic waves are seen in the lower half, while the fluid is passed at an almost normal rate into the stomach.

4. From these facts it seems evident that the local nerve mechanism in the lower half of the oesophagus is capable of taking up and regulating the movements of the oesophageal musculature.

5. Section of both vagi is not followed by any contracture at the cardia, which might conceivably follow the loss of the inhibitory fibres of the vagus.

A. E. BOYCOTT, M.D.Oxon.

EXCHANGE OF WATER IN EXPERIMENTAL NEPHRITIS.

Experiments have been made on normal rabbits and on animals in which the cells of the convoluted tubules of the kidney have been destroyed by appropriate doses of uranium nitrate. Working with salt solutions of various strengths, and also with gelatine solutions, it has been found that liquid injected into the blood vessels passes into the tissue spaces less readily in nephritic than in normal animals. Evidence has also been obtained that the capillaries are less permeable in the reverse direction.

R. A. CHISOLM, M.B.Oxon., M.R.C.P.

ANAEMIA IN RATS BEARING TRANSPLANTED SARCOMATA.

The grantee has shown elsewhere that the presence of a transplanted sarcoma in the rat produces an anaemia which may be of a severe type. Attempts to reproduce this anaemia in normal rats by injecting sterile extract of tumour tissue, both necrotic and healthy, in 0.8 saline have been unsuccessful. In the hope of throwing light on the mechanism of the anaemia, and of finding out whether it is due to deficient haemoglobin formation or to excessive destruction of haemoglobin, he has estimated the total amount of iron in the liver, spleen, and kidneys, and also in the whole bodies of normal and sarcoma-bearing rats. The result emerges that on the whole, though exceptions occur, rats with tumours have less iron both in their organs and in their whole bodies than normal rats.

THE EFFECT OF SALINE INJECTIONS ON THE WATER CONTENT OF THE TISSUES OF RATS WITH EXPERIMENTAL NEPHRITIS.

It has been noted by many observers that animals suffering from nephritis produced by the injection of uranium nitrate can be made oedematous by the injection of large quantities of saline, but that this does not hold good for animals whose nephritis is due to the injection of chromates. It has been generally held that this difference is due to the fact that uranium salts produce a vascular change while chromates do not. In the hope of throwing some further light on this point, intraperitoneal injections of Ringer's solution have been given to normal rats and to rats suffering from uranium bichromate and chromate nephritis, and have then estimated the amount of water in the liver, spleen, kidneys, heart, lungs, intestinal walls, and the rest of the body. Normal rats can receive as much as one and a quarter times their estimated blood volume of Ringer's solution intraperitoneally on four successive days without

showing any excess of water in their tissues and organs as compared with normal untreated rats. If more than that quantity is given the tissues tend to become waterlogged. Rats with uranium, potassium bichromate, or potassium chromate nephritis treated in a similar way show excess of water in the kidneys, lungs and tissues of the rest of the body, but not in the liver, spleen, heart, or intestinal wall. This effect is most marked in the bichromate rats, less in the uranium rats, and least of all in the chromate rats. Oedema was never visible externally as the result of the injections, but certain of the uranium rats when killed have their pleural cavities full of fluid, as well as the peritoneum, and also oedema of the retroperitoneal tissues.

PROFESSOR A. R. CUSHNY, M.D., F.R.S.

ACTION OF DRUGS ON RESPIRATION.

THE effects of morphine, chloral, urethane, caffeine, and strychnine were examined, on rabbits, by means of a new apparatus which registered the depth and rate of respiration. At intervals carbonic acid (5 per cent.) was given by inhalation to find how the susceptibility of the centre was affected, and in other experiments the reaction to stimulation of the afferent nerves was examined. Morphine slowed the respiration without materially altering its depth except indirectly; chloral and urethane changed the rate only in very large doses, and acted very little on the depth directly. Caffeine and strychnine accelerated the breathing and generally rendered it shallower in small doses. These drugs thus alter the rate for the most part, the depth of the breathing changing to a smaller degree. In the same way the reaction to CO_2 is altered in rate by drugs much more than in depth. The reflexes on the respiration are changed only to a small extent by moderate quantities of these drugs. The full paper appears in the *Journal of Pharmacology and Experimental Therapeutics*.

H. MORRISTON DAVIES, M.D., F.R.C.S.

DETERMINATION OF RELATIONSHIP OF CHEST DEFORMITIES AND APICAL PULMONARY TUBERCULOSIS.

THE work under this heading can be divided into three sections:

(*a*) Investigation of pathological specimens obtained from the *post-mortem* room.
(*b*) Experiments on animals.
(*c*) Radiological examination of patients.

(*a*) A paper on this subject is to be published in the first number of the *British Journal of Surgery*, and contains acknowledgement of indebtedness to the British Medical Association. It deals with the comparative investigation of 402 first costal cartilages and lungs from the human subject, and of a small number from monkeys.

(*b*) The work in this section has been attended with great difficulties. On the one hand, there has been considerable trouble experienced in obtaining a satisfactory strain of human tubercle bacillus, samples guaranteed as pure proving, after experimental work had been carried out, to be either contaminated or to be bovine.

The second difficulty has been very heavy mortality among the animals (kittens) owing to a series of outbreaks of distemper. So few animals have survived both the primary operation and the secondary inoculation that the net result was practically *nil*.

(*c*) Screen and radiogram examinations have been made on a large number of patients suffering from tuberculosis, and a knowledge obtained therefrom has been very considerable, but cannot be detailed here.

EFFECTS OF ALTERATIONS IN SUPPLY OF BLOOD TO THE LUNGS ON PHTHISIS.

This work has again been done on animals, chiefly rabbits. The difficulties already mentioned with regard to obtaining a satisfactory strain of bacillus, and the further difficulties of finding a suitable dosage have rendered these experiments so far incomplete.

MARTIN FLACK, M.B., B.CH.

PROBLEMS OF VENTILATION.

AN endeavour has been made to ascertain evidence of the presence of an organic poison in the expired air.

(*a*) By repeating the bell-jar experiments of d'Arsonval and other workers.
(*b*) By means of the "anaphylactic test."

1. Rats and guinea-pigs have been kept together in specially constructed boxes for several weeks. The guinea-pigs have then been injected with 0.2 to 0.3 c.cm. of rat's serum. In no case has there been any evidence of anaphylactic phenomena. The same guinea-pigs, however, injected with another dose of serum a month later have all shown symptoms of anaphylaxis, generally resulting in death.

2. Guinea-pigs have been injected intraperitoneally with the "water" (condensation water) collected upon a glass plate placed over a large number of rats. Injection of the animals with rat's serum at the end of a month has produced no anaphylactic effects. Injection with rat's serum at the end of another month has produced marked effects. Similar experiments with dogs injected with guinea-pig's condensation water have given negative results.

Animals have been kept in closed confined atmospheres at the bottom of special boxes and the effects studied of the percentage of CO_2, moisture, light, etc., upon their body weight.

Some of these experiments will be published in the forthcoming number of Smithsonian Reports of Washington (about 90 pages now in press). The latest experiments are now being collected together for publication in England.

RELATIONSHIP BETWEEN CAPILLARY PRESSURE IN THE EYEBALL AND SECRETION OF AQUEOUS HUMOUR.

The relationship between the capillary pressure in the eyeball and the secretion of the aqueous humour has been studied by means of a specially devised needle. The circulatory conditions in the eyeball have been altered by various means. The conclusion arrived at is that the aqueous is a true secretion and that the physical laws which have been found to hold good for the brain also hold good for the eyeball. The results have been partly published in the *Proceedings* of the Royal Society. Their publication led to a debate on the subject at the Royal Society of Medicine, a report of which is published in the *Proceedings* of the Royal Society of Medicine.

[These researches were made in conjunction with Dr. Leonard Hill.]

E. W. HEY GROVES, M.S., F.R.C.S.

THE OPERATIVE TREATMENT OF FRACTURES.

TWENTY fresh experiments on cats have been performed since June, 1912. Most of these were comminuted fractures. A new apparatus was devised by which union of comminuted fractures could take place without fixation of the joint and without ultimate shortening of the bone.

Comparison was made between cases where

1. Fragments and periosteum were left *in situ*.
2. Fragments were removed, periosteum left.
3. Periosteum was excluded but the fragments were left.

It was shown that Series 1 gives the best result. In Series 2 union is only fibrous. In Series 3 union occurs, but is rather slow and meagre owing to the want of periosteal vascular supply.

The whole of 73 specimens have been examined and described, and drawings made of 40 of these. This, which has been the chief work during the year, serves to show in detail how the process of bone repair is affected by various operative procedures. The majority of these specimens have been presented to the Royal College of Surgeons.

That portion of the work which deals practically with the treatment of compound and comminuted fractures was read in the Surgical Section of the British Medical Association, and is published at page 1079 this week.

The part of the work which deals with the process of repair as influenced by operative fixation is now ready for publication in the *British Journal of Surgery*.

J. COOLE KNEALE, M.B., Ch.B.Birmingham.

THE PHARMACOLOGY OF DIGITALIS.

The grant has been used in connexion with work on digitalis. The grantee is only at the beginning of the actual investigations. Last year seeds were set, and this year the biennial leaves were gathered.

Shortly, this is what has been done so far:

A.—Cultivated plants grown in the open—

1. Plants have been grown and leaves collected.

2. Of these leaves an amount has been dried and the relationship of dried to fresh leaf found.

3. A tincture has been prepared of (*a*) the dried leaf, (*b*) the fresh leaf, using only leaf lamina and as much of the petiole as is represented by the midrib of the leaf.

From investigation of the above it is hoped to find whether the wide differences met with in digitalis preparations is due to the drying; or if a fresh-leaf tincture is a better preparation than that made with the dried leaf.

B.—Cultivated plants grown in the shade—

Similar preparations have been made from this class, and it is desired to find if shade has any influence on the glucosoidal content of the leaf.

C.—Wild plants grown in shade.

D.—Wild plants grown in open.

C and D have been prepared for purposes of comparison. At present it is intended to have the glucosides estimated by a chemist in addition to physiological standardization.

THOMAS LEWIS, M.B., D.Sc.

THE PACEMAKER OF THE HEART.

Although a long time was spent at this subject, it did not prove very successful; the experiments were upon crushing the pacemaker, examining the action of the heart before and afterwards, and subsequently cutting sections of the auricle to find exactly where the crush had been made.

The line of crush was uncertain, and it was very difficult to identify the exact position of the crush subsequently in relation to the pacemaker.

Dr. Lewis does not propose to publish his results, but referred to them briefly in a paper before the International Congress this summer.

He has since been working at the records of heart sounds. A preliminary communication appeared in the British Medical Journal, December 21st, 1912, and there are two papers in the press. The chief results of this work have been a thorough investigation of the acoustic signs in mitral stenosis and accurate timing of the events.

A few special observations have also been made on auricular fibrillation.

A. LOUISE McILROY, M.D.

THE FUNCTION OF THE INTERSTITIAL CELLS OF THE OVARY.

A large number of ovaries obtained from rabbits has been investigated histologically at different periods of reproductive life and during pregnancy. Arrangements have been made for investigating the action of *x* rays upon the ovary, especially the interstitial cells. Comparisons are at present being made between ovaries of mammals of different species and those of birds.

The research is still in progress, and conclusions cannot as yet be formulated until more work upon *x* rays has been done and more mammalian types examined.

J. C. MIDDLETON, M.B., Ch.B., B.Sc.Glas.

ACTION OF MORPHINE ON THE BRAIN.

As the action of morphine on the brain, apart from its general action after absorption, had apparently not been definitely determined, this subject was investigated.

Rabbits were employed. Under ether anaesthesia a disc of bone was removed and the brain exposed. The wound was closed, and in some cases allowed to heal.

A solution of morphine acetate was prepared of such a strength that 0.1 c.cm. = 0.001 gram of morphine acetate. This solution was made neutral to litmus.

A series of rabbits were then injected, the injection being made directly into the substance of the brain. A series of control injections were made with distilled water and sterilized tap water.

The general results found were that morphine acetate in doses of 0.001 gram to 0.002 gram when injected into the brain had a distinct action, causing generalized convulsions consisting of a tonic stage followed by a much longer clonic stage and then a period free from convulsions; further, that such of the animals as did not die within two hours of receiving the injection completely recovered, and lived for weeks after in good health.

Professor BENJAMIN MOORE, D.Sc., F.R.S.

LEAD POISONING AND TOXICITY OF HEAVY METALS.

1. It has been shown that no poisonous emanations containing lead or other noxious organic compound in sufficient amount to cause injury arise from surfaces freshly painted with lead paints containing either basic carbonate or basic sulphate of lead.

Lead must reach the system by other methods than volatile emanations in order to produce poisonous effects, and any deleterious organic bodies which may be given off from reaction between the lead oxide and the oils of turpentine are ineffectual in showing results in animals brought much more closely in proximity to them than a painter would be under ordinary conditions of work.

2. The toxicity of several heavy metals given subcutaneously in small doses has been determined, as well as the lesions caused and channels of excretion.

3. It has been shown that the effects of doses of heavy metals is proportional to intestinal area and not to body weight. The cause of this has been considered, and its relationship to the therapeutics of treatment by arsenic in certain diseases.

4. A statement of expenditure is enclosed.

5. The full paper has been received, and a copy has also been sent to the Editor of the British Medical Journal for publication.

DAVID ORR, M.D.

INFECTION OF THE CEREBRO-SPINAL AXIS.

During the last year the work on experimental toxic infection of the cerebro-spinal axis has been continued, and in addition a number of clinical cases have been investigated in which the spinal cord and brain of the human subject became infected from peripheral septic foci. The investigation has been extended to the sympathetic nervous system, and experimental work is now being conducted in that direction. The results so far are not sufficiently definite to warrant publication.

H. J. PATERSON, M.C., F.R.C.S.

PHYSIOLOGY OF THE OPERATION OF GASTRO-JEJUNOSTOMY.

The work during the past year has been the continued investigation into the clinical significance of gastric analysis as verified by operation, and nearly seventy additional analyses in cases subsequently verified by operation have been performed. The results have all been tabulated, and are being embodied in a paper to be read before the Royal Society of Medicine. Investigations have also been continued into the physiological effects of the operation of gastro-jejunostomy, but the investigation is not yet complete; twenty additional analyses on cases after gastro-jejunostomy have been performed. A paper on the subject was read at the International Congress. The results of previous investigations have been given in general terms in a book recently published on the *Surgery of the Stomach*.

M. S. PEMBREY, M.D.

INFLUENCE OF THE CORD ON TEMPERATURE AND METABOLISM.

THE full accounts of two investigations have been published:

1. E. L. Kennaway and M. S. Pembrey: Observations upon the Effects of Section of the Spinal Cord upon Temperature and Metabolism, *Journ. of Physiol.*, vol. xlv, 1912, p. 82.

2. F. Cook and M. S. Pembrey: Observations on the Effects of Muscular Exercise upon Man, *Journ. of Physiol.*, xlv, 1913, p. 429.

EFFECTS OF METEOROLOGICAL CONDITIONS.

The investigations upon the effects of warm, humid atmospheres and on the influence of anaesthetics are in progress.

In conjunction with the staff of the Anatomical Department of Guy's Hospital, a beginning has been made with an investigation of anatomical and physiological standards among the medical students.

G. H. RYFFEL, B.C., B.Sc.

RESEARCHES ON METABOLISM.

WORK with Dr. Mutch on the metabolic utility of rectal feeding has been completed and published in the BRITISH MEDICAL JOURNAL, January 18th, 1913, and more fully in the *Guy's Hospital Reports*, vol. lvi.

Observations on lactic acid in the blood and urine of cardiac cases are being made in conjunction with other investigations by Drs. Barcroft, Lewis, Wolf, and Cotton which are designed to elucidate the cause of the dyspnoea in these cases.

With Dr. Poulton, alveolar air, dissociation of oxyhaemoglobin, and the urea and lactic acid of the blood are being determined in cases of uraemia. The results point to a marked acidosis, which is due mainly to excretory failure, and not to abnormal metabolism.

W. L. SYMES, M.R.C.S.

ACTIVE PRINCIPLES OF DIGITALIS.

THE work has, so far, chiefly consisted in the repeated assay of upwards of 40 specimens of tincture of digitalis with the view of tracing their deterioration with age. This portion of the work will form the subject of a detailed report later.

A few observations have been made as to the effect of the digestive juices on the activity of some digitalis products, and as to the reciprocal influence of individual glucosides on their activity. This portion of the work has been delayed by the late arrival of one of the chief products, and will form the subject of next year's work.

(C) OTHER REPORTS.

PROFESSOR W. D. HALLIBURTON, M.D., F.R.S., reported that the research on cerebro-spinal fluid carried out in conjunction with Professor Dixon was now complete, and that the full paper was ready for publication.

Dr. E. L. KENNAWAY reported that a new method of estimating β-oxybutyric acid in urine or blood has been tested, and has been found to give satisfactory results. A number of data have been obtained as to the excretion of acetone and β-oxybutyric acid in various conditions of acidosis (diabetes, cyclical vomiting, inanition).

Captain R. MCCARRISON, M.D., has published a book, *The Etiology of Endemic Goitre*, in which he acknowledges his indebtedness "to H.M. Secretary of State for India in Council and the Science Committee of the British Medical Association for grants in aid of my researches in Europe."

Association Notices.

QUARTERLY MEETING OF COUNCIL.

THE Quarterly Meeting of Council will be held on Wednesday, October 29th, at 10.30 a.m., in the Council Room, 429, Strand, London, W.C.

By Order,

GUY ELLISTON,

Sept. 18th, 1913. *Financial Secretary and Business Manager.*

ELECTION OF MEMBERS OF COUNCIL BY BRANCHES OUTSIDE THE UNITED KINGDOM: A CORRECTION.

IN the SUPPLEMENT of October 18th, p. 326, the date at the foot of the Nomination Form should read "February 14th, 1914." The paragraph should read as follows:

This form should be forwarded to the Financial Secretary and Business Manager, 429, Strand, London, W.C., so as to be received not later than February 14th, 1914.

BRANCH AND DIVISION MEETINGS TO BE HELD.

ABERDEEN BRANCH.—Drs. Thomas Fraser and F. R. Smith, Honorary Secretaries, give notice that the annual meeting of this Branch will be held in the Medico-Chirurgical Society's Hall, 29, King Street, Aberdeen, on Saturday, November 1st, at 12.30 p.m. Business: Minutes. Council's report. Treasurer's report. Election of officer-bearers for 1913-14. Arrangements for summer meeting. Any other competent business. The annual dinner of the Branch will be held in the Grand Hotel on Friday, October 31st, at 7.45 p.m. Members who intend to be present are requested to notify the Senior Secretary at 16, Albyn Place, Aberdeen, not later than Tuesday, October 28th.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—Drs. Ernest C. Hadley and Bernard J. Ward, Honorary Secretaries, give notice that an ordinary general meeting of the Division will be held in the Library of the Medical Institute, Edmund Street, on Wednesday, November 5th, 1913, at 3.30 p.m. Business: Birmingham and Midland Hospital for Nervous Diseases, Paralysis and Epilepsy; Representative's Report of Annual Representative Meeting. Any other business.

EAST AFRICA AND UGANDA BRANCH.—Dr. G. C. Strathairn, Acting Honorary Secretary (Civil Hospital, Kampala, Uganda), gives notice that a general meeting of the East Africa and Uganda Branch will be held on Tuesday, December 23rd, at the C.M.S. Hospital, Namirembe, Kampala. Business: Election of Officers and Branch Council; adoption of rules, including formation of Divisions; address by Dr. A. R. Cook on "Native Methods of Midwifery"; any other business.

LANCASHIRE AND CHESHIRE BRANCH.—Mr. F. Charles Larkin, Honorary Secretary (54, Rodney Street, Liverpool), gives notice that the next meeting of the Branch Council will be held at the Liverpool Medical Institution at 4 p.m. on Wednesday, November 19th.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.—Dr. Francis W. Goodbody, Honorary Secretary (6, Chandos Street, W.), gives notice that a meeting of the Marylebone Division will be held at 11, Chandos Street, W., on October 31st, at 5 p.m.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS AND ISLINGTON DIVISION.—Mr. B. G. Morison, Honorary Secretary (115, Green Lanes, Highbury, N.), gives notice that a meeting of non-panel practitioners resident in the area will be held in the Midland Grand Hotel on Friday, October 31st, at 9.15 p.m., for the purpose of forming a non-panel society.

SOUTH MIDLAND BRANCH.—Dr. E. Harries-Jones, Honorary Secretary (16, Castilian Street, Northampton), gives notice that the autumnal meeting of the South Midland Branch will be held on Thursday, October 30th, at the Board Room, General Hospital, Northampton, under the presidency of Dr. Canning-Hartley, Bedford. The Secretary will be glad to hear from any member wishing to read a paper or show cases or specimens.

YORKSHIRE BRANCH.—Dr. Adolph Bronner, Honorary Secretary (33, Manor Row, Bradford), gives notice that the next meeting of the Branch will be held at the Grand Hotel, Scarborough, on Saturday, October 25th, at 4.15 p.m. Members intending to read papers, make any communications, propose new members, or show cases or specimens are requested to write to him at once. Members will dine together at 6.30 p.m. Special week-end terms will be arranged. A number of members will golf at Ganton on Saturday morning.

MEMBERS ELECTED TO THE BRITISH MEDICAL ASSOCIATION

(March 14th to August 29th, 1913).

BY THE COUNCIL.

Benson, Charles Thornton Vere, M.R.C.S., L.R.C.P., Capt. R.A.M.C.
Bower, William Charles Ernest. L.M.S., M.R.C.S., L.R.C.P., West African Medical Staff, Sierra Leone
Byrne, Austin William, M.B., Ch.B., D.P.H., Capt. R.A.M.C.
Cameron, Ewen, M.B., Ch.B., Surgeon R.N.
Cane, Arthur Skelding, M.A., M.R.C.S., L.R.C.P., etc., Capt. R.A.M.C.
Folliott, Edwin, M.R.C.S., L.R.C.P., Staff Surgeon R.N.
Forsyth, William Leonard, M.B., Ch.B., Captain I.M.S.
Gibson, Harold, M.R.C.S.Eng., L.R.C.P.Lond., Capt. R.A.M.C.
Goil, Dwarka P., M.B., Ch.B.Edin., Capt. I.M.S.
Heale, Arthur Stanley, M.R.C.S., L.R.C.P., Lieut. R.A.M.C.
Jones, James Walker, M.B., Ch.B., Lieut. I.M.S.
Rudkin, Gerald F., M.R.C.S., L.R.C.P., Capt. R.A.M.C.
Sheward, Charles Railton, M.B., Ch.B., Staff Surgeon, R.N.
Smith, Harry Emslie, M.B., Ch.B.Aberd., D.T.M.and H., Capt. I.M.S.
Steel, Richard Francis, M B. Capt. I.M.S.
Twigg, Francis John Despard, M.B., B.Ch., B.A.O., L.M.S., Surgeon R.N.
Whelan, Hamlet M., M.R.C.S., L.R.C.P., Surgeon R.N.

BY BRANCH COUNCILS.

Aberdeen Branch.

Chapman, James, M.B., Turriff

Bombay Branch.

Kinkya, R. N., M.B., 288, Princess St., Bombay
Contractor, A. K., M.D., 35-37, Hornby Road, Fort Bombay
Dalal, A. K., F.R.C.S., Parekh's Bungalow, New Queen's Road, Girgaum, Bombay
Deshmukh, G. V., M.B., Albert Buildings, Hornby Road, Fort Bombay
D'Souza, Professor J. A., 221, Cheera Bazaar, Bombay
Karaka, D. P., Esq., Tahuwa, Kathiawar
Keyworth, W. D., M.B., Captain, I.M.S., c.o. Grindlay and Co., Bombay
Mehta, M. M., Esq., Ambaji Road, Surat
Mehta, W. B., Esq., M. Khetwadi Back Road, Bombay
Mukerji, A. P., Esq., Boinchee Street, Hooghly, Bengal
Shah, J. S., Esq., Vanick Dispensary, Mangool, Kathiawar

Border Branch, South Africa.

Galpin, C. G., Esq., Cedarville
Hill, Dr., East London
Skinner, G., Esq., Flagstaff
Tait, A. B., Esq., Kokstad

Border Counties Branch.

McKerrow, J. C., M.B., Croft House, Workington

British Guiana Branch.

Bayley, R. T., Esq., 5, Prince's Street, Georgetown
Craig, G. E., M.B., Public Hospital, Georgetown

Burma Branch.

Anklesaria, K. A., Esq., 116, Montgomery Street, Rangoon
Hingston, J. C. L., Captain, R.A.M.C., 3, Cheape Road, Rangoon
Kolaporo, T. J., Captain, I.M.S., 80th C. Infantry, Rangoon
Nealer, W. S., Captain, I.M.S., c.o. Scott and Co., Rangoon
Sargent, A. G., Major, I.M.S., Superintendent Lunatic Asylum, Rangoon

Cape of Good Hope (Western Province) Branch.

Euvrard, P. A., Esq., Malmesbury
Hopkins, M. C., Esq., Somerset West
Silberbauer, S. F., Esq., New Somerset Hospital, Capetown
Wilkinson, G. B., Esq., Beaufort West

Ceylon Branch.

Cooray, Denis C., Esq., The Moratuwa Pharmacy, Moratuwa, Ceylon
De Soysa, J. S. E., Esq., General Hospital, Colombo
Fernando, J. L., Esq., St. Luke's, Silversmith Street, Colombo
Hunt, E. Langley, Esq., Curragh House, Inner Bagatelle Road, Colombo
Jayaram, T. K., Esq., Borella Convict Hospital, Colombo
Nath, K. T., Esq., Vavunaiya
Peries, James F., Esq., General Hospital, Colombo
Ponniah, K., Esq., Mahaoya, Lunuzala

Connaught Branch.

Beirne, John Wm., M.B., French park, co. Roscommon
Hitchcock, Norman, M.B., Leenane
Staunton, M. D., Esq., Swinford

Dorset and West Hants Branch.

Martland, Thomas, Esq., Standish House, Richmond Park, Bournemouth
Woods, H. Hunter, Esq., Essendene, New Milton

Dundee Branch.

Anton, D. N., M.B., Rosemount, Lochee, Dundee
Banks, Ernest, M.B., Annfeld House, Dundee
Crawford, John, M.B., 9, Wellington Street, Dundee
Forrester-Brown, Miss Maud F., M.B., Royal Infirmary, Dundee
Mackenzie, W. Tuach, M.D., Royal Asylum, Dundee
McLay, K., M.B., Royal Infirmary, Dundee
Maxwell, James, M.B., Royal Infirmary, Dundee
Milln, G. H. S., M.B., Fernbank, Lochee Road, Dundee
Peebles, D. J., M.B., Ancrumsyde, Lochee, Dundee
Thomson, J. E. D., M.B., 13, Hill Terrace, Arbroath.
Walker, W. Noble, Esq., Brook Cottage, Broughty Ferry

East Anglian Branch.

Carruthers, N. S., Esq., Reedham
Collins, E. Abdy, Esq., The White House, Yoxford
Morse, C. G. H., Esq., 7, Thorpe Road, Norwich
Truman, D. B., Esq., Wivenhoe
Wells, J. D., M.B., Billericay

Edinburgh Branch.

Hunter, Gwendolyn G., M.B., St. Catherine's, Linlithgow
Watson, Alexandra M. C., M.D., 11, Walker Street, Edinburgh

Fife Branch.

Wishart, W. H., M.B., Colinsburgh

Glasgow and West of Scotland Branch.

Anderson, W. L., M.B., Eastern District Hospital, Glasgow
Bennett, Charles, M.B., 282, Bath St., Glasgow
Cameron, Charles, M.B., Belvidere Fever Hospital, Glasgow
Clark, G. W., M.B., Eastern District Hospital, Glasgow
Dick, J. T., M.B., Belvidere Fever Hospital, Glasgow
Downes, A. D., M.B., Craigellochie, Helensburgh
Fraser, A., M.B., Belvidere Fever Hospital, Glasgow
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Smailes, W. H., M.D., Honley, near Huddersfield
Stewart, W. Craig, M.B., Beeston Road, Leeds
Stoops, W. A., M.B., 260, Harehills Lane, Leeds
Walsh, Edmond, Esq., Cudworth, near Barnsley

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns, 8,209 births and 4,888 deaths were registered during the week ending Saturday, October 11th. The annual rate of mortality in these towns, which had been 14.3, 14.4, and 13.6 per 1,000 in the three preceding weeks, rose to 14.3 per 1,000 in the week under notice. In London the death-rate was equal to 14.2, against 13.7, 13.5, and 12.6 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rate ranged from 2.2 in Southend-on-Sea, 3.6 in Ilford, 6.3 in Walthamstow, 6.4 in Reading and in Cambridge, 6.8 in Edmonton, and 7.2 in Wimbledon and in Gloucester to 19.5 in Wigan and in West Hartlepool, 19.8 in Oldham, 20.2 in Bootle, 21.7 in Middlesbrough and in South Shields, and 22.0 in Bury. Measles caused a death-rate of 1.4 in Stockport, 1.5 in West Bromwich, and 2.0 in Barnsley. The deaths of children (under 2 years of age) from diarrhoea and enteritis, which had been 983, 927, and 730 in the three preceding weeks, rose to 769; of this number 168 were recorded in London, 52 in Liverpool, 44 in Birmingham, 30 in Hull, 28 in West Ham, 27 in Manchester, and 26 in Sheffield. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 34, or 0.7 per cent. of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest, and included 6 in Liverpool, 5 in Birmingham, 2 in Stoke-on-Trent, 2 in Blackpool, and 2 in Hull. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,355, 2,570, and 2,817 at the end of the three preceding weeks, had further risen to 3,021 on Saturday, October 11th; 484 new cases were admitted during the week, against 473, 508, and 498 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,051 births and 627 deaths were registered during the week ending Saturday, October 4th. The annual rate of mortality in these towns, which had been 16.4, 14.4, and 15.1 per 1,000 in the three preceding weeks, fell to 14.5 in the week under notice, but was 0.9 per 1,000 above the rate in the ninety-six large English towns. Among the several towns the death-rate ranged from 7.5 in Kilmarnock, 9.5 in Hamilton, and 10.2 in Falkirk to 17.4 in Greenock, 17.9 in Dundee, and 20.8 in Leith. The mortality from the principal infective diseases averaged 1.9 per 1,000, and was highest in Hamilton and Falkirk. The 290 deaths from all causes registered in Glasgow included 18 from infantile diarrhoeal diseases, 7 from measles, 4 from diphtheria, 3 from whooping-cough, 2 from enteric fever, and 1 from scarlet fever. Nine deaths from infantile diarrhoeal diseases were recorded in Dundee, 4 in Edinburgh, 4 in Aberdeen, and 3 in Leith; 5 deaths from diphtheria in Aberdeen and 2 in Edinburgh; and 2 deaths from scarlet fever in Aberdeen.

In the sixteen largest Scottish towns 1,107 births and 638 deaths were registered during the week ending Saturday, October 11th. The annual rate of mortality in these towns, which had been 14.4, 15.1, and 14.5 per 1,000 in the three preceding weeks, rose to 14.7, and was 0.4 per 1,000 above the rate in the ninety-six large English towns. Among the several towns the death-rate ranged from 7.5 in Kilmarnock, 7.6 in Ayr, and 12.1 in Edinburgh to 19.3 in Perth, 19.5 in Greenock, and 20.4 in Coatbridge. The mortality from the principal infective diseases averaged 1.9 per 1,000, and was highest in Clydebank and

Hamilton. The 292 deaths from all causes registered in Glasgow included 15 from infantile diarrhoeal diseases, 10 from measles, 4 from diphtheria, 2 from scarlet fever, and 2 from whooping-cough. Nine deaths from infantile diarrhoeal diseases were recorded in Dundee, 4 in Edinburgh, and 3 in Paisley; 2 deaths from measles and 2 from diphtheria in Edinburgh; and 3 from scarlet fever and 3 from diphtheria in Aberdeen.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, October 4th, 596 births and 415 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 665 births and 483 deaths in the preceding period. These deaths represent a mortality of 18.0 per 1,000 of the aggregate population in the districts in question, as against 21.0 per 1,000 in the previous period. The mortality in these Irish areas was therefore 4.4 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 30.3 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 20.1, as against an average of 20.6 for the previous four weeks, in Dublin city 20.8 (as against 21.3), in Belfast 15.2 (as against 18.1), in Cork 21.8 (as against 25.8), in Londonderry 21.6 (as against 21.6), in Limerick 23.0 (as against 19.6), and in Waterford 38.0 (as against 20.9). The zymotic death-rate was 4.3, as against 5.0 in the previous week.

During the week ending Saturday, October 11th, 560 births and 394 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 696 births and 415 deaths in the preceding period. These deaths represent a mortality of 17.1 per 1,000 of the aggregate population in the districts in question, as against 18.0 per 1,000 in the previous period. The mortality in these Irish areas was therefore 2.8 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth rate, on the other hand, was equal to 24.3 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 18.9, as against an average of 19.6 for the previous four weeks, in Dublin city 20.8 (as against 20.6), in Belfast 16.7 (as against 17.6), in Cork 24.5 (as against 25.3), in Londonderry 7.6 (as against 18.8), in Limerick 12.2 (as against 15.9), and in Waterford 15.2 (as against 23.5). The zymotic death-rate was 3.0, as against 4.3 in the previous week.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

The following announcements have been made by the Admiralty: Fleet Surgeon FREDERICK J. BURNS, M.D., to the *Orion*, vice Townsend, November 1st; Fleet Surgeon EDWARD B. TOWNSEND, to the *Vernon*, vice Burns, November 1st; Fleet Surgeon JOHN C. ROWAN, M.B., to the *Audacious* on commissioning, and as acting interpreter in German, undated; Fleet Surgeon JOHN E. H. PHILLIPS, to the *Leander*, and for duty with torpedo boat destroyers, vice Rowan, undated; Fleet Surgeon HENRY E. TOMLINSON has been placed on the retired list at his own request, October 14th; Staff Surgeon KENELM D. BELL, to the *Victory*, additional for disposal, October 10th, and to the *Audacious* on commissioning, undated; Staff Surgeon ALEXANDER C. W. NEWPORT to the *Vivid*, temporarily, October 13th; Staff Surgeon JOHN J. H. ROONEY to the *Victory*, additional for disposal, October 22nd.; Staff Surgeon A. WOOLLCOMBE to the *Fearless*, temporarily, October 18th. Surgeon GUY B. COCKREM, to the *Albemarle*, vice Addison-Scott, October 10th; Surgeon LEONARD WARREN to the *Pembroke*, additional for the *Leda*, October 22nd, and the *Halcyon*, additional for the *Leda*, on commissioning, undated.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL C. W. R. HEALEY has been appointed Medical Officer at the London Central Recruiting Dépôt.

Lieutenant-Colonel A. A. SUTTON, D.S.O., has been appointed to the command of the Royal Army Medical Corps Training Establishment, Aldershot, vice Lieutenant-Colonel G. D. Hunter, D.S.O.

Lieutenant-Colonel A. T. J. LILLY has been appointed to command the Station Hospital, Colaba.

Lieutenant-Colonel REGINALD J. C. COTTELL is placed on retired pay, October 13th.

Lieutenant-Colonel C. W. R. HEALY has been appointed Medical Inspector of Recruits in the London Recruiting Area.

Lieutenant-Colonel M. O'D. BRADDELL has been appointed to the Cork District for duty.

Major N. J. C. RUTHERFORD has been appointed Specialist Sanitary Officer at Cork.

Major W. S. HARRISON has been ordered to Jamaica.

Major NORMAN FAICHNIE, M.B., to be Lieutenant-Colonel, vice O. R. A. Julian, C.M.G., supernumerary, October 13th.

Major GERARD W. TATE, M.B., to be Lieutenant-Colonel, vice J. Ritchie, deceased, October 7th.

Major J. A. HENNESSY has been appointed to command the Station Hospital, Ahmednagar.

Major F. J. BRANKENRIDGE has been attached to the Oxford University Contingent of the Officers' Training Corps.

Captain CHARLES V. B. STANLEY, M.D., retires, receiving a gratuity, October 22nd.

Lieutenants B. H. H. SPENCE and H. S. BLACKMORE have been ordered from London to India.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT GEORGE F. RANDALL to be Captain, September 19th. Lieutenant CHARLES J. SIMPSON, M.B., resigns his commission, October 15th. Lieutenant HENRY P. CROW is confirmed in his rank.

INDIAN MEDICAL SERVICE.

LIEUTENANT-COLONEL S. H. BURNETT has been appointed to act as Presidency Surgeon, Second District, and in medical charge of the Common Prison, the House of Correction, and the Byculla Schools, in addition to his own duties pending further orders.

Lieutenant-Colonel ROBERT ROBERTSON, M.B., has been promoted to Colonel, June 30th.

The following Majors have been appointed Lieutenant Colonels, July 29th: CECIL C. S. BARRY, JAY GOULD, M.B., JOHN MULVANEY, HENRY BURDON, C.I.E., F.R.C.S., CHARLES H. BOWLES-EVANS, M.B., HUGH BENNETT, M.B., F.R.C.S.E., ALFRED E. BERRY, M.B.

The following Captains have been appointed Majors, July 29th: ALFRED E. J. LISTER, M.B., F.R.C.S., THOMAS S. B. WILLIAMS, M.B., JOHN E. CLEMENTS, M.B., ERNEST BISSET, M.B., ALEXANDER W. OVERBECK-WRIGHT, M.B., DAVID MUNRO, M.B., F.R.C.S.E., ROBERT M. CARTER, F.R.C.S., DODINGTON G. R. S. BAKER, JASPER R. J. TYRRELL, M.B., THOMAS H. GLOSTER, M.B., JAMES H. HORTON, D.S.O. M.B., WILLIAM A. JUSTICE, M.B.

The following Lieutenants have been appointed Captains, July 30th: PHIROZSHAH BYRAMJI BHARUCHA, F.R.C.S., RICHARD W. G. HINGSTON, M.B., JOHN B. THACKABERRY, M.B., CHARLES NEWTON-DAVIES, M.B., REGINALD C. CLIFFORD, CLIVE NEWCOMBE, M.B., HENRY E. SHORT, M.B., LATAFAT HUSAIN KHAN, ROBERT DE S. B. HERRICK, HARGOBIND LAI BATRA, MURRAY PURVIS, M.B., DUNCAN M. TAYLOR, M.B.

Colonel CHARLES F. WILLIS, C.B., M.D., has retired, October 1st.

The services of Captain H. P. COOK have been placed at the disposal of the Government of India in the Department of Education for employment in the United Provinces in connexion with travelling dispensaries.

The services of Captain M. J. QUIRKE, M.B., Ch.B., D.P.H., have been placed permanently at the disposal of the Government of Madras for employment in the Sanitary Department, with effect from May 13th, 1912.

The Most Honourable the Secretary of State for India has been pleased to sanction the addition to the cadre of the Indian Medical Service of the undermentioned appointments: Medical Officer for the charge of the 42nd Regiment, Deoli; Deputy Sanitary Commissioner for the North-West Frontier Province; Deputy Sanitary Commissioner for Burma; Deputy Sanitary Commissioner for Bengal; Health Officer for the Delhi Municipality; Medical Officer for Mohamerah, Persian Gulf.

Lieutenant-Colonel A. BUCHANAN, Civil Surgeon, Nagpur, is transferred to Saugor.

Major A. E. J. LISTER is appointed to be Professor of Physiology at King George's Medical College, Lucknow, with effect from October 1st.

Captain R. E. FLOWERDEW is appointed to the substantive medical charge of the 99th Deccan Infantry.

Captain N. M. WILSON, officiating Civil Surgeon, is posted to Dera Ghazi Khan, from August 16th, on return from leave.

The services of Captain S. J. BHATHENA are replaced at the disposal of the Commander-in-Chief.

Lieutenant J. C. JOHN has been appointed a Specialist in Ophthalmology, with effect from September 19th.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

North Midland Mounted Brigade Field Ambulance.—Lieutenant WILLIAM H. HEWETSON, M.B., resigns his commission, October 8th.

Welsh Border Mounted Brigade Field Amubulance.—Major ALEXANDER G. HAMILTON, to be Lieutenant-Colonel, July 18th.

Third London General Hospital.—Captain FREDERICK R. MILLER, from the Sixth London Field Ambulance, to be Captain in the permanent personnel, September 10th.

First Welsh Field Ambulance.—Lieutenant ERNEST V. CONNELLAN, to be Captain, August 1st.

Second Welsh Field Ambulance.—Lieutenant JOHN S. ROWLANDS, M.B., resigns his commission, October 11th.

Second Wessex Field Ambulance.—Lieutenant DAVID MACNAIR, M.D., to be Captain, June 3rd.

Third Wessex Field Ambulance.—EDGAR C. PLUMMER to be Lieutenant, September 5th.

Attached to Units other than Medical Units.—Lieutenant LEWIS BEESLY, to be Captain, June 1st; Lieutenant-Colonel WILLIAM WILSON, M.D., resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform, October 11th.

For Attachment to Units other than Medical Units.—SIDNEY SCOTT, M.B. (late Second Lieutenant, 4th Northumbrian Howitzer Brigade Royal Field Artillery), to be Lieutenant, October 11th; DOUGLAS E. FINLAY, M.B., to be Lieutenant, September 1st.

CENTRAL MIDWIVES BOARD.

A MEETING of the Central Midwives Board was held at Caxton House, Westminster, on October 9th, with Sir FRANCIS H. CHAMPNEYS in the chair.

Insurance Act and Midwives Act.

A letter was considered from the Clerk of the Council transmitting a copy of a letter from the Insurance Commissioners (England) on the subject of the effect of the working of the Insurance Act on the administration of the Midwives Act. The Board directed that the Privy Council be thanked for its communication.

Medical Officer as Teacher of Pupil Midwives.

A letter was considered from the Local Government Board, transmitting a copy of a communication from the guardians of the Romford Union relative to their application for the recognition of their medical officer as a teacher of pupil midwives, and asking for the Board's observations thereon. The Board decided that a letter drafted by the Chairman be approved and forwarded to the Local Government Board.

Premature Birth and Age Limit.

Letters were considered from the Deputy Coroner for the West Riding of Yorkshire, calling the attention of the Board to the fact that premature birth is not one of the cases specifically mentioned in the rules as imposing on a midwife the obligation of advising medical assistance, and asking the views of the Board on the subject; and

from the Clerk of the Derbyshire County Council, suggesting that a rule should be framed under which midwives would automatically cease to be enrolled on attaining the age of 70. The Board directed that the Deputy Coroner for the West Riding of Yorkshire and the Clerk of the Derbyshire County Council be thanked for their suggestions, which would be considered at the next revision of the rules.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—House-Surgeon. Salary, £100 per annum.

BIRMINGHAM MATERNITY HOSPITAL.—Honorary Obstetric Registrar.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—(1) Two House-Surgeons (male). Salary, £75 per annum. (2) Pathologist. Honorarium, £50 per annum.

BRADFORD CHILDREN'S HOSPITAL. — Lady House-Surgeon. Salary, £80 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Assistant Pathologist (male). Salary, £100 per annum.

BRIGHTON THROAT AND EAR HOSPITAL.—Non-Resident House-Surgeon. Salary, £100 per annum.

BRISTOL ROYAL INFIRMARY.—Throat, Nose, and Ear House-Surgeon. Salary at the rate of £75 per annum.

CARDIFF EDUCATION COMMITTEE.—Woman Medical Assistant to School Medical Officer and Medical Officer of Health. Salary, £250 per annum, rising to £300 per annum.

CARDIFF: KING EDWARD VII HOSPITAL. — House-Surgeon (male). Honorarium at the rate of £60 per annum.

CARMARTHEN: JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary, £180 per annum, rising to £230.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn Road, W.C.—(1) Resident House-Surgeon. Salary, £50 per annum. (2) Registrars.

CHELTENHAM GENERAL HOSPITAL.—House-Physician. Salary, £100 per annum.

COLOMBO MUNICIPALITY.—Assistant Medical Officer of Health. Salary, £333 per annum, rising to £700.

DURHAM COUNTY ASYLUM, Winterton. — Third and Fourth Medical Officers (males). Salary, £200 per annum, rising to £250.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Assistant Surgeon.

EDAY PARISH.—Medical Officer. Salary, £70 per annum, and appointments, £20.

ESSEX EDUCATION COMMITTEE, Chelmsford.—School Medical Inspector. Salary, £250 per annum, rising to £300.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Physician in charge of Skin Department.

FERMANAGH HOSPITAL.—House-Surgeon. Salary, £104 per annum.

GATESHEAD COUNTY BOROUGH ASYLUM.—Assistant Medical Officer. Salary, £180 per annum, rising to £200.

GLASGOW UNIVERSITY.—(1) One Examiner each in Botany and Chemistry for degrees in Arts, Science, and Medicine. (2) Examiner in Anatomy for degrees in Science and Medicine.

GOVAN DISTRICT ASYLUM, Crookston.—First and Second Assistant Medical Officers.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £70 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL. — Resident Medical Officer. Salary, £100 per annum.

HOLBORN UNION.—Second Assistant Medical Officer at the Infirmary, Archway Road. Salary, £110 per annum, rising to £130.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £80 per annum.

JARROW-ON-TYNE: PALMER MEMORIAL HOSPITAL.—House-Surgeon (male). Salary, £170 per annum.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITAL, W. —Resident Medical Officer. Salary, £100 per annum.

KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION, Cardiff. — Tuberculosis Physician. Salary, £450 per annum, rising to £500.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary, £100 per annum.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—Resident House-Surgeon. Salary at the rate of £100 per annum.

LIVERPOOL: PARKHILL SANATORIUM FOR TUBERCULOSIS. —Assistant Resident Medical Officer. Salary, £140 per annum.

MACCLESFIELD GENERAL INFIRMARY. — (1) Senior House-Surgeon. (2) Junior House-Surgeon. Salary, £100 and £80 per annum respectively.

MAIDSTONE: KENT COUNTY ASYLUM.—Male Fourth Assistant Medical Officer. Salary, £200 per annum, rising to £220.

MANCHESTER: NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—Junior House-Surgeon. Salary, £100 per annum.

NEWCASTLE-UPON-TYNE: UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Lecturer in Surgery.

NORTHAMPTON COUNTY ASYLUM, Berrywood.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £225.

NORTHAMPTONSHIRE COUNTY COUNCIL.—Assistant School Medical Officer. Salary, £250 per annum, rising to £310.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

OCHILTREE PARISH COUNCIL.—Medical Officer. Salary, £40 per annum.

OMAGH DISTRICT ASYLUM.—Resident Medical Superintendent. Salary, £500 per annum.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer. Salary, £150 per annum, rising to £175.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—(1) House-Surgeon. (2) House-Physician. Salary at the rate of £100 and £75 per annum respectively.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL. — House-Surgeon (male). Salary at the rate of £80 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Honorary Assistant Gynaecologist.

RICHMOND: ROYAL HOSPITAL. — Assistant House-Surgeon. Salary, £70 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—(1) Assistant Physician. (2) House-Surgeon.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

SOUTH LONDON HOSPITAL FOR WOMEN, Newington Causeway, S.E.—Three Clinical Assistants.

SOUTHPORT INFIRMARY.—Senior House-Surgeon. Salary at the rate of £120 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Surgeon. Salary, £120 per annum, rising to £140.

UNIVERSITY COLLEGE MEDICAL SCHOOL, W.C.—Demonstrator in the Department of Bacteriology.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—(1) Surgeon to In-Patients. (2) Surgeon to Out-Patients.

VIRGINIA WATER: HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE.—Junior Assistant Medical Officer (male). Salary, £250 per annum, rising to £300.

WEST BROMWICH AND DISTRICT HOSPITAL. — Assistant Resident House-Surgeon and Anaesthetist. Salary, £75 per annum.

WESTERN OPHTHALMIC HOSPITAL, Marylebone Road, N.W.—House-Surgeon (non-resident). Salary, £100 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Assistant Dental Surgeon. (2) Second X-Ray Officer.

WHITECHAPEL UNION INFIRMARY.—Second Assistant Resident Medical Officer (male). Salary, £120 per annum, rising to £140.

WILTS COUNTY COUNCIL.—Temporary Assistant School Medical Inspector. Salary at the rate of £300 per annum.

WORCESTERSHIRE COUNTY ASYLUM, Bromsgrove.—Second Assistant Medical Officer (male). Salary, £225 per annum.

YORK DISPENSARY AND MATERNITY HOSPITAL. — Resident Medical Officer (male). Salary, £140 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces the following vacant appointment: Stoney Stanton (Leicester).

This list of vacancies is compiled from our advertisement columns where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

BANNERMAN, J., M.B., C.M.Edin., District Medical Officer of the Weardale Union.

BELL, R. G., M.D.Glasg., F.R.C.S.Edin., Certifying Factory Surgeon for the Sunderland District, co. Durham.

BROOK, W. F., F.R.C.S.Eng., Consulting Surgeon to the Carmarthenshire Infirmary.

BUSHNELL, F. G., B.S.Lond., D.P.H.Camb., Tuberculosis Officer and Deputy Medical Officer of Health, Plymouth County Borough Council.

COOK, J. B., M.D., Medical Officer to the Infirmary of the St. Giles and Bloomsbury Parishes.

COOMBE, T. S., B.A.Camb., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Hoo District, co. Kent.

JONES, W. B., M.B., B.S.Lond., Medical Officer of the Workhouse and Children's Homes of the Middlesbrough Union.

KAY, C. W., L.R.C.P. and S.Edin., L.F.P.S.Glasg., Certifying Factory Surgeon for the Lymington District, co. Southampton.

KIRK, J. L., M.B., B.C.Camb., District Medical Officer of the Pickering Union.

MORGAN, R. D., L.R.C.P.Edin., L.F.P.S.Glasg., District Medical Officer of the Pontypridd Union.

O'SHAUGHNESSY, E., L.R.C.P. and S.Edin., L.F.P.S.Glasg., Certifying Factory Surgeon for the Bradford District, co. Limerick.

PHILLIPS-JONES, B. J., M.R.C.S., L.R.C.P., District Medical Officer of the Pontypridd Union.

SNODGRASS, G. E., M.B., Ch.B.Edin., Certifying Factory Surgeon for the Raphoe District, co. Donegal.

STOKER, S. P., M.B., Assistant Medical Officer to the Edmonton Union Infirmary.

WADDELL, C. H., L.R.C.P. and S.Irel., District Medical Officer of the Dudley Union.

ST. BARTHOLOMEW'S HOSPITAL.—The following appointments have been made:

Senior House-Physicians: G. Hadfield, M.B., B.S.Lond.; R. W. Meller, M.R.C.S., L.R.C.P.; A. G. Evans, M.R.C.S., L.R.C.P.; L. G. Crossman, M.R.C.S., L.R.C.P., M.B., B.S.Lond.; W. Farrer Thompson, M.R.C.S., L.R.C.P.

Junior House-Physicians: H. Y. Mansfield, M.R.C.S., L.R.C.P.; R. E. Barnsley, M.R.C.S., L.R.C.P.; A. C. Roxburgh, M.R.C.S., L.R.C.P.; G. A. Smythe, M.R.C.S., L.R.C.P.; R. Stansfeld, M.R.C.S., L.R.C.P.

Senior House-Surgeons: G. W. Carte, M.R.C.S., L.R.C.P.; J. V. Fiddian, M.R.C.S., L.R.C.P.; R. St. L. Brockman, M.R.C.S., L.R.C.P.; G. E. Dyas, M.B., B.C.Cantab., M.R.C.S., L.R.C.P.; F. H. Robbins, M.R.C.S., L.R.C.P.

Junior House-Surgeons: M. N. Porrin, M.R.C.S., L.R.C.P.; R. O. Ward, M.R.C.S., L.R.C.P.; G. L. Keynes, M.R.C.S., L.R.C.P.; C. R. Wright, B.C.Cantab.; R. E. R. Burn, M.R.C.S., L.R.C.P.

Intern Midwifery Assistant: H. K. Griffith, M.B., B.C.Cantab., M.R.C.S., L.R.C.P.

Extern Midwifery Assistant: E. P. W. Wedd, M.R.C.S., L.R.C.P.

Ophthalmic House-Surgeon: R. L. Kitching, M.B., B.S.Durh.

House-Surgeon to Throat and Ear Department: A. B. Pavey Smith, M.R.C.S., L.R.C.P.

House-Surgeon to Orthopaedic Department: R. E. R. Burn, M.R.C.S., L.R.C.P.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

LEEPER.—On October 10th, 1913, at Otorohanga, Auckland, N.Z., the wife of Bertram C. A. Leeper, L.R.C.S.Ire., of a daughter.

WALKER.—On October 17th, at 8, Oakfield Road, Clifton, Bristol, the wife of Cyril H. Walker, M.B., of a daughter.

MARRIAGES.

HAWKER—BRADFORD.—On October 8th, at Morwenstow Church, by the Rev. H. Lynne-Jones, George Poole Hawker, M.D Cantab., of 32, Southernhay West, Exeter, to Louisa A. Bradford, only daughter of the late Mr. and Mrs. Bradford, of Abbotsbury.

HOLFORD—LOTT.—On October 21st, at St. Mary Abbots, Kensington, by the Vicar, the Rev. S. E. Pennefather, Christopher Tredwell Holford, F.R.C.S.Edin., M.R.C.S.Eng., L.R.C.P.Lond., son of Mr. and Mrs. Christopher T. Holford, of 5, Northumberland Avenue, Putney, to Doris Emily Lott, youngest daughter of Mr. and Mrs. Frank E. Lott, of Alexandra Road, Burton-on-Trent.

DIARY FOR THE WEEK.

MONDAY.

BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Wednesday, 4.30 p.m., Lecture: The Complications of Pulmonary Tuberculosis.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Discussion on the Visceral Complications met with in Hysterectomy for Fibroids, and the Best Method of Dealing with Them, to be introduced by Sir John Bland-Sutton.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Mr. Shattock. Specimens illustrating Myoma and Chondroma.

ROYAL SOCIETY OF MEDICINE:

SECTION OF ODONTOLOGY, 8 p.m.—(1) Mr. C. F. Rilot: Presidential Address. (2) Mr. Stanley P. Mummery: The Conservative Treatment of the Pulp.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF MEDICINE, 5.30 p.m.—Sir William Osler, Bart., F.R.S.: Congenital Syphilis of the Liver, with the Picture of Banti's Disease. Dr Poyton, Dr. Armstrong, and Dr. Nabarro: A Contribution to the Study of a Group of Cases of Chronic Recurrent Diarrhoea in Childhood. Dr. Gossage and Dr. Braxton Hicks: Two Cases of Non-cancerous Tumour of the Stomach.

SECTION OF PSYCHIATRY, 8.15 p.m.—(1) Demonstration: Dr. J. W. E. Cole: Case of Pellagra with Insanity. (2) Paper: Dr. Mercier: What is Insanity?

WEDNESDAY.

BRITISH OTO-LARYNGOLOGICAL SOCIETY, 11, Chandos Street, Cavendish Square, W., 4 p.m.—Clinical Meeting.

ROYAL ARMY MEDICAL COLLEGE, Grosvenor Road, S.W., 4 p.m.—Distribution of prizes by Surgeon-General Sir Havelock Charles.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5.30 p.m.—Museum Demonstration by Mr. Colyer. Specimens illustrating Irregularities of the Teeth in Man.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF THE HISTORY OF MEDICINE, 5 p.m.—Professor G. Elliot-Smith: The Contributions of Ancient Egypt to the History of Medicine.

SECTION OF NEUROLOGY, 8.30 p.m. — Mr. William Thorburn: Presidential Address.

FRIDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m. — Museum Demonstration by Professor Keith: Specimens illustrating Certain Points in the Anatomy and Physiology of the Ear.

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.—Post-Graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

LONDON HOSPITAL MEDICAL COLLEGE, Mile End, E.—Tuesday, 2 p.m. Neuroses and Psychoses of Children.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics, daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Thursday. Radiography: Saturday. Lectures on special subjects on Tuesday, Wednesday, and Thursday.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock, E.—Lectures daily (Saturday excepted) at 12 and 4 p.m. Practical Laboratory Work daily (Saturday excepted), 10 to 12 a.m. Practical Entomology, 2 to 3.30 p.m. daily. Special Entomology, 10.30 to 1 p.m. daily. Medical Clinics, Tuesday and Thursday at 3 p.m. Operations, Friday at 3 p.m.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.—At 4.30 p.m. each day. Tuesday, Salford Royal: Chorea. Wednesday, Royal Infirmary: Some Unusual Causes of Lead Poisoning, and the Remote Results. Thursday, Ancoats: X-Ray Treatment in Exophthalmic Goitre, Hodgkin's and Carcinoma. Friday, Royal Eye: Detachment of Retina—Vitreous Opacities.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—Clinical Demonstrations at 4 p.m. each day: Monday, Skin. Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. each day.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Cerebral Diplegia. Friday, 3.30 p.m., Compression Paraplegia.

ROYAL INSTITUTE OF PUBLIC HEALTH.—Friday, 5 p.m.: Course of Instruction for Candidates as Tuberculosis Officers, Lecture IV, Diagnosis of Pulmonary Tuberculosis.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, X Rays, and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday. A Lecture at 5 p.m. daily, except Saturday.

[For further particulars of Lectures consult the Index to Advertisements.]

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		OCTOBER.
25	Sat	Yorkshire Branch, Scarborough, 4.15 p.m.; Dinner, 6.30 p.m.
27	Mon.	London: Arrangements Committee (Council Representatives), 12 noon.
29	Wed.	London: Council, 10.30 a.m.
30	Thur.	South Midland Branch, Northampton.
		London: Medico-Political Committee: Ship Surgeons Subcommittee at 2 p.m.
31	Fri.	Aberdeen Branch, Annual Dinner, Grand Hotel, 7.45 p.m.
		Marylebone Division, 11, Chandos Street, W., 5 p.m.
		St. Pancras and Islington Division, Midland Grand Hotel, 9.15 p.m.

Date.		Meetings to be Held.
		NOVEMBER.
1	Sat.	Aberdeen Branch, Annual Meeting, Aberdeen, 12.30 p.m.
5	Wed.	Central Division, Medical Institute, Edmund Street, Birmingham, 3.30 p.m.
6	Thur.	Insurance Act Committee.
8	Sat.	Arrangements Committee (Conjoint Meeting), 10 a.m.
19	Wed.	Lancashire and Cheshire Branch, Branch Council, Liverpool Medical Institution, 4 p.m.
		DECEMBER.
23	Tues.	East Africa and Uganda Branch, Namirembe, Kampala.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 1ST, 1913.

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SPECIAL NOTICE TO MEMBERS.

Every member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he belongs. BY ORDER.

MATTERS REFERRED TO DIVISIONS.

Association Notice.

SPECIAL REPRESENTATIVE MEETING.

ON the requisition of the Council, notice is hereby given, under Article 31 and By-laws 36 and 73, that a Special Representative Meeting of the Association will be held on Thursday, December 4th, 1913, at 9.30 a.m., and on Friday, December 5th, 1913, if necessary, at the Connaught Rooms, Great Queen Street, London, W.C., for the purpose of considering and dealing with the following matters:

(I) The question of increasing the subscription, as to which the Annual Representative Meeting at Brighton, July, 1913, resolved as follows (Minute 234):

That the annual subscription of Members of the Association be raised to £2 2s., such change not to apply to Foreign or Colonial Members.

And in connexion therewith the Report of the Council on the subject (see page 369 of this SUPPLEMENT) and the following Recommendation of the Council:

That the Special Representative Meeting, London, December, 1913, delete present By-law 11 of the Association and adopt the following new By-law 11 to take its place:

PROPOSED NEW BY-LAW.

SUBSCRIPTIONS.

Amount.

11. (1) On and after the 1st of January, 1914, and except in the case of Members elected on or after the 1st of July in any year, the annual subscription to the Association shall be—

(*a*) For a Member resident in any part of the British Islands—Two Guineas;

(*b*) For a Member resident elsewhere—Twenty-five Shillings.

(2) A Member admitted on or after the 1st of July in any year shall pay half the current subscription for that year.

(3) For the purposes of this By-law a Member shall be deemed to reside in that place in which his ordinary place of abode is situate at the time at which according to the Regulations his subscription is considered due.

Present By-law 11 above alluded to is as follows:

11. Except in the case of Members elected on or after the 1st of July in any year, the subscription to the Association shall be Twenty-five shillings. A Member admitted on or after the 1st of July in any year shall pay half the current subscription for that year.

(II) The Report of the State Sickness Insurance Committee, dated July, 1913, containing a Scheme for the establishment of a Special Fund for the better organization of the medical profession, and the Report of the Insurance Act Committee, dated October, 1913, containing an Alternative Scheme for such a Special Fund. (N.B.—For the Original and Alternative Schemes in question see pages 355 and 363 of this Supplement respectively.)

(III) Report by the Council as to various matters relating to the National Insurance Act. (N.B. See page 367 of this Supplement.)

NOTE.—*Advantage will be taken of the holding of the above Special Representative Meeting to hold the first of the two statutory Special General Meetings which are required to approve of the Alteration of the Memorandum of Association necessary in order to obtain for the Association power of borrowing money, pursuant to the following Minute 31 of the Annual Representative Meeting at Brighton, July, 1913:*

That the Representative Body instruct the Council to take the necessary steps to obtain an extension of the Memorandum of the present Company to include the power of borrowing money on mortgage or otherwise.

Due notice of these Special General Meetings will be given in an early number of the Journal.

T. JENNER VERRALL,
Chairman of Representative Meetings.

October 29th, 1913.

SCHEMES (REFERRED TO IN PARAGRAPH (II) OF THE FOREGOING NOTICE) FOR A PROPOSED SPECIAL FUND FOR THE ORGANIZATION OF THE PROFESSION, NAMELY:

(A) ORIGINAL SCHEME (DATED JULY, 1913), AND (B) ALTERNATIVE SCHEME (DATED OCTOBER, 1913).

Preliminary.

In the Supplementary Report of the Council published in the *Supplement* to the British Medical Journal of July 5th, the Council presented for the consideration of the Divisions a scheme for the constitution of a Special Fund for the organisation of the profession. It was proposed that this Report should be discussed by the Divisions, in order that decisions might be arrived at in time for the Annual Representative Meeting at Brighton. The Meeting, however, felt that insufficient time had been given to the Divisions for the discussion of so important a subject. It was also felt that the proposal to raise the annual subscription to £2 2s. which was carried at the Annual Representative Meeting and is now being sent to the Divisions for their decision had materially altered the situation. It was resolved, therefore, that the Scheme should be referred back to the Divisions for further consideration, and in doing this the Council has thought it well to submit an Alternative Scheme, the objects and arguments in favour of which are mainly the same as those presented in the original scheme. The proposed subscription is however lower on the assumption that the subscription of the Association will be raised and thus more money will be available by means of which the Association will be able, out of Association funds, to carry out some of the objects which it was proposed in the original Scheme should be dealt with by means of the Special Fund.

It is essential for the proper consideration of the Alternative Scheme that the original Scheme should first be read. The original Scheme is, therefore, reprinted exactly as it was presented to the Annual Representative Meeting, and is followed by the alternative Scheme. It may be mentioned that underlying both Schemes are the following fundamental ideas:—

(i.) that the profession is anxious to be thoroughly organised, and to have a reserve fund for contingencies;

(ii.) that the present subscription to the Association, and even an increased subscription of £2 2s, is insufficient to provide for these purposes;

(iii.) that there are some objects *(see paragraph 35, original Scheme,* page 359 of this Supplement) which cannot be undertaken by the Association as such, whatever the subscription might be, and that these should therefore be undertaken by some outside body working in close co-operation with the Association;

(iv.) that the profession should be given an opportunity of showing (a) whether it really wishes for thorough organisation and the provision of a reserve fund, and (b) what proportion of the profession is willing to subscribe for these purposes.

(A) ORIGINAL SCHEME (DATED JULY, 1913) FOR THE ORGANIZATION OF THE MEDICAL PROFESSION.

(Being the Report of the State Sickness Insurance Committee Presented by Council to the Divisions and Representative Body, July, 1913.)

(*Reprinted from* Supplement to Journal, *July 5th, 1913.*)

The following is a Report by the State Sickness Insurance Committee to the Council and now (July, 1913) submitted for discussion by the Divisions and Representative Body. It contains a Scheme (i.) for the Establishment of a Fund for the better Organisation of the Medical Profession, and (ii.) for the Provision to Members of that Fund of certain Insurance advantages which it is believed will appeal to Members of the Profession. The Insurance part of the scheme has been added because, by co-operation, not only could subscribers secure terms which they could not get as individuals, but they could also provide, indirectly, a handsome contribution to the fund for organisation.

INTRODUCTORY.

1. The reference to the Committee was based primarily upon the following Minutes 54, 55, and Motion 7 of Minute 60 of the Special Representative Meeting, January, 1913 :—

Minute 54 (Motion by Brighton).—That in order to carry Minute 48 into effect, it be an instruction to the Council to put into operation the following proposals amongst others :—

(1) That the funds placed at the disposal of the Council as Trustees for the proposed campaign be augmented by such a voluntary quarterly levy during the next three years on each member of the Association in the United Kingdom as will, with the annual subscription, amount to not less than £3 a year per member.

(2) That through the Local Medical Committees or otherwise a quarterly levy of one farthing per insured person on each practitioner's list be made for three years on each such practitioner, which shall be used by the Council to provide efficient, local, clerical and professional assistance to these Committees and to the Divisions and generally in forwarding the aims and objects of the campaign.

(3) That the Central Office organisation be developed so as to allow the Medical Staff visiting every Division in the United Kingdom and interviewing each Local Medical Committee at least once in each year.

(4) That out of this Special Campaign Fund an honorarium, on a scale to be determined by the Council, be paid to the members of the medical profession who devote time to the campaign or who have to absent themselves from their district attending Representative, Committee, Deputation and other Meetings.

(5) That the aims and objects of the campaign be kept prominently before Members of Parliament, County and County Borough Councils and other Bodies as well as the laity generally by means of the press and otherwise, as also the reasons for the position taken by the profession from time to time during the campaign.

(6) That the Medical Staff be placed at the disposal of Divisions in the United Kingdom and of Local Medical Committees, in order to assist them in interviews with Lay Bodies, more often than has been the case in the past.

(7) That the Divisions be consulted as to the desirability of their boundaries being made co-terminous with those of Insurance and District Committee areas, and in those cases where the proposal is approved it be carried into effect, if practicable, at the earliest possible moment.

(8) That it be an instruction to the Council by means of a campaign amongst the Staffs of Voluntary Hospitals, similar Institutions and otherwise, to take such action as will induce the Government to provide an efficient medical and surgical service for those insured for medical benefits under the National Insurance Act.

Minute 55.—Whereupon an amendment by Mr. W. F. Dearden (Manchester West), seconded by Dr. J. Sorley (Sheffield) :

That it be an instruction to the Council to consider the advisability of giving effect to the above proposals.

The amendment was **carried.**

Minute 60.—Resolved : That the motions appearing on the printed and stencilled Agenda not dealt with by this Meeting (except Motion 59 by Hampstead [withdrawn]) be referred to the Council.

. . . . . .

(7) *Motion* by Newcastle-on-Tyne Division : That the Council be instructed to consider the advisability of a National Fund being raised on such lines as the following :—

(a) There be (compulsorily) deducted from each quarterly cheque of each doctor on the panel the sum of ¾d. for each person on that doctor's list.

(b) This sum be deposited each quarter at compound interest with some Insurance Company.

(c) The expenses of the Local Medical Committees be defrayed out of this fund.

(d) In the event of the death of a Member, his contributions be returned to his executors plus 3 per cent. compound interest.

(e) The rest of the money so deducted each quarter remain on deposit at compound interest till April 14th, 1916.

(f) On that date, if it be necessary, the total sum be available for use as a War Fund.

(g) If at that date a War Fund be unnecessary, a sum of at least £200,000 be placed to a Special Reserve to be used at any time solely as a War Fund ; and that this sum be added to each year.

(h) The balance be placed with an Insurance Company, to provide a nucleus for a Sickness, Accident and Pension Fund.

(i.) The contributions be national, and be continued so long as the Insurance Act is in operation.

2. The Committee has given careful consideration to the above motions of Brighton and Newcastle-on-Tyne which formed the basis of its reference. Several of the recommendations of the Committee are founded on suggestions contained in these motions. The plan outlined in the motion of Newcastle-on-Tyne being based on a compulsory deduction from the payments due to doctors on the insurance panels is not feasible as deductions could not be made compulsorily. The scheme described in the following paragraphs is based, as any such scheme must be based, on voluntary contribution.

3. In addition to these definite references by the Council, the Committee has had in mind various representations which have been made to it in regard to the future organisation of the profession for dealing with the new problems which have arisen owing to the operation of the National Insurance Act, and particularly the proposals to form new bodies with greater powers than the Association at present possesses.

4. The Committee has come definitely to the conclusion that if the profession is to be properly organised in the future for defence against the aggressions of lay bodies and the State, and for the protection of the general interests of medical practitioners, individually and collectively, and also in the interests of public health, it is absolutely necessary that a far larger annual sum of money should be found by the profession than has been provided in the past.

5. To meet the requirements of the situation three conditions are essential, namely :—

(a) The existence of one strong central body ;

(b) the placing of ample financial resources at the disposal of the central body ;

(c) The active support of the central body by a large proportion of the medical profession.

6. The Committee places great stress on the necessity for the organisation of the profession being in the hands of one strong central body rather than in those of a number of organisations having the same aims but differing methods of procedure. One body dealing with the organisation of any calling must necessarily be stronger and carry much more weight than several bodies with the same number of individuals distributed among them.

PLAN OF REPORT.

7. For the convenience of the Council in considering the question of the formation of any organisation such as is foreshadowed in the foregoing paragraphs, the Committee submits its Report under the following heads:—

(I.) The objects to be aimed at by such organisation;

(II.) Consideration of each object in detail;

(III.) The consideration of the question whether the British Medical Association, as at present constituted, is able to carry those objects into effect;

(IV.) A discussion of the suggested alternative methods of organisation, namely:—

(a) By the Association, as at present constituted, running any risks which are consequent on the restrictions imposed on it by its constitution;

(b) By a new Association with powers wide enough to comprise all the proposed objects;

(c) By a Special Fund independent of the funds of the Association, but formed as a Trust administered by the Members of the Council for the time being of the British Medical Association, acting as Trustees; or

(d) By a Trade Union outside the Association but controlled by the Association.

(V.) Recommendations.

Part I.—Objects to be Aimed at.

8. The Committee, upon consideration of the above-mentioned references, came to the conclusion that a fund should be established, open to all members of the profession, and the Council at its meeting on April 23rd, 1913, expressed the opinion, upon the recommendation of the Committee, that the following were objects which the fund might include, and which would doubtless be extended if the requisite financial support were forthcoming:—

(a) The provision of legal and clerical assistance to and payment of administrative expenses of Local Medical Committees;

(b) The provision of the services of the British Medical Association in protecting the interests of medical practioners as affected, directly or indirectly, by the National Insurance Act, not only in contract medical work, but in all other forms of medical practice;

(c) The provision of a reserve for the support of medical practitioners affected by action undertaken by the Association in pursuit of any future policy adopted by it;

(d) The organisation and development of the British Medical Association so as to allow the medical staff visiting every Division in the United Kingdom and interviewing each Local Medical Committee at regular intervals, and otherwise assisting the profession in any locality as and when required;

(e) The payment on a scale, out of the Special Fund, of members of the medical profession absenting themselves from their practices in performance of any of the following duties:—

(i.) For attendance at Representative Meetings;

(ii.) For attendance at Central Council and Committee Meetings held in London.

At the same meeting the Council directed that the Divisions be informed in the Annual Report of Council that the feasibility was being considered of any such proposed Fund also providing the following insurance advantages:—

(i.) Medical defence and insurance against the law costs of adverse verdicts;

(ii.) Sickness and accident insurance;

(iii.) Endowment insurance, with optional pension.

9. The main object in view is to weld the whole profession into a single defensive and offensive alliance. It is proposed to do this largely by means of paid medical organisers who would arrange and attend meetings of the profession all over the kingdom, whether meetings of Divisions of the British Medical Association or not; would get into close touch with all practitioners; would enter into the varying conditions of practice in different localities; would collect, analyse and condense information; would report thereon to the Central Body, from whence in turn these medical organisers could disseminate a policy based upon the collected opinions; would explain it intelligently and forcibly to the various bodies concerned; would direct discussion thereon so as to ensure real consideration of the most vital points; would obtain votes thereon, and would personally convey the impressions gained at these meetings to the Central Body. In this way larger meetings, more sustained enthusiasm, greater "esprit de corps" and an increase in the prestige of the profession would be obtained. The Committee lays great stress on the advantages to be gained by the employment of medical organisers, believing that capable exponents of the policy of the Association and of the documents which are from time to time circulated would do much to interest the profession and evoke intelligent discussion, while keeping the centre of the Association in direct touch with the periphery in a way never yet attempted except on a very inadequate scale.

10. It will be seen, therefore, that though the proposed Fund is intended to be used to supplement and extend the present activities of the British Medical Association, its advantages will be open to all members of the profession who subscribe to it whether they are members of the British Medical Association or not. Greater cohesion of the medical profession would it is believed be secured, than has hitherto been obtainable.

11. Before entering into details as to these objects and as to how the money is to be raised, it should be clearly understood that under the scheme it would be possible for a practitioner to contribute to the Fund for the "organisation" part alone *or* for the "organisation" *and* one or more of the insurance advantages, but not for the latter advantages alone, *i.e.*, the insurance advantages are special concessions offered only to those members of the profession who subscribe to a Fund for the purposes of organising the profession.

Part II.—Detailed Consideration of Objects of Fund.

"ORGANISATION" SECTION.

(a) *The provision of legal and clerical assistance to and payment towards administrative expenses of Local Medical Committees.*

12. The setting up of Local Medical Committees has raised the question as to how these bodies are to be financed. It is clearly understood that the expenses of these Committees must be borne by the profession itself, and the Association has always held that this is as it should be, as the profession is more likely to put its energies into an organisation for which it is solely responsible both financially and otherwise, than it would do if that organisation were financed and therefore controlled by the State. It is vital to the interests of the Association that these Committees should not become rivals to the Association and its Divisions and Branches, but it is of just as much importance to the profession that they should be made really effective units in the machinery of the profession. It is realised, therefore, that it is of the utmost importance that the activities of these Committees should at their inception be guided and co-ordinated and the first step is to put their finance upon a proper basis. At present their cost is being met in various areas in different ways, but mainly either by a small voluntary individual subscription from each practitioner in the area or on the panel, or by a deduction from the money due to each practitioner on the panel in proportion to the number of insured persons on his list. It is believed that the best means of meeting these expenses would be from a Central Fund out of which the cost of the Committees would be met in some systematic manner. At present there is a risk of some of the Committees being worked extravagantly while others are starved. In addition the local and haphazard collection of expenses does not seem to be a businesslike method of financing a permanent and national institution, and it is a task of which the Honorary Officers of the Committees would gladly be relieved. The suggestion is that the Fund should be responsible for only a definite amount spread over the whole of the Committees grants being made upon some agreed basis to individual Committees at the discretion of the Fund.

13. The total number of Insurance areas in Great Britain and Ireland, in respect of which Local Medical Committees should be formed, is 232. The Committee is of opinion that in order to cover clerical assistance and the cost of printing and postage for these 232 Local Medical Committees provision must be made for not less than an average per Committee of £10 per annum. On this assumption the total cost would be roughly £24,000 per annum.

14. Considerable advantage has, up to the present, been taken of the Association by these Committees in obtaining legal advice. Under the scheme this important work would be continued and extended, and a sum of £1,000 per annum has been provisionally estimated for expenses under this head.

(b) *The provision of the services of the British Medical Association in protecting the interests of medical practitioners as affected, directly or indirectly, by the National Insurance Act, not only in contract medical work, but in all other forms of medical practice.*

15. The above named object necessarily has had to be stated in general terms, but by it the Committee means co-operation between the British Medical Association and the Fund in order to extend those activities of the Association which have been gradually developing during the past ten years, but which have been hampered by the want of sufficient funds and by certain restrictions in the Regulations of the Association. It will be noted that this object is not confined to insurance service work, nor even to contract work generally, but is intended to include the protection and organisation of the profession in all its branches, apart from the purely scientific. It is essential that the profession should understand that the proposed Fund is intended for the use of the whole profession and not for any particular section. The necessity for the provision of greater financial resources for the protection of the interests of the profession has grown more urgent since the introduction of the National Insurance Act; but even if the Act had never been introduced, a large extension of the work hitherto done by the Association in this direction had become inevitable

16. Expenses which can be more or less estimated for in this connection are the expenses (personal, travelling, printing, and legal) of the State Sickness Insurance Committee which have been provisionally put down at £1,000 per annum. This Committee, though a Committee of the British Medical Association, has special claims on the profession as a whole, as representing all sections of the profession, and as endeavouring to protect the interests of all classes of practitioners as affected by the National Insurance Act, and its work has a more intimate connection with the objects of the proposed Fund than that of any other Committee of the Association. For a considerable time to come this Committee will have to meet much oftener than any other Committee of the Association, and the above expenses will, therefore, remain heavy. The sum of £1,000 which is provisionally allotted to it in the financial estimate of the Fund is considered therefore to be a reasonable contribution to the expenses which will be incurred by the Association in connection with the State Sickness Insurance Committee.

17. The Committee is of opinion that the time has come when the new problems which have been raised, and the new duties put upon the profession by the National Insurance Act should be met in a permanent fashion by the establishment of a new department devoting its energies entirely to the work now being done by the State Sickness Insurance Committee, to the assistance and guidance of Local Medical Committees and to the new medico-political work arising as a consequence of the operations of the National Insurance Act. This cannot be done as it should be done by the present staff of the Association, from sheer physical inability on its part to grapple with all the new duties in addition to the other varied work of the Association. It is suggested that at the head of this Insurance Department there should be placed a medical practitioner with experience of general practice who should be under the administrative control of the Medical Secretary, unless it were arranged that this special department were undertaken by the Medical Secretary himself. In any case the department would need to be kept in constant touch with the Medical Department. There should be an ample clerical staff so that the work could be thoroughly well done. This suggestion, if carried out, would not only ensure that the Insurance medico-political work would be efficiently performed, but would relax the strain on the Medical Department and set it free for its other work which has recently been in great danger of neglect. It is proposed also that there should be branch offices at Edinburgh, Dublin, and Cardiff. These would serve as organising centres, and would be under the control of the medical organisers previously alluded to. For the expenses outlined in this paragraph, it is estimated that a sum of not less than £3,000 per annum would be required.

(c) *The provision of a reserve for the support of medical practitioners affected by action undertaken by the Association in pursuit of any future policy adopted by it.*

18. This object would be described in trade union terms as the provision of "strike and lock-out pay." Both the motions referred from the Special Representative Meeting lay stress on the need for such a provision and the Committee is of opinion that it is greatly to be desired that a reserve should be set aside to meet the contingencies which may at any moment arise. Something in this direction has already been done by the Association by means of the Central Emergency Fund, established in 1905. From that Fund assistance has often been given which has enabled practitioners to hold their own while a contract practice dispute has been in progress, but the Fund has always been a small one and its scope has therefore necessarily been restricted. If the profession is ever to be properly organised to resist the encroachment of lay bodies it is obvious that it must be able to guarantee that practitioners who loyally carry out the policy decided upon by the majority shall not suffer financially in consequence. No better test could be found as to whether the profession has learned the lesson of the past two years than its attitude to the proposal that it should provide regular and adequate funds for this purpose. Since the Association neither has, nor could obtain, power to devote its money to this purpose, the profession must by some new method, provide a fund which may accumulate from year to year and thus be ready for any struggle which comes, and the fund must not be on paper. For really effective fighting purposes there must be cash actually in hand and always ready. It is proposed that any balance remaining from the subscriptions to the organisation section of the proposed Fund shall be placed to the above-mentioned reserve, and also the balance of the profits made on the Insurance section, after deducting the commission allowed to members and paying expenses of administration of that section.

(d) *The organisation and development of the British Medical Association so as to allow the medical staff visiting every Division in the United Kingdom and interviewing each Local Medical Committee at regular intervals, and otherwise assisting the profession in any locality as and when required.*

19. This important subject has already been alluded to in paragraph 9 of this report. It has long been apparent that it would be of the greatest assistance to the profession if whole time medical organisers, experienced in general practice, could be provided, each of whom should devote himself specially to a certain part of the Kingdom, make himself thoroughly conversant with local problems, become personally acquainted with the local profession, and be ready to assist the profession in local deputations and the like, while keeping himself in touch with headquarters. By the special knowledge thus gained, and being whole-time officers, these organisers would be able to give help such as no honorary officers who are subject to the claims of professional life could give, however willing they might be. The development of the system of local organisers has been of the greatest use to other large associations, and if the medical profession is willing to provide the money, this is an expenditure which would undoubtedly produce immediate and permanent results.

20. The number of medical organisers in the first instance should be four, two for England and Wales, one for Scotland, and one for Ireland. If the Fund, however, were supported as it should be, this number should undoubtedly be increased at an early date. It would not be possible to get a practitioner sufficiently experienced, and with the necessary qualifications, at a less salary than £600 per annum. To the aggregate of £2,400 for the four medical organisers recommended, the sum of £1,000 would need to be added for travelling expenses.

(e) *Payment out of the Special Fund of honorariums to practitioners absenting themselves from their practices for the sake of performing certain duties on behalf of the profession.*

21. During the past few years the work thrown upon honorary officers and representatives of the Association in various capacities has so enormously increased that the time has now arrived when it would seem not only unfair but impracticable to expect the continuation of these services without at any rate payment of out-of-pocket expenses. The Committee believes that the least that should be offered in this connection would be the payment of:—

30s. per day for every day necessarily spent away from home, for those attending Representative Meetings of the Association.

30s. per attendance to country members and 10s. 6d. to those members residing inside the London area for an attendance at Council and Committee Meetings held in London.

In estimating for these expenses the average figures of attendance at the above-mentioned Meetings during the past few years have been taken, and on this basis it is estimated that the sum of approximately £4,000 would be required for

this purpose. In addition a sum of £500 should be estimated for the like payments, together with travelling expenses, to those members of the profession on any Committee having general control of the Fund.

SUMMARY OF ESTIMATES OF INCOME AND EXPENDITURE.

22. A summary of the income of the Fund, based on an estimated membership of 10,000, and of the expenditure mentioned in the foregoing Section, will be found in Sub-Appendix A.

INSURANCE ADVANTAGES SECTION.

This section describes certain individual advantages offered to Members of the Fund. They are optional, but they are restricted to those who subscribe to the Organisation Section of the Fund. A proportion of the profits made in this section will be given to subscribers in the form of reduced premiums, the remainder will be applied to the Reserve Fund available for the compensation of practitioners who suffer financially by their loyalty to the policy of the Association.

23. Up to the present this Report has dealt with those objects which, on the ground of common interest, should appeal to every member of the profession—objects which, if carried out, will unite the profession, and make it ready to meet any emergency which may threaten it as a corporate body requiring either defensive or offensive measures. The Committee now proceeds to deal with what may be termed "the Insurance Advantages" of the proposed Fund. The advantages which the Fund will be able to offer in this connection are, as explained above, to be confined to those practitioners who will subscribe towards the organisation of the profession. The following are the insurance provisions which the Committee has had under consideration :—

(I.) medical defence and insurance against the law costs of adverse verdicts ;

(II.) sickness and accident insurance ;

(III.) endowment insurance with optional pension at age 65.

(I.) MEDICAL DEFENCE, &c.

24. The first insurance advantage which it is proposed should be included in the scheme, is the provision of individual medical defence, and insurance against all costs of defence in professional actions which are endorsed by a Medical Defence Society, whether successful in the Courts or not, and also against any adverse costs and damages up to the amount of £2,000 in such cases, in which the action is unsuccessful. There are already in operation three successful medical defence associations, namely, the Medical Defence Union, the London and Counties Medical Protection Society, and the Scottish Medical and Dental Practitioners Protection Society. Under the scheme all members paying through the Fund for this benefit would state to which of these Societies they would prefer that their subscriptions should be paid. Practitioners subscribing to the Fund who are already members of any of these Societies would naturally remain members and pay their defence subscriptions through the Fund. Their subscription to this object would be the same as before, but it would be convenient for them to make one inclusive payment to the Fund out of which their Medical Defence subscription would be paid.

25. There is good reason to believe that if a large number of new members join these three Societies through the Fund it would be possible to make such arrangements that a subscription of 17s. 6d (the least for which the above benefits can be obtained by a practitioner joining any of these Societies direct) would cover also the entrance fees of new members who, if they applied direct to any one of the Societies, would have to pay a first subscription of £1 7s. 6d.

(II.) SICKNESS AND ACCIDENT INSURANCE.

26. The Committee is of opinion that insurance against sickness and accident would be a useful and popular part of such a scheme as it is proposing. It has therefore made enquiries into benefits offered by many Insurance Companies and has interviewed the representatives of several of them, and finds that as regards sickness and accident benefit the best arrangement could be made through the Medical Sickness Annuity and Life Assurance Friendly Society. This Society is a mutual Society dealing only with members of the medical profession, is controlled by a medical committee, spends no money in commission, and consequently is administered on such economical lines that the benefits it is able to offer are superior to any of those of which the Committee has been able to get information. Its premiums are in fact lower than those payable into any other Society giving like benefits. This Society offers a contract which cannot be terminated by the Society at the end of any year, differing in this respect from nearly all similar Societies. If a Member be once accepted by the Society and continues to pay his subscription, the contract remains valid.

27. The Medical Sickness Annuity and Life Assurance Society offers benefits from 2 guineas per week upwards and a practitioner joining the Society through the Fund could insure for two, three, or four guineas per week as desired, and at proportionate rates of premium. The Committee, however, has come to the conclusion that speaking generally, a benefit of four guineas per week is that which would be most generally acceptable. Table (i.), Sub-Appendix B, dealing with this matter refers therefore to an insurance of four guineas per week for 26 weeks for any illness or accident, and half that sum for the rest of the illness, however long it may last, up to the age of 65. At that age all benefits and payments cease, but it is the present custom of the Society to give a bonus to practitioners when they reach the age of 65. The amount of the bonus depends upon the financial position of the Society and is at present £40. Notwithstanding the low premiums of the Society the Fund would be able to make arrangements with it whereby in consideration of the subscriptions being collected by the Fund and handed over in bulk to the Society, an allowance would be made to the Fund which would not only pay for the administrative work involved in the collection of the premiums but would leave a balance which it is proposed should be applied to a reserve fund for the support of practitioners financially affected by action taken by the Association or Fund. Thus subscribers would not only have the satisfaction of being insured at as cheap a rate as they could themselves secure, but would know that by joining through the Fund they were helping on the work of organising the profession.

(III.) ENDOWMENT INSURANCE WITH OPTIONAL PENSION.

28. Another insurance advantage which it was considered should appeal with considerable force to members of the medical profession is the provision of endowment insurance with the option of receiving a lump sum at the age of 65.

The Committee is in a position to state that favourable arrangements could be entered into with an Insurance Company for the provision of an endowment insurance with optional pension of £50 per annum (or more according to rate of subscription) at age 65, or the payment of a lump sum of £479 at that age or previous death. These arrangements provide that if a considerable number of practitioners join through the Fund the Company will allow to the Fund certain commissions which could not be obtained by individual insurers.

29. The position in which the Fund would thus be placed would enable it to offer its Members special advantages. Members would be offered the choice between the following :—

(a) A deduction from first premiums of the sum of Five Pounds, or

(b) A deduction from first premiums of the sum of Two Pounds Ten Shillings, with a deduction of 1¼ per cent. from all subsequent premiums.

Table (ii.) in Sub-Appendix B sets forth the premiums payable at various ages. The premium in every instance is subject to either of the alternative deductions above mentioned.

SUBSCRIPTIONS TO FUND ; METHOD OF COLLECTION OF FUND.

30. It is proposed that every Member of the Profession should be invited to subscribe to the Organisation Section of the Fund the sum of £5 per annum, and to pay through the Fund for such of the Insurance advantages as meet the circumstances of his case. For those practitioners who prefer it, the money would be collected by yearly, half-yearly, or quarterly instalments paid direct to the office of the Fund. Practitioners serving on a panel could probably make arrangements whereby

their contributions to the Fund could be deducted from the moneys due to them for their attendance on insured persons. It is believed that there would be little difficulty in having the contributions deducted by the Clerks of Insurance Committees before paying over the quarterly cheques, should a large number of practitioners in any insurance area express their desire to have such deductions made.

31. The Committee is prepared for expressions of surprise on the part of many practitioners at the amount of subscription expected from them and the boldness with which expenditure in certain directions is contemplated, but has no hesitation in saying that the proposed subscription is quite a modest one in view of all the circumstances of the case, and that the necessity for every item of expenditure suggested can be fully justified. The profession has grown so accustomed to the amount of work done for it by the British Medical Association for a very small subscription that it has overlooked the fact that much of the work which it expects to be done simply cannot be done on what is left from a subscription of 25s. per annum after providing members with a journal, a library, a central meeting place, and many other advantages. The subscription to the Association was not based on the present needs of the profession and the whole position needs to be reconsidered. If the profession means to be efficiently organised it must provide the money, and the Committee is of opinion that a subscription of £5 for purely defensive and organising purposes is not extravagant. Indeed, comparing it with the subscriptions paid to many trade unions, it is in fact quite small when the respective incomes of working men and professional men are taken into consideration.

Part III.—Can the British Medical Association as at present constituted carry the Proposed Objects into Effect?

32. The Committee has given very careful consideration to the question of whether it would be possible for the British Medical Association, as such, to carry the proposed objects of the Fund into effect, and has had the advice both of the Solicitor of the Association and of Counsel, Mr. Colquhoun Dill. Their advice is definitely to the effect that it is impossible to carry out the whole of the proposed objects under the Memorandum of Association or any extension thereof which might conceivably be obtained.

33. The legal position is that objects (a) (d) and (e) (pars. 12, 19 and 21) could probably be carried out by the Association if some alterations were made in the Articles. Objects (b), (par. 15) and (c), (par. 18) contemplate the regulation by the Association of the terms on which medical practitioners are to carry on their practice. Such regulation of practice is not only entirely outside the Memorandum of Association which forms the basis of the constitution of the British Medical Association, but it is legally outside the scope of any organisation except a trade union. The funds and property of the Association have been accumulated on behalf of a limited company with certain essential restrictions contained in the Memorandum, and it would be legally impossible for this property to be used for what may be called trade union purposes, or transferred to a trade union.

Part IV.—Alternative Methods of Organisation.

34. Having been met by the above-mentioned difficulties in the way of the utilisation of the Association itself for the carrying on of these objects, the Committee has under legal advice carefully considered the alternative methods which present themselves (See Counsel's opinion, *see* Sub-Appendix C.) Four methods have been suggested, namely:—

(A) By the Association as at present constituted running any risks which are consequent on the restrictions imposed upon it by its constitution;

(B) By a new Association with powers wide enough to comprise the objects desired;

(C) By a Special Fund independent of the funds of the Association, but formed as a Trust administered by the Members of Council for the time being of the Association acting as Trustees.

(D) By a Trade Union, outside the Association, but controlled by the Association.

(A) Objects to be administered by Association as at present constituted.

35. The idea of adopting this course may be at once dismissed for three reasons. First, the risk to the Association itself, which, as a consequence of its taking action which is clearly outside its Memorandum, might be challenged by the Board of Trade, and might not only forfeit its License from that body, but in addition render its registration as a Company void. If this occurred the Charity Commissioners would probably step in and seek to administer the Funds of the Association. Secondly, these new objects could not be undertaken without an increase in the subscription to the Association and members of the profession could not be asked to subscribe to an organisation the foundations of which might be upset at any moment. Finally, as has been previously stated, it is hoped to enlist in support of the objects of the proposed Fund members of the profession who are not members of the Association and probably would never become members. The adoption of method (A) would *ipso facto* exclude such practitioners.

(B) By a new Association with powers wide enough to comprise proposed Objects.

36. The Committee has been advised that it is not legally possible to form a new Association with powers sufficiently wide to enable it to carry out the proposed objects. The Association has already ascertained from the Board of Trade the extent to which the Association would be allowed to extend the scope of its Memorandum of Association if it were wound up and registered with a new Memorandum. There is no possibility of the scope being made wide enough to include the objects of the proposed Fund. A new Association registered as a Company might undertake the objects of the Fund, though it would run the risk of infringing the Trade Union Acts, but the British Medical Association cannot do it without incurring the risk of losing all its property.

(C) By Special Fund, administered as a Trust by the Members for time being of the Council of the Association.

37. This course deserves careful consideration, as, though it presents certain difficulties, these do not to the Committee appear to be insuperable. The main difficulties consist of certain risks which may be divided into two classes, (i.) those which would be run by the Association, (ii.) those which would be run by the Trust.

(i.) The risks run by the Association would be caused by the fact that the carrying out of some of the objects of the Fund and more particularly (c) (*see* paragraph 16) would necessitate such intimate connection between the Fund and the Association that it would be very difficult to keep the administrative expenses of the two bodies separate. This in the opinion of Counsel would be likely to raise difficult questions as to the position of the Association in relation to the Fund, and might possibly lead to allegations by the Board of Trade that paragraph 4 of the Memorandum of Association was being infringed. This paragraph reads as follows:—

> "The income and property of the Association, from whatever source derived, shall be applied solely towards the promotion of the objects of the Association as set forth in this Memorandum of Association, and no portion thereof shall be paid or transferred, directly or indirectly, by way of dividend or bonus or otherwise, by way of profit to the persons who at any time are or have been members of the Association, or to any person claiming through any of them, provided that nothing herein shall prevent the payment in good faith of remuneration to any officers or servants of the Association, or to any member of the Association or other person in return for any services actually rendered to the Association."

The Committee is of opinion that if the Fund and its administration were kept entirely separate from the Association funds this risk would be entirely avoided. This seems mainly a matter of office arrangement and book-keeping. The establishment, under legal advice, of the Central Insurance Defence Fund, which performs functions very similar to those of the proposed Fund, shows that the difficulties are not insuperable.

38. (ii.) The risks run by the Trust would be that in carrying out the objects of the Fund particularly (b) (par. 15) and (c) (par. 18) the Trust would be open to the charge that it was engaged in activities which might be held to be "in restraint of trade." Trust Funds cannot claim any legal protection in doing such things. The only organisation which has effective legal protection in such actions is a trade union.

In estimating the practicability of this plan, the Committee draws attention to the fact that it is a method which had been adopted previously by the Association, not only in regard to the Central Insurance Defence Fund, but also to the Central Emergency Fund. The latter has been in existence since 1905, and has carried on, on a small scale, the same work as is contemplated under object (c). As regards the Central Insurance Defence Fund, the Committee would recall the opinion of Mr. Colquhoun Dill on legal points very similar to those raised in this connection. The whole opinion was published in the Minutes of the A.R.M., 1912 (*see* pages 285-286), but the following is the part which seems to be of particular value in the present discussion :—

"I have considered the circular as to this fund (Central Insurance Defence Fund) issued on the 17th July, 1911, and the Circular issued in February, 1912, by the 'Medical Federation, Limited.' The purposes for which the fund was formed (as indicated in the circular of July, 1911), are in my opinion purposes directed to the 'maintenance of the interests of the medical profession,' which is one of the primary objects of the British Medical Association. Therefore, subject to the exception next referred to, the purposes indicated by the circular are within the powers of the Association, as stated in its Memorandum, and the Association is entitled to carry them into effect.

"The exception is that so far as the purposes in question involve the payment of compensation to individuals the Association is precluded from applying its funds for those purposes.

"But there is in my opinion no objection to the Association acting as administrator or trustee of a fund raised in the manner and for the purposes mentioned in the circular ; for that fund is raised by voluntary subscriptions from members of the medical profession generally, and forms no part of the funds of the Association, and it bears its own expenses of administration.

"In so acting, the Association is committing no breach in the conditions of the license of the Board of Trade, and, of my opinion, neither that Board nor any member of the Association could restrain the Association from so acting.

"If the circular of the Medical Federation, Limited, is intended to suggest that the fund so raised cannot lawfully be used for indemnity or compensation, it is in my opinion incorrect and misleading.

"I have treated the matter on the footing that the Association itself is administering the fund in question. I should, however, point out that it is arguable that the trustees or administrators are the members of the Council, and that the Association as a corporate body is not acting in the matter at all, although the fund is raised under its auspices.

T. H. Colquhoun Dill.

Lincoln's Inn, 6th March, 1912."

39. The Committee is of opinion that the adoption of the method of a trust merits very careful consideration. The Council must be reminded, however, that such risks as attach to the adoption of the trust method would be enhanced as the trust increased its activities and its success drew public attention to its operations.

(D) By a Trade Union controlled by the Association.

40. There is no doubt that a Trade Union could carry out the proposed objects of the Fund without any legal risks to itself. In the event, however, of the trade union being connected with the Association, the latter would be exposed to the same risks as are pointed out in the Trust above method (C) (i.) (par 37). The objection to the formation of a Trade Union controlled by the Association, although in the main sentimental, is none the less real and needs to be carefully weighed. Trade unionism is usually associated with organisations of manual workers and not with those callings, classed as professions, which involve a liberal education, and there is no doubt that many members of the medical profession would decline to become members of an organisation which has as its *raison d'etre*, as defined for the purposes of the Trade Union Acts, "the regulation of the relations between workmen and masters or between workmen and workmen, or the imposing of restrictive conditions on the conduct of any trade or business." With such a sentiment existing and held strongly by a considerable proportion of the profession, it would be hopeless to expect that a large majority of the profession would join a trade union and become bound by its rules.

41. It is apparent that many do not realize that there is nothing in the constitution of a trade union which compels a person who joins it to remain a member. He can leave when he pleases, and he cannot be sued for his subscriptions, levies, or penalties. It is true that trade unions of workmen manage to keep their members together and to exercise a very powerful discipline over them, but records show that the membership of trade unions is constantly fluctuating. Just before a strike, every effort is made to induce non-members to join, and the kind of persuasion which is used is often very effective. But after the dispute is over the membership always falls off, mainly because those who are not convinced trade unionists do not care to pay the levies, often very considerable, which are demanded of all members. Trade unions are kept together by three main forces. (1) The desire for co-operation which exists in members of the same calling ; (2) Intimidation, in more or less veiled forms ; and (3) The benefits subscribed for. (1) The desire for co-operation can be satisfied in other ways not open to the same objections as trade unionism is ; (2) Intimidation, as practised by trade unions, is not available for use by the medical profession even if the idea were not absolutely foreign to the whole professional spirit. It is not possible to bring the same influences to bear on a man whose work is peculiarly individual, as on a man who works in a mine or workshop ; (3) As regards the binding force of benefits it remains to be proved that any considerable number of medical practitioners will ever pay such a subscription to a trade union as would make them hesitate about leaving the union if they believed the action of that organisation to be wrong, or if for any reason they were not prepared to be bound by it.

42. However, assuming that it were thought advisable to protect the proposed Fund by registering it as a Trade Union, another question of great importance emerges. How is such a body to be kept under the control of the British Medical Association ? Counsel suggests that this might be done by making it one of the rules of the Union that its officers and ruling body should be appointed by the British Medical Association, and doubtless this arrangement might well form part of the rules of such a union. Nothing could, however, prevent the rules being altered at any time, and the Committee cannot avoid the conclusion that if the Union were successful and obtained a considerable membership, it might be exceedingly difficult to retain effective control by the British Medical Association. It may be suggested that so long as the profession is provided with an effective protection it does not matter whether the organisation is controlled by the Association or not. The Committee does not hold this view. The Association has for years striven to discourage the formation of sectional societies, and to make itself comprehensive enough to attract all members of the profession, whatever the nature of their work. In the opinion of the Committee it would be disastrous to do anything to encourage a policy which would involve the setting up of a serious rival to the Association, and this not so much for the sake of the Association, as for that of the solidarity of the profession. The interests of the profession are far wider than those connected with the Insurance Act, or any other medico-political question, important as these are, and the Committee believes it to be essential that any new means adopted for improving the organisation of the profession should be kept as far as possible in the hands of the British Medical Association.

43. The conclusion to which the Committee is driven is that there are difficulties in the way of adopting *any* course which has been suggested, but that these difficulties can be surmounted if the profession is in earnest. The only possible methods seem to be (i.) the formation of a Trust under the ægis of the Association, and (ii.) the formation of a Trade Union. For the reasons given above the Committee is of opinion that any advantages which are offered by the latter method are far more than balanced by its serious disadvantages, and the Committee accordingly recommends that a Fund should be established, administered as a Trust by the members for the time being of the Council of the Association.

Conclusion.

44. The Committee, in placing this Report before the Council, does not desire to minimise the great difficulties in the way of the establishment of such a Fund as has been described. The Committee is, however, absolutely convinced of the necessity of the establishment of such a Fund if the future organisation of the profession is to be placed upon really effective lines, and equally of the necessity of the Association directing and controlling any new machinery which may be set up to meet the new professional problems which have arisen. The income of the Fund has been estimated on a membership of 10,000, but

this does not mean that its operations need be delayed until that number of practitioners join. If the Council and the Representative Body receive the suggestion with favour there is nothing to hinder the Fund being started at the beginning of 1914. It is believed that the subject is ripe for consideration by the Divisions and Representative Body, and it is trusted that, as the outcome thereof, many valuable suggestions will arise. Free discussion of the project will, in any case, show whether there is a real demand for the effective organisation of the profession and, if so, how far the Committee, by the plan now placed before the Council, has been enabled to meet the requirements of the profession.

Part V.—Recommendations.

(I.) That a Fund be formed for the development of the organisation and protection of the medical profession.

(II.) That the following shall be the objects of the Fund:—

(a) The provision of legal and clerical assistance to and payment towards the administrative expenses of Local Medical Committees;

(b) The provision of the services of the British Medical Association in protecting the interests of medical practitioners as affected, directly or indirectly, by the National Insurance Act, not only in contract medical work, but in all other forms of medical practice;

(c) The provision of a reserve for the support of medical practitioners affected by action undertaken by the British Medical Association in pursuit of any future policy adopted by it;

(d) Assisting, by means of grants, in the organisation and development of the British Medical Association so as to allow the medical staff visiting every Division in the United Kingdom and interviewing each Local Medical Committee at regular intervals, and otherwise furthering the interests of the profession in any locality as and when required;

(e) The payment, on a scale, of members of the medical profession absenting themselves from their practices in performance of any of the following duties:

(i.) For attendance at Representative Meetings of the British Medical Association;

(ii.) For attendance at Central Council and Committee Meetings of the British Medical Association held in London;

(iii.) For attendance at meetings of the Trustees of the fund or of any Committee of the fund.

(III.) That the subscription in respect of the Organisation benefits of the Fund shall be the sum of £5 per annum, payable yearly, half-yearly, or quarterly.

(IV.) (a) That the organisation, control and administration of the Fund shall be vested in the members for the time being of the Council of the British Medical Association acting as Trustees.

(b) That such Trustees shall have power to delegate all or any of their powers to any Committee or Committees which they may deem it desirable to form.

(c) That the whole of the expenses attaching to the administration of the Fund shall be borne by the Fund.

(V.) That the following Insurance advantages be provided for those subscribers to the Organisation part of the Fund who desire to avail themselves thereof:—

(a) Medical defence and insurance against the law costs of adverse verdicts;

(b) Sickness and accident insurance;

(c) Endowment insurance, with optional pension at age 65.

SUB-APPENDIX A.

ESTIMATE OF INCOME AND ADMINISTRATIVE EXPENDITURE.

	£	£	£
INCOME.			
10,000 Members at £5			50,000
EXPENDITURE.			
Grants towards Local Medical Committees' Expenses (say 240 at £100)		24,000	
Legal Expenses		1,000	
Four Organising Secretaries ...		2,400	
Do. Travelling Expenses		1,000	
Maintenance Expenses of Representatives attending Annual Representative Meeting, of 6 days' duration (200 at 30s. per day)	1,800		
Do. Special Representative Meetings, say 3 days (200 at 30s.) ...	900		
Maintenance Expenses of Members attending Central Committees and Sub-Committees, London Members 10s. and Provincial Members 30s. per day (at a mean of £1)	1,000		
	3,700		
		(say) 4,000	
Similar expenses in respect of Members of Committee of Fund (say)		500	
Grant towards State Sickness Insurance Committee Expenses (personal, travelling, printing and legal)...		1,00	
Clerical Staff: London, Edinburgh, Dublin, Cardiff		3,000	36,900
Leaving an estimated balance, which would be placed to a Reserve as for the purposes described in Part II. (c), of about			£13,000
			£50,000

In addition to this estimated balance of £13,000 per annum there would be a sum, impossible to estimate with any degree of accuracy, derived from the commission allowed on the Endowment Assurances effected by members of the Fund.

SUB-APPENDIX B.

INSURANCE PREMIUMS.

Age next Birthday.	Table I. Ordinary Annual Premiums for Sickness and Accident Insurance of 4 guineas a week for 26 weeks, and half that sum for rest of illness to age 65.			Table II. Annual Premium for Non-Profit Endowment Assurance of £50 per annum at age 65, or payment of sum of £479 at that age or previous death.		
	£	s.	d.	£	s.	d.
26	6	9	6	10	0	5
27	6	12	4	10	7	3
28	6	15	6	10	14	10
29	6	19	0	11	2	9
30	7	2	6	11	11	2
31	7	5	0	11	19	11
32	7	9	2	12	9	6
33	7	12	4	12	19	11
34	7	15	10	13	11	1
35	7	19	11	14	2	8
36	8	4	8	14	15	0
37	8	8	6	15	8	2
38	8	13	2	16	2	2
39	8	17	11	16	16	11
40	9	2	5	17	12	11
41	9	7	6	18	10	6
42	9	12	6	19	9	8
43	9	18	6	20	10	9
44	10	3	11	21	14	4
45	10	10	4	23	0	8
46	10	16	11	24	9	10
47	11	3	7	26	2	2
48	11	11	2	27	17	8
49	11	18	2	29	16	10

SUB-APPENDIX C.

CASE SUBMITTED BY MR. HEMPSON FOR THE OPINION OF COUNSEL, AND OPINION.

Counsel is familiar with the constitution of the British Medical Association, and a print of its Memorandum, Articles and By-laws accompanies, and to which Counsel is referred.

It will probably be within the recollection of Counsel that an opinion was obtained from him on the 6th March, 1912 (see copy sent herewith) regarding the Central Insurance Defence Fund which was being raised under the ægis of the British Medical Association, and was being administered by and under the direction of the Council of that body.

The circular of 17th July, 1911, which led to the creation of this fund, was then submitted to Counsel in consequence of questions having been raised as to the legal propriety of that which was being done, and Counsel's views were conveyed by the opinion to which I have referred, and of which a copy accompanies.

A print of the circular on which Counsel advised also accompanies.

The State Sickness Insurance Committee of the British Medical Association has now under its consideration the establishment of a further Special Fund to be raised and applied to a variety of different objects for purposes in connection with the organisation of the profession, and the position in this connection will be made clear to Counsel by a letter received by me from the Medical Secretary, of which, omitting formal parts, the following is a copy :—

"*Proposed Special Fund—Liability of 'attachment' of moneys.*

"You may be aware that the State Sickness Insurance Committee has for some time had under consideration the question of the establishment of a Special Fund for purposes in connection with the organisation of the profession. Nothing final is at yet settled as the matter has not got beyond Sub-Committee stage, but it is intended that such Fund when established, shall be under the administration of the Council as Trustees in the same manner as the Central Emergency Fund and the Central Insurance Defence Fund. Its objects so far provisionally decided upon are as set out in the attached sheet.

"The question arose at a recent meeting, out of consideration of a letter in the Journal of April 19th last by Dr. Gordon R. Ward (Secretary of the National Medical Guild) (copy enclosed), as to the possibility of the moneys of the proposed Fund being liable to attachment on the ground of conspiracy or liable to any kind of legal restriction by reason of them being used for the support of purposes not legally within the scope of any such body. Dr. Ward's contention is that no body, not a registered Trade Union, can safely administer such a fund for such purposes. Your opinion is desired generally upon the subject, and, also, in the event of there being any such legal risk whether such would be obviated by the proposed Fund becoming registered as a trade union, or whether there are any other means available for its protection."

"You will see the great importance of this subject as the question of the Association being turned into a Trade Union or taking a Trade Union under its wing is a matter which is at present very much to the fore. It is the opinion of many members, guided largely by Mr. Dill's opinion in the matter of the Central Insurance Defence Fund, that a Fund held in trust by the Council could carry out all the objects desired without having to register itself as a Trade Union, a step to which a considerable number of the profession are strongly averse. I shall be glad to have your opinion upon the question generally at your early convenience, and if you think it necessary to to take a further legal opinion you will of course do so."

The provisional objects referred to in the letter to which the proposed Special Fund would, if established, be applied are as follows :—

"The question of the formation of a Special Fund to provide for certain objects which are outside the legal powers of the Association is receiving the careful consideration of the Council, and the Council, while not being in a position to report fully at this juncture, mentions the following as objects which the Fund, if established, might include :

(a) the provision of legal and clerical assistance to and payment of administrative expenses of Local Medical Committees :

(b) the provision of the services of the British Medical Association in protecting the interests of medical practitioners as affected, directly or indirectly, by the National Insurance Act, not only in contract medical work, but in all other forms of medical practice ;

(c) the provision of a reserve for the support of medical practitioners affected by action undertaken by the Association in pursuit of any future policy adopted by it ;

(d) The organisation and development of the British Medical Association so as to allow the medical staff visiting every Division in the United Kingdom and interviewing each Local Medical Committee at regular intervals, and otherwise assisting the profession in any locality as and when required ;

(e) The payment out of the Special Fund of honorariums on a scale to members of the medical profession absenting themselves from their practices in performance of any of the following duties :—

(i.) for attendance at Representative Meetings ;

(ii.) for attendance at Central Council and Committee Meetings.

The feasibility of including certain other important benefits, such as medical defence, insurance against law costs of lost actions, sickness and accident insurance, and pensions, is also being inquired into, and upon this a report will shortly be made to the Divisions."

There has been for some time passing in the columns of the British Medical Journal a correspondence bearing generally upon or otherwise directed to the subject and it will be noted that the Medical Secretary specially refers to a letter of Dr. Gordon R. Ward, the Secretary of the National Medical Guild, published in the issue of the British Medical Journal of the 19th April ultimo.

This general correspondence as extracted from the Journal is sent herewith and it includes the letter from Dr. Gordon R. Ward, referred to by the Medical Secretary.

The letter from the Medical Secretary clearly indicates those matters upon which the Association desire to be advised and the reasons which prevail for suggesting the formation of the fund in question and Counsel's opinion is desired upon the legal questions which are involved for the assistance and guidance of the Association upon the matter.

Opinion.

1. It is clear as to certain of the provisional objects referred to by the Medical Secretary that if the funds of the Association were used for carrying them out, this would, or might, involve payments out of those funds to members of the Association in contravention of the 4th paragraph of the Memorandum of Association. Object (d) does not seem to me to be open to this objection, and this object and possibly object (a) also might be adopted subject to some alteration of the Articles.

But I understand that it is desired that all the provisional objects (with possible additions) should be made available as one entire scheme, and I proceed to consider the matter on this footing.

2. I advised last year in connection with the Insurance Defence Fund, and I remain of the opinion, that it is competent for the Association or for their Council or Officials to act as trustees of a separate fund raised by voluntary subscriptions from members of the medical profession and applicable for their benefit—such fund being kept wholly distinct from the funds of the Association, and bearing its own expenses of administration.

In point of law a special fund might be established and administered in this way for the objects now in question. But in view of the intimate connection of some of these objects, particularly (d) and (e) with the ordinary work of the Association, it appears to me that it would be almost impracticable to keep the administration expenses (such as salaries of clerical staff and other officials) really distinct. This would be likely to give rise to difficult questions as to the position of the Association in relation to the fund, and to allegations by the Board of Trade of breaches of paragraph 4 of the Memorandum.

3. There are in my opinion more serious objections to the course proposed. Paragraphs (b) and (c) of the provisional objects (although not couched in precise terms) appear to me to contemplate the regulation by the Association of the terms on which medical practitioners are to carry on their practice, and the provision of compensation for those who suffer pecuniarily through supporting the action of the Association in this direction.

Action of this kind, to be effectual, must involve interference with individuals in carrying on their business or practice; there must, in fact, be regulations in restraint of trade. Actionable wrongs to individuals are almost certain to result unless the Association or other administrators of the special fund would be projected as a trade union by the Trade Disputes Act, 1906. Action in respect of such wrongs committed by officials of the Association would lie against those officials, and probably against the Association itself (if the wrongs were committed in pursuance of a policy promulgated or authorised by the Association), and damages and costs would be payable out of the special fund. And unless the Association could establish the entire separation of the special fund from their general funds, the latter funds might be made liable also.

The Association and their officials would be in no better a position in these respects than a Trade Union and its officials before the Trade Disputes Act, 1906, became law. (See per Bowen, L. J., in the "Mogul" Steamship case, 23 Q.B.D, at p. 614; per Farwell, J., in the Taff Vale case, 1901, A.C., at p. 431; Quinn v. Leathem, ib. 492.) And in some respects the position of the subscribers to and the administrators of the fund would appear to be analogous to that of the members and officers of Trade Unions before the passing of the Act of 1871. (See Hornby v. Close, L. R., 2 Q.B., p. 153; Rigby v. Connel, 14 Ch.D., p. 482; Russell v. Amalgamated Society, 1912, A.C., p. 421.)

It is possible that if the Association acted in the administration of the fund, it might be held to be a trade union and so within the protection given by the Trade Disputes Act, 1906, to all trade unions (whether registered or not). But if this were so, their registration under the Companies Acts would be void and their status would be entirely altered, Trade Union Act, 1871, S. 5. This possibility may, therefore, be left out of consideration.

4. If it is the desire of the Association to adopt a policy involving the regulation of the mode in which medical men are to conduct their practice, the best course appears to me to be to form a separate Society and register it as a Trade Union. The Association might (by means of the rules of the Society which would require careful consideration) keep control of such a society by taking power to appoint its officers or governing body. And the new Society would obtain the immunities conferred by the Trade Disputes Act, 1906.

T. R. Colquhoun Dill.

Lincoln's Inn,

28th May, 1913.

(B) ALTERNATIVE SCHEME (DATED OCTOBER 1913) FOR THE ORGANIZATION OF THE MEDICAL PROFESSION.

(Being the Report of the Insurance Act Committee Submitted October, 1913, by the Council to the Divisions and Representative Body.)

(I) Introductory.

Reference to Committee.

1. The reference to the Committee is based upon the following Minutes 202, 203, and 226 of the Annual Representative Meeting, 1913:—

> *Minute* 202.—Proposed by the Chairman of the Special Fund Sub-Committee of the State Sickness Insurance Committee on behalf of the Council:
>
> That the following Recommendation (I) contained in the Special Report of the State Sickness Insurance Committee appended to the Supplementary Report of Council, as to a proposed Special Fund for the organisation of the profession, be adopted:—
>
> (I) That a Fund be formed for the development of the organisation and protection of the medical profession.
>
> *Minute* 203.—Whereupon an Amendment was proposed by Dr. J. A. Macdonald (West Somerset):
>
> That no decisive action be taken by the Representative Body until the Scheme has been again submitted to the Divisions, and sufficient time has been given for its full consideration, and that a Special Representative Meeting be convened to consider the matter.
>
> The Amendment was **carried**; also as a Substantive Motion.
>
> *Minute* 226.—Resolved: That the following Rider. . . . . be referred to the Council:—
>
> Proposed by Dr. Heggs (Canterbury and Faversham), and seconded by Mr. Tomkins (South-west Essex):
>
> That among the reasons for increasing the subscription to the Association shall be:
>
> (i.) the appointment of paid Organising Secretaries;
>
> (ii.) the appointment of paid part-time Clerical Assistants to Branches;
>
> (iii.) the establishment of separate Offices at Edinburgh, Dublin, and Cardiff.

The Committee had also before it the following resolution of the Annual Representative Meeting:—

> *Minute* 234.—Resolved: That the Annual Subscription of Members of the Association be raised to £2 2s., such change not to apply to Foreign or Colonial Members.

Estimate of Association's Increased Revenue.

2. With a view of ascertaining which of the proposed objects of the Special Fund referred to in the original

Scheme could be undertaken by the Association in future, out of its ordinary funds, the Committee has endeavoured to arrive at an estimate of the increased revenue which will be at the disposal of the Association, if it is decided to increase the subscription of £1 5s. to £2 2s. The Committee has come to the conclusion that the proposal to increase the present subscription for Members in the United Kingdom to two guineas if carried into effect might fairly be estimated to produce an additional income of not less than £10,000.

Objects of Original Scheme which could be undertaken by Association if the subscription of the Association be raised to £2 2s.

3. The Committee, having regard to the above estimated increase of £10,000 in the Association's income, and also to the terms of the above quoted Minute 226 of the Annual Representative Meeting, 1913, is of opinion that the following objects, which in the Committee's opinion are desirable, should be undertaken by the Association, as from January 1st, 1914, or such other date as the increase in the Association subscription takes effect:—

(i.) the provision of four Medical Organising Secretaries,

(ii.) the establishment of separate Branch Offices in Scotland, Ireland, and Wales,

(iii.) the provision of an Insurance Act Department at the London Office, and clerical assistance for the three Branch Offices proposed to be set up, and,

(iv.) the increase of the present capitation payment to Branches from 4s. to 5s.

Of the above, (i.), (ii.) and (iii.) were included in the objects of the Fund outlined in the original Scheme.

The addition of (iv.) is suggested by the Committee as a means of giving effect to the expression of opinion by the Representative Body as contained in paragraph (ii.) of Minute 226 quoted above namely, that clerical assistance should be provided for the Branches of the Association.

4. Of the above estimated increase of £10,000 in the Association's income, the carrying out of the above suggestions would absorb:—

	£	£
For four Organising Secretaries at commencing salaries of £600 per annum	2,400	
Travelling expenses of above	1,000	
		3,400
Provision of Insurance Act Department at the London Office, and of clerical staffs of Scottish, Irish and Welsh Branch Offices		3,000
For increase of the grants at present paid to Branches by 1s. per member per annum		850
		£7,250

5. Thus if the above suggestions of the Committee were carried out £7,250 of the estimated £10,000 increased revenue of the Association would be earmarked. It would follow that the Special Fund would not need to provide for certain objects which were included in the original Scheme, and which were there estimated to cost £6,400 per annum, viz., the salaries and expenses of four Organising Secretaries, the Insurance Act Department at London, and clerical expenses of Scottish, Irish and Welsh Offices.

(II.) Alternative Proposals for Special Fund.

6. In the following Alternative Scheme for a Special Fund, the Committee has endeavoured to provide a scheme which it is thought could be carried out upon an average payment of £4 4s. per annum from 10,000 members, as compared with the £5 contribution to the original scheme. It should be understood, however, that it is quite possible to add to, or reduce the objects of the Alternative Scheme provided the subscription to the Fund is correspondingly increased or reduced, and if the subscription were reduced it would be for the subscribers to decide which of the objects were most pressing and to provide that the income of the Fund should be used for those objects. Discretion as to the order in which the objects should be undertaken would of course have to be left in the hands of the Committee of the Fund in the earlier stages when members are being recruited. It is obvious that if a larger number of members joined than the 10,000 estimated for, either the same benefits could be provided, for a smaller subscription, or the benefits to the profession could be increased.

Desirability of enlisting local interest in the Fund.

7. The Committee has given careful consideration to suggestions which have been made to the effect that in any Alternative Scheme special efforts should be made to enlist local interest in the Fund, and the Committee realises that no effort of this kind can be made a success by merely central efforts. It is necessary to secure the active co-operation of the profession in every part of the Kingdom. In order to secure this, the Committee thinks it desirable that there should be set up local Committees representative of various parts of the Kingdom which would be responsible not only for enlisting the support of the practitioners in their areas and for the collection of the subscriptions, but also for the administration of that part of the Fund which it is proposed should be devoted to certain local purposes.

Local Administration.

8. The Committee, therefore, proposes that the Branches of the Association should be divided into groups and a Committee formed from the Divisions and Branches in each group. To these Committees should be entrusted the collection of the subscriptions to the Fund through the Divisions in any way that may be locally preferred, and the Committees should retain part of each subscription collected by them for (1) paying the expenses of the Local Medical Committees, (2) defraying their own administrative expenses, and (3) undertaking such other work on behalf of the local profession as the funds at their disposal may allow.

Objects of the Fund.

9. The Committee desires to draw attention to the fact that it is intended that the Fund shall have the widest possible scope. It is intended to protect the interests of every class of practitioner, and its energies will only be limited by the amount of money which the profession is prepared to place at its disposal.

The following is a statement of the objects to which it is proposed that the Fund should be devoted, and it will be convenient to divide them into (1) Central, that is, those for which the governing body of the Fund will be responsible, and (2) Local, namely, those which are intended to be administered locally:—

(1) *Central.*

(*a*) The provision of a reserve fund for the support of practitioners affected by action taken by the British Medical Association in pursuance of any policy adopted by that body.

(*b*) The provision of the services of the British Medical Association in protecting the interests of medical practitioners engaged in all forms of medical practice.

(*c*) The provision of legal assistance to Local Medical Committees and the Committees of grouped Branches.

(*d*) The provision of District Medical Organisers in the area of each group of Branches.

(*e*) The payment, on a scale, of the expenses of members of the medical profession when performing any of the following duties:—

(i.) attending Representative Meetings of the British Medical Association;

(ii.) attending Council and Committee Meetings of the British Medical Association in London;

(iii.) attending Meetings of the Trustees of the Fund or of any Committee of the Fund.

(*f*) The making of grants towards the expenses of the Insurance Act Committee.

(2) *Local.*

(*g*) Payment towards the administrative expenses of the Local Medical Committees.

(*h*) Payment of the administrative expenses of the Committees of grouped Branches collecting and locally administering the Fund.

(*i*) The carrying out of any local work in the interests of the profession which may be within the means at the disposal of the Committees of grouped Branches.

Detailed Consideration of Objects of the Fund.

10. Objects (*a*), (*b*), (*c*), (*g*), and (*e*) mentioned above are the same as objects (*c*), (*b*), (*a*) and (*e*) respectively of the original scheme, paragraph 8: (*f*) was included as an item of expenditure in the balance sheet in the original Scheme.

As the reasons for pressing these objects upon the consideration of the profession are fully discussed in that Scheme (paragraphs 12 to 21), it is unnecessary to burden this Report with a repetition of the same remarks.

It is to be noted, however, that object (c) differs from object (*a*) of the original Report in that it is proposed to provide legal assistance for the Committees of the grouped Branches as well as for the Local Medical Committees.

Local Organisation.

11. It is necessary to devote more detailed consideration to object (d). The Committee is of opinion that no object is of more pressing importance to the profession than the improvement of its local organisation, and it proposes that this should be carried out by machinery which shall be partly central and partly local. It is suggested that there should be four central medical organisers attached to the Central Office, whose salaries and expenses should be defrayed out of the income arising from the increased subscription (£2 2s.) to the Association.

12. Of these it is proposed that one should be specially attached to a new Insurance Act Department in the London Office. The experience of the past few months has shewn not only that the present staff of the office is incapable of permanently coping with the large amount of new work which has been thrown upon the office by the operation of the Insurance Act, but that it will be necessary to have one or more officials who will specialise in this particular department. Another of the central medical organisers would be stationed at a central office in Scotland, though it is proposed that in addition to his duties as central organiser he should also be utilised as a district organiser. The same remark would apply to Ireland and Wales, in each of which countries a central office would be established with a central organiser in charge.

13. In addition it is proposed that the country should be divided into groups of Branches, to each of which should be attached a resident District Medical Organiser. The groups proposed are (1) the Scottish Branches, (2) the Irish Branches, (3) Five English groups. (*See* Sub-Appendix A.)

14. The District Medical Organisers should be men well acquainted with the conditions of practice in the parts of the country to which they would be assigned. Though under Central control it is intended that they should reside in their districts. It would be their duty to place themselves at the disposal of the Divisions and Branches and Local Medical Committees in their areas, and while devoting themselves mainly to local organisation, to act as the chief official link between the local Branches and Divisions and headquarters.

15. The Committee has carefully considered the question whether the District Medical Organisers should be placed under the control of the Committees of the grouped Branches or under that of the central governing body of the Fund, and has come to the conclusion that though the former might offer certain advantages in the way of increasing the responsibilities and the interest of the Committees, it would not conduce to the efficient organisation of the profession. One of the great difficulties in the past has been to obtain common action throughout the whole of the Association and if the District Medical Organisers were not controlled by the central governing body of the Fund and kept constantly in touch with it and with the policy of the Association, it is believed that there would be an increase of the tendency to the setting up of varying policies in different areas and thus the main object of the Fund, that is, the efficient organisation of the profession with a common policy, would be defeated. It is proposed, therefore, that the District Medical Organisers shall be appointed centrally, possibly on the recommendation of the Committees of the grouped Branches; shall be paid from the Central Fund; shall take their instructions on matters of policy from the governing body of the Fund; but shall be placed at the disposal of the Committees of grouped Branches and their component Divisions for the work of local organisation.

Duty of Committee of Grouped Branches.

16. It is suggested that the duties of the Committees of grouped Branches should include:—

(i.) The collection of the subscription to the Fund;

(ii.) The forwarding of £2 14s. out of each subscription collected from the local members of the Fund to the Central Office;

(iii.) The payment from the remaining £1 10s. of:

(a) Contributions to the expenses of the Local Medical Committees in their areas;

(b) The administrative expenses of the Committees of grouped Branches, and

(c) The expenses of such other local work as may be within the means at their disposal.

(III.)—Insurance Section.

17. It is proposed to offer Subscribers to the Fund the following insurance advantages on special terms:—

(i.) medical defence and insurance against law costs of adverse verdicts;

(ii.) sickness and accident insurance;

(iii.) endowment insurance with optional pension.

These insurance advantages are fully discussed in paragraphs 23-29 of the original Scheme.

18. The Committee would point out that while the insurance advantages are entirely optional to subscribers to the Scheme, the objects of the proposed Fund would be greatly advanced if all the subscribers who are not already insured against these various liabilities at once insured through the Fund. A little consideration will show that any medical practitioner who is not insured against these contingencies must necessarily in any professional crisis be a weak spot in the organisation of the profession. One who is fully insured against all these contingencies is in a much stronger position to withstand pressure likely to be brought to bear upon him in consequence of any action he may wish to take in furtherance of the interests of the profession than one not so protected. If as a result of such action he were subject to great "economic pressure"—such as was the case with many practitioners in January last—he would feel more justified in using any savings he might have to tide himself and his dependents over the crisis than one who was not so insured. The latter would have much more temptation to succumb to pressure even though he might be fully aware that the conditions he was accepting were bad. Such a practitioner thus becomes, therefore, an unwilling but none the less effective party to the lowering of the general standard of remuneration and conditions of service. One of the chief aims of the Association, to aid in the promotion of which the present Fund has been projected, is to maintain these standards at the highest possible level. It should be noted that it is intended to place the balance of the insurance commissions, after allowing special terms to members and paying the administrative expenses of this section, in the reserve fund mentioned in object (*a*) (Central).

(IV.)—Finance of the Fund.

19. It is proposed that the annual subscription to the Fund should not be less than £4. 4s. 0d. per head and that this should be collected locally as described in paragraph 8 above, and administered partly locally by Committees appointed by grouped Branches, and partly centrally as described in Recommendation (IV.) of the original Scheme. Of this subscription it is suggested that £2. 14s. shall be forwarded to the Central Office to provide for—

(i.) the creation centrally of a Reserve Fund;

(ii.) provision of District Medical Organisers;

(iii.) grant towards central and local legal expenses;

(iv.) payment of maintenance expenses of practitioners attending Representative Meetings, Council and Committee Meetings of British Medical Association and Meetings of Committees, etc., connected with the Fund;

(v.) grant towards the expenses of the Insurance Act Committee.

20. It is intended that of the £2. 14s. forwarded to the Central Office a sum of not less than £1. 10s. should go towards the formation of the Reserve Fund referred to in (i) above, the remainder being used primarily for the payment of the District Medical Organisers, and afterwards for the rest of the above objects or, if the funds do not permit, of such of them as are considered most urgent and important.

21. It is proposed that the £1 10s. retained for local use be used for the purposes described in paragraph 9 (2) above.

(V.)—Relation of Association to Proposed Fund.

22. It is obvious that the legal difficulties connected with the formation of the proposed Alternative Fund, and its relation to the Association are the same as those so exhaustively discussed in the Report on the original Scheme (*see* paragraphs 32 to 43) and need not therefore be discussed in the present Report.

23. The Committee sees no reason for departing from the opinion expressed in paragraph 43 of the Report on the original Fund, namely:—

> 43. The conclusion to which the Committee is driven is that there are difficulties in the way of adopting *any* course which has been suggested, but that these difficulties can be surmounted if the profession is in earnest. The only possible methods seem to be (i.) the formation of a Trust under the ægis of the Association, and (ii.) the formation of a Trade Union. For the reasons given above the Committee is of opinion that any advantages which are offered by the latter method are far more than balanced by its serious disadvantages, and the Committee accordingly recommends that a Fund should be established, administered as a Trust by the members for the time being of the Council of the Association.

This expression of opinion was endorsed by the Annual Representative Meeting after prolonged discussion, and a proposal that the Council should consider the advisability of forming a Trade Union for such of the members of the Association as cared to join was defeated by a decisive majority. The Meeting by this vote showed that though it recognised that certain legal risks attached to any form of organisation outside the Trade Union Acts, it preferred to face those risks rather than encourage the formation of a Medical Trade Union.

(VI.)—Summary of Estimates of Income and Expenditure.

24. A summary of the estimated income and expenditure based upon an assumption that 10,000 will subscribe to the Fund will be found in Sub-Appendix (2).

RECOMMENDATIONS.

I. That a Fund be formed for the development of the organisation and protection of the medical profession.

II. That the following be the objects of the Fund:

(1) *Central.*

(a) The provision of a reserve fund for the support of practitioners affected by action taken by the British Medical Association in pursuance of any policy adopted by that body.

(b) The provision of the services of the British Medical Association in protecting the interests of medical practitioners engaged in all forms of medical practice.

(c) The provision of legal assistance to Local Medical Committees and the Committees of grouped Branches.

(d) The provision of a District Medical Organiser in the area of each group of Branches.

(e) The payment, on a scale, of the expenses of members of the medical profession when performing any of the following duties:—

(i.) attending Representative Meetings of the British Medical Association;

(ii.) attending Council and Committee Meetings of the British Medical Association in London;

(iii.) attending Meetings of the Trustees of the Fund or of any Committee of the Fund.

(f) The making of grants towards the expenses of the Insurance Act Committee.

(2) *Local.*

(g) Payment towards the administrative expenses of the Local Medical Committees.

(h) Payment of the administrative expenses of the Committees of grouped Branches collecting and locally administering the Fund.

(i) The carrying out of any local work in the interests of the profession which may be within the means at the disposal of the Committees of grouped Branches.

III. (a) That the annual subscription to the Fund be not less than £4 4s., payable yearly, half yearly, or quarterly.

(b) That the subscriptions be collected in such manner as may be decided by each Committee by Committees elected from the areas of certain groups of Branches.

(c) That the sum of £2 14s. per subscriber be forwarded by the Committee of grouped Branches to the Central Office to be used for the purposes headed "Central" in Recommendation II.

(d) That the sum of £1 10s. per subscriber be retained by the Committees of grouped Branches to be used for the purposes headed "Local" in Recommendation II.

IV. (a) (i.) That the central organisation, control and administration of the Fund shall be vested in the members for the time being of the Council of the British Medical Association acting as Trustees of the Fund.

(ii.) That such Trustees shall have power to delegate all or any of their powers to any Committee or Committees which they may deem it desirable to form.

(iii.) That the whole of the central expenses incurred in the administration of the Fund shall be borne by the Fund.

(iv.) That the Trustees shall take such steps to protect the Fund as they are legally advised are necessary.

(b) That the local organisation, control, and administration of the Fund shall be vested in Committees appointed by the Branches included in the Groups as settled by the Trustees of the Fund.

Note.—*It is proposed that the above Recommendation shall be put in legal form by Mr. Hempson.*

V. That the following insurance advantages be provided for those subscribers to the Fund who desire to avail themselves thereof:—

(a) Medical Defence and insurance against the law costs of adverse verdicts;

(b) Sickness and accident insurance;

(c) Endowment insurance, with optional pension at age 65.

VI. That it be an instruction to the members for the time being of the Council of the British Medical Association to take forthwith the necessary steps to inaugurate the Special Fund in accordance with the above resolutions, and to report annually to the subscribers to the Fund, and to the Annual Representative Meeting through the Supplement to the British Medical Journal or otherwise.

Note.—*This will also need legal drafting.*

SUB-APPENDIX (1).

Scheme of grouping for the purpose of forming the Committees of Grouped Branches, and allocating the District Organisers:—

ENGLAND.

Group.	*Branches and Counties comprised therein.*	*District Organisers.*
1.	London and the Home Counties. This will include the Metropolitan Counties Branch (the Counties of London, Hertford and Middlesex), the South-Eastern Branch (*i.e.* Kent, Surrey and Sussex), and the County of Essex (part of East Anglian Branch) ...	One.
2.	North of England Branch. Yorkshire Branch (this will include the Counties of Northumberland, Durham and Yorkshire) ...	One.
3.	Lancashire and Cheshire Branch and North Lancashire and South Westmorland Branch. (Counties of Lancashire, Cheshire, Cumberland and Westmorland) ...	One.
4.	Midland Group of Counties, including East Anglia. This would include the North Lincoln part of the East York and North Lincoln Branch, Midland Branch, Cambridge and Huntingdon Branch, East Anglian Branch, South Midland Branch, Birmingham Branch, Staffordshire Branch, Shropshire part of the Shropshire and Mid-Wales Branch, and Worcestershire and Herefordshire Branch (Counties of Lincoln, Norfolk, Suffolk, Cambs, Hunts, Bedford, Bucks, Warwick, Worcester, North Hants, Leicester, Rutland, Derby, Notts, Stafford, Shropshire and Hereford)	One.
5.	South-Western Group of Branches. This would include the Bath and Bristol, Gloucestershire, West Somerset, Dorset and West Hants, Oxford and Reading, Southern and South-Western Branches (Counties of Gloucester, Oxford, Berks, Hants, Wilts, Dorset, Somerset, Devon and Cornwall)...	One.

SCOTLAND.

6 and 7.	It is proposed that Scotland should be divided into two groups, one the smaller more easily worked in charge of a central organiser stationed in Edinburgh, and the other in the charge of a District Organiser.

IRELAND.

8 and 9.	It is proposed that Ireland should be divided into two groups; one, the smaller in charge of a central organiser stationed at a Central Office in Dublin, and the remainder and larger in charge of a District Organiser.

WALES.

10.	It is proposed that the Welsh Branches should be organised by the central organiser stationed at a central office in Cardiff.

SUB-APPENDIX (2).

ESTIMATE OF INCOME AND EXPENDITURE.

(A) GENERAL.

	£	£	£
Income—			
10,000 Members at £4 4s.			42,000
Expenditure—			
For local use, £1 10s. per Member...		15,000	
For Central use, £2 14s. do. ...		27,000	
		£42,000	£42,000

(B) CENTRAL.

	£	£	£
Income—			
10,000 Members at £2 14s.			27,000
Expenditure—			
Reserve Fund, £1 10s. per Member		15,000	
7 District Medical Organisers at £600 each	4,200		
Ditto, Travelling Expenses (£250 each)	1,750		
		5,950	
Legal Expenses (central and local)...		1,000	
Maintenance Expenses of Representatives attending Annual Representative Meeting of 6 days' duration (200 at £1 10s. per day)	1,800		
Do. Special Representative Meeting, say 3 days (200 at £1 10s.)	900		
Maintenance Expenses of Members attending Central Committees and Sub-Committees—London Members 10s. and Provincial Members £1 10s. per day (at a mean of £1)	1,000		
		3,700	
Similar expenses in respect of Members of Committee of Fund (say)... ...		500	
Grant towards Insurance Act Committee Expenses (personal, travelling, printing and legal)		800	
Balance		50	
			£27,000

(C) LOCAL.

	£	£	£
Income—			
10,000 Members at £1 10s.			15,000
Expenditure—			
Grants towards expenses of Local Medical Committees		12,000	
Administration expenses of Committees of grouped Branches and other expenditure on local work ...		3,000	
			£15,000

REPORT BY THE COUNCIL (REFERRED TO IN PARAGRAPH (III) OF THE NOTICE ON PAGES 353 AND 354 OF THIS "SUPPLEMENT") AS TO VARIOUS MATTERS IN CONNEXION WITH THE NATIONAL INSURANCE ACT.

(1) QUESTION OF THE APPOINTMENT OF MEDICAL REFEREES IN CONNEXION WITH THE NATIONAL INSURANCE ACT.

VARIOUS applications having been received from Divisions, Local Medical Committees, and individual practitioners for advice as to the attitude to be adopted in the matter of appointments of medical referees in connexion with the National Insurance Act, the Council has expressed the opinions contained in the following recommendation, which opinions are supplemental to those already expressed upon the subject by the Representative Body (namely, that permanent appointments of the kind should be made by the Commissioners, the holders thereof having security of tenure). The substance of this recommendation has already been published in the JOURNAL and brought directly to the notice of Divisions and Local Medical Committees.

Recommendation.

The Council recommends that the Representative Body express the following opinions:

1. That, where any medical practitioner not devoting his or her whole time to the work is called upon by a lay body to express an opinion as to the capacity

or incapacity of an insured person, the lowest fee such practitioner should accept should be 10s. 6d.

2. That whole-time medical referees under the National Insurance Act should be practitioners of not less than ten years' standing; that the appointments should be pensionable; and that the commencing salary should be not less than £750 per annum.

(2) Distribution of Funds Available for Medical Benefit of Unallotted Insured Persons.

The Council has considered the question of the distribution of the funds accumulated in respect of insured persons who have not chosen a doctor on the panel, and has expressed the following opinion, which it now submits for the consideration of the Divisions and Representative Body.

Recommendation.

The Council recommends:

That such portion of the unallocated funds in the hands of Insurance Committees as are attributable to insured persons who have been attended at their own expense should be distributed as a set-off to the medical bills of these patients.

(3) Medical Officers of Poor Law Institutions.

Careful consideration has been given to the terms of the following Minute 213 of the Annual Representative Meeting, 1913, concerning the position of medical officers of Poor Law institutions who are called upon to treat members of the staffs of those institutions who are insured persons:

Minute 213.—Resolved: That this Meeting strongly condemns any arrangement made by indoor Poor Law Medical Officers with Boards of Guardians in reference to insured members of their staffs, whereby the whole or a portion of the fees paid to the said Medical Officers by an Insurance Committee is handed over to the Treasurer of the Guardians. That it is of opinion that any Poor Law Medical Officer who accepts such a condition is acting in a manner derogatory to the medical profession, and against the interests of the Poor Law Medical Service and the profession.

The Council is inclined to the opinion that the latter part of the above minute would not have been passed had the Representative Body given the question more careful consideration. The minute as it at present stands leaves the Association no option but to hold a practitioner who acts contrary to the line of policy indicated in the first part of the resolution as having acted in a manner derogatory to the medical profession, even though in many cases that officer might be bound by the terms of his legal agreement.

Recommendation.

The Council therefore recommends:

That the latter portion of Minute 213 of the Annual Representative Meeting, 1913, be rescinded.

(4) Workmen's Medical Aid Associations and Members of the Medical Staffs of Voluntary Hospitals.

The Council reported to the Representative Body at its recent annual meeting at Brighton the great difficulties which had arisen, particularly in Wales, in connexion with the setting up of medical aid associations, or institutes or "schemes" under which, by means of Section 15 (3) of the principal Act, insured persons are allowed to "make their own arrangements" for medical benefit, or whereby arrangements are made for the treatment of dependants on terms objectionable to the local profession. The opinion of the profession as a whole regarding these institutes is so well known that the Council feels that all possible steps should be taken by the Association to discourage practitioners from associating themselves with such institutions.

It has been found that the most effective weapon that can be used against these "schemes"—namely, the co-operation of the members of the medical staffs of voluntary hospitals—loses considerably in effectiveness owing to the lack of uniformity throughout the country. The Council is of opinion that the time has now come when a determined effort should be made to enlist the sympathies of the staffs of hospitals in the campaign against the extension of what the profession believes to be a most objectionable form of contract medical practice.

Recommendation.

The Council recommends:

That, in order to check the extension of medical aid institutions and to assist the profession in combating them where established, the Association endeavour to enlist the support of the staffs of voluntary hospitals, not only in refusing professional recognition to the medical officers of these institutions, but also by refusing treatment to patients sent by them to hospitals, except in cases of grave urgency.

(5) Committee to Represent Practitioners who have not Entered into Agreements with Insurance Committees.

In response to requests received from members in all parts of the country, the Council has appointed a Committee, with the following reference:

To consider in what manner the British Medical Association can best promote the interests of Members who have not entered into agreements with Insurance Committees.

It has been decided that the Committee shall consist of fifteen members, in addition to the four *ex officio* members. The Council has appointed the following nine of the fifteen, and has given the incomplete Committee power to co-opt the remaining six: Dr. R. M. Beaton (London), Dr. M. G. Biggs (London), Dr. Charles Buttar (London), Dr. E. C. Montgomery-Smith (London), Mr. E. B. Turner (London), Dr. Courtenay Lord (Gillingham), and Dr. J. Stevens (Edinburgh), together with Dr. Napier Jones (Reading) and Dr. Edmund Hay (London), as representing practitioners who have entered into agreements with Insurance Committees.

All practitioners who have not entered into agreements with Insurance Committees and who desire any point considered by the Committee are requested to communicate thereon with the Medical Secretary.

(6) Proposed Special Fund for the Organization of the Profession.

Alternative Scheme.

As a result of the consideration of Minutes 202, 203, and 226 of the Annual Representative Meeting, 1913, which are quoted in the report on the alternative scheme, the Council submits (see p. 353) an alternative scheme for a proposed Special Fund for the organization of the profession, together with the original scheme, to Divisions and Branches for their consideration.

Necessity of Careful Study of the Reports on Special Fund.

The Council has given prolonged consideration to the question of how best to place the claims of the Special Fund before the profession, being of opinion that unless the reasons for the establishment of such a fund and full particulars of the proposals are put adequately before as many individual members of the profession as possible, there is a possibility of the whole scheme falling flat, especially in view of the proposal to raise the subscription of the Association. It is feared that the raising of the subscription may lead members to think that there is no necessity for such a fund, whereas the funds of the Association, however large they might be, could not be devoted to some of the objects which are a vital part of the scheme of the proposed fund. The Council therefore places these reports before the Divisions, and trusts that they will receive the most careful consideration. In addition, the Council will be glad, so far as possible, to place at the disposal of Divisions speakers who are familiar with the principles expounded in the two reports.

REPORT OF THE COUNCIL ON PROPOSED INCREASE IN ANNUAL SUBSCRIPTION.

1. The Council has considered Minute 234 of the Annual Representative Meeting at Brighton (see p. 353).

2. In discussing the reasons why Members should be asked to increase their subscription the Council has had in mind the following Resolutions of the Annual Representative Meeting:—

Minute 226.—Resolved: That the following Rider, in accordance with the foregoing Resolution 225, be referred to the Council:—

Proposed by Dr. Heggs (Canterbury and Faversham) seconded by Mr. Tomkins (South-West Essex):—

That among the reasons for increasing the subscription shall be:—

(1) The appointment of paid Organising Secretaries.

(2) The appointment of paid part-time Clerical Assistants to Branches.

(3) The establishment of separate Offices at Edinburgh, Dublin and Cardiff.

Minute 228.—Resolved: That the time has arrived when the Annual Subscription should be raised.

The Motion, as amended, was carried by the requisite two-thirds majority.

Minute 229.—Resolved: That the following be added as a Rider to the foregoing Resolution:—

Among the reasons for increasing the Annual Subscription being the provision for four Organising Secretaries.

3. Before giving the reasons which have led the Council to recommend the increase of the Annual Subscription, it is necessary to set forth certain facts concerning the financial position of the Association.

4. In 1902, when the Association was re-constituted, the expenditure was £40,500 and its income was £45,000. Its reserve was £92,000, practically all invested in the freehold sites of 429, Strand, and 2, 3, 4, 5, Agar Street.

5. When the premises were rebuilt in 1908, the Association having no realisable securities, borrowed the necessary money—amounting to approximately £45,000—from the bank, with the idea of paying this off in yearly instalments. Owing, however, to the steadily increasing pressure on the finances of the Association it has not been possible to pay off any of this debt, and it stands to-day practically at what it did in 1908.

6. In 1912, the expenditure of the Association was £81,800, while its actual income was £66,000, or a deficit of approximately £16,000. To meet this, £7,000 was voted from the Insurance Defence Fund, while the remainder (£9,000) was obtained by entrenching on the reserve. The reserve now stands at £97,000, represented by the Association's freehold site and premises (less the £45,000 charge to the Bankers) and £12,000 invested in negotiable securities.

7. It may be said that now that the exceptional strain caused by the Insurance Act campaign is past the income of the Association should suffice to meet its expenditure. The Council can see no prospect of this in view of the steadily increasing demands on the Association made by the profession. Even in 1910, before the Insurance Bill was introduced, the difference between income and expenditure was only £2,000, which cannot be considered as adequate when the amount of money borrowed from the Bank is taken into consideration, and the necessity of strengthening the Reserve.

8. It appears to the Council that the time has come when the income of the Association must be increased if it is to continue to act as the mouthpiece of the profession, and to attempt to do not only the work it was doing in the years before 1911 but the work, enormous in amount, and not at all likely to diminish, forced upon it by the Insurance Act.

9. Everything points to increasing demands on the services of the Association and no better evidence of this can be given than the discussion in the Annual Representative Meeting at Brighton, the outcome of which was the passing of the resolutions above quoted. There was not a suggestion that at that Meeting that it would be possible to curtail the activities of the Association though certain economies were approved and have been carried out.

10. The increase of the subscription to £2 2s. per annum if confined to members in the United Kingdom would produce an increased income of £18,000 if no members resigned. It has been assumed in the report on the proposed Alternative Special Fund, that an increase of income of £10,000 may fairly be expected. Such an increase could profitably be used (a) in improving the organisation of the Association and making it more useful to its members, (b) in paying off debt, and (c) in building up a strong reserve.

11. As regards the first object it is estimated that the sum of £7,250 will need to be set aside for the provision of four organising secretaries, paid clerical assistance to Branches and Divisions, and separate offices in Scotland, Ireland and Wales. No one denies that the profession ought to be properly organised and that the present staff of the Association is insufficient for the purpose. Further, undue demands are being made on the honorary workers of the Association in the way of clerical work of which they should be relieved by paid clerical assistance. The normal increase in the work of the Association before the introduction of the Insurance Bill led to a demand for a certain amount of decentralisation which has been emphasised by the setting up of separate Scottish, Irish and Welsh Insurance Commissions. This calls for the establishment of Association centres in each of these countries. It seems obvious that the estimated increase in income resulting from the increase of the subscription to £2. 2s. per annum could with advantage be largely devoted to the above-mentioned objects, provision also being made for the reduction of debt and the strengthening of the reserve. It should be noted that none of the money so raised could be used for objects which are outside the Memorandum of Association, such as the financing of Local Medical Committees and the provision of financial support to members who suffer from their loyalty to the policy of the Association.

12. The Council desires to state that failing such increase in income it can see no possibility of placing the finances of the Association on a satisfactory footing unless the Association deliberately decides to cut down its work for the profession thereby abandoning its claim to maintain the honour and interests of all classes of the profession in every way open to a voluntary Association.

13. Further, the Council would point out that the demand made on the members of the Association by the increase is an exceedingly modest one in comparison with the average income of members of the profession. Compared with the subscriptions paid by members of trade organisations for their protection, the two guinea subscription (which only amounts to 1½d. per day) is negligible, for it is not an uncommon thing for members of trade unions to pay sums varying from 1/60th to 1/100th part of their whole income for this purpose. The Council therefore has no hesitation in pressing on the members of the Association the desirability, in fact, the urgent necessity, of their agreeing to the suggestion already approved by more than a two-thirds majority of the Representative Body, namely, that the subscription should be increased from January 1st, 1914, to £2. 2s. per annum.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

METROPOLITAN COUNTIES BRANCH:

CAMBERWELL DIVISION.

AN ordinary meeting of the Camberwell Division was held at Guy's Hospital on October 23rd, at 4 p.m., when Dr. BATTEN was in the chair, and twenty members and one visitor were present.

Camberwell Borough Council's Employees' Sick Benefit Society.—Arising out of the minutes, Dr. J. T. CLARK stated that the Camberwell Borough Council's Employees' Sick Benefit Society had decided that they would employ no doctors for their society, and thus the original holders of the posts had lost their employment, whereupon the following resolution, proposed by Dr. PARTRIDGE, seconded by Dr. JAYNES, was carried unanimously:

That the Camberwell Division wishes to record its appreciation of, and gratitude for, the stand which the medical officers of the benefit society made, and sympathizes with them in the loss they have sustained.

Dr. CLARK suitably responded.

Report of Representative Meeting.—Dr. LANGFORD read his report of the Annual Representative Meeting at Brighton. On the motion of Dr. CAPES, seconded by Dr. TILBURY, the report was adopted, and a hearty vote of thanks was accorded to Dr. Langford for his services.

Election to Committees.—Dr. Clark was elected on the Medical Charities Committee of the Branch, and Messrs. Langford and Archer-Wood on the Contract Practice Committee.

Paper.—Mr. R. P. ROWLANDS, M.S., F.R.C.S., Assistant Surgeon to Guy's Hospital, then read an extremely interesting and practical paper on the difficulty in diagnosis of acute abdominal cases. A discussion followed, in which Messrs. BATTEN, PARTRIDGE, RICHMOND, OLDFIELD, LANGFORD, and CAPES took part; Mr. ROWLANDS replied to the points raised. Dr. BATTEN then proposed a hearty vote of thanks to Mr. Rowlands, and alluded to the keen interest all the members present had taken in the paper. This was seconded by Dr. PARTRIDGE, and carried with acclamation.

Vote of Thanks.—The meeting concluded with a hearty vote of thanks to the hospital authorities for the use of the room and for having so generously provided tea.

CITY DIVISION.

AN extraordinary general meeting of the Division was held on Wednesday, October 22nd, at Balfour Hall, Kingsland Road, N.E. Dr. HOBBS-CRAMPTON, Chairman of the Division, took the chair at 3.30, and fifty-four members were present.

Expenses of Representatives.—The TREASURER announced the result of the appeal and levy towards Representatives' expenses:

Appeals sent out, 200; responded, 54 = 27 per cent.

	£	s.	d.
Total amount sent in	13	15	0
Expenses, printing and postage	0	13	6
Net	£13	1	6
Expended—to deficit (three-tenths) ...	3	18	6
To Representatives (£4 11s. 6d. each) ...	9	3	0
	£13	1	6

A sum of 10s. had been received since the account closed, and remained in hand.

Financial Position of Division.—The TREASURER announced the receipt of the annual grant from the Branch, £20, and a further sum of £9 19s. 4d. as a special grant. With the result of the appeal, he anticipated a balance in hand at the end of the year of £3, and pointed out that the limited response to the appeal would not allow a resumption of meetings at the town halls in alternate boroughs, as each such meeting cost from 1 to 2 guineas for hire of room alone, which the funds would not meet.

The Insurance Act.—The CHAIRMAN announced that a full and unrestricted discussion upon the motions on the agenda was desirable, which would afford satisfaction to those who were disappointed by the unavoidable restricted procedure at the requisitioned meeting.

Certificates.—Dr. DAVID ROSS then moved and Dr. KEMPSTER seconded the following motion:

> That the City Division of the British Medical Association takes immediate steps to give the fullest possible publicity that qualified medical men not on the panel can give all medical certificates required by the Insurance Act.

Dr. MAJOR GREENWOOD dissented. Dr. HOWARD JONES considered the approved societies should be approached. Dr. JAFFÉ favoured a leaflet being issued to non-panel practitioners. Dr. A. W. MILLER thought the verdict in the case of "Heard *v.* Pickthorne" had sufficiently advertised the fact. A motion in favour of the matter being referred to a small committee by the next Representative Meeting was adopted on the proposition of Dr. HUNT, seconded by Dr. GREENWOOD.

Contracting Out.—Dr. Ross, in moving the adoption of the following resolution, which was seconded by Dr. ANGUS HUNT, referred to the action of the Worcester Insurance Committee:

> Seeing that Mr. Masterman has stated in the House of Commons that insured persons are allowed to make their own arrangements with herbalists, the City Division of the British Medical Association demands that the British Medical Association immediately institutes proceedings at the law courts in order to allow all insured persons to make their own arrangements with qualified medical men not on the panel.

Dr. MAJOR GREENWOOD argued that the procedure suggested was legally impracticable, and upon the question being put the motion was lost, 12 for 19 against.

Friendly Society Control.—The CHAIRMAN, in calling upon Dr. Deighan to move his resolution, said that it was generally desired that a vote should be taken, and that at the requisitioned meeting it was not the intention of the mover and seconder of the resolution calling that meeting that a vote should have then been taken. This was confirmed by Dr. JAFFÉ, the seconder, Dr. Rushbrooke the mover, being absent. Dr. DEIGHAN then moved, and Dr. SWAN seconded, the following motion:

> That this meeting of the City Division of the British Medical Association is of opinion that the explanation given by Dr. Evan Jones, at the special meeting of the Division on August 22nd, with regard to the position taken up by him with reference to the proposed control of the medical benefit under the Insurance Act by friendly societies, is unsatisfactory; and that on this—a matter of vital importance—his views are directly opposed to those of the Division of which he is a Representative.

The CHAIRMAN, while not desiring to name a time limit for seconding speeches, expressed the opinion that brevity was desirable. Dr. KEENAN invited Dr. Evan Jones to make his position clear, but Dr. EVAN JONES considered he had already fully done so, and deferred his reply. Dr. KEENAN then expressed the opinion that an adverse vote that afternoon would necessitate Dr. Evan Jones's resignation as Representative. This view was repudiated by subsequent speakers who supported the resolution, as they did not desire to lose Dr. Evan Jones's invaluable services. Dr. FETTES thought a distinct repudiation of the desirability of friendly society control would meet the situation best. Drs. PERCIVAL ALLEN, A. W. MILLER, and JAFFÉ supported the resolution and Drs. DUNN, HOWARD-JONES, and HADFIELD criticized it. Dr. EVAN JONES then replied, and declined to withdraw in any way from his position and action in word or deed. Dr. J. W. HUNT then moved as an amendment:

> That the best solution of the present situation is that the British Medical Association uses its utmost endeavours to obtain by alteration of the Act an absolutely free choice of doctor by insured persons.

Dr. MAJOR GREENWOOD, in seconding the amendment, said that although it was somewhat vague, he thought that in existing circumstances it would be better to pass it rather than the original resolution. It was of the utmost importance to preserve union in the profession, and particularly in their own Division. At the same time he must tell the meeting, and he thought Dr. Jones would bear him out, that he utterly disapproved of Dr. Jones's views with regard to the Locker-Lampson amendment, and had told him so at the Brighton meeting. He was as strongly opposed to any friendly society control as any one in the room, and he considered that where the friendly societies had the administration of medical benefit they must necessarily have a good deal of control. Except with regard to this matter, he had always voted with Dr. Evan Jones at all the Representative Meetings, where he had been his colleague, and they had had little difference of opinion except on minor details. He should always oppose any form of friendly society control; if such control came about in spite of their efforts to the contrary, he could only regard it as most disastrous to the profession, and hoped that, for his part, he would be in a position in that case to resign immediately every panel patient he might have. Dr. GOODALL supported the amendment. The CHAIRMAN, in closing the discussion, as some members were anxious to leave, named Dr. Deighan and Dr. Ross as tellers. The votes were counted by rows, and the figures announced were: For the amendment, 22; against, 18; majority, 4. The amendment was declared carried, and upon being put as a substantive motion, was carried *nemine contradicente.*

The consideration of the remaining notices of motion by Dr. Evan Jones was deferred owing to the lateness of the hour.

YORKSHIRE BRANCH.

A meeting of the Yorkshire Branch was held at the Grand Hotel, Scarborough, on October 25th. It was preceded by a meeting of the council, at which eight new members were elected, and the question of the transference of Hinderwell from the Yorkshire Branch to the Cleveland Division of the North of England Branch was considered. No opposition was offered to the proposed transfer.

At the Branch meeting the President, Dr. Stanger, was in the chair. About thirty members were present.

Specimens.—The following specimens were shown by Mr. J. F. Dobson (Leeds): (1) Calculi removed from a case of bilateral nephrolithiasis; (2) impacted ureteral calculus which escaped detection on *x*-ray examination; (3) skiagram by Dr. Rowden showing pelvic shadow with opaque catheter in the ureter; (4) skiagram of a calculous hydronephrosis filled with collargol solution; (5) kidney removed from preceding case; (6) kidney showing extensive haemorrhages from an adrenal tumour.

Papers.—Papers were read on malingering, by Dr. Shepherd Boyd (Harrogate); on a case of pulmonary disease with unusual manifestations, by Dr. G. W. Watson (Leeds); and on some cases of hysteria, by Dr. Eurich (Bradford).

Dinner.—Twenty-four members dined together after the meeting.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Birmingham Branch: Central Division.—Drs. Ernest C. Hadley and Bernard J. Ward, Honorary Secretaries, give notice that an ordinary general meeting of the Division will be held in the Library of the Medical Institute, Edmund Street, on Wednesday, November 5th, 1913, at 3.30 p.m. Business: Birmingham and Midland Hospital for Nervous Diseases, Paralysis and Epilepsy; Representative's Report of Annual Representative Meeting. Any other business.

East Africa and Uganda Branch.—Dr. G. C. Strathairn, Acting Honorary Secretary (Civil Hospital, Kampala, Uganda), gives notice that a general meeting of the East Africa and Uganda Branch will be held on Tuesday, December 23rd, at the C.M.S. Hospital, Namirembe, Kampala. Business: Election of Officers and Branch Council; adoption of rules, including formation of Divisions; address by Dr. A. R. Cook on "Native Methods of Midwifery"; any other business.

Lancashire and Cheshire Branch.—Mr. F. Charles Larkin, Honorary Secretary (54, Rodney Street, Liverpool), gives notice that the next meeting of the Branch Council will be held at the Liverpool Medical Institution at 4 p.m. on Wednesday, November 19th.

Lancashire and Cheshire Branch: Liverpool Division.—Dr. Francis W. Bailey, Honorary Secretary (51A, Rodney Street, Liverpool), gives notice that a meeting of the Liverpool Division will be held shortly to consider the business for the Special Representative Meeting (p. 353).

Metropolitan Counties Branch: City Division.—Dr. A. G. Southcombe, Honorary Secretary (83, Sidney Road, Homerton, N.E.), gives notice that a general meeting of the Division will be held on Friday, November 14th, at 3.30 p.m., in Balfour Hall, Kingsland Road, to discuss the agenda for the Special Representative Meeting (p. 353) and the notices of motion standing adjourned from October 22nd. Members are reminded to bring with them this issue of the Supplement. A clinical meeting will be held conjointly with the Aesculapian Society at the Metropolitan Hospital, Kingsland Road, on Friday, November 21st, at 4 p.m.

Metropolitan Counties Branch: Marylebone Division.—Dr. Francis W. Goodbody, Honorary Secretary (6, Chandos Street, W.), gives notice that a meeting of the Marylebone Division will be held at 11, Chandos Street, W., on October 31st, at 5 p.m.

Metropolitan Counties Branch: St. Pancras and Islington Division.—Mr. B. G. Morison, Honorary Secretary (115, Green Lanes, Highbury, N.), gives notice that a meeting of non-panel practitioners resident in the area will be held in the Midland Grand Hotel on Friday, October 31st, at 9.15 p.m., for the purpose of forming a non-panel society.

Metropolitan Counties Branch: Tower Hamlets Division.—Dr. W. H. E. Oxley, Honorary Secretary (119, East India Road, E.), gives notice that a general meeting will be held on Tuesday, November 4th, at 9.15 p.m., at the Stepney Central Hall, Commercial Road, E. Business: Correspondence. Dr. Cohen will propose the following resolution under Ethical Rule 2: "That the terms for which contract practice for uninsured male persons above the age of 16 years shall be carried on in this Division be those agreed upon by the Stepney Medical Union—namely, 8s. 8d. per head per annum—and that initial examinations shall be charged for at the rate of 2s. per member; and that any infraction of this resolution be considered conduct detrimental to the honour and interests of the medical profession." Mr. R. C. Elmslie, M.S., F.R.C.S., will read a paper on Modern Methods in Orthopaedic Surgery, to be followed by a discussion. In view of the important business, attendance of members is specially requested.

Perthshire Branch.—Dr. John H. Lyell, Honorary Secretary (15, Marshall Place, Perth), gives notice that the winter meeting will be held in the Station Hotel, Perth, on Friday, November 14th, at 6 p.m. prompt. Council meeting at 5.45. Agenda: Reports of Council and Treasurer. To instruct the Representative how to vote at the Special Representative Meeting to be held in London in December. Immediately after the conclusion of the formal business, an address will be delivered by Dr. Edwin Bramwell, Edinburgh, on a subject of general medical interest. Every practitioner in the town and county is earnestly requested to be present, and, if possible, to remain to the annual dinner, which takes place at 7 p.m., and to which Dr. Bramwell and other friends have been invited.

Staffordshire Branch.—Dr. Harold Hartley, Honorary General Secretary (Basford, Stoke-on-Trent), gives notice that the first general meeting of the session will be held at the North Stafford Hotel, Stoke-on-Trent, on Thursday, November 20th. The President (Mr. W. F. Cholmeley, F.R.C.S.) will take the chair at 3.45 p.m. Business:—Correspondence. Exhibition of Living Cases. Papers: (1) Blood Changes in Lead Poisoning (John Russell); (2) The Clinical Importance of the Cerebro-spinal Fluid (William Boyd); (3) Tonsillectomy (G. A. Carter). Exhibition of Pathological Specimens, etc. Dinner at 6.30 p.m.; charge, 5s.

South Midland Branch: Buckinghamshire Division.—Dr. A. E. Larking, Honorary Secretary (Buckingham), gives notice that a meeting will be held on Tuesday, November 11th, at the Red Lion Hotel, High Wycombe, to discuss and vote upon the notice of business for the Special Representative Meeting (p. 353). Mr. G. E. Waugh, assistant surgeon, North-West London Hospital, will give an address on a surgical subject. Lunch will be provided at 1.30 (2s. 6d. each), and the meeting will commence at 2.15. A collection will be made at the meeting on behalf of the Milward Fund.

Hospitals and Asylums.

ADELAIDE HOSPITAL, DUBLIN.

The forty-third annual report of the Adelaide Hospital—that for 1912—states that during the year 4,024 cases were admitted. Of these 336 died, at an annual cost of each in-patient per occupied bed of £101 6s.; this is an increase on the cost of the previous year of £17 9s. The number of attendances at the out-patient department numbered 19,343. The South Australian Government Laboratory of Bacteriology and Pathology is attached to the hospital. The work includes bacteriological and pathological investigations for the Adelaide and other Government hospitals, Government departments, and the central and local boards of health, and private medical and veterinary practitioners. Over 3,000 examinations were made during the year, while a considerable number of vaccines were prepared.

ROSSLYNLEE ASYLUM.

The twenty-ninth report of the Medical Superintendent of this asylum has just been issued. Dr. Mitchell states that on May 14th, 1912, the number of patients on the asylum register was 339, of whom 47 were private patients, and 292 were pauper patients. On May 14th, 1913, the number on the register was 333, of whom 41 were private patients, and 292 pauper patients. The total number under treatment for the year was 415. The admissions were 82—40 males and 42 females. The discharges were 48, being 24 males and 24 females. The deaths numbered 34. Out of the 82 admissions, 65, or 79.3 per cent., were labouring under conditions most unfavourable for recovery, leaving about 20.7 per cent. who had a fair chance to recover—a smaller proportion than for many years. Of the admissions, 63 per cent. were in weak bodily health. Suicidal tendencies were present in 15 cases, and of these 6 had attempted suicide.

EDINBURGH EYE, EAR, AND THROAT INFIRMARY.

At the annual meeting of the contributors to this hospital held on February 10th, it was reported that there had been 5,542 new patients, a record for any one year; the number of visits paid was 9,195, and 174 patients were accommodated in the wards. Reference was made to the loss which the infirmary had sustained by the death of Mr. Robert Craigie Bell, brother of the late Dr. Joseph Bell, who had been a director since 1879, and had been president since 1901.

LOCAL MEDICAL COMMITTEES.

WEST RIDING OF YORKSHIRE.

THE thirteenth meeting of the Local Medical Committtee for the West Riding of Yorkshire was held at Wakefield on September 23rd, when Dr. MAY was in the chair, and twenty-seven representatives were present.

Medical Referees.—The meeting was called to receive the report of the special subcommittee appointed at the previous meeting, on September 5th, on the question of appointment of medical referees. The report was received, and a draft scheme for the appointment of temporary referees was, with a few modifications, adopted by the Committee, the Honorary Secretary being directed to forward it to the clerk of the Insurance Committee with the request that he would take an early opportunity of bringing the proposed scheme before the notice of the approved societies concerned. The Insurance Committee therefore convened a meeting between representatives of approved societies and the Local Medical Committee, which was held at the County Hall, Wakefield, on October 18th. Invitations had been sent to more than ninety approved societies in the West Riding of Yorkshire having each a membership of over 500 insured persons, and there was a large attendance. It was understood that any arrangement that might be arrived at would be temporary, pending the forthcoming report of the Government's Departmental Committee on alleged excessive claims for sickness benefit and allied subjects. The proposals for a temporary scheme of medical referees were put forward by the doctors, who explained that the present demand for referees had come, not from the medical profession, but from certain of the larger approved societies in the West Riding. After a discussion lasting over two hours—in which the opinion was frequently expressed that the amount of malingering was being very greatly exaggerated—the meeting decided that there was no need at present for the appointment of medical referees in the West Riding, and the whole subject was adjourned.

Local Medical Committee Dinner.—This dinner, the first of its kind, was held at the Queen's Hotel, Leeds, on the evening of October 21st. The whole profession in the area of the West Riding was invited to attend, and about eighty medical men were present. Among the guests were: Dr. Drury (Chairman of the Halifax Local Medical Committee), Dr. W. Stanger (President of the Yorkshire Branch of the British Medical Association), Mr. Walter Thompson, F.R.C.S. (Surgeon to the Leeds Infirmary, and a member of the West Riding Insurance Committee), Dr. Carlton Oldfield (Surgeon to the Leeds Women and Children's Hospital), Dr. Kaye (M.O.H.), Dr. Campbell (Tuberculosis Officer), and certain of the lay officers and officials of the West Riding Insurance Committee, including Mr. Vibart Dixon (Clerk to the Insurance Committee), and Mr. Coppok (Treasurer to the Insurance Committee). The dinner proved a complete success. After the toast of "The King" had been honoured, Dr. DRURY (Halifax) proposed "The West Riding Local Medical Committee," to which Dr. EARDLEY (Goole) and Dr. J. A. HARGREAVES (Wetherby) responded. Dr. HILLMAN (Castleford) proposed "Our Guests," and Dr. OLDFIELD and Mr. VIBART DIXON replied. The remaining toast was that of "The Chairman" (Dr. May), given by Dr. THOMAS SMAILES (Honley).

NORTHUMBERLAND.

A MEETING of the Northumberland County Local Medical Committee was held at Morpeth on October 23rd, Dr. L. FRASER presiding.

Irregular Transfers.—A case was discussed in which a practitioner had placed his name on the panel of a district where he had a subsurgery, and having obtained a number of patients had ultimately ceased attending, and made an arrangement with another practitioner nearer to do so. No formal transfer of patients had been made, and some patients desiring to transfer to a resident practitioner as they were not being attended by the doctor on whose panel list they were, had, it was stated, been unable to get replies from the latter to their communications. It was reported that the Insurance Committee, in consultation with the National Health Commissioners, had issued a warning to the practitioner in question. This disposed of the matter, and answered the point as to whether a practitioner not attending himself or by his assistant, but at the same time providing duly qualified medical attendance through a practitioner whom he was seeking to introduce as a successor, and who disregarded requests made with a view to transfers elsewhere, was acting in a manner prejudicial to the efficiency of the medical service.

Annual Transfers.—With respect to annual transfers it was reported that batches of forms had been furnished both to secretaries of approved societies and to medical practitioners. In some cases society secretaries or other persons seeking to introduce practitioners prepared to take miners' families at low rates were canvassing with these forms, and the Insurance Committee clerk had stated to the Secretary of the Local Medical Committee that batches of forms were not merely asked for by such agents, but that the panel doctors themselves had applied for batches. In discussion the view taken was that in either case canvassing was assisted; and on the motion of Dr. DICKIE, seconded by Dr. ANDERSON, it was resolved to request the Insurance Committee to abide by its notice as published in the press, whereby each patient has to apply to the Committee if he desires to change his doctor for the year, and that the practice of sending out batches either to doctors or any one else be discontinued. It was agreed to ask the Clerk to the Insurance Committee to decline to receive batches from any one.

Finance.—A committee was appointed to meet the Chemists' Association with a view to making an application for financial assistance under Subsection 2, Section 33, of the Act of 1913 (expenses of committee elected by panel practitioners).

Stock Mixtures.—The Committee resolved to co-operate with the Newcastle-upon-Tyne and Tynemouth areas respectively in having a uniform stock mixture list. On the motion of the CHAIRMAN, a permanent Pharmacy Subcommittee was appointed, consisting of Drs. W. S. Campbell, J. Anderson, G. W. Harbottle, H. Dickie, and G. H. Spencer.

Allocations.—Memorandum 29 I.C. was considered, and a subcommittee of seven members was appointed to meet the Medical Benefit Subcommittee of the Insurance Committee to discuss the matter. The principle of the circular was discussed and generally accepted. A motion standing in the name of Dr. Harbottle relative to the Danckwerts opinion was withdrawn in view of this proposed meeting.

New Contracts.—It was resolved that the Secretary notify the Clerk to the Insurance Committee that the Local Medical Committee should be shown the proposed revised agreements before they were presented to the individual practitioners for signature.

Mileage.—A report of the Mileage Subcommittee suggesting that a meeting of all panel practitioners should be called, with a note asking those practising in rural districts specially to attend, was adopted unanimously.

Meetings of Committee.—It was confirmed that the meetings of the Committee should be held each month immediately prior to the monthly meetings of the Medical Benefit Subcommittee, so that the representatives of the Local Medical Committee thereon might have the opinions of the Committee with respect to the agenda of the subcommittee prior to the meeting.

BOURNEMOUTH.

Second Opinions.—It having been brought to the notice of the Bournemouth Local Medical Committee that a certain approved society (one of the insurance companies) was instructing its agents to prevail upon insured persons who were on the funds of this society to see another doctor, with a view to getting the patient back to work and off the funds, and that this was being carried out without the knowledge or sanction of the panel doctor concerned, the Local Medical Committee decided to bring the matter before the Bournemouth Insurance Committee. At a special meeting of the Medical Benefit Subcommittee, held on Tuesday, October 21st, at which a deputation from the Local Medical Committee was present, a letter from the Local Medical Committee on this subject was read and discussed. It is satisfactory to report that the representative of the company in question, who was present at the meeting, expressed his regret at what had happened, and undertook that in future, when his company wished for a second opinion on an insured patient this should be intimated to the panel doctor in charge of the case in the first instance.

Allocation of Unallotted Patients.—The scheme outlined by the Commissioners (Circular 29/I.C.) has been discussed and tentatively approved by the Local Medical Committee. This scheme was also discussed by the Medical Benefit Subcommittee with the deputation from the Local Medical Committee at the meeting on October 21st. The Insurance Committee has undertaken to circularize the panel doctors, asking them if they agree to this method of allocation and if they wish to participate in the division of the available funds, in which case they must give a definite undertaking to give prompt attention to any unallotted patient who may come to them for treatment. A full panel meeting will be called as soon as possible in order to get the views of all the men on this question.

HERTS.

THE County Insurance Committee has not agreed to the proposals of the Herts Medical Committee concerning the proposed distribution of the "accumulated funds" (see SUPPLEMENT, October 25th, p. 333). Further correspondence has since taken place, and as it seems that the right of free choice of patient is involved, the whole matter has been referred to the Medical Secretary of the British Medical Association for advice.

MEETINGS OF INSURANCE COMMITTEES.

LONDON.

Extension of Medical Referees' Duties.

SOME debate took place at the meeting of the London Insurance Committee on October 23rd with regard to a proposal to make the services of the newly appointed medical referees available to approved societies in cases of illness which might come within the scope of the Workmen's Compensation Acts, and in cases where disease was thought to be due to misconduct.

Mrs. HANDEL BOOTH moved to refer the matter back, on the ground that the proposal involved too great an extension of the referees' duties. Mr. CROSSMAN, who seconded, urged that a doctor who only saw a patient once was not as competent to decide as was the practitioner who had been in regular attendance. Mr. KINGSLEY WOOD said that the Bristol scheme, which had been approved by the Commissioners, provided for the referees undertaking the proposed additional duties. Mr. P. ROCKLIFF complained that delay occurred in obtaining the services of the referees.

Mr. F. COYSH, the Chairman of the General Purposes Subcommittee, in reply, stated that up to the present 389 applications for the services of a medical referee had been received. There had been furnished to approved societies already 221 reports. The following was an analysis of the first 255 cases: Declared capable of work, 108; declared incapable of work, 86; declared off by their own action, 61. Therefore 34 per cent. of the cases remained on the funds. The total expenditure to date was £55 5s., not including £5 for travelling expenses.

On a division, the reference back was lost by 28 votes to 19, and it was then decided to ask the Commissioners to approve the proposed extension of the referees' duties.

Revision of the Medical List.

The Committee decided to fix January 8th, 1914, as the date for the revision of the medical list, instead of December 31st, the Commissioners having stated that the amending Regulations, of which two months' notice must be given, would not be ready until November 8th.

Cases beyond "Ordinary Professional Competence and Skill."

Mr. ALBAN GORDON moved a resolution asking for a return of the number of cases in which medical treatment had not been provided on the ground that it was beyond the scope of a medical practitioner of ordinary competence and skill; the number of such cases in respect of which the practitioner had made a charge, and whether a demand existed among medical practitioners on the list for the assistance of a second opinion, and, if so, how far this was being supplied. Mr. Gordon remarked that the expression in the Act, "a medical practitioner of ordinary professional competence and skill," suggested that the doctor on the panel was only expected to supply the "lowest common denominator" of treatment. If that were true, any doctor supplying more would be entitled to make a charge. It was vitally important to know the number of cases in which the treatment required was of a character that could not be given by the lowest common denominator—ordinary professional competence and skill. He had heard it stated that in a large number of cases doctors on the panel had treated insured persons as private patients, and it was most desirable, in the interests both of the medical profession and of insured persons, that the position should be made quite clear. As to a second opinion, short of recourse to a hospital, there seemed to be no way of obtaining this, and doctors had represented to him that they were much hampered on this account.

The motion found no seconder, and therefore dropped. The Chairman, Mr. J. A. DAWES, M.P., remarked that there had been very few cases in which it was suggested that the treatment required was beyond the competence of a general practitioner; those cases had all been dealt with as far as could be ascertained. There had only been one case recorded in which a charge was made, and no representations had been made to the Committee as to the lack of provision for a second opinion.

Hospital Treatment for Insured Persons.

Dr. H. H. MILLS moved:

> That it be referred to the Medical Benefit Subcommittee to consider and report as to the facilities for obtaining clinical investigation and treatment for insured persons at the metropolitan hospitals.

Dr. Mills said that it was very necessary for the medical service throughout the country to be co-ordinated with the work done in the hospitals. In the provinces this was a fairly simple question, because the trade unions contributed largely to hospital funds. In London the position was different, because most of the hospitals were endowed, but it was impossible to conceive that there should not be perfect co-operation between the various institutions and the Insurance Committee. Clinical investigation must go on, either through the medical officers of health or the hospitals, and the latter, to his mind, was the better solution, provided hospitals were equally distributed amongst the population. He was confident that the inquiry, which would take some little time, would be met in a cordial spirit by the doctors of London.

Mr. F COYSH, who seconded, said the use of the hospitals would improve the medical service and tend to remove any misunderstanding between the hospitals and the practitioners under the Act.

Dr. B. A. RICHMOND said that such a development was very much needed in London. No practitioner could be a specialist in every department, and the hospitals would provide the machinery for obtaining a second opinion. As a matter of fact, the hospitals only refused to treat insured persons when they were not sent by their panel doctor. The hospitals had shown themselves very ready to co-operate, and if the Committee took action on the lines proposed it would promote a still better understanding.

The motion was carried unanimously.

Complaints against Medical Practitioners.

The Committee dealt with a number of complaints in respect of the medical service, six being against the same practitioner.

Cases 1 to 6.—In the first of the six cases the Committee decided that the complaint as to neglect in treatment had not been substantiated, but that the practitioner made use of strong language and should be censured therefor. The decision in the second case was in identical terms. The third complaint was that a patient, after being under treatment for rheumatism for six months, died from pulmonary tuberculosis. Complaint was also made of abusive language. The defence was that on the day when abusive language was alleged to have been used an assistant saw the patient. The Subcommittee came to the conclusion that the language complained of was not used by the doctor as to whom the inquiry was held, and, further, that there was no reason to assume that the patient was neglected. The next complaint was that a deputy failed to carry out his duty; the complaint was found to have been substantiated, and the practitioner was requested to refund the amount expended by the insured person in obtaining treatment elsewhere. In the next case complaint was made so long after the time of the illness that no thorough investigation was possible. The Subcommittee could find no proof of neglect, and the Committee decided to take no further action. In the last case the complaint was against a deputy.

The Subcommittee came to the conclusion that the deputy was not under the influence of drink, and did not use a callous expression, as alleged. Nevertheless, he was guilty of neglect in not making early response to repeated urgent requests for his services. The Committee censured the practitioner for having employed as a deputy a person who was not a fit person to be entrusted with such duties.

In reply to a question, Mr. O. E. WARBURG, the Chairman of the Medical Service Subcommittee, said that as the complaints in the above cases were principally against a deputy, it was not proposed that the Commissioners should be asked to remove the name of the doctor from the panel.

The following are particulars of other complaints:

Case 7.—A complaint of neglect. The Subcommittee did not think—a question of professional etiquette being involved—that any blame attached to the practitioner for not visiting after he had been informed that the patient was under the care of another doctor. There was no reason to think that an abscess found by the second doctor was apparent when the patient was examined. The Committee decided to take no further action.

Case 8.—A complaint of non-attendance. The Committee found that the complaint was not substantiated, as there was nothing in the message delivered which would lead the doctor to think that the case was one requiring immediate attention.

Case 9.—A complaint of inadequate attention. The doctor gave a perscription for Epsom salts, but did not visit the patient again. On the following day the insured person, on feeling worse, called in another doctor, who certified him to be suffering from pharyngitis. The Committee found that the complaint had been substantiated; that, considering the state of the patient, the doctor was gravely in error in not visiting the patient without waiting to be sent for, but at the same time the insured person could not be held entirely free from blame in not sending for the doctor when he found that his condition had not improved.

Case 10.—A complaint of neglect and abusive language. The Committee found that the treatment rendered was appropriate to the condition of the patient at the time the doctor saw him, and that subsequent serious developments were not due to unsuitable treatment. On the other hand, the Committee was of opinion that the doctor did make use of unfortunate expressions, and that his attitude was liable to the interpretation that he treated insured persons less favourably than private patients.

Cases 11 and 12.—A case in which pleurisy developed; a complaint of wrong diagnosis and neglect. The Committee found that the complaint had not been substantiated, and that the practitioner should have been summoned when it was found that serious developments had taken place.

Case 13.—A patient called during surgery hours, and as the doctor was out and the time of his return was uncertain she was advised to consult another doctor. The Committee found that the practitioner was at fault in not having made arrangements in accordance with the terms of his agreement for the treatment of patients by a deputy during his absence, and that the insured person should have visited the practitioner for further treatment instead of continuing to consult the second doctor.

Case 14.—A complaint of non-attendance. The case was one of influenza, and the doctor, finding there were no complications, did not consider a second visit necessary. The Committee decided that the case would be met by the transfer of the patient to another list.

Case 15.—A complaint of refusal to provide treatment on a Sunday. The patient admitted that the case was not urgent, and the next day he was found to be suffering from slight dyspepsia. The practitioner stated that the insured person behaved in a disorderly manner. The Committee found that the complaint against the doctor was not substantiated.

Complaint by a Medical Practitioner.

Case 16.—A complaint against an insured person of disorderly behaviour and refusal to carry out instructions. No defence had been received from the insured person. A transference to another list was approved.

WORCESTERSHIRE.

AT a meeting of the Worcestershire Insurance Committee, at the Shire Hall, Worcester, on Saturday, Mr. WILLIS BUND presiding, a discussion took place with reference to allegations that panel practitioners were charging insured persons for medical attendance and medicines. The General Purposes Subcommittee reported that the County Medical Committee had passed the following resolution: "That practitioners on the panel shall discontinue to accept any contract payments from insured persons." The Subcommittee recommended that this be accepted in good faith and on the understanding that there should be no suggestion of payment on the part of the practitioners, or any pressure brought to bear, so that any payment made by an insured person to his panel doctor should be absolutely voluntary.

Dr. HAWKINS objected to the insertion of the words "in good faith." It was, he said, casting a slur on the medical fraternity. ("No, no.") He moved that the words be deleted. Dr. DIXEY seconded.

Mr. G. W. HOBSON said there were reasons for the insertion of the words, but he was not going to discuss them in the presence of the press. He hoped the Committee would adhere to the paragraph.

Dr. MOORE said the Medical Committee intended that the profession throughout the county should stick to the resolution passed. If the Committee obtained precise information showing that any doctor was trying to make insured persons pay for medical attendance against their will, the Insurance Committee would in its action have the full support of the Medical Committee. The charges, however, had never been substantiated. It was said that the people would not come forward for fear of intimidation. Charges of this nature, reflecting on the honour of the professional gentlemen, should be substantiated; if not, they should be quashed at once.

Mr. T. W. PARKES thought the matter should go back to the Committee. The doctors had laid themselves open to these charges because of their attitude towards public appointments.

Dr. KIRKPATRICK thought Mr. Parkes was beside the point entirely. It was not a question of the Medical Committee intimidating their own profession, but the question of members of the profession intimidating the public.

Mr. BREWSTER said he regretted he was not able to bring forward any names of persons who had made complaints, but thought the allegation could be borne out by several members from Kidderminster that the charges were correct.

Dr. MOORE: Do you still say before this Committee that doctors are charging insured persons contract rates against their will?

The CHAIRMAN: He does not say that. What is said is that certain doctors have asked patients, "Are you subscribing to my club, because, if so, there is no need for you to go to the chemist for your medicine?" If they subscribed to his club he would give them the medicine.

Dr. MOORE: That is a very different charge.

Mr. TANNER remarked that it might be that the doctor did not know what the collecting agent was doing.

Eleven voted for the deletion of the words "in good faith" and twenty-one against. The paragraph was then approved.

INSURANCE NOTES.

LEEDS.

AT a meeting of the Leeds Insurance Committee on October 23rd a discussion ranging over a somewhat wide field took place on the general subject as to the fashion in which medical men on the panel performed their work. The matters considered included a letter from the secretary of the Local Medical Committee, protesting against observations made by a member of the Committee at a meeting last July. They were to the effect that some medical men on the panel were so careless as to the way in which they sent in their lists as to put the Insurance Committee to a cost of £200 in rectifying their omissions. On its being pointed out that the whole cost of the index did not equal the sum mentioned, the deliverer of the speech in question admitted that a large number of medical officers were trying to do their duty, but others were not; the local medical organization ought to be sufficiently strong to keep these doctors up to the mark. The further reply made was to the effect that however strong the local medical organization might be, it could do nothing unless specific instances of failure in the performance of duty were brought to its knowledge. On the subject of complaints by insured persons against medical men, it was pointed out that, although there were 165,000 insured people in the city, only three complaints had been received by the Insurance Committee, and one of these had been withdrawn. To these statements two replies were made, one being to the effect that it was only insured persons who could lodge complaints, and that it was difficult to get them to do so; and the other that the complaints really numbered thousands, but were dealt with for the most part by friendly societies themselves. It was also alleged that panel medical officers were encouraging malingering, one friendly society representative stating that three lodges of his society had been disbanded

owing to excessive sickness claims. A reconstruction of the whole of the Leeds panel was desirable. At present one doctor had over 4,000 persons on his list, while another had only two persons. No doctor ought to be allowed to have on his list more than 1,500 persons. Another friendly society representative stated that he had in his office medical certificates signed four or five weeks in advance to save the patient going to the doctor for that space of time. Many certificates also merely bore the patient's name and a statement that he was unable to do his work, and no other information of any kind. One reason given for the alleged slackness shown by panel medical officers in the matter of granting certificates was that they looked upon insured persons as their private patients, and did not want to offend them.

The replies made to these statements were to the effect that one cause of the trouble was that many doctors had on their lists numbers of people whom no friendly society would have accepted in the old days, because they were bad lives, and that many persons could now afford to be ill who before were not in this position. The language used by some insured persons when they were refused certificates was such as medical men would never permit from their private patients. Good would be done by bringing this fact to the notice of members of friendly societies as a whole.

OFFICIAL PUBLICATIONS.

Exemptions.

Section 6 of the National Insurance Act (1913) brings within the definition contained in Part I of the First Schedule to the Act of 1911 of those who must necessarily insure all persons employed by local and other public authorities, but power is reserved to the Joint Insurance Committee, acting jointly with the several bodies of National Health Insurance Commissioners, to issue orders exempting any particular class of persons they may think fit. In virtue of this power an order has now been issued, under date October 11th, exempting from compulsory insurance persons employed by local or other public authorities, as chaplains or other ministers of religion, as duly qualified medical practitioners, as coroners or deputy coroners, as public analysts, as public vaccinators, as superintendent or deputy superintendent registrars of births and deaths, or as registrars or deputy registrars of births and deaths, or as registrars or deputy registrars of marriages, or under contract of apprenticeship without money payment, or as unpaid officers, or otherwise than as officers or servants of a local or other public authority, unless the employment is one of those specifically mentioned in paragraphs (*a*), (*b*), (*c*), or (*d*) of Part I of the First Schedule to the Act of 1911. This order applies to England and Wales, but a notice of their intention to issue an order of a corresponding kind was given by the Insurance Commissioners for Scotland in September.

CORRESPONDENCE.

The Past, Present, and Future.

Dr. Henry H. Sturge (London, W.) writes: Dr. Fothergill is mistaken in thinking that it is only recently that Dr. Buttar has shown active interest in the affairs of his Division and of the Association. For several years he has been a strenuous worker. According to the rules of our Division, his period of chairmanship expired just as the Insurance Act, with its tremendous issues, was brought before the country; and, knowing how invaluable Dr. Buttar's work had been, the Kensington Division, on my proposal, altered the rule as regards tenure of chairmanship, so that Dr. Buttar could be elected for a further period. The executive committee always met at his house. He presided impartially over large meetings—last year the average attendance was over 100.

Beyond such official work, at the request of members of the Division and aided by the organization of the British Medical Association, he was successful in securing the closure of an institution conducted by medical practitioners for gain under the name of "hospital." He has been mindful, too, of the interests of general practitioners as affected by the establishment of "dispensaries for tuberculosis." This much is due to a colleague and a leader.

Now, to come to the great question which has occupied our thoughts and energies so long. We are wise to dwell upon the past in so far as we can from its lessons find a guide for the future. And therefore, with your permission, I will occupy some space in reflection. This may be useful, as those who were my constituents have come to me indignant, but not clear why we are divided.

Last June the great Division of Kensington with over 400 members honoured me by electing me as one of its four Representatives. With the exception of two hours' absence, for which I obtained permission from the Chairman, I was present at every sitting of the three meetings which were held in Liverpool and London in 1912, and in London in January, 1913. At the end of the meeting in Liverpool one returned believing that a united profession would win, because by 182 to 20 the following resolution was carried: "That the Government be informed that the Association adheres to its minimum demands as formulated," etc.

The day before the first meeting at Liverpool Dr Addison, M.P., contributed an article to the *Daily News* advising the Representatives to accept the Government proposal, which then was at the low rate of about 4s. a year for each member insured. Such effort had no weight with the meeting.

While I was speaking at Liverpool and pointing out that parents who had hitherto paid for their sons who were engaged in such callings as bank clerks, or articled clerks with chartered accountants, would with the Act in force escape future payments, and their children would secure medical benefit for a few shillings a year, Dr. Maclean shook his head. But the Chairman of the Representative Meeting was wrong, because such members of the community have since the Act has been in force applied to me to know if I was on a panel, and, if so, they would enroll their names on my list. Still, at the end of our Liverpool meeting our hopes were buoyant. Then came the meeting in London in November, when was carried by more than the necessary two-thirds majority this motion:

> That, in the opinion of this Representative Meeting, the Regulations issued by the Commissioners and the latest proposals of the Chancellor of the Exchequer are unworkable and derogatory to the profession. As a consequence the medical profession declines to undertake service under the Act and Regulations as at present constituted.

The meeting appointed five to confer with the Chancellor; besides the Chairman of Council and the Chairman of Representatives, Drs. Turner, Beaton, and Helme were chosen—a good choice.

We discussed what we should surrender, and arranged to give up the wage limit of £100 and accept the £160 limit—a sacrifice on our part; on the other hand, we asked for a better representation on the Local Medical Committees and for other important concessions. The Chancellor met our deputation; he agreed to our request that we should have better representation on the committees, but said we should not elect the extra men, but they would be nominated by the Commissioners. Briefly, we had the shadow, but not the substance.

Lastly came the meeting in January, and the surrender, when Dr. Heggs, Representative of Canterbury and Faversham, proposed this resolution:

> That this Representative Meeting, recognizing the force of present circumstances, and consulting the best interests of the Association and the unity of the profession, now releases all practitioners from their undertakings and pledges.

This was carried by 115 against 35. From the speeches which preceded the division I was disillusioned. A Representative who at Liverpool seemed as adamant, now said, "When you are done, you are done," and announced that he had gone on the panel! One realized that such weak men were there because there were weak Divisions behind them.

One was prepared to find that purely industrial districts would give way; but who could have believed that Divisions like Bournemouth, Brighton, and Bristol would have yielded? The rest of that meeting was a time of gloom. It seemed puerile and futile for the Deputy Representative for Brighton (Dr. Fothergill) to propose that a quarterly levy of one farthing should be made per insured

person on each practitioner's list, "to forward the objects of the campaign," when that Deputy had just voted for capitulation after a year's campaign!

Later Dr. Heggs wrote to the Journal advising organization! We did organize with infinite pains, and it was at Dr. Heggs's own invitation the men surrendered. To give but one instance of how careful our organization was. On the staffs of the dispensaries of the Metropolitan Provident Medical Association were over 120 men. An effort was made to utilize these dispensaries for working the Act, but this was defeated by the staff "almost unanimously" refusing to treat any insured person after January.

Now for the guidance for the future.

1. I am convinced that with the spirit prevailing at present among the members of the Association we have not now an efficient fighting force.

2. The Government knows this and the public.

3. The Association was of great service in the greater part of last year, and without the British Medical Association the remuneration per head would not be what it is now.

4. It is necessary that we continue in membership with the British Medical Association, but that non-panel men should unite in another body, to have its head quarters, if possible, at 429, Strand.

5. Those who have not surrendered still have some influence in the community, inasmuch as they have kept to their decision.

6. As regards the accumulated funds in the hands of the London Committee, these have accrued from the contribution of 400,000 insured persons who will not choose a doctor on the panel because they want their own doctor who is not on the panel, and no threats of the Insurance Committee have moved these people who possess force of character, and are the flower of the working class.

7. Should this money be divided among those on the panels the breach will be widened.

8. The future arrangement of medical benefit will rest more with the wishes of the great friendly societies, who are powerful in parliamentary elections, and we are not now, as we are disunited.

Dr. Major Greenwood (London, N.E.) writes: In this country every one has a right to his opinion, and to its free expression. Dr. Buttar has given us his as to the best future of the Association, and that opinion seems to have been received by some of your correspondents, if not with applause, without condemnation. What, however, is strange is not so much the proposals he makes, as that he seems to think in making them he is acting in a friendly manner towards the Association, and is advising it for its own benefit. If an association is told that it is no good and should abolish itself, and begin again as another kind of thing altogether, the advice may be friendly, but will hardly commend itself as such to loyal members of the old Association. Dr. Buttar, perhaps, sees this, for he says that in the present temper of the profession his justification may appear very difficult. What, however, he does not see is that the advice is what most of us would expect to receive from our enemies.

If the British Medical Association were reduced to a purely scientific body, in spite of the attractions of the Journal, I should be surprised if it did not lose the great bulk of its members. The seceders might or might not go to the Medical Guild, which was to take its place, and become registered as a trade union, but the old British Medical Association would be as dead as Queen Anne. Such a palpable invitation to suicide, if accepted, would only benefit the guilds, federations, and leagues, which, as Dr. Fothergill remarks, are to "assist" the Association, and would be a far greater blow to the profession even than the Insurance Act. For thirty years I have been a member of the Association, and have served in most of the offices of my District and Branch, and on the Central Council and its Committees, so I have had every opportunity of observing during that time the various phases of its development. Its scientific and purely professional side bulked very large up till its reform some ten years ago; when the members throughout the country demanded that there should be a profound change, and that its activities should rather be centred on a medico-political policy. The whole of the democratic reform of that time was to make it largely a medico-political machine, and to a great extent the reform was successful. Had the Association remained as it was in the pre-reform days, the profession would have made no fight against the Government. It is true the fortune of war has been against the profession. It has been beaten, and must acknowledge its defeat. But the defeated army still remains, and may fight another day with better success. Dr. Buttar says, Disband that army and enroll another. Well, he may be right; but many of us think it better rather to

> Bear those ills we have,
> Than fly to others that we know not of.

Dr. Buttar's first proposal is not original. The anti-reform party of ten years ago had somewhat similar views to his, although they did not put them in quite the same words, and would have been shocked beyond expression at the word "trade union." If we were to revert to what is proposed, it would prove how utterly wrong we reformers were, and that we have wasted ten years. I am not prepared to make such a confession, and must therefore range myself with Dr. Fothergill, who in somewhat forcible language has drawn a very life-like picture of the state of affairs at the present time in the profession. I think there is a good deal of truth in his analysis of Dr. Buttar's views as to how the Association should reform itself. Dr. Buttar will have an opportunity of putting his case before the next Representative Meeting.

Dr. E. A. Shaw (Southsea) writes: After twenty years' membership I find myself in entire agreement with Dr. Charles Buttar's scheme for reorganizing the British Medical Association in two main sections—one scientific, the other trade union, political, or whatever description may best fit its main function, which would be the determining of all the relations between the profession and the public as two collective wholes. The medical profession and the outside world see each other from different standpoints, and neither has an accurate estimate of the other's conception of it. The dignity, the nobility, the charity of our calling are as nothing to the outside world, save when it can, by playing on our claims to these attributes, secure our services for little or nothing. We perpetually blind ourselves to this, and make the mistake of arguing from the particular to the general, taking it for granted that the relation between the individual doctor and the individual patient (a fairly good one on the whole in all aspects save the financial one, mainly because of its individual and personal nature) is bound to obtain between the profession and the public as two wholes; but it does not. Take the instances supplied by the services—all improvements in the pay and position of the service doctor have come as the result of a serious diminution in the number of candidates for entry. The army medical warrant of ten years ago which made that service the least objectionable of all, only materialized when candidates had dwindled to almost none at all.

Take the present position. How can we rationally expect the Government voluntarily to give us anything save the irreducible minimum? The main object of any Government nowadays is to keep in power; to do that it must have votes, and the medical vote being so scattered as to be numerically negligible, it brings forward legislation accordingly, and the less costly its legislative measures are to the general public, the more votes it will secure. No Government will trouble about us save for what it can get out of us; why should it? The monetary relations between the public and the profession as collective bodies will ever be a bone of contention, it cannot in the nature of things be otherwise; and the weaker and more disunited the profession is, the more it will go to the wall in this regard. At present it is our living wage, our very existence, which is being gradually whittled away, and feebly turning the other cheek to the smiter is not the way to save it. What is wanted is a strong organization capable of fighting vigorously and under the best conditions attainable, and this I believe Dr. Buttar's reorganization scheme will give us, as it would undoubtedly unite that nine-tenths of the profession, the general practitioners, whose material interests are at present so seriously jeopardized. Harley Street is not at present wanted in that organization; its material interests are not involved, and its actions are not without an eye to the honours and distinctions which are in the gift of the party in power.

Let us have our scientific and political (a word preferable to trade union) sections, each as separate entities with separate subscriptions, but both as components of the British Medical Association. And let our political section have as its main function the material advancement of the profession as distinct from its advancement in science or philanthropy, and when it has to fight—and it can only fight successfully on the lines made effective and familiar to us by trade unions—let it "go forth as a strong man armed for battle." So only shall the world grant us honourable advancement in dignity, nobility, and respect.

Mr. Francis Heatherley, M.B., B.S.Lond., F.R.C.S. Eng. (Birkenhead) writes: The distinctive feature of Dr. Buttar's letter of October 18th is that it formulates a policy. His proposal that the Association shall in future confine itself to scientific work, including the Journal, is a policy which will commend itself to many members. Dissatisfaction with the way the Association has handled the situation caused by the Act is felt, not only by non-panel men, but by many panel men as well. Reconstitution of the Association as a fighting machine is proceeding so slowly that many of us relegate it to the realm of good intentions.

In view of the prospect of the extension of medical benefits to dependants in the early future, it surely behoves us to at once try to reorganize our defences, and to ruthlessly scrap anything which has proved itself inefficient, and under that heading falls the medico-political department of the Association.

I feel sure that the failure of the defence fund to materialize was primarily due to men's want of confidence in how it would be spent. There was already too much half-hearted talk and wastage in stationery to tempt men to throw good money after bad. Therefore I think the Association's proposal to raise a 2-guinea subscription on the security of a promise of reorganization is a policy foredoomed to failure.

I echo Dr. Buttar's remarks about the General Medical Council and Royal Colleges. To me it was one of the saddest features of the recent crisis that these guardians of our profession stood by, idly indifferent and apparently impotent, whilst a political party in pursuance of a policy of *panem et circenses* ruthlessly despoiled respectable practitioners of their patients because these practitioners were unwilling to become servants of the State in a kind of low-class club practice. These august bodies approved of the pledge given to the Association by the profession generally, and, they being alone capable of disciplinary action, it was their duty when the first signs of wavering appeared to have stepped in and thrown all the weight of their authority in maintenance of that pledge. It is in great part due to their fatal inaction that our profession has lost prestige in the eyes of the public.

It is all nonsense to say that men went on to the panels simply to escape ruin. The first to go on the panel here—and from all I can hear the same holds good elsewhere—were men in good financial circumstances—men who were "on the make." It is this class of practitioner which has in the past done so much towards lowering our profession to the level of a trade, and which is now being financed by the State.

It is in my experience often the man who is really only a thinly disguised tradesman who sneers most at the idea of a medical trade union. Just as he was loud in his indignation when told of his dishonour in breaking the pledge, so it is the name rather than the thing that offends him.

I know nothing of the constitution of the National Medical Guild, but our new medico-political body should be on the lines of the Incorporated Law Society—not only able to call for a pledge, but to see that when given it is kept. Without something of the kind, the future policy of the Association, however bold in words, will break down, like so much gossamer, at the first stirring of the wind when the Government attempts its next encroachment on our rights.

I do not believe in breaking up our Association, but as at present constituted it is of no use as a safeguard against aggression. Drastic reform is required, which our executive seem either unable or unwilling to effect. Which of these factors predominates remains to be seen, but pressure should be brought to bear on them at once, and every member has the means of applying that pressure in his own hands. It is a lever which in our past history as a nation has been on occasion used with great success on rulers unable to see the right way. It consists in refusing supplies; and for my part, until the Association has reformed, I for one shall cease my subscription and take in some other journal. Meanwhile, I shall join the guild. From the character of the men who compose it and the work they have done, I believe I shall find the abuse heaped on them as trade unionists to be baseless. The past has shown that a small body that knows its own mind and has the necessary backbone will go farther than a large body which is deficient in these attributes.

I have no objection to panel men as fellow-members, for there must be many who wish the Act radically amended. What I object to is to serve under the leadership of out-and-out panelites; those men who are really indebted to us for the extra half-crown; those men who have rewarded us by taking from us such of our patients who believe in buying in the cheapest market; those men who are now clamouring for the unallotted money, the "own arrangements" money which is really ours—men who have earned the contempt of all good sportsmen.

Dr. G. B. Mason (Baldock, Herts) writes: As a country doctor who is on the panel, and an old member of the Association, I ask for space for a few words on the present position and the future prospects of the profession.

1. Some think that mistakes have been made by the Council of the Association, some that the doctors are to blame for the sudden decision of last January, and some that both parties have made mistakes. Everybody knows that we learn by our mistakes, but what is clear is, that regrets and recriminations are useless, and cannot recall what is past and done with, therefore our attention should be concentrated on the present and the future.

2. The present Insurance Act is bound to be amended in the light of experience, and medical men should educate the voters of this country, by press articles and addressing meetings, as to what amendments are best calculated to promote their health and well-being.

3. Within a very few years it is possible that the present Insurance Commission will expand into a Department of Public Health, and will take over much of the medical work now done by the Local Government Board, the Education Board, and other Government departments. The head of the Commission will then be a Cabinet Minister, and, let us hope, a doctor of the calibre of the late Lord Ilkeston. This means that panel doctors will become members of a home medical service, similar to the army and navy services. There will probably be full-time and part-time officers, Government medical referees, etc. The men will be sure of fair pay, which will be better than the bad debts and uncertainty of private practice. County committees and their clerks will probably disappear.

4. There have always been two classes of doctors—those with private means, and those without. The former will devote themselves to better-class private practice and to specialism, and the latter will probably join the services—home, colonial, army, navy, etc.

5. The State is beginning to realize that in order that the workers should be able to work to the limit of their powers, and bring wealth into the country, their health must be looked after. Therefore, the Government must realize more and more the value of well-trained medical advice, and there is no question that it is quite ready to pay the doctors a fair price for their services, but, as it is taxpayers' money, the Government naturally wants to get the best terms it can. A good medical service can be regarded as an insurance premium paid by the State to secure good health to the workers.

6. As regards the future of the British Medical Association, the Council could appoint a Reorganization Subcommittee to draw up a scheme and report to it; or it could draft its own scheme, to be submitted to the Branches. What seems to be the simplest is to divide the work between three departments.

1. A scientific department to run the Journal, etc.

2. A medical department, on the present lines, which could undertake a medical agency business and medical defence work, and could be registered as a company, with funds distinct from the Association funds.

3. An insurance department, which should be registered as the British Medical Insurance Company, with funds distinct from the Association funds, and be run on the lines of the Ecclesiastical Insurance Office and the recently formed Catholic and General Insurance Association. Such a company could undertake all kinds of insurance work, and need not limit its clients to medical men only.

On these lines the professional and business parts of the work can be kept absolutely distinct, while the control will be the same, and all the profits made from these three departments could be divided by the Council between (1) medical charities, (2) scientific work, (3) political work.

7. Under no circumstances should members resign from the Association at the present juncture.

The Working of the National Insurance Act.

Dr. W. Coode Adams (Hampstead) writes: It is with feelings of profound depression that I rise from the perusal of Dr. Staveley Dick's address, as published in last week's Supplement. For what is the premiss of his lugubrious logic? It is the amazing postulate that the amount of professional and scientific interest evinced by a doctor towards his patient is proportionate to the amount of the fee forthcoming.

To sustain such a thesis it is necessary to ignore, in the first place, all the splendid conscientious work carried on gratuitously, whether in our hospitals or (as is well known) in the lowly walks of humbler positions, and, in the second place, to assume that the era of professional pride and love of science for its own sake has passed away, and thirdly, that common humanity amongst us is at a low ebb.

What have we done to be so besmirched? To tell me that a patient with only a shilling or two is not dealt with as his case demands is to tell me what my experience of the profession (now nearly forty years) contradicts, and further reduces the profession to the level of a trade. The man who is capable of neglecting a patient who pays him little is just as likely to do the same (in a different manner, no doubt) to one who pays much, and the man who is overrun by a plethora of high fees is more tempted to do so than when the fees are comparatively of no account. For the public are absolutely incapable of forming a correct judgement as to a doctor's capabilities. This holds as true in the upper as in the lower walks.

Dr. Dick then proceeds to unfold the wellnigh worn-out banner of the £2 limit. Let us take for granted all he says about "self-help" and "self-respect," but can he devise any workable scheme that would render such an application practicable? It is this impossibility doubtless that prevents his own Committee from availing themselves of the section of the Act he refers to.

Why, again, should he suggest, without accompanying his suggestion with any reasons, that the poor are receiving worse treatment than before? I think the exact contrary is the case. Work under the Insurance Act is freed from certain sordid details (such as taking shillings, keeping accounts, and dispensing pills), and as a consequence men of more sensitive professional feeling are no longer debarred from treating the poor. A much larger number of these men are now available, and the poor are proportionately benefited.

The Unallotted Funds.

Dr. H. H. Mills (Kensington) writes: Mr. E. B. Turner has, quite unintentionally of course, completely distorted what I said at the London Insurance Committee on September 25th. My carefully worded remarks were typewritten, and were correctly reported in the British Medical Journal and the lay press. My reference to the Manchester system of payment per attendance was followed by a question, "Was that payment illegal or not?" If it was legal, then a difference was made between a payment per attendance system and a capitation fee system—to the disadvantage of the latter method. I was perfectly aware of the conditions in Manchester, and Mr. Turner in his own words proves that his intervention to correct my "error" was unnecessary, as no error was made.

My argument was that under a system of insurance the money allotted for medical benefit for all the insured persons is set aside for the payment of the medical men throughout the country who undertake to cover the risk of attending that percentage of the insured who fall ill. Mr. Turner evidently does not understand this elementary principle, and quite fails to realize the seriousness of the Danckwerts opinion. If that opinion is sustained, then none of the money for insured persons who did not actually select a doctor could be paid to the doctors on the panel (even if an allotment had taken place) throughout the country. Mr. Kingsley Wood (a representative of approved societies on the London Insurance Committee) evidently does appreciate this, because (as reported in the British Medical Journal) he said that, "taking the country as a whole, a sum of about a million sterling was affected by the opinion of counsel."

Throughout the country, especially in the big towns, a fairly high percentage of insured persons have not actually selected a doctor. Exact information on this point is being obtained, and when published it will be found that London, with 30 per cent. of persons who have not chosen a doctor, is by no means remarkable.

Mr. Turner must know quite well that the vast majority of persons who have not chosen a doctor are perfectly healthy young adults, who may wait for years before making a choice. He also knows (from ample evidence) that the great majority of those who did select a doctor (especially in the first three months) were ill and went to the doctor for treatment.

As to "partial" liability, it is a fact that every inquiry for a doctor on the panel at the London Insurance Committee has been promptly met. It is also a fact that the Panel Committee for London in February last recommended to the London Insurance Committee the adoption of the method of allocation and payment suggested by the Commissioners in the Circular 10/I.C. If that had been carried out, Panel Committees would have been formed in every borough area to undertake the "collective responsibility" for treatment of all the insured in that area. Because the recommendation in the Form 10 I.C. was not carried out by the London Insurance Committee, does Mr. Turner really suggest that the doctors on the panel in London are to be paid about 30 per cent. less than the amount reasonably expected by them? Mr. Turner will doubtless recollect that Dr. Lauriston Shaw and myself suggested the idea of a numerical allocation in the early summer on the lines now, as he says, to be "allowed by regulations of the Commissioners."

I am perfectly aware that a certain number of insured persons have preferred to pay for the services of a doctor not on the panel, but, judging by the extraordinarily small number of applications to make "own arrangements," that number is probably very small indeed. In London less than 1,200 persons have been allowed to make "own arrangements," in spite of the fact that a generous interpretation of the privilege is given by the Committee. In any case it is no new feature for insured persons to pay private fees, as in the days of friendly societies clubs a certain percentage of members always preferred the services of other doctors than those attached to the clubs.

Mr. Turner holds high office in the British Medical Association, and his opinion consequently has great weight. It is only fair to ask him for a definite answer to this question: Does he or does he not think that the money held up by the London Insurance Committee belongs *equitably* to the doctors on the panel? I lay stress on the word *equitably* because, to my mind, it involves his acceptance of the principle of payment on an insurance basis. If his answer is in the negative, is he prepared to support his view at, say, Dundee, Sunderland, Nottingham, and Glasgow?

Dr. Chapple, M.P., put the case very clearly in his letter to the *Times* (September 26th). After stating that Mr. Danckwerts's opinion might be technically correct, but is neither common sense or justice, nor the spirit or intention of the Act, he says:

> Doctors on the panel are under agreement to attend all who are ill in return for the quarterly payments of these and of those who are not ill. If the approved society permits members to place their names on a doctor's list at any time during the currency of a quarter, then clearly that doctor is liable to attend those members whether they are on his list or not. If a member can go on a list at any time he will most likely not select a doctor until he needs one. . . . If a member could only go upon a panel doctor's list on the first day of a quarter, and could not command that doctor's services under the Act during the currency of any quarter unless his name were found there,

then clearly the doctor would not be entitled to payment in respect of him. But if the society's rules permitted him to go upon the list at any time, whether he had made a selection or not, prior to his illness, then it is equally clear that, being liable to attend, the doctor should receive the contribution.

Dr. J. H. Taylor (Salford) writes: Mr. E. B. Turner in his letter in last week's Supplement, while admitting his error about the Manchester system, has made some other statements about this system which are even worse errors. He has, in fact, floundered out of the frying pan into the fire. He now says: "Each of the doctors on the list has undertaken to treat any one of them (the insured) who may apply to him; there is no limitation of liability." The actual truth is that we have undertaken nothing of the sort. Any doctor on the list is quite at liberty to refuse to treat any one of the insured at any time. If a patient makes himself in any way disagreeable we simply say to him, as we would to any private patient, "I will not attend you any more, you must go to some other panel doctor." It is this freedom to refuse any patient at any time which is put forward as the one great attraction of the Manchester and Salford system. We have thus much greater individual freedom than the London panel doctors, who are normally bound for a year to the persons on their list, and yet, in spite of this, the whole of the fund available for treatment for the whole of the insured is pooled and divided amongst us.

But, passing over Mr. Turner's hopeless confusion about the individual responsibility of the panel men in Manchester and Salford, he will probably take refuge in the statement that the Manchester and Salford panels receive the whole of the funds because they have assumed a collective responsibility for the whole of the insured. This is quite correct, but I fail entirely to see any practical difference in this respect between London and Manchester, though the procedure may be different. If any insured person in London desires a panel doctor but cannot find one to accept him, that person has only to apply to the Insurance Committee and the committee will allot him to some panel doctor, who is then bound to attend him, though the allotment must be made "so far as practicable under arrangements made by the several practitioners whose names are on the list." In Manchester the allotment would be made in the first instance by the Local Medical Committee, but in both London and Manchester the practical effect is exactly the same—namely, that every insured person is guaranteed treatment whenever he asks for it from some panel doctor. The fact that many of the insured have not applied to the panel doctors in London or have gone to non-panel doctors in no way affects the argument, as the same has occurred in Manchester. The point is that all the insured are free to demand and are guaranteed treatment from the panels at any time in both towns equally. The collective responsibility of the panels is exactly the same in both areas, and I venture to claim that if, through any legal question about individual agreements, the London panel as a body did not receive the full amount available for treatment of the whole of the insured, however it may be distributed afterwards to the individual panel doctors, the London panel would not be receiving that fair measure of justice which Manchester and Salford have received in this respect.

Dr. A. Welply (Honorary Secretary of the Medical Committee elected by Practitioners on the London Panel) writes: Mr. E. B. Turner writes to you to explain how, by trusting to his memory and to Dr. Helme's assurance of what was going to happen at Manchester, he fell into error when endeavouring to correct Dr. Mills on matters of fact. In his letter of explanation Mr. Turner falls into another error. That he should be in error in regard to affairs at Manchester is of little importance. His most recent error has to do with affairs in London. As Mr. Turner shares with Dr. Evan Jones the responsibility of representing by direct election the metropolitan medical profession on the London Insurance Committee, this error should not go uncorrected.

Mr. Turner writes: "In London under the capitation system of payment each panel doctor has his own list of patients, and under the Act he contracts to attend them, but no one else until he or she be on his list. His liability is thus limited to a certain section of insured persons, and does not extend to the whole number." If Mr. Turner is trusting to his memory of what he used to say to the profession when warning them some months ago of the dangers of "going on the panel," it must again have failed him. He must surely have forgotten how he used to picture to us in his eloquent way the horror of being compelled by the Insurance Committee to undertake the treatment of an unlimited number of objectionable patients against our will. Last Christmas the conditions seemed to Mr. Turner and others of like views to be that every individual practitioner accepting service was undertaking an unlimited liability to attend an unlimited number of patients. Now Mr. Turner denies that the panel practitioners have accepted any liability whatever beyond that of treating the insured persons whose names are actually inscribed upon the various doctors' lists.

Mr. Turner was in error in what he used to assert last Christmas. He is in error in what he wrote to you last week.

Mr. Turner, like many others who desire to take a fair view of the position, seems to have a difficulty in understanding the difference between individual and collective liability. How is it possible, they say, if an individual member of a panel is entitled to refuse an individual patient, for any one to contend that the panel as a whole has accepted an unlimited liability to treat all insured persons in the area? Not only are these two propositions compatible, but the recognition of both is essential to the smooth working of any collective form of contract practice. There is clear evidence that the two conditions (1) of freedom of individual practitioners to refuse to accept additional patients or any individual patient, and (2) of collective acceptance by all doctors on the panel of liability to treat all insured persons are satisfactorily at work in London at the present time. Dr. Lauriston Shaw, when contending before the London Insurance Committee that the unallotted funds should be distributed to the practitioners on the panel because they alone had accepted the insurance risk, and had provided the insured persons with "cover" against the need of medical attendance, stated that on inquiry he had been officially informed that every insured person who had found any difficulty in obtaining acceptance as a patient, *and had made application to the Committee*, had received the services of a practitioner on the panel within a few hours of such application.

So long as this satisfactory condition prevails it is contended that the panel of practitioners for London is demonstrating that it fully recognizes and is meeting the liability it has collectively entered into with the Insurance Committee to provide treatment for all insured persons in the county.

Dr. John Dewar (London, N.W.) writes: It is rather amusing to read the dogmatic statements of some of those gentlemen who are not on the panel, and who have no experience of contract practice, as to how the unallotted funds should be applied. For instance, Mr. McAdam Eccles a week or two ago wrote, speaking of the panel doctor: "Each expects to receive a settled remuneration per head for each insured person on his list, *but not for any other insured person*." Now that is just what they do expect.

Again, Mr. E. B. Turner writes: "Each panel doctor has his own list of patients, and under the Act he contracts to attend them, *but no one else*." Where did he get this piece of information? "His liability for treatment is thus limited to a certain section of insured persons, and does not extend to the whole number." That is news to me. The Chancellor, the Commissioners, and the Insurance Committee tell the panel doctors a different story. Here is what the Commissioners last December told the doctors in their "Explanatory Statement as to Medical Benefit as affecting Medical Practitioners." Choice of Doctor, Par. 10: "Every insured person who is entitled to attendance and treatment from the practitioners in the panel is free to select his own doctor, subject to that doctor's consent. Those who make no choice, and those who are refused by the doctors to whom they first apply, will be distributed among the doctors on the panel."

That seems plain enough. I assure Mr. Turner that there is no difference as to this between the Manchester and Salford doctors and the London, but that "each and every practitioner giving service under the Act is liable to attend any insured person within the district at any time."

And it is because of that that the panel doctors expect, and were promised, to be paid for the *whole* of the insured. This is the answer in a nutshell as to the persons the unallotted moneys belong to.

There are, say, 1½ million insured persons in London, and 1,500 doctors have agreed to attend them, and are responsible for their treatment whenever they are asked. There is free choice of doctors from those 1,500, and from as many more as like to come on to the panel. But an Act of Parliament cannot compel any man to go on to the panel. What right, then, have such to grumble? It was made quite clear at the very beginning, before the doctors entered into any contract, that there would be a number of undesirables who would probably not be accepted by any doctor, but, as the Act provided for their treatment, the panel men would have to accept them in due proportion. Every one saw the reasonableness of this, and no objection was offered, and this was tacitly agreed to. If all this is true, does it differ at all from what obtained under the old contract practice? The 15,000,000 is just a large club, but instead of one doctor there are 1,500. Numbers cannot alter the principle.

Formerly a secretary would call on a doctor and ask if he would attend his society of 300 or 400 members at 3s. 6d. or 4s. a head. In most cases there was no list of names given, and the doctor had to trust to the honesty of the secretary as to whether he was paid in full. Of the three or four hundred, perhaps three-fourths did not have any choice in the matter, but they were all allotted to the doctor. The insured are now in a much better position, for there are at least half a dozen men they can select from all within easy access of their homes. You never could, and never can, get three or four hundred people all to agree on any one man; but all had to submit and *pay*. Many of these never went to their club doctor, but paid their family doctor to attend them. Now, did the family doctor send in an account to the club to have the 1s. paid to him because he attended instead of the club doctor? That would surely be derogatory! I think that is the favourite word to use.

There is one aspect of this much-discussed question that has not been noticed, but which appears to me to decide as to whom the residue belongs. The sickness-rate of a parish—say, 2,000 adults—during an average year in London is probably not more than 25 or 33 per cent.; that is to say, the doctor would not expect to see more than from 500 to 750 of these 2,000 during the year. If this is a near estimate it is not difficult for the panel doctor to say what his list should be, apart from those who have personally chosen him. Take my own case. I have a small panel list of just upon 1,000. During the three quarters I have seen and prescribed for about 700—that is 70 per cent. Most of the ailments may have been trifling, and the novelty of the thing may have increased the normal average; but taking into consideration the fact that Hampstead is the healthiest district in London and that the majority of my patients are domestic servants—the *élite* of the insured and the best housed and fed—the lower percentage ought to be nearer the truth. But taking it at 33 per cent., that would mean that my list should number 2,100. Would it be equitable, then, to say that I am not entitled to be paid for more than the 1,000 who have chosen me?

Mr. McAdam Eccles says every panel doctor is a kind of "unlimited insurance company." But I never heard of an insurance company—limited or unlimited—who only chose the sick and the moribund. It is a novel idea that capitation contract practice means that one should only be paid for those actually attended and a few over who have had forethought enough to select a doctor before they are ill.

I understand that in towns where payment per attendance has been adopted all the contract money has been absorbed. It was a bad day for the London doctors when they elected to be paid by capitation, and lose £100,000.

Nearly all who join my panel now do so because they want advice. I ask them why the delay; they give many reasons, but only one or two that they were waiting to see if their own doctor joined the panel.

Non-panel men are labouring under a delusion when they think that all the insured are on the lists of the panels except those who were formerly the patients of the respective doctors. More than half of my list is made up of people who say they never had a doctor, or that the chemist or the quack was their doctor, or they used to go to the hospital if anything was wrong with them.

Temporary Residents.

Dr. W. Henry Lewis (Llansantffraid) writes: Dr. Cox, as reported in the Supplement of October 18th, in communicating to me the opinion of the Solicitor of the Association on the question of treatment of temporary residents, informed me that the Association was ready to assist me if I were deprived of moneys due to me on account of the exercise of my right to decline patients. I am, however, happily able to report that the Insurance Committee concerned has sent me my quarter's cheque. Precisely what I did, however, was not to decline the patient as such, but to decline the acceptance of the green voucher and the principle involved. As a matter of fact, what happened subsequently in the case was that the man brought me a form of transfer on to my list for Montgomeryshire. This I did not hesitate to accept. It seemed the correct alternative while the scheme of the Commissioners remains unacceptable. Although from the financial aspect it is probably a worse transaction on my part, it at any rate involves no injustice on that side to any one else.

A glance through the Supplement of last Saturday shows a curious variety of opinion on the whole question; Hertfordshire, being assured that payment will be made, is "collectively prepared to accept these for treatment," no reference being made to the source of payment. East Suffolk recommends that green vouchers be refused. Isle of Ely rescinds previous resolution and accepts without qualification. Sheffield will treat only as private patients. Lancashire, in a double-barrelled resolution, recommends acceptance to avoid unpleasantness, while at the same time recording that payment will be made by moneys obtained unjustly. This seems depressing reading, when at the same time one feels that men in the health resorts and country districts, by refusing to accept the scheme of the Commissioners, deprive themselves rather than profit at the expense of the men of the industrial districts from which the bulk of the green vouchers come. While upholding one's bounden duty to see that no injustice should be done to oneself, surely it is as much one's duty to endeavour that one should do no injustice to others.

I would again, with Dr. Barton, reiterate that the Association should, without delay, definitely settle the question in some way of the legality of the Commissioners' contention as to the reading of Regulation 22.

In the meantime, we have our Solicitor's opinion that the scheme is a scheme, nothing more, offered for our acceptance, and has not the force of a regulation; the alternative being, following a refusal of the green voucher, the assigning of the patient, not, of course, as the holder of a green voucher, but as an insured person transferred. The case-value scheme, apart from the so-called adjustment of funds as its financial basis, seems good and acceptable. Until the financial side is placed on a welcome basis, the alternative which remains provides that no unfairness or injustice will be suffered by an insured patient, an event which we are all surely anxious to avoid.

Vital Statistics.

VITAL STATISTICS OF LONDON DURING THE THIRD QUARTER OF 1913.

[Specially Reported for the "British Medical Journal."]

In the accompanying table will be found summarized the vital statistics of the metropolitan boroughs and of the City of London, based upon the Registrar-General's returns for the third quarter of the year. The mortality figures in the table relate to the deaths of persons actually belonging to the several boroughs, and are obtained by distributing the deaths in institutions among the boroughs in which the deceased persons had previously resided. The 27,769 births registered during the quarter were equal to an annual rate of 24.6 per 1,000 of the population, estimated at 4,518,191 persons in the middle of the year; in the corresponding quarters of the three preceding years the rates were 25.2, 24.9, and 24.6 per 1,000 respectively. The lowest birth-rates last quarter were 13.2 in the City of Westminster, 15.5 in Holborn, 15.9 in Hampstead, 17.4 in Kensington, and 19.0 in Paddington and in Chelsea; among the highest rates were 30.3 in Shoreditch and in Stepney, 30.8 in Bermondsey, 31.2 in Poplar, and 35.7 in Finsbury.

During last quarter the deaths of 13,301 London residents were registered, equal to an annual rate of 11.8 per 1,000; in the corresponding quarters of the three preceding years the rates were 11.1, 15.5, and 11.5

Analysis of the Vital Statistics of the Metropolitan Boroughs and of the City of London after Distribution of Deaths occurring in Public Institutions during the Third Quarter of 1913.

Boroughs.	Estimated Population middle of 1913.	Births.	Deaths.	Annual Rate per 1,000 Living.		Deaths from								Deaths of Children Under 1 Year of Age to 1,000 Registered Births.
				Births.	Deaths.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping-cough.	Diphtheria.	Diarrhoea and Enteritis (Under 2 Years).	Phthisis.	
COUNTY OF LONDON	4,518,191	27,769	13,301	24.6	11.8	28	—	124	46	120	73	1,500	1,204	105
Paddington	142,210	673	390	19.0	11.0	3	—	15	2	2	—	29	27	107
Kensington	171,284	744	420	17.4	9.8	2	—	3	—	4	—	37	36	114
Hammersmith	123,745	694	355	22.5	11.5	—	—	3	3	2	1	15	36	78
Fulham	157,117	1,045	377	26.7	9.6	2	—	2	2	7	1	42	35	92
Chelsea	64,598	306	168	19.0	10.4	1	—	1	1	1	—	10	16	59
City of Westminster ...	154,810	511	411	13.2	10.6	1	—	—	2	1	3	16	43	94
*St. Marylebone ...	114,532	899	292	31.5	10.2	—	—	1	2	1	1	12	37	36
Hampstead	86,346	342	187	15.9	8.7	—	—	—	2	2	—	5	10	58
St. Pancras	214,330	1,265	682	23.7	12.8	—	—	1	1	4	2	53	57	105
Islington	325,585	1,922	978	23.7	12.0	1	—	5	3	8	4	97	82	106
Stoke Newington ...	50,518	278	132	22.1	10.5	—	—	—	—	1	—	5	14	65
*Hackney	223,353	1,452	615	26.1	11.0	1	—	5	2	4	5	61	50	90
*Holborn	46,949	181	155	15.5	13.2	—	—	1	—	1	1	7	21	94
*Finsbury	84,679	754	351	35.7	16.6	—	—	—	2	7	2	48	40	130
City of London	17,916	117	47	26.2	10.5	—	—	—	—	—	—	—	4	34
Shoreditch	109,654	828	444	30.3	16.2	—	—	—	1	7	3	104	40	175
Bethnal Green	127,824	922	420	28.9	13.2	1	—	5	—	3	1	82	38	143
*Stepney	275,300	2,080	910	30.3	13.3	4	—	8	2	9	8	147	94	114
Poplar	160,913	1,253	604	31.2	15.1	1	—	9	8	5	9	99	45	134
Southwark	188,487	1,360	738	28.9	15.7	2	—	10	2	5	8	92	69	138
Bermondsey	124,739	958	523	30.8	16.8	1	—	13	1	4	4	91	39	152
*Lambeth	297,139	2,056	904	27.7	12.2	3	—	12	3	12	4	91	88	94
Battersea	167,464	1,004	467	24.0	11.2	—	—	1	3	6	3	68	46	104
Wandsworth	330,395	1,596	720	19.4	8.7	—	—	6	3	3	2	77	61	95
Camberwell	261,805	1,637	721	25.1	11.0	2	—	6	3	5	—	79	60	97
Deptford	109,280	745	353	27.3	13.0	—	—	6	—	9	3	50	31	117
Greenwich	96,015	591	267	24.7	11.2	1	—	7	—	1	1	23	22	98
Lewisham	168,822	818	360	19.4	8.6	1	—	3	2	3	6	24	27	70
Woolwich	122,382	738	310	24.2	10.2	1	—	1	2	3	1	36	36	83

* No correction is made for births in lying-in institutions; the boroughs principally affected are marked thus (*).

per 1,000. The death-rates last quarter ranged from 8.6 in Lewisham, 8.7 in Hampstead and in Wandsworth, 9.6 in Fulham, and 9.8 in Kensington to 15.1 in Poplar, 15.7 in Southwark, 16.2 in Shoreditch, 16.6 in Finsbury, and 16.8 in Bermondsey.

The 13,301 deaths from all causes included 28 from enteric fever, 124 from measles, 46 from scarlet fever, 120 from whooping-cough, 73 from diphtheria, and 1,500 among children under 2 years of age from diarrhoea and enteritis. Enteric fever was proportionately most fatal in Paddington, Kensington, Fulham, Chelsea, and Stepney; measles in Paddington, Poplar, Southwark, Bermondsey, Deptford, and Greenwich; scarlet fever in Hammersmith, St. Marylebone, Hampstead, Finsbury, Battersea, and Woolwich; whooping-cough in Fulham, Finsbury, Shoreditch, Lambeth, and Deptford; and diphtheria in Shoreditch, Poplar, Southwark, Bermondsey, Deptford, and Lewisham. The mortality from diarrhoea and enteritis among children under 2 years of age in proportion to the births registered during the quarter was greatest in Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey.

The deaths from phthisis among London residents last quarter numbered 1,204, and were equal to an annual rate of 1.07 per 1,000, against 1.00, 1.21, and 1.18 in the corresponding quarters of the three preceding years. The death-rates from this disease last quarter ranged from 0.46 in Hampstead, 0.64 in Lewisham, 0.74 in Wandsworth, 0.76 in Paddington, and 0.84 in Kensington to 1.37 in Stepney, 1.46 in Shoreditch, 1.47 in Southwark, 1.79 in Holborn, and 1.89 in Finsbury.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births, was equal to 105 per 1,000 last quarter, against 91, 203, and 81 per 1,000 in the corresponding quarters of the three preceding years. Among the lowest rates recorded last quarter were 34 in the City of London, 58 in Hampstead, 59 in Chelsea, 65 in Stoke Newington, 70 in Lewisham, and 78 in Hammersmith; the highest rates were 130 in Finsbury, 134 in Poplar, 138 in Southwark, 143 in Bethnal Green, 152 in Bermondsey, and 175 in Shoreditch.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns 8,646 births and 4,671 deaths were registered during the week ending Saturday, October 18th. The annual rate of mortality in these towns, which had been 14.4, 13.6, and 14.3 per 1,000 in the three preceding weeks, fell to 13.6 per 1,000 in the week under notice. In London the death-rate was equal to 14.1, against 13.5, 12.6, and 14.2 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rate ranged from 5.4 in Wimbledon, 5.6 in Bournemouth, 5.9 in Southend-on-Sea, 6.7 in Gillingham, 7.0 in Enfield and in Wakefield, and 7.8 in Brighton to 18.7 in Merthyr Tydfil, 19.5 in Walsall, 19.7 Barnsley, 19.8 in Sunderland, 24.1 in Tynemouth, and 24.3 in Oldham. Measles caused a death-rate of 1.0 in Oldham, 1.7 in Blackpool, and 1.9 in Dewsbury, and scarlet fever of 1.0 in Sunderland. The deaths of children (under 2 years of age) from diarrhoea and enteritis, which had been 927, 730, and 769 in the three preceding weeks, fell to 601; of this number 157 occurred in London, 34 in Birmingham, 30 in Liverpool, 20 in Manchester, 18 in Hull, 17 in Sheffield, and 16 in Sunderland. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 25, or 0.5 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 4 in Birmingham, 3 in London, 2 in Liverpool, and 2 in St. Helens. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,570, 2,817, and 3,021 at the end of the three preceding weeks, had further risen to 3,247 on Saturday, October 18th; 575 new cases were admitted during the week, against 508, 498, and 484 in the three preceding weeks.

In ninety-six of the largest English towns 8,305 births and 4,492 deaths were registered during the week ending Saturday, October 25th. The annual rate of mortality in these towns, which had been 13.6, 14.3, and 13.6 per 1,000 in the three preceding weeks, further fell to 13.1 per 1,000 in the week under notice. In London the death-rate was equal to 13.7, against 12.6, 14.2, and 14.1 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rate ranged from 4.4 in Enfield, 4.6 in Ealing, 4.8 in Ilford and in Gillingham, 5.4 in Darlington, 6.2 in Lincoln, and 6.7 in Walthamstow to 17.2 in Burnley and in Salford, 17.4 in West Bromwich, 19.0 in Northampton, 19.3 in South Shields, and 21.4 in Ipswich. Measles caused a death-rate of 1.3 in Stoke-on-Trent, 1.5 in West Bromwich, and 1.9 in Dewsbury. The deaths of children (under 2 years of age) from diarrhoea and enteritis, which had been 730, 769, and 601 in the three preceding weeks, further fell to 407; of this number 107 were recorded in London, 33 in Birmingham, 25 in Liverpool, 13 in Stoke-on-Trent, 13 in Hull, and 12 in Manchester. The mortality from the remaining infective diseases showed no great excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 39, or 0.9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 11 in Birmingham, 7 in Liverpool, 4 in South Shields, and 3 in Gateshead. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 2,817, 3,021, and 3,247 at the end of the three preceding weeks, had further risen to 3,445 on Saturday October 25th; 530 new cases were admitted during the week, against 498, 484, and 575 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,106 births and 600 deaths were registered during the week ending Saturday, October 18th. The annual rate of mortality in these towns, which had been 15.1, 14.5, and 14.7 per 1,000 in three preceding weeks, fell to 13.9 in the week under notice, but was 0.3 per 1,000 above that recorded in the ninety-six large English towns. Among the several towns the death-rate ranged from 7.3 in Clydebank, 7.6 in Ayr, and 8.9 in Motherwell to 16.5 in Kilmarnock, 17.4 in Greenock, and 18.3 in Paisley. The mortality from the principal infective diseases averaged 1.6 per 1,000, and was highest in Dundee and Motherwell. The 273 deaths from all causes registered in Glasgow included 11 from infantile diarrhoeal diseases, 9 from measles, 3 from scarlet fever, 3 from diphtheria, 2 from whooping-cough, and 1 from enteric fever. Seven deaths from infantile diarrhoeal diseases were recorded in Dundee, 3 in Aberdeen, 2 in Edinburgh, and 2 in Motherwell; 2 from measles in Edinburgh; and 4 from scarlet fever and 2 from diphtheria in Aberdeen.

In the sixteen largest Scottish towns 1,167 births and 606 deaths were registered during the week ending Saturday, October 25th. The annual rate of mortality in these towns, which had been 14.5, 14.7, and 13.9 per 1,000 in the three preceding weeks, was 14.0 in the week under notice, and was 0.9 per 1,000 above the rate in the ninety-six large English towns. Among the several towns the death-rate ranged from 4.4 in Falkirk, 7.8 in Kirkcaldy, and 8.9 in Perth to 15.6 in Coatbridge, 18.9 in Hamilton, and 19.8 in Dundee. The mortality from the principal infective diseases averaged 1.4 per 1,000, and was highest in Kirkcaldy and Kilmarnock. The 286 deaths from all causes registered in

Glasgow included 11 from measles, 9 from infantile diarrhoeal diseases, 5 from scarlet fever, 4 from enteric fever, 4 from whooping-cough, and 3 from diphtheria. Three deaths from diphtheria were recorded in Aberdeen, 2 in Edinburgh, and 2 in Kirkcaldy; 3 from scarlet fever in Aberdeen; and from diarrhoeal diseases 2 each in Dundee, Leith, and Greenock.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, October 18th, 599 births and 376 deaths were registered in the twenty-seven principal urban districts of Ireland as against 560 births and 394 deaths in the preceding period. These deaths represent a mortality of 16.0 per 1,000 of the aggregate population in the districts in question, as against 17.1 per 1,000 in the previous period. The mortality in these Irish areas was therefore 2 4 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate on the other hand was equal to 26.0 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 17.7 as against an average of 19.5 for the previous four weeks, in Dublin City 19.5 (as against 21.0), in Belfast 14.6 (as against 16.0), in Cork 13.6 (as against 21.1), in Londonderry 14.0 (as against 16.5), in Limerick 8.1 (as against 15.2), and in Waterford 3.8 (as against 20.9). The zymotic death-rate was 2.8 as against 3.0 in the previous week.

During the week ending Saturday, October 25th, 590 births and 409 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 599 births and 367 deaths in the preceding period. These deaths represent a mortality of 17.8 per 1,000 of the aggregate population in the districts in question, as against 16.0 per 1,000 in the previous period. The mortality in these Irish areas was therefore 4.7 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.7 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 19.0, as against an average of 18.9 for the previous four weeks, in Dublin city 20.3, the same as for the previous like period; in Belfast 15.1 (as against 14.9), in Cork 20.4 (as against 20.1), in Londonderry 11.4 (as against 13.7), in Limerick 10.8 (as against 13.5), and in Waterford 30.4 (as against 21.8). The zymotic death-rate was 2.5, as against 2.8 in the previous week.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following announcements have been made by the Admiralty: Staff Surgeon WILLIAM N. L. CHERRY to the *Diamond* on completing, November 7th. Staff-Surgeon JOHN H. MCDOWALL, M.B., to the *Powerful*, October 28th. Staff Surgeon PALMER D. RAMSAY to the *Pembroke* for Royal Naval Barracks, vice Dudley, October 23rd. Staff Surgeon DUNCAN G. ADDISON-SCOTT to the *Ringdove*, vice Ramsay, October 23rd. Surgeon SHELDON F. DUDLEY to the *President*, additional for the *Maine*, vice D. G. Addison-Scott October 23rd.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL M. W. RUSSELL has been appointed to Malta for duty.

Major T. C. MACKENZIE, D.S.O., has been appointed Deputy Assistant Director of Medical Services, Northumbria Territorial Division, vice Lieutenant-Colonel J. Will.

Major P. S. O'REILLY has been appointed to the Eastern Command for duty.

Captain W. G. MAYDON has joined the Aldershot Command for duty.

Captain N. E. J. HARDING has been appointed to Cork for duty.

Lieutenant A. L. URQUHART has been appointed for duty in the London district.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT JOHN C. HALL, M.D., to be Captain, September 30th.

The following Lieutenants are confirmed in their rank: DOUGLAS R. KING, GAVIN YOUNG, ALLAN D. FRASER, DAVID MACHIE, JAMES F. FINLAY, ROBERT G. MCELNEY, THOMAS MCCLURKIN, MAURICE P. INGLIS, THOMAS W. E. ELLIOTT, WILLIAM A. LETHEM.

Lieutenant DONALD J. ARMOUR (from the Royal Army Medical Corps, Territorial Force) to be Lieutenant, October 22nd.

INDIAN MEDICAL SERVICE.

MAJOR L. T. R. HUTCHINSON, Professor of Physiology, Grant Medical College, has been granted a year's furlough on medical certificate from November 15th.

Captain M. J. QUIRKE to be Deputy Sanitary Commissioner and Inspector of Vaccination, Madras, with effect from May 1st.

The services of Captain E. C. HODGSON have been placed temporarily at the disposal of the Government of Madras.

Lieutenant J. C. JOHN has been appointed a Specialist in Ophthalmology, with effect from September 19th, 1913.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

South Wales Mounted Brigade Field Ambulance.—Captain JOHN GRIFFITHS to be Major, May 13th.

For Attachment to Units other than Medical Units.—HARRY W. SHADWELL to be Lieutenant, March 11th.

Sanitary Service.—THOMAS E. FRANCIS, M.D., to be Captain, whose services will be available on mobilization, September 1st.

Attached to Units other than Medical Units.—Lieutenant LIONEL D. BAILEY to be Captain, August 4th.

Supernumerary for Service with Officers' Training Corps.—PATRICK NICOL, M.B., to be Lieutenant for service with the Aberdeen University Contingent, Senior Division, Officers' Training Corps, September 29th.

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

CAPTAIN WILLIAM H. ROWELL, M.D., from the Notts and Derby Mounted Brigade Field Ambulance, to be Captain, October 22nd.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ARGYLE AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer (male). Salary, £200 per annum.

BATH: ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

BIRMINGHAM: CITY FEVER HOSPITAL.—Assistant Medical Officer. Salary, £150 per annum.

BIRMINGHAM: QUEEN'S HOSPITAL.—Radiographer. Salary, £100 per annum.

BIRMINGHAM: ROMSLEY HILL SANATORIUM FOR CONSUMPTIVES.—Resident Medical Officer. Salary, £150 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Pathologist. Honorarium, £50 per annum.

BRADFORD POOR LAW UNION.—Assistant Resident Medical Officer for the Hospital and Workhouse. Salary, £130 per annum.

BRADFORD UNION.—Assistant Male Resident Medical Officer at the Eastby Sanatorium. Salary, £130 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Honorary Assistant Physician. (2) Throat, Nose, and Ear House-Surgeon. Salary at the rate of £75 per annum.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £100 per annum.

CHARING CROSS HOSPITAL.—Assistant Physician.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

COLOMBO MUNICIPALITY.—Assistant Medical Officer of Health. Salary, £333 per annum, rising to £700.

DERBYSHIRE ROYAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

DURBAN TECHNICAL INSTITUTE.—Expert Chemist and Bacteriologist. Salaries from £400.

DURHAM COUNTY ASYLUM, Winterton.—Third and Fourth Medical Officers (males). Salary, £200 per annum, rising to £250.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Assistant Surgeon.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, Bartlett's Buildings, E.C.—Resident Medical Officer. Salary, £100 per annum.

GLASGOW DISTRICT MENTAL HOSPITAL, Gartloch.—Junior Medical Officer. Salary, £200 per annum.

GOVAN DISTRICT ASYLUM, Crookston.—First and Second Assistant Medical Officers.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

HEREFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £150 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Surgeon to Out-patients.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £80 per annum.

JARROW-ON-TYNE: PALMER MEMORIAL HOSPITAL.—House-Surgeon (male). Salary, £170 per annum.

KENSINGTON DISPENSARY AND CHILDREN'S HOSPITAL, W.—Resident Medical Officer. Salary, £100 per annum.

KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION, Cardiff.—Tuberculosis Physicians. Salary, £450 per annum, rising to £500.

LEEDS GENERAL INFIRMARY.—Resident Obstetric Officer. Salary at the rate of £50 per annum.

LEICESTER BOROUGH MENTAL HOSPITAL, Humberstone.—Second Assistant Medical Officer and Clinical Pathologist (male). Salary, £240 per annum, rising to £280.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—Resident House-Surgeon. Salary at the rate of £100 per annum.

LLANRWST UNION.—Medical Officer for the Bettws-y-Coed and Trefriw District. Salary, £22 10s. per annum and fees.

MACCLESFIELD GENERAL INFIRMARY.—(1) Senior House-Surgeon. (2) Junior House-Surgeon. Salary, £100 and £80 per annum respectively.

MAIDSTONE: KENT COUNTY ASYLUM.—Male Fourth Assistant Medical Officer. Salary, £200 per annum, rising to £220.

MAIDSTONE: KENT EDUCATION COMMITTEE.—School Dentist. Salary, £250 per annum.

MANCHESTER EAR HOSPITAL.—House-Surgeon. Salary, £40 per annum.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Out-patients and Accidents. Salary at the rate of £100 per annum.

NORTHAMPTON COUNTY ASYLUM, Berrywood.—Junior Assistant Medical Officer (male). Salary, £200 per annum, rising to £225.

NORTHAMPTON GENERAL HOSPITAL.—Senior Resident Medical Officer. Salary, £120 per annum, increasing to £140.

NORTHAMPTONSHIRE COUNTY COUNCIL.—Assistant School Medical Officer. Salary, £250 per annum, rising to £310.

NORWICH: JENNY LIND INFIRMARY FOR CHILDREN.—Lady Resident Medical Officer. Salary at the rate of £50 per annum.

NOTTINGHAMGENERAL HOSPITAL.—Assistant House-Physician. Salary, £100 per annum.

OLDHAM ROYAL INFIRMARY.—Third House-Surgeon. Salary at the rate of £80 per annum.

OMAGH DISTRICT ASYLUM.—Resident Medical Superintendent. Salary, £500 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer. Salary, £150 per annum, rising to £175.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—(1) House-Surgeon. (2) House-Physician. Salary at the rate of £100 and £90 per annum respectively.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Honorary Assistant Gynaecologist.

READING COUNTY BOROUGH.—Tuberculosis Officer. Salary, £500 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Assistant Physician.

ST. MARY'S HOSPITAL, Paddington, W.—Casualty Physician. Salary, £75 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House-Surgeon. Salary, £100 per annum.

SHEFFIELD ROYAL INFIRMARY.—House-Surgeon. Salary at the rate of £80 per annum.

SOUTHPORT INFIRMARY.—Senior House-Surgeon. Salary at the rate of £120 per annum.

STAFFORDSHIRE: COUNTY MENTAL HOSPITAL, Cheddleton.—Junior Assistant Medical Officer.—Salary, £210 per annum, increasing to £270.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—(1) Surgical Registrar. (2) Resident Medical Officer.

UNIVERSITY COLLEGE MEDICAL SCHOOL, W.C.—Demonstrator in the Department of Bacteriology.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—(1) Surgeon to In-Patients. (2) Surgeon to Out-Patients.

VIRGINIA WATER: HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE.—Junior Assistant Medical Officer (male). Salary, £250 per annum, rising to £300.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Assistant Dental Surgeon. (2) Second X-Ray Officer.

WEST RIDING COUNTY COUNCIL.—Assistant Medical Officer (male) for the Scalebor Park Asylum. Salary, £200 per annum.

WESTMINSTER HOSPITAL, S.W.—Physician for Diseases of the Skin.

WOMEN'S HOSPITAL FOR CHILDREN, Harrow Road, W.—Clinical Assistant.

WORKSOP VICTORIA HOSPITAL AND DISPENSARY.—Medical Officer and House-Surgeon. Salary, £150 per annum.

WORCESTERSHIRE COUNTY ASYLUM, Bromsgrove.—Second Assistant Medical Officer (male). Salary, £225 per annum.

YORK DISPENSARY AND MATERNITY HOSPITAL.—Resident Medical Officer (male). Salary, £140 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Abersychan (Monmouthshire), Lochgilphead (Argyllshire), Peterborough (Northants), Sedgeley (Staffordshire), Tarbert (Argyllshire), Whaley Bridge (Cheshire).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

BARRY, Colonel T. D. Collis, I.M.S., Physician in charge of the X-Ray Department of the Dreadnought Hospital, Greenwich.

CREE, J., L.M.S.S.A., District Medical Officer of the Bridlington Union.

DIX, Charles, M.R.C.S., L.R.C.P., Medical Officer of Health to the Wincanton Rural District Council.

DOLAN, E. M., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Wigton District, co. Cumberland.

ELKINGTON, J. S., M.D., D.P.H., Federal Quarantine Officer for Queensland.

FALKNER, B. F., L.R.C.P. and S.Irel., District Medical Officer of the Southwell Union.

FARNFIELD, W. W., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Gillingham District, co. Kent.

FERGUS, Miss A. G., M.B., Ch.B., Assistant Medical Officer of the North Evington Infirmary of the Leicester Union.

GARRETT, P. C., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Dursley District, co. Gloucester.

GILES, J. D., M.D.Edin., Medical Officer of the Workhouse and Children's Homes of the South Shields Union.

GILL, Miss K. A., M.B., B.S.Lond., Assistant Medical Officer of the Birkenhead Union Workhouse and Infirmary.

GRICE, J. W., M.R.C.S., L.R.C.P., Assistant Resident Medical Officer of the North Evington Infirmary of the Leicester Union.

HERMAN, A. E., B.C.Camb., M.R.C.S., L.R.C.P., Assistant Medical Officer of the Kensington Parish Infirmary.

KNOWLING, Ernest M., M.B., B.A.Camb., M.R.C.S.Eng., Medical Officer of Health for the Borough of Tenby.

LYLE, James Duncan, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Assistant Anaesthetist to the London Hospital.

MCCLINTOCK, S. A., M.D.Edin., D.P.H., D.T.M. and H., etc., Principal Medical Officer and Chief Health Officer, Tasmania.

MACDONALD, J. H., M.B., B.Ch.Glas., Superintendent to the Hawkheard Asylum, vice Dr. Watson, retired.

MACRONE, Miss E. O., M.B., B.S.Lond., Assistant Medical Officer of the Newcastle-on-Tyne Union Workhouse.

MACKIE, William, M.D., Medical Referee under the Workmen's Compensation Act, 1906, for the Sheriffdom of Inverness, Elgin, and Nairn, and to be attached more particularly to the counties of Elgin and Nairn, vice Dr. A. Sclanders, deceased.

MAWHOOD, R. H., M.R.C.S., L.R.C.P., District Medical Officer of the Easthampstead Union.

MAYNE, W. J. F., M.B., Ch.B.Edin., Certifying Factory Surgeon for the Banbridge District, co. Down.

NOALL, William Paynter, M.S., M.B.Lond., F.R.C.S.Eng., Surgeon (with charge of out-patients) to the York County Hospital.

OWEN, W. D., M.R.C.S., L.R.C.P., District Medical Officer of the Narberth Union.

QUAIFE, W. F., M.B., C.M.Glas., Government Medical Officer, etc., at Braidwood, N.S.W.

RICHARDSON, Catherine Mary, M.D.Edin., D.P.H., Assistant School Medical Officer, Stockton-on-Tees.

ROBERTSON, J. D., M.B., Certifying Factory Surgeon for the Ballindalloch District, co. Banff.

ROLLINSON, H. D., M.B., B.S.Lond., Assistant Medical Officer of the Bethnal Green Parish Infirmary.

SECRETAN, W. Bernard, M.B.Lond., F.R.C.S.Eng., Assistant Surgeon, Royal Berks Hospital.

SIRCOM, E. R., M.R.C.S., L.R.C.P., District Medical Officer of the West Ham Union.

SMITH, P. E. W., M.B.Syd., Honorary Assistant Pathologist at the Sydney Hospital, N.S.W.

SWEET, Elizabeth M., M.B., B.S.Melb., Assistant Medical Inspector of Schools, Queensland.

THOMSON, J. C., M.A., M.D.Edin., D.P.H., D.T.M. and H.Camb., Senior Assistant County Medical Officer, primarily for the duties of Tuberculosis Officer, county of Dumfries.

WADE, E. W., M.D.Dubl., District Medical Officer of the Depwade Union.

WALTON-SMITH, P. E., M.B.Syd., M.R.C.P.Lond., Honorary Physician, Royal Prince Alfred Hospital, Sydney, New South Wales.

WITTS, C., M.R.C.S., L.R.C.P., Assistant Medical Superintendent of the Southwark Union Infirmary.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—The following appointments have been made:
Male House-Physician.—R. Brewitt Taylor, M.B., B.S.Lond.
Female House-Physician.—Miss G. Dearnley, M.B., B.S.
Female House-Surgeon.—Miss F. H. Bousefield, M.B., B.S.
Junior Obstetric Assistant.—Miss H. Clarke, M.B., B.S.
Medical Registrar.—Miss E. M. Pickard, M.D.
Clinical Assistant in Gynaecological Department.—Miss Blair, M.D., B.S.
Clinical Assistant to Dr. Langmead.—Miss Armstrong, M.R.C.S., L.R.C.P.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

BENNETT-JONES.—On October 17th, at 80A, Sheil Road, Liverpool, the wife of W. J. Bennett-Jones, M.D., of a daughter.

HENDERSON.—On October 29th, at 48, Rodney Street, Liverpool, the wife of Dr. W. Savile Henderson, of a son.

MARTIN.—On October 27th, the wife of R. H. Martin, M.B., Ch.B.Edin., Sudbury, Middlesex, of a daughter.

ROOKE.—On October 26th, at "Fairfield," North Finchley, N., the wife of William Stanley Rooke, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGE.

HARRINGTON—ENRIGHT.—On September 27th, with nuptial mass, by the Rev. Father O'Leary, C.C., Saint Patrick's, Cork, assisted by the Rev. Father Cassidy, P.P., Ballinhassig, Robert Harrington, M.B., The Grove, Walton-le-Dale, Preston, elder son of the late Robert Harrington, to Josephine, daughter of Daniel Enright, of 4, Waterlow Terrace, Cork, ex-collector of Customs and Excise, Sheffield.

DEATHS.

KNAGGS.—On October 13th, at 7, Keynsham Parade, Cheltenham, Lieutenant-Colonel Henry Knaggs, late Army Medical Service, aged 78 years.

PARSONS.—On October 25th, at Fulham Infirmary, Hammersmith, W., Amy Elizabeth, the dearly loved wife of Christopher Thackray Parsons, M.D., and second daughter of the late James Hunter, Liverpool.

POOLE.—On October 17th, at Wolverhampton, Samuel Poole, M.D., D.P.H., in his 47th year.

PUBLISHERS' ANNOUNCEMENTS.

MESSRS. GEORGE ROUTLEDGE AND SONS, LIMITED, will shortly publish *A Handbook of Photomicrography*, by H. Lloyd Hind, B.Sc., F.I.C., and W. Brough Randles, B.Sc. The new work will contain an account of the modern methods employed in photomicrography, with a description of the apparatus and processes, treated both from a microscopic and photographic point of view. The illustrations will constitute a special feature of the book.

RECENT PUBLICATIONS.

Principal Drugs and their Uses. By a Pharmacist. London: Scientific Press Limited. 1913. (Pott 8vo, pp. 95. 1s. net.)

A tabular statement intended for the use of nurses showing the names, chemical and botanical nature, and common uses of drugs. At the end is a note on antidotes.

The Ophthalmic Year Book, volume ix. Edited by Edward Jackson, M.D., with the assistance of several collaborators. 1913. Denver, Colorado: Herrick Book and Stationery Company. (Medium 8vo, pp. 518.)

The plan of this work has somewhat altered since the publication of the preceding volume some twenty months ago. Formerly either in the text or the bibliography all papers relating to ophthalmology received attention, but in the present volume, which relates to the years 1911–12, only those judged to be the more important are noticed. The alterations are justified on the ground that the monthly journal *Ophthalmic Literature* now supplies a classified list of all articles relating to the subject. The editor of this yearbook and his half-dozen collaborators are all specialists in the subject.

DIARY FOR THE WEEK.

MONDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Museum Demonstration by Mr. Shattock: Specimens illustrating Osteoplastic Inflammation of Bone.

TUESDAY.

ROENTGEN SOCIETY, Institution of Electrical Engineers, Victoria Embankment, W.C., 8.15 p.m.—Presidential Address by Professor A. W. Porter, F.R.S.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 5 p.m.—Bradshaw Lecture by Dr. T. R. Glynn: Hysteria in Some of its Aspects.

ROYAL SOCIETY OF MEDICINE:

SUBSECTION OF ORTHOPAEDICS, 4.30 p.m.—First Meeting of the Subsection.

SECTION OF PATHOLOGY, Imperial Cancer Research Laboratory, Queen Square, W.C., 8.30 p.m.—Demonstrations.

WEDNESDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF OPHTHALMOLOGY.—8 p.m., Cases and Specimens. 8.30 p.m., Papers:—Mr. George Coats: Some Instances of Disease in the Animal Eye. Mr. C. Wray: Obstruction of Lacrymal Duct and its Treatment.

THURSDAY.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, 4.15 p.m.—Clinical Meeting.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W., 5 p.m.—FitzPatrick Lecture by Dr. C. A. Mercier: Astrology in Medicine.

ROYAL SOCIETY, Burlington House, W.—The following are among the probable papers for reading:—Professor B. Moore, F.R.S., and T. A. Webster: Synthesis by Sunlight in Relationship to the Origin of Life. Synthesis of Formaldehyde from Carbon Dioxide and Water by Inorganic Colloids acting as Transformers of Light Energy. B. Blacklock, M.D., and W. Yorke, M.D.: The Trypanosomes causing Dourine. T. G. Brown: On Postural and Non-Postural Activities of the Mid Brain. J. O. W. Barratt: The Nature of the Coagulant of the Venom of *Echis carinatus*.

ROYAL SOCIETY OF MEDICINE:

SECTION OF OBSTETRICS AND GYNAECOLOGY, 8 p.m.—Discussion on the Relation of the Internal Secretions to the Female Characteristics and Functions in Health and Disease, opened by Dr. W. Blair Bell, followed by Miss Louise McIlroy.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF LARYNGOLOGY, 4 p.m.—Cases and Specimens.

SECTION OF ANAESTHETICS, 8.30 p.m.—Mr. Fleming: Case of Extraordinary Tachycardia. Mr. Apperley: A New Ether Junker for Nose and Throat Work. Mr. J. H. Chaldecott and Mr. C. W. G. Bryan: Remarks on Anoci-association.

SCHOOL MEDICAL SERVICE.—Group Meeting, 1, Upper Montague Street, Russell Square, W.C., 5 p.m.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Wednesday, 4.30 p.m., Lecture: Bronchiectasis.

DUBLIN: ROTUNDA HOSPITAL.—Post-Graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

LONDON HOSPITAL MEDICAL COLLEGE, Mile End, E.—Tuesday, 2 p.m., Neuroses and Psychoses of Children.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Thursday. Radiography: Saturday. Lectures on special subjects on Wednesday and Thursday.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock, E.—Lectures daily (Saturday excepted) at 12 and 4 p.m. Practical Laboratory work daily (Saturday excepted), 10 to 12 a.m. Practical Entomology, 2 to 3.30 p.m. daily; Special Entomology, 10.30 to 1 p.m. daily. Medical Clinics, Tuesday and Thursday at 3 p.m. Operations, Friday at 3 p.m.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.—At 4.30 p.m. each day. Tuesday, Salford Royal: Some Common Affections of the Rectum and Anus. Wednesday, Royal Infirmary: Renal Tuberculosis. Thursday, Ancoats: Cancer of the Breast. Friday, Royal Eye: Myopia.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—Clinical Demonstrations at 4 p.m. each day. Monday, Skin. Tuesday, Medical. Wednesday, Surgical. Thursday, Medical. Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. each day.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday and Friday, 3.30 p.m., Clinical Cases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Medical and Surgical Clinics and Operations at 2.30 p.m. daily. Also Monday, Throat; Tuesday, Gynaecology; Wednesday, Skin, Eye, Children, X Rays; Tuesday and Friday, Eye. Special Lectures and Demonstrations as announced.

ROYAL INSTITUTE OF PUBLIC HEALTH, Friday, 5 p.m.—Course of Instruction for Candidates as Tuberculosis Officers. Lecture IV: Diagnosis of Pulmonary Tuberculosis.

SHEFFIELD UNIVERSITY.—Clinical Demonstrations: Tuesday, Royal Hospital, 3 p.m.: Certain Nervous Diseases. Friday, Royal Infirmary, 3 p.m.: Surgical Treatment of Intestinal Stasis.

WEST-LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, X Rays, and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday. A Lecture at 5 p.m. daily except Saturday.

[*For further particulars of Lectures consult the Index to Advertisements.*]

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		NOVEMBER.
1	Sat.	Aberdeen Branch, Annual Meeting, Aberdeen, 12.30 p.m.
4	Tues.	Tower Hamlets Division, Stepney Central Hall, Commercial Road, E., 9.15 p.m.
5	Wed.	Central Division, Medical Institute, Edmund Street, Birmingham, 3.30 p.m.
6	Thur.	London: Insurance Act "Malingering" Subcommittee, 9.30 a.m.
		London: Insurance Act Committee, 10.30 a.m.
8	Sat.	Arrangements Committee (Conjoint Meeting), 10 a.m.
11	Tues.	London: Metropolitan Counties Branch Council, 4 p.m.
		Buckinghamshire Division, High Wycombe, 2.15 p.m.; Lunch, 1.30 p.m.
14	Fri.	City Division, Balfour Hall, Kingsland Road, 3.30 p.m.

Date.		Meetings to be Held.
		NOVEMBER (*continued*).
14	Fri.	Perthshire Branch, Perth, 6 p.m.; Annual Dinner, 7 p.m.
19	Wed.	Lancashire and Cheshire Branch, Branch Council, Liverpool Medical Institution, 4 p.m.
20	Thur.	Staffordshire Branch, Stoke-on-Trent, 3.45 p.m.; Dinner, 6.30 p.m.
21	Fri.	City Division, Metropolitan Hospital, 4 p.m.
		DECEMBER.
4	Thur.	Special Representative Meeting, Connaught Rooms, Great Queen Street, London, W.C., 9.30 a.m., and following day if necessary.
9	Tues.	London: Metropolitan Counties Branch Council, 4 p.m.
23	Tues.	East Africa and Uganda Branch, Namirembe, Kampala.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 8TH, 1913.

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INSURANCE ACTS.

PROVISIONAL REGULATIONS FOR THE ELECTION OF PANEL AND PHARMACEUTICAL COMMITTEES.*

Provisional Regulations, dated 27th October, 1913, made under Section 15 of the National Insurance Act, 1911 (1 and 2 Geo. V, c. 55), and Sections 32 and 33 of the National Insurance Act, 1913 (3 and 4 Geo. V, c. 37), by the National Health Insurance Joint Committee, acting jointly with the Insurance Commissioners and the Welsh Insurance Commissioners.

THE National Health Insurance Joint Committee, acting jointly with the Insurance Commissioners and the Welsh Insurance Commissioners, hereby certify under Section 2 of the Rules Publication Act, 1893, that on account of urgency the following regulations should come into operation immediately, and in pursuance of the powers conferred on them by Section 15 of the National Insurance Act, 1911, and Sections 32 and 33 of the National Insurance Act, 1913, and by the National Insurance Joint Committee) Regulations, 1912 and 1913, hereby make the following Regulations to come into operation forthwith as Provisional Regulations:

PART I.
GENERAL.

Short Title.

1. These Regulations may be cited as the National Health Insurance (Panel and Pharmaceutical Committees) Regulations, 1913.

Interpretation.

2.—(1) In these Regulations, unless the context otherwise requires, the following expressions have the respective meanings hereby assigned to them:

"The Act" means the National Insurance Act, 1913;

"The Commissioners" means the Insurance Commissioners, and in the application of these Regulations to Wales, the Welsh Insurance Commissioners;

"Practitioner on the panel" means a duly qualified medical practitioner who is under agreement with an Insurance Committee to undertake the medical attendance and treatment of insured persons;

"Persons supplying drugs or appliances" means a person, firm, or body corporate who is under agreement with an Insurance Committee to undertake whether at one or more places of business the supply of drugs, medicines or appliances to insured persons;

"Registered pharmacist" means a person registered as a chemist and druggist under the Pharmacy Act, 1868, as amended by the Poisons and Pharmacy Act, 1908;

"Panel Committee" means the committee to be appointed under the provisions of Section 32 of the Act by practitioners on the panel;

"Pharmaceutical Committee" means the committee to be elected under the provisions of Section 33 of the Act by persons supplying drugs or appliances.

(2) The Interpretation Act, 1889, applies to the interpretation of these Regulations as it applies to the interpretation of an Act of Parliament.

PART II.
METHOD OF APPOINTMENT OF PANEL COMMITTEE.

Qualification for Membership.

3. All the members of the Panel Committee shall be duly qualified medical practitioners, and not less than three-fourths of the members shall be practitioners on the panel.

Return of Names of Practitioners on the Panel.

4. The Clerk to the Insurance Committee for every County and County Borough shall before the 31st day of October, 1913, make a return to the Commissioners of the names and addresses of the places of residence of medical practitioners who are on the 13th day of October, 1913, practitioners on the panel for that County or County Borough.

Conduct of Election.

5. Save as hereinafter provided, the first appointment of persons to be members of the Panel Committee shall be made by means of an election held in accordance with the following provisions:

(1) The number of persons to be elected as members of the Panel Committee for each County and County Borough

* London: H.M. Stationery Office: to be obtained through any bookseller, price 1½d.; or from Messrs. Wyman, Fetter Lane, London.

County or County Borough in the First Schedule to these Regulations.

(2) The Commissioners shall appoint a returning officer and one or more persons to act in the place of the returning officer so appointed in the event of his absence or inability to act.

(3) The practitioners whose names are contained in the return to be made by the Clerk to the Insurance Committee as aforesaid (in this part of these Regulations called "the electors") shall be the persons entitled to elect the Panel Committee, and to be elected as being practitioners on the panel.

(4) Any practitioner whose name is contained in the official copy of the *Medical Register* published for the year 1913, or is subsequently included in the *Medical Register* at any date before the 13th day of October, 1913, shall be entitled to be nominated as a candidate.

(5) Each elector desiring to nominate a candidate or candidates for election in any county or county borough shall despatch by post, so as to be delivered at the office of the Commissioners not later than twelve noon on the 10th day of November, 1913, an application for a nomination paper for that County or County Borough, and the Commissioners shall issue to him a nomination paper.

(6) Every candidate for election shall be nominated in writing on a nomination paper issued as aforesaid, and the nomination paper shall state the full name and address of the candidate, and shall be signed by at least two electors, and shall be despatched by post so as to be delivered at the office of the Commissioners not later than twelve noon on the 20th day of November, 1913.

(7) The returning officer shall, as soon as may be, send to the address of each person so nominated notice that he has been nominated as a candidate for election together with a list of all the persons nominated, stating whether or not each such person is a practitioner on the panel, and a statement of the number of vacancies, and unless the person so nominated despatches by post so as to be delivered at the office of the Commissioners not later than twelve noon on a day which shall be stated in the notice a notice that he does not consent to be nominated, he shall be deemed to have given his consent.

(8) If the number of duly qualified candidates does not exceed the number of vacancies, the returning officer shall declare those candidates to be elected, and for the purpose of filling any vacancy in respect of which more than one duly qualified candidate is nominated a poll shall be taken in the manner hereinafter mentioned:

Provided that where the number of electors nominated is not sufficient to fill the vacancies for which that qualification is requisite, the number of persons, other than electors, entitled to be elected shall be reduced so as to secure that at least three-fourths of the persons elected are electors.

(9) Where by reason that no duly qualified candidate has been nominated, or that the number of persons, other than electors, entitled to be elected has been reduced under the provisions of the last preceding paragraph, the number of persons elected is less than the number set opposite to the name of the County or County Borough in the First Schedule to these Regulations, the persons elected may at their first meeting or at any adjournment thereof appoint duly qualified persons to fill any of the vacancies.

(10) Where in any County or County Borough there are more than twenty and less than one hundred persons entitled to elect the Panel Committee, the first members of the Committee may, if they think fit, at their first meeting or at any adjournment thereof appoint in addition to be members of the Committee any duly qualified medical practitioners to a number not exceeding one-fifth of the total number of members of the Committee, but in making any such appointments they shall secure that at least three-fourths of the Committee are practitioners on the panel.

Method of Taking a Poll.

6.—(1) Where a poll is required to be taken, each elector shall be entitled to cast a number of votes equal to the number of vacancies in respect of which a poll is taken, but may not cast more than one vote for any one candidate.

(2) The returning officer shall, as soon as may be, despatch by post to the address of every elector a voting paper, and if the elector desires to record a vote he shall mark the voting paper in accordance with the instructions set forth on the voting paper, and shall despatch it by post so as to be delivered at the office of the Commissioners not later than twelve noon on a day stated on the voting paper which shall be a day at least seven days subsequent to the despatch of the voting paper.

(3) The returning officer shall examine the voting papers and after rejecting any that are invalid shall count the votes recorded on the remaining papers, and shall prepare a list of the candidates according to the number of votes which each has received, the person receiving the greatest number of votes being placed highest on the list.

(4) If the votes received by any two or more candidates are equal, the returning officer shall decide by lot which of the candidates shall be placed highest on the list.

(5) The returning officer shall first declare to be elected those persons who are highest on the list and who are respectively qualified to fill those vacancies, if any, in respect of which a particular qualification is requisite, and thereafter shall declare the remaining candidates who are highest on the list to be elected in such number as to fill the remaining vacancies.

Modified Form of Election.

7.—(1) If before the 20th day of November, 1913, one third of the electors or any twenty electors in any County (whichever shall be the less number) make representations to the Commissioners that it is desirable to secure that each area in the County shall be represented on the Panel Committee, and for that purpose submit to the Commissioners a list of electors grouped by reference to the areas in which they reside or practise, the Commissioners may, if they think fit, authorize the election hereinbefore prescribed to be held, subject to the modification that at least one elector included in each group shall be appointed to be a member of the Panel Committee and to such consequential modifications, if any, as the Commissioners may think fit.

(2) Before authorizing any such modification as aforesaid the Commissioners may require the persons making representations to satisfy them that particulars of the method of grouping electors have been brought to the notice of the electors, and shall consider any objections to that method made by any elector.

(3) The Commissioners may, for the purpose of considering any representations or objections so made, suspend the election in that County and may fix such later dates as they think fit for carrying out the election.

Alternative Method of Appointment.

8.—(1) If before the 20th day of November, 1913, one third of the electors or any twenty electors in any County or County Borough (whichever shall be the less number) submit for the approval of the Commissioners a scheme for the appointment of the Panel Committee in some manner other than that contained in the preceding Regulations, the Commissioners shall consider the scheme and may, if they think fit, suspend the election in that County or County Borough for that purpose.

(2) Before approving the scheme the Commissioners may require the persons submitting the scheme to satisfy them that particulars of the scheme have been brought to the notice of the electors, and shall consider any objections to the scheme made by any elector.

(3) Where the Commissioners have approved a scheme the Panel Committee shall be constituted in accordance with that scheme.

(4) Where the Commissioners, after consideration of a scheme, decline to approve the scheme, the Panel Committee shall be elected in the manner hereinbefore prescribed, but the Commissioners may fix such later dates as they think fit for carrying out the election.

Provision in Case of Small Panels.

9.—(1) Where in any County or County Borough the number of electors does not exceed twenty, the Commissioners may, if they think fit, declare that the electors shall constitute the Panel Committee for that County or County Borough, and in that event the foregoing provisions of this Part of these Regulations shall not apply.

(2) Where the electors constitute the Panel Committee they may, if they think fit, at their first meeting or any adjournment thereof, appoint to be members of the

Committee any duly qualified medical practitioners to a number not exceeding one-third of the number of electors.

Term of Office.

10. The first members of the Panel Committee shall hold office for a term ending on the 15th day of July, 1914, and shall go out of office on that day.

Submission of Schemes for Subsequent Elections.

11.—(1) The Panel Committee may before the 31st day of March, 1914, prepare and submit for the approval of the Commissioners a scheme for the appointment of a Panel Committee after the expiration of the term of office of the first members of the Panel Committee.

(2) In the case of a Panel Committee for a County the scheme shall, unless the Commissioners otherwise permit, and in the case of a Panel Committee for a County Borough the scheme may, provide that for the purposes of the appointment of the Panel Committee the County or County Borough shall be divided into a number of areas, and that separate elections shall be held in respect of each area, and where the County or County Borough is so divided, the scheme shall define the extent of each of the proposed areas and the number of representatives on the Panel Committee to be assigned to the practitioners on the panel in each area.

(3) Every scheme shall provide for the term of office of the members of the Panel Committee and for the method of filling casual vacancies, whenever they occur, and may provide for the members going out of office in rotation.

(4) Before submitting any scheme to the Commissioners the Panel Committee shall furnish each of the practitioners on the panel with a copy thereof.

(5) The Commissioners shall before approving a scheme so submitted for any County or County Borough take into consideration any representations made, or alternative scheme submitted, by any practitioner or practitioners on the panel of that County or County Borough.

(6) Where no scheme has been submitted to the Commissioners within the period aforesaid, the appointment of the Panel Committee after the expiration of the term of office of the first members shall be made in such a manner as the Commissioners may determine.

Alteration of Schemes.

12.—(1) Subject to any alterations which the Commissioners may require to be made in any scheme so submitted, the Commissioners may approve the scheme for such period as they think fit.

(2) The Panel Committee may from time to time, with the approval of the Commissioners, make such alterations in the scheme as they think fit, but before approving any such alterations the Commissioners shall take into consideration any representations made by any practitioner or practitioners on the panel.

PART III.

Method of Election of Pharmaceutical Committee.

Number of Members of Pharmaceutical Committee.

13.—(1) The Pharmaceutical Committee for each County or County Borough shall consist of a number of persons equal to one-fifth of the number of members of the Insurance Committee for that County or County Borough.

(2) Not less than two-thirds of the total number of members of the Pharmaceutical Committee shall be registered pharmacists.

Return of Names of Persons Supplying Drugs or Appliances.

14. The Clerk to the Insurance Committee for every County and County Borough shall before the 31st day of October, 1913, make a return to the Commissioners of the names of persons, firms, and bodies corporate who are on the 13th day of October, 1913, persons supplying drugs and appliances, and the return shall state the address of the place of business or of any one of the places of business at which each such person, firm, or body corporate has agreed with the Insurance Committee to undertake the supply of drugs, medicines, or appliances.

Conduct of Election.

15. Save as hereinafter provided, the first election of persons to be members of the Pharmaceutical Committee shall be held in accordance with the following provisions:

(1) The Commissioners shall appoint a returning officer and one or more persons to act in the place of the returning officer in the event of his absence or inability to act.

(2) The persons, firms, or bodies corporate whose names are contained in the return to be made by the clerk to the Insurance Committee as aforesaid (in this part of these Regulations called "the electors") shall be the persons entitled to elect the Pharmaceutical Committee.

(3) Any person whose name is included in the Register of Chemists and Druggists on the 13th day of October, 1913, shall be qualified for election as a registered pharmacist.

(4) Each elector desiring to nominate a candidate or candidates for election in any County or County Borough shall despatch by post so as to be delivered at the office of the Commissioners not later than twelve noon on the 10th day of November, 1913, an application for a nomination paper for that County or County Borough, and the Commissioners shall issue to him a nomination paper.

(5) Every candidate for election shall be nominated in writing on a nomination paper issued as aforesaid, and the nomination paper shall state the full name and address of the candidate, and shall be signed by or on behalf of at least two electors, and shall be despatched by post so as to be delivered at the office of the Commissioners not later than twelve noon on the 20th day of November, 1913: Provided that where one only of the electors is a person who under any agreement with the Insurance Committee is not entitled to dispense, a nomination paper shall not be invalid by reason that it is signed by or on behalf of that elector alone.

(6) The returning officer shall, as soon as may be, send to the address of each person so nominated notice that he has been nominated as a candidate for election together with a list of all the persons nominated, stating whether or not each such person is a registered pharmacist and a statement of the number of vacancies, and unless the person so nominated despatches by post so as to be delivered at the office of the Commissioners not later than twelve noon on a day which shall be stated in the notice a notice that he does not consent to be nominated, he shall be deemed to have given his consent.

(7) If not more than six electors are persons who under any agreement with the Insurance Committee are not entitled to dispense, at least one of any persons, other than registered pharmacists, nominated by the requisite number of those electors shall be elected, and if more than six, at least two of any persons, other than registered pharmacists, so nominated shall be elected.

(8) Where the number of duly qualified candidates does not exceed the number of vacancies, the returning officer shall declare those candidates to be elected, and for the purpose of filling any vacancy in respect of which more than one duly qualified candidate is nominated a poll shall be taken in the manner hereinafter mentioned:

Provided that where the number of registered pharmacists nominated is not sufficient to fill the vacancies for which that qualification is requisite, the number of persons, other than registered pharmacists, entitled to be elected shall be reduced so as to secure that at least two-thirds of the persons elected are registered pharmacists.

(9) If by reason that no duly qualified candidate has been nominated, or that the number of persons other than registered pharmacists entitled to be elected has been reduced under the provisions of the last preceding paragraph, any vacancy remains unfilled, the persons elected may at their first meeting or at any adjournment thereof appoint a registered pharmacist to fill the vacancy, and, if any vacancy occurs by reason that the elector or electors not entitled to dispense as aforesaid, have not nominated at least one or two candidates, as the case may require, the persons elected may at the same meeting appoint a duly qualified person to fill the vacancy.

Method of Taking a Poll.

16.—(1) Where a poll is required to be taken, each elector shall be entitled to cast a number of votes equal to the number of vacancies in respect of which the poll is taken, but may not cast more than one vote for any one candidate.

(2) The returning officer shall, as soon as may be, despatch by post to the address of every elector a voting paper, and if the elector desires to record a vote he shall mark the voting paper in accordance with the instructions set forth on the voting paper, and shall despatch it by post so as to be delivered at the office of the Commissioners not later than twelve noon on a day stated on the voting paper, which shall be a day at least seven days subsequent to the despatch of the voting paper.

(3) The returning officer shall examine the voting papers, and after rejecting any that are invalid shall count the votes recorded on the remaining papers, and shall prepare a list of the candidates according to the number of votes which each has received, the person receiving the greatest number of votes being placed highest on the list.

(4) If the votes received by any two or more candidates are equal, the returning officer shall decide by lot which of the candidates shall be placed highest on the list.

(5) The returning officer shall first declare to be elected those persons who are highest on the list and who are respectively qualified to fill those vacancies, if any, in respect of which a particular qualification is requisite, and thereafter shall declare the remaining candidates who are highest on the list to be elected in such number as to fill the remaining vacancies.

Alternative Method of Election.

17. If before the 20th day of November, 1913, representations are made to the Commissioners by any electors in any County or County Borough that the method of election prescribed in these Regulations will not be satisfactory, the Commissioners may, if they think fit, dispense with all or any of the requirements of this Part of these Regulations relating to the election of the Pharmaceutical Committee, and may authorize the electors in that County or County Borough to adopt such other method of holding an election as the Commissioners think fit.

Term of Office.

18. The first members of the Pharmaceutical Committee shall hold office for a term ending on the 15th day of July, 1914, and shall go out of office on that day.

Submission of Schemes for Subsequent Elections.

19.—(1) The Pharmaceutical Committee may before the 31st day of March, 1914, prepare and submit for the approval of the Commissioners a scheme for the election of a Pharmaceutical Committee after the expiration of the term of office of the first members of that Committee, and the scheme shall provide for the term of office of the members of the Committee and for the method of filling casual vacancies, whenever they occur, and may provide for the members going out of office by rotation.

(2) Before submitting any scheme to the Commissioners the Pharmaceutical Committee shall furnish each of the persons supplying drugs or appliances with a copy thereof.

(3) The Commissioners shall before approving a scheme so submitted for any County or County Borough take into consideration any representations made, or alternative scheme submitted, by any person or persons supplying drugs or appliances in respect of that County or County Borough.

(4) Where no scheme has been submitted to the Commissioners within the period aforesaid, the election of the Pharmaceutical Committees after the expiration of the term of office of the first members shall be held in such manner as the Commissioners may determine.

Alteration of Schemes.

20.—(1) Subject to any alterations which the Commissioners may require to be made in any scheme so submitted, the Commissioners may approve the scheme for such period as they think fit.

(2) The Pharmaceutical Committee may from time to time, with the approval of the Commissioners, make such alterations in the scheme as they think fit, but before approving any such alterations the Commissioners shall take into consideration any representations made by any person or persons supplying drugs or appliances.

PART IV.

Provisions Relating to both Panel and Pharmaceutical Committees.

Form of Voting Papers, etc.

21.—(1) The voting papers to be used for the purpose of taking a poll in connexion with the Panel and Pharmaceutical Committees respectively shall be in the forms set out in the Second and Third Schedules to these Regulations, with such modifications, if any, as may, in the opinion of the returning officer, be necessary or expedient in any particular case, and, where in any County the practitioners on the panel are grouped by reference to the areas in which they reside or practise, the voting papers shall state in which group of practitioners each practitioner on the panel is included.

(2) Where any document is, under these Regulations, required to be despatched by post so as to be delivered not later than twelve noon on a named day, it shall be deemed to have been duly despatched, notwithstanding that it has not been delivered by that hour and day, if it has been properly directed and delivered, for registration and despatch, to the Post Office at any place in England, so that in the ordinary course of post it would have been delivered not later than twelve noon on that day.

(3) Where any document is under these Regulations required to be sent to a practitioner on the panel or to a person supplying drugs or appliances, it shall be deemed to have been duly sent, if it has been posted properly directed to the address which is stated in the return to be made by the Clerk to the Insurance Committee to be the address of the place of residence of the practitioner on the panel, or to the address of the place of business or of any one of the places of business of the person supplying drugs or appliances, as the case may be.

(4) Where any firm or corporate body is entitled to elect, a nomination or voting paper may be signed by any person duly authorized in that behalf by the firm or corporate body, and any paper which purports to be so signed shall be deemed to have been validly signed, unless the contrary is shown.

(5) Where any election has been held, the returning officer shall forthwith inform the Commissioners, who shall give notice to the Insurance Committee and each of the persons nominated of the result of the election.

Misdescription, etc., not to invalidate Election.

22.—(1) No election shall be invalid by reason of any misdescription or non-compliance with the provisions of these Regulations, or by reason of any mis-count or of the non-delivery, loss or miscarriage in the course of post of any document required by these Regulations to be despatched by post, if it appears to the returning officer that the election was conducted substantially in accordance with the provisions of these Regulations.

(2) No misnomer or inaccurate description of any person or place named in any nomination paper or voting paper shall invalidate that paper where, in the opinion of the returning officer, the description of the person or place is such as to be commonly understood.

(3) Any question as to the validity of any nomination or voting paper or otherwise in connexion with an election shall be determined by the returning officer.

Special Provision in Case of Failure of an Election.

23.—(1) Where owing to a deficiency of nominations or the failure of the persons entitled to take part in an election or of any of them to exercise their rights of voting, it appears to the Commissioners that a substantial miscarriage of the election has occurred, the Commissioners may, if they think fit, declare the election to be void, either in respect of all the persons who are highest on the poll or of such of those persons as they may decide.

(2) Where the election is declared to be void in respect of all the persons elected, the Commissioners shall order a new election to be held in the manner provided in these Regulations, and where the election is declared to be void in respect of some only of the persons elected, the Commissioners shall make such provision for filling the remaining vacancies as they think fit.

First Meeting of Committee.

24. The Clerk to the Insurance Committee for the County or County Borough for which a Panel or Pharma

ceutical Committee has been elected shall give notice to the members of the Committee of the time and place of the first meeting.

Appointment of Secretary.

25. The Panel and Pharmaceutical Committees shall at their first meeting or at any adjournment thereof appoint one of their members to act as secretary to the Committee, and the person so appointed shall forthwith notify his appointment to the Commissioners.

Quorum.

26. One-third of the number of members of the Panel or Pharmaceutical Committee, or where one-third is not a whole number the next whole number above one-third, shall form a quorum of that Committee.

Disqualification and Retirement of Members.

27.—(1) Where a member of the Panel or Pharmaceutical Committee was at the time of his appointment a practitioner on the panel or a registered pharmacist, as the case may be, and subsequently ceases to be a practitioner on the panel or a registered pharmacist, his seat on that Committee shall thereupon be vacated and a casual vacancy shall be deemed to have occurred.

(2) Where a member of the Panel or Pharmaceutical Committee has been absent from three consecutive meetings of the Committee, the secretary or acting secretary of the Committee shall inform the Commissioners, and unless the Commissioners are satisfied that his absence was due to illness or other reasonable cause, they shall declare that his seat on the Committee has been vacated and shall inform the Committee accordingly, and thereupon a casual vacancy shall be deemed to have occurred.

(3) A member of the Panel or Pharmaceutical Committee may at any time in writing signed by him and delivered to the secretary or acting secretary of the Committee resign his office.

Method of Filling Casual Vacancies.

28.—(1) Where by reason of the resignation, death or disqualification of a member of the Panel or Pharmaceutical Committee, a casual vacancy in the membership of the Committee occurs, the Committee shall, within three months after its occurrence, appoint a member in the place of the person whose seat is vacated, and where the person whose seat is vacated was at the time of his appointment a practitioner on the panel or a registered pharmacist, the person appointed by the Committee in his place shall have a like qualification.

(2) Where in any County the practitioners on the panel are grouped according to areas, and the person whose seat is vacated is a practitioner included in one of such groups, the Panel Committee in appointing a person in his place shall, so far as may be practicable, secure that the Committee shall continue to include at least one practitioner on the panel in that group.

(3) Where by reason that no duly qualified person is available, or for any other reason the Committee have made no appointment within the period aforesaid, the Commissioners shall appoint a member in the place of the person whose seat is vacated, and pending any such appointment, the proceedings of the Committee shall not be invalid by reason of a vacancy.

(4) The person so appointed shall hold office for the remainder of the period for which the member in whose place he is appointed would have been entitled to hold office.

Information to be sent to Commissioners.

29. The secretary or acting secretary of the Panel or Pharmaceutical Committee shall, as soon as may be, inform the Commissioners of the names and addresses of the persons, if any, appointed at the first meeting of the Committee, of any casual vacancies in the membership of the Committee which may from time to time occur, and of the names and addresses of the persons, if any, appointed to fill those vacancies.

Provisions of this Part of the Regulations to be Temporary.

30. The provisions of this Part of these Regulations shall only have effect during the term of office of the first members of the Panel and Pharmaceutical Committees.

PART V.

Duties of Panel and Pharmaceutical Committees.

Examination of Accounts.

31.—(1) Paragraph (2) of Regulation 42 and Regulation 46 of the National Health Insurance (Administracion of Medical Benefit) Regulations, 1912, shall have effect as if the references therein to a committee appointed by the practitioners on the panel and to the Local Medical Committee were references to the Panel Committee, and paragraph (2) of Regulation 44 and Regulation 46 of those Regulations shall have effect as if the references therein to a committee representative of chemists and other persons undertaking the supply of drugs and appliances were references to the Pharmaceutical Committee.

(2) Where no Panel Committee or Pharmaceutical Committee has been appointed or elected in accordance with the provisions of these Regulations, the powers conferred on them respectively by the above-mentioned Regulations as amended by this Regulation shall be exercised by any committee which is, in the opinion of the Insurance Committee and of the Commissioners, representative of practitioners on the panel or of persons supplying drugs or appliances, as the case may be.

Allocation of Insured Persons to Practitioners.

32. It shall be the duty of the Panel Committee to make on behalf of the practitioners on the panel, arrangements with the Insurance Committee for the distribution amongst practitioners on the panel of those insured persons who have failed to select a practitioner or have been refused by the practitioner whom they have selected, and the provisions of the National Health Insurance (Administration of Medical Benefit) Regulations, 1912, relating to the distribution of such persons so far as practicable under arrangements made by the practitioners on the panel, shall be read accordingly.

THE FIRST SCHEDULE.

Part I.—England.

Counties.—*Number of Members of Panel Committee.*

Bedford	20	Isle of Wight	20	Somerset	28
Berkshire	24	Kent	32	Southampton	28
Buckinghamshire	24	Lancashire	40	Staffordshire	32
Cambridgeshire	20	Leicestershire	24	Suffolk, East	24
Cheshire	32	Lincs., Holland	20	Suffolk, West	20
Cornwall	24	Lincs., Kesteven	20	Surrey	32
Cumberland	24	Lincs., Lindsey	24	Sussex, East	24
Derbyshire	32	London	40	Sussex, West	24
Devonshire	28	Middlesex	36	Warwick	24
Dorsetshire	24	Norfolk	24	Westmorland	20
Durham	36	Northamptonshire	24	Wiltshire	24
Essex	36	Northumberland	24	Worcestershire	24
Gloucestershire	24	Nottinghamshire	28	Yorks., E. Riding	24
Herefordshire	20	Oxfordshire	24	Yorks., N. Riding	28
Hertfordshire	24	Rutlandshire	20	Yorks., W. Riding	40
Huntingdonshire	20	Salop	24		
Isle of Ely	20	Soke of Peterb'rgh*	20		

County Boroughs.—*Number of Members of Panel Committee.*

Barnsley	20	Exeter*	20	Reading	20
Barrow-in-Furness	20	Gateshead	20	Rochdale	20
Bath	20	Gloucester*	20	Rotherham	20
Birkenhead	20	Great Yarmouth*	20	St. Helens	20
Birmingham	28	Grimsby	20	Salford	24
Blackburn	20	Halifax	20	Sheffield	24
Blackpool	20	Hastings	20	Smethwick	20
Bolton	24	Huddersfield	20	Southampton	20
Bootle	20	Ipswich*	20	Southport	20
Bournemouth	20	Kingston-on-Hull	20	South Shields	20
Bradford	24	Leeds	24	Stockport	20
Brighton	20	Leicester	20	Stoke-on-Trent	20
Bristol	24	Lincoln*	20	Sunderland	20
Burnley	20	Liverpool	28	Tynemouth	20
Burton-upon-Trent*	20	Manchester	28	Wallasey	20
Bury	20	Middlesbrough	20	Walsall	20
Canterbury*	20	Newcastle-on-Tyne	24	Warrington	20
Chester	20	Northampton	20	West Bromwich	20
Coventry	20	Norwich	20	West Ham	24
Croydon	20	Nottingham	20	West Hartlepool	20
Derby	20	Oldham	20	Wigan	20
Devonport	20	Oxford*	20	Wolverhampton	20
Dewsbury	20	Plymouth	20	Worcester*	20
Dudley	20	Portsmouth	20	York	20
Eastbourne	20	Preston	20		

* These lists are printed as they stand in the schedule to the regulations, but in a circular explanatory letter (see JOURNAL, p. 1246) bearing date October 31st it is stated that in the areas marked with an asterisk the number of practitioners on the panel does not exceed twenty, and that the Commissioners have determined that the practitioners on the panel list shall be the Panel Committee.

PART II.—WALES.

Number of Members of Panel Committee.

Counties.		County Boroughs.	
Anglesey	20	Cardiff	20
Brecon	20	Swansea	20
Cardiganshire	20	Newport	20
Carmarthenshire	20	Merthyr Tydfil	20
Carnarvonshire	20		
Denbighshire	20		
Flint	20		
Glamorgan	32		
Merionethshire	20		
Monmouthshire	24		
Montgomeryshire	20		
Pembrokeshire	20		
Radnor	20		

THE SECOND SCHEDULE.

Form of Voting Paper.

VOTING PAPER.

County [*or* County Borough] of————————.

Instructions to Electors.

1. The elector may vote for* candidates, but may not cast more than one vote for any one candidate.
2. The total number of vacancies is* , of which* must be filled by practitioners on the panel, and the remainder may be filled by any duly qualified medical practitioners.
3. The elector should vote by placing a cross in the right-hand side of the voting paper, opposite the name of each of the candidates for whom he desires to vote, thus ×, and by signing his name at the foot of the voting paper.
4. If the elector votes for more than the above-mentioned number of candidates, or makes any mark on the voting paper other than those authorized by these instructions, his voting paper shall be invalid.
5. If the voter marks the voting paper in such a manner as to cause any uncertainty as to the candidate for whom he desires to record a vote, his voting paper shall be invalid: Provided that the returning officer may, if he thinks fit, treat a voting paper so marked as valid for the purpose of any vote other than that in connexion with which the uncertainty arises.
6. This voting paper must be despatched by post so as to be delivered at the office of the Insurance Commissioners not later than twelve noon on the day of November, 1913.

Names of candidates who have been duly nominated for election as members of the Panel Committee for the County [*or* County Borough] of————————.

Part I.

Names of Candidates who are Practitioners on the Panel.

1	JOHN BROWN. Address.....	
2	ALFRED JAMES. Address.....	
3	HENRY JONES. Address.....	
4	SAMUEL RICHARDS. Address.....	
5	WALTER SMITH. Address.....	
6	ERNEST TAYLOR. Address.....	
7	JAMES THOMSON. Address.....	

Part II.

Names of other Candidates.

1	HENRY MORGAN. Address.....	
2	WILLIAM SIMPSON. Address.....	
3	ROBERT ANDERSON. Address.....	

Signature of Voter————————

* The number is to be inserted by the Returning Officer.

THE THIRD SCHEDULE.

Form of Voting Paper.

VOTING PAPER.

County [*or* County Borough] of————————.

Instructions to Electors.

1. The elector may vote for* candidates, but may not cast more than one vote for any one candidate.
2. The total number of vacancies is* , of which* must be filled by registered pharmacists,* must be filled by persons, other than registered pharmacists, who are nominated by electors not entitled to dispense, and the remainder may be filled by any duly nominated person.
3. The elector shall vote by placing a cross in the right-hand side of the voting paper, opposite the name of each of the candidates for whom he desires to vote, thus ×, and by signing his name at the foot of the voting paper.
4. If the elector votes for more than the above-mentioned number of candidates, or makes any mark on the voting paper other than those authorized by these instructions, his voting paper shall be invalid.
5. If the voter marks the voting paper in such a manner as to cause any uncertainty as to the candidate for whom he desires to record a vote, his voting paper shall be invalid: Provided that the returning officer may, if he thinks fit, treat a voting paper so marked as valid for the purpose of any vote other than that in connexion with which the uncertainty arises.
6. This voting paper must be despatched by post so as to be delivered at the office of the Insurance Commissioners not later than twelve noon on the day of November, 1913.

Names of Candidates who have been duly nominated for election as members of the Pharmaceutical Committee for the County [*or* County Borough] of————————.

Counterfoil No.....

PART I.

Names of Candidates who are Registered Pharmacists.

Note.—The Counterfoil must show a number corresponding to that on the back of the voting paper.

1	JOHN BROWN. Address.....	
2	ALFRED JAMES. Address.....	
3	HENRY JONES. Address.....	
4	SAMUEL RICHARDS. Address.....	
5	WALTER SMITH. Address.....	
6	ERNEST TAYLOR. Address.....	
7	JAMES THOMSON. Address.....	

* The number is to be inserted by the Returning Officer.

PART II.

Names of Candidates nominated by Electors not entitled to dispense.

1	EDWARD ROBINSON. Address.....	
2	JAMES ALLEN. Address.....	

PART III.

Names of other Candidates.

1	HENRY MORGAN. Address.....	
2	WILLIAM SIMPSON. Address.....	
3	ROBERT ANDERSON. Address.....	

No.

NOTE.—*The number on the voting paper is to correspond with that on the counterfoil.*

OFFICIAL PUBLICATIONS.

Notice to Insured Persons to Select a Doctor.

The following notice (Form 99 I.C.) to insured persons entitled to medical benefit was issued last week by the Insurance Commissioners for England:

1. If you have not yet chosen a doctor (or approved institution) you must do so without delay. If you delay in making a choice until you are ill, you may be placed at a serious disadvantage. For instance, there may be unavoidable delay in your obtaining treatment, and you may be obliged to have a doctor provided for you and thus lose your right of free choice till the end of the year.

2. The new list of available doctors and approved institutions for 1914 can be seen in the nearest Post Office. The list will give you full instructions as to obtaining medical benefit; but if you are still in any doubt or difficulty you should write to the Clerk to the Insurance Committee at the address given in the list.

Note.—These instructions do not at present apply to insured persons in Manchester and Salford.

THE IRISH MEDICAL COMMITTEE.

The meeting of medical delegates from insurance areas all over Ireland which met in the Royal College of Surgeons of Ireland on July 17th appointed an Irish Medical Committee, which, as reported in the Journal from time to time, has since been at work. As already stated, it issued about a month ago to all members of the profession in Ireland a circular letter containing a brief statement of the position then existing. It has been engaged in combating the proposals of the Irish Insurance Commissioners with reference to a capitation rate for certification. The Chancellor of the Exchequer undertook in the House of Commons that he would give the full amount demanded by the profession provided that a scheme were devised satisfactory to the profession and to the friendly societies. The Irish Medical Committee asked the Commissioners to discuss a scheme for the allocation of this money, but the Commissioners replied to the effect that they had no reason to believe that the Committee had power to negotiate on behalf of the entire medical profession in Ireland. The Commissioners issued a circular to Local Medical Committees in Ireland on October 3rd, inviting suggestions for the distribution of the money. Every Local Medical Committee replied by referring the Commissioners to the Irish Medical Committee, so that the Commissioners must now understand that that Committee is acting with full authority.

The action of the Commissioners would appear to have been dictated by a desire to temporize, in the hope that it might eventually be found expedient to hand over the administration of the moneys to the friendly societies. This is believed to be desired by the friendly societies in Ireland, while the English societies operating in Ireland are believed to wish the administration to be carried out through the Insurance Committees. The medical profession are in favour of the latter arrangement, and will not consent to the former.

The Irish Medical Committee has made an appeal for funds to defray the expenses it must necessarily incur in carrying out the duties imposed upon it by the profession in Ireland. Subscriptions have already been received, as shown below, but it is hoped that all practitioners in Ireland—who number, it is stated, nearly 3,000—will subscribe.

Antrim.—*Subscribers of* £1: Drs. Porter and Johnston (Portrush); Wallace (Knockahollett); Evelyn, Armstrong, and Davison (Ballymena); Stewart (Portglenone), Scott (Antrim), Dick (Cullybackey), Gaussen (Dunmurry), Reid (Whiteabbey), McKee (Randalstown), Loughridge (Belfast), Torrens (Kells), Huey (Bushmills), and A. King (Ballyclare).

Armagh.—*Subscriber of* £1: Dr. R. T. Huston (Tynan).

Clare.—*Subscribers of* £1: Drs. D. C. Hayes, R. Counihan, T. Coghlan, and G. B. Clancy (Ennis); G. U. Macnamara (Corofin), G. T. Counihan (Kilrush), M. T. O'Halloran (Feakle), E. Frost and T. Fitzgerald (Newmarket-on-Fergus); P. O'Dwyer (Ennistymon), and M. G. Hilley (Miltown Malbay).

Cork.—*Subscribers of* £1 1s.: Drs. P. Goold and R. Lynch (Macroom). *Subscribers of* £1: Drs. J. J. Harding (Ballincollig); M. P. Desmond and R. R. Leader (Millstreet), D. Barry (Kilworth), J. F. O'Connor (Mallow), T. O'Brien (Mitchelstown); Wm. Bennett and J. E. R. Bennett (Clonakilty); J. Cremin (Charleville), Wm. Donavan (Queenstown), W. J. Buckmaster (Aghada), P. J. O'Leary (Kanturk), J. Ryan (Cloghroe), P. O'Donoghue (Macroom), and G. Vickery (Kinsale).

Down.—*Subscriber of* £1: Dr. H. P. Devlin (Downpatrick).

Dublin County Borough.—*Subscriber of* £1 1s.: Dr. T. O. Graham. *Subscribers of* £1: Drs. K. Maguire, W. Delaney, M. Maughan, W. Beatty, William Fottrell, R. A. Stoney, H. Jellett, E. P. Eustace, H. Stokes, F. T. P. Newell, J. C. McWalter, R. J. Rowlette, C. P. Smyly, T. P. Kirkpatrick, D. Kennedy, Seton Pringle, J. M. Day, and W. M. Crofton.

Dublin County.—*Subscribers of* £1 1s.: Drs. S. J. M. Bradshaw (Dalkey), A. Croly (Rathfarnham), T. G. Prosser (Kingstown). *Subscribers of* £1: Drs. P. Merrin (Kingstown); C. Ryan, T. D. Good, H. W. Mason (Dublin); D. Turner (Rathmines), J. T. Wigham (Monkstown).

Galway.—*Subscriber of* £1: Dr. J. J. Waters (Nuns Island).

Kildare.—*Subscribers of* £1: Drs. Grogan (Mallymore Eustace), G. E. Barker (Kilcullen), F. Brannan (Castledermot), L. Rowan (Kildare), O'Sullivan (Rathangan), Ryan (Monasterevan), Kilbride (Athy), Kenna (Ballitore).

Kilkenny.—*Subscribers of* £1: Drs. D. Walshe (Graigue), M. Mitchell (Johnstown), J. Mitchell (Tullaroan), P. O'Gorman (Gowran), and C. E. James (Kilkenny).

King's Co.—*Subscribers of* £1: Drs. W. A. Morton (Birr), W. Meagher (Ferbane), J. McMichael (Tullamore), J. M. Barry (Philipstown), W. Mills (Rhode), T. O'Driscoll (Frankford), D'Alton (Birr), and F. W. Woods (Parsonstown).

Limerick Co.—*Subscribers of* £1: Drs. Nolan (Shanagolden), J. N. Clery (Bruff), P. J. Macnamara (Kilmallock), J. Bouchier Hayes (Rathkeale), Wm. Clifford (Adare), J. O'Callaghan (Pallasgreen), H. G. Molony (Ballingarry), Wm. Hennessy (Glabally), Corboy (Cahirconlish), P. B. Molony (Cappamore), W. Lane (Patrickswell), Cussen (Pallaskenry), McGrath (Athea), Hannigan (Drumcollogher), P. J. Cleary (Kilmallock), M. R. Cleary (Hospital), E. O'Shaughnessy (Tullilease), Thomas Magner (Rathkeale), P. O'Brien (Askeaton), W. P. Lea (Kilfinane), Chas. McDonnell (Glin), J. Ryan (Castleconnell), and J. J. Byrnes (Bruree). *Subscribers of* 10s.: Drs. Kelly (Killeady) and Casey (Bruff).

Limerick County Borough.—*Subscribers of* £1: Drs. Malone, J. Holmes (senior), J. Holmes (junior), J. Fogarty, J. Graham, Lee (dispensary), Myles, McGrath, Mulcahy, Massey, Laird, Roberts, Shanahan, Irwin, Kennedy, Pearse, Devane, O'Sullivan, and O'Neill.

Londonderry Co.—*Subscriber of* £2: Dr. Henderson (Derry). *Subscribers of* £1: Drs. H. S. Morrison (Coleraine), M. O'Kane (Limavady), J. T. Creery (Coleraine), and Lane (Limavady).

Longford: Dr. J. M. Kenny (Granard).

Louth.—*Subscribers of* £1: Drs. R. Marlay Blake (Ravensdale); E. F. Flodd, Lavery, B. McGinnity, P. H. O'Connell, J. Clarke, O'Brien, Gill (Dundalk); P. J. Finnigan (Carlingford); Bradley, T. Parr, Hamill, Teevan, McCullen, Murray (Drogheda); O'Hagan, sen., O'Hagan, jun. (Castlebellingham); Keelan (Dunleer), T. Connolly (Dramiskin); and Steen and H. Moore (Ardee).

Meath.—*Subscribers of* £1: Drs. L. Finigan, W. P. Timmon, Warren, Ross (Navan); Kelly, Fagan (Oldcastle); Gavin (Moynalty), Sparrow (Kells), Byrne (Slane), Corby (Summerhill), Phillips (Wilkinstown), and Tallan (Duleek).

Roscommon.—*Subscribers of* £1: Drs. D. Forde (Strokestown), J. W. Beirne (Frenchpark), and F. G. O'Donohoe (Castlerea).

Tipperary, N.—*Subscribers of* £1: Drs. L. J. Quigley (Borrisokane), M. Quigley (Cloughjordan), Cormack (Templetwohey); T. Barry, Jackman, Gallinan (Thurles); G. Mitchell, Jacob, J. J. O'Connell (Templemore); J. Minnett, Courtney, Johns (Nenagh); Brennan (Carrigahorig), Fleury (Birr); Murray, Wallace, B. C. Powell (Roscrea); and J. Power (Borrisoleigh).

Tipperary, S.—*Subscribers of* £1: Drs. T. Hennessy (Clogheen), J. Power (Ardfinan), Cusack (Cahir), Cusack (Cashel), Keogh (Dundrum), Purcell (Killenaule), Foley (Rosegreen), O'Connell (Fethard); O'Brien, P. J. O'Brien (Clonmel); White (Kilsheelan), Molony (Mullinahone), Fitzgerald (Ballingarry); O'Dwyer, Ryan (Tipperary); Madden (Golden), Russell (Bansha), Keogh (Emly), Fitzgerald (Cappawhite); Murphy, Moran, and Stephenson (Carrick-on-Suir).

Waterford County Borough.—*Subscribers of* £1: Drs. Jellett, A. Ford, Ford, jun., Morrissey, O'Sullivan, Kelleher, Morris, Jackman, Hogan, and Mackesy (Waterford).

Wexford.—*Subscribers of* £1: Drs. J. Nolans, J. Dwyer (Corey); N. W. Kelly (Killaun), W. P. Kelly (Enniscorthy); D. Hadden, T. J. Dowse, S. V. O'Connor, T. Pierse (Wexford); P. A. Doyle (Bridgetown), E. O'Brien (Bannow), W. C. Lawlor (Newtonbarry); G. A. Hickey, J. O'Regan (New Ross); H. T. J. Kennedy, T. J. Kelly, N. Furlong (Enniscorthy); W. W. Murphy (Inch), P. Kinsella (Killena), B. Connolly (Oulart), J. B. Ryan (Taghmon).

Westmeath.—*Subscribers of* £1: Drs. P. J. Keelan (Mullingar), A. F. Dobbs (Athlone), O. P. Kerrigan (Castletown-Geoghega).

Cork County Borough.—*Subscriber of* £1: Dr. P. J. O'Brien (Cork).

Cork County.—*Subscribers of* £1: Drs. T. J. O'Meara (Skibbereen), P. J. Cullinan (Bantry).

Wexford.—*Subscriber of* £1 1s.: Dr. W. J. Shorten (Duncannon). *Subscriber of* £1: Dr. J. H. Anglin (Tagoat).

LOCAL MEDICAL COMMITTEES.

WEST SUFFOLK.

The eleventh meeting of the West Suffolk Local Medical Committee was held at Bury St. Edmunds on October 29th, Dr. Wood in the chair; five other members being present.

Medical Special Subcommittee.—The Secretary reported that Dr. Master had agreed to serve on the Medical Special Subcommittee in place of Dr. Hinnell.

Payment to Account.—The Committee considered that as no payment for the quarter ending October 14th had yet been made the Secretary should be instructed to write to the County Insurance Committee stating that the Local Medical Committee considers that payment is due at the expiration of each quarter and should be made within a few days of that date.

Certificates.—The new certificate forms A.S. 75 and 76 "continuing" were again considered. The Committee agreed that the words "That I have to-day examined you and" should be deleted. The Secretary was instructed to write to the Insurance Committee and the Insurance Act Committee of the British Medical Association to this effect. The SECRETARY read the reply to the question raised at the last meeting as to the powers of a friendly society to insist on having the initial certificate on its own special form. The Insurance Act Committee's reply was to the effect that friendly societies had this power.

Revision of Medical List.—The Committee was informed, through the SECRETARY, that the County Insurance Committee was not allowed by the Commissioners to bring the new agreement into force or revise the medical list before January 13th, 1914. In these circumstances the date agreed upon—December 31st, 1913—was deferred to January 11th, 1914. The County Insurance Committee also submitted Circulars M.B. 58 and 59, which it proposed to issue to practitioners on the panel for signature so as to provide for the time intervening between December 31st, 1913—the day on which the present contract ceases—and January 12th, 1914. The Committee approved the issue of these circulars, subject to slight modification and a statement on M.B. 58 that it had been so approved.

Prescription Books.—Samples of the Carbac prescription book were inspected, and the Committee agreed to apply for the issue of these in place of Form Med. 13, at present in use.

Allocation of Funds.—This question was again fully considered. The CHAIRMAN reported that he and the Secretary had, as requested, elaborated the method of allocating by districts, suggested at the last meeting, very carefully. They had found that it involved several complications, whilst the final result showed very little financial difference from that obtained by allocation in direct proportion to panel lists. The Committee finally decided that the most equitable arrangement was that (1) the funds in respect of those persons who have not by the end of the last quarter of the year selected a practitioner, should be allotted in direct proportion to the various practitioners' lists of acceptances at the end of that quarter. (2) In respect to those persons who selected a practitioner during the year, the funds accruing on their behalf for medical benefit for previous quarters should be paid direct to the practitioners accepting them. The Secretary was authorized to ask for a joint meeting with the Medical Benefit Subcommittee of the County Insurance Committee in the event of their raising any objection to this.

Emergency Dressings, etc.—A letter from Dr. Hudson was read asking that some arrangement should be made for the supply by chemists of emergency dressings. Dr. BARWELL also raised the question of payment for prescriptions dispensed by a doctor in the absence of the local chemist or at night. Both questions were referred to the Medical Special and Pharmaceutical Subcommittee.

HEREFORD.

A MEETING of the Local Medical Committee was held at Hereford on October 17th. Dr. STEED was in the chair. The following matters were definitely decided between the Local Insurance Committee and the Local Medical Committee:

Surplus Funds.—The Local Insurance Committee will distribute the whole of the surplus funds which have accumulated during the current year on account of those insured persons who have not yet chosen a doctor. Those funds, together with any sums which already stand to the credit of the doctors on the panel, will be distributed to the practitioners at the end of the financial year ending January 14th, 1914.

Dates of Payment.—After January 14th, 1914, the practitioners will be paid quarterly the whole of the money due to them on account of insured persons, with a reduction of a small sum (about 10 per cent.), which will be kept in hand till the end of the financial year in case it is required to balance the removals from the district, etc. The quarterly payments will include the surplus funds of the unallotted residue of insured persons. The medical practitioners collectively within the area will accept the responsibility of carrying out the medical benefits under the Act for all insured persons. The doctors, therefore, must accept any insured person within the area who may apply to be put on their respective lists.

Mileage.—It is not in order for a medical practitioner to refuse any insured person on the ground that he lives over three miles from the surgery, unless the insured person lives nearer to another doctor. Moreover, a doctor cannot make additional charges for mileage over three miles, except in the case of an insured person living nearer another doctor; in this case the doctor may make any terms he likes. In cases where charges have already been made, those sums must be refunded, seeing that the Local Insurance Committee will make their full payments from the beginning of the year—namely, January 14th, 1913. Insured persons living within three miles of the doctor must be accepted on the panel when they apply, whether the doctor be the nearest doctor or not. The term "nearest doctor" applies only where the patient lives over three miles from the doctor's residence.

Expenses of Committee.—It was decided to ask the Insurance Committee to deduct ½d. a year for each insured person from the money allocated for medical benefit, which sum will be deducted at the end of the first quarter of the year, and which will be utilized for the payment of the expenses of the Local Medical Committee.

MEETINGS OF INSURANCE COMMITTEES.

MIDDLESEX.

Revision of the Medical List.

THE Middlesex Insurance Committee on November 3rd fixed January 10th, 1914, as the date for revision of the medical list.

Shelters, but not Blankets, under Sanatorium Benefit.

A curious point arose in connexion with the administration of sanatorium benefit. The Insurance Committee had provided an open-air shelter for an insured person suffering from tuberculosis, but the local board of guardians complained that a blanket should have been provided by the Committee as an appliance to the shelter. It was decided to inform the guardians that as the responsibility of the Committee did not extend to the relief of distress it could not supply the blanket.

It was reported that 1,018 applications for sanatorium benefit had been received to date, 714 from men and 304 from women.

Complaints against Medical Practitioners.

Reporting upon a number of complaints by insured persons, the Medical Service Subcommittee upheld the action of medical practitioners under the following circumstances: (1) Three cases of charging a fee and attending as private patients until another doctor could be selected insured persons who when ill sent for a doctor they had not previously selected. (2) Refusal to sign a certificate in the case of a person the doctor considered able to return to work. (3) A complaint as to suitability of treatment. (4) A complaint of negligence. (5) A charge for a certificate required not by an approved society but for production to employers. (6) Refusal to sign a sickness certificate when the doctor considered the patient fit to return to work. (7) A charge for a certificate on the first day of sickness, the certificate being required for payment of benefit other than under the Insurance Act.

In the case of a complaint that a doctor was frequently absent during the hours he undertook to be in attendance at the surgery, the Subcommittee considered that the doctor was at fault, but decided to take no further action provided that the doctor refunded expenditure incurred by an insured person in obtaining treatment elsewhere. In another case the Subcommittee expressed the opinion that certificates should not be post-dated, and in another obtained an undertaking that a practitioner would not sign certificates with a rubber stamp.

Some discussion took place in regard to the following case: A doctor was asked to see a patient on a Sunday afternoon. He said he did no work on a Sunday unless the case was serious. The father said the case was serious; he wanted his daughter to be treated as a private patient, and would pay a fee. The doctor visited and provided medicine, for which he was paid by the father. The Subcommittee recommended that the doctor be informed that the Committee viewed with disapproval the practice of charging panel patients extra fees.

Dr. H. Brackenbury moved as an amendment the following words, which appeared in the Subcommittee's report, and which he thought more satisfactory:

> That the doctor be informed that although the Committee does not go so far as to say that in no case can an insured person make a private arrangement with a doctor on the panel for the payment of some extra fees, it is of opinion that the practice is to be deprecated.

He asked the Committee to believe that he was speaking as much in the interests of insured persons as of the medical profession; there was nothing sinister behind the proposal. He was strongly of opinion that within the insurance contract no extra charges should be made on any occasion to anybody. But the insurance contract did not cover every conceivable circumstance; indeed, certain things were expressly excluded, and there were occasions when it was clear to both doctor and patient that the case was outside the Insurance Act.

Mr. F. W. Beaton, who seconded, said that various debates in the Committee from time to time indicated a prejudice in the minds of some members against the medical profession and a belief that the doctors were out to swindle the Committee all they could.

There were some protests at these remarks; nevertheless, it may be mentioned that in the course of the discussion different speakers had described doctors as very clever people who could easily persuade panel patients that a given set of circumstances were outside the insurance contract, or had suggested that a great number of extra charges could be made, and a doctor with a large list could still aver that he did not "make a practice" of charging extra.

Ultimately the amendment was lost, only four voting in favour, and the recommendation of the Subcommittee was approved.

ISLE OF WIGHT.

Payments for Allotted Persons.

At the last meeting of the Insurance Committee for the Isle of Wight a discussion was raised as to the payment for medical benefit of insured persons who had failed to choose a doctor on the panel and had been allocated.

A member contended that it would be illegal to make such payments to doctors in respect of patients who might never receive any treatment. In reply it was pointed out that the Committee had given public notice that after a certain date insured persons who had not themselves chosen a panel doctor would be allocated.

Dr. Robertson said that the rate at which the doctors should be remunerated had been determined upon a certain number of insured persons, and if a large number of insured persons who had not taken the trouble to make their choice of a panel doctor were eliminated the Committee would not be keeping its bargain with the doctors. It was simply a question of a certain rate for a certain number, and repudiated any suggestion that the Committee was to withhold money it had promised to pay at a certain rate. He could not imagine that one who understood the business was going to contemplate such action. As far as the island was concerned he was ignorant of insured persons having said they were not going to have their panel doctor. If there were such a case he should ask why that person had not taken the opportunity of selecting some one else. It was very different in London, where there had not been allocation as there had been in the island.

Mr. Baker said the Committee had taken care to provide the insured persons with a panel doctor, and should therefore pay the doctor. If a man were allocated to a doctor he did not like, at the end of the year he was free to ask to be put on the list of another doctor.

Dr. Walker said that it was not for the Committee to say that the doctors should not be paid for those cases allocated to them, nor was it legally entitled to withhold payment. The Committee had made the allocation, and the position, therefore, differed from that which existed in London.

Mr. Hopgood said the only complaint he had heard—and he had heard of scores of such cases—was that insured persons had been allocated to doctors they were not going to have. But he would point out to those concerned that it was their own fault in neglecting the full opportunity they had had of choosing their own panel doctor. As for not paying the doctors for such cases, he was entirely against that contention; those persons had been put on the doctors' lists, and whether they did the work or not they were entitled to be paid for them.

It was agreed to pay the proportionate amounts on account to the doctors and chemists on the panel for the past quarter on completion of the checking.

INSURANCE NOTES.

Stoke Newington.

At the recent meeting of the Stoke Newington Practitioners' Panel Committee the following resolutions were carried *nemine contradicente:*

> That this Committee strongly protests against the way in which payments have been made to medical practitioners on the panel, and demands that all payments in future be at stated intervals and of a definite amount, in order that practitioners may know how much they are to receive and when.
>
> That the unallocated funds (Medical Benefit, National Insurance Act) be distributed to practitioners on the panel in proportion to the patients on their lists, each quarter's money being treated separately.

St. Pancras and Islington.

Formation of a Non-panel Society.

A meeting of non-panel practitioners engaged in practice in St. Pancras and Islington was held in the Midland Grand Hotel on October 31st. There were thirty-four present, and several notes were read regretting inability to attend. After some general discussion, it was decided, *nemine contradicente*, to form a non-panel society in the combined district, and the following officers were elected:

Chairman, Dr. B. G. Morison, 115, Green Lanes, N.
Honorary Secretary and Treasurer, Dr. A. F. Shoyer, 101, Tollington Park, N.
Committee, Drs. Bousfield, Mack, and Paul (Islington), and Drs. A. Brown, Glinn, and Maccarthy (St. Pancras).

Dr. Percy B. Spurgin, who was present as a visitor, addressed the meeting on the need of a central league (now in process of formation) to confederate all non-panel practitioners and societies throughout the United Kingdom, in view of the contests of the future, which he regarded as inevitable and as likely to be more severe than the past struggle.

The meeting then discussed the attitude that should be adopted towards the British Medical Association. The speakers were mostly of opinion that it was undesirable that wholesale resignations should take place, and that it would be better policy to reform the Association, if possible, than to destroy it, since it is recognized as representing the profession.

Finally, the following resolution was proposed by Dr. Glaister, seconded by Dr. Bousfield, and carried unanimously:

> That this meeting of non-panel practitioners in St. Pancras and Islington expresses its profound dissatisfaction with the manner in which the British Medical Association has persistently ignored the interests of non-panel practitioners.

Pay for Members of Insurance Committees.

The Middlesex Insurance Committee, at a meeting on November 3rd, considered a resolution to the effect that members ought to receive a payment of 5s. in respect of every attendance at meetings either of the Committee itself or of subcommittees, by way of "subsistence allowance and compensation for loss of time." It was pointed out that such payment would involve an expenditure of £20 for each meeting if all members attended, and an annual expense by the Committee on this item alone of £350, whereas the total sum allocated by the Government to cover all the expenditure of all the committees in the kingdom was only £30,000. The resolution was, however, adopted by a large majority.

Salford.

A meeting of the medical practitioners of Salford was held on Thursday, October 30th, to consider what arrangements should be adopted under the Insurance Act for the year 1914. There was an attendance of between sixty and seventy, which is a majority of the total practitioners resident in the area. Under the system of payment by attendance now in force the pool has sufficed to pay the panel practitioners about 64 per cent. of their bills charged according to the agreed scale. The income of the

Insurance Committee for medical benefit had, however, been calculated on a total of 82,000 insured persons, but the register had now been brought up to date, and it was found that there were really rather over 87,000 insured persons, so that the total amount ultimately available for division among the panel practitioners will be greater than had been estimated, and, though during the next three months the sickness incidence will certainly be higher than during the summer months, it is expected that future payments will be rather over than under 64 per cent. of the accounts rendered. These accounts are sent in monthly to the Local Medical Committee, and it is found that the average charge according to the scale per month per patient actually attended is about 6s. Those practitioners whose accounts show an average greater than this 6s. have their bills cut down, but accounts showing a less average are not raised.

Great stress was laid at the meeting on the necessity of avoiding too lavish prescribing. Up to the present the whole nine months' proportion of the floating sixpence has had to be given to the chemists and even with this the total available for the chemists has only sufficed to pay about 75 per cent. of their bills.

An important point was also raised as to the payment for drugs prescribed for persons receiving sanatorium benefit in the form of domiciliary attendance. The drugs for all these persons are paid for by the Salford Corporation, and it is therefore necesary that practitioners should specially mark all prescriptions for these cases with the word "domiciliary," as without this they would be charged against the insurance drug fund which would make it still more unlikely that the doctors would receive any of the floating sixpence. The same, of course, applies to prescriptions for persons holding vouchers as "temporary residents" or "travellers," as drugs for these persons are paid for out of central funds.

A motion was made proposing that the system of payment by attendance be continued in Salford for the next insurance year, but it was suggested that the motion should be altered to read that the Salford scheme of payment by attendance be continued, as it was pointed out that practitioners had much greater individual freedom under the Salford scheme than under the ordinary system of payment by attendance. The motion in this amended form was carried unanimously.

SCOTLAND.

Panel Chemists and the Act.

A mass meeting of the Scottish panel chemists was held in private at the Pharmaceutical Society's Hall, Edinburgh, on October 31st; Mr. J. P. Gilmour (Glasgow) presided. The meeting was the outcome of the unfavourable reply which had been received from the Scottish Insurance Commissioners with regard to an improved scale of dispensing fees. The Commissioners stated that financially and in the absence of adequate statistics they were not in a position to take action. The panel chemists insisted that the present rates were quite unremunerative, and that a badly paid service could not be expected to be a good service. Mr. James Leishman, Chairman of the Scottish Insurance Commission, was present, and addressed the meeting. He showed that in some areas the excessive expense for drugs threatened to eat up all the available money, and that in other areas any increase would trench on the "floating sixpence" in which the doctors had an interest, and they would have to be consulted. He strongly urged that the chemists should wait till the end of the year, when they would be in a better position to know what could be done. There was a long discussion, in the course of which extravagant dispensing was specially spoken of; and it was pointed out that certain extracts and patent proprietary medicines which were on the border line of foods were very expensive. There was a strong expression of opinion that the doctors ought now to be willing to forego any claims which they had on the Drugs Suspense Fund, or what is popularly called the "floating sixpence." Finally, the following resolution was carried unanimously:

> That this meeting of panel chemists in Scotland agrees, without prejudice to future bargaining, to accept, as suggested by Mr. Leishman, the principle of discounting for one year, provided that the Commissioners accept the new scale of dispensing fees put forward by our representatives.

CORRESPONDENCE.

The Special Representative Meeting.

Dr. Charles E. S. Harris (Halifax) writes: The enormously increased amount of work placed upon the Association of late years has evidently strained its financial resources pretty severely. Last year's balance sheet shows a deficit of £16,000 on the year's working, while the Association still owes the bank the £45,000 borrowed in 1908.

The "grand stampede" of last December was very largely due to the Association not possessing a "war chest" large enough to provide efficient financial support to its "army." The profession has not yet recovered from that "grand stampede," and our Association still contains members with many divergent views—some wanting to renew the battle afresh, others wishful to go on running, and others—perhaps the largest body—hopeful of being left alone by the enemy, and content to remain on what ground they are now allowed to occupy. The Association is still striving manfully to produce some cohesion in its ranks, and although we are unfortunately divided to some extent into two camps, "panel" and "non-panel," yet I am convinced, given a little further time, the Association will manage to evolve a policy which will bring these two camps to work together for the common good.

A sentence in the original scheme of last July, republished in last week's Supplement, is worth reprinting in large letters in every number of the Journal.

The Interests of the Profession are far wider than those connected with the Insurance Act.

I think it is mistaken policy for any member to desert the Association at the present juncture. A defeat is always followed by more or less loss of discipline and sense of cohesion in the ranks. Let me urge wavereers to give the Association a little more time in which to construct a scheme acceptable alike to "panelites" and "non-panelites"; and if, this time next year, no suitable policy has been evolved, then the question of renewing the subscription could be reviewed by those who are still dissatisfied. The Association has appointed a committee to represent practitioners who are not working under the Insurance Act. This committee is mainly composed of non-panel practitioners who may be relied on to do their best to evolve a scheme whereby the interests of "panel" and "non-panel" men are best co-ordinated. Rome was not built in a day; time and patience are necessary, and resignations now will certainly not help us to wage a successful fight against a common enemy.

The Association has done wonders in the past on an annual subscription of 25s. I am quite in favour of increasing that subscription to 2 guineas. The fight is by no means over, the Association's expenses, already heavy, are bound to become more so, and I fail to see how the Association can possibly continue to carry on its work on its present small subscription. Unless the Association's finances are improved, it will have to curtail its activities, its voice—the only one the Government is likely to listen to—would carry less weight, and, at the next skirmish, we as individuals would inevitably suffer.

I am also in favour of a trust fund being instituted on the lines of the scheme of October, as published in last week's Supplement. There is, however, one objection which might be raised to it by those who are not on the "panel." Nearly 30 per cent. of the proposed subscription of 4 guineas is to go towards the expenses of the Local Medical Committees. I think it would go against the grain of a "non-panel" practitioner to contribute something like 24 shillings a year towards the upkeep of a committee working an Act which has taken a considerable slice out of his old practice. "The interests of the profession are far wider than those of the Insurance Act." Yes, quite true, but it would not surely upset the scheme and general amenity of the trust fund if "panel" practitioners contributed 4 guineas and "non-panel" practitioners were allowed to come in for £3.

The Association, so far, has not been able to do anything for the "non-panel" practitioner, but I, for one, am quite content to wait and see and to pay an increased subscription of 2 guineas in the hope that the Association may be able to guide the somewhat divergent views of the "panel" and "non-panel" men along one channel for the common good. Not being on the "panel," I cannot say that I would be altogether willing to pay 4 guineas into a trust

fund when I know that probably at least twenty-four of my shillings are to go towards the support of the Local Medical Committee.

Unallotted Persons.

Dr. Harold S. Beadles, M.R.C.S., Direct Representative on the West Ham Insurance Committee, writes: As in accordance with Circular 29/I.C. of the National Health Insurance Commission (England), every Insurance Committee is required immediately to "make arrangements with the doctors on the panel whereby all insured persons in the area whose names have not been placed on any doctor's list in that area shall be able to obtain treatment as required," the following scheme is to be proposed in the insurance area of West Ham as being the most practicable and equitable. The arrangement has become necessary owing to the impossibility of making an allotment, and this difficulty is likely to remain, to a greater or less extent, permanently. We therefore consider that it may be of advantage to other insurance areas that the scheme be published in the Journal:

Scheme.

1. The attendance upon those insured persons who have not selected a doctor, and who require immediate treatment, shall be undertaken by those medical men, on the panel, who are willing to do so.
2. The method of payment for this work shall be by attendance, this payment to continue until the insured person has received notification from the Insurance Committee that he is on a doctor's list.
3. The doctor who accepts the patient for first attendance shall also accept him on his list for at least the ensuing quarter.
4. The acceptance form of such patient must be forwarded by the practitioner to the Insurance Committee within twenty-four hours of the first attendance.
5. The scale of fees payable shall be that agreed upon by the Commissioners for temporary residents.
6. The fees shall be paid out of the funds for medical benefit for the unallotted persons, or if there is not sufficient money, then proportionately to the accounts sent in.
7. The surplus of this money shall be paid to the doctors on the panel, in proportion to their lists.

Mr. E. B. Turner (London) writes: I have read with interest the letters on this subject appearing in your issue of November 1st, but none of them convince me that my contention is wrong. The bald fact remains that (except in areas such as Manchester and Salford, where the liability for attendance on every individual insured person has been definitely undertaken by the practitioners on the list), the Insurance Committees cannot legally arrange for the distribution of these funds, though they are quite willing and ready to do so as soon as is possible. I know that the Commissioners are genuinely anxious that the matter should be settled promptly, but even with their large powers they find this very difficult to do according to law unless they issue fresh regulations. The fact that no insured person who has applied to the London Insurance Committee has failed to obtain medical attendance at once is beside the question. The doctors who went beyond their contracts to give that attendance gave it as a matter of grace, and had they declined to do so were under no obligation to consent. Any doctor on the panel has a perfect right to regard any insured person not on his list coming to him when ill, as a private patient, and charge him accordingly. The essence of insurance under a capitation fee is that the insured person should be in health when accepted. If ill, then the capitation fee is not an insurance premium, but a payment for attendance—a very different matter. So much was this fact appreciated by the London Insurance Committee that those doctors who were in actual attendance on insured persons on January 13th last received their fees from the Committee for looking after those persons as if they had been private patients, until they recovered from that particular illness; and then they were placed on the doctors' panel list in the ordinary manner. Had these doctors been liable for the treatment of these persons (already ill) on insurance terms, the Committee would never have paid their accounts. I hold this action of the Committee was perfectly just and right, and also that those practitioners, who have declined to put sick persons at once on their lists, but have treated them as private patients until they recovered from that illness and then accepted them as insurance patients, are also perfectly within their legal rights. But until every practitioner on the list is liable to attend any insured person, whether ill or not, at the time of asking his advice, he cannot, as the Act and regulations now stand, be paid more than the premiums for those he actually insures. That the surplus insured persons have not yet been allotted is not the fault of the Commissioners or of the Insurance Committees, but is the result of the scamped work of Parliament in rushing the Act on to the Statute Book, such essential details being left in nebulous form to settle themselves somehow in the future. Dr. Mills seems to think that I object to a proper distribution of these funds among those who should receive them. This is quite a mistake. I opposed, and should oppose again, a resolution that was brought forward, that only those gentlemen who went on the panel on or before January 13th last should share this money, as I considered it unjust and unfair to the men who joined later; but so soon as an equitable and legal method of paying it out is put forward I shall gladly support it to the best of my ability. I do not follow Dr. Taylor through his letter in mercy to your space; I only wish to tell him that what I wrote on the Manchester district was on the authority of a member of the Committee. I have done my best to make my argument clear, and so far as I am concerned I have finished with the matter until the Commissioners cut the Gordian knot.

Dr. E. C. Daniel (Epsom) writes: From the brief report, which you publish in the Supplement of October 25th, of the meeting of the Surrey Local Medical Committee, there is omitted a rather significant resolution, which is, I think, worthy of attention just now, when the attitude of the Association to panel and non-panel members is so much under discussion.

It had been agreed that the fair method of distributing the unexpended medical benefit funds among the doctors would be to divide them, in the respective districts, in proportion to the numbers on the doctor's lists.

A further resolution was proposed that the "special arrangements fund" should share in the division of the undistributed money in proportion to the number of insured persons who had "made their own arrangements."

This seemed an obviously just proposal; in that it is only fair to assume, that, among those who have not yet chosen a doctor, there must be some who would wish to make their "own arrangements," and that the number of these would be *at least* proportionate to the number who had already done so.

It was stated that the proposal was impracticable, obviously an *ex parte* statement; for if it is impracticable to divide the money proportionately among doctors it is practicable to allot a proportion to the "special arrangements fund." The more significant point is that the panel men argued that all the money belonged to them: it matters not to them what doctor the insured person may desire; it matters not to them that the insured person may be an old patient of a non-panel man, and may yet desire to make his or her own arrangements. No! the panel men claim all, thus depriving the insured persons who may desire to make their own arrangements of the contribution to which they should be entitled.

This claim, on the face of it, is only a claim to money; practically it becomes a claim to force all insured persons to become patients of some panel doctor: what, then, has become of the ethics of the profession?

Here is an opportunity for the British Medical Association to show that it is not entirely pro-panel; let it support the claim of the "special arrangements fund" to a share of the unspent money.

The Unallotted Funds.

Dr. S. Constable (London, N.) writes: Dr. John Dewar, when the year is ended, will find that he has treated about 93 per cent. of those on his list. During the first six months of the card system—*the quietest time of the year*—when the novelty and great rush had worked off, my partner and I had treated nearly half of those on our list; and, assuming that the next more severe six months give the same results, we shall have seen about 94 per cent. of those signed on. These figures, almost incredible, and

identical with those of Dr. Dewar, I pointed out to the Middlesex Insurance Committee some days before his letter appeared. The fact is incontrovertible and indisputable that at present we are not working the Insurance Act; we are, instead, attending all sick insured at 7s. a year, whether they be ill for a few days, a few weeks, a few months, or a few years; for few medical men, I believe, would ever think of removing from their list any one on the score of continued illness.

The Working of the National Insurance Act.

Dr. Harding H. Tomkins, Chairman, South-West Essex Division, writes: Under the above heading I read with the greatest pleasure and interest Dr. Staveley Dick's paper in the Supplement of October 25th. It contains fulfilment in the working of the Act of nearly all the prognostications I ventured to make when arguing against its introduction — particularly the necessary ultimate levelling down of general practice, and if this be true where payment is by fee, how much more likely where capitation is the method adopted?

His carefully reasoned deductions from the facts adduced seem to be beyond dispute. He arrives at the same conclusion, when speaking under the heading "Ethical and Social Considerations," as I came to years ago about any system of general medical treatment — namely, we must take care, as far as those treated are concerned, to "Help them to help themselves," as he puts it. But any system should be such as can include the willing co-operation of the insured, the profession, and the State, and tend to improve the condition of all three. This the Act can never do; it exploits the profession, while tending to lower its standard of usefulness; it taxes the State; and though *possibly* benefiting the insured monetarily, it is doubtful if ultimately it will improve the treatment they have been accustomed to.

Expecting some such legislation, several years ago I thought out ideas for improving medical treatment while benefiting the profession, encouraging self-help in those treated, and benefiting the State by the progressive reduction of time required for treatment. These ideas I ventured to publish in the Supplement of September 20th, pp. 258 and 259. To reap the best advantages of any general scheme it is necessary that a progressive improvement in medical and surgical knowledge and experience should be inherent in the scheme. I claim this for my scheme. This accomplished, it follows that an automatically progressive improvement in treatment of those requiring it must follow, upon which follows progressive decrease in expenditure upon those insured, since the scheme includes prevention of disease by the education of the public.

There is, perhaps, one objection—namely, that ultimately fewer doctors would be required—but this would be so slow in incidence that the matter would be adjusted on the rules of supply and demand. I wish to commend my scheme to the notice of all those who have not read it; many of those who have express their concurrence with my views.

British Medical Association.

SHIP SURGEONS.

Report of Meeting of Ship Surgeons' Subcommittee.

At the meeting of the Ship Surgeons' Subcommittee, held on October 28th, numerous questions affecting the welfare of ship surgeons were considered. Dr. J. T. Macnamara (London) was appointed Chairman of the Subcommittee, and it was decided to request the Medico-Political Committee to increase the membership of the Subcommittee by the addition of two members.

It was reported to the Subcommittee that since its last meeting the Council had made a regulation authorizing the insertion of a Warning Notice in the British Medical Journal upon the application of the Chairman of the Standing Ship Surgeons' Subcommittee.

The Subcommittee requested the Chairman to exercise the power now vested in him by the Regulations of the Council and to insert a Warning Notice in the Journal with respect to any shipping company offering a lower salary than the minimum approved by the Association.

Right of Masters to Information as to Illness of Passengers or Crew.

On consideration of the question of the right of masters to information as to the nature of the illness from which passengers or members of the crew are suffering, the Subcommittee decided to recommend to the Medico-Political Committee:

That professional secrecy should be maintained by ship surgeons in respect to all cases of illness attended by them on board ship, except in those cases which come within the quarantine regulations of any port visited, or other legal obligations.

Ship Surgeons and the National Insurance Act.

The Subcommittee considered a communication from a ship surgeon with reference to certain certificates which ship surgeons are now required to fill in and forward to the local branch of the Seamen's National Insurance Society with respect to the illness of any insured members of the crew, and for which no provision had been made for payment. The Subcommittee decided to communicate with the Insurance Commissioners and ask for information as to the exact status of ship surgeons under the National Insurance Act, and to recommend to the Medico-Political Committee:

That ship surgeons should not be required to furnish gratuitously any certificate required for the purposes of the National Insurance Act, and that any such certificates furnished by ship surgeons should be paid for out of the moneys at the disposal of the Seamen's National Insurance Society.

Correspondents of Subcommittee.

The Subcommittee approved the appointment of the following "Correspondents" in the various ports named, and expressed the hope that ship surgeons would avail themselves of their services, and communicate with them or with the Subcommittee direct on any matter of interest to ship surgeons generally:

Correspondent.	*Port.*
Dr. Edgar Du Cane, 177, Brownhill Road, Catford, London, S.E.	London.
Dr. J. Godding, 56, Leadenhall Street, London, E.C.	London.
Dr. A. G. Hinks, 40, St. Vincent Road, South-end-on-Sea.	London.
Dr. H. T. Bates, Church Road, Wavertree, Liverpool.	Liverpool.
Dr. C. Carlyle, 13, Menlove Avenue, Mossley Hill, Liverpool.	Liverpool.
Dr. J. A. Ballantyne, 11, Sandyford Place, Glasgow, W.	Glasgow.
Dr. J. C. H. Beaumont, Chinsura, Khartoum Road, Southampton.	Southampton.

The Subcommittee decided to recommend the Medico-Political Committee to take the necessary steps to compile a register of ship surgeons and to invite all practitioners acting as ship surgeons to forward their names to the Subcommittee for registration.

Payment for Attendance upon First and Second Class Passengers.

The Subcommittee considered the replies received from various shipping companies with respect to the adoption of a scale of fees for the treatment of first and second class passengers, and decided to recommend the Medico-Political Committee:

That shipping companies be urged to adopt a fixed scale of fees for medical attendance on first and second class passengers, and thereby avoid any necessity for such charges to be subject to the commander's approval.

Hospital Accommodation on Board Ship.

The Subcommittee considered certain correspondence with the Board of Trade relative to hospital accommodation on board merchant ships, and decided to recommend the Medico-Political Committee:

That the Board of Trade (1) be informed that the British Medical Association notes with satisfaction the action of the Board in issuing to ship owners the following recommendation of the recent Committee appointed to revise the medical scales for merchant vessels:

Our attention has been called to the absence on board cargo vessels of any separate accommodation for members of the crew who fall ill or meet with accidents.

We are of opinion that it would be very desirable that some suitable provision should be made on board all ocean-going cargo vessels for the separate and reserved accommodation of sick persons, and trust the Board will

see fit to use its influence with shipowners in this direction.

And (2) be urged to make the above recommendation compulsory upon all shipowners.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

METROPOLITAN COUNTIES BRANCH:

East Hertfordshire Division.

An ordinary meeting of this Division was held at the Shire Hall, Hertford, on October 24th, with Dr. J. H. Gilbertson in the chair. Sixteen members and one visitor were present.

Medical Charities Committee of Branch.—Dr. J. E. B. Wells (Hoddesdon) was elected to represent the Division on this committee.

Paper.—Dr. F. J. Smith, Physician to the London Hospital, read a paper on the management of kidney disease. Afterwards questions were invited and answered by the reader of the paper, and the proceedings terminated with a very hearty vote of thanks to him.

Lambeth Division.

A meeting of the Lambeth Division was held at St. Thomas's Hospital on October 29th.

London Medical Committee.—Mr. E. B. Turner spoke on the advisability of all practitioners taking a part in the forthcoming election for the Medical Committee for the County of London, laying very cogent reasons before the meeting why all practitioners should unite and work together for the good of the whole profession, especially in view of the probability of the early inclusion of dependants. A very hearty vote of thanks was accorded to Mr. Turner.

Paper.—An extremely interesting paper on the diagnosis and treatment of tuberculous disease of the kidneys was read by Mr. Cyril A. R. Nitch, the members present taking part in the discussion which followed.

Votes of Thanks.—The meeting terminated with votes of thanks to Mr. Nitch and to the authorities of St. Thomas's Hospital.

Association Notices.

INSURANCE ACT SUBDEPARTMENT.

Vacancy for the Office of Assistant Medical Secretary (Insurance).

The Council of the British Medical Association announces in an advertisement—page 65 of the advertisement columns—that applications for the appointment of an Assistant Medical Secretary to act as Secretary for the Insurance Act Subdepartment of the Association under the instructions of the Medical Secretary, and to perform such other duties as may be required, must be received by the Medical Secretary, British Medical Association, 429, Strand, London, W.C., not later than Monday, November 24th. Applications should be accompanied by three recent testimonials; canvassing is not allowed.

CHANGE OF BOUNDARIES.

Notice of Modification of Common Boundary of the Yorkshire and North of England Branches and Scarborough and Cleveland Divisions.

The following change has been made in accordance with the Articles and By-laws of the Association, and takes effect as from the date of publication of this notice:

> That the Urban District of Hinderwell be transferred from the area of the Scarborough Division of the Yorkshire Branch to that of the Cleveland Division of the North of England Branch, and that the common boundary of these Divisions and Branches be modified accordingly.

Representation in Representative Body.—Unaffected.

BRANCH AND DIVISION MEETINGS TO BE HELD.

East Africa and Uganda Branch.—Dr. G. C. Strathairn, Acting Honorary Secretary (Civil Hospital, Kampala, Uganda), gives notice that a general meeting of the East Africa and Uganda Branch will be held on Tuesday, December 23rd, at the C.M.S. Hospital, Namirembe, Kampala. Business: Election of Officers and Branch Council; adoption of rules, including formation of Divisions; address by Dr. A. R. Cook on "Native Methods of Midwifery"; any other business.

Glasgow and West of Scotland Branch.—Dr. William Bryce, Honorary Secretary, gives notice that a meeting of the Branch, to which all medical practitioners within the area are invited, will be held in the rooms of the Royal Philosophical Society of Glasgow, 207, Bath Street, on Friday, November 14th, at 8 p.m. Dr. Cox, the Medical Secretary, will give an address on the present position of the medical profession and the British Medical Association, with special reference to the matters to be discussed at the forthcoming Special Representative Meeting—namely, the raising of the annual subscription and the proposed special fund for the organization of the profession. Discussion will follow.

Lancashire and Cheshire Branch.—Mr. F. Charles Larkin, Honorary Secretary (54, Rodney Street, Liverpool), gives notice that the next meeting of the Branch Council will be held at the Liverpool Medical Institution at 4 p.m. on Wednesday, November 19th.

Lancashire and Cheshire Branch.—Mr. F. Charles Larkin, Honorary Secretary (54, Rodney Street, Liverpool), gives notice that the Branch Science Committee will meet at Onward Buildings, Deansgate, Manchester, at 4 p.m. on Wednesday, November 12th, and the Branch Organization and Finance Committee at 4.30 p.m. at the same place.

Lancashire and Cheshire Branch: Liverpool Division.—Dr. Francis W. Bailey, Honorary Secretary (51A, Rodney Street, Liverpool), gives notice that a meeting of the Liverpool Division will be held shortly to consider the business for the Special Representative Meeting (p. 353).

Metropolitan Counties Branch: City Division.—Dr. A. G. Southcombe, Honorary Secretary (83, Sidney Road, Homerton, N.E.), gives notice that a general meeting of the Division will be held on Wednesday, November 26th, at 3.30 p.m., in Balfour Hall, Kingsland Road, to discuss the agenda for the Special Representative Meeting (Supplement, November 1st, p. 353) and the notices of motion standing adjourned from October 22nd. Members are reminded to bring the Supplement with them. A clinical meeting, conducted by Mr. Henry Curtis, F.R.C.S., will be held conjointly with the Aesculapian Society at the Metropolitan Hospital, Kingsland Road, on Friday, November 21st, at 4 p.m.

Northern Counties of Scotland Branch: Inverness-shire Division.—Dr. J. W. Mackenzie, Honorary Secretary, gives notice that a general meeting of the Division will be held on Saturday, November 15th, at 3.30 p.m., at the Northern Infirmary, Inverness, to discuss the agenda of the Special Representative Meeting and any other business which may arise. Members are requested to bring with them the Supplement of November 1st.

Perthshire Branch.—Dr. John H. Lyell, Honorary Secretary (15, Marshall Place, Perth), gives notice that the winter meeting will be held in the Station Hotel, Perth, on Friday, November 14th, at 6 p.m. prompt. Council meeting at 5.45. Agenda: Reports of Council and Treasurer. To instruct the Representative how to vote at the Special Representative Meeting to be held in London in December. Immediately after the conclusion of the formal business, an address will be delivered by Dr. Edwin Bramwell, Edinburgh, on a subject of general medical interest. Every practitioner in the town and county is earnestly requested to be present, and, if possible, to remain to the annual dinner, which takes place at 7 p.m., and to which Dr. Bramwell and other friends have been invited.

South-Eastern Branch: Reigate Division.—Dr. Francis Gayner, Honorary Secretary, gives notice that the autumn meeting will be held on Wednesday, November 19th, at the White Hart Hotel, Reigate, at 4 o'clock. Agenda:—Business meeting, at 4 o'clock: (1) The proposed raising of the annual subscription of the Association to two guineas a year. (2) The proposed establishment of a special fund for the thorough organization of the profession. (3) Other business (see Supplement, British Medical Journal, November 1st, 1913). Scientific meeting, at 5 o'clock: (1) Dr. Lewis Smith, of the London Hospital, will give an address on Blood Pressure Clinically Considered. (2) Dr. J. M. Gage will read a paper on An Epidemic of Measles at Earlswood Asylum. The meeting will be followed, at 7 p.m., by a dinner, 7s., exclusive of wine (morning dress), to which members may bring their friends, who need not necessarily belong to the medical profession. A musical programme will follow the dinner.

South Midland Branch: Buckinghamshire Division.—Dr. A. E. Larking, Honorary Secretary (Buckingham), gives notice that a meeting will be held on Tuesday, November 11th,

at the Red Lion Hotel, High Wycombe, to discuss and vote upon the notice of business for the Special Representative Meeting (SUPPLEMENT, November 1st, p. 353). One of the Medical Secretaries from the Central Office, or a prominent member of the Central Council, will be present and will address the meeting and explain any point. Mr. G. E. Waugh, assistant surgeon, North-West London Hospital, will give an address on Appendicitis in Children. Lunch will be provided at 1.30 (2s. 6d. each), and the meeting will commence at 2.15. A collection will be made at the meeting on behalf of the Milward Fund.

SOUTH MIDLAND BRANCH: NORTHANTS DIVISION.—Dr. Peverell S. Hichens, Honorary Secretary (47, Sheep Street, Northampton), gives notice that a meeting of the Division will be held in the Board-room of the Northampton General Hospital, at 2.30, on Tuesday, November 18th. There will be a luncheon at Franklin's Restaurant, at 1.30, preceding the meeting, and those wishing to attend it should notify the Honorary Secretary two days beforehand. Business of meeting: To consider and instruct Representative on the business of the Special Representative Meeting (SUPPLEMENT, November 1st). If time permits, some clinical cases will be shown.

SOUTH-WESTERN BRANCH.—Mr. Russell Coombe, Honorary Secretary (5, Barnfield Crescent, Exeter), gives notice that the autumn intermediate meeting of the Branch will be held at the White Hart Hotel, St. Austell, on Wednesday, November 12th, at 3 o'clock. Agenda: Consider communications (if any). Papers by Mr. C. Hamilton Whiteford: A Case of Duodenal Ulcer and Ruptured Tubal Pregnancy, in which the pregnancy was overlooked (with specimen); A Case of Double Ovariotomy (dermoid) in a patient aged 78 (with specimen). Dr. H. W. Crowe: Rheumatism and its Treatment by Vaccines, with specimens illustrative of the bacteriology. Dr. A. B. Soltau: Note on Three Cases of Primary Blood Disease. Exhibition by Mr. C. Hamilton Whiteford: Apparatus; Mr. C. E. Campbell-Horsfall: Gall Stones. Tea will be provided after the meeting.

STAFFORDSHIRE BRANCH.—Dr. Harold Hartley, Honorary General Secretary (Basford, Stoke-on-Trent), gives notice that the first general meeting of the session will be held at the North Stafford Hotel, Stoke-on-Trent, on Thursday, November 20th. The President (Mr. W. F. Cholmeley, F.R.C.S.) will take the chair at 3.45 p.m. Business:—Correspondence. Exhibition of Living Cases. Papers: (1) Blood Changes in Lead Poisoning (John Russell); (2) The Clinical Importance of the Cerebro-spinal Fluid (William Boyd); (3) Tonsillectomy (G. A. Carter). Exhibition of Pathological Specimens, etc. Dinner at 6.30 p.m.; charge, 5s.

WEST SOMERSET BRANCH.—Dr. Chas. Farrant, Honorary Secretary (Shrapnel, Taunton), gives notice that there will be a meeting of this Branch on Friday, November 14th, at the Taunton and Somerset Hospital, at 3.30 p.m., to discuss the important proposals which are enumerated in the Report of the Council in the SUPPLEMENT, BRITISH MEDICAL JOURNAL, November 1st. Mr. Penrose Williams, F.R.C.S., will take the chair. Agenda: (1) The proposed raising of the annual subscription of the Association to two guineas. (2) The proposed establishment of a special fund for the thorough organization of the profession; and possibly: (3) Some matters connected with the National Insurance Act. The annual meeting will be held on December 9th, when Sir Alfred Pearce Gould will read a paper, and the annual dinner will take place in the evening.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—Dr. S. Colen Legge, Honorary Secretary, gives notice that a meeting of the above Branch will be held at the Worcester General Infirmary, Worcester, on Friday, November 21st, at 3.30 p.m. Council meeting at 3 p.m. A paper will be read by Sir Malcolm Morris. It is hoped that all members will endeavour to be present.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Staff Surgeon GEORGE O. M. DICKINSON to the *Lord Nelson*, November 1st; Surgeon P. F. MINETT to the *Vengeance*, November 1st; Surgeon GORDON V. HOBBS to the *Swiftsure*, undated; Surgeon SIDNEY PUNCH to the *Pembroke*, undated; Surgeon HAMLET M. WHELAN to the *Vivid*, undated; Surgeon JOHN T. D. HIGGINS to the *Victory*, undated; Staff Surgeon HENRY R. GARDNER, M.B., to the *Goliath*, temporarily, November 21st (?).

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT-COLONEL JAMES WILL, M.B., is placed on retirement, November 5th.

Major L. ADAMS-WILLIAMS has been ordered to India.
Major H. D. PACKER has been selected for duty in India.
Major H. HERRICK has been posted to the Belfast District.
Major H. W. H. O'REILLY has been selected for a tour in India.
Captain T. S. DUDDING has been selected for a tour in India.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

THE following Lieutenants are confirmed in their rank: EDMUND T. BURKE, THOMAS I. DUN, THOMAS J. KELLY, JOHN F. MEENAN.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during September, 1913:

	FROM	TO
Coloner J. Maher	London	Gibraltar.
,, G. D. Hunter, D.S.O.	Dépôt School of Instruction	India.
Lieut.-Col. C. C. Reilly	Darjeeling	Colaba.
,, H. D. Rowan, M.B.	Tidworth	Dublin.
,, O. R. A. Julian, C.M.G.	Dublin	London.
,, G. S. McLoughlin, D.S.O., M.B.	Tidworth Park	Winchester.
Major D. J. Collins, M.D.	Poona	Kirkee.
,, W. Tibbits, M.B.	Chatham	India.
,, W. P. Gwynn	Shwebo	Irish Command.
,, E. A. Bourke	Porthcawl Camp	Pembroke Dock.
,, G. B. Crisp	London	Hong Kong.
,, H. E. M. Douglas, V.C., D.S.O.	London	Egypt.
,, B. B. Burke	—	Dover.
,, A. D. Waring, M.B.	Wool Camp	Hilsea.
,, J. Dorgan, M.B.	Cork	Hong Kong.
,, R. L. Argles	Cork	India.
,, F. S. Walker, F.R.C.S.I.	Glenbeigh	Fort Camden, Queenstown.
,, G. Baillie, M.B.	—	Colchester.
,, L. L. G. Thorpe	Winchester	India.
,, W. M. Power	Landguard	Chatham.
,, H. A. Davidson, M.B.	Kildare	Straits Settlements.
,, W. M. B. Sparkes	Dublin	West Africa.
,, M. C. Beatty, M.B.	Okehampton	Devonport.
,, H. W. Long, M.B.	,,	,,
,, A. W. A. Irwin	Fort Camden, Queenstown.	Cork.
Captain J. G. Bell, M.B.	Altcar Camp	Straits Settlements.
,, F. W. W. Dawson, M.B.	Kasauli	Jullundur.
,, J. C. G. Carmichael, M.B.	Manchester	Khanspur.
,, T. E. Harty	York	West Africa.
,, B. G. Patch	Leeds	Nottingham.
,, F. M. M. Ommanney	Belfast	Armagh.
,, P. J. Hanafin	Rogerstown Camp	Dublin.
,, M. C. Wetherell, M.D.	Dublin	Kildare.
,, W. MacD. MacDowall	London	W. Africa.
,, A. C. Osburn	Rolleston Camp	Netley.
,, W. F. H. Vaughan	Cork	Malta.
,, J. A. Turnbull	Tidworth	India.
,, R. J. Cahill, M.B.	Athlone Camp	Belfast.
,, A. S. Arthur, M.B.	Trawsfynydd Camp	Liverpool.
,, R. C. Hallowes, M.B.	Ballykinler Camp	Omagh.
,, N. Low	Cosham	Portsmouth.
,, A. T. Frost, M.B.	Dublin	India.
,, J. St. A. Maughan	Tidworth Park	Netley.
,, R. G. Meredith, M.B.	London	Ceylon.
,, J. E. Hoar	Chatham	Sheerness.
,, P. Power, M.B.	Kilkenny	India.
,, R. E. Humfrey, M.B.	Queenstown	Kilworth.
,, A. M. Rose, M.B.	Bordon	Longmoor.
,, G. H. Rees, M.B.	Ballykinler	Londonderry.
,, E. L. Moss	Tidworth	Portsmouth.
,, A. E. F. Hastings	Sheerness	Chatham.
,, G. W. W. Ware, M.B.	Youghal	Kilkenny.
,, M. Keane	Warwick	Bulford.
,, G. De la Cour, M.B.	Wicklow	Dublin.
,, A. Dawson, M.B.	Glen Imaal Camp	Curragh.
,, C. T. Edmunds	Fawley Court	Bulford.
,, R. E. U. Newman, M.B.	Landguard	Chatham.
,, E. W. M. Paine	Pembrey Camp	Manchester.
,, F. D. G. Howell	Lancaster	Liverpool.
,, J. B. Grogan	Larkhill Camp	Cosham.
,, W. H. Forsyth, M.B.	Netheravon	Netley.
,, R. W. D. Leslie	Winchester	Gosport.
,, B. Johnson, M.B.	Thayetmyo	Cork.
,, G. P. A. Bracken	Malappuram	Northern Comd.
,, F. L. Bradish	Jullundur	Irish Command.
,, W. I. Thompson, M.B.	Lucknow	Aldershot.
,, O. C. P. Cooke	Deolali	Cork.
,, M. P. Leahy, M.B.	Maryborough Head	Dublin.
,, J. du P. Langrishe, M.B.	Kirkee	Irish Command.
,, G. F. Rudkin	Madras	Irish Command.
,, W. B. Purdon, M.B.	Cannanore	,,
,, E. M. Middleton	Campbellpore	Rawal Pindi.
,, H. W. Farebrother	Maymyo	Meiktila.
,, H. V. B. Byatt	Purandhur	Poona.
,, J. B. Hanafin, F.R.C.S.I.	Nowshera	Gharial.
,, W. H. S. Burney	Khanspur	Campbellpore.
,, A. W. Byrne, M.B.	Dalhousie	Kasauli.
,, A. W. Bevis	Baltray Camp	Belfast.
Lieutenant B. Biggar, M.B.	Cairo	Alexandria.
,, J. M. Elliott, M.B.	Hilsea	Winchester.
,, R. T. Vivian	Donard	Curragh.
,, S. P. Sykes, M.B.	Woolwich	India.
,, H. C. Todd, M.B.	,,	,,
,, H. J. G. Wells, M.B.	Cork	,,
,, E. C. Deane	Ross Camp	Chester.
,, W. Stewart, M.B.	Colchester	India.
,, W. F. Christie, M.B.	Aldershot	Straits Settlements.
,, O. W. J. Wynne	London	India.
,, C. M. Ingoldby	Moore Park Camp	Fermoy.
,, H. R. L'Estrange	Curragh	Newbridge.
,, E. C. Lang, M.B.	,,	Kildare.
,, T. H. Balfour, M.B.	Boards Camp	Fort George.
,, J. C. Sproule	Plymouth	Crownhill.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ARGYLL AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer (male). Salary, £200 per annum.

BATH: ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

BERMONDSEY MEDICAL MISSION, S.E.—Junior Resident Assistant (lady). Salary at the rate of £70 per annum.

BETHNAL GREEN INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £120 and £100 per annum, rising to £140 and £120 respectively.

BIRMINGHAM: QUEEN'S HOSPITAL.—Radiographer. Salary, £100 per annum.

BIRMINGHAM: ROMSLEY HILL SANATORIUM FOR CONSUMPTIVES.—Assistant Resident Medical Officer. Salary, £150 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Pathologist. Honorarium, £50 per annum.

BRADFORD CHILDREN'S HOSPITAL.—House-Surgeon. Salary, £120 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Assistant House-Surgeon. Salary, £80 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Honorary Assistant Physician. (2) Throat, Nose, and Ear House-Surgeon. Salary at the rate of £75 per annum.

BRITISH MEDICAL ASSOCIATION.—Assistant Medical Secretary of the Insurance Subdepartment. Salary, £500 per annum.

BURY INFIRMARY.—Junior House-Surgeon. Salary, £100 per annum.

CARSHALTON: QUEEN MARY'S HOSPITAL FOR CHILDREN.—Senior Assistant Medical Officer. Salary, £250 per annum.

CHARING CROSS HOSPITAL.—Assistant Physician.

CHELTENHAM GENERAL HOSPITAL.—House-Physician. Salary, £100 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

CORNWALL EDUCATION COMMITTEE, Truro.—Assistant School Medical Officer. Salary, £250 per annum, rising to £300.

DERBYSHIRE ROYAL INFIRMARY.—House-Surgeon. Salary, £100 per annum,

DUNDEE ROYAL INFIRMARY.—House-Surgeon.

DURBAN TECHNICAL INSTITUTE.—Expert Chemist and Bacteriologist. Salaries from £400.

EDAY PARISH.—Medical Officer. Salary, £70 per annum, and appointments £20.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, Bartlett's Buildings, E.C.—Resident Medical Officer. Salary, £100 per annum.

GLASGOW DISTRICT MENTAL HOSPITAL, Gartloch.—Junior Medical Officer. Salary, £200 per annum.

GLASGOW UNIVERSITY.—(1) One Examiner each in Botany and Chemistry for degrees in Arts, Science, and Medicine. (2) Examiner in Anatomy for degrees in Science and Medicine.

HAMMERSMITH PARISH INFIRMARY, Ducane Road, W.—Second Assistant Medical Officer for the Infirmary and Workhouse. Salary, £130 per annum, rising to £150.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

HEREFORDSHIRE GENERAL HOSPITAL.—House-Surgeon. Salary, £150 per annum.

HOSPITAL FOR EPILEPSY AND PARALYSIS, ETC., Maida Vale, W.—Two Assistant Physicians.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Surgeon to Out-patients.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £80 per annum.

ITALIAN HOSPITAL, Queen Square, W.C.—House-Surgeon. Salary at the rate of £60 per annum.

KENSINGTON GUARDIANS.—Second Assistant Resident Medical Officer for the Workhouse and Infirmary. Salary, £110 per annum, rising to £130.

KING EDW RD VII WELSH NATIONAL MEMORIAL ASSOCIATION, Cardiff.—Tuberculosis Physicians. Salary, £450 per annum, rising to £500.

KING'S COLLEGE, W.C.—Demonstrator of Anatomy. Salary, £100 per annum.

LANARKSHIRE BURGHS SANATORIUM.—Tuberculosis Officer and Medical Superintendent. Salary, £500 per annum.

LANCASHIRE COUNTY ASYLUM, Winwick.—Pathologist and Assistant Medical Officer. Salary, £200 per annum, rising to £250.

LEEDS CITY.—Assistant Medical Officer at the Killingbeck Sanatorium. Salary at the rate of £120 per annum.

LEEDS GENERAL INFIRMARY.—Resident Obstetric Officer. Salary at the rate of £50 per annum.

LEICESTER BOROUGH MENTAL HOSPITAL, Humberstone.—Junior Assistant Medical Officer (male). Salary, £240, rising to £280 per annum.

LEWES: VICTORIA HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

LEYTON, WALTHAMSTOW, AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL.—Resident House-Surgeon. Salary at the rate of £100 per annum.

LINDSEY (LINCOLNSHIRE) COUNTY COUNCIL.—(1) Assistant Tuberculosis Officer. (2) Assistant School Medical Officer. Salary, £300 per annum, rising to £400.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Assistant Resident Medical Officer. Salary, £150 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Senior and Junior House-Surgeons. Salary, £100 and £80 per annum respectively.

MAIDSTONE: KENT EDUCATION COMMITTEE.—School Dentist. Salary, £250 per annum.

MANCHESTER CITY.—Assistant Medical Officer at the Baguley Sanatorium. Salary, £200 per annum.

MANCHESTER: ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Two House-Surgeons. Honorarium at the rate of £50 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—Assistant Surgeon.

MIDDLESEX HOSPITAL, W.—Assistant Dental Surgeon.

MILDMAY MISSION HOSPITAL, Bethnal Green, E.—Assistant Physician.

NEWCASTLE-ON-TYNE DISPENSARY.—Resident Medical Officer. Salary, £250 per annum, rising to £275 and allowance of £40 for attendance.

NORTHAMPTON GENERAL HOSPITAL.—Senior Resident Medical Officer. Salary, £120 per annum, increasing to £140.

NORWICH: JENNY LIND INFIRMARY FOR CHILDREN.—Lady Resident Medical Officer. Salary at the rate of £50 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—Resident Surgical Officer. Salary, £100 per annum.

OLDHAM ROYAL INFIRMARY.—Third House-Surgeon. Salary at the rate of £80 per annum.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer. Salary, £150 per annum, rising to £175.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary, £90 per annum.

ST. GILES AND BLOOMSBURY PARISHES.—Medical Superintendent of the Infirmary. Salary, £500 per annum.

ST. MARY'S HOSPITAL, Paddington, W.—Casualty House-Surgeon. Salary, £100 per annum.

ST. PETER'S HOSPITAL FOR STONE, ETC., Henrietta Street, W.C.—Junior House-Surgeon. Salary at the rate of £75 per annum.

SALFORD ROYAL HOSPITAL.—Honorary Gynaecologist.

SHEFFIELD INFECTIOUS DISEASES AND TUBERCULOSIS HOSPITALS.—Temporary Assistant Medical Officer (may become permanent). Salary, £130 per annum.

SHEFFIELD ROYAL INFIRMARY.—House-Surgeon. Salary at the rate of £80 per annum.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

SOUTHPORT INFIRMARY.—Senior House-Surgeon. Salary at the rate of £120 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—(1) Surgical Registrar. (2) Resident Medical Officer. (3) Assistant to the Chemical Pathology Department. Salary, £100 per annum.

WEST BROMWICH COUNTY BOROUGH.—Medical Officer of Health. Salary, £500 per annum.

WEST HAM UNION.—Second Assistant Medical Officer (male) for the Sick Home. Salary, £120 per annum, rising to £150.

WEST LONDON HOSPITAL, Hammersmith Road, W.—(1) Assistant Dental Surgeon. (2) Second *X*-Ray Officer.

WEST RIDING COUNTY COUNCIL.—Assistant Medical Officer (male) for the Scalebor Park Asylum. Salary, £200 per annum.

WILLESDEN: PASSMORE EDWARDS HOSPITAL.—Member of Honorary Medical Staff.

WORKSOP VICTORIA HOSPITAL AND DISPENSARY.—Medical Officer and House-Surgeon. Salary, £150 per annum.

YORK DISPENSARY AND MATERNITY HOSPITAL.—Resident Medical Officer (male). Salary, £140 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Flint (Flint), Matlock (Derby), Warrenpoint (Down), Whitland (Carmarthen).

This list of vacancies is compiled from our advertisement columns where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

DIX, C., M.R.C.S., L.R.C.P.Lond., Medical Officer of Health for the Wincanton Rural District.

DUNBAR, D., M.B., B.S.Lond., District and Workhouse Medical Officer of the Aysgarth Union.

GATER, H. J., L.M.S.S.A., L.M.R.C.P., District Medical Officer, Camberwell Union.

HOWELL, B. Whitchurch, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Senior House-Surgeon to the Royal National Orthopaedic Hospital, Great Portland Street, W.

JOHNSON, S. G., M.R.C.S., L.R.C.P., First Assistant Medical Officer of the Portsmouth Workhouse Infirmary and Homes.

WELCH, Cuthbert G., M.D.Lond., D.P.H.Oxon., Tuberculosis Officer to the County of Bedford.

WRIGLEY, F. G., M.D.Victoria, Honorary Assistant Surgeon to the Manchester Ear Hospital.

UNIVERSITY COLLEGE HOSPITAL.—The following appointments have been made:

House-Surgeons.—G. B. King, M.R.C.S., L.R.C.P., A. E. Brown, M.R.C.S., L.R.C.P.

House-Physicians.—R. H. Liscombe, M.B., B.S., M.R.C.S., L.R.C.P., L. A. Dingley, M.B., B.S., M.R.C.S., L.R.C.P.

Obstetric Assistant.—W. B. Sanders, M.B., B.S.

Casualty Surgical Officer.—A. C. S. Courts, M.D., B.S.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

MITCHELL.—On August 10th, at "Teddington," Gipps Street, East Melbourne, the wife of Leonard J. C. Mitchell, M.B., B.S., of Collins Street, Melbourne, a daughter.

WARD.—On October 29th, at Southfield, Yarm Road, Stockton-on-Tees, to Dr. and Mrs. Ward, a son.

WILLIAMS.—On October 28th, at Egerton Lodge, Wrexham, to Mr. and Mrs. Geoffroy Williams, a daughter.

MARRIAGES.

SHANNON—TUNNICLIFFE.—On November 4th, at the Parish Church, Little Burstead, Essex, by the Rev. C. Lennard Payne, William John Shannon, B.A., M.B., B.Ch., D.P.H., of Laindon, Essex, to Eva, youngest daughter of Thomas Tunnicliffe, Esq., of Stamford.

STRUTHERS—BURGESS.—On November 1st, at St. Jude's, Birmingham, by the Rev. Lester Pinchard, J. A. Struthers, M.B., Ch.B., of Stanley Road, Bootle, to Jean, daughter of the late James Burgess, Macclesfield.

DEATHS.

CLARK.—At Stanley House, Stoke-under-Ham, Somerset, on November 4th, John Stallard Foot Clark, M.R.C.S., L.R.C.P., aged 58 years.

MILNE.—At Salisbury House, Hartlepool, on October 20th, John Stewart Milne, M.A., M.D.Aberd., eldest son of John Milne, LL.D., 43, Gladstone Place, Aberdeen.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Discussion on the Treatment of Neurasthenia, to be introduced by Dr. Risien Russell, followed by Sir Victor Horsley, Dr. James Taylor, Dr. Grainger Stewart, and others.

TUESDAY.

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East, S.W., 5 p.m.—Second FitzPatrick Lecture, by Dr. C. A. Mercier: Astrology in Medicine.

ROYAL SOCIETY OF MEDICINE:

SECTION OF SURGERY, 5.30 p.m.—Adjourned Discussion of Mr. Frank Kidd's Paper on Pyeloradiography.

WEDNESDAY.

SOUTH-WEST LONDON MEDICAL SOCIETY, Bolingbroke Hospital, 8.30 p.m.—Paper:—Dr. F. Langmead: Chorea.

ROYAL SOCIETY OF MEDICINE:

SUBSECTION OF PROCTOLOGY, 5.30 p.m.—(1) Cases and Specimens: Notes of a Case of Round-celled Sarcoma of the Rectum. (2) Papers:—Mr. Sampson Handley: A New Method of Administering Saline after Abdomino-perineal Excision of the Rectum. Mr. Lockhart Mummery: Haemorrhagic Proctitis, with cases.

THURSDAY.

MIDLAND MEDICAL SOCIETY, Birmingham, 8.30 p.m.—Inaugural Meeting. Address by Dr. F. W. Mott, F.R.S.: The Degeneration of the Neurone in the Light of Recent Research, especially in Relation to Syphilis and General Paralysis.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY, Great Northern Central Hospital, 8.30 p.m.—Clinical Evening.

ROYAL SOCIETY, Burlington House, 4.30 p.m.—The following are among the list of probable papers for reading:—Sir William Crookes, O.M., F.R.S.: The Preparation of Eye-preserving Glass for Spectacles. A. W. Porter, F.R.S., and F. W. Edridge-Green, M.D.: Negative After-images and Successive Contrast with Pure Spectral Colours.

UNITED SERVICES MEDICAL SOCIETY, Royal Naval Medical College, Greenwich, 5 p.m.—Paper:—Surgeon Campbell Ross, R.N.: Tubercle in the Navy.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

CLINICAL SECTION, 8.30 p.m.—Cases and Specimens.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Wednesday, 4.30 p.m., Lecture: Intrathoracic Growths.

DUBLIN: ROTUNDA HOSPITAL.—Post-Graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

LONDON HOSPITAL MEDICAL COLLEGE, Mile End, E.—Tuesday, 2 p.m., Neuroses and Psychoses of Children.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Thursday. Radiography: Saturday. Lectures on special subjects on Tuesday, Wednesday, Thursday, and Friday.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock, E.—Lectures daily (Saturday excepted), at 12 and 4 p.m. Practical Laboratory Work daily (Saturday excepted), 10 to 12 a.m. Practical Entomology, 2 to 3.30 p.m. daily. Special Entomology, 10.30 to 1 p.m. daily. Medical Clinics, Tuesday and Thursday, at 3 p.m. Operations, Friday, at 3 p.m.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS, at 4.30 p.m. each day.—Tuesday, Salford Royal: Heart Disease in Childhood. Wednesday, Royal Infirmary: Bulbar Paralysis and Amyotrophic Lateral Sclerosis. Thursday, Ancoats: Some Methods of Blood Examination. Friday, Royal Eye: Choroiditis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—Clinical Demonstrations, at 4 p.m.: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Eye. Lectures at 5.15 p.m. each day.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Localization of Intracranial Tumours. Friday, 3.30 p.m., Clinical Cases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Medical and Surgical Clinics and Operations at 2.30 p.m. daily. Also Monday, Throat; Tuesday, Gynaecology; Wednesday, Skin, Eye, Children, X Rays; Tuesday and Friday, Eye. Special Lectures and Demonstrations as announced.

SHEFFIELD UNIVERSITY.—Clinical Demonstrations: Tuesday, Royal Hospital, 3 p.m., The Knee-jerk. Friday, Royal Infirmary, 3 p.m., Clinical Surgical Cases.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, X Rays, and Operations 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday. A Lecture at 5 p.m. daily except Saturday.

[*For further particulars of Lectures consult the Index to Advertisements.*]

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		NOVEMBER.
8	Sat.	Arrangements Committee (Conjoint Meeting), 10 a.m.
11	Tues.	London: Metropolitan Counties Branch Council, 4 p.m. Buckinghamshire Division, High Wycombe, 2.15 p.m.; Lunch, 1.30 p.m.
12	Wed.	Lancashire and Cheshire Branch, Manchester, Branch Science Committee, 4 p.m.; Branch Organization and Finance Committee, 4.30 p.m. South-Western Branch, St. Austell, 3 p.m.
14	Fri.	Glasgow and West of Scotland Branch, 207, Bath Street, 8 p.m. Perthshire Branch, Perth, 6 p.m.; Annual Dinner, 7 p.m. West Somerset Branch, Taunton, 3.30 p.m.
15	Sat.	Inverness-shire Division, Inverness, 3.30 p.m.
18	Tues.	Northamptonshire Division, Northampton General Hospital, 2.30 p.m.; Luncheon, 1.30 p.m.
19	Wed.	Lancashire and Cheshire Branch, Branch Council, Liverpool Medical Institution, 4 p.m. Reigate Division, Reigate, 4 p.m.
20	Thur.	Staffordshire Branch, Stoke-on-Trent, 3.45 p.m.; Dinner, 6.30 p.m.
21	Fri.	City Division, Metropolitan Hospital, 4 p.m. Worcestershire and Herefordshire Branch, Worcester, 3.30 p.m.; Council, 3 p.m.
26	Wed.	City Division, Balfour Hall, Kingsland Road, 3.30 p.m.
		DECEMBER.
4	Thur.	Special Representative Meeting, Connaught Rooms, Great Queen Street, London, W.C., 9.30 a.m., and following day if necessary.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 15TH, 1913.

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REGULATIONS FOR MEDICAL BENEFIT.

Text of the New Draft Regulations.

DRAFT REGULATIONS, DATED THE 7TH NOVEMBER, 1913, PROPOSED TO BE MADE UNDER SECTION 15 OF THE NATIONAL INSURANCE ACT, 1911, BY THE NATIONAL HEALTH INSURANCE JOINT COMMITTEE ACTING WITH THE INSURANCE COMMISSIONERS.

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The National Health Insurance Joint Committee, acting jointly with the Insurance Commissioners, in pursuance of the powers conferred on them by the National Insurance Acts, 1911 to 1913, and by the National Insurance (Joint Committee) Regulations, 1912 and 1913, hereby make the following Regulations:

PART I.

General.

Short Title.

1. These Regulations may be cited as the National Health Insurance (Medical Benefit) Regulations (England), 1913.

Interpretation.

2.—(1) In these Regulations, unless the context otherwise requires, the following expressions have the respective meanings hereby assigned to them:—

"The principal Act" means the National Insurance Act, 1911.

"The amending Act" means the National Insurance Act, 1913.

"The Joint Committee" means the National Health Insurance Joint Committee.

"The Commissioners" means the Insurance Commissioners or, where by virtue of the National Insurance (Joint Committee) Regulations, 1912 and 1913, any power is exercisable by the Joint Committee or by the Joint Committee acting jointly with the Commissioners, means the Joint Committee, or the Joint Committee acting jointly with the Commissioners, as the case may require.

"Committee" means the Insurance Committee for any County or County Borough.

"County" includes County Borough.

"Society" means an Approved Society, and includes the Navy and Army Insurance Fund.

"Member" means a member of a Society for the purposes of Part I of the principal Act who is an insured person under the Act entitled to medical benefit.

"Exempt person" means a person holding a certificate of exemption under Part I of the principal Act, who fulfils such conditions as may be imposed by any regulations made under Section 9 of the amending Act.

"Insured Person" means an insured person entitled to medical benefit, and includes an exempt person.

"Practitioner" means a duly qualified medical
er.

ist" means any person, firm, or body cor-
titled to carry on the business of a chemist
t under the provisions of the Pharmacy Act,
nended by the Poisons and Pharmacy Act,

ered Pharmacist" means a person who is
is a chemist or druggist under the Pharmacy

"Treatment" means medical attendance and treatment.

"Drugs" includes medicines.

"Local Medical Committee" means a Local Medical Committee formed for any County and recognized by the Commissioners under Section 62 of the principal Act, and any reference to a Local Medical Committee shall have effect only where a Local Medical Committee has been so formed and recognized.

"Panel Committee" means a committee appointed under the provisions of Section 32 of the amending Act, and any reference to a Panel Committee shall have effect only where a Panel Committee has been appointed.

"Pharmaceutical Committee" means a committee elected under the provisions of Section 33 of the amending Act, and any reference to a Pharmaceutical Committee shall have effect only where a Pharmaceutical Committee has been elected.

"Association of deposit contributors" means an Association of deposit contributors formed for any County under the National Health Insurance (Insurance Committees: Representation of insured persons) Regulations (England), 1913.

"Institution" means a system or institution existing on the 16th December, 1911, through or under which treatment was available on that date.

"Address" means full postal address.

"Year" means such period, corresponding as nearly as may be to a calendar year, as may be fixed by the Commissioners for the purposes of the administration of medical benefit.

"Quarter" means such period, being as nearly as may be a period of three months, as may be fixed by the Commissioners for the purposes of the administration of medical benefit.

(2) The Interpretation Act, 1889, applies to the interpretation of these Regulations as it applies to the interpretation of an Act of Parliament.

PART II.

Arrangements for the Provision of Medical Benefit.

3.—(1) Every Society having members resident in any County shall, as soon as may be, supply to the Committee for that County a list of the names and addresses of the members so resident.

The Register.

(2) The Committee shall, as soon as may be, cause to be prepared from the lists so supplied a list of names and addresses of the members of Societies resident in the

County, and shall cause to be prepared a further list of the names and addresses of deposit contributors and exempt persons resident in the County, which lists are in these Regulations collectively referred to as the "Register."

Arrangements with Practitioners.

4. For the purpose of providing treatment for insured persons the Committee shall enter into written agreements with such practitioners as are willing to undertake the treatment of insured persons on the terms of the agreement.

Conditions of Service.

5.—(1) The Committee shall, after consultation with the Local Medical Committee and Panel Committee, embody in a draft agreement the terms upon which it is proposed to invite practitioners to undertake treatment, and shall submit the draft to the Commissioners for their approval.

(2) Every such draft agreement shall include the conditions specified in the First Schedule to these Regulations, and where payment is to be made to the practitioner out of the proceeds of any Parliamentary grant, shall include such conditions as are necessary to be complied with as conditions of that grant.

Provided that the Committee may, if they think fit, subject to the approval of the Commissioners, make any modifications in any of the conditions specified in the said schedule, whether in the case of one or more practitioners.

The Medical List.

6.—(1) The Committee shall prepare a list, to be called "the medical list," of the practitioners who have entered into agreements with the Committee (in these Regulations collectively referred to as "the panel").

(2) The medical list shall contain, in addition to the names of practitioners—

(*a*) the private address, and the address of any surgery, dispensary, or other place, at which a practitioner undertakes to attend for the purpose of treating insured persons;

(*b*) particulars of the days and hours at which he undertakes to be in attendance at each place; and

(*c*) where two or more practitioners practising in partnership have signified their desire to undertake treatment, the name of the firm or partnership;

and may, if the Committee think fit, be so arranged as to show the area in the County in which each practitioner undertakes treatment.

(3) A copy of the medical list shall be sent to the Commissioners, and shall be available for the inspection of insured persons at the office of the Committee and at such other places as the Committee may think fit.

Prescribed Appliances.

7.—The medical and surgical appliances to be provided as part of medical benefit shall be the appliances mentioned in the Second Schedule to these Regulations.

Prices of Drugs and Appliances.

8. For the purpose of making arrangements for the supply of drugs and appliances, the Committee shall, after consultation with the Local Medical Committee, the Panel Committee, and the Pharmaceutical Committee, prepare a list (in these Regulations referred to as "the Drug Tariff") of the prices on the basis of which the sums to be paid for the drugs ordinarily supplied and for the prescribed appliances are to be calculated, and shall determine the method by which payment for drugs not included in the Drug Tariff is to be calculated.

Agreements with Chemists and Others.

9.—(1) The Committee shall enter into written agreements with chemists and other persons, firms, or bodies corporate, who are willing to undertake the supply of drugs or appliances or both on the terms of the agreement (all of whom are in these Regulations included in the expression "persons supplying drugs or appliances").

(2) No person shall be entitled to dispense medicines for insured persons under the arrangements made by the Committee with persons supplying drugs or appliances, other than a chemist who undertakes that all medicines supplied by him to insured persons under the arrangements made by the Committee shall be dispensed either by or under the direct supervision of a registered pharmacist or by a person who, for three years immediately prior to the 16th December, 1911, has acted as a dispenser to a practitioner or a public institution.

Conditions of Supplying Drugs and Appliances.

10.—(1) The Committee shall, after consultation with the Pharmaceutical Committee, embody in a draft agreement the terms upon which it is proposed to invite persons to undertake the supply of drugs or appliances, or both, and shall submit the draft to the Commissioners for their approval.

(2) Every such draft agreement shall include the Drug Tariff and the method by which payment for drugs not included in the Drug Tariff is to be calculated, and the conditions specified in the Third Schedule to these Regulations, with the necessary modifications in the case of a person undertaking to supply drugs or appliances only, or not entitled to dispense, and with such other modifications as the Committee may, subject to the approval of the Commissioners, think fit.

(3) The Committee shall make arrangements with the Pharmaceutical Committee for securing that in each area, so far as practicable, one or more of the places of business of persons supplying drugs and appliances shall at all reasonable times be open to insured persons who require drugs or appliances.

List of Persons Supplying Drugs and Appliances.

11.—(1) The Committee shall prepare and issue a list of the names and addresses of the persons who have entered into agreements with the Committee, and the list shall indicate whether they have undertaken to supply drugs or appliances or both, and shall distinguish those who are entitled to dispense medicines, and the Committee before issuing shall submit the list to the Pharmaceutical Committee.

(2) A copy of the list shall be sent to the Commissioners and to every practitioner on the panel and shall be available for the inspection of insured persons at the office of the Committee and at such other places as the Committee may think fit.

(3) The Committee shall furnish to every person supplying drugs or appliances a copy of the medical list, and every such person shall exhibit at his place of business a notice in the form prescribed in the Fourth Schedule to these Regulations.

Arrangements for Supply by Practitioners of Drugs and Appliances.

12.—(1) Where an insured person is resident in a rural area at a distance of more than one mile from the place of business of the nearest chemist supplying drugs or appliances, or where the Committee are satisfied that an insured person by reason of distance or inadequacy of means of communication or of the limitations of the hours of business of chemists supplying drugs or appliances will have difficulty in obtaining any necessary drugs or appliances from a chemist supplying drugs or appliances, the Committee may, and shall, if the practitioner so desires, make arrangements for the supply to that person by the practitioner attending him of such drugs and appliances as would otherwise under these Regulations have been supplied by a person supplying drugs or appliances, and any question arising under this Regulation shall be referred to the Commissioners, whose decision shall be final.

(2) Arrangements made by the Committee for the supply of drugs to an insured person by a practitioner shall not be determined during the year in respect of which they are made, by reason of the fact that in the course of that year a chemist who carries on business within a distance of one mile from the residence of the insured person is included in the list of persons supplying drugs or appliances, or that a chemist on the list of persons supplying drugs or appliances commences to carry on business within that distance.

(3) The Committee shall make arrangements for the supply by practitioners on the panel of all or any of the following:

(*a*) Drugs which are necessarily or ordinarily administered by a practitioner in person; and

(*b*) Drugs and appliances required for immediate administration or application, or required for use before a supply can conveniently be obtained otherwise under these Regulations.

Approval of Institutions.

13.—(1) The Committee shall, for the purpose of providing medical benefit for persons desiring to receive treatment (including drugs and appliances) through an institution, consider any application for approval made by the Board of Management of, or person administering, any institution for the purposes of Subsection (4) of Section 15 of the principal Act.

(2) The Committee shall send to the Commissioners such particulars relating to the institution and the application received therefrom as the Commissioners may require, together with a statement as to whether or not they approve the institution.

(3) The Commissioners may, if they think fit, approve any institution which has been approved by the Committee, and the approval of the Commissioners shall have effect for the period stated in the approval, subject to the observance by the institution of the following conditions:

(*a*) That the institution shall make such alterations in, and additions to, its rules as the Commissioners may require, and shall not thereafter make any alterations in or additions to its rules affecting the rights of insured persons, except with the consent of the Commissioners;

(*b*) that the institution shall be conducted in such a manner as to comply with any conditions which, by reason of any scheme for the distribution of a Parliamentary grant, must be complied with in the case of treatment provided otherwise than through the institution, as a condition of payment of that grant; and

(*c*) such other conditions, if any, as the Commissioners may think fit to impose.

Power to Require or Allow Persons to Make their Own Arrangements.

14.—(1) The Committee may fix an income limit for the purpose of the administration of medical benefit, and may require insured persons whose incomes exceed that limit, in lieu of receiving medical benefit under the arrangements to be made by the Committee, to make their own arrangements for receiving treatment (including drugs and appliances): Provided that the Committee may exempt from this requirement any insured persons who ought in the opinion of the Committee to be exempted whether by reason of the occupation or method of remuneration of the class to which they belong or of their circumstances or residence or otherwise.

(2) The Committee shall inform the Commissioners of any income limit proposed to be fixed by the Committee under these Regulations, and shall, before fixing, varying, or abolishing an income limit, give public notice of their intention so to do and shall consult the Local Medical Committee and Panel and Pharmaceutical Committees, and shall consider representations made to them by any Society having members resident in the County, or by the Association of deposit contributors for the County.

(3) Any Society having members resident in the County, or the Association of deposit contributors, Panel Committee or Pharmaceutical Committee for the County may at any time, by notice in writing to the Committee, dispute the right of any insured person to receive medical benefit under the arrangements made by the Committee, on the ground that the income of that person exceeds the income limit and that he is not entitled to be exempted.

(4) Upon receipt of any such notice the Committee may, if it appears to them that the income of that person exceeds the income limit, and that he is not entitled to be exempted, give notice in writing to that person that, unless, within a period specified in the notice, he shows that his income does not exceed that limit or that he is entitled to be exempted, the Committee will require him to make his own arrangements; and if, within the said period, the insured person fails to show that his income does not exceed that limit or that he is entitled to be exempted, the Committee shall require him to make his own arrangements.

(5) Any decision of the Committee to fix, vary or abolish an income limit shall only take effect from the commencement of the succeeding year.

(6) The Committee may allow any insured persons resident in the County, whether individually or collectively, in lieu of receiving medical benefit under the arrangements made by the Committee, to make their own arrangements for receiving treatment.

Publication of Particulars.

15. The Committee shall cause to be published, in such manner as appears to them best calculated to inform all persons interested, particulars of the arrangements made by the Committee, including a statement of the places where a copy of the medical list, of the list of persons supplying drugs or appliances, and of a list of approved institutions, may be seen, and any forms of application necessary to be obtained by insured persons are available, and a statement as to any income limit fixed by the Committee, and any other particulars which the Committee think proper.

Revision of Terms of Service of Practitioners.

16.—(1) If at any time the Committee desire to make any alterations in the terms of service of practitioners on the panel, they shall, after consultation with the Local Medical Committee and Panel Committee, submit for the approval of the Commissioners a statement of the proposed alterations.

(2) If and so far as the proposed alterations are approved by the Commissioners, they shall take effect as from the commencement of the succeeding year, or from such later date as the Commissioners may determine.

(3) The Committee shall not later than six weeks before the commencement of any year give notice to every practitioner on the panel of the alterations, if any, in the terms of service which will take effect in the succeeding year.

Admission to and Withdrawal from Panel.

17.—(1) If a practitioner, other than one whose name has been removed by the Commissioners from the medical list in force in the area of any Committee in the United Kingdom at any time makes application to the Committee for that purpose, the Committee shall include him in the medical list.

(2) Any practitioner who desires to withdraw from the panel may give notice in writing to the Committee to that effect not later than four weeks before the commencement of any year, and his name shall thereupon be removed from the medical list at the end of the year in which notice is given, and, where a practitioner has not given notice to the Committee before the date aforesaid, he shall be deemed to have undertaken service in the succeeding year on the terms of his agreement with the Committee, as varied by the alterations, if any, which will take effect in that year:

Provided that—

(i) where in the course of any year a practitioner desires to discontinue practice, both under his agreement with the Committee and otherwise, within the area in which he has undertaken treatment, and gives notice to the Committee to that effect, his name shall be removed from the medical list upon the expiration of the period specified in the notice, or, if the Committee so require, upon the expiration of such longer period (not exceeding in the whole two months from the date of the notice) as the Committee may think fit; and

(ii) where in the course of any year a practitioner desires to discontinue practice under his agreement with the Committee but not otherwise, and the Committee consent, his name may be removed from the medical list as from such date as may be agreed between the practitioner and the Committee.

(3) The name of any practitioner who dies during the year or whose name is directed to be removed from the medical list by the Commissioners shall thereupon be removed from the list:

Provided that for the purpose of securing the treatment of insured persons on the list of a deceased practitioner until arrangements are made for their transfer to the list

of another practitioner, the legal personal representative of the deceased practitioner may, if he gives notice to that effect to the Committee within seven days of the death of the practitioner, appoint a practitioner, whether being a practitioner on the panel or not, to undertake the treatment of such of those persons as do not apply to be transferred to the list of another practitioner, and the person so appointed shall be entitled to undertake the treatment for such period as the Committee think fit, as if he were the deputy of the deceased practitioner.

(4) The Committee shall, as soon as may be, inform the Commissioners of any alteration in the medical list.

(5) A copy of the medical list revised up to date shall be kept available for the inspection of any insured person at the office of the Committee and at such other places as the Committee may think fit, and the Committee shall, at least fourteen days before the commencement of the year, issue the medical list for that year.

Revision of Drug Tariff.

18.—(1) If at any time the Committee desire to make any alterations in the Drug Tariff or in any other of the terms upon which the supply of drugs and appliances is undertaken, they shall, after consultation with the Local Medical Committee and the Panel and Pharmaceutical Committees, submit for the approval of the Commissioners a statement of the proposed alterations, and where the Commissioners have prescribed any further appliances, of the prices on the basis of which the sums to be paid for those appliances are to be calculated.

(2) Subject to the approval of the Commissioners, the alterations shall take effect as from the commencement of the succeeding year, or from such later date as the Commissioners may determine.

(3) The Committee shall not later than six weeks before the commencement of any year give notice to each person supplying drugs or appliances of the alterations, if any, in the Drug Tariff or other terms which will take effect in the succeeding year.

Admission to and Withdrawal from List of Persons Supplying Drugs or Appliances.

19.—(1) If a person supplying drugs or appliances, other than one whose name has been removed by the Commissioners from the list of persons supplying drugs or appliances in force in the area of any Committee in the United Kingdom, at any time makes application to the Committee for that purpose, the Committee shall include him in the list.

(2) Any person supplying drugs or appliances who desires to have his name removed from the list may give notice in writing to the Committee to that effect not later than four weeks before the commencement of any year, and his name shall thereupon be removed from the list at the end of the year in which notice is given:

Provided that where in the course of any year a person supplying drugs or appliances desires to determine his agreement with the Committee, and the Committee consent, his name may be removed from the list as from such date as may be agreed between him and the Committee.

(3) The name of any person supplying drugs or appliances who dies during the year, or whose name is directed to be removed from the list by the Commissioners, shall thereupon be removed from the list:

Provided that where upon the death of any person supplying drugs or appliances the business is carried on in accordance with the provisions of the Pharmacy Act, 1868, as amended by the Poisons and Pharmacy Act, 1908, by a person who is his executor or administrator or the trustee of his estate within the meaning of Section 16 of the former Act, that person shall be deemed to be a person included in the list so long as the business is carried on by him in accordance with the provisions of those Acts.

(4) The Committee shall, as soon as may be, inform the Commissioners of any alteration in the list.

(5) A copy of the list revised up to date shall be kept available for the inspection of any insured person at the office of the Committee and at such other places as the Committee may think fit, and the Committee shall, at least fourteen days before the commencement of the year, issue the list for that year, and shall before issuing submit the list to the Pharmaceutical Committee, and, where a person supplying drugs or appliances has not given notice to the Committee before the date aforesaid, he shall be deemed to have undertaken the supply of drugs or appliances or both, as the case may be, in the succeeding year on the terms of his agreement with the Committee, as varied by the alterations, if any, which will take effect in that year.

PART III.

Methods of Obtaining Medical Benefit.

Right to Select Method of Obtaining Treatment.

20. Every insured person, other than a person who is under these provisions of the amending Act or of these Regulations required to make his own arrangements for obtaining treatment, shall be entitled either to obtain treatment from a practitioner on the panel or to obtain treatment through any approved institution, or, with the consent of the Committee, to make his own arrangements for obtaining treatment.

Selection of Practitioner on the Panel.

21.—(1) An insured person who desires and is entitled to select a practitioner on the panel may make application, in such manner as the Committee with the approval of the Commissioners may require, to any practitioner on the panel, and, subject to the consent of the practitioner, shall be entitled to obtain treatment from him.

(2) Where under any arrangements approved by the Commissioners the Committee or the Society of which he is a member provide the insured person with a voucher for that purpose, the practitioner shall be entitled to require him to produce such voucher as a condition of receiving treatment.

(3) Where an application has been received by a practitioner, he shall within one week inform the Committee of his acceptance or rejection of that application.

(4) The Committee shall make arrangements with the Panel Committee for enabling any insured person, entitled to select a practitioner on the panel, who makes application for that purpose in such manner as the Committee with the approval of the Commissioners may require, to be assigned to a practitioner on the panel.

Right to obtain Drugs and Appliances.

22. Every insured person entitled to obtain treatment from a practitioner on the panel shall be entitled to obtain such drugs and prescribed appliances as may be ordered for him by the practitioner on the panel from whom he obtains treatment, either from that practitioner, where arrangements for that purpose have been made by the Committee, or where no such arrangements have been made, from any person supplying drugs or appliances who is entitled and has undertaken to supply those drugs or appliances:

Provided that an insured person shall not be entitled so to obtain any appliance, if the Committee have made provision for lending that appliance and have given notice to that effect to the practitioners on the panel and the persons supplying drugs or appliances.

Application to Approved Institution.

23. An insured person who desires and is entitled to obtain treatment through an approved institution shall make application, in such manner as the Committee with the approval of the Commissioners may require, to the institution, which shall within one week inform the Committee of its acceptance or rejection of the application, and in the case of rejection the Committee shall, as soon as may be, inform the applicant that he is rejected.

Application to be Allowed to Make Special Arrangements.

24.—(1) An insured person who desires to be allowed to make his own arrangements for obtaining treatment shall make application to the Committee in such manner as the Committee, with the approval of the Commissioners, may require, and the Committee shall, as soon as may be, inform him of their consent or refusal, as the case may be.

(2) An insured person who under the provisions of the amending Act or of these Regulations is required to make his own arrangements shall give notice to that effect to the Committee.

Preparation of Lists.

25. The Committee shall prepare a list of persons who have been accepted by, or assigned to, each practitioner on the panel, a list of persons who have been accepted by each approved institution, and a list of persons required or allowed to make their own arrangements for obtaining treatment, and shall furnish each practitioner on the panel and approved institution with a copy of his or its appropriate list.

Transfers during the Year.

26.—(1) Where, in the course of a year the name of a practitioner has been removed at his request from the medical list, or he has ceased to practise within the area in which he has undertaken treatment, he may notify to the Committee and to the insured persons concerned, in such manner as the Committee may require, that he has made arrangements for their transfer to the list of another practitioner or other practitioners on the panel, and any person receiving such notice shall be deemed to have consented to be so transferred, unless within fourteen days after the receipt thereof he gives notice to the contrary to the Committee.

(2) Where in the course of a year a practitioner on the panel has died, and his legal personal representative has made temporary arrangements under the provisions of Part II of these Regulations for securing the treatment of persons on the list of that practitioner, the legal personal representative may, before the expiration of the period during which the temporary arrangements remain in force, notify to the Committee and to the insured persons concerned, in such manner as the Committee may require, that arrangements have been made for their transfer to the list of another practitioner or other practitioners on the panel, and any person receiving such notice shall be deemed to have consented to be so transferred, unless within fourteen days after the receipt thereof he gives notice to the contrary to the Committee.

(3) Where an insured person has given notice to the Committee within the said period of fourteen days that he is unwilling to be so transferred to the list of another practitioner, he shall be entitled to select another practitioner on the panel as if he had not previously made a selection.

(4) Where no such arrangements as are mentioned in the first two paragraphs of this Regulation have been made, or where the name of a practitioner has been removed from the medical list by the Commissioners, the Committee shall give notice to the insured persons concerned that the name of the practitioner has been removed from the list or that he has ceased to practise within the area or has died, as the case may be, and the insured persons shall be entitled to select another practitioner on the panel, as if they had not previously made a selection.

(5) Where an institution through which insured persons were entitled to obtain treatment has ceased to be approved, the Committee shall give notice thereof to the insured persons entitled to receive treatment through that institution, and they shall be entitled to select a method of treatment, as if they had not previously made a selection.

(6) An insured person and the practitioner on the panel from whom he is entitled to obtain treatment may by consent arrange for the transfer of the insured person in the course of a year to the list of any practitioner on the panel who is willing to accept him and, save in the case mentioned in the first paragraph of this Regulation, notice of the transfer shall be given to the Committee within seven days by the practitioner to whose list the insured person is transferred on a form to be provided by the Committee for that purpose, and the notice shall be signed by the insured person and both the practitioners concerned.

(7) Subject as aforesaid and to the provisions of Part V of these Regulations relating to the decision of questions arising between an insured person and the practitioner attending him, an insured person shall not be entitled, while in the area within which arrangements have been made for his treatment, to select another method of treatment in the course of a year or another practitioner.

Removal.

27.—(1) Where an insured person, other than a person required or allowed to make his own arrangements for obtaining treatment, is absent from the area within which arrangements have been made for his treatment, and gives notice in such manner as the Committee in whose area he is for the time being may, with the approval of the Commissioners, require, he shall be entitled to obtain medical benefit under the arrangements made by that Committee as if he were a person who had not previously selected a method of treatment.

(2) An insured person who is required or allowed to make his own arrangements, and who intends to be absent for a period of less than three months from the County in which he is resident shall not during that absence be entitled to obtain medical benefit under the arrangements made by the Committee to whose area he removes, but, save as aforesaid, an insured person who is required or allowed to make his own arrangements shall upon removal from the County be entitled to obtain medical benefit in the manner provided in the last preceding paragraph of this Regulation.

Notice of Removal, Suspension, etc.

28.—(1) Where a deposit contributor changes his place of residence, he shall notify the address of his new place of residence to the Commissioners.

(2) Where a member of a Society changes his place of residence he sall notify the address of his new place of residence to the Society.

(3) Not later than seven days after a Society receives notice from a member of his change of address, it shall notify to the Committee in whose Register his name was included his name and number in the Society or branch and the addresses of his former and new places of residence, and, in the case of removal from one County to another, the last-mentioned Committee shall, as soon as may be, notify the name of the member and of his Society or branch and his number in the Society or branch, and the address of his new place of residence, to the Committee of the County to which he has removed.

(4) Every Society shall notify to the Committee the name and number in the Society or branch of any member whose name is included in the Register of the Committee and who has died or ceased to be an insured person or a member of the Society, and of any person resident in the County who has been admitted as a member, not later than seven days after the determination of, or admission to, membership as the case may be.

(5) Where the medical benefit of a member of a Society is suspended by reason of his contributions being in arrear or of marriage, the Society shall give notice to the Committee in whose Register his name is included.

Alteration of Lists during Year.

29. Where the Committee, in whose Register the name of an insured person is included, receive notice of his death, suspension from benefits or removal from the area in which he was entitled to receive treatment, the necessary alterations shall be made in the Register and lists kept by the Committee, so as to take effect as from the date of such death, suspension or removal, and the Committee shall give notice to any practitioner on the panel or approved institution concerned, and if the insured person has removed outside the County, his name shall be transferred to the Register of the County to which he has removed: Provided that—

(i) In the case of an insured person who was previously entitled to obtain treatment from a practitioner on the panel or through an approved institution, and who intends to be absent from the area within which arrangements have been made for his treatment for a period of less than three months (who is in these Regulations referred to as a "temporary resident") no alterations shall be made in the lists or Register of the Committee for a period of three months, but if he resides in any area in which he is entitled to receive treatment as a temporary resident for a longer period than three months, the necessary alterations shall be made in the lists of the Committee, and, if that area is outside the County, the Committee of the County to which he has removed shall transfer his name to their Register, as from the expiration of the said period of three months: and

(ii) In the case of an insured person required or allowed to make his own arrangements who intends to be absent from the County for a period of less than three months, no alterations shall be made in the lists or Register of the Committee, but if he resides in any other County for a longer period than three months, the Committee of that County shall give notice to the Committee in whose Register his name is included, and his name shall be transferred to the Register of the first-mentioned County as from the expiration of the said period of three months.

Right to Change Method of Treatment at End of Year.

30.—(1) No insured person who has selected a method of obtaining treatment or has been assigned to a practitioner on the panel in any year shall be entitled to obtain treatment in the succeeding year by any other method or from any other practitioner on the panel, unless before the 1st day of December in the year he gives notice, in such manner as the Committee may require, that he desires to select another method of obtaining treatment or another practitioner.

(2) Where an insured person has given such notice before the date aforesaid, he shall be entitled to select a method of treatment for the succeeding year in the manner provided by these Regulations.

PART IV.

Financial Provisions.

Interpretation.

31. In this part of these Regulations, unless the context otherwise requires, the following expressions have the respective meanings hereby assigned to them:—

"General Medical Benefit Fund" means a fund established by the Commissioners in accordance with the provisions of this Part of these Regulations.

"Persons making their own arrangements" means insured persons in respect of whose medical benefit any sum has been credited to the Committee out of the General Medical Benefit Fund and who are required or allowed to make their own arrangements for obtaining treatment.

"Insured members of institutions" means insured persons in respect of whose medical benefit any sum has been credited to the Committee out of the General Medical Benefit Fund and who have elected and are entitled to obtain treatment through approved institutions as their medical benefit.

"Persons on panel-lists" means all insured persons in respect of whose medical benefit any sum has been credited to the Committee out of the General Medical Benefit Fund and who are not persons making their own arrangements or insured members of institutions.

Agreements between Societies and Committees.

32.—(1) Every Committee shall before the commencement of each year furnish to the Commissioners a statement of the amounts in consideration of which the Committee are willing to defray the cost of the medical benefit of the members of each Society which has members resident in the County, and the cost of the administration of that medical benefit, and the Commissioners shall give notice to each Society of the amount so estimated by each Committee in whose area members of the Society are resident.

(2) Every Society shall within one month after the commencement of the year inform the Commissioners whether or not it agrees to accept the terms offered by the several Committees in whose areas its members are resident, and unless within that period a Society gives notice that it refuses to accept the terms offered by any Committee, the Society shall be deemed to have accepted those terms.

(3) Where a Society has given notice within the period aforesaid of its refusal to accept the terms of any Committee and the Commissioners are satisfied that the Committee and the Society are unable to agree, the Commissioners shall determine the amount to be paid by the Society to the Committee in such manner as they think fit, after a consideration of any representations made by either party.

(4) All sums payable under this Regulation by a Society in respect of the cost of medical benefit shall be credited in the books of the Commissioners to the General Medical Benefit Fund, out of moneys standing in the appropriate National Health Insurance Fund to the credit of that Society.

(5) Every Committee shall, before the commencement of each year, inform the Commissioners of the amount which is, in the opinion of the Committee, properly payable in respect of the cost of the medical benefit of each deposit contributor and exempt person resident in the area of the Committee, and, subject to the consent of the Commissioners, the amount aforesaid shall be carried from the Deposit Contributors' Fund or from any fund out of which the cost of medical benefit of exempt persons is to be paid under any regulations hereafter to be made to the credit of the General Medical Benefit Fund in respect of each deposit contributor and exempt person entitled to medical benefit and resident in the area of the Committee.

Medical Benefit Fund Account.

33.—(1) All moneys payable to the Committee out of the General Medical Benefit Fund including any Parliamentary grant or portion of a Parliamentary grant in respect of the medical benefit of insured persons (other than sums voted for the purposes of a Special Drug Fund and Mileage Fund) shall be carried in each year to the Medical Benefit Fund account of the Committee.

(2) The Committee shall ascertain in each year the number of the persons making their own arrangements by adding together the number of persons who are included in the list of persons making their own arrangements at the commencement of each quarter and dividing the total by four, and shall in a similar manner ascertain the number of the insured members of institutions.

(3) The sums carried in respect of each year to the Medical Benefit Fund Account of the Committee shall be divided into three funds, to be called respectively the Panel Service Fund, the Institutions Fund, and the Special Arrangements Fund, in proportion to the number of insured persons who are respectively persons on panel-lists, insured members of institutions, and persons making their own arrangements, and the Panel Service Fund shall be carried, as to thirteen-seventeenths thereof, to the credit of a fund to be called the Practitioners' Fund, and as to four-seventeenths thereof to the credit of a fund to be called the Drug Fund.

Provided that:—

(i) in calculating the sums to be carried to the credit of the above-mentioned funds, regard shall be had to the number of persons, who are respectively persons on panel-lists, insured members of institutions and persons making their own arrangements, and in respect of whom reduced contributions have been paid under the provisions of subsection (2) of Section 48 and subsection (10) of Section 81 of the principal Act, and a rebate has been claimed by their respective Societies out of the General Medical Benefit Fund;

(ii) where, owing to the failure to comply with any of the conditions of any Parliamentary grant on the part of any practitioner on the panel, person supplying drugs or appliances, approved institution, or person making his own arrangements, the sum payable to the Committee in respect of that grant is reduced, the sums carried to the credit of the above-mentioned funds shall be so adjusted as to secure that the loss shall fall on the appropriate fund; and

(iii) where any sums are allotted by the Committee to, and for the administrative expenses of, the Panel Committee or the Pharmaceutical Committee, the sums so allotted shall be charged to the Practitioners' Fund, or the Drug Fund, as the case may require.

Practitioner's Account.

34. Every practitioner on the panel shall, in accordance with his agreement with the Committee, furnish to the Committee accounts on forms provided by the Committee, containing such particulars as may be necessary for calculating the amount of remuneration payable to

him by the Committee: Provided that where two or more practitioners on the panel are practising in a partnership, the accounts of the partnership may be furnished as a single account.

Calculation of Remuneration under Single System.

35.—(1) Where the Committee have adopted a capitation system of payment, they shall credit to each practitioner on the panel, in respect of each of the persons included in his list at the commencement of each quarter, an amount (in these Regulations referred to as a "capitation fee") calculated in accordance with the rate contained in his agreement with the Committee, and there shall be credited to such of the practitioners on the panel and in such proportions as are agreed between the Committee and the Panel Committee, or in default of agreement, as the Commissioners may determine, such further capitation fees as are in the aggregate equal to the number of insured persons (other than insured members of institutions and persons making their own arrangements) whose names are at the commencement of the quarter included in the Register of the Committee, and who have not at that date been accepted by or assigned to any practitioner on the panel, and in arriving at any such agreement the Committee shall have regard to the responsibility incurred by each practitioner on the panel to give treatment during that quarter to insured persons not included in his list at the commencement of the quarter.

(2) Where the Committee have adopted a system of payment by attendance, they shall credit to each practitioner on the panel, in respect of each service rendered by him an amount (in these Regulations referred to as an "attendance fee"), calculated in accordance with the rate contained in his agreement with the Committee:

Provided that, if the Panel Committee so require, the accounts of practitioners shall be submitted to the Panel Committee, and they shall be entitled to reduce or disallow any item of any account, and the sums to be credited to practitioners under this Regulation shall be based on the accounts as so adjusted by the Panel Committee.

(3) The Committee shall ascertain the aggregate amounts so credited to the practitioner, and the aggregate amounts so credited to all practitioners on the panel, and shall pay to each practitioner an amount bearing the same proportion to the sum credited to him as the amount in the Practitioners' Fund (after deducting any sums payable out of that fund to the Central Medical Benefit Fund or set apart for mileage, as hereinafter in these Regulations provided) bears to the aggregate amounts so credited to all the practitioners.

Calculation of Remuneration under Combined System.

36. Where the Committee have adopted a method of remuneration which combines a capitation system with a system of payment by attendance (the capitation fees or the attendance fees, as the case may be, being payable in priority), the Committee shall pay to each practitioner out of the Practitioners' Fund the fees credited to him which are payable in priority, and shall pay to each practitioner, out of the balance of the Practitioners' Fund, in respect of other fees credited to him, an amount bearing the same proportion to those fees as the balance of the Practitioners' Fund (after deducting any sum payable to the Central Medical Benefit Fund, or set apart for mileage as aforesaid) bears to the aggregate amounts of such other fees credited to all the practitioners on the panel.

Payment to Practitioners.

37. As soon as may be after the expiration of each quarter the Committee shall pay to each practitioner such sum as may be agreed between the Committee and the Panel Committee in advance of the amount due to him, without prejudice, however, to the power of the Committee, at such other times as they may think fit, to pay to a practitioner such other sums on account as they may determine, and shall pay the balance of the amount so due as soon as may be after the expiration of the year.

Capitation Payment for Drugs and Appliances.

38. Where the Committee have made arrangements with a practitioner for the supply by him of all drugs and prescribed appliances requisite for the treatment of the persons on panel-lists obtaining treatment from him or any of them, the Committee may, instead of paying in respect of the drugs and appliances actually supplied by the practitioner, agree to pay and pay to him as a capitation fee in respect of each person to whom he undertakes to supply drugs and appliances a sum calculated in the manner hereinafter provided, and the Committee shall appropriate from the Drug Fund an amount sufficient to pay to practitioners with whom such agreements have been made the sums due to them under this provision.

Payment to Persons Supplying Drugs or Appliances.

39.—(1) Every person supplying drugs or appliances (including a practitioner, other than a practitioner to whom capitation fees are paid in respect of the supply of drugs and appliances) shall, on dates to be appointed by the Commissioners, furnish to the Committee accounts on forms provided by the Committee, containing particulars of drugs and appliances supplied by him to insured persons and of the prices of those drugs and appliances, calculated in accordance with the method contained in his agreement with the Committee.

(2) The Committee shall, if the Pharmaceutical Committee so require, submit such accounts for the examination of the Pharmaceutical Committee, and the Pharmaceutical Committee shall make a report to the Committee stating which items in each account ought in the opinion of the Pharmaceutical Committee to be accepted and which, if any, ought to be reduced or disallowed, and any account as adjusted in accordance with the recommendations, if any, of the Pharmaceutical Committee made thereon shall be binding on the person furnishing the account as if it were an account stated.

(3) The Committee shall, if the Panel Committee so require, submit to that Committee the accounts and the report, if any, made thereon by the Pharmaceutical Committee, and, if the Panel Committee take any objection to any item in any account or to any recommendation contained in the report, the Committee shall decide as to the validity of such objection.

(4) The Panel Committee may, if they think fit, either with or without a previous examination of the accounts, inform the Committee that they are willing to accept all or any of the accounts or any part of any account as furnished to the Committee, or where they have been submitted to the Pharmaceutical Committee as adjusted in accordance with the recommendations, if any, made by that Committee, and, in so far as the accounts are accepted by the Panel Committee, they shall be binding on the practitioners on the panel, and the Committee shall be entitled to credit sums to persons supplying drugs or appliances in accordance with those accounts.

(5) The Committee shall credit to each person furnishing an account the amount agreed under the foregoing provisions of this Regulation or where no agreement has been arrived at, the amount which the Committee may ascertain to be proper, and shall pay to each such person the amount so credited to him, or an amount bearing the same proportion to the sum so credited to him as the amount remaining in the Drug Fund (after deducting any sums payable out of that fund to the Central Medical Benefit Fund and any sums appropriated under the last preceding regulation) bears to the aggregate amounts so credited to all those persons, whichever is the less.

(6) Where a practititioner agrees to supply drugs and appliances to insured persons at a capitation fee, there shall be paid to him in every year and in respect of each such person a sum equal to the average amount payable in that year to persons supplying drugs or appliances in respect of each person entitled to obtain drugs and appliances from those persons, so, however, that (i) if the amount so ascertained exceeds a sum equal to the total amount carried in that year from the Panel Service Fund to the credit of the Drug Fund (after deducting any sums payable out of that fund to the Central Medical Benefit Fund) divided by the number of persons on panel lists, it shall be reduced so as to be equal to that sum, and (ii) if the amount so ascertained is less than a sum equal to three-fourths of the total amount carried in that year from the Panel Service Fund to the credit of the Drug Fund (after deducting any sums payable out of that

fund to the Central Medical Benefit Fund) divided by the number of persons on panel-lists, it shall be increased so as to be equal to that sum, and for the purposes of this provision the number of persons to whom the practitioner agrees to supply drugs and appliances at a capitation fee shall be calculated by ascertaining the number of those persons included in his list at the commencement of each quarter and dividing the number so ascertained by four.

(7) If in any year there is any balance standing to the credit of the Drug Fund after payment of the amounts aforesaid a sum not exceeding one-fourth of the total amount carried from the Panel Service Fund to the credit of the Drug Fund in respect of that year shall be carried to the credit of the Practitioners' Fund for that year, and the remainder, if any, shall be carried to the credit of the Drug Fund for the succeeding year.

(8) As soon as may be after the receipt of an account from a person supplying drugs or appliances the Committee shall pay to the person furnishing the account such sum as may be agreed between the Committee and the Pharmaceutical Committee in advance of the amount due to him, and shall pay the balance of the amount so due as soon as may be after the expiration of the year.

Excessive Ordering of Drugs.

40.—(1) Where it appears to the Panel Committee that by reason of the character or amount of the drugs or appliances ordered for insured persons by any practitioner or practitioners on the panel, the cost of the supply of those drugs and appliances is in excess of what may reasonably be necessary for the adequate treatment of those persons, the Panel Committee may, and if any representations to that effect are made to them by the Pharmaceutical Committee, shall, make an investigation into the circumstances of the case, whether in respect of the drugs and appliances ordered by an individual practitioner or generally as to the orders given for drugs and appliances by practitioners on the panel.

(2) The Panel Committee shall, after hearing the Pharmaceutical Committee and any practitioner concerned, make a report to the Committee, and if, after considering the report, the Committee are of opinion that an excessive demand upon the Drug Fund has arisen owing to orders given by a practitioner which are extravagant either in character or in quantity they may, if they think fit, make such deduction from the amount payable to that practitioner by the Committee as they think fit, and shall pay the amount so deducted to the credit of the Drug Fund: Provided that the practitioner shall be entitled to appeal to the Commissioners, whose decision shall be final.

Central Medical Benefit Fund.

41. For the purpose of defraying the cost of the medical benefit of temporary residents, the Commissioners shall establish a fund (in these regulations referred to as the "Central Medical Benefit Fund"), and shall carry to the credit of that fund in respect of each case of disease or disablement for which insured persons obtained treatment as temporary residents in England a sum (in these Regulations referred to as a "case-value" which shall be determined in accordance with the following principles, that is to say:

(1) The Commissioners shall determine in each year the case-value of persons on panel-lists in each County by dividing the amount of the Panel Service Fund by the number of cases of disease or disablement of persons on panel-lists in that County in respect of which treatment was given during that year.

(2) The Commissioners shall determine in each year the case-value of insured members of institutions in each County by dividing the amount of the Institutions Fund or the aggregate amount certified in the manner hereinafter provided to have been expended by institutions in that year, whichever is the less, by the number of cases of disease or disablement of insured members of institutions in that County in respect of which treatment was given during that year.

(3) The Commissioners shall ascertain the number of cases of disease or disablement of persons on panel-lists in respect of which they obtained treatment as temporary residents in England, and shall credit to the Central Medical Benefit Fund and debit, as to thirteen-seventeenths thereof to the Practitioners' Fund, and as to four-seventeenths thereof to the Drug Fund, a sum calculated by multiplying the case-value of persons on panel-lists by the number of cases so ascertained.

(4) The Commissioners shall ascertain the number of cases of disease or disablement of insured members of institutions in respect of which they obtained treatment as temporary residents in England, and shall credit to the Central Medical Benefit Fund and debit to the Institutions Fund a sum calculated by multiplying the case-value of insured members of institutions by the number of cases so ascertained.

(5) The sums to be credited to the Central Medical Benefit Fund in respect of insured persons whose names are included in the Register of any County in Scotland, Ireland, or Wales, and who become temporary residents in England, shall be such sums as may be determined by the Scottish Insurance Commissioners, the Irish Insurance Commissioners, and the Welsh Insurance Commissioners respectively.

(6) The Commissioners shall debit to the appropriate funds of each Committee case-values in respect of the treatment of persons included in the Register of that Committee who obtain treatment as temporary residents in Scotland or Wales, and shall pay each of the sums so debited to the Scottish Insurance Commissioners or the Welsh Insurance Commissioners, as the case may require.

Payment out of Central Medical Benefit Fund.

42.—(1) The Committee shall credit to each practitioner on the panel and to each approved institution in respect of the treatment of temporary residents, sums calculated in accordance with the scale contained in the Fifth Schedule to these Regulations, and shall credit to each person (including a practitioner on the panel) and to each institution in respect of the supply of drugs or appliances to temporary residents, amounts calculated in accordance with the Drug Tariff or other method of calculation adopted by the Committee, and shall within one month after the end of the year furnish to the Commissioners an account of the amounts so credited during that year.

(2) A sum equal to thirteen-seventeenths of the Central Medical Benefit Fund shall be carried to the credit of a Central Panel Fund, and the remaining four-seventeenths to the credit of a Central Drug Fund.

(3) Where the aggregate amounts so credited in respect of the supply of drugs and appliances do not exceed the Central Drug Fund, the Commissioners shall pay to each Committee the sum stated in the account furnished by the Committee, and, where the aggregate amounts so credited exceed the Central Drug Fund, an amount bearing the same proportion to the sum stated in that account as the Central Drug Fund bears to the aggregate amounts so credited.

(4) If there is any balance standing to the credit of the Central Drug Fund after payment of the amounts aforesaid, a sum not exceeding one-fourth of the total amount carried to the credit of the Central Drug Fund in respect of that year shall be carried to the credit of the Central Panel Fund and the remainder, if any, shall be carried to the credit of the Central Drug Fund for the succeeding year.

(5) The Commissioners shall pay to each Committee furnishing an account in respect of treatment an amount bearing the same proportion to the sum stated in that account as the sums standing to the credit of the Central Panel Fund bear to the aggregate amounts so credited.

(6) The Committee shall pay to each institution or person (including a practitioner on the panel) supplying drugs and appliances to temporary residents, a sum bearing the same proportion to the sum so credited to it or him as the sum paid in that year to the Committee out of the Central Drug Fund bears to the total amount credited by the Committee in respect of the provision of drugs and appliances to temporary residents.

(7) The Committee shall pay to each institution and practitioner on the panel, in respect of the treatment of temporary residents, a sum bearing the same proportion to the sum so credited to it or him as aforesaid, as the sum paid in that year to the Committee out of the Central Panel Fund bears to the total amounts credited by the Committee in respect of the treatment of temporary residents.

(8) The provisions of this Part of these Regulations relating to the powers of the Panel and Pharmaceutical Committees to examine accounts and to report on or take objection to items in those accounts shall apply to accounts rendered in respect of the treatment of and supply of drugs and appliances to temporary residents by practitioners on the panel and persons supplying drugs or appliances.

Institutions Fund.

43.—(1) Every approved institution shall, at the commencement of each quarter, furnish to the Committee a statement on a form to be provided by the Committee of the number of insured members of the institution.

(2) As soon as may be, after the expiration of each quarter, the Committee shall pay out of the Institutions Fund to the approved institution submitting the statement, in advance of the amount due to it, such sum as may be agreed between the Committee and the institution, or in default of agreement, as may be determined by the Commissioners, without prejudice, however, to the power of the Committee at such other times as they may think fit to pay to the institution such other sums on account as they may determine.

(3) The Board of Management of, or person administering, an approved institution shall, as soon as may be, after the end of every year, furnish to the Committee a certificate on a form to be approved by the Commissioners stating the amount expended by the institution during that year upon the provision of treatment (including medicines and appliances) for insured members of the institution, and the Committee shall pay out of the Institutions Fund to the institution a sum equal to the amount certified to have been so expended, or a sum bearing the same proportion to the sum standing to the credit of the Institution Fund for that year (after deducting the amount, if any, payable out of that fund to the Central Medical Benefit Fund) as the number of insured members of that institution bears to the total number of insured members of institutions, whichever shall be the less.

(4) Where, owing to the failure on the part of any institution to comply with any of the conditions of any Parliamentary grant, the sum payable in that year to the Institutions Fund is reduced, a corresponding reduction shall be made in the amount paid in that year to the institution which is in default.

(5) Any sum standing to the credit of the Institutions Fund at the end of any year shall be carried to the credit of that fund for the succeeding year.

Special Arrangements Fund.

44.—(1) Where the Committee are of opinion upon such evidence as they think sufficient that the arrangements made by any person making his own arrangements are satisfactory, that is to say, such as to secure treatment (including drugs and appliances) not inferior in nature, quality or extent to that provided under the arrangements made by the Committee and to comply in other respects with any conditions which by reason of any scheme for the distribution of a Parliamentary grant must be complied with in the case of treatment provided otherwise, a contribution shall be made towards the cost of that treatment in the manner hereinafter in this Regulation provided, and where the Committee are of opinion that the arrangements so made are not satisfactory or, upon any representation by a Society, that the treatment is not such as will adequately protect the funds of the Society, they shall either withhold the contribution or may make such a deduction therefrom as they may in any case determine.

(2) Subject as aforesaid, there shall be paid out of the Special Arrangements Fund to every person making his own arrangements, by way of contribution to the cost of his treatment and of drugs and appliances, amounts calculated as follows, namely:

(*a*) Unless the Commissioners otherwise permit, not more than thirteen-seventeenths of the Special Arrangements Fund shall be available for the purpose of defraying the cost of treatment, and not more than four-seventeenths for the purpose of defraying the cost of drugs and appliances;

(*b*) In the case of a person who has contracted for a fixed sum to obtain treatment for the year, or any part thereof, the sum so to be paid shall be a sum equal to the amount contracted to be paid by him or a sum equal to the aggregate amount in the Special Arrangements Fund available for defraying the cost of treatment for that year or that part of the year divided by the number of persons making their own arrangements, whichever is the less, and the necessary amount shall be appropriated from the Special Arrangements Fund for that purpose: Provided that, where the person who has so contracted to obtain treatment removes from the area within which that treatment is available during the period for which he has contracted to obtain treatment, the calculation shall be made as though the period for which he had so contracted were a period determining on the expiration of the quarter in which he removes, and the sum payable to him shall be reduced accordingly.

(*c*) In the case of a person who has contracted for a fixed sum to obtain treatment for a part of the year, so far as respects the remainder of the year, and in the case of any person who has not contracted for a fixed sum to obtain treatment for the year or any part thereof, the sum, if any, expended by him in obtaining treatment shall be deemed to be a sum calculated in accordance with a scale of fees fixed by the Committee, and payment shall be made accordingly, save that, where the aggregate amount expended by all such persons exceeds the amount in the Special Arrangements Fund available for defraying the cost of treatment (after deducting the amount appropriated under the last preceding paragraph), the amount contributed in the case of each such person shall be reduced proportionately;

(*d*) Payment shall be made in respect of the cost of drugs and appliances out of the amount available in the Special Arrangements Fund for defraying the cost of drugs and appliances, and the method of calculating the amount payable shall be similar to that prescribed for payment in respect of the cost of treatment:

Provided that it shall be a condition of any payment that the drugs and appliances supplied to any person making his own arrangements shall be supplied otherwise than by or at the profit of the practitioner who is attending him, except where the circumstances of the person are such that the practitioner would, if he were attending that person under the arrangements made the Committee, be entitled under his agreement with the Committee to supply drugs and appliances to that person.

(3) Any sum standing to the credit of the Special Arrangements Fund at the end of any year shall be carried forward to the credit of that fund for the succeeding year, so however that in the expenditure of the money to the credit of the Special Arrangements Fund in that year regard shall be had to whether any sum so carried forward has arisen from moneys which under this Regulation were applicable to treatment or to the provision of drugs and appliances and that the sum so carried forward shall be applicable accordingly.

PART V.

Provisions relating to Sub-Committees, etc.

Medical Service Sub-Committee.

45.—(1) Every Committee shall constitute a special Sub-Committee (in these Regulations referred to as the "Medical Service Sub-Committee") for dealing with any question arising between a person entitled to obtain treatment from a practitioner on the panel and the practitioner attending him in respect of the treatment (including the granting of certificates) rendered by the practitioner or the conduct of the insured person while receiving that treatment, and every question so arising shall stand referred to that Sub-Committee and the Committee may, if they think fit, refer to that Sub-Committee any other question arising with reference to the administration of medical benefit, or to the discharge by the practitioner of his duties under his agreement with the Committee.

(2) The Medical Service Sub-Committee shall be constituted in the following manner:—

(i) Three persons, and, if the Committee with the consent of the Commissioners so determine, not more than two additional persons shall be appointed to be members of the Medical Service Sub-Committee by and from the members of the Committee who represent insured persons, one person by the Local Medical Committee, and such number of persons by the Panel Committee as will, together with the person appointed by the Local Medical Committee, equal the number appointed by the persons representing insured persons:

Provided that, unless the person appointed by the Local Medical Committee or one of the persons appointed by the Panel Committee is a woman, at least one of the persons appointed by the members of the Committee who represent insured persons shall be a woman, but the woman so appointed may be a person who is or is not a member of the Committee;

(ii) A Chairman shall be selected from those members of the Committee, appointed respectively by the Council of the County and by the Commissioners, who are neither insured persons, practitioners, nor registered pharmacists (in this Part of these Regulations referred to as the "neutral members of the Committee") and the selection shall be made by the persons appointed to be members of the Sub-Committee, or in default of selection being made by those persons, by the neutral members of the Committee.

(3) If in the opinion of the Chairman any member of the Medical Service Sub-Committee is interested, or, in the case of a practitioner is partner or assistant to a practitioner interested, in a question referred to them, that member shall take no part in the hearing thereof, but another person, having the same qualification, if any, as the member who has withdrawn shall be appointed for the purpose of that hearing by the remaining members who represent practitioners or the remaining members who represent insured persons, as the case may be, and the the Chairman.

(4) The Committee may, if they think fit, provide for the appointment of a Vice-Chairman of the Medical Service Sub-Committee, who shall be selected from amongst the neutral members of the Committee by the same persons and in the same manner as the Chairman, and a Vice-Chairman so appointed shall in the absence of the Chairman exercise and perform the powers and duties of the Chairman, and shall be entitled to be present at a meeting of the Medical Service Sub-Committee at which the Chairman is present, but not to vote at or take any other part in the proceedings of that meeting.

(5) The Committee may, with the consent of the Commissioners, appoint two or more Medical Service Sub-Committees.

(6) Where any question which under these Regulations is to stand referred to the Medical Service Sub-Committee arises, the person desiring to have the question considered shall state in writing the substance of the matter, and shall forward the statement to the Clerk of the Committee.

(7) The proceedings at the hearing before the Medical Service Sub-Committee shall be private, and no person shall be admitted to those proceedings except—

(*a*) the person raising the question and the person with respect to whom the question arises;

(*b*) the secretary or other officer of the Society, if any, to which the insured person belongs;

(*c*) the secretary or other officer of the Panel Committee;

(*d*) such other person, not being counsel or a solicitor or other paid advocate, as the Medical Service Sub-Committee may upon the application of either party admit by reason of the fact that his attendance is required for the purposes of the proceedings or to assist either party in the presentation of his case; and

(*e*) such officers and servants of the Committee as they may appoint for the purpose.

(8) The quorum of the Medical Service Sub-Committee, their term of office and the procedure with regard to the hearing of the question, the nature of the evidence admitted and otherwise shall, subject to the approval of the Commissioners, be determined by the Committee.

(9) The Medical Service Sub-Committee shall draw up a report stating such relevant facts as appear to them to be established by the evidence placed before them, together with a recommendation as to the action, if any, which should be taken, and shall present the report to the Committee, and the Committee shall accept as conclusive any finding of fact contained in the report.

(10) Where the question at issue relates to the conduct of an insured person and the allegation made is in the opinion of the Committee substantiated, the Committee may, if the practitioner so desires, make arrangements for the transfer of the insured person to the list of another practitioner and may deal with him under the rules of the Committee relating to fines and to suspension of medical benefit.

(11) Where the question at issue relates to the treatment given by a practitioner and the allegation made is in the opinion of the Committee substantiated, the Committee may, if the insured person so desires, make arrangements for his transfer to the list of another practitioner, and may deal with the matter in accordance with any provisions in that behalf contained in their agreement with the practitioner, and if the Committee are satisfied either

(*a*) that owing to the number of the persons included in his list the practitioner is unable to give adequate treatment to all those persons; or

(*b*) that his conduct has been such as to afford to insured persons on his list adequate grounds for desiring to be removed therefrom,

they may decide that they will, on the application of any insured person included in the list of the practitioner, make arrangements without further inquiry for the transfer of that person to the list of another practitioner.

(12) Where the Committee are of opinion that the continuance on the panel of a practitioner will be prejudicial to the efficiency of the service of insured persons, they may make representations to that effect to the Commissioners.

(13) Where under the provisions of their agreement with a practitioner on the panel the Committee have recovered from him any expenses reasonably and necessarily incurred by an insured person entitled to obtain treatment from him owing to a breach on the part of the practitioner of that agreement, the Committee shall repay to the insured person the expenses so incurred.

(14) Where in the course of any investigation it appears to the Medical Service Sub-Committee that a question arises as to whether an operation or other service is of a kind which can consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary competence and skill, the Medical Service Sub-Committee shall refer the question to the Local Medical Committee and the question shall be decided in the manner in this Part of these Regulations provided, and the decision shall be binding on the Medical Service Sub-Committee.

(15) Where a question is raised by a Society as to the action of a practitioner on the panel with regard to any certificate which under his agreement with the Committee he is required to furnish to a member of that Society, the question shall stand referred to the Medical Service Sub-Committee, as if it were a question arising between the member and the practitioner, and the Society shall be entitled to appear before the Sub-Committee by its secretary or other officer.

(16) The Committee shall inform the practitioner, in respect of whom a question has arisen, of any decision made by them, and he shall be entitled to appeal from that decision to the Commissioners within fourteen days after receiving notice of the decision.

Pharmaceutical Service Sub-Committee.

46.—(1) Every Committee shall constitute a special Sub-Committee (in these Regulations referred to as the Pharmaceutical Service Sub-Committee) for dealing with any complaint made by a person entitled to obtain treatment from a practitioner on the panel against a person supplying drugs or appliances in respect of the quality of any drugs or appliances supplied, or in respect of any failure to supply drugs or appliances within a reasonable

space of time, and every complaint so made shall stand referred to that Sub-Committee.

(2) The Pharmaceutical Service Sub-Committee shall be constitued in the following manner:

(i) Three persons shall be appointed by and from the members of the Committee who represent insured persons;

(ii) Three registered pharmacists shall be appointed by the Pharmaceutical Committee;

(iii) A Chairman shall be selected from the neutral members of the Committee, and the selection shall be made by the persons appointed to be members of the Pharmaceutical Service Sub-Committee, or in default of selection being made by those persons, by the neutral members of the Committee:

Provided that, unless one of the persons appointed by the Pharmaceutical Committee is a woman, at least one of the persons appointed by the members of the Committee who represent insured persons shall be a woman, but the woman so appointed may be a person who is or is not a member of the Committee.

(3) If, in the opinion of the Chairman, any member of the Pharmaceutical Service Sub-Committee is interested, or, in the case of a person supplying drugs or appliances, is partner or assistant to a person interested, in a complaint referred to them, that member shall take no part in the hearing thereof, but another person, having the same qualification as the member who has withdrawn, shall be appointed for the purpose of that hearing by the remaining members who are registered pharmacists, or the remaining members who represent insured persons, as the case may be, and the Chairman.

(4) The Committee may, with the consent of the Commissioners, appoint two or more Pharmaceutical Service Sub-Committees.

(5) The provisions of these Regulations relating to the appointment and duties of a Vice-Chairman of the Medical Service Sub-Committee, the persons entitled to be admitted to their proceedings, and the duties of that Sub-Committee with respect to hearing and reporting on a complaint, shall apply to the Pharmaceutical Service Sub-Committee, with the substitution of the words "Pharmaceutical Service Sub-Committee" for "Medical Service Sub-Committee," and "Pharmaceutical Committee" for "Panel Committee," and subject thereto the quorum of the Pharmaceutical Service Sub-Committee, their term of office and the procedure with regard to the hearing of a complaint, the nature of the evidence admitted and otherwise shall, subject to the approval of the Commissioners, be determined by the Committee.

(6) Where the allegation made against a person supplying drugs or appliances is in the opinion of the Committee substantiated, the Committee may deal with the matter in accordance with any provisions in that behalf contained in their agreement with the person supplying drugs or appliances, and, if in their opinion the continuance of that person on the list will be prejudicial to the efficiency of the service of insured persons, may make representations to that effect to the Commissioners.

(7) Where under the provisions of their agreement with a person supplying drugs or appliances the Committee have recovered from him any expenses reasonably and necessarily incurred by an insured person owing to a breach on the part of the person supplying drugs or appliances of that agreement, they shall repay to the insured person the expenses so incurred.

(8) The Committee shall inform the person supplying drugs or appliances, in respect of whom a complaint has been made, of any decision made by them, and he shall be entitled to appeal from that decision to the Commissioners within fourteen days after receiving notice of the decision.

Joint Services Sub-Committee.

47.—(1) Every Committee shall constitute a special Sub-Committee (in these Regulations referred to as the "Joint Services Sub-Committee" in the following manner:—

(i) The Medical Service Sub-Committee shall appoint from amongst its members two practitioners.

(ii) The Pharmaceutical Service Sub-Committee shall appoint from amongst its members two registered pharmacists.

(iii) Two persons shall be appointed by and from the members of the Committee who represent insured persons:

Provided that, unless any of the persons appointed by the Medical Service Sub-Committee or the Pharmaceutical Service Sub-Committee is a woman, at least one of the persons appointed by the members of the Committee who represent insured persons shall be a woman, but the woman so appointed may be a person who is or is not a member of the Committee.

(iv) A Chairman shall be selected from the neutral members of the Committee, and the selection shall be made by the persons appointed to be members of the Joint Services Sub-Committee, or in default of selection being made by those persons, by the neutral members of the Committee.

(2) If in the opinion of the Chairman any member of the Joint Services Sub-Committee is interested, or, in the case of a practitioner or person supplying drugs or appliances, is partner or assistant to a person interested, in a question referred to them, that member shall take no part in the hearing thereof, but another person having the same qualification as the member who has withdrawn shall be appointed for the purpose of that hearing by the remaining members of the class of members to which the member who has withdrawn belongs, and the Chairman.

(3) Where in the opinion of the Medical Service Sub-Committee any matter referred to that Sub-Committee involves a question relating to a person supplying drugs or appliances, or where in the opinion of the Pharmaceutical Service Sub-Committee any matter referred to that Sub-Committee involves a question relating to a practitioner on the panel, the Sub-Committee shall in lieu of dealing with the matter themselves, refer it to the Joint Services Sub-Committee.

(4) The provisions of these Regulations relating to the appointment and duties of a Vice-Chairman of the Medical Service Sub-Committee, the persons entitled to be admitted to their proceedings, and the duties of that Sub-Committee with respect to hearing and reporting on a question shall apply to the Joint Services Sub-Committee, with the substitution of the words "Joint Services Sub-Committee" for "Medical Service Subcommittee," save that the Secretaries or other officers of the Panel Committee and of the Pharmaceutical Committee shall be entitled to be admitted, and subject thereto the quorum of the Joint Services Sub-Committee, their term of office and the procedure with regard to the hearing of a question, the nature of the evidence admitted and otherwise shall, subject to the approval of the Commissioners, be determined by the Committee.

(5) The Committee shall be entitled to take action on a report made by the Joint Services Sub-Committee in respect of a practitioner on the panel, a person supplying drugs or appliances, or an insured person in the same manner as on a report made by the Medical Service Sub-Committee or Pharmaceutical Service Sub-Committee and shall inform the practitioner or person supplying drugs or appliances of any decision made by them, and he shall be entitled to appeal from that decision to the Commissioners within fourteen days after receiving notice of the decision.

Duty of Local Medical Committee to Consider Complaints.

48. It shall be the duty of the Local Medical Committee to consider any complaint made by a practitioner on the panel against any other practitioner on the panel involving any question of the efficiency of the medical service of insured persons, and the Local Medical Committee may apply to the Commissioners to remove the name of the practitioner against whom complaint is made from the panel.

Duty of Pharmaceutical Committee to Consider Complaints.

49. It shall be the duty of the Pharmaceutical Committee to consider any complaint made by a person supplying drugs or appliances against any other person supplying drugs or appliances, involving any question of

the efficiency of the service of drugs or appliances to insured persons, and the Pharmaceutical Committee may apply to the Commissioners to remove the name of the person against whom complaint is made from the list of persons supplying drugs or appliances.

Decision as to Range of Medical Service.

50.—(1) If the Committee are of opinion that a question has arisen or may arise as to whether an operation or other service is of a kind which can consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill, that question shall be referred to the Local Medical Committee, and, if the Local Medical Committee and the Committee fail to come to an agreement, the matter shall be submitted for decision to Referees appointed under these Regulations in such summary manner as, subject to any rules made by the Commissioners in that behalf, may be directed by the Commissioners; and the decision of those Referees, given after hearing such parties and taking such evidence, if any, as they think just, shall be final, and the Referees in giving any such decision shall state whether in arriving at their decision they have had regard to any custom or practice of the medical profession which is peculiar to the area in which the question arose.

(2) For the purpose of giving effect to these Regulations the Commissioners shall, upon any such question arising, nominate as Referees two practitioners (who shall be selected from any panel of practitioners set up by the Joint Committee for the purpose, or if no such panel exists from among practitioners in actual practice in Great Britain) and one barrister-at-law or solicitor in actual practice.

(3) The Referees may decide any question coming before them by a majority, but, subject as aforesaid, their procedure shall be such as they may from time to time determine.

(4) If on any question referred to the Local Medical Committee under this Regulation the Committee and the Local Medical Committee are agreed, the Committee shall report the matter to the Commissioners and the Commissioners may, if they think fit, refer the question for decision to Referees in the manner provided in this Regulation, and the foregoing provisions of this Regulation shall apply accordingly.

Procedure on Appeal to Commissioners.

51. Where under the provisions of these Regulations or of any agreement made between the Committee and a practitioner on the panel or person supplying drugs or appliances any question arising between the Committee and the practitioner or person supplying drugs or appliances or his legal personal representative is referred, or any appeal from a decision of the Committee is made, to the Commissioners, the Commissioners shall determine such question or appeal in such manner as they think fit, and, if in the opinion of the Commissioners a hearing is required, they may authorise any two or more of the Commissioners to hear and determine such question or appeal, and any decision of the Commissioners or any of them made under this Regulation shall be final and conclusive.

PART VI.

Inquiries Relating to Practitioners.

Interpretation.

52.—(1) In this Part of the Regulations, unless the context otherwise requires, the following expressions have the respective meanings hereby assigned to them:—

"Representation" means a representation made to the Commissioners that the continuance of a practitioner upon the panel is prejudicial to the efficiency of the medical service of the insured:

"Complainant" means any person or body making a representation to the Commissioners under this Part of these Regulations:

"Inquiry" means an inquiry held in accordance with the provisions of this Part of these Regulations, and "Inquiry Committee" means the committee constituted under this Part of these Regulations for the purpose of holding an inquiry:

"Appointed day" means the day appointed for the holding of an Inquiry.

(2) The forms set out in the Sixth Schedule to these Regulations or other forms substantially to the like effect shall be used in all cases to which those forms are applicable.

Inquiry where a Representation is made to the Commissioners.

Power to Hold Inquiry.

53. If any representation is made to the Commissioners by any Committee, Local Medical Committee, or Panel Committee, the Commissioners shall, and if by any other person or body, the Commissioners may, subject as hereinafter provided, hold an inquiry in the manner prescribed by this Part of these Regulations.

Representation and Preliminary Statement.

54.—(1) A representation shall be in writing signed by or on behalf of the complainant.

(2) The Commissioners may, if they think fit, require the complainant to send to them a preliminary statement setting out the alleged facts and grounds on which the representation is based, and, where a fact is not within the personal knowledge of the complainant, the source of the information and grounds for the belief of the complainant in its truth, together with such further particulars as they may think necessary, and may require the preliminary statement to be verified by statutory declaration.

Power to Refuse Inquiry.

55. If it appears to the Commissioners, after due consideration of any representation or of any preliminary statement furnished to them by the complainant, not being a Committee, Local Medical Committee, or Panel Committee, that no good cause has been shown why an inquiry should be held, they may refuse to hold an inquiry, and shall inform the complainant accordingly.

Notices to be Sent in Case of Inquiry.

56.—(1) The Commissioners shall, in all cases where an inquiry is to be held, send the following notices, namely:—

Form 1.

(*a*) A notice to the practitioner informing him that it is proposed to hold an inquiry as to the representation made by the complainant; and

Form 2.

(*b*) A notice to the complainant informing him that it is proposed to hold an inquiry as to the representation made by him, and requiring him, within a time specified in the notice, to send to the Commissioners a concise statement of the alleged facts and grounds on which the representation is based (in this Part of these Regulations hereinafter referred to as "the statement of complaint"), together with a list of all the documents which he proposes to put in evidence:

Provided that where the complainant has sent a preliminary statement to the Commissioners, the Commissioners may, if they think fit, dispense with a statement of complaint, and in that case the preliminary statement shall, for the purposes of the inquiry, be treated as the statement of complaint.

Forms 3 and 4.

(2) The Commissioners may, if they think fit, on the application of the complainant or some person authorised by him, extend the time for sending to them the statement of complaint.

Practitioner may Admit or Deny Allegations. (*Form 5.*)

57. The Commissioners shall send to the practitioner a copy of the statement of complaint and of the list of documents which the complainant proposes to put in evidence, together with a notice informing him that he may, if he so desires, within a time specified in the notice,

by a statement in writing addressed to the Commissioners, admit or dispute the truth of all or any of the allegations appearing in the statement of complaint.

Right of Practitioner to Inspect Documents.

58.—(1) The practitioner may on giving due notice to the complainant inspect, either personally or by an agent authorised in writing, the documents included in the list sent by the complainant to the Commissioners, and the complainant shall give reasonable facilities for the purpose.

(2) The practitioner shall be entitled, on making application to the Commissioners, to a copy of any document in that list, and the Commissioners may, for the purpose of supplying to the practitioner copies of any such documents, require the complainant to deposit with them, or with one of their officers appointed for the purpose, any of the documents for copies of which application has been made, and shall return the documents to the complainant as soon as may be.

Power to Treat Representation as Withdrawn in Certain Cases.

59. If the complainant fails, within the time specified in the notice, or within any extended period, to send a statement of complaint to the Commissioners, or if he fails to comply with any other requirements of this Part of these Regulations, the Commissioners may treat the representation as having been withdrawn.

Constitution of Inquiry Committee.

60.—(1) For the purpose of each inquiry the Commissioners shall constitute an Inquiry Committee composed of a barrister-at-law or solicitor in actual practice and two practitioners, and if any body of practitioners has been established for the purpose by the Joint Committee the two practitioners so appointed shall be selected from that body.

(2) The Commissioners shall appoint one of the members of the Inquiry Committee to be Chairman.

(3) The Commissioners shall appoint a fit person to act as clerk to the Inquiry Committee.

Notice of Inquiry to be Given. (Form 6.)

61.—(1) The Commissioners shall appoint a day for the holding of the Inquiry, and shall, not less than seven days before the appointed day, send notices to the complainant and the practitioner informing them that the Inquiry will be held on the appointed day.

Form 7.

(2) The Commissioners shall send to each Committee (other than a Committee which is the complainant) on whose list of practitioners undertaking the treatment of insured persons the name of the practitioner appears, notice of the proposed Inquiry, and of the date, time and place on and at which it is proposed to hold the Inquiry, and each such Committee may appear and may take such part in the proceedings at the Inquiry as the Inquiry Committee shall think proper.

Power to Postpone Inquiry.

62. The Commissioners may, if they think fit, or on the application of either party, postpone the holding of the Inquiry until such date later than the appointed day as they may determine, and thereupon that later day shall for the purposes of this Part of these Regulations be the appointed day.

Appearance by Representatives.

63.—(1) Any Committee, Local Medical Committee, Panel Committee or other body, whether corporate or unincorporate, entitled to appear at the Inquiry, may appear by their Clerk or other officer duly authorised for the purpose, or, with the consent of the Chairman of the Inquiry Committee, by counsel or solicitor.

(2) The complainant, not being one of the bodies above mentioned, and the practitioner may, with the consent of the Chairman of the Inquiry Committee, appear at the Inquiry:

(*a*) By any member of his family;

(*b*) by counsel or solicitor;

(*c*) by any officer or member of any society or other body of persons of which the person in question is a member or with which he is connected.

Form 8.

(3) If either party to an Inquiry, or Committee to whom notice of the Inquiry has been given, desires to appear at the Inquiry by a representative, and the consent of the Chairman of the Inquiry Committee is required, the party or Committee shall send an application for leave so to appear to the Clerk of the Inquiry Committee not less than five days before the appointed day, and the Clerk shall inform the Chairman, who shall, as soon as may be, notify the applicant and such other parties as appear to him to be interested of his decision in the matter, without prejudice to his power at any time during the hearing to consent to any such application and to adjourn the Inquiry for that purpose.

Withdrawal of Representation. (Form 9.)

64.—(1) The complainant may at any time before the appointed day withdraw the representation by giving notice of withdrawal in writing to the Commissioners.

(2) Where the representation has been withdrawn or is treated by the Commissioners as having been withdrawn, the Commissioners shall (without prejudice to their power to hold an Inquiry as hereinafter provided) forthwith inform the practitioner that the representation has been withdrawn or is treated as having been withdrawn, as the case may be.

Amendment of Statement of Complaint.

65. The Commissioners at any time before the appointed day, and the Inquiry Committee at any time on or after the appointed day before the conclusion of the Inquiry, may allow the statement of complaint to be amended upon such conditions as they may think just, and may in any case where they think fit, require the complainant to furnish to them in writing further particulars of the alleged facts and grounds appearing in the statement of complaint.

Procedure of Inquiry.

66. Unless the Inquiry Committee, with the approval of the Commissioners, otherwise determine, the procedure at the Inquiry shall be governed by the rules set out in the Seventh Schedule to these Regulations.

INQUIRY WHERE NO REPRESENTATION IS MADE TO COMMISSIONERS.

Power to Hold Inquiry in Absence of Representation.

67. In any case where it appears to the Commissioners desirable to hold an Inquiry for the purpose of ascertaining whether the continuance of a practitioner on any panel would be prejudicial to the efficiency of the medical service of the insured, the Commissioners may, notwithstanding either that—

(i) no representation to that effect has been made to them, or that—

(ii) if such representation has been made, it has been withdrawn or has been treated as withdrawn,

proceed to hold an Inquiry for that purpose, and the foregoing Regulations shall, with the necessary modifications and subject as hereinafter provided, apply accordingly.

Notice to be Sent to Practitioner. (Form 10.)

68. The Commissioners shall send to the practitioner a statement of the facts and grounds which appear to them to justify the holding of an Inquiry (in this Part of these Regulations referred to as the "case for inquiry"), together with a notice informing him that he may if he so desires within a time specified in the notice, by a statement in writing addressed to the Commissioners, admit or dispute the truth of all or any of the allegations appearing in the case for inquiry.

Constitution of Inquiry Committee.

69. If after considering the statement of the practitioner or, if no statement is received, after such lapse of time as the Commissioners may think reasonable, the Commissioners are of opinion that it is desirable to hold an Inquiry, they shall constitute an Inquiry Committee in the manner hereinbefore provided and shall appoint a day for the holding of the Inquiry and shall send—

Form 11.

(*a*) to the practitioner, a notice informing him that the Inquiry will be held on the appointed day, and

Form 12.

(*b*) to each Committee on whose list of practitioners undertaking the treatment of insured persons the name of the practitioner appears, a notice of the proposed Inquiry stating the date, time, or place on or at which it is proposed to hold the Inquiry,

and each such Committee may appear and may take such part in the proceedings at the Inquiry as the Inquiry Committee shall think proper.

Procedure at Inquiry.

70. The Commissioners shall appoint some fit person to appear at the Inquiry in support of the allegations in the case for inquiry, and subject thereto, the procedure at the Inquiry shall be governed as nearly as may be by the rules set out in the Seventh Schedule to these Regulations, but those rules may be varied or modified as the circumstances of the case may require and as the Commissioners, or the Inquiry Committee with the approval of the Commissioners, may think fit.

Report by the Inquiry Committee.

71. At the conclusion of the Inquiry, the Inquiry Committee shall, as soon as may be, draw up a report stating such relevant facts as appear to them to be established by the evidence and the inferences of fact which, in the opinion of the Inquiry Committee, may properly be drawn from the facts so established, and the Commissioners, after taking such report into consideration, shall give their decision in due course and may cause it to be published in such manner as they shall think fit.

MISCELLANEOUS.

Power to Suspend Proceedings in Certain Cases.

72. Where it appears to the Commissioners that the alleged facts on which any representation or case for inquiry is based are, or may be, the subject of investigation by any other tribunal, they may, if they think fit, direct that no further steps shall be taken under these Regulations pending the issue of such other investigation.

Service of Notices, etc.

73.—(1) Where any notice or other document is required or authorised by these Regulations to be sent by or on behalf of the Commissioners, it shall be a sufficient compliance with the Regulations if the notice or other document is sent by post in a registered letter directed to the person for whom it is intended, at his ordinary address, or, if he is a practitioner, at the address set opposite his name in the Medical Register, and in the case of an Approved Society, branch of an Approved Society, Committee, Local Medical Committee or Panel Committee, to the Secretary of the Society or branch, or to the Clerk or Secretary of the Committee, Local Medical Committee or Panel Committee, as the case may be.

(2) Where any application, statement or other document in required or authorised by this Part of these Regulations to be sent to the Commissioners or to an Inquiry Committee or to the Chairman of an Inquiry Committee, it shall be a sufficient compliance with these Regulations if the application, statement or other document is sent if sent by post directed to the Secretary to the Commissioners or to the Clerk to the Inquiry Committee at the Office of the Commissioners, as the case may require, and where leave to appear by a solicitor has been granted to any party to an Inquiry, it shall be sufficient compliance with these Regulations if the notice or other document is sent in the manner aforesaid to the solicitor at his professional address.

(3) Until the contrary is proved, any notice, application, statement, or other document sent as aforesaid shall be deemed to be served at the time at which a letter would be delivered in the ordinary course of post.

Power to Dispense with Requirements as to Notices.

74. The Commissioners or the Inquiry Committee may dispense with any requirement of this Part of these Regulations respecting notices, applications, documents or otherwise in any case where it appears to the Commissioners or the Inquiry Committee just and proper to do so.

PART VII.

INQUIRIES RELATING TO PERSONS SUPPLYING DRUGS OR APPLIANCES.

Constitution of Inquiry Committee.

75.—(1) For the purpose of holding an inquiry as to whether the inclusion or continuance of a person supplying drugs or appliances in the list of persons supplying drugs or appliances to insured persons is or would be prejudicial to the efficiency of the service, the Commissioners shall constitute an Inquiry Committee composed of a barrister-at-law or solicitor in actual practice and two other persons, who, if any body has been established for the purpose by the Joint Committee, shall be selected from that body.

(2) The Commissioners shall appoint one of the members of the Inquiry Committee to be Chairman.

(3) The Commissioners shall appoint a fit person to act as clerk to the Inquiry Committee.

Application of Part VI. of Regulations.

76. Subject as aforesaid, the provisions of Part VI. of, and the Seventh Schedule to, these Regulations with respect to the power and duty of the Commissioners to institute an inquiry, the procedure to be adopted in connection with an inquiry, the report of the Inquiry Committee, and otherwise shall, with the substitution of the words "Pharmaceutical Committee" for "Local Medical Committee" and such other modifications as may be necessary, apply to inquiries held under this Part of these Regulations, and the forms set out in the Sixth Schedule to these Regulations, with the necessary modifications, or other forms substantially to the like effect, shall be used for the purposes of inquiries under this Part of these Regulations in all cases to which those forms are applicable.

PART VIII.

MISCELLANEOUS.

Mileage.

77. The Committee may, if they think fit, make arrangements for a payment to practitioners on the panel in respect of mileage—that is to say, their obligation to attend insured persons resident beyond such distance from the place of residence of the practitioner, as the Committee having regard to the special difficulties of access to the place of residence of the insured person may in any case agree with the practitioner.

Persons frequently Removing.

78.—(1) An insured person who by reason of his employment or occupation is frequently changing or intends frequently to change his place of residence may make application to the Committee in whose Register his name is included, on a form to be provided by the Committee for the purpose, to be allowed to obtain his medical benefit as though he were a temporary resident in each place in which he resides, and if the Committee consent to his application they shall inform the Commissioners of the application and of their consent thereto.

(2) The Commissioners shall thereupon furnish the applicant with a voucher and his name shall be removed from the Register and lists of the Committee, and he shall be entitled for a period not exceeding six months to obtain medical benefit as though he were a temporary resident, and for the purposes of these Regulations and of the agreements made by the Committee with practitioners on the panel and persons supplying drugs or appliances, he shall be deemed to be a temporary resident.

(3) Notwithstanding anything contained in these Regulations, no part of the sum available for the medical benefit of such person shall be credited to the Medical Benefit Fund Account of any Committee in respect of him, but the sum available shall be carried to the credit of the Central Medical Benefit Fund, and the provisions of Part IV of these Regulations relating to the method of defraying the cost of the medical benefit of temporary residents shall apply in all respects as though he were in each place a temporary resident.

Old and Disabled Members of Societies.

79.—(1) Any person who was on the 16th day of December, 1911, and still is, a member of any friendly society, which or a separate section of which has become an Approved Society, and who is not entitled to medical benefit under the Act by reason either that he was on the 15th July, 1912, of the age of 65 or upwards, or that being subject to permanent disablement at that date he is not qualified to become an insured person, or the secretary or other officer of the society of which he is a member on his behalf, may give notice to the Committee that the member desires to obtain treatment under arrangements made by the Committee and that the society undertakes to pay in respect of the treatment of the member the sum prescribed in this Regulation, and where the notice is given personally it shall be countersigned by the secretary or other officer.

(2) The Committee shall furnish to each such member such voucher or other document as may be approved by the Commissioners, and it shall be a condition of every agreement between the Committee and a practitioner on the panel that he shall attend and treat any person presenting such voucher or other document at a rate of remuneration not exceeding the amount which would be available for the treatment (not including drugs and appliances) of that member if he were an insured person: Provided that, so far as practicable, the Committee shall not require a practitioner to attend and treat a number of such members greater than a number bearing the same proportion to the insured persons on his list as the total number of such members obtaining treatment under arrangements made by the Committee bears to the total number of persons included in the list of practitioners on the panel.

(3) The provisions of this Regulation shall apply to any person who was on the 16th day of December, 1911, and still is a member of a society (other than a friendly society) which or a separate section of which has become an Approved Society, if he was at the date aforesaid entitled, as such member, to medical attendance and treatment.

80. All forms and vouchers to be provided under these Regulations by the Committee shall be submitted for the approval of the Commissioners, and the Committee shall not make use of any such form or voucher until the same has been approved.

Preparation of Rules.

81. The Committee shall, after consultation with the Local Medical Committee and Panel Committee, prepare rules with regard to the administration of medical benefit in accordance with Section 14 of the principal Act, and shall submit them for the approval of the Commissioners.

Approval of Arrangements by the Commissioners.

82. The Committee shall submit for the approval of the Commissioners all arrangements proposed to be made by the Committee for the administration of medical benefit, and before approving any arrangements submitted to them the Commissioners shall consider any representations made to them by the Local Medical Committee, the Panel Committee, or the Pharmaceutical Committee and, subject to any alterations made in pursuance of the requirements of the Commissioners, any arrangements so made by the Committee and approved by the Commissioners shall have effect for such period as may be specified in the approval.

Provisional Arrangements.

83. Notwithstanding anything contained in these Regulations, or any arrangements made thereunder, the Commissioners may, subject to the provisions of the principal and amending Acts, authorise the Committee to make provisional arrangements in lieu of arrangements made under these Regulations or to extend the operation of any provisional arrangements already made for such period as the Commissioners think fit, and where any such provisional arrangements are made or extended the provisions of these Regulations shall have effect subject to such modifications as the Commissioners may approve.

Seamen's National Insurance Society.

84. These Regulations shall only apply to members of the Seamen's National Insurance Society where that Society has agreed with a Committee for the administration by the Committee of medical benefit to individual members of the Society.

Regulations Subject to Powers Reserved to Commissioners.

85. These Regulations shall have effect subject to the exercise by the Commissioners of the powers conferred on them by the proviso to sub-section (2) of Section 15 of the principal Act or proviso (i) to sub-section (5) of that Section or by Section 11 of the Amending Act.

Revocation of Previous Regulations.

86. The National Health Insurance (Administration of Medical Benefit) Regulations, 1912 and 1913, the National Health Insurance (Medical Practitioners: Inquiry Procedure) Regulations, 1913, Part IV. of the National Health Insurance (Panel and Pharmaceutical Committees) Regulations, 1913, so far as they apply to England, are hereby revoked.

Date of Commencement of Regulations.

87. These Regulations shall come into operation on the 12th day of January, 1914.

FIRST SCHEDULE.

Part I.

Conditions of Service for Practitioners.

1. The National Insurance Acts, 1911 to 1913, and these Regulations or other Regulations for the administration of medical benefit in force for the time being in the County are incorporated in and form part of the agreement.

2.—(i) The practitioner shall give to all persons who are for the time being entitled to obtain treatment from him such treatment as is of a kind which can consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill: Provided that the practitioner shall not, by virtue of the agreement, be required to give, nor entitled under the agreement, to make any charge for treatment to any person in respect of a confinement (that is to say, labour resulting in the issue of a living child or labour after twenty-eight weeks of pregnancy resulting in the issue of a child whether alive or dead),* [nor to any person suffering from tuberculosis or any other disease the treatment of which may hereafter be included in sanatorium benefit, in so far as that person has been recommended for and is entitled to obtain that treatment as part of his sanatorium benefit.]*

(ii) The practitioner shall not accept any fee or other remuneration in respect of treatment which he is required to give under the agreement, except as provided in the agreement.

3. Where the condition of the patient is such as to require services beyond the competence of an ordinary practitioner the practitioner shall advise the patient as to the steps which should be taken in order to obtain such treatment as his condition may require.

4.—(i) The practitioner shall visit at the place of residence of the patient any patient whose condition so requires.

(ii) Where a patient is at any place other than his place of residence the practitioner shall visit him if his condition so requires, provided that he is within a distance of miles by road from the residence of the practitioner.

(iii) For the purposes of this clause the place of residence of the patient means the place where he resided at the date on which he was accepted by or assigned to the practitioner.

5.—(i) The practitioner shall attend and treat at the places specified for the purpose, and on such days and at such hours as are so specified, any patient who attends there for that purpose.†

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* The words in square brackets are to be omitted in any agreement entered into with a practitioner, if by that agreement the practitioner undertakes to give, in addition to medical treatment under these Regulations, domiciliary treatment to persons recommended for sanatorium benefit.

† [*Note.*—These particulars will be contained in a Schedule to the agreement.]

(ii) The practitioner may with the consent of the Committee, which shall not be unreasonably withheld, alter the places, days, and hours of his attendance, or any of them, and shall in that event take such steps as the Committee may consider necessary to bring the alteration to the notice of the persons entitled to obtain treatment from him.

6. The practitioner shall order on the form provided by the Committee for the purpose such drugs and prescribed appliances as are requisite for the treatment of any patient other than those which the practitioner may be under arrangement himself to supply, and if the practitioner orders any drug not included in the list from time to time provided to him by the Committee, or orders any drug or appliance for a patient who is a temporary resident, he shall distinguish the order so given in such manner as the Committee may require.

7. All treatment shall be given by the practitioner personally, except where he is prevented from so doing by urgency of other professional duties, temporary absence from home, or other reasonable cause, and the practitioner will to the best of his ability provide that when he is so precluded from personal attendance some other practitioner will give attendance as his deputy on his behalf: Provided that where treatment is given by a deputy the deputy shall be entitled to treat patients at places other than those specified in the agreement, due regard being had to the convenience of the patients.

8. The practitioner shall keep such records of the diseases of his patients and of his treatment of them as may be required as conditions of the payment of any Parliamentary Grant, and such further records as may at any time hereafter be agreed between the Committee and the Panel Committee.

9.—(i) If, owing to any breach on the part of the practitioner of the agreement, any expenses have been reasonably and necessarily incurred by the Committee or by any patient, or the Committee are deprived of any sum which would otherwise have been payable towards the cost of providing medical benefit, the Committee shall be entitled to recover from the practitioner or his legal personal representative, either by deduction from any moneys payable under the agreement or otherwise, the amount of the expenses so incurred and of the sum of which the Committee have been so deprived.

(ii) Before taking action on any matter under the provisions of this clause, the Committee shall, unless the matter has been previously dealt with by the Medical Service Sub-Committee or the Joint Services Sub-Committee, refer it to the Medical Service Sub-Committee, which shall deal with the matter in accordance with the Regulations relating to the powers and duties of that Sub-Committee:

(iii) The practitioner or his legal personal representative shall be entitled to appeal to the Commissioners from any decision of the Committee under this clause within fourteen days after receiving notice of the decision.

10. Any dispute or question (other than a question which under the provisions of these Regulations or of the last preceding clause hereof is referred to the Medical Service Sub-Committee, or is to be submitted for decision to referees appointed under these Regulations) arising between the Committee and the practitioner or his legal personal representative relating to the construction of the agreement or the rights and liabilities of the Committee or the practitioner or his legal personal representative hereunder shall be referred to the Commissioners.

11. In the event of the Commissioners exercising any of the powers conferred on them by the proviso to subsection (2) of Section 15 of the principal Act, or by proviso (i) to subsection (5) of that section, or by Section 11 of the amending Act, in respect of the area within which the practitioner is under this agreement required to give treatment, the agreement shall determine forthwith, but save as aforesaid, the agreement shall not be varied or determined otherwise than in accordance with the provisions of Part II of these Regulations.

Any one of the following methods of remuneration or any combination of them may be adopted:

A.—*Capitation System.*

The rate of a quarter in respect of each person included in the list of the practitioner at the commencement of the quarter.

B.—*Capitation System plus Payment for Special Services.*

In priority, the rate of a quarter in respect of each person included in the list of the practitioner at the commencement of the quarter.

Other rates for all or any of the following services:

	£ s. d.
(1) Special visit, *i.e.*, visit paid by the patient's desire on the same day as a call received after a.m., or on Sunday.. ..	
(2) Night visit, *i.e.*, visit paid between the hours of 8 p.m. and 8 a.m. in response to a call received between those hours..	
(3) Surgical operation requiring local or general anaesthetic, or treatment of abortion or miscarriage in so far as not included in maternity benefit ..	
(4) Setting of fracture	
(5) Reduction of dislocation	
(6) Administration of general anaesthetic for the purposes of any operation included in medical benefit	
(7) Treatment of tuberculosis in so far as the patient is not entitled to obtain such treatment as part of sanatorium benefit	
(*a*) per visit	
(*b*) per attendance at practitioner's residence, surgery or dispensary ..	

C.—*Capitation System plus Payment for Services.*

In priority, the rate of a quarter in respect of each person included in the list of the practitioner at the commencement of the quarter.

Other rates for the following services:

	£ s. d.
(1) Visit to the patient's residence	
(2) Attendance on the patient at the practitioner's residence, surgery, or dispensary	
(3) Special visit, *i.e.*, visit paid by the patient's desire on the same day as a call received after a.m., or on Sunday	
(4) Night visit, *i.e.*, visit made between the hours of 8 p.m. and 8 a.m. in response to a call received between those hours.	
(5) Surgical operation requiring local or general anaesthetic, or treatment of abortion or miscarriage in so far as not included in maternity benefit.. ..	
(6) Setting of fracture	
(7) Reduction of dislocation	
(8) Administration of general anaesthetic for the purposes of any operation included in medical benefit	
(9) Treatment of tuberculosis in so far as the patient is not entitled to obtain such treatment as part of sanatorium benefit.	
(*a*) per visit	
(*b*) per attendance at practitioner's residence, surgery or dispensary..	

D.—*Payment for Special Services plus Capitation System.*

In priority, rates for all or any of the following services:

	£ s. d.
(1) Special visit, *i.e.*, visit paid by the patient's desire on the same day as a call received after a.m., or on Sunday..	
(2) Night visit, *i.e.*, visit made between the hours of 8 p.m. and 8 a.m. in response to a call received between those hours..	
(3) Surgical operation requiring local or general anaesthetic, or treatment of abortion or miscarriage in so far as not included in maternity benefit.. ..	
(4) Setting of fracture	
(5) Reduction of dislocation..	
(6) Administration of general anaesthetic for the purposes of any operation included in medical benefit	
(7) Treatment of tuberculosis in so far as the patient is not entitled to receive such treatment as part of sanatorium benefit	
(*a*) per visit	
(*b*) per attendance at the practitioner's residence, surgery or dispensary	

A further rate of a quarter in respect of each person included in the list of the practitioner at the commencement of the quarter.

E.—*Payment by Attendance.*

Rates for the following services:

	£ s. d.
(1) Visit to the patient's residence	
(2) Attendance on the patient at the practitioner's residence, surgery, or dispensary	
(3) Special visit, *i.e.*, visit paid by the patient's desire on the same day as a call received after a.m., or on Sunday	
(4) Night visit, *i.e.*, visit made between the hours of 8 p.m. and 8 a.m. in response to a call received between those hours	
(5) Surgical operation requiring local or general anaesthetic, or treatment of abortion or miscarriage in so far as not included in maternity benefit	
(6) Setting of fracture	
(7) Reduction of dislocation	
(8) Administration of general anaesthetic for the purposes of any operation included in medical benefit	
(9) Treatment of tuberculosis in so far as the patient is not entitled to obtain such treatment as part of sanatorium benefit	
(*a*) per visit	
(*b*) per attendance at practitioner's residence, surgery or dispensary	

SECOND SCHEDULE.

List of Appliances.

Bandages:
- *Calico, bleached.*
- *Calico, unbleached.*
- *Crepe.*
- *Domette.*
- *Elastic web.*
- *Flannel.*
- *India-rubber.*
- *Muslin.*
- *Plaster of Paris.*
- *Open-wove.*

Gauzes:
- *Unmedicated.*
- *Boric.*
- *Carbolic.*
- *Cyanide.*
- *Iodoform.*
- *Picric.*
- *Sal-alembroth.*
- *Sublimate.*

Lints:
- *Unmedicated.*
- *Boric.*
- *Sal-alembroth.*

Cotton-wools:
- *Unmedicated.*
- *Boric.*
- *Sal-alembroth.*

Wood wool.
Tow, plain.
Oiled silk.
Oiled paper.
Oiled cambric.
Gutta percha tissue.
Adhesive plaster.
Ice-bags.
- *India rubber.*
- *Check sheeting.*

Splints.
Catheters:
- *Gum-elastic.*
- *Soft rubber.*

THIRD SCHEDULE.

Conditions of Agreement for Supply of Drugs and Appliances by Chemist.

1. The National Insurance Acts, 1911 to 1913, and these Regulations or other Regulations for the administration of medical benefit in force for the time being in the County are incorporated in and form part of the agreement.

2. The chemist shall undertake the supply of drugs and appliances to insured persons at the place or places of business specified for the purpose.

3. The chemist shall, with reasonable promptness, supply to any person presenting an order for drugs or appliances on a form provided by the Committee for the purpose, and signed by any practitioner on the panel or his deputy, such drugs or appliances as are so ordered, and shall so far as practicable keep in stock for that purpose the drugs and medical and surgical appliances specified for the purpose.

4. All drugs and appliances shall be of good quality, and shall be supplied at the prices specified for the purpose together with (in the case of medicines requiring to be dispensed) a fee for dispensing calculated in the specified manner.

[*Note.*—These particulars will be contained in a Schedule to the agreement.]

5. In the case of any drug, the price of which is not so specified, the price shall be calculated by reference to a scale prepared for the purpose together with a dispensing fee calculated as aforesaid where dispensing is required.

6. The chemist shall provide, free of charge to a person presenting such order as aforesaid, proper bottles or other vessels for any substances to which Section 5 of the Poisons and Pharmacy Act, 1903, or the Regulations made under Section 1 of the Pharmacy Act, 1868, relate.

7. Where a person upon presenting an order for any drug or appliance (not being a substance to which the last preceding clause relates) for which a bottle or other vessel is requisite, deposits with the chemist the price of the bottle or other vessel, the chemist shall upon the return of the said bottle or other vessel in a clean condition pay back the sum so deposited.

8. The dispensing of medicines shall be performed either by or under the direct supervision of a registered pharmacist or by a person who for three years immediately prior to the 16th December, 1911, has acted as a dispenser to a practitioner or a public institution.

9. All drugs and appliances shall be supplied to the person presenting such order as aforesaid free of charge to that person.

10.—(i) If, owing to any breach on the part of the chemist of the agreement, any expenses have been reasonably and necessarily incurred by the Committee or by any insured person, or the Committee are deprived of any sum which would otherwise have been payable towards the cost of providing medical benefit, the Committee shall be entitled to recover from the chemist or his legal personal representative either by deduction from any moneys payable under the agreement or otherwise, the amount of the expenses so incurred and of the sum of which the Committee have been so deprived.

(ii) Before taking action on any matter under the provisions of this clause, the Committee shall, unless the matter has previously been dealt with by the Pharmaceutical Service Sub-Committee or Joint Services Sub-Committee, refer it to the Pharmaceutical Service Sub-Committee which shall deal with the matter in accordance with the Regulations relating to the powers and duties of that Sub-Committee.

(iii) The chemist or his legal personal representative shall be entitled to appeal to the Commissioners from any decision of the Committee under this clause within fourteen days after receiving notice of that decision.

11. Any dispute or question (other than a question which under the provisions of these Regulations or of the last preceding clause hereof is referred to the Pharmaceutical Service Sub-Committee) arising between the Committee and the chemist or his legal personal representative relating to the construction of the agreement or the rights and liabilities of the Committee or the chemist or his legal personal representative hereunder shall be referred to the Commissioners.

12. In the event of the Commissioners exercising any of the powers conferred on them by the proviso to subsection (2) of Section 15 of the principal Act or by the proviso (i) to subsection (5) of that section, or by Section 11 of the amending Act, in respect of the area of the Committee or any portion of that area, the Committee may, if the Commissioners so require, on giving not less than seven days' notice determine the agreement, but save as aforesaid, the agreement shall not be varied or determined otherwise than in accordance with the provisions of Part II of these Regulations.

FOURTH SCHEDULE.

Form of Notice to be Exhibited by Persons undertaking the Supply of Drugs or Appliances or Both.

National Insurance Acts, 1911 to 1913.

(Name of Person or Firm contracting.)

Under contract with the Insurance Committee for the County [*or* County Borough] of .....

To dispense medicines.
To supply drugs.
To supply drugs (except scheduled poisons).
To supply appliances.

[*Note.*—Strike out words not applicable.]

FIFTH SCHEDULE.

Scale for Calculating Remuneration in Respect of the Treatment of Temporary Residents.

	£	s.	d.
(1) Visit to the patient's residence	0	2	6
(2) Attendance on the patient at the practitioner's residence, surgery, or dispensary	0	2	0
(3) Special visit, *i.e.*, visit paid by the patient's desire on the same day as a call received after 10 a.m., or on Sunday	0	3	6
(4) Night visit, *i.e.*, visit made between the hours of 8 p.m. and 8 a.m. in response to a call received between those hours ..	0	5	0
(5) †Surgical operation requiring local or general anaesthetic, or case of abortion or miscarriage in so far as not included in maternity benefit	1	1	0
(6) Administration of general anaesthetic for the purposes of any operation included in medical benefit	1	1	0
(7) †Setting of fracture	1	1	0
(8) †Reduction of dislocation	1	1	0
(9) Mileage, per mile beyond three miles (one way only)	0	1	0
(10) Attendance on the patient at the practitioner's residence, surgery, or dispensary for the purpose of granting certificate	0	1	0

† Subsequent visits or attendances to count as ordinary visits or attendances.

SIXTH SCHEDULE.

FORM 1.

Notice to the Practitioner of intention to hold Inquiry.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To of

Take notice that a representation has been made by of to the Insurance Commissioners that your continuance on the panel of medical practitioners for the County [County Borough] of would be prejudicial to the efficiency of the medical service of insured persons, and that it is proposed to hold an Inquiry with respect to the above representation.

A statement of the alleged facts and grounds on which the above representation is based will be sent to you as soon as possible, and notice of the date appointed for the holding of the Inquiry will follow in due course.

A print of the National Health Insurance (Medical Benefit) Regulations (England), 1913, is enclosed herewith for your information.

Signed.....

Secretary or Assistant Secretary } to the Insurance Commissioners.

Dated.....

FORM 2.

Notice to Complainant of intention to hold Inquiry.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To of

Take notice that it is proposed to hold an Inquiry with respect to the representation dated the day of , 19 , made by you to the Insurance Commissioners to the effect that the continuance of the above named on the panel of medical practitioners for the County [County Borough] of would be prejudicial to the efficiency of the medical service of insured persons.

You are hereby required within days after receipt of this notice to set out on the accompanying form—

(*a*) a concise statement of the facts and grounds on which your said representation is based; and

(*b*) a list of all the documents (if any) which you propose to put in evidence at the Inquiry,

and to forward the form to the Insurance Commissioners, Buckingham Gate, London, S.W.

Notice of the day appointed for the holding of the Inquiry will be sent to you in due course.

A print of the National Health Insurance (Medical Benefit) Regulations (England), 1913, is enclosed herewith for your information.

Signed.....

Secretary or Assistant Secretary } to the Insurance Commissioners.

Dated.....

Statement of Complaint.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To the Insurance Commissioners, Buckingham Gate, London, S.W.

The facts and grounds on which the representation made by me with respect to the above-named is based are as follows:—

[*Here set out concise statement of facts and grounds.*]

The following is a list of all the documents which I propose to put in evidence:—

[*Here set out list of documents.*]

Signed.....

Dated.....

FORM 3.

Application for Extension of Time.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To the Insurance Commissioners, Buckingham Gate, London, S.W.

I hereby apply for an extension of the time within which my Statement of Complaint in the above matter may be lodged, upon the grounds following, that is to say:—

[*Here set out concisely the grounds on which the extension of time is desired.*]

Signed.....

Dated.....

FORM 4.

Grant of Extension of Time.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To of

With reference to the application for an extension of time, dated the day of , made by you to the Insurance Commissioners, I am directed by the Insurance Commissioners to state that they have consented to extend the time within which your statement of complaint in the above matter may be lodged for a further period of days from the day of

[*or* that they have not consented to extend the time within which your statement of complaint in the above matter may be lodged].

Signed.....

Secretary or Assistant Secretary } to the Insurance Commissioners.

Dated.....

FORM 5.

Notice to Practitioner of alleged facts and grounds on which representation is based.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To of

With reference to the representation made by of concerning you (of which representation due notice was given to you dated the day of) I am directed by the Insurance Commissioners to send you a copy of the statement of complaint received by the Commissioners from the said setting out the alleged facts and grounds on which the said representation is based, together with a list of all the documents proposed to be put in evidence by him.

You may, if you so desire, inform the Commissioners by statement in writing addressed to me within days after receipt of this notice, whether you admit or dispute in whole or in part the truth of the alleged facts and grounds.

You are further entitled to inspect any of the documents mentioned in the above list, either personally or by an agent authorised in writing, on giving due notice to the above-named , and, by applying to the Commissioners for that purpose, to receive copies of any of the said documents.

Signed.....

Secretary or Assistant Secretary } to the Insurance Commissioners.

Dated.....

FORM 6.

Notice to Complainant or Practitioner of day appointed for holding of Inquiry.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To of

With further reference to the representation made by you / by with respect to the above-named of with respect to you

Take notice that the Inquiry Committee composed of the following persons, namely:—

will on day the day of 19
at a.m./p.m. at hold an Inquiry to investigate the said representation with a view to reporting thereon to the Insurance Commissioners.

You are hereby informed that if you do not attend on the date at the time and place appointed for the Inquiry, the Inquiry Committee may proceed to hold the Inquiry in your absence.

Signed.....
Secretary or Assistant Secretary } to the Insurance Commissioners.
Dated.....

FORM 7.

Notice of Inquiry to be sent to any Insurance Committee which is not the Complainant.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To the Insurance Committee for the County [County Borough] of

Take notice that a representation has been made by of to the Insurance Commissioners to the effect that the continuance of the above-named on the panel of medical practitioners for the County [County Borough] of would be prejudicial to the efficiency of the medical service of insured persons.

You are hereby informed that an Inquiry to investigate the said representation will be held by the Inquiry Committee constituted by the Commissioners on day, the day of 19 , at a.m./p.m. at and that you are entitled to appear and take such part in the proceedings as the Inquiry Committee shall think proper.

Signed .....
Secretary or Assistant Secretary } to the Insurance Commissioners.
Dated .....

FORM 8.

Application for leave to appear at Inquiry by representative.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To the Clerk to the Inquiry Committee, Insurance Commissioners, Buckingham Gate, London, S.W.,

I (We) , hereby apply for leave to appear at the Inquiry to be held with respect to the above-mentioned matter by a representative, viz. (*state name and description of representative*).

Signed.....
Dated.....

FORM 9.

Withdrawal of representation.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To the Insurance Commissioners, Buckingham Gate, London, S.W.

I hereby give notice that I withdraw the representation made by me in the above matter.

Signed.....
Dated.....

FORM 10.

Notice to Practitioner of Case for Inquiry.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To of

Take notice that the Insurance Commissioners have under consideration the question of holding an Inquiry with respect to the matters appearing in the subjoined statement, for the purposes of ascertaining whether your continuance on the panel of medical practitioners for the County [County Borough] of would be prejudicial to the efficiency of the medical service of insured persons.

You may, if you so desire, inform the Commissioners by statement in writing, addressed to me, within seven days after receipt of this notice, whether you admit or dispute in whole or in part the truth of the matter appearing in the said statement.

If the Insurance Commissioners decide to hold an Inquiry, notice of the date appointed for the Inquiry will be sent you in due course.

A print of the National Health Insurance (Medical Benefit) Regulations (England), 1913, is enclosed herewith for your information.

Signed.....
Secretary or Assistant Secretary } to the Insurance Commissioners.
Dated.....

[*Statement of grounds for Inquiry.*]

FORM 11.

Notice to Practitioner of day appointed for holding of Inquiry.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To of

Take notice that after further consideration of the matters referred to in their notice of [and of the statement, dated the day of 19 , forwarded by you to them], the Insurance Commissioners have decided to hold an Inquiry, and you are hereby informed that the Inquiry Committee, composed of the following persons, namely:—

will on day, the day of , 19 , at ,
at a.m./p.m. hold an Inquiry to investigate the said matters with a view to reporting thereon to the Insurance Commissioners.

You are further informed that if you do not attend on the date at the time and place appointed the Inquiry Committee may proceed to hold the Inquiry in your absence.

Signed.....
Secretary or Assistant Secretary } to the Insurance Commissioners.
Dated.....

FORM 12.

Notice of Inquiry to be sent to Insurance Committee, where no representation has been made to the Commissioners.

In the matter of a medical practitioner,
and
In the matter of the National Insurance Acts, 1911 to 1913.

To of

Take notice that the Insurance Commissioners have decided to hold an Inquiry with respect to the matters appearing in the subjoined statement for the purpose of ascertaining whether the continuance of the above-named on the panel of medical practitioners for the County [County Borough] of would be prejudicial to the efficiency of the medical service of insured persons.

You are hereby informed that the Inquiry will be held by the Inquiry Committee constituted by the Commmissioners on day, the day of 19 , at at a.m./p.m. and that you are entitled to appear and to take such part in the proceedings as the Inquiry Committee shall think proper.

[*Statement of matters for Inquiry.*]

Signed.....
Secretary or Assistant Secretary } to the Insurance Commissioners
Dated.....

SEVENTH SCHEDULE.

Rules for procedure at Inquiry.

1. The Inquiry Committee shall be at liberty to proceed with the Inquiry on the appointed day in the absence of either party (whether represented or not), if they are of opinion that it is just and proper to do so.

2.—(1) The Inquiry Committee may adjourn the Inquiry from time to time as they think fit, and hold adjourned sittings at such time and place as may appear to them suitable.

(2) Witnesses may be heard at the Inquiry on behalf of either party, and all witnesses (including the parties) shall be subject to examination and cross-examination as nearly as may be as if they were witnesses in an ordinary action.

(3) The Chairman of the Committee shall preside at the Inquiry, but, subject to the decision of the Chairman as to the admissibility of any question, any member of the Committee may put questions to any witness, and the Committee may if they think fit call for such documents and examine such witnesses as appear to them likely to afford evidence relevant and material to the issue, although not tendered by either party.

3. Subject to the provisions of Part VI of these Regulations and of this Schedule, the proceedings at the Inquiry shall be conducted in such manner as the Inquiry Committee may direct.

NATIONAL INSURANCE ACTS, 1911 TO 1913.

AGREEMENT BETWEEN MEDICAL PRACTITIONER AND INSURANCE COMMITTEE.

PAYMENT BY CAPITATION.

AGREEMENT dated the day of , 19 , made between the Insurance Committee for the (hereinafter called the "Committee") of the one part and of (hereinafter called the "Practitioner") of the other part, whereby it is agreed as follows:

1. The National Insurance Acts, 1911 to 1913, and the National Health Insurance (Medical Benefit) Regulations (England), 1913 (hereinafter called "the Regulations") or other Regulations for the administration of Medical Benefit in force for the time being in the area of the Committee are incorporated in and form part of this agreement.

2. (i) The Practitioner shall as from the date of the commencement of this agreement give to all persons who are for the time being entitled to obtain treatment from him such treatment as is of a kind which can consistently with the best interests of the patient be properly undertaken by a general practitioner of ordinary professional competence and skill: Provided that the Practitioner shall not by virtue of this agreement be required to give, nor entitled under this agreement to make any charge for treatment to any person in respect of a confinement, that is to say, labour resulting in the issue of a living child, or labour after 28 weeks of pregnancy resulting in the issue of a child whether alive or dead.

(ii) The Practitioner shall not accept any fee or other remuneration in respect of treatment which he is required to give under this agreement, except as provided in this agreement.

3. The persons entitled to obtain treatment from the practitioner under this agreement (hereinafter called the "patients") are those persons who have been or may be accepted by him under the provisions of the Regulations, or such other persons as have been or may be assigned to him under any scheme or arrangements made in accordance with the Regulations by the Committee and the Panel Committee.

4. Where the condition of the patient is such as to require services beyond the competence of an ordinary practitioner, the Practitioner shall advise the patient as to the steps which should be taken in order to obtain such treatment as his condition may require.

5. (i) The Practitioner shall attend and treat at the places, on the days and at the hours mentioned in the Third Schedule hereto, any patient who attends there for that purpose.

(ii) The Practitioner may with the consent of the Committee, which shall not be unreasonably withheld, alter the places, days or hours of his attendance, or any of them, and shall in that event take such steps as the Committee may consider necessary to bring the alteration to the notice of his patients.

6. (i) The Practitioner shall visit at the place of residence of the patient any patient whose condition so requires.

(ii) Where a patient is at any place other than his place of residence the Practitioner shall visit him if his condition so requires, provided that he is within a distance of miles by road from the place of residence of the Practitioner.

(iii) For the purposes of this clause the place of residence of the patient means the place where he resided at the date on which he was accepted by or assigned to the Practitioner.

7. The Practitioner shall keep records of the diseases of the patients attended by him and of his treatment of them in the form set out in the Fourth Schedule hereto, and such further records as may at any time hereafter be agreed between the Committee and the Panel Committee, and shall, at the request of any patient, furnish such certificates as are referred to in the First Schedule hereto, and the services rendered by the Practitioner shall be of such a kind as to comply with the conditions set out in the First Schedule hereto (or any such modifications of those conditions as do not impose an additional burden on the Practitioner), being conditions respecting the nature and quality of treatment which must be complied with by reason of any scheme for the distribution of a Parliamentary grant.

8. All treatment shall be given by the Practitioner personally, except where he is prevented by urgency of other professional duties, temporary absence from home, or other reasonable cause, and the Practitioner will to the best of his ability provide that when he is so prevented some other practitioner will give attendance as his deputy on his behalf; Provided that where treatment is given by a deputy, the deputy shall be entitled to treat patients at places other than those mentioned in the Third Schedule thereto, due regard being had to the convenience of the patients.

9. The Practitioner shall, as soon as may be after the commencement of each quarter, furnish to the Committee on a form to be provided by the Committee a statement of the number of his patients, other than temporary residents, for that quarter, and shall as soon as may be after the expiration of each quarter furnish on a form to be provided by the Committee an account in respect of the treatment during that quarter of patients who are temporary residents.

10. The remuneration of the Practitioner in respect of patients other than temporary residents shall be calculated in accordance with the provisions of Part IV of, and the First Schedule to, the Regulations on the basis of the rate contained in the Second Schedule hereto, and in respect of patients who are temporary residents shall be calculated in accordance with the provisions of Part IV of the Regulations and on the basis of the scale contained in the Fifth Schedule to the Regulations.

11. The Practitioner shall order on a form provided by the Committee for the purpose such drugs and prescribed appliances as are requisite for the treatment of any patient, other than those which the Practitioner may under this agreement or any agreement hereafter to be made with the Committee himself supply, and if the Practitioner orders any drug not included in the list from time to time supplied to him by the Committee or orders any drug or appliance for a patient who is a temporary resident, he shall distinguish the order so given in such manner as the Committee may require.

12. (i) The Practitioner shall himself supply to a patient, where requisite, drugs which are necessarily or ordinarily administered by a practitioner in person, and drugs and appliances required for immediate administration or application, or required for use before a supply can conveniently be obtained otherwise under the Regulations.

(ii) The Practitioner shall furnish, together with the accounts for the treatment of temporary residents, accounts for the drugs and appliances so supplied by him, and payment shall be made therefor at such rate as may be agreed, or in default of agreement at the same rate as that agreed to be paid by the Committee to chemists and other persons supplying drugs or appliances.

13. (i) If, owing to any breach on the part of the Practitioner of this agreement, any expenses have been reasonably and necessarily incurred by the Committee or by any patient, or the Committee are deprived of any sum which would otherwise have been payable towards the cost of providing medical benefit, the Committee shall be entitled to recover from the Practitioner or his legal personal representative, either by deduction from any moneys payable under this agreement or otherwise, the amount of the expenses so incurred and of the sum of which the Committee have been so deprived.

(ii) Before taking action on any matter under the provisions of this clause, the Committee shall, unless the matter has previously been dealt with by the Medical Service Sub-Committee or Joint Services Sub-Committee, refer it to the Medical Service Sub-Committee, which shall deal with the matter in accordance with the Regulations relating to the powers and duties of that Sub-Committee.

(iii) The Practitioner or his legal personal representative shall be entitled to appeal to the Commissioners against any decision of the Committee under this clause within fourteen days after receiving notice of the decision.

14. Any dispute or question (other than a question which under the provisions of the Regulations or of the last preceding clause hereof is referred to the Medical Service Sub-Committee, or is to be submitted for decision to referees appointed under the Regulations) arising

between the Committee and the Practitioner or his legal personal representative relating to the construction of this agreement or the rights and liabilities of the Committee or the Practitioner or his legal personal representative hereunder shall be referred to the Commissioners.

15. In the event of the Commissioners exercising any of the powers conferred on them by the proviso to subsection (2) of section 15 of the principal Act, or by the proviso (i) to subsection (5) of that section, or by section 11 of the amending Act, in respect of the area within which the Practitioner is under this agreement required to give treatment, this agreement shall be determined forthwith, but save as aforesaid, this agreement shall not be varied or determined otherwise than in accordance with the provisions of Part II of the Regulations.†

16. This agreement shall come into force on the 12th day of January, 1914, or on the date of the agreement, whichever date is the later.

17. Except where the context otherwise requires, words and expressions used herein shall have the same meaning as in the Regulations.

In Witness whereof the Committee have caused their common seal to be hereunto affixed and the Practitioner has hereunto set his hand the day and year first above written.

THE FIRST SCHEDULE.

The conditions of a grant to the Committee will require that records shall be kept of the diseases of the insured persons in the area and of their treatment in such form as is required by the Commissioners,* and that such certificates shall be furnished to every insured person, where he so desires and requests, as are required to be furnished by that person in connexion with any claim for sickness or disablement benefit made by him in pursuance of the rules of the Society of which he is a member or of the Committee as the case may be, or for the purpose of determining or calculating the period during which sickness benefit is or would, but for any section of the principal Act disentitling him, have been payable, or of calculating arrears, and that the general arrangements made by the Committee shall be such as to secure to insured persons a standard of treatment satisfactory to the Commissioners, and that the domiciliary treatment of persons on panel-lists recommended for sanatorium benefit shall be undertaken by the practitioners by whom they are attended, and that a sum of 6d. per annum in respect of each such person eligible for sanatorium benefit shall be provided for the remuneration of those practitioners in respect of their obligation to afford such treatment.

† Under Regulation 17 (2) a practitioner who desires to withdraw from the panel may do so at the end of a year, as fixed by the Commissioners, by giving notice to the Committee not less than four weeks before the commencement of the succeeding year, and may with the consent of the Committee withdraw from the panel at any other time.

THE SECOND SCHEDULE.

RATE FOR CALCULATING REMUNERATION.

The Practitioner shall be credited with a rate of ..... a quarter in respect of persons included in his list at the commencement of the quarter who are entitled to medical benefit and a further rate of ..... a quarter in respect of persons so included who are eligible for sanatorium benefit.

* NOTE.—The form is that set out in the Fourth Schedule to this agreement.

THE THIRD SCHEDULE.

PLACES OF ATTENDANCE.	DAYS AND HOURS OF ATTENDANCE AT EACH PLACE.

THE FOURTH SCHEDULE.

(OBVERSE.)

Mth.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Jan.																															
Feb.																															
Mar.																															
April																															
May																															
June																															
July																															
Aug.																															
Sept.																															
Oct.																															
Nov.																															
Dec.																															
Mth.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

AGE. SEX. OCCUPATION.

Quarter Ending.	Illnesses.	Attendances.
March 31st...		
June 30th ...		
Sept. 30th ...		
Dec. 31st... ..		

(REVERSE.)

Surname.

Christian Names or Initials.

Address.

Doctor's Signature.

INSURANCE COMMITTEE.

INSURANCE COMMITTEE.

Panel Area.

Doctor's Signature

Date ——— 191 .

Form Med. 28.

The Common Seal of the above-named Insurance Committee was hereunto affixed in the presence of

Seal.

Signed by the above-named Practitioner in the presence of

Signature of Practitioner.

Signature of Witness.

Address of Witness.

Description o Witness.

EXPLANATORY MEMORANDUM.

NATIONAL HEALTH INSURANCE.

The following Memorandum 185/I.C. explanatory of the new Regulations has been issued by the Insurance Commissioners for England:

Revision of Medical Benefit Regulations, and Arrangements for Medical Benefit in the Medical Year commencing 12th January, 1914.

1. As Insurance Committees have already been informed, the Commissioners have had under their consideration the question of revising, in certain respects, the Administration of the Medical Benefit Regulations, 1912. This revision, which was undertaken with a view to the adoption of numerous suggestions made as a result of actual working experience, and for the purpose of simplifying and facilitating administration from the point of view of all parties concerned, has now been completed, after consultation with the Advisory Committee. The Commissioners accordingly desire in Part I of this memorandum to draw attention to some of the more important amendments in the revised Regulations, *which will come into operation on the 12th January, 1914;* and to suggest in Part II some of the steps which the Committees may find it convenient to take for the purpose of entering into agreement with doctors and chemists on the basis of the revised terms of service.

Part I.—The New Regulations.

2. To avoid misunderstanding it should perhaps be stated in the first place that the new Regulations do not affect the amount available for the remuneration of doctors on the panel in respect of their services under the National Insurance Acts.

3. The revised Regulations revoke, but incorporate the provisions of, the National Health Insurance (Administration of Medical Benefit) Amendment Regulations, 1913, and the National Health Insurance (Medical Practitioners: Inquiry Procedure) Regulations (England), 1913.

Allocation of Insured Persons and Calculation of Doctors' Credits.

4. Experience has shown that it is difficult, or even impossible, for Committees to bring their Index Register up to date with sufficient accuracy to enable it to be utilized for the purpose of an exhaustive personal allocation. While the total of the insured population as shown by the counts of the Register will doubtless be substantially accurate, the actual personnel must be perpetually changing, and owing to the delay necessarily involved in the notification of removals, and the transmission to the Committee concerned of the necessary information, it is doubtful whether the Register can at any time represent the personnel of the insured population at that time with sufficient accuracy to enable an exhaustive personal allocation to be successfully carried out.

The Regulations have accordingly been modified so as to relieve Committees of the obligation to attempt such an allocation, and provisions have been inserted requiring arrangements to be made with the Panel Committee by the Insurance Committee so as to provide facilities for the personal assignment of insured persons on their application, as occasion arises. (*See* Art. 21.)

5. The present arrangements under a capitation system for calculating the doctor's quarterly credit on a mean of the numbers of persons on his list at the beginning and end of the quarter necessitate delay in the calculation of credits for the purpose of advances until after the end of the quarter. For the purpose of obviating this delay and reducing the complexity of the accounting operations, the First Schedule has been amended so as to secure that the quarterly credit shall be calculated on the numbers on the doctor's list at the beginning of the quarter, and thus enable the preparation of the quarter's accounts to be undertaken soon after the commencement of the quarter. This change does not, of course, in any way affect the amount of the total sum distributed among doctors on the panel by way of remuneration, and should not affect the proportions in which the total sum falls to be distributed as between individual doctors. (*See* Art. 35 and First Schedule.)

6. It will follow from the abolition of the system of complete personal allocation that an equivalent provision will be necessary in order to secure a distribution of the available funds among doctors on the panel in accordance with the risk which they respectively assume. Provision is accordingly made for crediting to doctors additional capitation fees equal in number to the number by which the insured population entitled to medical benefit, as shown by the count of the Register at the beginning of the quarter, exceeds the aggregate number on doctors' lists of persons actually accepted or assigned at that date. (*See* Art. 35.)

7. As stated in paragraph 4 above, it will devolve upon the Panel Committee to make arrangements in advance for the assignment among doctors on the panel, or some of them, of insured persons who subsequently apply to be assigned; and the method of distribution of the additional capitation fees will form part of such arrangements, and will require to be made in proportion to the responsibility which under those arrangements is placed by the Panel Committee upon individual doctors for the treatment of persons subsequently assigned during the quarter. (*See* Art. 35.)

Removals.

8. The specific machinery for dealing with removals, established under the Regulations in force at the beginning of the year, provided for the case of those insured persons only who obtained treatment from doctors on the panel. In the case of members of institutions, the institution, and in the case of persons making their own arrangements, the persons themselves, accepted the full liability for the year, irrespective of removals. This arrangement was necessary in view of the difficulties anticipated in effecting the necessary adjustments between the funds concerned; but experience has shown that these adjustments can be successfully carried out by means of the existing machinery, especially in view of the simplifications effected by the new Regulations; and the facilities for obtaining medical benefit on removal, which under the original Regulations were applicable only to the above-mentioned class, will be available under the new Regulations to all insured persons without distinction. (*See* Art. 27.)

Formal provision has been made for "Travellers." (*See* Art. 78.)

9. *Temporary residents.*—In accordance with the policy which the Commissioners had previously announced, specific provision has been inserted in the new Regulations for the purpose of removing any doubts which may have been entertained as to the liability of doctors on the panel to attend under their agreements insured persons temporarily absent from their usual place of residence. The necessary financial adjustment by means of the "case value" system now in operation is dealt with in the section of the Regulations dealing with finance. (*See* Arts. 27, 41 and 42.)

As insured persons making their own arrangements can obtain a contribution to the cost of treatment obtained by them during temporary residence, it has been decided not to extend to them from the special "case value" arrangements available for other temporary residents.

10. *General effect of the changes.*—To sum up, the position under the new Regulations will be broadly as follows. Upon permanent or semi-permanent removal, either within or without the Committee's area, insured persons will be entitled to make a fresh choice of the method by which they will receive medical benefit at the place of their new residence.

Upon temporary removal, all persons, except persons who are making their own arrangements, will be entitled to elect to receive medical benefit during temporary residence either from a doctor on the panel, or through an approved institution, if available; but upon returning to their usual residence they will, of course, revert to the arrangements previously made for their treatment in the area of their usual residence.

Persons making their own arrangements will, upon permanent or semi-permanent removal, be entitled and obliged to make a fresh choice of method of treatment, as the permission granted to them to make their own arrangements by the Committee for the area of their previous residence will thereupon lapse. Persons making their own arrangements will, during temporary absence

from the area in which permission has been granted, be able to obtain treatment at their own expense, and to apply for a contribution to the expense so incurred to the Committee by whom permission has been granted.

11. The Commissioners hope that these changes will enable a simplified form of procedure to be adopted as regards insured persons. A further communication will, however, be addressed to Committees dealing both with this subject and with such modifications in the Index Register machinery as are necessitated by the new provisions in the Regulations as to removals and finance. The main effect of the changes is in the direction of greater simplicity and uniformity.

Procedure in dealing with Complaints.

12. The National Health Insurance (Administration of Medical Benefit) Amendment Regulations, 1913, are revoked, but the provisions therein relating to the Medical Service Sub-Committee are retained; and, in response to various suggestions, certain additions are made to the matters which stand automatically referred to that Sub-Committee, *e.g.*, questions relating to the giving of certificates, whether raised by insured person or doctor, or by a Society which is immediately concerned in the matter of complaint.

13. The powers of the Committee in dealing with complaints upon the report of the Medical Service Sub-Committee have been enlarged in some respects. The power of the Committee to remove insured persons from the list of a practitioner is, in certain special circumstances, extended, subject to the practitioner's right of appeal to the Commissioners, and, where any expenses have been reasonably and necessarily incurred by an insured person entitled to obtain treatment from a doctor on the panel owing to a breach by the doctor of his agreement, the Committee are empowered to recover such expenses from the doctor, and to repay them to the insured person. (*See* Art. 45 and First Schedule and paragraph 27 below.)

14. The New Regulations afford doctors on the panel a general right of appeal to the Commissioners against any decision of a Committee on a question investigated by the Medical Service Sub-Committee. (*See* Art. 45.)

15. If in the course of an investigation before the Medical Service Sub-Committee a question as to the scope of Medical Benefit arises, the question must be referred to the Local Medical Committee and decided according to the ordinary procedure for the decision of such questions. (*See* Art. 45.)

Special attention is drawn to the fact that Committees have no power to deal with matters which stand referred to the Medical Service Sub-Committee except on the report of that Sub-Committee.

Pharmaceutical Service Sub-Committee.

16. A special sub-committee, on lines analogous to those of the Medical Service Sub-Committee, has been set up for dealing with complaints affecting chemists. (*See* Art. 46.)

Joint Services Sub-Committees.

17. A further special sub-committee has been provided for dealing with cases arising before either of the Medical Service Sub-Committee or the Pharmaceutical Service Sub-Committee in which, in the opinion of either of those sub-committees, questions affecting the other service are involved. (*See* Art. 47.)

Provision for Attendance on Patients of Deceased Doctor on Panel.

18. The provisions originally contained in Article 26 (d) of the 1912 Regulations have been amended to enable the legal personal representative of a deceased panel doctor to carry on the practice by means of a duly qualified deputy, not necessarily himself on the panel, for a reasonable period, so as to facilitate arrangements for the transfer of the practice in accordance with the provisions of that Article. (*See* Art. 17.)

Under the new Regulations, however, the representatives of a deceased doctor will not be entitled to transfer the practice subsequently unless they have made interim provision for the treatment of the insured persons concerned by means of a deputy. (*See* Art. 26.)

Panel Committees and Pharmaceutical Committees.

19. Powers or duties are assigned or transferred to Panel Committees and Pharmaceutical Committees in pursuance of Sections 32 and 33 of the National Insurance Act, 1913.

It will be borne in mind, of course, that the establishment of Panel Committees and Pharmaceutical Committees will not relieve Insurance Committees of their obligation under Section 62 of the National Insurance Act, 1911, to consult Local Medical Committees on all general questions affecting the administration of medical benefit.

Exempt Persons and Insured Persons over 65 Years of Age on entry into insurance.

20. It will be borne in mind that the National Insurance Act, 1913, brings into medical benefit as from 12th January, 1914, certain classes of persons not previously entitled thereto. A further communication will be addressed to Committees on the subject of any changes in procedure necessitated by their inclusion.

Finance.

21. The substantial effect and purpose of the financial provisions of the 1912 Regulations has not been varied, the sole object of any changes being to secure greater accounting convenience and simplicity. The machinery of the Drug Suspense Fund has, for example, been abolished, but the same financial result is secured.

22. The new method of calculating doctors' credits upon the numbers of insured persons on their lists at the beginning of the quarter involves the adoption of a similar method of determining the proportions in which the Committee's total medical benefit income is to be divided among the various Funds concerned. (*See* Art. 33.)

23. Provision is made to enable the Committee to debit the appropriate Fund with any loss sustained by them by reason of a diminution in their share of the Exchequer Grant, owing to a breach of the conditions of the grant. (*See* Art. 33.)

24. Express provision has been made as to the accounting basis in regard to both temporary residents and travellers. (*See* Arts. 41, 42, and 77.)

Prescribed Appliances.

25. It will be seen that some alterations and additions have been made to the Second Schedule of prescribed appliances.

Model Agreements.

26. The revision of the First and Third Schedules to the Regulations has involved corresponding changes in the actual forms of agreement. These have also been to some extent redrafted so as, *inter alia*, to make clearer the position as to the payment of remuneration, and to remove doubts which have previously been entertained as to the liability of doctors to give certificates in the limited class of cases in which the employer undertakes to pay wages during sickness under Section 47 of the National Insurance Act, 1911. The range of certificates to be given has been defined so as explicitly to include certificates in certain cases when the member is not actually drawing benefit, but the Society requires to know whether he is incapable in order to deal correctly with future claims. Further minor alterations have been made which are consequential on the express provision made in the Regulations for travellers and temporary residents, and on the simplification of procedure in the accounting operations.

27. The more important changes are, however, among those contained in the First and Second Schedules to the Regulations, the inclusion of which in the agreements is compulsory under the Regulations themselves, *e.g.*, clauses 13, 14, and 15 of the Doctors' Agreement (Form Med. 29 Revised), and clauses 10, 11, and 12 of the Chemists' Agreement (Form Med. 16 Revised). These clauses have been drawn so as to meet the widespread desire which has been expressed on the part of doctors, and endorsed by the Advisory Committee, to obviate the necessity of an appeal to the Law Courts in case of any dispute arising between a doctor on the panel and the Insurance Committee, as well as to meet the difficulties which have been experienced by Insurance Committees in some cases dealing with breaches of the doctor's agreement which are either too grave or not sufficiently grave for the remedies expressly provided by the present Regulations. Under the present Regulations the Committee might after investiga-

tion of a complaint by the Medical Service Sub-Committee transfer the insured person to the list of another doctor. But this remedy appears to be inadequate to meet the case of a doctor who wilfully deserts his practice without giving notice or providing a deputy; and even the maximum penalty of removal from the panel by the Commissioners may in some circumstance be inappropriate to such a case and in other cases ineffective, the doctor having in fact already removed himself from the panel. Again, a case of gross neglect by a doctor of his patient, involving the latter in the expense of consulting another doctor as a private patient, appears to require action more appropriate than either the transfer of the patient or the removal of the doctor from the panel; and to meet the above-mentioned cases provision has been made for the recovery of damages under the doctor's agreement in those cases, and for empowering the Committee to refund to the insured person out of the moneys recovered (or retained) the expenses reasonably and necessarily incurred by him in obtaining treatment owing to the doctor's neglect.

Power is also secured to the Committee, in the event of any part of their share of the Exchequer grant being withheld owing to a breach of the conditions of the grant, to make a corresponding reduction in the remuneration due to the doctor or chemist by whom the breach has been committed. In the absence of such a specific debit any reduction in the Committee's share of the grant would, by diminishing the total pool available, reduce rateably the remuneration of all doctors or chemists on the panel, as the case may be.

An appeal by the doctor or chemist to the Commissioners is provided in the case of any action taken by a Committee under these provisions.

PART II.—ARRANGEMENTS FOR THE PROVISION OF MEDICAL BENEFIT DURING THE MEDICAL YEAR COMMENCING 12TH JANUARY, 1914.

28. Committees will, presumably, have already given formal notice of their intention to vary the terms of the practitioners' and chemists' agreements. This formal notice will not, of course, have communicated particulars of the changes which have been made, and Committees may think it advisable that the notice should be followed up at the earliest possible date by the circulation amongst practitioners on the panel and chemists of information as to the actual effect of the new Regulations. Copies of this memorandum will, if the Committee so desire, be supplied for the purpose.

29. The Committee will doubtless at the earliest possible date get into touch with the doctors and chemists on their panels either individually or collectively with a view to the negotiation of the new agreements for the ensuing year, and will consult the Local Medical Committee with regard to any general questions affecting the administration of medical benefit in the area which arise in the course of the negotiations.

30. It is anticipated that in most areas these negotiations will be conducted by the Committee with the doctors and chemists collectively through the medium of representative bodies, and it is assumed therefore that as soon as the parties to these negotiations have arrived at a satisfactory arrangement, individual doctors and chemists will not require a lengthy period in order to decide whether to continue service on the terms of the new agreement as arrived at by the consent of their representatives.

It is suggested therefore that by the end of November at latest the Insurance Committee should have finally settled any matters outstanding with the representative bodies with whom they are dealing, and should be in a position to submit for the Commissioners' approval a statement of the arrangements made with special reference to the form of agreement adopted and any changes of importance in their existing arrangements. The Committee will doubtless find it possible, if agreement is secured upon matters of substance, to postpone the detailed consideration of other questions for subsequent settlement by consent, as has been found possible by many Committees during the current year in connection with the Drug Tariff. But any proposals for which the Commissioners' approval is requisite prior to the issue of agreements for signature by individual practitioners and chemists should be submitted to the Commissioners at the earliest possible date, and in any event in sufficient time, if possible, to enable approval to be obtained not later than the 1st December.

31. The Committee should thereupon issue the new forms of agreement to doctors and chemists on the panels, intimating the date by which they should be returned duly executed by those doctors and chemists who desire their names to be placed on the lists first issued. This date should be so fixed as to allow of a week's consideration of the agreement by the individual doctor or chemist; and the Commissioners are of opinion that if the procedure indicated above has been followed, that period should be sufficient.

32. On receipt of the agreements duly executed by the date fixed, the Committee should immediately proceed with the preparation of the medical list and list of chemists with a view to early publication. The new lists should be in Post Offices, if possible, by the end of December.

33. It is anticipated, therefore, that it will be found possible to observe the following dates, which should, in the Commissioners' opinions, afford sufficient time to Committees, doctors, and chemists for any necessary negotiations, and for the subsequent procedure requisite for the purpose of preparing the medical list and list of chemists for the ensuing year.

TIME TABLE.

Conclusion of collective negotiations with doctors and chemists, and final settlement, with Commissioners' approval, of all outstanding points of substance	1 December.
Issue of agreements to individual doctors and chemists...	2 December.
Last date for return of agreement by doctors and chemists...	10 December.
Report to Commissioners of progress ...	12 December.
Issue of new lists of doctors and chemists	31 December.

34. The Commissioners will be prepared to furnish to those Committees who have adopted the Model Forms of Agreement a sufficient supply of the Forms for issue to individual doctors for their execution.

35. The Draft Regulations [National Health Insurance (Medical Benefit) Regulations (England), 1913] will shortly be on sale, and may be ordered direct, or through any bookseller, from Messrs. Wyman and Sons, Fetter Lane, London, E.C.

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.
November, 1913.

LOCAL MEDICAL COMMITTEES.

MIDDLESEX.

THE Local Medical Committee for Middlesex met on October 30th, at 429, Strand, when Dr. LOWRY, Chairman, and twenty-two members attended.

Resignation of Member.—The resignation of Dr. Davidson (Uxbridge) was received with regret. It was agreed that the vacancy thus caused, and that for Wood Green, should be filled forthwith, nominations to be sent from the respective districts.

Insurance Pharmacopoeia.—The HONORARY SECRETARY reported that proofs of the Middlesex Pharmacopoeia would be submitted in the course of a few days, and would be ready for use in about a week. A copy will be forwarded, post free, on receipt of a postal order for 6d., sent to the Honorary Secretary, 59, Abbotts Road, Southall, W.

Medical Referees.—Memorandum M. 7. from the British Medical Association was considered and approved, provided that for a whole-time officer a minimum salary of £750 per annum (pensionable) be secured, and that for a part-time appointment a fee of 10s. 6d. per case. In all cases the panel doctor in attendance to be notified of the referee's proposed visit.

Complaint against a Practitioner.—A complaint against a Middlesex panel practitioner for canvassing in Surrey and Middlesex was investigated and adjourned for further inquiries to be made, the matter being also in the hands of the Insurance Committee and Commissioners.

Extension of Recognition of Committee.—A letter from the Commissioners was read, extending the term of office

of the Committee from October 31st to December 31st, with further extension to July 15th if the practitioners of the county expressed their approval by ballot. The HONORARY SECRETARY pointed out that this would cost at least £8, so it was decided not to take a postal ballot, but to ask the Commissioners to receive a deputation, consisting of Drs. Barnes, Williams, Camps, and George French, to discuss the situation, and to protest against the new committees being elected by postal ballot of the whole county. Middlesex, it was contended, had totally different interests in different parts, and should be excluded from the scheme.

SUNDERLAND.

THE Local Medical Committee for the county of Sunderland has issued a letter to the practitioners on the panels dealing with the following matters:

Revision of Medical Lists.—The Local Insurance Committee has fixed January 8th, 1914, as the date for the revision of the medical lists for next year. Notice must be given to the Local Insurance Committee, on or before December 8th, 1913, by the doctor or the insured person of desire of doctor (1) to retire from the panel, (2) to strike any patient off his list, or the desire of the patient to change his doctor or method of obtaining medical benefit.

New Agreements.—The doctors on the panel are asked not to sign any new agreement until they are advised to do so by the Committee.

Sanatorium Benefit.—The Insurance Committee has made arrangements for the supply of open-air shelters for the use of patients suffering from phthisis, and panel doctors having suitable cases for treatment are requested to approach the clerk of the Committee. The medical practitioners on the panel are reminded that it is one of their duties under their agreement to keep records of cases in receipt of sanatorium benefit.

Prescribing.—Numerous complaints having been made by chemists with regard to errors in the matter of prescribing, the doctors on the panel are asked to observe certain points which are set out.

Panel Committee.—The Local Medical Committee requests that the doctors on the panel should take no steps in the matter of making nominations for a panel committee, as it is not necessary.

WEST RIDING OF YORKSHIRE.

THE fourteenth meeting of the Local Medical Committee of the West Riding of Yorkshire was held at Wakefield on October 31st, Dr. MAY in the chair, and twenty-one representatives were present.

West Riding Pharmacopœia.—The HONORARY SECRETARY reported that the Insurance Committee had approved the Pharmacopœia, and agreed to pay for its printing and distribution at an early date.

Finance.—The financial statement to date, presented by the Treasurer (Dr. FRY), showed a balance of £38 7s. 11d. at the bank.

Allocation of Funds.—A letter was received from the clerk, Mr. Vibart Dixon, with Circular 29/I.C. enclosed (*re* "the method of allocating the funds in the hands of the Insurance Committee in respect of persons who had not chosen doctors") referring to the Local Medical Committee's previous resolution of March 3rd, and asking if the Committee now approved for the whole year the principle of distribution which it had approved for the first quarter. It was resolved to reapprove the principle adopted on March 3rd, 1913, and to request that the funds be equally divided among the practitioners on the West Riding panel resident within the area of the West Riding Insurance Committee.

Medical Referees.—The report presented by the HONORARY SECRETARY of the conference between representatives of approved societies and the Local Medical Committee, held at Wakefield on October 18th, was approved. The report stated that invitations had been sent to more than ninety approved societies in the West Riding having each a membership of over 500 insured persons, and there was a large attendance. It was understood that any arrangement that might be arrived at would be temporary in nature, pending the forthcoming report of the Government's Departmental Committee on alleged excessive claims for sickness benefit and allied subjects. The proposals for a temporary scheme of medical referees were put forward by the doctors, who explained that the present demand for medical referees had come not from the profession but from certain of the larger approved societies in the West Riding. After a long discussion, lasting over two hours—in which the opinion was frequently expressed that the amount of malingering was being very greatly exaggerated—the meeting decided that there was no need at present for the appointment of medical referees, and the whole subject was adjourned. The following is the temporary scheme for appointment of medical referees under the Insurance Act, adopted by the West Riding Local Medical Committee at their meeting on September 23rd, 1913:

I. That medical referees under the Insurance Act be appointed for six months, till end of March, 1914.
II. That the appointments be part-time appointments.
*III. The medical referees to be chosen from among the practitioners on the West Riding panel.
IV. That cases be referred to them by the approved societies.
V. That the number of referees be 38 (to correspond with the "districts" of the West Riding Insurance area).
VI. That no referee shall act within the area in which he resides.
VII. The remuneration to be not by salary but per case, as follows:
(*a*) 10s. 6d. for every case examined at the doctor's surgery (the doctor to be paid for every case referred to him, the above fee of half a guinea if the case is seen and examined, a retaining fee of five shillings (5s.) if the case is referred to him but does not turn up);
(*b*) 21s. for every case where the doctor has to go to visit the person away from the surgery.
VIII. The medical referees to be nominated by the Local Medical Committee, and appointed by the societies, the societies to pay the referees.

NOTE 1.—The above scheme was placed before the conference between approved societies and doctors at Wakefield, on October 18th, with the exception of the clause dealing with remuneration (Clause VII), instead of which it was proposed that the amount of fees should be decided by a subcommittee to be appointed by the conference.

*NOTE 2.—Clause III has since been deleted.

A letter, dated October 24th, was read from a practitioner, stating that a friendly society had requested him to examine an insured person as to fitness for work, and asking what was the Local Medical Committee's recommendation in such a case. It was also pointed out that in spite of the recent conference approved societies were asking doctors to examine cases at inadequate fees, and would probably continue to do so unless official referees were appointed. It was resolved:

1. That the Local Medical Committee's scheme for the appointment of medical referees be carried into effect with the least possible delay.
2. That each representative on this Committee be requested to call the practitioners in his district together, to nominate a referee in accordance with the scheme, such nominations to be forwarded to the Honorary Secretary within fourteen days from this date.
3. That Clause III of the scheme be deleted.

[Clause III: The medical referees to be chosen from among the practitioners on the West Riding panel.]

The Honorary Secretary was instructed to notify the representatives.

Panel Committee.—With regard to this matter it is proposed to submit to the Commissioners an alternative scheme, as follows:

That the present Local Medical Committee, with the addition of an extra member from two or three of the largest districts (to bring it up to the required number of 40), be appointed to act also as the Panel Committee.

SOUTHPORT.

THE sixteenth meeting of the Southport Local Medical Committee was held on November 1st, under the chairmanship of Dr. HARRIS; eleven other members were present.

Insurance Committee and Subcommittees.—The SECRETARY reported that there were now seven members of the profession on the Insurance Committee. The following have been appointed on the Subcommittees named:—*Medical Benefit:* Drs. Mary Rye, Limont, and Penrose. *Finance:* Drs. Littler and Pridie. *Sanatorium:* Drs. Cairns and Mullholland.

Medical Referees.—The SECRETARY reported that the Local Insurance Committee had decided not to appoint medical referees at present. It was decided to bear the

recommendations of the Insurance Act Committee in mind should the question be brought forward again.

Certificates.—On the question of statement of nature of disease upon certificates, it was agreed to answer the questions asked as follows:

(*a*) Whether practitioners generally have raised any objection to stating the nature of disease on the certificates.—No.
(*b*) Whether they are as a matter of routine filling in the name of the disease now.—Yes.
(*c*) Whether the new Model Rules had lessened any objection.—In a measure.
(*d*) Whether the Association should still press for the acceptance of certificates which did not state the nature of the disease.—That the matter is not urgent.

Payment to Panel Practitioners. — The Secretary reported that the Insurance Committee had now paid the practitioners on the panel:

For the first and second quarter, for those on the lists and for those who had not chosen a doctor—in full.
For the third quarter—nine-tenths of the money due for those on the doctors' lists.

Operations on School Children. — After discussion it was decided to refer the questions of payment for operations for adenoids and tonsils on elementary school children and attendance on Juveniie Rechabites to a meeting of the Division of the British Medical Association to be held shortly.

Expenses of Committee.—The Secretary was instructed to write to those members of the panel who had not paid their subscriptions towards the expenses of the Local Medical Committee.

WEST SUFFOLK.

The twelfth meeting of the West Suffolk Local Medical Committee was held at Bury St. Edmunds on November 7th, Dr. Wood in the chair.

Allocation of Funds.—Dr. Thomson wrote to point out that the different rate of remuneration of town and country practitioners ought to be considered. The Committee agreed that those practitioners who dispense should receive a share of the "drug fund" in respect of unallotted persons, in proportion to the number of persons for whom they supply medicines. It was decided that a joint meeting with the Medical Benefit Subcommittee should be held to discuss these and any other points that may arise in connexion with allocation.

Emergency Dressings and Medicines.—The Secretary reported that the Medical Special and Pharmaceutical Committee had met and expressed the following opinions:

1. That each practitioner should have a special sheet supplied by the Insurance Committee, on which to record all emergency dressings supplied by him to persons for whom he does not dispense. And that all such dressings should be paid for from the Drug Fund, at a flat rate of one penny and one halfpenny (1½d.) per dressing.
2. That in any case where medicine is urgently needed and it is inconvenient to obtain it from a chemist, the practitioner may dispense it and render an account to the Insurance Committee, to be paid at ordinary rates from the Drug Fund. This arrangement to be in force until January 12th, 1914.

Panel Committee.—Circular 30 I.C. was considered, together with the provisional Regulations, dated October 27th, 1913 (Panel and Pharmaceutical Committee's Regulations, see Supplement, November 8th, p. 385). A letter was read from the Clerk to the Insurance Committee, stating that he was requested by the Commissioners to draw the attention of the representatives of the medical profession to the necessity of immediate application for nomination papers, whether an alternative scheme was to be submitted or not. After considerable discussion, the Committee decided that the election of a Panel Committee was neither necessary nor desirable in this area, and that practitioners should be so advised. It was thought that if no Panel Committee were elected, Section 31(2) of the Regulations (1913) would apply, and the present Local Medical Committee should then be recognized by the Commissioners, in the place of, and with the same powers as, the proposed Panel Committee. The Secretary was instructed to circularize all the practitioners in the area to this effect, and to enclose a stamped and addressed card for signature by those who approved of this suggestion. It was further decided that should the practitioners in the area or the Commissioners refuse to approve this plan, the Local Medical Committee should take no further steps in the matter.

DORSET.

A meeting of the Dorset Local Medical Committee was held on October 28th, when twelve members were present.

Payment for Treatment of Tuberculosis.—It was decided that accounts for treatment of tuberculosis which had not yet been paid should be settled as soon as possible.

Allocation.—It was agreed that allocation should be delayed till the end of the year, when it would be possible to know the names of those who had not chosen their doctor.

Surplus Money.—It was resolved that any surplus in the account for the first two quarters—that is, up to July 15th—should be distributed amongst the doctors in proportion to the numbers on their lists.

Payment of Doctors.—The Committee decided that payments to doctors should be quarterly, but that if any doctor required an advance payment it might be given by the Insurance Committee.

Expenses of Committee.—The Committee decided that for next year a deduction of ¼d. per insured person per annum should be made by the Insurance Committee from every doctor's account, and that the amount be paid to the Secretary of the Local Medical Committee for the expenses of the Committee. It was decided that all the secretaries' travelling expenses should be paid and the Committee's expenses to meetings at a rate not exceeding 3d. per mile.

Acceptance of Distant Patients.—A letter was received from the Clerk of the Insurance Committee, drawing the attention of the Local Medical Committee to the fact that some doctors were accepting on their lists insured persons residing several miles away on the supposition that when these people became ill they would be sent home. The following resolution was passed:

That no signature should be accepted out of the area of a doctor's practice.

Certificates.—Certificate forms A.S. 75 and 76, issued by the Commissioners, were considered. The words "I have to-day examined" in the continuation certificate were objected to for many reasons. The Secretary was instructed to write to the Commissioners pointing out the objections to this form of certificate.

Report Cards.—It was suggested that the Insurance Committee be asked to issue the report cards with a blank page attached on which a doctor could make any notes he wished and write a copy of his prescription.

MEETINGS OF INSURANCE COMMITTEES.

BRISTOL.

A meeting of the Bristol Insurance Committee was held on Monday, November 3rd, Dr. W. Saise being in the chair.

In a preliminary statement Dr. Saise said that there were on July 14th last 120,058 persons entitled to medical and sanatorium benefits in the city, and about 300 deposit contributors out of all benefits; this accounted for about one-third of the population, while the dependants of insured persons might be calculated at another third. During the year the net increase had been 6,173. This increase was very unevenly distributed among the societies; one had added nearly 2,000, another 1,400, and several more than three figures, but it was not from the deposit contributors as had been hoped and expected. They had increased 21 per cent., which was more than any society had, and returns showed that one in every nine deposit contributors was out of benefit.

Finance.

The report of the Finance Subcommittee showed that 107,620 persons had given their names to doctors, leaving a balance of 12,723 who had not chosen a doctor or institution; this drew from the Chairman the remark that free choice did not appear to be satisfactory when 10 per cent. refused to adopt it. The abstentions meant a sum of £4,453, which he supposed the doctors would get some day, but this intensified his regret that payment by incidence of sickness was not adopted by the medical men. There were 117 doctors on the panel; of these 61 received less than £200, or on an average £113. The "princes" received big pay; there was one with over £1,100 a year,

and he had two colleagues who got over £1,000 each, while twenty-six drew half the total fund.

Sanatorium Benefit.

The Sanatorium Benefit Subcommittee reported that 84 applications had been received since last July, and 59 were receiving sanatorium treatment, 104 dispensary treatment, and 57 domiciliary treatment.

Medical Benefit.

The Medical Benefit Subcommittee reported that the number of members of approved societies were: Men 73,377, women 44,000, married women 37, total 117,814. Deposit contributors—men 1,516, women 724, total 2,240; Army and Navy insurance fund 4. It was decided to give notice to all insured persons that those desirous to change their doctor must send in notice before December 11th.

Medical Adviser.

The Medical Benefit Subcommittee recommended the reappointment of Dr. Bertram Rogers as medical adviser for a further three months at a retaining fee of £62 10s., and that all approved societies be requested not to appoint referees of their own, but to continue to send their cases to Dr. Rogers through the Committee, so as to avoid friction with the doctors on the panel. It also asked the Commissioners to appoint a permanent medical adviser, and that, if no permanent scheme was available by February 12th, the above arrangement should be continued.

Circulars.

Mr. Morris, the Chairman of the Medical Benefit Subcommittee, said that unless the Commissioners gave them some credit for intelligence and ability to go on with their work, it would become almost a farce to meet merely to consider circulars the Commissioners sent; they were being humbugged about week by week without knowing where they were.

These remarks were received with applause.

THE IRISH MEDICAL COMMITTEE.

The Irish Insurance Commissioners.

A meeting of the Irish Medical Committee was held in Dublin on October 30th, and was attended by Surgeon McArdle, who explained that the position of affairs had entirely changed since the notice calling the meeting had been issued, as the Insurance Commissioners had expressed their willingness to meet the deputation from the Irish Medical Committee. He laid before the Committee the basis of negotiations, and, having explained the various points, a hearty vote of thanks was accorded to him for the successful way in which he had conducted the preliminary arrangements.

Insurance Committees.

At the last meeting of the Insurance Committee for the borough of Dublin a letter was read from the Insurance Commissioners relative to the scheme for the treatment of tuberculosis in the borough of Dublin, suggesting that arrangements should be made immediately for the holding of the conference between the parties interested in the matter and requesting to be informed of the date and hour fixed, so that the Committee might be represented. A letter was received from Sir Charles Cameron, transmitting a copy of a report by the law agents of the Dublin Corporation relative to the Treasury grant under the Finance Act, 1911, for the erection of sanatoriums, etc., pointing out that the only ground for the proposed deduction from the proportionate sums applicable to the borough of Dublin thereunder was the fact that the Insurance Committee was sending, or had sent, patients to Peamount Sanatorium, and urging that, in view of the expenditure of Corporation moneys upon the provision of accommodation at Crooksling Sanatorium, the Corporation should not be committed to an undertaking to send patients to Peamount instead of to that institution. It was decided to reply that the county borough of Dublin had made no contract with Peamount Sanatorium, but only paid for such cases as might be admitted on its recommendation. Arising out of the appointment by the Insurance Commissioners of a Departmental Committee to investigate the question of the alleged excessive claims for sickness benefit and to formulate a scheme for the distribution or the increased Exchequer grant-in-aid for the purposes of medical certification in Ireland, the following resolution, forwarded by the Insurance Committee for the county of Cork, was adopted:

> That this Committee is of opinion that, in view of the fact that a committee of medical practitioners has recently been elected, representing each Insurance Committee's area in Ireland, called the Irish Medical Committee, and as it has come to the knowledge of our Committee that the doctors are most anxious to meet and confer with the Insurance Commissioners, with a view to arranging terms acceptable to both the Commissioners, the doctors, and approved societies, we are of opinion that better results would be secured if the Commissioners would at once arrange to meet, and confer with, the Irish Medical Committee with a view to arrive at some definite scheme as regards medical certification in Ireland. This desirable end we are of opinion may not be rendered more easy of attainment if an inquiry were now held as to the working in the past, which may, perhaps, appear to many as a censure upon the doctors who are on the panel.

INSURANCE NOTES.

NON-PANEL PRACTITIONERS.

Non-Panel Committee of the British Medical Association.

The first meeting of the Non-Panel Committee appointed by the Council of the British Medical Association at its meeting on October 29th will be held at the offices of the Association on Wednesday next, November 19th, at 2.30 p.m.

The Committee is constituted as follows: Dr. Biggs, Mr. Montgomery-Smith, Dr. Buttar, Mr. E. B. Turner, Dr. R. M. Beaton, Mr. Courtenay Lord, and Dr. John Stevens (practitioners who have not entered into agreements with Insurance Committees), together with Mr. Napier Jones and Dr. Edmund Hay (practitioners who have entered into such agreements).

Conference of Non-Panel Organizations.

A conference of Non-Panel Medical Associations will, we are informed, be held in London on Saturday, November 29th. It has been called by the National Medical Union, a non-panel organization having its centre in Manchester, with the assistance of similar associations in London and the provinces. The London Medical Committee, at its meeting on November 6th, appointed its chairman, Dr. F. J. Smith, Dr. Bernard O'Connor, and the honorary secretary, Mr. E. Arthur Dorrell, to represent it at the conference. The secretaries of any non-panel associations and any medical men who are not serving under the National Insurance Act may obtain further particulars from the Secretary of the National Medical Union, Mr. J. Webster Watts, 5, John Dalton Street, Manchester.

NEWCASTLE-ON-TYNE.

The Local Medical Committee for Newcastle-on-Tyne has arranged for a practitioners' meeting to be held at the Royal Victoria Infirmary, Newcastle-on-Tyne, on Wednesday, November 26th, at 8.30 p.m.

SCOTLAND.

Edinburgh Insurance Committee.

At a meeting of the medical men resident within the Burgh of Edinburgh, convened by the Scottish National Insurance Commissioners and held on November 6th, the vacancy on the Edinburgh Burgh Insurance Committee caused by the resignation of Dr. A. A. Matheson was filled up by the unanimous appointment of Dr. Michael Dewar.

The Insurance Act at Stow.

There was a meeting of insured persons at Stow on October 25th, presided over by Mr. John Thin, County Councillor, and a resolution was passed calling for the provision of a panel doctor, who should be resident in Stow. Major Hope, M.P., was present, and stated that he understood that the main objection to the existing arrangement was the fact that the panel doctor resided not in Stow but in Lauder, and that the road between the two places was difficult; he pointed out that the latter difficulty had not yet stood the test of winter. He advised that if insured persons felt dissatisfaction with the method in which medical benefit was being administered and desired better

treatment they should sign and forward a petition to the County Committee or make individual application to that authority.

WISBECH.

ISLE OF ELY INSURANCE COMMITTEE.

AT the meeting of the Isle of Ely Insurance Committee on November 6th, the position raised by recent incidents in Wisbech, to which reference was made at length last week, was discussed.

At the opening of the proceedings a resolution of sympathy with the relatives of the late Dr. Horace Dimock was adopted unanimously, and Dr. NIX said that he thought the Committee should go on to express its confidence in Dr. Meacock; charges had been hurled against him which had no foundation; he had been hounded down without an opportunity of being heard. Dr. STEPHENS endorsed the words of Dr. Nix, and said that he believed the Committee sympathized with the position in which Dr. Meacock found himself. He had brought charges of a grave character against Dr. Dimock: whether they were right or wrong he had the right as a citizen to bring them, and to leave the decision to justice. Now, owing to the unfortunate death of Dr. Dimock, Dr. Meacock could not in the ordinary course of justice prove his statement, and he thought that in fairness to Dr. Meacock the Committee ought to pass a vote of confidence in him.

No member of the Committee having risen, the CHAIRMAN said that he believed that every member of the Committee desired, as far as possible, to clear Dr. Meacock's honour, but in so doing to avoid making any imputation upon the honour of the dead man. It was quite possible that the members of the Committee might have the fullest regard for Dr. Meacock's honour, but not the fullest regards for his methods. He concluded by moving:

> That this Committee is convinced that there is no truth in the imputations anonymously made upon the personal character of Dr. Meacock, and expresses its continued confidence in his honour.

Dr. MEACOCK took exception to the phrase "Dr. Meacock's methods," but the CHAIRMAN intervened, saying that if the motion was not accepted without comment he must rule the discussion out of order.

Dr. MEACOCK said that he attended the meeting to say that the one thing he wanted was an inquiry into the whole circumstances of the case.

The CHAIRMAN did not then put the motion, but at the close of the meeting he said that he did not wish to hurt Dr. Meacock's feelings, and that if he had used any words which reflected upon him he would withdraw them. The committee, he believed, was in perfect sympathy with the position in which Dr. Meacock was unfortunately placed.

Dr. MEACOCK said that after the allegations of persecution made against him he was naturally sensitive, and would like to state in public that he never persecuted the late Dr. Dimock, and that all such allegations were absolutely untrue.

The CHAIRMAN then read the motion again, and on being put to the meeting it was adopted.

Mr. COLLINGWOOD moved that the committee should proceed to make an appointment to fill the vacancy caused by the death of Dr. Dimock, and that the person appointed should not be resident in Wisbech.

Dr. STEPHENS proposed as an amendment that the panel be thrown open. Every one, he said, was anxious for the solution of the difficulty, and he was certain that the only peaceful solution was to throw the panel open to resident medical men, who he knew were willing to work the Act. In this way only would peace be brought about in Wisbech.

Dr. NIX, in seconding, said there were several medical men in Wisbech ready to go on the panel. It seemed illogical that these doctors should be allowed to practise on the panel outside Wisbech but be debarred from practising inside the borough on the same terms.

The CHAIRMAN urged that the proposal contained in the amendment would be distasteful to the insured persons, and read out a resolution passed at a mass meeting on October 30th, which, he said, consisted of insured persons belonging to Wisbech and the neighbourhood, approving of the panel being kept closed.

Dr. NIX, on the other hand, said that there were many insured persons in Wisbech who had been waiting patiently, and in many instances paying their own doctor, although forced to contribute to the Insurance Fund. He contended that the committee should endeavour to satisfy both parties and allow the resident practitioners to go on the panel.

The CLERK read a communication from the Insurance Commissioners, dated October 28th, stating that they saw no reason to vary their decision, and would not consent to reopen the panel in the borough of Wisbech. Dr. NIX contended that it was a matter for the Committee to decide, and Dr. STEPHENS thought that if his amendment were carried the Commissioners on a strong representation from the Committee would reconsider the question. The CHAIRMAN again contended that the insured persons in Wisbech desired a medical man to be imported. During the discussion it was denied that the demonstration in Wisbech was organized by a branch of the Radical club in that borough.

The CHAIRMAN asked whether it was possible to come to some compromise for a shorter period than two years, and whether it could be made sufficiently worth an imported doctor's while, if he could be told that the medical men of Wisbech would stretch out a friendly hand and treat him as a brother. He had no doubt that an outside medical man must be got.

Dr. NIX suggested that the proposal should be submitted to the Local Medical Committee, and that the matter should be reconsidered at another meeting with a view to compromise.

The CHAIRMAN argued that the matter was not one for the Local Medical Committee.

When the amendment was put Drs. Stephens and Nix voted for it; Dr. Groom, Dr. Meacock, the Hon. A. Peckover, and Mrs. Greenstreet did not vote; the remaining members of the Committee voting against the amendment.

Two candidates for the position of panel doctors in Wisbech were then interviewed, and Dr. Helton Godwin Baynes, M.B., B.C., Camb. (1912), M.R.C.S.Eng., L.R.C.P. Lond. (1910), was appointed.

At the conclusion of the meeting, and before the adoption of the resolution expressing confidence in him, Dr. MEACOCK again urged that the Insurance Committee should make a strong recommendation to the Commissioners, asking them to hold a thorough investigation into the whole circumstances, but in deference to the wishes of the Chairman did not press a motion to that effect.

ISLE OF ELY MEDICAL COMMITTEE.

At the meeting of the Local Medical Committee in the Isle of Ely on November 11th it was unanimously agreed that in view of the accusation as to the alleged persecution of the late Dr. Dimock and the inferences drawn by various sections of the press and the public, strong representations should be made to the Insurance Commission asking it to institute a judicial investigation into the circumstances attending the death of Dr. Dimock either itself or through the Home Office. At the same meeting the following resolution was adopted:

> That the statutory Local Medical Committee of the Isle of Ely desires to place on record its entire confidence in the honour of its chairman, Dr. H. E. Meacock, and the other medical practitioners of Wisbech, whose characters have been assailed in a most scurrilous and underhand manner, and extends to them and their wives its most sincere sympathy in their recent undeserved trouble.

INQUEST ON DR. DIMOCK.

The adjourned inquest on the death of Dr. Horace Dimock was opened by Mr. G. Martin Hall, coroner for the Isle of Ely, at Stretham, on November 12th. The proceedings were short. The coroner said he had received a communication from Dr. Willcox, stating that he had been instructed by the Home Office to make an analysis in the case, and suggesting that the inquest should be adjourned till December 3rd, to allow time for this to be done. The coroner said that there had been delay owing to his failure to get an analysis of the viscera made in Cambridge. While sympathizing with Dr. Meacock and others whose names had been mentioned in connexion with the case, the evidence that they would have advanced, had it been possible to proceed with the allegation of criminal libel, had nothing to do with the coroner's court. The inquiry would be strictly confined to ascertaining

what the deceased died of. At the same time, if Dr. Meacock wished to attend the court he could be sworn, and all his evidence which was relevant would be heard. The coroner added that he had pointed out to Dr. Meacock and his solicitor that he sympathized with the doctors, as they appeared to have no way of publicly putting their case, and that in his opinion it was a matter for the medical societies, who ought to obtain a special inquiry into all the circumstances.

It will be recollected that the British Medical Association has communicated with the Home Office asking that a special inquiry should be held, but a reply has not yet been received.

CORRESPONDENCE.

[*It is particularly requested that communications intended for publication should be written on one side of the paper only, and should be addressed to the Editor*, British Medical Journal, *429, Strand, London, W.C.*]

The Past, Present, and Future.

Dr. F. W. Style (South Brent) writes: During the past few months I have learnt to value—as I have never valued before—my privileges as a member of the British Medical Association, and I have joined the National Medical Guild.

In these troublous times of resignations and rumours of resignations, it may perhaps help some waverers if you will allow me to state how and why.

I am only a general practitioner, living a lonely life in a small country village. For weeks together I never see another medical man. I diligently read my Journal, and by means of it, and other medical literature, I strive to keep up to date. Whenever I can do so, I attend the Divisional meetings, but these are not very profitable, since they generally deal with some vexed question or matter of finance.

For many years I have read the reports of the annual meetings, but it has never entered my head to attend one. Somehow or other I had imagined them to be very uninteresting, and intended only for Representatives and for those who had time and inclination for purely scientific work. This year, having nowhere in particular to go to for a holiday, I went to the Brighton meeting just out of curiosity. Before I had been there a day I had decided that in future I would, if possible, never miss another meeting, and that, if the subscription entitled me only to attend these meetings, it would be well worth the money.

Living, Sir, as you do, in the midst of things medical, you can form no idea how I appreciated meeting so many of my professional brethren—men of all types and from all parts of the world. For instance, at the hotel at which I stayed, my companions at meal times, quite by chance, were a man engaged in *x*-ray work, a general practitioner, a London consultant, and a man home on holiday from the Far East. Wherever one went, whether to the Sectional meetings or to the receptions or to the excursions, one found everywhere a delightful spirit of comradeship.

There must be very many men situated as I am, who have got into a groove, who worry over trifles, and who imagine that others do not have the same difficulties and disappointments. These, and these alone, can fully understand what it meant to me to have the chance of meeting and talking freely to men of large and varied experience—to be able to discuss all manner of topics, to compare experiences, and to find that others had the same sort of problems to face and to solve.

Then there were the receptions and the church service. Never before had I so fully realized that I belonged to a great and powerful profession as I did when I formed part of these assemblies.

I will say nothing—it would take up too much space—about the entertainments, excepting, if at other annual meetings they have in the least approached those provided for us at Brighton, I am sorry to have missed them. As a man remarked to me, "Fancy all this thrown in for 25s."

This, Sir, is how I came to appreciate the British Medical Association more highly than I had hitherto done.

But one afternoon I strolled into Hove and looked in at the Town Hall. It was the luncheon hour, and in the hall and on the pavement outside I found groups of anxious, worried-looking men, all more or less excitedly talking and gesticulating. They were our poor unfortunate Representatives, who, instead of enjoying themselves at Brighton, were compelled to spend their days discussing, amicably or otherwise, the National Insurance Act. It was an object lesson which I shall not quickly forget, and I thought, "What a pity that an Association like ours should have to spend time, and energy, and money on matters so foreign to its chief and original purpose." It seemed more than sad to think that this element of strife had been introduced. In Brighton the profession was being knit together; at Hove, so it seemed to me, it was being rent asunder.

I came home, feeling that I had derived incalculable benefit from my holiday, with a keener and deeper interest in my work, and with the wish that I could induce every medical man to attend just one of the annual meetings, so that they might learn, as I had learnt, what an enormous amount of latent power exists in the Association—latent only because men will not use it; but I came back also with the firm conviction that some other body of men ought to do our fighting, so that the Association, freed from all disturbing influences, could return to the peaceful paths of scientific and social work. And this is why I have joined "the National Service Guild," and remain a member of the British Medical Association.

Dr. E. H. Worth (London, S.W.) writes: Ten days ago a medical member of the London Insurance Committee gave me the following figures:

There are at present less than 1,500 men on the panel of London; 100 of these are non-resident in the county, and some 70 to 80 are holding junior resident appointments in hospitals, etc.

There would appear to be about 6,200 doctors in London, and allowing 2,200 for men who would not in any case be working the Act, it follows that nearly 3,000 doctors are still holding to their pledge that they would accept no service under the Act but that embodied in the famous cardinal points. We want all these non-panel men to join the non-panel societies that are formed in the suburbs. If they would do this, and if all country non-panel men would join similar societies, we would have a good army of 10,000 men who have had the courage to stand up and fight for the honour of the profession and the best welfare of the public.

Dr. W. D. Gimson (Chelmsford) writes: May I ask, through your columns, Dr. E. Rowland Fothergill two questions?

1. If a central defence fund is raised, can the British Medical Association guarantee it to be as safe as the funds of a trade union?

2. If the British Medical Association cannot take a referendum of the practitioners of Great Britain and Ireland, how can it ascertain the views and intentions of the majority?

The Approaching Representative Meeting.

Dr. F. de Coverly Veale (Mumbles, Glam.) writes: I should like to express my opinion on one or two points raised in the reports issued in the Supplement of November 1st on the question of organizing the profession.

In the first place, counsel's opinion was taken, and he distinctly says the only means of safeguarding the funds, in the event of the Association forming a fund to indemnify practitioners from loss caused by the action of the Association, is to form a trade union: yet a trust is advised. Why? Why spend money and ignore the advice? What inference is to be drawn? But is the recommendation to form the fund for compensation practical? They assume 10,000 will join; where will its strength be with so many outside? They suggest that £15,000 a year for three years will produce a fund capable of supporting its members in 1916—that is, £45,000 in all. Will £4 10s. be sufficient to maintain each one over an indefinite period? No reasonable man can be expected to look twice at such a proposal. All, be it remembered, at the risk of the Board of Trade stepping in and smashing the Association (Section 35, page 359).

With the payment of expenses of members attending meetings I fully agree, but why fix a sum? Why not say first-class return fare?

The Association has made mistakes, but it is no good dragging them up; we all have our opinions, and shall stick to them, in spite of others. But I should like to know why Dr. Sturge omits the meeting of December last from his letter.

The New Draft Agreement.

Dr. J. Cuthbertson Walker (Rochdale) writes: There is one clause in the new form of agreement between medical practitioners and Insurance Committees which seems to call for immediate consideration and united action on the part of the Association. It reads:

> 2. (ii) The Practitioner shall not accept any fee or other remuneration in respect of treatment which he is required to give under this agreement, except as provided in this agreement.

Not a few insured persons, believing that the payments to their medical man under the National Insurance Act were entirely inadequate, have offered to and have in fact actually supplemented such payments by further remuneration. It can scarcely be denied that such persons had a perfect right to do so, and that there was nothing wrong in the acceptance of such remuneration. In future, under the proposed agreement the panel doctor would be debarred from accepting any such payments.

If we are to negotiate effectively with the Commissioners the doctors' case should be presented by the Association as a whole. This course the Commissioners are determined to avoid.

Panel Possibilities.

Dr. C. R. Harvey (Bristol) writes: The recent judicial decision on the nature of the contract into which we have entered—that if we delay to answer a call the patient may call in another doctor and compel us to pay his fees—should arouse medical men to consider their contracts and any possibilities of improving them before re-signing them.

Could not something be done by united action to compel Insurance Committees to give prominence to the "rules for medical benefit"? During the past nine months I have not had a single patient who knew of the existence of these rules. Could we not insist on the rules appearing on Form 32 in such a place that the applicant in signing agrees to obey them, that such is a condition of our attendance? Could we not have the perforation slip at foot of Form 32 replaced by an identity card bearing the doctor's name and hours of attendance, the patient's name and a copy of the rules for his guidance? Might the wording of the rules not also be improved? "When the nature of the case permits" is much clearer than "when circumstances permit." If we could train our panel patients to obey these rules our private patients would in the long run follow suit, and our work be considerably decreased.

As, however, in spite of all rules, some calls at awkward hours must continue, would it not be possible to safeguard ourselves by co-operation? Supposing those men in a certain district agreed to act in emergency for each other at an agreed scale of fees, all that would be necessary would be for the group to provide each member with a number of identity cards. Suppose Dr. A. was prevented by business or pleasure from personally answering an emergency call, he would hand the patient an identity card, signed by himself, available for any member of the group. The doctor rendering the service would also sign the card, and at the end of the quarter, say, all used cards would be placed in a clearing-house, and accounts balanced and paid. Thus there would be no compliment; it would be a matter of business, and no patient could run up a bill against his own doctor without permission.

The system might be still further developed. Most men, I believe, have been wise enough to reserve one free evening a week when stating their hours of attendance. Supposing all in a group decided to take the same evening off, or, still better, Saturday evenings and Sundays, a system of pairing might be arranged or a certain number take it in rotation to "hold the fort," while the others were free, should they wish to leave for the week-end. Should the patient prefer the deputy and ultimately transfer his allegiance, the financial loss is not a serious one. The panel has certain possibilities in this way that general practice has hitherto lacked, and if we are wise we will make the most of them.

Unallotted Persons.

Dr. A. Welply (Honorary Secretary of the Medical Committee elected by the Practitioners on the London Panel) writes: I must leave it to your readers to decide whether Mr. Turner, in doing his best in his last letter to make his "argument clear," has not to a large extent receded from each of the alternative positions he took up—the one last Christmas, the other in his letter a fortnight ago. Those of his constituents in London who are giving service under the Act will be glad at any rate to hear that it is now Mr. Turner's opinion that Insurance Committees are willing and ready to distribute the funds for unallotted persons as soon as it is possible, and that it is his intention to assist the process.

I must, however, join issue with Mr. Turner in his confident assertion that "Insurance Committees cannot legally arrange for the distribution of these funds." It is known, of course, that a single member of the Bar, after considering a statement placed before him by the London Insurance Committee, has expressed an opinion similar to this latest assertion by Mr. Turner. On the other hand, carefully prepared statements made in Parliament by the Chairman of the Commission, and official documents issued from Buckingham Gate, make it quite clear that the Commissioners themselves have no doubt as to the legal power and duty of Insurance Committees to distribute this money amongst the practitioners on the panel. The medical profession is confident that the Commissioners will cause their official view of the position to prevail amongst the committees without any further delay, and so prevent a serious injustice to large numbers of practitioners.

With reference to a resolution which Mr. Turner states was brought forward, to the effect that the payments for unallotted persons should be divided amongst those only who went on the panel on January 13th, I am in a position to state that no such proposal has ever been made or supported by either of the two Committees elected by practitioners on the London panel.

Organization of the Profession.

Dr. A. Thomson Drake (Honorary Secretary, the Deptford Non-panel Practitioners' Association) writes: At a meeting of the non-panel practitioners of Deptford this afternoon I was instructed to write and ask, with reference to the schemes to be considered by the Divisions, and to come before the next Representative Meeting, if those practitioners who are not on the panel can be assured by the Council of the Association that the moneys so obtained will be used for the benefit of every section of the profession, and not only for those engaged in working the Insurance Act.

Such an assurance would greatly assist the various Divisions in coming to a decision as to the adoption or rejection of one of these schemes.

*** If the two schemes are carefully read it will be seen that special emphasis is laid on the fact that the Fund is needed for the organization of the whole profession and the protection of the interests of all classes (see Object (*b*), par. 8, page 356, Supplement, November 1st; par. 15, page 357; par. 9, page 364).

Methods of the London Insurance Committee.

Dr. Mildred M. Burgess (Brixton Hill) writes: It will possibly interest your readers to have my experience with regard to the retarded delivery of the medical register cards.

In the summer I received a packet of cards, none of which referred to any of my patients. I returned them. To-day I have received a single card, the first for the 300 odd patients I have on my list. It is rather an interesting query as to how this particular solitary card has come to hand.

I have been informed by a clerk at Chancery Lane that my salary will depend for the ensuing year on the number of these cards I have in my possession.

At this rate the unallotted funds will be greater than ever next year.

INSURANCE ACT COMMITTEE.

The sixth meeting of the Insurance Act Committee was held at the offices of the Association on Thursday, November 6th. Dr. W. A. Hollis, President, and afterwards Dr. J. A. Macdonald, was in the chair, and the other members present were:—*England and Wales:* Dr. R. M. Beaton (London), Dr. D. E. Finlay (Gloucester), Dr. E. R. Fothergill (Brighton), Dr. Major Greenwood (London), Dr. G. E. Haslip (London), Miss F. Ivens (Liverpool), Dr. I. W. Johnson (Bury), Dr. Herbert Jones (Hereford), Dr. Constance E. Long (London), Mr. D. F. Todd (Sunderland), Dr. Crawford Treasure (Cardiff), Mr. E. B. Turner (London). *Scotland:* Dr. John Adams (Glasgow). *Ex officio:* Mr. T. Jenner Verrall (Chairman of Representative Meetings).

Approved Societies and the Working of Medical Benefit.

It was reported that the Council had accepted the invitation to appoint a representative upon the committee of inquiry proposed to be held by the Association of Approved Societies into the working of medical benefit, and had indicated that in accepting the invitation it should be made perfectly clear that the British Medical Association reserved the right of independent action whatever the result of the inquiry might be. The nomination of a representative having been referred to the Insurance Act Committee, it nominated the Medical Secretary upon the above condition.

The Treatment of Insured Members of Staffs of Poor Law Institutions and Voluntary Hospitals.

The resolutions of the Committee with regard to the medical officers of Poor Law institutions and voluntary hospitals and other charitable institutions and the treatment of the members of the staff who are insured persons having been again referred by the Council to the Committee, it resolved to ask for the opinion of the Hospitals Committee, and to obtain and submit to that Committee information as to the practice of the London Insurance Committee in reference to the subject.

Non-panel Committee.

The Committee having been informed that the Council had appointed a special committee to consider in what manner the British Medical Association could best promote the interests of members who have not entered into agreements with insurance committees, the Insurance Act Committee discharged the reference to its Non-panel Subcommittee appointed on September 20th.

Unregistered Practitioners.

The Committee again had under consideration the question of the ruling of the Insurance Commissioners in regard to allowing herbalists to undertake medical attendance and treatment of insured persons under the clause of the Act allowing insured persons to make their own arrangements. The Medical Secretary reported that the Medical Defence Union was taking certain action in the matter. The Committee, after consideration, resolved to inform the Medical Defence Union that it would be glad to co-operate with it in dealing with the matter.

The Position at Wisbech.

The Medical Secretary made a report upon the occurrences at Wisbech, and stated that a letter from Dr. Meacock was being published in the Journal for that week (November 8th, p. 1256). The Committee, having fully considered the matter, instructed the Medical Secretary to address a letter to the Secretary of State for Home Affairs, urging that a public inquiry into all the facts should be held. The following is the letter sent:

November 7th, 1913.

Sir,

I am instructed by the British Medical Association to urge upon the Home Office the necessity for a prompt public inquiry into all the facts connected with the death of the late Dr. Dimock of Wisbech and the rioting which ensued thereafter. The Association has been placed in possession of evidence which has convinced it that a serious injustice has been done to Dr. Meacock and other doctors in the town of Wisbech. If Dr. Dimock had lived, the public would have had an opportunity of judging whether the action of Dr. Dimock justified Dr. Meacock in bringing against him a charge of criminal libel. It now appears that, unless the Home Office or some other high authority intervenes, Dr. Meacock and his colleagues will have to rest under the imputation of having driven Dr. Dimock to his death by a system of persecution ending in an unjustifiable criminal charge. This will probably mean the wreck of their future professional prospects. The Association trusts that the Home Office will take such steps as will prevent such grave injustice being perpetrated, and I am instructed to express the hope that an inquiry at which sworn evidence can be taken will be instituted at the earliest possible moment.

I am, Sir,
Your obedient servant,
(signed) Alfred Cox,
Medical Secretary.

The Secretary of State for Home Affairs,
Home Office, Whitehall, S.W.

Records of Work under the Insurance Act.

The Committee recurred to the consideration of the records required to be kept under the Insurance Act, and resolved to take every means to impress upon members of the profession the vital importance of exact and complete records of insurance work being kept. (Further reference to this matter will be found at p. 1317 of the Journal for this week.)

Position in South Wales.

The Medical Secretary reported upon the position in South Wales, and submitted a correspondence which had passed with the Welsh Insurance Commissioners. The Medical Secretary received instructions with regard to a further letter, and it is proposed to publish the whole correspondence in a later issue.

The Committee resolved to address a communication to the South Wales and Monmouthshire Branch to the effect that the Committee noted with concern the struggle which the practitioners of the South Wales area were going through, and fully realized the effect it might have upon the general professional position, and trusted that for the sake of the profession in general, as well as for their own, they would persevere in the fight. The Committee added that it was prepared to do everything in its power, including the granting of money from the Insurance Defence Fund, to assist the Branch. The Committee also directed that a letter should be sent to Mr. W. J. Greer, Honorary Secretary of the South Wales and Monmouthshire Branch, thanking him for his untiring energy and devotion in connexion with the difficulties in South Wales.

Medical Committee for the County of London.

The Committee, understanding that the Metropolitan Counties Branch was prepared to organize and carry out the election of a Local Medical Committee for the County of London, with a view to such being recognized by the Insurance Commissioners, resolved that the reasonable expenses of such organization and election should be borne by the Central Insurance Defence Fund.

Regulations for Panel and Pharmaceutical Committees.

The Committee took into consideration the provisional regulations for panel and pharmaceutical committees issued by the Insurance Commissioners, and published in the Supplement of November 8th, p. 385 et seq. It was resolved to issue a communication to the Divisions and Local Medical Committees on the subject, pointing out the considerations which should be kept in mind in acting under the regulations with respect to the election of the Panel Committee.

Medical Aid Institutions.

The Medical Secretary reported that he had, according to instructions, written a further letter to Mr. Masterman, M.P., the Chairman of the Joint Committee of Insurance Commissioners, asking that a deputation from the Association might be received at the earliest possible opportunity in order that the views of the medical profession on the concession made to the medical aid institutions at the time of the Chesterfield by-election might be adequately submitted. Mr. Masterman had replied by

enclosing a copy of the letter addressed by him to the Secretary of the Chesterfield Division on September 11th. After full discussion of the matter, the Committee resolved to obtain further information, and to write again to Mr. Masterman setting forth in detail the views of the Association with respect to the concession to approved institutions.

Transfers in Bulk.

The Committee considered a case in which it was alleged that wholesale transfers of insured persons were being permitted, and resolved to urge upon the Insurance Commissioners the dangers of such a course, and to ask them to instruct Insurance Committees not to issue transfer forms in bulk, but only to individual applicants.

Departmental Committee on Excessive Sickness Claims.

The Chairman of the Subcommittee *re* the Departmental Committee of Inquiry on alleged excessive sickness benefit claims, Mr. Todd, reported that a specification of the points upon which it was proposed to receive evidence had been received from the Departmental Committee, and that his Subcommittee was obtaining further information from Local Medical Committees and Divisions, upon the receipt of which it would prepare and submit to the Insurance Act Committee a memorandum of the evidence which it proposed should be given by the Association before the Departmental Committee.

New Medical Benefit Regulations.

Attention having been drawn to the probability that the new draft medical benefit regulations incorporating the new agreements practitioners would be asked to enter into with the Insurance Committees would be issued at an early date, it was resolved that such draft regulations and agreement should stand referred to the Amending Act Subcommittee, consisting of: The Chairman (Dr. J. A. Macdonald), Dr. R. M. Beaton, Dr. E. R. Fothergill, Dr. R. McKenzie Johnston, and Mr. E. B. Turner, together with Dr. G. K. Smiley and Dr. John Adams. This Subcommittee was authorized to issue any memorandum on the subject which might be necessary to Divisions and Local Medical Committees.

Compensation Cases.

Seven applications for assistance from the Central Insurance Defence Fund were considered. Grants were made in three cases and refused in two; the other two applications were postponed for further inquiries.

Letters of thanks from two members for assistance given were read.

Voluntary Hospitals and the Treatment of Maternity Cases.

A report was presented containing the information received from the voluntary hospitals used for the training of medical students in midwifery in respect to the question of treatment at such hospitals of cases in receipt of maternity benefit. The Committee referred the matter for further consideration to a subcommittee consisting of the Chairman, Dr. R. M. Beaton, Dr. E. R. Fothergill, and Mr. McAdam Eccles, with power to consult any persons especially interested in the matter.

Statement of Nature of Disease on Certificate.

The Medical Secretary stated that he hoped to present to the next meeting of the Committee a report upon this subject showing the views of the local profession on the matter as expressed by the honorary secretaries of Divisions and Local Medical Committees, but meanwhile, attention having been drawn to the special position of practitioners under the Scottish laws in regard to certificates, the Committee resolved to request the Scottish Committee to take up with the Scottish Insurance Commissioners the question of the special risks alleged to be run by practitioners in Scotland who stated the nature of the disease upon certificates supplied to insured persons.

Next Meeting.

It was arranged that the next meeting of the Committee should be held on Thursday, November 20th.

THE SCIENTIFIC WORK OF THE ASSOCIATION.

The Annual Representative Meeting, 1913, invited the Council to increase its efforts to encourage the Divisions to hold scientific and social meetings in the expectation that such meetings would contribute to induce non-members to join the Association. The Council has arrived at the following decisions upon which it invites the opinions of the Divisions and Branches:

1. That the Divisions should be invited to suggest subjects for consideration by the Sections at the Annual Meeting. Such suggestions should be made in the autumn, so that they may be considered by the Sectional Committees.

2. That Branches should be encouraged to form science committees in their area, having some or all of the following duties and powers:

(*a*) Organizing the scientific meetings of the Branch.
(*b*) Considering information as to the scientific work of the Divisions contained in their annual reports to the Branch, and advising the Branch Council thereon.
(*c*) Assisting the Divisions in the organization of their scientific work, by—
(i) Advising when desired as regards the organization of meetings;
(ii) Preparing a list of speakers willing to give addresses on special subjects.
(iii) Organizing special local inquiries—for example, as to the hygiene of local industries or conditions.
(iv) Organizing post-graduate lectures.

The Council in making the above recommendations had before it the following memorandum on schemes adopted in Newcastle-on-Tyne and in Edinburgh, and it was also made acquainted with the arrangements which have long been in force in Birmingham. The Birmingham Branch holds a clinical meeting once a month in the afternoon during the winter session, and has also a clinical and pathological section which meets fortnightly during the winter.

(a) *Newcastle-on-Tyne.*

(Founded on notes furnished by R. J. Willan, F.R.C.S., Hon. Sec. for Scientific Meetings.)

Scientific meetings have been held by the Newcastle-on-Tyne Division for the past ten years. For the first five years an all-day meeting at the Newcastle-on-Tyne Infirmary was held about the end of June in each year, and was very popular with the practitioners. In 1908 the Division decided to hold monthly scientific meetings throughout the winter of 1908-9. These were so successful that they have been continued each year.

The Meetings are held on the afternoon of the third Friday in each month. The first is held at the College of Medicine, Newcastle-on-Tyne; the other four at the Newcastle-on-Tyne Infirmary, and the afternoon is mapped out as follows:—

First demonstration	3.15 p.m.	to	3.45 p.m.
Second ,,	3.45 ,,	,,	4.15 ,,

Tea, 4.15 to 4.30.

Third demonstration	4.30 p.m.	to	5.0 p.m.
Fourth ,,	5. 0 ,,	,,	5.30 ,,
Fifth ,,	5.30 ,,	,,	6. 0 ,,

Experience has shown that this period, *i.e.*, 3.15 to 6 p.m., represents probably the full amount of time which the average practitioner can afford to spend away from his practice.

Executive Committee.

The Executive Committee for the scientific meetings is appointed at a meeting of the Division, and at present consists of:—

One for medicine.
One for surgery.
One for special departments, *i.e.*, throat and ear, ophthalmic, gynæcology and skin.
One for pathology.

Syllabus.

The Executive Committee draws up a provisional synopsis, especially bearing in mind subjects of topical interest and those capable of clinical illustration. Abstruse subjects and those which have been recently dealt with are avoided.

The time available is roughly allocated as follows: One-third to medicine, one-third to surgery, and one-third to special departments. One afternoon is devoted to pathology, and care is taken that each demonstration on that particular afternoon

is one that can be and is illustrated by a series of pathological specimens.

After the subjects have been chosen, the Executive Committee decides who are to be invited to give the demonstration on each subject. Every effort is made to select the most suitable persons, so as to secure the interest both of general practitioners and of members of the hospital staffs. Preference is given to those who have not recently given a demonstration and to those who specialise on the particular subject under consideration.

At the beginning of each winter two or three junior men are asked to have a paper ready so that if any one failed at the last moment someone could be available in his stead.

Each demonstrator is written to seven clear days before the meeting reminding him of his demonstration and the subject, and so far there has never been the slightest difficulty in making up a good programme.

Instructions to Demonstrators.

Each one is requested to spend ten minutes in introducing his subject and the remaining twenty minutes in demonstrating the points he has referred to on patients, or by specimens, diagrams, and lantern slides if the patients are not available. No departure is permitted from the advertised time table, except with the sanction of the Executive Committee.

Invitations to attend Meeting.

Each practitioner (member *or* non-member of the British Medical Association) receives, ten days before the first meeting, a printed syllabus, on cardboard, inviting him to attend the series of meetings. He also receives a reminder post card seven days before each subsequent meeting; on the back of the post card is printed the programme for that meeting.

The Meeting.

Each demonstrator is kept strictly to his 30 minutes; if he transgresses he runs the risk of not being invited in the future.

No time is lost, for neither introduction by a chairman, nor votes of thanks, is permitted.

Tea is provided in the Hall adjoining.

The chief expense is printing and postage. A collection is made to defray the cost of the tea.

(b) Edinburgh.

The Edinburgh Branch has for some years held clinical meetings which occupy the greater part of the day. During the last three years only one such meeting has been held in each year. The meeting in 1910 was attended by 200 members, in 1911 by 150, and in 1912 by 200.

The general plan is as follows: a loan exhibition of pathological specimens is organised and lenders attend to explain; there are demonstrations, chiefly of surgical cases, during the afternoon, followed by a clinical meeting, when cases are shown and briefly explained. There is a dinner in the evening.

(*See* SUPPLEMENTS, March 12th, 1910, p. 93; March 11th, 1911, p. 130; March 9th, 1912, p. 297.)

NEWCASTLE-ON-TYNE DIVISION.

SYLLABUS FOR THE WINTER SCIENTIFIC DEMONSTRATION (1913–14).

The usual hours are from 3.15 to 6 p.m., and each demonstration occupies half an hour, with an interval of a quarter of an hour at 4.30 for tea. At the first meeting on November 20th Professor Rutherford Morison's demonstration will begin at 2.30 and the meeting will terminate at 5.45. The executive committee which has made these arrangements is constituted as follows: Medical, Dr. A. Parkin; Surgical, Mr. J. C. Stewart; Special departments, Mr. T. Gowans; Pathological, Dr. W. E. Hume; Honorary Secretary, Mr. R. J. Willan, 25, Ellison Place, Newcastle-upon-Tyne.

Thursday, November 20th.—College of Medicine, Newcastle: Professor Rutherford Morison, Demonstration with the Epidiascope; Professor H. J. Hutchens, A Demonstration of Wassermann's Test for Syphilis; Professor F. A. Bainbridge, Acidosis in Diabetes and other Diseases; Dr. W. T. Sewell, Some Recent Pathological Specimens.

Friday, December 19th.—Royal Victoria Infirmary, Newcastle: Dr. S. J. Clegg, Some Infectious Diseases; Dr. W. C. Rivers, The Treatment of Phthisis by Artificial Pneumothorax; Mr. J. W. Leech, Diagnosis and Treatment of Ruptured Ulcers of the Stomach and Duodenum; Mr. S. S. Whillis, Some Common Conditions of the Nose and Ear; Mr. G. Grey Turner, The Diagnosis of Intestinal Obstruction.

Friday, January 23rd, 1914.—Royal Victoria Infirmary, Newcastle (Pathological Museum will be opened from 1 p.m. onwards): Dr. T. M. Allison, Respiratory Diseases: Some Points in their Diagnosis and Treatment; Professor Sir Thos. Oliver, Gold Miners' Phthisis; Mr. W. G. Richardson, Malignant Diseases of the Mouth: Mr. A. S. Percival, Errors of Refraction in School Children; Dr. E. Napier Burnett, Fibroid Conditions of the Uterus.

Friday, February 20th, 1914.—Royal Victoria Infirmary, Newcastle: Dr. T. C. Hunter, Phthisis in Children; Professor T. Beattie, Chorea and Choreiform Movements; Mr. A. M. Martin, Surgical Treatment of some Congenital Deformities; Dr. E. F. Pratt, Experiences of the National Health Insurance Act; Dr. T. H. Livingstone, Some Common Diseases of the Accessory Sinuses.

Friday, March 20th, 1914.—Royal Victoria Infirmary, Newcastle: Mr. J. Clay, The Diagnosis of Diseases of the Genito-urinary Organs; Dr. A. Parkin, Empyema Thoracis; Professor H. B. Angus, The Treatment of Simple Fractures; Professor W. E. Hume, The Differential Diagnosis of Cases with a Splenic Enlargement; Mr. R. H. P. Orde, Hospital Management.

A meeting will also be held on Friday, November 28th, at the Northumberland County Asylum, Morpeth, when the medical superintendent, Dr. T. W. McDowall, will show cases illustrative of incipient insanity. Doctors who wish to attend this meeting are requested to inform Mr. Willan not later than November 25th.

All medical practitioners in the North of England are invited to attend these meetings.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BIRMINGHAM BRANCH:

CENTRAL DIVISION.

AN ordinary general meeting of the Central Division was held at the Medical Institute, Edmund Street, Birmingham, on November 5th. Dr. PURSLOW was in the chair, and fifty-one members were present.

Report of Representative.—Dr. RATCLIFFE presented the Representatives' report of the Annual Representative Meeting, which was approved and adopted. The thanks of the Division were accorded to the Representatives for the time and attention which they had so generously given by attending the Representative Meeting.

Proposed New Hospital.—The CHAIRMAN moved, on behalf of the Executive Committee, the following resolution, of which the requisite fourteen days' notice had been given:

> That this Division is of opinion that there is no need for a new hospital for nervous diseases, and disapproves the establishment of the Birmingham and Midland Hospital for diseases of the nervous system, paralysis, and epilepsy.

The following took part in the discussion: Drs. MARY STURGE, GAMGEE, J. F. JORDAN, GEORGE THOMAS, RATCLIFFE, BURTON, W. R. JORDAN, S. E. JOHNSON, NUTHALL, and MORRISON. Dr. EMANUEL proposed and Dr. NELSON seconded an amendment:

> That the resolution should end at the words "nervous diseases."

This, upon being put to the meeting, was lost. The original resolution was then put, when 31 voted for and 16 against. As it was necessary, in order to make this resolution effective, that there should be a majority of three-fourths of those present and voting, the resolution was declared lost.

METROPOLITAN COUNTIES BRANCH:

GREENWICH AND DEPTFORD DIVISION.

A MEETING of the Greenwich and Deptford Division was held on October 30th, Dr. R. D. MUIR being in the chair.

Treatment of School Children. — A committee was elected to go into the question of the establishment of clinics for the treatment of school children, and to report.

Medical Charities Committee.—Dr. STANLEY DAVIES was elected to serve on the Medical Charities Committee of the Branch.

MARYLEBONE DIVISION.

A GENERAL meeting of this Division was held at the rooms of the Medical Society of London on October 31st, at

5 p.m. Mr. ATWOOD THORNE, and afterwards Mr. CHARLES RYALL, was in the chair, and twenty members were present.

Annual Representative Meeting.—The SECRETARY reported the fate of the resolutions moved by the Representatives at the Annual Representative Meeting. On the motion of Mr. BISHOP HARMAN, seconded by Dr. F. J. SMITH, it was resolved:

> That a postal vote be taken on the question of the increase of the subscription, and that the Executive Committee be directed to take the necessary steps to carry this out at once.

Dr. F. J. SMITH moved, Dr. SPURGIN seconded, and it was resolved:

> That in the opinion of this meeting the unallocated money in the hands of the London Insurance Committee should be applied in the first instance to reimbursing those insured persons who have received and paid for medical treatment from doctors not on the panel.

The resolution was, on the motion of Dr. F. J. SMITH, seconded by Dr. SPURGIN, directed to be sent to the London Insurance Committee.

The proceedings then terminated.

TOWER HAMLETS DIVISION.

AT a meeting of this Division on October 7th (when seventeen members were present) the following resolution was adopted:

> That inasmuch as the arrangements made by the Chancellor of the Exchequer and the medical profession implied that the whole of the amount available for medical benefit—that is to say, 9s. per head per insured person—was to be paid to doctors and chemists in the proportions agreed upon, and, further, as it was definitely stated that the insured persons who had not chosen their panel doctor were to be allotted at an early date, the Tower Hamlets Division of the British Medical Association, meeting at the Stepney Central Hall on October 7th, 1913, protests against the withholding by the London Insurance Committee of the sum of £105,000 (about) due to the doctors on the panel in London, and to the long delay in allotting those insured persons who are not yet on any doctor's list, and urges that the allotment be completed forthwith.

Copies of the resolution were directed to be forwarded to the British Medical Association head office, the Chancellor of the Exchequer, the members of Parliament for the boroughs of Poplar, Stepney, and Bow, to the National Health Insurance Commissioners, and to the London Insurance Committee.

WILLESDEN DIVISION.

A GENERAL meeting of the Willesden Division was held on October 23rd. Dr. MACEVOY, Chairman of the Division, took the chair at 4.30, and nineteen members signed the roll as being present.

Annual Representative Meeting.—Dr. MACEVOY, as Representative, gave a full report of the meetings at Brighton. Dr. ARMITAGE proposed and Dr. CLAYTON seconded a vote of thanks to Dr. Macevoy both for his work and report thereon, which was carried unanimously.

Medical Referees.—A circular *re* fees to medical referees was considered and the principle generally approved of.

Medical Charities Committee.—On the motion of Dr. SKENE, seconded by Dr. COOKE, Dr. Rawes was unanimously appointed to represent the Division on the Committee.

Representative's Expenses.—On the motion of Dr. CLAYTON, seconded by Dr. BINDLEY, it was resolved that the expenses up to 21s. per diem should be met by a levy on the members of the Division.

Medical Inspection of School Children in Willesden.—Dr. MACEVOY stated that there were rumours that the Education Committee were considering proposals for doing away with the present system, in which thirty-six general practitioners were doing this work, and appointing whole-time officers. Dr. SKENE read extracts from reports by the school medical officer, which were favourable to the present method. By the invitation of the Chairman, Dr. BUCHAN, the new school medical officer, then stated that the alteration contemplated was due, not to complaints of the professional work of the doctors at present engaged, but to pressure by the Education Board, which was now prepared to pay half of the expenses incurred. It objected to the present methods because (1) there was lack of uniformity in the work, (2) the following up of cases was not effective, (3) it was more costly, (4) the assistant school medical officers' duty to supervise absent children could only be done by whole-time officers. The members present were against the change, but it was stated that pressure from the Education Board was understood to be the cause of the contemplated change. Dr. RAWES therefore proposed, and Dr. CLAYTON seconded, "That the Division take no steps in the matter." Several members abstained from voting.

NORTH OF ENGLAND BRANCH:

HARTLEPOOLS DIVISION.

THE quarterly meeting of the Hartlepools Division was held at West Hartlepool on November 6th, Dr. GRAY presiding.

The late Dr. Milne.—The CHAIRMAN made feeling reference to the loss the Association and the community had sustained by the death of Dr. J. S. Milne of Hartlepool, and the Secretary was instructed to send a resolution of sympathy to his relatives.

New Agreements under Insurance Act.—It was resolved:

> That the Secretary write the Insurance Committee and ask for an early copy of the new agreement, and also for copy of new tariff, both of which to be considered and reported on by the Local Medical Committee.

Attendance on Unallotted Insured Persons.—It was resolved to give the undertaking required by Circular 29/I.C. to attend unallotted insured persons.

Panel Committee.—The meeting decided to suggest a representative of each practice on the panel to form the Panel Committee.

Medical Referees.—A resolution suggesting that the fee for acting as medical referee to any approved society should be 10s. 6d. per case was carried.

Anaesthetics.—The question of anaesthetics was deferred till the new agreement was considered.

NORTH WALES BRANCH:

DENBIGH AND FLINT DIVISION.

A MEETING of the above Division was held at Mold, on November 7th, sixteen members being present.

Increase of Subscription.—After the usual preliminary business a discussion took place regarding the proposed increase of the annual subscription, and it was resolved:

> That the Representative be instructed to vote against raising the annual subscription to 42s., but to vote for 30s. if occasion arises.

Organization Fund.—The following proposition was carried:

> That this Division declines at present to commit itself with regard to the Organization Fund, but leaves it to individual action of members.

It was further resolved:

> That this Division expresses no opinion with regard to the recommendations of the Council (BRITISH MEDICAL JOURNAL SUPPLEMENT, November 1st) as to medical aid institutions.

Address by Dr. Thurstan Holland.—A most interesting and instructive address on the *x*-ray diagnosis of diseases of the stomach was given by Dr. Thurstan Holland, Honorary Radiographer to the Royal Infirmary, Liverpool. It was illustrated with lantern views. A cordial vote of thanks to Dr. Holland concluded a successful meeting.

OXFORD AND READING BRANCH:

OXFORD DIVISION.

A GENERAL meeting of the Oxford Division was held at the Radcliffe Infirmary, Oxford, on October 31st. Dr. O'KELLY was in the chair, and about thirty members were present.

Dr. COLLIER reported as to a fund subscribed by members of the Division in recognition of the untiring efforts of Dr. Duigan during the past few years while he was secretary of the Division.

The late Dr. Alden.—Mr. WHITELOCKE then spoke of the loss the Division had sustained in the death of Dr. Alden, and proposed that a message of condolence be sent to Mrs. Alden and family; this was seconded by Dr. COLLIER and carried unanimously.

Congenital Stenosis of the Colon.—Dr. BOISSIER read notes of a case of congenital stenosis of the colon in a

seventh month infant. The child died in convulsions thirty-six hours after admission. Professor KEITH reported on the specimen. The caecum and colon were narrowed and cord-like, and the ileum was contracted for a distance of 10 cm. above the ileo-caecal valve. Similar cases were mentioned by Dr. GUTHRIE and Sir WM. OSLER.

Acute Abdomen.—Dr. PENROSE read notes of a case of perforating duodenal ulcer simulating appendicitis. He operated and found free fluid in the peritoneal cavity; after sewing up the ulcer he put in drainage tubes, and the patient made a good recovery. A discussion followed, in which Dr. COLLIER, Mr. BEVERS, Dr. BOISSIER, and Dr. DUIGAN spoke, also Dr. ALFRED CARTER, of Birmingham, who referred to the value of careful percussion over the sacrum, in the diagnosis of appendicitis.

Epidemic Catarrhal Jaundice.—Dr. LEONARD GUTHRIE read a paper on epidemic catarrhal jaundice. He referred to many epidemics, and expressed the opinion that catarrhal jaundice is never due to inspissated mucus, but is a glandular inflammation caused by a toxin or micro-organism. In some epidemics cases went on to acute yellow atrophy. The association of mumps, jaundice, and pancreatitis was referred to. Sir WILLIAM OSLER spoke of a widespread epidemic in North Carolina; in one of the cases admitted to Johns Hopkins Hospital there was a gradual increase in the gravity of the symptoms, and death ensued. At the autopsy a proteus organism was found in the blood and the liver. Dr. TURNER mentioned two epidemics of jaundice which occurred while the Coln River was swollen; the epidemics subsided when the people were forbidden to draw water from the Coln. Dr. CROLY had seen a small epidemic of mumps and jaundice occurring together. Dr. COLLIER and Dr. DUIGAN also spoke.

Association Notices.

CHANGES OF BOUNDARIES.

NOTICE OF (1) DISCONTINUANCE OF SOUTH-EASTERN BRANCH AND SEVENOAKS DIVISION, (2) FORMATION OF THREE NEW BRANCHES FOR KENT, SURREY AND SUSSEX RESPECTIVELY AND OF A NEW LEWES AND EAST GRINSTEAD DIVISION, (3) ALTERATIONS (CONSEQUENTIAL AND OTHERWISE) OF BOUNDARIES OF METROPOLITAN COUNTIES AND OXFORD AND READING BRANCHES AND OF VARIOUS DIVISIONS.

THE following changes have been made in accordance with the Articles and By-laws of the Association and take effect as from the date of publication of this notice:

> That, in substitution for the present arrangement whereby the total area of the Counties of Kent, Surrey and Sussex is divided among the South-Eastern, Metropolitan Counties and Oxford and Reading Branches, the area be reorganized by the discontinuance of the South-Eastern Branch and the formation of three new Branches for Kent, Surrey and Sussex, respectively, coterminous with these counties, the new Branches to have respectively the Divisions stated in the undernoted scheme. It will be observed that the scheme involves the discontinuance of the existing Sevenoaks Division, formation of a new Lewes and East Grinstead Division, alterations, consequential and otherwise, of the boundaries of the Metropolitan Counties and Oxford and Reading Branches, and of various Divisions, and transfer of the Kingston-upon-Thames, Richmond and Wimbledon Divisions from the Metropolitan Counties to the new Surrey Branch and of part of the Maidenhead Division from the Oxford and Reading Branch to the area of the same new Branch.

Representation in Representative Body.—The foregoing changes will necessitate alteration in the scheme of representation in the Representative Body. When the opinions of the Divisions and Branches concerned have been received and considered, the matter will be determined by the Organization Committee and Council pursuant to the By-laws.

Scheme referred to:

I.—KENT BRANCH.

(To embrace the whole of Kent. Ten Divisions.)

DIVISIONS.

BROMLEY (*Penge, Beckenham, and Bromley Insurance Districts*).—Comprising: Bromley M.B., Chislehurst, Foot's Cray, Beckenham, and Penge U.D.'s, and Bromley R.D.

DARTFORD (*Erith and Dartford Insurance Districts*).—Comprising: Dartford, Bexley, and Erith U.D.'s, and Dartford R.D.

ROCHESTER, CHATHAM, AND GILLINGHAM (*Rochester, Gravesend, Chatham, and Gillingham Insurance Districts*).—Comprising: Gravesend, Rochester, Chatham, and Gillingham M.B.'s, Northfleet U.D., and Hoo and Strood R.D.'s.

CANTERBURY AND FAVERSHAM (*Canterbury County Borough, Faversham, Canterbury, and Sittingbourne Insurance Districts*).—Comprising: Canterbury C.B., Queenborough and Faversham M.B.'s, Herne Bay, Whitstable, Milton Regis, Sheerness, and Sittingbourne U.D.'s and Blean, Bridge, Milton, Sheppey, and Faversham R.D.'s.

ISLE OF THANET (*Margate and Ramsgate Insurance Districts*).—Comprising: Ramsgate and Margate M.B.'s, Broadstairs and St. Peter's U.D., and Isle of Thanet R.D.

DOVER (*Dover and Deal Insurance Districts*).—Comprising: Dover, Deal, and Sandwich M.B.'s, Walmer U.D. and Eastry and Dover R.D.'s.

FOLKESTONE (*Folkestone Insurance District*).—Comprising: Folkestone and Hythe M.B.'s, Cheriton and Sandgate U.D.'s, and Elham R.D.

ASHFORD (*Ashford Insurance District*).—Comprising: Lydd, New Romney, and Tenterden M.B.'s, Ashford U.D., East Ashford, Romney Marsh, Tenterden, and West Ashford R.D.'s.

MAIDSTONE (*Maidstone Insurance District*).—Comprising: Maidstone M.B., Wrotham U.D., Cranbrook, Malling, Hollingbourne, and Maidstone R.D.'s.

TUNBRIDGE WELLS (*Tunbridge Wells and Sevenoaks Insurance Districts*).—Comprising: Tunbridge Wells M.B., Southborough, Tonbridge, and Sevenoaks U.D.'s, and Tonbridge and Sevenoaks R.D.).

II.—SURREY BRANCH.

(To embrace the whole of Surrey outside the L.C.C. area. Six Divisions.)

DIVISIONS.

GUILDFORD (*Guildford and Woking Insurance Districts*).—Comprising: Guildford and Godalming M.B.'s, Farnham, Haslemere (prospective U.D.), Woking, Chertsey, Weybridge, Egham, Windlesham, and Frimley U.D.'s, and Guildford, Farnham, Hambledon, and Chertsey R.D.'s.

RICHMOND (*Richmond, Barnes, and Mortlake Insurance Districts*).—Comprising: Richmond M.B., and Barnes and Mortlake U.D.

KINGSTON-ON-THAMES (*Kingston-on-Thames Insurance District*).—Comprising: Kingston M.B., the Maldens and Coombe, Esher and the Dittons, Ham, Surbiton, Molesey, and Walton-on-Thames U.D.'s, and, in Epsom R.D., the C.P.'s of Cobham, Chessington, and Stoke D'Abernon.

WIMBLEDON (*Wimbledon Insurance District*).—Comprising: Wimbledon M.B., Merton U.D., and Mitcham C.P. (prospective U.D.).

CROYDON (*County Borough of Croydon and Sutton Insurance Districts*).—Comprising: Croydon C.B., Sutton, Carshalton, Epsom, and Leatherhead U.D.'s, Beddington and Wallington C.P.'s (prospective U.D.), Epsom R.D. (except the C.P.'s of Cobham, Chessington, and Stoke D'Abernon), and Woodmansterne C.P.

REIGATE (*Reigate and South-Eastern Insurance Districts*).—Comprising: Reigate M.B., Dorking and Caterham U.D.'s, Coulsdon and Sanderstead C.P.'s (prospective U.D.), Dorking, Reigate, and Godstone R.D.'s, and Addington C.P.

* C.B. = County Borough; M.B. = Municipal Borough; U.D. = Urban District; R.D. = Rural District; C.P. = Civil Parish.

III.—SUSSEX BRANCH.

Comprising the East and West Sussex County Council areas. Six Divisions.)

DIVISIONS.

WEST SUSSEX.

HORSHAM (*Nos. 1 and 2 Insurance Districts*).—Comprising: Horsham U.D., and Horsham, Petworth, Midhurst and Thakeham R.D.'s.

CHICHESTER AND WORTHING (*Nos. 3 and 4 Insurance Districts*).—Comprising: Chichester, Worthing, and Arundel M.B.'s, Bognor, Littlehampton, Shoreham, and Southwick U.D.'s, and West Hampnett, Westbourne, Steyning West and East Preston R.D.'s.

EAST SUSSEX.

HASTINGS (*County Borough of Hastings and No. 6 Insurance District*).—Comprising: Hastings C.B., Bexhill and Rye M.B.'s, Battle U.D., Battle, Hastings, and Rye R.D.'s, and the parishes of Hooe and Ninfield.

EASTBOURNE (*County Borough of Eastbourne and No. 5 Insurance District*).—Comprising: Eastbourne C.B., Eastbourne and Hailsham R.D.'s (except the parishes of Hooe and Ninfield).

BRIGHTON (*County Borough of Brighton and No. 2 Insurance District.*)—Comprising: Brighton C.B., Hove M.B., Portslade-by-Sea U.D., Steyning East R.D. (except the parishes of Fulking and Poynings), and the parishes of Ovingdean, Rottingdean, and Telscombe.

LEWES AND EAST GRINSTEAD (*Nos. 1, 3, and 4 Insurance Districts*).—Comprising: Lewes M.B., Burgess Hill, Cuckfield, East Grinstead, Hayward's Heath, Newhaven, Seaford, and Uckfield U.D.'s, Cuckfield, East Grinstead, Chailey (or Lewes), Newhaven (except the parishes of Ovingdean, Rottingdean, and Telscombe), Uckfield and Ticehurst R.D.'s, and the parishes of Fulking and Poynings.

BRANCH AND DIVISION MEETINGS TO BE HELD.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.—Dr. M. J. Oliver, Honorary Secretary (St. Boswells), gives notice that a meeting of the Division will be held in the Railway Hotel, Newton St. Boswells, on Thursday, November 20th, at 3 p.m., when Dr. Blair, Chairman, will preside. The business will include: (1) Vote of thanks to retiring chairman, proposed by Dr. Oliver. (2) Issue of instructions to Representative at Special Meeting of Representative Body on December 4th and 5th: (*a*) Increase of subscription to Association to £2 2s. (*b*) Establishment of Special Fund. (*c*) Appointment of paid Organizing Secretaries. (*d*) Appointment of part-time clerical assistance to Branches. (*e*) Establishment of separate offices at Edinburgh, Dublin, and Cardiff. (*f*) Provision of an Insurance Act Department. (*g*) Provision of legal assistance to Local Medical Committees. (*h*) Provision of District Medical Organisers, etc. (see SUPPLEMENT of November 1st). 3. Medical Referees; letter from Central Office. (4) Statement of Nature of Disease on Certificates. (5) Scientific work; appointment of Special Committee. (6) Changes in constituencies. Members are requested to bring their copies of the SUPPLEMENT to the meeting. Tea will be supplied at 1s.

LANCASHIRE AND CHESHIRE BRANCH.—Mr. F. Charles Larkin, Honorary Secretary (54, Rodney Street, Liverpool), gives notice that the next meeting of the Branch Council will be held at the Liverpool Medical Institution at 4 p.m. on Wednesday, November 19th.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—Dr. T. W. H. Garstang, Honorary Secretary (22, Station Buildings, Altrincham), gives notice that a meeting of the Division will be held at Brooklands on Tuesday, November 18th, at 3.30 p.m. The Executive Committee will meet at Altrincham on January 8th, 1914, and the annual meeting of the Division will take place at Altrincham on January 22nd, 1914.

LANCASHIRE AND CHESHIRE BRANCH: LIVERPOOL DIVISION.—Dr. Francis W. Bailey, Honorary Secretary (51A, Rodney Street, Liverpool), gives notice that a meeting of the members of this Division will take place on Friday, November 21st, at 4 p.m., at the Medical Institution, Liverpool. Agenda: (1) Correspondence. (2) Vote of thanks to Dr. Bushby. (3) Report of Representatives. (4) Consider matters referred to Divisions (BRITISH MEDICAL JOURNAL SUPPLEMENT, November 1st) *re* Special Representative Meeting: (*a*) Increase of subscription. (*b*) Special fund for organization of the profession. (*c*) National Insurance Act matters. (*d*) Deputy Representatives. Members who have not yet subscribed to "Voluntary Levy Fund" are asked to do so at their earliest convenience.

METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.—Dr. J. H. Clatworthy, Honorary Secretary (145, Denmark Hill, S.E.), gives notice as follows: An ordinary meeting of the Division will be held on Thursday, November 27th, at 4 p.m., at the South Metropolitan Gas Works, 709, Old Kent Road, S.E., when tea will be provided, and Mr. S. Rideal, D.Sc., will read a paper on "The Hygienic Uses of Gas in Relation to Health," and the members will be shown round some interesting features connected with the Gas Works. All medical men, whether members or non-members of the Asssociation or resident or non-resident in the Division, are invited, and it is hoped that as many as possible will attend, as the Company has gone to great trouble to provide an interesting afternoon.

A special meeting will be held on Tuesday, December 2nd, at 4 p.m., at the Surrey Masonic Hall, Camberwell New Road, to discuss the agenda for the Special Representative Meeting (see the SUPPLEMENT, November 1st, which it is requested should be brought to the meeting).

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—Dr. A. G. Southcombe, Honorary Secretary (83, Sidney Road, Homerton, N.E.), gives notice that a clinical meeting will be held conjointly with the Aesculapian Society at the Metropolitan Hospital, Kingsland Road, on Friday, November 21st, at 4 p.m., when Mr. Henry Curtis, F.R.C.S., will give a demonstration on cases from the surgical wards. A general meeting of the Division will be held on Wednesday, November 26th, at 3.30 p.m., in Balfour Hall, Kingsland Road, to transact the ordinary business of a general meeting, and specially: (*a*) To consider the following notices of motion adjourned from the meeting of October 22nd: Dr. Evan Jones (October 2nd): (i) "That in the opinion of this meeting the unallocated money remaining in the hands of the London Insurance Committee should follow the disposal of the unallotted persons who contributed it." (ii) "That in the opinion of this meeting no panel practitioner should accept on his list, or accept allocation of, other doctors' patients." (iii) "That in the opinion of this meeting it is to the interest of the profession that no practitioner in general practice should accept more than 2,000 on his panel list." (*b*) To discuss the matters referred to the Division published in the SUPPLEMENT of November 1st, which members are reminded to bring with them. (*c*) To instruct Representatives for Special Representative Meeting. (*d*) Notice of motion by Dr. Major Greenwood (November 10th): Report of Council (3), p. 318, SUPPLEMENT, November 1st: "That this meeting protests against suggestions made by the Executive of the Association that important points of medical policy are carried at Representative Meetings of the Association without due consideration."

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.—Dr. Francis W. Goodbody, Honorary Secretary, gives notice that a general meeting of the Division to instruct the Representatives will be held at 11, Chandos Street, W., on Friday, November 21st, at 5 p.m.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—Dr. A. Pottinger Eldred, Honorary Secretary (Bucklands, Grove Road, Walthamstow), gives notice that a meeting of the Division will be held at Livingstone College, Knotts Green, Leyton, on Thursday, November 20th, at 4 p.m., when a lantern demonstration on "Types of Insanity" will be given by Robert Jones, M.D., Medical Superintendent, Claybury Asylum. A special meeting of the Division will be held on Tuesday, November 25th, in the Wesleyan Church Schoolroom, High Road, Leyton, at 4 p.m., for the purpose of considering the Report of Council on the desirability of raising the annual subscription of members and recommendations for the organization of the profession (see SUPPLEMENT to JOURNAL, November 1st.)

MIDLAND BRANCH: BOSTON AND SPALDING DIVISION.—Dr. R. Tuxford, Honorary Secretary (12, Wide Bargate, Boston, Lincolnshire), gives notice that a general meeting of the Division will be held at the White Hart Hotel, Boston, on Wednesday, November 19th. Agenda: (1) Discuss report of Special Representative Meeting (see BRITISH MEDICAL JOURNAL for November 1st). (2) Club fees. (3) Formation of Panel Committees (see National Health Insurance Commissioners' Circular 30/I.C.). (4) To consider draft of agreement to be signed by panel practitioners for year 1914. (5) To discuss the question of holding scientific meetings. (6) Any other business.

NORTHERN COUNTIES OF SCOTLAND BRANCH: INVERNESSSHIRE DIVISION.—Dr. J. W. Mackenzie, Honorary Secretary, gives notice that a general meeting of the Division will be held on Saturday, November 15th, at 3.30 p.m., at the Northern Infirmary, Inverness, to discuss the agenda of the Special Representative Meeting and any other business which may arise. Members are requested to bring with them the SUPPLEMENT of November 1st.

SOUTH-EASTERN BRANCH: CHICHESTER AND WORTHING DIVISION.—Dr. A. S. Morton Palmer, Honorary Secretary (103, Marine Parade, Worthing), gives notice that a meeting of the Division will be held at the Chichester Hospital on Monday, November 17th, at 3.30 p.m., to discuss the following matters and instruct the Represeutative: (1) The question of increasing our subscription to £2 2s. (2) Schemes for establishment of a Special Fund for the better organization of the medical profession. (3) Report by the Council as to various matters relating to the National Insurance Act. (4) Conditions

of appointment of Medical Referees. (5) Other business which may arise. (For (1), (2), (3), see SUPPLEMENT, BRITISH MEDICAL JOURNAL, November 1st.

SOUTH-EASTERN BRANCH: REIGATE DIVISION.—Dr. Francis Gayner, Honorary Secretary, gives notice that the autumn meeting will be held on Wednesday, November 19th, at the White Hart Hotel, Reigate, at 4 o'clock. Agenda:—Business meeting, at 4 o'clock: (1) The proposed raising of the annual subscription of the Association to two guineas a year. (2) The proposed establishment of a special fund for the thorough organization of the profession. (3) Other business (see SUPPLEMENT, BRITISH MEDICAL JOURNAL, November 1st, 1913). Scientific meeting, at 5 o'clock: (1) Dr. Lewis Smith, of the London Hospital, will give an address on Blood Pressure Clinically Considered. (2) Dr. J. M. Gage will read a paper on An Epidemic of Measles at Earlswood Asylum. The meeting will be followed, at 7 p.m., by a dinner, 7s., exclusive of wine (morning dress), to which members may bring their friends, who need not necessarily belong to the medical profession. A musical programme will follow the dinner.

SOUTHERN BRANCH.—Dr. James Green, Honorary Secretary (Brandon House, Mile End, Portsmouth), gives notice that the autumn general meeting of the Branch is appointed to be held at the South-Western Hotel, Southampton, at 3 p.m., on Wednesday, November 26th, when the business of the Branch will be transacted. Afterwards an address will be delivered by Dr. Hugh W. Bayley on "The Methodical Diagnosis and Treatment of Chronic Gonorrhoea and its Local Complications," with lantern demonstration. Discussion will follow, in which members are invited to join. Tea will be served during or after the meeting.

SOUTH MIDLAND BRANCH: NORTHANTS DIVISION.—Dr. Peverell S. Hichens, Honorary Secretary (47, Sheep Street, Northampton), gives notice that a meeting of the Division will be held in the Board-room of the Northampton General Hospital, at 2.30, on Tuesday, November 18th. There will be a luncheon at Franklin's Restaurant, at 1.30, preceding the meeting, and those wishing to attend it should notify the Honorary Secretary two days beforehand. Business of meeting: To consider and instruct Representative on the business of the Special Representative Meeting (SUPPLEMENT, November 1st). If time permits, some clinical cases will be shown.

STAFFORDSHIRE BRANCH.—Dr. Harold Hartley, Honorary General Secretary (Basford, Stoke-on-Trent), gives notice that the first general meeting of the session will be held at the North Stafford Hotel, Stoke-on-Trent, on Thursday, November 20th. The President (Mr. W. F. Cholmeley, F.R.C.S.) will take the chair at 3.45 p.m. Business:—Correspondence. Exhibition of Living Cases. Papers: (1) Blood Changes in Lead Poisoning (John Russell); (2) The Clinical Importance of the Cerebro-spinal Fluid (William Boyd); (3) Tonsillectomy (G. A. Carter). Exhibition of Pathological Specimens, etc. Dinner at 6.30 p.m.; charge, 5s.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—Dr. S. Colen Legge, Honorary Secretary, gives notice that a meeting of the above Branch will be held at the Worcester General Infirmary, Worcester, on Friday, November 21st, at 3.30 p.m. Council meeting at 3 p.m. A paper will be read by Sir Malcolm Morris. It is hoped that all members will endeavour to be present.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN ninety-six of the largest English towns 8,805 births and 4,754 deaths were registered during the week ending Saturday, November 1st. The annual rate of mortality in these towns, which had been 14.3, 13.6, and 13.1 per 1,000 in the three preceding weeks, rose to 13.9 per 1,000 in the week under notice. In London the death-rate was equal to 14.2, against 14.2, 14.1, and 13.7 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rate ranged from 5.9 in Southend-on-Sea, 7.0 in Enfield, 7.6 in Ipswich, 7.9 in Walthamstow and in Carlisle, 8.1 in Darlington, and 8.2 in Brighton to 18.3 in Warrington, 18.4 in Walsall, 18.9 in South Shields, 19.1 in Oldham, 21.0 in Cambridge, and 21.1 in West Bromwich. Diphtheria caused a death-rate of 1.9 in Devonport. The deaths of children (under 2 years) from diarrhoeal diseases, which had been 769, 601, and 407 in the three preceding weeks, further fell to 322; of this number, 94 were recorded in London, 26 in Birmingham, 20 in Liverpool, 14 in Manchester, 11 in Hull, and 10 in West Ham. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was recorded during the week. The causes of 25, or 0.5 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 6 in Birmingham, 3 in Liverpool, 2 in Hastings, and 2 in Blackpool. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,021, 3,247, and 3,445 at the end of the three preceding weeks, had further risen to 3,580 on Saturday, November 1st; 534 new cases were admitted during the week, against 484, 575, and 530 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN the sixteen largest Scottish towns 1,062 births and 635 deaths were registered during the week ending Saturday, November 1st. The annual rate of mortality in these towns, which had been 14.7, 13.9, and 14.0 per 1,000 in the three preceding weeks, further rose to 14.7 in the week under notice, and was 0.8 per 1,000 above that recorded in the ninety-six large English towns. Among the several towns the death-rate ranged from 3.7 in Clydebank, 7.6 in Ayr, and 10.5 in Kilmarnock to 15.8 in Glasgow and in Paisley, 17.3 in Dundee, and 18.0 in Coatbridge. The mortality from the principal infective diseases averaged 1.9 per 1,000, and was highest in Kirkcaldy and Motherwell. The 310 deaths from all causes registered in Glasgow included 18 from infantile diarrhoeal diseases, 12 from measles, 6 from diphtheria, 5 from scarlet fever, 3 from whooping-cough, and 1 from enteric fever. Six deaths from diarrhoeal diseases were recorded in Aberdeen and 5 in Dundee; 4 deaths from scarlet fever in Motherwell; 2 deaths from measles in Greenock; and 2 deaths from diphtheria in Aberdeen.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, November 1st, 575 births and 395 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 590 births and 409 deaths in the preceding period. These deaths represent a mortality of 17.2 per 1,000 of the aggregate population in the districts in question, as against 17.8 per 1,000 in the previous period. The mortality in these Irish areas was therefore 3.3 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.0 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 21.2, as against an average of 19.2 for the previous four weeks, in Dublin city 23.5 (as against 21.0), in Belfast 13.4 (as against 15.0), in Cork 15.6 (as against 18.5), in Londonderry 17.8 (as against 12.7), in Limerick 10.8 (as against 10.5), and in Waterford 11.4 (as against 15.2). The zymotic death-rate was 2.0, as against 2.5 in the previous week.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Fleet Surgeon ELYSTAN G. E. O'LEARY to the *Invincible*, vice Spicer on the *Indefatigable*, replacing the *Invincible*, undated. Fleet Surgeon H. SPICER, M.B., to the *Indefatigable*, vice O'Leary on the *Indefatigable*, replacing the *Invincible*, undated. Surgeon SIDNEY PUNCH to the *Indefatigable*, November 8th. Surgeon EDWARD MOXON-BROWNE to the *Tamar*, additional, for Hong Kong Hospital, vice Goble, November 8th, and to the *Triumph*, additional, for Hong Kong Hospital, on replacing the *Tamar*, undated. Surgeon A. B. CLARK to the *Halcyon*, additional, for the *Wear*, November 4th.

ARMY MEDICAL SERVICE.

COLONEL J. MAHER has, on promotion, been posted to Gibraltar.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel C. H. HALE, D.S.O., has been granted leave for six months out of India.

Major C. W. REILLY has been appointed to the medical charge of troops at Bodmin.

Major W. A. WARD has been appointed to the Southern Command.

Major W. S. HARRISON has been appointed to the London area as Medical Examiner of Recruits.

Major J. C. KENNEDY has been selected for a tour in India.

Major S. DE C. O'GRADY has been appointed to Aldershot for duty.

Major N. E. J. HARDING has been appointed medical officer at the Tower of London.

Major EDMUND P. HEWITT is placed temporarily on the half-pay list on account of ill health, November 7th.

Lieutenant R. G. SHAW has been posted to the Dublin district for duty.

Lieutenant A. L. URQUHART has taken up duty at the Queen Alexandra Military Hospital, Millbank.

INDIAN MEDICAL SERVICE.

THE services of Lieutenant-Colonel J. CRIMMIN, C.B., C.I.E., are placed at the disposal of His Excellency the Commander-in-Chief in India, with effect from October 1st.

Lieutenant-Colonel C. A. JOHNSTON is appointed to officiate as an Agency Surgeon of the Second Class, and is posted temporarily as Residency Surgeon, Mysore, in addition to his own duties, with effect from August 30th, and until further orders.

Major H. C. BUCKLEY, officiating Civil Surgeon, on return from leave, has been appointed to Bulandsahr.

Major R. STEEN, Civil Surgeon, Bulandsahr, has been appointed to Aligarh.

Major D. MCCAY is granted privilege leave for two months and five days combined with furlough on medical certificate for a total period of seven months, with effect from September 1st.

Major C. A. LANE, officiating Civil Surgeon, Darjeeling, is appointed to act as a Civil Surgeon of the first class, from September 1st, during the absence of Lieutenant-Colonel Hall, or until further notice.

Major E. E. WATERS is appointed to officiate as Professor of Materia Medica, Medical College, Calcutta, and second physician to the College Hospital during the absence on leave of Major McCay, or until further orders.

Major R. W. KNOX is granted privilege leave for three months, combined with furlough for eleven months and three days from August 30th.

Major H. A. J. GIDNEY, Civil Surgeon, Naga Hills, is deputed to Delhi for a course of training at the malaria class there.

The services of Major A. C. MACGILCHRIST are placed temporarily at the disposal of the Government of India in the Department of Education, with effect from October 15th.

Major E. J. MORGAN, Civil Surgeon, Sitapur, has been granted privilege leave, combined with furlough on medical certificate, for a total period of six months.

Major J. N. WALKER, Civil Surgeon, Aligarh, on being relieved, has been granted privilege leave, combined with study leave and furlough, for a total period of one year.

The services of Captain G. HOLROYD, officiating Superintendent of the Bhagalpur Central Gaol, and Captain F. H. SALISBURY, officiating Superintendent Central Gaol, Dacca, are replaced at the disposal of the Government of India in the Home Department.

Captain W. D. H. STEVENSON, Assistant to the Director, Bombay Bacteriological Laboratory, has been granted privilege leave in combination with special leave on urgent private affairs for six months, together with study leave for seven months more,

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ARGYLL AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer (male). Salary, £200 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—(1) House-Physician. (2) House-Surgeon (male). Salary at the rate of £75 per annum each.

BETHNAL GREEN INFIRMARY.—Second and Third Assistant Medical Officers. Salary, £120 and £100 per annum, rising to £140 and £120 respectively.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—One Physician and One Surgeon for Out-Patients. Salary, £40 per annum each.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant. Honorarium at the rate of 52 guineas per annum.

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—House-Surgeon. Salary at the rate of £100 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—House-Physician (male). Salary, £100 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Honorary Assistant Physician. (2) Throat, Nose, and Ear House-Surgeon. Salary at the rate of £75 per annum.

BRITISH MEDICAL ASSOCIATION.—Assistant Medical Secretary of the Insurance Subdepartment. Salary, £500 per annum.

BURY AND DISTRICT JOINT HOSPITAL BOARD.—Assistant to the Medical Superintendent. Salary, £200 per annum.

CAMBERWELL: ST. GILES PARISH.—Assistant Medical Officer for the Infirmary and Children's Homes. Salary, £180 per annum, increasing to £200.

CARMARTHEN: JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary, £180 per annum, rising to £200.

CHELTENHAM GENERAL HOSPITAL.—House-Physician. Salary, £100 per annum.

CORNWALL EDUCATION COMMITTEE, Truro.—Assistant School Medical Officer. Salary, £250 per annum, rising to £300.

DERBYSHIRE ROYAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

DORCHESTER: COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £200 per annum.

DOWN COUNTY COUNCIL.—Assistant Tuberculosis Medical Officer. Salary at the rate of £350 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

EDAY PARISH.—Medical Officer. Salary, £70 per annum, and appointments £20.

GATESHEAD UNION.—Resident Assistant Medical Officer at the Whinney House Establishments. Salary, £250 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—(1) Surgeon (Out-Patient). (2) House-Physician. Salary at the rate of £40 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.—Two Assistant Physicians.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—Surgeon to Out-patients.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £80 per annum.

INDIA OFFICE, S.W.—Two Civilian Dentists for the treatment of British troops in India.

ITALIAN HOSPITAL, Queen Square, W.C.—House-Surgeon. Salary, at the rate of £60 per annum.

KING'S COLLEGE, W.C.—Demonstrator of Anatomy. Salary, £100 per annum.

LIVERPOOL CITY.—Assistant Tuberculosis Officer. Salary at the rate of £400 per annum.

LIVERPOOL EYE AND EAR INFIRMARY.—House-Surgeon (male). Salary at the rate of £80 per annum.

LONDON FEVER HOSPITAL, Liverpool Road, N.—Assistant Resident Medical Officer. Salary, £150 per annum.

LONDON LOCK HOSPITAL, Harrow Road, W.—(1) House-Surgeon. (2) Assistant House-Surgeon. Salary, £100 and £80 per annum respectively.

MACCLESFIELD GENERAL INFIRMARY.—(1) Senior House-Surgeon. (2) Junior House-Surgeon. Salary, £100 and £80 per annum respectively.

MANCHESTER CITY.—Assistant Medical Officer at the Baguley Sanatorium. Salary, £200 per annum.

MANCHESTER CORPORATION.—Third Medical Assistant at the Monsall Fever Hospital. Salary, £100 per annum.

MILDMAY MISSION HOSPITAL, Bethnal Green, E.—Assistant Physician.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—Resident Medical Officer (male). Salary at the rate of £80 per annum.

NEWCASTLE-UPON-TYNE AND NORTHUMBERLAND SANATORIUM FOR CONSUMPTIVES, Barrasford.—Resident Medical Officer (male). Salary, £250 per annum, rising to £400.

NEWCASTLE-ON-TYNE DISPENSARY.—Resident Medical Officer. Salary, £250 per annum, rising to £275 and allowance of £40 for attendance.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—Resident Surgical Officer. Salary, £100 per annum.

OLDHAM ROYAL INFIRMARY.—Third House-Surgeon. Salary at the rate of £80 per annum.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer. Salary, £150 per annum, rising to £175.

PADDINGTON INFIRMARY.—Second Assistant to the Medical Superintendent and Medical Officer of the Workhouse. Salary, £140 per annum, rising to £150.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—House-Physician (male). Salary at the rate of £80 per annum.

RICHMOND: ROYAL HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Member of the Court of Examiners.

ROYAL EAR HOSPITAL, Soho, W.—House-Surgeon, non-resident. Honorarium, £40 per annum.

ST. PANCRAS INFIRMARY.—Junior Assistant Medical Superintendent (male). Salary, £100 per annum.

ST. PETER'S HOSPITAL FOR STONE, ETC., Henrietta Street, W.C.—Junior House-Surgeon. Salary at the rate of £75 per annum.

SHEFFIELD ROYAL INFIRMARY.—House-Surgeon. Salary at the rate of £80 per annum.

SHETLAND: PARISH COUNCIL OF WALLS.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

SOMERSET AND BATH ASYLUM, Cotford.—Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

STIRLING ROYAL INFIRMARY.—Resident House-Surgeon. Salary, £90.

SURREY COUNTY COUNCIL.—Three Assistant School Medical Officers. Salary, £400 per annum, rising to £500.

SWANSEA UNION.—Assistant Medical Officer of the Workhouse. Salary about £260 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.—Assistant to the Chemical Pathology Department. Salary, £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—Senior Resident Medical Officer. Salary, £120 per annum.

WEST RIDING COUNTY COUNCIL, Wakefield.—(1) Three School Medical Inspectors; (2) School Oculist; (3) Three School Dentists; (4) Assistant Medical Officer (male) for the Scalebor Park Asylum. Salary for (1) and (2), £300 per annum; for (3), £250 per annum: and for (4), £200 per annum.

CERTIFYING FACTORY SURGEON.—The Chief Inspector of Factories announces the following vacant appointment: Clackmannan (Clackmannan).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

ADAMSON, A. F., M.B., Ch.B.Edin., Junior Assistant Physician to the Ayr District Asylum.

HENDERSON, John, M.D., Ch.B., F.R.F.P.S.Glasg., Lecturer-Examiner in Clinical Medicine, Glasgow University.

LEACH, R. E. H., M.B., B.Ch.Oxon., Certifying Factory Surgeon for the Bungay District, co. Suffolk.

LETCHWORTH, T. W., M.B.Camb., F.R.C.S., Ophthalmic Surgeon to Out-patients to Hampstead General and North-West London Hospital.

MITCHELL, H. V., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Clacton-on-Sea District, co. Essex.

POWELL, Hugh, M.D., M.R.C.S., L.R.C.P., Honorary Anaesthetist to the Cheltenham General Hospital.

ROLLINSON, H. D., M.B., B.S.Lond., Second Assistant Medical Officer, Bethnal Green Parish Infirmary.

SLOAN, J. F. M., M.B., Ch.B.Glasg., Senior Assistant Physician to the Ayr District Asylum.

TERRY, Harold Cairns, M.B., Ch.B.Birm., Assistant Physician to the Gloucestershire Royal Infirmary and Eye Institution, vice Dr. Finlay, appointed Physician.

THOMAS, E. B., M.B., B.S.Adelaide, Resident Medical Officer of the Adelaide Hospital, South Australia, vice G. A. Harvey, M.B., B.S., resigned.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

MARRIAGE.

STARTIN—BULKLEY.—On November 12th, 1913, at the Bombay Cathedral, by the Rev. C. D. T. Mason, M.A., John Startin, M.R.C.S., L.R.C.P., Captain, Royal Army Medical Corps, only son of the late James Startin, M.R.C.S., to Stella Muriel, eldest daughter of Harrington Bulkley, Esq., of the Bombay Salt Revenue.

DEATHS.

MORISON.—On November 10th, at 29, Norfolk Square (late of Redlands, Burgess Hill), Henry Bannerman Morison, son of the late George Morison, of Glasgow, aged 62. Funeral at Cranleigh Church on Thursday at 1.45 p.m.

SWEETING.—On November 10th, at 7, Fernshaw Mansions, S.W., Richard Deane Sweeting, M.D., Barrister-at-Law, Senior Medical Inspector, H.M. Local Government Board, Whitehall. Funeral private. No flowers, by special request.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Adjourned Discussion on the Treatment of Neurasthenia.

TUESDAY.

CHELSEA CLINICAL SOCIETY, St. George's Hospital, 8.30 p.m.—Paper:—Mr. Claude Frankau: Pyelitis.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, Leicester Square, W.C., 4.30 p.m.—(1) Cases and Specimens. (2) Paper:—Dr. W. Griffith: Chronic Lupus.

ROYAL SOCIETY OF MEDICINE:

SECTION OF THERAPEUTICS AND PHARMACOLOGY, 4.30 p.m.—Paper:—Dr. F. Ransom: Diabetic Gangrene and Excretion of Calcium.

SECTION OF PATHOLOGY, 8.30 p.m.—Papers:—Dr. Warren Crowe: The Primary Cause of Rheumatoid Arthritis. Dr. E. P. Minett: The Pathogenicity of an Organism Isolated from Non-ulcerating Cancerous Growths.

WEDNESDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF THE HISTORY OF MEDICINE, 5 p.m.—Papers:—Dr. Charles Singer: St. Hildegarde. Dr. John Rolleston: Medical Aspects of the Greek Anthology (Part I). Dr. Raymond Crawfurd will show a collection of "Touch Pieces," and Dr. F. W. Cock some old Surgical Instruments.

THURSDAY.

ROYAL SOCIETY, Burlington House, W., 4.30 p.m.—The following are among the probable papers for reading:—Professor A. F. S. Kent: Neuromuscular Structures in the Heart. George Graham and E. P. Poulton: The Alleged Excretion of Creatine in Carbohydrate Starvation. J. A. Gardner and P. E. Lander: The Origin and Destiny of Cholesterol in the Animal Organism (Part XI). The Cholesterol Content of Growing Chickens under Different Diets. W. E. Bullock and W. Gramer: Contributions to the Biochemistry of Growth. On the Lipoids of Transplantable Tumours of the Mouse and the Rat.

ROYAL SOCIETY OF MEDICINE, 5 p.m.—General Meeting. Lantern Lecture by Dr. H. Bayon, on the Clinical and Bacteriological Aspects of Leprosy.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF OTOLOGY, 5 p.m.—Demonstration of Cases and Specimens.

SECTION OF ELECTRO-THERAPEUTICS, 8.30 p.m.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, Cavendish Square, London, W., 8.30 p.m.—Papers:—Dr. Malcolm Watson: The Prevention of Malaria in Rural Districts. Dr. H. Bayon: Lupoid Leprosy and the Results of Treatment of Leprosy by means of a Cultural Extract.

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.—Post-Graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

LONDON HOSPITAL MEDICAL COLLEGE, Mile End, E.—Tuesday, 2 p.m., Neuroses and Psychoses of Children.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Thursday. Radiography: Saturday. Lectures on special subjects on Wednesday, Thursday, and Friday.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock, E.—Lectures daily (Saturday excepted) at 12 and 4 p.m. Practical Laboratory Work daily (Saturday excepted), 10 and 12 a.m. Practical Helminthology, 2 to 3.30 p.m. daily. Advanced Helminthology, 10.30 to 1 p.m. daily. Medical Clinics, Tuesday and Thursday, at 3 p.m. Operations, Friday, at 3 p.m.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS, at 4.30 p.m. each day.—Tuesday, Salford Royal: Prostatic Hypertrophy. Wednesday, Royal Infirmary: Abdominal Emergencies. Thursday, Ancoats: Neo-salvarsan. Friday, Royal Eye: Optic Neuritis and Atrophy.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—Clinical Demonstrations at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Medical; Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. will be delivered each day.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Progressive Muscular Atrophy. Friday, 3.30 p.m., Cerebellar Disease.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Medical and Surgical Clinics and Operations at 2.30 p.m. daily. Also Monday, Throat; Tuesday, Gynaecology; Wednesday, Skin, Eye, Children, *X* Rays; Tuesday and Friday, Eye. Special Lectures and Demonstrations as announced.

SHEFFIELD UNIVERSITY.—Clinical Demonstrations: Tuesday, Royal Hospital, 3 p.m., Diseases of the Testicle. Friday, Royal Hospital, 3 p.m., The Vaccine-Therapy of Skin Diseases.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays, and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Saturday. Eye: Monday, Wednesday, Thursday and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday. A Lecture at 5 p.m. daily except Saturday.

[*For further particulars of Lectures consult the Index to Advertisements.*]

DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
	NOVEMBER.
15 Sat.	Inverness-shire Division, Inverness, 3.30 p.m.
17 Mon.	Chichester and Worthing Division, Chichester Hospital, 3.30 p.m.
18 Tues.	Altrincham Division, Division Meeting, Brooklands, 3.30 p.m. Northamptonshire Division, Northampton General Hospital, 2.30 p.m.; Luncheon, 1.30 p.m.
19 Wed.	London: Non-Panel Committee, 12.30 p.m. Boston and Spalding Division, Boston. Lancashire and Cheshire Branch, Branch Council, Liverpool Medical Institution, 4 p.m. Reigate Division, Reigate, 4 p.m.
20 Thur.	London: Insurance Act Committee. South-Eastern Counties Division, Newton St. Boswells, 3 p.m. South-West Essex Division, Livingstone College, Leyton, 4 p.m. Staffordshire Branch, Stoke-on-Trent, 3.45 p.m.; Dinner, 6.30 p.m.
21 Fri.	City Division, Metropolitan Hospital, 4 p.m. Marylebone Division, 11, Chandos Street, W., 5 p.m.

Date.	Meetings to be Held.
	NOVEMBER (*continued*).
21 Fri.	Liverpool Division, Medical Institution, Liverpool, 4 p.m. Worcestershire and Herefordshire Branch, Worcester, 3.30 p.m.; Council, 3 p.m.
25 Tues.	South-West Essex Division, Wesleyan Church School, High Road, Leyton, 4 p.m.
26 Wed.	City Division, Balfour Hall, Kingsland Road, 3.30 p.m. Southern Branch, Southampton, 3 p.m.
27 Thur.	Camberwell Division, South Metropolitan Gas Works, 4 p.m.
	DECEMBER.
2 Tues.	Camberwell Division, Surrey Masonic Hall, Camberwell New Road, 4 p.m.
4 Thur.	Special Representative Meeting, Connaught Rooms, Great Queen Street, London, W.C., 9.30 a.m., and following day if necessary.
9 Tues.	London: Metropolitan Counties Branch Council, 4 p.m. West Somerset Branch, Annual Meeting and Annual Dinner.
23 Tues.	East Africa and Uganda Branch, Namirembe, Kampala.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, NOVEMBER 22ND, 1913.

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British Medical Association.

EXTRAORDINARY GENERAL MEETING.

NOTICE is hereby given that an Extraordinary General Meeting of the British Medical Association will be held at the Connaught Rooms, Great Queen Street, London, W.C., on Friday, the 5th day of December, 1913, at 11 o'clock in the forenoon, when the subjoined resolution will be proposed as an extraordinary resolution, viz.:—

That the provisions of the Association's Memorandum of Association with respect to its objects be altered so as to read as follows:

3. The objects for which the Association is established are:—

(1) To promote the medical and allied sciences, and to maintain the honour and interests of the medical profession.

(2) To hold or arrange for the holding of periodical meetings of the members of the Association and of the medical profession generally.

(3) To circulate such information as may be thought desirable by means of a periodical journal, which shall be the journal of the

EXISTING MEMORANDUM.

3. The objects for which the Association is established are the promotion of medical and the allied sciences, and the maintenance of the honour and interests of the medical profession by the aid of all or any of the following:—

(*a*) Periodical meetings of the members of the Association, and of the medical profession generally in different parts of the country.

(*b*) By the publication of such information as may be thought desirable in the form of a periodical

Association, and by the occasional publication of transactions or other papers.

(4) To grant sums of money out of the funds of the Association for the promotion of the medical and allied sciences in such manner as may from time to time be determined on.

(5) Subject to the provisions of Section 19 of the Companies (Consolidation) Act 1908 to purchase take on lease exchange hire or otherwise acquire any real and personal property and any rights or privileges necessary or convenient for the purposes of the Association.

(6) To sell improve manage develop lease mortgage dispose of turn to account or otherwise deal with all or any part of the property of the Association.

(7) To borrow any moneys required for the purposes of the Association upon such terms and upon such securities as may be determined.

(8) To do all such other lawful things as may be incidental or conducive to the promotion or carrying out of the foregoing objects or any of them.

Provided that the Association shall not support with its funds any object or endeavour to impose on or procure to be observed by its members or others any regulation restriction or condition which if an object of the Association would make it a trade union.

journal, which shall be the journal of the Association.

(*c*) By the occasional publication of transactions or other papers.

(*d*) By the grant of sums of money out of the funds of the Association for the promotion of the medical and the allied sciences in such manner as may from time to time be determined on.

(*e*) And such other lawful things as are incidental or conducive to the attainment of the above objects.

Should the above resolution be passed by the requisite majority it will be submitted for confirmation as a special resolution to a further Extraordinary General Meeting which will be convened by notice to be published in the BRITISH MEDICAL JOURNAL.

By order of the Council,

GUY ELLISTON,

Financial Secretary and Business Manager.

Dated this 20th day of November, 1913.

Association Intelligence.

PROCEEDINGS OF COUNCIL.

A MEETING of the Council was held at 429, Strand, London, W.C., on Wednesday, October 29th, 1913, at 10.30 a.m.

Present:

Dr. J. A. MACDONALD, LL.D., Taunton, Chairman of Council, in the Chair.
Dr. W. AINSLIE HOLLIS, Hove, President.
Sir JAMES BARR, M.D., LL.D., Liverpool, Past President.
Mr. T. JENNER VERRALL, Bath, Chairman of Representative Meetings.
Dr. EDWIN RAYNER, Stockport, Treasurer.

Dr. JOHN ADAMS, Glasgow (Scotland, West)
Dr. J. MITFORD ATKINSON, Malaya and Hong Kong and China
Dr. R. M. BEATON (R.M.)
Dr. M. G. BIGGS, London, West and South (R.M.)
Mr. W. F. BROOK, Wales, Monmouthshire and Shropshire
Dr. CHARLES BUTTAR, London
Dr. J. H. CAMPBELL, Yorkshire
Dr. W. CLOW, Scotland, West, and Border (R.M.)
Dr. J. SINGLETON DARLING, Lurgan, Munster and Ulster (R.M.)
Dr. DAVID EWART, New Zealand
Dr. D. E. FINLAY, England, West (R.M.)
Dr. B. E. FORDYCE, Cambridge, East Anglia, and South Midland
Dr. FRANK FOWLER, England, South-West
Dr. ADAM FULTON, East York, North Lincoln and Midland
Mr. T. W. H. GARSTANG, Lancashire and Cheshire (R.M.)
Surgeon-General J. P. GREANY, I.M.S. (Indian Medical Service)
Dr. T. D. GREENLEES, South African
Dr. MAJOR GREENWOOD, London
Dr. J. R. HAMILTON, Edinburgh and Fife
Dr. G. E. HASLIP (R.M.)
Mr. P. NAPIER JONES, England, South and South-East (R.M.)
Mr. F. CHARLES LARKIN, Lancashire and Cheshire
Dr. J. LIVINGSTONE LOUDON, Scotland, West, and Border and Sterling
Mr. C. COURTENAY LORD, England, South-East
Mr. ALBERT LUCAS, Birmingham and Staffordshire
Dr. H. C. MACTIER, Birmingham, Stafford, Wales and Monmouth (R.M.)
Dr. C. H. MILBURN, England, East, and Midland (R.M.)
Dr. J. MUNRO MOIR, Scotland, North and East (R.M.)
Mr. E. C. MONTGOMERY-SMITH, London
Mr. C. G. D. MORIER, Victorian, South and West Australian
Dr. B. H. MUMBY, Oxford, Reading, and Southern
Dr. GEORGE PARKER, West of England
Sir JAMES PORTER, K.C.B., M.D. (Royal Navy Medical Service)
Dr. F. J. SMITH, London
Mr. D. F. TODD, England, North
Mr. E. B. TURNER (R.M.)
Mr. E. H. WILLOCK (R.M.)

(R.M. signifies elected in Representative Meeting.)

ROYAL NAVY MEDICAL SERVICE.

Surgeon-General Sir James Porter, K.C.B., R.N. (retired), was elected to represent the Royal Navy Medical Service on the Council for the unexpired term of office of Inspector-General Bentham, R.N. The CHAIRMAN welcomed Sir James Porter upon his attendance at the Council for the first time.

MR. ANDREW CLARK.

The Council adopted the following minute with reference to the late Mr. Andrew Clark, formerly Treasurer of the Association and Chairman of Council:

That the members of Council have learnt with deep regret of the death of their old and valued colleague, Mr. Andrew Clark. Continuously from 1892 until shortly before his death he gave time and energy freely to further the interests of the Association. He was one of the Secretaries of the successful Annual Meeting in London in 1895, was for many years an active member of the Council, and filled the office of Treasurer, to which he was elected by the Association at its Annual Meeting in 1899, with so much judgement and assiduity that the Council welcomed the opportunity of inviting him to become its Chairman in 1902. The tact and urbanity with which he discharged the duties of this office during a period when they were exceptionally difficult and onerous still further increased the esteem and affection which his frank and generous character and unwearied exertions had inspired, so that it was with special pleasure the Association in 1905 awarded him the Gold Medal of Merit, the highest honour in its power to bestow. The Council desires to extend to Mrs. Clark and the other members of Mr. Andrew Clark's family its sincerest sympathy in the great loss they have sustained, and to assure them of the deep attachment and lasting regard in which the memory of Mr. Andrew Clark will be held within the British Medical Association.

MR. WALTER WHITEHEAD.

The Chairman was authorized to forward to Mrs. Whitehead the condolences of the Council on the death of her husband, Mr. Walter Whitehead, who was President of the Association in 1902, when the Annual Meeting was held in Manchester.

M. Lucas-Championnière.

The Chairman reported the death of M. Lucas-Championnière, and was authorized to forward to Madame Lucas-Championnière and to the French Academy of Medicine the Council's expression of regret.

Dr. Godson.

The Chairman of Council was authorized to convey to the family of Dr. Alfred Godson, of Cheadle, a former member of the Council, the sincere sympathy of the Council in their bereavement. (An obituary notice of Dr. Godson is published in the Journal this week, p. 1411.)

Acknowledgement of Resolutions of Condolence.

Letters acknowledging resolutions of condolence passed by the Council at previous meetings on the deaths of Mr. Jordan Lloyd, Sir Jonathan Hutchinson, F.R.S., and Mr. Frederick Wallace were received and entered on the minutes.

DATE OF ANNUAL MEETING.

The Chairman reported that the Aberdeen Executive Committee had asked that the date of the Annual Meeting in Aberdeen next year should be altered so that it shall commence on Friday, July 24th, and continue till Saturday, August 1st. It was explained that this alteration was rendered advisable by the date of the public holiday in Aberdeen which would have clashed with the date previously proposed for the Annual Meeting.

The Council resolved to hold its June quarterly meeting on June 24th, 1914.

LEGAL RESPONSIBILITY FOR CRIME.

A resolution adopted by the Section of Medical Sociology of the Annual Meeting at Brighton, after a discussion upon crime and punishment, recommending the Council to appoint a committee of members of the Association with power to co-opt others not members of the medical profession, to consider the present state of the law with regard to the legal responsibility for crime, was deferred till the next meeting.

FINANCE COMMITTEE.

The Treasurer, in presenting the minutes of the Finance Committee of October 22nd, 1913, stated, and was authorized to pay, the outstanding accounts for the quarter.

Stimulation of Interest in Organization Fund.

The Chairman reported that the Finance Committee had considered the recommendations of the Insurance Act Committee in favour of making special arrangements for meetings of the profession to be held during November in as many centres as possible throughout the United Kingdom, at which explanatory addresses on the principles of the special fund should be given by the medical staff and such members of the Association as were willing to act, and advising that their out-of-pocket expenses should be paid. In view of the short time available the Finance Committee recommended the Council to insert a notice in the Journal offering to send a speaker, if requested, to any Division to explain the principles of the Special Organization Fund.

Australasian Medical Congress.

The Committee recommended the Council to accept the invitation from the Australasian Medical Congress to be held in Auckland in February, 1914, and to nominate one of the honorary officers to visit the Colonial Branches. This recommendation was accepted. Dr. J. A. Macdonald, Chairman of Council, was requested to represent the Association, and consented.

INSURANCE ACT COMMITTEE.

The Chairman, in presenting the quarterly report of the Insurance Act Committee, pointed out that many of the matters with which it dealt were intended for submission to the Representative Body, and suggested that the Council should, in considering each item, decide whether it should or should not be submitted to the forthcoming Special Representative Meeting which will assemble in London, at the Connaught Rooms, Great Queen Street, W.C., at 9.30 a.m. on Thursday, December 4th, 1913.

Members of the Committee.

The Committee recommended that the following should be appointed members of the Insurance Act Committee to represent the bodies indicated in accordance with the resolution of the Annual Representative Meeting, 1913: Dr. Constance E. Long (Association of Registered Medical Women), Miss Mary F. Ivens, M.S. (Northern Association of Registered Medical Women), Dr. Herbert Jones (Society of Medical Officers of Health), Dr. Major Greenwood (Poor Law Medical Officers' Association of England and Wales).

The recommendation was agreed to, and Dr. G. E. Haslip (London) was elected a member of the Committee in place of Dr. C. Buttar (London), resigned.

Amendment of Insurance Amending Bill, 1913.

The Committee reported that prior to its meeting of July 31st the decision of the Annual Representative Meeting, 1913, referring to amendments of the amending bill, were forwarded to Sir Philip Magnus and other members of the Standing Committee of the House of Commons, and that all were eventually placed upon the Order Paper—namely:

Seamen's National Insurance Society.
"Aged" and medical benefit.
Exempted persons and medical and sanatorium benefit.
Miscarriages and abortions.
Extra payments for night calls.
(i) Provision of the services of a second practitioner, and (ii) diseases caused by misconduct.
Income limit—total income from all sources.
Diseases due to misconduct.
Composition of Insurance Committees.
Income limit and free choice.

The Committee, at its meeting on July 31st, 1913, received and approved the following report by the Medical Secretary of action taken in connexion with the amending bill and the decisions of the Annual Representative Meeting in connexion therewith:

(*a*) That the amendments to the National (Health) Insurance (1911) Act Amendment Bill, approved by the Annual Representative Meeting had been forwarded to Sir Philip Magnus and had been placed before other members of the Standing Committee of the House of Commons, and that they had all been placed on the Order Paper.

(*b*) That he had attended at the Grand Committee every day that week, accompanied on one occasion by Dr. Beaton, when every opportunity had been taken to urge members of the Standing Committee to support the amendments desired by the Association.

(*c*) That on the previous day, owing to the great number of amendments tabled, and to an appeal by Mr. Masterman that the Committee stage should finish that week, the Committee had decided to finish that day (Thursday, July 31st).

(*d*) That as a result of that decision, Mr. Masterman had asked that contentious amendments be dropped. Mr. Masterman had stated his willingness to put his name to those amendments acceptable to the Government, but specially referred to the amendments of the Association standing in the name of Sir Philip Magnus, as not being acceptable to the Government because they raised questions as to which the Government had recently stated its decision.

(*e*) That thereupon Sir Philip Magnus and Sir Henry Craik had represented that if these amendmends were dropped, those amendments that might be termed "antimedical" amendments, such as that proposing to widen the scope of the Harmsworth amendment and the transference of the administration of medical benefit to approved societies, should also be withdrawn, which view was approved by Mr. Masterman.

(*f*) That from the Order Paper of that day (July 31st) it appeared that Mr. G. Locker-Lampson's amendment for the transference of the administration of medical benefit to approved societies, and the amendment extending the scope of the Harmsworth amendment, had been withdrawn, as also had the Association's amendments, with the exception of two (standing in the name of Sir Philip Magnus) relating (i) to the attendance of a second practitioner, and (ii) to the attendance upon diseases caused by misconduct other than venereal diseases.

(*g*) That Mr. Locker-Lampson had intimated to the Medical Secretary that he had tabled his amendment for the transference of the administration of medical benefit as an honest compromise between the profession and the societies, but now saw that the matter was at present incapable of compromise.

(*h*) That an amendment appeared in the name of Dr. Addison providing for the election of a Local Medical Committee by those practitioners who had entered into agreements with Insurance Committees in those areas where Local Medical Committees had not already been recognized; and that Dr. Addison, as a result of representations made to him, had modified the amendment by inserting the words in italics:

> Where it is made the duty of an Insurance Committee under the provisions of this Act, or of the principal Act or of regulations made thereunder, to ascertain, in respect of any matter affecting the administration of medical benefit in the area, the opinions and wishes of the medical practitioners who have entered into agreements with the Insurance Committee for the attendance and treatment of insured persons whose medical benefit is administered by the Committee, they shall do so through a committee appointed by such practitioners in accordance with regulations made by the Insurance Commissioners, and such committee shall perform such duties and shall exercise such powers as may be determined by the Insurance Commissioners, and in any area in which, *within six months of the time of the passing of this Act*, no Local Medical Committee has been recognized under the provisions of Section 62 of the principal Act, a committee elected in the manner hereinbefore provided *may* (shall) be recognized as the Local Medical Committee for that area.

(*i*) That he was of opinion that the amendment extending the Harmsworth amendment would probably have been passed had it gone to a free vote in the Committee, as the Labour Party had exerted great pressure in its favour.

(*j*) That owing to the seriousness of the situation created by some of the before-mentioned amendments he had issued the circular letter (M. 5) to all Honorary Secretaries of Divisions, Branches, and Local Medical Committees, urging representations to the local members of Parliament concerning certain of the amendments tabled.

On September 4th, 1913, the Committee received and approved the following report by the Medical Secretary of further action:

A copy of the amending bill was sent to all members of the Insurance Act Committee, and they were invited to make any suggestions that occurred to them as regards future action. Many valuable suggestions were received from Dr. Fothergill, which were submitted to the Chairman of the Committee and his instructions taken.

As it was felt that the position of the Association should be on record, a letter was sent to Sir Philip Magnus, a copy of which was sent to all members of the Insurance Act Committee. Sir Philip was told that the Association must leave it to him as a politician to decide as to the advisability or otherwise of pressing any of the amendments of the Association, but that, other things being equal, it was desired to have the whole of them put down on the Report stage.

The Medical Secretary attended the House during the Report stage—namely, on Tuesday and Wednesday, August 6th and 7th—and saw various members of Parliament. Mr. Willock, who had volunteered to do what he could, went to the House one afternoon with the Medical Secretary, and together they interviewed Mr. Bowerman (Labour Party), Sir Henry Craik, Dr. Esmonde, and Dr. Addison. Among other members seen by the Medical Secretary were Mr. Worthington-Evans, Dr. Chapple, and Mr. T. Richardson (Labour Party).

In addition to the official amendments of the Association, amendments were put down by Sir Philip Magnus and Sir Henry Craik to secure (i) the exclusion of the agreements between doctors and the Insurance Committee from stamp duty, and (ii) that a medical practitioner should be appointed to every subcommittee of the Insurance Committee. Neither of these was passed. At the request of the Editor, the Medical Secretary wrote an account of the proceedings of the Committee in the House of Commons on the Report stage, so far as they affected the profession, together with his impressions of the feeling in the House on these matters. The account appeared in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of August 23rd, page 216 et seq.

The Medical Secretary thinks it is his duty to put on record the fact that all members seen in regard to the Locker-Lampson amendment had previously been seen by Dr. Addison, who was evidently using the most strenuous endeavours against this amendment and that of the Labour Party in favour of the extension of the operation of the Harmsworth amendment to all medical aid institutions.

The net result of the exertions of the Association as regards the amending bill is that, although the amendments desired by the Association concerning free choice of doctor, income limit, and limitation of the scope of medical benefit, had to be withdrawn or were not passed, the same fate befell some of the most dangerous amendments on the other side.

The Council approved the action taken as set out in the Committee's report.

MEDICAL REFEREES.

The Committee reported that applications had been received from various Divisions, Local Medical Committees, and individual practitioners for advice as to the appointment of medical referees in connexion with the Insurance Act, and it had expressed the following opinions, which were supplemental to the opinions already expressed upon the subject by the Representative Body—namely, that permanent appointments of the kind should be made by the Commissioners, and that the holders thereof should have security of tenure. The Council resolved to recommend the Representative Body to express the following opinions:

A. That where any medical man not devoting his whole time to the work is called upon by a lay body to express his opinion as to the capacity or incapacity of an insured person, the lowest fee such practitioner should accept should be 10s. 6d.

B. That whole-time medical referees under the National Insurance Act should be practitioners of not less than ten years' standing; that the appointments should be pensionable; and that the commencing salary should not be less than £750 per annum.

These recommendations, which had been previously published in the JOURNAL and brought directly to the notice of the Divisions and Local Medical Committees, were accordingly embodied in the report by the Council, as to various matters in connexion with the Insurance Act, which is to be presented to the Special Representative Meeting (see SUPPLEMENT, November 1st, p. 368).

POSSIBLE EXTENSION OF SCOPE OF INSURANCE ACT.

The Annual Representative Meeting had resolved that in view of the fact that it was exceedingly likely that the scope of the Insurance Act would be so extended as to include in its operations various additional matters, as, for example, the treatment of children and dependants of insured persons, dental treatment, hospital treatment, and alterations in the method of dealing with deposit contributors and casual labourers, it was desirable that the Association should be ready with its policy as to what a National Insurance Act should be, not merely from the point of view of the interests of the profession, but also from that of the public health and the advancement of medical science.

The preparation of a full report upon the above lines was referred to the Insurance Act Committee with instructions that it should be circulated to the Divisions, and that a further report embodying a statement of the views of the Divisions should, if possible, be submitted to the next Representative Meeting. The Insurance Act Committee recommended that a special committee should be appointed to carry out this work, and stated that it had given instructions for the collection of the decisions of the various committees of the Association upon the Insurance Act, and that with these would be included the proposal put forward at the Annual Representative Meeting, 1913, by Dr. Picton on behalf of the Stockport, Macclesfield, and East Cheshire Division. The Council resolved to appoint such a committee, to consist of the honorary officers of the Association, together with nine other members, and elected the following to be members: Dr. John Adams, Dr. R. M. Beaton, Miss Mary F. Ivens, M.S., Mr. E. C. Montgomery-Smith, Dr. H. F. Oldham, Dr. Lionel J. Picton, Dr. F. J. Smith, Mr. D. F. Todd, and Mr. E. B. Turner.

INQUIRY BY ASSOCIATION OF APPROVED SOCIETIES.

The Council proceeded to consider the application from the Association of Approved Societies asking the British Medical Association to nominate a representative upon a committee of inquiry proposed to be instituted into the working of medical benefit under the Insurance Act with a view to reporting as to its efficiency, and, if thought fit, of making suggestions as to possible alternative schemes.

After discussion, during which it was pointed out that it was advisable the Association should be kept fully informed of any movement of this nature, it was resolved to appoint a representative, at the same time making it clear that in accepting the invitation the Association reserved the right of independent action whatever the result of the inquiry might be. The Insurance Act Committee was authorized to nominate the representative. [At its meeting on November 6th it selected the Medical Secretary, Dr. Cox.]

UNALLOCATED FUNDS.

The report of the Insurance Act Committee advised the Council to recommend the Representative Body to adopt a resolution to the effect that those insured persons who have been refused by Insurance Committees permission to make their own arrangements, or had been unable to obtain the services of a panel doctor, and had consequently incurred expense in medical treatment, should have paid to them the amount of money available for medical benefit, and that the balance of the Medical Benefit Fund should be distributed among the practitioners on the panel. Dr. BUTTAR, who had given notice of motion with respect to this matter, moved the following amendment:

> That such portion of the unallocated funds in the hands of Insurance Committees as are attributable to insured persons who have been attended at their own expense should be distributed as a set-off to the medical bills of these patients.

This was seconded by Dr. BIGGS and carried, and directed to be submitted to the Special Representative Meeting (see SUPPLEMENT, November 1st, p. 368).

MEDICAL OFFICERS OF POOR LAW INSTITUTIONS.

Upon consideration of the paragraph of the report of the Insurance Act Committee dealing with the matter of attendance of members of the staffs of Poor Law institutions, the Council arrived at the conclusion fully set out in paragraph (3) of its report to the Special Representative Meeting (see SUPPLEMENT, November 1st, p. 368).

MEDICAL OFFICERS OF VOLUNTARY HOSPITALS.

The Insurance Act Committee had recommended that in those cases in which the medical officer of any voluntary hospital is required to attend insured members of the staff, the payment in respect of such treatment (exclusive of drugs and appliances) should be made to the medical officer of the institution responsible for such attendance and treatment, irrespective of any salary paid to such officer by the hospital authority. Certain difficulties in the application of the principle to voluntary hospitals to which a medical school was attached having been raised, the Council resolved that this recommendation, together with a consequential recommendation, should be referred back to the Insurance Act Committee for further consideration.

CENTRAL INSURANCE DEFENCE FUND.

The Council, as trustees to the Central Insurance Defence Fund, decided to entrust the administration of that fund to the Insurance Act Committee, with power to make grants from the fund and report to the Council.

SPECIAL ORGANIZATION FUND.

Alternative Scheme.

The alternative scheme for a proposed special fund for the organization of the profession was directed to be issued, together with the original scheme to Divisions and Branches, for consideration (see SUPPLEMENT, November 1st, p. 354).

POSITION IN SOUTH WALES.

Mr. W. F. BROOK, Representative on the Council of the Welsh and Monmouthshire and Shropshire Branches, raised the question of the position created in South Wales in respect to Section 15 (3) of the principal Act, which authorized an Insurance Committee to allow insured persons to make their own arrangements for receiving medical attendance and treatment. Demands were being made, with the sanction of the Welsh Insurance Commissioners, to utilize the provisions of the section in a manner very detrimental to the interests of the medical officers of collieries and works. He accordingly made the following motion, which was seconded by Dr. FINLAY, and carried:

> That it be recommended to the Representative Body that in order to check the extension of medical aid institutions and to assist the profession in combating them where established, the Association endeavour to enlist the support of the staffs of voluntary hospitals, not only by refusing professional recognition to the medical officers of these institutions, but also by refusing treatment to patients sent by them to hospitals, except in cases of grave emergency.

In accordance with this resolution, the recommendation is among those made by the Council to the Special Representative Meeting, and will be found, together with the paragraphs more fully explaining the matter, at page 368 of the SUPPLEMENT of November 1st. [The subject, it may be noted, was discussed at some length in the JOURNAL of November 15th, p. 1315.]

STATEMENT OF NATURE OF DISEASE UPON CERTIFICATES.

The Insurance Act Committee reported that it had carefully considered the resolution of the Annual Representative Meeting to the effect that the nature of the illness should not be inserted on any certificate issued for the purpose of sickness benefit under the Insurance Act, but, in view of the fact that the Conference of Representatives of Local Medical Committees held during the Annual Meeting at Brighton had decided to send a deputation on the subject to the Commissioners, it had taken no definite action. The Committee had received many applications from Divisions as to the carrying out of the policy indicated by the resolution of the Representative Meeting, and had come to the conclusion that the new model form of certificate materially altered the situation, and went far to get rid of the defects previously found to exist. The Committee had drawn the attention of the Divisions and Local Medical Committees to the point, and had informed them that it would continue to press for the adoption by approved societies and Insurance Committees of a form of certificate not demanding any statement of the nature of the disease. The Committee had asked to be supplied with information as to local opinion on the matter, and after its receipt proposed to report further to the Council.

DEPARTMENTAL COMMITTEE ON ALLEGED EXCESSIVE SICKNESS CLAIMS.

The Committee reported that it had appointed a subcommittee, consisting of Dr. McKenzie Johnston, Mr. D. F. Todd, Dr. Crawford Treasure, Dr. Constance Long, and Dr. R. M. Beaton, to obtain information upon this subject, and to prepare and submit to the Committee a memorandum of the evidence suitable for transmission to the Departmental Committee. The Departmental Committee had invited the Association to give evidence, and the invitation had been accepted by the Insurance Act Committee on behalf of the Association.

TEMPORARY RESIDENTS.

The Committee further reported that it had obtained the opinion of the Solicitor of the Association upon the right of a panel practitioner to refuse to attend an insured person applying to him for treatment with a green ticket, and that this opinion had been published in the SUPPLEMENT to the JOURNAL of October 18th, 1913.

TRAVELLERS.

After considering various memorandums issued by the Insurance Commissioners, the Committee had represented to the Commissioners that provision should be made whereby it should be permissible for an insured person making use of the travel (yellow) voucher to obtain attendance and treatment from either a panel or a non-panel practitioner, and had expressed the same opinion with regard to persons allowed to make their own arrangements, and who, if they moved into another area, lost the benefit of the arrangement in the new area.

THE DUNLOP CASE.

The Council approved the action of the Chairman of Council in authorizing certain expenditure necessary to lodge an appeal in the Dunlop case (see BRITISH MEDICAL JOURNAL, October 11th, 1913, p. 968). After carefully considering the facts of the case, and hearing the views of the Solicitor to the Association, the Council came to the conclusion that it would be inadvisable to proceed further with the appeal.

Non-Panel Committee.

The Insurance Act Committee reported that it had not thought well to recommend the Council to appoint a special committee to represent the views and interests of the members of the medical profession not on the panel, but had subsequently appointed a Subcommittee for that purpose, consisting of those members of the Committee, numbering twelve out of the twenty-three members of the Committee, who are not on any insurance panel. Dr. Napier Jones moved as an amendment that the Council should appoint a committee with the following reference:

> To consider in what manner the British Medical Association can best promote the interests of members who have not entered into agreement with Insurance Committees.

Speaking as a member who had entered into an agreement with an Insurance Committee, Dr. Napier Jones said he thought it was advisable that the Council should appoint a special committee for the purpose indicated, and in order that the members of that committee might have the opportunity of learning the views of members who were acting on panels, he suggested that the committee should consist of twelve members in addition to the *ex officio* members, and that two of these should have had experience of work on the panel.

Dr. Biggs had given notice of a motion to the effect that the interests of those members of the profession who, owing to the minimum demands of the profession not having been conceded, still, in the interests of the profession, refused service under the Insurance Act, should be kept prominently in view in the Journal. Dr. Biggs withdrew this motion and seconded Dr. Napier Jones's amendment. The amendment was carried, and also as a substantive resolution.

Mr. Turner moved as an amendment to Dr. Napier Jones's suggestion as to the constitution of the committee that it should consist of fifteen members exclusive of the four honorary members of the Association. This was carried, and, on the motion of Dr. Darling, seconded by Dr. Mumby, it was resolved:

> That the Council appoint nine members of the Committee (seven to be practitioners who have not entered into agreements with Insurance Committees, and two who have entered into such agreements); and that such members be empowered to co-opt the remaining six members.

The following were thereupon appointed to be members of the Committee: Dr. Biggs, Mr. Montgomery-Smith, Dr. Buttar, Mr. Turner, Dr. Beaton, Mr. Courtenay Lord, and Dr. John Stevens (practitioners who have not entered into agreements with Insurance Committees), together with Mr. Napier Jones and Dr. Edmund Hay (practitioners who have entered into such agreements).

[The first meeting of the Committee was held on November 19th (see page 452).]

Non-Panel Practitioners.

A communication from the Honorary Secretary of the London Medical Committee, asking the British Medical Association "to help forward through their Divisions the formation of non-panel associations," was referred to the Non-Panel Committee appointed that day.

Mr. Montgomery-Smith moved:

> That it be an instruction to the National Insurance Committee to push forward the policy of contracting out under Section 15 (3), and that this Council urges the Commissioners to reconsider the applications of 1913–14 as if made in 1914–15, and asks for a more generous response to these applications.

This was seconded by Dr. Buttar, but, after discussion, was withdrawn in favour of the following motion by Dr. Buttar, which was carried:

> That, in the opinion of this Council, the provisions of Section 15 (3) of the Insurance Act of 1911 should be given the widest possible application in the case of individual insured persons desiring to make their own arrangements.

ORGANIZATION COMMITTEE.

Alterations in Regulations.—Special Representative Meeting.

The first part of the report of the Organization Committee presented by its Chairman, Mr. F. C. Larkin, contained recommendations with regard to the expediency of increasing the subscription to the Association and the holding of a Special Representative Meeting for the consideration of this matter. The results of the deliberations of the Council were set out at length in the notice convening the Special Representative Meeting on December 4th, and the attached documents published in the Supplement to the Journal of November 1st, p. 353 et seq.

Assistant Medical Secretary (Insurance).

The Council accepted the recommendation of the Committee that a permanent subdepartment of the Medical Department should be formed, to be named the "Insurance Act Subdepartment," and that a secretary for the subdepartment, to be named the "Assistant Medical Secretary (Insurance Act)," should be appointed, and an advertisement was accordingly directed to be inserted in the Journal. [Applications must be received by the Medical Secretary on or before November 24th.]

Welsh Committee.

The following were appointed to be members of a Welsh Committee for 1913–14, and power was given to the Committee to co-opt a member to represent the counties of Radnor and Montgomery:

(*a*) *Representatives of Welsh Constituencies.*—Mr. J. E. H. Davies, Dr. E. O. Price, Mr. J. O. Williams, Mr. E. Tredinnick, Dr. W. Martin, Dr. W. B. C. Treasure, Mr. W. J. Greer, Dr. W. E. Thomas, Dr. D. R. Price, Dr. W. Bickerton Edwards.

(*b*) *Secretaries of Welsh Divisions.*—Dr. F. S. Rowland, Dr. C. E. Morris, Dr. C. W. Owen, Mr. L. F. Cox, Dr. R. H. Urwick, Dr. C. V. Bulstrode, Dr. P. C. Evans, Dr. L. E. Acomb, Dr. P. C. Ingham, Dr. C. J. Weichert, Dr. A. T. Jones, Dr. D. R. Price, Dr. H. E. Quick, Mr. E. V. Pegge.

(*c*) *Members of Council Representing Wales.*—Mr. W. F. Brook, Dr. H. C. Mactier.

The instructions to the Committee are to consider all matters specially concerning Wales.

Conference of Secretaries.

It was resolved that a conference of secretaries should be held in Aberdeen in July, 1914, during the Annual Meeting of the Association in that city.

Grouping of Branches.

It was agreed that the Divisions in the United Kingdom should be grouped for the election of Representatives, 1914–15, in the same way as for the year 1913–14, subject to proposals for alteration received on or before December 15th. It was further agreed that each Division and Division-Branch outside the United Kingdom which had an Honorary Secretary and the necessary organization should be granted separate representation on the Representative Body for the year 1914–15.

Shortening of Notice for a Special Representative Meeting.

It was resolved that the Representative Body should be recommended to amend By-law 36 (2) so as to provide that at least fourteen days' notice of a Special Representative Meeting shall be given in the Journal, *unless* in the opinion of the Chairman of Representative Meetings urgency justifies shorter notice.

Extension of Membership of the Association.

The Organization Committee was instructed to elect a standing propaganda subcommittee with power of co-option to organize and control systematic endeavours to awaken and keep awake interest in the Association, and to devise means to make it more attractive.

South-Eastern Branch: New Branches.

The discontinuance of the present South-Eastern Branch and the formation of three new Branches—for Kent, Surrey, and Sussex respectively—was formally approved.

Parliamentary Business.

The Committee reported that it had carefully considered the proposal of the Metropolitan Counties Branch Council to the effect that the Association should appoint a parliamentary committee to maintain and increase the influence of the Association in Parliament. The Organization Committee was of opinion that it was essential in the

interests of the Association and the profession that all parliamentary bills should be examined, carefully watched in their progress through Parliament, and arrangements made for getting amendments moved, for approaching members of Parliament, and for furnishing information to the press. The Committee, however, considered that these aims could best be carried out by a revival of the activities of the Parliamentary Subcommittee of the Medico-Political Committee. At the same time it considered that it was impracticable to constitute a parliamentary committee whose members could deal satisfactorily with all subjects, and that it should therefore be part of the machinery of every committee of the Association to consider and deal with bills affecting its work, and after, if it so desired, co-opting specially suitable persons, to arrange for bringing the opinions of the profession adequately to the notice of Parliament and of the public through the press. The Council approved the suggestions, and in consequence the Insurance Act Committee, Public Health Committee, and the Medico-Political Committee will continue to do their own parliamentary work, enlisting the services of persons who may be likely to be of use to them, and report on the bills in which they are interested to the Council. This arrangement, it was considered, would have the further advantage of preventing the overlapping of various committees.

Co-ordination of Work of Local Medical Committees and of the Association.

The Committee, after consideration of the resolution of the Annual Representative Meeting on this subject, found itself unable to make recommendations pending the decision of the profession with regard to the proposed special fund for the organization of the profession which it was proposed, among other things, should pay the expenses of the Local Medical Committee. The further consideration of the question had therefore been deferred until after the Special Representative Meeting in December.

Resignations.

The Committee reported that during the period June 15th to September 27th, 243 members had resigned, as compared with 80 in the corresponding period of 1912. Through the intervention of the honorary secretaries of Divisions and Branches eight of these resignations had been withdrawn. Six retiring members gave various private reasons for their resignations, including retirement from practice and ill health. Of the remaining 229, a certain proportion, including those at Wandsworth, numbering 44, were known to have resigned because dissatisfied with what they alleged to be the attitude of the Association to doctors not on the panel.

Areas.

The Committee had approved certain alterations of boundaries, and also of the formation of two new Branches —namely, Pretoria and Witwatersrand—to take the place of the single Transvaal Branch.

Subcommittees.

The Committee reported that it had appointed a subcommittee to supervise the analysis of the reports of Branches and Divisions, another to consider the organization of medical students, a third to deal with the Regulations and Standing Orders Subcommittee, and a fourth to make arrangements for the annual conference of honorary secretaries in 1914.

SCOTTISH COMMITTEE.

The quarterly report of the Scottish Committee was presented by its Chairman, Dr. J. R. Hamilton (Hawick). It reported that Dr. G. R. Livingston (Dumfries) had been reappointed honorary secretary, and that Mr. W. Finlay, 155, St. Vincent Street, Glasgow, had been appointed paid clerk to the Committee, and had commenced his duties on October 9th at an inclusive salary of £75 per annum, subject to one month's notice on either side.

Powers and Duties.

The Committee reported that it had received a deputation from the Colliery and Public Works Surgeons Committee, and had given instructions for a scheme to be prepared with respect to the amalgamation of the Colliery and Public Works Surgeons Committee with the Scottish Committee. It had also appointed a subcommittee to report, in accordance with the minute of the Annual Representative Meeting, whether, as it was proposed to increase the powers of the Scottish Committee, it was necessary that it should be reconstituted on a basis properly representing the different sections of the profession in Scotland.

IRISH COMMITTEE.

The report of the Irish Committee was presented on behalf of the Chairman, Mr. R. J. Johnstone, by Dr. J. S Darling.

Finance.

It recommended that the unexpended balance of the State Medical Insurance grant in the hands of the Irish Committee of the British Medical Association should be expended by the Committee in the organization of the profession in Ireland in connexion with work under the Insurance Act, and that the same permission should be given with respect of the unexpended balance of the sum of £200 voted to the Conjoint Committee of Ireland in January, 1913. The Council accepted the suggestions.

Medical Advisers.

The Committee reported that it had passed a resolution expressing strong disapproval of the acceptance of posts of medical advisers to the Insurance Committees in Ireland.

JOURNAL COMMITTEE.

The report of the Journal Committee was presented by the Chairman, Mr. Albert Lucas, and stated that the Committee had elected its Chairman and Dr. Biggs to be members of the Finance Committee.

Advertisements.

The Committee had considered various complaints concerning the insertion of certain advertisements in the Journal, some of which were thought to be suitable and others unsuitable. As regards a complaint concerning homoeopathic establishments, the Committee having referred to the Minutes of the Annual Representative Meeting on the subject, inferred that that body had purposely refrained from laying down any definite line of action as to the propriety of holding certain views of treatment, and therefore did not recommend the refusal of such advertisements meantime. A list of advertisements excluded from the Journal was submitted.

The report was approved.

SCIENCE COMMITTEE.

The Science Committee reported that it had elected Dr. Charles Bolton, of University College, London, to be a member of the Science Committee to fill the vacancy caused by the resignation of Dr. Bulloch.

Middlemore Prize.

The Committee recommended that the Middlemore Prize be awarded in 1914 to the writer of the best essay on the physiology of vision and fusion, excluding the question of colour vision.

Standing Therapeutic Subcommittee.

In accordance with the instructions of the Council, the Committee had appointed a standing Therapeutic Subcommittee, with the following instructions:

(i) To promote, supervise, or direct, research in pharmacology and therapeutics, and to carry out such other duties as the Science Committee may decide.

(ii) To prepare a statement as to the therapeutic value of drugs in use, giving an indication as to those which have become obsolete.

(iii) To consider the subject of proprietary preparations and the relation of the British Medical Association to them.

The Committee consists of the Chairman (*ex officio*), Professor A. R. Cushny, F.R.S., Professor W. E. Dixon, F.R.S., Professor C. R. Marshall, M.D., Professor R. Stockman, and Professor R. B. Wild, with power to co-opt additional members subject to the approval of the Science Committee.

Scientific Work of the Association.

The Committee reported that it had again had under consideration the measures which might be taken further

to develop and organize the scientific work in the Divisions and Branches, and proposed immediately to take certain steps. The report was approved, and the nature of the steps taken will be gathered from the notice in the Supplement of November 15th on the scientific work of the Association (p. 433).

CENTRAL ETHICAL COMMITTEE.

The quarterly report of the Central Ethical Committee was submitted by the Chairman, Dr. M. G. Biggs. The following recommendation was adopted by the Council and referred to the Organization Committee:

That the question of notifying honorary secretaries of Divisions and Branches of a pending lapse of membership through the non-payment of subscription three months prior to the time, and also when membership has ceased, should be considered in order that the position in regard to ethical matters may be made quite clear, and to increase the possibility of retaining the member by securing payment of arrears.

Vacancy on the Committee.

The Committee reported that, owing to the resignation of Dr. Haslip, there was a vacancy on the Committee, and recommended that the member selected to succeed him should reside in London. Mr. E. B. Turner was elected to fill the vacancy.

Warning Notice.

The Committee reported that it had issued a circular to the chairman and honorary secretaries of each Division and Branch which had not at that time adopted the new model ethical rules, warning them that such rules could not be effective until approved by the Central Ethical Committee, and that, pending such approval, warning notices demanded by those Divisions and Branches could not be inserted in the British Medical Journal.

Cases under Articles 10 and 11.

Having received special reports from the Central Ethical Committee with regard to representations made by Divisions with reference to three members of the Association, the Council resolved that these three members should be expelled from membership of the Association.

MEDICO-POLITICAL COMMITTEE.

Mr. Garstang, Chairman, presented the quarterly report of the Medico-Political Committee.

State Registration of Nurses.

The Council accepted a recommendation from the Committee advising the Representative Body to reaffirm its opinion that the State registration of nurses was desirable.

Mental Deficiency Bill.

The Committee reported that it had made representations to the Home Secretary, concurring in the representations previously made by the National Association for the Feeble-minded, pointing out that it was undesirable that approval of practitioners for certificate purposes should be limited to practitioners approved by the local authorities, and urging that the Board of Control should be empowered to approve practitioners for such purposes.

Women Inspectors of Reformatories and Industrial Schools.

Upon the application of the Association of Registered Medical Women, representations had been made to the Home Secretary, protesting against the proposal of the report of the Departmental Committee on reformatories and industrial schools, that the salary of a woman medical inspector should be £350 to £500, as compared with £500 to £700 to men inspectors, especially having regard to the fact that the report itself suggested that the work of a woman medical inspector would in some cases be more valuable than that of a male medical inspector. The Home Secretary replied that if and when he decided to make such appointment the Association's representations would be borne in mind.

The Dogs Bill.

The Committee reported that during the last session of Parliament the Dogs' Protection Bill which had been introduced each session for some years past had, owing to unforeseen circumstances, passed its second reading. Sir Philip Magnus, M.P., who had taken a prominent part in opposing the bill on previous occasions, was approached by its supporters with a suggestion that he should accept the bill with the insertion of a clause allowing experiments on dogs only by experimenters possessing special licences. Sir Philip Magnus applied to the Association for advice; the Medico-Political Committee having consulted members of the Science Committee and certain eminent physiologists, all of whom unhesitatingly expressed themselves against any such compromise, informed Sir Philip Magnus accordingly, with the result that he and his friends continued their opposition to the bill, which was eventually abandoned.

Central Emergency Fund.

The Committee reported that it had made a grant from the Central Emergency Fund on behalf of a practitioner who, having unwittingly accepted an appointment with a medical aid institute, resigned at the instigation of the local profession at some financial loss to himself.

Conference with Society of Medical Officers of Health.

The Committee reported that, in conjunction with the Public Health Committee and in accordance with the instruction of the Council, it had arranged for holding a conference with representatives of the Association and of the Society of Medical Officers of Health for the consideration of the question of the medical inspection and treatment of school children, and that it had issued a circular letter to the Divisions asking for information as to the present position throughout the country.

PUBLIC HEALTH COMMITTEE.

The Chairman, Dr. B. H. Mumby, presented the quarterly report of the Public Health Committee, which stated that owing to the resignation of Dr. W. Clow (Paisley) the Committee recommended that Dr. Livingstone Loudon (Hamilton) should be appointed in his place; and this was agreed to.

Inter-colonial Conference on National Health.

The Committee reported that it had considered an invitation from the Victoria League to appoint a representative upon a subcommittee which was organizing an exhibition in connexion with the inter-colonial conference on national health in May next. The recommendation of the Committee that Mr. E. J. Domville, its late chairman, should be appointed to act on the subcommittee was accepted by the Council.

Attendance on Persons in Charge of Police.

In consequence of circumstances brought to its notice, the Committee had made representations to the Local Government Board protesting against Poor Law medical officers being expected by that Board, on receipt of a relieving officer's order, to attend persons in charge of the police. It had also made representations to the Home Secretary to secure his influence in suppressing the practice complained of.

Bills in Parliament.

The Committee had continued to give attention to the Medical Officers of Health Superannuation Bill introduced into Parliament on behalf of the Association by Sir Philip Magnus, but dropped at the end of the session; the Public Health Officers (Security of Tenure) Bill, which it was proposed to endeavour to have brought forward in the next session of Parliament; and the Government Milk and Dairies Bills for England and Scotland, with regard to which strong representations were being made to the President of the Local Government Board.

The Defence of Vaccination.

The Committee had reappointed a subcommittee for the purpose of taking any necessary action in the matter of the defence of vaccination; the subcommittee consisted of Dr. B. H. Mumby, Dr. L. J. Blandford, Mr. E. J. Domville, Dr. Major Greenwood, and Dr. A. Drury (Halifax), who was acting as honorary secretary.

NAVAL AND MILITARY COMMITTEE.

The quarterly report of the Naval and Military Committee was presented by the Chairman, Surgeon-General J. P. Greany, I.M.S., who said that the Committee

desired that Colonel W. H. Bull, A.M.S.(T.F.) (Stony Stratford, Bucks), should be appointed a member in place of Dr. B. H. Mumby, resigned, and this recommendation was accepted by the Council.

Indian Medical Service.

It was reported that the Committee had prepared a report upon the present position and future prospects of the Indian Medical Service, and asked leave to transmit the document to the Secretary of State for India. This course was approved.

DOMINIONS COMMITTEE.

Reciprocity with Foreign Countries.

Dr. T. D. Greenlees, Chairman of the Committee, in presenting its quarterly report, stated that the considerations of the deplorable state of affairs as regards medical registration in one of the remoter colonies had induced the Committee to consider generally the question of reciprocity between Great Britain, her dominions, and foreign countries with reference to the registration of medical degrees. A great advance had taken place in the matter of registration in many British Dominions in the past ten years, but there were still some in which a practitioner holding only a medical qualification from a foreign country was permitted to practise even though that country allowed no such privilege to the holder of British qualifications. The Council resolved that representation should be made to the Secretary of State for the Colonies to the following effect:

(*a*) That in the whole of the British Dominions only the medical qualifications of those foreign countries which grant reciprocity to practitioners holding the medical qualifications of Great Britain or any of her dominions should be registrable.

(*b*) That he should be urged to use his influence to bring about at as early a date as possible the adoption in those dominions where such provisions do not already exist of such medical ordinances as shall carry out the foregoing.

(*c*) Pointing out some of the anomalies at present existing in connexion with this question.

The Committee further reported that in consequence of a communication from the Hong Kong and China Branch negotiations had been carried out with the Colonial Office with respect to the amendment of the medical ordinance for Hong Kong, and that it was hoped that the matter would be adjusted.

Eligibility for Membership.

At the request of the Organization Committee, the Dominions Committee had appointed a subcommittee, consisting of its Chairman (Dr. Greenlees), Dr. C. G. D. Morier, and Lieutenant-Colonel Meyer, I.M.S. (ret.), to confer with the Organization Committee concerning the question of eligibility for membership of the Association.

ELECTION OF MEMBERS.

Three candidates, members of a military service or resident abroad, were elected members of the British Medical Association.

ARRANGEMENTS COMMITTEE.

The Chairman reported that, owing to unforeseen circumstances, it had not been possible to call together the Joint Arrangements Committee in time to report to that meeting, and the Council delegated to the Joint Arrangements Committee full powers to make all the necessary arrangements.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A list of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* Journal.]

KENT BRANCH.

A meeting for the organization of the Kent Branch was held at the Church Institute, Maidstone, on Wednesday, November 12th, at 3 p.m. Dr. Hoar (Maidstone) was in the chair, and sixteen members were present.

Annual Meeting.—On the motion of Dr. Adeney, seconded by Dr. Pardington, it was unanimously resolved:

That the annual meeting of the Branch, 1914, be held in the county town, Maidstone.

Election of Officers.—The officers and Council were elected as follows:

President and President-Elect, 1914.—Dr. William Douglas (Goudhurst).

Vice-President.—Dr. John Scott (Bromley).

Secretary and Treasurer.—Dr. E. A. Starling (Tunbridge Wells).

Council.—The present members of the Council representing the Kent Divisions as follows:

Dr. John Scott.	Major C. H. L. Palk.
Dr. Courtenay C. Lord.	Dr. W. J. Tyson.
Dr. C. M. Vernon.	Dr. H. M. Raven.
Dr. A. Tennyson Smith.	Dr. G. E. Halstead.
Dr. J. Barrett Heggs.	Dr. E. Young.
Dr. C. J. Evers.	Dr. W. Douglas.
Dr. H. Chisholm Will.	Dr. G. L. Pardington.
Dr. J. H. Acheson.	Dr. E. A. Starling.

The Maidstone Division was asked to nominate a second Vice-President.

Organization.—It was resolved that the organization rules of the South-Eastern Branch suggested by the Medical Secretary be adopted for the Kent Branch, and that the model ethical rules of the Association be adopted as the ethical rules of the Branch.

Science Meetings.—Dr. Starling advocated the holding of more science meetings, and suggested the formation of a science committee. Discussion was continued by Drs. Douglas, Heggs, Hoar, Courtenay Lord, and Tennyson Smith. Dr. Will proposed, Dr. Scott seconded, and it was carried:

That the Branch Council be requested to consider the formation of a standing science committee.

Vote of Thanks.—A vote of thanks to the Chairman was carried by acclamation.

SUSSEX BRANCH.

A meeting of members of the Association resident in the county of Sussex was held at the Lecture Hall, New Road, Brighton, on November 14th, at 2.30 p.m. Dr. Broadbent was requested to take the chair.

A letter was received from Dr. W. S. Simpson, of Worthing, President-elect of the South-Eastern Branch, stating that his health was such that he was unable to attend, and that his medical adviser absolutely insisted that he should relinquish the office of President-elect. Dr. Gostling, who had seen Dr. Simpson, added a personal message of regret. It was resolved that the profound regret of the new Branch should be conveyed to Dr. Simpson.

Organization.—Dr. Burchell proposed, and Dr. Muir Smith seconded, that the rules of the South-Eastern Branch, with certain alterations and additions to suit local conditions, be adopted as the rules of the Sussex Branch.

Presidency of Branch.—On the proposal of Dr. Gostling, seconded by Dr. Benham, it was resolved that the election of President of the Branch be postponed until the Worthing and Chichester Division, if they thought fit, invited the Sussex Branch to hold its next annual meeting in Worthing, and had nominated a member for the office of President. The Branch Council was authorized to confirm such nomination.

Ethical Rules.—The model ethical rules for a Branch composed of several Divisions were adopted as the ethical rules of the Branch.

Secretary of Branch.—Dr. Rawdon Wood (Shoreham) was appointed Honorary Secretary of the Branch

Council Meeting.—After some discussion it was decided that the first meeting of the new Branch Council be held in Brighton.

Vote of Thanks.—A very hearty vote of thanks was accorded to Dr. Starling for his services to the now defunct South-Eastern Branch, and for arranging the present meeting.

CAMBRIDGE AND HUNTINGDON BRANCH:

ISLE OF ELY DIVISION.

A MEETING of the Isle of Ely Division was held at March on November 11th, when there were present Dr. H. F. CURL, Chairman, and fourteen others.

Subscription to Association.—It was unanimously resolved to support the proposal to raise the annual subscription of the Association to two guineas a year.

Special Organization Fund.—It was unanimously resolved to support the proposal to establish a special fund for the thorough organization of the profession.

The Position in Wisbech.—The following resolution was unanimously passed:

That this meeting of the Isle of Ely Division of the British Medical Association desires to place on record its entire confidence in the honour of its late Chairman, Dr. H. C. Meacock, and the other medical practitioners of Wisbech whose characters have been assailed in a most scurrilous and underhand manner, and extends to them and their wives its most sincere sympathy in their recent undeserved trouble.

LANCASHIRE AND CHESHIRE BRANCH:

ROCHDALE DIVISION.

A MEETING of the Rochdale Division was held in the Wellington Hotel, Rochdale, on November 13th. Dr. GEDDES was in the chair, and twelve of the members were present.

Annual Subscription.—Dr. HARTLEY moved, and Dr. WALKER seconded:

That the annual subscription of members be raised to £2 2s.

Dr. H. THORP and Dr. LORD opposed this by a direct negative. On being put to the vote, 2 voted for the motion, and 6 voted against it, so that the Division negatived the proposal to increase the subscription.

Organization of the Profession.—On the motion of Dr. LORD, seconded by Dr. MCKENDRICK, it was resolved:

That a fund be formed for the development of the organization and protection of the medical profession.

Dr. MCKENDRICK moved, Dr. FITZGERALD seconded, and it was resolved:

That the objects of this fund be referred to the Executive Committee, and to report to a meeting of the Division.

Payment of Representative Fund.—On the motion of Dr. WALKER, seconded by Dr. JEFFERSON, it was resolved:

That the amount collected (£9 5s.) be forwarded to Dr. Brown of Bacup.

ST. HELENS DIVISION.

A MEETING of the members of the St. Helens Division and other medical men resident in the district was held on November 14th, when the Chairman, Dr. DOWLING, presided. The following resolutions were adopted:

Special Organization Fund.—That in the opinion of the meeting, some such organization scheme as proposed (see SUPPLEMENT to the JOURNAL of November 1st) is required, and that the British Medical Association is the proper body to undertake this work.

That a totally independent subscription of £5 (five pounds) per annum be voluntarily contributed by each practitioner for the next three years (1914-15-16) to help establish and maintain a fund for the organization of the whole medical profession, and the protection of its interests; such fund to be controlled by the British Medical Association, but administered by a special department.

Subscription to Association.—That the members of this Division agree to the proposed increase of the subscription to the Association from 25s. to 42s. per annum.

Instruction to Representative.—The Representative of the Division was instructed to support the formation of a fund on the foregoing lines, or some modification thereof, and to support the raising of the subscription in accordance with the above resolutions.

MIDLAND BRANCH:

LEICESTER AND RUTLAND DIVISION.

A MEETING of the Division was held at the Royal Infirmary, Leicester, on November 14th, at 4 p.m. Dr. SESSIONS BARRATT was in the chair, and thirty-three members were present.

Subscription to the Association.—The CHAIRMAN introduced the subject of the proposed increased subscription to the Association, whereupon Dr. TIBBLES proposed, Dr. C. CLARKE seconded, and after a discussion in which Drs. BURKITT, BERESFORD, COSENS, WALLACE HENRY, DIXON, HAMILTON, MARRIOTT, WAITE, STRACEY, and HORRON DAVIS took part, it was resolved by 31 for, 1 against, 1 neutral:

That while considering it advisable to improve the organization of the Association, we think it is not an opportune time to increase the subscription.

Dr. WALLACE HENRY proposed, Dr. LILLEY seconded, and it was resolved by 32 for, 0 against, 1 neutral:

That in case it be decided to increase the subscription, the Representatives be instructed to move the following amendment:

That in the case of any person joining the Association within one year after registration, the subscription shall be 25s. a year for the first five years of membership.

Special Organization Fund.—The CHAIRMAN introduced the subject of the Special Fund. Dr. WALLACE HENRY having spoken, Dr. ASTLEY CLARKE proposed, Dr. FAGGE seconded, and it was resolved by 32 for, 0 against, 1 neutral:

That the Representatives have a free hand, it being the desire of the meeting that if the fund were not protected under the Trades Disputes Act, one should not be formed.

National Insurance Act.—Matters dealing with the Insurance Act were then discussed. Dr. WALLACE HENRY proposed, Dr. BURKITT seconded, and it was resolved by 33 for, 0 against, 1 neutral:

That the Representatives support the Recommendations of the Council dealing with medical referees, with the addition that referees shall only be deprived of their appointments with the consent of the Commissioners.

The remaining recommendations of the Council were approved.

Royal Infirmary Representative.—On the motion of the SECRETARY, seconded by Dr. R. R. YOUNG, Dr. R. H. Fagge was elected a representative to the Board of the Royal Infirmary, vice Dr. Hicks, resigned.

PERTH BRANCH.

THE winter meeting was held on November 14th, in the Station Hotel, Perth. Dr. TAYLOR, President, was in the chair, and twenty-four members were present.

Report of Council.—The report stated that two ordinary meetings, four special meetings, and two council meetings had been held during the year, and were almost entirely concerned with national insurance. No clinical meeting was held, all discussion of questions relating to scientific medicine being in abeyance, with the exception that one meeting was devoted to a discussion of the water and drainage affairs of Perth.

Reorganization.—The SECRETARY read a statement giving a summary of the schemes before the Association. After discussion, it was decided by a majority to give the Representative permission to vote in favour of raising the annual subscription to £2 2s., and discretion in voting upon the organization schemes.

Address.—The annual address was delivered by Dr. EDWIN BRAMWELL (Edinburgh) and dealt with the subject of acute anterior poliomyelitis. Dr. Bramwell traced the history of the disease, more especially in its occurrence in this country during recent years, and dealt in detail with the questions of its pathology, diagnosis, and treatment. A cordial vote of thanks was accorded to Dr. Bramwell for his kindness in coming to address the Branch on this occasion.

Annual Dinner.—The members thereafter adjourned for dinner and had the pleasure of entertaining a number of guests from Perth, Dundee, and Edinburgh, amongst whom were the following: Dr. Edwin Bramwell, Edinburgh; Dr. Cathcart, President of Edinburgh Branch; Dr. Kinnear, President, and Dr. Buist, Joint Secretary of Dundee Branch; Sheriff Sym, Perth.

WEST SOMERSET BRANCH.

A SPECIAL general meeting was held at the Taunton and Somerset Hospital on November 14th, at 3.30 p.m. Mr. PENROSE WILLIAMS was in the chair, and twenty-three members were present.

Special Representative Meeting.—The following resolutions were passed *nemine contradicente:*

That the annual subscription be raised to 2 guineas.
That a special fund for reorganization purposes, etc., be formed.
That the subscription to the special fund be 2 guineas a year.

The Recommendations (1), (3), and (4) of the Council[1] were passed. Recommendation 2 as to unallotted funds was lost by 9 to 10 votes.

At the close of the business the President entertained the members to tea.

Association Notices.

CHANGES OF BOUNDARIES.

NOTICE OF FORMATION OF A NEW GREAT YARMOUTH DIVISION AND OF AMALGAMATION OF MID-NORFOLK DIVISION WITH THE PORTION OF EAST NORFOLK DIVISION OUTSIDE THE COUNTY BOROUGH OF GREAT YARMOUTH TO FORM A NEW EAST NORFOLK DIVISION.

The following changes have been made in accordance with the Articles and By-laws of the Association, and take effect as from the date of publication of this notice:

That the area at present covered by the East, Mid and West Norfolk and Norwich Divisions be reorganized into the following Divisions, having the areas stated:

Division.	*Area.*
1. Norwich Division.	County Borough of Norwich
2. Great Yarmouth Division	County Borough of Great Yarmouth
3. East Norfolk Division	To consist of the area of the existing Mid Norfolk Division *plus* the area of the existing East Norfolk Division outside the County Borough of Great Yarmouth
4. West Norfolk Division.	As at present.

Representation in Representative Body.—The above changes will involve alterations in the constituencies both in Norfolk and Suffolk. When the opinions of the Divisions and East Anglian Branch have been received and considered, the matter will be determined by the Organization Committee and Council pursuant to the By-laws.

SUGGESTED CHANGES OF BOUNDARIES.

NOTICE OF PROPOSAL FOR DISCONTINUANCE OF MAIDENHEAD DIVISION AND ABSORPTION OF ITS AREA IN THE READING AND BUCKS DIVISIONS RESPECTIVELY.

Notice is hereby given under By-law 73 to all concerned of a proposal made by the Maidenhead Division for the discontinuance of that Division, and the absorption of the Berks portion of its area in the Reading Division and the Bucks portion of its area in the Bucks Division. Formal written notice of the proposal of the Division has been given pursuant to Article 13 to the existing Branches and Divisions concerned, and the matter will be determined in due course by or on behalf of the Council. Any member affected by the proposed change and objecting thereto is requested to notify the fact, with his reasons therefor, to the Medical Secretary, 429, Strand, London, W.C., by December 22nd.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: CENTRAL DIVISION.—Drs. Ernest C. Hadley (Burbury Street, Birmingham) and Bernard J. Ward (141A, Great Charles Street, Birmingham), Honorary Secretaries, give notice that an ordinary general meeting of the Division will be held at the Medical Institute, Edmund Street, on Wednesday, November 26th, at 3.30 p.m., to instruct Representatives upon matters referred to Divisions (see BRITISH MEDICAL JOURNAL SUPPLEMENT, November 1st): (*a*) The proposed raising of the annual subscription to 2 guineas a year; (*b*) the proposed establishment of a special fund for the thorough organization of the profession; (*c*) some matters connected with the Insurance Act; and any other business.

[1] SUPPLEMENT, November 1st, 1913.

BIRMINGHAM BRANCH: COVENTRY, NUNEATON, AND TAMWORTH DIVISIONS.—Drs. Duncan Davidson and Lawrence E. Price (Coton Road, Nuneaton), Honorary Secretaries, give notice that a constituency meeting will be held at the Newdegate Arms Hotel, Nuneaton, on Tuesday, November 25th, at 4.15 p.m., to discuss matters referred to Divisions and to instruct the Representative at the forthcoming Representative Meeting (see SUPPLEMENT of BRITISH MEDICAL JOURNAL, November 1st). (Members are requested to bring that issue of the SUPPLEMENT with them to the meeting.)

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—Dr. T. W. H. Garstang, Honorary Secretary (22, Station Buildings, Altrincham), gives notice that the meeting of the Division called for November 18th has been postponed to November 25th to avoid clashing with the Cheshire County Medical Committee. The meeting will be held at Brooklands at 3.30 p.m. The Executive Committee will meet at Altrincham on January 8th, 1914, and the annual meeting of the Division will take place at Altrincham on January 22nd, 1914.

LANCASHIRE AND CHESHIRE BRANCH: CHESTER AND CREWE DIVISION.—Dr. Jephcott, Honorary Secretary (12, Upper Northgate Street, Chester), gives notice that a meeting of the Division will be held in the Chester Infirmary on Wednesday, November 26th, at 4 p.m. Agenda: Correspondence. Representative's report of the Brighton Meeting. Instruct Representative on the business of Special Representative Meeting (increased subscription, etc.). (See SUPPLEMENT, November 1st.)

METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.—Dr. J. H. Clatworthy, Honorary Secretary (145, Denmark Hill, S.E.), gives notice as follows: An ordinary meeting of the Division will be held on Thursday, November 27th, at 4 p.m., at the South Metropolitan Gas Works, 709, Old Kent Road, S.E., when tea will be provided, and Mr. S. Rideal, D.Sc., will read a paper on "The Hygienic Uses of Gas in Relation to Health," and the members will be shown round some interesting features connected with the Gas Works. All medical men, whether members or non-members of the Association or resident or non-resident in the Division, are invited, and it is hoped that as many as possible will attend, as the Company has gone to great trouble to provide an interesting afternoon.

A special meeting will be held on Tuesday, December 2nd, at 4 p.m., at the Surrey Masonic Hall, Camberwell New Road, to discuss the agenda for the Special Representative Meeting (see the SUPPLEMENT, November 1st, which it is requested should be brought to the meeting). The Medical Secretary will address the meeting as to the objects of the Special Fund.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—Dr. A. G. Southcombe, Honorary Secretary (83, Sidney Road, Homerton, N.E.), gives notice that a clinical meeting will be held conjointly with the Aesculapian Society at the Metropolitan Hospital, Kingsland Road, on Friday, November 21st, at 4 p.m., when Mr. Henry Curtis, F.R.C.S., will give a demonstration on cases from the surgical wards. A general meeting of the Division will be held on Wednesday, November 26th, at 3.30 p.m., in Balfour Hall, Kingsland Road, to transact the ordinary business of a general meeting, and specially: (*a*) To consider the following notices of motion adjourned from the meeting of October 22nd: Dr. Evan Jones (October 2nd): (i) "That in the opinion of this meeting the unallocated money remaining in the hands of the London Insurance Committee should follow the disposal of the unallotted persons who contributed it." (ii) "That in the opinion of this meeting no panel practitioner should accept on his list, or accept allocation of, other doctors' patients." (iii) "That in the opinion of this meeting it is to the interest of the profession that no practitioner in general practice should accept more than 2,000 on his panel list." (*b*) To discuss the matters referred to the Division published in the SUPPLEMENT of November 1st, which members are reminded to bring with them. (*c*) To instruct Representatives for Special Representative Meeting. (*d*) Notice of motion by Dr. Major Greenwood (November 10th): Report of Council (3), p. 318, SUPPLEMENT, November 1st: "That this meeting protests against suggestions made by the Executive of the Association that important points of medical policy are carried at Representative Meetings of the Association without due consideration."

METROPOLITAN COUNTIES BRANCH: CHELSEA DIVISION.—Dr. Gordon R. Ward, Honorary Secretary (2, Perham Crescent, West Kensington), gives notice that a meeting of the Division will be held at the Fulham Town Hall, on Tuesday, November 25th, at 4 o'clock. Agenda: Instruction of Representative *re* (*a*) Raising subscription to Association, (*b*) Special Insurance Fund, (*c*) National Insurance Act, (*d*) any other matters. Any other business. The attention of members is called to the great importance of this meeting. The reasons for raising the subscription will be fully explained, as also the objects of the Special Fund.

METROPOLITAN COUNTIES BRANCH: GREENWICH AND DEPTFORD DIVISION.—Dr. William Henry Payne, Honorary Secretary (8, Vesta Road, Brockley, S.E.), gives notice that a meeting of the Division will take place on Tuesday, November 25th, at St. John's Church Hall, Lewisham High Road, next to Lewisham Road Station (S.E. and C.R.), at 3.30 p.m. Non-

members are especially invited, but will not be able to vote on Divisional affairs. Agenda: (1) To elect a Deputy Representative for the Special Representative Meeting, to be held in London, December 4th, Dr. H. W. Roberts being unable to attend owing to ill health. (2) To consider the SUPPLEMENT to the JOURNAL of November 1st, 1913, and to instruct the Deputy Representative with the opinions of the Division. The Medical Secretary of the Association, Dr. Alfred Cox, will address the Meeting to explain the matters contained in the SUPPLEMENT of November 1st, 1913.

METROPOLITAN COUNTIES BRANCH: LAMBETH DIVISION.—Mr. T. H. Parkes Peers, Honorary Secretary (20, Surrey Square, S.E.), gives notice that a general meeting will be held at the Guardians' Offices, Brook Street, Kennington, on Friday, November 28th, at 4 p.m. Business: Representatives' report. Instruct Representatives for Special Representative Meeting. Any other business. Every member of the Division is particularly requested to be present.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.—Dr. Francis W. Goodbody, Honorary Secretary, gives notice that a general meeting of the Division to instruct the Representatives will be held at 11, Chandos Street, W., on Friday, November 21st, at 5 p.m.

METROPOLITAN COUNTIES BRANCH: TOWER HAMLETS DIVISION.—Dr. W. H. E. Oxley, Honorary Secretary (119, East India Road, E.), gives notice that a general meeting of the Division will be held on Tuesday, November 25th, at 4 p.m., at the Stepney Central Hall, Commercial Road. Business: (1) To instruct Representative for the Special Representative Meeting. (The SUPPLEMENT of November 1st should be brought to the meeting.) (2) Dr. W. Langdon Brown, M.D., F.R.C.P., will give an address, entitled "The Application of Physiology to the Treatment of Digestive Diseases." It is hoped that every member will do his best to attend, as the business is of great importance, and the lecture is expected to be of great interest to general practitioners.

METROPOLITAN COUNTIES BRANCH: WANDSWORTH AND WIMBLEDON DIVISIONS.—Drs. George Cowie and Hugh McD. Parrott, Honorary Secretaries, give notice that a meeting of the Wandsworth and Wimbledon Divisions will be held on Tuesday, November 25th, at 3.30 p.m., at Stanley's Restaurant, 237, Lavender Hill, Clapham Junction, to instruct Representatives, especially with regard to: (1) The proposed raising of the annual subscription of the Association to 2 guineas a year. (2) The proposed establishment of a Special Voluntary Fund of 4 guineas per head for the thorough organization of the profession. Members are requested to study and bring with them the SUPPLEMENT, BRITISH MEDICAL JOURNAL, November 1st.

SOUTHERN BRANCH.—Dr. James Green, Honorary Secretary (Brandon House, Mile End, Portsmouth), gives notice that the autumn general meeting of the Branch is appointed to be held at the South-Western Hotel, Southampton, at 3 p.m., on Wednesday, November 26th, when the business of the Branch will be transacted. Afterwards an address will be delivered by Dr. Hugh W. Bayley on "The Methodical Diagnosis and Treatment of Chronic Gonorrhoea and its Local Complications," with lantern demonstration. Discussion will follow, in which members are invited to join. Tea will be served during or after the meeting.

SOUTHERN BRANCH: SOUTHAMPTON DIVISION.—Dr. W. A. Simpson, Honorary Secretary (3, Waterloo Road, Southampton), gives notice that owing to the autumn meeting of the Southern Branch being held on Wednesday, November 26th, the committee have decided to hold the meeting of the Southampton Division on Tuesday, November 25th, at the Royal South Hants and Southampton Hospital, at 3.30 p.m. Dr. Hall will propose a motion *re* telephones.

SOUTH MIDLAND BRANCH: BUCKINGHAMSHIRE DIVISION.—Dr. Arthur E. Larking, Honorary Secretary (Buckingham), gives notice that the adjourned meeting of the Division will be held at the Royal Bucks Hospital, Aylesbury, on Tuesday, November 25th, at 3.30 p.m. The full discussion of the "Special Fund" proposal and other Insurance Act matters will be continued in view of the opinions expressed at the Wycombe meeting that some method must be evolved by which all on the panel must be made to contribute, and considerable modification of the Council's suggestions must be pressed.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: MONMOUTHSHIRE DIVISION.—Drs. L. Ernest Acomb and P. C. P. Ingram, Honorary Secretaries, give notice that a meeting of the Division will be held at the Royal Gwent Hospital, Newport, on Thursday, November 27th, at 3 p.m. Agenda: Election of Representative. Proposed raising of the annual subscription of the Association to 2 guineas a year. The proposed establishment of a Special Fund for the thorough organization of the profession; and possibly some matters connected with the Insurance Act. Suggested rearrangement of constituencies. Members are earnestly requested to attend this important meeting and to bring with them their SUPPLEMENTS of the JOURNAL of November 1st.

THE NON-PANEL COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION.

THE first meeting of the Non-Panel Committee appointed by the Council of the British Medical Association at its last meeting was held at the offices of the Association on Wednesday, November 19th. Mr. E. B. TURNER was elected to the chair, and the other members present were: The President (Dr. Ainslie Hollis), and the Treasurer of the Association (Dr. E. Rayner), Dr. C. Buttar (London), Mr. E. C. Montgomery-Smith (London), Dr. M. G. Biggs (London), Dr. John Stevens (Edinburgh), Dr. Edmund Hay (London), and Dr. P. Napier Jones (Crowthorne).

Notice to Insured Persons.

The Committee resolved to protest strongly against the wording of the notice to insured persons to select a doctor (Form 99/I.C., contained in the SUPPLEMENT of the JOURNAL of November 8th, page 391).

Allocation.

The Committee also protested against the allocation of insured persons who have not chosen a doctor on the panel, and claimed that such insured persons should be allowed individually to contract out under Section 15 (3) of the principal Act if they so desired.

Business of the Committee.

The remainder of the sitting was devoted to the discussion of various matters connected with the organization of the future work of the Committee.

It was resolved to appoint an honorary secretary from among its members, and Dr. Charles Buttar was elected to that office.

It was arranged to obtain a complete set of the panel lists which will be issued next January, so that it may be known whether any given practitioner is on the panel or not.

It was decided to ask the honorary secretary of each Division to put the Committee into touch with some member of the Division who would act as an intermediary between the Committee and the non-panel men in the area.

It was resolved to co-opt Dr. Alexander Thomson of Glasgow to be a member of the Committee, but not to proceed with the nomination of the other four members the Committee was authorized to co-opt until the next meeting.

POLITICS AND THE INSURANCE SCHEME.

IT is very unlikely that any good will come to the medical profession if the insurance scheme is made—or perhaps it it ought to be said if the scheme is again made—a counter in the game of party politics, but it is perhaps worth while briefly to note the observations on the subject recently made by Mr. Bonar Law and Mr. Churchill.

The criticisms made by Mr. Bonar Law at Norwich on November 13th were mainly directed to the effect of the Act on the friendly societies, which, he said, had set an example of thrift not equalled anywhere else in the world. Acting with Lord Lansdowne, he had appointed a private committee to study the Act and the effect of it. The general result of the information obtained was to show that the position was far worse than was generally imagined, and in justification of this observation he made two statements. The first was that he believed that the great friendly societies were many of them drifting, and drifting rapidly, to insolvency. The other statement was that the Act was having the worst effect upon the character of the people. In the old days the directors and members of friendly societies took pride in their work, and it was not uncommon for members to glory in the fact that though they had been members for many years they had never withdrawn anything from the funds. All this was now changed; insured persons were now compelled to pay their fourpence, and it was not unnatural that they should be anxious and determined to see whether they could not get the ninepence the Chancellor of the Exchequer had promised them. The whole position had thus been reversed and instead of being proud of helping their societies they were bent on getting as much as possible out of the funds. He believed the defects of the Act to be radical

and not to be cured by any patchwork such as the amending bill of last session. If the opportunity were given to his party it would appoint a committee as far as possible non-politic, impartial, and competent to go into the whole subject, not only into the working but into the whole principles of the Act and to advise whether it would not be possible and in the interest of the nation to turn it into a voluntary system.

Mr. Churchill, in his speech at the Alexandra Palace on November 15th, replied to Mr. Bonar Law, and claimed that no greater administrative achievement stood to the credit of the Civil Service of any country than the establishment, in a few months, of a tremendous universal system and organization of insurance. Alike in its magnitude and its details, in the complications which had been unravelled, and the difficulties which had been overcome, it constituted a record of constructive excellence, energy, and efficiency quite without parallel in the history of modern statesmanship. Although the Act had only been passed for two years, and had only been working for nine months, 13,700,000 persons were actually insured, and their affairs were being administered through 233 insurance committees and upwards of 23,500 societies and branches. Twenty-two million visits had been paid by 20,000 panel doctors at a cost in medical benefit estimated at £4,500,000. Nearly 12,000,000 cases had been treated, and nearly £5,000,000 had been dispensed in meeting sickness claims. Three-quarters of a million babies have presented their mothers with £1,200,000, and sanatorium benefit, in one form or another, has been extended to 36,000 persons. In the space of these few months the number of workers ready with some sure and certain provision for a rainy day had been more than doubled. He went on to challenge Mr. Bonar Law to justify his serious statement that the great friendly societies were many of them drifting rapidly to bankruptcy by giving specific instances. It was, he said, quite true that before the passing of the Insurance Act the position—the financial and actuarial position—of many of the great friendly societies was such as to give rise to considerable disquietude, but now, when they had 2d. from the State and 3d. from the employer for each insured person, when they were able to do business on a scale vastly larger than was ever possible before, and when they were backed, in the ultimate resort, with the whole power and force of society, it was impossible that they should be in a worse position than when they stood alone with nothing but the contributions of their members to depend on. The voluntary system in the past had never, he said, met the cases of those who most needed help, for the worst cases were always excluded; moreover, the societies had reached the limit of growth, and even within the limits of growth possible to a voluntary system there were signs that the foundations were precarious. A voluntary system would inevitably release the employer from the obligation to pay, and as a consequence he would be forced to make a hard choice between three unpromising and unsatisfactory courses: (1) The friendly societies would be deprived of nearly half their income, and would be made bankrupt in sober earnest; or (2) the benefits which they paid to insured persons would have to be reduced by a half—sick-pay would have to be reduced to 5s. instead of 10s., maternity benefit to 15s. instead of 30s., and invalidity to to 2s. 6d. instead of 5s. a week; or (3) the State would have to raise by taxation nine millions a year to make up the deficit caused by Mr. Bonar Law's proposal.

Both speakers, it will be observed, devoted their attention mainly to the position of the friendly societies, and both were evidently desirous of conciliating the managers of these bodies.

Mr. Churchill said that his statistics of medical benefit referred to the first nine months of the operation of the Act, but he did not state clearly upon what returns the figures were founded, but it is reasonable to assume that they were supplied to him by the Insurance Commissioners. They are probably susceptible of more than one interpretation, and the following analysis is subject to all the reserves which further and fuller information may render necessary.

Mr. Churchill said that there were 13,700,000 insured persons and 20,000 doctors on the panel. He was, no doubt, using round numbers, but the number of doctors is in excess of any estimate we have previously seen. Taking his figures as he gave them, they appear to indicate that the average number of insured persons on each panel doctor's list is 685, but an average in this connexion is of little value. He said, further, that the panel doctors had paid 22,000,000 visits in the nine months. This is an average of 1.6 visits in respect of each insured person during the nine months. The expenditure on medical benefit had, he said, been £4,500,000. He also said that 12,000,000 cases had been treated, from which it would appear that the expenditure had been at the rate of 7s. 6d. a case, including medical attendance and treatment, and drugs and appliances. This applies to the first nine months, but he did not say whether his statistics included expenditure incidental to administration. Looked at in another way, his statement to the effect that the 22,000,000 visits entailed an expenditure, including drugs and appliances, of £4,500,000, would appear to indicate that the payment for each visit was 4s. 1d. But as he said also that the cases treated numbered 12,000,000 and had involved an expenditure of £5,000,000 on sickness benefit, it seems clear that his statistics of medical attendance referred only to those insured persons who were ill long enough to be able to claim sickness benefit. This fact would require a considerable discount from the average of 4s. 1d. Moreover, he said that he was giving the number of visits paid by the doctors, and did not make it clear whether visits of patients to the doctor's surgery were included. However this may be, the most important conclusion to be drawn from his statistics appears to be that the average cost to the medical benefit fund of each case treated during the nine months was 7s. 6d.

THE INSURANCE ACT OF 1913 AND THE NEW REGULATIONS.*

By J. E. MOORHOUSE, M.A., B.Sc., M.D.,
HONORARY SECRETARY, STIRLING BRANCH.

THE provisions of the Insurance Act of 1913 and the new Regulations, which are be embodied in the panel practitioners' agreements for 1914, do not constitute such a revolution as the Act of 1911. For such another cataclysm we shall have to be prepared when the Government proposes to include the wives and families in the scheme. And, perhaps, yet again, in the lifetime of some of us, when the income limit will be abolished altogether. Most of us hope by that time to be in regions where regulations cease from troubling and the panel practitioner is at rest.

The new Act introduces to medical and sanatorium benefits certain insured persons who were previously excluded. These are (1) persons entering into insurance after the age of 65 and (2) persons who hold certificates of exemption.

The latter class will mainly consist of people in similar circumstances to those whom we already attend, but it is to be noted that the whole group of the first class will consist of more or less battered lives. There is, of course, no medical entrance examination, and we are called upon to attend these veterans for the same rate of remuneration as for young people of 16. The only consolation which the Act affords in return is that you need not put a penny stamp on the receipt for your quarterly cheque from the Insurance Committee.

Panel Committees.

The main thing which concerns us under the Act of 1913 is the institution of Panel Committees elected only by practitioners on the panel, and performing such duties as may be determined by the Commissioners.

The objects aimed at in creating still another form of Committee seem to have been two. In the first place the original Regulations placed upon Insurance Committees the duty of consulting "practitioners on the panel" on such important points as the allocation of persons who had not made application to any doctor for medical treatment (under the capitation system). There was no machinery for this arrangement, and an Insurance Committee having to consult a panel of many hundreds of practitioners found itself faced with an impossible situation.

*Extracts from a paper read before the Stirling Branch of the British Medical Association on November 14th.

It would have appeared that the Local Medical Committee should have been the representative body whom the Insurance Committee might consult on such questions. But the Local Medical Committee is elected on a franchise of all the practitioners in the area, and in certain well-known areas, where the majority of the profession was at first opposed to the Act, Local Medical Committees have been created consisting largely of non-panel doctors who wished to make the working of the Act as difficult as possible. So, in the second place, the institution of the Panel Committee is a means of circumventing these recalcitrant practitioners by transferring to it powers which were previously vested in the Local Medical Committee.

The election of the Panel Committee is a matter of considerable urgency.

In England and Wales a postal vote is to be taken, but in Scotland the elections are to take place at meetings of panel practitioners by means of the machinery of a returning officer. The number of members of committee and the quorum are definitely laid out for each area; but, fortunately for some of the areas in the district embraced by this Branch, there are alternative methods of election which will appeal strongly to small areas and to widely scattered areas.

If a representation is made to the Commissioners before November 24th (in Scotland), it is possible to arrange that the Panel Committee shall consist simply of all the practitioners on the panel. This provision will appeal with particular force to the practitioners in burghal areas. In the area where we are meeting to-day there is a panel of 16 doctors. Of, these, 12 are on the Local Medical Committee; 4 are on the Insurance Committee, with 2 of the 4 on the Medical Benefit Subcommittee and the other 2 on the Sanatorium Subcommittee; 3 are on the Medical Service Subcommittee, with 2 of their number on the new Joint Services Subcommittee. If, in addition, we create a Panel Committee of 6 members, some of us will bid fair to equal the record of the immortal Pooh Bah. It would simplify matters greatly in small areas to make all the panel practitioners members of the Panel Committee, as we have done, as much as possible, in the case of the Local Medical Committee.

In other areas it may be found convenient to make the Local Medical Committee and the Panel Committee one and the same, but it is to be noted that the constitution of the Panel Committee is governed by Regulations, whereas the Local Medical Committee may be constituted in any way the practitioners choose. So that to amalgamate the two will in most cases require a rearrangement of the Local Medical Committee.

Again, in a county of wide extent or a large city it may be advantageous to have a Panel Committee representing different districts. To effect these changes from the normal method of election it is important to remember that application must be made to the Commissioners before November 24th.

Lastly, in this connexion, there is provision in the Act for the expenses of the Panel Committee and for the new Pharmaceutical Committee being defrayed from the Medical Benefit Fund, provided the sum does not exceed 1d. per insured person.

The changes mentioned so far are consequent on the passing of the Act of 1913 itself. There are many alterations effected by the new Regulations which will also concern us very closely.

Temporary Residents.

One of the most important is that medical attendance on temporary residents is to be made compulsory on the basis of the "case-value of persons on panel-lists." You will remember the circulars from the Commissioners on this point, and you know that in Scotland the scheme fell through. But, in the new agreements for 1914, it will be found that this plan, embodied in the new Regulations, will form part of the basis of the contract. There are acute differences of opinion among practitioners as to the equity of this arrangement, and its acceptance or otherwise is a matter which will have to be decided immediately by the doctors in each area. It will be in the contract offered for signature to each panel practitioner, but it is to be hoped sincerely that in each area the profession will act unanimously either one way or the other.

Penalties.

Other details will affect us in smaller degree, but there is one which demands our serious attention. It is the question of penalties for "breach of agreement" by a practitioner.

Under the Regulations at present in existence, if a complaint against a practitioner is substantiated, there are two penalties. The doctor may suffer by having the name of the particular aggrieved insured person removed from his list; or, in case of grave fault, the doctor's name may be removed from the panel. It would appear that, in the opinion of the Commissioners, certain derelictions of duty are too serious for the first penalty, and yet not sufficiently grave for such drastic measures as the second. They find themselves in much the same position as the General Medical Council, which can only penalize a doctor by the severe proceeding of removing his name from the *Medical Register*. It would be useful to know what faults are held to constitute a "breach of agreement." Some are apparently trivial, such as the case of a practitioner who has joined the panel unwillingly refusing to write prescriptions in duplicate or on the forms specially provided by the Commissioners. If this is followed up by a refusal of the chemist to supply the medicine, because the Insurance Committee will not recognize his bill, the insured person is certainly not getting "adequate medical attendance and treatment."

If a doctor deserts his practice for a few days without making any arrangements for a deputy, there is again just cause for complaint against him.

We all know that the majority of complaints of neglect or malpraxis against a doctor are incapable of being substantiated. The experience of the defence unions is enough to prove this to the hilt, but, unfortunately, there is a residuum of cases where the complaint is just, and the question arises as to what is the best method of dealing with them.

It might have been thought that as the insured person has the same right to appeal to common law as a private patient, his interests were sufficiently protected in this way. But, under the Insurance Act, the agreement to provide adequate treatment is not directly between the patient and doctor, but between the doctor and the Insurance Committee, and, indirectly, the Commissioners,

The machinery for investigating a complaint already exists in the present Regulations, and is carried out by the Medical Service Subcommittee, a committee consisting of three insured persons, three practitioners, and a neutral chairman. We shall mostly agree that this tribunal is preferable to any court of common law, and will be a safeguard against many of the trivial complaints which are raised. The Insurance Committee is bound to accept as conclusive any finding of fact contained in the report of the subcommittee. The new Regulations contain no material alteration of this procedure, but new powers are granted to the Insurance Committee by levying further penalties in the case of a complaint being substantiated.

The first of these is that if the Insurance Committee is satisfied either

(*a*) That owing to the number of the persons included in his list the practitioner is unable to give adequate treatment to all those persons; or

(*b*) That his conduct has been such as to afford to insured persons on his list adequate grounds for desiring to be removed therefrom,

they (the Insurance Committee) may decide that they will, on the application of any insured person included in the list of the practitioner, make arrangements without further inquiry for the transfer of that person to the list of another practitioner.

It is to be noted that the insured persons taking advantage of this privilege do not require to specify any ground of complaint. They merely require to apply for a transfer to another doctor's list. They have this power at present regularly recurring every October, but this new procedure will make it possible at any time of the year in these special cases.

The second penalty is that the Insurance Committee will be able to deduct, from any moneys payable to a practitioner, the amount of money required to meet any expenses to which the Committee or the insured person has been put owing to a breach of his agreement by the practitioner, presumably in the way of obtaining other medical treatment. In each case the practitioner has the

right of appeal to the Commissioners, whose decision is to be "final and conclusive." It will be noticed that in neither case is there any suggestion of anything in the nature of a money *fine* or *damages*.

There is no doubt that these regulations will cause many misgivings on the part of panel practitioners. It is an extension of the powers of a new tribunal which he has to face in addition to the courts of common law and the General Medical Council. Whatever the finding of the Medical Service Subcommittee may be, the insured person still has the right of appeal to the courts of law. If the Subcommittee holds the doctor guiltless, the fact may have some degree of influence in deterring the patient from such an appeal. It might also influence a judge in his finding, but he is not in any sense bound to attach any importance to it. He may ignore it altogether, as was done in Liverpool last month. If the complaint is substantiated it may be an additional encouragement to the patient to try his luck for damages in the courts.

If it were possible to make the appeal to the Commissioners "final and conclusive" to the insured person, it is more than likely that the profession would welcome such a tribunal, originating, as it does, in a Committee of seven on which there are three medical practitioners. But such a proceeding would require an Act of Parliament, and I leave it to you to judge what would be the fate of a bill introduced at our instigation for such a purpose.

The proposal is far-reaching and of great gravity. Fortunately Regulations can be amended or deleted by a much simpler process than the passing of a bill through the House of Commons, and before the Regulations for 1915 are issued and submitted to us in our agreements for that year there will be time for the subject to be threshed out in all its bearings.

It is impossible to conclude without entering a protest against the late date of the issue of these Regulations, which are vital to our work and peace of mind. The Association, as representing the profession, should make a public protest against this hurry and hustle which has characterized too many of the arrangements under which insurance practice is carried on. The Commissioners might with advantage in many cases leave things to mature a little longer, relying on Biblical authority to "let it alone this year also." But, in any case, important alterations should be announced soon enough to give the profession time to consider them before asking each panel practitioner to sign his name to an agreement the full bearing of which he has not had the opportunity to estimate.

LOCAL MEDICAL COMMITTEES.

ENFIELD.

A MEETING of the Enfield Local Medical Committee (recognized as consisting of all the resident practitioners in the area) was held on November 7th, when twelve members were present.

Panel Committee.—The Commissioners' Circular 30/I.C. was considered, and it was resolved to memorialize the Commissioners in favour of the election of the new Panel Committee for Middlesex by districts. It was decided that nomination papers be signed in favour of Drs. Busfield, Hall, Distin, Foott, and R. L. Ridge, but in the event of election by districts being sanctioned, and two members only being allowed for Enfield, that then the three latter would withdraw their nominations in favour of Drs. Busfield and Hall. The Honorary Secretary was authorized to send the names of Drs. Busfield and Hall to the medical papers as the official nominees of the Local Medical Committee; also to ask general support for these candidates, and to promise the support of Enfield practitioners to the officially recognized candidates of other Local Medical Committees, if in proportion to the practitioners in those districts.

District Insurance Committee.—Drs. Tresilian, Busfield, and R. L. Ridge were elected as the medical members of the District Insurance Committee.

SURREY.

A SPECIAL meeting of the County of Surrey Local Medical Committee was held at Surbiton on November 14th, Dr. A. E. EVANS in the chair.

Medical Service Subcommittee.—The names of Dr. McDonagh Ellis and Dr. Oliver were added to this Committee.

Panel Committee.—It was decided to petition the Commissioners to appoint the Local Medical Committee as the Panel Committee for the county.

New Agreement.—This was discussed, and the following resolution was passed:

> That the Local Medical Committee wish to bring before the Surrey Insurance Committee the strong objection they have to Clause 2 (ii), which forbids the practitioners to accept any fee or other remuneration in respect of treatment. There are many cases in which this is most unjust to practitioners on the panel. They suggest that in line 1 the word "accept" be deleted, and the word "claim" be substituted.

The Committee will meet again to discuss the agreement in detail. Meanwhile it would point out to practitioners on the panel that they should not sign the agreement. By not doing so they will not be removed from the panel list unless they have removed their names by December 12th.

BRISTOL.

THE usual fortnightly meeting of the Local Medical Committee was held at the University on November 6th; Dr. GREY was in the chair, and twenty other members were present.

Panel Committee.—The CHAIRMAN reported that on receipt of Circular 30/I.C. the Executive had called a meeting of practitioners on the panel to consider the method of electing the new Panel Committee. The meeting had formulated a scheme for electing eighteen panel members by groups in proportion to the number of practitioners on the panel in each group, the proportion being 1 in 7, and for six non-panel members to be elected subsequently in mass meeting. The action of the Executive was approved.

Drug Subcommittee.—A report from the Drug Subcommittee, which included the ratification of the drug tariff and the approval of the Bristol Pharmacopoeia for the use of practitioners on the panel, was received and approved.

Constitution of Committee.—The report from the Subcommittee appointed to consider the permanent constitution of Local Medical Committees was further considered. Two methods were discussed—one based on the present constitution by election in groups, the other a proposal to make the Local Medical Committee consist of all practitioners residing or practising in the area. The CHAIRMAN pointed out that the latter method would be efficient to keep in touch with the profession, and, with the new Panel Committee to deal with matters affecting only practitioners on the panel, some organization which had the support of all practitioners was more than ever needed. With efficient rules and standing orders, even such a large committee could be made workable, and would, on the whole, be more economical than the present system of referring decisions of the Local Medical Committee to group meetings, which was a cumbersome way of obtaining the opinion of the profession. The matter was referred for further consideration.

Allocation of Residue of Insured.—On the motion of Dr. GREY it was resolved:

> That, in order to complete the distribution of insured persons for medical benefit, the Bristol Insurance Committee be urged to take effective means to get those persons who have not yet chosen a doctor to at once choose a doctor from the panel list, or to notify the Insurance Committee of other arrangements they desire to make in regard to medical benefit.
>
> Further, the panel members of the Local Medical Committee, on behalf of the panel practitioners, agree that it is to the interests of all parties that Section 15 (3) of the 1911 Act should be interpreted generously, and that facilities should be accorded for persons desiring individually to make their own arrangements outside the panel list.

EAST SUSSEX.

THE following business has been transacted at various recent meetings of the East Sussex Local Medical Committee.

Drug Tariff.—The increase in price in certain drugs in the drug tariff list was found mainly to apply to those not often ordered, and the reduction in such articles as tabloids counterbalanced the increase. The Drug Tariff Subcommittee was directed to prepare a list of the drugs

which had a proprietary price and a much lower chemist's price according to the name by which they are designated, the list to be printed and circulated among the panel practitioners.

Temporary Residents.—At a meeting on July 16th, the following resolution was passed and directed to be sent to the Insurance Commissioners, the Insurance Committee, and every practitioner on the panel:

> That the East Sussex Medical Committee is of opinion that practitioners should not treat temporary residents except as private patients, and advises them not to accept the green vouchers which are being issued by the Insurance Committees.

At a special meeting held at Brighton on July 24th, it was resolved to write to the clerk to the Insurance Committee asking whether the scale of fees—namely, 2s. 6d. a visit and 2s. for attendance at the surgery—would be guaranteed by the Insurance Committee.

The subject of temporary residents was again fully discussed at the meeting held on September 17th, and the resolution advising practitioners not to accept the green vouchers was rescinded. The chief reasons which influenced the Committee in arriving at this decision were the apathy of the profession with regard to the matter, and the consequent impossibility of getting it to take uniform action.

Panel Committee.—At the same meeting the following resolution was adopted:

> That the East Sussex Medical Committee regrets the decision of the Government to form Panel Committees of the practitioners (vide Sec. Circ. 27/I.C.).
>
> They are further of opinion that such a committee is quite unnecessary in this district, and that the opinion of panel practitioners can quite well be obtained through the Local Medical Committee. They consider that in the interests of the smooth working of the Act any such attempt to divide the profession into panel and non-panel practitioners is most ill-advised. The Committee also wish to protest emphatically against the proposed deduction from the capitation fees of the panel practitioners in the district of one penny per insured person for administration expenses of the proposed committee.

Medical Service Subcommittee.—At a meeting held on October 15th the Honorary Secretary was nominated to appear at any proceedings of the Medical Service Subcommittee, in accordance with Subsection 4 (c) of the Regulations for the Administration of Medical Benefit.

Re-election of the Committee.—The model regulations of the British Medical Association were adopted, and it was decided that the vote should be taken on a territorial basis, each practitioner voting for the representative or representatives of the district in which he resides.

Practitioners' Meeting.—It was decided that the meeting of practitioners should be postponed until further communications had been received from the Commissioners.

Another meeting was held on November 12th, on account of the urgency of the matter referred to in Circular 30/I.C. The Committee decided to issue circulars to every panel practitioner, and a voting paper containing a list of the members of the present Committee. For the purpose of re-electing the Committee it was decided to adopt the postal vote scheme of the British Medical Association.

Resignation.—The resignation of Dr. Broadbent was received with great regret.

Panel Committee.—It was resolved that members in the various insurance districts should call meetings of the practitioners in order to instruct them on the present state of affairs in regard to the formation of the Panel Committees.

Mileage.—The Commissioners have made a grant of £100 for extra mileage. At present it is proposed to pay an extra fee (capitation) to those practitioners who have accepted insured persons living in places difficult of access out of this fund.

STAFFORDSHIRE.

Ordinary Meeting.

A meeting of the Staffordshire Local Medical Committee was held on October 30th, when twenty members were present, and the Clerk to the Staffordshire Insurance Committee attended by invitation.

Allocations.—A communication from the Insurance Committee in reference to temporary allocation by number was read, and explanations were given by the clerk to the Committee of the circular issued by the Commissioners on the subject, and the special difficulties which arose in Staffordshire. After discussion is was resolved, *nemine contradicente:*

> That the allocation should be carried out in the way suggested by the Commissioners without regard to a limit in respect of any doctor's list.

The Committee decided to send a recommendation to the Insurance Committee to that effect.

Distribution of Accumulated Funds.—The Clerk explained a difficulty which had arisen owing to approved societies having continued to issue red medical tickets after the date at which they ceased to be valid. The Committee agreed to a distribution of the funds accumulated in respect of these in proportion to the number of buff forms [Med. 32] signed by each doctor *plus* the number credited to him under the scheme of Circ. 29/I.C.

Vote of Thanks.—The Clerk then withdrew after receiving the thanks of the Committee for his attendance and explanations.

Emergency Dispensing.—The Committee decided to recommend that the Insurance Committee should pay a flat rate of sixpence in such cases, the doctors concerned to render accounts as required.

Rural and Urban Grouping for Dispensing Purposes.—It was resolved:

> That in view of the difficulties of the question, the Insurance Committee be advised to leave matters as they have been in the past—that is, subject to the "one mile from a chemist" rule—until complaint is made by some interested party, then to deal with each case of complaint on its merits.

Boundaries of Branches.—It was resolved:

> That in the opinion of the Committee it is necessary, in the interests of the medical practitioners in the county, that the boundaries of Branches of the British Medical Association be altered, so that the Staffordshire Branch shall comprise the whole of the geographical county of Stafford.

Panel Committee.—It was resolved:

> That in the opinion of this Committee the need for a further medical committee under the Insurance Act for the county does not arise, and that the Secretary be instructed to make application to the Commissioners for the Local Medical Committee to be approved as the Panel Committee for the county.

Finance. — The Committee adopted the following resolution:

> If and when this Committee is recognized as the Panel Committee a levy of one farthing per insured person on each doctor's list be made; the amount to be deducted from the panel fund by the Insurance Committee and handed to the Treasurer of the Panel Committee for working expenses. (Section 33, No. 1, Act 1913.)

Subcommittee.—Dr. Taylor, Dr. Daly, and Dr. Hodder were appointed a standing subcommittee to represent the Local Medical Committee in all matters relating to any tariffs or drug accounts.

New Agreement.—The Secretary was instructed to ask for an early copy of the new agreement and to notify all doctors that the agreement should not be signed until it had been considered by the Committee.

Medical Aid Association.—Dr. Daly gave an account of steps which were being taken in his district (Silverdale) to form medical aid associations outside the Insurance Act which it was thought would endeavour to attract insured persons from the lists of other doctors to the list of the medical officer of the association. Members present considered that this was being done rather widely, and it was pointed out that it was the outcome of the attitude of a certain section of the profession towards the Insurance Act and the friendly societies.

Urgency Meeting.

An urgency meeting of the Committee was held on November 7th, when twenty-two members were present.

Panel Committee.—It was resolved:

> That a scheme for election of a Panel Committee by districts be formulated.

The Secretary, in reply to a member, gave a sketch of a scheme which seemed to him practicable, and, after a long discussion, he was instructed to draft a scheme on the following lines:

(*a*) One practitioner, one vote.
(*b*) Representation by districts.
(*c*) Grouping of panel lists in districts to form constituencies.

(*d*) The twelve largest constituencies so formed to have two representatives on the Panel Committee; the remaining eight are representative.
(*e*) In all cases one representative of each constituency to be resident in the county area.

When drafted, the Secretary was directed to take what steps might be desirable to obtain the necessary signatures and to submit it to the Commissioners.

NORFOLK.

A MEETING of the Local Medical Committee was held in Norwich on November 12th, Dr. R. C. M. COLVIN-SMITH, Vice-Chairman, in the chair, in the unavoidable absence of Dr. B. D. Z. Wright, Chairman. Present: Dr. Back, a Vice-Chairman, Dr. Thomso, honorary secretary, and seventeen other members.

The Wisbech Matter.—It was unanimously resolved, on the motion of Dr. HOWLETT, to send the following resolution to Dr. Meacock and his medical colleagues at Wisbech:

> That this Committee expresses its sincere sympathy with Dr. Meacock, Dr. Gunson, and their medical colleagues at Wisbech, on the occasion of the recent rioting and persecution of which they have been the victims. The Committee also wishes to record its full belief in their professional honour and integrity, and heartily supports their application to the Home Secretary for a full inquiry into the circumstances which gave rise to the rioting and persecution.

Drug Fund.—A report from the Insurance Committee on the Drug Fund account was received and read. The main feature of the report was that the average cost per head per annum, actual for nine months and estimated for three months, amounted to 1s. 3d. a head. This was considered high; reference was made to the necessity of the Local Medical Committee examining the prescriptions to check extravagant prescribing. According to this annual rate of 1s. 3d., it would appear there is no encroachment on the "floating sixpence," and it would be available for distribution to the doctors entitled thereto.

Medical Service Subcommittee.—Under the new Regulations two practitioners—Drs. Steele and Vaughan—were added to the three already on the Medical Service Subcommittee.

Work of Committee.—With a view to keeping the Divisions of the British Medical Association in the county in touch with the Local Medical Committee, a report of the past quarter's work of the Committee, prepared by the Honorary Secretary, was approved, and ordered to be sent to the Secretaries of the Norfolk Divisions to be read at the next Divisional meetings.

Panel Committee.—Circular 30/I.C. concerning the formation of a Panel Committee under Section 32 of the 1913 Act was considered. The formation of another Committee in addition to the Local Medical Committee to carry out practically the same work was considered an absurdity, 90 per cent. of the Local Medical Committee being on the panel; however, it was decided to proceed under paragraphs 13–20, and nomination papers were filled up and duly sent to the returning officer.

BOLTON.

A MEETING of the practitioners of the Bolton district was held at the Central Hall on November 10th, to discuss the Circular 30/I.C. Sir THOMAS FLITCROFT was in the chair, and there was an attendance of thirty-four.

Panel Committee.—On the motion of Dr. MALLETT, seconded by Dr. THORNLEY, it was resolved:

> That this meeting is of the opinion that the present Local Medical Committee is representative of the practitioners on the panel, and that owing to the conditions peculiar to this district a separate Panel Committee was not required.

Three additional members were added to the Local Medical Committee in order to bring the number up to twenty-four.

Model Regulations.—The model regulations concerning the constitution of the Bolton Local Medical Committee suggested by the British Medical Association were adopted with slight modification.

A meeting of the Local Medical Committee was held at the close of the practitioners' meeting. Sir THOMAS FLITCROFT was in the chair, and sixteen members were present.

Tariff of Drugs and Appliances.—The consideration of the new tariff was left to a Pharmaceutical Subcommittee composed of the Chairman, the Secretary, Drs. Rolland, Pickering, and Swainson.

Revision of Medical List.—The SECRETARY read a notice from the Insurance Committee to insured persons in which they were informed that they may change their doctor for the ensuing year by giving notice one month before January 11th, 1914, to the Insurance Committee. Dr. THORNLEY suggested that the legal phraseology of the notice was too complicated for the average insured person to understand, and proposed that, if it were necessary to publish this notice as it stood, the Insurance Committee should append a simple explanation.

ABERDEEN.

A MEETING of the Local Medical Committee was held at the rooms of the Aberdeen Medico-Chirurgical Society on November 14th, Dr. RORIE (Cults) presiding. After a discussion, in which Drs. WILSON, FORBES, CAMERON, RANNIE, SKINNER, COCKBURN, NICOL (Alford), and STEWART (Hatton of Cruden) took part, the following resolutions were unanimously passed:

1. That this meeting of the Aberdeenshire Local Medical Committee regards the demand for the formation of a Panel Committee as an unnecessary extra call upon the time of the panel practitioners in the county and an undue interference with the functions of the Local Medical Committee, and that this meeting especially condemns par. 6 of Circular 30/I.C. as an interference with the right of the panel practitioners to conduct their own affairs.
2. That this meeting of the Aberdeenshire Local Medical Committee enters its emphatic protest against the manner in which the election of the Panel Committee is being hurried on, while matters vitally important to the county practitioners—such as the question of mileage grant and the issue of the new agreement for the consideration of the Local Medical Committee—are being held back, thus preventing the panel practitioners in the county from having a proper opportunity of considering their position as regards the National Health Insurance Act before entering into a fresh contract.
3. That this meeting requests the Scottish Committee of the British Medical Association to meet and take immediate steps for the formation of an Insurance Act Committee for Scotland, with the view especially of combating the inconsiderate treatment which is being given by the Scottish Insurance Commissioners to the medical men in the rural districts.

INSURANCE COMMITTEES.

BLACKBURN.

Payment to the Practitioners on the Panel.

THE clerk reported at the last meeting of the Blackburn Insurance Committee that the money due to the doctors on the panel for the quarter ending October 14th amounted to £5,019 17s. 6d., and that 90 per cent. had been paid on that day.

Dispensing by a Practitioner.

A complaint was made that a practitioner on the panel told a patient that it would be no use giving her medicine under the Insurance Act, as the drugs supplied by chemists were not good enough to meet her case. He mixed a bottle of medicine and two powders, and charged her 2s., telling her she could please herself whether she paid for them or not. The doctor's explanation was that the drugs referred to belonged to a little-used group. He was not satisfied in this case of the wisdom of passing the prescription through chemists on the panel. Only in certain cases did he supply medicine from his own dispensary, and he always gave the patient the option of not paying. The Committee decided to inform the doctor that he had no right to suggest to insured persons that drugs supplied under the Act by chemists on the panel were not adequate for treatment; also, that it was a distinct breach of the doctor's agreement to ask insured persons to allow him to dispense their medicine, with or without payment; and that if the doctor had any difficulty in getting his prescriptions dispensed by chemists on the panel he should report the matter to the Committee which was responsible for the arrangements for dispensing under the Act.

WEST SUSSEX.

Recognition of the Local Medical Committee.

AT the meeting of the West Sussex Insurance Committee, on November 14th, Dr. H. H. VERNON moved a resolution in favour of recognizing the Local Medical Committee as the "local Panel Committee" until July 15th. He said that a poll had been taken of the practitioners in the district and on the panel, and the results furnished conclusive evidence that the Local Medical Committee was in close

touch with all the practitioners on the panel, and had their confidence. It would conduce to the smooth working of the Act if the present arrangement were continued. The resolution was carried.

INSURANCE NOTES.

LONDON NON-PANEL MEDICAL COMMITTEE.

Treatment of Tuberculosis.

WITH reference to a recent attempt to work a scheme to pass all persons suffering from tuberculosis through the voluntary hospitals to be there examined and allocated to dispensaries or sanatoriums, the following resolutions were passed by the Committee:

1. That the London Medical Committee, while recognizing that there is a place for the co-operation of sanatoriums and hospitals in the treatment of tuberculosis, is strongly of opinion that the domiciliary treatment of tuberculous persons, as well as that carried out in local dispensaries, ought to be entrusted to the fullest possible extent to practitioners engaged in general practice.
2. That this Committee is of opinion that the voluntary hospitals to which medical schools are attached should have the opportunity of having all the clinical material they need for teaching purposes.
3. That in the opinion of this Committee the acceptance of payment out of public funds for special treatment in a voluntary hospital is contrary to the interests of the public and the profession.
4. That the Council of the British Medical Association be requested to forward forthwith the above resolutions to the various Divisions for the earliest possible expression of opinion by them.

Unallotted Funds.

On the question of the unallocated medical benefit insurance funds, the Committee passed the following resolution:

That the Committee suggests to the Non-Panel Committee of the Council of the British Medical Association that they should endeavour to obtain an injunction against the London Insurance Committee distributing the medical benefit of the unallocated insured persons amongst the practitioners on the panel.

SHOREDITCH MEDICAL UNION.

A special meeting of this society, which includes in its membership practically all practitioners resident in the area of the borough of Shoreditch, took place on November 15th, at the Metropolitan Hospital, to nominate candidates for the Panel Committee about to be elected in the county of London. More than 75 per cent. of the local profession were present.

Dr. MAJOR GREENWOOD, President, who was in the chair, said that as this committee would be elected by the London practitioners generally who were on the panel there was little chance of there being an adequate representation of the local profession of the various constituent boroughs of the metropolis. It was, however, desirable to choose representatives, so that it could not be said that they took no interest in the election. This was likely to be a very important committee, as it would probably become the Local Medical Committee for London under the amended Insurance Act of this year.

After some discussion it was decided to nominate three panel practitioners and one non-panel, and the following were unanimously chosen and duly nominated: Dr. Major Greenwood, Dr. Alban Dixon, Dr. G. E. Froggatt, and Dr. J. H. Porter.

The Honorary Secretary was instructed to send these nominations to the returning officer, and to say they were chosen at a specially convened meeting of the Shoreditch profession, and, in the opinion of that meeting, when the various nominations in the county of London were published and sent to the electors, after each candidate's name should be placed the name of the borough he would represent.

THE EFFECT OF THE INSURANCE ACT ON PROVIDENT DISPENSARIES.

At a special meeting of the governors of the Western Dispensary, Westminster, on November 17th, a proposal to reduce the existing annual subscription to the Westminster Nursing Committee from £100 to £50 was the subject of a long discussion. The step was claimed to be necessary on the ground that the finances of the dispensary were in a very bad state. Since the Insurance Act had come into operation voluntary subscriptions had fallen off, and nearly 2,000 insured persons had withdrawn from the provident branch of the dispensary; working people could not afford to pay for two different forms of medical insurance. It was hardly possible that the framers of the Insurance Act had really intended to destroy provident dispensaries, but this at present seemed likely to be one of the effects of the Act. The motion was opposed, on the ground that adequate nursing was essential to the work of the dispensary, and that matters were at present in a transitional condition, and eventually, on an appeal from the Chairman, the motion was withdrawn. At the same meeting it was decided to raise the scale of payment for children if their parents were insured persons; to reduce to 2d. the bonus of 3d. in the 1s. hitherto paid upon payments made in advance; and to alter the rule in regard to the payment of the doctor in midwifery cases in such fashion as to make the patient pay the whole instead of half the fee of one guinea if the lying-in woman were in receipt of maternity benefit.

PANEL PATIENTS AND PRIVATE PATIENTS.

We are asked to quote the following article which appeared under this heading in the *Daily News and Leader* of November 20th. Its bearing upon the following clause in the new agreement is obvious.

2. (ii) The Practitioner shall not accept any fee or other remuneration in respect of treatment which he is required to give under this agreement, except as provided in this agreement.

"In reference to our recent comments on the doctors and the Insurance Act, our attention is called by a correspondent to a practice which is developing in a certain town in one of the home counties. The procedure is to tell a panel patient when he (or she) calls in the doctor that he can come to the surgery at certain hours, but that there will probably be about 100 patients waiting, and that if he prefers it the doctor will treat him as a private patient at 2s. 6d. a visit and deduct from the total charge the 8s. 6d. allowed by the State. This is doing a good deal to discredit the Act. The doctor is able to shelter himself behind his readiness to treat the patient as a panel patient and the patient's *request* to have something better. We suggest that every insured person who is coerced into being treated as a private patient should, when the doctor presents his account, forward it to the Insurance Committee with a request for explanations. We have no desire in this or similar cases to give the impression that the doctors as a whole are not working the Act fairly. They are. But practices are growing up in certain quarters which must be checked at once if the Act is to be respected and the medical service under it is not to get a taint of something approaching pauperism. The candid confession of Dr. Cuthbertson Walker in this week's BRITISH MEDICAL JOURNAL, to which we drew attention on Monday—the confession that doctors were taking payment from panel patients—is a typical example of what we mean. The position of the panel patient is that the doctor has contracted, and is paid to serve him on precisely the same plane as a private patient, and any attempt to set up a discrimination must be promptly attacked."

WEST HAM.

A meeting of the medical practitioners on the West Ham panel was held at the Stratford Town Hall on November 11th, where over forty panel practitioners were present. The meeting had been arranged in accordance with a resolution of the West Ham Insurance Committee, which invited the practitioners to consider the following agenda:

(1) Arrangements to be made to secure that all insured persons in the West Ham area whose names have not been placed on doctors' lists shall be able to obtain acceptance for treatment.

(2) The arrangements to be made for including numerically in the doctors' lists, for the purpose of their quarterly credits, the unassigned residue of insured persons at the end of each quarter.

(3) The National Health Insurance (Administration of Medical Benefit) (Amendment) Regulations, 1913, and matters connected therewith affecting the panel practitioners.

After long discussion the practitioners adopted the following scheme:

The Scheme.

1. The attendance upon insured persons who have not selected a doctor, and require immediate treatment, shall be undertaken by those medical men, on the panel, who are willing to do so.

2. The method of payment for this work shall be by attendance, this payment to continue until the insured person

has received notification from the Insurance Committee that he is on a doctor's list.

3. The doctor who accepts the patient for first attendance shall also accept him on his list for at least the current medical year.

4. The acceptance form of such patient must be forwarded by the practitioner to the Insurance Committee within twenty-four hours of the first attendance.

5. The scale of fees payable shall be that agreed upon by the Commissioners for temporary residents.

6. The fees shall be paid out of the fund for medical benefit for the unallotted persons, or if there is not sufficient money, then proportionately to the accounts sent in.

7. The surplus of this money shall be paid to the doctors on the panel, in proportion to their lists.

A resolution was also passed to the effect that the assignment of insured persons who have not exercised their choice of doctor should be proceeded with at once as far as is possible.

MANCHESTER.

The Manchester Warehousemen and Clerks' Association and Contracting Out.

Since the Insurance Act came into operation the Manchester Warehousemen and Clerks' Provident Association has had in operation a system by which any member, even though already insured under the Insurance Act, may, on paying an extra subscription, go to any doctor, panel or non-panel, and on presenting his doctor's bill the society undertakes to pay it up to a certain amount per attendance. These members are thus doubly insured for medical treatment. It does not, however, follow that a panel doctor would get payment for attending one of these members, both from the panel fund and the society's fund, and the Salford Insurance Commitee has distinctly forbidden the panel doctors to accept double payment for the same attendances. Some time ago the society applied for recognition as an approved institution under Section 15 (4) of the Act, but the application was refused. The society then determined if possible to attain the same object by applying that its members should be allowed to make their own arrangements under Section 15 (3). A similar application was made by the Scottish Union of Clerks, which has a system almost identical. Deputations from the two societies met the Medical Benefit Subcommittee of the Manchester Insurance Committee on August 25th, to urge their case, but the Insurance Committee has sent to both the societies a resolution refusing the application.

SCOTLAND.

THE MEDICAL GUILD IN EDINBURGH.

A meeting of the Medical Guild was held at the Royal College of Physicians on November 15th. Dr. JOHN PLAYFAIR presided, and over one hundred doctors, including delegates from Manchester and London, were present. Professor WILLIAM RUSSELL moved the following resolution:

> That this guild adheres to the position it adopted when the National Insurance Act came into operation, and it resolves to federate with all associations which hold a similar policy—namely, the maintenance of the honour and freedom of the medical profession, and the continuance of an uncompromising opposition to the method of administration of the medical benefits under the Act.

Dr. Russell said the guild consisted of members who for one reason or another were not able to join the medical panels in Edinburgh or elsewhere. Many doctors were compelled by financial considerations to become panel doctors, and many of them felt towards the National Insurance Act as the members of the guild felt. The freedom of the profession was the freedom of the public. The medical freedom of the public in this country had been practically done away with. The Insurance Act professed to be a great public health measure. Taking the groups of insured persons as referred to by Mr. Lloyd George about a year ago, were those under terms of ordinary practice being attended any better than before the Act? Were those under friendly societies, or who were being attended under public works contract, any better off? What benefit had the colliers or the public works men in any of the big cities received? With regard to the section who had really required the provision of medical attendance—the very poor, dependent upon charity for medical attendance—it had been found that the Act would interfere with legislation urgently needed for the class referred to. He repeated what he had said at the outset of the controversy—that the wage limit ought to have been much lower — that if this had been a truly philanthropic Act, it would have dealt properly in the first place with the really very poor. There were, he said, organizations in England holding very much the same views as the Medical Guild in Edinburgh, and it was proposed to bring about a closer alliance between the guild and those bodies. Such co-operation was no reflection upon other people. He was one of those who could say that he had never uttered an unkind word as to any of his many friends who had been forced to go on panels in Scotland, and he thought the guild was with him in stating that whilst they did not abate one whit of their independence and their opposition to the Act, they recognized and sympathized with the feelings of those who had been forced by economic necessity to go on the panel.

Dr. JAMES CARMICHAEL (Edinburgh), in seconding the resolution, emphasized the view that the tendency of the Insurance Act was to degrade the medical profession.

Dr. MORISON (London) urged the necessity for unity and organization.

Dr. WHEELER HART (Manchester) quoted the Bill of Rights to show that the Insurance Act had deprived medical men of their rights as citizens. They had been deprived of the right to go to the courts. They could go to Local Medical Committees, to Insurance Committees, to Committees of Inquiry, and to Commissioners, but they asked to go to the courts. Their policy should be—no service whatever under the Act, no panel, and no service on committees. He urged a real fighting policy.

Dr. GREEN (Wandsworth) said that not only the medical profession but the people generally were being deprived of their rights. He did not believe that the panel membership in London exceeded 1,200, and there were 6,300 doctors in London. These men not on the panel were waiting for some definite lead.

The resolution, on being put to the meeting, was carried unanimously.

COLLIERIES AND WORKS.

A representative Committee of Colliery and Public Works' Surgeons of Scotland was formed as soon as the Insurance Bill was introduced. This Committee is composed of representatives of every county in Scotland where mining and public works interests exist, elected by the vote of their medical brethren. The counties represented are Lanarkshire, Fifeshire, the Lothians (Mid, East and West), Stirlingshire, Clackmannanshire, Renfrewshire, Dumfriesshire, and Dumbartonshire. The Committee has accomplished very satisfactory work after many difficulties, and has had many meetings with the Scottish Miners' Federation and Colliery Owners' Associations, and joint meetings at the Scottish Conciliation Board with miners and owners together; a flat rate of contribution for the dependants from every colliery or mine worker, or worker in steel or iron works, has been agreed upon. Every worker, whether married or single, will contribute by deduction from his wages the same flat rate. A provisional arrangement as to the amount of this flat rate has been made, but is to be regarded as subject to revision in the future.

The fundamental principles established are as follows:

1. That there be free choice of doctor.
2. That there be a flat rate from all workers, whether married or single.

   N.B.—It is pointed out to the unmarried man that if he wishes to pay a low rate for his medical attendance for his wife and family in after-years when he becomes married then he must pay the flat rate for the years of his unmarried life (probably eight as against his married life of, say, forty years). By this means the rate is kept low for all—married or single—and is an insurance for the unmarried man for the future.
3. Periodic ballots for doctor to be made.
4. Lists of men paying to each doctor to be kept at the mine or works office, and a card or voucher handed to each man by the office and the list (or pile of cards) sent by the office to each doctor.

There are extras, as confinements (one guinea), vaccinations, teeth extractions, etc. Any special surgical operation undertaken at home is to be a matter of private arrangement between patient and doctor.

CONVICTION FOR MALINGERING.

In the Edinburgh Sheriff Summary Court, on November 11th, an hotel servant was charged with having made a false statement to the secretary of the lodge to which he belonged for the purpose of obtaining medical benefit. He alleged to the secretary of the lodge that he was rendered incapable of work by

great weakness, and produced a medical certificate. The doctor had been unable to find anything wrong with the man, but accepted the statement that he felt so weak that it was impossible for him to work. The man obtained sickness benefit, but continued to work. The Sheriff apparently took a serious view of the matter, for he sentenced the accused to fourteen days' imprisonment.

IRELAND.

Dublin Insurance Committee.

With reference to the arrangements for medical certification in the borough of Dublin, the Commissioners wrote to the Borough of Dublin Insurance Committee stating that they were satisfied that the fact that the practitioner appointed to furnish certificates for deposit contributors did not reside within the city boundary would not interfere with the proper discharge of his duties. The Secretary was instructed at the last meeting of the Committee to reply that the Committee considered that the medical adviser should reside in a central position in the city.

The Committee also passed the following resolution:

> That the Insurance Committee for the borough of Dublin, recognizing that the high incidence of tuberculosis in Dublin is to a great extent dependent on the housing conditions of the working classes, respectfully request the Government of Ireland to appoint a Viceregal Commission to inquire into the housing question.

ANSWERS TO CORRESPONDENTS.

Insured Persons in Voluntary Hospitals.

H. S. asks: Since the introduction of the Insurance Act can the authorities of a hospital claim a certain sum per week for aliment of a case in hospital?

*** We find nothing in the Insurance Acts to prevent a charitable hospital demanding any payment that it chooses to fix for the aliment of insured persons while under treatment by the hospital. But it is one thing to demand and another thing to obtain, and the question at once presents itself, Who is to pay if the hospital makes such a demand? The only references to hospitals in the Acts, apart from sanatoriums for tuberculosis, are in Sections 12 and 21 of the principal Act and Section 15 of the Amending Act. Section 21 of the principal Act allows Insurance Committees and approved societies, if they think fit, to give subscriptions or donations to a hospital, but these contributions are evidently not to be regarded as payments which can be demanded for particular cases, but only as purely voluntary gifts like any other charitable donations. Neither is there anything in Section 12 of the principal Act as amended by Section 15 of the Amending Act, nor in any other part of the Acts, to compel any insured person, or approved society, or Insurance Committee, or other authority to pay anything whatever to a hospital.

The right of an insured person himself to make or refuse to make any payment is neither increased nor lessened nor in any way interfered with by the Acts, and the insured person is in this respect exactly in the position of the non-insured. On the other hand, the hospital can refuse to admit him if he does not agree to pay something, if the hospital authorities are prepared to incur the public odium that might result from refusing treatment to a suitable case.

As regards Insurance Committees which administer the benefits for deposit contributors, the Acts give the Committees no power to pay to a hospital in which a deposit contributor is an inmate any part of the benefits that may become due to him. If he has dependants the benefits are paid to them in whole or in part while he is in the hospital. Any balance not so paid may be spent by the Committee in providing him with any surgical appliances, "or otherwise for his benefit after he ceases to be an inmate, and if it is not so expended must be paid in cash to the person after leaving the institution in a lump sum or in instalments" as the Committee thinks fit. This applies equally to members of approved societies who have dependants. But approved societies have a special power given to them in the case of their members who have no dependants, a power which is not specifically given to Insurance Committees for deposit contributors. If a member of a society who has no dependants needs indoor hospital treatment, the society has a right to make an agreement with a hospital supported by charity, to pay the whole or part of the benefits due to the patient to the hospital towards his maintenance. But the agreement must have been made beforehand, and the society can please itself, so far as the Insurance Acts are concerned, whether it makes such an agreement or not. This is slightly modified in the case of insured married women or widows who may be entitled to the double maternity benefit provided in Sect. 14 of the Amending Act, for in these cases, even if the woman has dependants, one of the sums of 30s. payable as maternity benefit may be paid to the hospital of which she is an inmate exactly as if she had no dependants, but here again the payment is entirely optional by the society so far as the Insurance Acts go. Another modification occurs if the hospital is an approved tuberculosis sanatorium. Here, if a member of an approved society has no dependants, and is in receipt of sanatorium benefit in the form of treatment in the sanatorium, any benefits due to him go to the Insurance Committee which is providing him with sanatorium treatment, and the Committee probably has a standing agreement with the proprietors of the sanatorium to make some payment for the aliment of any insured person admitted.

From these details it is evident that, speaking generally, hospitals acquire no rights under the Insurance Acts to any payment for insured persons whom they treat, though in the cases mentioned approved societies do acquire under the Act the power, if they think fit, to enter into an agreement with the hospital to pay something towards the maintenance of a member of the society while in hospital.

Certificates for the Workmen's Compensation Act.

Dr. A. Foster (Leicester) writes: In reference to the payment for medical certificates given to injured workmen for the purpose of enabling them to claim compensation under the Workmen's Compensation Act, 1906, and in reference to the legal position thereto, as defined in the British Medical Journal Supplement, September 27th, 1913, p. 273, the question has arisen as to whether the insured injured workman can claim a certificate of inability to work free of charge under the Insurance Act, in order to satisfy the request of the employer for such a certificate. If so, it would appear that the Insurance Act overrides the Workmen's Compensation Act, 1906, Schedule I, paragraphs 4 and 14, in that the employer is not liable for a fee for the certificate provided at his request.

I should be glad of your opinion in this matter.

*** There is nothing to add to the explanation to which our correspondent refers (Supplement, September 27th, p. 273). The practitioner on the panel is only required to furnish, at the request of an insured person, such certificates as are required to be furnished by that person in connexion with any claim for sickness or disablement benefit made by him in pursuance of the rules of the society of which he is a member, or of the Committee, as the case may be.

CORRESPONDENCE.

The Revised Form of Medical Certificates.

Dr. W. W. Hardwicke (London, S.W.) writes: For the benefit of those of your readers who are interested in the question of the newly devised certificates, I enclose a copy of the reply of the Commissioners to my letter to them published in the Supplement to the Journal of October 18th, p. 325. It is as follows:

> National Health Insurance Commission (England),
> Buckingham Gate, London, S.W.,
> November 11th, 1913.
>
> Sir,—In reply to your letter of October 11th, I am directed by the National Health Insurance Commission (England) to inform you that, as indicated in Mem. 173/I.C., they attach the greatest importance to the principle that under no circumstances whatever should certificates be either post or ante-dated.
>
> In the circumstances referred to in your letter, where a patient who is unable to attend at the surgery requires a certificate on a day on which the doctor will not ordinarily be visiting, it would be open to the doctor to furnish a certificate on the occasion of his visit immediately prior to the day on which the certificate is required and to annotate the certificate, if he thought fit, and the condition of the patient justified him in so doing, to the effect that the incapacity would continue (at least) up to the day on which the certificate was actually required. The date of the doctor's signature on the certificate should, of course, be the date on which the signature is affixed.
>
> It would be for the Society to consider the date up to which they would be justified in paying sickness benefit; but if payable only up to the date of the visit, the balance would in due course accrue to the patient in respect of the next continuing certificate.
>
> I am to express regret at the delay in reply to your letter,—I am, Sir, your obedient servant,
>
> S. P. Vivian.

It will be obvious from the above that a certain amount of latitude is to be permitted with regard to these certificates. There are frequent instances in which great injustice would be inflicted upon innocent patients, unless the doctor diverges from the formal routine of signing and dating these. We all know that there are many panel patients who, when ill, will stay at home for a few days with the hope that by rest from work and with a little medicine, they may throw off their ailments—and it is in the interest of all concerned that this praiseworthy desire not to call on unless obliged, should be encouraged—but find in the end that they have to give up, and decide, or are ordered by the doctor, to call on benefit. But as the patient receives no sick pay until after three days from the date of the initial certificate, and, supposing that he has already been off work for four days, he receives no pay until after the lapse of seven days. He would thus, in the event of future illness, have every inducement to call on at once, knowing that he could call off at any time if he felt better. The result of this would be that extra work would fall upon the doctor in filling up a much greater number of certificates than have hitherto been required of him. In order to save this extra work, and at the same time do justice to the patient, I suggest adding to the initial certificate the words: "First day of illness....." This would remove the onus of any pecuniary loss to the patient, from the doctor, and put it on to the society.

Then, as regards the continuing certificates, when from any cause it is not convenient to visit the patient, or for the patient to attend at the surgery, on the exact week end (which may vary in each case), I suggest deleting the word *date* by writing over it the words "week ending," followed by the date required by the society, thus avoiding the dating of the signature. I have frequently, since the introduction of the new forms, adopted this method, and have, so far, not had one returned to me. But should this occur, then it would be necessary to qualify the wording of the certificate by a fuller statement, namely, "And was unable on ————," or "and will continue to be unable for at least ———— days."

Panel Committees.

Dr. Percy Rose (Canning Town) writes: The extraordinary powers assumed by the Commissioners in the provisional regulations for the election of panel and pharmaceutical committees deserve a further publicity with a view of their modification in default of adequate explanation.

Clause 23 reads as follows:

Special Provision in Case of Failure of an Election.

23.—1) Where owing to a deficiency of nominations or the failure of the persons entitled to take part in an election or of any of them to exercise their rights of voting, it appears to the Commissioners that a substantial miscarriage of the election has occurred, the Commissioners may, if they think fit, declare the election to be void, either in respect of all the persons who are highest on the poll or of such of those persons as they may decide.

2) Where the election is declared to be void in respect of all the persons elected, the Commissioners shall order a new election to be held in the manner provided in these Regulations, and where the election is declared to be void in respect of some only of the persons elected, the Commissioners shall make such provision for filling the remaining vacancies as they think fit.

From this it will appear that, having allowed an election to proceed right from the preliminary nominations to the counting of votes and the actual placing of the elected, the Commissioners can then by a mere expression of opinion invalidate the whole election. The wording actually gives the Commissioners ground for such action if one elector fails to vote.

Other phrases make the matter worse by empowering the Commissioners to review the names of all who are elected, and then arbitrarily to accept some and reject others. Similar powers appear to have been taken by the Commissioners in the election of representatives of insured persons to serve upon Insurance Committees, and with that exception such methods of controlling any election or interfering with the elected are, to say the least, unusual in our institutions. If these methods are passed unchallenged, they might form a precedent in other governmental administration. The forthcoming Representative Meeting might usefully approach the Government with a protest against such interference with the freedom of election.

The Past, Present, and Future.

Dr. E. Rowland Fothergill (Brighton) writes: Under this heading in the Supplement for November 15th (page 430) Dr. W. G. Grimson, of Chelmsford, asks me two questions. Although I do not know why they are addressed to me rather than to the Medical Department, I will endeavour to reply to them.

I.

Question.—If a central defence fund is raised, can the British Medical Association guarantee it to be as safe as the funds of a trade union?

Answer.—Any fund raised in the way proposed will in no way be under the control of the British Medical Association or of its Council, or of any of its committees; and consequently no one of these bodies will be in a position to guarantee anything, nor will be required to do so. The fund will be placed—if the proposal as submitted to the Representative Meeting is adopted—under the control of those members of the profession who happen from time to time to be members of the Council of the Association, they acting as trustees. If these members desire to make the funds absolutely secure against appropriation, they will either transfer them by deed to some private person or persons; or send them abroad; or form a limited trade union of three or four of themselves, handing the funds to them; or otherwise will act as counsel advises. These members of the profession will make grants to the Association, or to individual members of the profession or to other bodies as authorized to do by those subscribing to the fund. The British Medical Association is only taking the initiative in the formation of a fund. When the members approve of a special fund being formed the trustees for the time being will get to work to form it.

II.

Question.—If the British Medical Association cannot take a referendum of the practitioners of Great Britain and Ireland, how can it ascertain the views and intentions of the majority?

Answer.—The British Medical Association will be able to take a referendum of the whole profession, or of geographical sections of the profession, if the Representative Meeting in December next, by altering the By-laws, confirms its determination of July last (Minute 237) to allow this to be done.

Dr. H. B. Luard (Osmotherley, Northallerton), in the course of a contribution to this discussion, writes: I leave to others to explain the principles and ideals of contract practice. Our ideal is perfect freedom, both for ourselves and for the insured classes; and this freedom of choice from day to day carries with it as its inevitable corollary, payment for work done, and not capitation payment.

The Manchester doctors, all working this Act, have obtained their freedom for themselves and the great population they serve. Many other doctors, who subscribe to this principle, are unable to act on it, being scattered amongst doctors who prefer contract work, who have therefore imposed contract work on all in their insured area. The division of principles in our profession is thus seen to be, in essence, not between workers and non-workers of the Act, but between the free workers and contract workers.

I think that we should all remain members of the British Medical Association, but that all non-panel free workers outside the Act should unite with the free workers under the Act into a trade union, and so form a powerful rallying point outside the Association in aid of our whole profession.

I am aware that the idea of a trade union is abhorrent to many non-panel practitioners, and to consultants in particular; yet without it they can never be an effective power in organizing and defending their profession on the lines of freedom. I venture respectfully to submit that the doctor who abhors a trade union shows an incomplete apprehension of the thing as applied by an educated class, of which the National Union of Teachers and the Incorporated Law Society are examples; and a contempt for

the honour and self-respect of our working classes, whose unions are not mere organs of personal greed, but brotherly associations in support of good ideals of freedom and practical instruments for helping the disunited, the weak, and the helpless.

Such a union would be formed on two foundations—one of principle, the other of method:

1. To support the root principle of free work and payment for work done.

2. To have the power of a trade union: not, indeed, for immediate use, but in reserve for a contingency certain to arrive when the interests of the whole profession, as well as of the insured classes, will be united and in peril.

The panel profession, as others have pointed out, is now so tied up in the capitation system that the great interests represented by the State, the political parties, and the friendly societies, can treat them and our Association as they will, certain that no effective opposition can be made by our profession.

If the panel profession had at hand a powerful trade union into which they could jump at any moment (without necessarily at present belonging to it), an instrument would be ready forged, fostered and kept alive by non-capitationists, non-panel doctors, and their sympathisers, inside the panel, which would again make the profession a powerful body in dealing with the State on behalf of its own rights of freedom and the freedom of the insured classes.

METHODS OF THE LONDON INSURANCE COMMITTEE.

Dr. W. F. GRANT (Sydenham) writes: I trust that panel practitioners are alive to the fact that they are likely to be deprived of a large percentage of their incomes in the coming year. If our salaries are to depend on the number of register cards we receive, then heaven help the doctors on the London panel!

Can any one tell us what should be our attitude to those insured persons whose cards we have signed and whose names we have accepted on our lists, but for whom no register cards have been received, when they apply to us for medical benefit?

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

IN ninety-six of the largest English towns, 8,687 births and 4,561 deaths were registered during the week ending Saturday, November 8th. The annual rate of mortality in these towns, which had been 13.6, 13.1, and 13.9 per 1,000 in the three preceding weeks, fell to 13.3 per 1,000 in the week under notice. In London the death-rate was equal to 13.0, against 14.1, 13.7, and 14.2 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rate ranged from 4.8 in Gillingham, 6.8 in Oxford, 7.6 in Willesden, 7.7 in Newport (Mon.), 7.9 in Aberdare, and 8.1 in Wimbledon to 18.7 in Blackburn, 18.8 in Middlesbrough, 18.9 in Stockton-on-Tees, 20.1 in Great Yarmouth, 20.2 in Dudley, and 24.6 in Barnsley. Enteric fever caused a death-rate of 1.7 in Wigan, and scarlet fever of 1.3 in Salford and 2.1 in Warrington. The deaths of children (under 2 years) from diarrhoeal diseases, which had been 601, 407, and 322 in the three preceding weeks, further fell to 261; of this number 68 were recorded in London, 16 in Manchester, 12 in Liverpool, and 10 in Birmingham. The deaths from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was recorded during the week. The causes of 28, or 0.6 per cent. of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest, and included 7 in Birmingham, 2 in Grimsby, and 2 in Rhondda. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,247, 3,445, and 3,580 at the end of the three preceding weeks, had further risen to 3,731 on Saturday, November 8th; 619 new cases were admitted during the week, against 575, 530, and 534 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN the sixteen largest Scottish towns 1,034 births and 608 deaths were registered during the week ending Saturday, November 8th. The annual rate of mortality in these towns, which had been 13.9, 14.0, and 14.7 per 1,000 in the three preceding weeks, fell to 14.0 in the week under notice, but was 0.7 per 1,000 above that recorded in the ninety-six large English towns. Among the several towns the death-rate ranged from 5.4 in Hamilton, 6.0 in Kilmarnock, and 6.1 in Clydebank to 15.5 in Edinburgh, 15.6 in Coatbridge, and 17.9 in Dundee. The mortality from the principal infective diseases averaged 1.3 per 1,000, and was highest in Ayr and Motherwell. The 285 deaths from all causes registered in Glasgow included 11 from infantile diarrhoeal diseases, 5 from measles, 5 from diphtheria, 4 from scarlet fever, and 1 from whooping-cough. Four deaths from infantile diarrhoea and 2 from measles were recorded in Edinburgh, and 3 deaths from diphtheria in Aberdeen and 2 in Greenock.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, November 8th, 595 births and 404 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 575 births and 395 deaths in the preceding period. These deaths represent a mortality of 17.6 per 1,000 of the aggregate population in the districts in question, as against 17.2 per 1,000 in the previous period. The mortality in these Irish areas was therefore 4.3 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.9 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 19.4 (as against an average of 19.3 for the previous four weeks), in Dublin city 19.5 (as against 20.7), in Belfast 17.5 (as against 15.2), in Cork 18.4 (as against 17.0), in Londonderry 21.6 (as against 16.2), in Limerick 21.7 (as against 12.9), and in Waterford 20.9 (as against 16.6). The zymotic death-rate was 1.6, as against 2.0 in the previous week.

Naval and Military Appointments.

ARMY MEDICAL SERVICE.

CAPTAIN TOM P. WOODHOUSE, on completion of four years' service in his rank, is placed on the half-pay list, November 17th.

Lieutenant-Colonel HENRY N. THOMPSON, D.S.O., M.B., from the Royal Army Medical Corps, to be Colonel, vice T. P. Woodhouse to half-pay, November 17th.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. GIRVIN has been appointed to charge of the Military Hospital at Curragh, vice Lieutenant-Colonel N. Manders.

Major B. WATTS has been appointed Sanitary Officer of the London District.

Major J. E. HODGSON has been appointed to charge of the Military Families Hospital, Chatham, vice Major G. A. Moore.

Major J. H. CAMPBELL, D.S.O., has left the London District to join the Eastern Command as Medical Inspector of Recruits.

Major F. W. MANGIN has been appointed a Specialist in Ophthalmology for the Sixth (Poona) Division, with effect from October 6th.

Major CHARLES H. HOPKINS, half-pay list, retires on retired pay, dated November 5th, 1913, and has been appointed to the Medical Charge of the Dépôt, Wilts Regiment, Devizes, vice Major W. K. Steele, R.A.M.C., Special Reserve, resigned.

Major FRANCIS W. BEGBIE to be Lieutenant-Colonel, vice H. N. Thompson, D.S.O., promoted, November 17th.

The Army Council has sanctioned the retirement of Major W. D. ERSKINE, M.B., R.A.M.C., Assistant Director of Medical Services, Lowland Division.

Captain J. J. O'KEEFE has been posted to the Eastern Command for duty.

Lieutenant A. L. URQUHART has been appointed to the Pathological Department at the Royal Army Medical College.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT FREDERICK L. TULLOCH, M.B., is confirmed in his rank.

TERRITORIAL FORCE.

COLONEL RICHARD H. LUCE, M.B., F.R.C.S., Territorial Force Reserve, A.M.S., is appointed to the Honorary Colonelcy of the R.A.M.C. of the Territorial Force in the North Midland Territorial Division, vice Honorary Colonel John C. Bond, F.R.C.S., who vacates that appointment; November 5th, 1913. Colonel DE BURGH BIRCH, C.B., M.D., Retired List, A.M.S., is appointed to the Honorary Colonelcy of the R.A.M.C. of the Territorial Force in the West Riding Territorial Division, vice Honorary Colonel John D. Eddison, M.D., whose tenure of that appointment has expired; November 5th, 1913.

First South Western Mounted Brigade Field Ambulance.—Captain ALEXANDER W. FRENCH, from the list of officers attached to units other than medical units, to be Captain, November 5th, 1913.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ARGYLL AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer (male). Salary, £200 per annum.

BATH: ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

BETHNAL GREEN INFIRMARY, Cambridge Heath, E.—Second and Third Assistant Medical Officers. Salary, £120 and £100 per annum, rising to £140 and £120 respectively.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant. Honorarium at the rate of 52 guineas per annum.

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—House-Surgeon. Salary at the rate of £100 per annum.

BRADFORD POOR LAW UNION.—Assistant Resident Medical Officer. Salary, £130 per annum.

BRISTOL ROYAL INFIRMARY.—(1) Honorary Assistant Physician. (2) Throat, Nose, and Ear House-Surgeon. Salary at the rate of £75 per annum.

BURY AND DISTRICT JOINT HOSPITAL BOARD.—Assistant to the Medical Superintendent. Salary, £200 per annum.

CAMBRIDGESHIRE COUNTY COUNCIL.—Assistant County Medical Officer (female). Salary, £300 per annum, rising to £350.

CANCER HOSPITAL RESEARCH INSTITUTE, S.W.—Assistant in the Chemical Department. Salary, £200 per annum.

CARDIFF: KING EDWARD VII's HOSPITAL.—(1) Two Honorary Assistant Physicians; (2) Senior Resident Medical Officer. Salary, £120 per annum.

CARMARTHEN: JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary, £180 per annum, rising to £200.

CHESTER COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £180 per annum.

CHESTER GENERAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL. — House-Surgeon. Salary, £100 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—House-Physician. Salary, £110 per annum.

DORCHESTER: COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £200 per annum.

DOUGLAS: NOBLE'S HOSPITAL. — Resident House-Surgeon. Salary, £100 per annum.

DOWN COUNTY COUNCIL. — Assistant Tuberculosis Medical Officer. Salary at the rate of £350 per annum.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—(1) House-Physician (male). Salary at the rate of £75 per annum. (2) Assistant Physician.

EDAY PARISH.—Medical Officer. Salary, £70 per annum, and appointments £20.

EDINBURGH HOSPITAL FOR WOMEN AND CHILDREN.—Two Qualified Medical Women as Senior and Junior Residents. Honorarium, £25 and £18 per annum.

EDINBURGH: ROYAL ASYLUM, Morningside.—Assistant Physician. Salary, £175 per annum.

EDINBURGH: THE HOSPICE.—Resident Medical Officer. Honorarium, £25 per annum.

EDMONTON UNION.—District Medical Officer. Salary, £87 10s. per annum, with 20 per cent. thereon for expensive medicines.

GLASGOW MATERNITY AND WOMEN'S HOSPITAL.—(1) Two Outdoor House-Surgeons at the Hospital. (2) Outdoor House-Surgeon at the West End Branch.

GLASGOW: VICTORIA INFIRMARY.—Assistant Physician.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—House-Surgeon. Salary, £75 per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Surgeon to the Throat, Nose, and Ear Department.

HARROGATE INFIRMARY.—Resident House-Surgeon. Salary, £75 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

HOSPITAL FOR DISEASES OF THE SKIN, Stamford Street, S.E.—Clinical Assistant.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—1) Casualty Medical Officer; salary, £200 per annum. (2) House-Surgeon; salary, £30 for six months and £2 10s. washing allowance.

HUDDERSFIELD ROYAL INFIRMARY.—Junior Assistant House-Surgeon. Salary, £80 per annum.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £80 per annum.

INDIA OFFICE, S.W.—Two Civilian Dentists for the treatment of British troops in India.

ITALIAN HOSPITAL, Queen Square, W.C.—House-Surgeon. Salary at the rate of £60 per annum.

KENT COUNTY ASYLUM, Maidstone.—Fourth Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

LANCASHIRE EDUCATION COMMITTEE, Preston. — School Medical Inspector. Salary, £350 per annum, rising to £450.

LIVERPOOL EYE AND EAR INFIRMARY.—House-Surgeon (male). Salary at the rate of £80 per annum.

LONDON UNIVERSITY.—Examiners: (1) Four in Medicine; (2) two in Obstetric Medicine; (3) two in Pathology; (4) four in Surgery; (5) Two in Tropical Medicine.

MACCLESFIELD GENERAL INFIRMARY.—House-Surgeon. Salary, £125 per annum.

MANCHESTER EDUCATION COMMITTEE.—Assistant School Medical Officer (male). Salary, £250 per annum, rising to £350.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.—Resident Medical Officer (male). Salary at the rate of £80 per annum.

NEWCASTLE-ON-TYNE DISPENSARY.—Resident Medical Officer. Salary, £250 per annum, rising to £275 and allowance of £40 for attendance.

NEWCASTLE-UPON-TYNE EDUCATION COMMITTEE.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

NEW HOSPITAL FOR WOMEN, Euston Road, N.W.—(1) House-Physician; (2) Two House-Surgeons; (3) Obstetric Assistant; (4) Clinical Assistants for Out-Patient Department; (5) Assistant Pathologist.

NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary, £220 per annum.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer. Salary, £150 per annum, rising to £175.

PLAISTOW: MEDICAL MISSION HOSPITAL.—Junior Resident Medical Officer.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—House-Physician (male). Salary at the rate of £80 per annum.

RICHMOND: ROYAL HOSPITAL. — Assistant House-Surgeon. Salary, £70 per annum.

ROCHDALE INFIRMARY.—Senior House-Surgeon. Salary, £110 per annum.

ROCHESTER; ST. BARTHOLOMEW'S HOSPITAL.—Resident House-Surgeon. Salary, £150 per annum.

ROYAL EAR HOSPITAL, Soho, W.—House-Surgeon, non-resident. Honorarium, £40 per annum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, W.C.—Clinical Assistants.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Radiographer. Salary, £40 per annum.

ST. MARY'S HOSPITAL, Paddington, W.—Physician in charge of Out-patients.

ST. PANCRAS PARISH INFIRMARY.—Junior Assistant Medical Superintendent (female). Salary, £100 per annum.

SEAMEN'S HOSPITAL SOCIETY, Greenwich, S.E.—Medical Superintendent at the Dreadnought Hospital. Salary, £150 per annum.

SHEFFIELD ROYAL INFIRMARY.—House-Surgeon. Salary at the rate of £80 per annum.

SHETLAND: PARISH COUNCIL OF WALLS, etc.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

SOMERSET AND BATH ASYLUM, Cotford, Taunton.—Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

SOUTH LONDON HOSPITAL FOR WOMEN.—Clinical Assistant (Lady) in Out-Patient Department.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon. Salary, £100 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

SWANSEA UNION.—Assistant Medical Officer of the Workhouse. Salary about £260 per annum.

THROAT HOSPITAL, Golden Square, W.—Surgical Registrar.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.—Senior Resident Medical Officer. Salary, £120 per annum.

WALSALL AND DISTRICT HOSPITAL.—Assistant House-Surgeon. Salary £90 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.—House-Physician.

WILTS COUNTY ASYLUM, Devizes.—Medical Superintendent. Salary, £800 per annum.

WOLVERHAMPTON: SOUTH STAFFORDSHIRE JOINT SMALL-POX HOSPITAL BOARD.—Resident Medical Officer. Salary, £200 per annum.

WORTHING: WEST SUSSEX AND CHICHESTER JOINT EDUCATION COMMITTEE.—(1) Assistant School Medical Officer; (2) School Dentist. Salary, £400 and £100 per annum, rising to £500 and £325 respectively.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointment: Kirkliston (Linlithgow), Milltown (co. Kerry).

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Wednesday morning.

APPOINTMENTS.

BOLT, Richard F., M.R.C.S., L.R.C.P., Resident Medical Officer of the Queen Victoria Memorial Hospital, Mont Boron, Nice.

BRADBURN, Thomas S., M.R.C.S., L.R.C.P., D.P.H., Assistant Tuberculosis Officer to the Durham County Council, vice Dr. Williamson, appointed Chief Tuberculosis Officer.

COHEN, Bertram, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Honorary Medical Officer to the Victoria Cottage Hospital, Sidmouth, Devon.

CORBIN, H. E., B.Sc.Lond., M.R.C.S., L.R.C.P., D.P.H.R.C.P.S. Lond., Health Officer for Calcutta.

CUFF, Herbert E., M.D.Lond., F.R.C.S., Principal Medical Officer to the Metropolitan Asylums Board.

D'ALTON, Joseph, L.R.C.P., L.R.C.P. and S.Irel., Certifying Factory Surgeon for the Banagher District, King's County.

DEAN, Henry J., L.R.C.P., L.R.C.S., L.M.S.S.A.Lond., Certifying Factory Surgeon for the Willenhall District, co. Stafford.

DORE, S. E., M.D.Camb., M.R.C.P.Lond., Physician for Diseases of the Skin to Westminster Hospital.

DWYER, James J., L.R.C.P. and S.I., Clinical Assistant to the Chelsea Hospital for Women.

FISHER, E. G., B.A.Cantab., M.R.C.S., L.R.C.P.Lond., Medical Registrar and Tutor to the Royal Infirmary, University of Liverpool.

GOODDEN, H. W., M.B., M.R.C.S., Senior Resident Medical Officer at the Bristol Royal Infirmary, vice Stuart H. Kingston, M.B., M.R.C.S., resigned.

HARWOOD-HARDMAN, Frederick, M.D.Edin., Honorary Radiologist to the Princess Alice Memorial Hospital, Eastbourne.

HEPTINSTALL, R. H., M.R.C.S., L.R.C.P., Certifying Factory Surgeon for the Shefford District, co. Bedford.

HERN, John, M.D.Edin., F.R.C.S.Edin., M.R.C.S., in charge of the Ear, Nose, and Throat Department of the Darlington Hospital.

MOXON, Frank, M.B., B.S.Durham, Honorary Ophthalmic Surgeon to the St. Marylebone General Dispensary, Welbeck Street, W.

NEAVE, L. D., M.R.C.S., L.R.C.P., District Medical Officer of the Tendring Union.

POCH, J. P. R., M.D.Dub., Assistant Medical Officer of the Brownlow Hill Workhouse, Liverpool.

SOUTTER, G. C., M.B., Ch.B.Aberd., Assistant Medical Officer of the Camberwell Parish Children's Homes.

TEARE, John, M.B., Ch.B.Vict., Tuberculosis Officer to the Notts County Council.

TURNER, G. Grey, M.S.Durh., F.R.C.S.Eng., Lecturer on Surgery in the University of Durham College of Medicine, Newcastle-upon-Tyne.

HAMPSTEAD AND NORTH-WEST LONDON HOSPITAL.—The following appointments have been made:

Ophthalmic Surgeon to Out-Patients.—T. W. Letchworth, M.B., B.C., F.R.C.S.

Medical Officer for X Ray and Electrical Department.—W. H. Kingsbury, M.R.C.S., L.R.C.P.

House-Physician.—O. R. L. Wilson, M.R.C.S., L.R.C.P.

House-Surgeon.—H. O'Callaghan, M.B., Ch.B.

Resident Casualty Officer.—E. P. Scott, B.S., M.R.C.S., L.R.C

Assistant Casualty Officer.—R. K. Shaw, M.B., Ch.B.

WESTMINSTER HOSPITAL MEDICAL SCHOOL.—The following appointments have been made:

Lecturer on Surgery.—William Turner, M.S., M.B., F.R.C.S

Teacher of Operative Surgery and Demonstrator of Surgical Pathology.—Arthur Evans, M.S., M.D., F.R.C.S.

WESTMINSTER HOSPITAL MEDICAL SCHOOL (*continued*)—
Demonstrator of Surgical Anatomy.—E. Rock Carling, M.B., B.S., F.R.C.S.
Joint Tutor in Surgery.—J. M. S. Swainson, F.R.C.S.
Lecturer on Anaesthetics.—Vivian B. Orr, M.B., B.S.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

MARRIAGE.

DICK—WALLACE.—At the Highgate Presbyterian Church, on the 8th inst., by the Rev. Alexander Ramsay, B.D., James Reid Dick, M.B., B.C.Cantab., Scarborough, to Davina Orford, daughter of William Wallace, of 5, Broadlands Road, Highgate, London.

DEATH.

MORISON.—On November 10th, at 29, Norfolk Square, Brighton, Henry Bannerman Morison, M.B., late of Redlands, Burgess Hill, Sussex.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8 p.m.—Clinical evening.

ROYAL SOCIETY OF MEDICINE:

SECTION OF ODONTOLOGY, 8 p.m.—Mr. F. St. J. Steadman: Case of Rheumatoid Arthritis cured by the Removal of Septic Teeth. Dr. T. J. Horder: Dental Sepsis from the Point of View of the Physician.

TUESDAY.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W., 8.30 p.m.—Paper:—Dr. Robert Jones: The Urgent Necessity for the Treatment of Early and Threatening Insanity, and the Need for Immediate Legislation.

ROYAL SOCIETY OF MEDICINE:

SECTION OF MEDICINE, 5 p.m.—Cases and specimens.

WEDNESDAY.

HUNTERIAN SOCIETY, St. Bartholomew's Hospital (Library), 9 p.m.—Discussion on Migraine.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne Street, Edgware Road, W., 8.30 p.m.—Discussion on the Registration of Venereal Diseases.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF DISEASES OF CHILDREN, 4.30 p.m.—Cases and Specimens.

SECTION OF EPIDEMIOLOGY AND STATE MEDICINE, 8.30 p.m.—Papers:—Dr. E. C. Snow: The Mortality from Phthisis—A Statistical Investigation having Bearing on the Question of Personal Communicability. Dr. Hilda Clark: Tuberculosis Statistics—A Note on Some Difficulties in the Selection and Estimation of Facts observed in Modern Clinical Tuberculosis Work.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Wednesday, 4.30 p.m., Lecture: The Febrile State in Pulmonary Tuberculosis.

DUBLIN: ROTUNDA HOSPITAL.—Post-Graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Thursday. Radiography: Saturday. Lectures on special subjects on Wednesday and Thursday.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock, E.—Lectures daily (Saturdays excepted) at 12 and 4 p.m. Practical Laboratory work daily (Saturday excepted), 10 to 12 a.m. Practical Helminthology, 2 to 3.30 p.m. daily. Advanced Helminthology, 10.30 to 1 p.m. daily. Medical Clinics, Tuesday and Thursday, at 3 p.m. Operations, Friday, 3 p.m.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS, at 4.30 p.m. each day.—Tuesday, Salford Royal: Treatment of Irregular Heart. Wednesday, Royal Infirmary: Mediastinal Growths. Thursday, Ancoats: Demonstration of Cases. Friday, Royal Eye: Retinitis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—Clinical Demonstrations at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. each day.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Rarer Manifestations of Poliomyelitis. Friday, 3.30 p.m., Clinical Cases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Medical and Surgical Clinics and Operations at 2.30 p.m. daily. Also Monday, Throat; Tuesday, Gynaecology; Wednesday, Skin, Eye, Children, X Rays; Tuesday and Friday, Eye. Special Lectures and Demonstrations as announced.

SHEFFIELD UNIVERSITY.—Clinical Demonstrations: Tuesday, Royal Infirmary, Diagnosis and Treatment of Skin Diseases commonly met with in General Practice. Friday, Royal Infirmary, Common Injuries of Bones and Joints: Their Treatment.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, X Rays, and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, Friday. Eye: Monday, Wednesday, Thursday, Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, Saturday. Skin: Tuesday, Friday. Pediatrics: Wednesday, Saturday. A Lecture at 5 p.m. daily except Saturday.

[*For further particulars of Lectures consult the Index to Advertisements.*]

DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
	NOVEMBER.
21 Fri.	City Division, Metropolitan Hospital, 4 p.m.
	Liverpool Division, Medical Institution, Liverpool, 4 p.m.
	Worcestershire and Herefordshire Branch, Worcester, 3.30 p.m.; Council, 3 p.m.
25 Tues.	Altrincham Division, Brooklands, 3.30 p.m.
	Buckinghamshire Division, Aylesbury, 3.30 p.m.
	Chelsea Division, Fulham Town Hall, 4 p.m.
	Coventry and Nuneaton and Tamworth Divisions, Nuneaton, 4.15 p.m.
	Greenwich and Deptford Division, St. John's Church Hall, Lewisham High Road, 3.30 p.m.
	Southampton Division, Royal South Hants and Southampton Hospital, 3.30 p.m.
	South-West Essex Division, Wesleyan Church School, High Road, Leyton, 4 p.m.
	Tower Hamlets Division, Stepney Central Hall, Commercial Road, E., 4 p.m.
	Wandsworth and Wimbledon Divisions, 237, Lavender Hill, Clapham, S.W., 3.30 p.m.
26 Wed.	City Division, Balfour Hall, Kingsland Road, 3.30 p.m.
	Central Division, Medical Institute, Edmund Street, Birmingham, 3.30 p.m.

Date.	Meetings to be Held.
	NOVEMBER (*continued*).
26 Wed.	Chester and Crewe Division, Chester Infirmary, 4 p.m.
	Southern Branch, Southampton, 3 p.m.
27 Thur.	Camberwell Division, South Metropolitan Gas Works, 4 p.m.
	Monmouthshire Division, Newport, 3 p.m.
28 Fri.	Lambeth Division, Guardians' Offices, Brook Street, Kennington, 4 p.m.
	DECEMBER.
2 Tues.	Camberwell Division, Surrey Masonic Hall, Camberwell New Road, 4 p.m.
4 Thur.	Special Representative Meeting, Connaught Rooms, Great Queen Street, London, W.C., 9.30 a.m., and following day if necessary.
5 Fri.	Extraordinary General Meeting, Connaught Rooms, Great Queen Street, London, W.C., 11 a.m.
9 Tues.	London: Metropolitan Counties Branch Council, 4 p.m.
	West Somerset Branch, Annual Meeting and Annual Dinner.
18 Thur.	South-West Essex Division, Walthamstow Hospital, 4 p.m.

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SUPPLEMENT
TO THE
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THE NEW MEDICAL BENEFIT REGULATIONS.

THE following correspondence has passed between the Medical Secretary of the British Medical Association, acting under the instruction of the Insurance Act Committee, and the Insurance Commission (England), with reference to the new Draft Medical Benefit Regulations recently issued. (Notes by the Insurance Act Committee at its meeting on November 20th are printed in italics after the appropriate paragraphs of the Commissioners' letter.)

LETTER TO THE COMMISSIONERS.

Offices of the British Medical Association,
429, Strand, London, W.C.

November 13th, 1913.

Sir,

I am instructed on behalf of a Sub-Committee of the Insurance Act Committee of the Association, to whom the duty of examining the new Medical Benefit Regulations was entrusted, to approach the Joint Commissioners in the hope that they will afford the Sub-Committee information on certain points connected with the revised Regulations.

Relation of Panel Committee to Local Medical Committee.

2. The Sub-Committee notices with great concern that nearly all the duties of the Local Medical Committee are in future to be shared by the Panel Committee. The Panel Committee Regulations, dated 27th October, 1913, give no indication of this. Those Regulations laid upon the Panel Committee two duties (Regulations 31 and 32), but according to the Revised Regulations, dated November 7th, the Panel Committee is coupled with the Local Medical Committee in nearly every duty which has been imposed upon the latter Committee. In at least one

REPLY FROM COMMISSIONERS.

National Health Insurance Commission
(England),
Buckingham Gate, London, S.W.

November 20th, 1913.

Sir,

I am directed by the National Health Insurance Commission (England) to advert to your letter of the 13th instant, and I am to offer the following observations with regard to the points raised in that letter in connection with the revised Medical Benefit Regulations.

Relation of Panel Committees to Local Medical Committees.

On the general question of the duties assigned by the Regulations to Local Medical Committees and Panel Committees respectively, I am to point out that the Commissioners, in framing the Regulations, must have regard to the requirements both of Section 62 of the Act of 1911 and of Section 32 of the Act of 1913. Under the former Act it is necessary that the Local Medical Committee should be consulted on all general questions of the administration of medical benefit, and the Regulations comply with this requirement. The Commissioners may

LETTER TO COMMISSIONERS

case a right which was formerly held by the Local Medical Committee is now transferred entirely to the Panel Committee. I allude to Regulation 14 (3) in which the Panel Committee may in certain cases dispute the right of an insured person to receive medical benefit on the ground of his income. In the original Regulation 14 (4) this right was conferred on the Local Medical Committee, and my Sub-Committee would submit that the question of income limit is one which would seem naturally to fall to the consideration of the Local Medical Committee as representative of the whole profession, rather than to the Panel Committee, whose scope is more restricted. The practitioners who are not on the panel are at least as much interested as those who are on the panel in the exclusion of persons on the ground of income from participating in the ordinary arrangements made for medical benefit. The Sub-Committee is all the more surprised to find these alterations, as it is informed that the intention of the Commissioners to take this line was not mentioned at the Meeting of the Advisory Committee. The Sub-Committee would be glad to be informed of the reasons which led the Commissioners to take a step which it feels is calculated gravely to undermine the prestige and status of the Local Medical Committee.

REPLY FROM COMMISSIONERS

also, under that Act, assign other powers and duties to the Local Medical Committee, and such additional powers and duties are, in fact, assigned under the revised Regulations. But this discretion could not be exercised in such a way as to exclude entirely from the work of the Panel Committee, and leave to the Local Medical Committee solely, the powers and duties which fall properly to the Panel Committee as representing the practitioners on the panel under the Act of 1913. Duties of this character were assigned to the Local Medical Committee in the Regulations of 1912 as being the only Committee then in existence through which the panel practitioners could be represented, but this, of course, is no longer the case.

Wherever, in the revised Regulations, provision has been made for consultation of both the Panel Committee and the Local Medical Committee, the case is one in which the Commissioners are satisfied that consultation of the Panel Committee is requisite for compliance with the Act of 1913. If there were any doubt it would be as to the necessity for consultation with the Local Medical Committee also, but on the whole it has appeared in each case that advantage might be derived therefrom.

Concerning the question to which the Association draws special attention, of consultation as to the imposition of an income limit under Regulation 14 (2), provision has been made for the Local Medical Committee to be consulted on the matter as a general question of the arrangements as to medical benefit, and for the Panel Committee to be consulted on the matter as one directly affecting the interests of the panel practitioners. On the other hand, in Regulation 14 (3), the question of objection to the receipt by an individual insured person of medical benefit under the arrangements made by the Committee, on the ground that his income exceeds the income limit, appears to be a matter specially affecting the interests of the panel practitioners, and not a general question of the administration of benefit within the meaning of Section 62 of the Act of 1911, and therefore more properly pertaining to the Panel Committee than to the Local Medical Committee.

It is noted that reference is made to the fact that the Regulations in question were not among those specifically submitted to the full Advisory Committee, but I am to point out that the question of the relative functions of the Panel Committee and Local Medical Committee was raised in the Conference of the Commissioners with the medical members of the Advisory Committee on 17th ultimo, and that in reply to questions a statement was then made on behalf of the Commissioners as to the view which they took of the functions of these Committees respectively. The Commissioners believe that the detailed assignment of functions in the Regulations is entirely in accordance with the general explanations then given.

In the opinion of the Insurance Act Committee this reply justifies the opinion which has already been pressed on the Local Medical Committees in Circular Letter M 10, namely, that it is desirable that every effort should be made to get the persons who compose the Local Medical Committees appointed also as members of the Panel Committees.

LETTER TO COMMISSIONERS

Approval of Institutions (Regulation 13).

3. The Sub-Committee would be obliged if the Commissioners would favour it with a copy of the particulars which the Commissioners require from an institution which asks for approval under Regulation 13 (2), and would also greatly appreciate a copy of the certificate mentioned in Regulation 43 (3) which the Commissioners will require in order that the amount expended by the institution upon the provision of treatment for insured members of the Institution may be ascertained.

District Medical Committees.

4. It is noted that no mention is made in the revised Regulations of District Committees as referred to in the original Regulation 59. My Sub-Committee would be glad to be informed whether this omission is intentional or accidental, and if the former would like to be favoured with the reasons for the omission.

Vouchers for Insured Persons.

5. The Sub-Committee notes that in Revised Regulation 21 (2) it is optional for the Insurance Committee or Approved Society to provide the insured person with a voucher to be produced to the medical practitioner, but that in Regulation 79 (2) the Insurance Committee is bound to furnish to old and disabled members of Societies a voucher which must be presented to the practitioner. The Sub-Committee would be glad to be informed whether there is any particular reason for this discrimination. In the opinion of the Sub-Committee, which is founded on a large number of representations made to this Office, it is essential to smooth working that *all* persons entitled to medical benefit should be provided with a voucher which may be demanded by the practitioner to whom the person presents himself. In large practices it is most difficult to make sure that certain persons who present themselves are really entitled so to do without the expenditure of an amount of time which seems to the Sub-Committee unwarrantable.

REPLY FROM COMMISSIONERS

Approval of Institutions (Regulation 13).

In accordance with the request contained in your letter, a copy is enclosed of the form of application for approval by an institution under Section 15 (4) of the National Insurance Act, 1913. A copy of the certificate at present in use under Article 9 (3), of the National Health Insurance (Administration of Medical Benefit) Amendment Regulations, 1913, is also enclosed; but I am to point out that, while the form is that provided by the Commission under the provisions of the Article cited, the certificate is required to be given to the Insurance Committee, to enable the Committee to ascertain the amount to be contributed by them to the expenditure of the institution, and not to the Commissioners, as your letter appears to suggest.

This matter is not urgent, and will be considered more fully by the Insurance Act Committee at a later date.

District Medical Committees.

No change of policy in regard to District Committees is implied by the omission in the draft regulations of the provisions of the original Article 59. The matter to which you draw attention will, however, be further considered by the Commissioners with a view to re-inserting those provisions, if it should appear that any changes of substance are involved in their omission.

The Insurance Act Committee would like to have information from the Local Medical Committees as to how far District Medical Committees have been set up, and what are their duties and powers. Honorary Secretaries of Local Medical Committees in whose areas District Medical Committees have been established are requested to send an early reply to this question.

Vouchers for Insured Persons.

The Commissioners note the opinion expressed in your letter that it is essential to the smooth working of medical benefit that all persons entitled to medical benefit should be provided with a voucher, and it is hoped that arrangements may be made to secure this object. The Voucher referred to in Article 79 (2) is, however, totally different in character from that contemplated in connection with the general procedure for obtaining medical benefit, inasmuch as the arrangements for the treatment of the persons to whom that Article refers are made between societies and doctors direct, and the Insurance Committee are only concerned to the extent of calling upon doctors upon their panel, where necessary, to discharge the obligations to which they have entered under Section 15 (2) (e) of the National Insurance Act, 1913. The voucher required for the latter purpose is, therefore, more of the nature of a request by the Insurance Committee to a doctor to observe the conditions of his contract with the Committee by entering into an agreement with the society to treat the old or disabled member at the prescribed rate of remuneration; and the procedure in this connection is entirely separate from, and in no way affected by, any general procedure which may be

LETTER TO COMMISSIONERS

Persons making their own Arrangements.

6. The Sub-Committee notes a difference between Revised Regulation 14 (6) and the corresponding old Regulation 14 (7), inasmuch as the words "(including medicines and appliances)" are omitted from the former. The Sub-Committee would be glad to be informed of the exact force of this alteration.

Calculation of Remuneration under Single System.

7. The Sub-Committee has difficulty in interpreting the last five lines of Revised Regulation 35 (1). It would appear that the Commissioners probably have in mind some model scheme of allocation which would show what is meant by "the responsibility incurred by each practitioner on the Panel." The Sub-Committee feels that this is a point on which all Local Medical Committees would be glad of further enlightenment.

REPLY FROM COMMISSIONERS

adopted in connection with the medical benefit of insured persons.

Local Medical Committees are urged to impress upon their Insurance Committees the necessity for the adoption of some form of voucher which every insured person may be called upon to produce as a means of identification.

Persons making their own Arrangements.

The difference to which attention is drawn between Article 14 (7) in the present regulations and Article 14 (6) in the revised regulations, is purely a modification in drafting. If it is suggested that the new drafting effects any change in substance or meaning, the point will be further considered.

Calculation of Remuneration under Single System.

The Commissioners are of opinion that Panel Committees, when established, will doubtless be able to suggest a satisfactory scheme, both for the assignment of insured persons who require treatment and for the distribution of the additional capitation fees; and it was, therefore, thought desirable to leave the precise details for local consideration and settlement Speaking generally, however, it is anticipated that the Panel and Insurance Committees will make arrangements at the beginning of the year, or possibly quarter by quarter in advance, whereby the duty of affording treatment to insured persons applying for assignment will be undertaken by some or all of the practitioners on the panel, possibly in varying proportions, and that the apportionment amongst doctors on the panel at the beginning of each quarter of the available extra capitation fees will be in approximate proportion to the relative liability assumed by the practitioners under such arrangements.

The Committee did not consider this explanation as clear as it might be, and proceeded to ask the Commissioners to give a concrete instance of what was in their mind in framing the Regulation.

The following statement is believed to represent in concrete form their ideas as to what is likely to happen:

> *(a) An area in which there are 10 practitioners on the panel has 1,000 unallocated insured persons. The Panel Committee finds that three of these doctors will not accept any further liability. The remaining seven doctors then assume responsibility for all those unallotted persons who apply to them for treatment during the quarter (or year, as the case may be). The whole of the money payable on behalf of the 1,000 persons, whether such persons apply for treatment or not, is divided among the seven doctors in proportion to the numbers they agree to accept. Immediately on the unallocated insured person applying to a doctor for treatment, that person is put on the doctor's list, and at the end of the quarter (or year) that person is removed from the list of unallocated persons and placed definitely upon the list of the doctor who has accepted him. At the beginning of the next quarter (or year as the case might be), a further arrangement would be arrived at as regards those who were still on no doctor's list.*

LETTER TO COMMISSIONERS

Special Arrangements Fund.

8. My Sub-Committee would be glad if the Commissioners would inform it of the meaning of the words "unless the Commissioners otherwise permit not more than thirteen-seventeenths," etc. in Regulation 44 (2) (a). It is apparently contemplated that in some cases more than a total of 8s. 6d. per annum shall be available for the treatment of persons who make their own arrangements.

The Question of the Parties to the Agreement.

9. The first Clause of the Model Agreement raises a question on which the Sub-Committee would be very grateful for information. This clause speaks of an agreement between "the Insurance Committee and the Practitioner." In view of the judgment in the Dunlop case at Liverpool, the Sub-Committee would be glad to be informed whether in the opinion of the Commissioners the practitioner enters into contractual arrangements only with the Committee or whether these contractual arrangements extend also to his individual patients. The question is one of great importance, and, in the opinion of the Sub-Committee, needs to be cleared up by some official pronouncement. A practitioner signing the model form of agreement would naturally be led to believe that he is entering into an agreement with an Insurance Committee to whom he is responsible and by whom he is paid. It is submitted that he would not, on the face of his agreement, expect that he was entering into any contractual arrangements with individual insured persons. If the opinion of the Commissioners is that the agreement is one solely between the practitioner and the Committee it is suggested that in Clause 2 of the Model Agreement (Form Med. 29 revised) after the words "the practitioner shall" should be inserted the words "on behalf of the Insurance Committee" or some such other phrase as, in the opinion of the legal advisers of the Commissioners, would more accurately convey that meaning. The Sub-Committee desires to press on the Commissioners its opinion that there will be much disinclination on the part of many practitioners to sign the new agreement unless this point is cleared up.

REPLY FROM COMMISSIONERS

Special Arrangements Fund.

It appeared to the Commissioners that circumstances might arise in which it would be necessary to vary the proportions indicated in Article 44 (2) (a), as for example, in the possible event, suggested in your letter, of the Special Arrangement Fund containing more than a total of 8s. 6d. per head of the insured persons entitled in that year to claim a contribution therefrom, by reason of the fact that a balance remaining in the Fund after the previous year's distribution had been carried forward to its credit. Any such balance would be available, under Article 44 (3) towards the cost of either treatment or medicines, according as the saving effected in the previous year had been effected on the part of the Fund earmarked for contribution to cost of treatment or to the part of the Fund earmarked to contribution to cost of medicines. Hence, inasmuch as the savings respectively available for the contribution to cost of treatment and medicines would not necessarily bear to each other the proportions laid down in Article 44 (2) (a) they might, but for the special provision alluded to, disturb the proper proportions to which regard is to be had in the distribution of the Special Arrangements Fund for the year following that in which the savings were effected.

The question of the Parties to the Agreements.

With regard to the points raised under this head I am to state that, in the opinion of the legal advisers to the Commission, the relation between the practitioner and the insured person whom he attends under his agreement with the Insurance Committee is not a contractual one. But, at the same time, it should be clearly understood that the question is one which can only be authoritatively decided in the law courts; and that no official pronouncement, such as is suggested in your letter, could bind the courts in their decision or express more than the opinion of the Commissioners and their legal advisers.

Further, it should be clearly understood that, whatever may be the decision of the courts upon the question above referred to, no provision which might be inserted in agreements between Committees and practitioners could prevent insured persons from taking action in tort against the practitioners by whom they are attended in any case in which such action is otherwise open to them.

LETTER TO COMMISSIONERS

Definition of "Confinement."

10. The Sub-Committtee would urge upon the Commissioners that some words should be inserted into Clause 2 of the Model Agreement after the word "confinement" on the 8th line which shall define the period during which attendance on any illness arising from a confinement shall not form part of the duty of the panel doctor as such. The Sub-Committee would suggest that after the word "confinement" should be inserted some such words as "or in respect of illness arising from confinement within two weeks."

Determination of Agreement.

11. The Sub-Committee would draw the attention of the Commissioners to the fact that paragraph 15 of Form Med. 29 revised has a very one-sided appearance, inasmuch as by it the Commissioners may determine the agreement "forthwith," in certain circumstances, whereas the practitioner on his side is not allowed to determine the agreement except by giving notice in accordance with the provisions of Part II. of the Regulations.

The First Schedule.

12. The Sub-Committee notes an alteration in the First Schedule as compared with the Third Schedule in the current agreement in regard to the furnishing of certificates, and this, in its opinion, is likely to cause confusion. It has been laid down by the Com-

REPLY FROM COMMISSIONERS

Definition of Confinement.

With regard to the suggestion contained in your letter that words should be inserted in paragraph 2 of the Model Agreement (and presumably therefore in paragraph 2 of the Conditions of Service in the First Schedule to the revised Regulations), defining the period during which attendance on any illness arising from a confinement shall not form part of the duty of the panel doctor as such, I am to state that it is not open to the Commissioners, in their opinion, to make a regulation defining or interpreting the import of the language of an Act of Parliament. Further, the Commissioners are unable to prejudge a question which may come before them in their judicial capacity for decision on the facts of an individual case under Section 67 of the National Insurance Act, 1911, as amended by the National Insurance Act, 1913.

From this it appears that any attempt to insert in Clause 2 the words suggested by the Association would not be acceptable to the Commissioners. It is therefore evident that the question must be decided in each area according to local custom and the steps to settle this are as laid down in present Regulation 55 and revised Regulation 50. The procedure was detailed in paragraph 17 of circular letter M.11.

Determination of Agreement.

With regard to the point raised in your letter as to the power reserved to the Commissioners to determine agreements "forthwith," it should be borne in mind that this power can only be exercised in the very exceptional circumstances in which the proviso to Section 15 (2) of the National Insurance Act, 1911, or Section 11 of the National Insurance Act, 1913, could be put into operation, that is to say, where the Commissioners have suspended the panel system in the area. Such a step would, of course, be taken only in exceptional circumstances, and apart from the occurrence of such exceptional circumstances as would justify the Commissioners in taking action of this nature, it would appear that the provisions of the agreement as to determination afford ample protection to the interests of the practitioners concerned.

Local Medical Committees are advised to secure the insertion in paragraph 15 of the Model Agreement of such words as will allow of the determination of the agreement by either party giving three months' notice to the other. Reference to revised Regulation 17 (2) (ii.) will show that the agreement can be discontinued at any time by consent of the Committee. It will probably be better to have a definite period stated in the Agreement.

The First Schedule.

It is not seen in what way the alteration in the First Schedule with regard to the furnishing of certificates could give any ground for the apprehension expressed in your letter that they would enable insured persons to demand duplicate or additional

LETTER TO COMMISSIONERS

missioners that the insured person is entitled to three certificates, (1) a "declaring on" certificate, (2) periodical "continuing" certificates, and (3) a "declaring off" certificate, and it seems most important that no words should be used which could give colour to the idea that the insured person could demand more than these in the way of certificates. It is submitted that the present wording of the First Schedule in Form Med. 29 revised might be held to justify the insured person in asking for duplicate or additional certificates. If this construction is wrong, it would, in the opinion of my Sub-Committee, be advisable that the wording should be amended to obviate the possibility of such a construction. If the construction of the Sub-Committee is right, then the words appear to it to be contrary to the ruling of the Commissioners in their circular 173 I.C.

The Insurance Act Committee, for which the Sub-Committee is acting in the interval, meets on Thursday next, and I am instructed to express the hope that the Commissioners will be good enough to favour me with a reply upon the above points at the earliest possible moment. We are already receiving a good many enquiries as to the new Regulations and Agreement, and it would assist the Association in advising enquirers if we could be placed in early possession of the opinion of the Commissioners on the points above submitted to them.

I am, Sir,
Your obedient Servant,
(Signed) ALFRED COX,
Medical Secretary.

The Secretary,
National Health Insurance
Joint Commission,
Buckingham Gate, S.W.

REPLY FROM COMMISSIONERS

certificates from the doctor attending him. It is not the intention that the doctor should be called upon to give duplicate certificates or any certificates for purposes not connected with State insurance and not required for the specific objects stated in the Schedule; and while the Commissioners are not aware in what respect the present drafting of the Schedule could give rise to any doubt upon the point, they would be prepared to consider any case in which it is suggested that the present drafting of the Schedule is liable to misconstruction.

The Insurance Act Committee still thinks that the part of the First Schedule to which exception was taken is open to misconception. The Commissioners are being asked to make the matter quite plain by referring in the Schedule to their Circular 173/I.C. Such a reference would, it is believed, place the position as regards the right to demand certificates beyond all doubt. This is a matter which the Committee hopes will be pressed by each Local Medical Committee upon its Insurance Committee.

I am, Sir,
Your obedient,
(Signed) S. P. VIVIAN.

The Insurance Act Committee at its meeting on November 20th, having considered the reply of the Commissioners, directed a further communication to be addressed to them, and the following letter was accordingly written:

Offices of the British Medical Association,
429, Strand, London, W.C.
November 23rd, 1913.

SIR,—I beg to thank you for your letter of the 20th instant relative to the revised Medical Benefit Regulations, which was very useful to my Committee. I am instructed to make the following observations in regard to your reply.

Relation of Panel Committees to Local Medical Committees.

The Association notes the fact that the Commissioners are of opinion that the medical members of the Advisory Committee were fully consulted as to the detailed assignment of functions of the two Committees. Those members of the Advisory Committee who were present at the meeting of the Insurance Act Committee last Thursday empower me to say that their recollection of what took place at the conference did not prepare them for the wholesale way in which the work of the Local Medical Committee is now to be shared by the Panel Committee. The Association strongly persists in its objection to the sapping of the prestige of the Local Medical Committee and to the removal from the purview of that Committee of any question as to the exclusion of individual insured persons on the ground of income limit. The question of income limit, both generally and in detail, seems to the Association to be a matter peculiarly appropriate for discussions by the Local Medical Committee, which represents the interests of the whole of the members of the profession, as compared with a committee which mainly represents those on the panel.

Vouchers for Insured Persons.

The Association is glad to learn that the Commissioners hope that arrangements may be made to secure that all persons entitled to medical benefit should be provided with a voucher, and trusts that the Commissioners will do all they can to further this most desirable object.

The First Schedule: Certificates.

The Association is glad to be assured that in making the alteration in the First Schedule to the Model Agreement it was not the intention that the doctor should be called upon to give duplicate certificates or any certificates for purposes not connected with State Insurance and not required for the specific objects stated in the schedule. The Association is still of opinion that the present wording is likely to give rise to misconception. I am instructed to urge that the most satisfactory way of avoiding future difficulties would be to make specific reference in the schedule to the Commissioners' Circular 173/I.C., in which the certificates required from a doctor on the panel were detailed.

Clause 2 (ii) of Model Agreement.

The attention of the Association has been drawn to the strong objections held by many Local Medical Committees to paragraph 2 (ii) of the new Model Agreement. The Association quite understands that the intention of the insertion of the clause is to prevent preferential treatment being given to those insured persons who are able or willing to give additional remuneration in respect of the treatment to which they are entitled under the agreement between the doctor and the Insurance Committee. The Association

is strongly of opinion that such preferential treatment is undesirable, but would suggest that the intention of the Commissioners would be achieved by a form of words which would prevent such preferential treatment being given without denying to practitioners the right to accept any present or other recognition which a grateful patient might voluntarily offer. It is not uncommon in private practice, nor was it uncommon in club practice, for a patient who had undergone a severe illness and wished to show his gratitude for the way in which the practitioner had attended him, to offer something in the way of a special recognition of the medical services given, and many of those persons would have been genuinely hurt if their spontaneous offer had been refused. It appears to the Association that there is no reason why such voluntary recognition of exceptional service should not be made in connexion with the medical service under the Insurance Acts.

It is hoped, therefore, that the Commissioners will accept the following form of words instead of that at present appearing in Clause 2 (ii):

> The practitioner shall not be entitled to demand any fee or other remuneration in respect of treatment which he is required to give under this agreement, except as provided in this agreement.

Payment in Respect of Sanatorium Benefit.

A point in connexion with the payment in respect of sanatorium benefit has been brought to the notice of the Association. The first schedule to the new agreement refers to the question of payment in respect of sanatorium benefit in the following words:

> . . . and that the domiciliary treatment of persons on panel lists recommended for sanatorium benefit shall be undertaken by the practitioners by whom they are attended, and that a sum of 6d. per annum in respect of each such person eligible for sanatorium benefit shall be provided for the remuneration of those practitioners in respect of their obligation to afford such treatment.

The parallel provision in the present agreement is as follows:

> . . . and that the domiciliary treatment of insured persons recommended for sanatorium benefit shall be undertaken by the practitioners by whom they are attended, and that for that purpose those practitioners shall receive remuneration out of a fund equivalent to a sum of 6d. per annum in respect of each person entitled to receive treatment from them.

The Association would submit that the words "each such person eligible for sanatorium benefit" may be taken as meaning only those persons on the panel list who are recommended by the doctor for sanatorium benefit. The Association has no reason to believe that any change in regard to the payment for domiciliary treatment is contemplated by the Commissioners, but would submit that the wording in the new agreement is decidedly ambiguous. It is hoped that the matter will be remedied without delay.—I am, Sir, your obedient servant,

ALFRED COX,
Medical Secretary.

The Secretary,
National Health Insurance Commission (England),
Buckingham Gate, S.W.

THE MEDICAL PROFESSION AND THE ASSOCIATION.

ADDRESS BY THE MEDICAL SECRETARY.

An address was delivered at a meeting of the Glasgow and West of Scotland Branch, to which all medical practitioners in the area had been invited, on November 14th. The meeting was held in the hall of the Royal Philosophical Society, Glasgow. Dr. A. T. CAMPBELL, President of the Branch, occupied the chair, and there was a good attendance.

Dr. ALFRED COX, Medical Secretary of the Association, was present, and gave an address on the present position of the medical profession and the British Medical Association, with special reference to the matters to be discussed at the forthcoming Special Representative Meeting—namely, the raising of the subscription and the proposed special fund for the organization of the profession.

Dr. Cox stated that before touching on the question of the increased subscription and the proposed Special Fund, it was necessary that he should deal with some matters of a more general nature which seemed to him to show the necessity for the profession consenting both to increase the subscription to the Association and to form an entirely separate fund.

The profession and the Association were undoubtedly going through troublous times, and the searchlight of public opinion was on them in a way it had never been before. He had no fears for the Association. The individual medical man was quite able to look after his own interests when he was dealing with individual patients, but when it came to dealing with organized bodies of patients he must have some association behind him, and there was no association even remotely eligible for this purpose except the British Medical Association. In future the profession would have many more dealings with organized bodies than it ever had in the past, and instead of anything being done to split it up into classes, and thereby weaken it, every man who loved his profession should do his best to strengthen the one Association which could profess to speak in the name of the profession. Some of the practitioners who had not gone on panels were saying that the Association had now become a pro-panel body, and was no use to non-panel practitioners. This he thought absurd. The whole was greater than any part, and the past history of the Association showed that there had never been a time when the interests of one section of the profession had not to be balanced against the interests of other sections, and on the whole the Association had succeeded fairly well in doing this. There was no reason why it should not continue to do it. How often had they heard consultants say that the Association was devoting most of its time and money to the interests of the general practitioner and was therefore of no use to them? And how often, with even less excuse, had they heard general practitioners say that the Association was run by consultants and was therefore useless to them? Any one who looked at the JOURNAL would see that an honest attempt was made to deal with the interests of every section of the profession, and the Association would be false to all its traditions if it did not continue to do so. What seemed to some to be a disproportionate amount of attention recently given to panel matters was easily explained—a national system of insurance had been sprung on the country and the Association was bound to deal with it. There was no prospect that he could see of the disappearance of the Insurance Act from the Statute Book, and in future every young man who entered the profession without means would almost be forced to spend at any rate some years of his life in panel practice.

While there were no reasons, Dr. Cox continued, for the splitting up of the profession into classes and the formation of outside associations, he could find a thousand reasons why they should take the opposite course and consolidate. There was nothing to hope from either political party. The profession would have to depend upon itself, and it would be well for those who were unduly pessimistic about what the Association had done to remember that most of the trade unions and many newspapers had expressed the opinion that the Association had put up an exceedingly effective fight for the profession, and had gained such concessions as no trade union had ever gained for its members. In depending upon itself, therefore, the profession need not be downhearted.

Dangers in the Immediate Future.

The dangers in front of the profession were that the charges, many of them reckless, which had been made against the medical service given under the Insurance Act should by reiteration come to be believed; that the newspaper attacks on the honour and efficiency of the profession should be assisted by injudicious action or false moves on the part of the profession; and that the prominent politicians who were known to be in favour of a whole-time service should get their way. In his opinion, at the end of 1915, when the present system of medical benefit had to be reviewed, there was a bigger fight in front of the profession than it had ever had. It would have to repel claims that the remuneration was excessive for the work being done; and attempts would probably be made either to reduce the remuneration or, what amounted to the same thing, to increase the amount of work. Any successful attempt to reduce the remuneration paid for panel medical attendance would, of course, have a reflex

action on other forms of medical remuneration. The profession might also have to repel strong attempts to transfer the administration of medical benefit to the approved societies, a move which he personally thought was rapidly passing out of practical politics. There was a much more dangerous movement in the direction of the establishment of a State medical service.

The question would also come up, doubtless at an early date, of the inclusion of the dependants, and he would ask how any man not now on the panel but practising amongst the industrial classes could say that the Association was giving an undue amount of attention to Insurance Act matters in view of the certainty of such an inclusion being proposed. When the dependants were included in the Insurance Act about three-fourths of the whole population would be swept in. In his opinion the profession would in a few years be called upon to choose between the panel service and a State medical service, and he believed that the profession on the whole would infinitely prefer the former. The panel service had the inherent defects which many practitioners believed existed in all contract systems, but owing to the efforts of the Association it included many of the good points of private practice. As compared with the old club practice it was infinitely superior. The club doctor, if he did not keep on good terms with the small clique which ruled every friendly society lodge, was under a considerable risk at any time of losing the whole of the society, whereas no such thing could happen in panel practice, and the remuneration was much better. It was more difficult to be honest as regards the giving of certificates under the club system than it was under the panel system, because the offending of a patient in the latter case could only mean the loss of that patient and perhaps one or two of his friends, whereas under the old conditions it might mean the loss of the whole society. He must not be taken as saying that the panel system was perfect, for no one knew better than he how much friction had arisen in working it during the course of the present year. The Association had spent and would spend much time and money in improving the conditions of service, but his contention was that the profession would have to choose not between panel practice and private practice for the insured, but between panel practice and a whole-time service. If, as he believed, the profession would prefer the former, the most statesmanlike position for the profession to take up was that the panel work should be so done that when the time came for a revision it would be patent to the public that a change to a whole-time service would not be advantageous to it, and, on the other hand, that there should be no sort of reversion to the miserable conditions of friendly society service.

Individual Responsibilities.

The Medical Secretary then dealt with many of the charges made against the profession in connexion with panel practice, and urged every member who had accepted service on the panel to do his utmost to prevent such charges being made. He would remind them that such charges, though made against a small section, had an unfortunate tendency to reflect on the honour of the whole profession. The Association would do its best to repel the wholesale charges, which, he believed, had been made mainly to bolster up the case for transfer of administration of medical benefit to the approved societies; but there were undoubtedly cases in which members of the medical profession were at fault—in some cases badly at fault—and the Association, of course, could hold no brief for men who took the money of the Insurance Committees and did not try to give honest service. If his conception of the situation was correct—namely, that the profession must so work the panel system as to avoid the introduction of something worse—then it was exceedingly important that they should elect to positions of responsibility in connexion with the Association and their Local Medical and Insurance Committees only their very best and most judicious men. Much depended upon these gentlemen, and he hoped that medical members of Insurance Committees would try to arrange for a preliminary meeting to consider the agenda of the Insurance Committee, so that when matters came up which affected the profession they would be able to act as a united body. Their motto in connexion with the Insurance Act at present should, he believed, be "Statesmanship and patience." By statesmanship he meant firmness as regards points of principle with readiness to compromise on non-essentials, together with an honest effort to understand the other side. Patience was necessary in dealing with a new and gigantic system the complexities of which were taxing the time and goodwill of public men to the uttermost.

PROPOSED RAISING OF THE SUBSCRIPTION.

In dealing with the question of raising the subscription, he did not propose to enter into details—that he would leave to be dealt with when questions were asked. To him, however, it seemed clear from a perusal of the report of the Council that the members of the Association had for years been so spoilt that they had come to expect miracles for 25s. a year. He would like to ask whether any single man in that audience would suggest, if it were proposed to begin *de novo* to organize the profession and to provide it with a first-class medical journal, that they should commence with a subscription of 25s. a year. The subscription had, of course, been based on old conditions which had long since passed. The profession were making greater demands on the Association every year, until the happy position had arrived when, if any member of the profession felt any doubt about a professional matter, he naturally turned to the Association. The public and the Government just as naturally turned to the Association when they wanted the views of the profession. It was not business to expect all this to be done on the present subscription. If it were asked what would be done with the increased income, the report of the Council showed that it was intended first of all to form a reserve in order to pay the Association's debts; secondly, to staff the Association properly; thirdly, to give more money to the Divisions and Branches for local use. He was sure that that meeting, composed as it was very largely of the workers of the Association, would agree that the honorary officials of the Association, to whom, after all, most of the success of the Association was due, ought not to be asked to give so much of their time to merely detail work, and ought to be provided with more money, so that they could make fuller use of paid clerical service.

THE PROPOSED SPECIAL FUND.

As regards the special fund, again he did not propose to go into details. The details of the fund could be varied as much as the profession wished. First of all they must consider why such a fund had been proposed. During the whole of this year everybody had been seeking for reasons why the profession did not do as well as they thought it ought to have done in dealing with the Insurance Act. Many reasons had been adduced, some of them very foolish, especially those which left out of all consideration the fact that every concession wrung out of Government by the Association naturally detached from the stalwarts those who would have been quite willing to go on fighting so long as the terms were as originally proposed, but could not resist the improved terms. But nearly every one fastened upon one real source of weakness—namely, the fact that the Association had no fund, except on paper, out of which it could say to a practitioner who was hesitating as to whether he ought to follow the lead of the Association, "If you will back up the rest of the profession we have money which we intend to devote to seeing such men as you through any financial difficulties which may arise." Such a fund could not be raised except as a special fund. If the Association had a million it could not devote it to such a purpose, for legal reasons which were fully discussed in the original Report on the Special Fund. The questions now to be considered by the profession were: First, do you think we ought to have such a fund? Secondly, are you prepared to provide such a fund? Thirdly, if you want a fund, on what basis do think it should be established? If, after the Association had given the profession a chance of establishing such a fund, the profession showed itself unwilling to start it, then the profession deliberately deprived itself of any right of saying when the next fight arose, and it was found to be as helpless as before, that the Association was to blame.

Conclusion.

The Medical Secretary stated that he had spoken quite plainly on the situation as it appeared to him. At head quarters they got much information which the local profession could not have, and it was therefore his duty when an opportunity was given to warn the profession with all his force against the dangers which seemed to him to be approaching. He believed that this was a time for plain speaking and hard thinking. When the time of stress came again he hoped it would not be in anybody's power to say that the experience of the past two years had been thrown away.

A most interesting discussion followed, and, on the motion of Dr. John Adams, a very hearty vote of thanks was accorded to Dr. Cox.

In the evening the members of the Branch Council and the Chairmen of Divisions entertained Dr. Cox to dinner in the Grosvenor Restaurant. Dr. A. T. Campbell again presided, and much pleasant and profitable intercourse took place between the guest and those present.

LOCAL MEDICAL COMMITTEES.

SOMERSET.

The thirteenth meeting of the Somerset Medical Committee was held at the Castle Hotel, Taunton, on November 6th. Dr. Wallace occupied the chair, and twenty members were present.

Congratulations to Dr. J. A. Macdonald.—Before commencing the business of the meeting the Chairman proposed a resolution congratulating Dr. J. A. Macdonald, a member of the Committee, on being presented with the gold medal of the British Medical Association. This was seconded by Dr. Farrant, the Secretary for the West Somerset Branch of the Association, and carried by acclamation.

Conference of Local Medical Committees.—Dr. Balfour Stewart laid his report of the Brighton Conference of Representatives of Local Medical Committees before the meeting, and was heartily thanked for his services.

New Drug Tariff.—This was considered and accepted. The Chairman gave figures as to the numbers of patients within and without chemists' areas and the amount of the chemists' accounts allowed in each of the months from February to September. The highest figure occurred in May and the lowest in August, when it was only one half of that in May. The best estimate that could be made was that the amount per insured person within the chemists' areas would be about 1s. 7½d. per annum, thus encroaching on the floating 6d. to the extent of 1½d. The Chairman reminded the members of the Committee that in prescribing for patients under sanatorium benefit, the prescriptions should have the words "Sanatorium Account" added in writing, as the cost of drugs and appliances for such patients came out of the Sanatorium Benefit Fund, and not out of the General Drug Fund.

Excessive Ordering of Drugs and Dressings.—The Honorary Secretary reported that cases of excessive orders for drugs and appliances had been brought to his notice, and also cases in which the amount required had not been stated by the doctor; in one instance a chemist, not knowing what the dressings were for, supplied an insured person with a pound of cotton-wool for a cut finger. In another case, 4 oz. of ———, an expensive proprietary article, had been ordered, and in a third case 2 oz. of a collyrium containing adrenalin and cocaine. With a view to indicating a class of remedies and appliances, etc., which should not be dispensed by chemists for payment out of the ordinary Drug Fund, a list had been issued to each of the practitioners in the county. Patients will not suffer from this arrangement, since, in the first place, many of the drugs and chemicals bearing proprietary names can be supplied in an equally effective form under the *British Pharmacopoeia* and *British Pharmacopoeia Codex*, and, in the second place, if the proprietary drug cannot be thus replaced, it may, at the request of the doctor in any particular case, be authorized by the Insurance Committee.

Record Cards.—It was suggested by Dr. Colmer that the record cards might be issued with a blank flyleaf, on which notes of the case could be written, and it was decided to ask the Clerk to the Insurance Committee to see if this suggestion could be carried out.

The Amending Act.—The Chairman drew the attention of the Committee to the National Insurance Act, 1913, in which several of the sections more or less seriously affected medical practitioners, and in particular he referred to the following:

(*a*) Sections 9 and 10, under which insured persons and voluntary contributors whose total income from all sources exceeds £160 per annum are no longer entitled to receive medical benefit.

(*b*) Subsection 2 of Section 10, which extends the advantages of paragraph E, Subsection 2 of Section 15 of the principal Act to old and disabled members of all societies which were in existence at the date of the passing of that Act.

(*c*) The extension of the powers of the Insurance Commissioners to suspend the panel system when they considered it was not giving satisfactory medical treatment to insured persons.

(*d*) Section 14, Subsection 2, which revokes the clause in the principal Act permitting a prescribed midwifery fee to be recoverable as part of maternity benefit. This means that when called in by a midwife in pursuance of the Midwives Act, 1902, the doctor must make his own arrangements for the payment of his fees.

(*e*) Section 32, which in effect provides for the formation of a Panel Committee, who shall be consulted by the Insurance Committee in respect of any matter affecting the administration of medical benefit in the area.

(*f*) Section 33, Subsection 2, which authorizes the Insurance Committee to retain a sum not exceeding a penny in all in respect of each insured person to meet the administrative expenses of the Panel Committee and the Pharmaceutical Committee set up under the Amendment Act.

(*g*) Section 37, which provides that stamp duty shall not be chargeable upon documents in connexion with certain business under the Insurance Act. This applies to receipts and contracts.

Panel Committee.—As the Local Medical Committee of Somerset contained only two non-panel practitioners, the Chairman suggested that to save duplication and overlapping of the work a scheme should be proposed to the Insurance Commissioners by which the actual personnel of the Local Medical Committee should be elected as the Panel Committee. This was agreed to, and the scheme has been sent to the Commissioners.

Domiciliary Attendance on Uninsured Tuberculosis Patients.—The Chairman outlined the present conditions in regard to the treatment of tuberculosis cases among the insured persons and their dependants, and mentioned the fresh proposal made by the Chairman of the Insurance Committee for the medical attendance of cases of tuberculosis among the rest of the community. It was considered by the Committee that it was not yet in possession of sufficient details to enable it to make any suggestion as to the method and cost of attendance.

Tuberculosis Contacts.—Questions were put as to tuberculosis contacts, and Dr. Crouch, the Honorary Secretary, explained that, in reply to a letter from him, Dr. Short, the tuberculosis officer for the county, wrote that if a physical examination of contacts, with special tests where indicated, was made by the medical attendant of the family, and was satisfactory to the district medical officers of health, he (Dr. Short) would feel no further responsibility in regard to that particular family.

Allocation.—The Chairman explained that Dr. Crouch and he had had a long interview with the Clerk to the Insurance Committee, dealing with many of the important matters connected with medical benefit, *inter alia*, allocation of the residuum of insured persons. The Clerk explained that it had been impossible to make out complete lists of index cards to date, and that consequently it did not seem possible to proceed to allocation. At the same time he had found a great deal of difficulty arise in finding a doctor for a sick person on the list who had not already made his choice, sometimes as much as a week elapsing before medical attendance could be secured, and he asked if some more rapid method of procedure could not be suggested. It was finally agreed, subject to the approval of the Local Medical Committee, that in urban districts the local secretary of each of the twelve areas should be communicated with and asked to assign the patient to a doctor at once, while in rural districts the assignment should be left in the hands of the Clerk to the Insurance Committee, who would himself communicate directly with the doctor

nearest to the patient's place of residence. This proposal was approved.

Exmoor.—A grant of £350 from the Special Mileage Fund for Exmoor and Brendon areas was announced, and Drs. Graham, Penberthy, and Sydenham were authorized to call a meeting of the doctors practising in these districts and to arrange the principle of distribution.

ESSEX.

Panel Committee.

In consequence of receipt of Memorandum 30 I.C. a special full meeting of the Local Medical Committee for Essex was held on November 7th, at which, after a protracted discussion, the following was passed *nemine contradicente*:

> That this Local Medical Committee for Essex apply to the Commissioners to recognize the persons forming the Local Medical Committee as the Panel Committee until January, 1914, and that the Commissioners be asked whether they will agree to accept the persons to be elected to form the Local Medical Committee in January, 1914, as the Panel Committee for this area (Essex) from January, 1914, to January, 1915, provided the requisite proportion of panel practitioners is maintained on the Committee.

Alternative Scheme.

It was also decided that the following alternative scheme be sent by letter to the Commissioners:

> That the persons forming the Local Medical Committee at any time should constitute the Panel Committee, and that practitioners on the panel should be asked by circular to consent to the appointment of these persons as the Panel Committee. The scheme might further provide that the consent of the practitioners on the panel to the appointment suggested in the circular should be assumed unless within a specified time some definite proportion of the practitioners had signified their disapproval.

Note.—The time and number of practitioners constituting disapproval were left to the Commissioners to decide, which they did later by telegram as fourteen days and one-fifth of the total panel practitioners. The circular has been issued to every panel practitioner on the revised list October 13th, 1913.

Necessity for Scheme.—The reasons for the scheme were that Memo. 30 I.C. having been issued, it seemed likely a Panel Committee would be formed, yet there remained certain matters which could only be dealt with by a Local Medical Committee under the Act, which would result in delay and confusion between the two committees, to avoid which the scheme was proposed. The scheme had been submitted to the twenty-one District Medical Committees, and nineteen replies had been received approving it.

Twelfth General Meeting.

The twelfth general meeting was held on November 13th, when the above scheme was formally sent to the Commissioners, duly signed by the requisite twenty panel practitioners.

New Member.—Dr. Drew Harris (Woodford) having been welcomed by the Chairman, took his seat in place of Dr. Berrill, resigned.

Drug Committee.—The report of the Drug Committee was approved, as follows:

> That the Drug Subcommittee considers the prices of revised tariff received October 27th are excessive.

The Secretary was directed to write explaining that the Drug Committee would be pleased to meet the Medical Benefit Subcommittee (members of the Pharmacists' Committee being present) and assist in any revision that was considered necessary. The Secretary was also instructed to write to a practitioner whose prescriptions contained many proprietary articles, and invite him to meet the Drug Subcommittee in friendly conference with a view to possibly substituting equivalent remedies from the insurance list of drugs.

Improper Certification.—A practitioner having sent correspondence referring to a solicitor's letter received by him wherein he was stated to have improperly certified as fit for work, and without examination, an insured person who, having broken his fibula, was able to walk four miles; the Local Medical Committee, in reply, referred the matter to the Medical Service Subcommittee of the Insurance Committee, and recommended that, with regard to compensation, the Medical Defence Union should be consulted by the practitioner.

Payment of Arrears.—The Secretary reported that, in answer to a request that stated amounts at fixed dates should be paid to practitioners (Supplement, p. 317, Payment of Arrears), the Insurance Committee proposed to pay as follows:

> For the quarter ended January 14th, 1914, on or about the second Tuesday in February.
> For the quarter ended April 14th, 1914, on or about the third Tuesday in May.
> For the quarter ended July 14th, 1914, on or about the last Tuesday in July.
> For the quarter ended October 14th, 1914, on or about the third Tuesday in November.

Shortly after November 18th and December 15th, 1913, payments would be made for treatment and dispensing, the payment after December 15th being based upon the sum of 1s. 2d. for each insured person accepted for treatment up to October 14th. As interim payments might interfere in some measure, the Local Medical Committee decided to approve of quarterly payments as above, and requested the Secretary to inform the Insurance Committee.

Communications from the Local Medical Committee.—A resolution was carried directing that all communications from the Local Medical Committee to practitioners should be marked "Private and Confidential."

Conference with District Medical Committees.—The Committee decided to call a conference with secretaries of District Medical Committees (secretaries unable to attend being invited to send substitutes) and the following were appointed from among the Local Medical Committee to meet them: Drs. Leigh Day, J. Douglas Wells, Harding H. Tomkins, J. H. Salter, Ross Steen, and C. E. Brunton. In consequence of the necessity for special meetings, etc., the date was left to the representatives above elected.

Green Vouchers.—A member by resolution raised the question of rescinding the resolution whereby the Local Medical Committee decided that patients presenting these should only be treated as private patients. A long discussion ensued, and as it appeared impossible at the moment to grasp the effect of 29 I.C. and 185 I.C. and the new agreement upon "green vouchers," the Committee passed to the next business.

Police Case.—Having been asked to give an opinion as to whether a panel doctor was right in refusing to attend the police station to examine an insured person who had been charged with and certified as being drunk, the Committee decided that the doctor was right.

New Regulations and Agreement.—The explanatory memorandum of the new regulations, 185 I.C., was discussed; but no final decision was arrived at. It was decided to call a special meeting on November 21st to discuss the new agreement, which had arrived too late to place on the agenda, the meeting having already exceeded its usual time limit.

EAST SUFFOLK.

A meeting of the East Suffolk Local Medical Committee was held at Saxmundham on November 19th, Dr. Evans in the chair, and ten other members were present.

Dispensing by Panel Practitioners.—Strong exception was taken to the action of some panel practitioners in dispensing for insured patients living within one mile of a chemist, and the Secretary was directed to write calling attention to the matter.

Panel Committee.—It was agreed that the members of the Local Medical Committee should be nominated members of the Panel Committee.

Re-election of Local Medical Committee.—The re-election of the Committee was discussed, and it was agreed: (1) That the North Suffolk and South Suffolk Divisions should each elect its own members of the Medical Committee; (2) that North Suffolk should elect eleven members and South Suffolk twelve members; (3) that the Committee should continue in office until July 15th, 1914.

New Medical Benefit Regulations and Agreement.—The agreement was considered section by section:

Section 1.—Exception was taken to the term "other regulations," since it would allow the introduction of new regulations which the panel practitioners had not seen when signing the agreement.

Section 2.—(i) It was agreed that it was desirable to insert the words "in respect of illness arising from confinement within two weeks," as recommended by the Insurance Act Committee.

Section 2.—(ii) Strong exception was taken to the word "*accept* any fee," and it was agreed that the word "*demand*" should be substituted.

Section 7.—It was agreed that certificates should be given according to Memo. 173/I.C.

Section 12.—(ii) Rate for medicine, 1s. for two days.

Signing Certificates, etc., with Stamp.—Dr. Ryder Richardson raised this question, and urged that no regulations should be sent out by approved societies that had not been first of all submitted to the Medical Committee for discussion.

WEST SUFFOLK.

The thirteenth meeting was held on November 21st.

Panel Committee.—The Secretary reported that, as instructed at the last meeting, he had issued a circular, dated November 8th, to every practitioner on the West Suffolk panel, and that, of the sixty practitioners so circularized, forty-two had replied that they approved the suggestion put forward, whilst two had intimated that they considered the Committee should be enlarged. It was agreed that the Secretary should write to the Commissioners, enclosing a copy of the circular and information as to the replies to it, and that the Commissioners be asked to recognize the West Suffolk Local Medical Committee as fulfilling the duties, and to extend recognition to a new Local Medical Committee for 1914, to be elected on the following lines:

Members: (1) *Ex officio*, (*a*) the four practitioners serving on the County Insurance Committee; (*b*) two representatives of the Executive Committee of the West Suffolk Division, British Medical Association.

(2) Two representatives from each of the seven districts into which the area is divided, the representatives for each district to be elected by the practitioners resident in that district. The total number of the Committee would thus be twenty, the number of panel practitioners resident in the area being forty-two.

The election to take place within fourteen days of the publication of the new medical list in each year.

The above was directed to be submitted as a suitable scheme for the permanent constitution of the Local Medical Committee.

New Draft Contract.—The Committee then considered the proposed new contract (Form Med. 29 (revised), and it was decided to apply at the joint meeting with the Emergency Medical Benefit Subcommittee for modifications of the contract as suggested by the Insurance Act Committee.

Allocation.—The Secretary reported that the Medical Benefit Subcommittee considered that the most equitable and the only practicable method for this year was one based on a quarterly allocation of the funds for unallotted persons in direct proportion to panel lists. It was agreed to accept this method, but to insist that practitioners who dispensed should receive a share of the drug fund in respect of such unallotted persons, proportionate to the number of insured persons for whom they dispensed.

Dates of Payments.—It was decided to ask for quarterly payment, with a provision for monthly payments on account to any practitioners who desired and applied for them.

Provision of Vaccines.—Dr. Ritchie raised the question of the position of a practitioner supplying drugs and appliances who wished to give vaccine treatment to an insured person, and inquired whether the practitioner could charge the patient extra for such treatment. The Committee agreed that:

1. The preparation of an autogenous vaccine and the bacteriological investigation incidental thereto is not within the competence of an ordinary practitioner, and can be charged for.

2. That in the case of stock vaccines the practitioner wishing to use them must, if he "dispenses" for the patient in question, supply the vaccine himself.

NORTH RIDING OF YORKSHIRE.

Meeting of Practitioners.

A meeting of the practitioners of the North Riding of Yorkshire was held at York on November 18th, and twenty-three doctors were present. Dr. Candler Hope was by a unanimous vote elected Chairman.

Resignations.—A hearty vote of thanks to Dr. Robert Cuff, J.P., C.C. (Scarborough) was passed, along with sincere regrets at his resignation as chairman of the North Riding Local Medical Committee, and a strong wish was further expressed that he would still remain a member of the Committee. The resignations of Drs. Carter Mitchell and Dougall were accepted with regret.

Panel Committee.—The following resolution was proposed by Dr. Baigent, seconded by Dr. J. G. Murray, and carried:

That the present Local Medical Committee, with the addition of an extra member from seven of the largest districts to bring it up to the required number of twenty-eight, be appointed to act also as the Panel Committee.

Ten practitioners were nominated, and the following seven were elected to fill the two vacant posts and add the required number of members to the newly formed Local Medical and Panel Committee: Drs. Adams, Jones, Pickles, Townsend, A. C. Ferguson, Eddison, and Long to represent the districts in which they reside. The Honorary Secretary (Dr. Mills) was requested to forward the following signed petition to the Insurance Commissioners (England):

We, the undersigned registered medical practitioners named on the North Riding of Yorkshire panel list, do hereby petition the National Health Insurance Commissioners (England) to recognize the North Riding of Yorkshire Statutory Local Medical Committee—of periods October 31st, 1913, to July 15th, 1914—as the Panel Committee of this insurance area. We would further state that our brother practitioners, as shown by the result of a postcard vote, support us in making this request.

Local Medical Committee.

A meeting of the Local Medical Committee of the North Riding of Yorkshire was held after the practitioners' meeting, when Dr. Candler Hope was, by the unanimous consent of all present, elected Chairman, and twelve members were present.

Mileage.—The Committee was asked by the North Riding of Yorkshire Insurance Committee to decide the following final details with regard to the special mileage grant of £2,600:

1. Which are the difficult districts?
2. Which practices are partly difficult and partly ordinary?

On the motion of Dr. Baigent, seconded by Dr. J. Gillon-Ross, the solution of the questions was left in the hands of the Mileage Subcommittee.

Administration of Medical Benefit.—The Honorary Secretary was asked to send a representation to the Insurance Commissioners asking that one of the rules for administration of medical benefit should be:

That when there is such delay in response to a call from an insured person and the ailment is such as to necessitate his calling in another medical man, he or she shall in all such cases, when possible, obtain the services of a substitute nominated by his or her medical attendant, failing which those of another doctor on the panel, who shall not continue in attendance, but shall be remunerated for the visit according to the scale for temporary residents, and such expenses shall be borne by the defaulting medical attendant.

Model Rules for Administration of Medical Benefit.—The following resolutions were passed:

(*a*) It is not the duty of the doctor to send packing or to pay postage or carriage of medicine. This should, when possible, be called for during surgery hours. When certificates are required by post a stamped addressed envelope should be enclosed.

(*b*) It is not the duty of the doctor to see that Form Med. 32 is properly filled up with No, etc. If such is not done the clerk to the Insurance Committee should send the same to the applicant.

(*c*) A copy of model rules to be sent to each insured person, along with the notice of acceptance by the medical man.

(*d*) A copy of model rules for administration of medical benefit shall be sent to all lodge secretaries.

Complaints Committee.—Dr. Henry Fawcett (Thornaby-on-Tees) was elected for service as the additional medical member of the Complaints Committee.

Vote of Thanks.—A vote of thanks to the Honorary Treasurer and Secretary concluded the meeting.

SURREY.

A special meeting of the County of Surrey Local Medical Committee was held on November 20th, at Surbiton Cottage Hospital, when Dr. Lankester was in the chair.

Administration of Gas.—The following resolution was passed unanimously:

That the administration of gas for dental purposes is not part of a practitioner's duty under the Insurance Act.

New Draft Agreement.—Drs. Lankester, Lyndon, and Walters were appointed to meet three delegates of the County Insurance Committee, and lay before them the following alterations the Medical Committee desire to be made in the agreement:

Clause 2 (i). Insert at the end "or in respect of an illness arising from confinement within two weeks."

Clause 2 (ii). It was decided that unless this clause is altered as recommended at the last meeting the Local Medical Committee would advise practitioners not to sign the agreement.

Clause 3. It was decided to insist on the insertion of the following: Provided that the Committee shall not assign any person to any practitioner more than three miles from the residence of that person if any other practitioner on the panel resides at a less distance from that residence, except with the consent of the first-mentioned practitioner.

ABERDEENSHIRE.

The resolutions (see Supplement, November 22nd, p. 457) passed by the Aberdeenshire Local Medical Committee were forwarded to the Commissioners, and the following correspondence ensued:

Letter from the Scottish Commissioners.

N.H.I.C. (Scotland), Edinburgh,
November 22nd, 1913.

To R. Bruce, Esq., M.D., Secretary, Aberdeenshire Local Medical Committee, Cults, Aberdeenshire.

Sir,—I am directed by the Scottish Insurance Commissioners to advert to your letter of 17th inst. quoting two motions passed at a recent meeting of the Aberdeenshire Local Medical Committee. With regard to the first motion, I am to say that Parliament has seen fit, by Sec. 32 of the National Insurance Act, 1913, to provide for the constitution of panel committees, and to lay the duty of carrying out those provisions upon the Commissioners.

With regard to the objection to the Regulations empowering the Commissioners to appoint a returning officer, I have to say that the Commissioners do not follow the reasoning on which it proceeds. The appointment of a neutral person to preside seems to them the essence of a properly conducted election. A panel practitioner as returning officer might have to decide points involving disputes between his fellow electors—a clearly objectionable arrangement. The Regulations were submitted to the Joint Advisory Committee, including the medical representatives of Scotland on the Committee, and the Regulation objected to by your Committee was approved by them. If the Regulations had provided that the practitioners should elect some person, not being one of themselves, as returning officer, the machinery for his election would have had to be provided, involving either a postal vote or the holding of a meeting. In addition it would have fallen to the practitioners to pay any fee incurred to him. It appears to the Commissioners that the scheme under which they appoint members of their own staff as returning officers is at once economical and unobjectionable from any point of view.

With regard to the second motion, I am to point out that it is in the interests of the practitioners that the Commissioners are desirous of seeing the panel committees constituted at an early date. A communication is being sent to-day to Insurance Committees and to all practitioners with reference to the apportionment of the special mileage grant for the Lowlands. The suggestion in the motion that the issue of the agreements and the apportionment of the special mileage grant are being held back is entirely unfounded, and especially in view of the large amount of work which your Committee must be aware has been performed by the Commissioners with a view to an equitable apportionment of the grant; the imputation conveyed in the resolution is, in the opinion of the Commissioners, uncalled for.—I am, Sir, your obedient servant,

(Signed) John Jeffrey, Secretary.

Reply to the Commissioners.

Thoresby Cults, Aberdeenshire,
November 25th, 1913.

To the Sec. N.H.I.C. (Scotland), Edinburgh.

Sir,—I have to acknowledge receipt of your letter of November 22nd, regarding the resolution which I forwarded to you from the Aberdeenshire L.M.C.

As regards your comments on the first motion, I have to say that one of your staff would not be "a neutral person"; while the fact of the Regulations having been approved by the Scottish medical members of the Joint Advisory Committee is beside the point, as these gentlemen are not elected by the medical profession in Scotland, and are in no sense our "representatives."

In connexion with the second motion, you state that the imputation it contains is, in the opinion of the Commissioners, uncalled for. Let me give you one instance of the impossible position in which the Commissioners' delay has placed us. The communication regarding mileage was not in our hands when the resolution was passed by the Local Medical Committee, and we had no indication whatsoever of when we were to get it. According to your own time table (Circular 185/I.C., par. 34), you expect us "to hold collective negotiations, and have a final settlement of all outstanding points of substance" by December 1st; while the information required by us on which to found our decision regarding the new contracts is not put in our hands until November 24th. The Medical Benefit Subcommittee has asked our representatives to meet with it on November 27th, leaving us three days for consideration and discussion amongst ourselves of the many points at issue. After this meeting on November 27th, the Local Medical Committee has to summon and report to a meeting of the panel practitioners in the county; to lay the result of the conference with the Medical Benefit Subcommittee before them; to get the finding of the panel practitioners; to report to the Medical Benefit Subcommittee; to wait for their report to the Insurance Committee; and then to call another meeting of the panel practitioners to consider finally our position. How all this is to be done between November 27th and December 1st certainly passes our comprehension, and proves our contention (as expressed in the motion) that the information required by us from the Commissioners as regards mileage and the new contracts has, in our opinion, been held back—or, if you prefer it, delayed—in the most indefensible manner.

I am, Sir, your obedient servant,

(Signed) Robert Bruce, M.D.,
Secretary, Aberdeenshire Local Medical Committee.

FORFAR.

A meeting of the Local Medical Committee for the county of Forfar was held on November 19th.

Agreements and Regulations.—The Secretary reported that he had several times written to the Commissioners asking them for a draft of the proposed new agreement, but had received no definite replies. The Committee considered the new regulations, and on the motion of Dr. Tait, seconded by Dr. Johnston, it was unanimously resolved:

> That this Committee, having fully discussed the National Health Insurance (Medical Benefit) Regulations, 1913, considers that these are such that it cannot accept thereof, and therefore refuses to enter into any new agreement with the Insurance Committee until these have been amended to meet with its approval. It further resolved not to sign any agreements until the mileage question is finally settled and all sums due in respect of mileage and for allocated patients paid.

Thereafter, on the motion of Dr. Dalgetty, seconded by Dr. Broom, the following resolution was unanimously agreed to:

> That the Committee considers that it has very real ground for complaint against the Commissioners, in that they have given it such short notice to consider the new agreement and Regulations, and more especially their omission to issue the new form of agreement in time for discussion.

KIRKCALDY.

A meeting of the Kirkcaldy Local Medical Committee was held on November 18th, when Dr. Curror presided over a large attendance.

Panel Committee.—General disgust was expressed at the needless multiplication of committees, and at the manner in which the elections were being rushed. In view of the fact that the present Local Medical Committee consisted of all the practitioners in the burgh, it was unanimously decided to instruct the Secretary to write the Commissioners, under the second alternative, and represent to them that the Local Medical Committee should constitute the Panel Committee for the area.

Scale of Fees for Persons making their own Arrangements.—A letter was read from the Clerk to the Insurance Committee, asking the Local Medical Committee to suggest a scale of fees. After considerable discussion it was decided to suggest the scale already adopted for attendance on temporary residents.

New Draft Regulations and Agreement.—A short discussion took place on the draft Regulations and agreement, but it was decided not to take any definite action meantime, but to hold another meeting, when the specimen agreement and the result of the Insurance Act Committee's correspondence with the Commissioners would be available.

PERTH.

A meeting of the Local Medical Committees of the Burgh and County of Perth, along with the Perth Branch of the British Medical Association, was held on October 17th.

Allocation of Insured Persons.—The principal business of the meeting was to consider the method of allocation of insured persons in the county who had not chosen a doctor. Various schemes were suggested, but it was eventually decided that the insured persons should be allocated to the nearest doctor, and, if there be more than one doctor in the district, that the insured persons be allocated *pro rata* to the numbers on those doctors' lists as last made up.

This was carried by a large majority. With regard to the capitation grants for the unallocated persons, overdue for the first three quarters of the year, it was decided that the money be divided *pro rata* amongst all the doctors on the panel.

Model Rules.—It was agreed that the Model Rules for Local Medical Committees, as suggested by the Insurance Commissioners and by the British Medical Association, be adopted, in so far as they were not incompatible with each other. With regard to the matter of drugs it was decided to take no action, and that no alteration be made in the tariff.

Expenses of Committee.—It was announced that a sum would probably be available for the payment of clerical work and other expenses in connexion with the work of the Local Medical Committee, and a committee of six (four to be a quorum) was appointed to consider the matter, and to decide regarding the employment of a paid secretary.

A meeting of the Local Medical Committees for Perth and Perthshire, together with all practitioners practising in Perthshire, was held at Perth on November 21st, when Dr. Mackay (Aberfeldy) was in the chair.

Panel Committees.—Dr. Trotter said that the Panel Committees, constituted under the amending Act, appeared to be an attempt on the part of the Commissioners to take certain powers from the Local Medical Committees and gradually to undermine their prestige, the important difference being that at least two-thirds of the members on Panel Committees must be panel practitioners. He further stated that it was proposed at the suggestion of the British Medical Association to elect the members of the present Local Medical Committees to act as the Panel Committees. Next year the members of the Local Medical Committees would require to be modified to correspond to numbers suggested for Panel Committees by the Commissioners. Dr. J. Hume, in a strong speech, pointed out that several Local Medical Committees had already objected to the formation of Panel Committees, and that practitioners had been unduly hustled in the matter. He urged that no further steps be taken in the meantime; and Dr. Paton moved that the meeting respectfully decline to take any action in the matter. Dr. Trotter then moved formally that the Secretary be instructed to petition the Commissioners to appoint Panel Committees for Perth and Perthshire. After considerable discussion, a majority voted in favour of the motion of Dr. Trotter, which was accepted as the finding of the meeting.

Allocation.—The Secretary stated that the Commissioners had approved of the scheme passed at the last meeting for the allocation of insured persons in the city of Perth, with the exception that the allocation be made as from January 15th instead of October 15th. This was agreed to by the meeting.

New Draft Regulations.—Considerable discussion took place on this subject, but it was decided that another meeting should be held to consider the new Regulations, and more especially to go over the draft agreement, clause by clause, before coming to any decision.

INSURANCE NOTES.

Relations of Medical Referee and Panel Practitioner.

At the last meeting of the Birkenhead Insurance Committee, Dr. John Grimshaw stated that one of his patients, after having been in receipt of sickness benefit for four weeks, brought to him a sick benefit sheet on which the word "fit" had been written and initialled by a medical referee, his own name having been cancelled. He had received no communication from the approved society or the medical referee. He obtained the opinion of a Liverpool hospital physician, who agreed that the man was suffering from a serious affection of the heart and blood vessels and chronic progressive disease of the kidneys. Skiagraphs obtained later revealed the presence of a large aneurysm. The Insurance Commissioners, when appealed to by Dr. Grimshaw, stated that most approved societies were empowered under their rules, which constituted conditions of membership, to require a member to submit to medical examination by a doctor appointed by the society. The opinion of any doctor so appointed and that of the doctor on the panel both constituted evidence to which approved societies might properly have regard in determining whether or not a member was incapacitated. The letter from the Commissioners continued: "The question, however, as to whether such incapacity exists is in the first instance for the society to decide." A member who was dissatisfied had a right of appeal to the tribunal appointed under the rules of the society, and in the last resort to the Commissioners themselves. The approved society having disregarded communications enclosing copies of the opinion of the consultant, Dr. Grimshaw had given his patient financial assistance for the purpose of lodging an appeal, and at the meeting of the Insurance Committee proposed the following motion:

> That the question of the general relation between medical referee, insured person, and panel practitioner be referred to the Medical Service Subcommittee for consideration and report.

The motion was agreed to, except that the reference was made to the Medical Benefit Subcommittee instead of to the Medical Service Subcommittee.

An incident occurred recently at Walsall which bears on this matter, and affords a curious example of the capacity for blundering which may be displayed by an official possessing a plentiful lack of imagination. It appears that the district secretary of the Royal Liver Friendly Society (National Health Section) issued a circular to all the members on the sick list in the town informing each of them that "our medical officer wishes you to call at the above office on Thursday, November 13th, between the hours of 2 and 3 o'clock, for the purpose of examination, in accordance with Rule 13, paragraph 27." The rule referred to is apparently one of the regulations of the society. The result of this thoughtless act was that a crowd of sick assembled.

At a special meeting of the Walsall Insurance Committee held to consider the matter the chairman, Dr. Lynch, stated that in all matters affecting medical benefit the Local Medical Committee had worked side by side with the Insurance Committee, and asked Dr. Layton to state the facts.

Dr. Layton said that, having heard from many sources that members of the society who happened to be sick had received a notice to attend on Thursday afternoon, he came to the conclusion that the matter required some investigation, inasmuch as he found that no notification of the contemplated examination had been sent to any Walsall doctor; when he reached the office of the society at the time indicated he found a large crowd of sick persons outside, while the passage was packed with people, several of whom looked very ill. He was admitted to the room where the examinations were being made, and made a strong protest, first because he considered it a breach of professional etiquette for a doctor from outside to examine other doctors' patients, and, secondly, what was much more serious, that sick people should be required to come out on a cold November afternoon, no provision having been made for their accommodation.

After the conclusion of Dr. Layton's remarks the Chairman called upon Mr. Wyke, the district manager of the society, and at his instance a letter from the head office of the society at Liverpool was read. It contained the following passage:

> The district manager appears to have exercised no discretion, either as to the persons he should have summoned or the time of their attendance, which caused the unpleasantness referred to. The usual procedure of notifying the local panel doctors who were attending these members was unfortunately overlooked, for which regrettable oversight it can only be stated that the first annual meeting of the approved society was being held at that time. It was a very protracted one, and gave the officials at the head office no time to attend to the details consequent on the proposed examinations. Our referee was much delayed and hampered in his examinations from the fact that the forms on which the sick benefit was given did not, in most cases, give either the panel doctor's name or the nature of the illness.

The letter added that after the protest made by Dr. Layton the society's doctor had ceased to examine the patients, who returned home. The society expressed its regret that

there should be any cause of complaint, but added that the "abnormally heavy rate of sickness in Walsall must be rectified and malingering stopped."

The Chairman said this was not an isolated case, but the culmination of a large number of complaints made at the office of the Insurance Committee in regard to the manner in which insured persons had been treated. Mr. J. H. Wright, a delegate of the society, subsequently expressed deep regret that the medical men in the town had not been notified; and as to the charge of malingering said that he had no evidence that any persons in Walsall carried on malingering, and agreed that persons who were not in a fit state ought not to stand about in the streets.

In reply to the Chairman, the Manager admitted that he was in the room when women were called for examination by the doctor. The Insurance Committee eventually adopted the following resolution, moved by Mr. E. Evans, seconded by Mr. G. Power, and carried *nemine contradicente*:

> That this meeting registers a strong protest against the treatment meted out to the sick members of the Royal Liver Society on Thursday, November 13th, when the whole of the sick members of that society were directed to attend in the space of two hours for the purpose of examination by the medical officer of the society, and that the whole facts, as brought before this meetieg, be laid before the Insurance Commissioners in London.

UNALLOTTED FUNDS.

The following letter, addressed by the Chancellor of the Exchequer to the Chairman of the London Insurance Committee, was read at the meeting of the Committee on Thursday (November 27th):

Treasury Chambers, Whitehall, S.W.,
26th November, 1913.

Dear Dawes,—I have had before me the official correspondence between the London Insurance Committee and the Insurance Commissioners on the subject of the payment of the doctors who have entered into agreement with the Committee, and I am writing to assure you of my entire concurrence in the view which the Commissioners have taken throughout of the effect of the Medical Benefit Regulations.

There was never any doubt of the Government's intention, as expressed in the invitation to the doctors to take service under the Act, that in return for their undertaking to accept responsibility for the treatment of insured persons, sick or well, they should receive the whole sum available for medical benefit (apart, of course, from the money for drugs), after deducting the sums payable in respect of persons who had been allowed to make their own arrangements, or had arranged to receive their medical benefit through approved institutions. Whatever doubt might have existed as to the interpretation of the law or regulations which deal with this publicly declared intention has, I understand, been removed, and you may rest assured that the Government will certainly support your committee in taking any steps which may prove necessary to secure that payment is made in accordance with this intention.—Ever sincerely,

D. Lloyd George.

THE SPECIAL REPRESENTATIVE MEETING.

A Plea for the Universal Support of the British Medical Association.

Dr. A. C. Greene (London, E.) writes: A year ago no efficient organization existed to combat the Government on points connected with the Insurance Bill. These points met with the unanimous disapproval of the medical profession. Doubtless, if we had banded together more firmly, we could have obtained vastly better terms.

It is apparent to all that the British Medical Association as at present constituted has not the support of all the profession. Should its strength be augmented, every one would be only too eager to join it.

The great split at present is due to the panel and non-panel members whose interests are said to clash. If the Association only had the whole-hearted support of the profession, both interests would be well looked after. It is only logical to assume that the interests of the whole profession would be better safeguarded by one powerful organization than would be the case with two or more. To carry this out the Association needs more recruits and more money. The outlook on the future is dismal indeed if they be not forthcoming.

The present trifling sum paid by members of the British Medical Association is insufficient. If each member paid according to a set scale on the net profits of his income—for example, a fixed sum per 100 insured patients for panel practitioners—every man would be paying according to his means in the strict sense of the word. Every one would be satisfied, for they would be all shouldering the burden according to their means, every one paying his share. We should have every one doing his little and not the spasmodic efforts of a few.

If this ideal state of affairs could be brought about the problem would be solved. Thereby one would get interest and consequently strength established in the union amongst all medical men. This would band them together in a much more brotherly spirit than exists to-day. It would be a powerful organization, for it would have as a foundation the two essential elements (1) interest of members, (2) money. They are dependent the one upon the other.

In conclusion, I would urge all non-members and members to sink their differences, at least for the present, and support whole-heartedly the only one Association existing to-day capable of safeguarding all medical interests.

Proposed Increased Subscriptions.

Dr. C. H. Watts Parkinson (Wimborne) writes: I desire to enter my protest against the proposed increase of subscription to £2 2s., and feel sure if adopted it will lead to the resignation of many members of the Association.

It seems to me unfair to require every member to pay an additional 17s. for the expenses of the medical secretaries' department, whether they are interested in that side of the business or not. Why so adverse to the trade union idea, which is clearly necessary under the new conditions not only for the protection of members, but also for the increased powers obtainable and necessary for disciplinary and other reasons?

I quite agree that the increasing expenditure of the medical secretaries' department will lead the Association to speedy bankruptcy unless additional funds are raised; but these should be raised outside the ordinary subscription, and as a special department or trade union, and should embrace additional necessary objects, as, for example, insurance sickness, defence and medical agency work.

There is also a possibility that the additional 17s. will be found insufficient, and the subscription will have to be raised again and again.

Restore to us the years that the locusts of the new constitution have eaten, and let us go back to the old subscription of one guinea for the Journal and annual meeting, and charge another guinea for the trade union association, and additional fees as required, but let this be voluntary, and not forced on old members like myself, or non-panel men. There would then be no reason why the Representatives should meet at the time of the annual general meeting, and the present farce of the general meeting of members could be done away with, at any rate, in connexion with the annual scientific meeting.

The Annual General Meeting would then be a purely scientific and pleasurable gathering, and we should not have our pleasures and useful work saddened by the thought of the hundred and more of our most illustrious brethren slaving away for our good and passing resolutions one day and rescinding them the next, to the joy of the powers of evil. I have been a member of the Association for forty years, and have held some official position all that time until this present year, and I still read the British Medical Journal from cover to cover every Sunday, and shall miss this very much; but £2 2s. is more than I can stand.

George Scott, M.B. (Wimbledon), writes: Referring to Dr. Christie Reid's letter of November 22nd, which I was glad to see, I can assure him that the increase of 17s. in the subscription to the Association is absolutely necessary, and that the Association cannot continue to flourish or even hold its own without it. Like Dr. Reid, I am not convinced of the necessity of the proposed additional expenses that the Council contemplate entering on, as I believe every penny of the 17s. will be required for some years to put the Association on a sound financial basis after the unprecedented heavy drain, which was necessary, on its resources during the last few years. Surely the Council should first look to their obligations

and tell us the sums out of the £10,000 new income to be laid aside as a provision to repay the £45,000 debt and replace the amount taken from the reserve before mortgaging their new income to the extent of £7,250. What are the reasons against the selling of the freeholds belonging to the Association?

I support Dr. Reid in what he asks for—a financial statement showing what increase is necessary for the effective carrying on of the Association as at present organized and staffed.

CORRESPONDENCE.

The New Draft Regulations and Agreement.

Dr. W. E. Barton (Streatham, S.W.) writes: The report in the Supplement of November 22nd of a paper read by Dr. J. E. Moorhouse is most interesting, and it proves conclusively the servitude of the panel doctor. It has been well said that "they have no rights and few privileges," and the truth of this aphorism is apparent. I must, however, challenge his statement on page 454 that "Local Medical Committees have been created consisting largely of non-panel doctors who wished to make the working of the Act as difficult as possible." The latter part of this statement requires proof. I must also take exception to the term "recalcitrant" which he has wrongly applied to these practitioners.

If he will refer to his dictionary he will find that this term = "refractory," and, tracing it further, refractory = "perverse," and perverse = "obstinate in the wrong."

He will remember that the profession was united up to January last, and at the Representative Meeting in January the following resolution was carried with one dissentient:

> That this meeting records its emphatic protest against the discreditable methods applied by the Government, whereby a position of urgency was created under which many practitioners, finding themselves threatened with financial ruin, were compelled to give unwilling service under the National Insurance Act on terms which this meeting considers to be derogatory to the profession and against the public interest.

Now let me ask him who were the "recalcitrant" practitioners? Were they the men who stuck honourably to their pledges and undertakings, and acted in conformity with the opinion of the profession as expressed at that Representative Meeting, or were they the men who broke the unity of the profession by going on the panel? Surely without a doubt, if he uses the term "recalcitrant," he should apply it to those who have broken away from their brethren and have sacrificed their liberty for State bondage, and not to those who have acted consistently throughout, notwithstanding financial loss.

In conclusion let me quote from Dickens: "It is well for a man to respect his own vocation whatever it is; and to think himself bound to uphold it and to claim for it the respect which it deserves."

Dr. M. A. Curry (Battersea) writes: The enclosed is a copy of *essential* amendments, etc., laid before the Joint Committee which sat last Friday at 5, Chancery Lane, W.C. The signing of the draft agreement as it stands would mean disaster and, moreover, a grave responsibility thrown on our shoulders as a profession, for, instead of in some instances uplifting the moral fibre of the community and individuals, we are opening up a new avenue of immorality by encouraging abortions, miscarriages, and another field or training ground for the vice and sin of blackmail of a profession doing noble work at a great and mighty self-sacrifice.

1. Overdue allocation monies to be distributed at once, and this a stipulation *sine qua non* of signing agreements.
2. The allocation monies to be divided according to numbers on doctors' lists as previously decided, 2,000 being the maximum number allowed, and each sum or amount calculated by the difference between the number on each list and maximum in respect of each panel doctor and district.
3. *Re* Article 35, Draft Regulations of November 7th, 1913, should be amended thus: The balance of total medical benefit funds accruing from the medical benefit of those not selecting their panel doctor by end of first quarter to be divided on basis and per ratio of numbers on doctor's lists, 2,000 being the maximum allowed—that is, panel doctors having less than 2,000 being made up to this number, and to be paid for the difference so made up at 7s. per head per annum, excluding payments of insured of institutions and those making other arrangements. The monies thus duly belonging to panel practitioners based and agreeing, and verified according to total number of insured in county area.
4. The Drug Suspense Fund of 1913, which was intended for emergency drugs, dressings, minor operations, etc., supplied by doctors, to be maintained and paid as per account every quarter.
5. Sunday visits and more than one visit on same day to be paid at special tariff rates.
6. Chronic cases and insured over 65 years to be paid for at special capitation rates.
7. Abortions, miscarriages, and their operative sequelae, such as curetting, anaesthetics, further assistance, etc., to be paid for at confinement, etc., rates, owing to their immoral effect on community and individuals.
8. All certificates, whether used dually—that is, for double purposes of State and private use—to be paid for by society so using.
9. In B, C, and D, 1st Schedule, the sentence beginning, "In priority . . ." and ending by word "quarter" to be deleted, and substitute therefor, "the following special services will be paid for, thus."
10. Article 5, Section ii, to be deleted from agreement.
11. Article 6, Section ii and 3, to be deleted from agreement.
12. Article 13, Section 1, 2, and 3 to be deleted from agreement.
13. Article 14 to be expunged from agreement.
14. Article 7 of Memo. I.C., No. 185, November, 1913, to be expunged.
15. The whole of Article 45, Part V, of Draft Regulations, and similar clauses whatsoever relating thereto, to be deleted, and in case of complaint between insured and doctor the insured person to be transferred to another list.
16. Attendance cards, one for each insured, to serve as a register list to be provided as a means of checking numbers and as a record.
17. All other regulations, memoranda, etc., made under National Insurance Acts of 1911 and 1913 to be revoked, and the Regulations, etc., herein amended to be quoted and incorporated in agreements under a clause therein.
18. Six days being too short a time to consider and discuss budget of genuine revised regulations, agreements, etc., as also to attend to one's practice and other duties, an extension of time be given.

Dr. T. Cuming Askin (Woodbridge, Suffolk) writes: I wish to endorse what Dr. J. Cuthbertson Walker says about Clause 2, Section (ii) of the new draft agreement. We ought to insist upon the substitution of the word "demand" for "accept." Here at last there is something we can surely all agree about, whether haters or lovers of the Act. The wording of this Section makes one's blood boil with rage.

Panel Practitioners who Supply Drugs to Insured Persons.

Dr. John McKie (Glenluce) writes: I should like to draw the special attention of all such practitioners to Art. 39 (6) of the Regulations for Medical Benefit published in the Supplement of November 15th. As far as I can interpret this somewhat wordy article, it appears that practitioners supplying their own drugs to insured persons are to be paid on the average per head per annum expended out of the Drug Fund. Art. 39 (6) (ii) then states that:

> If the amount so ascertained is less than a sum equal to three-fourths of the total amount carried in that year from the Panel Service Fund to the credit of the Drug Fund divided by the number of persons on panel lists it shall be so increased as to be equal to that sum.

That is to say (if I mistake not), three-fourths of 1s. 6d. Then Subsection (7) states that:

> Any balance standing to the credit of the Drug Fund after payment of the amounts aforesaid, a sum not exceeding one-fourth of the total amount carried from the Panel Service Fund to the credit of the Drug Fund in respect of that year shall be carried to the credit of the Practitioners' Fund for that year.

It therefore appears that if the call on the Drug Fund during any year is less per head than three-fourths of 1s. 6d., that is, 1s. 1½d., the remuneration per head will be made up to that amount, and the doctor who dispenses his own drugs will be docked of the remaining 4½d. per head which is to be appropriated for the benefit of the Practitioners' Fund. Thus the poor rural practitioner is to suffer for the benefit of the town doctor with the large numbers on his list.

If I have interpreted this article correctly, I have no hesitation in saying that this regulation is going to operate most unjustly to the rural practitioner, who in many cases was induced to join the panel on the distinct understanding, as stated distinctly by Mr. Masterman in reply to a

question put in the House of Commons, that the practitioner who dispensed his own drugs would be paid the full 9s. per head for every insured person on his list—this sum being made up by 7s. for medical attendance, 1s. 6d. for drugs, and the "floating sixpence" combined. Mr. Lloyd George stated that the profit derived by the rural doctor from dispensing would help to compensate him for the greater expense of working his practice compared with the city doctor.

And now this little benefit is to be filched from us.

Let justice be done. I cannot imagine the city doctor will stand by quietly and receive under head (7) that which by right and according to promise belongs to the dispensing practitioner.

Unallotted Persons.

Dr. W. H. F. Oxley (London, E.) writes: The scheme put forward by Dr. Beadles (Supplement, November 8th, p. 395) appears to me to be by far the best that has yet been evolved for the treatment of this problem, and it is to be hoped that something of the kind will be adopted in all areas; but I should like to see an alteration in the last clause:

> The surplus of the money shall be paid to the doctors on the panel in proportion to their lists.

It seems to be only fair that the money should be paid in proportion to each man's responsibility, and this does not depend on the size of the list but on the size of a man's industrial practice. In London those men who went on the panel after the abrogation of the pledge have a much smaller list than they would expect having regard to the size of their practice, while their responsibility for treating new patients is just as great as if they had gone on at first.

To make it work out fairly to these men the scheme should provide that the surplus of this money shall be paid to the doctors on the panel in proportion to their total acceptances during the quarter.

Hospital and Clinical Laboratory Facilities.

Dr. H. H. Mills (Kensington, W.) writes: May I call the attention of the doctors working under the Insurance Act in the County of London to the important inquiry by the Medical Benefit Subcommittee of the London Insurance Committee concerning the facilities for obtaining hospital treatment for insured persons, and for obtaining scientific investigation of clinical material at the various public health laboratories?

At the next meeting of the Committee representatives from the Panel Committee will attend to discuss the matter. If any doctor cares to make any suggestion, he should communicate with Dr. B. A. Richmond, the Chairman of the Panel Committee. Much valuable information has already been collected, and it is hoped to arrange a conference at a later date between representatives of the various metropolitan hospitals and the Committee. The subject is a very important one, and, if the work done by the several public health committees is "levelled up" to a uniform standard, then a wide range of scientific investigation will be established.

INSURANCE ACT COMMITTEE.

The seventh meeting of the Insurance Act Committee was held at the offices of the Association on Thursday, November 20th. Mr. T. Jenner Verrall (Chairman of Representative Meetings) was in the chair, and the other members present were:—*England and Wales:* Dr. R. M. Beaton (London), Dr. E. R. Fothergill (Brighton), Dr. Major Greenwood (London), Dr. G. E. Haslip (London), Dr. I. W. Johnson (Bury), Dr. Herbert Jones (Hereford), Dr. Constance E. Long (London), Mr. D. F. Todd (Sunderland), Mr. E. B. Turner (London). *Scotland:* Dr. John Adams (Glasgow). *Ex officio:* Dr. W. A. Hollis (President), Dr. Edwin Rayner (Treasurer).

New Draft Agreement—Private Fees to Insured Persons.

A number of communications with regard to Subclause 2 (ii) of the new agreement were read. The subclause runs:

> (ii) The practitioner shall not accept any fee or other remuneration in respect of treatment which he is required to give under this agreement, except as provided in this agreement.

The Medical Secretary stated that the opinion of Mr. Danckwerts, K.C., on the question of practitioners charging insured persons fees for night visits, had been obtained by the State Sickness Insurance Committee and submitted to the Representative Meeting of December, 1912. The opinion was to the effect that no panel practitioner could under the provisions of the Act make any extra charge to an insured person on his list for any treatment given which was within the terms of his agreement.

After full consideration the Committee resolved to ask the Commissioners to substitute the words "shall not be entitled to demand" for "shall not accept" in Clause 2 (ii). It was also resolved to suggest to the honorary secretaries of Local Medical Committees that an alteration in the agreement to the effect suggested might be obtained by local action.

The Treatment of Insured Members of Staffs of Poor Law Institutions and Voluntary Hospitals.

The Committee at its meeting on September 11th, after considering a letter received from the Local Government Board concerning the medical officers of Poor Law institutions, and the treatment of members of the staffs of such institutions who are insured persons, directed a further letter to be addressed to the Local Government Board, and now it was reported that to this letter the following reply had been received:

> Local Government Board, Whitehall, S.W.,
> November 17th, 1913.
>
> Sir,—I am directed by the Local Government Board to advert to your letter of the 2nd ultimo, and to previous correspondence with regard to the position of medical officers of Poor Law institutions who undertake the medical attendance and treatment of the insured members of the staffs of those institutions.
>
> As the Board indicated in their letter of the 15th August last, the question whether it is part of the duty of a medical officer to attend the members of the staff depends upon the terms of the contract entered into between him and the guardians, and the Board have no reason to doubt that where a medical officer is under contract to give medical attendance to the members of the staff such services are taken into account in fixing the salary assigned to him.
>
> With regard to the allocation of the fees paid by Insurance Committees in respect of the medical attendance of insured persons employed in Poor Law institutions, the Board, as stated in their previous letter, are not disposed to lay down any definite rule at present, but they will be prepared to consider any representations that may be made on the subject at a later date, in the light of the experience gained of the working of the present arrangements: and in the meantime they will not raise any objection to any equitable agreement as to the apportionment of those fees that may be arrived at between the Board of Guardians and its medical officer.—I am, Sir, your obedient servant,
>
> (Signed) A. C. Symonds,
> Assistant Secretary.

It will be remembered that at its meeting on November 6th the Committee had resolved to obtain additional information, and the matter will be considered further when this has been received and arranged.

Mileage in Rural Districts.

Letters from members of the Association practising in rural districts were read dealing with the general position of rural practitioners in relation to the Insurance Act, and in particular with the subject of mileage. The Committee placed on record the fact that it had reason to believe that the special mileage fund administered by the Insurance Commissioners, which it was at first thought would be strictly limited to mountainous, inaccessible, and very sparsely populated districts, was as a matter of fact being used in a much wider way. The Committee therefore recommended those members who had written on the subject to apply to the Commissioners direct for a grant out of the fund, and also to apply to their local insurance committees.

Collective Transfer of Insured Persons.

The Committee resolved to place before the Insurance Joint Committee complete details of the case submitted to the Welsh Commissioners, and to ask the Joint Committee to intervene with a view to preventing the continuance in Wales of collective transfer of insured persons.

DRUG TARIFF.

The Committee had before it the minutes of the Amending Act Subcommittee, and resolved to recommend the Council to arrange for conferences to be held during the summer of each year between representatives of the British Medical Association and of the Pharmaceutical Society for the purpose of arriving at some agreement with regard to the drug tariff for the succeeding insurance year, with the object that such agreement should be recommended by each parent body to the various Local Medical, Panel, and Pharmaceutical Committees throughout the kingdom.

NEW DRAFT MEDICAL BENEFIT REGULATIONS.

The CHAIRMAN of the same Subcommittee reported that after consideration of the new draft medical benefit regulations communications had been addressed to Local Medical Committees, and that the correspondence published at p. 465 had taken place with the Insurance Commissioners. The Committee then proceeded to consider the reply of the Insurance Commissioners, and its observations are printed as notes in italics to the letter, A further letter addressed to the Commissioners on November 23rd is printed at p. 471.

STATEMENT OF NATURE OF DISEASE UPON CERTIFICATE.

The Committee further considered the minute of the Annual Representative Meeting, 1913, to the effect that the nature of the illness should not be inserted on any certificate issued for the purpose of sickness benefit under the Insurance Act, and also had before it a report of information received as to the views of the profession in the various areas upon this subject. After consideration the Committee resolved to recommend the Council to advise the Representative Meeting to rescind the above minute in view of the altered position with regard to the statement of the nature of the disease upon certificate brought about by the issuing by the Insurance Commissioners of model forms of certificate, and of the apparent indifference of the majority of the profession in regard to the matter.

COMPENSATION CASES.

The Committee had before it four applications for grants from the Central Insurance Defence Fund, and made a grant in each case. It also received letters of thanks from two members to whom grants had been made at the previous meeting.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

BORDER COUNTIES BRANCH:

SCOTTISH DIVISION.

A MEETING of this Division was held in Dumfries on November 14th. The Chairman (Dr. E. SHAW) presided, and the secretary and twenty-one other members were present. It was agreed that members resident in Langholm should in future be included in the list of members of the Division.

Special Representative Meeting.—On the consideration of the report of Council and recommendations contained in the SUPPLEMENT of November 1st, Dr. MCKIE (Newton Stewart) informed the meeting that he had sent postcards to all members in his area regarding the increase of subscription and special organization fund. There was a majority in favour of the increase but a minority in favour of the special fund. He moved that the subscription be £2 2s., and this was carried unanimously. An animated discussion ensued with regard to the organization fund, the general opinion being that £5 was too much. Dr. BRYSON moved, and it was seconded by Dr. IRVING, that the fund be not controlled by the Association. Dr. LIVINGSTON, at this stage, pointed out that the Scottish Committee had been granted power to organize the profession in Scotland under the aegis of the British Medical Association, and that, far from the profession having lost confidence in that body, the membership of the Division had increased. He deprecated the setting up of a new organization as harmful to the existing administrative machinery, and impracticable. Dr. RODGER, seconded by Dr. MCMORLAND, then submitted an amendment:

> That the expenses of the Local Medical Committee be not a charge upon the special fund, but be collected locally, and that the contribution to the special fund, for that reason, be reduced to £2 2s.

He explained that if the fund was to be organized by the British Medical Association, it would not touch non-members who were acting on the Local Medical Committees and participating in the expenditure while contributing nothing to the fund. That by his resolution both members and non-members would contribute their share. On being put to the vote, the amendment was carried by 21 votes to 2, Dr. Bryson and Dr. Irving being desirous of having their names recorded as voting against it.

The other recommendations of Council were approved and the Representative was instructed to support them.

A meeting of the Executive was held prior to the meeting, at which the Division accounts were passed.

CAMBRIDGE AND HUNTINGDON BRANCH:

CAMBRIDGE AND HUNTINGDON DIVISION.

A MEETING of the Cambs and Hunts Division was held in the Medical Schools, Cambridge, on November 21st, at 2.45 p.m., when Dr. APTHORPE WEBB was in the chair, and nineteen members were present.

Subscription to the Association.—Dr. FORDYCE opened the discussion on the proposed new By-law that the subscription to the Association be raised to 2 guineas. After discussion, in which most of those present took part, an amendment, proposed by Dr. ELLIS, of Swavesey, "that the present time is inopportune to raise the subscription," was carried by 11 votes to 7.

Recommendations of the Council.—The Council's recommendation that "A fund be formed for the development and reorganization of the profession," was agreed to unanimously. The other recommendation was negatived, and the following substituted in its place:

> That the Cambs and Hunts Division, whilst approving of the establishment of a special fund for the reorganization of the profession, does not approve of the administration of this fund by the Council as at present constituted.

This was passed unanimously. The Council's recommendations with regard to the unalloted funds and medical aid associations were also negatived.

Part-time Tuberculosis Officer.—There was also some discussion with regard to the proposed appointment of a part-time tuberculosis officer by the Local Insurance Committee, at a salary of £300 a year; it was decided to offer no opposition to this proposal, as it was only of a temporary nature.

DUNDEE BRANCH:

DUNDEE DIVISION.

A MEETING of the Dundee Division was held on November 18th in the Students' Union, University College, Dr. R. C. BUIST in the chair. There were seventeen present.

Medical Referees under the Insurance Act.—The following resolution was adopted as a resolution of the Division under the rules of ethical procedure:

> That practitioners acting as medical referees under the National Insurance Act shall observe the following rules:
> (*a*) The referee shall communicate with the practitioner in attendance to enable him, if he so desires, to be present at the examination of the insured person by the referee.
> (*b*) The fee for a report shall be not less than 10s. 6d.

Subscription to Association.—On the motion of Dr. TULLOCH, seconded by Dr. ROGERS, it was resolved:

> That the annual subscription of the Association be 2 guineas a year.

Dr. LOW moved, Dr. KERR seconded, and it was carried:

> That for four years after registration practitioners be admitted as members of the Association at a subscription of £1 5s.

Schemes of Organization.—On the motion of Dr. LOW, seconded by Dr. CAMPBELL, it was resolved:

> That the Representative be instructed to vote against the establishment of separate schemes such as those outlined in the SUPPLEMENT.

National Insurance Act.—The consideration of the following motion was postponed:

That the experience of practitioners engaged in working under the National Insurance Act has shown that the conditions accepted are neither derogatory nor unworkable.

National Medical Service.—Dr. Killoh moved, and Dr. Low seconded, and it was resolved;

That the Division consider the advisability of the establishment of a national salaried medical service, and that the executive committee be instructed to prepare a report on the conditions of such a service suitable to this area.

On the motion of Dr. Low, seconded by Dr. Young, it was resolved:

That power be given to the executive committee to co-opt for the report such as they think fit for full representation of the matter.

EDINBURGH BRANCH:

South-Eastern Counties Division.

A meeting of the Division was held at the Railway Hotel, Newton St. Boswells, on November 20th, Dr. W. Blair in the chair, and thirteen other members were present.

Vote of Thanks.—A vote of thanks to the retiring chairman (Dr. Muir) for his services during the year was accorded by acclamation.

Special Representative Meeting.—The recommendation of the Council that the subscription to the Association should be raised to £2 2s. was discussed, and Dr. W. L. Cullen proposed a motion, seconded by Dr. Muir, to approve the recommendation. An amendment was moved by Dr. J. Carlyle Johnstone providing that members of less than five years' standing as registered practioners should pay only 30s. was lost, and the resolution adopted in the following terms:

That as it is deemed necessary by the Council, owing to the financial position of the Association, to increase the annual subscription to £2 2s., we, as loyal members of the Association, approve of the necessary increase, and agree to pay it as it falls due.

After discussing the recommendation with regard to the formation of a special fund, the following resolution, moved by Dr. Carlyle Johnstone, seconded by Dr. Muir, was carried *nemine contradicente*:

While highly approving of the institution of a special fund for the general purposes explained in the two schemes published in the Supplement of November 1st, the meeting considers that it would be at present inopportune to support either of the schemes.

The meeting approved of the suggestion as to the organization of the profession in so far as it could be carried out with the increased subscription, but without a special fund. The meeting agreed that if a separate office for Scotland were formed it should be established in Edinburgh.

Medical Referees.—The meeting instructed the Secretary to suggest to secretaries of Local Medical Committees within the Division that they should use their influence in favour of the appointment of medical referees being made by the Commission, and also of the establishment of the principle that for single consultations a fee of not less than 10s. 6d. should be accepted.

Scientific Work.—The Secretary read the circular relating to the appointment of special subcommittees to promote the above, but the meeting considered that the Edinburgh Branch was doing all that was practicable at present.

Domiciliary Treatment for Tuberculosis.—Dr. Carlyle Johnstone stated that the Roxburghshire Insurance Committee considered that the domiciliary treatment of tuberculosis included the supply of medicines and medical foods, but not ordinary articles of sustenance.

Annual Dinner.—Dr. Blair vacated the chair, which was taken by Dr. Muir, and it was agreed to hold the annual dinner at Jedburgh on Friday, December 19th, the members resident in Jedburgh being appointed a subcommittee to make the necessary arrangements. It was unanimously agreed that Dr. Blair be invited as the guest of the evening in recognition of his having completed fifty years as a member of the Association and in appreciation of his long-continued and disinterested efforts for the organization of the profession and advancement of its interests.

GLASGOW AND WEST OF SCOTLAND BRANCH:

Glasgow Eastern Division.

Special Representative Meeting.—At a meeting of the Glasgow Eastern Division on November 19th, Dr. Rolt Davidson, Chairman of the Division, presiding, it was agreed with one dissentient to approve of the proposal that the subscription to the Association be £2 2s. per annum. It was also agreed by a large majority to support the alternative scheme of the Council that a special reserve fund be formed, and that the subscription to that fund be £4 4s.

KENT BRANCH.

Rochester, Chatham, and Gillingham Division.

The Vice-Chairman presided over a well-attended meeting of the Division on November 21st.

Recommendations of Central Council.—The Honorary Secretary explained at length the proposal to raise the subscription to the Association and to form a Special Fund. The meeting unanimously agreed to support "the proposal" to increase the subscription to £2 2s., and the Representative was instructed to support the principle of the Special Fund, on the distinct understanding that adequate means for protecting the fund were adopted. The following resolution was adopted for use if necessary at the Special Representative Meeting:

That in the event of the defeat of the Special Fund Scheme at the Special Representative Meeting, this Division urges the Council to authorize a further campaign in its favour. Such campaign to be carried out by sending persons well versed in the details of the scheme to address meetings of the profession on the subject in various parts of the country.

Unqualified Bacteriologist.—A motion to rescind a decision of the Division as to the employment of an unqualified bacteriologist failed to find a seconder. Members will kindly note that the decision of the Division is against the employment of such persons.

The Milward Fund.—A further sum of £2 7s. was subscribed to the Milward Fund, making in all about £8.

LANCASHIRE AND CHESHIRE BRANCH:

Bury Division.

At a meeting of the Bury Division on November 19th, at 8.30 p.m., Dr. Vine was in the chair, and fourteen other members were present.

Special Representative Meeting.—The Representative was instructed to vote for an increased subscription. On the "Schemes for a Special Fund" the feeling of the meeting was apparently in favour of the formation of a trade union in accordance with the resolution passed by the Division in July, but no instructions could be given to the Representative on this point, as the formation of a trade union had been negatived at the last Representative Meeting. Dissatisfaction with the alternative Scheme B (dated October, 1913) appeared to be general. Eventually, on the motion of Dr. Nuttall, seconded by Dr. Liddell, it was resolved:

That this meeting of the Bury Division of the British Medical Association unanimously recommends that, as an alternative to Scheme B (dated October, 1913), a fund should be raised for the following objects solely, namely:

1. To defray the expenses of Representatives, members of Council and Committees.
2. To defray the cost of district medical organizers.

That the money be raised locally in equitable proportions, and that the method of collecting it be left to local arrangements.

It was also decided that notice of motion to this effect should be given for the Representative Meeting.

Recommendations of Central Council.—On the motion of Dr. Nuttall, paragraphs iv, v, and vi on p. 366 of the Supplement for November 1st were approved. The four recommendations of Council on pp. 367 and 368 of the Supplement for November 1st were considered; the first, third, and fourth were approved; the second was strongly objected to, and, on being put to the meeting was unanimously rejected.

Liverpool Division.

A meeting of the Liverpool Division was held at the Medical Institution, Liverpool, on November 21st, 1913. Dr. R. I. Richardson, the Chairman of the Division, presided.

Liverpool Corporation Tramways Medical Benefit Society.—The Secretary (Dr. Francis W. Bailey) reported that the medical officers of the Liverpool Corporation Tramways Medical Benefit Society had accepted provisionally and under protest the "final" offer of the society's

committee of 7s. per member instead of 5s. per member, and wished to thank the Association for what it had done in endeavouring to raise the terms equivalent to those paid by the Insurance Act Commissioners.

A vote of thanks was unanimously passed to Dr. T. Bushby for his services as Chairman of the Police Surgeons Subcommittee. Dr. BUSHBY, in his reply, paid a tribute to the other members of the subcommittee (the Chairman and Secretary of the Division, and Drs. Owen Bowen and S. H. Shaw). Satisfaction was expressed at the result which had been attained, in that the Watch Committee of the Liverpool City Council had agreed to all the terms asked for by the Liverpool Division of the British Medical Association.

Recommendations of the Central Council.—The meeting next considered the questions referred to the Divisions in reference to the increase of subscription, the special fund for the organisation of the profession, and Insurance Act matters. It was finally agreed that the representatives of the Division attending the Special Representative Meeting on December 4th should support an alteration of the by-law increasing the subscription to £2 2s.; the question as to the raising of a special fund was left to the Representative's discretion. It was also agreed to support all the recommendations of the Council regarding Insurance Act matters as printed in the Supplement to the JOURNAL, pages 367 and 368, for November 1st, 1913.

MANCHESTER CENTRAL DIVISION.

AN ordinary meeting was held at the Onward Buildings, Deansgate, on November 25th, at 4.15 p.m. Dr. T. ARTHUR HELME was in the chair, and seven other members were present.

Vote of Sympathy.—On the motion of the CHAIRMAN it was unanimously resolved to convey to Dr. Booth's relatives the deep and sincere sympathy of the Division, and its sense of the great loss it had sustained in the death of one who, besides having filled the office of Chairman of the Division, had acted as its Representative in Representative Meetings since the foundation of the Division.

Appointment of Representative.—On the motion of Dr. TYLECOTE, seconded by Dr. W. B. PRITCHARD, Dr. T. Arthur Helme, the Deputy Representative, was unanimously appointed Representative in Representative Meeting and *ex officio* representative on the Branch Council in succession to Dr. Booth, deceased.

Scientific Work of Association.—A letter, dated October 28th, from the Medical Secretary was read, regarding the scientific work of the Association, and the Secretary was instructed to reply that the Division was satisfied that the Branch Science Committee was doing all that was necessary in the district in this connexion.

Expenses of Representatives.—On the motion of Dr. HENSHAW, seconded by Dr. FERGUSON, it was unanimously resolved:

> That the amount of the voluntary levy for payment of Representatives, etc., in this Division, which had been collected and was in the hands of the secretary, be, if the Branch Council decides not to distribute it, handed over to Dr. Helme as a contribution towards the expenses he incurred in acting for the Division last year.

It was also resolved, on the motion of Dr. HEYWOOD:

> That the Secretary be instructed to apply again by postcard to those members who have not yet paid the 5s. call for the voluntary levy for payment of Representatives, etc.

Subscription to Association.—On the motion of Dr. HEYWOOD, seconded by Dr. TYLECOTE, it was unanimously resolved:

> That our Representative be instructed to vote at the forthcoming Special Representative Meeting against the raising of the subscription of the Association to 2 guineas and in favour of the £5 levy, and that in regard to other matters he be instructed to use his own discretion in the exercise of his votes.

Non-Panel Committee.—It was resolved that the Secretary be instructed to reply to Dr. Buttar's letter as Honorary Secretary to the Non-Panel Committee, that this Division had instructed its secretary, Dr. Tylecote, to act personally as an intermediary between the Non-Panel Committee and this Division.

MANCHESTER (NORTH) DIVISION.

Testimonial to Dr. R. G. McGowan.

ON November 20th Dr. R. G. McGowan, President of the Manchester (North) Division of the British Medical Association, was the recipient of a testimonial from the members of the Division, in recognition of his services for upwards of twelve years as secretary, and of his efforts on behalf of the local profession on the Insurance Medical Committee. A supper and smoking concert were held at the Grand Hotel, upwards of sixty members being present, with Dr. JOHNSTONE (Vice-President) in the chair.

During the evening Dr. FRASER (ex-President), on behalf of the members, presented Dr. McGowan with a magnificent silver tray, suitably inscribed, as a mark of appreciation and esteem.

Speeches eulogistic of Dr. McGowan's self-sacrifice, untiring energy, and personal popularity were delivered by the CHAIRMAN, Dr. FRASER, Dr. DICK (Representative), and Drs. HELME and D'EWART (respectively Chairman and Secretary of the Local Medical Committee). References were made to Dr. McGowan's abilities as a skilled diplomatist, a bonny fighter, and a far-seeing leader. Dr. MCGOWAN'S reply was characteristically modest and brief.

METROPOLITAN COUNTIES BRANCH:

EAST HERTFORDSHIRE DIVISION.

A SPECIAL meeting of this Division was held at Hertford on November 21st. Dr. W. F. CLARK was in the chair, and thirteen members and one visitor were present.

Departmental Committee on Sickness Benefit Claims.—A letter was read from the Medical Secretary in reference to the evidence that the Association desired to place before this committee, and a committee, consisting of Dr. Boyd (Ware), Dr. Clark (Cheshunt), and the Honorary Secretary, was appointed to collect evidence from the area of the Division. In this connexion the following resolution was passed unanimously:

> That this Division considers that its members have carried out their work under the Insurance Act to the best of their ability.

Increase of Subscription.—The Representative was instructed, on the motion of Dr. STURGE, to vote in favour of increasing the annual subscription to two guineas, but also to support any proposal to refer the matter to a referendum.

Special Fund.—A resolution to instruct the Representative to favour the formation of a fund "for the better organization of the profession" was proposed by Dr. MACFADYEN and seconded by Dr. ADDISON. An amendment, proposed by Dr. BOYD and seconded by Dr. STURGE, was, however, carried with three dissentients, to the effect that, in view of the proposed increase in subscription, the present was not a suitable time to start such a fund.

Medical Referees.—The Representative was instructed to support the recommendation of Council in reference to medical referees.

MARYLEBONE DIVISION.

THE third general meeting of the Division was held at the rooms of the Medical Society of London on November 21st; Mr. CHARLES RYALL, Chairman of the Division, was in the chair, and thirty-one members were present.

Special Representative Meeting.—The SECRETARY announced the result of the postal vote on the increase of the subscription:

Cards sent out	665
Cards returned	388
Votes counted	373
Votes spoilt	13

Question 1.

In favour	146
Against	210*
Doubtful	1
Not answered	6

* Majority against, 64.

Question 2.

In favour	175
Against	150†
Doubtful	20
Not answered	28

† Majority in favour, 25.

On the motion of Mr. ATWOOD THORNE, seconded by Mr. BETHAM ROBINSON, it was decided with regard to the increase of the subscription:

That the Representatives vote in accordance with the result of the postal vote.

With reference to the special fund, Dr. ROXBURGH proposed and Dr. HAYDEN seconded:

That the Representatives be left a free hand.

After Mr. BISHOP HARMAN had spoken, Mr. ATWOOD THORNE proposed and Mr. DREW seconded an amendment:

That the Representative be instructed to vote against the Special Fund.

After a discussion, in which Messrs. BISHOP HARMAN, SPURGIN, BETHAM ROBINSON, and Drs. HAWTHORNE, GRIFFITH, LANE, and MCCULLOCH took part, the amendment was put to the meeting and lost. Dr. ROXBURGH's motion was then carried.

Insurance Act.—On the motion of Dr. GOODBODY, seconded by Dr. ROXBURGH, it was resolved:

That the Representatives be left a free hand on questions relating to the Insurance Act which are brought up at the Special Representative Meeting, except as to the allocation of funds, as the Division had passed a resolution on this subject at its last meeting.

Treatment of Tuberculosis.—Mr. SPURGIN moved, and Dr. ROXBURGH seconded:

1. That this Division, while recognizing that there is a place for the co-operation of sanatoriums and hospitals in the treatment of tuberculosis, is strongly of opinion that the domiciliary treatment of tuberculous persons, as carried out in local dispensaries, ought to be entrusted, to the fullest possible extent, to practitioners engaged in general practice.
2. That this Division is of opinion that the voluntary hospitals to which medical schools are attached should have the opportunity of having all the clinical material they need for teaching purposes.
3. That in the opinion of this Division the acceptance of payment out of public funds for special treatment in a voluntary hospital is contrary to the interests of the public and the profession.

After Drs. GALLOWAY and MONTGOMERY-SMITH had spoken, Mr. BISHOP HARMAN moved to omit No. 3. This was seconded by Mr. BETHAM ROBINSON. Mr. SPURGIN accepted the amendment, and the first two resolutions were carried and directed to be submitted to the Representative Meeting.

GREENWICH AND DEPTFORD DIVISION.

A MEETING of the Greenwich and Deptford Division took place on November 25th, Dr. R. D. MUIR in the chair.

Special Representative Meeting.—Dr. S. D. Bhabha was elected Deputy Representative for the Representative Meeting on December 4th, and was instructed to vote in favour of the raising of the subscription to 2 guineas, and against the formation of a Defence Fund.

Address by the Deputy Medical Secretary.—Dr. JAMES NEAL, the Deputy Medical Secretary, addressed the meeting and answered questions on the subject matter contained in the SUPPLEMENT of November 1st.

WILLESDEN DIVISION.

THE general meeting of the Willesden Division, held on November 20th, was open to all members of the local profession. Dr. MACEVOY was in the chair, and thirteen general practitioners were present.

The HONORARY SECRETARY reported what action he had taken in matters arising out of the minutes, after which Mr. W. J. SWAN, F.R.C.S., gave an interesting address, illustrated by lantern slides, on "Surgical Dyspepsia." On the motion of Dr. ARMITAGE, supported by Dr. SCOTT, a hearty vote of thanks was accorded to the lecturer.

MIDLAND BRANCH:

CHESTERFIELD DIVISION.

A MEETING of the Chesterfield Division was held at Chesterfield on November 21st. In the absence of Dr. J. G. Shea, J.P. (Chesterfield), at the commencement of the meeting, Mr. H. B. FLETCHER, J.P. (Dronfield), presided; thirteen others were present.

Recommendations of the Council.—The following resolutions were passed unanimously:

1. That this Division approves of the raising of the membership subscription to £2 2s.
2. That the establishment of a special fund for the thorough organization of the profession as a fighting force is essential.

Insurance Act.—The form of panel agreement was discussed, and the following resolution was passed:

That this meeting protests against Clause II (2) of the form of panel agreement, and desires that such subclause be deleted from the form, and that this protest be submitted to the Clerk to the Derbyshire Insurance Committee and to the National Health Insurance Commissioners.

MUNSTER BRANCH.

A GENERAL meeting of the Branch was held on November 15th. Dr. WILLIAM DONOVAN (Queenstown) was in the chair.

New Members and Resignations.—Dr. J. J. Curran (Killeagh, co. Cork) and Dr. J. D. Collins (Leap, co. Cork) were unanimously elected members, and three resignations were received.

Subscription to the Association.—Letters were read from the Medical Secretary explaining the position in regard to the raising of the subscription, and from certain members of the Branch opposing the increase. A motion instructing the Representative to vote against the raising of the annual subscription having been proposed and seconded, an amendment instructing the Representative to vote for raising the subscription was proposed and seconded. The amendment was lost and the original resolution carried.

Special Organization Fund.—The proposals as to the special fund were discussed, but no action taken thereon.

Ethical Committee.—The following were unanimously elected as an Ethical Committee: Drs. W. Donovan (Queenstown), D. J. O'Connor (Cork), and P. G. Lee (Cork).

Medical Advisers under the Insurance Act.—The following resolution with regard to medical advisers was unanimously adopted:

That the Munster Branch of the British Medical Association expresses its strongest disapproval of the acceptance of the post of medical advisers by some members of the Association, and requests such advisers to reconsider their position in regard to the acceptance of such posts. In case of their refusal to reconsider their position (if within the area of the Munster Branch), that action may be taken against them under the ethical rules of the Branch, providing that such action has the approval with instructions from the Central Ethical Committee.

OXFORD AND READING BRANCH:

OXFORD DIVISION.

A SPECIAL general meeting of the Division was held at the Radcliffe Infirmary, Oxford, on November 19th. Dr. O'KELLY was in the chair, and about fifty members were present.

Presentation to Dr. Duigan.—Letters of regret at unavoidable absence were read from Sir William Osler and Dr. J. Neil. The CHAIRMAN then referred to the strenuous work which Dr. Duigan had done while Secretary of the Division, especially in the last few years, when he had often sat up into the small hours of the morning. He said that members of the Division had subscribed £96 5s. towards a testimonial, and Dr. Duigan had chosen a pair of antique silver candelabra; the balance was given to him in a cheque for £70. Dr. DUIGAN, in reply, said that the gift would be a lasting memorial of pleasant associations with members while he was secretary, and that he had decided to put the cheque on the road in the form of a car.

Radcliffe Infirmary and Insured Cases.—Dr. BROOKS said it was not advisable for the staff of the Radcliffe Infirmary to express an official opinion with regard to malingering; he also stated that there was no arrangement binding the staff not to admit insured patients; the staff must judge whether patients are suitable cases for admission.

Formation of Panel Committee.—After some discussion it was decided that this was a matter for practitioners in the city of Oxford, and it was proposed by Dr. DUIGAN and seconded by Dr. HIGGS that it be referred to a meeting of city panel and non-panel men to be held within the next week.

Raising the Annual Subscription.—Dr. GILLETT referred to the Association's accounts issued in the SUPPLEMENT of last May showing where the chief increase in expenditure had been. Dr. BROOKS thought it was important for all to stay in the Association, and that if the subscription was raised many would resign. Dr. COLLIER said that in the

past thousands of pounds had been spent unnecessarily over expenses of central committee meetings; that often letters published in the SUPPLEMENT were far too long, and that the libels on private individuals had been unfortunate in running the Association into heavy legal expenses. He recommended a reduction of expenses all round. The following resolution, proposed by Dr. GILLETT and seconded by Dr. BROOKS, was carried with two dissentients:

> This Division thinks it is unnecessary and inexpedient to raise the annual subscription, seeing the increased expenditure of 1912 was exceptional, and recommends a reduction of central meeting expenses.

Special Fund for Organizing Purposes.—Dr. DUIGAN said it was preposterous to spend £24,000 on Local Medical Committees. It was not to the interest of the whole profession. The four organizing secretaries would probably arrange more meetings for medical men than they desired, and he proposed the following resolution, which was seconded by Dr. HIGGS and carried unanimously:

> That the time is not opportune for raising a special fund, for the following reasons:
> (*a*) It will weaken the Association by diminishing its membership.
> (*b*) The four organizing secretaries will tend to increase the work of the profession.
> (*c*) The Local Medical Committees should finance themselves by a levy per panel member.
> (*d*) The centres at Dublin, Cardiff, and Edinburgh are unnecessary.

Dr. HIGGS said that a levy of ¼d. per insured city member brought in £50 to £60 a year. In Berkshire a levy of ½d. per head brought in £90.

Tuberculosis in the County.—On the motion of Dr. JONES, seconded by Dr. SUMMERHAYES, the following resolution was carried unanimously:

> That the Oxford Division of the British Medical Association strongly urges on those bodies charged with the provision for adequate treatment of tuberculosis in the county the necessity of adopting a scheme on the lines advocated by the Division in May last, and that this resolution, accompanied by a copy of the scheme, be sent to the President and Medical Officer of the Local Government Board, the Insurance Commissioners, the Chairman of the County Council, and the Chairman of the Oxfordshire Insurance Committee.

SOUTH-EASTERN OF IRELAND BRANCH.

A SPECIAL meeting of this Branch was held in Kilkenny on November 19th. Dr. O'GORMAN, President, occupied the chair, and nine others were present.

Subscriptions to Association.—On the motion of Dr. WALSHE, seconded by Dr. JAMES, it was unanimously resolved:

> That we, the members of the South-Eastern of Ireland Branch of the British Medical Association, are willing to pay the increased subscriptions provided that the objects mentioned in Part I in the SUPPLEMENT of November 1st be attained.

Model Ethical Rules.—On the motion of Dr. JAMES, seconded by Dr. WALSHE, the Model Ethical Rules were unanimously adopted.

SOUTHERN BRANCH:

GUERNSEY AND ALDERNEY DIVISION.

A MEETING of this Division was held on November 13th, when thirteen members attended.

Special Representative Meeting.—The Council's report in the SUPPLEMENT of November 1st was carefully considered, and it was unanimously decided to instruct the Representative (Dr. J. F. Carruthers) to submit reasons to the Special Representative Meeting on December 4th, if that meeting decided to increase the subscription, for excepting the Channel Islands Divisions from the operation of the increase. The meeting further decided to await his return and report before taking any steps in relation to the Council's report.

Medical Defence.—The Honorary Secretary was directed to ascertain the views of the members of the Division as to belonging to a defence union; if a sufficient number of names could be secured in Guernsey and Jersey to induce one of the societies to form a Channel Islands branch.

Expenses of Representative.—It was also agreed unanimously to vote £2 2s. from the contingency fund towards the Representative's expenses in attending the Special Representative Meeting on December 4th.

SALISBURY DIVISION.

A MEETING of the Salisbury Division was held at the Infirmary on November 15th. DR. J. O. MARCH, Chairman, presided, and twelve other members were present.

Perforating Gastric Ulcer.—DR. FISON read a paper on some cases of perforating gastric ulcer. A discussion followed, in which DRS. LUCKHAM and HENDERSON took part.

Specimens.—Dr. FISON showed specimens of: (*a*) A large, thick-walled hydrocele sac, (*b*) a preputial calculus, (*c*) enucleated tonsils, (*d*) malignant stricture of large intestine. Dr. MARCH showed an interesting case of chronic inflammation of hand for diagnosis. In the opinion of the meeting the diagnosis lay between tuberculous disease and actinomycosis.

New Agreement under Insurance Act.—A discussion took place on the new agreement and regulations under the Insurance Act. It was unanimously resolved that in Section 2 (ii) the words "shall not accept" should be altered to "shall not claim."

Division Boundaries and Insurance Areas.—A letter was read from Dr. Pearse relating to a Wilts Branch of the British Medical Association. The following motion was proposed by Mr. LUCKHAM and seconded by Mr. SAUNDERS:

> That the Sarum Division agrees that it is desirable that the boundary should be made coterminous with that of the Wilts Insurance Committee, but that the question of the area of the Branch should be left open for future discussion.

An amendment proposed by Dr. FISON, seconded by Mr. HENDERSON, that the matter be deferred for further consideration, was, on being put to the meeting, carried by 10 for and 2 against.

Medical Treatment of School Children.—Dr. Pearse also referred to this matter in his communication. On the motion of Mr. LUCKHAM, seconded by Mr. STRATON, it was unanimously resolved:

> That this meeting deprecates the appointment of whole-time officers for the treatment of school children.
> That the question of the treatment of school children be relegated to a subcommittee to draw up a scheme to be presented to a special meeting of the Division on December 17th.

The Subcommittee appointed was as follows: Drs. E. T. Fison, J. Gordon, T. B. Henderson, L. S. Luckham, G. S. Thornton, J. J. Armitage (Honorary Secretary).

Subscription to the Association.—On the motion of Mr. STRATON, seconded by Mr. ARMITAGE, it was resolved that the subscription be not raised to £2 2s.

Special Fund for Organization.—The opinion of the meeting was that no fund be formed for the organization of the profession.

SOUTH MIDLAND BRANCH:

BUCKINGHAMSHIRE DIVISION.

A MEETING of the Buckinghamshire Division was held on November 11th at High Wycombe. (A lunch preceded, at which ten were present.) Dr. SHAW was in the chair, twenty-three members being present, including Dr. Neal, the Deputy Medical Secretary, and Mr. C. E. Waugh, F.R.C.S., Surgeon to the Hospital for Children, Great Ormond Street.

Appendicitis in Children.—Mr. WAUGH gave an address on appendicitis in children, which was listened to with great attention and interest. The meeting expressed its appreciation of the information contained in the address, which, it was considered, was exactly the kind desired by general practitioners; and on the motion of Dr. BAKER, seconded by Dr. BRADBROOK, a hearty vote of thanks was accorded to Mr. Waugh.

Representative Meeting.—Dr. BRADBROOK, the Representative, gave an account of the last Representative Meeting, dealing especially with the proposed increase of subscription to 2 guineas. He urged that the profession must have a strong association to look after its interests, and stated that had it not been for the prompt action of the Brighton meeting the profession might have been put under the friendly societies again. What had occurred at Wisbech might occur elsewhere, and the Association was pressing for a full inquiry. To do its work efficiently the Association must have money, and an increased subscription was unavoidable. Dr. HENDERSON fully explained the objects of the Special Fund, and proposed a resolution

that it be started. Dr. Larking said that he supported the increase of the subscription, but not the method in which it was proposed to spend the money raised. Four extra secretaries were not required, and the new department for Insurance Act work should be paid for by the men on the panel, not by the Association. When the officials, organizers, committee men, and Representatives, all of whom were to be paid, were reckoned, it would be found that out of the total sum to be raised no less than about a third was to be spent on these. He regarded this expenditure as wasteful, extravagant, and unnecessary. All that was needed at once was a separate department under the control of the Association to deal with insurance work and supported by contributions from the Local Medical Committees, which would raise the money by a levy of so much a person on the lists. If 1s. were paid for every hundred insured persons, a sum of £7,000 would be raised with which the proposed department could be maintained. The expenses of the Local Medical Committees should be paid by local levies, as should also the expenses of the Representatives. The willing few ought not to be asked to bear all the expenses and let the others go free. Some sort of compulsion must be exercised. The fighting fund should be raised in a similar way to insurance in other matters, and every man who made up his mind to act with his colleagues and stand by the Representatives, and to run the risk of losing something, should cover his risk by contributing 30s. a year to this fund. If he refused, his colleagues would know what to expect from him when the fight came! The only safe way would be to register the fund as a trade union. Dr. Neal gave many reasons for raising the subscriptions and for establishing a special fund outside the funds of the Association. He pointed out that the present subscription was totally inadequate to meet the expenses which the profession now expected the Association to incur, and that in addition to the heavy deficiency of the last two years, the Association had not as yet been able to pay off the debt incurred when the central premises were rebuilt. The proposed subscription of £2 2s. was certainly not excessive when the scope of the work undertaken by the Association was taken into consideration. Many of the objects of the Special Fund, however, could not be carried out by the Association under its present Memorandum, even with an increased subscription, and if the profession desired to cope successfully with future difficulties that were likely to arise it was imperative that its organization should be made as perfect as possible, and a fighting fund established for the support of practitioners during the progress of any dispute. This should be done at once, as it was impossible to say how soon difficulties might arise. The friendly societies were far from satisfied with the present state of affairs, and might be expected to make every effort to regain control of medical benefit. Any breakdown in the panel service would inevitably give increased strength to the movement already strongly supported in favour of a whole-time national medical service. There was also the danger that the financial difficulties of the approved societies might lead to an attempt to curtail the amount expended on medical benefit, as had actually occurred in Germany. These dangers could only be successfully met by a united profession, having a substantial fighting fund in reserve, and it was for the profession to decide whether it would provide the needful funds. Dr. Drake considered it hard that old members who had retired from practice and still subscribed to the Association should be asked to pay the increased amount. Dr. Shaw referred to the pernicious influence of medical institutes, and agreed that an increase in subscription was necessary. Finally, the following resolution was carried unanimously:

> That this Division supports the raising of the subscription to 2 guineas, but considers that the estimated £10,000 should be devoted to purely Association purposes and improving organization.

The meeting then adjourned, after deciding to hold another at Aylesbury in a fortnight.

Milward Fund.—The sum of 4 guineas was subscribed to the Milward Fund by those present.

Northamptonshire Division.

A meeting of this Division was held in the Board Room of the Northampton General Hospital on November 18th, when Dr. Cooke was in the chair, and sixteen members were present. A letter was read from Dr. Fordyce, resigning office as representative on the Council.

Special Representative Meeting.

The agenda for the forthcoming Representative Meeting was then considered, and, after discussion, it was resolved:

> That the original scheme of July, 1913, for financing the Association be rejected.

It was decided to instruct the Representative (1) to vote for the raising of the annual subscription to £2 2s.; (2) to support the proposal for the better organization of the Association in the original scheme; (3) to oppose the formation of a special fund.

The Representative was given a free hand as regards the further recommendations, but was asked to draw the attention of the meeting to the special circumstances in connexion with the Northampton Medical Institute.

STAFFORDSHIRE BRANCH:

Mid-Staffordshire Division.

A general meeting of the Division was held at Lichfield on November 19th, eighteen members being present.

Special Representative Meeting.—Dr. Neal, Deputy Medical Secretary, attended and explained the proposed raising of the annual subscription and the objects of the proposed organization fund. A discussion followed; it was then resolved:

> That the Representative be instructed to vote in support of the proposed raising of the subscription to 2 guineas, and of the alternative scheme for the organization of the medical profession.

Insurance Act.—The recommendations of the Council relating to matters in connexion with the Insurance Act were then considered; the Representative was instructed to vote in their favour.

Representative on Branch Council.—Dr. Stack was elected a Representative on the Branch Council vice Dr. Blumer, resigned.

The Milward Fund.—A collection for the Milward Fund realized £4 14s. 6d.

SURREY BRANCH.

The inaugural meeting of the newly formed Surrey Branch was held at Croydon on November 13th, at 3 o'clock.

Election of Officers.—The following officers were elected:

President.—Dr. A. M. Mitchell (Guildford), late President of the old South-Eastern Branch.

Vice-Presidents.—Dr. Willock (Croydon), Mr. H. Branson Butler (Guildford).

Secretary and Treasurer.—Mr. Cecil P. Lankester (Guildford).

Council.—It was resolved that the Representatives for the Representative Meeting, the present representatives on the Branch Council for the Divisions of Croydon, Guildford, and Reigate, together with Dr. A. E. Evans (Kingston), Dr. G. J. Maguire (Richmond), and Dr. Powell Evans (Wimbledon), form the Branch Council for the present year.

Rules.—The revised rules of the late South-Eastern Branch, with certain amendments, were adopted, as were also the Association's model rules for ethical matters of a Branch.

Scientific Work of Association.—The question of developing the scientific part of the Association work was discussed, and the matter referred for further consideration to the Branch Council.

Votes of Thanks.—On the motion of the President, a hearty vote of thanks was accorded to Dr. E. A. Starling for attending the meeting and helping in the initiation of the Surrey Branch. A resolution was also proposed and carried, warmly thanking Dr. Starling for his work and unfailing courtesy and help during the past four years as Secretary of the South-Eastern Branch.

YORKSHIRE BRANCH:

Halifax Division.

A meeting of the Halifax Division was held on November 19th. The Chairman of the Division (Dr. Drury) presided, and twenty-six other members were present.

Recommendations of Central Council.—The Representative was instructed on a unanimous vote to support the proposed increase in the annual subscription of the

Association. Also, on a vote of 13 for to 1 against, the Representative was instructed to support the proposal for a special fund. A discussion took place on the suggested charges on the fund for the expenses of the Local Medical Committees, and the meeting decided in favour of the exemption of non-panel men from contribution to this portion of the fund. A definite proposal was adopted that the subscription to the fund should be £3 instead of £4 4s., thus leaving out the contribution to the expenses of the Local Medical Committees, which the meeting thought should be contributed locally.

Medical Referees.—The question of medical referees under the Insurance Act gave rise to considerable discussion. A previous decision that the minimum fee should be 1 guinea came up for further consideration, and was not confirmed. A resolution similar to the decision of the West Riding Committee was carried—namely, that the minimum fee be 10s. 6d. for an examination at the surgery, £1 1s. at the patient's house, and 5s. when the patient failed to keep an appointment for an examination at the surgery.

The Milward Fund.—At the previous meeting £2 5s. was subscribed to the Milward Fund. An additional subscription was taken from members not present at that meeting, and realized £1 15s.

The Wisbech Matter.—The meeting expressed its sincere sympathy with the doctors affected by the recent trouble at Wisbech.

Wakefield, Pontefract, and Castleford Division.

A meeting of this Division was held at the Clayton Hospital, Wakefield, on November 20th, for the purpose of electing a chairman of the Division, and instructing the Representative for the Special Representative Meeting. At the beginning of the meeting, Dr. J. W. Walker, of Wakefield, occupied the chair.

Election of Chairman and Vice-Chairman.—The resignation of Dr. J. W. Walker (Wakefield) was accepted with regret, and on the motion of Dr. Eardley (Goole), seconded by Dr. Hillman (Castleford), a hearty vote of thanks was accorded to Dr. Walker for his services to the Division, over which he had presided as chairman ever since its re-formation a number of years ago. Dr. Hillman was unanimously elected chairman, and Dr. E. W. Selby (Doncaster), vice-chairman.

Special Representative Meeting.—Dr. Stanger moved, Dr. Roulston seconded, and it was unanimously agreed:

> That our Representative be instructed to vote in favour of the proposed raising of the annual subscription to 2 guineas.

Association Notices.

SUGGESTED CHANGES OF BOUNDARIES.

Notice of Proposal for Change of Boundaries of the Border Counties and North Lancashire and South Westmorland Branches, and the English, Furness, Kendal and Scottish Divisions, with possible Changes of Name.

Notice is hereby given under By-law 73 to all concerned of a proposal made by the English Division for alteration of the areas of the Border Counties and North Lancashire and South Westmorland Branches, and various Divisions of these Branches, whereby the respective areas would be constituted as follows:

Branches and Divisions.	*Areas.*
1. Border Counties Branch.	Counties of Cumberland, Dumfries, Kirkcudbright, and Wigtown.
English (or Cumberland) Division.	County of Cumberland.
Scottish (or Dumfries, Kirkcudbright, and Wigtown) Division.	Counties of Dumfries, Kirkcudbright, and Wigtown.
2. North Lancashire and South Westmorland Branch.	County of Westmorland, County of Lancaster north of and including Garstang, and that portion of Yorkshire west of and including Hawes and Settle.
Furness Division.	The part of Lancashire included in the Branch area west of the river Winster.
Kendal (or Westmorland) Division.	The County of Westmorland.
Lancaster Division.	To consist, as at present, of the part of Lancashire south-east of the river Winster, and the portion of Yorkshire, included in the Branch area.

Formal written notice of the proposal of the Division has been given, pursuant to Article 13, to the Divisions and Branches concerned, and the matter will be determined in due course by or on behalf of the Council. Any member affected by the proposed change and objecting thereto is requested to notify the fact, with his reason therefor, to the Medical Secretary, 429, Strand, London, W.C., by December 29th, 1913.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Birmingham Branch: Coventry Division.—Dr. D. Davidson (15, Priory Row, Coventry) gives notice that the next meeting of the Division will be held on Thursday, December 4th, at 8.30 p.m., at the Coventry Hospital, when, in addition to the other business, Dr. Harrison-Butler will open a discussion on Cerebral Tumours, and other members have promised to discuss similar or allied conditions.

Lancashire and Cheshire Branch: Altrincham Division.—Dr. T. W. H. Garstang, Honorary Secretary (22, Station Buildings, Altrincham), gives notice that a special meeting will be held at Altrincham on Wednesday, December 10th, to receive the report of the Representative. The Executive Committee will meet at Altrincham on January 8th, 1914, and the annual meeting of the Division will take place at Altrincham on January 22nd, 1914.

Metropolitan Counties Branch: Camberwell Division.—A special meeting will be held on Tuesday, December 2nd, at 4 p.m., at the Surrey Masonic Hall, Camberwell New Road, to discuss the agenda for the Special Representative Meeting (see the Supplement, November 1st, which it is requested should be brought to the meeting). The Medical Secretary will address the meeting as to the objects of the Special Fund.

Metropolitan Counties Branch: City Division.—Dr. A. G. Southcombe, Honorary Secretary (83, Sidney Road, Homerton, N.E.), gives notice that the next meeting of the Division will be held, conjointly with the Finsbury Medical Guild, at the Manchester Hotel, Aldersgate Street, E.C., on Friday, December 12th, at 9.30 p.m., when Dr. James MacMunn will give an address on The Treatment of Chronic Urethritis. Members are reminded that their professional friends will be welcomed. Coffee at 9.15.

Metropolitan Counties Branch: Lambeth Division.—Mr. T. H. Parkes Peers, Honorary Secretary (20, Surrey Square, S.E.), gives notice that a general meeting will be held at the Guardians' Offices, Brook Street, Kennington, on Friday, November 28th, at 4 p.m. Business: Representatives' report. Instruct Representatives for Special Representative Meeting. Any other business. Every member of the Division is particularly requested to be present.

North of England Branch: Newcastle-on-Tyne Division.—Mr. R. J. Willan, F.R.C.S., 25, Ellison Place, Newcastle-on-Tyne, gives notice that a scientific demonstration will be given in the Royal Victoria Infirmary, Newcastle-on-Tyne, on Friday, December 19th, from 3.15 to 6 p.m.:—Dr. S. J. Clegg: Some Infectious Fevers. Dr. W. C. Rivers: The Treatment of Phthisis by Artificial Pneumothorax. Tea. Mr. J. W. Leech: Diagnosis and Treatment of Ruptured Ulcers of the Stomach and Duodenum. Mr. S. S. Whillis: Common Conditions of the Nose and Ear. Mr. G. Grey Turner: The Diagnosis of Intestinal Obstruction.

Southern Branch: Portsmouth Division.—Dr. B. H. Mumby, Honorary Secretary (Mental Hospital, Portsmouth), gives notice that an important meeting of the Portsmouth Division will be held on Tuesday, December 2nd, at 4 p.m., at the Medical Library, 5, Pembroke Road, Portsmouth. Agenda: Increase of subscription to £2 2s. Establishment of special fund for organizing the profession (see British Medical Journal Supplement, November 1st). To instruct Representative on matters referred to Divisions (see British Medical Journal Supplement, November 1st).

KENT BRANCH: DARTFORD DIVISION.—Dr. H. Chisholm Will, Honorary Secretary (Sidcup), gives notice that the final meeting of the old Division and the inaugural meeting of the re-organized Division will take place at the Bull Hotel, Dartford, on Wednesday, December 3rd. Members and friends will lunch together at 1.30, after which a short discussion will take place regarding the new Division, special fund, British Medical Association subscription, Kent county levy, etc. All medical men in the old Division are urged to attend.

WEST SOMERSET BRANCH.—Dr. Charles Farrant, Honorary Secretary (Shrapnels, Taunton), gives notice that the autumn meeting will be held at the Taunton and Somerset Hospital, at 4.30 p.m., on Tuesday, December 9th, under the chairmanship of the President, Mr. Penrose Williams. Agenda: To elect a Representative for 1914–15 and also a Deputy Representative. Sir Alfred Pearce Gould, K.C.V.O., will read a paper on The Radium Treatment of Cancer. The annual medical dinner will be held at the Castle Hotel at 7 p.m. A musical programme will be arranged for the evening.

CENTRAL MIDWIVES BOARD.

A SPECIAL meeting of the Central Midwives Board was held on November 6th at Caxton House, Westminster, with Sir FRANCIS H. CHAMPNEYS in the chair.

A number of midwives were struck off the roll, the following charges, amongst others, having been brought forward: Having advised that a case was one in which the attendance of a medical practitioner was required, and a medical practitioner being in attendance accordingly, his instructions were not faithfully carried out as required by Rule E. 6. Neglect to take the pulse and temperature of patients as required by Rule E. 13; neglect to wash the patient at any time; not being scrupulously clean, being ignorant of antiseptics, and having no proper appliances, as required by Rule E. 2. That when attending patients the midwife did not wear a clean dress of washable material, as required by Rule E. 1. That the bag of appliances was dirty, and had no washable lining. Not keeping the register of cases as required by Rule E. 23. Medical aid having been sent for, the midwife neglected to send any notification thereof to the local supervising authority, as required by Rule E. 21 (1). A child suffering from inflammation of and discharge from the eyes, the midwife having explained that the attendance of a registered medical practitioner was required, she did not hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (5).

Special meetings of the Central Midwives Board were held on November 11th and 12th at Caxton House, Westminster, with Sir FRANCIS H. CHAMPNEYS in the chair.

A number of midwives were struck off the Roll, the following charges, amongst others, having been brought forward: Neglect to take the temperature of the patient, as required by Rule E. 13; not being scrupulously clean as required by Rule E. 1; medical aid having been called to a patient, the midwife omitted to send any notification thereof to the local supervising authority, as required by Rule E. 21 (1). A child suffering from inflammation of and discharge from the eyes, the midwife did not explain that the case was one in which the attendance of a registered medical practitioner was required, nor did she hand to the husband or the nearest relative or friend present the form of sending for medical help, properly filled up and signed by her, in order that this might be immediately forwarded to the medical practitioner, as required by Rule E. 20 (5). Not attending to the cleanliness and comfort of the patient as required by Rule E. 11. Being in contact with a large number of cases of skin disease in the case of newly-born children, the midwife made no effort to notify the local supervising authority, nor did she make any attempt to procure disinfection of herself, her clothing, and her appliances, so as to avoid the spread of infection. Not washing and swabbing the patient as required by Rule E. 7; being unable to make use of a clinical thermometer and consequently unable to take the temperature of patients as required by Rule E. 13; not being scrupulously clean in person, clothing, appliances and house, as required by Rule E. 1; neglect to make use of any antiseptic precautions as required by Rules E. 3 and 7, and omitting to provide for the comfort and cleanliness of the patient as required by Rule E. 11. Not wearing a clean dress of washable material, when attending patients, as required by Rule E. 1; not keeping the register of cases as required by Rule E. 23, and administering to a patient a drug other than a simple aperient without recording it in the register as required by Rule E. 18.

A meeting of the Central Midwives Board was held at Caxton House, Westminster, on November 20th, with Sir FRANCIS H. CHAMPNEYS in the chair.

A letter was considered from the Clerk of the Privy Council transmitting a copy of a Note from the Foreign Office from the Norwegian Chargé d'Affaires in London, requesting certain particulars respecting the training of midwifery pupils in the United Kingdom, and asking the Board to furnish a Memorandum thereon. The Board decided that the reply as drafted by the Chairman be approved and forwarded to the Clerk of the Council.

A letter was considered from one of the Board's examiners calling attention to the ineffective training of a large number of the candidates for the Board's examination, owing to the apparent absence of any system of classes at which questions may be asked and explanations given. The Board directed that the substance of the letter be communicated to all the examiners, with the request that they will comment upon it for the information of the Board.

THE RECENT INCIDENTS AT WISBECH.

As reported a fortnight ago, the Insurance Act Committee, acting on behalf of the British Medical Association, addressed a letter to the Home Secretary urging that a public inquiry should be made into all the facts connected with the death of the late Dr. Dimock, of Wisbech. A reply has this week been received from the Home Office, stating that the Home Secretary has no power to institute any inquiry at which evidence could be taken on oath, or at which the matters could be satisfactorily investigated. The correspondence is as follows:

British Medical Association,
Medical Department, 429, Strand, W.C.,
November 7th, 1913.

Sir,—I am instructed by the British Medical Association to urge upon the Home Office the necessity for a prompt public inquiry into all the facts connected with the death of the late Dr. Dimock of Wisbech and the rioting which ensued thereafter. The Association has been placed in possession of evidence which has convinced it that a serious injustice has been done to Dr. Meacock and other doctors in the town of Wisbech. If Dr. Dimock had lived, the public would have had an opportunity of judging whether the action of Dr. Dimock justified Dr. Meacock in bringing against him a charge of criminal libel. It now appears that, unless the Home Office or some other high authority intervenes, Dr. Meacock and his colleagues will have to rest under the imputation of having driven Dr. Dimock to his death by a system of persecution ending in an unjustifiable charge. This will probably mean the wreck of their future professional prospects. The Association trusts that the Home Office will take such steps as will prevent such grave injustice being perpetuated, and I am instructed to express the hope that an inquiry at which sworn evidence can be taken will be instituted at the earliest possible moment.—I am, Sir, your obedient servant,

(Signed) ALFRED COX, *Medical Secretary.*

The Secretary of State for Home Affairs,
Home Office, Whitehall, S.W.

Home Office, Whitehall,
26th November, 1913.

Sir,—In reply to your letter of the 7th instant, suggesting the institution of a public inquiry into certain circumstances attending the prosecution and the death of the late Dr. Dimock, I am directed by the Secretary of State to say, for the information of the British Medical Association, that he has no power to institute any inquiry at which evidence could be taken on oath or at which the matters you mention could be satisfactorily investigated. He has communicated with the coroner, as he thought it possible that the evidence your Association wish to offer might be heard at the inquest; but he gathers from the coroner's reply that he is not likely to hold that such evidence would be relevant to the question of the cause of Dr. Dimock's death. In these circumstances Mr. McKenna regrets that he is unable to take any further steps in the matter.—I am, Sir, your obedient servant,

(Signed) EDWARD TROUP.

Alfred Cox, Esq.,
British Medical Association,
Medical Department, 429, Strand, W.C.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1913.

Tuesday, November 25th, 1913.

The ninety-eighth session of the General Council of Medical Education and Registration began at the offices of the Council, 299, Oxford Street, on Tuesday, November 25th, at 2 p.m.

Election of Chairman.

Dr. Norman Moore said the first duty of the Council was to select a Chairman, in the absence of the President through illness. The legal adviser to the Council had stated that whoever was chosen must be formally appointed each day. Dr. Norman Moore moved that the Senior Treasurer be asked to take the chair. Sir Henry Morris seconded, and it was carried unanimously.

Mr. Tomes then took the chair.

Illness of the President.

The Chairman said that the Executive Committee had had the advantage of the advice of the President on many questions even during his illness, but that Sir Donald MacAlister had been advised that he would not be well enough to travel to London.

On the motion of Dr. Little, the following resolution was adopted:

> That this Council has received with great regret the President's letter informing them of his serious illness and of his inability to preside at the present session. The Council cannot but feel that the President's unsparing devotion to the duties of his office has contributed to the breakdown of his health. The members are rejoiced to hear that he is now making steady progress towards recovery, and they look forward with pleasure to the prospect of having their summer meetings presided over by him, to the great advantage of their proceedings, with his usual conspicuous ability.

New Member.

Professor Elliot Smith, F.R.S., was then introduced as representative of the Victoria University of Manchester for a period of two years in the place of Professor Lorrain Smith, resigned.

The late Sir John Batty Tuke.

The Council resolved to convey to the family of the late Sir John Batty Tuke an expression of sincere sympathy at the loss sustained by his death, and placing on record the high appreciation of his many services to the Council from his appointment in 1887 till his retirement in 1912, and in particular of his devoted labours as Chairman of the Education Committee.

Presentation of Portraits.

The Council accepted the gift from Sir William Turner of a photogravure of a portrait of himself by Sir James Guthrie, P.R.S.A., and from Lady Ilkeston a portrait of her late husband. Suitable votes of thanks were adopted.

Service Examinations.

The Council received and directed to be acknowledged with thanks three returns relating to competitions for admission to the medical department of the Royal Navy, to the Indian Medical Service, and to the Royal Army Medical Corps. The competition for the Royal Navy commenced on September 29th, the others taking place in July.

For the Naval Medical Service, 25 commissions were offered, but only 14 candidates presented themselves. With one exception they were all approved. The first place was taken by a graduate of the University of Edinburgh, the next two by graduates of the University of London, the fourth by a graduate of the National University of Ireland, and the fifth by an English Conjoint diplomate. Two of the total number of candidates held degrees of the University of London, 2 those of the University of Edinburgh, 1 a degree of the University of Glasgow, 1 Aberdeen degrees, 3 degrees granted by the National University of Ireland, 2 the diplomas of the English Conjoint Board, and 3 those of the Irish Conjoint Board, of whom 1 was rejected.

For the Royal Army Medical Corps only 5 commissions were offered; 17 candidates competed, and all of them obtained the qualifying number of marks. The first place was taken by a graduate of the University of London, the second by an English Conjoint diplomate, the third and fourth by graduates of the University of Edinburgh, and the fifth by a graduate of the University of Glasgow.

For the Indian Medical Service 12 commissions were offered, and 22 candidates competed. Of these, 12 received commissions, 4 qualified but were not successful, and 6 were rejected. The first place was taken by a graduate of the University of Edinburgh; the second by an English Conjoint diplomate, who held also the M.B. of the University of Calcutta; the third by a holder of the English Conjoint diploma alone; the fourth by a graduate of the University of Glasgow; and the fifth by a graduate of the University of London. Of the rejected candidates, 2 held a licence in medicine and surgery from the University of Bombay; 1 a degree from the University of the Punjab; 1 the English Conjoint diplomas; and 2 the Scottish Conjoint diplomas. With one exception, all the rejections were due to the candidates failing to obtain half marks in the subjects of pathology and bacteriology.

Education Committee's Report.

Dr. Mackay said that a temporary list of the examinations qualifying for admission to the *Students' Register* was drawn up last session, but it had not yet been possible to put this list into its final form; the Committee therefore proposed to defer its report until the next session.

Apothecaries' Hall, Ireland.

On the motion of Dr. Little, seconded by Sir Charles Ball, a communication from the Irish Branch Council was received and entered on the minutes.

The communication, which was dated June 20th, stated (1) that the Branch Medical Council, Ireland, had on June 20th nominated Mr. Robert C. Maunsell, F.R.C.S.I., to be assistant examiner for the Apothecaries' Hall, and Dr. John Magee Finny an inspector under Section 18 of the Medical Act, 1858; (2) that Lieutenant-Colonel F. G. Adye-Curran, representative of the Apothecaries' Hall, Ireland, on the General Medical Council, had handed in a letter of protest against the proposed appointment either of an inspector or of a surgical examiner, on the ground that the power of so appointing was vested in the General Medical Council alone.

The President, in pursuance of the resolution of the Council of May 13th, 1915, had notified that Mr. Maunsell had been appointed to be an examiner in surgery and to assist at the qualifying examinations held by the Apothecaries' Hall, Ireland, for the four years beginning June 21st, 1913, and that under Section 18 of the Medical Act, 1858, Dr. John Magee Finny had been appointed to attend and be present at any of the examinations other than the examinations in surgery required to be gone through in order to obtain the qualification of Licentiate of the Apothecaries' Hall, Dublin, during the year beginning June 21st, 1913.

Dr. Adye-Curran, on a point of order, asked whether Dr. Finny was really an inspector or a visitor. There seemed to be a confusion of ideas in regard to this matter on the Irish Branch Council, which had recommended that he be appointed inspector under the Act of 1858. That Act gave no power of appointing inspectors; that power was conferred on the Council by the Act of 1886. Therefore the Council should consider its position in the matter. Further, Dr. Adye-Curran contended that the President had no power to appoint Mr. Maunsell and Dr. Finny as he had purported to do by his letters, as the Act distinctly conferred that power on the Council only. He asked for the opinion of the Solicitor on the legal point.

Sir Charles Ball desired to answer the question at once, although the matter would come up again on the Examination Committee's report. He admitted that an inspector must be appointed under Section 3 of the Act of 1886, and Dr. Finny was not appointed under that Act, but under the Act of 1858. The letter of the President had made the position quite clear.

Dr. Adye-Curran was satisfied with the explanation, and the matter dropped.

Restoration of Names.

The Council sat *in camera*, and when the public session was resumed the Chairman announced that the Registrar had been directed to restore to the *Medical Register* the names of James Williams Skelley and James Forrest; and also to restore to the *Dentists Register* the names of Frederick Ellis and Edward Joseph Regan.

The Council, according to custom, adjourned at 4 p.m. to allow time for committee work.

Wednesday, November 26th, 1913.

Mr. Tomes was again called on to take the chair.

Disciplinary Cases.

The Council then proceeded to the consideration of penal cases.

Mr. Bodkin appeared as Legal Assessor to the Council, and Mr. Harper appeared as Solicitor to the Council.

Passport Declarations.

At its meeting last May the Council had before it the case of Dr. Alfred Benson, who had been convicted on a charge of improperly making declarations upon forms of application for passports. At that meeting the Council decided to afford Dr. Benson an opportunity of proving that he realized the gravity of the offence by producing evidence with regard to his character and conduct generally on the present occasion. Dr. Benson said, in reply to the Chairman, that he had no additional facts to bring to the notice of the Council.

The Solicitor to the Council read a letter received from the Rev. Alfred R. With, M.A., head master of a boys' school in Maida Vale, from which it appeared the writer had known Mr. Benson for seventeen years, and that he had during the past six months conducted himself with propriety, and was held in high esteem in that neighbourhood.

The parties and strangers were directed to withdraw; on readmission the Chairman said:

Mr. Benson, I have to inform you that the Council does not see fit to direct the Registrar to erase your name from the *Medical Register*.

Association in Practice with an Unqualified and Unregistered Person.

The Council then proceeded with the consideration of the case of James Morrison Orr, registered as of Beulah Grove, West Croydon, M.D., R.U.Irel. (1882), who had been summoned to appear before the Council on the following charge:

That being a registered medical practitioner you have knowingly associated in practice with an unqualified and unregistered person—namely, one Horatio Franklyn Sparling, and have knowingly authorized or allowed the said Horatio Franklyn Sparling to exhibit a plate at 30, Northcote Road, West Croydon, with the inscription "Dr. H. F. Sparling" thereon above a plate bearing your name, and have thereby enabled the said Horatio Franklyn Sparling to attend and treat patients as if he were duly qualified and registered.

And that in relation thereto you have been guilty of infamous conduct in a professional respect.

Mr. Hempson, solicitor, appeared on behalf of the Medical Defence Union, the complainants; Mr. J. W. Marten, solicitor, appeared on behalf of Dr. Orr.

Mr. Hempson said that Dr. Orr had been a medical practitioner for thirty years, and resided and practised at Beulah Grove, West Croydon. Mr. Sparling resided at 30, Northcote Road, West Croydon, for some years, the house at which it was alleged the names of Dr. Morrison Orr and Mr. Sparling were associated together, and from whence they carried on their practice. In August last Mr. Sparling was called in to attend a child; the condition of the child became critical. Dr. Orr subsequently saw it, but the child died, and an inquest was held. The coroner instructed Dr. Orr to make a *post-mortem* examination. The inquest was held and depositions were taken at it, and a full shorthand note of the evidence was before the Council. At the inquest both Mr. Sparling and Dr. Orr gave evidence. Mr. Sparling stated the circumstances in which he started in practice and was induced to put up his plate at 30, Northcote Road, West Croydon. He also stated that there was actually a partnership between him and Dr. Orr. Dr. Orr also gave evidence at the inquest. The attention of the Medical Defence Union was drawn to the case, and it took the matter up under the penal sections of the Medical Act. Proceedings were instituted against Mr. Sparling, and a nominal penalty imposed. It was pleaded in mitigation on that occasion that Mr. Sparling had been betrayed into the position by Dr. Orr himself, and it was with the full knowledge and approval and at the actual suggestion of Dr. Orr that Mr. Sparling was induced to start in practice in Croydon as a medical man, though not possessing any qualification enabling him to do so. Declarations had been put in before the Council by Mr. Sparling and his father setting out the facts of the matter. Mr. Hempson submitted that the Council had it established that there was an association between the two gentlemen sufficient to be called a partnership. That their names had been up together was not denied. There had been books kept, and there were entries in those books of cash received by Mr. Sparling and divided by him with Dr. Orr in fulfilment of the partnership arrangement which, it was alleged, prevailed between them. Certificates had been given in cases which, it would be proved, had been seen by Mr. Sparling in consultation with Dr. Orr. In two cases in which Mr. Sparling operated for circumcision Dr. Orr was the anaesthetist.

Mr. Sparling, in answer to Mr. Hempson, verified the statements in his declaration to the effect that on or about October 14th, 1910, he entered into a verbal partnership with Dr. Orr. Mr. Sparling's father was to furnish a surgery, and Dr. Orr and Mr. Sparling were to practise there. There was a temporary break in the partnership in March, 1911, but from April, 1911, the partnership had continued uninterrupted. Dr. Orr had acted as anaesthetist at operations performed by Mr. Sparling. He had frequently accompanied Dr. Morrison Orr on his round to his patients in order to gain experience. He also identified two notification certificates in respect of his (Mr. Sparling's) patients signed by Dr. Morrison Orr.

Cross-examined by Mr. Marten: He first approached Dr. Morrison Orr in October, 1910, with a view to entering into partnership with him. He disclosed the fact at the time that he was an unqualified man, and Dr. Orr interviewed the witness's father and then the partnership commenced. He (Mr. Sparling) had been a dispenser on boats and was engaged as assistant for two years in New Zealand. He communicated this fact to Dr. Orr, and told him he desired to become a medical practitioner. It was not a fact that Dr. Orr undertook to coach him for the preliminary examination; neither did he say he was going to open a surgery and request the witness to act as dispenser and general attendant. The partnership from the beginning was not successful from a financial point of view. Dr. Orr attended the surgery regularly until April, 1911, when the plate was taken down. He could not point to anything in the books showing that a partnership ever existed between them. It was not the fact that the only interview Dr. Orr had had with Mr. Sparling, sen., was to warn him that he, the witness, was unqualified.

Re-examined by Mr. Hempson: The partnership continued until April 13th, 1911, but he still continued dividing money in respect of it with Dr. Orr; by that he meant that if Dr. Orr's assistance was called in he was paid half or perhaps more of the fee received. It was against Dr. Orr's wish that accounts should be kept in respect of the practice.

By the Legal Assessor: He could not say what income resulted from the partnership, nor how much Dr. Orr drew, because the latter was paid every time he was consulted.

Mr. Horatio Osmond Sparling, in answer to Mr. Hempson, said that about the beginning of October, 1910, Dr. Orr called upon him and told him that his son had arranged to start as a medical practitioner if he (the father) would assist in fitting up a surgery. He asked Dr. Orr if he were aware that Mr. Sparling, jun. was not a qualified medical practitioner. Dr. Orr replied that was all right. The witness accepted the assurance, and took No. 30, Northcote Road, furnished the dispensary, bought the drugs, and also fitted up the red lamp outside the house. In answer to Mr. Marten, the witness said that he understood a man could call himself a doctor as long as he did not call himself a physician or surgeon, but he could not give a death certificate nor sue to recover fees. Mr. Marten suggested to the witness that Dr. Orr told him that he (Dr. Orr) had arranged to employ Mr. Sparling as a dispenser. The suggestion was denied by the witness, though he knew that his son had acted as a dispenser for some years.

This concluded the case for the Medical Defence Union.

Mr. Marten then called Dr. Morrison Orr, and read his statutory declaration in answer to the charge; it was a general traverse of the allegations made against him; from it it appeared that Mr. Sparling, sen., was to take and fit up premises as a surgery, in consideration of which Dr. Morrison Orr was to engage Horatio Franklyn Sparling as attendant and dispenser under his supervision; that Mr.

H. F. Sparling never acted in any other capacity, and that Dr. Morrison Orr never associated with him in such a way as to lead anyone to believe that H. F. Sparling was a qualified medical practitioner.

In reply to Mr. MARTEN, Dr. ORR said the statements contained in the declaration were true. In consequence of a conversation with H. F. Sparling he (Dr. Orr) had an interview with H. O. Sparling, and in consequence the latter took and furnished the premises, No. 30, Northcote Road, in consideration of which H. F. Sparling was to be engaged as dispenser and surgery attendant.

Cross-examined by Mr. HEMPSON: Mr. Sparling was to receive no remuneration for his services. For the fitting up of the house as a surgery Mr. Sparling was to be coached for his preliminary examination. Mr. Sparling, however, made no effort to study. Dr. Orr had given him some instruction from books on some occasions. He had remonstrated with both Mr. Sparling and his father, as he did not follow his course of study. There was constant friction, caused mainly by the fact of his refusing to study. Dr. Orr never at any time introduced Mr. Sparling to patients as his partner. He had seen people with him, but only in consideration of the fact that he was a dispenser. He did not look on him as a partner at all. Dr. Orr admitted on one occasion acting as anaesthetist to Mr. Sparling in an operation for circumcision. At no time was there any division of moneys received between Dr. Orr and Mr. Sparling on one side or the other. At no time while the plate was up was he aware that H. F. Sparling was an unqualified man.

Re-examined by Mr. MARTEN: It was not with his approval that Mr. Sparling's plate remained up after he left.

Mr. MARTEN: What was the main cause of friction between you other than that Mr. Sparling did not devote himself to study?

The WITNESS: Well, I fancied he was doing surreptitious work—attending people, and I was not getting my share out of it.

The LEGAL ASSESSOR: That does not appear to be very consistent with your previous answers.

Mr. MARTEN submitted that the allegations against Dr. Orr were based on untrustworthy evidence, and that he had never associated himself with H. F. Sparling as alleged. The latter was a young man who desired to enter the medical profession, and he came to the arrangement as stated by Dr. Morrison Orr, but as he was not devoting himself to continuous study in order to qualify himself the arrangement which existed was terminated, and Dr. Morrison Orr severed his connexion with Mr. H. F. Sparling, and denied that he was afterwards in any way connected with him.

Strangers and the parties were requested to withdraw. On readmission the Chairman announced the judgement of the Council as follows;

Mr. Orr, I have to announce to you that the Council have found the facts alleged against you in the notice of inquiry to have been proved, and have directed the Registrar to erase from the *Medical Register* the name of James Morrison Orr.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns 7,974 births and 4,738 deaths were registered during the week ending Saturday, November 15th. The annual rate of mortality in these towns, which had been 13.1, 13.9, and 13.3 per 1,000 in the three preceding weeks, rose to 13.8 per 1,000 in the week under notice. In London the death-rate was equal to 13.4, against 13.7, 14.2, and 13.0 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rate ranged from 6.1 in Enfield, 6.9 in York, 7.0 in Swindon, 7.5 in Acton, 7.7 in Oxford, and 7.9 in Walthamstow to 18.9 in Wakefield, 19.3 in South Shields, 19.4 in Rotherham, 21.2 in Rochdale, 22.3 in Dewsbury, and 23.7 in Middlesbrough. Measles caused a death-rate of 1.9 in Stockport, and scarlet fever of 1.9 in South Shields. The deaths of children (under 2 years) from diarrhoeal diseases, which had been 407, 322, and 261 in the three preceding weeks, further fell to 187: of this number 58 were recorded in London, 14 in Birmingham, 10 in Liverpool, 8 in Middlesbrough, 7 in Manchester, and 7 in Hull. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 42, or 0.9 per cent. of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 9 in Birmingham, 8 in Liverpool, and 2 each in Bury, Manchester, Rochdale, and Sheffield. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,445, 3,580, and 3,731, at the end of the three preceding weeks, had further risen to 3,896 on Saturday, November 15th; 597 new cases were admitted during the week, against 530, 534, and 619 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,041 births and 701 deaths were registered during the week ending Saturday, November 15th. The annual rate of mortality in these towns, which had been 14.0, 14.7, and 14.0 per 1,000 in the three preceding weeks, rose to 16.2 in the week under notice, and was 2.4 per 1,000 above the rate recorded in the ninety-six large English towns. Among the several towns the death-rate ranged from 7.6 in Motherwell, 10.5 in Kilmarnock, and 11.0 in Clydebank to 19.3 in Perth, 19.5 in Greenock and in Kirkcaldy, and 21.4 in Ayr. The mortality from the principal infective diseases averaged 1.9 per 1,000, and was highest in Aberdeen and Clydebank. The 338 deaths from all causes registered in Glasgow included 16 from measles, 12 from infantile diarrhoeal diseases, 1 from scarlet fever, 1 from whooping-cough, and 1 from diphtheria. Eight deaths from measles were recorded in Edinburgh, 4 in Paisley, and 4 in Clydebank; from scarlet fever 3 in Aberdeen and 2 in Greenock; from diphtheria 6 in Aberdeen and 2 in Dundee; and from enteric fever 2 in Perth.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, November 15th, 616 births and 432 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 595 births and 404 deaths in the preceding period. These deaths represent a mortality of 18.8 per 1,000 of the aggregate population in the districts in question, as against 17.6 per 1,000 in the previous period. The mortality in these Irish areas was therefore 5.0 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 26.8 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 20.1, as against an average of 19.9 for the previous four weeks, in Dublin city 20.8 (as against 21.0), in Belfast 18.3 (as against 16.1), in Cork 21.1 (as against 18.9), in Londonderry 22.9 (as against 18.4), in Limerick 24.4 (as against 16.9), and in Waterford 17.1 (as against 19.9.) The zymotic death-rate was 2.0, as against 1.6 in the previous week.

ENGLISH URBAN MORTALITY IN THE THIRD QUARTER OF 1913.

[SPECIALLY REPORTED FOR THE BRITISH MEDICAL JOURNAL.]

In the accompanying table will be found summarized the vital statistics of ninety-six of the largest English towns, based upon the Registrar-General's weekly returns for the third quarter of the year. The 112,553 births registered in these towns during the quarter were equal to an annual rate of 25.3 per 1,000 of the population, estimated at 17,852,766 persons in the middle of the year. In London the birth-rate last quarter was 24.7 per 1,000, while among the other large towns it ranged from 14.7 in Southport, 15.2 in Hastings, 15.3 in Bournemouth, 15.7 in Hornsey, 15.9 in Eastbourne, and 16.4 in Blackpool to 31.2 in Stockton-on-Tees, 31.5 in Stoke-on-Trent, 32.4 in Sunderland, 32.6 in Middlesbrough, 32.7 in St. Helens, and 34.3 in Rhondda.

The 56,725 deaths in these towns during the quarter were equal to an annual rate of 12.7 per 1,000; in London the rate was 11.8 per 1,000, while among the ninety-five other large towns it ranged from 6.7 in Ealing and in Ilford, 6.8 in Gillingham, 7.4 in Eastbourne, 7.6 in Willesden, 7.8 in Hornsey, and 7.9 in Cambridge to 16.7 in Liverpool, 16.8 in Walsall, 17.2 in Wigan, 17.5 in Aberdare, 17.6 in Dudley, and 17.8 in Stoke-on-Trent.

The deaths included 143 which were referred to enteric fever, 690 to measles, 252 to scarlet fever, 609 to whooping-cough, 451 to diphtheria, and 7,326, among children under 2 years of age, to diarrhoea and enteritis. The 143 deaths from enteric fever were equal to an annual rate of 0.03 per 1000; in London the death-rate from this disease was equal to 0.02 per 1,000, while among the other large towns the rates ranged upwards to 0.11 in Plymouth, in Warrington, and in South Shields, 0.12 in Portsmouth and in West Hartlepool, 0.13 in Wolverhampton, and 0.15 in Hull and in Stockton-on-Tees. The 690 fatal cases of measles were equal to an annual rate of 0.16 per 1,000; in London the rate was 0.11 per 1,000, while among the other large towns the highest rates were 0.59 in Norwich and in Oldham, 0.60 in Walsall, 0.66 in Sunderland, 1.39 in West Bromwich, 1.68 in Aberdare, 1.89 in Stoke-on-Trent, and 2.02 in Dudley. The 252 fatal cases of scarlet fever were equal to an annual rate of 0.06 per 1,000; in London this disease caused a death-rate of 0.04 per 1,000, while in the other large towns the rates ranged upwards to 0.18 in Birmingham and in South Shields, 0.20 in St. Helens, 0.22 in Sheffield, 0.23 in Dudley, and 0.27 in Bury and in Newport (Mon.). The 609 deaths from whooping-cough were equal to an annual rate of 0.14 per 1,000; in London the rate was 0.11 per 1,000, while among the other towns the highest rates were 0.31 in Rotherham, 0.32 in St. Helens and in Oldham, 0.39 in Stoke-on-Trent and in Hull, 0.41 in Bolton, 0.44 in West Hartlepool, and 0.50 in Bootle. The 451 fatal cases of diphtheria were equal to an annual rate of 0.10 per 1,000; in London the death-rate from this disease was 0.06 per 1,000, while in the other large towns the rates ranged upwards to 0.23 in Barnsley, 0.24 in Gloucester, in Preston and in Cardiff, 0.25 in Tottenham and in Barrow-in-Furness, and 0.35 in Stoke-on-Trent. The 7,326 deaths from diarrhoea and enteritis among children under 2 years of age were in the proportion of 65.09 to 1,000 births registered during the quarter; in London the proportion was 54.02 per 1,000, while among the other large towns it ranged upwards to 109.61 in St. Helens, 114.11 in Stockport, 112.83 in Walsall, 120.10 in Barnsley, 120.88 in Bootle, 128.24 in Wigan, 129.15 in Rhondda, 130.64 in Burnley, 149.60 in Birkenhead, and 154.06 in Aberdare.

Infant mortality, measured by the proportion of deaths among children under 1 year of age to registered births was equal to 125 per 1,000; in London the rate of infant mortality was 105 per 1,000, while among the other large towns it ranged from 38 in Bournemouth, 51 in Gillingham, 52 in Swindon, 53 in Reading, 59 in Ilford, 60 in East Ham and in Bath, 61 in Hornsey, 62 in Southampton, and 64 in Darlington to 163 in Bootle, 165 in Stockport, 167 in Bradford, 175 in Blackburn, 179 in Barnsley, 185 in Birkenhead, 186 in Walsall, in Wigan, and in Rhondda, 193 in Burnley, and 235 in Aberdare.

The causes of 412, or 0.7 per cent., of the deaths registered in the ninety-six towns last quarter were not certified either by a registered medical practitioner or by a coroner. In 32 of the towns the causes of all the deaths were duly certified; among the other towns the highest proportions per cent. of uncertified deaths were 3.2 in Gillingham and in South Shields, 3.5 in Bootle, 3.7 in Barrow-in-Furness, 3.9 in Warrington, 4.4 in Gloucester, St. Helens, and Gateshead, and 5.4 in Darlington.

Analysis of the Vital Statistics of Ninety-six of the Largest English Towns during the Third Quarter of 1913.

Towns.	Estimated Population middle of 1913.	Births.	Deaths.	Annual rate per 1,000 Living.		Deaths from							Deaths of Children under 1 year of age to 1,000 Births.	Rate per Cent. of Uncertified Deaths.
				Births.	Deaths.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping-cough.	Diphtheria.	Diarrhœa and Enteritis (under 2 years of age).		
96 Towns	17,852,766	112,553	56,725	25.3	12.7	143	—	690	252	609	451	7,326	125	0.7
London	4,518,191	27,769	13,301	24.7	11.8	28	—	124	46	120	73	1,500	105	0.1
Croydon	178,094	1,027	473	23.1	10.7	—	—	8	1	5	3	54	107	—
Wimbledon	58,156	281	117	19.4	8.1	—	—	—	1	—	—	24	132	0.9
Ealing	67,917	306	114	18.1	6.7	—	—	—	—	—	—	12	65	—
Acton	52,710	385	140	24.8	9.0	—	—	—	—	2	1	15	78	—
Willesden	163,655	1,004	311	24.6	7.6	1	—	3	2	5	1	25	72	0.3
Hornsey	87,596	343	170	15.7	7.8	1	—	—	—	—	2	8	61	—
Tottenham	145,736	938	369	25.8	10.2	—	—	7	—	5	9	38	81	—
Edmonton	69,086	469	173	27.2	10.0	1	—	2	—	1	1	29	96	—
Enfield	59,597	360	136	24.2	9.2	—	—	—	—	2	2	16	86	—
West Ham	294,223	2,143	1,020	29.2	13.9	3	—	—	2	12	7	209	150	—
East Ham	142,467	879	296	24.7	8.3	—	—	—	1	2	2	24	60	—
Leyton	130,922	755	324	23.1	9.9	—	—	2	1	3	3	20	101	0.3
Walthamstow	131,636	779	281	23.7	8.6	—	—	1	—	5	—	17	73	—
Ilford	87,040	388	145	17.9	6.7	—	—	—	—	1	—	4	59	0.7
Gillingham	54,530	297	93	21.8	6.8	—	—	—	—	1	2	4	51	3.2
Hastings	60,095	227	143	15.2	9.5	—	—	—	—	—	—	6	88	1.4
Eastbourne	54,691	217	101	15.9	7.4	—	—	—	—	—	3	4	69	1.0
Brighton	133,096	614	359	18.5	10.8	—	—	5	1	6	1	32	109	—
Portsmouth	241,256	1,466	630	24.4	10.5	7	—	8	2	—	12	61	95	1.0
Bournemouth	83,205	317	166	15.3	8.0	—	—	—	—	3	1	3	38	—
Southampton	122,412	711	332	23.3	10.9	2	—	1	—	4	6	25	62	—
Reading	89,339	470	192	21.1	8.6	—	—	1	—	—	1	9	53	—
Oxford	53,937	268	152	19.9	11.3	—	—	—	—	1	1	11	112	0.7
Northampton	90,793	447	215	19.7	9.5	—	—	—	1	—	3	17	81	1.4
Cambridge	57,096	304	113	21.4	7.9	—	—	—	1	—	1	7	72	0.9
Southend-on-Sea	70,825	331	155	18.7	8.8	—	—	—	1	—	—	10	88	1.9
Ipswich	75,682	456	211	24.2	11.2	—	—	—	—	1	3	12	96	—
Great Yarmouth	57,005	366	175	25.8	12.3	1	—	—	—	1	2	11	112	0.6
Norwich	123,288	639	386	20.8	12.6	—	—	18	—	9	5	29	144	0.3
Swindon	52,128	286	120	22.0	9.2	—	—	1	—	—	—	1	52	—
Plymouth	113,083	642	411	22.8	14.6	3	—	1	2	2	4	48	148	0.2
Devonport	84,371	489	209	23.2	9.9	2	—	—	2	4	4	25	82	—
Bath	69,944	302	175	17.3	10.0	—	—	—	—	—	2	2	60	—
Bristol	361,362	2,099	996	23.3	11.1	—	—	2	1	8	9	98	103	—
Gloucester	50,533	310	137	24.6	10.9	—	—	1	1	—	3	14	97	4.4
Stoke-on-Trent	239,284	1,877	1,062	31.5	17.8	1	—	113	1	23	21	107	153	2.2
Wolverhampton	95,601	627	363	26.3	15.2	3	—	3	—	2	1	64	150	—
Walsall	93,477	709	391	30.4	16.8	1	—	14	—	4	2	80	186	—
West Bromwich	69,088	512	274	29.7	15.9	—	—	24	1	1	2	30	135	1.5
Dudley	51,641	361	226	28.0	17.6	1	—	26	3	1	1	26	161	1.8
Birmingham	859,644	5,746	3,032	26.8	14.1	3	—	17	39	40	46	488	161	2.6
Smethwick	74,565	506	205	27.2	11.0	—	—	—	2	2	1	37	130	0.5
Coventry	115,064	745	268	26.0	9.3	—	—	—	—	7	4	10	71	1.1
Leicester	230,970	1,266	659	22.0	11.4	—	—	2	—	1	3	85	130	0.5
Lincoln	59,322	344	149	23.3	10.1	1	—	—	—	3	—	17	113	1.3
Grimsby	77,420	581	248	30.1	12.8	2	—	—	—	—	1	40	129	1.6
Nottingham	264,735	1,439	807	21.8	12.2	—	—	1	6	5	13	109	145	—
Derby	125,462	731	313	23.4	10.0	—	—	1	—	—	1	37	116	—
Stockport	112,480	648	440	23.1	15.7	—	—	3	—	3	5	72	165	—
Birkenhead	135,557	996	523	29.5	15.5	—	—	—	2	7	7	149	185	0.4
Wallasey	84,476	479	194	22.7	9.2	—	—	1	1	1	1	23	92	—
Liverpool	756,553	5,724	3,157	30.3	16.7	11	—	58	13	44	14	505	146	1.3
Bootle	72,186	546	284	30.3	15.8	—	—	2	1	9	—	66	163	3.5
St. Helens	99,460	812	386	32.7	15.6	—	—	1	5	8	1	89	159	4.4
Southport	71,092	261	206	14.7	11.6	1	—	—	—	1	—	21	149	2.4
Wigan	90,763	655	390	28.9	17.2	1	—	2	—	1	—	84	186	—
Warrington	74,065	512	257	27.7	13.9	2	—	3	2	1	2	64	145	3.9
Bolton	183,879	1,020	658	22.2	14.4	3	—	5	—	19	3	91	143	0.2
Bury	59,159	301	217	20.4	14.7	—	—	1	4	—	1	25	159	2.3
Manchester	730,976	4,904	2,666	26.9	14.6	3	—	58	23	45	12	347	138	0.3
Salford	233,849	1,618	854	27.7	14.6	1	—	20	2	13	8	99	135	0.2
Oldham	149,936	841	550	22.5	14.7	1	—	22	4	12	2	37	136	—
Rochdale	93,420	482	311	20.7	13.4	—	—	2	1	—	2	29	110	1.3
Burnley	109,021	643	388	23.7	14.3	—	—	—	—	1	3	14	193	1.5
Blackburn	133,971	736	445	22.0	13.3	1	—	2	—	—	2	63	175	1.6
Preston	118,070	720	413	24.5	14.0	3	—	2	3	1	7	48	139	2.2
Blackpool	61,012	249	217	16.4	14.3	—	—	4	—	—	1	21	161	2.3
Barrow-in-Furness	65,252	475	187	29.2	11.5	1	—	—	—	1	4	16	99	3.7
Huddersfield	110,882	520	384	18.8	13.9	2	—	8	—	5	2	24	152	1.0
Halifax	100,740	475	325	18.9	12.9	2	—	—	1	—	2	8	74	0.3
Bradford	290,540	1,488	1,035	20.5	14.3	3	—	7	2	2	10	120	167	0.3
Leeds	457,295	2,749	1,657	24.1	14.5	3	—	8	6	21	21	226	157	0.1
Dewsbury	53,855	302	189	22.5	14.1	1	—	—	—	1	—	24	129	—
Wakefield	52,291	317	155	24.3	11.9	1	—	—	—	—	—	10	76	0.6
Barnsley	52,897	408	196	30.9	14.9	1	—	1	—	3	3	49	179	—
Sheffield	471,662	3,408	1,690	29.0	14.4	3	—	16	26	18	15	246	136	0.6
Rotherham	64,432	467	205	29.1	12.8	—	—	—	—	5	3	35	137	1.5
York	85,329	491	197	23.6	9.5	—	—	—	—	2	2	21	86	—
Hull	287,032	2,080	1,106	28.6	15.5	11	—	4	1	28	5	196	160	0.5
Middlesbrough	107,993	877	429	32.6	15.9	2	—	4	4	8	4	42	116	1.2
Darlington	58,295	405	148	27.9	10.2	—	—	—	—	1	—	13	64	5.4
Stockton-on-Tees	52,316	407	171	31.2	13.1	2	—	1	—	3	—	12	96	1.2
West Hartlepool	64,234	487	236	30.4	14.7	2	—	1	2	7	2	15	117	0.8
Sunderland	152,377	1,230	598	32.4	15.7	—	—	25	6	7	2	108	141	1.7
South Shields	110,513	843	402	30.6	14.6	3	—	—	5	1	4	33	113	3.2
Gateshead	118,601	853	390	28.8	13.2	1	—	—	—	3	2	60	138	4.4
Newcastle-on-Tyne	271,295	1,861	895	27.5	13.2	3	—	6	6	20	7	72	113	0.4
Tynemouth	60,601	444	228	29.4	15.1	—	—	1	2	—	2	21	149	1.3
Carlisle	52,630	313	154	23.9	11.7	—	—	—	—	1	—	9	96	2.6
Newport (Mon.)	87,626	631	250	28.9	11.4	1	—	1	6	—	—	43	138	0.8
Cardiff	186,554	1,231	585	26.5	12.6	1	—	4	2	4	11	126	140	—
Rhondda	162,137	1,386	630	34.3	15.6	3	—	6	4	4	6	179	186	0.8
Merthyr Tydfil	83,808	592	254	28.3	12.3	2	—	1	—	—	4	42	130	1.2
Aberdare	52,619	357	229	27.2	17.5	—	—	22	—	3	2	55	235	—
Swansea	119,485	811	406	27.2	13.6	3	—	2	—	3	4	59	142	0.2

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Fleet Surgeon JAMES WM. W. STANTON, to the *Colossus*, on recommissioning, November 25th. Staff Surgeon JOHN K. RAYMOND, to the *Newcastle*, vice Roche, November 10th. Staff Surgeon FAIRMAN R. MANN, to the *Pactolus*, temporary, vice Raymond, undated. Staff Surgeon REGINALD L. JONES, to the *Shearwater*, vice Mann, November 20th. Staff Surgeon THOMAS A. SMYTH, to the *Pathfinder*, vice Jones, November 20th. Staff Surgeon ALFRED WOOLLCOMBE, to the *Victory*, additional for trials of the *Iron Duke*, November 14th. Staff Surgeon FREDERICK G. WILSON, M.B., to the *Colossus*, on recommissioning, November 25th. Surgeons PERCY L. GIBSON, ALEXANDER J. PATTERSON, BERNARD E. P. SAYERS, DEVONSHIRE P. H. PEARSON, to the *Pembroke*; additional for disposal, December 1st; ARTHUR M. HENRY, WILLIAM A. S. DUCK, HENRY E. Y. WHITE, M.B., ALEXANDER SIMPSON, M.B., IVOR S. GABE, to the *Victory*, additional for disposal, December 1st: GEORGE F. B. PAGE, M.B., DAVID G. ARTHUR, FREDERICK C. WRIGHT, and ARTHUR J. TOZER, to the *Vivid* additional for disposal, December 1st. Surgeon JOHN P. BERRY has been allowed to withdraw from the service with a gratuity, November 20th. Staff Surgeon FRED. C. B. GITTINGS, M.D., to the *Apollo*, on recommissioning, and as Acting Interpreter in German, November 18th.

ROYAL NAVAL VOLUNTEER RESERVE.

GEORGE H. S. MILLN, M.B., to be Surgeon, November 7th.

ARMY MEDICAL SERVICE.

ROYAL ARMY MEDICAL CORPS.

MAJOR FREDERICK J. W. PORTER, D.S.O., retires on retired pay, November 22nd.

The following Lieutenants are confirmed in their rank: ROBERT G. SHAW, M.B., ALEXANDER L. URQUHART, M.B., AVENELL F. C. MARTYN.

INDIAN MEDICAL SERVICE.

THE services of Colonel R. ROBERTSON are placed permanently at the disposal of His Excellency the Commander-in-Chief in India, with effect from June 30th last.

The services of Colonel R. W. S. LYONS are placed temporarily at the disposal of the Government of Bombay, with effect from November 1st.

Major T. S. B. WILLIAMS is posted as Civil Surgeon, Dera Ismail Khan, with effect from September 1st.

Major J. HUSBAND is posted as Civil Surgeon, Wano Agency, with effect from September 12th.

Major DE V. COUDON on return from leave is posted as Civil Surgeon, Hazara, with effect from September 26th.

Captain P. M. RENNIE, M.B., is appointed to officiate as Health Officer and Civil Surgeon of the Notified Area, Delhi, until the return from leave of Lieutenant-Colonel Ogilvie.

Major W. E. MCKECHNIE, Civil Surgeon, on completion of his special duty to Etawah.

Major T. H. DELANEY, Civil Surgeon, of Aaran, is allowed a combined leave for thirteen months from November 9th or subsequent date.

Captain M. S. IRANI, to do duty as Civil Surgeon, Sukkar.

Lieutenant-Colonel R. H. CASTOR has been granted an extension of leave, on medical certificate, for six months.

Lieutenant-Colonel R. H. ELLIOT has been granted an extension of leave, on medical certificate, for six months.

Major F. F. ELWES, C.I.E., to be Professor of Medicine, Medical College, First Physician, General Hospital, Madras, and Surgeon, Second District, Madras, with effect from June 30th, but to continue to act as Surgeon, Third District, Madras.

Major H. KIRKPATRICK to be Senior Medical Officer, General Hospital, Madras, sub *pro tem.*, in addition to his own duties, with effect from July 28th.

Major N. R. J. RAINIER, Civil Surgeon, Saugor, has been granted privilege leave for three months in combination with furlough for one year and five months and study leave for three months and twenty-nine days.

Captain J. TAYLOR to act as Assistant to Director, Bombay Bacteriological Laboratory, in addition to his own duties, as a temporary measure during the absence on leave of Captain W. D. H. Stevenson.

Captain F. C. FRASER to act as District Medical and Sanitary Officer, North Arcot, with medical charge of Central Gaol, Vellore.

Captain A. S. LESLIE, on relief by Captain Fraser, to act as Assistant Superintendent, Government Maternity Hospital, Madras.

INDIAN SUBORDINATE MEDICAL DEPARTMENT.

ALFRED DEVINE, Senior Assistant Surgeon with the honorary rank of Lieutenant, to be Senior Assistant Surgeon with the honorary rank of Captain, November 9th.

First Class Assistant Surgeon PETER RODRIGUES to be Senior Assistant Surgeon with the honorary rank of Lieutenant, August 9th.

CHANGES OF STATION.

THE following changes of station amongst the officers of the Army Medical Service have been officially reported to have taken place during October:

		FROM	TO
Lieut.-Col.	M. O'D. Braddell, M.B.	Cawnpore ...	Irish Command.
,,	H. N. Thompson, D.S.O., M.B. ...	Lucknow ...	Edinburgh.
,,	A. T. I. Lilly	Belgaum	Colaba.
,,	J. M. F. Shine, M.D....	Belfast	India.
,,	C. H. Melville, M.B. ...	Lucknow... ...	Tidworth.
,,	H. M. Adamson, M.B.	Strensall	India.
,,	O. R. A. Julian, C.M.G.	Dublin	Royal Hospital, Chelsea.
,,	J. W. Bullen, M.D. ...	Meerut	N. Command.
,,	C. W. R. Healey ...	Nasirabad ...	London.
Major	E. E. Powell	Aldershot ...	India.
,,	J. V. Forrest, M.B. ...	Khartoum ...	London.
,,	W. A. Ward	London District	Bulford.
,,	W. P. Gwynn	Shwebo	Dublin.
,,	N. H. Ross, M.B.	Aldershot ...	India.
,,	H. Herrick	Naini Tal ...	Irish Command.
,,	A. L. Scott	Deepcut	India.
,,	J. W. H. Houghton, M.B....	Aldershot ...	,,
,,	D. E. Curme...	,,	N. Command.
,,	H. M. Morton, M.B....	Glasgow	Perth.
,,	F. Harvey	Leeds	India.
,,	C. C. Cumming, M.B.	R.A.M. Coll. ...	Malta.
,,	W. A. Woodside	Chakrata ...	Agra.
Major	T. C. MacKenzie, D.S.O. ...	Dover	York.
,,	P. S. O'Reilly	Secunderabad ...	Irish Command.
,,	E. McDonnell, M.B. ...	Lydd	Shorncliffe.
,,	C. H. Carr, M.D.	Tidworth ...	Upavon.
,,	E. Bennett	Poona	Purandhar.
,,	G. Baillie, M.B.	Colchester ...	Gt. Yarmouth.
,,	L. L. G. Thorpe	Winchester ...	Madras.
,,	A. W. Sampey	Fyzabad	Wellington.
,,	A. W. A. Irwin	Cork	Clonmel.
Captain	J. Mackenzie, M.B. ...	Pirbright ...	India.
,,	H. J. Crossley	Richmond Yorks	,,
,,	H. V. Bagshawe... ...	Cairo	Alexandria.
,,	N. E. J. Harding, M.B. ...	— ...	London.
,,	J. C. G. Carmichael, M.B.	Khanspur ...	Manchester.
,,	D. G. Carmichael, M.B.	Campbellpore ...	Khanspur.
,,	B. G. Patch...	Nottingham ...	Derby.
,,	F. M. M. Ommanney ...	Armagh	Belfast.
,,	R. T. Collins	Buddon Camp ...	Glencorse.
,,	H. Harding, M.B.... ...	Colchester ...	Warley.
,,	H. B. Connell	— ...	Shrewsbury.
,,	A. S. Arthur, M.B. ...	Liverpool ...	Wrexham.
,,	P. C. T. Davy, M.B. ...	Gravesend ...	R.A.M. College.
,,	R. C. Fallowes, M.B. ...	Omagh	Holywood.
,,	H. W. Russell, M.D. ...	Aldershot ...	India.
,,	G. R. Painton	Colchester ...	R.A.M. College.
,,	G. B. F. Churchill ...	Bulford	,,
,,	G. S. Wallace, M.B. ...	Aldershot ...	Bellary.
,,	R. E. Humfrey, M.B. ...	Kilworth... ...	Queenstown.
,,	W. G. Maydon, M.B. ...	Glasgow	Liverpool.
,,	J. A. Anderson, M.B. ...	Edinburgh ...	R.A.M. College.
,,	C. G. Browne	Netley	,,
,,	G. H. Rees, M.B. ...	Londonderry ...	,,
,,	E. G. Anthonisz	Belfast	,,
,,	A. E. S. Irvine	,, ...	,,
,,	T. B. Moriarty	Aldershot ...	,,
,,	W. J. Weston	Queenstown ...	,,
,,	A. E. F. Hastings. ...	Chatham... ...	,,
,,	M. Keane	Bulford	Tidworth
,,	R. S. Smyth, M.D. ...	Cosham	R.A.M. College.
,,	H. E. Priestley	Tidworth ...	,,
,,	H. Stewart, M.B.... ...	Halifax	,,
,,	J. S. Dunne, F.R.C.S.I....	Woolwich ...	,,
,,	A. S. Littlejohns... ...	Dublin	,,
,,	F. A. McCammon, M.B.	,, ...	,,
,,	G. De la Cour, M.B. ...	,, ...	,,
,,	W. Egan, M.B.	Curragh ...	,,
,,	A. Dawson, M.B.	,, ...	,,
,,	F. Forrest	,, ...	,,
,,	A. S. Williams	Kilbride Camp...	,,
,,	V. C. Honeybourne ...	Londonderry ...	,,
,,	V. G. Johnson	Dover	,,
,,	C. R. M. Morris, M.B. ...	Netley	,,
,,	R. E. U. Newman, M.B.	Chatham ...	,,
,,	E. W. M. Paine	Manchester ...	,,
,,	F. D. G. Howell	Liverpool ...	,,
,,	P. Sampson	Dublin	,,
,,	J. B. Grogan	Cosham	,,
,,	E. M. O'Neill, M.B. ...	Youghal	,,
,,	G. B. Edwards	Leicester... ...	E. Command.
,,	J. W. L. Scott	Netley	R.A.M. College.
,,	W. C. Smales	Portsmouth ...	,,
,,	A. H. Bond	Limerick... ...	,,
,,	T. C. C. Leslie	Cork	Youghal.
,,	T. W. O. Sexton	Woolwich ...	R.A.M. College.
,,	A. C. Vidal	Aldershot ...	,,
,,	T. T. H. Robinson, M.B.	Strensall	,,
,,	G. H. Stevenson, M.B. ...	Lichfield	,,
,,	W. H. Forsyth, M.B. ...	Netley	,,
,,	R. W. D. Leslie	Gosport	,,
,,	B. Johnson, M.B.... ...	Cork	Limerick.
,,	F. L. Bradish	Jullundur ...	Curragh.
,,	E. C. Phelan, M.B. ...	Barrackpore ...	Dinapore.
,,	E. J. Kavanagh, M.B. ...	Chatham ...	R.A.M. College.
,,	A. H. Jacob...	Dublin	,,
,,	O. C. P. Cooke	Cork	Tipperary.
,,	H. G. Gibson	Spike Island, Queenstown	R.A.M. College.
,,	J. L. Wood	Naini Tal ...	N. Command.
,,	M. P. Leahy, M.B. ...	Dublin	R.A.M. College.
,,	J. du P. Langrishe, M.B.	Kirkee	Spike Island, Queenstown.
,,	G. F. Rudkin	Madras	Dublin.
,,	L. A. A. Andrews... ...	Cork	York.
,,	W. B. Purdon, M.B.,	Cannanore ...	Belfast.
,,	V. T. Carruthers, M.B., F.R.C.S.Edin.	Colchester ...	Norwich.
,,	A. W. Howlett, M.B. ...	—	Bareilly.
,,	J. James, M.B.	Chatham... ...	R.A.M. College.
,,	B. Varvill	Nasirabad ...	Mhow.
,,	W. J. Tobin	Bangalore ...	Madras.
,,	C. McQueen...	Aldershot ...	R.A.M. College.
,,	D. H. C. MacArthur, M.D.	Dalhousie ...	Lahore.
,,	G. S. Parkinson	Glasgow	R.A.M. College.
,,	G. H. Stack, M.B. ...	Aldershot ...	,,
,,	A. W. Bevis	Belfast	,,
,,	R. H. Nolan	Glasgow	,,
Lieutenant	P. Hayes, M.B. ...	Bangalore ...	Poonamallee.
,,	J. M. Elliott, M.B. ...	Winchester ...	Hilsea.
,,	T. E. Osmond... ...	London	India.
,,	R. T. Vivian	Curragh	,,
,,	E. G. H. Cowen, M.B.	Warley	,,
,,	L. Buckley, M.B. ...	Bordon	,,
,,	E. B. Allnutt	London	,,
,,	H. C. Todd, M.B. ...	Woolwich ...	Bangalore.
,,	E. C. Deane	Chester	India.
,,	A. S. Heale	Malta	,,
,,	D. T. M. Large, M.B.	Stobs	Edinburgh.
,,	E. A. Strachan, M.B.	Barry	,,
,,	C. M. Ingoldby ...	Fermoy	Cork.
,,	C. J. H. Little, M.B....	York	Strensall.
,,	H. R. L'Estrange ...	Newbridge ...	Mauritius.
,,	H. W. L. Allott ...	Curragh	Galway.
,,	E. C. Lang, M.B. ...	Kildare	Kilbride.
,,	T. H. Balfour, M.B.	Fort George ...	Inverness.
,,	J. C. Sproule	Crownhill ...	Devonport.
,,	F. C. Davidson, M.B.	Edinburgh ...	Glasgow.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ARGYLL AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer (male). Salary, £200 per annum.

BATH: ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

BELFAST DISTRICT LUNATIC ASYLUM.—Assistant Medical Officer. Salary, £250 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—(1) House-Physician. (2) House-Surgeons (males). Salaries at the rate of £75 per annum.

BIRMINGHAM: ROYAL ORTHOPAEDIC AND SPINAL HOSPITAL.—Clinical Assistant. Honorarium, £25.

BOLTON UNION.—Resident Assistant Medical Officer for the Townleys Hospitals. Salary, £170 per annum.

BRISTOL ROYAL INFIRMARY.—Throat, Nose, and Ear House-Surgeon. Salary, £100 per annum.

CAMBRIDGESHIRE COUNTY COUNCIL.—Assistant County Medical Officer (female). Salary, £300 per annum, rising to £350.

CANCER HOSPITAL RESEARCH INSTITUTE, S.W.—Assistant in the Chemical Department. Salary, £200 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—(1) Two Honorary Assistant Physicians; (2) Senior Resident Medical Officer. Salary, £120 per annum.

CHESTER COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £180 per annum.

CHESTER GENERAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—(1) House-Physician; (2) House-Surgeon (male). Salary, £100 per annum each.

COLONIAL OFFICE.—(1) Supernumerary Medical Officer in Trinidad; salary, £250. (2) Assistant Medical Officers in Honduras; salary, £350. (3) Supernumerary Medical Officer in the Leeward Islands; salary, £250.

COVENTRY AND WARWICKSHIRE HOSPITAL.—House-Physician. Salary, £110 per annum.

CROYDON BOROUGH.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary, £300 per annum, rising to £350.

DORCHESTER: COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £200 per annum.

DOUGLAS: NOBLE'S HOSPITAL.—Resident House-Surgeon. Salary, £100 per annum.

DUMFRIES COUNTY AND BURGHS.—Two Medical Assistants to the Medical Officers of Health and School Medical Officer. Salary, £250 per annum, rising to £300.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—(1) House-Physician (male); salary at the rate of £75 per annum. (2) Assistant Physician.

EDAY PARISH.—Medical Officer. Salary, £70 per annum, and appointments £20.

GLASGOW DISTRICT MENTAL HOSPITAL, Gartloch.—Junior Medical Officer. Salary, £200 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Surgeon to the Throat, Nose, and Ear Department.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) Casualty Medical Officer; salary, £200 per annum. (2) House-Surgeon; salary, £30 for six months and £2 10s. washing allowance.

HUDDERSFIELD ROYAL INFIRMARY.—Junior Assistant House-Surgeon. Salary, £80 per annum.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £80 per annum.

HULL: VICTORIA CHILDREN'S HOSPITAL.—(1) House-Surgeon; (2) Assistant House-Surgeon. Salary, £50 and £15 per annum respectively.

INDIA OFFICE, S.W.—Two Civilian Dentists for the treatment of British troops in India.

KENT COUNTY ASYLUM, Maidstone.—Fourth Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

LANCASHIRE EDUCATION COMMITTEE, Preston.—School Medical Inspector. Salary, £350 per annum, rising to £450.

LEASOWE SANATORIUM HOSPITAL FOR SURGICAL TUBERCULOSIS IN CHILDREN.—Resident Medical Officer. Salary, £150 per annum, rising to £200.

LEEDS INFECTIOUS DISEASES HOSPITALS AND SANATORIUMS FOR TUBERCULOSIS.—Assistant Medical Officer. Salary, £130 per annum.

LEEDS PUBLIC DISPENSARY.—Honorary: (1) Physician; (2) Surgeon; (3) Surgeon to the Eye Department; (4) Pathologist.

LIVERPOOL: STANLEY HOSPITAL.—Two House-Physicians. Salary, £75 per annum each.

LONDON HOMOEOPATHIC HOSPITAL, Great Ormond Street, W.C.—(1) Assistant Surgeon for Diseases of the Throat, Nose, and Ear; (2) Anaesthetist; (3) Resident Medical Officer. Salary for (2) £50 per annum, and for (3) £80 per annum.

LONDON UNIVERSITY.—Examiners: (1) Four in Medicine: (2) two in Obstetric Medicine; (3) two in Pathology; (4) four in Surgery; (5) Two in Tropical Medicine.

MACCLESFIELD GENERAL INFIRMARY.—House-Surgeon. Salary, £125 per annum.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Outpatients and Accidents. Salary at the rate of £100 per annum.

METROPOLITAN ASYLUMS BOARD.—(1) Second Assistant Medical Officer at Leavesden Asylum; (2) Second and Third Assistant Medical Officers at Darenth Industrial Colony. Salary for Second £210, and for Third £180 per annum, rising to £250 and £220 respectively.

MILE END OLD TOWN UNION.—Junior Assistant Medical Officer. Salary, £140 per annum, rising to £160.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—(1) Honorary Physician; (2) Honorary Assistant Ophthalmic Surgeon.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Pathologist. Salary, £250 per annum.

NEWCASTLE-UPON-TYNE CITY ASYLUM, Gosforth.—Junior Assistant Medical Officer (male). Salary, £160 per annum, rising to £200.

NORWICH: JENNY LIND HOSPITAL FOR CHILDREN.—Lady Resident Medical Officer. Salary, £50 per annum.

NORTHAMPTON GENERAL HOSPITAL.—Senior Resident Medical Officer. Salary, £120 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary, £220 per annum.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer. Salary, £200 per annum.

PARIS: BRITISH HOSPITAL.—Resident House-Surgeon. Salary, £100 per annum.

PLAISTOW: MEDICAL MISSION HOSPITAL.—Junior Resident Medical Officer.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—House-Physician (male). Salary, £80 per annum.

RICHMOND: ROYAL HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

ROCHDALE INFIRMARY.—Senior House-Surgeon. Salary, £110 per annum.

ROYAL EAR HOSPITAL, Soho, W.—House-Surgeon, non-resident. Honorarium, £40 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Assistant Surgeon.

ROYAL SOCIETY.—Government Grants for Scientific Investigations.

ST. THOMAS'S HOSPITAL, S.E.—Resident Assistant Physician.

SCOTLAND'S MISSION HOSPITAL, Ichang, China.—Medical Missionary as Locumtenent; also Medical Missionary for the Kikuyu Mission, British East Africa.

SHETLAND: PARISH COUNCIL OF WALLS, etc.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

SOMERSET ANB BATH ASYLUM, Cotford, Taunton.—Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

SOUTHAMPTON: FREE EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon. Salary, £100 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

WEST AFRICAN MEDICAL STAFF.—Appointments to the Service. Salary £400, rising to £600, with prospect of promotion to higher posts, with salaries ranging up to £1,200.

WEST LONDON HOSPITAL, Hammersmith Road, W.—House-Physician.

WESTERN OPHTHALMIC HOSPITAL, Marylebone Road, N.W.—Honorary Assistant Surgeon.

WILTS COUNTY ASYLUM, Devizes.—Medical Superintendent. Salary, £80 per annum.

WOLVERHAMPTON: SOUTH STAFFORDSHIRE JOINT SMALL-POX HOSPITAL BOARD.—Resident Medical Officer. Salary, £200 per annum.

WORCESTER GENERAL INFIRMARY.—(1) Resident Medical Officer; (2) Clinical Assistant and Dispenser. Salary, £150 and £80 per annum respectively.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Dollar (Clackmannanshire), Sidcup (Kent), Whitby (Yorkshire).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

CUTHBERT, Miss H. H., M.B., B.S., Assistant to the Clinical Pathologist at the Royal Free Hospital, Gray's Inn Road, W.C.

JONES, D. W., M.B., B.S.Lond., Resident Medical Officer to the Brompton Hospital for Consumption and Diseases of the Chest, S.W.

LEY, Gordon, F.R.C.S., Pathologist to the Chelsea Hospital for Women.

LUMB, J., M.B., B.S., Honorary Pathologist to the Warrington Infirmary.

NIX, R. E. P., M.B., B.C.Camb., Certifying Factory Surgeon for the Chatteris District, co. Cambridge.

STEADMAN, J. St. J., D.P.H., M.R.C.S., L.R.C.P., L.D.S., Assistant Dental Surgeon to the West London Hospital.

STEVENSON, W. F., L.R.C.P., L.R.C.S.Edin., District Medical Officer and Public Vaccinator, Ilfracombe Parish, Barnstaple Union.

TOMLINSON, H. E., M.R.C.S., L.R.C.P., Clinical Assistant to the Chelsea Hospital for Women.

DARLINGTON HOSPITAL.—The following appointments have been made:

Honorary Assistant Physician.—Walter Petter, M.B.

Honorary Assistant Surgeons.—George G. Farquhar, F.R.C.S.; Douglas V. Haig, M.D.; A. C. C. Lawrence, M.B., Ch.B.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

HOLCROFT.—At Aliwal North, Cape Province, South Africa, on November 22nd, the wife of W. F. L. Austen Holcroft, M.B., Ch.B., of a daughter. (By cable.)

MAY.—At Southsea, on November 21st, the wife of Dr. Aylmer May, of Livingstone, Rhodesia, of a daughter.

MILNE.—At 129, Mitcham Lane, Streatham, London, S.W., on November 22nd, the wife of George Milne, M.D.Aberd., D.P.H.Camb., of a son.

DEATH.

RENTON.—At St. Mary's House, Chester-le-Street, on October 30th, aged 72 years, William Matthew Renton, M.D.

DIARY FOR THE WEEK.

TUESDAY.

ROENTGEN SOCIETY, Institution of Electrical Engineers, Victoria Embankment, 8.15 p.m.—Papers: Dr. Hampson, Professor W. G. Duffield, and Mr. T. Murray: Sterilization of Milk by Electrified Gas.

WEDNESDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF THE HISTORY OF MEDICINE, 5 p.m.—Papers:—Dr. Raymond Crawfurd: Martial and Medicine. Dr. J. D. Rolleston: Medicine in the Greek Anthology (Part 2).

SECTION OF OPHTHALMOLOGY, 8 p.m.—(1) Demonstrations of Cases and Specimens. 8.30 p.m.—(2) Papers:—Mr. N. Bishop Harman: An Operation to Improve the Effect of an Artificial Eye. Mr. W. M. Beaumont: Iritis, Rheumatic and Toxaemic. Dr. Gordon Holmes and Mr. R. A. Greeves: Sarcoma of the Choroid with Secondary Dissemination.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:

SECTION OF BALNEOLOGY AND CLIMATOLOGY, 5.30 p.m.—Paper:—Dr. Guy Hinsdale: Mineral Springs, their Analysis and Newer Methods of Application.

SECTION OF OBSTETRICS AND GYNAECOLOGY, 8 p.m.—(1) Exhibition of Specimens. (2) Short Communications:—Dr. H. R. Spencer: Case of Primary Cancer of Bertholin's Gland. Mr. Victor Bonney: (*a*) Case of Pre-eclampsia; (*b*) Case of Caesarean Myomectomy. (3) Papers:—Mr. Beckwith Whitehouse: The Relation of Syphilis to the Uterus. Dr. M. G. Stewart: Case of Fetus Acardiacus Amorphus.

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's Hospital, Tottenham, 4.15 p.m.—Demonstration of Cases and Specimens.

FRIDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C., 5 p.m.—Bradshaw Lecture, by Mr. G. H. Makins, C.B., F.R.S., on Gunshot Wounds.

ROYAL SOCIETY OF MEDICINE:

SECTION OF LARYNGOLOGY, 4 p.m.—Demonstration of Cases and Specimens.

SECTION OF ANAESTHETICS, 8.30 p.m.—Paper:—Dr. A. L. Flemming: Review of Inquests concerning Deaths during Anaesthesia 1910–13.

SECTION OF PATHOLOGY, 8.30 p.m.—Laboratory Meeting at the Royal Army Medical College, Grosvenor Road, S.W.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, 8 p.m.—Demonstration of Cases. 8.30 p.m.—Paper:—Mr. J. E. R. McDonagh: The Biology of Syphilis.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Wednesday, 4.30 p.m., Lecture: Tuberculosis as an Infective Disease.

DUBLIN: ROTUNDA HOSPITAL.—Post-Graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Thursday. Radiography: Saturday. Lectures on special subjects on Tuesday, Wednesday, and Thursday.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock, E.—Lectures daily (Saturday excepted) at 12 and 4 p.m. Practical Laboratory work daily (Saturday excepted), 10 to 12 a.m. Practical Helminthology, 2 to 2.30 p.m. daily. Advanced Helminthology, 10.30 to 1 p.m. daily. Medical Clinics, Tuesday and Thursday, 3 p.m. Operations, Friday, 3 p.m.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS, at 4.30 p.m. each day.—Tuesday, Salford Royal: Charcot's Disease. Wednesday, Royal Infirmary: Flat-foot. Thursday, Ancoats: Surgical Aspects of Dyspepsia. Friday, Royal Eye: Congenital Abnormalities.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—Clinical Demonstrations at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Medical; Friday, Eye. Lectures at 5.15 p.m. each day.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Disseminated Sclerosis. Friday, 3.30 p.m., Cerebro-spinal Syphilis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Medical and Surgical Clinics and Operations at 2.30 p.m. daily. Also Monday, Throat; Tuesday, Gynaecology; Wednesday, Skin, Eye, Children, X Rays; Tuesday and Friday, Eye. Special Lectures and Demonstrations on Tuesday and as announced.

SHEFFIELD UNIVERSITY.—Clinical Demonstrations: Tuesday, Royal Hospital, Diagnosis and Treatment of Tuberculous and other Glandular Enlargements. Friday, Royal Hospital, Tuberculin in Diagnosis and Treatment.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, X Rays, and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday. A Lecture at 5 p.m. daily, except Saturday.

[*For further particulars of Lectures consult the Index to Advertisements.*]

DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
	NOVEMBER.
28 Fri.	Lambeth Division, Guardians' Offices, Brook Street, Kennington, 4 p.m.
	DECEMBER.
2 Tues.	Camberwell Division, Surrey Masonic Hall, Camberwell New Road, 4 p.m.
	Portsmouth Division, Portsmouth, 4 p.m.
3 Wed.	Dartford Division, Dartford; Lunch, 1.30 p.m.
4 Thur.	**Special Representative Meeting.** Connaught Rooms, Great Queen Street, London, W.C., 9.30 a.m., and following day if necessary.
	Coventry Division, Coventry Hospital. 8.30 p.m.
5 Fri.	**Extraordinary General Meeting.** Connaught Rooms, Great Queen Street, London, W.C., 11 a.m.
9 Tues.	London: Metropolitan Counties Branch Council, 4 p.m.
	West Somerset Branch, Taunton. 4.30 p.m.: Annual Dinner, 7 p.m.
	DECEMBER (*continued*).
10 Wed.	Altrincham Division, Altrincham.
11 Thur.	Insurance Act Committee (*Provisional*).
12 Fri.	London: Public Health Committee, 11.30 a.m.
	City Division, Manchester Hotel, Aldersgate Street, E.C., 9.30 p.m.
18 Thur.	South-West Essex Division, Walthamstow Hospital, 4 p.m.
19 Fri.	Newcastle-on-Tyne Division, Royal Victoria Infirmary, Scientific Demonstrations, 3.15 to 6 p.m.
23 Tues.	East Africa and Uganda Branch, Namirembe, Kampala.
	1914.
	JANUARY.
8 Thur.	Altrincham Division, Executive Committee, Altrincham.
22 Thur.	Altrincham Division, Annual Meeting, Altrincham.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 6TH, 1913.

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SPECIAL REPRESENTATIVE MEETING.

THURSDAY, DECEMBER 4th, 1913.

A SPECIAL Meeting of the Representative Body of the British Medical Association assembled at the Connaught Rooms, Great Queen Street, London, on Thursday, December 4th. Mr. T. JENNER VERRALL (Chairman of Representative Meetings) took the chair at 9.30 a.m., and the notice convening the meeting was entered on the Minutes. The notices of appointment of substitutes for Representatives and intimations of apology for absence were received.

The meeting was summoned on the requisition of the Council in pursuance of the decision of the Annual Meeting of the Representative Body at Brighton last July.

The business of the Special Representative Meeting was three-fold, namely (1) to consider the propriety of adopting a new By-law to carry out the resolution of the Annual Representative Meeting at Brighton to increase the annual subscription to be paid by all members resident in the United Kingdom from £1 5s. to £2 2s.; (2) to consider two alternative schemes for the establishment of a special fund for the better organization of the profession; and (3) to receive and consider a report by the Council on various matters relating to the Insurance Acts.

ADMISSION OF THE LAY PRESS.

The CHAIRMAN said that representations had been made to the Association that, having regard to the large portion of the proceedings at Representative Meetings which must be of general interest to the public, it was desirable that approved newspapers should be afforded the opportunity of reporting the proceedings. In the past authorized, unauthorized, and garbled reports had appeared in the press, and he proposed, with a view to putting the matter on a satisfactory basis, that the press should be admitted, subject to the reservation that when matters were discussed which were not, in the opinion of the Representative Body, of general public interest, the press should respect the request not to report them. It was possible under the Standing Orders to adopt this suggestion.

It was agreed without discussion that the press should be admitted.

INCREASE OF ANNUAL SUBSCRIPTION.

The Annual Representative Meeting at Brighton adopted the following resolution on July 22nd, 1913:

> That the annual subscription of members of the Association be raised to £2 2s., such change not to apply to foreign or colonial members.

The Council issued to the Association, in the SUPPLEMENT of November 1st, 1913 (p. 369), a report on the subject, setting out the reasons for increasing the subscription, and pointing out, *inter alia*, that even before the introduction of the Insurance Bill in 1911, the expenditure of the Association had been growing at a rate more rapid than the growth of its income, so that the annual surplus had become inadequate, not only to meet the demands of members for improved organization and to build up a reserve fund, but even to pay off its floating debt.

In order to give effect to the resolution of the Annual Meeting of the Representative Body at Brighton, 1913, the Council recommended the Special Meeting to delete By-law 11 of the Association, which is as follows:

> 11. Except in the case of members elected on or after July 1st in any year, the subscription to the Association shall be twenty-five shillings. A member admitted on or after July 1st in any year, shall pay half the current subscription for that year.

and to adopt the following new By-law in its place:

> 11. (1) On and after January 1st, 1914, and except in the case of members elected on or after July 1st in any year, the annual subscription to the Association shall be:
>
> (*a*) For a member resident in any part of the British Islands, 2 guineas.
>
> (*b*) For a member resident elsewhere, 25s.
>
> (2) A member admitted on or after July 1st in any year shall pay half the current subscription for that year.
>
> (3) For the purpose of this By-law a member shall be deemed to reside in that place in which his ordinary place of abode is situate at the time at which, according to the Regulations, his subscription is considered due.

Order of Debate.

Report of the Agenda Committee.

The Agenda Committee advised that, in consideration of Minute 319 of the Annual Representative Meeting, July, 1913, prescribing that principles should in the first place be the subject of resolutions and debate, a vote should be taken on the motion that the new By-law as above should be substituted for the present By-law of the Association. This course was also recommended on account of the opinion, repeatedly expressed by the Solicitor, that the exact words of a proposed new By-law must be submitted to the Divisions and the Representative Meeting, and that this wording could not be altered without involving the submission to the Divisions and Representative Meeting of another draft of the By-law containing the new principles to be included. If this recommendation of the Agenda Committee were followed and the proposed new By-law carried, the subscription would thereby be raised in accordance with the terms of the By-law and any further amendments would be out of order. If it were not carried the Chairman would propose a resolution that the Council be instructed to prepare a further By-law containing certain principles to be adopted. If that were not carried, the whole matter would fall to the ground. If, on the other hand, it were carried, the meeting would proceed to decide what further principles, such as were involved in various amendments submitted by Divisions, the Council should be instructed to incorporate.

The Chairman, in moving the adoption of the report of the Agenda Committee, said it had been submitted to the Solicitor, who was of opinion that the course proposed was not only strictly correct, but was the bounden legal course. A resolution having been passed at the Annual Representative Meeting by the requisite majority that the subscription be raised, the Council had carried out its duty by drafting a resolution incorporating the By-law for submission to the Divisions. The Divisions having considered it, and sent it to the Representative Meeting, the proper legal course was to take a vote on that matter. The meeting would have to consider whether it would or would not accept the proposed By-law in terms and without alteration. If it were rejected, the Representative Meeting might still instruct the Council to prepare a fresh By-law—not shelving the matter indefinitely—and that fresh By-law would be submitted to the next meeting. In the case of the rejection of the proposed By-law, he would move from the chair that the Council be instructed to prepare a fresh By-law, and those who did not desire that the matter should be carried further and that there should be no further By-law would vote against that. If, on the other hand, his motion were carried, the meeting would proceed to consider amendments to the proposed By-law. In the event of his motion failing, the whole matter would be dropped.

Dr. Fothergill suggested that there were Representatives present who might be willing to accept the By-law as put before the meeting if they could subsequently, by rider or amendment, instruct the Council to bring up at the annual meeting in July something which all could agree upon.

The Solicitor, at the request of the Chairman, said that at Brighton the Annual Representative Meeting arrived at a concrete decision, and its instruction to the Council was mandatory. That instruction had been carried out, and the By-law, brought before the present meeting for acceptance or rejection, was drawn up on the lines of those instructions. He was therefore compelled to advise the meeting that the first thing to do in order to act on constitutional principles was to consider that By-law and to vote for or against it. In order to make it an effective resolution of the meeting it would have to be carried by a two-thirds majority. Subject to a referendum being taken by the Council (which might be left out of the question in this case), this By-law as soon as it was passed by the meeting became effective and operative, and under it the subscription, as from January 1st, 1914, would be at the increased rate within the terms of the By-law. It was permissible, if it appeared desirable to the meeting, that notwithstanding the fact that it had passed this By-law there should be something done in the future to exclude from its operation a section of its members, and to instruct the Council to bring up a report, and if necessary to submit a new By-law in order to carry out the proposal at the Annual Representative Meeting. It would be for the Annual Representative Meeting in July to say whether it would be desirable to alter the By-law again at so early a date.

Dr. Buttar wished to move that the meeting proceed to vary the order of business by taking the amendments on the agenda paper first, and that it should then discuss the alteration of the By-law.

The Chairman thought that if this course were adopted, and any one of the amendments were carried, it would effectually prevent the adoption at that meeting of the By-law suggested by the Council.

Mr. Larkin submitted, as a point of order, that the meeting was called for a definite purpose to deal with the By-law, and other matters were out of order.

The Chairman said that, having discussed the matter with the Solicitor, he felt strongly that the meeting would be wise to adopt the line suggested by the Agenda Committee. Their conduct might very properly be called in question as business men if, after receiving the advice of the Solicitor, they did anything else than take a straight vote on the recommendation by the Committee. If that was the feeling of the meeting, he was sure that Dr. Buttar would not be anxious to press his views.

Dr. Buttar said he was only anxious to uphold the democratic constitution of the Association, but after what had been said he would withdraw his proposal.

The report of the Agenda Committee was adopted.

Discussion of the Proposed Increase of the Annual Subscription.

The report of the Council on the proposed increase in the annual subscription was received.

The Chairman of Council then moved that the proposed new By-law be approved. He reminded the Representatives that this matter had been fully discussed at the Annual Representative Meeting at Brighton, when instructions were given to the Council to draft a form of By-law to carry out the idea then suggested. The By-law was sent down to the Divisions for their approval or disapproval and instruction of Representatives. According to the views of their legal adviser, it was not competent to move amendments. It was competent for alterations or additions to the By-law to be suggested at the next Annual Representative Meeting. The necessity for the alteration now proposed was very patent to those who were at the head of the Association's affairs. They knew that the work, especially since the Insurance Act came into force, had increased so much that it was impossible for the staff to carry out efficiently the insurance work and the ordinary work; in fact, part of the work of the Association was being neglected. If the Association intended that its work in the interests of the profession should be well looked after,

it was essential that more money should be provided. The point was how this was to be done, and the question arose whether a special fund should be instituted, or whether the subscriptions should be increased. The Representative Meeting at Brighton decided that both should be done. Two suggestions had been made: one was that there should be a special fund with a subscription of 5 guineas, and that the subscription should remain as at present. The other was that the subscription to the Association should be increased to 2 guineas, and that the subscription to the special fund should be 4 guineas. That was considered the more practical form. Personally he would have liked to have gone further and increased the subscription of the Association still more, for the work of the Association could not be carried out effectively without more money. It had been said that a good many members would resign because of the increased subscription. The fact had to be faced that a certain number would resign, and a certain number were only waiting for an opportunity or excuse to resign. (Hear, hear.) It seemed a hard thing to say, but the Association might be better off if some of those men were not in it. He was speaking of men who at present were in essence opposed to the Association. His great dream with regard to the Association was that every medical man in the United Kingdom should be a member of it, and there was no reason why that state of things should not come to pass. Certain events had, no doubt, made the Association disliked by some, but it was to be hoped that that was only a temporary feeling. Dr. Macdonald hoped that the Association would soon see the day when all little asperities would be removed and there would be a united profession. In order to achieve that it was necessary that the funds of the Association should be capable of carrying out a great deal of work for the benefit of the profession at large. He moved that the Representative Meeting adopt the proposed new by-law.

Dr. WALLACE HENRY asked that the Treasurer should produce a balance sheet for the first six months of the present year.

The TREASURER replied that there was no balance sheet for six months, but there was a complete balance sheet for 1912. Economies had been effected, but the present subscription was totally insufficient to meet the calls of the profession upon the Association. To the end of September, 1913, however, there had been a decrease of expenditure of at least £7,000.

On a motion that the question be now put,

Mr. LARKIN said that last July the Representative Meeting approved a principle and told the Council to embody it in a By-law. The sole question was, Did the By-law embody the principle which was laid down in July at the Brighton Meeting? If any Representative opposed the adoption of the By-law, he must oppose it on the ground that it did not embody the principle laid down; it would be a subterfuge to oppose because one did not approve the principle already established.

Dr. HASLIP totally disagreed with Mr. Larkin. He opposed the raising of the subscription, having a mandate from his Division. London was dead against the raising of the subscription at the present time. The Association had to be practical; it had a membership of over 20,000, but how many of those members were active members? How many took an interest in the political work of the Association?—perhaps 10 per cent. (No, no.) The average attendance at meetings of the Association was 10 per cent. It was now proposed to give the minority the power of saying how much the Association should charge the majority. It was not business, and the Association would fail if it persisted in that line. The only way in which the question of the raising of the subscription could be settled was by a direct postal vote. He agreed with the Chairman of Council in his remarks, but he went further and said if the Association went on in the way it was going the subscription would have to be doubled again in a few years. Dr. Haslip gave various items of expenditure since the introduction of the new constitution; £5,000 was, he said, thrown away on the proposed charter. The proposal to form a new company in 1910 cost £1,000. The Association's Year Book, which was published for two years, cost nearly £2,500. The national insurance question had cost £10,000. For all that large expenditure there was very little to show. When the new constitution was formed a new machine was started and too much work was undertaken. The London members had brought forward a scheme in which they maintained that there should be one head of the Association. The Chairman of Council should be a semi-paid official and have control over the whole Association. London opposed the raising of the subscription at this juncture, though it agreed that it might be raised in the future. Many men were waiting for an excuse to resign, because they only belonged to the Association for the sake of receiving the JOURNAL. There were men absolutely indifferent to the Association, and if the charge of 2 guineas were made for the JOURNAL those men would go.

Dr. T. A. HELME (Manchester Central) said if the discussion were to be limited to the line indicated by Mr. Larkin he would retire from the room at once, but he concluded there was no ruling in favour of Mr. Larkin's view.

The CHAIRMAN intimated that as a very wide constitutional point was involved in the debate, he would allow considerable latitude to those speakers who wished to address themselves to the question of principle.

Dr. GILLETT (Oxford) said the report with regard to the finances of the Association stated that the expenditure of 1912 was exceptional. The excess amounted roughly to £3,800, being mainly for legal expenses. He hoped in future the Solicitor of the Association would not incur such expenses.

The CHAIRMAN OF COUNCIL intervened to say that the expenditure did not rest with the Solicitor, and if fault there were, it was that of the Association.

Dr. GILLETT, continuing, said that, eliminating the legal expenses, there was only a deficit of £1,400, of which £1,200 had been spent for central meetings. He criticized the expenditure on the JOURNAL, and said there was much in the SUPPLEMENT which was not read. For the year 1913 there was an estimated saving of £7,000, so that for the present year there was already money in hand. In his own Division a meeting of 50, with two exceptions, opposed an increase of subscription, and many men had threatened to discontinue membership of the Association in such an event. Non-panel members of the Association would have nothing, or very little, to gain by an increased subscription, and the result would be that the Association would be largely composed of panel men who would be trying to form a kind of trade union. The question was whether the Association would be stronger with a larger number of members or with fewer members and a large balance at the bank. He advocated increasing the membership of the Association and reducing the expenses.

Dr. JOHNSON SMYTH (Bournemouth) advocated a policy of retrenchment and reform, and the withdrawal of the proposals to establish separate offices in Scotland, Ireland, and Wales, with clerical assistance, and the provision of an Insurance Act department in the London office. Until the finances of the Association were put on a sound basis such proposals were premature.

Dr. C. G. MEADE (Scarborough) said he had been definitely instructed by a meeting of fourteen medical men to vote against the principle of raising the subscription, on the ground that the time was inopportune. Dr. Meade indicated that his own view was in favour of an increase, on the ground that the finances of the Association required strengthening.

Dr. WALLACE HENRY (Leicester) said that at the last Representative Meeting he voted against the subscription being raised, knowing that the Council after consideration had decided not to recommend it. The more he had considered the matter the more he was convinced that the Council was then right. It was more vital at the present time to enrol more members of the Association than to increase the subscription which would involve a loss of members. In the fight that was bound to ensue in the next two or three years, unity in the profession was essential, and that unity should not be impaired. In country districts there were many men whose sole reason for membership was the receipt of the JOURNAL, which they could obtain at the bookstalls for 25s. a year. To add an extra 17s. to their subscription would be to lose them as members. He was at variance with the Solicitor's opinion as to the closing paragraph of the alteration of the

Memorandum to be discussed at the general meeting on the following day. If that alteration were carried, the Association to a large extent would be limited to science, and would not be able to carry on medico-political work with the same freedom as in the past. It was suggested that no resolution should be passed which might lead to the Association being turned into a trade union. If any resolution were passed by a company laying down restrictions on the way in which members were to do their work or conduct their business, that organization *ipso facto* ceased to be a company and became a trade union. If the alteration of the Memorandum were carried, he suggested that if in future it were proposed to pass resolutions saying how men were to conduct their business, it would be found that the Association as an association could not do that, and would be confined to scientific work. If that were so, and if the Association in future were to undertake chiefly scientific work, the present subscription was sufficient to carry on its functions.

Dr. BUTTAR thought the question of raising the subscription had not been properly put before the Divisions. The matter had been sent down to the Divisions, and he was under the impression it had been sent down for discussion as to whether the Divisions approved the Representative Body's action in July. Many Divisions had sent in amendments, but the meeting was suddenly told it could only vote Aye or No on the particular By-law; he contended the matter was being pushed far too quickly and unconstitutionally. If the Association were to do any good it must include practically every man, and should run no risk of losing members; increased membership was far more important than increased revenue. It was also unfair to members, who would wish to resign if the subscription were increased, that it would be too late for them to send in their resignations for the forthcoming year. Further, he was convinced that there was considerable scope for economy in the central office.

Dr. POCHIN (Oldham) considered the motion too wide, seeing that an increase of the subscription would be only necessary if the British Medical Association was to go on as a fighting body. His Division were of opinion that the British Medical Association should cease to fight because it was handicapped by its constitution. It had been simply pathetic to see the way in which the Association had gone to the lobby of the House of Commons and had approached the Commissioners, with the result that no notice had been taken of its polite remonstrances or representations. His Division considered it was time that the British Medical Association went back to scientific work and became again a scientific body. An Atlantic liner could not be sent against a Dreadnought, and it was no disparagement of the British Medical Association to say that it was an Atlantic liner, unarmoured and unarmed. It had been in conflict, and the Council proposed to patch up the old shot-holes with tissue paper and send it into action again. It was time there was an end of such nonsense and that the British Medical Association built a Dreadnought of its own. Therefore, as he had been instructed, he would vote against the increase of subscription.

Dr. BEATON was exceedingly sorry that many members came to the meeting with definite instructions how they were to vote, but he hoped the time would come when Representatives would come to the meeting as free men. At present they came to the meeting instructed whether the subscription should be in the future 2 guineas, or whether it should remain as it was. If they had fought a fight and to some extent failed, then the time was extremely opportune to consider where they stood, and try and do better for the future, but they could not expect to succeed without more money. It was a question of 17s. a year; that worked out at a little over a farthing a day. Could not they have a year of self-denial? (Loud laughter and applause.) Those who knew what was going on at head quarters were well aware that their staff was being overworked, and could not go on much longer without a breakdown. They could not do without extra help, and that meant more money. Members got an immense return at present for the 25s., and he ventured to suggest that if they were starting the Association *de novo* they would not think of offering what they now gave for that money; they would ask at least 3 guineas. It had been said that they would lose members, but they would lose members unless the Association went forward. If it went forward he did not doubt that the men who retired now would come in again when the Association was fighting to do the best for them.

Dr. GOODBODY (Marylebone) gave the results of a postal vote taken in the Marylebone Division on this question. He sent out 665 cards, and got back 388, which was about 57 per cent.; 15 of those votes were spoilt, which left 373. The first question asked was: "Are you willing that the subscription of the Association should be increased from £1 5s. to 2 guineas?" The answers were: In favour, 146; against, 201; 1 doubtful; and 6 did not answer the question. This was a majority of 64 against. The second question asked was: "Are you willing to remain a member of the Association if your subscription be so increased?" The answers were: In favour, 175; against, 150; doubtful, 20; and the question was not answered by 28. Therefore, taking the number of members of the Marylebone Division voting at 373, there was a majority of 25 in favour of remaining members of the Association if the subscription were increased. These results were not due to the mere raising of the subscription by 17s. a head, but on account of the dissatisfaction of the members of that Division with the way the Association as a whole had been spending money of late years.

Dr. LAWSON remarked that for the expenditure of £10,000 the Association had secured for the profession an annual addition to its income of a million and a half sterling a year. There was an accession to the membership about eighteen months ago of between two thousand and three thousand members, who had been brought in because there was some danger to their bread-and-butter under the Insurance Act. It was said that those members might resign. More had been spent on those members than the amount of their subscriptions. They were a heavy weight on the Association, and if they only remained so long as it spent more upon them than they paid it he was prepared to let them go. The Association had been established by men who followed sound lines of finance, and had paid their way and had put a little into a reserve fund. During the last eighteen months the Association had placed nothing to reserve. It took out £6,000 from the reserve last year, and if this were to continue it would soon be in bankruptcy. There was no other sensible method open than to raise the income to a point at which the Association could not only pay its way but strengthen its reserve.

It was agreed that the question be now put.

Dr. HASLIP proposed a card vote, but the requisite number of members did not rise in their places.

Dr. GARSTANG proposed a roll call, and, this course being duly supported, was adopted.

The Treasurer, Dr. RAYNER, at this point read details of the financial position of the Association for the present year, which were not in his hands when the question was raised earlier in the meeting. In the nine months ending September 30th, 1913, there had been a saving of £8,228. That was a sufficient answer to the statement that no economies were being effected. The receipts for the nine months were £2,100 more than in the nine months of the previous year and £7,000 more than in the nine months of the year before that. There had been a considerable expenditure in legal charges, amounting to £3,820. These were not Mr. Hempson's charges, and but for them the balance would have been even more satisfactory.

The roll call resulted as follows:

Ayes	131
Noes	42
Not voting	2

The CHAIRMAN thereupon declared the motion carried by the necessary two-thirds majority.

PROPOSALS BEARING UPON THE INCREASE OF SUBSCRIPTION.

The CHAIRMAN, in answer to a question by Dr. FOTHERGILL as to whether certain amendments on the agenda to the motion just carried could be competently dealt with as motions, with a view to the Council being instructed to draw up fresh alterations of the By-law, which would come before the Annual Representative Meeting next year, said that to secure this the order of

business would have to be varied, and he would put the following resolution from the chair:

> That the course of business be varied, and that the proposals 11 to 18 on the agenda and similar competent proposals be discussed with a view to their being included in a further alteration of the By-law governing the annual subscription, such alteration to be incorporated by the Council in the By-law and submitted to the Division in order that it may be constitutionally brought before the Representative Body at the Annual Representative Meeting in 1914.

Those who wish to consider these proposals would vote in favour of the resolution.

The motion was carried.

The CHAIRMAN OF COUNCIL moved:

> That the remainder of the Report of Council on the proposed increase in the annual subscription to the Association be approved.

Dr. LANKESTER (Guildford) moved:

> That the increased income derived from the increased subscription should be devoted to the liquidation of the Association's debts.

It was, he said, necessary to have a strong argument and good reason to induce members to accept the increased subscription; to say that the increased revenue was going to be devoted straight away to increased expenditure was not a good argument. If in the first place the two guineas were devoted to placing the finances of the Association on a satisfactory basis before advances were made in other directions, he believed that resignations would be far less numerous than if the new revenue were devoted to the objects suggested by the Council.

The CHAIRMAN OF COUNCIL said the adoption of the motion would place the Council in a false position. If there were a council to manage the affairs of the Association it must be given full liberty of action. By the motion it was proposed to tie up the affairs of the Association until its debts were liquidated. He hoped the matter would be left to the Council.

Dr. LANKESTER did not admit that his motion would tie up all the work of the Association. It proposed only to limit the new work to be undertaken.

The motion was lost.

Dr. HASLIP inquired the number of resignations during the past year.

The CHAIRMAN ruled that the question was not germane to the discussion.

Dr. JOHNSON SMYTH desired to know whether the meeting agreed as to the objects which should be undertaken by reason of the new subscription (see JOURNAL, November 1st, 1913, p. 364).

The CHAIRMAN said that the subject would be discussed on the motion that the remainder of the report be approved.

Dr. KENNISH (Wandsworth and Wimbledon) moved:

> That it be an instruction to the Council to consider very seriously the advisability of entering into fresh expenditure, estimated at £7,250, having in mind the estimated deficit of £5,600 in 1913, the depletion of reserve, and the present debt of £45,000, and that the first charge on increased income should be to provide a Sinking Fund for redemption of the debt on the premises of the Association.

His Division, he said, was of opinion that the increased subscription should be devoted to wiping off the large debt the Association had incurred, and that the first thing to be done was to provide a sinking fund to liquidate the debt of £45,000 by devoting a proportion of the increased revenue to that purpose. If what he had been told was true—namely, that branch offices had been established in Scotland, Ireland, and Wales—it looked as though money had been spent before it had been voted.

The CHAIRMAN OF COUNCIL said that it was a mistake to assume that separate branch offices had already been established. What had been done was to constitute separate committees with clerks for Wales, Scotland, and Ireland, but no separate offices had been established in any place yet.

The CHAIRMAN pointed out that in any case the Council would seriously consider the advisability of what was proposed by the motion, which was then put and carried.

Dr. SHAW (Buckingham) moved:

> That this meeting considers that the estimated £10,000 produced should be devoted to purely Association purposes, and to improvement in organization.

He said the object was to limit the manner in which the extra money would be spent. His Division considered that the money ought not to be spent for extra insurance work, but that if extra insurance work were required the money for that purpose should be obtained from panel practitioners. Further, if there was a separate department formed for panel practitioners, the secretaries of the Association proper would have more time to devote to its work, and therefore the addition of four extra organizing secretaries would be unnecessary, and that would be a considerable saving to the Association.

The CHAIRMAN OF COUNCIL desired once more to point out to the meeting that the Association had a Council, and surely it was better to express an opinion and leave it to the Council to consider it. It was undesirable to place such a restriction on the action of the Council in dealing with the Association funds. If the members of the Association did not like the way the Council dealt with the money, the remedy was to replace the members of the Council by others. The Council was the executive body, and when members of the Association had placed their trust in it, the Council ought to be given a chance to do its work. It was a mistake to assume that the four organizing secretaries proposed to be appointed would deal with insurance work alone. That was not the proposal. The difficulty the Association had was that many members in the country did not understand the position of affairs. The Council had become more convinced every year that the Association must have men to go to meetings and explain the position so as to get the Divisions to work together. If the Association had had such secretaries last year the position of the profession would probably have been very different. It was most necessary to have organizing secretaries to go round the country and bring the profession into one coherent whole. He hoped that the proposed restriction on the Council would not be approved.

Dr. B. G. MORISON (St. Pancras) suggested that already the Association had a very efficient organization, and that the tendency was to overdo it. He would like to see the money derived from the increased subscription devoted to the work of the Association, the protection of medical men, and scientific and professional advancement. The Association wanted a policy, not mere organization, because unless it had a definite policy men would not subscribe to its funds.

Dr. SHAW (Buckingham), with the consent of the meeting, withdrew the motion.

Dr. T. B. HEGGS (Canterbury and Faversham), who had a notice of motion on the agenda paper, moved it in the following form, as suggested by the Chairman:

> That the Council be instructed to consider the suggestion that a portion of the possible increased income from the raised subscription should be devoted to the establishment of a legal department at the head quarters of the Association.

Dr. Heggs said the proposal was that, instead of instructions being sent to counsel through a solicitor, there should be a legal department available to every member and the staff, and that over it should be a solicitor. He thought there was economy in the suggestion, and that it was worth the Council's consideration.

The motion was put and lost.

Dr. FARQUHARSON (Consett and Gateshead) moved:

> That the Special Representative Meeting agrees to the withdrawal of the proposed British Medical Association scheme of offices and staffs in London, Edinburgh, Dublin, and Cardiff, with their chief organizers, and its incorporation by the trustees of the proposed special fund, with sole power of control and finance as part of the proposed organization under the new trust scheme.

His Division felt very strongly that the money derived from the increased subscription should be used in the first place to liquidate the liabilities which had been incurred in the big fight of the Association in regard to the Insurance Act. The scheme put forward by the Council seemed to involve an overlapping of organization, and his Division thought it would be better to permit the Council to use the

subscription as seemed best to it for the benefit of the members of the Association as a whole. The Association had been the best friend to the general practitioner in the past, and would no doubt be his best friend in the future.

The Chairman suggested that the meeting should not tie the hands of the Council with regard to what should be done with the money, and that it should be left to it to choose from among the various proposals put forward. When it got the money the Council must cut its coat according to its cloth.

After an appeal from Dr. Helme (Manchester) the amendment was withdrawn.

Dr. Bontor (West Hertfordshire) moved:

> That, in view of the financial position of the Association, the method by which the British Medical Journal is conducted should be thoroughly reorganized.

By raising the subscription to 2 guineas the price of the Journal had been increased to that figure even to people who had joined the Association solely to obtain the Journal. A large number of them would probably resign. In order to enable the Journal to compete satisfactorily with other publications of a similar character it was necessary that it should have some new life infused into it. Without going into a detailed criticism, he expressed the opinion that the Journal could be made more effective.

The motion was put without further discussion and lost.

It was then resolved that the remainder of the report be approved.

The meeting then considered amendments directed to any alterations which the Council might be instructed to incorporate in a new By-law for submission to the next annual meeting.

Dr. Fowler (North Middlesex) moved:

> That the annual subscription to the Association be increased to 2 guineas.

The proposal, he said, really came to this, that there should be a flat rate for the whole of the empire of 2 guineas. He saw no reason why the Channel Islands should be ruled out; if they were, why not Ireland and the Isle of Man?

Mr. Larkin said that a large portion of the increased subscription would be devoted to work in the United Kingdom. The work in the Dominions was actually being done already by increased local subscriptions. The Dominions had the right to raise their subscriptions to any sum they wished locally—a right which members at home had not. All that the By-law proposed to do was to raise the subscription at home, as had been done in the Dominions, and to pay for their own work in England without asking the Dominions to pay for it.

The Chairman, in reply to a question, explained that the motion would create a general flat rate, and would make it impossible to exempt anybody. If the meeting approved the motion nobody in the Dominions or the Channel Islands or anywhere else would pay less than 2 guineas.

Dr. Robertson (Glasgow, South) wished to know if Mr. Larkin had authority for saying that the Dominions had power by their By-laws to increase their subscriptions locally. If that were so, surely Scotland could do the same thing.

The Chairman quoted By-law 15 to show that the Dominions had the power.

The motion was lost.

Suggested Special Rate for Newly Qualified Practitioners.

Dr. Mactier (South Staffordshire) moved:

> That after the words "July in any year" of paragraph (1) of the proposed new By-law there be inserted the words "and of members who have been medically qualified for less than five years"; and that after paragraph (2) of the proposed new By-law there be added the words "A member who has been medically qualified for less than five years shall pay 25s. per annum."

He said the proposal aimed at exempting practitioners from paying the full subscription for five years after qualification, as they would have to do under the new By-law. He thought the meeting would recognize the necessity of encouraging the younger members of the profession to join the Association.

In reply to a suggestion that the motion did not carry out the intentions of the mover, the Chairman of Council urged the meeting not to attempt to draft hard and fast By-laws; it need only establish principles, and the Council could draft the wording.

Dr. Wallace Henry said the difficulty he felt was that it was very desirable that men should join the Association as early as possible, because the great danger during the coming years would arise from newly qualified men who would be most open to the temptation to take appointments which the Association might bar. Consequently, it was of the greatest possible importance to get men into the Association during their first year, and not give them the five years suggested by Dr. Mactier. For that reason he suggested that Dr. Mactier might accept the form of a proposal by the Leicester and Rutland Division:

> That in the case of any person joining the Association during the first year after registration the subscription shall be 25s. a year during the first five years of membership.

Dr. Major Greenwood (City) thought that a sliding scale of some kind was desirable.

The Chairman summed up the debate and put the motion, which was carried in the following form:

> That the Council be instructed to draft a By-law for submission to the Divisions and Representative Meeting next year incorporating that special consideration in the matter of subscription should be given to newly registered medical men.

The meeting then adjourned for luncheon.

On resuming after luncheon, it was agreed to refer to the Council motions by the Dundee Division that for four years after registration practitioners should be admitted members of the Association at a subscription of £1 5s., and by the Leicester and Rutland Division that in the case of any person joining the Association during the first year after registration the subscription should be 25s. a year during the first five years of membership.

Retired Practitioners.

Dr. Wood-Hill (North Suffolk) moved:

> That the annual subscription to the Association be 2 guineas, except for foreign, colonial, and retired members of the profession.

It seemed to him obviously fair that the concession to colonial and foreign members should be extended to those members who had retired from active practice.

Dr. Fothergill (Brighton) opposed and Dr. Johnson Smyth (Bournemouth) supported the amendment.

The Chairman of Council wished to say a word to the meeting from the point of view of the administrators of the Association at the present time. He begged the meeting not constantly to tinker with the regulations and By-laws of the Association; there was nothing that created such an atmosphere of distrust. He hoped that anything now settled would be carried at the next meeting in July, but that then the regulations would be allowed to rest for some time. With regard to the amount of the subscriptions, to talk of 2 guineas being too much was an absolutely despicable position to take up, and he therefore had no sympathy with any one on this point. It had been suggested that the profession should become a trade union. What did trade unionists pay for their privileges? Working men who were only earning a daily wage gladly paid up to as much as £10 a year for their privileges, and yet there were members of the medical profession haggling over a 2 guinea subscription.

The motion was lost.

Proposed Exemption of Ireland.

Dr. Storey (Belfast) moved:

> That the subscription to the Association be increased in those areas only in which medical benefit under the National Insurance Act is in force.

Belfast wanted to be left out, for the reason, first, that there was no medical benefit in Ireland; secondly, there was an Irish Medical Association, the subscription to which was a guinea a year; this was essential for their protection; the dispensary medical officers had their own association; and for the last fifteen years, so far as Belfast was concerned, the Ulster Medical Society had been in

existence. Medical men supported all these as well as the Association. Under these circumstances they considered that 25s. was quite sufficient for an Irishman to pay.

Dr. LAFFAN said he had voted for the increase of the subscription to 2 guineas. Members of the profession had derived great advantages and benefits through membership of the Association, and it was not right that they should take those and seek to contribute a smaller sum to its funds in the way of subscription.

The motion was then put and declared lost.

Proposed Exemption of the Channel Islands.

Dr. CARRUTHERS (Guernsey and Alderney) asked for a definition of the phrase "British Isles" and whether it included or not the Channel Islands.

The SOLICITOR, in reply, said that "United Kingdom" had certain definitions within the meaning of a law which was a restrictive one, but where the term "British Isles" was used under an Act known as the Interpretation Act, 1889, Section 18, it applied to, and included, the United Kingdom, the Isle of Man, and the Channel Islands.

Dr. CARRUTHERS moved:

> That the increase shall not apply to the Channel Islands Divisions, which are not involved in the general medico-political questions of the United Kingdom, and are not affected by the National Insurance Act.

He said that the Channel Islands, although legally in the British Isles, had home rule and their own Parliament. Members in the Channel Islands were not controlled by the General Medical Council. If that Council inquired into misconduct of a practitioner and came to a decision to strike the offender's name off the *Register*, that decision had no effect in the Channel Islands until confirmed by special Act of the Royal Courts of Jersey and Guernsey. Registration in the United Kingdom did not carry with it the right to practise in the Channel Islands. All those points seemed to make the Channel Islands approach more closely to the foreign and Colonial Branches. The members of the British Medical Association in the Channel Islands held the view that the proposal to increase subscription was entirely due to the National Insurance Act. That Act did not apply to the Channel Islands, and could only become applicable with the consent of the legislatures there. For the last two years the members of the British Medical Association in the Channel Islands had been helping to furnish sinews of war to the Association in a struggle which had not concerned them in the least. They did not complain, but they did not think it fair that they should be asked to increase the subscription for purposes from which they would derive no benefit.

Dr. CARRUTHERS agreed that his proposal should open with the words:

> That in drafting the new By-law for next year the Council should be asked to consider the advisability of reducing the subscription to the members in the Channel Islands.

Dr. TODD (Sunderland) said he had never heard a more able pleader for increasing the subscription than Dr. Carruthers. Surely if members in the Channel Islands had the great advantages which they in England had not, the increase of subscription was a very small contribution for them to make.

In reply to a question whether, if members in the Channel Islands were involved in trouble with their government with regard to an Insurance Act, they would have the support of the British Medical Association, the CHAIRMAN replied that they undoubtedly would.

The motion as altered was then agreed to.

Proposed Exemption of Naval and Military Medical Officers.

Colonel BARROW moved:

> That the Council be instructed to consider the advisability of the subscription of members of the army and navy being limited to 25s.

It would, he said, be difficult to adjust the amount of subscription to be paid when officers were being constantly moved out of England and into England. The majority of members in the Army and Medical Services spent three-quarters of their time abroad. Service members were very grateful to the Association for what it had done on their behalf within the last thirty or forty years; but the meeting had already passed a motion that members abroad should only pay 25s. a year, and Colonel Barrow therefore asked that all Service members should only be liable for that amount—meaning those who served for short periods only in England.

Dr. FOTHERGILL referred to the work of the Association on behalf of the Services, and thought it almost inconceivable in the face of such service rendered to members of the profession that any one should say, "Let us off seventeen shillings."

Dr. HELME (Manchester Central) said he was amazed at the proposal when he considered the time and money spent by the Association during the last ten years on behalf of the welfare of the Service members of the profession.

The motion was lost.

Proposal to make the Increase Temporary.

The following motion by the West Herts Division was ruled out of order:

> That the subscription to the Association be raised to 2 guineas per annum as a temporary measure for one year, or such time as may be necessary to tide the Association over any financial difficulty, but should not be raised to that amount permanently.

Proposal to Reduce the Subscription Again.

Dr. STEVENS (Edinburgh and Leith), on the instruction of his Division, moved:

> That the Council be instructed to consider the advisability of reducing the subscription from 2 guineas to 30s.

He wished to take exception to the way in which the matter had been referred to the Divisions; no opportunity had been given to bring forward an amendment.

Dr. MCKENZIE JOHNSTON seconded.

The motion was lost.

Proposed Exemption of Non-panel Practitioners.

Dr. CUMING ASKIN (South Suffolk) moved:

> That non-panel practitioners should pay a smaller sum than panel practitioners, and that reduction should be made in the case of whole-time service practitioners.

Without discussion the amendment was lost.

PROPOSED SPECIAL FUND.

The report of the Council on the alternative schemes for the formation of a Special Fund for the development, organization, and protection of the profession was received (SUPPLEMENT, November 1st, p. 354), and the CHAIRMAN of COUNCIL briefly explained the object of the fund and the way in which the schemes proposed to carry it out.

The CHAIRMAN OF REPRESENTATIVE MEETINGS pointed out that the proposal before the meeting was for the establishment of a Special Fund outside the Association. The decision of the meeting would go out as a recommendation to the profession, and not as a decision of the Association. He therefore invited the meeting to determine the majority which it considered necessary in order that the pronouncement should adequately represent the views of the meeting, and suggested that a two-thirds majority should be held to be necessary.

After considerable discussion this suggestion was accepted.

A long discussion ensued upon the expediency of establishing such a fund at the present time and a proposal that the matter should be postponed until the Annual Representative Meeting was made. It appeared from the course of the discussion that the meeting was influenced by the consideration that it had just resolved to raise the annual subscription to the Association, and that it might therefore be expedient to ascertain the effect of this decision upon the funds of the Association before recommending the scheme of a Special Fund to the profession.

Eventually a division upon the direct question was taken, when the motion that the Representative Meeting should recommend the establishment of a Special Fund did not obtain a two-thirds majority; 111 Representatives voted for it, and 66 against.

The meeting adjourned at 5 p.m., the hour at which it had previously arranged that the proceedings of the day should terminate.

The report of the subsequent proceedings will appear in the next issue of the SUPPLEMENT.

NORTH OF ENGLAND BRANCH.

PRESENTATION TO MR. D. F. TODD, HONORARY SECRETARY.

The North of England Branch of the British Medical Association entertained Mr. D. F. Todd at a complimentary banquet at the County Hotel, Newcastle, on November 27th, when he was made the recipient of a handsome presentation in recognition of his services to the profession. The gifts consisted of a beautiful silver-gilt rose bowl, being a replica of the ancient Gothland bowl, a cheque for £300, and an illuminated album containing the signatures of the subscribers. On the bowl was the following inscription:

British Medical Association. Presented to Dr. David F. Todd by the medical practitioners in the North of England as a memento of the many valuable services rendered by him to the profession. November 27th, 1913.

At the suggestion of the President of the Branch (Dr. L. F. Fraser North Shields), who was in the chair, it was unanimously decided to send the following telegram to the King, who was staying at Lambton Castle:

Medical men of the North of England assembled in Newcastle send their loyal greetings to their King and Sovereign on his visit to the North.—(Signed) L. Fraser, President.

A reply was received in the following terms:

The King thanks you and those who join with you for the loyal message contained in your telegram.

Letters of apology for absence were read from Sir James Barr, Dr. Burnett; Alderman G. W. Bartlett, Chairman of the Durham County Insurance Committee; Dr. Alfred Cox, Medical Secretary of the British Medical Association; Dr. J. A. Macdonald, Dr. Leach (Newcastle), Dr. S. Plummer (Durham), Sir Theodore Doxford (Sunderland), Mr. Samuel Stoney, Dr. Crombie (Blyth), Dr. Bunting, Dr. Morgan (Sunderland), and others.

Address by the President.

The President said he was proud and pleased that one of his last appearances in the presidential chair should have been on the occasion of a gathering when they were to do honour to their old friend and hard-working colleague, Dr. Todd. Amongst themselves it seemed almost unnecessary to recall the many acts of self-sacrifice that he had performed. Twelve years ago, when the Association was on the verge of being reorganized, Dr. Todd was one of those who took the very foremost position in setting about his arduous work. The reconstitution of the Association was very largely due to his labours, and when the reorganization was complete Dr. Todd was one of the members of the first Representative Meeting. He had been a member ever since. He had been a member of the Council for more years than many of them had even been interested in the work of the Association. There was not a committee of the Branch on which Dr. Todd had not served, and served, he was sure they would all admit, with great advantage to the general interests of the Association and of the profession at large. In the thick of the fight—he did not wish to refer to past history more than could be helped on an occasion like that—but in the thick of the fight over the Insurance Act Dr. Todd did yeoman service, not only for the North of England, but for the profession in all parts of the country. He was one of the most active members in dealing with the Commissioners, and had done valuable work in a quiet way which none of them had heard of, using influence which only Dr. Todd possessed to look after the interests of the profession. The proudest day of Dr. Todd's life was at that very critical Representative Meeting in London when he had the courage to move the saving resolution of the day. Dr. Todd had become Treasurer and Honorary Secretary of the North of England Branch some six or seven years ago. At that time the Branch was in a thoroughly disorganized condition financially, but under Dr. Todd's administration the financial position had very materially improved, and the position of the Branch was stronger than it had ever been before. That that was so was due to Dr. Todd's work, and he thought he might say Dr. Todd's work alone. He had been supported and assisted by many men present, but the lead had been taken throughout by Dr. Todd. Invaluable service had been rendered by Dr. Todd also to the gentlemen in colliery practices not only in the North of England, but in Wales, the Midlands, and in Scotland. The first conference of colliery surgeons was called entirely at the suggestion of Dr. Todd. Very valuable work was done at that conference, and there was not a man in a colliery practice who did not reap the benefits of the labours of their friend. Things, however, would never be as they used to be in their profession. The conditions of practice, and the profession itself had changed, and they were at present in a stage of reorganization. There was no man who had worked harder for the reorganization of the profession under the auspices of the Association than Dr. Todd, who was still devoting much time to working in London at that very difficult and most trying problem of how to reorganize the profession on a thoroughly united basis. The gift made to Dr. Todd was a small acknowledgement of the valuable work done for them, and he would like Dr. Todd to remember that gratitude had been defined as a lively sense of favours to come. They wanted to get a good deal more out of him, and he was sure they would get it. The President concluded by giving the health of Dr. Todd, wishing him long life and strength to carry out the work for them in the future as he had done in the past.

The toast was drunk with great enthusiasm.

Address by Mr. Todd.

Mr. Todd, who had a most enthusiastic reception, said they had all at some time in their lives come to a critical point at which they had some difficulty in knowing how to deal with the case presented to them. He felt that night in a position somewhat similar to that. It was most difficult to thank them and to attempt to reply adequately to the speech which had been made by his esteemed friend the President. But knowing him as he did to be a sterling North Countryman, and as one who said what he meant and meant what he said, he assured them he could not but deeply appreciate the remarks which had fallen from his lips. He could also tell them that he himself did not feel at all worthy of the remarks which the President had made. Any little service which it might have been his lot to have rendered to his brother practitioners had been a service of love and a service of the heart. When he first entered into the fighting ranks of his profession he recognized that there was a great necessity for a reform of the profession, for the organization of it just as in any other profession or any other body of labour. They had been taunted in recent years that they were not a body of labourers. But he would appeal to his friends round that table, who had gone through bitter years of experience, through toil and very hard work, and he would say that if the term "labourer" did not apply to the profession, then he would say it applied to no other body of workmen, no matter what sphere they occupied. They were workmen, although perhaps in a higher and perhaps a more responsible sphere. They had no limit of hours; they had but to obey the call, no matter when it came—day or night—they had to obey the call to relieve human suffering. It was a glorious profession and one to which they were all proud to belong, and if it were not for the glorious history of that profession and the great responsibility which hung round them, they would not, many of them, be in it, because he was certain the lot was not always a happy one, and the labourers were not always recognized in the way they should be. Their President had referred to their Association being reorganized and reconstructed twelve years ago. It was over twenty years since a small band of them first started working together and saw that they must be reorganized and reconstituted and united, and he felt proud they did so, because, if the profession had not been reorganized, where would they have been now in the great onslaught which had been made on the profession in quite recent times?

The Insurance Controversy.

It was true they had passed through great turmoil, but he thought they had come out of that turmoil with honour

and dignity. But for the British Medical Association, he would say in all seriousness and sincerity, they would have been like a rabble, and would have been scattered to the four winds of heaven, and the Government might have done nearly what it liked with them. The British Medical Association, by its organization and by the strenuous efforts of its officers, including their worthy President and many of his (the speaker's) friends who were there that night, showed to the Government and to the public, which played such an important part in all those questions, that they had only asked for just and equitable terms. And they were proud that the Government by its own inquiry had found that what the profession asked for was what they were rightly entitled to, and that the accusations made against them of making demands they were not entitled to, and which were an imposition upon the public, were without foundation, and could be treated with the contempt they deserved. Luck played an important part in life, and it was lucky that he happened to be at the helm at the time when events happened which they had never thought would come upon them. The Government suddenly launched upon them the Insurance Bill. They were then put in the position of being up against a very strong problem. That was the first time their profession had ever had to fight a Government. It was a Government of experts. They must all admit they were up against a Government of experts. And yet when they looked at the results he thought they had nothing to be ashamed of. It was true they made mistakes, but it was also true that the Government made mistakes.

The Success of the Association.

The great thing was that they as a profession recognized they made mistakes, and the Government recognized that it, too, had made mistakes, and by mutual confidence and by coming together they had arrived at an end which was satisfactory to all concerned to a certain extent. That was a thing they should be proud of, and it was for the profession at the present time to act. It must become alarmed. Every member must be roused to a sense of his responsibility because they were only in the beginning of the fight. What they had gone through was a mere scrimmage. They had not had any serious battle yet. They had not had any serious reverse, and they knew that in all history the reverse was the thing that proved true statesmanship and proved true manhood. Therefore it was for them, and he would say it to every one of them who came from the various districts of the north—it was for them to go back and rouse their men to a sense of their responsibility, and show them they must stick to the Association, because in the Association their own salvation lay. They would perhaps think he had digressed, but it was only when opportunities occurred like that one that one could get in a shot and be a missionary on behalf of the medical men, and he trusted they would bear with him.

The Influence of the Association on the Advancement of the Profession.

With regard to the presentation, he accepted it in all humility. He accepted it not as a token of his services, but as a token of the goodwill, which he was proud to think he had, and trusted he would always have, of his brother practitioners. There was a time—and it would be in the mind of many sitting round that board—when they used to look upon each other with a jealous eye and run each other down and all that sort of thing. That was because they did not know each other. They were just poor little human beings with all the frailties of human nature. It was for them to wipe away all those little innuendoes, and act with true brotherhood and true manhood and unity. Then they were bound to succeed. When they looked round other spheres of life what did they see? They saw all other bodies of labour combining against the common enemy. That was what they must do. The profession had simply taken a leaf out of the book of trade unionism, and were going on trade union lines. They were supporting each other and uniting together against blackleg labour and blackleg imposition. What was the true position of affairs at the present time since the Insurance Act was introduced? Some individuals had put their heads together, and they thought they were going to make the profession their humble and obedient servants. It was quite true the profession had always been, and he trusted always would be, the loyal servants of the general public from the scientific and human point of view, but when any body of men said to them that they were going to trample on them, then they would assert their manhood and say that "Britons never shall be slaves." They were going to prove, and in fact they had proved, that by union they could get their legitimate and just demands, and it was futile for any small or any large body to try and force them into their ways of thinking and doing so long as they were not equitable and just. That was the position at the present time. There were many reforms they wanted, and which they hoped to get, and there was always one thing they must remember about their Association, and that was that the first reason why the Association was formed was to uphold the honour and dignity of the profession, by encouraging scientific research, and helping poor fallen humanity, and lifting it up and resuscitating human beings in their need and necessity. They must not lose sight of those things. They were trying to carry out those things, and hoped to do it more in the future than in the past. The country was now peculiarly situated. In Germany the Government was devoting large sums of money each year for research and for research students, but in this country they were so wrapped up in commercialism—for a great man once described us as a nation of shopkeepers — that they lost the scientific point of view, and did not assist it by public funds as they ought. The Association had stepped into the breach and by its efforts and by its financial assistance had helped scientific research and had lifted it on to a very much higher plane than ever it would have been but for the efforts of the Association. They must bear these things in mind and weigh them up, and they were bound to come to one conclusion, and that was that the Association must exist, and that they must all be members of it, and must be loyal members, and act together cohesively. They would, he was sure, take that lecture in the spirit in which it was given. Sermons were never acceptable things, especially at functions such as that, but the text was so indelibly marked in his brain that he felt he must speak upon it. Their esteem of the Association would be the very best thanks they could give him for any little service which he had done. Let them act loyally and honourably to the Association and recognize that they belonged to an honourable profession, and let them say there should be no more of the low tricks which some persons at times descended to. If they did these things, they would be doing a great work and a missionary work, and those who came after them would recognize it and say that the Association was the body which first lifted the profession on to that higher plane and put its members on the way to show what they were, that they were not commercial in instinct, but that they were scientific, and were doing their best to lift suffering humanity from pain and disease, and so to prevent disease that at some future date such a thing as disease would not exist, and all medical men would be preventive officers, and would look back to the days of those poor old chaps who worked twenty-four hours out of twenty-four for a bare subsistence.

Thanks.

He thanked them one and all for that great token they had given him, and he would like before he sat down to thank the members who had worked so loyally with him. He saw around him men like Drs. J. Don, A. Smith, Campbell, Anderson, Charles, Farquharson, Modlin, Dillon, the President, and Dr. A. E. Morrison and others. These men had all done Trojan service. They had been in the forefront of the battle, and he had been their humble servant carrying out their commands. He again thanked them.

Dr. Todd's speech was much applauded during its course, and loud applause marked its close.

Dr. Farquharson proposed the toast of "The Guests" in a humorous speech, and Mr. M. Dillon, who responded, expressed appreciation of the services of Dr. Todd both to the profession and to the public.

EAST ANGLIAN BRANCH: MID-NORFOLK DIVISION.

PRESENTATION TO DR. D. G. THOMSON, HONORARY SECRETARY.

At a meeting of the Mid-Norfolk local Division of the British Medical Association, held in Norwich on November 26th, Dr. Thomson was the recipient of a presentation of plate from the medical practitioners in Norfolk in recognition of his services to them, first as Honorary Secretary of the Division and latterly as Honorary Secretary of the Local Medical Committee for Norfolk. Dr. R. C. M. Colvin-Smith, of Cromer, occupied the chair, and many practitioners from all parts of Norfolk were present. Dr. Sidney Harrison, of North Walsham, made the presentation, which consisted of a handsome silver salver and other valuable pieces of plate, on behalf of his fellow practitioners, and in a felicitous speech referred to Dr. Thomson's long and able services to the local profession and to the British Medical Association. He pointed out how important it was in the points of contact between the State and the medical profession were increasing so rapidly, that there should be such an association as the British Medical Association, not only in the interests of the profession itself, but in the interests of the public, so that there might be a thorough technical examination of all proposals made by a lay body such as the Government, or of bills affecting the national health. The local members of the British Medical Association were much beholden to their honorary officials for the time and money they gave up to this work, and were glad to have this opportunity of expressing their indebtedness in a tangible form to one of them for his work in binding them together and organizing the local Division of the Association. Dr. Thomson having expressed his thanks, said that it was very gratifying that the relations between the local profession and the Norfolk Insurance Committee were so amicable, and that representations from the doctors had been courteously received.

Meetings of Branches and Divisions.

CONNAUGHT BRANCH.

A special meeting of North, Mid and South Connaught Divisions was held at Galway on November 27th, at 3 p.m., Dr. R. J. Kinkead in the chair.

Special Representative Meeting.—On the motion of Dr. R. B. Mahon, seconded by Dr. M. Macdonough, it was resolved that the Representative be directed to vote against the increase of the annual subscription to 2 guineas. It was unanimously agreed to support the establishment of a special fund for the organization of the profession.

Ethical Rules.—The draft ethical rules proposed by the Association were adopted in place of those previously in use

EAST ANGLIAN BRANCH: West Suffolk Division.

The Division met at the Angel Hotel, Bury St. Edmunds, on November 25th, when Dr. Wood was in the chair, and eleven members were present.

Report of Representative.—Dr. Wood reported that he had attended the Representative Meeting at Brighton, and had carried out the instructions of the Division in regard to the various matters discussed.

Local Medical Committee.—The Secretary read a letter from Dr. Caie, withdrawing his resignation from the Local Medical Committee.

Representation on Central Council.—A letter was read from Dr. Fordyce (Cambridge), announcing his intention to resign from the Central Council of the British Medical Association, owing to pressure of other work. Dr. Bygott proposed, and it was generally agreed, that it would be in the interests of the Division to nominate the Chairman for election. Finally, it was agreed to take no step at present, as no notice had appeared in the Journal, and the meeting of the Division which will be necessary in January will probably be able to deal with the matter.

The Milward Fund.—An appeal on behalf of the Milward Fund was received and circulated among those present.

Proposed Reorganization and Increased Subscription.—The report of the Executive Committee on the proposals of the Central Council in regard to: (1) Increased annual subscription; (2) formation of a special fund, was read by the Secretary, a copy being in the hands of those present. The report set out the need for organization, the increased facilities in this direction afforded by an increased annual subscription, and the objects of, and objections to, the formation of a Trust Fund, as detailed in Supplement of November 1st. After some discussion it was unanimously resolved, on the motion of Dr. Ritchie, seconded by Dr. Rix:

> That the Division supports the proposal to increase the annual subscription to 2 guineas.

The formation of a special fund, in accordance with Scheme B, in the Supplement of November 1st, was then fully discussed. The principal objections raised to the scheme were:

> (1) That many practitioners would fail to realize the need for, or advantages of, such a fund. (2) That the organization instituted by the formation of the fund would be shared by non-subscribers. (3) That the financing of Local Medical Committees, to which nearly one-half of the estimated expenditure of the fund is devoted, is of doubtful value, in view of the formation of Panel Committees.

Finally, on the motion of Dr. Hinnell, seconded by Dr. Ritchie, it was resolved:

> That the Division approves of the formation of a special fund on the lines of Schedule B, and involving an additional annual subscription of 4 guineas.

On the motion of Dr. Rix, seconded by Dr. Bennett, it was resolved:

> That the Representatives be instructed to urge at the Representative Meeting the necessity of issuing to all practitioners a leaflet showing succinctly the advantages of and urgent need for (1) an increased annual subscription, and (2) the formation of a special fund. This leaflet to accompany the request for subscriptions to the Association and the special fund.

The following motion by Dr. Batt, seconded by Dr. Hinnell, was carried:

> That the Representative be instructed to raise the question of the future of Local Medical Committees, with a view to consideration of the estimated expenditure on their behalf.

Clinical Meetings.—Dr. Leeming, having spoken on the subject of clinical meetings, the Secretary stated that a meeting would be necessary in January next to adopt new rules, and that the number and nature of the meetings to be held would form a part of these. It was generally agreed that such meetings are desirable, and that the Executive Committee should formulate a definite scheme for consideration at the next Division meeting. Meanwhile Dr. Leeming and the Secretary undertook to attempt to ascertain individual opinions as to the best means of making them a success.

FIFE BRANCH.

A general meeting of the Fife Branch was held in the Station Hotel, Kirkcaldy, on November 20th. Dr. Douglas (Cupar), President of the Branch, was in the chair. About twenty-five members attended. Dr. Hamilton of Hawick, Representative on the Central Council, was also present.

Report of Representative.—Dr. Sneddon (Cupar) gave a short account of the proceedings at the last Representative Meeting, and explained how he had endeavoured to carry out the wishes of the Branch. On the motion of the President, a hearty vote of thanks was accorded to Dr. Sneddon for his services.

Subscription to Association.—On the motion of Dr. Dickson (Lochgelly), seconded by Dr. B. Graham (Leven), it was resolved:

> That the annual subscription to the British Medical Association be raised to 42s., in accordance with the resolution of the Central Council.

The Representative was instructed to vote accordingly at the Representative Meeting.

Central Insurance Defence Fund.—The Honorary Secretary (Dr. G. C. Anderson, Denbeath) moved that the Branch express its strong disapproval of the Central Council's action in voting £7,000 of the Central Defence Fund to the funds of the British Medical Association. This was carried unanimously, and Dr. Hamilton was

asked to bring the matter before the next meeting of the Central Council.

Subscription of Junior Members.—Dr. HAMILTON discussed the suggestion that any person should be allowed to join the British Medical Association for an annual payment of 25s., provided he had not been in practice for more than five years. After the feeling of the meeting had been tested, it was decided to let the matter drop.

Special Organization Fund.—The proposed scheme for the establishment of a fund for the better organization of the profession, as contained in the SUPPLEMENT for November 1st, pages 355 and 363, was considered, and on the motion of Dr. MACNICOL (Leven), it was unanimously resolved:

> That the Branch adhere to the minute of the special meeting of the Branch held on July 11th, which opposed any such scheme.

The recommendation of the Central Council as to medical referees (SUPPLEMENT, November 1st, page 367) was agreed to.

Special Representative Meeting.—The PRESIDENT intimated that neither the Honorary Secretary nor himself would find it convenient to act as Representative, but that Dr. Sneddon had expressed his willingness to represent the Branch. Dr. Sneddon was accordingly appointed Representative. Thereupon Dr. SNEDDON thanked the members for the honour they had done him.

LEINSTER BRANCH:

DUBLIN DIVISION.

A MEETING of the Dublin Division of the Leinster Branch was held in the Royal College of Physicians at 4.30 p.m. on November 21st. Dr. J. M. PURSER was in the chair, and sixteen others were present.

Special Representative Meeting.—The meeting was convened for the purpose of considering the proposal of raising the annual subscription of the Association to £2 2s. a year, and the establishment of a special fund for the thorough organization of the profession, which matters are to be considered at a Special Representative Meeting of the Association to be held in London on December 4th. After discussion the following resolution was passed unanimously:

> That the Dublin Division of the Leinster Branch is opposed to the proposed increase of subscription of the British Medical Association, and instructs its Representative to vote accordingly at the Special Representative Meeting.

In regard to the establishment of a special fund for the organization of the profession, the Representative was instructed to use his own judgement in voting at the Special Representative Meeting.

METROPOLITAN COUNTIES BRANCH:

CHELSEA DIVISION.

AN ordinary meeting of the Chelsea Division was held at the Fulham Town Hall on November 25th, at 4 p.m., when Dr. JACKSON was in the chair, and there were present eleven members and one visitor.

Report of Representative.—The REPRESENTATIVE submitted a report on the proceedings of the Annual Meeting at Brighton.

Special Representative Meeting.—The following instructions to the Representative to the Special Representative Meeting in December were carried:

1. That the Representative support the increase of subscription, and also the recommendations of Council *re* fees to medical referees, deletion of part of Minute 213 (Brighton Meeting), and medical aid institutions.
2. That on the consideration of the special fund the Representative move as follows—namely:
   That this meeting cannot support the special fund unless and until it is registered as a trade union.
3. That on the question of the deletion of part of Minute 213 of the Brighton Meeting the Representative move as follows—namely:
   That the fullest possible support be given by the Association to any Poor Law medical officer who is actively opposing any such action of any board of guardians as is referred to in the first part of Minute 213 of the Annual Meeting, 1913.
4. That the Representative oppose the recommendation of the Council *re* unallotted funds in the hands of Insurance Committees.

Local Medical Committee for London.—The question of the proposed Local Medical Committee for the county of London was considered, but in view of the smallness of the meeting it was felt that no decision could be come to, and that members should nominate any one they saw fit.

CITY DIVISION.

A GENERAL meeting was held in Balfour Hall, Kingsland Road, on November 26th. Dr. HOBBS CRAMPTON, Chairman of the Division, took the chair, and thirty-three members and one visitor were present. The HONORARY SECRETARY explained how an error had arisen in reporting (SUPPLEMENT, November 1st, p. 370) the figures on Dr. Hunt's amendment, which by permission were corrected, being—for the amendment 20, against 18.

Non-Panel Committee.—The HONORARY SECRETARY read a letter from Dr. Charles Buttar, Honorary Secretary of the Non-Panel Committee of the British Medical Association, requesting nomination of a corresponding secretary to the Committee. Dr. David Ross, 346, Kingsland Road, N.E., consented to act.

Unallotted Funds.—On the motion of Dr. EVAN JONES, seconded by Dr. PETTY, the following resolution was carried without discussion, 10 voting for it, and 2 against:

> That in the opinion of this meeting the unallocated money remaining in the hands of the London Insurance Committee should follow the disposal of the unallotted persons who contributed it.

Transfer of Patients.—Dr. EVAN JONES moved:

> That in the opinion of this meeting no panel practitioner should accept on his list, or accept allocation of, other doctors' patients.

This was seconded by Dr. MCNABOE, and after a prolonged discussion, in which many joined, the following addition, proposed by Dr. JAFFÉ, was accepted:

> Unless they bring a letter from their former doctor stating that their circumstances necessitated their receiving panel attendance.

The motion as amended was carried by 10 to 8.

Limitation of Panel List.—Dr. EVAN JONES moved the following resolution, which was seconded by Dr. PETTY:

> That in the opinion of this meeting it is to the interest of the profession that no practitioner in general practice should accept more than 2,000 on his panel list.

After much discussion many members doubted the practicability of the proposal; it was carried by 14 to 6.

Special Representative Meeting.—The HONORARY SECRETARY announced the result of the postal vote with regard to the Special Organization Funds A and B as follows:

Approval: Scheme A, 4; Scheme B, 3; General approval, 3	13
Against: 3 (conditionally)	58
Indifferent, neutral, uncertain, and unstated ...	17
Total	88

On the motion of Dr. GOODALL, seconded by Dr. HUNT, it was resolved:

> That the Representatives be instructed to oppose the formation of any such fund.

Dr. JAFFÉ moved the following resolution, which was seconded by Dr. PORTER and carried:

> That the City Division calls upon the British Medical Association to devise a scheme at an early date for organizing a special fund to be used as a war fund in the interests of all the members of the profession, and to have such fund registered under the Trade Union Acts.

The result of the postal vote with reference to the increase of subscription was as follows:

For (1 conditional)	45
Against	41
Neutral	2
Total	88

207 inquiries by letter had been issued, enclosing stamped addressed postcard; 90 replies were received, of which two were too late; percentage of replies, 42 per cent. The increase of the subscription was proposed by Dr. MAJOR GREENWOOD, seconded by Dr. EVAN JONES, and carried with one dissentient. The following rider was

moved by Dr. Hadfield, seconded by Dr. Porter, and carried *nemine contradicente*:

That a reduced subscription of 25s. be charged to newly qualified men for five years if joining within one year of registration.

Medical Referees.—Dr. Major Greenwood recommended that the Council's suggestion of a fee of 10s. 6d. be approved. After discussion it was resolved, on the motion of Dr. Hunt, seconded by the Honorary Secretary:

That in the opinion of the meeting it is inopportune to fix a fee for examination by medical referees under the National Insurance Act at present.

Hospitality Fund.—The Honorary Secretary, as Treasurer, presented the annual statement of the Hospitality Fund, which was taken as read, and approved. The report showed a balance in hand.

Hampstead Division.

A meeting of the Division was held at the Central Library, Finchley Road, on November 14th, with Dr. Picard in the chair.

Annual Representative Meeting.—Miss Mina L. Dobbie, M.D., presented the report of this meeting, and a cordial vote of thanks was accorded to her for the time and attention she had given.

Special Representative Meeting.—It was decided to instruct the Representative to oppose the raising of the annual subscription, but that the Division should express no opinion on the matter of the special fund. The recommendations of the Council with regard to the National Insurance Act were approved.

Papers.—A highly interesting and suggestive paper was read by Dr. F. G. Crookshank, physician to out-patients to the Hampstead and North-West London Hospital, on the evolutionary aspect of some diseases of children. After some discussion a cordial vote of thanks to Dr. Crookshank terminated the proceedings.

North Middlesex Division.

The third ordinary meeting of the Division was held on November 21st. The Chairman, Dr. Leonard Grant, and twenty-six members were present.

Science Committee.—It was considered impossible to organize such a committee in the Divisional area.

Special Representative Meeting.—The Representatives were instructed (1) to support the increased subscription to 2 guineas; (2) to oppose the schemes for the establishment of special funds; (3) to support the recommendations of Council as to various matters relating to the Insurance Act, with the exception of Recommendation 2, which the Representatives were instructed to oppose.

St. Pancras and Islington Division.

A meeting of the Division was held at the Midland Grand Hotel, King's Cross, on November 21st.

Special Representative Meeting.—The meeting was called to instruct the Representatives to the Special Representative Meeting. The Chairman, Mr. P. W. Rattray, F.R.C.S., in a short speech, put the business of the evening before the meeting, making special reference to the allocation of the unallotted funds, his view being that the funds should in some way be distributed as a set-off to the medical bills of the insured patients; he hoped the panel doctors would not accept the principle of the distribution of the money for work which they had not contracted to do, and would see that the honourable course would be to refuse to accept this money. Dr. Bousfield, in an admirable speech, then proposed the following resolution, which was seconded by Dr. Sidney Rowntree, and carried by a large majority:

That the St. Pancras and Islington Division urges upon the Special Representative Meeting the necessity of taking such instant and vigorous action as shall induce the Government and the Commissioners to grant to insured persons and the medical profession free choice of doctors whether the doctor is on or off the panel.

Dr. S. Rowntree then proposed the following resolution which was seconded by Dr. Glaister:

That this Division agrees to the raising of the annual subscription to 2 guineas, and that By-law 11 be altered accordingly.

Dr. Malcolm, Dr. Hill, Dr. G. Sworn, and others having spoken, the following amendment was proposed by Dr. A. Brown and seconded by Dr. Fouracre:

That provided the forthcoming Representative Meeting clearly defines the policy of the Association in regard to the National Insurance Act, this Division agrees to the raising of the annual subscription to 2 guineas and that By-law 11 be altered accordingly.

The Chairman having put the amendment it was declared lost. The original resolution was then put to the meeting and carried by a large majority.

On the motion of Dr. Morison, seconded by Dr. Bousfield, the following resolution was adopted by a large majority, after remarks by Dr. Malcolm, Dr. Wickham, Dr. Beaton, and others;

That such portion of the unallocated funds in the hands of the Insurance Committees as are attributable to insured persons who have been attended at their own expense should be distributed as a set-off to the medical bills of these patients.

Dr. R. M. Beaton, in a short speech, explained the scheme for the organization of the profession, and the alternative proposals for a special fund. He said that it was entirely voluntary, and should receive the earnest consideration of the profession.

South Middlesex Division.

A special meeting of the South Middlesex Division was held at St. John's Hospital, Twickenham, on November 28th. Dr. M. F. Cock was in the chair, and eleven others were present.

Expenses of Local Medical Committee.—The Honorary Secretary reported on the question of subscribing towards the expenses of the County of Middlesex Local Medical Committee, and it was agreed to take no action.

Special Representative Meeting.—A long discussion took place on raising the subscription to the Association to 42s. It was proposed by Dr. H. M. Cooper and seconded by Dr. Dendle:

That the Representative's vote should be in the affirmative.

An amendment was moved by Dr. C. C. Scott and seconded by Dr. Camps:

That the Representative should use his own judgement at the meeting.

This was subsequently altered to read as follows:

That the Division, while in favour of increase, thinks it wiser to leave the Representative's hands unfettered.

This was accepted by the proposer of the original resolution, and carried unanimously. A discussion then took place on the special fund scheme. Dr. Percival Langdon-Down thought that the original guarantee forms, which had been signed last year, should be returned before any special fund was started. After some debate it was found that the feeling of the meeting was against any special scheme at present. The following motion by Dr. Cooper, seconded by Dr. Haslett, was carried:

That the raising of a special fund now was inopportune.

The following National Insurance Act matters were raised: (1) Medical referees—the resolution of the Association was endorsed; (2) giving of anaesthetics; (3) the new panel agreement; (4) information required by the Association as to excessive sickness claims and malingering. The Honorary Secretary would be glad of detailed accounts of either of these conditions from any members of the Division.

MIDLAND BRANCH:

Boston and Spalding Division.

At a meeting of the Division, held on November 19th, it was resolved to adopt the proposed new By-law 11 as set out on p. 354 of the Supplement to British Medical Journal on November 1st.

Club Fees.—On the motion of Dr. Braithwaite, seconded by Dr. Biggs, it was resolved:

That the minimum fees to be accepted from uninsured members of clubs be 8s. 6d. per annum for adults and 3s. 9d. for juveniles.

Panel Committee.—The following were nominated to the Panel Committee: Drs. Biggs, Braithwaite, Collins, Evans, Husband, Mason, Monro, Pilcher, Perry, Ponce,

W. H. Smith, Wilson-Smith, Gillespie-Smith, South, R., Tuxford, Walker, White, Witham, Wright, and Wrinch.

Draft Agreement.—Considerable discussion took place on the draft of new agreement, and it was resolved that under paragraph 6 (ii) the limit be two miles; an amendment, proposed by Dr. HUSBAND, seconded by Dr. PILCHER, that it be left to each practitioner to fill in, being lost by 7 to 5.

Scientific Meetings.—The question of holding scientific meetings was discussed, and on the motion of Dr. SOUTH, seconded by Dr. MASON, it was resolved:

That owing to the number of meetings held for other purposes the time was not opportune for the holding of scientific meetings.

Excessive Sickness Benefit Claims.—The SECRETARY reported the receipt from the Association of a communication referring to a departmental committee on sickness benefit claims, and requested information. As the meeting was unduly prolonged, the matter was ordered to lie on the table for future consideration.

NORTHERN COUNTIES OF SCOTLAND BRANCH:

BANFF, ELGIN, AND NAIRN DIVISION.

A GENERAL meeting of the Division was held at Elgin on November 22nd, when a representative number of members was present.

Report of the Representative.—Dr. CRUICKSHANK (Nairn), as Representative of the Division, submitted a report of the proceedings at the Annual Meeting at Brighton, for which he was cordially thanked.

Special Representative Meeting.—Dr. STEPHEN, Deputy Representative, was appointed to attend the Special Representative Meeting in London on December 4th. Considerable discussion took place with regard to the proposed increase of subscription, the opinion being expressed that while the financial condition of the Association seemed to demand the increase, the time for such was inopportune in view of the unsettled outlook. Ultimately the Deputy Representative was instructed to vote for the increase on condition that after the discussion at the Special Representative Meeting he was satisfied that such increase was absolutely necessary. The Deputy Representative was instructed to vote against the reorganization scheme, as the Association is not yet ready for such. The Deputy Representative was instructed to support the recommendations of Council with reference to the Insurance Act, (6) excepted, and to move as a rider to Recommendation (1) fees for part-time medical referees to be not less than 10s. 6d., "exclusive of expenses."

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH:

FURNESS DIVISION.

A MEETING of the Division was held in the Masonic Club, Barrow-in-Furness, on November 26th. Dr. LIVINGSTON was voted to the chair, and ten others were present.

Juvenile Clubs.—The SECRETARY gave an outline of the negotiations as to the juvenile club question, and a letter was read from the Secretary of the Juvenile Friendly Societies accepting the revised terms—that is:

1. 4s. 4d. for the first year, and 5s. per head afterwards, with a two years' agreement.
2. Income limit for new members £104 per annum.
3. Surgery night visits, services extra.
4. Age, 1 to 16 years.

On the motion of Dr. CROSS, seconded by Dr. SINCLAIR, it was unanimously resolved:

That the previous resolution of June 27th be rescinded, and that the new terms be accepted.

Special Representative Meeting.—Dr. ALEXANDER outlined the proposals contained in the SUPPLEMENT of November 1st. The feeling of the meeting was distinctly in favour of raising the subscription to £2 2s., and on the motion of Dr. THOMPSON, seconded by Dr. HARPER, it was unanimously resolved:

That the annual subscription be raised to £2 2s.

The proposed mode of expenditure of the money raised was discussed, the majority of the speakers being of opinion that the time was not ripe for such large sums being spent upon whole-time officials. The CHAIRMAN expressed the opinion that, instead of appointing organizing secretaries, more money should be spent on part-time appointments of men residing in the Branches. Dr. CALLAGHAN proposed and Dr. WILSON seconded, and it was unanimously resolved:

That local part-time organizing secretaries be appointed instead of whole-time appointments, as the present financial condition of the Association does not warrant such appointments.

The scheme for the special fund of £4 4s. was next considered. The members thought there would be great difficulty in inducing men to subscribe this amount, and that this matter had not been long enough before the Divisions. On the motion of Dr. ALEXANDER, seconded by Dr. WILSON, it was unanimously resolved:

That this Division objects to £12,000 being ear-marked for Local Medical Committees, as next year the Panel Committee will be able to defray its own expenses out of the capitation fee, and that each local committee defray its own expenses.

Dr. LIVINGSTON proposed, and Dr. ALEXANDER seconded, the following resolution, which was carried unanimously:

That this Division suggests raising an annual voluntary subscription of £2 2s., provided the majority of the members of the Association agree to pay, and that one-third be ear-marked for the war chest.

SOUTHERN BRANCH.

THE autumn general meeting of the Southern Branch was held on November 26th at the South-Western Hotel, Southampton, when there were present Dr. J. COWPER, the President, and thirty-one other members.

Letter of Thanks.—A letter was read from Mr. Jonathan Hutchinson thanking the Branch, on behalf of the family of the late Sir Jonathan Hutchinson, for its vote of sympathy on the occasion of the latter's death. A letter was also read from Mrs. Clarke Baylis expressing her gratitude for the support given to her son's application for a scholarship at Epsom, which had been attended with success.

Travelling Expenses.—A resolution was submitted to the decision of the meeting concerning the payment of travelling expenses to members attending the meetings of the Branch Council. It was resolved by 16 votes to 3, that such expenses shall not be paid.

Epsom College and the Royal Medical Benevolent Fund.—The distribution of votes in return for the Branch subscription to Epsom College and the Royal Medical Benevolent Fund was left to the President and Honorary Secretary of the Branch.

Telephones.—The meeting then passed the following resolution—namely:

That inasmuch as it is for the welfare of the public for medical men to be subscribers to the Telephone Exchange, the Representative Meeting of the Association should approach the Postmaster-General with a request that all medical practitioners be supplied with the telephone service at a reduced and flat rate.

The Secretary was instructed to forward this resolution to the Medical Secretary of the Association forthwith.

Chronic Gonorrhoea.—Dr. HUGH W. BAYLY then read a paper on "The Methodical Diagnosis and Treatment of Chronic Gonorrhoea." This was much appreciated, and a discussion followed in which the PRESIDENT, Mr. STRATON, Dr. PURVIS, and Dr. HALL took part, and a hearty vote of thanks was accorded to Dr. Bayly.

SOUTH WALES AND MONMOUTHSHIRE BRANCH:

SOUTH-WEST WALES DIVISION.

A MEETING of this Division was held at the Ivy Bush Hotel, Carmarthen, on November 25th. Dr. C. A. BRIGSTOCKE (Haverfordwest) was in the chair, and twenty-four members were present.

Special Representative Meeting.—On the motion of Dr. HARRY ROBERTS (Llanelly), seconded by Dr. R. G. PRICE (Carmarthen), it was unanimously agreed to approve of the proposal to raise the annual subscription to £2 2s. Dr. EVAN EVANS (Llanelly) proposed, and Dr. OWEN WILLIAMS (Burry Port) seconded, and it was resolved *nemine contradicente*:

That the alternative scheme of the Council for a Special Fund be approved and supported.

Insured Persons and Anaesthetist's Fee.—Dr. H. C. DAVIES (Narberth) submitted a case in which an insured person

denied liability for payment of an anaesthotist's fee. The sense of the meeting was that, according to the Regulations, the insured person was in the right.

Certification of Deaths.—Dr. Thomas E. Francis, M.O.H. (Llanelly), read an interesting paper on Certification of Deaths. After discussion, in which several members took part, a vote of thanks was, on the motion of the Chairman, accorded to Dr. Francis.

SURREY BRANCH:
Guildford Division.

A meeting of the Division was held on Friday, November 21st, to which all practitioners were invited. Mr. Butler, Chairman, presided, and fifteen other gentlemen were present.

District Medical Committees.—The meeting proceeded to the election of the District Medical Committees for the Guildford and Woking districts.

The Secretaryship.—The Chairman read a letter from the Secretary (Dr. Cecil P. Lankester), resigning his office on his election to the Secretaryship of the recently formed Surrey Branch of the Association. On the motion of Dr. Kingsford, seconded by Dr. Lyndon, the resignation was accepted, and the thanks of the Division were accorded to Dr. Lankester for his services during his term of office. On the motion of Dr. Lyndon, seconded by Dr. Bond, Dr. Graham-Jones was appointed Secretary of the Guildford Division.

Special Representative Meeting.—The meeting then proceeded to instruct its Representative for the Special Representative Meeting, and the following resolutions were carried:

1. That he be instructed to vote in favour of an increase of subscription to two guineas, provided that the increased income so derived be devoted to the liquidation of the Association's debt, and that this be sent as a resolution from this Division to the Representative Meeting.
2. That the Representative be instructed to vote against the formation of a Special Fund.

YORKSHIRE BRANCH:
Harrogate Division.

A meeting of the Harrogate Division of the Yorkshire Branch was held in the Infirmary on November 12th at 5 p.m. Dr. Garrad was in the chair, and twelve members were present.

Appointment of a Representative.—Dr. Shepherd Boyd was elected Representative at the Representative Meetings.

Special Representative Meeting.—A general discussion took place on the proposed increase of the annual subscription (£2 2s.), and on the proposition of Dr. Grange, seconded by Dr. Mantle, it was resolved *nemine contradicente:*

> That in our opinion the annual subscription to the Association should not be increased.

On the motion of Dr. Ray, seconded by Dr. Gibson, it was resolved *nemine contradicente* that no special fund for the organization expenses be raised. A proposition by Dr. Gibson that the Annual Representative Meeting be done away with on account of expense was withdrawn.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

Lancashire and Cheshire Branch.—Dr. P. R. Cooper (8, St. Peter's Square, Manchester) gives notice that a conjoint clinical meeting of the Lancashire and Cheshire Branch and the Manchester Medical Society will be held at 4.30 p.m. on Wednesday, December 17th, at the Manchester Royal Infirmary (out-patient department)—entrance, Nelson Street, off Oxford Road. Afternoon tea 4.15 p.m. A programme of interesting clinical cases will be arranged, and an *x*-ray demonstration of methods of screen examination with and without the use of bismuth will be given.

Lancashire and Cheshire Branch: Altrincham Division.—Dr. T. W. H. Garstang, Honorary Secretary (22, Station Buildings, Altrincham), gives notice that a special meeting will be held at Altrincham on Wednesday, December 10th, to receive the report of the Representative. The Executive Committee will meet at Altrincham on January 6th, 1914, and the annual meeting of the Division will take place at Altrincham on January 22nd, 1914.

Metropolitan Counties Branch: City Division.—Dr. A. G. Southcombe, Honorary Secretary (83, Sidney Road, Homerton, N.E.), gives notice that the next meeting of the Division will be held, conjointly with the Finsbury Medical Guild, at the Manchester Hotel, Aldersgate Street, E.C., on Friday, December 12th, at 9.30 p.m., when Dr. James MacMunn will give an address on The Treatment of Chronic Urethritis. Members are reminded that their professional friends will be welcomed. Coffee at 9.15.

North of England Branch: Newcastle-on-Tyne Division.—Mr. R. J. Willan, F.R.C.S., 25, Ellison Place, Newcastle-on-Tyne, gives notice that a scientific demonstration meeting will be held in the Royal Victoria Infirmary, Newcastle-on-Tyne, on Friday, December 19th, from 3.15 to 6 p.m.:—Dr. S. J. Clegg: Some Infectious Fevers. Dr. W. C. Rivers: The Treatment of Phthisis by Artificial Pneumothorax. Tea. Mr. J. W. Leech: Diagnosis and Treatment of Ruptured Ulcers of the Stomach and Duodenum. Mr. S. S. Whillis: Common Conditions of the Nose and Ear. Mr. G. Grey Turner: The Diagnosis of Intestinal Obstruction.

West Somerset Branch.—Dr. Charles Farrant, Honorary Secretary (Shrapnels, Taunton), gives notice that the autumn meeting will be held at the Taunton and Somerset Hospital, at 4.30 p.m., on Tuesday, December 9th, under the chairmanship of the President, Mr. Penrose Williams. Agenda: To elect a Representative for 1914–15 and also a Deputy Representative. Sir Alfred Pearce Gould, K.C.V.O., will read a paper on The Radium Treatment of Cancer. The annual medical dinner will be held at the Castle Hotel at 7 p.m. A musical programme will be arranged for the evening.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns 8,233 births and 4,594 deaths were registered during the week ending Saturday, November 22nd. The annual rate of mortality in these towns, which had been 13.9, 13.3, and 13.8 per 1,000 in the three preceding weeks, fell to 13.4 per 1,000 in the week under notice. In London the death-rate was equal to 13.5, against 14.2, 13.0, and 13.4 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rate ranged from 5.6 in York, 6.7 in Acton, 7.4 in Southend-on-Sea, 7.5 in Derby, 7.9 in Lincoln, and 8.0 in Swindon to 17.8 in Carlisle, 18.6 in Liverpool, 18.7 in Merthyr Tydfil, 18.9 in Smethwick, 19.3 in South Shields, and 20.1 in Great Yarmouth. Measles caused a death-rate of 1.4 in Stockport and in Burnley, and 1.9 in Middlesbrough; and diphtheria of 1.2 in Brighton and in Blackburn, 1.6 in Halifax, and 1.8 in Cambridge and in Great Yarmouth. The deaths of children (under 2 years) from diarrhoeal diseases, which had been 332, 261, and 187 in the three preceding weeks, further fell to 149; of this number, 45 were recorded in London, 10 each in Birmingham, Liverpool, and Manchester, 5 in West Ham, and 5 in Sheffield. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 44, or 1 per cent. of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest, and included 11 in Birmingham, 11 in Liverpool, 3 in Stoke-on-Trent, 3 in Southport, and 2 each in London, West Bromwich, St. Helens, and South Shields. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,580, 3,731, and 3,896 at the end of the three preceding weeks, had further risen to 3,980 on Saturday, November 22nd; 553 new cases were admitted during the week, against 534, 619, and 597 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,016 births and 685 deaths were registered during the week ending Saturday, November 22nd. The annual rate of mortality in these towns, which had been 14.7, 14.0, and 16.2 per 1,000 in the three preceding weeks, fell to 15.8 in the week under notice, but was 2.2 per 1,000 above the rate recorded in the ninety-six large English towns. Among the several towns the death-rate ranged from 4.5 in Kilmarnock, 6.8 in Hamilton, and 7.3 in Fairkirk to 18.1 in Greenock, 21.4 in Leith, and 21.6 in Coatbridge. The mortality from the principal infective diseases averaged 1.6 per 1,000, and was highest in Glasgow and Ayr. The 343 deaths from all causes registered in Glasgow included 22 from measles, 12 from infantile diarrhoeal diseases, 6 from diphtheria, 5 from whooping-cough, and 4 from scarlet fever. Two deaths from measles were recorded in Edinburgh, 2 in Greenock, and 2 in Coatbridge; and 3 deaths from diphtheria in Aberdeen.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, November 29th, 593 births and 382 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 520 births and 378 deaths in the preceding period. These deaths represent a mortality of 16.6 per 1,000 of the aggregate population in the districts in question, as against 16.4 per 1,000 in the previous period. The mortality in these Irish areas was, therefore, 2.5 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 26.0 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 19.7, as against an average of 19.3 for the previous four weeks; in Dublin City 21.0 (as against 20.3), in Belfast 14.7 (as against 16.8), in Cork 18.4 (as against 17.0), in Londonderry 14.0 (as against 17.8), in Limerick 17.6 (as against 20.0), and in Waterford 11.4 (as against 17.6). The zymotic death-rate was 1.4, as against 1.7 in the previous week.

CLAUSE 2 (II) OF THE MODEL AGREEMENT.

It will have been observed from the report published in the Supplement last week (p. 481) that the Insurance Act Committee, acting on behalf of the Association, has made a protest to the Insurance Commissioners against the terms of Clause 2 (ii) of the new draft model agreement which would provide that a practitioner shall not accept any fee or other remuneration in respect of treatment, which he is required to give to an insured person under the agreement.

While it is recognized that preferential treatment should not be given to insured persons, able or willing to give additional remuneration, in respect of treatment to which they are entitled under the agreement between the doctor and the Insurance Committee, the Association considers that this might be guarded against without denying to practitioners the right to accept any present or other recognition which a grateful patient might voluntarily offer.

We publish below the notes of an interesting interview which representatives of the Insurance Committee and Local Medical Committee for the County of Kent, and the Medical Committee for the County of Surrey had on November 29th with Mr. Vivian, the head of the department of the Insurance Commission which advises Insurance Committees. The matter had been thoroughly discussed at a conference between the Kent Medical Committee and a special subcommittee of the Kent Insurance Committee, and in consultation with Dr. Maude (the chairman of the Kent Medical Committee), Mr. Clothier (vice-chairman of the Kent Insurance Committee) drew up a paper of matters upon which the interpretation of the Insurance Commissioners was desired. It will be seen that Mr. Vivian recognizes that medical practitioners would not, under Clause 2 (ii) of the proposed agreement, be precluded from entering into an independent agreement with an insured person, or with a third party on his behalf, by which the insured person was to receive treatment, drugs, services, and other advantages over and above those which the practitioner is bound to supply to such insured person by virtue of his agreement with the Commissioners, provided of course that nothing was done to deceive the insured person or to obscure his rights, and subject to the further proviso that it was advisable that the request that such services should be rendered should come, not from the medical practitioners, but from the insured person. Mr. Vivian also agreed that a surcharge could not be made against a practitioner who declined or failed to give attendance unless the Medical Service Subcommittee were satisfied that the additional expenses incurred were the direct consequence of a breach of contract, and that they had been reasonably and necessarily incurred by the insured person. Further, he made the interesting statement that the Commissioners regarded themselves as acting virtually in the position of arbitrators, and that a practitioner would have the same right of appealing to the courts from the decisions of the Commissioners as he had by statute or in equity of appealing from any other arbitrator.

The Insurance Act Committee of the British Medical Association, it may be recalled, has suggested to the Commissioners that Clause 2 (ii) should run as follows:

> The practitioner shall not be entitled to demand any fee or other remuneration in respect of treatment which he is required to give under this agreement except as provided in this agreement.

The answer of the Commissioners is printed on the next page.

We are informed that the Warwickshire Insurance Committee, after discussing the matter with a deputation of the Local Medical Committee, has appealed to the Insurance Commissioners asking that in Clause 2 (ii) of the new draft agreement the word "accept" be deleted and the word "claim" be inserted.

Similar resolutions have been adopted by the Local Medical Committees for East Suffolk, Surrey, East Sussex, West Ham, Herts, Bedford, Kirkcaldy, and Dumbarton.

The subcommittee of the East Suffolk Insurance Committee has adopted a resolution to the same effect.

Dr. B. W. Hogarth (Morecambe) writes with reference to this matter: Had this subclause read in place of "accept," "ask either directly or indirectly," there might have been something to say for it. As it is, it is intolerable, and I should think quite a new departure in the spirit of agreements. But until treatment under the Regulations is defined a very great deal more exactly than at present, and until the public—that is, both insured persons and their employers—know what is treatment under the Regulations, such a provision in the agreement is futile. Every one would be a law and a judge for himself. Some of the effects would be ludicrous, for example: A. attends the governess of B., the wealthy Cabinet Minister, at his week-end house distant two miles or more from A.'s surgery. She is quite fit to attend at the surgery, but this would be most inconvenient to B.'s family, and so they ask A. to come to B.'s house, which A. does at great extra expense of time and horseflesh. If at the end of the case B. gave A. even a tobacco-pouch, A. would have broken his agreement apparently, unless A. argued to himself that as the governess ought to have come to him, his going to the house was treatment outside the Regulations and charged B. accordingly; in which case the clause is useless.

Let me repeat that we ought to know *exactly* what is treatment under the Regulations before we sign any such oppressive agreement.

The Legal Interpretation of the Clause.

On November 24th a conference took place between a special subcommittee of the Insurance Committee for the County of Kent and the Local Medical Committee for that county to discuss the new draft agreement. It was agreed to refer the points set out below to the Commissioners for their opinion as to their legal effect. A joint deputation of the Kent Medical Committee, the Surrey Medical Committee (represented by Dr. C. P. Lankester), and the Kent Insurance Committee was received on November 29th by Mr. S. P. Vivian, the head of the department of the Insurance Commission in England which advises Insurance Committees. Mr. W. Clothier, vice-chairman of the Kent Insurance Committee, submitted the points which had been drawn up jointly by himself and Dr. A. Maude, chairman of the Kent Medical Committee. We have been favoured with the following notes of the results of this conference prepared by Mr. Clothier for submission to the Insurance Committee of the County of Kent.

The points for interpretation or decision which the deputation raised with the representatives of the Insurance Commissioners were as follow:

As regards Clause 2 (ii) of the proposed agreement between the Insurance Committees and the medical practitioners, whether it might be assumed that this clause does not preclude a practitioner from entering into an independent agreement with an insured person, or with a third party on his behalf, by which the insured person shall receive treatment, drugs, services, or other advantage over and above that which the practitioner is bound to supply to such insured person by virtue of his agreement with the Commissioners, in consideration of remuneration to be paid to such practitioner by such insured person or by such third person on his behalf. Mr. Vivian answered this question in the affirmative, subject to the proviso that nothing was done to deceive the insured person or to obscure his rights, while he added that it was in all cases advisable that the request that such services should be rendered should emanate from the insured person and not from the medical practitioner.

Decisions were then asked for upon nine cases which, it was submitted, came within the terms of the above general proposition, namely:

1. Whether an insured person may be permitted to make an arrangement with a practitioner on the panel whereby he may attend at the surgery other than in the panel surgery hours incorporated in his agreement, and pay to the practitioner fees for such special arrangement outside the practitioner's agreement with the Commissioners.

2. Whether a third party—for example, an employer—may make an arrangement with a practitioner on the panel whereby insured persons in his employ may, with their consent, attend at the surgery other than in the panel surgery hours incorporated in his agreement, and pay to such practitioner fees for such special arrangements outside the practitioner's agreement with the Commissioners.

3. Whether an insured person may be permitted to make an arrangement with a practitioner on the panel whereby he may be attended at his residence in circumstances in which the practitioner under his agreement with the Commissioners would require that such insured person should attend at the surgery, and whether the practitioner may receive fees for such services rendered outside his agreement.

4. Whether a third party—for example, an employer—may be permitted to make an arrangement with a practitioner on the panel whereby insured persons in his employ may be attended at their residences in circumstances in which the practitioner under his agreement with the Commissioners would require that such insured person should attend at the surgery, and whether the practitioner may receive fees for such services rendered outside his agreement.

5. Whether an insured person may be permitted to make an arrangement with a practitioner on the panel whereby he shall pay to the practitioner an agreed sum for mileage in respect of medical attendance beyond a certain distance in cases where under Clause 6 (ii) of his agreement the practitioner could not otherwise be called upon to attend such an insured person.

6. Whether a third party, for example, an employer, may be permitted to make an arrangement with a practitioner on the panel whereby he shall pay to the practitioner an agreed sum for mileage in respect of medical attendance on insured persons in his employ in cases where under Clause 6 (ii) of his agreement the practitioner could not otherwise be called upon to attend such insured persons.

7. Whether specialist treatment, for example, treatment for eyes, throat, ears, special surgery and dentistry beyond the ordinary professional competence and skill of a general practitioner, and which therefore is not included in his agreement with the Commissioners, may be charged for by a practitioner on the panel if by reason of his special qualifications or skill he undertakes such work.

8. Whether on the request of an insured person who is not resident in a rural area at a distance of more than one mile from a chemist the practitioner may supply the insured person with drugs, and charge the patient instead of issuing a prescription in the ordinary way, the insured person waiving his right to receive drugs under the Act.

9. Whether on the request of a third party, for example, an employer, coupled with the request from the insured persons themselves, a doctor may supply drugs to insured persons who are not resident in a rural area at a distance of more than one mile from a chemist, and charge the same to the third party instead of issuing the prescriptions in the usual way, the insured persons waiving their right to receive drugs under the Act.

The answer given by Mr. Vivian in each of the above cases was in the affirmative (except as regards No. 6), subject to the proviso and recommendation stated in the answer to the general proposition. In respect of Clause No. 6, Mr. Vivian expressed the opinion that in such circumstances the insured person should be treated as a private patient.

As regards Clause 13 (i) of the proposed agreement the question was raised whether it may be assumed that the refusal of a practitioner to attend an insured person on one particular occasion is not to be regarded as a total abandonment of the contract, and whether the phrase "any expenses have been reasonably and necessarily incurred by the Committee or by the patient" may be held to be limited to the expenditure which may be incurred by a patient on the particular occasion when a practitioner on the panel was unable or unwilling to attend, and is not to be regarded as covering the whole period of the subsequent illness in the event of the practitioner on the panel being willing to provide the necessary treatment other than on the one occasion on which he so refused to attend. Mr. Vivian pointed out that this clause covered cases where the practitioner was guilty of negligence as well as cases where the practitioner had refused attendance on any particular occasion, and that no expenses could be charged against the practitioner unless the Medical Service Subcommittee was satisfied that the additional expenses incurred were the direct consequence of the breach of contract, and that they had been reasonably and necessarily incurred by the insured person. Whether the additional expenses incurred were both reasonable and necessary was a question of fact to be decided by the Medical Service Subcommittee according to the circumstances of each particular case.

With respect to Clauses 13 (iii) and 15 of the proposed agreement, it was asked whether the practitioner or his legal representative was precluded by these clauses from appealing to the courts of law against a decision of the Commissioners. Mr. Vivian replied that under the agreement the Commissioners were virtually appointed arbitrators, and that the practitioners had the same right of appealing from the decision of the Commissioners that they had by statute or in equity of appealing from the decision of any other arbitrator.

A request that it should be open for the practitioner or for the Committee to determine the agreement on any of the medical quarter days by giving three months' notice in writing was not acceded to.

THE NEW MEDICAL BENEFIT REGULATIONS.

A CORRESPONDENCE was published in the SUPPLEMENT last week between the Medical Secretary of the British Medical Association, acting under the instructions of the Insurance Act Committee, and the Insurance Commission (England), with reference to the new Draft Medical Benefit Regulations and Agreement. That correspondence ended with a letter addressed by the Medical Secretary on November 23rd to the Commissioners in reply to their letter of November 20th. To this letter the following reply has been received:

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.
3rd December, 1913.

Sir,—In reply to your letter of the 23rd ultimo, with reference to the model form of agreement with practitioners issued to Insurance Committees, I am directed by the National Health Insurance Commission (England) to state as follows:

The First Schedule: Certificates.

The Commissioners have already definitely expressed their views as to the clear interpretation of the First Schedule in regard to the points referred to in your letter; and in the absence of any definite case being adduced by you as suggested by the Commissioners in which the drafting of the schedule is, in the opinion of your Association, expressly open to misconstruction, they do not see what further action could be taken by them in the matter.

In any event it would not be possible to incorporate Memo. 173/I.C. in the Schedule, inasmuch as that Memo. has no statutory force, but merely indicates the views of the Commissioners on the matters of administration concerned therein, and is accordingly unsuitable for incorporation in a legal document.

Clause 2 (ii).

The suggested amendment to this clause would in the opinion of the Commissioners remove the main protection afforded by the clause against the occurrence of possible abuses which the Commissioners (as they understood with the approval of the British Medical Association) desire to obviate. The Commissioners are of the opinion that this object would not be met by merely precluding the practitioner from demanding and enforcing a claim to additional remuneration, in respect of the services which he is under agreement to give, and that the door would still be open to the abuses referred to in your letter unless practitioners were also precluded from accepting any payments in connexion with any arrangement with the patient which might result in preferential treatment in connexion with the services referred to.

Payment in Respect of Sanatorium Benefit.

The phrase "eligible for sanatorium benefit" includes all insured persons entitled to medical benefit with the exception of one extremely limited special class of insured persons—namely, special (married women) voluntary contributors, who cannot be recommended for sanatorium benefit, and in respect of whom the doctors cannot be called upon to give domiciliary treatment as part of sanatorium benefit. The Commissioners do not consider that the phrase can be in any manner properly construed as meaning only persons recommended by the Insurance Committee for, and therefore entitled to, sanatorium benefit.—I am, Sir, your obedient servant,

S. P. VIVIAN.

The Medical Secretary, British Medical Association,
429, Strand, W.C.

ASSOCIATIONS OF NON-PANEL PRACTITIONERS.

CONFERENCE IN LONDON.

A CONFERENCE of medical men representing non-panel associations in various parts of the country was held at the Waldorf Hotel, London, on November 29th. An application by the BRITISH MEDICAL JOURNAL for permission to send a reporter was declined, but we have received an official report upon which the following account is founded.

Ninety-five delegates were present. Mr. WILLIAM COATES, C.B., Chairman of the National Medical Union, was voted to the chair, and Drs. R. Carswell and J. S. Prowse were appointed secretaries of the conference.

The CHAIRMAN, in opening the proceedings, detailed the history of the action of the British Medical Association with regard to the Insurance Acts, and sketched the origin and development of the National Medical Union. There was, he said, no rallying ground for non-panel practitioners, and the National Medical Union, believing that there were 10,000 medical men in the country not serving on the panels, had called the conference in order that the non-panel element might become really strong. The profession had not done with the Insurance Acts, and if another Government came in to-morrow, the non-panel practitioners would be able to do little if split into small organizations. He considered the British Medical Association was not a proper fighting force for them, since it could not serve two masters.

In moving the following resolution—

> That this meeting of delegates from non-panel medical associations agrees to form an organization with central offices in London by the federation of existing non-panel bodies—

Mr. G. A. WRIGHT, F.R.C.S. (Manchester), said that the object of the conference was to consider the best methods of protecting the rights and interests of those members of the profession who did not desire to carry on their practice under the present conditions of the Insurance Acts. Fusion of the various non-panel associations was desirable to obtain increased power and greater simplicity in working. The objections to the law as it stood were of two classes—those concerned with the general principles of the Act and those concerned with medical benefit alone. The new organization proposed to deal only with the latter. Every one admitted that the Act was full of faults, and there were grounds for hoping that the next Government would drastically amend the law. Protection was needed against the effects of the Act in depriving doctors of their practice on no other ground than their refusal to join the panel. This refusal did not justify an attempt to force men on to the panel either obliquely or directly; such pressure was tyrannical. The system not only involved loss of practice of some, but led to a lamentable amount of ill feeling between panel and non-panel practitioners. Without discussing the question of the possible provisions in the future for the care of dependants, he stated that it was important that those who preferred not to work under the Act should have a strong organization to protect their interests; such an organization would press for the formation of a medical committee to which the drafting of any new or amending Insurance Act should be referred by the Government. An Insurance Act in some form was desirable, and no doubt would be permanent, but the general approval of the medical profession was essential to its successful working. The conference was proof of the widespread and strong feeling in the profession against the provisions of the existing Acts, and those present were fortified by the knowledge that those views were shared by a large part of the community.

Dr. H. B. GREENE (Wandsworth), in seconding the motion, said that the conference was held at the wish of scattered non-panel associations in various parts of the country. He referred with indignation to the treatment of the profession by politicians, and deprecated dependence on political views. Capitalists on either side of the House favoured the Act, and the power of money would be used to insure the inclusion of 31,000,000 women and children. The effect of this capitalist control was seen also in the press. The conference would show that non-panel societies were in existence and a power to be reckoned with; but, if the power was to be effectively asserted, it must be kept independent of the influence of one or other political domination.

The resolution was adopted unanimously.

CONDITIONS OF MEMBERSHIP.

Dr. F. PORTER (Edinburgh) moved:

> That the principal condition of membership of the new association shall be the refusal of service in any capacity under the existing National Insurance Acts, 1911-13.

Local Medical Committees and Insurance Committees, he said, were constituted to further the work of the Insurance Act, and he could not understand the position of non-panel men who joined those committees. It had been stated that they were there to further the non-panel cause, but he had never heard of any assistance they had given in that direction. The profession in Germany, he said, was in a chaotic condition because it had compromised, and British medical men should take care that they did not drift in the same way.

Dr. CARSWELL, who seconded, said that the point of the motion lay in the words "in any capacity." That was an uncompromising attitude, and the duty of the conference was to form and delineate a new species of organization.

Mr. E. B. TURNER (Non-panel Medical League) moved as an amendment to leave out all the words after "shall be" and to substitute

> That no member shall be on the panel or have a partner or assistant who is on the panel, or shall be a referee or accept any paid office under the National Insurance Acts, 1911 and 1913.

All over the kingdom, he said, there were strong non-panel men who had taken office on Insurance Committees and Local Medical Committees and doing what they could for the profession. This was not a time to rule these men out of the membership of the federation. The time was coming—it would come in the year after next—when what had been described as the Chancellor's bribe would run out and the whole question of the money voted by Parliament would have to be arranged, and at about the same time would come the revaluation of the approved societies. Hardly one of those societies was now keeping within the actuarial limits of the Act, and the revaluation, he believed, would show that they would have to make a levy on their members. Then would arise the cry to cut down the doctors' remuneration, and unless the non-panel organization was strong it would not be able to meet the situation. It was not a time to rule out men willing to do good work. He agreed that medical men treating patients allowed to make their own arrangements were in fact working under the Act; if the motion were adopted unamended the conference, if it wished to be logical, would have to rule out all those practitioners from the new federation, and in so doing would rule out a large number of men with it heart and soul.

The amendment was seconded by Dr. MONTGOMERY-SMITH, who said that if the federation could say that it included every non-panel man it could dictate terms. Some of the best non-panel men were serving on Insurance Committees at the request of the non-panel men themselves, and an interval at least should be allowed to enable them to retire from the committees if they thought proper.

Dr. OPPENHEIMER (Hampstead) supported the amendment; and Dr. SOUTHCOMBE (City of London) said that a large number of members in London had signed Form 43, and the motion as proposed would exclude all of them from membership.

Dr. TROTTER (Huddersfield) said that the mover and the seconder of the amendment had to a large extent taken opposite views. His experience was that service on Insurance Committees had a disastrous effect on medical men. The undoing of the profession had been compromise, and compromise had been the curse of the British Medical Association. He thought the federation should have nothing to do with the British Medical Association; it might in that way lose a few men, but they would be those prepared to temporize.

Dr. LOWE (Crewe) thought that Mr. Turner's speech was not in accord with one he had made a year ago, to the effect that he would have absolutely nothing to do with anybody who had anything to do with the Act. Dr. Lowe appealed to the meeting not to desert its principles, and could not see that it was logical in a state of warfare for a man to be in the councils of the enemy.

Dr. BEATON (London) thought the medical members of Insurance Committees were not doing much for anybody except panel doctors. Out of a million and a half insured persons in London only about 1,500 had been allowed to contract out, and were being attended by doctors who had signed Form 43: the medical members of the London Insurance Committee had done that, but it was hardly worth doing.

Dr. MACKEITH (Southampton) said that the motion would prevent the admission to the federation of medical men who were attending members of such an organization as the Seamen and Firemen's Union which came under the Insurance Act.

Dr. GREENE said that those who signed Form 43 had to accept the same conditions as panel doctors, except in regard to payment.

Dr. MACNAMARA (Non-panel Medical League) said that if the federation was to be a success it must be on the basis of meeting the requirements and wishes of the majority. He was in favour of making it open to all non-panel men, whether on Insurance Committees or not, provided they worked whole-heartedly with the federation.

Dr. WHEELER HART opposed the amendment, saying that medical members of Insurance Committees had no power, and that their presence on the committees lent countenance to the Act in the eyes of the public.

Dr. BIGGS (Wandsworth) objected to excluding from the federation members of the profession who had merely done what they were asked to do by certain of their professional brethren.

Dr. JOHNSTON (Brighton) maintained that doctors on Local Medical Committees could do good work for the profession, although if the conference passed the amendment he would be prepared to resign from the East Sussex Medical Committee.

Dr. O'SULLIVAN (Liverpool) appealed to the meeting to be unanimous. Was the organization to be endangered because "non-panel" was to be interpreted "no service under the Act"?

The closure having been moved and carried, the amendment was put to the meeting, the vote being by card according to the membership strength of the associations. After dinner the CHAIRMAN announced the result of the voting as follows: Against the amendment, 530; for the amendment, 525; majority against, 5.

Dr. EVAN JONES proposed as a further amendment:

> That the principal condition of membership of the new federation shall be that applicants should not be on the panel directly or indirectly, and that all further conditions be left to the decision of the association forming this federation.

Dr. CARSWELL protested that the amendment was narrower than Mr. Turner's amendment which the conference had rejected, and Dr. PORTER said that he could not vote for it.

After some further desultory discussion it was eventually agreed that the amendment should read as follows:

> That the principal condition of membership of the new federation shall be that applicants for membership shall not be on the panel directly or indirectly, and that all local associations shall have power of autonomy.

The amendment was carried with two dissentients, and was then put and agreed to as a substantive resolution.

Dr. PORTER said he wished it to be understood that this was provisional as far as Scotland was concerned. He had to take the opinion of his constituents.

CONSTITUTION OF THE FEDERATION.

It was resolved that the name of the federation should be the National Medical Union, and that the subscription should be 1 guinea annually.

Dr. EDWIN SMITH proposed and Dr. G. B. WILSON seconded:

> That while membership of the British Medical Association shall not disqualify for ordinary membership of the federation, no official of the federation shall be at the same time on any central executive committee of the British Medical Association.

Mr. E. B. TURNER, while opposing the resolution, sympathized with the motives of those supporting it, and said, further, that members of the Council of the British Medical Association did not intend to stand for the executive of the new body, nor would they accept service upon it if they were asked to do so.

The feeling of the meeting being clearly in sympathy with the motion, the CHAIRMAN suggested that now that the matter had been ventilated it should not be further discussed.

Dr. EDWIN SMITH, acting on this suggestion, and having heard the remarks of Mr. TURNER, withdrew the motion.

HONORARY OFFICERS.

The following officers were then elected:

Presidents, Mr. G. A. Wright, F.R.C.S. (Manchester), and Professor Russell (Edinburgh).

Vice-Presidents, Dr. John Playfair (Edinburgh), Mr. W. Coates, C.B. (Manchester), Dr. Bernard O'Connor (London), Dr. Greenyer (Brighton).

Treasurers, Dr. Brassey Brierley (Manchester), Dr. H. Oppenheimer (Hampstead).

Secretaries, Dr. Carswell (Wandsworth), Mr. E. Arthur Dorrell (London).

[We take the list of officers from the *Times*, as it was not contained in the official report.]

VOTES OF SYMPATHY.

The conference adopted votes of sympathy with Dr. Meacock and the other practitioners at Wisbech who had been subjected to suffering and annoyance in connexion with the working of the Insurance Act, and with the profession in Germany in its struggle against the German insurance system.

VOTES OF THANKS.

A vote of thanks to Mr. Coates for his conduct in the chair was moved by Sir HENRY BURDETT, seconded by Dr. JOHNSTON (Brighton), and adopted with much cordiality.

Thanks were also given to the honorary secretaries of the conference, which then terminated.

We are informed that a City and North-East London Non-panel Practitioners' Association has been formed, with Dr. C. F. Hadfield as chairman and Dr. David Ross (346, Kingsland Road, London, N.E.) as honorary secretary; and also that a Liverpool and District Non-panel Union has been formed, with Dr. O'Sullivan, J.P., as chairman, Mr. Damer Harrisson, F.R.C.S., as vice-chairman, and Dr. Francis Heatherley as honorary secretary and treasurer.

THE INSURANCE ACT IN MANCHESTER.

Payment by Attendance.

THE Manchester practitioners have decided by a large majority to continue their present system of payment by attendance under the Insurance Act for the year 1914. This decision has been arrived at as the result of a ballot. Three different methods were placed before the profession:

1. The capitation system.
2. The present Manchester system of payment by attendance.
3. A variation of the present system, under which the payment of the doctors would be calculated according to a schedule of "case-values" to be agreed on—that is, a modified system of payment per case of illness.

Of the panel practitioners, about 75 per cent. voted in the ballot, and of these less than 25 per cent. voted for the capitation system. The votes for the present system were four times as many as those for the capitation

system, five times as many as for the case-value system, and two and a quarter times as many as those for the capitation and the case-value systems together. Taking the votes of the whole profession, the present system had three and a half times as many votes as the capitation system, four and two-thirds times as many as the case-value system, and twice as many as both other systems together. Thus, there can be no doubt that both the panel practitioners and the profession generally in Manchester are very decided in favour of a continuance of the present system.

This result of the voting was placed before the Medical Benefit Subcommittee of the Insurance Committee, and it was decided to recommend the Insurance Committee to accept the doctors' decision, and to continue the present system for a second year. The minutes of the Subcommittee stated that its recommendation had been reached after hearing a statement made by Dr. McGowan, the honorary secretary of the Local Medical Committee, who "expressed on behalf of the representatives of the Local Medical Committee a willingness to confer from time to time with the representatives of insured persons for their mutual benefit, and especially with a view to securing a substantial reduction in the present heavy claims against the funds of approved societies and the drug fund in this area." The minutes further recorded the statement of Dr. McGowan, to the effect that "the Local Medical Committee are now in a position to exercise effective control over the whole of the practitioners on the list to the advantage of the committee and the approved societies, but such control would be impracticable in the event of the adoption of either of the other systems of case value and capitation."

Proposal for a Whole-time Service.

The minutes of the Medical Benefit Subcommittee came before the Insurance Committee at its meeting, held on November 25th, and, on the motion that the minutes be approved, Mr. LLOYD JONES, the Chairman of the Finance Committee, and one of the representatives of approved societies, proposed as an amendment:

> That the resolution of the Medical Subcommittee recommending the continuation of the present medical arrangement be referred back for further consideration, with a view to substituting for the same a system whereby this Committee shall appoint a number of medical men to devote the whole of their time to the service of the Committee, and be only permitted to attend to insured persons under the National Insurance Act.

In speaking to this amendment, Mr. Lloyd Jones asserted that the present system had been a complete failure in Manchester, as it had satisfied nobody, and least of all the members of the approved societies. He claimed that the doctors in Manchester had not given of their best to the insured, but had shirked their work, and the people had not been properly treated. How was it possible for a doctor to give proper attention whose bill for treatment for three months came to £1,000 for attendances costing on the average from 2s. to 2s. 6d. each? He maintained, and said that the doctors themselves had supported the statement, that the medicines and drugs given to the insured were of an inferior character. He was convinced that the £100,000 which the Insurance Committee had at its disposal could be far better spent in maintaining a staff of doctors, as the money would be sufficient to provide 180 to 190 doctors at salaries of £400 a year, each doctor having allotted to him about 1,500 insured persons. In addition, three or four consulting specialists and a number of nurses could be provided, and in that way they would be able to reduce malingering and the claims for sickness benefit.

Mr. E. FARROW seconded the amendment; and Mr. J. M. SMITH, while expressing his sympathy with the amendment, realized that the Subcommittee had done all it could for the present. At the same time he had to complain of the slipshod methods of the doctors, and said it was monstrous that there should be a few doctors receiving payment under the Act at the rate of £1,000 a year, and in one case of nearly £2,000 a year. In the industrial districts few patients were getting the examinations they needed, and how could they expect it when there were so many cases to attend to.

Councillor CHANTLER laid stress on the importance of enlisting the goodwill of the doctors in the administration of the Act, and he objected to the suggestions that the doctors had shirked their work or made undue charges. They were willing to try the present system for another year, and it would be a mistake to change. They were not justified in describing the working of the Act in Manchester as a failure.

Mr. H. W. IRWIN described the Manchester system as most pernicious and wrong, root and branch. It encouraged the worst human feelings, and doctors were only human like other men. Something like fifty men were getting the bulk of the money, and he asserted that where the capitation system was in use the sickness claims on the societies were much lower than in Manchester.

Dr. MCGOWAN, the honorary secretary of the Local Medical Committee, said that if Mr. Lloyd Jones's scheme of a salaried service were carried further and a national service introduced, he might get the support of many doctors, but he claimed that the Act had been administered nowhere more successfully than in Manchester. He contended that if the capitation system favoured the funds of the approved societies, the Manchester system favoured the health of the patients. There had been fewer sickness claims in some places, though Leicester and Newcastle, which had the capitation system, had about the same rates as Manchester. In London under the capitation system there had been a large number of complaints by insured persons against the doctors, but in Manchester there had been none, and he thought that some of the speakers had attributed defects to the Manchester system which were really defects of the Act itself. If large sums of money were paid to doctors in certain districts it was because most of the work was done there. The Local Medical Committee had just succeeded in getting its house in order. It would be able to deal effectively with the medical men, and by the conferences which had been suggested with representatives of approved societies it could tackle the question of excessive sickness claims.

Mr. W. MELLOR said that the sickness rates of trade unions that had their head quarters in Manchester were in some cases 40 per cent. higher in Manchester than in districts where the capitation system was in force, though he still believed that the capitation system had objectionable features of its own.

Mr. H. KEMP, on behalf of the chemists, referred to statements that inferior drugs were supplied to insured persons. Not the least proof had been offered in support of such charges, and he read letters from wholesale druggists denying that they manufactured two qualities of drugs—one for ordinary dispensing and the other for insurance dispensing.

Dr. T. A. HELME, who is chairman of the Local Medical Committee, said that the objection to a full-time service was based on the interests of the patients. Official services were often bad, and he pointed to the Poor Law medical service in proof of this statement. The good point about the Manchester system was that it preserved the advantages of private practice to insured persons. The Manchester doctors were anxious that the insured should have a really efficient medical service, and he claimed that they were also equally desirous of doing all they could to assist approved societies in protecting their funds.

Rejection of the Proposal.

The amendment proposed by Mr. Lloyd Jones was then put to the meeting, and only 3 voted in favour of it, while 39 voted against. The minutes of the Medical Benefit Subcommittee were then confirmed in favour of a continuance of the present system for the year commencing in January, 1914. It is noticeable that the attack on the present sytem came mainly from representatives of approved societies, and several members who spoke against the doctors refrained from voting for it when the amendment was put to the vote.

LOCAL MEDICAL COMMITTEES.

WEST HAM.

A MEETING of the Local Medical Committee was held on November 25th.

New Agreements.—The Chairman of the West Ham Insurance Committee and the Chairman of the Medical Benefits Subcommittee were present with the Clerk to conduct the "necessary negotiations" with regard to the new

agreement between the Insurance Committee and the panel practitioners. It was agreed:

1. To insert "14 days" as the period during which diseases arising from confinement should not be included in medical benefit under the Agreement.
2. That in the first schedule after the clause referring to certificates the words "in accordance with Memo. 173/I.C." should be inserted.
3. That in Clause 2 (ii) of the Draft Agreement the word "claim" shall be substituted for the word "accept."
4. That in Clause 13 (i) of the Draft Agreement the word "wilful" should be inserted before the word "breach."

On November 27th the Local Medical Committee were informed that the Commissioners would not accept any of these amendments.

HERTS.

A MEETING of the Herts Medical Committee and practitioners upon the panel was held at Hatfield on November 25th, when about fifty medical men were present.

New Agreements.—Section 2 (ii): The County Committee were asked to use the words "shall not be entitled to demand" instead of "shall not accept." *Section 6* (ii): The County Committee's proposal that "the area to be that in which the practitioner usually practises, or within three miles of the practitioner's residence" was accepted. The Commissioners had informed the County Insurance Committee that they were not prepared to agree to Clause 2 (ii) being modified in the manner which would admit the right of a practitioner to receive fees otherwise than as provided in the agreement in respect of the treatment he was required to give under his agreement. *First Schedule:* The County Committee was asked to refer to Circular 173/I.C. after the word "certificates," or make a statement to that effect. The County Committee did not think this was open to misconception. The Clerk wrote:

> It is quite clear that practitioners are bound by the terms of the agreement to furnish such certificates as an insured person may be required to furnish in pursuance of the rules of his approved society or by the Insurance Committee, as the case may be, and the Insurance Committee would not be prepared to insert any words incorporating a circular issued by the Commissioners. The agreement must only refer to the Act and specific regulations made in pursuance thereof. With reference to the sum of 6d. per annum payable to practitioners in respect of each person eligible for sanatorium benefit, there is no doubt that the first schedule means that practitioners in the county will receive the sum of 6d. per annum in respect of every person eligible for sanatorium benefit, and not merely in respect to persons who have been actually recommended for sanatorium benefit.

With regard to "domiciliary treatment," the County Committee was asked to make it clear that payment for this was to be as hitherto.

Cards of Identity.—It was considered to be absolutely necessary that insured persons should produce some such voucher when seeking treatment, and the County Committee and the Commissioners were asked to arrange this.

Assignment of Insured Persons.—The Panel Committee was instructed to assign among practitioners upon the panel those insured persons who subsequently apply for assignment.

Local Temporary Residents.—The present arrangements for the treatment of those insured persons who are upon the list of any practitioner in Hertfordshire but who temporarily remove within the county were accepted for another year. Practitioners were requested to attend these persons on behalf of their fellow-practitioners without formality or payment.

Mileage Fund.—The County Committee was again requested to use its best endeavours to obtain a grant from the Central Mileage Fund for the exceptional cases in the county. This request was forwarded to the Commissioners also.

Drug Tariff.—A new tariff was considered, certain alterations proposed, and the matter left in the hands of a Subcommittee. The necessity for the continued use of "Rep. Mist." was strongly urged. It was considered desirable to ask the Commissioners to issue some information for guidance to Committees when considering the tariff, so that it might be reasonable and fair to all.

Accumulated Funds.—The Commissioners have approved of the scheme for the distribution of this. It was understood that the County Committee would distribute about 90 per cent. of the amount in hand before Christmas.

Practitioners' Lists.—The meeting directed the Medical Committee to notify the County Committee of the great delay in notifying practitioners and insured persons that the insured persons had been placed upon a practitioner's list.

Departmental Inquiry.—Practitioners were requested to notify the Honorary Secretaries of any point which might be of assistance to the British Medical Association when giving evidence before the departmental inquiry upon sickness benefit claims.

Panel Committee.—Arrangements have been undertaken to get the Medical Committee recognized by the Commissioners as the "Panel Committee."

Local Medical Committee Election.—The present members were re-elected *en bloc* until July 14th.

Subscriptions.—The Honorary Secretary was asked to send a reminder to those who had not yet forwarded a donation towards the expenses of the Local Medical Committee, for it was felt that a number of practitioners did not fully realize the amount of work the Local Medical Committee had to do nor the expense necessarily incurred.

BUCKS.

A GENERAL meeting of the practitioners of Bucks was held on October 31st, at the Royal Bucks Hospital, Aylesbury. There were between thirty and forty present. Dr. BAKER was elected to the chair.

Working of the Insurance Act.—Dr. BAKER gave a short address on the working of the Act, and expressed satisfaction which he was able to say the profession had. They had worked most amicably with the County Insurance Committee, and there had been no friction. The financial results were good, although a good many private patients had become insured. Time would show how it worked out. Dr. LARKING thought it was very hard that so few had been allowed to make their own arrangements, and he was sure that it was not known as it ought to be that the Insurance Committee had a special form which, if filled up so as to show any special reason why the person should be allowed to make his own arrangements (such as in the case of servants of medical men not on the panel and many other instances), they would consider each case on its merits. It was a pity that the men not on the panel had not sent a representative to the Local Medical Committee, as such a committee should represent the whole profession.

Repeat Mixtures.—The question of "Rep. Mist." was again discussed, and it was felt that a strong effort should be made to get the term accepted, as in large practices its use was a great saving of time.

Record Cards.—On the motion of Dr. BELL, seconded by Dr. ROSE, it was unanimously resolved:

> That this meeting of Bucks practitioners urges upon all in the county that all attendances on panel patients be entered carefully and accurately on the record cards.

It was pointed out that the authorities would be certain to take the amount of sickness shown by these records as evidence as to the adequacy of the remuneration, and in view of the women and children being included this was most important.

Aged Members of Societies.—Dr. WILLS inquired what terms should be charged for the old members of societies. It was decided that it was best to leave this to the Divisions of the British Medical Association to decide.

Anaesthetics and Dentistry.—It was stated that anaesthetics could not be claimed for dental work as no doctor was compelled to practise dentistry.

Local Medical Committee: Panel Committee.—Dr. LONG proposed a vote of thanks to the late Local Medical Committee, and this was passed unanimously. The nominations for the new Committee were received, and there being only one vacancy in the south of the county, it was resolved that the practitioners at Slough be requested to fill it. The following resolution was carried unanimously:

> That the Local Medical Committee be and is hereby constituted the "Committee of Panel Practitioners" referred to in the amending Act.

The resolution on the agenda was then proposed:

> That the Local Medical Committee be empowered to make a levy on all medical men on the panel, not to exceed one halfpenny per patient on list for the year, half to be collected at the beginning of the year and the balance when required.

Several members thought that perhaps one halfpenny would not be enough, and that it would be unwise to bind themselves too tightly. Finally it was carried by 19 votes to 6 that "one penny" be substituted for one halfpenny, and that one farthing be collected at the beginning of the year, and the balance if and when required.

Alterations of Rules.—Various alterations of the rules as published in the agenda were agreed to, and the view was expressed that if certain insured persons expressed a wish to come at other hours to those fixed, and preferred to pay as private patients, there was no reason why they should not do so. The following motion was carried unanimously:

> That a vote of thanks be accorded to the Chairman and Clerk of the County Insurance Committee for the courtesy they had shown to the medical men, and for their help and assistance.

BEDFORDSHIRE.

SIXTH MEETING.

THE sixth meeting of the Bedfordshire Medical Committee was held at Luton on Wednesday, November 5th. Dr. J. W. BONE was in the chair and fifteen members were present.

Payment for Drugs.—Dr. MILBURN (Biggleswade) stated that several county practitioners had not yet received the 6d. for drugs for the first quarter's attendance. After some discussion, it was decided, on the motion of Dr. MILBURN, seconded by Dr. PARBURY (Sharnbrook), to address a letter to the Clerk to the County Insurance Committee asking what the Committee intended to do in the matter.

Postage of Correspondence.—A letter was read from Dr. Charnock Smith (Woburn) suggesting:

> (1) That the postage of letters to the clerk containing signed acceptances of patients by practitioners should be franked, and that the expense should not fall upon the practitioners concerned. (2) That special franked forms should be supplied by the Commissioners for the fortnightly statements of accounts by practitioners to the clerk for extras for patients under domiciliary treatment.

The meeting was in thorough agreement with these suggestions, and on the motion of Dr. KILHAM ROBERTS (Shillington), seconded by Dr. ROLLINGS (Leagrave), it was resolved that the Secretary acquaint the Commissioners accordingly.

Removal of Patients.—Dr. FASNACHT (Bedford), wrote complaining that certain patients who had been removed from his list had apparently only temporarily left the town, and later returned for further treatment. In the discussion following, other practitioners said that they had had similar experiences. The CHAIRMAN undertook to confer with the Clerk on the matter.

Model Rules.—(1) On the motion of Dr. DEAN POLLARD (Bedford), seconded by Dr. STANBURY PHILLIPS (Bedford), it was resolved that the Model Rules for Local Medical Committees suggested by the Association should not be accepted by the Committee, but that the new Regulations of the Commissioners should first be considered.

Operations requiring Anaesthetics.—The exclusion of operations requiring anaesthetics as being beyond the scope of a panel practitioner's duties was suggested, but on the motion of Dr. DURRAN (Leighton Buzzard), seconded by Dr. BUTTERS (Kempston), it was decided to take no action in the matter at present.

Medical Referees.—It was resolved, on the motion of Dr. POLLARD, seconded by Dr. KILHAM ROBERTS, that the minimum fee for an examination and report as medical referee be 10s. 6d.

Allocation of Unallotted Patients.—The CHAIRMAN stated that he had formulated and submitted to the County Insurance Committee a scheme whereby insured persons hitherto unallotted should be allocated to the doctors in their respective district in proportion to the number on their lists, in order that such persons might be enabled to obtain treatment without delay, if required. After considerable discussion, the scheme was accepted by the Medical Committee, and it was resolved to send a circular to every panel practitioner in the county explaining its nature, and requesting an expression of his approval or otherwise on a reply-paid postcard.

Revision of Panel Lists.—The CHAIRMAN announced that the County Insurance Committee had fixed the date of revision of panel lists for January 8th, 1914, so that notice of changes of patient or doctor, in order to be effective, should be handed in before December 8th, 1913. As this would be fully advertised in the local press, on hoardings, in post-offices, and in the offices of approved societies, it was decided that it would not be necessary for the Medical Committee to take steps for further advertisement of the fact.

Temporary Residents: Travellers.—Communications from the Commissioners regarding the following matters were considered: It was decided that no action be taken with reference to Memo. 171, I.C. as to temporary transfers. The arrangements for travellers (yellow vouchers) were approved.

Statutory Recognition.—The Commissioners had intimated that recognition of the Medical Committee had been extended to December 31st, 1913, and would be still further extended to July 15th, 1914, if in accordance with the wishes of the medical practitioners resident in the area, and with the concurrence of the Joint Committee. In order that the wishes in this connexion of the county practitioners might be ascertained in sufficient time to allow the Commissioners to take the requisite action, it was unanimously resolved that all practitioners resident in the county be circularized and asked to express their views on the matter on a reply paid postcard.

Panel Committee.—It was resolved to nominate twenty members of the Medical Committee for election to the new Panel Committee. On the motion of Dr. O'MEARA (Luton), seconded by Dr. MILBURN (Biggleswade), it was resolved:

> That all practitioners on the county panel be circularized, acquainting them of these nominations and requesting them not to nominate any other candidates, in order to ensure the automatic election of the twenty nominees of the Local Medical Committee.

SEVENTH MEETING.

The seventh meeting of the Committee was held at the County Hospital, Bedford, on November 18th, when Dr. J. W. BONE was in the chair and nineteen members were present.

New Panel Committee.—The SECRETARY announced that 99 circulars had been sent out on this subject to the practitioners on the county panel, enclosing reply paid postcards with the following questions:

> I. Do you agree to the scheme of the Local Medical Committee to enable all non-allocated insured persons entitled to medical benefit to receive treatment without delay if required?
> Answer (yes or no) .....
> II.—The Local Medical Committee has resolved to nominate twenty of its members for election on the new Panel Committee. Are you satisfied with this arrangement, and will you support its nominees if an election is necessary?
> Answer (yes or no) .....
> Signed .....
> Address .....
> Date .....1913.

Seventy-two replies had been received up to date, of which seventy answered to both questions in the affirmative, one gave an affirmative reply to the second question, refusing to vote on the first, and the remaining card contained a refusal to vote on either question. On the suggestion of the CHAIRMAN, it was decided that the representation on the new Panel Committee be apportioned as follows: For Bedford, 5 members; for Luton, 5 members; for the Country Districts, 10 members. Total—20. The following members were thereupon nominated:

1. *For Bedford.*—Drs. A. Conning Hartley, A. F. Goldsmith, A. Stanbury Phillips, H. Dean Pollard, and S. J. Ross.
2. *For Luton.*—Drs. J. W. Bone, L. Lane, F. S. Lloyd, J. M. O'Meara, and J. Robertson.

For the Country Districts.—Drs. G. Butters (Kempston), J. G. Durran (Leighton Buzzard), G. F. Dixon (Potton), W. L. Garner (Ampthill), Kilham Roberts (Shillington), J. Rollings (Leagrave), W. K. Parbury (Sharnbrook), A. E. Street (Cranfield), J. Waugh (Toddington), and O. L. Milburn (Biggleswade).

The notification papers were duly completed and forwarded.

Allocation of Unalloted Insured Persons.—The scheme of the Medical Committee for the allocation of unallotted insured persons was considered, and after much discussion was put to the meeting and adopted *nemine contradicente.*

New Agreement.—The new agreement was then discussed, and the following suggested emendations carried:

> Clause 2 (ii) the word "accept" be altered to "demand."

Clause 13 (i) the word "wilful" be inserted before the word "breach."

Clause 15 be deleted as being grossly unfair to the practitioners on the panel, that the Commissioners should have the the sole power to determine the agreement.

The Secretary was instructed to acquaint the County Insurance Committee with these decisions.

New Draft Regulations.—The draft regulations were introduced by the Chairman, who pointed out the chief respects in which they differed from those already in force. It was decided to take no action at present.

Sickness Benefit Claims.—Memorandums 8 and 9 of the Association were laid before the meeting, and after discussion, on the motion of Dr. Ross, seconded by Dr. Waugh, it was resolved that the memorandums be referred to the Division.

EAST SUSSEX.

An extraordinary meeting of the East Sussex Medical Committee was held at the County Hall, Lewes. There were present eleven members; Dr. Benham was in the chair.

Panel Committees.—The Honorary Secretary reported that on receipt of a telegram from the Commissioners on November 18th, which pointed out that the scheme for an alternative method of electing a panel committee must be submitted before November 29th, 1913, he had submitted a scheme accompanied by the signatures of twenty panel practitioners by post. The action of the Honorary Secretary was approved. A further communication which had since been received from the Commissioners was read, asking the Honorary Secretary to authorize, on behalf of the twenty practitioners, a rewording of the scheme as follows:

1. That the method of appointment be by postal vote, the electors being asked to assent or dissent from the appointment "en bloc" of the persons nominated.
2. That the persons nominated shall be those at present comprising the Local Medical Committee.
3. That the appointment or otherwise of the persons so nominated *en bloc* shall be determined by the majority of those voting.

New Draft Agreement and Regulations.—The Honorary Secretary was directed to send the necessary authorization. The new draft Agreement and Regulations were then considered. The Executive Committee's recommendations with regard to these were approved with certain exceptions, as follows:

Reg. 14 (3). M. Second line after the word "contributors" add "Local Medical Committee."

Reg. 21 (2) and 79 (2). That the existing method whereby an insured person is placed on a doctor's list is unsatisfactory in that there is no simple means whereby a doctor can ascertain whether an insured person is entitled to medical benefit. They are of opinion that the system of medical tickets adopted when the Act first came into force was more simple and efficient than the present method.

Reg. 18. That certain appliances, such as splints, air cushions, ice bags, might be lent from the chemists at a tariff price for the loan.

Agreement (draft) Clause 2 (1). In line 8, after word "confinement," insert the words "or in respect of illness arising from confinement within two weeks."

Sec. (ii). (*a*) First line after "remuneration," insert "from any patient"; (*b*) that for word "accept" in this clause substitute "claim," or "suggest either directly or indirectly the payment of."

Clause 6 (ii). In blank space of line 3 insert "three."

The first schedule to be so worded as to make it quite clear that the doctor is only bound to give one certificate of incapacity for the claim of sickness or disablement benefit, one continuing certificate at such intervals as may be necessary, and one for capacity to work. Clause 9, that the words from "as" in the first line to "shall" in fourth line be deleted.

Interview with Medical Benefit Subcommittee.—An interview was now held with the Chairman of the Medical Benefit Subcommittee and of the Insurance Committee and the Clerk to the Insurance Committee.

Dr. Benham explained the views of the Medical Committee with regard to:

1. The insertion of the words "by any patient" in Clause 2 (ii) of the agreement.
2. The revision of Clause 9 of the agreement so as to relieve practitioners of the obligation of furnishing a statement of the number of their patients.
3. The method whereby an insured person is placed on a doctor's list under Regulation 21 (ii).
4. The absence of any regulations in regard to the setting up of District Medical Committees.
5. A suggestion made by the British Medical Association that words should be inserted in the agreement making it clear that the practitioner gave the treatment referred to "on behalf of the Insurance Committee," but he explained that the Medical Committee did not wish to press these points.
6. Regulation 14 (3).—Insert the words "Local Medical Committee" before "Panel Committee" in line 2 so as to give the Local Medical Committee an opportunity of disputing the right of an insured person to receive medical benefit on the ground that the income of that person exceeds the income limit.
7. Agreement: Clause 2 (i).—Insert in line 8 after the word "confinement," "or in respect of illness arising from confinement within two weeks."
8. Agreement: Clause 2 (ii).—Delete the word "accept" and substitute therefor "claim or suggest either directly or indirectly the payment of."
9. Agreement: First Schedule.—The schedule should be redrafted, so as to make it clear, as has been indicated by the Commissioners in paragraph 8 of Memorandum 173/I.C.—that a doctor is not required under his agreement to furnish to an insured person on his list a medical certificate for any purpose other than in connexion with a claim for sickness benefit under the National Insurance Act, and that the provision of medical certificates for any other purpose is outside the scope of the doctor's agreement and is a matter to be settled between the doctor and the patient.
10. With regard to the drug tariff, it would be desirable if an arrangement could be made for certain expensive appliances, such as air cushions, to be lent by chemists at a tariff price, it being understood that in the event of such appliances being required in cases where a doctor had undertaken the supply of drugs and appliances the doctor, and not the committee, would be liable to the chemist for the hire of the appliance.

Mr. Godwin King said that the Medical Benefit Subcommittee had agreed with the views of the Medical Committee with regard to (1), (2), and (3), and had made representations to the Commissioners. With reference to the other matters, he undertook that the views of the Medical Committee should receive careful consideration by the Medical Benefit Subcommittee, and in the event of the Subcommittee approving the suggestions, or any of them, suitable representations would be made to the Commissioners.

Extra Mileage Grant.—It was resolved:

That the method of distribution should be by capitation on the number of insured persons on each doctor's list living in places difficult of access, the basis of payment being the distance of the patient's home from a metalled road (metalled road to be properly defined).

BOURNEMOUTH.

A meeting of the Bournemouth Local Medical Committee was held on November 28th.

New Agreement. — The general feeling was that in existing circumstances it was futile to attempt to make any changes in the new draft agreement. The following resolutions were passed unanimously:

1. That it is useless to discuss any modifications of this agreement in the absence of a union of Local Medical or Panel Committees representative of and supported by the whole of the practitioners doing Insurance Act work, whereby negotiations could be conducted directly with the Commissioners or simultaneously with every Insurance Committee throughout the country.
2. That the formation of a union of panel practitioners should be effected by a special organization, and not by the British Medical Association, for the following reasons: (*a*) That the inclusion of the whole of the panel practitioners is necessary for the formation of a union, and these practitioners are not, and never will be, all members of the Association; (*b*) that the British Medical Association is composed of at least three classes of practitioners—namely, consultants, non-panel and panel men, whose interests in certain matters are directly opposed, and it is undesirable for the Association to specially organize any one class.

Eleven members of the Committee were present at the meeting out of fifteen (which is the full strength of the Committee). Of this number ten are members of the Association and one a non-member.

Allocation of Unallotted Persons.—The scheme proposed for the numerical allocation of the unallotted insured persons approved at a meeting of the Bournemouth Panel held on November 4th is as follows:

1. That the surplus money available for the payment for medical treatment of the unallotted persons shall be distributed among the practitioners on the panel for each quarter of the current year according to the actual number of persons on each man's list for that quarter.
2. If this is done, the practitioners on the panel must sign an undertaking that they will treat any unallotted persons who come to them for treatment without delay, and then put such patients on their ordinary lists.

3. If any practitioners decline to undertake this responsibility they cannot participate in the division of the surplus fund.

A draft letter and form of undertaking to be sent to the panel practitioners for this purpose by the Insurance Committee was approved by the Committee.

DUMBARTONSHIRE.

THE Dumbarton County Local Medical Committee met in Glasgow on November 25th. Dr. W. S. YOUNG presided.

New Agreements.—These were considered, as also relative circulars from the British Medical Association, and it was unanimously decided to request the following amendments:

Clause 2 (ii) to read "shall not be entitled to demand any fee or other remuneration." [This has since been refused by the Insurance Committee.]

Clause 6 (ii). Insert "3 miles."

Vouchers. The adoption of some form of voucher which every insured person may be called upon to produce as a means of identification. [This has been referred to the Medical Benefit Subcommittee.]

Doctors permitted to dispense. Present arrangement for payment by capitation to continue. [Referred to the Subcommittee.]

Panel Committee.—The SECRETARY reported that after consulting with the Chairman he had submitted to the Commissioners a scheme as follows:

County Panel Committee to be composed of (1) the executive of the Local Medical Committee, eight in number; (2) four other practitioners elected by the Local Medical Committee.

It was unanimously decided to approve the scheme.

Levy.—It was reported that there was still a large number of contributions unpaid.

Accumulated Panel Fund.—It was decided to request that after doctors on the county panel had been paid the full amount due to them at the end of this medical year for all on their "lists," the remaining amount at the credit of the panel fund be distributed among those on the panel in the same proportion as each doctor's "list" bears to the total of insured persons on the county register. This matter was referred to the Finance Committee of the Insurance Committee.

Chemists' Demand for Increased Dispensing Fees.—Notice was given of a motion to rescind the previous decision of approval.

ELGIN AND NAIRN.

A MEETING of the Elgin and Nairn Local Medical Committee was held in Elgin on November 22nd, when most of the members were present.

Draft Medical Benefit Regulations and Agreement.—The new medical benefit regulations and form of agreement were discussed, when it was unanimously agreed:

1. To press upon the Local Insurance Committee the necessity for all insured persons being supplied with vouchers.
2. To ask for further information *re* deductions to be made from the medical benefit fund for treatment of temporary residents.
3. To ask for further information *re* certificates to be granted.
4. To press for allocation of insured persons, who have not yet chosen a doctor, being made at once.
5. To bring up the question of the distribution of the mileage grant; these points to be satisfactorily settled before the new agreements signed.

Panel Committee.—A meeting of the electorate was held on the same day, when it was unanimously agreed to submit as a scheme for the area: That the Local Medical Committee be appointed the Panel Committee for the area.

KIRKCALDY.

A MEETING of the Local Medical Committee was held in Kirkcaldy on November 25th, when Dr. CURROR presided over a full attendance.

Operations Requiring Anaesthesia.—The SECRETARY read the reply of the Insurance Committee to his letter of October 14th. It stated that the following resolution had been passed:

That the Kirkcaldy Insurance Committee is of opinion that where an operation is such as would fall within the scope of medical benefit a practitioner cannot refuse responsibility on the ground that a general anaesthetic is required; that the provision, if necessary, of an anaesthetist other than himself is one of the services which the practitioner has contracted to render in consideration of his capitation allowance: and that the anaesthetist's fee, if any, is payable by the practitioner.

The question of submitting the matter to referees for decision in terms of Regulation 55 was then discussed, but a final decision was postponed.

New Regulations and Agreement.—After considerable discussion the following resolutions were passed:

1. *Vouchers for Insured Persons.*—That every insured person should be supplied with some form of voucher which may be produced as a means of identification.
2. *Remuneration.*—That in Clause 2 (ii) of the new agreement the words "shall not be entitled to demand," etc., be substituted for the words "shall not accept," etc.
3. *Certificates.*—That the First Schedule be altered so as to limit certificates to the three indicated in Circular 173 I.C.
4. *Wednesday Half Holiday.*—That there be no consulting hour on Wednesday evenings.

The Secretary was instructed to forward these resolutions to the Insurance Committee stating that, subject to these alterations and conditions, the members of the Local Medical Committee were willing to sign the new agreement.

ROXBURGH.

A MEETING of the Roxburgh Local Medical Committee was held on November 27th, at the Railway Hotel, Newtown, Dr. CULLEN in the chair, and ten others were present.

Domiciliary Treatment of Tuberculosis.—The SECRETARY read a letter from the Secretary to the Insurance Committee, dated October 22nd, intimating that domiciliary treatment did not include articles of ordinary subsistence.

Business Arrangements of Local Medical Committee.—A letter was read from the Medical Secretary of the British Medical Association with reference to the business arrangements of the Local Medical Committee.

Rules for Medical Benefit.—A letter from the Secretary to the Insurance Committee, together with an enclosure from the Secretary to the Insurance Commission, were received stating that the Commissioners did not approve of inserting the word "serious" before the word "emergency" in the rule relating to Sunday visits. The meeting instructed the Secretary to write in reply that the Local Medical Committee must continue to maintain the necessity for its insertion.

New Regulations and Draft Agreement.—Letters were read from the Secretary to the County Insurance Committee as to the new regulations and draft agreement. The SECRETARY submitted a letter from the Secretary to the Insurance Commission stating that Local Medical and Pharmaceutical Committees were to be consulted on the question of the agreement and new regulations, but that as panel committees would not be constituted by December 2nd no reference was required to be made to them. The meeting considered the regulations seriatim, and after discussion instructed the Secretary to refer in his reply to the Secretary of the Insurance Committee to the following points, namely:

1. The shortness of time that has been allowed for consideration and negotiation between the Insurance and Local Medical Committees.
2. The bringing of the new regulations of November 3rd into force without due notice and consultation with the profession.
3. The meeting desired to press on the Insurance Committee the necessity for not limiting the issue of vouchers to merely aged persons, but that every person entitled to treatment, whether a traveller or temporary residenter, should be supplied with them.
4. The meeting desired information on the nature of the bookkeeping required of doctors in the treatment of temporary residenters.
5. The Local Medical Committee desired to be informed whether the Insurance Committee might withhold any payment for mileage under Regulation No. 77 and the nature of the arrangements proposed to be made.

The CHAIRMAN explained that, in view of the unnecessary limitation of time allowed for consideration, he had in the circular convening the meeting advised practitioners on the panel to delay signing agreements until collective negotiations had been completed. The meeting approved of and homologated the action taken.

WIGTOWNSHIRE.

A MEETING of the Wigtownshire Local Medical Committee was held at Newton Stewart on November 25th, when Dr. SELBY (Chairman) presided.

Mileage.—The Secretary was instructed to reply to a letter from Dr. T. Ritchie Rodger, Honorary Secretary, Dumfriesshire Local Medical Committee, who asked as to the feasibility of obtaining a limit of 1 mile in place

of 3, that the Committee considered that the 3-mile limit was a guarantee that the country practitioner with a wide practice would get an adequate share of the fixed sum there was for distribution (£16,000).

Meeting of Insurance Committee.—The agenda of the meeting of the Wigtownshire Insurance Committee was considered, as the meeting was called for November 29th. A definite line of action was settled for each item. It was agreed to stand by the original bargain with the Wigtownshire Insurance Committee, and adhere to a £2 per week income limit.

New Agreement.—The new agreement was carefully considered, and the Secretary was instructed to send a postcard to every panel doctor in Wigtownshire and recommend its adoption.

New Regulations.—The Secretary was instructed to write to the Scottish Insurance Commissioners for an explanation of Section 39, Subsections (6) and (7) of the new Regulations, and to ask if they would alter the capitation fee of 2s. received by country practitioners who supplied and dispensed their own drugs, and, if so, to what extent.

The reply was as follows:

In regard to Section 39 (6) and (7) of the amended Regulations, I am to explain that the effect of these sections is that the full amount available to the Insurance Committee for the medical benefit of the insured persons concerned will, as hitherto, be payable to the practitioners who are permitted by the Insurance Committee, with the consent of the Commissioners, to dispense on a capitation basis in terms of Section 38 of the Regulations.

INSURANCE COMMITTEES.

LONDON.

A meeting of the London Insurance Committee was held on November 27th, Mr. J. A. Dawes, M.P., presiding.

Medical Benefit.

Work of the Medical Referees.

The General Purposes Subcommittee reported, with reference to the work of the medical referees recently appointed, that about 30 approved societies had made use of the scheme and over 700 applications had been dealt with already. Upon an application being received from an approved society, the case was immediately referred to the medical referee for the district in which the insured person was resident. On the same day the application was received the insured person was informed of the day and time and place fixed for the examination, and a letter was addressed to the medical practitioner in attendance inviting him to be present at the examination or to submit to the medical referee any observations he might wish to offer on the case. If it was impossible for the insured person to attend he was asked to reply by return of post. The Committee gave the following analysis in respect of 471 applications received to October 31st last:

	Report of Medical Referee after Examination.		Action where no Examination was Made.		Total.
	Capable.	Incapable.	Cases Withdrawn.	Cases in Suspense.	
Men	33	54	13	3	103
Women... ...	175	113	63	17	368
Total ...	208	167	76	20	471

In the 76 cases withdrawn by approved societies examinations were arranged, but the insured persons failed to attend as requested. In the majority of such cases they stated that they had determined to "declare off" from the sickness benefit funds. In some cases it was discovered that the insured persons were not, as a matter of fact, resident at the address given, but were in-patients of hospitals or similar institutions, or were temporarily absent in the country. In the 20 cases in suspense the approved societies had not yet decided whether to proceed or to withdraw the application. Of the 208 insured persons who were reported by the medical referees as "capable" of work, 30 per cent. were originally furnished with certificates for debility, anaemia, weakness, etc., and 15 per cent. with certificates for rheumatism and dyspepsia. The reports did not show that any high percentage of these "capable" cases were "malingerers" in the generally accepted sense of the word, but that low vitality, lack of nourishment, and mental inertia were predisposing causes of invalidism, and that though these persons could not be regarded as physically fit they could not be certified as "incapable of work." The few cases of obvious malingering which had been discovered had generally been in respect of persons in receipt of low wages.

The interpretation of "rendered incapable of work by some specific disease or by bodily or mental disablement" in Section 8 (1) (c) of the National Insurance Act, 1911, had presented certain difficulties, and the medical referees after consultation decided that the question whether "incapable of work" meant "incapable of usual work" or "incapable of any work" might be dealt with in certain cases by a report to the effect that the person "was incapable of his usual work for the present, but was not prevented from performing work of a light nature." The question whether pregnancy in itself should be regarded as incapacity in certain cases had presented some difficulties to the medical referees, and, moreover, they had not always found it easy to deal with cases of pregnancy accompanied by an ailment not in itself constituting incapacity. In cases where examinations of a vaginal, pathological, or other character were necessary, arrangements had been made in certain cases for the examination to take place at a suitable institution. As the decision of the Insurance Committee restricted the examination of an insured person to a report as to his fitness or otherwise for work, approved societies had been informed that such questions as the following could not be submitted to the medical referee:

1. Whether the patient was subject to any constitutional or chronic disease or infirmity, and if so for how long extended.
2. Whether a minor operation would dispose of the trouble.
3. Whether it was an accident or industrial disease for which compensation or damages could be claimed.
4. How far the illness was the result of misconduct.

A survey of the cases dealt with tended to show that, apart from questions of malingering and invalidism, the period of incapacity was frequently prolonged by the neglect of the insured person, through apathy or poverty, to take proper measures to expedite recovery, and this was especially apparent in cases in which insured persons were suffering from ulcers, from hernia for which no suitable truss was provided, or from varicose veins which would be relieved by the use of suitable elastic stockings. The number of cases in which incapacity was traceable to some extent to defective teeth was remarkable, and especially in the case of insured persons suffering from rheumatism and dyspepsia. There was no doubt that sickness among insured persons generally would be diminished by the extension of medical benefit to dental treatment and the addition to the drug tariff of such appliances as trusses, elastic stockings, and spectacles. The Subcommittee mentioned that certificates were frequently questioned by approved societies because the actual illness was not clearly indicated. The high percentage of certificates for debility given in the case of insured persons reported as "capable" suggested that greater discrimination might have been used in the issue of the certificates.

Mr. H. Kingsley Wood proposed that a copy of the report be forwarded to the Departmental Committee appointed to inquire into alleged excessive sickness claims.

Miss Susan Lawrence, in seconding, urged that the actuarial estimates in respect of the sickness of women were on an entirely wrong basis, and that if women received sickness benefit prior to confinement, approved societies would become bankrupt.

Mr. P. Rockliffe proposed an addendum to the effect that it be understood that additional liabilities could not be imposed on societies unless and until adequate financial provision had been made by the Government.

Dr. H. H. Mills remarked that any suggestion of extensive malingering was dissipated by the report.

Dr. B. A. Richmond thought it should be made possible to regard pregnancy as equivalent to being incapable of work. There were cases in which additional appliances were very necessary, but were too costly. There should

be some machinery for extending the drug tariff in special cases. It was absurd that practitioners should have no power to order spectacles, belts, or elastic stockings. The addendum was carried by a large majority, and the motion as amended was then agreed to.

The Committee decided to ask the Insurance Commissioners to sanction the extension of the scheme of medical referees for three months beyond Christmas, 1913. It was stated that only about £300 would have been spent by Christmas, and the Commissioners had approved an expenditure up to £1,000 for this purpose.

Distribution of the Unallotted Funds.

The deputation to the Insurance Commissioners in regard to the question of the distribution of the funds accumulated in respect of insured persons who have not chosen a doctor, reported that the Commissioners declared that they were advised that their view of the matter was the correct one, and that the different opinion given by Mr. Danckwerts, K.C., was probably due to the fact that counsel's attention was not directed to certain articles of the Regulations. The Commissioners stated that they were advised definitely that no member of the Committee ran any risk, or incurred any personal responsibility, by carrying out the agreement with the practitioners in accordance with the opinion of the Commissioners and the plain understanding with the medical profession. The Commissioners trusted that the Committee would now feel justified in proceeding upon the view that the whole sum in question was available for distribution among the practitioners on the panel. The deputation afterwards asked the Commissioners to state which were the Regulations that in their opinion made it quite clear that the money could be so distributed, in order that the Committee might again consult counsel in the matter. The Commissioners replied that they did not consider that any useful purpose would be served by a detailed criticism of the instructions upon which counsel acting for the Committee was asked for advice. In view of the near approach of the end of the medical year, and in order that the matter might be placed beyond all possibility of doubt, the Commissioners proposed to issue an amending regulation for the purpose of insuring the fulfilment of the intention of the Committee with regard to the doctors' remuneration, as evidenced in its letter of invitation addressed to the London doctors in December, 1912, and on the faith of which the doctors joined the panel.

Mr. F. BRIANT, Chairman of the Medical Benefit Subcommittee, moved that the matter be referred to the deputation which visited the Commissioners, with authority to take further legal opinion if thought desirable.

Mr. KINGSLEY WOOD said he was not sanguine that the question could be decided by the members of the deputation. It would have to go before counsel again, because counsel had already intimated that no regulations could affect the case.

Mr. J. A. DAWES, Chairman of the Committee, then read the letter from Mr. Lloyd George which was published in the last issue of the SUPPLEMENT (p. 479) to the effect that the Government would support the Committee in paying to doctors on the panel the whole of the funds available for medical benefit. Mr. Dawes said he was told that the Chancellor felt under an obligation to carry out what he felt was an honourable understanding between the Government and the doctors.

Mr. KINGSLEY WOOD said that the first paragraph of the Chancellor's letter, in which he said the doctors undertook the work, was not correct as regards London. The point for the Committee was whether it had a legal right to distribute the money or not, and no intervention of the Chancellor or any one else, however high his position, would help it in the least.

It was agreed to remit consideration of the matter to the deputation and to the Medical Benefit Subcommittee, with instructions, if need be, to call a special meeting before the next ordinary meeting of the Committee on December 18th.

TREATMENT OF TUBERCULOSIS.

The Sanatorium Benefit Subcommittee reported the receipt of the resolution recently passed by the London County Council (BRITISH MEDICAL JOURNAL, November 8th, p. 1252) as to the provision of treatment of tuberculosis in London. The Subcommittee remarked that the Council was only willing apparently to contribute towards the cost of treatment in the case of uninsured persons. The view the Insurance Committee had placed before the Council was that there were many persons suffering from chronic tuberculosis who only did a little work occasionally, and for whom treatment in institutions should not be provided at the cost of the insurance fund. The Committee had difficulty in dealing with advanced cases, and found a necessity for institutions near the patients' homes. The Committee's expert medical adviser had prepared the following statement as to the accommodation likely to be required on the assumption that 3,000 persons were recommended for sanatorium benefit every year.

1. In hospitals (20 per cent. for an average stay of one month)	50–100 beds
2. In sanatoriums:	
(35 per cent. for three months for therapeutic treatment)	250–300 ,,
(15 per cent. for one month for educational treatment)	50–100 ,,
3. In infirmaries (15 per cent. for an average stay of three months) ...	100–150 ,,

The total number of beds of all kinds required would be between 450 and 650; and since many of the patients remained longer than the estimated time, the higher estimate would probably prove more nearly accurate. The beds in infirmaries were required for advanced cases, which should be removed from their homes mainly with a view to preventing the spread of the disease rather than to effecting an improvement in the patients' condition. The cost of institutional treatment provided in such cases, whether in respect of insured or uninsured persons, should be a charge upon the public health authority and not upon the insurance funds, and the care of such persons should be undertaken by the London County Council. The Committee recommended that a resolution to this effect be passed and forwarded to the Council.

Mr. O. E. WARBURG protested on behalf of the County Council, and moved the following amendment:

> That, in order to enable a comprehensive scheme to be prepared by the London County Council for dealing with tuberculosis, it is essential that the Insurance Committee should have available a sufficient amount to enable it to pay the full cost of proper treatment of insured persons, and that the Insurance Commissioners be so informed.

The CHAIRMAN having ruled the amendment out of order, Mr. WARBURG moved to refer the report back. He reminded the Committee that the allocation of the floating sixpence to the medical profession had reduced the sanatorium benefit fund from 1s. 3d. to 9d. This sum was inadequate to make the fullest provision for tuberculous persons. When the Government decided to make provision for uninsured persons the County Council asked that, if it undertook to treat all classes, it should have a grant of 75 per cent. towards the cost. This was declined by the Chancellor, and the alternative suggestion was made that the County Council should take over the whole of the moneys available in the sanatorium benefit fund and undertake the responsibility of providing for insured, for dependants, and for uninsured alike, the Treasury and the local rates to share the deficiency. Some county councils had accepted this offer, but the London County Council had not. The Council felt that, as Parliament had decided that provision should be made for sanatorium benefit for insured persons, it should provide sufficient funds for the purpose.

Dr. EVAN JONES remarked that the money expended on sanatorium benefit was spent to good purpose as far as the individual insured person was concerned, but was absolutely wasted as far as concerned the improvement of the health of the community. Persons who had spent three months in sanatoriums came back in excellent health, but soon became ill again. He regretted that the London County Council had not put forward a comprehensive scheme, and that the money in the hands of the Insurance Committee had not been used for purposes of prevention. The only way to deal with tuberculosis was for one authority to be the co-ordinating authority, and nothing could be gained by treating one form of the disease and leaving another untouched.

Dr. LAURISTON SHAW urged that advanced cases should be provided for by the sanitary authority on grounds of public health.

Mr. Cyril Jackson said that when the Insurance Act was passed it was expected that it would deal with all forms of tuberculosis; the state of the disease had no connexion with the question. Sanatorium treatment was promised by the Government, and because insufficient funds were provided he did not see why insured people should be put on the rates.

Miss Lawrence contended that the Insurance Act always contemplated that the county councils would bear part of the cost of tuberculosis treatment, and in not carrying out its part the London County Council was neglecting its duty.

The motion to refer the matter back was lost, and the recommendation of the Subcommittee was approved.

It was reported that on November 10th tuberculosis treatment in sanatoriums and other institutions was being given to 542 men and 299 women. Those receiving domiciliary treatment, including 230 discharged from institutions, numbered 680 men and 258 women; dispensary treatment, including 61 discharged from institutions, 256 men and 117 women; hospital out-patient treatment, 59 men and 19 women, making the total number provided for otherwise than in institutions 995 men and 394 women.

Duplication of Medical Benefit Forms.

The Committee decided to ask the Insurance Commissioners not to issue through the post-offices forms which were duplicates of documents prepared by the Insurance Committee. It was stated that the duplication constantly led to confusion, and that in the case of Form Med. 32 a very large number of persons, by using one of the Commissioners' forms, had attempted to obtain a transfer to another doctor during the year, without the consent of the doctor who had accepted them, they having been accepted by a second doctor in perfectly good faith.

The Panel.

The numbers of medical men on the panel which on July 31st were 1,324 practitioners and 72 medical officers of institutions, were on October 31st 1,357 practitioners and 80 medical officers of institutions.

The Medical Benefit Subcommittee reported that under the Medical Benefit Regulations, 1912, the Committee was required to prepare a list of medical practitioners who had signified their desire to undertake treatment, and a list of persons supplying drugs and appliances. The Committee, therefore, agreed that a notice be issued in the *Times* and the medical journals intimating that medical practitioners who desired to join the London medical list to be issued for the year 1914 should make application to the Committee not later than December 8th.

Calculation of Basis of Remuneration.

The Insurance Commissioners having stated that they would not be prepared to approve any additional agreement which did not provide that the remuneration of practitioners should be calculated on the mean of the number of persons on a practitioner's list at the beginning and at the end of each quarter, the Committee passed the following resolution:

> That the number of persons included in the list of practitioners who entered into agreements with the Committee for the quarter ended April 14th, 1913, be ascertained in respect of subsequent quarters by adding the number of persons included at the commencement of each quarter to the number of persons included at the end of the quarter and dividing the total by two.

Pending the settlement of the question of the distribution of persons who had not chosen a doctor, and in view of the fact that each practitioner was affected on the average in the same way by removals from his list consequent upon death, changes of address and transfers, etc., the Committee expressed the opinion that payment in full should be made in respect of the number returned as accepted by practitioners during each quarter of the year just expiring; and that an additional payment on account in respect of treatment rendered during the fourth quarter should be made at once, at the rate of 9d. per insured person, on the number on the list on October 14th, and that payments in final settlement should be adjusted at the end of the medical year.

Representatives of Practitioners on the Panel.

It was reported that in accordance with No. 52 (2) of the Medical Benefit Regulations, 1912, the Committee representing the practitioners on the panel had appointed Dr. Ethel Bentham, Dr. Robert V. Donnellan, and Dr. B. A. Richmond as members of the Medical Service Subcommittee.

Complaints against Medical Practitioners.

Fourteen complaints against medical practitioners were considered. Of these two were found to be substantiated, one to be "technically" substantiated; in one case the action of the doctor was considered open to severe criticism, and in one case the practitioner was held to have committed an error of judgement. In the remaining nine cases the complaints were found to have been unsubstantiated.

MIDDLESEX.

Difficulties Feared in Regard to the New Agreement.

At the meeting of the Middlesex Insurance Committee on December 1st, it was announced that a difficulty had occurred during a conference between representatives of the Local Medical Committee and the General Purposes Subcommittee on the subject of the new agreement. Various concessions to the profession had been agreed at the conference, but the question arose whether, if the Insurance Commissioners withheld their approval, the doctors would accept whatever portion of their demands they could obtain, or feel themselves at liberty to refuse to sign the agreements. If they took the latter course the General Purposes Subcommittee did not propose to support the doctors' case before the Commissioners.

Dr. E. W. Lowry (Chairman of the Local Medical Committee) urged that the profession could hardly say in advance that whatever portion of its demands the Commissioners liked to grant would be accepted.

Dr. H. B. Brackenbury thought that, having come to an agreement with the Committee, the doctors ought to accept the sanction of the Commissioners to as much of their demands as could be obtained and sign the agreement. It would be possible to call together the doctors on the panel, and ask them if they would agree to this. The practitioners on the panel should not be expected to suffer because the Local Medical Committee, not composed wholly of panel practitioners, took action which the doctors working the Act might not entirely approve.

The Committee passed the following resolution:

> That the Committee approves the General Purposes Subcommittee approaching the Commissioners with a view to securing the modifications of the draft agreement as arranged at a conference between them and the representatives of the Local Medical Committee, provided those representatives are prepared to recommend their committee to agree to the agreement in the form settled after conference with the Commissioners.

ABERDEENSHIRE.

A meeting of the Aberdeenshire Medical Benefit Subcommittee was held on November 27th in the County Hall.

New Agreement.—Representatives from the Local Medical and Pharmaceutical Committees were present to discuss the terms of the proposed new agreement. In expressing the views of the Local Medical Committee, Dr. Rorie, chairman of the Local Medical Committee, referred to the uselessness of creating a Panel Committee for the county and the extra trouble it entailed on the practitioners. The Local Medical Committee desired—

1. That each insured person in the county be provided with a proper voucher for identification purposes.
2. That a copy of the rules for the administration of medical benefit be put in the hands of every insured person.
3. That a ruling be given by the Commissioners on the question of the parties to the agreements.
4. That the Commissioners be asked how far, if at all, they can indemnify the panel practitioners in Scotland from any legal action that might be raised by patients whose diseases were openly and truthfully stated on Medical Form 34.
5. That it be clearly understood by the Commissioners that the practitioners reserved their right to withhold the name of the disease from any certificate when they thought the patient's condition might be affected by its insertion.
6. That in Clause 2, eighth line, after "confinement," the model agreement read "or in respect of illness arising from confinement within two weeks."
7. That in Clause 2 (ii) the word "accept" be deleted and "claim" substituted, as the present wording might lead to trickery and conspiracy on the part of evil-intentioned insured persons.

A strong protest was also entered by the Local Medical Commmittee regarding the extraordinary delay in issuing

to regard

information regarding the mileage grant and the new agreement, and definite information was asked about the special mileage treatment to be given to Strathdon and Upper Deeside.

Dr. BRUCE, Secretary of the Local Medical Committee, followed with a detailed criticism of the regulations, many of which the Local Medical Committee held to be unsatisfactory.

Dr. BEDDIE (Fraserburgh) criticized the action of the National Seamen's Union Approved Society, and stated that free choice of doctor was still a dead letter for sailors in the county seaports.

Drs. SKINNER, MAVOR, RANNIE, and HENRY also touched on various points which were unsatisfactory to the panel practitioners, and the chemists' representatives were then heard on the views of the Pharmaceutical Committee.

After a sitting of three hours it was decided that a subcommittee of the Medical Benefit Subcommittee and the Local Medical Committee should meet again on November 29th.

At the meeting of the Subcommittee on November 29th, Drs. Rorie, Bruce, Rannie, Howie (Strathdon), Mavor, and Skinner were present representing the doctors, and the conditions on which the practitioners were willing to accept the new agreement were formulated and forwarded to the Commissioners, it being understood that no agreements should be sent out to the panel practitioners until they had had an opportunity of considering the Commissioners' reply.

INSURANCE NOTES.

LONDON.

The Panel Committee.

DR. J. HOUSTON PORTER, Honorary Secretary of the Shoreditch Medical Union, informs us that at a specially convened meeting of the executive, held on December 1st, to consider the application by the Provisional Panel Committee for the County of London to the Commissioners to recognize a committee elected by themselves to be the Panel Committee under the Insurance Act (Amendment) (1913), it was unanimously resolved to approach the Insurance Commissioners for England to protest against such recognition for the following reasons:

1. It is not, in the opinion of this Union, representative of the present panel practitioners of London.
2. The practitioners in the Borough of Shoreditch dissent from the statement that all the members of the aforesaid Committee have been duly and properly elected in their own boroughs; therefore they consider that they are not representative of the practitioners in their respective boroughs.
3. It will be seen that there are no representatives of two of the metropolitan boroughs, namely, Holborn and Shoreditch.

The Shoreditch Medical Union, which includes all the practitioners in the borough with the exception of two, and of whom all but three are on the panel, therefore earnestly requests the Commissioners to carry out the scheme proposed in their recent circular for the election of a Panel Committee for the County of London, nominations for which have already been sent in by this Union.

South London.

A joint meeting of the Borough of Lambeth Insurance Practitioners' Association and the Borough of Southwark Panel Association was held on November 26th, when ninety-one practitioners were present. Dr. HERBERT TAYLOR was in the chair, and Dr. LAURISTON SHAW was present and gave explanations.

New Agreement.—The meeting discussed the terms of the new draft agreement in conjunction with the alterations proposed at a conference between deputations of the Panel Committee for London and London Insurance Committee. The meeting expressed approval of the suggested alterations, the principal of which were:

Clause 2, Subsection (i), after "him," in line 3, to add "and who produces reasonable proof of being so entitled," and after "confinement," in line 8, "or illness arising from a confinement and within four weeks of such."

Clause 2, Subsection (ii), to change "accept," in first line, to "demand."

Clause 7, line 2, to change "treatment" to "attendances."

Clause 12, Subsection (i), line 4, to change "conveniently" to "reasonably."

Clause 13, Subsection (i), line 3, to add after "patient" "who has complied with the rules of the committee laid down for the proper administration of medical benefit."

Schedule (i), to add, after "certificates," in line 4, "for the purposes of the principal or amending Acts."

A strong feeling was manifested that the terms in which the amount of remuneration are rated in Schedules i and ii do not make it sufficiently plain that the 6d. per annum for persons eligible for sanatorium benefit only exclude a small number of insured persons. The following resolution was carried *nemine contradicente*:

1. This meeting of insurance practitioners working in the boroughs of Lambeth and Southwark desires to represent to the Insurance Commissioners and the London Insurance Committee:
   (1) That the time allowed for consideration of the terms of the new agreement is quite inadequate.
   (2) That some of the new conditions are onerous.
   (3) That the just dues of the panel practitioners have not been met.
   (4) That the obligation on the part of the Insurance Committee to furnish each practitioner with a full list of his patients has not been discharged.

   Therefore, the above-mentioned practitioners urge the desirability of allowing additional time in which their representatives on the Panel Committee may consider the new terms, and that the obligations of the Insurance Committee, both financial and clerical, shall be discharged, or a suitable guarantee given that such obligations shall be discharged before the date of signing the agreement.

London Local Medical Committee.—The proposed election of a Local Medical Committee for London was discussed, and it was resolved:

That any scheme for the election of a Local Medical Committee for London shall provide that candidates must reside in the boroughs they will represent if elected.

A copy of this resolution was sent to the Commissioners.

ALLEGED INTERFERENCE WITH FREE CHOICE OF DOCTOR.

A dispute having arisen in the Pershore district in Worcestershire as to the capitation fee to be paid in respect of uninsured members of friendly societies, the Pershore and District Friendly Societies' Committee recently issued a circular inviting all insured persons to transfer from their present panel doctor to a fresh doctor whom it was proposed to import into the neighbourhood. It was submitted to the Insurance Commissioners that the circular amounted to interference with the principle of free choice of doctor, and in a letter read at the last meeting of the Worcestershire Insurance Committee the Commissioners stated that they would deprecate any action which would tend to obscure the right of free choice among practitioners on the panel. When a notice circulated appeared to have that effect, the Committee should take steps to secure its withdrawal, and if necessary afford any insured persons who had been misled an opportunity of exercising their right of free choice. An application to be placed on the panel was received at the same meeting from a practitioner in Middlesex, and the Chairman remarking that it looked as though the societies were getting a doctor to take the place of the local doctors, it was decided to postpone compliance with the application until the Commissioners had been further consulted.

PROFESSIONAL SECRECY AND PANEL CERTIFICATES.

A medical man who took over not long ago a number of insured persons informs us that, although he always fills up his sickness certificates carefully and gives all the information required by the Regulations, he has been subjected to the annoyance of being visited by agents of approved societies and pressed to give information of various kinds about the patients additional to that on the certificates. He always declines to do so, because he quite rightly considers such inquiries illegitimate. It is one thing to hand a patient himself a paper mentioning the disease from which he is suffering, and quite another to go behind that certificate and enlarge upon the facts that it represents to a third party. Some of his visitors have supported their requests by statements to the effect that other medical men in our correspondent's neighbourhood are not so careful.

IRELAND.

Tuberculosis Schemes.

A central dispensary for county Louth is to be erected at Dundalk at an estimated cost of £1,400, and at the last meeting of the county council it was decided to make

a grant of £700 to Drogheda. Mr. James Wynne, J.P., proposed that the council should consider the advisability of severing its connexion with Peamount and erecting a sanatorium for the county, as patients from Louth had been refused admission to Peamount and the representation was very unsatisfactory.

At the last meeting of the Donegal County Council a letter was received from the Local Government Board suggesting that the county council would do well to establish a central dispensary with accommodation for ten or twelve patients, and that the site selected should be at a suitable centre. It was decided to select a site for a dispensary at Letterkenny.

At the last weekly meeting of the Belbridge Board of Guardians the application of the Kildare County Council for the use of the union dispensaries in connexion with the county council tuberculosis scheme was unanimously granted.

Rubber Stamps.

The judge of the City of London Court had before him on November 27th a case in which an approved society had refused payment of sickness benefit on the ground that the medical certificate in respect thereof was signed with a rubber stamp. On behalf of the plaintiff it was stated that the defendant society had until recently always acted on certificates signed with a rubber stamp, and it was contended that it had no authority to refuse to do so now; it was claimed that the court had full jurisdiction in the matter, on the ground that the dispute was not one covered by the arbitration clauses of the Act, or by the rules of the society. For the defence it was urged that the Insurance Commissioners had issued a circular requesting medical men on panels to sign their certificates with their own hand and not to use rubber stamps, and it was alleged that in some cases housemaids had affixed rubber stamps to certificates without any authority from the doctors. The court ruled that its right to adjudicate was not ousted by anything in the National Insurance Act, that the society had no right to refuse payment on the ground stated, and that the plaintiff was entitled to judgement for the amount claimed, with costs.

CORRESPONDENCE.

[*It is particularly requested that communications intended for publication should be written on one side of the paper only, and should be addressed to the Editor*, British Medical Journal, *429, Strand, London, W.C.*]

The Special Representative Meeting.

Dr. S. J. Ross (Bedford) writes: What a sad reflection it is upon the appreciative power of members of our profession that it is necessary for members of the Association to write to the Journal advising their colleagues not to withdraw their support from the Association! What would have been the position of panel doctors if the Association had not fought and won the battle in respect to remuneration? I understand that many men have improved their financial position by working the Insurance Act. Are these men ashamed to acknowledge that their improved condition is due to the successful efforts of the Association? If not, why do they not come forward and acknowledge the work of their benefactors? Let them remember that the "non-panel" men are attacking the Association for not safeguarding their interests. Why, then, are the panel men silent? We have before us two important matters so far as the future of the Association is concerned:

1. The increase of the annual subscription to £2 2s. a year.

2. The formation of a fund for the reorganization of the profession, and for which an annual subscription of £4 4s. a year is asked.

With regard to the increase in the annual subscription, there can be but one opinion. It is not only necessary, but urgently necessary. I know that there are men who question the practical utility of many of the articles published in the Journal. These men are blind to their own interests and, therefore, to the interests of their patients. The object of the Journal is educational, and it would, indeed, be a useless publication to the thoughtful and progressive readers if it merely published records of cases of which experience has already made us cognisant. With regard to reorganization I am confident that all thinking members of the profession will regard this as an absolute necessity; and, if so, they must be prepared to pay for the same. Some of us are apt to think that the fight with the Government is over. It is just beginning. Already we have a notice of new conditions for 1914. Then we shall naturally turn to our Association for help, and this help will not, and cannot, be forthcoming if the war chests be empty. We know that the Association *will* fight our battles if we supply the financial support necessary. It is not my battle nor Smith's. It is a fight to maintain the dignity of the profession as a whole. We have lost prestige, not from any action of the Association, but because we have acted selfishly. We have been taught a lesson, and if we have not profited thereby it is not the fault of the Association, but entirely through our own folly. We have passed through one crisis. Let us be prepared for another before very long, and let us see that we have not a worn-out, because financially crippled, Association to fight our battles, but an Association vigorous and strong, which has not to cheesepare to save itself from bankruptcy. Let our practical gratitude be shown to the Association for its assistance in the past by voting at the next Representative Meeting approval of the increased subscription and unanimous support of its reorganization scheme.

The Special Fund.

Dr. Theo. Martin Cuthbert (Newport, Shropshire) writes: It would appear that in order to make this fund a success it is necessary that 10,000 members join it. To my mind it is of paramount importance that before the fund is launched these 10,000 sign a promise to become subscribers. My reason is that otherwise only a certain number will actually pay the subscription, and, as in the case of the Defence Fund, this certain number will pay for the benefit of the whole.

The Local Medical and Panel Committees.

Dr. Charles A. Cooke (Plymouth) writes: One of Browning's minor poems tells how a dignitary of the Church, as a sign of humility, kept his father's "humble fisher net" hanging up in his palace; but when he had reached a still higher position in the Church and one of absolute security, the net was seen no more. Some one had the curiosity to inquire of him, "Why, Father, is the net removed?" and he replies: "Son, it hath caught the fish!"

Substitute sweet reasonableness for humility, and the Insurance Commissioners are in a similar case.

Last December, when doctors were wavering and uncertain what to do, a pamphlet, entitled An Explanatory Statement, was issued broadcast by these gentlemen; that pamphlet, after referring to the Local Medical Committee, which it defined as a body elected by the medical profession of the area, stated:

> Thus, through the Local Medical Committee, the profession have security that their collective views shall have full consideration in any arrangements that are made.

This appeared to be a fair and equitable arrangement, and it no doubt helped to attract men to taking service under the Act. Now, however, that it has served its purpose the Commissioners have created another Medical Committee, which is placed on a level with the Local Medical Committee, is called the Panel Committee, and is elected not by the profession but by a section of it.

Can it be doubted that the effect will be to undermine the Local Medical Committee, which will die a natural death, leaving the Panel Committee as *the* medical committee of the future?

Possibly the Commissioners may have this very object in view. Medical Committees elected under their aegis, consisting everywhere largely, and in many places altogether, of men in their service, and for the expenses of which they make themselves responsible, might prove much more amenable than the more independent Local Medical Committees.

The unfortunate thing about it from a medical point of view is that it will widen the breach between the "panel" and "non-panel" sections of the profession, and we all know that weakness lies in disunion.

If the attitude of the Government towards the medical profession is truly reflected by the newspaper which is commonly held to be almost a Government organ, then I venture to recommend a perusal of a leading article which appeared in that paper (the *Daily News and Leader*) on November 1st, 1913, in which contempt is poured on the present panel service, hints of radical changes which are to come are indulged in, and a sour attack is made on the British Medical Association.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1913.

(*Continued from page 492.*)

On Thursday, November 27th, Mr. Tomes was again called upon to take the chair, and read a letter from the President, Sir Donald MacAlister, thanking the Council for the resolution of sympathy it had adopted on Nov. 25th.

On Friday, November 28th, Mr. Tomes was again called on to take the chair.

Examination Committee.

The Apothecaries' Hall of Ireland.

Sir Charles Ball moved, Dr. Norman Walker seconded, and it was resolved:

That the Report of the Examination Committee on the communications furnished by the Apothecaries' Hall of Ireland, in reply to the resolution of the Council, be received and entered on the Minutes.

The Chairman of the Committee (Sir Charles Ball) said that the report dealt with a letter, dated August 11th, 1913, received from the Apothecaries' Hall in answer to a formal report of the Examination Committee in May last. The reply contained a large number of inaccuracies. The Apothecaries' Hall complained in the first place that the Examination Committee exceeded the reference made to it in the report presented in May. As there were many new members of the Council since it had been held necessary to have special supervisions of the examinations of the Apothecaries' Hall, the Committee considered it advisable to give a brief outline of the history as gathered from the minutes which had led up to that action. The Committee also had to consider whether with the information before it at the present time special supervision was still necessary. It also had to report whether the special supervision in the shape of the examiners' reports was the best form which could be adopted. The Committee, therefore, reported accordingly. He then took the Council through the various stages of the dispute set out in the report, and concluded by moving, "That the Medical Council direct the Registrar to transmit the above report to His Majesty's Most Honourable Privy Council for their Lordships information."

Dr. Norman Walker seconded.

Dr. Adye-Curran had not intended to make any reply on behalf of the Apothecaries' Hall, but he felt obliged to say that Sir Charles Ball seemed to be trying to mislead the Council. Sir Charles Ball knew that a mistake had been made with the appointment of Dr. Finny as an inspector, and he had tried to place the blame on the Apothecaries' Hall. The meaning of the word "inspector" was quite clear, and all members of the Council knew that it was under the Act of 1886 that an inspector could be appointed, and not under the Act of 1858. A man appointed under the Act of 1858 could be called a "visitor," but could not be paid for his services. The fact that Dr. Finny was paid 50 guineas confirmed the fact, apparently, that he was an inspector, but inasmuch as he was appointed under the 1858 Act he was not legally an inspector. Dr. Adye-Curran said that he did not wish to go over the points of the report seriatim, but only to say that the case for the Apothecaries' Hall was fully set out in the letter, and the case for the Committee in its report. His (the speaker's) last point was that if Dr. Finny reported to the Council as an inspector he would be acting illegally.

Sir John Moore said that Dr. Finny was appointed in no sense under the Act of 1886. He was appointed under Section 18 of the Act of 1858. The Act of 1886 referred only to the qualifying examinations in medicine, surgery, and midwifery. It took no cognizance of the examinations which led up to the qualifying examinations. Dr. Finny was appointed to visit, inspect, and report upon the examinations prior to the qualifying examination.

Mr. Thomson wished to know if the mere attendance at an examination as a visitor constituted the person so attending an inspector.

Dr. Saundby said that if the Council appointed a gentleman to "visit," using the word of the Act, his duty was to attend and report to the Council. The question of whether payment was legal might have to be raised.

Dr. Adye-Curran moved and Sir Charles Ball seconded:

That the question of the legality of the appointment of Dr. Finny be referred to the legal advisers of the Council.

Sir Charles Ball pointed out that Dr. Finny could not be a "visitor" in any circumstances. A "visitor" must be a member of the Council.

After some further discussion, the Chairman put the motion, which was lost on a show of hands.

Dr. Adye-Curran asked that the names and numbers be taken.

This being done, the voting was: 8 for, 17 against; 8 did not vote, 5 absent.

The Chairman then put the recommendation of the Examination Committee:

That the Medical Council direct the Registrar to transmit the above report to His Majesty's Most Honourable Privy Council for their lordships' information.

This was carried.

Sir Charles Ball asked for the names and numbers to be taken, which resulted as follows: 26 for, 2 against, and 4 not voting; 6 absent.

Sir Charles Ball, in presenting the report of the Examination Committee on the Final Examinations (July and October) of the Apothecaries' Hall of Ireland, said that the only thing to be noted in the report was a letter from Dr. Adye-Curran to Mr. Maunsell protesting against his acting in the capacity of surgical examiner, as he had not been legally appointed.

Dr. Adye-Curran, justifying his letter against Mr. Maunsell's appointment, said that it was not a personal letter; he was directed to send it by the Apothecaries' Hall.

The report was received and entered on the minutes.

Examinations for the Services.

Sir Charles Ball presented the report of the Examination Committee on the returns for the services received since the last session of the Council. The important point to be gathered from it was, he said, that there still appeared to be a serious shortage in the number of candidates for commissions in the Royal Navy. The report was received and entered on the minutes.

Exemptions from Examinations.

A report by the Examination Committee on exemptions granted by British licensing bodies to students who have taken part of their examinations at institutions whose qualifications did not entitle to registration in the United Kingdom was received and entered on the minutes.

Insurance Act Committee.

On Saturday, November 29th, the Chairman, Mr. Tomes, said that the next business was to receive a report from the Insurance Act Committee. The Committee had held a number of meetings during the Session under the Chairmanship of Dr. Langley Browne, in the absence of the President, and desired to report to the Council. Circumstances rendered it advisable to discuss the report *in camera*, and the Chairman concluded by asking Dr. Langley Browne to move.

Dr. Langley Browne said that as the Committee was not yet ready to make a full report, he would move:

That the Minutes of the National Insurance Act Committee shall be read to the Council *in camera*, and the Council shall then decide what action shall then be taken.

Dr. Norman Moore seconded the motion, which was carried, and strangers and the Press were directed to withdraw. On readmission:

Dr. Langley Browne moved, and it was resolved, that the letters, the subject matter of discussion *in camera*, be read.

The Registrar then read the following letters:

299, Oxford Street, London, W.,
March 14th, 1913.

To the Chairman of the National Insurance Commission.

Dear Sir,—The attention of the Executive Committee of the General Medical Council has been called to a number of communications in which it is alleged that objectionable methods of advertising and of canvassing have been employed in various parts of the country with the object of procuring the enrolment of insured persons or their dependants as the

patients of particular medical practitioners. In some instances it is stated that the advertisements were so framed as to suggest that they were issued with the cognizance of the Insurance Commission or of local insurance authorities; in other instances touting or canvassing for patients is said to have been practised in the supposed interest of approved societies and institutions, and of medical practitioners associated with the National Health Insurance Service.

The General Medical Council has repeatedly taken steps to inform practitioners themselves of the grave liability they incur by resorting to practices of the kind, and has more than once had to exercise its disciplinary functions in restraint of wilful offenders. It appears, however, to the Executive Committee that some of the local authorities, institutions, and societies concerned with the administration of medical benefit under the National Insurance Act may have acted in ignorance of the principles which guide professional conduct in relation to advertising and canvassing, and have thereby seriously endangered the position of practitioners who are professionally associated with them. The Executive Committee is accordingly of opinion that it would subserve the public interest, and conduce to the proper administration of the National Insurance Act by the bodies in question, were the Commissioners to call the special attention of all Insurance Committees, Local Medical Committees, and approved societies and institutions to the appended warning notices, which were published by the General Medical Council on June 6th, 1889, and December 1st, 1905, and are still operative.—I am, Sir, yours faithfully,

Donald MacAlister, President.

The General Medical Council consider that, in the interests of the medical profession, it is advisable to bring to the notice of its members certain resolutions which have from time to time been adopted as expressing the views of the Council upon certain forms of professional misconduct which have been or may be dealt with as amounting to "infamous conduct in a professional respect" within the meaning of Section 29 of the Medical Act, 1858. The Council, however, wish it to be distinctly understood that these resolutions are not exhaustive of the forms of professional misconduct which may be dealt with by the General Medical Council under their disciplinary powers, and that the Council are not in any way precluded from considering and dealing with any form of professional misconduct outside the scope or precise language of the following resolutions:

(*June 6th, 1889*).—That the Council strongly disapproves of medical practitioners associating themselves with medical aid associations which systematically practise canvassing and advertising for the purpose of procuring patients.

Resolution adopted by the General Council on December 2nd, 1901.

Whereas it has been made to appear to the General Medical Council that certain registered medical practitioners, who keep medical halls or open shops in which scheduled poisons or preparations containing scheduled poisons are sold to the public, have been accustomed to leave in charge of such halls or shops assistants who are not legally qualified to sell scheduled poisons to the public; and that such practitioners have thereby, for their own profit, and under cover of their medical qualifications, enabled such unqualified assistants to sell scheduled poisons and so to commit breaches of the law; and whereas, in the opinion of the Council, such practices on the part of a registered medical practitioner are professionally discreditable and fraught with danger to the public, the Council hereby gives notice that any registered medical practitioner who is proved to have so offended is liable to be judged as guilty of "infamous conduct in a professional respect," and to have his name erased from the *Medical Register* under the 29th Section of the Medical Act, 1858.

The following letter, dated November 26th, 1913, and signed by the Registrar, was sent to a practitioner:

The attention of the Council has been drawn to posters issued by the —— Medical Aid Society, on one of which your name appears in large letters, and on others of which your name does not appear, but advertisements with regard to medical attendance appear. I have been directed to bring to your notice the enclosed letter addressed by the General Medical Council to the National Insurance Commissioners, together with a copy of the warning resolutions it has issued in regard to canvassing and advertising. In times past the Council has dealt severely with practitioners who have been proved to have been associated with societies affording medical aid which advertised or canvassed for members, and I am directed to draw your special attention to this resolution of the Council in order that you may avoid doing or permitting by inadvertence anything of this nature to which exception could hereafter be taken.

The following letter, dated November 26th, 1913, and signed by the Registrar, was addressed to the Secretary of the Medical Aid Society with whom the above-mentioned practitioner was connected:

My attention has been drawn to the posters issued by your society on one of which the name of —— appears in large letters and on others of which, although the name does not appear, advertisements with regard to medical attendance are printed. I have been directed to bring to your notice the enclosed letter addressed by the General Medical Council to the National Insurance Commissioners, and to a warning resolution with regard to advertising and canvassing, a copy of which I also enclose. I have to point out that any medical practitioner who is proved to have been connected with any society affording medical aid which contravenes these resolutions renders himself liable to be severely dealt with by the Council, and in the interest of any doctor connected with your society it is of the utmost importance that the greatest care should be taken to avoid anything of the nature of the practices referred to, which might lead to a complaint being made against him. I am drawing your attention to the matter so that your society may not inadvertently do, or permit, anything to which exception may hereafter be taken.

Mr. Verrall, in view of the importance of the matter, moved:

That this Council urges the Joint Commissioners under the National Insurance Act to exercise their power and influence to prevent the delivery in batches of forms of request for transfer of an insured person to another practitioner, a course which directly leads to the encouragement of canvassing, and to insist on the obvious intention of the Act—that such application should be made by an insured person on a form obtained by himself from his Local Insurance Committee.

The Council, he was sure, would desire to exercise its duty and privilege in the direction of guiding practitioners into the paths of safety rather than solely concerning itself with the exercise of its disciplinary powers. Representation having been made to himself and his colleagues, who were essentially the direct representatives of the profession on the Council, that the issuing of these documents in bulk did directly lead to canvassing and its consequences, they had thought it their duty to bring the matter before the Council. He would like to add that they hoped that the Commissioners would not suppose that in passing this resolution the Council desired to do anything which would hamper the Commissioners in their work. It was suggested that the matter might be brought before the Commissioners in the hope that they would, so far as in them lay, co-operate with the General Medical Council in the prevention of canvassing.

Dr. Macdonald, in seconding, said that he could not add much to what had been said. Evidence of canvassing had become so glaring that the Council should take steps to prevent it in the future.

Dr. Latimer supported the motion. He did not desire to discuss the matter fully, and would only say that his attention had been called to the fact that the result of the giving these documents in batches was such that there was great danger lest the medical man who wished to act in an ethical manner should be drawn into a vortex and tempted to act in an unethical way. The object in view was to prevent that taking place and to give fair play to those medical men who had accepted the panel system and were actually desirous of working it honestly—to do so without having to act in opposition to organized bodies of men who were canvassing their patients.

The resolution was then put and carried *nemine contradicente*.

Dr. Norman Moore moved, Sir Henry Morris seconded, and it was resolved, to add Mr. Verrall's name to the Insurance Act Committee.

Warning Notice Relating to Certificates.

Sir John Moore moved to amend the Warning Notice relating to "certificates" as follows:

(i) In the preamble to the notice, after the word "certificates" insert the words "notifications or documents of a similar character."

(ii) In the list of "certificates" after (*j*) insert "(*k*) Under the Notification of Infectious Diseases (1889) Act, the Infectious Diseases Prevention Acts of 1890 and 1896, and in regard to the notification of tuberculosis."

He said that there was no provision in the Warning Notice of the Council with regard to notifications, and it seemed likely in the future that complaints would be made to the Council with regard to notifications.

Dr. Pye-Smith seconded.

Dr. Newsholme considered that the wording suggested

by Sir John Moore did not cover the case. He thought part (ii) should read:

In the list of "Certificates" after (*j*) insert "(*k*) Under Acts and Regulations relating to the notification of infectious disease."

That, he said, would make it more general, and moved accordingly.

Sir JOHN MOORE, with the consent of his seconder, accepted the alteration, if Dr. Newsholme would leave in the words at the end "including tuberculosis."

After some further discussion the recommendation as amended was received and entered on the minutes, and referred to the Public Health Committee in conjunction with the Legal Adviser to settle the form.

VOTE OF THANKS TO CHAIRMAN.

At the conclusion of the business a hearty vote of thanks was accorded to Mr. Tomes for his conduct in the chair during the sessions, and the proceedings terminated.

[Owing to the pressure on space caused by the report of the Special Representative Meeting we are obliged to postpone the publication of the report of the proceedings in certain disciplinary cases before the Council.]

(To be continued.)

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ARGYLL AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer (male). Salary, £200 per annum.

BIRMINGHAM CITY HOSPITAL.—Assistant Resident Medical Officer. Salary, £150 per annum.

BRENTFORD UNION.—First Assistant to the Medical Superintendent of the Infirmary and Medical Officer of Workhouse and Schools. Salary, £85 per annum, increasing to £200.

BRIGHTON THROAT AND EAR HOSPITAL, Church Street.—Non-Resident House-Surgeon. Salary at the rate of £150 per annum.

BRISTOL ROYAL INFIRMARY.—Throat, Nose, and Ear House-Surgeon. Salary, £100 per annum.

CAMBRIDGESHIRE COUNTY COUNCIL.—Assistant County Medical Officer (female). Salary, £300 per annum, rising to £350.

CANCER HOSPITAL, Fulham Road, S.W.—Medical Registrar. Honorarium, £100 per annum.

CANCER HOSPITAL RESEARCH INSTITUTE, S.W.—Assistant in the Chemical Department. Salary, £200 per annum.

CARDIFF: KING EDWARD VII HOSPITAL.—(1) Two Honorary Assistant Physicians; (2) Senior Resident Medical Officer. Salary, £120 per annum.

CARMARTHEN: JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary, £180 per annum, rising to £200.

CHESTER COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £200 per annum.

CHESTER GENERAL INFIRMARY.—House-Surgeon. Salary, £100 per annum.

CLAPHAM MATERNITY HOSPITAL.—Medical Woman as Assistant. Salary, £50 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—(1) House-Physician; (2) House-Surgeon. Salary, £100 per annum each.

COLONIAL OFFICE.—(1) Supernumerary Medical Officer in Trinidad; salary, £250. (2) Assistant Medical Officers in Honduras; salary, £350. (3) Supernumerary Medical Officer in the Leeward Islands; salary, £250.

COVENTRY AND WARWICKSHIRE HOSPITAL.—House-Physician. Salary, £110 per annum.

CROYDON GENERAL HOSPITAL.—Vacancy on Honorary Medical Staff.

DUMFRIES COUNTY AND BURGHS.—Two Medical Assistants to the Medical Officers of Health and School Medical Officer. Salary, £250 per annum, rising to £300.

DUNDEE MATERNITY HOPITAL.—Outdoor Assistant. Salary at the rate of £40 per annum if resident, and £90 if non-resident.

EDAY PARISH.—Medical Officer. Salary, £70 per annum, and appointments £20.

EDINBURGH: LIVINGSTONE DISPENSARY.—Resident Medical Officer (male). Salary at the rate of £80 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at rate of 100 guineas per annum.

GLASGOW DISTRICT MENTAL HOSPITAL, Gartloch.—Junior Medical Officer. Salary, £200 per annum.

GLENALMOND: TRINITY COLLEGE.—Resident Medical Officer.

GOVAN DISTRICT ASYLUM, Crookston.—Senior and Junior Assistant Medical Officers. Salary, £250 and £200 per annum respectively.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

GREENOCK: SMITHSTON POORHOUSE AND ASYLUM.—Assistant Medical Officer. Salary, £150 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Third House-Surgeon. Salary, £80 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

HOSPITAL FOR DISEASES OF THE SKIN, Blackfriars, S.E.—Clinical Assistant.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—(1) Casualty Medical Officer; salary, £200 per annum. (2) House-Surgeon; salary, £50 for six months and £2 10s. washing allowance.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £80 per annum.

KENT COUNTY ASYLUM, Maidstone.—Fourth Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

LEEDS GENERAL INFIRMARY.—(1) House-Physician; (2) House-Surgeon.

LEEDS INFECTIOUS DISEASES HOSPITALS AND SANATORIUMS FOR TUBERCULOSIS.—Assistant Medical Officer. Salary, £130 per annum.

LEEDS PUBLIC DISPENSARY.—Honorary: (1) Physician; (2) Surgeon; (3) Surgeon to the Eye Department; (4) Pathologist.

LIVERPOOL STANLEY HOSPITAL.—Two House-Physicians. Salary, £75 per annum each.

LOWESTOFT HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

MACCLESFIELD GENERAL INFIRMARY.—House-Surgeon. Salary, £125 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

MANCHESTER CORPORATION.—(1) Assistant to the Medical Officer of Health; salary, £300 per annum. (2) First and Third Medical Assistants at the Monsall Fever Hospitals; salary, £200 and £130 per annum respectively.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer and Pathologist. Salary, £60 per annum.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for Outpatients. Salary at the rate of £100 per annum.

MARYLEBONE UNION INFIRMARY.—Third Assistant Medical Officer. Salary, £50 for six months.

MILE END OLD TOWN UNION.—Junior Assistant Medical Officer. Salary, £140 per annum, rising to £160.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.—(1) Honorary Assistant Ophthalmic Surgeon; (2) Honorary Physician.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Pathologist. Salary, £250 per annum.

NEWCASTLE-UPON-TYNE CITY ASYLUM, Gosforth.—Junior Assistant Medical Officer (male). Salary, £160 per annum, rising to £200.

NORTHAMPTON GENERAL HOSPITAL.—Senior Resident Medical Officer. Salary, £120 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—Assistant in the Electro-therapeutic Department.

NOTTINGHAM EDUCATION COMMITTEE.—Third Medical Inspector. Salary, £300 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary, £220 per annum.

ORKNEY: PARISH OF SHAPANSEY.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer. Salary, £200 per annum.

PERTH: JAMES MURRAY'S ROYAL ASYLUM.—Assistant Medical Officer. Salary, £200 per annum.

PLAISTOW MEDICAL MISSION HOSPITAL.—Junior Resident Medical Officer for Dispensary.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £90 per annum.

POOLE: CORNELIA HOSPITAL.—Honorary Assistant Surgeon.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—House-Physician (male). Salary, £80 per annum.

RICHMOND: ROYAL HOSPITAL.—Assistant House-Surgeon. Salary, £70 per annum.

ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL.—Resident House-Surgeon. Salary at the rate of £150 per annum.

ROYAL EYE HOSPITAL, Southwark, S.E.—(1) Senior and Junior House-Surgeons. Salary, £70 and £50 per annum respectively. (2) Clinical Assistants.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Assistant Surgeon.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Resident Medical Officer. Salary at the rate of £120 per annum.

SCOTLAND'S MISSION HOSPITAL, Ichang, China.—Medical Missionary as Locumtenent; also Medical Missionary for the Kikuyu Mission, British East Africa.

SHETLAND: PARISH COUNCIL OF WALLS, etc.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

SHREWSBURY DISPENSARY.—Two Vacancies on the Medical Staff.

SOMERSET AND BATH ASYLUM, Cotford, Taunton.—Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

SOUTHAMPTON: FREE EYE HOSPITAL.—House-Surgeon. Salary, £100 per annum.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon. Salary, £100 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

WAKEFIELD: WEST RIDING ASYLUM.—Assistant Medical Officer (male). Salary, £200 per annum, rising to £230, and upon promotion to £340.

WALSALL AND DISTRICT HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

WARWICK COUNTY ASYLUM, Hatton.—Second Assistant Medical Officer (male). Salary, £200 per annum.

WEST AFRICAN MEDICAL STAFF.—Appointments to the Service. Salary, £400, rising to £600, with prospect of promotion to higher posts, with salaries ranging up to £1,200.

WEST HAM UNION.—Second Assistant Resident Medical Officer (male). Salary, £140 per annum, rising to £160.

WESTERN OPHTHALMIC HOSPITAL, Marylebone Road, W.—Honorary Assistant Surgeon.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary, £100 per annum.

WORCESTER GENERAL INFIRMARY.—(1) Resident Medical Officer; (2) Clinical Assistant and Dispenser. Salary, £150 and £80 per annum respectively.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Kidsgrove (Stafford); Redhill (Surrey).

MEDICAL REFEREES.—The Home Secretary announces the vacancy for the office of Medical Referee under the Workmen's Compensation Act, 1906, for York, Thirsk, Helmsly, and Easingwold County Courts.

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

DAVIES, H. Morriston, F.R.C.S., Honorary Surgeon to the City of London Hospital for Diseases of the Chest, Victoria Park, E.

DONALDSON, J. Blair, L.R.C.P. and S.E., Senior House-Surgeon to the South Devon and East Cornwall Hospital.

FURNESS, Harold S., M.D., B.S., House-Surgeon to the Royal Free Hospital, Gray's Inn Road, W.C.

GREAT NORTHERN HOSPITAL, Holloway Road, N.—The following appointments have been made:
Resident Medical Officer.—C. E. Shattock, M.D., B.S.Lond., F.R.C.S.Eng.
Junior House-Physician.—A. E. W. Idris, M.R.C.S.Eng., L.R.C.P.Lond.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

DEATH.

PRICE.—On November 28th, at Priory Street, Carmarthen, suddenly, Rees Griffiths Price, M.D., aged 62.

DIARY FOR THE WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 p.m.—Sir Anthony Bowlby and Mr. D'Arcy Power: (1) A Case of Aneurysm of the Arch of the Aorta treated by Colt's Method of Wiring. (2) Mr. T. H. Kellock: Circumcision: The Advantages of a Modified Operation.

TUESDAY.

ROYAL SOCIETY OF MEDICINE:
SECTION OF PSYCHIATRY, Royal Bethlem Hospital, St. George's Fields, S.E., 4.30 p.m.—Demonstration of Cases.
SECTION OF SURGERY, 5.30 p.m.—Papers:—Mr. Gilbert Kempe: Brachial Arterio-venous Aneurysm Successfully Treated by Vascular Suture. Mr. V. Zachary Cope: The Early Diagnosis and Treatment of Ruptured Intestine. Mr. H. Betham Robinson: Case of Endothelioma of the Breast.

WEDNESDAY.

HUNTERIAN SOCIETY, St. Bartholomew's Hospital, 9 p.m.—Short Papers.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne Street, Edgware Road, W., 8.30 p.m.—Paper:—Sir Ronald Ross: The Study of Infections by Enumerative Methods.

ROYAL SOCIETY OF MEDICINE:
SECTION OF NEUROLOGY, 8 p.m.—Demonstration of Cases and Specimens.
SECTION OF SURGERY: SUBSECTION OF ORTHOPAEDICS, 4.30 p.m.—Mr. C. Max Page: An Apparatus for the Reduction of some Deformities of the Joints, with special reference to the Knee. Mr. R. C. Elmslie: Two Cases of Paralysis of the Serratus Magnus and Trapezius with Deformity of an Unusual Type.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Grosvenor Road, S.W., 5 p.m.—Paper:—Surgeon-General Sir Launcelot Gubbins: Jean Dominique, First Baron Larrey: His Life and Work.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:
CLINICAL SECTION, 8.30 p.m.—Dr. F. Parkes Weber: Case of Chronic Myelocytic Leukaemia treated by Benzol, etc. Mr. Arthur Evans: Case of Suppression of Urine after Operation for Acute Appendicitis Cured by Double Nephrotomy. Mr. Thomas H. Kellock: Three Cases of Malignant Disease after Treatment with Radium. Dr. Frederick S. Palmer: Case of Congenital Heart Disease with Hemiplegia.
SECTION OF DISEASES OF CHILDREN, 4.30 p.m.—Discussion on Enlargement of the Spleen in Children, to be opened by Dr. Robert Hutchison and Sir John Bland-Sutton, followed by Dr. G. A. Sutherland and others.

POST-GRADUATE COURSES AND LECTURES.

BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Wednesday, 4.30 p.m., Lecture: Interlobar and Encysted Empyemata.

DUBLIN: ROTUNDA HOSPITAL.—Post-graduate Course on the Theory and Practice of Obstetrics and Gynaecology.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS, at 4.30 p.m. each day.—Tuesday, Salford Royal: Demonstration of Medical Cases. Wednesday, Royal Infirmary: Cardiac Muscle Failure. Thursday, Ancoats: New Operative Treatment of Fractures of the Arm. Friday, Royal Eye: Chronic Glaucoma.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies Street, W.C.—Clinical Demonstrations at 4 p.m. each day: Monday, Skin; Tuesday, Medical; Wednesday, Surgical; Thursday, Surgical; Friday, Ear, Nose, and Throat. Lectures at 5.15 p.m. each day.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Tuesday, 3.30 p.m., Pellagra; Friday, 3.30 p.m., Apraxia in Relation to Aphasia.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Medical and Surgical Clinics and Operations at 2.30 p.m. daily. Also Monday, Throat: Tuesday, Gynaecology; Wednesday, Skin, Eye, Children, X Rays; Tuesday and Friday, Eye. Special Lectures and Demonstrations on Tuesday and as announced.

SHEFFIELD UNIVERSITY.—Clinical Demonstrations:—Tuesday, Royal Hospital: When to Remove Tonsils and Adenoids. Friday, Royal Infirmary: The Treatment of Diabetes.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, X Rays, and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday. A lecture at 5 p.m. daily, except Saturday.

[*For further particulars of Lectures consult the Index to Advertisements.*]

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		DECEMBER.
5	Fri.	**Extraordinary General Meeting**, Connaught Rooms, Great Queen Street, London, W.C., 11 a.m.
9	Tues.	London: Metropolitan Counties Branch Council, 4 p.m. West Somerset Branch, Taunton, 4.30 p.m.; Annual Dinner, 7 p.m.
10	Wed.	London: Insurance Act Maternity Benefit Subcommittee, 4 p.m. London: Insurance Act Tuberculosis Benefit Subcommittee, 6 p.m. Altrincham Division, Altrincham.
11	Thur.	Insurance Act Committee (*Provisional*).
12	Fri.	London: Public Health Committee, 11.30 a.m. City Division, Manchester Hotel, Aldersgate Street, E.C., 9.30 p.m.

Date.		Meetings to be Held.
		DECEMBER (*continued*).
17	Wed.	Manchester Royal Infirmary, 4.30 p.m.
18	Thur.	South-West Essex Division, Walthamstow Hospital, 4 p.m.
19	Fri.	Newcastle-on-Tyne Division, Royal Victoria Infirmary, Scientific Demonstrations, 3.15 to 6 p.m.
23	Tues.	East Africa and Uganda Branch, Namirembe, Kampala.
		1914.
		JANUARY.
6	Tues.	Altrincham Division, Executive Committee, Altrincham.
22	Thur.	Altrincham Division, Annual Meeting, Altrincham.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 13TH, 1913.

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British Medical Association.

EXTRAORDINARY GENERAL MEETING.

NOTICE is hereby given that an Extraordinary General Meeting of the British Medical Association will be held at the registered offices of the Association, No. 429, Strand, London, W.C., on Tuesday, the 23rd day of December, 1913, at 2 o'clock in the afternoon, when the subjoined Resolution which was passed (in manner required for the passing of an Extraordinary Resolution) at the Extraordinary General Meeting of the Association held on the 5th December, 1913, will be submitted for confirmation as a Special Resolution, namely:

That the provisions of the Association's Memorandum of Association with respect to its objects be altered so as to read as follows:

3. The objects for which the Association is established are:—

(1) To promote the medical and allied sciences, and to maintain the honour and interests of the medical profession.

(2) To hold or arrange for the holding of periodical meetings of the members of the Association and of the medical profession generally.

(3) To circulate such information as may be thought desirable by means of a periodical journal, which shall be the journal of the Association, and by the occasional publication of transactions or other papers.

(4) To grant sums of money out of the funds of the Association for the promotion of the medical and allied sciences in such manner as may from time to time be determined on.

(5) Subject to the provisions of Section 19 of the Companies (Consolidation) Act 1908 to purchase take on lease exchange hire or otherwise acquire any real and personal property and any rights or privileges necessary or convenient for the purposes of the Association.

(6) To sell improve manage develop lease mortgage dispose of turn to account or otherwise deal with all or any part of the property of the Association.

(7) To borrow any moneys required for the purposes of the Association upon such terms and upon such securities as may be determined.

(8) To do all such other lawful things as may be incidental or conducive to the promotion or carrying out of the foregoing objects or any of them.

Provided that the Association shall not support with its funds any object or endeavour to impose on or procure to be observed by its members or others any regulation restriction or condition which if an object of the Association would make it a trade union.

By Order of the Council,

GUY ELLISTON,
Financial Secretary and Business Manager.

Dated this 12th day of December, 1913.

Clause 3 of the present Memorandum of Association reads as follows:

3. The objects for which the Association is established are the promotion of medical and the allied sciences, and the maintenance of the honour and interests of the medical profession by the aid of all or any of the following:—

(*a*) Periodical meetings of the members of the Association, and of the medical profession generally in different parts of the country.

(*b*) By the publication of such information as may be thought desirable in the form of a periodical journal, which shall be the journal of the Association.

(*c*) By the occasional publication of transactions or other papers.

(*d*) By the grant of sums of money out of the funds of the Association for the promotion of the medical and the allied sciences in such manner as may from time to time be determined on.

(*e*) And such other lawful things as are incidental or conducive to the attainment of the above objects.

SPECIAL REPRESENTATIVE MEETING.

(Concluded from page 503.)

Friday, December 5th, 1913.

PROPOSED SPECIAL FUND.

When the proceedings of the Special Representative Meeting were resumed on Friday, December 5th (Mr. T. Jenner Verrall in the chair), consideration of proposals regarding the establishment of a Special Fund was continued.

Proposed Campaign on Behalf of the Special Fund.

The Chairman explained that in view of the action taken the previous day the following motion by the Rochester, Chatham, and Gillingham Division came next for consideration:

> That in the event of the defeat of the Special Fund Scheme at the Representative Meeting, this meeting urges the Council to authorize a further campaign in its favour. Such campaign to be carried out by sending men well versed in the scheme to address meetings of the profession in various parts of the country.

The Chairman advised the meeting, if it passed the resolution, and thereby decided to keep the matter of the Special Fund alive, to decide further whether it should consider the scheme in all its details or leave them to be worked out subsequently by the Council.

Mr. Bishop Harman (Marylebone) wished to challenge the validity of the ruling of the Chairman at the meeting on the previous day that the motion for the establishment of a Special Fund required a two-thirds majority. He understood the latter part of By-law 31 to mean that a resolution carried by a simple majority of the meeting was deemed to be a decision of the Association.

The Chairman admitted that it was a very narrow and difficult point. He had given his ruling after consultation with the Solicitor, and he did not think he would be acting wisely if he allowed it to be challenged now. He added, in reply to a question, that the adoption of the motion of the Rochester, Chatham, and Gillingham Division would not affect the power of the Council to take a referendum on that or any other proposal.

Dr. Fothergill (Brighton) suggested that the meeting, before instructing the Council to undertake any campaign on behalf of a Special Fund, should discuss in detail the present proposal, and see what measure of agreement there was on the various points. The Council should then be instructed to send out as missioners men who were capable of dealing with the problem and explaining it in detail. He moved:

> That the order of business be varied in order to consider the details of the scheme before the motion by Rochester, Chatham, and Gillingham be taken.

Dr. Gordon Lane (Marylebone) opposed the proposal. He contended that after the decision of the previous day the meeting had no right to reopen the question and attempt to go into the details of a scheme which could not have the necessary support to make it a success. It was suggested that men should be sent by the Association through the various Divisions and Branches to proselytize in favour of the fund, but who was going to pay their expenses? Even if the fund were formed and men paid their eight or ten guineas for two years, would the funds so obtained be sufficient to prevent members of the profession from accepting in the future terms which might be offered to them by the Chancellor?

The proposal to vary the order of business was lost.

Dr. Courtenay Lord (Gillingham) then moved the resolution in favour of a campaign on behalf of the Special Fund as set out above. His Division had drafted the motion because it anticipated the defeat of the proposal to establish a Special Fund at once. His personal experience at meetings was that when the fund was put before members fairly and concisely it was approved; in more than one case he was told, "If you had not come down we were going to throw it out." Therefore he was in favour of a campaign in support of the fund; he believed that if the matter had been placed more thoroughly before the profession it would have received a greater amount of support than it did on the previous day. This was not an Association matter, but one for the profession. What was done the previous day was not binding on any member of the meeting nor on any member of the British Medical Association. His motion only asked the meeting to commit itself to a principle, and give to a few men who had done an enormous amount of work in formulating a scheme the opportunity of going forth to show what they could do. His experience was that members generally would not support the fund unless it was protected by a trade union. Could not the profession accept what was good in trade unionism without what was bad? He was constantly asked how the Special Fund was to be protected; if answer could be given that the trustees of the fund would form themselves into a trade union, if necessary, a large amount of support would be gained. The Chairman of Council exercised an enormous personal influence in the Association, and no one wished to make him into a trade unionist against his will, but if they could persuade him to see that it was the only way to protect the fund they would have won their battle. If the trust were formed it need not necessarily be controlled by Association officials; practitioners outside the Association would support it more readily if it were not. If the Association had had money behind it in 1911 the profession would not have been where it was. Members probably might all have been on panels, but upon their own terms. If the meeting refused to have anything more to do with the scheme it would compel those who believed in trade unionism to go about the matter in some other way. If that happened, members must not say that it was an attempt to ruin the Association by running a counter organization, but they must credit those who took such action with doing for the benefit of the profession at large something which the Association had refused to undertake.

Dr. E. H. Willock (Croydon) then moved the following amendment:

> That it be an instruction to the Council to obtain from the Divisions a complete canvass of the practitioners as to their willingness or otherwise to form a Special Fund; that if in the opinion of the Council the promises of support be sufficient to ensure the success of the fund, it shall take such steps as may be necessary to formulate the working details of the scheme, and to prepare such machinery as may be required to secure its operation if approved by a two-thirds majority at the next Annual Representative Meeting.

Mr. Willock said that all he desired was a little judicious delay in order to see exactly where the Association stood after the subscription had been raised. The views of all the members of the profession should be ascertained as to whether or not they would be prepared to support a Special Fund. If after a canvass of the practitioners and Divisional meetings favourable reports were sent to the Council, it would then be able to arrive at some really practical and complete scheme. If the Council found that a good scheme, and one not likely to be a fiasco, was feasible, it could formulate the details and place it before the next Representative Meeting. Then, if the proposal were carried by a two-thirds majority immediate action could be taken.

Dr. J. Wishart Kerr (Glasgow Eastern) seconded the amendment. As one of those who took an active part in canvassing for the Defence Fund, his experience was that much sympathy was received but little cash. It was necessary to see how much men were willing, not only to put their names to, but to give.

Dr. Gordon Lane (Marylebone) was opposed to vacillation. It had been suggested that the time was not ripe and that possibly in six months it would be more possible to judge. The profession and the Association had vacillated to such an extent that some of its strongest supporters were wavering and were ready to resign. Why should members who were willing to support the Association spend money on another futile campaign? A Special Fund would afford no surety whatever that men would not again yield to temptation. He did not believe it would ever be possible to prevent a small minority of the profession taking on underpaid work; and the strength of the profession depended on the weakest unit. Non-panel men were somewhat divided and did not know their own policy; some were trade unionists, some wanted to resign from the Association, and others did not. Would this fund ensure any greater safety to non-panel men? Could they depend upon the early panel men not going behind their backs? Could the first panel men depend on one another? The answer to each of these questions was in the negative therefore the Special Fund must be a fiasco.

The Solicitor was asked to reply to the following question:

Would it be in accordance with the Memorandum of Association to pay advocates out of purely Association funds to canvass for a Special Fund, which it would be illegal for the Association as such to administer?

The SOLICITOR said it was a question whether or not the Memorandum of Association as framed would cover the expenditure indicated in the question. It was a difficult question, and one he would be prepared to argue either way. In dealing with such a question he had always been faced with the great difficulty of the concluding words of paragraph (*e*) of the Memorandum ("And such other lawful things as are incidental or conducive to the attainment of the above objects"). This was what was termed an omnibus clause, under which it was endeavoured to do any particular thing that was desired. It was, however, only *ejusdem generis* with what had gone before, which was his difficulty in the present case. In his opinion, those who were opposed to the Association employing paid canvassers for this purpose would have some legal ground for their contention, and also it was open to the contention on behalf of the Association that it was doing this for the honour and interest of the profession. That question could, under the present Memorandum, only be decided in the Courts, raised by means of an action for an injunction to restrain the expenditure of such money, if it was decided to do it. He had received instructions from the Council, arising out of the resolution which was passed at the Brighton meeting, to alter the Memorandum of the Association so as to accord to the Association those powers it was necessary for them to have to mortgage their property. He had to inform them to-day that he had a little exceeded the instruction which was given to him. It had appeared to him not only advantageous, but in their interest necessary, that Clause 3—the Objects Clause—of the Memorandum should be recast to give them greater elasticity than they had before under that clause. (Hear, hear.) That he had endeavoured to do, and had seen the Comptroller of the Board of Trade and also the Solicitor to the Board of Trade, and got those officials to see to a certain extent eye to eye with himself, and to consent that this clause should be altered in a manner which would be placed before them at the Extraordinary General Meeting. This gave greater elasticity of power to exercise the object of maintaining the honour and interest of the profession, and he was clearly of opinion that if the Memorandum could be altered in that respect, it would and ought to be held by the Courts as extended to what they were asking to do under this resolution. He wanted to put the matter fairly and clearly both to the meeting and to himself. To give a hard and fast decision as to whether or not, as at present constituted under their Memorandum as it stood, they could pay these canvassers, would be to commit himself to an opinion which he did not hold with any degree of certainty; but they had taken great risks before, and departed from the strict letter of certainty in their Memorandum in expending moneys, and the measure of risk involved in doing this would be no greater than the measure of risk they had taken before. If the Memorandum in the form in which it was suggested and was now sanctioned by the Board of Trade became approved by the Courts, he should have no hesitation in advising that such a matter as indicated in the question was brought within the powers there laid down.

Dr. WALLACE HENRY asked if it was constitutional for the Representative Meeting to instruct the Council to carry on a campaign in favour of a scheme which the previous day had not received a majority sufficient to make it a policy of the Association.

The CHAIRMAN replied that it would be for the Council, in dealing with what was referred to it by the Representative Meeting, to consider whether it had been told to do a constitutional or unconstitutional thing.

Mr. E. B. TURNER (London) said he had been instructed to vote against the establishment of the fund, because his Division considered that under the scheme, not only the fund, but the moneys of the Association, were not safe. Although up to the present on matters more or less insignificant and trivial the Association had taken risks, it was very different to taking what in these matters might be a capital risk. The Association might be brought up very short by an action at law, and although it might plead that this fund had nothing whatever to do with the Association, when the court was informed that the trustees were the Council of the British Medical Association, the chances were that the judge would sweep away such a contention at once, and say it was a dodge, and would make not only the fund but the property of the Association amenable to any damages that might be established against them. He felt safe in voting for the amendment, however, as it had a two-fold object. It would show whether the fund would be a success, and it would be possible to arrange the canvassing so that practitioners might give their opinion whether they preferred the matter to be carried out in the way the Special Fund Committee suggested, the Council of the Association becoming trustees of the fund, or whether selection of trustees *ad hoc* should be made.

Dr. BENHAM (Brighton) said there were many who considered that a Special Fund was absolutely necessary, as the profession had to get ready as soon as possible for the great struggle of 1915. Was this opportunity to be allowed to slip and the Association be unable to strengthen their weaker brethren? If the Association did not control the fund, it would be controlled by men outside it, and this would be most unfortunate. There was danger of the profession being split up into little bodies, whereas unity was the only hope of carrying on a successful campaign.

Dr. JOHNSON SMYTH (Bournemouth) submitted that the original scheme was dead, and that in order to ensure success a sound business-like scheme should be brought forward.

The amendment was then carried, and on being put as a substantive motion, Dr. R. M. BEATON (St. Pancras and Islington) moved an amendment:

Seeing that a large majority of Representatives present at this meeting is in favour of the formation of a fund, the Council be instructed to consider the whole question and submit the matter to the Divisions in order that it may come before the Annual Representative Meeting next July for decision.

He said the meeting had managed to get itself into a muddle, and this was a way out—simply to come to a decision that a fund was necessary for the Association, and leaving the details open.

Mr. BISHOP HARMAN (Marylebone), in seconding, said that Dr. Gordon Lane's speeches did not represent the fact, that the Marylebone Division, though doubtful on certain points, was clear on the point that a fighting fund was necessary.

The CHAIRMAN OF COUNCIL said that the matter had already been through the Council's hands, but added that the Council was ready to give it fuller consideration. He wished to know if the Council was to be allowed to draft a detailed scheme for reference to the Divisions in a final form. If that was so then the Council would take it up.

The following questions by Dr. GORDON WARD were answered by the SOLICITOR:

1. Whether in his opinion proposed object (*a*) of the Special Fund—namely, the provision of a fund for the support and protection of medical practitioners whose position may be affected by reason of their allegiance to the declared policy of the British Medical Association, is of a nature to render the Special Fund in law an unregistered trade union?
2. Whether, in the event of the Special Fund being attacked on the ground that it was seeking to impose restrictive conditions on the practice of its members or any of them, it would be possible for the Fund, with reasonable prospect of success, to plead that it was, in fact, a trade union, and as such entitled to the immunities of trade unions in so far as these apply to unregistered trade unions.

Mr. HEMPSON said that the answer to question 1 was that it would depend upon how the support and protection was exercised, and it would be upon such acts that the question would arise. It would not necessarily be a matter involving those risks which were indicated.

On question 2, Mr. HEMPSON said he could only reply that if he had to act in defence of such an action he would plead everything that the law allowed him in justification of the position.

Dr. BEATON'S amendment was then carried and became a substantive motion.

Dr. MACNAMARA (Lewisham and Woolwich) moved an amendment that the Divisions should also express an opinion as to whether a Special Fund should be protected under the Trade Union Acts.

The CHAIRMAN OF COUNCIL hoped the meeting would not run away with the idea that there was any protection

for funds under a trade union. Recent decisions in the Courts had distinctly shown that there was not.

The amendment was lost.

Dr. Wallace Henry (Leicester) moved an amendment authorizing the Council to prepare a statement in which the arguments for and against the scheme were impartially stated. He thought it most desirable that both sides on the Council should have the opportunity of putting their views forward when the matter was sent to the Divisions.

The Chairman suggested that the point would be met by the words:

That in making its report to the Divisions the Council should be authorized to issue therewith a minority report setting out any objections to the scheme.

This was put to the meeting and carried.

Dr. Beaton's motion, as amended, was then approved, only six voting against it.

On the motion of Dr. Fothergill (Brighton), seconded by Dr. Johnson Smyth (Bournemouth), it was resolved that at the Divisional meetings an opportunity should be given of recording votes for or against the scheme.

Dr. S. A. Bontor (West Herts) moved a rider instructing the Divisions to obtain the opinions of all practitioners resident in their districts by means of a postal vote. This was seconded by Mr. E. Tredinnick (Shropshire), but at the suggestion of Mr. Todd (Sunderland), who said that the meeting had no authority to put any compulsion upon any Division, the phraseology was modified, and the rider was carried in the following form:

That the Divisions be instructed to take the opinion of practitioners resident within their areas by means of a postal vote.

In reply to Dr. Wallace Henry (Leicester), who asked how non-members were to receive copies of the scheme, the Chairman said that it would be sufficient if the attention of practitioners were called to the Supplement in which the scheme appeared. After conferring with the Solicitor as to whether the matter of the Central Defence Fund could be touched by the meeting, he had decided that the following rider, which Mr. Todd had been instructed by the Sunderland Division to bring forward, could be submitted to the meeting:

That in view of the proposal to raise a Special Fund the Council be requested to consider the advisability of making no further call upon the guarantors of the Central Insurance Defence Fund.

Mr. Todd, in moving the resolution, said his Division had come to the conclusion that the Central Defence Fund was only being responded to by a small section of men who were not receiving any benefit from the Insurance Act whatever. The Division therefore considered that the time had come when no further calls should be made upon them. If some such recommendation were adopted it would clear away the confusion that existed with regard to the various funds, and leave the Council, as trustees of the fund, to deal with it as it thought right.

Mr. Domville seconded the motion, but Dr. Fothergill contended that, as the motion had not been before the Divisions and the Representatives had not been instructed upon it, it was not within the power of the meeting to deal with it.

Dr. T. A. Helme gave the proposal emphatic support. It seemed to him almost morally wrong to hold to their guarantees men who had already done so much whilst so many held aloof.

The Chairman of Council pointed out that the only body which possessed the power to close the fund was the Representative Meeting. If that was the desire, the meeting should ask the Council, as trustees of the fund, to make a recommendation to the next Representative Meeting as to the desirability of closing the fund finally.

Dr. Courtenay Lord, while sympathizing with the object of the motion, thought the time might come in the near future when there would be large calls on the fund, and a number of men would be placed in a very awkward position indeed if they felt they were cut off from the protection promised when they signed the guarantee or undertaking. He hoped the meeting would not do anything that would cut off any possibility of their receiving financial assistance if they should need it. As long as the possibility existed the Association must stand behind its members.

The motion was carried.

NATIONAL INSURANCE ACT.

On the motion of the Chairman of Council, the Report of Council as to various matters in connexion with the Insurance Act was received.

Medical Referees.

The Chairman of Council then moved the following recommendation of Council:

That where any medical practitioner not devoting his or her whole time to the work is called upon by a lay body to express an opinion as to the capacity or incapacity of an insured person, the lowest fee such practitioner should accept should be 10s. 6d.

It was, he said, recognized that these lay authorities had a right to ask for a second opinion to satisfy themselves; the Council's suggestion was that if they called upon any other member of the profession except the doctor in attendance on that patient, the lowest fee that doctor should accept should be 10s. 6d. It was common knowledge that in various areas a lower sum was being accepted.

Dr. J. Munro Moir (Ross and Cromarty) moved to add the words, "exclusive of expenses."

The Chairman of Council accepted the amendment, which was carried.

Dr. E. Turton (East York) moved:

That the minimum fee be 1 guinea.

The amendment was lost.

Dr. J. R. Ratcliffe (Birmingham Central) moved a further amendment:

That the question of the amount of fee to be paid by any lay body to any medical practitioner for an expression of opinion as to the capacity or incapacity of an insured person should be left to be fixed locally by the Divisions and Medical Committee.

If the Council's resolution were adopted the Association would, he said, only be adding another to the many pious opinions it had expressed. The effect of the disregarded resolutions on the lay mind and the mind of the medical profession was to bring the Association into disrepute. There was undoubtedly a decided call from the societies for local referees in certain cases, not so much because of doubt as to diagnosis, but in cases in which certificates had been given, he was sorry to say, after insufficient examination. In Birmingham a medical board in conjunction with the Local Medical Committee had been formed to inquire into these cases. It was only fair to leave the local bodies to deal with this matter themselves, bearing in mind ordinary general principles. If this resolution were passed the meeting would condemn the Birmingham scheme; the condemnation would be disregarded, and the disregard would engender distrust of the Association.

Mr. Albert Lucas (Birmingham Central) seconded. He objected to a definite fee being fixed.

Dr. Major Greenwood (Council) criticized the passing of a hard and fast rule for the whole country, and Dr. Parker (Bristol) hoped the matter would be left to local option. Where a city like Birmingham had made a satisfactory arrangement it was preferable to leave it to the locality.

The Chairman of Council wished to justify the position of the Insurance Act Committee in the matter. It was its duty to lay down what it considered should be the policy of the Association, the policy that it thought those who had the interests of the profession at heart should follow. The curse of the Association all through had been the fact that local members did what they liked in spite of what was said by the Association. The sole business of the Association was to arrive at what was thought to be the proper thing to do, and then educate the profession up to that standard.

Dr. Ratcliffe (Birmingham Central) said that the members of his Division had the interests of the profession at heart quite as much as the Council, but they had made a hard and fast agreement with the societies. If the Council pressed the matter it would only drive the wedge a little further into the ranks of the Association.

The amendment was lost.

Dr. Macnamara (Lewisham and Woolwich) moved, and Dr. Mactier (South Staffs) seconded, that the following words be added:

And that any such practitioner should only express his opinion after a consultation with the practitioner in attendance.

The CHAIRMAN OF COUNCIL accepted the addition.

Dr. CRAWFORD TREASURE (Cardiff) protested against the proposed addition. In dealing with matters under the Employers' Liability Act and other Acts under which medical men were called upon to examine patients belonging to other practitioners, it was not unusual to examine patients without consultation with the medical men in attendance. If a consultation were insisted on in connexion with examinations under the Insurance Act, they might be brought into contact with men with whom they would otherwise not have anything to do. It would raise considerable difficulties if the Association expressed the opinion that such men should meet.

Dr. MACNAMARA, speaking in support of his suggested addition, said that the question was one which affected practically the ethics of the profession, but no medical man who valued his profession would attempt to go behind the back of a professional brother, whether he was on the panel or not.

The CHAIRMAN, in answer to a question whether the point was not already provided for, said the existing rule provided that a consultant should not express any opinion without giving the practitioner in attendance an opportunity of consultation.

The amendment was agreed to and carried, also as a substantive motion.

On the recommendation as to the conditions of service of whole-time medical referees under the Insurance Act, Dr. ASKIN (Woodbridge, Suffolk) expressed the opinion that it would be a mistake to have whole-time referees. The post of referee should be combined with that of consultant. In the country a medical referee was seldom required, but the opinion of a consultant was frequently required, and if the appointment combined the two it would be much better.

Dr. HARDING TOMKINS (South-West Essex) suggested the introduction of some words to the effect that the officers should be appointed by the Commissioners under the National Insurance Act. After some other suggestions had been considered the CHAIRMAN put the resolution to the meeting in the following form:

That the medical referees under the National Insurance Act should be appointed by the Commissioners and only be removable by them; that they be whole-time officers and practitioners of not less than ten years' standing; that the appointment should be pensionable, and that the commencing salary should not be less than £750 per annum.

This was agreed to.

Dr. W. A. GOSTLING (Chichester and Worthing) moved:

That the system of friendly societies calling in any medical referee they like, without the sanction of the Commissioners and the Local Medical Committee, is undesirable, and that one or more should be appointed for the whole area for a definite term.

Dr. FOTHERGILL suggested that the matter should be referred to the Insurance Act Committee, and the CHAIRMAN concurred.

Dr. L. J. PICTON (Stockton, Macclesfield, and East Cheshire) said the proposal seemed to conflict with that just passed. It had been decided that it was desirable referees should be whole-time officers, and now it was proposed to discuss various conditions of part-time work.

The proposition was approved and referred to the Council.

Distribution of Funds Available for Medical Benefit of Unallotted Insured Persons.

The CHAIRMAN OF COUNCIL moved the following recommendation:

That such portion of the unallocated funds in the hands of Insurance Committees as are attributable to insured persons who have been attended at their own expense should be distributed as a set-off to the medical bills of these patients.

It was, he said, a very thorny subject, on which there was great difference of opinion, medical and legal. A certain sum of money was allocated to each insurance area for the payment of medical benefit under the Act. Owing to the negligence of certain insured persons in not selecting the doctor on whose lists they preferred to be placed, or owing to their refusal to accept the position at all, a certain amount of money in practically every area in the country had been left unallocated, and the question what was to be done with it was very difficult to decide. Legal opinions had been given on one side and the other. The difficulty was connected with the question of the free choice of doctor. The medical position at the beginning was that there ought to be free choice for every one, not only for the patient but for every doctor. That had been narrowed down to a choice of doctor on the panel. That was where the difficulty arose. Some patients in certain areas had not been able to get the attendance of a panel doctor, partly because panel doctors in their districts had too many patients to deal with, partly because, owing to their work, the patients were not able to attend the panel doctor, and they had been compelled to get the attendance of doctors not on the list. It had been contended that those persons incurred a certain amount of loss, and that a certain part of this allocated money ought to be given to those people to pay bills incurred apart from the Insurance Act. The motion did not refer to those people who had not had attendance, or those who had been so careless as not to get their names put on the list of panel doctors, but simply to those people who had had attendance but not from the panel doctor, and in that way had incurred private bills.

Dr. C. BUTTAR (Kensington) regarded this as a very important motion, not because he cared what became of the unallocated funds, but because, to his mind, it offered the possibility of bringing about union between the non-panel and the panel practitioners. Under the original method as contemplated by the Act practically every man in general practice would have been on the panel, and every man would have received 7s. per annum for giving ordinary medical treatment to every insured person. In fact, every practitioner on the panel would have been an insurance company in himself, rendering certain treatment for the sum of 7s. per annum a head, and he would not have been able on any terms whatever to get more than that. In parts of the country where practically every man was on the panel that system was now working, but in other districts it was not. In London and other places there were large numbers of persons who never would be on the lists of panel doctors, consequently the money allocated to them and to people who had been too lazy to select their doctor had become an accumulated fund. The panel man wished in many places to take the whole of that money, alleging that he had an unlimited liability for treatment, but it was certain that in London he had not that unlimited liability. The solution he offered was that in regard to those patients who never went to a panel doctor any receipted bill they could produce in any year should be discounted up to 7s.; the money accruing in respect of those persons who did not put their names down, and did not consult any doctor should be allowed to accumulate, and the whole of it should be paid to the panel doctor who eventually accepted them. In that way the approval of the panel and the non-panel doctor ought to be obtained. He was convinced that the principle of unity of the profession lay behind this little detail. At the present moment there was a lamentable distinction between panel and non-panel doctors, and there was no doubt that the discussion with regard to the unallocated funds had served to accentuate that difference. But the panel man must admit that under the original Act he would not have been entitled to accept the accumulated funds. If the motion were adopted he was certain that a very long step would be taken towards reconciling the differences between panel and non-panel doctors.

Dr GREY (Bristol), as a panel doctor, wished to support the proposition. The panel doctors had no wish to take any money they had not earned. While envying those who were not on the panel he had very considerable sympathy with them. His own Committee had passed a resolution of a somewhat similar nature, holding that the medical expenses incurred by those who had not chosen a doctor on the panel should be met out of the accumulated funds.

Mr. GREER (Monmouthshire) asked under what clause of the Act or Regulations it was proposed to carry out the proposal. If it was under Section 15, he must oppose it.

Dr. MEADE (Scarborough) asked whether the resolution referred only to a place where there was no panel available, or whether it would allow anybody in any district to call in any doctor.

The CHAIRMAN OF COUNCIL replied that as nothing was said to the contrary he took it that the motion referred to all doctors.

Dr. MEADE (Scarborough) said that in that case no unallotted funds would be allotted to the panel men.

The CHAIRMAN OF COUNCIL said whatever opinion the meeting expressed the Commissioners would do what they pleased in the matter. An extraordinary proposition was made in the press recently that the unallocated money should be applied to an entirely different purpose, so that, whatever should be done with it, the panel doctor or any other doctor would not get it. Trouble had arisen because the insistence of the profession on the principle of free choice of doctor had in South Wales placed a dangerous weapon in the hands of the enemy. He was not referring to cases in which transferences had been made under Section 15.

In reply to a question, the CHAIRMAN said that there were many districts in which action had already been taken for the distribution of the unallocated money, but the motion, coming as an expression of opinion from the Representative Meeting, might very well do good, even if ineffective in those districts.

Mr. GREER (Monmouthshire) thought a weak point in the proposals was that individuals could not be prevented from acting collectively, and if the principle was admitted people would combine and form large medical aid associations. A serious position had arisen in South Wales in this very way.

Dr. STEVENS (Edinburgh and Leith), as a non-panel practitioner, wished to support the motion. Even if it should have no effect on the Commissioners, it would have a strong effect on the profession in healing differences which had existed so long. Good feeling could not be expected to prevail between panel and non-panel men if the panel men willing accepted money which was allocated for medical benefit to patients attended by non-panel men.

Mr. E. B. TURNER (Kensington) thought the resolution would not in any way affect South Wales or any other part of the kingdom, because it dealt with the past. The new Regulations issued by the Commissioners would to a very great extent do away with any unallotted funds. The allocation of the money of insured persons would be left to the Committees, so that at the end of next year there would be no accumulation as at present. There had been in some places a definite promise by the Insurance Committee that the whole of the surplus money should be distributed amongst men on the panel at the end of the year. In London there was no such definite promise, but there was a very distinct intimation in the letters asking men to take service on the panel that this money would be distributed among them. Counsel had declared that at present it could not be done. The Commissioners said it could be done, and there was going to be a still further conflict over the matter, because the London Insurance Committee was very much averse to distributing the money unless it considered the recipients were legally entitled to it. Notwithstanding the pronouncement of the Insurance Commissioners and of the Chancellor of the Exchequer, the members of the Committee believed that they might be surcharged. People who had been attended at their own expense fell into three classes: (1) People who because of their position and the affluence of themselves or their relations would not be attended at insurance hours and under insurance conditions; (2) those who, although insured and open to be treated by men on the panel, preferred to go to the old doctors whom they had known for a long time, whether they were allowed to make arrangements with them or not; and (3) those who had tried insurance treatment and had not been satisfied and had gone to other practitioners. The resolution suggested that the people who, for any reason, had gone to practitioners not on the panel should have the 7s. allotted to them as a set-off against the bill. He was entirely in favour of the motion, because he thought it would be an expression of opinion from the Representative Meeting, and might be a means, to a certain extent, of patching the lamentable breach between panel and non-panel practitioners.

Dr. W. E. THOMAS (North Glamorgan and Brecknock) was anxious to do everything possible to cement differences, but he did not wish that anything in favour of medical aid associations should be passed. He suggested that the words "individually as private patients" should be inserted.

The CHAIRMAN OF COUNCIL accepted the alteration.

Dr. FULLER (North Middlesex) was definitely instructed to oppose the motion. The funds belonged to the insurance part of the Act, and therefore were to be allotted to the men who were working the Act. He thought the Commissioners would refuse to sanction the proposed arrangement, and once more the Association would be in an invidious position. The Commissioners or the approved societies would discover another way of dealing with the fund if the Association adopted this view.

Dr. H. F. OLDHAM (Lancaster) asked whether if the resolution were adopted it would convey the approval of the meeting to people making collective arrangements.

The CHAIRMAN OF COUNCIL said in his opinion it did not, and the insertion of the words, "individually as private patients," would prevent it.

The insertion of these words was approved, and the motion as amended was then agreed to as follows:

> That such portion of the unallocated funds in the hands of Insurance Committees as are attributable to insured persons who have been attended individually as private patients should be distributed as a set-off to the medical bills of these patients.

ATTENDANCE ON STAFFS OF POOR LAW INSTITUTIONS.

The CHAIRMAN OF COUNCIL then moved the rescission of the italicized portion of the following minute of the Annual Representative Meeting, 1913:

> That this meeting strongly condemns any arrangement made by indoor Poor Law medical officers with boards of guardians in reference to insured members of their staffs, whereby the whole or a portion of the fees paid to the said medical officers by an Insurance Committee is handed over to the treasurer to the guardians. *That it is of opinion that any Poor Law medical officer who accepts such a condition is acting in a manner derogatory to the medical profession, and against the interests of the Poor Law medical service and the profession.*

Standing Order 29 was suspended in order that the matter might be dealt with.

The CHAIRMAN OF COUNCIL, in moving, said that in the resolution as originally passed the last three lines might impose on the Association the necessity of expelling some member who had not been guilty of a grievous offence, and it was thought that it would be better to have this part of the resolution rescinded. That recommendation would have come up in the ordinary course next July, but in order to obviate the danger of such a thing occurring before then, it was considered better to bring it up at the present meeting.

Dr. WALKER (Rochdale) moved an amendment to leave the motion as it stood, but to add:

> Minute 213 of A.R.M. 1913 shall be understood to apply only to agreements made between indoor Poor Law medical officers and boards of guardians subsequent to the coming into force of the National Insurance Act, 1911.

Dr. MAJOR GREENWOOD agreed with the principle, but thought the amendment unnecessary. No agreement could have been entered into before the Act came into force. The whole object of the original resolution adopted at the Annual Representative Meeting was to prevent medical officers going on the panel in circumstances such that by so doing they would injure men who were not Poor Law medical officers.

After some further discussion, the amendment was put and rejected.

Dr. MAJOR GREENWOOD, on the main question, said he brought the matter forward in July last at Brighton, at the request of the Association of Poor Law Medical Officers of England and Wales, which had had trouble with certain boards of guardians, which put pressure on their medical officers to go on the panel to attend their employees and hand over their fees to the guardians. This had created considerable feeling in the Poor Law medical service. The resolution passed at the Brighton meeting had done a great deal of good among the Poor Law medical officers, and now the whole force of what was done was to be taken away by rescinding half.

The motion was put to the meeting, and declared to be carried.

Dr. GORDON WARD (Chelsea) moved a rider:

> That the fullest possible support be given by the Association to any Poor Law medical officer who is actively opposing

any such action of any board of guardians as is referred to in the first paragraph of Minute 213.

This was carried.

MEDICAL AID INSTITUTIONS.

In moving the following recommendation of the Council,

That, in order to check the extension of medical aid institutions and to assist the profession in combating them where established, the Association endeavour to enlist the support of the staffs of voluntary hospitals, not only in refusing professional recognition to the medical officers of these institutions, but also by refusing treatment to patients sent by them to hospitals, except in cases of grave urgency.

The CHAIRMAN OF COUNCIL said that the extension of medical aid institutions was absolutely contrary to the principles on which the Insurance Act was founded. The Chancellor of the Exchequer had made it perfectly clear that in a place where a panel was effectively formed the Commissioners would look on the formation of these institutions with grave displeasure. He had said also if an effective panel was not formed in an area, then the Commissioners would look to these institutions to carry out the Act. But the panels in Wales were formed practically from the beginning, so there was no excuse whatever for the recognition of these institutions. A certain number of insured persons formed an institution; they got the money and then came the iniquity of the matter; they got not only insured persons treated but their dependants, and the pay that the doctors of the institutions received for attending those dependants was almost negligible. Money intended for the medical benefit of insured persons was being used for the purpose of getting whole-time men to attend not only insured persons but their families. No action the Association could take to stop such practices could be too strong.

Dr. MACKINNON (Sheffield and Rotherham) moved an amendment omitting the reference to refusing treatment to patients sent to hospitals by officers of medical aid institutions. In Sheffield there had been a conference with the representatives of the staffs of the various hospitals, and the staffs came to the conclusion that they could not enter into such an agreement as suggested by the motion. They did not consider it advisable, or that it would put them in a sufficiently strong position to meet the governors of the institutions. As a result no resolution was adopted, but the profession in Sheffield rested assured with the statement that when patients came from these institutions the interests of the doctors would receive consideration from the consultant.

Dr. GORDON (Sheffield and Rotherham) supported the amendment. The evil of the position in Sheffield was that although a man who was a member of a medical aid institution might not be received as such the hospital had to receive him if he went to his employer and got a recommendation.

Mr. TURNER (Kensington) hoped the meeting would not carry the amendment. Although things might be working satisfactorily in Sheffield, the Association must support the men in Wales. The Chancellor had been very insistent that the treatment given at medical aid institutions was bad not only for the practitioner but for the insured people treated at the institutions, and that it was bad for the public health. Dr. Macdonald had pressed upon the Chancellor the fact that these institutions should not be encouraged, and the Chancellor said he would not encourage them in any way whatsoever unless it were necessary as a weapon. In Wales there had been a submission to the clamour of the insured miners, and the Insurance Committees and the Welsh Commissioners were allowing extensions of these societies wholesale. Every possible means should be taken by the profession to combat this state of affairs. He hoped it would go out as the practically unanimous view of the Representative Meeting that it would do its very best to help the men in Wales. The whole thing was a grave breach of faith: he had even seen papers sent out asking insured people to transfer themselves in bulk to one of the medical aid institutions, and on the paper, which was made up to imitate a Government form, the name of the medical aid society to which the signatory wished to be transferred was printed.

Mr. W. MCADAM ECCLES (Marylebone) said that as this was the first opportunity the staffs of voluntary hospitals had had of coming before the Representative Meeting, he would like to say, so far as London was concerned, that they would do their best to withstand these iniquitous and obnoxious institutions. The visiting staff of hospitals was not to the same extent under the control of lay bodies as the resident staff. One of the great difficulties in London hospitals was in connexion with the resident staff, as they consisted of young men coming into the profession who did not understand these matters as clearly as those who had had experience. He urged that the motion should be adopted unanimously. He suggested that the Council should draw up a short pamphlet which might be placed in the hands of the resident staff at all hospitals throughout the country. This could be done through the governing bodies of the hospitals, who, he was sure, would be glad to have available a short statement of the facts. One difficulty more frequently met with in London hospitals than elsewhere was that of finding out whether insured persons were under a panel doctor or under one of these medical aid societies. Even dealing with those who attended St. Bartholomew's, where special clerks were employed to ascertain the facts, it was found that sometimes insured persons slipped through.

Dr. BICKERTON EDWARDS (Swansea) opposed the amendment. The matter was very urgent in South Wales. Medical aid societies were being established everywhere with the sanction or connivance of the Commissioners and Insurance Committees. If allowed to spread in Wales, medical aid societies would extend over the border in a very short time, and the profession find itself under the control of medical aid societies in some form or other throughout the country.

The amendment was lost and the motion was then carried.

The following rider, moved by Mr. L. W. DRYLAND (Northamptonshire) was approved:

That this resolution shall not apply to those institutions where the medical officer of the institution has retained any post with the consent of the Council.

PROPOSED CENTRAL INSURANCE ORGANIZATION COMMITTEE.

The CHAIRMAN OF COUNCIL moved:

That the remainder of the Report of Council as to various matters in connexion with the Insurance Act be approved;

Dr. HASLIP (Westminster) moved a rider:

That the time has arrived when the Council should consider the advisability of forming a Central Insurance Committee, with the object of organizing the whole Local Medical Committees of the country under the National Insurance Act, and further that there should be a strong committee elected to watch the interests of the whole profession.

His Division wished the Council to reconsider the position of the Insurance Act Committee and the Non-Panel Committee. The members were not satisfied with the names of those committees. They thought the term "Non-Panel Committee" was a bad one, and that it ought to be improved. Further, they thought that the usefulness of the Insurance Act Committee would be increased by the presence of members of Local Medical Committees. It would be following up the suggestion that there should be a linking up of the Local Medical Committees of the country. Unless the Association took the matter up seriously it would find the Local Medical Committees starting an organization for this purpose. It would be better for the Council to consider the question and appoint a proper Central Insurance Committee to look after the interests of the men who were working the Act. Instead of having a Non-Panel Committee, the Association should revert to the State Insurance Committee—a mixed body—to look after the interests of the profession generally. He asked only that the matter should be referred to the Council to consider the whole question.

The CHAIRMAN said that, although no particular complaint was made of the setting up of a Non-Panel Committee, the rider would have the effect of requiring the Council to consider the advisability of establishing machinery for dealing with insurance questions generally in a different manner. This was a very different thing from condemning the Council for having established the Non-Panel Committee. The rider would allow the report to go through, but would signify the opinion of the members that insurance questions would be better dealt with by the committee Dr. Haslip suggested.

Dr. FOTHERGILL (Brighton) thought the proposal would tend to produce duplication of work and confusion, and

moved to omit the provision in the rider for a committee in addition to the proposed Central Insurance Committee. Dr. PICTON (Stockport) seconded, and Dr. MACNAMARA (Lewisham and Woolwich) inquired whether the rider would commit the Representative Body to the working of the Insurance Act.

The CHAIRMAN replied that no stronger opinion was expressed in the rider than had been expressed before.

Dr. HELME (Manchester Central) informed the meeting that in his part of the country many men considered that the work of the Association had not been quite fair to both parties. In these circumstances, what harm could be done by asking the Council to consider carefully the best mechanism to meet both?

Dr. HASLIP (Westminster) accepted a suggestion by the CHAIRMAN that the last line of the rider should read, "and, further, of forming a strong committee to watch the interests of the whole profession."

Mr. TURNER (Kensington) inquired whether the Insurance Act Committee as at present constituted did not carry out everything that Dr. Haslip wanted in the first part of his resolution. The Committee in its reference could work with the Local Medical Committees and the Panel Committees.

The rider was ultimately approved in the following form:

> That the time has arrived when the Council should consider the advisability of forming a Central Insurance Committee, with the object of organizing the whole Local Medical Committees of the country under the National Insurance Act, and, further, of forming a strong Committee to watch the interests of the whole profession.

On the substantive motion, Dr. FOTHERGILL (Brighton) moved an amendment:

> That this Representative Meeting deprecates the action of the Council in appointing a Special Committee to consider how best to promote the interests of members who have not entered into agreements with Insurance Committees in view of the fact that this body and the Council appointed last July an Insurance Act Committee amongst the members of which are a large number of non-panel practitioners well able to voice such interests; and hopes that the Council will discharge the reference to that Committee.

The members of the Insurance Act Committee, he said, had been elected entirely irrespective of whether they were panel or non-panel doctors. He considered that the appointment of the Non-Panel Committee was unconstitutional, as it was setting up a class distinction in the Association. The object of the non-panel doctors was to make the British Medical Association a purely scientific body.

Dr. MORISON (St. Pancras and Islington) seconded, because he felt the Association should not legislate for any particular section of its members, but for the whole profession. He would like to see the Local Medical Committees and Panel Committees, wherever formed, financing and supporting themselves, and not looking to the Association for financial support. The Association was mainly concerned with the benefit of the whole medical community and the protection of its members from injustice.

Mr. TURNER said that the appointment of a Non-Panel Committee was moved in the Council on his own initiative by a member who was himself on the panel. This was done because members who remained off the panel in deference to the policy of the Association, felt that the Committee did not represent them properly. Non-panel members now felt that the Association was doing something for them. Up to that time all over the kingdom they were seething with discontent, as they felt they had been encouraged by the Association to the very last minute to stand out, and, having stood out in consonance with the policy of the Association, had been left stranded and neglected, the machinery and work of the Association being devoted to the work of the Act in the interests of those who had gone on the panel.

Dr. BUTTAR asked whether members would recognize facts or continue to bury their heads in the sand. Could it be said that there was no distinction in the interests of panel and non-panel practitioners? In only one way could the two be united—namely, by having non-panel men represented by a committee, which would bring their views before the Council for the Council to decide. However much the Insurance Act Committee desired to represent the non-panel doctors' views, it could not do so.

The amendment was lost.

FREE CHOICE OF DOCTOR.

Dr. B. G. MORISON (St. Pancras and Islington) moved:

> That the Representative Body take such instant and vigorous action as shall induce the Government and the Commissioners to grant to insured persons and the medical profession free choice of doctors, whether the doctor is on or off the panel.

He said there were still some 400,000 people in London who were in the position of not having any doctor. The panel was now an established thing, but some allowance should be made to those who had not chosen a doctor. Some means should be devised by the Council of bringing the matter before the public.

Dr. M. G. BIGGS (Wandsworth and Wimbledon) moved an amendment providing that insured persons should be given the unrestricted right to make their own arrangements for medical benefit for a fee on attendance basis.

Dr. J. T. MACNAMARA (Lewisham) seconded.

Dr. MAJOR GREENWOOD asked if the amendment would give the right to make arrangements with herbalists and others.

The CHAIRMAN OF REPRESENTATIVE MEETINGS thought that probably it would.

The amendment was lost.

Dr. E. S. HALL (Southampton) moved an amendment to add the following:

> particularly to ensure that insured persons who are holders of green or yellow tickets can present them to any doctor, whether on or off the panel, for treatment.

The object, he said, was to secure to temporary residents absolutely free choice of doctor.

Dr. MORISON seconded.

The CHAIRMAN OF COUNCIL suggested that the original motion entirely covered the amendment.

The amendment was lost, and the rider was then put to the meeting and carried.

The minutes of the day's proceedings were then read and confirmed.

VISIT OF DR. MACDONALD TO AUSTRALASIA.

Mr. TURNER mentioned that the Australasian Branches of the Association were anxious that one of the prominent officers of the Association should attend the Australasian Congress to be held in New Zealand next February. The Council had selected Dr. Macdonald, and he would start in a few weeks on this mission. He moved an expression of the good wishes of the Representative Meeting to Dr. Macdonald on his mission.

The motion was carried with acclamation.

The CHAIRMAN OF COUNCIL thanked the Representatives for their hearty expression of goodwill.

VOTE OF THANKS TO THE CHAIRMAN.

On the motion of the CHAIRMAN OF COUNCIL, seconded by Mr. TODD, a hearty vote of thanks was accorded to the Chairman of Representative Meetings.

Mr. VERRALL briefly expressed his thanks, and the proceedings terminated.

EXTRAORDINARY GENERAL MEETING.

AN Extraordinary General Meeting of the British Medical Association was held, during the progress of the Special Representative Meeting, at the Connaught Rooms, Great Queen Street, London, W.C., on Friday, December 5th, at 11 o'clock, Dr. W. A. AINSLIE HOLLIS, President, in the chair.

The Financial Secretary, Mr. GUY ELLISTON, read the notice convening the meeting (SUPPLEMENT, November 22nd).

Dr. MACDONALD (Chairman of Council) took the chair at the request of the PRESIDENT, and, in explaining the objects of the meeting, said that for some years the Association had been attempting to get more liberty of action in its work. An attempt was made to get it by Royal Charter, but that scheme was upset. Various schemes had been tried, and applications to the Board of Trade and other bodies had failed. The efforts of the Association now centred upon a single point. At the Representative Meeting at Brighton a resolution was passed instructing the Council to take the necessary steps to obtain an extension of the memorandum of the present company to include the power of borrowing money on

mortgage or otherwise. Under the present Memorandum of the Association money could not be borrowed on mortgage or otherwise. By an arrangement with the bank money could be borrowed on loan to a certain amount, but the interest ranged from 4 to 7 per cent. according to the bank-rate prevailing. If the extension of the Memorandum were obtained and the Association were allowed to borrow money on mortgage, it was hoped that the rate of interest would only be 4 per cent.; 1 per cent. increase in the bank-rate meant £400 to the Association in extra interest. In order to carry out the scheme the alteration of the Memorandum submitted to the meeting had been drafted.

The SOLICITOR said he had an instruction from the Council in regard to the matter which was limited to the purpose of obtaining borrowing powers. However, a very considerable alteration had been made in the objects clause as before the meeting. The old clause had been a cast-iron one not well conceived in point of language, and leaving open to legal minds many doubts in point of construction. The principle adopted in the altered clause was not to extend the objects sought to be obtained under the Memorandum but to give greater elasticity as to the manner in which those objects might be exercised; this the Association had felt before somewhat restricted in doing. By way of illustration the Solicitor mentioned the conduct of cases before the General Medical Council. The Association had done this work, but it had always felt that a certain risk attached to it. The Memorandum, if passed, would, in his opinion, give immunity from that risk. For every alteration of the Memorandum the Association had to obtain the approval of the Board of Trade before the courts would sanction the alteration. He first of all had to convince the Board of Trade as to the reasonableness of what was asked for, and there had been little difficulty experienced in that respect. It was due to the courtesy of the Controller's Department of the Board of Trade and of Sir Ellis Cunliffe that the matter had proceeded so smoothly. There had often been something more than a carping spirit in some sections of the profession as to whether the British Medical Association was not doing more than it ought to do under its present Memorandum, and he would not say that he had not at times had qualms on the subject, but he could not find that the same thought was entertained in official circles of the Board of Trade. In both departments of that body he had heard expressions of commendation as to the work the Association had done in the past, and an expression of hope that it would go on in future on the same lines. In the altered form of the Memorandum was a proviso that the Association should not support with its funds any endeavour to impose or procure to be observed by its members or others any regulation, restriction, or condition which, if it were an object of the Association, would make it a trade union. It was not altogether pleasant reading to have that imported for the first time into the Memorandum, after having been registered under the Companies Act for so many years. Did not the fact that it had been inserted show, however, a recognition of the width of objects afforded to them? He did not wish to enter into an academic discussion as to what were trade union objects. The courts did not know. There were decisions now which were going from court to court in order to define the protection which was supposed to be accorded, and the protection which actually was accorded to officials under the Trade Union Acts, and if they wanted opinions on that subject he would undertake to get three or four from the most eminent men, not one agreeing with the other. They had to make up their minds to this—that any alteration required in the Memorandum of Association would have to receive the sanction of the Board of Trade before the courts would look at it. What did this proviso impose upon them which did not already prevail? Nothing. He objected to the suggestion that the Association would attempt to do those things which might be inhibited; however, the proviso could not be omitted. It was a clause which might prompt enemies or cause them to blaspheme, but it did not place the British Medical Association under any greater inhibition with regard to its acts than it was under at the present time. The resolution had to be carried at an extraordinary general meeting by a three-fourths majority, and then at a further extraordinary general meeting by a simple majority. After that the Association would go to the court on petition supported by affidavit, and then he hoped it would reach its goal. He expressed the hope that the voting of the meeting would show complete unanimity upon the matter.

The CHAIRMAN OF COUNCIL then proposed that the alteration of the Memorandum of Association as set out in the SUPPLEMENT to the JOURNAL, November 22nd, be approved.

Mr. F. C. LARKIN (Liverpool), Chairman of the Organization Committee, seconded the resolution.

Mr. J. C. WALKER (Rochdale) asked if the scheme for the Special Fund was submitted to the Board of Trade in connexion with the proposed amendment of the Memorandum, so that if the Memorandum were amended that scheme would fall within its scope.

The CHAIRMAN OF COUNCIL replied in the negative.

The resolution was carried unanimously.

On the motion of the CHAIRMAN OF COUNCIL, the meeting conveyed its thanks to the officials of the Board of Trade for their courtesy.

This terminated the business of the special general meeting.

[The number voting against the proposal for the establishment of a special fund was incorrectly printed last week (p. 503) as 66 instead of 60.]

Meetings of Branches and Divisions.

GLASGOW AND WEST OF SCOTLAND BRANCH:

DUMBARTONSHIRE AND ARGYLLSHIRE DIVISION.

A MEETING of this Division was held in Dumbarton on December 2nd, when Dr. J. WILSON presided.

Special Representative Meetings.—Dr. Cramb was instructed to vote in favour of the new by-law raising the annual subscription to 2 guineas, also in favour of the Special Organization Fund, and in other matters to use his discretion, bearing in mind the general views of the Division.

Conference with Friendly Societies.—The SECRETARY reported that he and the other members appointed had met the friendly society representatives, and found that in every instance they wanted large reductions in the terms approved by the Division for treatment of uninsured members of societies. It was decided to adhere to the terms already laid down—namely, 7s. without, 8s. 6d. with medicines, per annum, for uninsured adults; examination of proposed new members (with certificate), 2s. 6d. It was also decided that contract practice among "juveniles" should not be undertaken at all. [*Members of the Division are particularly requested to note these decisions.*]

LANARKSHIRE DIVISION.

A MEETING of the Lanarkshire Division was held at St. Enoch's Hotel, Glasgow, on November 26th, at 3.30 p.m. Dr. BRUCE GOFF, Chairman of the Division, presided, and twenty other members were present.

The Chairmanship.—The SECRETARY read a letter from Dr. Bruce Goff, stating that as he had changed his residence from the county of Lanark to that of Renfrew, it was necessary for him to resign the chairmanship of the Lanarkshire Division, after having acted in that capacity for many years. He thanked the members of the Division for the kindness, courtesy, and consideration they had always extended to him. On the suggestion of Dr. HARRISON it was remitted to the Secretary to arrange to call an early special meeting of the Division to consider this letter.

Model Rules for Ethical Procedure.—On the motion of Dr. W. G. MACPHERSON, seconded by Dr. THOMAS STEELE, it was unanimously agreed:

> That this Division adopt these rules (as approved by the Representative Body, July, 1912) without modification.

Matters Referred to Division.—After considerable discussion, on the motion of Dr. LOUDON, seconded by Dr. W. G. MACPHERSON, the meeting unanimously resolved that the annual subscription should be raised to £2 2s. The meeting discussed the establishment of an organization fund at considerable length. Dr. MILLER, seconded by

Dr. W. G. Macpherson, moved that the subscription to this fund be fixed at £2 2s., and that the contributions from the fund to Local Medical Committees and towards the maintenance expenses of Representatives and members of Central Council be dropped. To this Dr. Fotheringham, seconded by Dr. Douglas, moved an amendment that £3 3s. be substituted for £2 2s. The mover and seconder of the motion having accepted this amendment, the motion as amended was put to the meeting and carried *nemine contradicente*. On the motion of Dr. Lithgow, seconded by Dr. J. C. Mackenzie, the meeting resolved:

That the time was now ripe for the British Medical Association forming itself into a trade union.

The voting was—for the motion 8, against 6, did not vote 7.

KENT BRANCH:

Dartford Division.

The inaugural meeting of the reorganized Division was held at the Bull Hotel, Dartford, on December 3rd. Dr. Crombie presided. Members of the old Dartford Division and of the new Division sat down to lunch, after which the business portion of the agenda was proceeded with.

The Chairman explained the reorganization of the Division, and said that members in Sidcup and Gravesend regretted the severance of many friendships formed in the old Division.

Presentation to Secretary.—Dr. Crombie said that all regretted that the reorganization of the Division would necessitate the loss of Dr. Chisholm Will as their Secretary. He had given of his time, abilities, and money to the work, and they felt that they could not allow him to go without some token of their esteem and appreciation. Drs. Firth and Renton added a few remarks of appreciation. Dr. Crombie then presented Dr. Will with a chased silver fountain pen and a cheque. Dr. Chisholm Will returned thanks, and expressed the hope that members in the new Division would show the same spirit of comradeship they had shown in the past, and prepare for the work they would soon be called upon to do.

Officers of the Division.—The following officers were elected:

Chairman, Dr. T. Hugh Smith (Farningham).
Honorary Secretary and Treasurer and also Representative on the Branch Council, Mr. W. R. Murison (Erith).

Subscription to the Association.—On the motion of Dr. Crombie, seconded by Dr. Murison, it was resolved:

That the Representative be instructed to vote in favour of the increased subscription to the Association.

Special Fund.—It was resolved to allow the Representative a free hand in this matter.

Vote of Thanks.—The best thanks of the meeting and Division were accorded to Dr. Crombie for his work as Chairman of the Division and for presiding over this meeting.

METROPOLITAN COUNTIES BRANCH:

Lambeth Division.

A meeting of the Lambeth Division was held at the Guardians' Offices, Kennington, on November 29th, at which eighteen members were present. Dr. W. H. B. Stoddart took the chair.

Medical Charities Committee.—Dr. Denning was elected to serve on the Medical Charities Committee of the Branch.

Special Representative Meeting.—The Representatives presented their report of the Brighton meeting, and were instructed to vote as follows at the Special Representative Meeting: Against the raising of the subscription on a postal vote, in accordance with the vote of the meeting—77 being against and 16 in favour; 2 did not vote. They were also instructed to vote against the Special Fund, the following resolution being passed:

That we instruct our Representatives that 8s. a year per head should be raised by the members of the Association as a Special Fund to meet the expenses of the Representatives, etc.

On the motion of Dr. Farman, seconded by Dr. Pywell, it was resolved (4 not voting):

That the Lambeth Division requests the Council of the Association to appoint a Panel Committee to act in the interests of practitioners who have accepted service under the Act, this committee to consist of eight such practitioners and two practitioners who have not accepted service under the Act.

Votes of Thanks.—The meeting then closed with the usual votes of thanks.

NORTHERN COUNTIES OF SCOTLAND BRANCH:

Inverness Division.

A meeting of the Inverness Division of the British Medical Association was held at the Northern Infirmary, Inverness, on November 15th, Dr. John Munro Moir, Chairman, and seven members were present.

Special Representative Meeting.—With regard to the proposal to increase the subscription to the British Medical Association to £2 2s., it was unanimously agreed to take a postal vote of all the members of the Division, those members present at the meeting being all in favour of the increase except one. The result of the postal vote showed that seventeen members were in favour of the increase and eight were against it. Accordingly Dr. Moir, the Representative, was instructed to vote for the increased subscription. The scheme for the better organization of the medical profession contained in the same Supplement was read by the Chairman, and was favourably considered.

OXFORD AND READING BRANCH:

Reading Division.

A meeting of the Division was held in the Hospital Library on November 28th. Dr. Abram was in the chair, and twenty other members were present.

Special Representative Meeting.—Dr. McCrea moved:

That this Division approved of the raising of the subscription of the Association to £2 2s.

He urged that this was quite necessary and reasonable, in view of the deficit and the necessity for a stronger organization. Dr. Stansfield seconded, and Drs. Abram, Taylor, Napier Jones, S. Gilford, Holden, Hope, and Gandy spoke in favour. Dr. Norris feared that newly qualified men would remain outside the Association rather than pay the increased subscription, and proposed an amendment to the effect that for a short period after qualifying the subscription should be 25s., as hitherto. The amendment was lost by 9 votes to 5, and the original motion then carried with 4 dissentients.

Discussion upon the schemes for the Special Fund was then introduced by the Chairman, who thought that any fund deemed necessary should be raised and administered locally. Dr. Clarke explained that the Reading Local Medical Committee had agreed to ask the Reading Panel of Practitioners to subscribe ½d. for each insured person to defray the working expenses of that Committee. The schemes were adversely criticized in other ways. Some thought a trade union the only body which could be safely entrusted with a large sum of money and the only sound means of protecting the interests of the profession. Others thought the schemes too expensive, and not wanted by the bulk of practitioners. Finally, on the motion of Dr. S. Gilford, seconded by Mr. Howse, is was resolved:

That the Division strongly disapproves of the schemes for raising and utilizing a Special Organization Fund, as published in the Supplement of November 1st.

Assistant Secretary.—Dr. Freeman was elected assistant secretary of the Division.

Friendly Society Medical Institute.—The Secretary explained what he had done since June in opposition to the Friendly Society Medical Institute; he had been successful in persuading one applicant to withdraw from and another to resign the appointment, and had also interviewed one of the present medical officers who was reconsidering his unenviable position.

New Agreement.—The new model agreements between the panel and the Insurance Committees were then considered. It was thought that Clause 2 (ii) was an undue interference with the liberty of a practitioner, as some patients under the Act frequently desired to pay a little

extra, and were often well able to do so. A case was mentioned of the son of a well-to-do contractor. As the Commissioners had, by a letter read to the meeting, shown disapproval of any alteration of this clause, it was agreed to summon a meeting of the Reading panel to decide what steps should be taken to press for an amendment.

SOUTH MIDLAND BRANCH:

BUCKINGHAMSHIRE DIVISION.

THE adjourned meeting of the Division was held at the Royal Buckinghamshire Hospital, Aylesbury, on November 25th. Dr. SHAW, the Chairman of the Division, presided, Nineteen other members were present.

Special Representative Meeting.—Dr. HENDERSON introduced the proposed Special Fund in a very clear and interesting paper, and proposed the following resolutions:

1. That this Division supports the raising of the subscription to 2 guineas, but considers that the estimated £10,000 produced should be devoted to purely Association purposes and to improvement in organization.
2. That a fund be formed for the development of the organization and protection of the medical profession, and that the suggested insurance advantages be provided for those subscribers who desire to avail themselves thereof. That the subscription to the fund shall be for panel practitioners a levy (say) of one farthing per insured person on list per quarter, and for non-panel practitioners (say) £2 2s. per annum payable yearly, half-yearly, or quarterly. That the organization, control, and administration of the fund shall be vested in the State Sickness Insurance Committee acting as trustees and committee of the fund, and that the fund shall be registered as a trade union under the Trade Unions Act.

A long discussion took place in which Drs. SHAW, LONG, WOOLLERTON, DICKSON, BAKER, LARKING, BELL, and REYNOLDS took part. The main points dealt with were the feasibility of the compulsory deduction, in reply to which it was pointed out that it was probable that the sum so obtained would exceed that of a voluntary contribution of £4 4s. from a few. It was reasonable that the man who had most at stake should pay more than he who had only a few persons on his list. A man who paid a big premium for his life assurance got more return than the one who only paid a small one. A compulsory levy would be the greatest blessing to the whole profession. Others were not satisfied that so many officials and organisers were required, and thought that the Local Medical Committees should raise the money and pay their own expenses instead of its coming out of a central fund. It was pointed out that it appeared that organisers were required badly in some parts, and that success or failure in a Division was evidence of the organizing powers of the secretary. The great danger in the future was a State Medical Service. It was thought to be much best to act under the auspices of the British Medical Association, which had done so much in the past. A central body was a necessity. Dr. HENDERSON, in reply, said that compulsion was a blank wall, but he felt certain that £40,000 would be raised by his proposal, and nothing like £10,000 by a voluntary fund. One penny each for 12 million insured persons would bring in £50,000 a year.

Finally all the resolutions were carried unanimously.

It was resolved:

That the increased subscription shall not apply to members of the Association who have at the present time retired from practice.

It was decided to propose Dr. Lewis Reynolds for the vacancy on the Central Council caused by the resignation of Dr. Fordyce (Cambridge).

It was also resolved:

That this Division agrees to the absorption of the Bucks portion of the Maidenhead Division, and welcomes its members.

The Representative was instructed to vote against the proposal to devote the unallocated funds to the payment of the bills of non-panel practitioners, and to vote for the other proposals.

A resolution was passed expressing regret that the report of the meeting held a fortnight ago had not been published in the JOURNAL.

Association Notices.

SUGGESTED CHANGES OF BOUNDARIES.

NOTICE OF PROPOSAL FOR ADJUSTMENT OF COMMON BOUNDARY BETWEEN EAST NORFOLK AND NORTH SUFFOLK DIVISIONS.

A PROPOSAL having been made by the Mid-Norfolk Division (now merged in the new East Norfolk Division) for the adjustment of the common boundary between the Divisions of Norfolk and those of Suffolk, to make that boundary identical throughout with the boundary between the counties, notice is hereby given under By-law 73 to all concerned of this suggested change. The existing Divisions affected by the proposal are the East Norfolk and North Suffolk Divisions.

Formal written notice of the proposal has been given pursuant to Article 13 to the East Anglian Branch and to both the Divisions named, and the matter will be determined in due course by or on behalf of the Council.

Any member affected by the proposed change and objecting thereto is requested to notify the fact, and his reason therefor, to the Medical Secretary, 429, Strand, London, W.C., not later than January 13th, 1914.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH.—Dr. P. R. Cooper (8, St. Peter's Square, Manchester) gives notice that a conjoint clinical meeting of the Lancashire and Cheshire Branch and the Manchester Medical Society will be held at 4.30 p.m. on Wednesday, December 17th, at the Manchester Royal Infirmary (out-patient department)—entrance, Nelson Street, off Oxford Road. Afternoon tea 4.15 p.m. A programme of interesting clinical cases will be arranged, and an *x*-ray demonstration of methods of screen examination with and without the use of bismuth will be given.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—Dr. T. W. H. Garstang, Honorary Secretary (22, Station Buildings, Altrincham), gives notice that the Executive Committee will meet at Altrincham on January 6th, 1914, and the annual meeting of the Division will take place at Altrincham on January 22nd, 1914.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—Dr. A. G. Southcombe, Honorary Secretary (83, Sidney Road, Homerton, N.E.), gives notice that the next meeting of the Division will be held, conjointly with the Finsbury Medical Guild, at the Manchester Hotel, Aldersgate Street, E.C., on Friday, December 12th, at 9.30 p.m., when Dr. James MacMunn will give an address on The Treatment of Chronic Urethritis. Members are reminded that their professional friends will be welcomed. Coffee at 9.15.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—Dr. A. Pottinger Eldred, Honorary Secretary, gives notice that a meeting of the Division will be held at the Walthamstow Hospital on Thursday, December 18th, at 4 p.m. Agenda: Cases and papers by members: (1) A State Medical Service; paper by Dr. A. Todd White. Election of Honorary Secretary. Any other business.

NORTH OF ENGLAND BRANCH: NEWCASTLE-ON-TYNE DIVISION.—Mr. R. J. Willan, F.R.C.S., 25, Ellison Place, Newcastle-on-Tyne, gives notice that a scientific demonstration meeting will be held in the Royal Victoria Infirmary, Newcastle-on-Tyne, on Friday, December 19th, from 3.15 to 6 p.m.:—Dr. S. J. Clegg: Some Infectious Fevers. Dr. W. C. Rivers: The Treatment of Phthisis by Artificial Pneumothorax. Tea. Mr. J. W. Leech: Diagnosis and Treatment of Ruptured Ulcers of the Stomach and Duodenum. Mr. S. S. Whillis: Common Conditions of the Nose and Ear. Mr. G. Grey Turner: The Diagnosis of Intestinal Obstruction.

CLAUSE 2 (II) OF THE MODEL AGREEMENT.

THE reply of the Commissioners to the representations made to them on behalf of the Association against the terms of Clause 2 (ii) of the new draft model agreement was received as we went to press last week, and was inserted in the SUPPLEMENT, p. 512. It will be observed that the Commissioners declined in that letter to approve of the alterations suggested by the Insurance Act Committee of the British Medical Association, which would have involved the substitution of the word "demand" for "accept."

In the same issue of the SUPPLEMENT, and partly on the same page, was published a report furnished to us of an interview which had taken place on November 29th between the representatives of the Kent Medical Committee, the Surrey Medical Committee, and the Kent Insurance Committee on the one hand and a representative of the Insurance Commissioners for England on the other. We learn that the Insurance Commissioners do not accept the report as accurate. The Commissioners desire that practitioners should understand that they must not assume that if they sign an agreement containing Clause 2 (ii) that clause will be interpreted in the sense suggested by the answers to the deputations from Kent and Surrey attributed to the Commission's representatives.

The answer of the Commissioners to the questions asked by the deputation was conveyed in the following official letter to the Kent Insurance Committee:

The Clerk, Kent Insurance Committee, Sessions House, Maidstone.

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.
December 1st, 1913.

SIR,—I am directed by the National Health Insurance Commission (England) to refer to your letter of the 25th ultimo and to the deputation received at this office on the 29th ultimo from your Committee, the Kent Local Medical Committee, and the Surrey Local Medical Committee with reference to the terms of the agreement with practitioners.

In regard to Clause 2 (ii) of the agreement, I am to invite your attention to the Commissioners' circular letter of the 28th ultimo (I.C.L. 58), another copy of which is enclosed, which indicates their views generally in regard to this clause.

With reference to the questions put forward in your letter and at the interview above referred to, the Commissioners desire me to point out that, as was indicated at the interview, the interpretation of the agreement devolves upon the Insurance Committee, subject, of course, to any rights of appeal possessed by the practitioners under the agreement or otherwise. I am to point out, further, that the Commissioners could not properly give categorical replies to questions as to the interpretation of the agreement put hypothetically and divorced from the actual facts and details of the circumstances in which they may have arisen, especially in view of the fact that they might by such action be prejudging the decision which they may at a later date be called upon to give after consideration of the questions, together with all the relevant and particular facts, in a judicial capacity.

Subject to these considerations, the Commissioners have no hesitation in replying to the questions contained in your letter by stating that Clause 2 (ii) relates only to the duties of the practitioner under his agreement, and does not, of course, apply to any matters which are outside the range of the agreement. The practitioner will doubtless be able to govern himself in accordance with this principle in any circumstances arising which may necessitate the exercise of his judgement in this connexion; but he will, of course, bear carefully in mind, in arriving at a decision in any particular case, that he may be called upon later by the Committee to justify his action and that the Committee will doubtless require to be satisfied that the spirit and intention of the clause have been complied with and that no action has been taken which might be construed as, in any way, prejudicing or obscuring the rights open to the insured person under the National Insurance Acts and Regulations.

With regard to Clause 7 of the agreement, I am to state that the word "where" in line 4 of the First Schedule should be interpreted as equivalent to the phrase "if and when."

With regard to Clause 13 (1), I am to point out that before any action be taken under this clause the matter must be investigated by the Medical Service Subcommittee or the Joint Services Subcommittee, as the case may be, who will doubtless take into consideration all the circumstances attending the alleged breach in considering whether a breach has been proved, and, in that event, in assessing the amount of the expenses which have necessarily and reasonably been incurred.

While the Commissioners are satisfied that the Committee will apply a reasonable interpretation to the provisions in question, they are, as already explained, unable to bind the Committee or prejudge their own judicial decision by a categorical ruling upon the question raised.

In connexion with this clause, the question as to the relationship between the insured person and the practitioner was raised at the interview. On this point I am to state that, while the question is one which can only be authoritatively decided in the High Court, the legal advisers to the Commission are of opinion that the relation between the practitioners and the insured persons whom he attends under his agreement with the Insurance Committee is not a contractual one.

It should further be clearly understood that, whatever may be the decision of the courts upon the question under consideration, no provision which might be inserted in agreements between committees and practitioners could prevent insured persons from taking action in tort against the practitioners by whom they are attended in any case in which such action is otherwise open to them.

With regard to Clause 13 (iii) I am to state that this clause was incorporated in the agreement in consequence of representations made to the Commissioners in the interests of general convenience and the avoidance of unnecessary litigation, and the Commissioners have satisfied themselves by such means as are open to them that the course taken is in accordance with the considered views of the entire medical profession. In these circumstances the Commissioners would not feel justified in excepting a particular area from the operation of provisions which were introduced with the approval of the profession as a whole on grounds which are generally applicable to the circumstances of the whole country.

The Commissioners cannot undertake to offer hypothetical advice as to any other rights of appeal which may be open to the practitioners otherwise than under this clause and Clause 14.

Clause 15.—With regard to the power reserved to the Commissioners under this clause to determine agreements forthwith, it should be borne in mind that this power can only be exercised in the very exceptional circumstances in which the proviso to Section 15(2) of the National Insurance Act, 1911, or Section 11 of the National Insurance Act, 1913, could be put into operation, that is to say, where the Commissioners have suspended the panel system in the area. Such a step would of course be taken only in exceptional circumstances which would certainly be within the knowledge of the practitioners on the panel; and apart from the occurrence of such exceptional circumstances as would justify the Commissioners in taking action of this nature, it would appear that the provisions of Section 17(2) of the Revised Medical Benefit Regulations afford reasonable facilities for withdrawal from the panel, and at the same time afford ample protection to the interests of the practitioners concerned.

The Commissioners note the views of the Kent Local Medical Committee with regard to the treatment of temporary residents. They can, however, only refer the Committee to Memorandum 171/I.C., to the terms of which the Commissioners do not consider they can usefully add.

The Commissioners would be prepared to approve the insertion of "two" in Clause 6 (ii). I am, however, to suggest that a form of words such as "or within a distance not greater than that of his place of residence" should be inserted after the word "road" in order to meet the case of an insured person who removes nearer to the residence of the doctor from the place where he resided when accepted but is still resident more than two miles from the doctor. A provision of this nature would appear to be desirable in view of the special circumstances of the area of your Committee.

With regard to the question of medical certificates, I am to state the matter is one within the discretion of societies in so far as their rules admit. Memorandum 173/I.C. indicates the views of the Commissioners, and whilst of course it will be appreciated that

this Memorandum has no statutory force, the Commissioners will be prepared to communicate with any particular society, where such a course would appear desirable, with a view to securing uniformity in the matter so far as practicable.

A copy of this letter is being sent to the Kent Local Medical Committee, the Surrey Local Medical Committee, and the Surrey Insurance Committee.—I am, Sir, your obedient Servant,

(Signed) S. P. VIVIAN.

Circular Letter referred to in the above Letter.

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.
28th November, 1913.

The Clerk to the Insurance Committee.

Sir,—I am directed by the National Health Insurance Commission (England) to inform you that they have received numerous inquiries with regard to Clause 2 (ii) of Form Med. 29 (revised), and in view thereof the Commissioners consider it desirable to communicate generally with Insurance Committees on the subject.

Obviously no legal obligation is imposed on an insured person by the National Insurance Acts, 1911 to 1913, to accept the benefits conferred by those Acts, and there is nothing to prevent an insured person from foregoing his right to any of those benefits, including medical benefit (without, however, becoming thereby exempt from the obligations of the Acts as regards contributions, etc.). On the other hand, however, the Commissioners consider that, where a practitioner has entered into an agreement with an Insurance Committee under which he undertakes to give medical treatment and attendance, as laid down in the Regulations, to insured persons in consideration of payments made to him out of the funds of the Committee, the practitioner would not be acting in accordance with the tenour of his agreement in accepting fees otherwise than from the Committee in respect of any treatment rendered to insured persons to which they are entitled in pursuance of his agreement with the Committee.

As the Commissioners understand that doubts have arisen on this point in connexion with the agreements for the current year, the clause in question has been embodied in the new agreements in order to express more clearly the position in the matter, and they would not be prepared to agree to the clause being modified in a manner which would in any way admit of the right of a practitioner to receive fees otherwise than as provided in the agreement in respect of treatment he is required to give under his agreement.

It would appear, however, that the clause as it stands has been construed as prohibiting an arrangement between an insured person and a distant practitioner in consideration of the latter accepting the former in circumstances in which the practitioner would not otherwise have accepted, and was under no obligation to accept, the insured person seeing that the services of another practitioner on the panel not less accessible to the insured person are available to him. As it is not the intention of the Commissioners that the clause should prohibit an arrangement between an insured person and a practitioner in the circumstances indicated, and in order to remove the doubts which have arisen on the point, they would be prepared to approve, where circumstances justified, the addition to the clause of the following words:

> but nothing in this agreement shall be construed as prohibiting the acceptance by the practitioner from an insured person of such fees as may have been agreed between them in writing as a condition of the acceptance by the practitioner of the insured person where the places of residence of the insured person and the practitioner are so situated that access between them is by reason of distance, or otherwise difficult or inconvenient, and where there is another practitioner upon the panel by whom the insured person might have been accepted, or to whom he might have been assigned, and whose residence is nearer to that of the insured person, or is less inconvenient of access.

It should, of course, be clearly understood that the insertion of these words in the agreement will in no way admit the right of a practitioner to *claim* fees in this or any other circumstances, but will merely enable him to enter into an arrangement with an insured person who desires and offers to do so in the circumstances indicated.

The Commissioners understand that doubts have been expressed as to the validity of certificates over a rubber stamp signature. The circumstances which have arisen in such cases would suggest that, for the protection of medical practitioners, no less than in the interests of approved societies, an arrangement might with advantage be made with the practitioners on the panel for the issue of certificates in ink signed by the practitioner in his own handwriting.

If the parties to the agreements now in course of negotiation are agreeable, the arrangement might be effected by inserting in the Model Form of Agreement (Form Med. 29 [Revised]) the following clause as sub-clause (ii) to Clause 7:

"All certificates furnished by the practitioner under this agreement shall be written in ink and shall be signed in ink by the practitioner in his own handwriting."—I am, Sir, your obedient Servant,

S. P. VIVIAN.

DISTRIBUTION OF THE UNALLOTTED FUNDS.

DRAFT REGULATIONS BY THE COMMISSIONERS.

THE following draft regulations, dated November 28th, 1913, having reference to the matter of the funds unallotted in respect to insured persons who have not selected a doctor, have been issued by the Insurance Joint Committee acting jointly with the English and Welsh Insurance Commissioners.

Draft Regulations.

The National Health Insurance Joint Committee, acting jointly with the Insurance Commissioners and the Welsh Insurance Commissioners, in pursuance of the powers conferred on them by Sections 15 and 65 of the National Insurance Act, 1911, and by the National Insurance (Joint Committee) Regulations, 1912 and 1913, hereby make the following regulations:

1. These Regulations may be cited as the National Health Insurance (Administration of Medical Benefit) Regulations, 1913, and shall be read and construed as part of the National Health Insurance (Administration of Medical Benefit) Regulations, 1912, in these Regulations referred to as "the principal Regulations," and the principal Regulations, the National Health Insurance (Administration of Medical Benefit) Amendment Regulations, 1913, and these Regulations may be cited together as the National Health Insurance (Administration of Medical Benefit) Regulations, 1912 and 1913.

2. For the purposes of Part IV of the principal Regulations:

(*a*) the amount available for the medical benefit of persons on panel lists includes, and shall be deemed always to have included, all sums available for the medical benefit of insured persons resident in the County, other than moneys required by the principal Regulations to be carried to the credit of the Institutions Fund and the Special Arrangements Fund:

(*b*) The amount in the Panel Fund available for the purpose of the payments to practitioners on the panel in accordance with Article 40 of the principal Regulations includes, and shall be deemed always to have included, all moneys carried to the credit of the Panel Fund, after the deduction of such sums as may be necessary for the purposes of Article 22 and Article 50 of the principal Regulations.

MEETING OF THE LONDON INSURANCE COMMITTEE.

A special meeting of the London Insurance Committee was held on December 8th, when a report was received from a Special Subcommittee on the draft Amended Regulations as they affected the distribution of the funds accumulated in respect of insured persons who have not chosen a doctor (SUPPLEMENT, December 6th, p. 521). The Regulations set out in terms the expressed intention of the Commissioners that the whole amount available for medical benefit, after deductions for the drug fund, etc., must be paid to practitioners on the panel.

The Special Subcommittee recommended that the distribution of the funds be proceeded with as soon as due notice had been given in the press.

Mr. H. KINGSLEY WOOD moved as an amendment:

> That having regard to the large sum of money remaining undistributed owing to many thousands of insured persons not being on the London panel lists, and to the advice already given by leading counsel that such sum cannot be properly distributed amongst the doctors on the medical list, the Committee do not proceed with such distribution until the further regulations about to be issued by the Insurance Commission, and Mr. Lloyd George's letter of

26th November, 1913, have been placed before counsel and his opinion taken; and that the further opinion of counsel be obtained—

(i) As to whether the Committee can now distribute such money;

(ii) As to whether any personal liability on the part of members of the Committee will be incurred thereby.

(iii) If the answer to (i) is in the affirmative, as to the principles and basis on which such distribution might be made; and

(iv) If the answer to (i) is in the negative, as to whether such sums can be utilized for the provision of the nursing of insured persons, or can be returned to insured persons who have not been accepted for treatment by doctors on the medical list, or otherwise utilized for the benefit of insured persons generally.

In moving the amendment, Mr. Kingsley Wood urged that counsel's opinion would be valuable, because even when the distribution was agreed upon, questions would arise as to what should be the attitude of the Committee towards those doctors who had 2,000 persons on their lists and those who had only accepted a limited number. Were the doctors whose lists fell between these two extremes to be the only ones to share in the distribution? He considered that medical practice and attendance under the Act had not improved as compared with the days of friendly society administration, although the remuneration had been very considerably increased. He was glad that the British Medical Association had passed a resolution embodying the principle that allowance should be made to insured persons who had paid for medical attendance from their own doctors.

Mr. G. P. Dew, who seconded, said that working people were far from satisfied with the way the Act was being carried out.

Mr. A. Siemens, an employers' representative, urged that the remuneration of the doctors had been fixed upon the total number of insured people, and not on the number on the panel. Distribution should be made to the doctors on the panel in proportion to the liability they had assumed.

Dr. R. M. Beaton said that a great many doctors on the panel did not want the accumulated funds. At a meeting of the St. Pancras and Islington Division, when those present were equally divided between panel and non-panel, a resolution was passed almost unanimously that the doctors would not touch the money until two classes of people had been considered—those insured persons not accepted, and those who refused to go on a panel list. These people should get their money back. There were people who had been attended for many years by a man who had become their friend as well as doctor. They refused, in spite of the Chancellor or any Government, to leave that man, and he admired them for it. The only way to settle the matter was a friendly case taken to the highest court.

Mr. F. Briant (Chairman of the Medical Benefit Sub-committee) thought that various speakers had brought in matters that were not germane. The only points were—did the Government tell the doctors who accepted service that they were to participate in the whole of the panel fund, and did the Commissioners include that in the agreement? As the Government had said that that was the intention, the Committee had no right to delay distribution any longer. It had been suggested that doctors on the panel had done very little for their money. Nevertheless, in industrial districts of London medical men had seen in nine months 60 per cent. of those who had gone upon their lists. In other cases the percentages were 50, 55, and 70.

Dr. B. A. Richmond said that as one of the doctors on the panel he was surprised that those who were interested in the working of the Act should speak so disparagingly of the panel doctors, but for whose co-operation the Act would not have been worked. A medical member told the committee that the doctors on the panel did not want the unallotted funds. It was unfair to suggest that the feeling in St. Pancras on this matter was representative of the panel service in London. It appeared to be suggested that the panel doctor was an inferior person, whereas some of the best doctors in the profession were on the panel. He was quite willing that those who wished to make their own arrangements should be considered, but these were a comparatively small proportion of the 400,000. In Poplar a man with 1,630 persons on his list had seen 1,311 new cases, or 81 per cent. of the whole; in other instances the percentage was 60 and 68. Doctors on the panel were dealing with more than the proper insurance rate of sickness, because sick people had chosen a doctor and healthy people had not.

The Chairman, in reply to Dr. Beaton, ruled that as the meeting was a special one, no amendment of the motions which appeared on the agenda could be permitted.

Miss Morton, on behalf of nursing associations, disclaimed any desire to make a claim to the unallotted funds.

Mr. J. A. Dawes, M.P., Chairman of the Committee, spoke in support of the distribution of the money, and, in reference to various comments on the medical service, said that his experience of the panel doctors was that they had done their work conscientiously and well.

There voted for the amendment 29, and against 19, and it was accordingly declared carried as a substantive motion. Further legal opinion will, therefore, be taken.

LOCAL MEDICAL COMMITTEES.

MIDDLESEX.

At a meeting of the Middlesex Local Medical Committee on November 21st, Drs. Fuller, Busfield, and Shanks were elected as a deputation to the Insurance Committee to ask for certain alterations in the proposed new agreement.

The deputation met the General Purposes Subcommittee of the Middlesex Insurance Committee on December 1st, and were supported in their demands by Drs. Lowry and Brackenbury, of the Insurance Committee. After some discussion, the Middlesex Insurance Committee decided to go to the Commissioners with the doctors to present their demands, and an appointment was made for the following day, when three members of the Middlesex Insurance Committee (including the Chairman and Vice-Chairman) and Drs. Lowry, Brackenbury, and Shanks waited upon the Commissioners.

The request that in Clause 2, Subclause (ii), the word "demand" should be substituted for "accept" was refused by the Commissioners, but the Middlesex Insurance Committee agreed to make a minute to the following effect:

That the phrase "accept any fee or other remuneration" does not include a present or a gift made by an insured person to a doctor.

The Commissioners agreed to the suggestion to add to end of Clause 2, Subclause (ii):

but nothing in this agreement shall be construed as prohibiting the acceptance by the practitioner from an insured person of such fees as may have been agreed between them in writing as a condition of the acceptance by the practitioner of the insured person where the places of residence of the insured person and the practitioner are so situated that access between them is by reason of distance, or otherwise difficult or inconvenient, and where there is another practitioner upon the panel by whom the insured person might have been accepted or to whom he might have been assigned, and whose residence is nearer to that of the insured person or is less inconvenient of access.

The proposal that in Clause 6, Subclause (ii), after the word "place" the words "within the county" should be added was granted by the Commissioners.

The Commissioners also agreed to the proposal that the blank space relating to distance in Clause 6, Subclause (ii) should be filled in by the Committee in accordance with last year's agreement, and that after the word "road," the following words be added: "or within a distance not greater than that of his place of residence."

The deputation, although not entirely satisfied with the result of the conference, were so far satisfied that they authorized the Middlesex Insurance Committee to issue a statement to the effect that in the circumstances they recommended the acceptance of the amended agreement. This statement has been printed and sent to all the doctors on the panel with the amended agreement.

BIRMINGHAM.

A meeting of practitioners on the panel in the Birmingham area was held at the Medical Institute on Monday, November 17th, to arrange a scheme for the election of a Panel Committee, to be submitted to the Insurance Commissioners for their approval.

The Medical Committee submitted the following alternative schemes for the consideration of the practitioners:

Scheme 1.—That the nominations for the election of the local Panel Committee be grouped in districts corresponding to the ten wards of the Birmingham General Practitioners' Union.

That each elector shall have twenty-eight (28) votes, and that, in the first place, the two practitioners receiving the highest number of votes in each district be elected, and that of the remainder, the eight practitioners receiving the highest number of votes be elected to complete the Committee.

No elector shall give more than *one* vote to any candidate.

Should any elector who resides outside the Birmingham area be nominated, he shall be regarded as having been nominated for the nearest district.

Scheme 2.—That the election be carried out in districts corresponding to the wards of the Birmingham General Practitioners' Union.

That the twenty-eight places on the Committee be distributed among the districts in proportion to the number of panel patients accepted for treatment.

Each elector shall have *one* vote for each place on the Committee assigned to his district.

No elector shall give more than *one* vote for any candidate.

Any elector residing outside the Birmingham area may be nominated for and shall vote in the nearest district.

Seventy-nine practitioners attended, and Dr. G. A. WILKES took the chair. Scheme 1 was approved by a small majority after a long discussion, and it was resolved to submit it to the Insurance Commissioners for their approval.

The thirteenth meeting of the statutory Medical Committee was held in the Medical Institute on November 25th. Mr. A. LUCAS was in the chair, and twenty-one members attended.

Medical Referees.—The report of the subcommittee appointed to draw up a scheme for the temporary appointment of a board of medical referees was read and approved, and the subcommittee was authorized to arrange the working details with a subcommittee of representatives of approved societies on the Insurance Committee.

New Agreement.—The report of the interview of the subcommittee with a subcommittee of the Insurance Committee was read. The distance of one and a half miles was agreed to for insertion in par. 6 (ii). It was resolved:

To request the Insurance Committee to insert the words "from the patient" after remuneration in par. 2 (ii).

To request the Insurance Committee to include Regulation 17, paragraph (7) of Regulations, December 5th, 1912, in new agreement.

Certificates.—The Insurance Committee asked for the decision of the Medical Committee in the case of an insured person who received a medical certificate of incapacity from "middle-ear disease and perineal abscess." The approved society was of opinion that the practitioner certifying should add the words, "not caused by misconduct." It was resolved:

It is the opinion of the Medical Committee that it is no part of the practitioner's duty to give an opinion as to the nature of the cause to which the disease is due, whether it is to the misconduct of the insured person or not; that the practitioner is not a judge of the morality of the insured person, and that he should refuse to give any opinion about conduct, either to the insured person or to the approved society.

Administration of Anaesthetic.—The Insurance Committee asked for the decision of the Medical Committee in the case of an insured person who required an anaesthetic for the purpose of an operation for hernia. It was resolved:

That it is no part of the practitioner's duty under his agreement to administer an anaesthetic for a major operation.

CHESHIRE.

THE Secretary of the Local Medical Committee, Dr. Lionel J. Picton (Holmes Chapel), has issued a summary of the negotiations which have taken place with regard to the new agreement. The Committee obtained the cordial support of the Insurance Committee on most of the points desired by the medical profession. The resolutions of the Medical Benefit Subcommittee, which, though almost all refused by the Commissioners, were subsequently adopted by the Insurance Committee and ordered to be again sent to the Commissioners, were as follows:

That the subcommittee consider it undesirable that any alteration should be made in the wording of Clause 2 (ii).

That as the objection to the second part of Clause 3 is one in which the question of temporary residence vouchers is involved, and, as a recommendation has previously been made that the matter be referred to the general committee for its reconsideration, that no action be taken thereupon.

Mem.: On this the Insurance Committee subsequently resolved (December 4th) to send up the deputation in our support as mentioned above.

That the Commissioners be asked to make arrangements whereby every insured person entitled to medical benefit shall be supplied with a voucher for production to the panel doctor when requiring treatment.

That in view of an authoritative opinion having been expressed that whereas an insured person had a right of appeal to a court of law in any dispute between himself and a panel doctor in respect of any treatment or other cause arising out of his relationship with his panel doctor, such panel doctor under Clause 13 (i), (ii), (iii), had no such similar right, by reason of such Clause 13 (i), (ii), (iii), under the Regulations, precluding the practitioner from appealing against any decision of the Commissioners, it be represented to the National Health Insurance Commissioners that:

(*a*) Such Clause 13 (i), (ii), (iii), places the practitioner in a position of disadvantage.

(*b*) Creates an injustice to the practitioner; and

it is urged that such modification of the clause and Regulations should be made as will allow of the practitioner, in case he be aggrieved at any decision of the Commissioners, further appealing to a court of law.

That the Commissioners be asked to permit of the amendment of the proviso to Clause 2 (i) to allow of the insertion after the word "confinement" of the clause "or in respect of illness arising therefrom within two weeks from the date of the confinement."

That the Commissioners be asked to permit of the insertion in the first schedule of a clear definition, upon the lines laid down in Memo. 173 I.C., of what it is intended shall be covered by "certificates" required to be given by a panel doctor.

That it be not a condition of the doctor's agreement that he shall be required to pay out of his own pocket any fee required to be paid for the administration of an anaesthetic in an operation or other treatment which he is required to give under his agreement.

That the Commissioners be asked to include in the agreement a proviso to the following effect—namely, That the practitioner shall not by virtue of this agreement be required to give, nor entitled under this agreement to make any charge for, treatment to any person in respect of a miscarriage taking place after eight weeks of pregnancy.

That any of the foregoing decisions requiring the sanction of the Commissioners be submitted to them forthwith.

In the circumstances the Local Medical Committee has advised all members of the profession in the district to sign the new agreement and to forward it to the Secretary of the Local Medical Committee, in this way demonstrating that the whole profession in the county was acting together. Dr. Picton pointed out that the need for such united action was never greater than at the present moment.

WEST SUFFOLK.

THE fourteenth meeting of the West Suffolk Local Medical Committee was held on December 2nd, and a joint meeting with the Emergency Medical Benefit Subcommittee took place subsequently.

New Contract.—The reply of the Commissioners to the amendments submitted by the last joint meeting was considered. It appeared that the Commissioners declined to accept any alterations in form Med. 29 (revised). The Committee felt that, in spite of the explanations given, some of the suggested amendments were still desirable, but considered that organized refusal to sign was not at present possible in the area; there was no option but to accept the contract as it stood.

Vaccines.—A further discussion on the question of the supply of vaccines and serum took place. The Local Medical Committee pointed out that though they had agreed that a practitioner supplying drugs and appliances might be expected to supply "stock" vaccines if necessary, serums and antitoxins were certainly not to be included. It was pointed out that if doctors supplied stock vaccines, chemists must do so, too. After much discussion, the question was deferred pending its consideration by the Pharmaceutical Committee and their report.

Medical Form 32.—The Insurance Committee had pointed out in a circular to practitioners the difficulty and, in some cases, impossibility of obtaining the "credits" of those insured persons whose "buff" forms (Med. 32) were incomplete, and practitioners were requested in this circular not to sign these forms unless they were properly filled in. The Local Medical Committee contended that this was not the practitioner's work, and that some other way of ensuring accuracy must be found. The difficulty

arises particularly in the case of forms sent by post. The Clerk stated that the difficulty will be done away with next year by the issue of a voucher to every insured person entitled to medical benefit.

INSURANCE COMMITTEES.

Bristol.

The Bristol Insurance Committee held its monthly meeting at the Council House on December 1st, when Dr. W. Saise was in the chair. The resignation of Dr. Devis, who stated that he could not attend the meetings as now arranged (they are held in the evenings), was accepted. A long discussion took place on an addition to the salary of the clerk, and, after several amendments had been proposed and lost, it was agreed to raise the salary to £300. Similar resolutions were passed raising the salary of the assistant clerks.

The Work of the Medical Adviser.—In presenting the report of the Medical Service Subcommittee the Chairman said that the Medical Adviser had reported on 50 more cases with the following results: 26 fit to work, 7 did not attend for examination, and 17 were found not fit to work. In commenting on these figures the Chairman said that the numbers were lower than for the previous month, and that that was evidently due to the knowledge that some one was looking after the malingerer. Dr. Rogers had seen 593 cases in nine months, and of these 380 had been found fit to work, and 213 not fit. The cost of this referee work was 6s. acase. It was reported that the Committee had received letters from approved societies with a membership of 63,000 persons accepting the services of the Medical Adviser on the terms proposed.

Number of Insured Persons.—In the report of the Medical Benefit Subcommittee it was stated that the register had again been counted, and the result showed the number of insured persons to October 15th:

Members of Approved Societies.		
Men	73,965	
Women	45,324—	119,289
Married women, Class H.I. ...	49—	49
Deposit Contributors.		
Men	1,567	
Women	688—	2,255
Army and Navy Insurance Fund.		
Men	4—	4
Grand total		121,597

Sanatorium Benefit.—The Sanatorium Benefit Subcommittee reported that there had been slight falling off in numbers of applications.

INSURANCE NOTES.

"INCREASED MEDICAL INCOMES."

Disclaimer by Medical Secretary.

An article appeared in several newspapers on December 3rd in which a great deal was made of the increase in doctors' incomes caused by the National Insurance Act. The report was given in some newspapers in a very misleading way, which seemed to attribute to the Medical Secretary remarks which were not made by him. The following are the facts of the case:

A press representative saw the Medical Secretary, and asked what foundation there was for the reports of the scarcity of medical men for certain appointments; and feeling this to be a good opportunity for voicing the dissatisfaction of the profession with the meagre salaries offered for many public appointments, the Medical Secretary made certain remarks which were reported quite correctly in several journals. The following is taken from the *Westminster Gazette*:

B.M.A. Medical Secretary's View.

Dr. Cox, the Medical Secretary of the British Medical Association, said in an interview yesterday that there was undoubtedly a very serious shortage in the number of doctors for posts under the education and asylum authorities, and this he ascribed to the enormous increase of work thrown upon the general practitioner by the Insurance Act. Formerly young men were only too willing to accept positions under these bodies at salaries ranging up to £300 a year. Now, however, the demand for assistants was so great that the remuneration greatly exceeded the sums paid by local bodies. The only solution open to the local authorities was to increase the salaries.

Asked whether there would not be a limit to the sums paid by local authorities by reason of public opinion, and whether any undue increase would not lead to a demand for a State medical service, Dr. Cox said men would always be willing to accept smaller salaries for the more regular work under a public authority than they would be willing to take in private practice. He saw no objection to the further nationalization or municipalization of certain branches of medical work, but he was strongly opposed to a general State medical service.

Other parts of articles containing statements that some medical men had trebled their income, that some had set up in practice and within a year were earning over £1,000, and other fairy stories of the kind, were in no way inspired by the Medical Secretary, who was, in fact, asked no questions on this part of the subject, and confined himself to the remarks quoted above. He is anxious to take this opportunity of disassociating himself from any responsibility for these exaggerated and misleading statements.

SCOTLAND.

Special Mileage Grant.

The Insurance Commission (Scotland) has issued the scheme framed by the Commissioners and approved by the Insurance Joint Committee and by the Treasury for the distribution of the Parliamentary grant in aid of mileage in sparsely populated districts, not including the Highlands and Islands. The total of the grant is £50,000, and of this sum £15,000 has been made available for distribution by County Insurance Committees in the Lowlands of Scotland.

The Scottish Insurance Commissioners, after inquiry, are to determine the amount of grant available to each county. In the case of Perthshire this will be for the portion of the county outside the area covered by the Highlands and Islands grant. The Commissioners, therefore, through their inspectorate, have made inquiry into the circumstances of each county. In particular, returns have been received from insurance practitioners, the population and character of each district affected have been considered, and much consultation has taken place with persons having local knowledge, such as road surveyors, chief constables, and clerks to Insurance Committees. The Commissioners believe that they have secured an equitable apportionment of the money as between the counties concerned. The grant is limited to mileage in sparsely populated districts. The Commissioners have therefore been obliged to consider only those areas which fulfil that condition. Account has not been taken of insured persons resident within three miles by land of the nearest insurance practitioner. Similar treatment has, however, been applied in the case of all counties with a view to securing equity in the apportionment of the grant as between counties. Special allowance has been made in respect of insured persons whose residence can be reached only by a footpath or a road not used for vehicular traffic, or across moorland, or by water. Any arrangement for payment of mileage which may have been made by an Insurance Committee in terms of Paragraph 50 of the current Medical Benefit Regulations has been disregarded by the Commissioners in determining the amount of grant to be assigned to the Committee. The insured persons of whom account has been taken in the apportionment were those who, subject to the limitation mentioned in Paragraph 3, were residing within the county on April 13th, 1913, according to the index slips held by the clerk to the Insurance Committee. Subject to the retention of a balance for the purposes mentioned below, the grant will be distributed immediately among committees. The balance of the grant will be distributed later, when the Commissioners have an opportunity of considering how far it may be necessary under the scheme to make special provision in respect of: (1) Persons who may have removed, temporarily or otherwise, into the Committee's area since April 12th, 1913; (2) persons who may have entered into insurance since that date; (3) geographical or other special difficulties in regard to mileage in the area of any committee; and (4) members of the Seamen's National Insurance Society.

The Mileage Rates.

An Insurance Committee will distribute the mileage fund for the year ending January 14th, 1914, among the practitioners on the panel who may be deemed by the Committee to be entitled to participate therein on the basis of one unit for every mile of "normal mileage," and two and a half units for every mile of "special mileage," and four units for every mile of "water mileage" respectively.

"Normal mileage" is the distance along a driving road between the residence of the insured person and that of the nearest practitioner on the Insurance Committee's list. "Special mileage" is the distance along a path or road not used for vehicular traffic, or across moorland. "Water mileage" is the whole distance by sea or loch measured between the points of embarkation and landing, having regard to the length of an average voyage. In making such distribution and in determining the sum, if any, payable to each practitioner on the panel, the Insurance Committee may take into account any special circumstances of the area, or any representations made by any of the practitioners, or by the Local Medical Committee, or by the Panel Committee in regard thereto, and may vary the scheme of distribution accordingly.

Domiciliary Treatment of Tuberculosis.

Rather more than a year ago the Scottish Local Government Board laid down the procedure required in connexion with applications for its approval under Section 16 (1) (*b*) of the Insurance Act as to the manner of treatment of tuberculosis other than institutional. Under that arrangement it was necessary to obtain the approval of the Board in each case. The Board has now issued general conditions which, if observed, will obviate the necessity for application in each case for approval. These general conditions are:

(1) That the name of every case recommended for domiciliary treatment, together with the address at which such treatment is to be carried out, shall be intimated by the Insurance Committee, through their medical adviser or otherwise, to the Medical Officer of Health of the district where the patient is to be treated. (2) That regular medical attendance and supervision are provided. (3) That the medical adviser of the Insurance Committee shall inform the Medical Officer of Health of any change either in the patient's condition or in his surroundings that may render the house or other place in which the treatment is being carried out unsatisfactory for the purpose. (4) That the medical adviser of the Insurance Committee shall inform the Medical Officer of Health when in his opinion continued residence of a patient at home might endanger the health of others, and when a patient has been removed to an institution. (5) That the treatment of the patient and the circumstances under which the treatment is conducted shall be in conformity with the provisions of the Public Health (Scotland) Act, 1897. The Board reserve to themselves the right to amend or add to these conditions at any time as they consider necessary.

The conditions above set forth apply to treatment undertaken by persons. Where a local authority propose to carry out such treatment, application should be made (1) for the Board's authority under Section 16 (1) (*b*) of the Act of 1911, or (2) for their consent under Section 65 (1) (*d*) of the Public Health (Scotland) Act, 1897, if a local authority under the latter Act—or a county council by virtue of their powers under Section 41 (3) of the National Insurance Act, 1913—prefer to proceed in terms of that section. In such cases the application for the Board's authority or consent as the case may be should be accompanied by a report by the Medical Officer of Health giving full details of the scheme of treatment proposed.

WISBECH.

INQUEST ON DR. DIMOCK.

THE adjourned inquest with respect to the death of Dr. Horace Dimock of Wisbech on October 27th was resumed and concluded on December 3rd before the coroner for the Isle of Ely.

Miss Dimock said that her deceased brother spoke to her in a clear voice at 9 o'clock on the morning of his death; an hour later she could not rouse him; she found no paper or box in the room.

Dr. W. H. Willcox, who had analysed the viscera on the instruction of the Home Office, said that in the parts that he examined he found 2.67 grains of morphine and 6.7 grains of veronal. The 2.67 grains would correspond to 3.33 grains of morphine sulphate. Since all the body was not analysed by him, the total amount of morphine present in the whole body would be more than the amount actually found. In his opinion it would correspond to at least 5 grains of morphine sulphate. The medicinal dose of morphine sulphate and of common salts of morphine was $\frac{1}{8}$ to $\frac{1}{4}$ grain; 1 grain of a salt of morphine might be a fatal dose to an adult not accustomed to taking the drug habitually. In his opinion a dose of morphine had been taken which would in all probability prove fatal to a person not habitually accustomed to taking the drug. The medicinal dose of veronal was 3 to 10 grains. In his opinion a dose of veronal in excess of the maximum medicinal dose was taken. He could not say that a fatal dose of veronal was taken. He had no doubt that he died of morphine poisoning accelerated by veronal. After the evidence of Miss Dimock he was of opinion that the deceased took the morphine either just before or just after he spoke to her at 9 a.m. on the day of his death.

Just before the Coroner addressed the jury, Mr. Copeman, who was present on behalf of Dr. Meacock of Wisbech, asked: Am I to gather from the letter you wrote me that I am not to be allowed to address the jury on behalf of those I represent?

The Coroner: I am sorry we are not at one over that. I do not think it is the correct thing in a coroner's court that any one should address the coroner or the jury.

Mr. Copeman: I accept your ruling.

The Coroner: I am sensible of the fact that you are desirous of saying that the doctors of Wisbech have not persecuted the deceased.

Mr. Copeman: All I want to say is that there is not one iota of evidence of persecution of the deceased.

The Coroner: I do not think we can go into that.

Mr. Copeman: You have allowed me to say all I want to say.

The Coroner: I have tried to hold the scales fairly, and I think I have done so.

Mr. Copeman: I am perfectly satisfied now.

The Coroner, in addressing the jury, said that the evidence showed that the deceased was worried by the charge preferred against him, whether rightly or wrongly, and that that drove him into a despondent state of mind. Continuing, he said that in justice to those who set the criminal law in motion he thought it only right to say that one did not set the criminal law in motion against another, and especially not against a brother professional man, without first having grave evidence to support the action taken, for if it should be shown that the charge was without reasonable cause, and if an unlawful and malicious arrest were effected, not only did such person render himself liable to heavy damages, but his solicitor, if he knew his client had no proper case, was also liable, so the jury might feel assured that the parties setting the law in motion must have cautiously weighed the evidence they were able to bring forward before they started criminal proceedings. There was a marked difference between prosecution and persecution. Many persons were sane except upon one subject. An anonymous writer was one of the greatest pests of society, and when fairly caught the utmost rigour of the law should be his retribution. On the other hand, the deceased might have thought that he could have rebutted the evidence which the prosecutors relied on. As the proceedings taken came to an end when the deceased expired the unhappy matter would never now be fought out, and it would be best for all parties, including those who thought, and perhaps wrongly thought, that some injustice had been done, to bury the trouble in the grave of the deceased. Men of the world could not be blind to the fact that although an ordinary person might accidentally overdose himself with narcotics, it was difficult to admit that plea when the deceased was, as in this case, a brilliant medical practitioner. Having dealt with the evidence of the actual death scene, he said the points the jury had to consider were: First, did the deceased die a natural or an unnatural death? Secondly, if not a natural death, what brought about his death? Thirdly, did he, being a fully qualified medical practitioner, take poison with the intention of destroying himself? Fourthly, if so, was he sane at the time of taking the poison; or did he, being a medical man, take an overdose by misadventure?

After twenty-five minutes' deliberation the jury returned and the foreman said: We find that the deceased died from the effects of the poison, self-administered, but that there is not sufficient evidence to show the state of his mind at the time.

The Coroner: That amounts to a verdict of suicide.

The Foreman: We did not quite mean that. We thought he might have been muddled.

Eventually, after further consideration, the jury decided to word the verdict as follows: "That the deceased died from poison, morphine and veronal, self-administered, while temporarily insane after mental depression."

[This report is founded on that published in the *Eastern Daily Press*.]

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1913.

(*Concluded from page 527.*)

PHARMACOPOEIA COMMITTEE.

THE report of the Pharmacopoeia Committee, presented by its Chairman, Dr. NORMAN MOORE, was received and directed to be entered on the minutes. It stated that two further sections of the text of the new *Pharmacopoeia* had been prepared by the editors, and had been submitted to the Committee and to the several Committees of Reference. All the sections so prepared had been sent to press, and were at present in type, undergoing revision. It was hoped that the appendix, and the concluding parts of the draft, would be ready for consideration early in the new year.

PUBLIC HEALTH COMMITTEE.

Mr. Verrall, who had been nominated by the English Branch Council, was elected a member of the Committee in place of Dr. Lorrain Smith.

The report recommended the Council to authorize the registration of the degree of Master of Hygiene (M.H.) of the University of Liverpool as a qualification in public health. The Council accepted the recommendation.

The Committee also reported that it had received a letter dated November 8th, 1913, from the Secretary of the Royal Institute of Public Health asking whether in the opinion of the Council that Institute was a recognized medical school within the meaning of the rules of the Council, and if not, asking the Council to add such words to the regulations as would remove any doubt. The Committee was authorized to consult the Legal Adviser on the question of amending the rules for diplomas in public health as suggested, and on the general bearing of such an amendment or amendments.

STUDENTS' REGISTRATION COMMITTEE.

The report of the Students' Registration Committee on exceptional cases, and on the approval of certain recognized teaching institutions, was presented by the Chairman, Dr. NORMAN MOORE.

Sir JOHN MOORE said that the Conjoint Board in Ireland viewed with great concern the liberality with which students' registration certificates had been antedated; the Board felt it was hard for the Council to call upon local licensing institutions to adhere closely to rules and regulations when again and again a Special Committee of the Council took the liberty of antedating, in some cases perhaps as much as twelve years, the period of the commencement of medical study.

Dr. NORMAN MOORE said the Students' Registration Committee acted on perfectly well-known lines, to which it rigidly adhered. If the Conjoint Board of Ireland acted in the same way as the Students' Registration Committee, it need not suffer any anxiety.

A motion that the report be received and entered on the minutes was then put and carried.

DISCIPLINARY CASES.

Charge in respect of Tuberculosis Notification Certificates.

The Council proceeded to the consideration of the case of Harry Roberts, registered as of 68, Harford Street, Stepney, E., L.S.A.Lond., 1895, who had been summoned to appear before the Council on the following charge:

That being a registered medical practitioner you have given, under the Public Health (Tuberculosis) Regulations, 1911, on Form of Notification A, to the Medical Officer of Health for the Metropolitan Borough of Stepney, notices in the four cases following, namely: Alice Peacock, dated July 31st, 1912; Dorothy Phillips (or Philips), dated October 1st, 1912; Albert (or Albert Edward) Wright, dated December 25th, 1912; and Edward (or William Edward) Hartshorn, dated January 22nd, 1913; all of which notices were untrue, misleading, or improper. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

Mr. Hart (instructed by Mr. G. H. Young, solicitor) appeared for the complainants, the Stepney Borough Council; Mr. Harry Roberts appeared in person.

Mr. HART said that the first case complained of—Alice Peacock—was a child who was notified by Mr. Roberts to the Medical Officer of the Borough of Stepney as suffering from tuberculosis, the admitted facts being that at the time the doctor notified the child he had not in fact seen her at all. Dorothy Phillips was a child notified in the same way, the facts being that the child was brought by the mother to Mr. Roberts to be vaccinated. No examination of any kind took place upon which a diagnosis of tuberculosis could properly be formed. In that case, again, there was no serious dispute with regard to the facts of the case. In the case of Albert Wright, this was a child who had been an occupant of the London Hospital, from which he was discharged on December 20th, 1912. He was then certified as being free from all signs of tuberculosis. On the 25th the child was notified for tuberculosis by Mr. Roberts. On the following day the child died, Mr. Roberts certifying the death as being due to pneumonia. Edward Hartshorn was certified on January 22nd, 1913, by Mr. Roberts as suffering from tuberculosis. On January 23rd Mr. Roberts certified the man to the insurance authorities as suffering from febrile catarrh. On February 4th Mr. Roberts certified Edward Hartshorn to a sick benefit society to which he belonged as suffering from muscular rheumatism, and therefore entitled to sick benefit. Mr. Hart submitted that the giving of certificates without examination was a serious matter. In the first place, the notification of tuberculosis cases obviously and automatically led to steps which involved the expenditure of public moneys; it also led to domiciliary visits to patients which, when certificates were misleading and wrong, led to friction with the classes it was desired to benefit. The reply to the charge was conciliatory and apologetic in tone, but Mr. Hart contended that the giving of certificates in this way—recklessly, not knowing or caring whether they were proper or accurate certificates in the performance of a public duty—was giving misleading and improper certificates within the meaning of the Council's Standing Order of November 30th, 1911.

Dr. THOMAS (M.O.H. Stepney), examined by Mr. HART, formally produced the four certificates which were the subject matter of the charge.

Cross-examined by Mr. ROBERTS: It was desirable, wherever tuberculosis was diagnosed, that it should be notified. It was another point whether it was better to notify cases of strong suspicion of tuberculosis than to wait to ascertain the fact beyond doubt; in every case of doubt the patient should be examined by an expert, so that the patient's friends could be relieved from anxiety. In respect of tuberculosis no steps were taken to examine cases notified, and for that reason he did not think it justifiable to notify cases as to which there was any doubt, without a second opinion. As public officials they strongly objected to the anxiety the patients were put to, and were more anxious as to the feelings of the patients than as to the expense.

Re-examined by Mr. HART: Cases notified by Mr. Roberts had been treated in no way differently from those notified by other practitioners.

By Mr. VERRALL (through the Chair): If tuberculosis was an essential part of the inability to work, it ought to be set out in the certificate. If it was not an essential part, he would say that in the ordinary way it should not, though it would depend on circumstances.

By the LEGAL ASSESSOR: The expression in the Regulations was, "he shall not be required to notify a case which has already to his knowledge been notified." Although there was a penalty for not notifying a case of tuberculosis, there was no penalty for notifying as a case of tuberculosis one which was not tuberculosis.

Mr. T. J. EVANS, Chairman of the Public Health Committee of the Borough of Stepney, was formally called by Mr. HART.

Cross-examined by Mr. ROBERTS, he said that he had never heard any suggestion of anything in Mr. Roberts's professional career which was not strictly honourable. While he, the witness, was Chairman of the Public Health Committee several complaints had been made of cases certified by Mr. Roberts, and in one case the fee for certification had been withheld. In Committee suggestions had been made that the matter be brought before the General Medical Council and the British Medical Association.

In answer to the LEGAL ASSESSOR the witness said it had been proposed to refer the matter to the British Medical Association.

The complainants' case here closed.

Mr. ROBERTS, replying on his own behalf, said with regard to the cases of Hartshorn and Wright he had certified to the best of his opinion. Dorothy Phillips was a child brought to him for vaccination. The mother told him the child had been wasting, and she had a cough of long standing, and that she had been treated at the Tuberculosis Dispensary and at the Victoria Park Hospital. He (Mr. Roberts) accepted that diagnosis, confirmed by the appearance of the child, and notified the case. On hearing that the Victoria Park Hospital did not consider the case to be one of tuberculosis he immediately withdrew his certificate. He claimed that the certificate in that case was not untrue or given improperly. The certificate in the case of Alice Peacock was given in error. It was the only case in which he had certified a child without seeing it. He did not attempt to justify his action, but could only call it carelessness. Mr. Roberts submitted that in all four cases he had acted in good faith; in three cases his action was entirely regular, and the fourth was a pure mistake.

He then submitted himself for cross-examination.

In answer to Mr. HART: For many months there had been friction between himself and Dr. Thomas as to the treatment of patients. The impression had been given that Mr. Roberts's diagnosis was not to be relied upon. He (the witness) had until recently thought it advantageous to notify every case he thought was tuberculosis. He drew a marked distinction between the cases of Peacock and Phillips. His examination of Phillips did not go as far as would have been wise, but there was every reason to believe she was suffering from consumption. The witness agreed it was unwise to give certificates on opinions formed too lightly, but it was his duty to notify tuberculosis unless the patient had already been notified. With regard to the case of Hartshorn, in which he (Dr. Roberts) gave a certificate for muscular rheumatism, and also a certificate for febrile catarrh, he did not consider tuberculosis had anything to do with the inability to work. In the case of Wright, he considered it not his duty to put tuberculosis on the death certificate.

No further questions were asked, and Mr. HART intimated that he did not wish to address the Council again.

Strangers and the parties were directed to withdraw. On readmission the CHAIRMAN announced the judgement of the Council as follows:

Mr. Roberts, I have to announce to you that the Council does not see fit to direct the Registrar to erase from the *Medical Register* the name of Harry Roberts.

Case arising out of Divorce Proceedings.

The Council then proceeded to the consideration of the case against Thomas Francis Roche, registered as of 24, Eden Street, Kingston-on-Thames, L.R.C.P.Edin. 1892, L.R.C.S.Edin. 1892, L.F.P.S.Glasg. 1892, who had been summoned to appear before the Council on the following charge:

That you abused your position as a medical man by committing adultery with a Mrs. Stuart, whom and whose husband you had been attending professionally, of which adultery you were found guilty by the decree of the Probate, Divorce, and Admiralty Division (Divorce) of the High Court of Justice, dated March 4th, 1913, and made absolute on September 17th, 1913, in the case of Stuart *v.* Stuart and Roche, in which you were the co-respondent. And that in relation thereto you have been guilty of infamous conduct in a professional respect.

The CHAIRMAN observed that the case having been brought to the attention of the Council by the officials of the High Court, and there being no complainant in the ordinary way, he would ask Mr. Harper to lay the case before the Council.

Mr. Hope, solicitor, appeared for Dr. Roche.

Mr. HARPER asked and obtained leave to amend the notice of charge by adding at the end of the second line, after the word "husband," the words "and household."

Mr. HOPE did not object.

Mr. HARPER said that the adultery was admitted, and the only issue the Council had to consider was whether or not when it was committed Dr. Roche had abused his position as a medical man. It would have the evidence and the documents before it, and from those would be able to arrive at a conclusion as to the true position existing between the parties.

Mr. JOHN DUDLEY STUART, examined by Mr. HARPER, identified his statutory declaration, which was read to the witness. It set out the facts in connexion with the proceedings in the Divorce Court, and also the various dates on which, from the year 1906 onwards, Dr. Roche had professionally attended the witness or his wife, or some member of his household, and also gave particulars of payments in respect of such attendances, which he confirmed.

Cross-examined by Mr. HOPE, he denied that Dr. Roche was in any way his friend, although they became somewhat friendly after witness's illness in October, 1906, but they never called each other by their christian names. If Dr. Roche had been merely a friend, what had taken place could not have happened. He meant by that that had his friends around seen anybody other than his medical man going to the house he would have heard of it long before he did, as it would have caused a scandal.

Re-examined by Mr. HARPER: Throughout he trusted Dr. Roche implicitly as the medical attendant on himself, his wife, and his household. He never had cause to regard him as his friend.

At the conclusion of his evidence the witness said that deeply as he had been wronged he sincerely believed Dr. Roche intended to turn over a new leaf, and therefore he asked the Council to mitigate any punishment which it might consider necessary to inflict.

Mrs. Roche's statutory declaration was also read by Mr. HARPER, who examined her as to its truth.

In cross-examination by Mr. HOPE, Mrs. ROCHE said that Dr. Roche had professionally attended on some member of Mr. Stuart's household before she called on Mrs. Stuart; in fact, it was as the wife of Dr. Roche that she called.

By the CHAIRMAN: She might have called on the Stuarts even if Dr. Roche had not been Mr. and Mrs. Stuart's medical man.

This concluded the case in support of the charge.

Mr. HOPE called Dr. ROCHE, who said that when the Stuarts went to live at Dinas Powis he first attended Mr. Stuart for a sprained ankle, and he again attended him professionally in October, 1906.

The LEGAL ASSESSOR suggested that the better course to adopt would be to read the witness's declaration and then supplement it by any question it was thought proper.

Mr. HOPE read the declaration, from which it appeared that Dr. Roche admitted having attended Mr. and Mrs. Stuart professionally between the years 1906 and 1911, but to no very great extent. He was perfectly free to admit that there was medical attendance on Mrs. Stuart once when she suffered from neuritis in 1909, and subsequently on various occasions when necessity required. The total amount he received for medical attendance on the Stuart family for six years was £35 inclusive and a cheque which had been returned; that averaged about two attendances a month.

Cross-examined by Mr. HARPER: The professional relationship existed from 1906 to 1911, but the social intimacy was greatly in excess of the professional relationship. His defence to this charge was that the social intimacy was such that he was able to carry on a secret intrigue. He had lost the books containing the details of his visits, but those containing the accounts were in the hands of the Official Receiver in his bankruptcy. He had paid 15s. a week regularly to Mrs. Roche's solicitor since the citation was served upon him.

By the LEGAL ASSESSOR: Mr. Stuart was the first member of the Stuart family he got to know, and Mr. Stuart regarded him as doctor to the family as well as his friend.

Mrs. STUART, examined by Mr. HOPE, confirmed her declaration, in which she generally corroborated the evidence given by Dr. Roche, and maintained that the allegations made against them were never the result of Dr. Roche's professional attendance upon her. Mr. Stuart had never complained that Dr. Roche had visited the house when he should not have done so, and there was no need for him to visit her under the cloak of medical attendance, as he was in the habit of dropping in to see them whenever he wanted to.

Cross-examined by Mr. HARPER: If Dr. Roche had not been their doctor at all she would have known him just as well, because she was always meeting him on every

occasion, and the fact of his being their doctor had nothing whatever to do with it.

Re-examined by Mr. Hope: Whatever might be said to the contrary, she still believed that the trouble had not arisen by reason of Dr. Roche taking advantage of his position as her medical attendant.

Mr. Hunter, the brother of Mrs. Stuart, was also called, and gave corroborative testimony as to the social relations existing between the parties.

This closed the evidence on behalf of the respondent.

Mr. Hope submitted that Dr. Roche met everybody in the district more as a friend than as a medical man. He was known to everybody, from the highest to the lowest, in the district. He met the Stuarts first of all as medical attendant. From that time on to the very end, when things had gone too far, friendship, and friendship alone, was what drew the parties together. No misconduct had ever taken place as the result of professional attendance. Friendship overruled any medical attendance ever made by Dr. Roche on Mrs. Stuart. Dr. Roche had said that his opportunities of visiting at all times, day and night, were very great, especially in the home of the Stuarts. He had other patients in the same road, and in passing he might drop in, as he did with all his patients. Dr. Roche had said, and Mrs. Stuart had emphasized it, that not one of those visits was an attendance which could possibly be put down as an abuse of privilege. He asked the Council to deal with the case as lightly as possible.

Mr. Harper said the defence displayed a misconception of the attitude of the Council towards offences of the nature alleged. The case was that Dr. Roche abused his position as a medical man by committing adultery with Mrs. Stuart. The attempt to make the social relationship outweigh the professional relationship was quite an impossible position.

Strangers and parties were directed to withdraw. On readmission the Acting President announced the judgement of the Council as follows:

Mr. Roche, I have to announce to you that the Council do now judge Thomas Francis Roche to have been guilty of infamous conduct in a professional respect, and do direct the Registrar to erase from the *Medical Register* the name of Thomas Francis Roche.

Procuring Miscarriage.

The Council proceeded with the consideration of the case of John Edward Sang, registered as of 330, New Cross Road, London, S.E., L.R.C.P.Edin. 1889, L.R.C.S. Edin. 1889, L.F.P.S.Glasg. 1889, who had been summoned to appear before the Council on the following charge:

That being a registered medical practitioner you were at the General Session holden at the Central Criminal Court on September 2nd, 1913, convicted of feloniously and unlawfully using certain means unknown with intent thereby to procure miscarriage and sentenced to twelve months' imprisonment with hard labour.

Dr. Sang did not appear.

Mr. Harper formally proved service of the notice of inquiry on Dr. Sang in Wandsworth Prison. The only evidence was the certificate of conviction.

Strangers were directed to withdraw. On readmission the Chairman announced the judgement of the Council as follows:

That John Edward Sang having been proved to have been convicted of the felony alleged against him in the notice of inquiry, the Registrar had been directed to erase his name from the *Medical Register*.

Withdrawal of Qualifications.

The Council then proceeded to the consideration under Standing Order XVI. 2, of the case of Ralph Raby, formerly holding the qualifications of M.R.C.S.Eng. 1903, L.R.C.P.Lond. 1903.

Mr. Raby was removed from being a member of the Royal College of Surgeons of England on April 10th, 1913 (Executive Committee Minutes, May 26th, 1913, p. 26). His licence was withdrawn by the Royal College of Physicians of London on October 30th, 1913 (Executive Committee Minutes, November 24th, 1913). The Registrar has been informed by both of the Colleges that the qualification was removed in consequence of the issue of objectionable advertisements and not on the ground of his having adopted any theory of medicine or surgery (Medical Act, 1858, Sec. 28).

The Executive Committee recommend that in pursuance of Standing Order XVI. 2, and the powers of the Medical Act, 1858, the Acting President put from the chair a resolution to the effect that Mr. Raby's name be removed from the *Register*.

The Standing Order XVI. 2, read as follows: "If, under the direction of the Council, all the qualifications of any registered medical practitioner have been erased from the *Medical Register*, then the Council shall, if it thinks fit, by formal resolution put by the President from the chair, direct the Registrar to remove the name of such practitioner from the *Medical Register*.

The Chairman said the case came before the Council in a form different from that usual in a penal case. The qualifications of Mr. Raby had been withdrawn by the bodies which conferred them, and he was therefore now without a qualification. In such a case the Council acted under Standing Order XVI, 2. Mr. Muir Mackenzie, at the time he was the Council's legal assessor, gave a legal opinion on the point raised, in which he indicated that not only was it in the power of the Council to remove the name, but that it was the proper course for it to take, provided always that the removal of the qualification was not due to the person concerned having adopted any particular theory of medicine or surgery.

The Solicitor to the Council (Mr. Harper) said that the question arose under Section 28 of the Medical Act, 1858, under which the Colleges concerned had purported to act. The matter was advised upon by Mr. Muir Mackenzie as far back as 1885, and in consequence of his opinion the Standing Order was framed. The qualifications having been withdrawn, the Executive Committee, acting for the Council, recommended that the Council, by formal resolution from the chair, should direct the Registrar to erase the name from the *Register*. The only matter on which the Council had to satisfy itself was the action of the Colleges in respect of the adoption by the practitioner of any theory of medicine or surgery. The question had been addressed to each College in writing, and each of them had replied in the negative, but stated that the qualifications were withdrawn in consequence of advertising. That being so, it was entirely for the Council to say whether it would erase the name or not.

The Registrar having read the replies of the respective Colleges,

The Chairman moved:

That all the qualifications of Ralph Raby, a registered medical practitioner, having been erased from the *Medical Register*, the Council directs the Registrar to remove the name of such practitioner from the *Medical Register*.

Sir John Moore suggested the addition of the words:

in consequence of the issue of objectionable advertisements, and not on the ground of his having adopted any theory of medicine or surgery.

The Chairman accepted the suggestion.

Dr. Pye-Smith thought it should appear that the Council would not have removed the name unless the Royal Colleges had first removed the practitioner's qualifications.

Mr. Verrall submitted that the only reasonable interpretation of the words in the Standing Order, "if it thinks fit," was that the Council should review the reasons which led the respective Colleges to remove the qualification.

Dr. Norman Moore: Unless the Council was satisfied with the opinion of the Colleges.

Dr. Macdonald observed that it was a curious position. A man was registered because he held certain qualifications. How could he remain on the *Register* if they were removed?

The Chairman replied that the wording of the Act implied that he could; that was to say, if those qualifications had been removed on account of his holding some particular theory of medicine or surgery the Council would be powerless with regard to the removal of the name of the practitioner, and, in his opinion, the Colleges would be equally powerless in regard to the removal of the qualifications.

Mr. Verrall thought that if the Council were to review the opinion of the Colleges, necessarily it must have the evidence on which they founded their judgement, otherwise he did not see how it could express an opinion upon the matter.

Dr. Saundby moved, Dr. Latimer seconded, and it was resolved, that the matter be further discussed *in camera*, and strangers and the Press were directed to withdraw. On readmission the Chairman announced the decision of the Council as follows:

Mr. Ralph Raby having been deprived of all the qualifications in virtue of which he was registered, and the Council being satisfied that these qualifications were not taken away in consequence of his having adopted any theory of medicine or surgery, the Registrar had been directed to erase the name of Ralph Raby from the *Medical Register* in pursuance of Section 28 of the Medical Act, 1858.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are announced by the Admiralty: Fleet Surgeon A. MACLEAN, M.B., to the *Lion*, December 10th. Fleet Surgeon JOHN C. FERGUSON, M.B., to the Royal Marine Artillery, December 10th. Fleet Surgeon SIDNEY T. REID, to the *Hindustan*, December 10th. Fleet Surgeon HILARY C. ARATHOON, to the *Goliath*, December 10th. Fleet Surgeon HUGH CLIFT, to the *Argonaut*, and for group of ships of the Third Fleet, December 1st. Fleet Surgeon JOHN A. KEOGH, M.B., to the *Terror*, additional for Bermuda Hospital and Dockyard, December 20th. Fleet Surgeon ELYSTAN G. E. O'LEARY, F.R.C.S.E., to the *Lord Nelson*, vice Keogh, December 20th. Fleet Surgeon W. JACKSON, to the *Essex* on commissioning, undated. Fleet Surgeon W. L. W. VAUDIN, to the *Europa*, for voyage out, December 16th, and to the *Hampshire* on recommissioning, undated. Staff Surgeon MALCOLM CAMERON, M.B., to the *President*, additional for Dentford Yard, temporary, December 1st. Staff Surgeon ALFRED WOOLLCOMBE, to the *Venus*, vice Jackson, undated; and to the *Woolwich* on commissioning, undated. Staff Surgeon H. COOPER, to the *Diana*, and for duty with group of Third Fleet Ships, December 11th, and temporary vice Vaudin, December 16th. Staff Surgeon ALFRED O. HOOPER, to the *Pembroke*, additional for disposal, December 1st, and to the *Natal*, January 27th, 1914. Surgeon HAMLET M. WHELAN, to the *Essex* on commissioning, undated. Surgeon M. MEEHAN, to the *Pembroke*, for disposal, December 1st. Surgeon E. ST. G. S. GOODWIN, M.B., to the *Hampshire* on recommissioning, undated. Surgeon QUINTON H. RICHARDSON, to the *Sirius* on commissioning, January 27th, 1914, and to the *Odin* on recommissioning, undated.

The following Staff Surgeons have been promoted to the rank of Fleet Surgeons, with seniority of November 29th: M. CAMERON, M.B., J. D. S. MILN, M.B., K. H. JONES, M.B., S. H. FACEY, E. TAYLOR, M.B., A. WOOLACOMBE, F. BOLSTER, M.B., G. E. MACLEOD, W. H. HOPE, J. H. FERGUSON.

ARMY MEDICAL SERVICE.

COLONEL H. S. MCGILL is placed temporarily on the half-pay list on account of ill health, December 4th.

Colonel WALTER G. A. BEDFORD, C.M.G., M.B., from the half-pay list, is restored to the Establishment, vice H. S. McGill to the half-pay list, December 4th.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel G. A. T. BRAY has been selected for appointment as Deputy Surgeon-General, Royal Hospital, Chelsea, vice Lieutenant-Colonel H. E. Winter.

Major E. P. CONNOLLY has been appointed Deputy Assistant Director, Medical Services, Mobilization, 2nd Division of the Northern Army, Rawal Pindi, India, vice Major Thom.

Major H. F. G. STALLARD has been appointed Deputy Assistant Director of Medical Services, Mobilization, 5th (Mhow) Division, with effect from October 19th.

Major B. BATTS has been appointed Sanitary Officer of the London District.

Major J. E. HODGSON has been appointed Sanitary Officer to the Northern Command.

Major W. M. POWER has been appointed to the charge of the Military Families' Hospital, Chatham.

Major G. ST.C. THOM has been appointed Deputy Assistant Director of Medical Services, Lowland Territorial Division, vice Major W. D. Erskine.

Major B. F. WINGATE has been posted to the London District for duty.

Major JAMES E. CARTER, M.B., is placed on retired pay, December 2nd.

Major E. W. SLAYTER has been posted to Cork for duty, from January 12th.

Major G. A. MOORE has been posted to Aldershot for duty as Specialist in Otology and Laryngology.

Major R. V. COWEN has been ordered to Driffield in connexion with recruiting for horse-transport drivers.

Major M. BOYLE, M.B., has qualified in Part II of the examination for promotion to lieutenant-colonel.

Major E. E. PARKES has been selected for a tour in India.

Major P. S. O'REILLY has been appointed to the Royal Arsenal, Woolwich.

Major M. J. CROMIE has been selected for service in the West Indies.

Major D. HARVEY has been appointed to the London District as Clinical Pathologist at the Royal Army Medical College, vice Major J. C. Kennedy.

Major A. W. N. BOWEN is posted to the Belfast District.

Captain T. W. BROWNE has been posted to the Cork District.

Captain M. KEANE has been selected for duty in India.

Captain R. H. MACNICOL has been appointed to Malta.

Captain A. L. OTWAY has been appointed Sanitary Officer to the Southern Command.

Captain C. W. HOLDEN has been posted for duty at the Queen Alexandra Military Hospital, Millbank.

INDIAN MEDICAL SERVICE.

COLONEL R. W. S. LYONS to be President of the Bombay Medical Council, vice Surgeon-General H. W. Stevenson, resigned.

Lieutenant-Colonel J. G. HULBERT, Civil Surgeon, Moradabad, has been granted privilege leave combined with special leave on urgent private affairs for a total period of six months from November 12th.

Lieutenant-Colonel R. G. TURNER, Civil Surgeon, from Naini Tal to Moradabad.

Lieutenant-Colonel WILLIAM H. GRAY has retired from the service, October 24th, 1913.

Lieutenant-Colonel P. B. HAIG is granted privilege leave for three months, combined with furlough for one year and six months, and study leave for three months from October 24th.

Major G. Y. C. HUNTER, Superintendent of the Buxar Central Gaol, has been granted a further extension of leave for six months.

The promotion of Major EWAN C. MACLEOD to his present rank dates from July 29th, 1905, and not January 29th, 1906, as stated in the *Gazette* of June 12th, 1906.

The promotion of Major CORRIE HUDSON, D.S.O., F.R.C.S.E., to his present rank dates from July 28th, 1910, and not from January 28th, 1911, as stated in the *Gazette* of March 17th, 1911.

Major W. E. MCKECHNIE has been granted privilege leave combined with furlough for a total period of two years.

Major W. G. RICHARDS to act as District Medical and Sanitary Officer, Salem.

Major W. G. HAMILTON is appointed as Superintendent, Alipore Central Gaol, during absence on leave of Major F. S. C. Thompson, or until further orders.

Captain RICHARD E. LLOYD, M.B., to be Major, July 29th, 1913.

Captain J. ANDERSON is posted as Civil Surgeon, Miranshah, from October 6th.

Captain F. P. WERNICKE is posted to the Seoni District as Civil Surgeon, and is appointed to the executive and medical charge of the Seoni Gaol.

The services of Captain O. A. R. BERKELEY HILL are replaced at the disposal of the Government of India in the Home Department on relief by Lieutenant-Colonel Ewens.

Captain C. L. DUNN has been granted privilege leave, combined with special leave on urgent private affairs, for a total period of six months from November 4th.

Captain ROBERT L. GAMLEN has been transferred to the temporary half-pay list, November 24th.

Lieutenant VINCENT P. NORMAN has been tranferred to the temporary half-pay list, November 12th.

Lieutenant C. M. PLUMPTRE is appointed temporarily to hold charge of the current duties of the appointment of Agency Surgeon in Bhopal in addition to his own duties from October 24th.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

SURGEON-GENERAL SIR ALFRED KEOGH, K.C.B., M.B., retired pay, is appointed to the Honorary Colonelcy of the Royal Army Medical Corps of the Second London Territorial Division, vice Lieutenant-Colonel and Honorary Colonel Francis L. Stephenson, C.B., M.B., retired list (Vols.), who vacated that appointment, December 3rd, 1913.

Colonel WILLIAM COATES, C.B., Territorial Force Reserve, is appointed to the Honorary Colonelcy of the Royal Army Medical Corps in the East Lancashire Territorial Division, November 12th, 1913.

Colonel JOSEPH W. BLANDFORD, Retired List (late of the Army Medical Service), is appointed to the Honorary Colonelcy of the Royal Army Medical Corps in the Northumbrian Territorial Division, vice Honorary Colonel Sir George H. Philipson (ret.), M.D., November 12th, 1913.

Sixth London Field Ambulance.—Lieutenant FRANK COLMAN, from 5th London Field Ambulance, Royal Army Medical Corps, to be Lieutenant, October 15th, 1913. Lieutenant WALTER R. PARSONS resigns his commission, November 19th.

Third Lowland Field Ambulance.—Captain JAMES H. H. PIRIE, M.D., is seconded, under the conditions of Paragraph 112 of the Territorial Force Regulations, for service under the Colonial Office, October 1st, 1913.

Second London (City of London) General Hospital.—Captain HENRY P. DEAN, M.B., F.R.C.S., resigns his commission, November 12th, 1913.

First Western General Hospital.—Lieutenant-Colonel THOMAS H. GLYNN, M.D., resigns his commission, November 12th, 1913. Major Sir RONALD ROSS, K.C.B., F.R.S., F.R.C.S., to be Lieutenant-Colonel, November 12th, 1913. Captain PETER DAVIDSON, M.B., to be Major, November 12th, 1913. Captain ARTHUR J. EVANS, F.R.C.S., from 1st West Lancashire Field Ambulance, Royal Army Medical Corps, to be Captain, whose services will be available on mobilization, November 12th, 1913.

First North Midland Field Ambulance.—Captain EDWIN A. WRAITH to be Major, November 19th.

North Midland Mounted Brigade Field Ambulance.—Lieutenant-Colonel THOMAS THOMPSON resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform, December 3rd.

First East Lancashire Field Ambulance.—Lieutenant JOSEPH M. POSTLETHWAITE to be Captain, August 2nd.

Second East Lancashire Field Ambulance.—Lieutenants to be Captains: CHARLES H. S. REDMOND, M.B., November 1st; ANDREW W. B. LOUDON, M.D., November 10th.

Second Northumbrian Field Ambulance.—ALEXANDER C. C. LAWRENCE to be Lieutenant, September 8th; WILLIAM M. WILSON to be Lieutenant, September 27th.

Highland Divisional Clearing Hospital.—Lieutenant-Colonel FRANCIS KELLY, M.D., from the 1st Highland Field Ambulance, Royal Army Medical Corps, to be Lieutenant-Colonel, November 1st; Captain DAVID RORIE, M.D., from the 1st Highland Field Ambulance, Royal Army Medical Corps, to be Captain, November 1st.

Lowland Divisional Clearing Hospital.—Major PETER F. SHAW, from the 2nd Lowland Field Ambulance, Royal Army Medical Corps, to be Lieutenant-Colonel, November 1st; Lieutenant GODFREY B. FLEMING, M.B., from the 1st Lowland Field Ambulance, Royal Army Medical Corps, to be Lieutenant, November 1st.

Attached to Units other than Medical Units.—Lieutenant JAMES M. KIRKNESS, M.B., to be Captain, August 1st, 1913. Lieutenant LIONEL H. MOISER, M.B., to be Captain, September 11th. Lieutenants RICHARD C. ROBERTS and FREDERICK G. HARPER, M.B., have resigned their commissions, November 12th. ERNEST WHITE, to be Lieutenant, October 14th. Lieutenant CHARLES P. WOODSTOCK to be Captain, July 1st. Lieutenant WILLIAM GILCHRIST, M.B., resigns his commission, December 3rd.

For Attachment to Units other than Medical Units.—WILLIAM R. COLLINGRIDGE to be Lieutenant, December 3rd.

Vital Statistics.

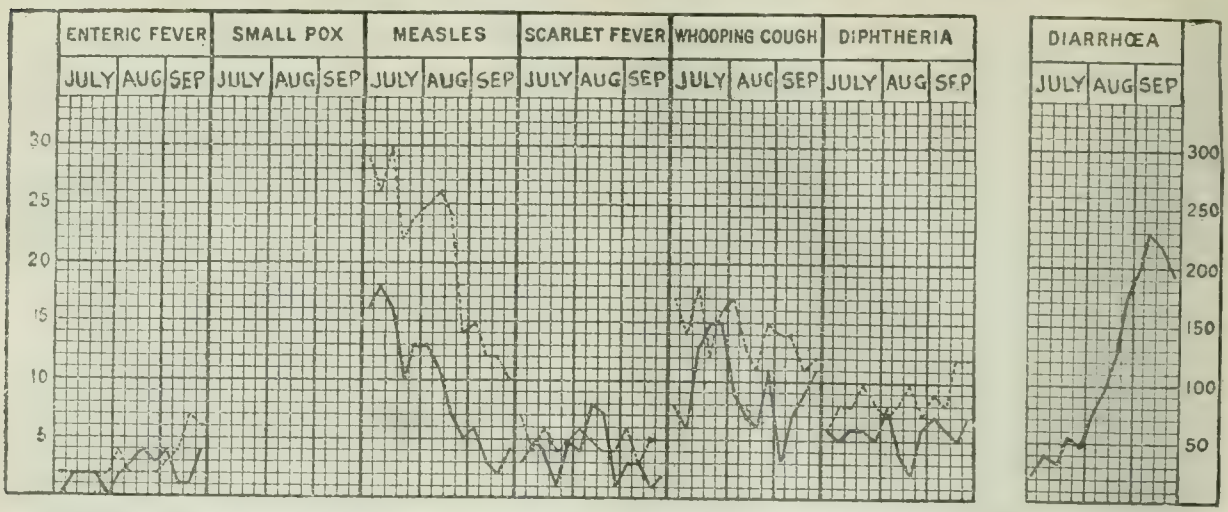
EPIDEMIC MORTALITY IN LONDON.

[SPECIALLY REPORTED FOR THE BRITISH MEDICAL JOURNAL.]

THE accompanying diagram shows the prevalence of the principal epidemic diseases during the third quarter of the year. The fluctuations of each disease and its relative fatality, compared with the average in the corresponding periods of recent years, can thus be readily seen, except in the case of diarrhoea and enteritis among children under 2 years of age, for which the average mortality is not available.

Enteric Fever.—The fatal cases of enteric fever, which had been 29 and 20 in the two preceding quarters, rose to 28 in the quarter under notice, but were 12 below the corrected average number in the corresponding period of the five preceding years. The greatest proportional mortality from this disease was recorded last quarter in Paddington, Kensington, Fulham, Chelsea, and Stepney. The number of enteric fever patients under treatment in the Metropolitan Asylums

DEATHS FROM EPIDEMIC DISEASES IN LONDON DURING THE THIRD QUARTER OF 1913.



NOTE.—The black lines show the *recorded* number of deaths from each disease during each week of the quarter. The dotted lines show the *average* number of deaths in the corresponding weeks of the five preceding years, 1908-12. Under the heading "Diarrhoea" are given the deaths from diarrhoea and enteritis among children under 2 years of age; the corrected average number of these deaths is not available.

Hospitals, which had been 42 and 35 at the end of the two preceding quarters, had further risen to 56 at the end of last quarter; 113 new cases were admitted during the quarter, against 86 and 68 in the two preceding quarters.

Small-pox.—No death from small-pox was registered last quarter, and no case of this disease was under treatment in the Metropolitan Asylums Hospitals at the end of the quarter.

Measles.—The deaths from measles, which had been 844 and 549 in the two preceding quarters, fell last quarter to 124, and were 145 below the corrected average number. This disease was proportionally most fatal last quarter in Paddington, Poplar, Southwark, Bermondsey, Deptford, and Greenwich.

Scarlet Fever.—The fatal cases of scarlet fever, which had been 52 and 41 in the two preceding quarters, rose again last quarter to 46, but were 16 below the corrected average number. The greatest proportional mortality from this disease occurred in Hammersmith, St. Marylebone, Hampstead, Finsbury, Battersea, and Woolwich. The Metropolitan Asylums Hospitals contained 2,552 scarlet fever patients at the end of last quarter, against 1,436 and 1,579 at the end of the two preceding quarters; 4,203 new cases were admitted during the quarter, against 2,366 and 2,573 in the two preceding quarters.

Whooping-cough.—The deaths from whooping-cough, which had been 300 and 264 in the two preceding quarters, further declined last quarter to 120, and were 64 below the corrected average number. This disease was proportionally most fatal last quarter in Fulham, Finsbury, Shoreditch, Lambeth, and Deptford.

Diphtheria.—The fatal cases of diphtheria, which had been 113 and 107 in the two preceding quarters, further declined last quarter to 73, and were 40 below the corrected average number. The highest death-rates from this disease last quarter were recorded in Shoreditch, Poplar, Southwark, Bermondsey, Deptford, and Lewisham. There were 909 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of last quarter, against 901 and 811 at the end of the two preceding quarters; the number of new cases admitted during the quarter was 1,624, against 1,568 and 1,341 in the two preceding quarters.

Diarrhoea.—The 1,500 deaths under this heading are those attributed to diarrhoea and enteritis among children under 2 years of age: measured in proportion to the births registered during the quarter, the mortality from this cause was greatest in Shoreditch, Bethnal Green, Stepney, Poplar, and Bermondsey.

In conclusion, it may be stated that the aggregate mortality last quarter from these epidemic diseases, excluding diarrhoea, was 41.5 per cent. below the average.

HEALTH OF ENGLISH TOWNS.

IN ninety-six of the largest English towns 8,491 births and 4,839 deaths were registered during the week ending Saturday, November 29th. The annual rate of mortality in these towns, which had been 13.3, 13.8, and 13.4 per 1,000 in the three preceding weeks, rose to 14.1 per 1,000 in the week under notice. In London the death-rate was also 14.1, against 13.0, 13.4, and 13.5 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rate ranged from 6.0 in Bath, 6.8 in Oxford, 7.4 in Southend-on-Sea, 7.5 in York, 7.6 in Eastbourne, and 8.0 in Willesden to 19.6 in Swansea, 19.8 in South Shields and in Aberdare, 20.2 in Bootle and in Blackburn, 20.3 in Bury, and 20.8 in Middlesbrough. Measles caused a death-rate of 1.1 in Sheffield and 2.5 in Norwich; and whooping-cough of 1.9 in Wallasey. The deaths of children (under 2 years of age) from diarrhoea and enteritis, which had been 261, 187, and 149 in the three preceding weeks, were 152; of this number, 46 were registered in London, 11 in Birmingham, 9 in Liverpool, and 6 in Manchester. The causes of 36, or 0.7 per cent. of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest, and included 6 in Liverpool, 5 in Birmingham, 3 in Burnley, 3 in Blackburn, and 2 in Dudley. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,731, 3,896, and 3,980 in the three preceding weeks, had further risen to 4,112 on Saturday, November 29th; 618 new cases were admitted during the week against 619, 597, and 558 in the three preceding weeks.

In ninety-six of the largest English towns 7,756 births and 4,504 deaths were registered during the week ending Saturday, December 6th. The annual rate of mortality in these towns, which had been 13.8, 13.4, and 14.1 per 1,000 in the three preceding weeks, fell to 13.2 per 1,000 in the week under notice. In London the death-rate was equal to 12.7 against 13.4, 13.5, and 14.1 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rate ranged from 4.5 in Wimbledon, 5.3 in Reading, 6.0 in Ilford, 7.0 in Croydon, 7.5 in Bournemouth, and 7.6 in Leyton and in Gillingham to 18.2 in Dudley, 18.5 in Newcastle-on-Tyne, 18.7 in Stoke-on-Trent, 18.9 in South Shields, 19.3 in Ipswich, and 21.5 in Burnley. Measles caused a death-rate of 1.4 in Burnley and in Warrington, 1.7 in Norwich, 2.0 in Barnsley, and 2.4 in Middlesbrough; scarlet fever of 1.3 in Preston and 1.4 in South Shields; whooping-cough of 1.4 in Coventry; and diphtheria of 1.3 in Southampton and 2.1 in Gloucester. The mortality from enteric fever showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The deaths of children (under 2 years of age) from diarrhoea and enteritis, which had been 187, 149, and 152 in the three preceding weeks, fell to 101: of this number 27 were registered in London, 8 in Birmingham, 7 in Liverpool, 6 in Manchester, and 4 in Stoke-on-Trent. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospital and the London Fever Hospital, which had been 3,896, 3,980, and 4,112 at the end of the three preceding weeks, had further risen to 4,143 on Saturday, December 6th; 524 new cases were admitted during the week, against 597, 558, and 618 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

IN the sixteen largest Scottish towns 1,022 births and 737 deaths were registered during the week ending Saturday, November 29th. The annual rate of mortality in these towns, which had been 14.0, 16.2, and 15.8 per 1,000 in the three preceding weeks, rose to 17.0 in the week under notice, and was 2.9 per 1,000 above the rate recorded in the ninety-six large English towns. Among the several towns the death-rate ranged from 6.8 in Hamilton, 8.5 in Clydebank, and 10.4 in Perth to 19.5 in Leith, 22.2 in Kirkcaldy, and 24.1 in Coatbridge. The mortality from the principal infective diseases averaged 1.7 per 1,000, and was highest in Kirkcaldy and Coatbridge. The 370 deaths from all causes registered in Glasgow included 24 from measles, 10 from scarlet fever, 6 from diphtheria, 4 from whooping-cough, and 2 from diarrhoeal diseases. Three deaths from measles were recorded in Edinburgh, 2 in Paisley, and 2 in Kirkcaldy; 3 from diphtheria in Aberdeen; and 2 from whooping-cough in Coatbridge.

In the sixteen largest Scottish towns 1,050 births and 677 deaths were registered during the week ending Saturday, December 6th. The annual rate of mortality in these towns, which had been 16.2, 15.8, and 17.0 per 1,000 in the three preceding weeks, fell to 15.6 in the week under notice, but was 2.4 per 1,000 above the rate in the ninety-six large English towns. Among the several towns the death-rate ranged from 6.8 in Hamilton, 7.3 in Falkirk, and 10.7 in Ayr to 19.2 in Coatbridge, 19.5 in Kilmarnock, and 22.0 in Clydebank. The mortality from the principal infective diseases averaged 1.9 per 1,000, and was highest in Clydebank and Motherwell. The 325 deaths from all causes registered in Glasgow included 24 from measles, 4 from whooping-cough, 4 from diphtheria, 4 from infantile diarrhoeal diseases, 1 from enteric fever, and 1 from scarlet fever. Five deaths from measles were recorded in Greenock, 3 in Clydebank, and 2 each in Paisley, Leith, and Motherwell; 4 deaths from scarlet fever in Edinburgh; and 3 from diphtheria in Aberdeen.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, November 22nd, 520 births and 378 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 616 births and 432 deaths in the preceding period. These deaths represent a mortality of 16.4 per 1,000 of the aggregate population in the districts in question, as against 18.8 per 1,000 in the previous period. The mortality in these Irish areas was therefore 3.0 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 22.6 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 18.1 (as against an average of 19.7 for the previous four weeks), in Dublin City 19.8 (as against 20.9), in Belfast 16.6 (as against 16.5), in Cork 10.2 (as against 16.3), in Londonderry 12.7 (as against 18.7), in Limerick 16.2 (as against 18.3), and in Waterford 20.9 (as against 17.6). The zymotic death-rate was 1.7, as against 2.0 in the previous week.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ARGYLL AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer (male). Salary, £200 per annum.

BATH: ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—House-Surgeon (male). Salary at the rate of £75 per annum.

BIRMINGHAM: CITY FEVER HOSPITAL.—Assistant Medical Officer. Salary, £150 per annum.

BIRMINGHAM CITY HOSPITAL.—Assistant Resident Medical Officer. Salary, £150 per annum.

BIRMINGHAM GENERAL HOSPITAL.—Obstetric House-Surgeon. Salary at the rate of £50 per annum.

BIRMINGHAM: QUEEN'S HOSPITAL.—Two House-Surgeons. Salary at the rate of £50 per annum, and £10 bonus on satisfactory completion of six months' service.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House-Surgeon. Salary, £85 per annum.

BRADFORD POOR LAW UNION.—Resident Assistant Medical Officer for Hospital and Workhouse (male). Salary, £130 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Assistant House-Surgeon (male). Salary, £80 per annum.

CAMBERWELL: PARISH OF ST. GILES.—Third Assistant Medical Officer for the Infirmary. Salary, £150 per annum, increasing to £160.

CANCER HOSPITAL, Fulham Road, S.W.—Medical Registrar. Honorarium, £100 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £90 per annum respectively.

CARDIFF: KING EDWARD VII HOSPITAL.—Two Honorary Assistant Physicians. Salary, £120 per annum.

CARMARTHEN: JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary, £180 per annum, rising to £200.

CHARING CROSS HOSPITAL, W.C.—Medical Registrar.

CHESTER: CHESHIRE EDUCATION COMMITTEE.—Fourth Assistant to the Chief School Medical Officer. Salary, £350 per annum.

CHESTER COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £200 per annum.

CLAPHAM MATERNITY HOSPITAL.—Medical Woman as Assistant, Battersea District Maternity. Salary, £50 per annum.

COLCHESTER: ESSEX COUNTY HOSPITAL.—(1) House-Physician. (2) House-Surgeon (male). Salary, £100 per annum each.

COLONIAL OFFICE.—(1) Supernumerary Medical Officer in Trinidad: salary, £250. (2) Assistant Medical Officers in Honduras; salary, £350. (3) Supernumerary Medical Officer in the Leeward Islands; salary, £250.

COVENTRY AND WARWICKSHIRE HOSPITAL.—House-Physician. Salary, £110 per annum.

CROYDON GENERAL HOSPITAL.—Vacancy on Honorary Medical Staff.

DERBY: DERBYSHIRE ROYAL INFIRMARY.—(1) House-Surgeon. (2) House-Physician. (3) Assistant House-Surgeon. Salaries for (1) and (2) £100 per annum and for (3) £60 per annum.

EDAY PARISH.—Medical Officer. Salary, £70 per annum, and appointments £20.

EDINBURGH HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident (female). Honorarium at the rate of £18 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon. Salary at the rate of 100 guineas per annum.

GOVAN DISTRICT ASYLUM, Crookston.—Senior and Junior Assistant Medical Officers. Salary, £250 and £200 per annum respectively.

GOVAN POORHOUSE AND HOSPITAL.—Junior Assistant Medical Officer (male). Salary at the rate of £150 per annum.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Physician for Diseases of the Skin.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Third House-Surgeon. Salary, £80 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—(1) Senior House-Surgeon (male). Salary, £100 per annum. (2) Assistant House-Surgeon. Salary at the rate of £80 per annum.

HOSPITAL FOR WOMEN, Soho Square, W.—Resident Medical Officer. Salary at the rate of £80 per annum.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £80 per annum.

KENT COUNTY ASYLUM, Maidstone.—Fourth Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

KING EDWARD VII HOSPITAL FOR WINDSOR, ETON, AND DISTRICT.—Assistant House-Surgeon. Salary, £75 per annum.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH, New Cavendish Street, W.—Fifth Assistant Pathologist. Salary, £170 per annum, rising to £400.

LANCASTER: COUNTY ASYLUM.—Assistant Medical Officer (male). Salary, £250 per annum, rising to £300, and on promotion to £450.

LEEDS GENERAL INFIRMARY.—(1) House-Physician; (2) House-Surgeon.

LIVERPOOL UNIVERSITY.—Lectureship in Laryngology.

LOWESTOFT HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

MANCHESTER CORPORATION.—(1) Assistant to the Medical Officer of Health; salary, £300 per annum. (2) First and Third Medical Assistants at the Monsall Fever Hospitals; salary, £200 and £130 per annum respectively.

MANCHESTER EDUCATION COMMITTEE.—Medical Inspector. Salary, £300 per annum.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Senior House-Physician. Salary, £50 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—House-Surgeon. Salary, £80 per annum.

NOTTINGHAM EDUCATION COMMITTEE.—Third Medical Inspector. Salary, £300 per annum.

NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon. Salary, £220 per annum.

OXFORD COUNTY ASYLUM, Littlemore.—Assistant Medical Officer. Salary, £200 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £90 per annum.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

PRESTON COUNTY BOROUGH.—Tuberculosis Officer and Assistant Medical Officer of Health. Salary, £400 per annum.

PRINCE OF WALES GENERAL HOSPITAL, Tottenham, N.—Honorary Medical and Surgical Registrar. Honorarium, £20 per annum.

ST. MARY'S HOSPITAL, Paddington, W.—Resident Assistant Anaesthetist. Salary at the rate of £100 per annum.

ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistants.

SALFORD UNION INFIRMARY.—Senior Assistant Medical Officer. Salary, £130 per annum, rising to £150.

SHEFFIELD: CHILDREN'S HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

SHOREDITCH: PARISH OF ST. LEONARDS.—Junior Assistant Medical Officer for the Infirmary. Salary, £150 per annum.

SHREWSBURY: SHROPSHIRE EDUCATION COMMITTEE.—Medical Inspector. Salary, £250 per annum, rising to £300.

SOHO SQUARE HOSPITAL FOR WOMEN, W.—Resident Medical Officer. Salary at the rate of £80 per annum.

SOMERSET AND BATH ASYLUM, Cotford, Taunton.—Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

SOUTHPORT INFIRMARY.—Junior House and Visiting Surgeon. Salary, £100 per annum.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

SUNDERLAND UNION.—Resident Assistant Workhouse Medical Officer. Salary, £200 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—Third House-Surgeon. Salary, £125 per annum.

WAKEFIELD: WEST RIDING ASYLUM.—Assistant Medical Officer (male). Salary, £200 per annum, rising to £230.

WESTMORLAND CONSUMPTION SANATORIUM AND HOME, Meathop.—Second Assistant Medical Officer. Salary, £150 per annum.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—(1) Third House-Surgeon (lady). (2) Junior House-Surgeon. Salary, £100 per annum each.

WINCHESTER: HAMPSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary, £300 per annum and allowances.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

WORCESTER GENERAL INFIRMARY.—(1) Resident Medical Officer; (2) Clinical Assistant and Dispenser. Salary, £150 and £80 per annum respectively.

WORTHING: WEST SUSSEX AND CHICHESTER JOINT EDUCATION COMMITTEE.—School Dentist. Salary, £300 per annum, rising to £325.

MEDICAL REFEREE.—The Home Secretary announces a vacancy for the office of Medical Referee under the Workmen's Compensation Act, 1906, for Ampthill, Brackley, Buckingham, Kettering, Northampton, and Wellingborough County Courts.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Blairgowrie (Perthshire), Moville (co. Donegal), Newbury (Berkshire).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

CLIFFORD, Harold, M.B.Lond., F.R.C.S.Edin., M.R.C.S.Eng., L.R.C.P. Lond., Honorary Gynaecologist to the Salford Hospital.

CROWLEY, J. J., L.R.C.P. and S.I., Certifying Factory Surgeon for the Passage District, co. Cork.

DAKEYNE, D. I., M.B., Ch.B.Vict., Assistant Medical Officer of the Crumpsall Workhouse, Manchester.

DAVIS, G. W., M.D.Durh., Certifying Factory Surgeon for the Sidcup District, co. Kent.

ENGINEER, S. K., M.R.C.P., Honorary Assistant Physician to Sir Jamsetjee Jeejebhoy Hospital, Bombay.

GRAHAM, Lewis, M.S.Lond., F.R.C.S.Eng., Honorary Obstetric Registrar to the Birmingham Maternity Hospital.

MULLIGAN, U. J. G., M.B., B.Ch.Belfast, Certifying Factory Surgeon for the Abersychan District, co. Monmouth.

RIGBY, C. S. S., M.R.C.S., L.R.C.P.Lond., District Medical Officer of the Dudley Union.

RIXON, C. H. L., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Camberwell Parish Infirmary.

SAUNDERS, P. W., B.A., M.B., M.R.C.P., Assistant Physician to the Royal Free Hospital, Gray's Inn Road, W.C.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.—The following appointments have been made:
Emeritus Surgeon.—Sir William Arbuthnot Lane.
Surgeon to In-patients.—Mr. H. A. T. Fairbank.
Surgeon to Out patients.—Mr. L. E. Barrington-Ward.

UNIVERSITY COLLEGE HOSPITAL.—The following appointments have been made:
Resident Medical Officer.—W. J. Pearson, M.B., B.C.Oxon.
Surgical Registrar.—F. J. F. Barrington, M.S., F.R.C.S.
Assistant in the Clinical Pathology Department.—J. M. Wallace, M.A., M.B., B.C.Cantab.
House-Physician.—R. L. Horton, M.B., B.S.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

BARENDT.—On December 4th, at 65, Rodney Street, Liverpool, W., the wife of Frank H. Barendt, M.D.Lond., F.R.C.S.Eng., of a son.

MARRIAGE.

FAWCITT—HIRST.—On December 3rd, at St. John's Church, Dewsbury, by the Rev. Canon Monnington, Vicar of Broughton-in-Furness, assisted by the Rev. F. Sangster of St. John's Church, Dewsbury, Dr. Richard Fawcitt, only son of the late Dr. J. W. Fawcitt of Broughton-in-Furness, to Jessie Boyce, elder daughter of Mr. and Mrs. J. Hirst of Ravensleigh, Dewsbury.

DEATH.

LANDON.—On December 7th, at 169, High Street, Homerton, N.E., Edward Landon, M.R.C.S.Eng., L.R.C.P.Edin., late Captain, R.A.M.C., aged 58. Interment at Abney Park Cemetery, Saturday, 13th inst. Cortege leaves residence at 2.30 p.m. Australian papers please copy.

DIARY FOR THE WEEK.

TUESDAY.

CHELSEA CLINICAL SOCIETY, St. George's Hospital, 8.30 p.m.—Demonstration of Cases and Specimens.

ROYAL SOCIETY OF MEDICINE:
SECTION OF MEDICINE, 5.30 p.m.—Paper:—Drs. F. W. Scott Macfie and J. E. L. Johnston: Experiments and Observations on Yellow Fever.

WEDNESDAY.

BRITISH OTO-LARYNGOLOGICAL SOCIETY, 11, Chandos Street, W., 4.30 p.m.—(1) Demonstration of Cases and Specimens. (2) Short Communications.

BROMPTON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Lecture, 4.30 p.m.: The importance for Prognosis of the Study of the Types of Pulmonary Tuberculosis.

ROYAL SOCIETY OF MEDICINE:
SECTION OF THE HISTORY OF MEDICINE, 5 p.m.—Professor Richard Caton: Health Temples in Ancient Greece, and the Work Carried on in Them.

THURSDAY.

ROYAL SOCIETY OF MEDICINE:
SECTION OF DERMATOLOGY, 5 p.m. — Demonstration of Cases and Specimens.

FRIDAY.

ROYAL SOCIETY OF MEDICINE:
SECTION OF ELECTRO-THERAPEUTICS, 8.30 p.m.—Paper:—Dr. Max Heiner (of St. Joachimsthal Sanatorium): Modern Radium-Therapy in all its Branches.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W., 8.30 p.m.—Papers:—Dr. C. Morley Wenyon: Kala-Azar in Malta. Drs. J. O. Shircore and P. H. Ross: Epidemic Cerebro-Spinal Meningitis in Nairobi. Demonstrations: Cultures of Poroplasmosis (Drs. H. B. Fantham and J. G. Thomson); Malarial Cultures (Dr. David Thomson).

POST-GRADUATE COURSES AND LECTURES.

DUBLIN: ROTUNDA HOSPITAL.—Post-Graduate Course on Obstetrics and Gynaecology. Obstetrical Lectures: Monday, Abortion (continued); Wednesday, Ante-partum Haemorrhage. Gynaecological Lecture: Friday, Displacement of Uterus (continued).

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.—General Medical and Surgical Clinics daily. Throat, Nose, and Ear: Monday and Thursday. Skin: Tuesday and Friday. Eye: Wednesday and Saturday. Pathology: Thursday. Radiography: Saturday. Lectures on special subjects on Monday, Wednesday, and Thursday.

MANCHESTER HOSPITALS POST-GRADUATE CLINICS, at 4.30 p.m. each day.—Tuesday, Salford Royal: Treatment of Simple Fractures. Wednesday, Royal Infirmary: Exhibition of Medical and Surgical Cases. Thursday, Ancoats: Colitis and Ulceration of Large Intestine. Friday, Royal Eye: Cases for Diagnosis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.—Medical and Surgical Clinics and Operations at 2.30 p.m. daily. Also Monday, Throat; Tuesday, Gynaecology; Wednesday, Skin, Eye, Children, *X* Rays; Tuesday and Friday, Eye. Special Lectures and Demonstrations on Tuesday and as announced.

SHEFFIELD UNIVERSITY.—Clinical Demonstrations:—Tuesday, Royal Infirmary: Diseases and Injuries of the Cornea. Friday, Royal Infirmary: Pathology and Treatment of Rheumatic Affections.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, *X* Rays and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday. A Lecture at 5 p.m. daily, except Saturday.

[For further particulars of Lectures consult the Index to Advertisements.]

DIARY OF THE ASSOCIATION.

Date.		Meetings to be Held.
		DECEMBER.
12	Fri.	London: Public Health Committee, 11.30 a.m.
		London: Medico-Political Medical Inspection Subcommittee, 2 p.m.
		London: Public Health Vaccination Subcommittee, 2.30 p.m.
		City Division, Manchester Hotel, Aldersgate Street, E.C., 9.30 p.m.
17	Wed.	Lancashire and Cheshire Branch, Manchester Royal Infirmary, 4.30 p.m.
18	Thur.	South-West Essex Division, Walthamstow Hospital, 4 p.m.
19	Fri.	Newcastle-on-Tyne Division, Royal Victoria Infirmary, Scientific Demonstrations, 3.15 to 6 p.m.
23	Tues.	**Extraordinary General Meeting**, 429, Strand, London, W.C., 2 p.m.
		London: Non-Panel Committee, 3 p.m.
		East Africa and Uganda Branch, Namirembe, Kampala.

Date.		Meetings to be Held.
		1914. JANUARY.
2	Fri.	London: Central Ethical Committee, 2 p.m.
5	Mon.	London: Dominions Committee, 2 p.m. (*provisional*).
		London: Naval and Military Committee, 4 p.m. (*provisional*).
6	Tues.	Altrincham Division, Executive Committee, Altrincham.
7	Wed.	London: Journal Committee, 2.30 p.m.
9	Fri.	London: Medico-Political Committee, 10.30 a.m.
13	Tues.	London: Metropolitan Counties Branch Council, 4 p.m.
		London: Organization Committee, 2 p.m.
14	Wed.	London: Hospitals Committee (*provisional*).
21	Wed.	London: Finance Committee, 2.30 p.m.
22	Thur.	Altrincham Division, Annual Meeting, Altrincham.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 20TH, 1913.

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Association Intelligence.

PROCEEDINGS OF COUNCIL.

A SPECIAL Meeting of the Council of the British Medical Association was held immediately after the conclusion of the Special Representative Meeting on Friday, December 5th:

Present:

Dr. J. A. MACDONALD, LL.D., Taunton, Chairman of Council, in the Chair.

Dr. W. AINSLIE HOLLIS, Hove, President.

Sir JAMES BARR, M.D., LL.D., Liverpool, Past President.

Mr. T. JENNER VERRALL, Bath, Chairman of Representative Meetings.

Dr. JOHN ADAMS, Glasgow
Colonel H. J. WALLER BARROW, London
Dr. R. M. BEATON, London
Dr. M. G. BIGGS, London
Mr. W. F. BROOK, Swansea
Dr. CHARLES BUTTAR, London
Dr. DAVID EWART, Chichester (New Zealand Branch)
Dr. D. E. FINLAY, Gloucester
Dr. FRANK FOWLER, Bournemouth
Dr. ADAM FULTON, Basford, Nottingham
Mr. T. W. H. GARSTANG, Altrincham
Dr. MAJOR GREENWOOD, London
Dr. J. R. HAMILTON, Hawick, N.B.
Dr. G. E. HASLIP, London
Dr. T. ARTHUR HELME, Manchester
Mr. P. NAPIER JONES, Crowthorne
Mr. F. CHARLES LARKIN, Liverpool
Dr. J. LIVINGSTONE LOUDON, Hamilton
Mr. C. COURTENAY LORD, Gillingham
Mr. ALBERT LUCAS, Birmingham
Dr. J. MUNRO MOIR, Inverness
Mr. E. C. MONTGOMERY-SMITH, London
Dr. B. H. MUMBY, Portsmouth
Dr. H. F. OLDHAM, Morecambe
Dr. GEORGE PARKER, Bristol
Sir JAMES PORTER, K.C.B., M.D., London (Royal Navy Medical Service)
Dr. F. J. SMITH, London
Mr. D. F. TODD, Sunderland
Mr. E. B. TURNER, London
Professor A. H. WHITE, Dublin
Mr. E. H. WILLOCK, Croydon

MINUTES OF SPECIAL REPRESENTATIVE MEETING.

The chief business for which the Council was summoned was to receive the resolutions of the Special Representative Meeting, and the minutes of that meeting were accordingly presented by the Chairman. Mr. T. JENNER VERRALL, who explained that it was necessary for the Council to consider the decisions in case it should desire to exercise its power of referendum.

Dr. HASLIP moved that the Council should exercise the power of referendum with regard to the resolution of the Representative Meeting raising the subscription to the British Medical Association for a member resident in any part of the British Islands to two guineas, on the ground that the resolution did not properly represent the wishes of the Association. The motion was seconded by Dr. BUTTAR. After discussion it was put to the Council and declared lost. Thereupon the Council approved the minutes of the Special Representative Meeting.

ASSISTANT MEDICAL SECRETARY (INSURANCE).

The Council proceeded to consider the applications which had been received for the post of Assistant Medical Secretary (Insurance). The names had been circulated to the Council, together with a short list of four candidates nominated by the Selection Committee.

In reply to Dr. BUTTAR, the CHAIRMAN stated that the Standing Orders did not contain a provision for the appointment of a Selection Committee, but that before appointing it he had taken the opinion of the Council by letter, and the majority were in favour of the committee considering the applications.

The Council, after consideration, resolved to defer the matter in order that it might be reconsidered at its next meeting.

DEPUTY CHAIRMAN OF COUNCIL.

On the motion of Mr. TODD, seconded by Dr. MAJOR GREENWOOD, it was resolved that Sir James Barr be appointed Deputy Chairman of Council during the absence of Dr. J. A. Macdonald at the Australasian Medical Congress.

Meetings of Branches and Divisions.

[*The proceedings of the Divisions and Branches of the Association relating to Scientific and Clinical Medicine, when reported by the Honorary Secretaries, are published in the body of the* JOURNAL.]

METROPOLITAN COUNTIES BRANCH:

CAMBERWELL DIVISION.

A MEETING was held on November 27th at the South Metropolitan Gas Works, Old Kent Road. Dr. G. B. BATTEN was in the chair, and twenty-eight members and ten visitors were present.

Vote of Sympathy.—On the motion of Dr. TILBURY, seconded by Dr. JAYNES, a resolution was carried unanimously expressing the heartfelt sympathy of the Division with Dr. Bell in the recent action in which he had been plaintiff, and expressing the satisfaction of the Division at the result. Dr. BELL thanked the Division for its expression of sympathy, and referred to the very valuable help given by the Medical Defence Union and other similar bodies.

Hygienic Uses of Gas.

Mr. CHARLES CARPENTER, D.Sc., Chairman of the Gas Company, then welcomed the Division, and in a short address said that it was necessary that the article the company supplied and one so widely used should be able to pass the medical test. He alluded to the changes that had taken place owing to the invention of Von Welsbach and the use of the Bunsen flame; he was also glad to say that after much labour and investigation the sulphur bicarbide was now entirely eliminated from the gas. He then called upon Mr. S. Rideal, D.Sc.Lond., F.I.C., to deliver his lecture on "The Hygienic Uses of Gas in relation to Health."

Dr. RIDEAL stated that the only perfect flame was from pure hydrogen gas, which at present it was impossible to produce on a commercial scale owing to its cost. The great difficulty which had been experienced in purifying coal-gas was to eliminate the sulphur; on distillation the sulphur passed over as sulphuretted hydrogen, which was easy to eliminate, and carbon bisulphide, which was now converted into the former product and thus eliminated. Of late years great advance had been made in utilizing the by-products of distillation; thus petrol, benzene, napthalene, and carbon bisulphide could all be separated by means of refrigerated alcohol. In dealing with the by-products of the combustion of gas the quantity of carbon monoxide was, he said, practically negligible; in fact, more carbon monoxide was found in the streets of London from coal fires and the incomplete combustion of petrol than in a gas-illuminated room. In some experiments carried out ten years ago it was found that there was more sulphur outside a room lighted by gas than inside; this was proved to be due to ventilation taking place through the walls which happened to be jerry-built and the plaster fixing the sulphur in the walls. As regards the germs in the room, it was found that the number was reduced by the lungs, and that in the gas-lit room the number was further reduced by the heat of the gas flame.

The amount of heat given off by the gas in illuminating the room was half that produced by the six men in the room, and the amount of carbonic acid was one-third the quantity given off by the men.

As regards the position of the carbon dioxide in the room, it was found that most of it rose to the ceiling, owing to the heat of the burners and that produced by the men; and the result of the experiments proved that gas in lighting a room was beneficial, owing to the better ventilation it caused, and that the determining factor in the atmosphere of a room was the inhabitants and not the method of illumination.

Vote of Thanks.—On the motion of the CHAIRMAN, a vote of thanks was unanimously passed to Dr. Rideal, and also to Mr. Carpenter, the Chairman of the Company, for entertaining the Division.

Purity of Gas.—The members were then entertained to tea, and afterwards a visit was paid to the laboratories of the company, where the process of testing the gas for impurities was carried on; many instruments for measuring the heat emitted by gas fires, apparatus for determining and measuring the by-products of the combustion of gas in various forms, and also the method of manufacture of the latest types of Bunsen burners for incandescent lamps and gas fires, were fully explained and demonstrated.

Special Representative Meeting.

A special meeting of the Division was held at the Surrey Masonic Hall on December 2nd to instruct the Representative how to vote at the Representative Meeting. Dr. G. B. BATTEN was in the chair, and twenty members and Dr. Cox, the Medical Secretary, were present.

Address by the Medical Secretary.—The CHAIRMAN then called upon Dr. Cox to address the meeting on the present position of the Association and the medical profession in general, and more particularly with regard to the proposed increase of the subscription of the Association to £2 2s. per annum from January 1st, 1914, and also with regard to the proposed formation of a special fund. Dr. Cox remarked on the small attendance, and said if the profession only knew it there was far more need for large meetings and general enthusiasm than there had ever been in the past, in order to resist the encroachments of the friendly societies in obtaining the control of medical benefit under the Insurance Act or the formation of a State Medical Service when the terms of medical benefit came to be revised in 1915, and the almost certain inclusion of women and children as beneficiaries under the Insurance Act in the future. The general trend of Dr. Cox's remarks will be found in his address to the Glasgow Branch, as published in the SUPPLEMENT of November 29th, 1913.

Instructions to Representative.—It was resolved that the Representative should be instructed to support the motion that the subscription should be increased to £2 2s. a year, but that the formation of a special fund should not be supported. With regard to the recommendations of the Council in connexion with the National Insurance Act (SUPPLEMENT, November 1st, 1913), it was resolved that the Representative should be instructed to support Recommendation (1), but that a fee of 10s. 6d. should be paid for an examination at the surgery, and a fee of £1 1s., with mileage, should be paid for an examination at the patient's house. It was resolved that Recommendation (2) should not be supported, and an amendment to the effect that the money should be paid to the men on the panel was carried as a substantive resolution. It was resolved that Recommendations (3) and (4) should be supported.

Vote of Thanks.—The meeting concluded with a hearty vote of thanks to Dr. Cox for his address.

MIDLAND BRANCH:

CHESTERFIELD DIVISION.

A MEETING of the Division was held at Chesterfield on December 9th; Dr. J. G. SHEA was in the chair, and fourteen other members were present.

New Agreement.—Dr. DUNCAN reported as to the negotiations with the Medical Benefit Subcommittee of the Derbyshire Insurance Committee for alterations in the new form of agreement. After considerable discussion it was resolved:

> That this Division accepts the agreement, strongly protesting at the same time that the Commissioners did not allow the Derbyshire Medical Benefit Subcommittee to make any alterations in this agreement, such as were suggested by the practitioners, or deemed by the Committee advisable and suitable to local needs.

Report of Representative.—Dr. DUNCAN, the Representative, reported upon the transactions of the recent Special Representative Meeting. On the proposition of the CHAIRMAN, seconded by Dr. GREEN, the hearty thanks of the meeting were accorded to Dr. Duncan for his attendance and report.

NORTH OF ENGLAND BRANCH:

TYNESIDE DIVISION.

PRESENTATION TO DR. LACHLAN FRASER.

THE annual dinner of the Tyneside Division was held in Newcastle on December 6th. Advantage was taken of the occasion to make a presentation to Dr. Lachlan G. Fraser

(North Shields), the late Honorary Secretary. The gifts consisted of a silver rose-bowl, salver, and vases, and bear the following inscription:

British Medical Association: Tyneside Division. Presented to Dr. Lachlan G. Fraser in recognition of his services as Honorary Secretary during the past eleven years. December 6th, 1913.

The toast of the evening was proposed by the Chairman of the Division, Dr. WILKINSON (Tynemouth), who spoke of the high appreciation of the members for Dr. Fraser's work and the pleasure he had in that it fell to him to make the presentation. He recalled the meeting at which it was decided to form the Tyneside Division, when Dr. Fraser was elected its first secretary, and said that he considered the harmony and good feeling which had always been a feature of the work of the Division was largely due to the tactful way in which Dr. Fraser had carried out his duties. The toast was most heartily received.

Dr. FRASER, in replying, thanked those present for the manner in which they had received the toast, and for the beautiful and valuable gifts they had made to him. He claimed that on such an occasion it was permissible to "reminisce." He also remembered the meeting eleven years ago spoken of by Dr. Wilkinson, and believed he was right in saying that, with one exception, the whole of the gentlemen present at that meeting were still members of the Division, and almost all active members of the Executive Committee. The work that he had done had always been a great pleasure to him, and he hoped still to help in any way he could the work of the Division. He concluded by again expressing his thanks for the presentation.

WEST SOMERSET BRANCH.

THE autumn meeting of the Branch was held at the Taunton and Somerset Hospital on December 9th. The President, Mr. PENROSE WILLIAMS, F.R.C.S.Edin., took the chair, and twenty-five members and four visitors were present.

Election of Representative.—On the motion of the PRESIDENT, seconded by Mr. W. B. WINCKWORTH, Dr. J. A. Macdonald, LL.D., was re-elected Representative of the Branch for the year 1914–15. Mr. W. B. Winckworth, on the motion of the PRESIDENT, seconded by Mr. FARRANT, was elected Deputy Representative during Dr. Macdonald's absence in Australasia.

Radium in the Treatment of Malignant Growths.—The PRESIDENT introduced to the meeting Sir ALFRED PEARCE GOULD, K.C.V.O., who read a paper on the uses of radium in the treatment of malignant growths, which will be published in an early issue. At the conclusion of the paper a hearty vote of thanks to Sir Alfred was adopted.

Annual Dinner.—The annual dinner of the West Somerset medical men was held in the evening at the Castle Hotel, Taunton, when Mr. PENROSE WILLIAMS was in the chair, and a very enjoyable evening was spent.

Association Notices.

SUGGESTED CHANGES OF BOUNDARIES.

NOTICE OF PROPOSAL FOR ALTERATION OF AREAS OF SOUTHAMPTON AND WINCHESTER DIVISIONS.

NOTICE is hereby given under By-law 73 to all concerned of a proposal made by the Southampton Division to the effect that the area of the Division be made coterminous with the County Borough of Southampton, and that the remainder of the area of the existing Division be transferred to the Winchester Division. Formal written notice of the proposal has been given, pursuant to Article 13, to the Southern Branch and Winchester Division, and the matter will be determined in due course by or on behalf of the Council. Any member affected by the proposed change and objecting thereto is requested to notify the fact, and his reason therefor, to the Medical Secretary, 429, Strand, London, W.C., not later than January 20th, 1914

SPECIAL MEETING OF COUNCIL.

A SPECIAL meeting of the Council will be held in the Council Room, 429, Strand, London, W.C., immediately after the Extraordinary General Meeting (summoned for 2 p.m.) on Tuesday, December 23rd.

By order,

GUY ELLISTON,
Financial Secretary and Business Manager.

December 17th, 1913.

ANNUAL REPRESENTATIVE MEETING.

PROPOSED CENTRAL INSURANCE ORGANIZATION COMMITTEE

OWING to a misunderstanding it was reported in the SUPPLEMENT of December 13th, p. 536, that a rider moved by Dr. Haslip to the effect that the Council should consider the advisability of forming a Central Insurance Committee with the object of organizing the Local Medical Committees throughout the country and forming a strong committee to watch the interests of the whole profession, was carried; the rider was rejected.

BRANCH AND DIVISION MEETINGS TO BE HELD.

LANCASHIRE AND CHESHIRE BRANCH: ALTRINCHAM DIVISION.—Dr. T. W. H. Garstang, Honorary Secretary (22, Station Buildings, Altrincham), gives notice that the Executive Committee will meet at Altrincham on January 6th, 1914, and the annual meeting of the Division will take place at Altrincham on January 22nd, 1914.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—Dr. A. Pottinger Eldred, Honorary Secretary, gives notice that a meeting of the Division will be held at the Walthamstow Hospital on Thursday, December 18th, at 4 p.m. Agenda: Cases and papers by members: (1) A State Medical Service; paper by Dr. A. Todd White. Election of Honorary Secretary. Any other business.

NORTH OF ENGLAND BRANCH: NEWCASTLE-ON-TYNE DIVISION.—Mr. R. J. Willan, F.R.C.S., 25, Ellison Place, Newcastle-on-Tyne, gives notice that a scientific demonstration meeting will be held in the Royal Victoria Infirmary, Newcastle-on-Tyne, on Friday, December 19th, from 3.15 to 6 p.m.:—Dr. S. J. Clegg: Some Infectious Fevers. Dr. W. C. Rivers: The Treatment of Phthisis by Artificial Pneumothorax. Tea. Mr. J. W. Leech: Diagnosis and Treatment of Ruptured Ulcers of the Stomach and Duodenum. Mr. S. S. Whillis: Common Conditions of the Nose and Ear. Mr. G. Grey Turner: The Diagnosis of Intestinal Obstruction.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A LIST of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

THE following books were added to the Library between January and March, 1913:

Presented by the Authors.

Alderson, W. E.: Dental Anaesthetics, second edition. 1912
Bowditch, V. T.: Life and Correspondence of Henry Ingersoll Bowditch, 2 vols. 1902
Craig, N.: Psychological Medicine, second edition. 1912
Goodhart, Sir J. F.: The Passing of Morbid Anatomy (being the Harveian Oration). 1912
Hurry, J. B.: Vicious Circles in Disease, second edition. 1913
Hutchison, R.: Lectures on the Diseases of Children, second edition. 1913
Leftwich, R. W.: Tabular Diagnosis. 1913
Siguret, A.: Contribution a l'étude histologique de l'hypophyse pendant la gestation. 1912
Stephenson, S.: Eye Strain in Every-day Practice. 1913
Taylor, Frederick: F. W. Pavy—in Memoriam. 1913

Presented by the Crown Agents for the Colonies.

Graham, W.: Report on Blackwater Fever in S. Nigeria. 1899–1911

Presented by H.M. Chief Inspector of Factories.

Report by Dr. Collis on Unusual Illness among Weavers of Cotton Cloth. 1913

Presented by the Carnegie Foundation for the Advancement of Teaching.

Flexner, A.: Medical Education in Europe. 1912

Presented by the Minister of the Interior, France.

Recueil des actes officiels et documents interessant l'hygiène publique. Tome 40, 1910. 1912

Presented by the Minister of Public Instruction, France.

Catalogue des thèses et écrits académiques. 1911-12

Presented by A. Harper, Esq., M.D., Eastbourne.

Fagge: Practice of Medicine, 2 vols. 1886
Graves: Practice of Medicine, 2 vols. 1848
Pott, P., Chirurgical Works of, by Earle, 3 vols. 1790

Presented by the Hooker Electro-Chemical Co., Niagra Falls.

Hooker, A. H.: Chloride of Lime in Sanitation. 1913

Presented by the Executors of the late Thomas Logan, Esq.

Vetera et Nova, 3 vols. 1910

Presented by Dr. MacFadden, L.G.B.

Local Government Board Food Reports, Nos. 7-19 1908-1912

Presented by the Medical Officer, Local Government Board.

Fletcher: Report on the Sanitary Circumstances of Stow Rural. 1912
Lane-Claypon, Miss J.: Report on the Biological Properties of Milk—both of the Human Species and of Cows. 1912
MacEwin: Report of an Outbreak of Enteric at Ringwood. 1912
Statistics of the Incidence of Notifiable Infectious Diseases. 1913

Presented by the Public Health and Marine Hospital Service of the United States.

Hygienic Laboratory Bulletins:—No. 85, Stiles and Hassall: Index Catalogue of Medical and Veterinary Zoology, 1912; No. 86, Anderson and Goldberger: Collected Studies on Typhus, 1912.

Presented by the Superintendent of Government Printing, Calcutta.

Scientific Memoirs:—No. 57, Patton: Studies on the Flagellates of the Genera Herpetomonas, Crithidia, and Rhynchoidomonas, No. 1, 1912. No. 58, Cragg: Studies on the Mouth Parts and Sucking Apparatus of the Blood-Sucking Diptera, II, 1913; No. 59, III, 1913.

Presented by K. S. Wise, Esq., M.B., Georgetown.

The British Guiana Medical Annual, vol. xviii. 1911, 1912

Added to the Library through the "British Medical Journal."

Ash, E.: Nerves and the Nervous. 1911
Barker, A. H.: Theory and Practice of Heating and Ventilation. 1912
Bray, R. A.: The Town Child. 1911
Brockbank, E. M.: Children, their Care and Management. 1912
Brosch, A.: Das subaquale Inninbad. 1912
Brown, E.: Can a Drunkard be Cured? 1912
Bryant and Buck: American System of Surgery, vol. viii. 1911
Bum, A.: Handbuch der Massage und Heilgymnastik. 1907
Busch, F.: Die Extraktion der Zähne. 1908
Castle, Coulter, Davenport, East, and Tower: Heredity and Eugenics, a Course of Lectures. 1912
Citron, J.: Immunity. 1912
Collie, A.: Small-pox and its Diffusion. 1912
Collie, Sir John: Medico-Legal Examinations and the Workmen's Compensation Act, 1906. 1912
Crocker, G.: Special Research Fund at Columbia University, Studies in Cancer, vol. ii. 1912
Cunningham: Practical Anatomy, fifth edition, by A. Robinson, 2 vols. 1912
Delbet-Mocquot: Affections chirurgicales des artères 1911
De Quervain: Spezielle Chirurgische Diagnostik, 3 Aufl. 1911
Dixon, A. F.: Manual of Human Osteology. 1912
Earle, S. T.: Diseases of the Anus, Rectum, and Sigmoid. 1911
Edelmann, R.: Meat Hygiene. 1912
Feer: Lehrbuch der Kinderheilkunde. 1911
Findel, H., H. Hetch, and K. H. Kutcher: Lehrbuch der Militärhygiene, Bd. 4. 1912
Gaugolphe: Maladies de l'oesophage. 1912
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THE RECENT INCIDENTS AT WISBECH.

It will be remembered that the Insurance Act Committee, acting on behalf of the British Medical Association, urged the Home Secretary to direct a public inquiry to be held into all the facts connected with the death of the late Dr. Dimock of Wisbech. A reply, dated November 26th, stating that the Home Secretary had no power to institute an inquiry at which evidence could be taken on oath, or at which the matters mentioned could be satisfactorily investigated, was published in the SUPPLEMENT of November 29th, p. 489. On receipt of this reply a further letter was addressed to the Home Office, and this, together with the reply which has been received, are printed below.

British Medical Association,
Medical Department, 429, Strand, W.C.,
November 28th, 1913.

Sir,—In reply to your letter of the 26th inst., I am instructed to express the deep regret of the Association that it should be of so unsatisfactory a nature, and to ask whether it is to be understood that citizens of this country can be afforded no remedy under the British Constitution for a wrong of the kind which seems to have been committed at Wisbech?

The Association was aware that the coroner had declined to go into the circumstances of the charge made against Dr. Dimock, and it was with this knowledge that it addressed the Home Secretary, in the hope that he would be concerned to prevent the infliction of lifelong injustice upon members of the community.

Is the fact that an accused person has committed suicide to be held to preclude men who are suffering under the imputation of having hounded him to his death from any chance of clearing themselves effectively in the eyes of the public? The Association would be very reluctant to be forced to this conclusion, and would again urge upon the Secretary of State that in the interests of justice some way out of the present impasse should be found.

If the Secretary of State has himself no power to institute an inquiry at which evidence could be taken on oath, the Association would respectfully submit that, having regard to the exceptional and distressing circumstances by which it is attended, the case is one in which the prerogative of the Crown might properly be exercised to issue a Royal Commission. The Association hopes that the Secretary of State will on further consideration recognize the propriety of advising this course to be taken.—I am, Sir, your obedient servant,

ALFRED COX, *Medical Secretary.*

The Under Secretary of State,
Home Office, Whitehall, S.W.

Home Office, Whitehall,
8th December, 1913.

Sir,—I have laid before the Secretary of State your letter of the 28th ultimo asking that the charges made against the late Dr. Dimock, of Wisbech, should be investigated by a Royal Commission, and I am directed by him to say in reply that this matter is not one in which the King could be advised to appoint a Royal Commission. The matter could not be satisfactorily investigated in the absence of power to compel the attendance of witnesses and to take evidence on oath.—I am, Sir, your obedient servant,

(Signed) EDWARD TROUP.

The Medical Secretary to the
British Medical Association,
429, Strand, W.C.

LOCAL MEDICAL COMMITTEES.

ABERDEENSHIRE.

THE Local Medical Committee has received the answer sent to the proposed amendments (vide BRITISH MEDICAL JOURNAL SUPPLEMENT of December 6th, p. 522) to the new agreement which were forwarded to the Commissioners after the conference between medical representatives and the Medical Benefit Subcommittee. In a letter to the Clerk to the Aberdeenshire Insurance Committee the Assistant Secretary to the Scottish Commissioners says:

1. *Clause 2 (i).*—With regard to the suggestion that words should be inserted in this clause defining the period during which attendance on any illness shall not form part of the duty of a panel doctor as such, I am to state that the National Insurance Act, 1911, by Section 8 (6) provides that "medical benefit shall not include any right to medical treatment or attendance in respect of a confinement." The proposal now made is in effect that the Commissioners should, by approving a clause in the agreement between an Insurance Committee and a medical practitioner, affect the rights conferred by the National Insurance Act upon women who are insured persons. The result may be either to cut down or to enlarge the right conferred upon any particular woman by the subsection. In either event it is not within the power of the Insurance Commissioners to take this action either in regulations or by approving a form of agreement. It may be that in any particular case doubt may arise as to whether under the Statute a woman confined of a child is at any state of her confinement entitled to the services of a medical practitioner as medical benefit. The Commissioners regret that it is not within their power to set this doubt at rest by any general announcement such as that suggested. If any such question arises it will be necessary that it should be decided by the Commissioners in their judicial capacity; or, in the alternative, in a court of law. In either event it would be improper for the Commissioners now to judge the question.

[This amendment is therefore rejected, while the Commissioners acknowledge that, owing apparently to the careless wording of the Act, the matter may have to be settled ultimately in the law courts.]

2. *Clause 2 (ii).*—With regard to the alteration proposed in this clause, I am to point out that obviously no legal obligation is imposed on an insured person by the National Insurance Acts 1911 and 1913 to accept the benefits conferred by these Acts, and that there is nothing to prevent an insured person from foregoing his right to any of these benefits, including medical benefits (without, however, becoming thereby exempt from the obligations of the Acts as regards contributions, etc.). On the other hand, however, the Commissioners consider that where a practitioner has entered into an agreement with an Insurance Committee under which he undertakes to give medical treatment and attendance, as laid down in the Regulations, to insured persons in consideration of payments made to him out of the funds of the Committee, the practitioner would not be acting in accordance with the tenor of his agreement in accepting fees from an insured person in respect of any treatment rendered to such person in pursuance of his agreement with the Committee. As the Commissioners understand that doubts have arisen on this point in connexion with the agreements for the current year, the clause referred to in your letter has been embodied in the new agreement to express more clearly the position in the matter, and they would not be prepared to agree to the clause being modified in the manner proposed.

[This amendment is therefore also rejected. It is to be noted that this answer only mentions "fees" and does not mention "or other remuneration," which the Local Medical Committee considers the chief danger.]

3. With regard to the suggestion that the words "a distance of," etc., in paragraph 6 (ii) should be deleted and the words "the area of practice of" substituted, the Commissioners are prepared to agree subject to the areas being delimited on a map and incorporated by reference in the agreement, so that there may be no doubt as to the area of a doctor's practice. It would be necessary that the whole area of your committee is served by some practitioner.

[The suggestion made by the medical representatives was "within the *ordinary* area of practice of the practitioner."]

In regard to the further matters dealt with in your letter, I have to state as follows:

(1) The agreements are between the Committee and the practitioner only.

The Commissioners understand, however, that it has been held by one of the Glasgow sheriff-substitutes that in the circumstances of a particular case the insured person had a legal right to sue a doctor who had failed to attend. The Commissioners have no exact information as to the basis of the judgement. It is understood that the insured person ultimately lost the case on its merits. When the question of the insertion of an arbitration clause in the new agreements was raised the Commissioners were advised that it was not possible to exclude by regulation or by agreement between the Committee and the practitioner any right an insured person might have to raise an action in the courts. The question of whether there is any

right is a very difficult one. It is, however, anticipated that the insertion of the arbitration clause, which provides a method of determining questions at issue between the Committee and the practitioner, will deter insured persons from raising actions. Under the old Regulations power to settle any question that was not a medical question was vested in the law courts alone.

[An arbitration clause has been introduced which cannot be enforced, so that a medical practitioner is still at the mercy of any litigiously inclined malcontent. "It is however anticipated" that the malcontent will not go to law.]

(2) The Commissioners are advised that the effect of a certificate specifying the disease not being given to the approved society—either through the insured person or directly—would be to deprive the insured person of benefit. The doctor should, therefore, advise the society in the cases—which, however, should be very few—when he has not specified the disease in the certificate. It should be kept in view, however, that there is less chance of an action being raised with any prospect of success where the certificate has been given to the insured person himself.

[The question asked here by the Local Medical Committee was: "How far, if at all, the Commissioners can indemnify the panel practitioners in Scotland from any legal action that might be raised by patients whose diseases were openly and truthfully stated on Med. Form 34." No answer at all has been given to this, but in dealing with the subsequent question of the practitioners reserving the right to withhold the name of the disease from any certificate where the patient's condition might be affected by its insertion, the Commissioners indirectly acknowledge that actions may possibly be raised, but "with less chance of any prospect of success" when the insured person himself is given the certificate.]

In view of the unsatisfactory nature of the Commissioners' reply, a meeting of all the panel practitioners in the county was called for December 11th to consider it.

Protest against the New Model Agreement.

A meeting of the Aberdeenshire Local Medical Committee, along with the panel practitioners in the county, was held in the Aberdeen Medico-Chirurgical Society's hall, Aberdeen, on December 11th, to consider the terms of the new agreement.

The meeting was the largest that has been held since the Act came into force.

After hearing the report of the conference with the Medical Benefit Subcommittee, at which various amendments to the "model" agreement had been put forward, and the reply of the Commissioners refusing these amendments, the following resolution was passed unanimously:

That this meeting of the Aberdeenshire Local Medical Committee and panel practitioners in the county, called to consider the terms of the "Model" Agreement, unanimously enters its emphatic protest against the rejection by the Commissioners of the amendments put forward by the Local Medical Committee, considers this rejection as a flat contradiction of paragraph 50 of the "Explanatory Statement as to Medical Benefit as Affecting Medical Practitioners," which promises that "through the Local Medical Committees the profession have security that their collective views shall have full consideration in any arrangements that are made"; and that this meeting instructs the Secretary of the Local Medical Committee to state in detail its objections to the agreement to the Insurance Committee and the Insurance Commissioners, and to inform them that if the agreement is forced on the practitioners as it stands they sign it unwillingly, under unfair compulsion, and with this protest duly registered.

GLASGOW.

The following matters have been dealt with at recent meetings of the Glasgow Burgh Local Medical Committee:

Provision of an Anaesthetist.—Efforts have been made to induce the Commissioners to refer this question to referees under Regulation 55, but, so far, without result.

Form of Record for Next Year.—A postal vote having shown a majority in favour of the card system, the Commissioners have been asked to supply cards instead of day books for next year.

Complaints.—A complaint was brought by one practitioner on the panel against another, that the latter, at the instance of an approved society, without communicating with the former, visited a patient of his in receipt of sickness benefit, and reported that the said patient was malingering. The case was reported to the Commissioners, as well as another, in which an agent of an approved society took it upon himself to tell an insured person that his allowance would cease on a certain date, and gave him a "declaring-off" line, with the date filled in, and told him to take it to his doctor for signature.

Panel Committee.—A scheme has been submitted to the Commissioners, and approved by them, whereby each of the four divisions is to elect its own representatives, in the following proportion, namely, four each by the Eastern and the North-Western; three by the Central; and seven by the Southern.

Allocation.—The Committee, in agreement with the Special Subcommittee of the Insurance Committee, recommended an equal distribution among those practitioners whose lists do not exceed 2,000. At a meeting of practitioners on the panel this recommendation was adopted, with the substitution of 1,500 for 2,000. At the same meeting it was further agreed to recommend:

That the balance remaining in the panel fund, after making payments to practitioners in respect of "identified" and "unidentified" forms, be distributed among those practitioners proportionately to the number of persons allocated to them and to the period they have been on the panel.

Motions proposing a *pro rata* and an equal distribution received a large measure of support.

The final decision rests with the Insurance Committee, subject to the approval of the Commissioners.

PERTH.

A meeting of the Local Medical Committees for the burgh and for the county of Perth was held on December 5th, when fifteen members were present.

Draft Agreement.—This was considered in detail, and the following alterations were suggested:

Clause ii. That the words "shall not be entitled to demand" be substituted for "shall not accept."

That "confinement" be held to mean the actual act of confinement, and any illness arising therefrom within fourteen days thereafter.

Clause iii. That all the words after "and such other persons" be deleted.

Clause v (2). That the Committee shall take such steps as are necessary to bring the alteration to the notice of the patients.

Clause vii. That the words "and such further records . . . Panel Committee" be deleted.

Clause ix. That it be the duty of the Committee to furnish a list of his patients to the practitioner, and not vice versa.

Clause xiii. That this whole clause be omitted.

Clause xiv. At the end of the clause substitute the words "common law" for "the Commissioners."

N.B.—It was considered that the enforcement of Clause xiii would be an infringement of the Truck Act.

[With regard to the desired alterations in the agreement, a letter, dated December 11th, was subsequently received from the Commissioners, in which all the alterations were refused, with the following exceptions:]

Clause ix. An arrangement to be sanctioned under which the Committee would notify early in each quarter to each doctor the number of insured persons on his list at the beginning of the quarter.

Clause xiv. An arbiter to be allowed if the parties in dispute are willing to bear the expenses of arbitration.

Panel Committee.—It was agreed to form an Executive Committee of the Local Medical Committee to correspond in number with the statutory number of the Panel Committee, and to propose the members of the Executive Committee as a body to form the Panel Committee. Two members from the burgh and two from the county were appointed to meet the Returning Officer on the day arranged by the Commissioners to propose the names chosen. This meeting duly took place on December 12th, when the Returning Officer accepted the nominations and declared the Panel Committees formed for the burgh and the county.

WEST RIDING OF YORKSHIRE.

Meetings of the Local Medical Committee of the West Riding of Yorkshire, being the fifteenth and sixteenth meetings, were held on November 18th and November 28th respectively.

Panel Committee.

The Honorary Secretary reported that he had sent a circular letter to members of the Local Medical Committee asking them to consult all practitioners in their districts with regard to the constitution of a Panel Committee, and suggesting that rather than that two separate committees should be appointed, an alternative scheme should be submitted to the Commissioners. The alternative scheme was approved and forwarded, duly signed by the requisite number of practitioners, to the Commissioners in the following terms:

That the present Local Medical Committee with the addition of an extra number from two or three of the largest districts (to bring it up to the required number of forty be appointed to act also as the Panel Committee.

At the meeting on November 28th a letter was read from the Commissioners stating that, pending consideration of the scheme, they had suspended the election of a Panel Committee in the West Riding area. The Honorary Secretary was authorized to notify the Commissioners that the Local Medical Committee agreed to the rewording of the alternative scheme proposed by the Commissioners, so that it might comply more clearly with the requirements of the regulations, and to submit the amended scheme with the names of the persons forming the present Local Medical Committee, in order that the Commissioners might be able to issue the necessary circular to the electors to complete the matter without delay.

Medical Referees.

Nominations in the various districts in accordance with the following temporary scheme for the appointment of medical referees adopted by the Local Medical Committee on September 23rd were received and confirmed:

I.—That medical referees under the Insurance Act be appointed till the end of March, 1914.
II.—That the appointments be part-time appointments.
III.—That cases be referred to the referees by the approved societies.
IV.—That the referees be nominated by the practitioners of the various "districts" of the West Riding insurance area, one referee from each "district."
V.—That no referee shall act within the "district" in which he resides.
VI.—That the remuneration be as follows:
(*a*) 10s. 6d. for every case examined at the doctor's surgery (the doctor to be paid for every case referred to him the above fee of half a guinea if the case is seen and examined, a retaining fee of five shillings (5s.) if the case is referred to him but does not turn up.
(*b*) 21s. for every case where the doctor has to go to visit the person away from the surgery.
VII.—That the referees be paid by the approved societies.

The Honorary Secretary was directed to send copy of the scheme and list of medical referees to the Clerk, with a request that he would notify the approved societies, and to circularize other Local Medical Committees and the practitioners of the West Riding area, requesting all medical men to support the scheme and to refuse to act as medical referees under the Insurance Act at the request of any approved society except in accordance with the scheme of the Local Medical Committee.

Mileage.

A letter, dated November 8th, was read from the Clerk of the Insurance Committee enclosing copy of a scheme approved by the Commissioners for the Special Mileage Grant (£1,500 for present year). It is stated that the Insurance Committee would circularize practitioners in the areas mentioned to obtain a return of the insured persons in respect of whom claims were made.

Excessive Ordering of Drugs: "Repeat Mixtures."

At the meeting on November 18th a letter was read from the Clerk of the Insurance Committee asking the opinion of the Local Medical Committee on the "reasonableness" of prescriptions of certain practitioners, and drawing attention to the question of "repeat mixtures." This communication was referred to the Pharmacopoeia Subcommittee, which reported to the meeting on November 28th. The Committee decided to recommend that the practitioners concerned should be surcharged for certain proprietary articles which they had prescribed.

With regard to the question of "Repeat Mixtures," the Committee reaffirmed its adherence to the rule laid down at the conference with the chemists on March 28th, 1913, "that in no case shall a repeat prescription combine a new ingredient or additional matter; in such cases the original prescription must be set out in full"; and accordingly it was resolved;

That no alteration, either in the form of an addition or otherwise, should be made when "Rep. Mist." is prescribed, and that this form should only be used when the prescribing is continuous.

The Honorary Secretary was directed to ask the Clerk to notify practitioners accordingly.

Revised Drug Tariff.

At the meeting on November 18th a report of a conference between representatives of the Insurance Committee, the West Riding Pharmacists' Committee, and the Local Medical Committee was received, and the representatives of the Local Medical Committee were instructed to press for the postponement of the revision of the drug tariff for six months. At the meeting on November 28th it was reported that the Medical Benefit Subcommittee had not accepted the proposal for postponement, and that a further conference was to be held on December 11th, whereupon the following resolution was adopted:

That, in accordance with the wish of the Medical Benefit Subcommittee, a deputation of four members of the Local Medical Committee shall meet the chemists' representatives before December 11th to discuss the question of the new tariff, and shall attend the conference on December 11th, with power to act on our behalf.

Drs. Eames, Fry, and Gabriel, forming the Pharmacopoeia Subcommittee, and Dr. Glover (Doncaster) were appointed to act as the deputation.

New Agreement and Revised Regulations.

At the meeting on November 18th the new draft agreement between medical practitioners and the Insurance Committee was referred to a subcommittee consisting of Drs. Fry, Glover, Hillman, Marsden, and Russell. The report of this subcommittee, received at the meeting on November 28th, was adopted and its recommendations communicated to the representative of the Clerk of the Insurance Committee, who undertook to transmit them to the Commissioners.

ISLE OF ELY.

A MEETING of the Isle of Ely Local Medical Committee was held at the Griffin Hotel on December 9th, when Dr. C. H. GUNSON presided in the absence of Dr. Meacock, and ten others were present.

Mileage.—A letter was read from the Clerk to the Insurance Committee announcing the amount of the special fee mileage grant allowed by the Commissioners to be £250. This was regarded as a provisional grant for the year 1913. The Local Medical Committee considered this too small an allowance, but decided to thank the Commissioners for the grant, and to express the hope that a larger sum would be allowed in the future. After discussion as to the best method of distribution of the special mileage grant, it was resolved to submit to the Insurance Committee a scheme which followed fairly closely the model scheme suggested by the Commissioners.

New Agreement.—The new form of agreement for 1914 was then considered, and, after discussion, it was resolved to approach the Insurance Committee with regard to certain modifications, especially in the agreement form relating to Clause 2 (ii). The Deputy-Chairman was chosen to interview the Clerk to the Insurance Committee on the matter.

Drug Tariff.—The new drug and appliance tariff was submitted and referred to a subcommittee for examination and report.

Expensive Drugs and Vaccines.—A resolution was received from the Isle of Ely Pharmacists' Association with reference to the repeated ordering of expensive drugs and vaccines, especially in one part of the Isle. The Local Medical Committee was of opinion that practitioners should be urged not to order unnecessarily expensive drugs as a general rule, but that this matter, and also that of the supply of vaccines in any particular case, must be left to the judgement of the practitioner in attendance.

Pharmacopoeia.—It was decided to discuss the question of establishing a pharmacopoeia for the Isle of Ely at the next meeting.

EAST SUFFOLK.

AT a meeting of the East Suffolk Local Medical Committee, held at Ipswich on December 10th, Dr. WOOD HILL was voted to the chair in the absence of Dr. Evans.

New Agreement.—The CHAIRMAN briefly reported the result of the negotiations between the Medical Committee and the Insurance Committee on the new agreement, and stated that though the Insurance Committee was willing to substitute the word "demand" for the word "accept" in Section 2 (ii), the Commissioners had refused to allow the change.

Protest against the Attitude of the Insurance Commissioners.—A letter was read from Dr. Evans resigning from the Medical Committee as a protest against the attitude of the Insurance Commissioners to the Medical Committee. On the proposition of the CHAIRMAN a vote of

thanks was proposed and carried, thanking Dr. Evans for the vast amount of time and attention that he had given to the Medical Committee. The CHAIRMAN raised the question of the resignation of the whole Committee, in view of the suggestion in Dr. Evans's letter, but stated that he himself thought it would be a mistake for the Committee to do this. Dr. RYDER RICHARDSON proposed and Dr. REDPATH seconded:

That the Committee resign as a protest against the treatment of the Commissioners.

The motion was discussed, but on being put to the vote it was lost. A letter from Dr. G. H. Ransom, expressing appreciation of the past services of the Chairman and Secretary, was read.

Panel List.—A communication was read from the Returning Officer with reference to the absence of Dr. Askin's name from the Panel Committee, and explaining that his nomination paper was not filled up according to the regulations.

Elections.—On the motion of Dr. WOOD HILL Dr. Helsham was unanimously elected Chairman, and Dr. Gutch being unable to continue as Secretary, Dr. Taylor was unanimously elected, and agreed to serve provided that the ordinary meetings should in future be held at Saxmundham, and this was agreed to.

Expenses of Committee.—The accounts for the past year which were presented showed the sum of £10 8s. 2½d. owing to the Secretary. It was resolved that application should be made to all the panel doctors in East Suffolk to contribute 2s. 6d. a head to meet these expenses.

Mileage.—On the motion of Dr. ASKIN, seconded by Dr. HELSHAM, it was decided to press the question of mileage on the Insurance Committee.

ESSEX.

A SPECIAL general meeting of the Essex Local Medical Committee was held on November 21st and the thirteenth general meeting on December 6th.

Local Medical and Panel Committees.—A difficulty has arisen owing to the circumstances that the recognition by the Commissioners of the Local Medical Committee extends only to December 31st, 1913, while the new Panel Committee will go out of office on July 15th, 1914. The Commissioners have agreed to a scheme extending recognition to the Local Medical Committee until July 15th, 1914, in this way avoiding an election in January.

Drug Tariff.—After further negotiations the drug tariff, with the necessary alterations and explanations, has been approved by the Local Medical Committee.

New Regulations and Agreement.—The Committee, after a lengthy meeting on November 21st, addressed to the Insurance Commissioners a letter containing the following suggestions:

The Committee requests the Commissioners to insert in the New Regulations for Medical Benefit Section 15, 2 (*b*), Sections 17, 7 and Section 59 of the old regulations. It also requests the Commissioners to make suitable arrangements for the payment of anaesthetic fees and operations within the competence of general practitioners, and consultation fees (when a second practitioner has to be called in), and is of opinion that the funds necessary for this purpose should not be obtained by means of deduction from the General Medical Benefit Fund.

The Committee approve of the arrangement of green and orange vouchers, but strongly protests against the Central Medical Benefit Fund being formed by deduction from the capitation fees of practitioners.

The Committee requests that Section 2 (ii) of the New Model Agreement should be struck out, as it is of the opinion that the section in question is an interference with the liberty of the practitioner and the patient.

The reply of the Commissioners was to the following effect:

Section 15, 2 (*b*). A rule to be inserted in model rules for approved institutions which will give due effect to these provisions, notwithstanding their omission from New Regulations.

Section 17, 7. It is not intended by its omission to deprive practitioners of their rights. If after consideration Commissioners are not satisfied, they will take necessary steps "before regulations are made substantive."

Section 59. No change of policy is intended . . . reinsertion will be considered if Commissioners decide that this is not safeguarded.

"Consultation" is outside medical benefit. "Anaesthetics"—the anaesthetic can be paid for under Section 30, 2 (*a*), but administration is already included in capitation fee; no further fee can be entertained. "Operations" can only be paid for by constituting a fund set apart by deduction from capitation fee. "Temporary Residents"—green vouchers must be paid for by deduction from capitation fee (see 171, I.C.), "inasmuch as the practitioners by whom they have been accepted are during such period of temporary absence relieved from the liability of being required to attend them."

Panel Patients and "Private Patients."—The gist of a correspondence with the Commissioners is as follows:

1. Panel patients can refuse to avail themselves of the benefits of the Act (but they must continue to pay as provided by the Act).
2. No panel practitioner can charge such person for "any treatment rendered to such person in pursuance of his agreement with the Committee."
3. Therefore, to avoid confusion, Par. 2 ii was inserted in the new agreement, and cannot be expunged; but
4. "The Commissioners consider that where an insured person *desires* to be treated by a practitioner as a private patient the proper course to adopt is to accept the insured person as a private patient only, and not as an insured person under the National Insurance Acts 1911 to 1913." "It would be improper for a practitioner to receive remuneration both from the patient as a private patient and from the Committee as in respect of his treatment under the Acts."

Allotment of Insured and Allocation of Funds.—The Commissioners have approved of the scheme for collective allotment and collective acceptance of risk of treatment by the whole panel of Essex, and will distribute the funds in direct proportion to the number of patients on each practitioner's list, quarter by quarter. The only deduction will be in respect of "medical benefit through institutions, or under special arrangements sanctioned by the Insurance Committee."

Tuberculous Insured Persons not Entitled to Sanatorium Benefit.—In answer to a letter from the Local Medical Committee, the Insurance Commissioners stated that the panel practitioner "would continue to give the required treatment until such time as the person could be dealt with under the comprehensive scheme adopted by the County Council." This appeared to be indefinitely until the person can be transferred to a dispensary or hospital, as the comprehensive scheme is "in the air." The Local Medical Committee reminds practitioners that prescriptions for persons receiving sanatorium benefit should be written so as to distinguish them from ordinary prescriptions—for example, write "Sanatorium Benefit" upon each.

PORTSMOUTH.

THE Portsmouth Local Medical Committee has held eight meetings since June last, with an average attendance of 11.4. The following are some of the chief points dealt with:

Chemists.—The working agreement between the doctors and the chemists on the panel has been satisfactory; no serious complaint has been made on either side.

Midwives.—A deputation from the Midwives' Association was received, and the question of the insurance of doctors' fees in maternity cases was carefully considered, and ultimately it was resolved not to support the scheme put forward by the Midwives' Association.

Malingering.—The question as to the extent of malingering was brought before the Committee, and ultimately referred to a general meeting of panel practitioners, at which it was decided:

That in the opinion of this meeting malingering does not exist to any serious extent in Portsmouth, and what does exist could be very much diminished by the approved societies safeguarding themselves by more stringent rules and more efficient sick visitors, after the fashion of the old friendly societies.

Medical Referees.—At the same meeting the following resolution was passed, namely:

That this meeting of panel practitioners of the borough of Portsmouth is of opinion that the appointment of Medical Referees in this town is unnecessary.

Panel Committee.—The following scheme for the appointment of the first Panel Committee was adopted unanimously on November 18th, namely:

1. That the practitioners whose names are given below, being members of the Local Medical Committee, shall constitute the first Panel Committee.
2. That the practitioners on the Panel be asked by circular to consent to the appointment of these persons as the first Panel Committee.
3. That if objection be not taken by at least fourteen practitioners on the Panel, expressed in writing to the Commissioner within seven days from the receipt of the circular, the Committee shall be deemed to be duly appointed.

Names.

Practitioners on the Panel: Drs. J. G. Blackman, R. G. Brown, T. A. Colt, E. W. Dewey, H. Ll. Driver, James Green, L. K. H. Hackman, W. R. Kirkness, W. P. McEldowney, A. V. Maybury, jun., A. Milne-Thomson, A. H. S. Roberts, W. Salmond, D. A. Sheahan, H. S. Thomas (15).

Practitioners not on the Panel: Drs. C. P. Child, L. Cole-Baker, George McGregor, A. V. Maybury, sen., A. B. Wright (5). Total 20.

This was forwarded to the Commissioners, who, in consequence, suspended the election as required by Circular 30/I.C., and the question of recognition is under consideration. As it was felt, for practical reasons of economy of time and work, that it is desirable that the persons who compose the Local Medical Committee should also constitute the Panel Committee, the Commissioners have been asked to recognize the above gentlemen as the Local Medical Committee until July next, in order that the elections of the new Committees may coincide.

New Agreement.—At the meeting of the Committee on November 11th, the new agreement was considered, and it was resolved unanimously:

That the word "accept" in Cl. 2 (ii) line 1 be deleted, and the word "demand" substituted; and that this resolution be sent to the town clerk.

That in Clause 6 (ii) all the words after "within" to the end be deleted, and the following substituted—namely, "the County Borough of Portsmouth."

That in the Second Schedule, line 1, after the word "of" the figures 1s. 7½d. be inserted, and in line 3, after the word "of," the figures 1½d. be inserted; further, in line 4, the words, "who are eligible," be struck out, so as to remove all ambiguity.

A conjoint letter, signed by Drs. L. K. H. Hackman and B. H. Mumby, Honorary Secretaries of the Local Medical Committee, and the Portsmouth Division, British Medical Association, respectively, was sent on November 26th to the Portsmouth Insurance Committee, asking:

1. For the adoption of some form of Voucher for the identification of insured persons.
2. For a definition of the term "confinement."
3. That Clause 8, Memo. 173 I.C. be added to the rules already sent out for hanging in surgeries.
4. That the word "demand" be substituted for "accept" in line 1, Clause 2 (ii).

This letter was referred to the Medical Benefit Subcommittee, and it is understood that they will recommend the adoption of medical vouchers, and the publication of Clause 8 Memo. 173/I.C., but that they cannot agree to define "confinement"; and that they will ask the Commissioners to explain the meaning of the words, "who are eligible," in the last line of the Second Schedule. The substitution of the word "demand" for "accept" was not agreed to.

IRISH MEDICAL COMMITTEE.

AT a special meeting of the Irish Medical Committee on November 26th, Dr. P. J. MACNAMARA in the chair, the following resolution was carried by a majority:

The Irish Medical Committee, composed of representatives from each insurance area, believe that malingering is not permitted within the areas where doctors have panelled, and we are not responsible for malingering where payment for sickness benefit is made without a medical certificate; and, holding that the precautions already adopted afford complete protection to the approved societies against imposition in panelled areas, is unable to tender evidence of any value on the subject of excessive sickness, the cause of which may more properly be sought in the insanitary home and uneconomic conditions of the insured, and in the unrestricted acceptance of members by the societies, than in the dishonesty of the poor and the connivance of their medical attendants.

The Committee also decided that any evidence given on behalf of the Irish Medical Committee before the Committee of Inquiry, appointed by the Irish Commissioners, should be collective, not individual, and that for this purpose the following should attend as a deputation: For Ulster, Dr. Johnstone, or Dr. T. A. Davidson, or Dr. J. S. Darling; for Dublin, Dr. M. R. J. Hayes (Medical Secretary of the Irish Medical Committee); for Munster, Dr. J. Power, or Dr. T. Hennessy; for Connaught, Dr. R. J. Rowlette.

INSURANCE COMMITTEES.

BIRMINGHAM.

THE report of the Sanatorium Committee, presented to the last meeting of the Birmingham Insurance Committee, stated that 181 insured persons were receiving treatment. On the report of the Medical Benefit Subcommittee, Dr. Ratcliffe made a protest against the shortness of the time allowed by the Commissioners for negotiations between themselves and the pharmacists in the adjustment of the draft model agreement. The report of the Finance Subcommittee stated that the number of prescriptions was 20,000 fewer than in the previous quarter, but that the reduction in the charges did not correspond, since it only amounted to £20.

The report of the Medical Service Subcommittee, which was accepted, dealt with complaints investigated. In one case the wife of an insured person stated that a doctor had acted harshly in the treatment of her husband and had accepted payment of 1s. for his services. After considering correspondence on the matter the Subcommittee was of opinion that the complaint had not been substantiated. As the money paid to the doctor had been refunded the Subcommittee directed that no further action be taken, but that the clerk write to the doctor and to the insured person that the acceptance by the doctor of payment for services rendered in accordance with the terms of the agreement entered into by the doctor was irregular.

A complaint was also made by the husband of an insured person against a doctor that his wife had not been able to obtain efficient treatment, and that he had been compelled to engage another doctor and pay his fees. The doctor and the person making the complaint were asked to attend before the Subcommittee, but the letter to the latter was returned "House void," "Not known," and although inquiries were made the address could not be ascertained. The doctor attended before the Subcommittee, and after hearing his explanation the Subcommittee decided that, in its opinion, the complaint had not been substantiated.

A further complaint was made by an insured person that her doctor had sent in an account for 3s. 6d. for treatment. After considering a letter of explanation from the doctor, which stated that the account had been sent in error, the Subcommittee decided to take no further action in the matter.

INSURANCE NOTES.

THE SUPPLY OF DRUGS TO THE INSURED.

NOVEL PROPOSALS AT SALFORD.

IT is now practically certain that the money available for drugs and appliances for insured persons in Salford will fall very far short of meeting the bills of chemists, even when the whole of the floating sixpence is used up. Up to the end of the first nine months of the insurance year the chemists have received only about 70 per cent. of their accounts after correction by the Pharmaceutical Committee. In making a forecast as regards the whole of the year, several facts have to be taken into account, but in no case does it seem possible that the chemists can receive over 75 per cent. In the first place, up to the present it has been found that each prescription has on the average cost about 6.9 pence, and the chemists complain that this is higher than it should be. This is due to no small extent to the large quantities of extract of malt with cod-liver oil and emulsion of cod-liver oil that have been ordered, and also to the fact that many practitioners have ordered drugs under proprietary names which might just as well have been ordered under their scientific chemical names at a fraction of the cost. Several glaring instances of this have been brought to the notice of the Local Medical Committee, and in at least one case a deduction has been made from the amount of the doctor's bill concerned, the sum deducted being handed over to the drug fund. In other words, the doctor was fined under Regulation 46 for extravagant prescribing. Taken on the average, however, the sum of 6.9d. per prescription, though higher than necessary, cannot be said to be outrageously high, but if by more careful prescribing it could be brought down to 6½d., it would mean a saving to the drug fund of something like £680 on the year, as it is estimated that the total number of prescriptions for the year will be

at least 410,000. It is this last figure about which the chemists most strongly complain. In spite of frequent reminders from the Local Medical Committee to the panel practitioners that too many prescriptions were being given, in the first nine months of the year the chemists have had to dispense 304,000 prescriptions for the insured. At this rate the total for the year would be 406,000, but considering that the three months—October 14th to January 15th—are, as a rule, the busiest months of the year, the total prescriptions will, it is thought, not fall short of 410,000, and, indeed, seem more likely to reach 420,000. This would be, roughly, nearly five prescriptions for each insured person on the register whether ill or well, and probably much more than five for each person who has actually received treatment, though no figures are yet available as to the percentage of the insured who have been treated. But taking the lower figure of 410,000, at 6.9d. per prescription, it means that to pay the chemists in full the sum of £11,780 would be required. Up to the present the Insurance Committee has taken the number of the insured in Salford at 82,000, though the register, recently corrected, shows that there may be as many as 87,000, but even taking the last figure as correct, the sum available from the drug fund and the drug suspense funds together cannot exceed £8,700 to meet a charge of at least £11,780. In other words, the actual cost for the year for drugs and appliances in Salford will be rather over 2s. 8d. per insured person, and as only 2s. at the utmost is available the chemists cannot possibly receive, on a liberal estimate, more than about 75 per cent. of their accounts.

In view of these facts the Salford Pharmaceutical Association on October 31st wrote to the Commissioners stating that it would be impossible for them to continue in the coming year unless they had a guarantee for full payment. Their letter states: "We are working on unusual conditions, we having signed originally for the panel system, which was afterwards altered to meet the wishes of the doctors to the pooling system; prescribing has consequently been much greater."

In reply to this the Commissioners wrote on November 25th to the Clerk to the Insurance Committee as follows:

I am directed by the National Health Insurance Commission (England) to forward to you the enclosed copy of a letter received from the Salford Pharmacists' Association. The Commissioners would be glad to receive any observations your Committee may desire to make with regard to the questions raised therein. In this connexion I am to state that it appears to the Commissioners from information before them that the excessive charge upon the Drug Fund is due, not to the prescribing of expensive drugs or to the high cost of individual prescriptions, but to the larger number of prescriptions given in the area in proportion to the insured population. If it is the case, as suggested in the letter from the Pharmacists' Association, that the excessive number of prescriptions is due to the special arrangements in operation in the Salford area, it would appear to be desirable that your Committee should confer with the Local Medical Committee on this matter with a view to taking steps which, whilst having due regard to the interests of insured persons, will secure a satisfactory check upon the number of prescriptions given or will otherwise reduce the present excessive charge upon the Drug Fund. I am to add that if it should appear that the special arrangements in the Salford area are responsible for any part of that excessive charge, it would be necessary for the matter to be settled to the mutual satisfaction of the doctors and chemists before the Commissioners considered the question of giving their approval to a continuance of those special arrangements.

As already announced in the Supplement of November 8th the practitioners of Salford resolved on October 30th to ask for a continuance of the present pooling arrangement for the coming year, and on November 20th this was sanctioned by the Insurance Committee.

In order to deal with this situation a general meeting of the practitioners and chemists of Salford was held on December 2nd, when an arrangement was made that the panel practitioners should guarantee that the whole of the chemists' bills should be paid in full on condition that the chemists agreed to a revision of the drug tariff at present in force, the details of the arrangement to be left to the Local Medical Committee and the Pharmaceutical Committee, subject to the sanction of the Insurance Committee and the Commissioners. Some difficulty, however, arose as to the revision of the drug tariff, which the chemists desired to retain as at present, and at a subsequent meeting of the committees the following resolution was agreed to, which considerably modifies the first arrangement:

> That the pharmacists of Salford agree to dispense drugs and appliances to insured persons under the National Insurance Acts, 1911 and 1913, on the terms set out in the tariff agreed between the Pharmacists' Council and the Local Medical Committee, on the understanding that the Medical Committee, through the Insurance Committee, shall administer the whole of the money derived from the 9s. capitation of insured persons in a manner similar to that in which they now administer the moneys derived from the Panel Fund, and that they shall debit each practitioner with the cost of the prescriptions given by him, but in the event of the prescriptions costing a greater sum than that yielded by the Drug and Drug Suspense Funds, such additional sum shall not be made good by the practitioners, but shall be borne as a deficit by the pharmacists.

On November 6th a deputation, consisting of the Chairman and Clerk of the Insurance Committee, the Chairman and Secretary of the Local Medical Committee, and the Chairman of the Pharmacists' Association had an interview with Mr. Vivian and Mr. Wray, Secretaries of the Commissioners, and after explaining this resolution, were informed that the Commissioners would give it their consideration and send their decision to the Insurance Committee. On December 7th the deputation reported to the Medical Benefit Subcommittee, and the Subcommittee resolved to recommend the Insurance Committee, which meets on December 18th, to adopt the scheme. If it receives the sanction of the Commissioners, special clauses will have to be inserted in the agreements between the Insurance Committee and the practitioners and pharmacists; but up to the present (December 15th) the decision of the Commissioners has not been made known.

It will be seen that the scheme, as it stands at present, differs materially from the first proposal, under which the panel practitioners would have guaranteed that the whole of the chemists' bills should be paid in full, subject to revision of the tariff. Under the present scheme the whole of the 9s. available for medical benefit should be put into one pool, at any rate nominally. Each doctor would then have credited to him all that this 9s. pool sufficed to pay on his account for attendances, but before payment he would be debited with the cost of all the prescriptions which he had given. This arrangement would, however, be subject to two provisions: In the first place, the chemists have a right to at least 1s. 6d., which the doctors cannot touch in any case, however much the drug bill may be reduced. For example, if by any chance there should be such a reduction in prescriptions that the drug bill only came to 1s. 4d., the other 2d. would have to be carried forward to the drug fund of the following year, as provided in Regulation 45 (3). On the other hand, if the drug bills amounted to over 2s. per insured person, the excess would have to be borne as a loss by the pharmacists—that is to say, their bills would not be paid in full. At first sight this would appear to leave the pharmacists no better off than they are at present, but they are willing to accept the arrangement, because they are so confident that every doctor will prescribe more carefully and less lavishly when he has the constant reminder at every pay day that he must be debited with the whole cost of his own prescriptions. The inducement at present to keep an eye on the floating sixpence has seemed to the doctors somewhat shadowy, and has apparently had little effect, but the proposed arrangement will appeal very directly to every doctor every time he receives any payment. The details of the scheme will have to be carefully worked out, and it remains to be seen whether the Commissioners will be able to reconcile it with the financial arrangements provided in the regulations; but, at any rate, it shows that a majority of the practitioners of Salford realize their responsibility in this matter, sympathize with the chemists in the losses they have sustained, and are willing to submit to some restrictions in prescribing rather than be compelled to adopt the capitation system.

Lancashire.

At a meeting of medical practitioners on the panel for the county of Lancashire, held in the County Hall, Preston, on December 9th, Dr. H. F. Oldham, who was in the chair, said that the meeting had been called to consider the new agreement. After pointing out that there had not been during the year a single serious complaint against the medical profession laid before the Medical Service Subcommittee, Dr. Oldham said that the new

agreement issued by the Lancashire Insurance Committee contained in the second schedule a scheme of medical benefit carrying out the practice followed during the past year—that is to say, payments would be made by the Committee monthly instead of quarterly; the doctors would not be asked to furnish accounts to the clerk to the Insurance Committee, but these would be prepared in the Committee's office. As the result of an interview with a representative of the Insurance Commissioners, the Chairman was able to say that it was recognized that if an insured person went to his panel doctor to be treated as a private patient the doctor was at liberty to accept him if the patient was first of all removed from the list, and the sum allowed for this patient for medical benefit would then go into the pool.

The meeting considered the agreement clause by clause, and ultimately accepted it, and decided to recommend it to the practitioners in the county for signature, subject to a definite understanding that a patient desiring to be treated as a private patient could be so treated after the removal of his name from the list.

Keeping of Accurate Records.—Dr. C. J. Trimble (Bamper Bridge) called attention to the duty of keeping accurate records. It was, he said, the duty of every practitioner on the panel to keep the cards of patients correctly entered up and in order, so that in case of inquiry by the Commissioners at any time there would be a clear record of the work the doctors had done.

Mileage.—Dr. Robinson (Stretford) proposed, Dr. Trimble seconded, and it was unanimously resolved:

> That in regard to Section 6 (ii) of the agreement, which requires a doctor to visit a patient on his list up to a distance not exceeding three miles from the doctor's house, representation be made to the Lancashire Insurance Committee that, in the opinion of this meeting, the specified distance should be reduced from three miles to two miles.

Unallotted Funds.—The Chairman stated that when the index register was completed steps would be taken to dispose of the accumulated funds in respect of insured persons who had not selected a doctor during the first, second, and third quarters. It was open to the Local Medical Committees to decide how the unallotted funds for their areas were to be divided, and he recommended an early decision as to the method they wished to be adopted and communication of the result to the Lancashire Insurance Committee. When a Local Medical Committee had adopted a system the Insurance Committee would automatically each quarter apportion the unallotted funds according to that system.

County Organization.—The Chairman suggested that Local Medical Committees might consider the advisability of making a small contribution towards a central fund for establishing a proper organization for the county to look after the interests of the medical men. Members of the County Medical Committee might properly be paid out-of-pocket expenses for attending meetings.

Notice of Changes.—It was resolved:

> That the County Medical Committee be requested to make representations to the Lancashire Insurance Committee to ensure that the medical men on the county panel should be given three months' notice of any intended change in the doctors' agreement or other important matter affecting the medical men.

Insurance Practitioners' Associations.

We are informed that the National Insurance Practitioners' Association, having completed the work for which it was founded, was at a general meeting at Caxton Hall on December 12th dissolved. Its members were advised to join local panel associations, which it is proposed to link up in a central body.

The Advantage of Keeping a Duplicate Record.

Dr. Wm. Spettigue (Wellington, Somerset) writes to suggest the importance of keeping a duplicate record of work already done. He desires to point out that the matter is urgent, as the card will be filled up by the end of the year, and might be called for at any date thereafter. After they are called in, all chances of making duplicate records will be lost. He recognizes the importance of making accurate returns, but considers it important also to keep accurate duplicate figures of the more important totals. He suggests that this can be done with comparative ease by entering the totals in an alphabetical register, such as a penny *Where is it?* The cards, he says, should now be in alphabetical order, and the total attendances are to be entered in the place appropriated to this purpose. When the doctor is doing this it would not, Dr. Spettigue thinks, require any great expenditure of time to enter the names on the register, and the total visits and total attendances other than visits, in vertical columns ruled at the right-hand margin of the page for the purpose. The more enthusiastic, he says, might also enter the number of illnesses, and indicate whether or not sickness benefit has been drawn in the manner indicated in the model.

	Total Visits.	Total Attendances.	No. of Illnesses in Medical Benefits.	Sickness Benefit.	Maternity Benefit.	Sanatorium Benefit.
Howard, James, 100, Smith St.	4	15				
Hucks, Thomas, 50, Brown St.		12				
Hyatt, Jane, 20, High Street	8					

Dr. Spettigue adds that, with the names of 500 insured persons on his list, the totals for the three quarters of the year ended October 12th were 367 visits, 1,681 attendances, and 521 medicines dispensed for persons outside the chemists' area.

We cordially endorse Dr. Spettigue's suggestion, which is in accord with the policy we have tried repeatedly to impress upon readers of the JOURNAL—namely, that the profession cannot afford, through the production of incomplete statistics, to allow a false impression to be created as to the amount of work which has been thrown upon it by the Insurance Act.

CORRESPONDENCE.

VOLUNTARY INSURANCE VERSUS COMPULSORY INSURANCE.

DR. W. J. DURANT (Gateshead-on-Tyne) writes: My attention has been drawn to the formation of a new association called "The Insurance Tax Resisters' Defence Association," and the causes it proposes to advocate.

It is the duty of the medical profession to be on its guard against any proposition which will do harm both to its members and the people we work amongst. The principle of voluntary insurance is, among others, the basis of the association mentioned.

Medical men are in such close touch with the workers that they are enabled to form very definite opinions on any scheme such as voluntary insurance. To my mind it is sheer nonsense to expect legislation embodying the voluntary principle to succeed in providing insurance for all classes. When the National Insurance Bill was subjected to the criticism of all parties, both in the House of Commons and out of it, there was one practically unanimous decision—namely, that there existed a need for legislation to provide sickness insurance for all the working classes of this country.

It was agreed on all sides that such legislation could never be successful unless compulsory. The splendid work done by voluntary organizations, such as friendly societies and other similar bodies, is recognized by every one, but it is also admitted that they did not touch the very people who were most in need of help. Practically all medical men will agree that in a matter of such vital importance as the health of the nation it is almost impossible to ensure the poorer and a great many of the better-to-do working classes being brought into insurance against sickness except by a compulsory bill. A voluntary bill would gather in only those who insured themselves before, as well as a number of unhealthy well-to-do people who could pay for private treatment, leaving the poorer classes and the good lives outside. An argument often advanced in favour of voluntary as against compulsory insurance is, that there is a large number of insured persons who have not made a choice of doctor owing to the compulsory nature of the Act and of their own doctors not being on the panel.

In my own town, where 40,000 of the 120,000 inhabitants are insured persons, and where only one doctor is not on the panel, there are still about 5,000 who have not made a choice. The only reason these people give when seen is that they have always been well, and have not bothered. We never hear a word about compulsion.

By a compulsory bill, the poorer classes are protected against themselves. At present such people are being taught a splendid lesson in self-denial and thrift, and are already beginning to tell us of the great benefits they are receiving. The panel doctors of the North of England are realizing every day by their own observations and their patients' statements what an inestimable boon the compulsory National Insurance Act has been to insured persons. Especially is this so with regard to the poorest patients. Before the Act they, not being insured, ran the risks of illness and disability, and sought help from charitable institutions when trouble came.

The advocates of voluntary insurance speak of the humiliation of compulsion. I would like to tell them what we hear of the humiliation the insured have suffered prior to the Act, by having to seek aid from charity. The present Act in no sense creates a feeling of humiliation. The people on the panels in the North here are well-cared for by their panel medical men. Their relations are most friendly in every way, with very few exceptions, and they are treated in the same manner as private patients.

In a year or two, when the new system has settled down, the relations between doctor and insured will become much better throughout the country, *provided* that legislation continues to encourage a closer and even more friendly bond between them. The goodwill of the insured towards the present Act itself depends in large measure on the spirit of the doctors attending upon them.

One of the dangers of the future to doctors and insured alike will be the narrow-minded policy of a few would-be legislators, to try and run the medical service on the cheapest possible lines—saving money, but creating and fostering a spirit of hostility and bitterness between the doctors and the insured. It is for the medical profession generally to give of their best work, and to strive with all their strength to win the goodwill of those whose lives are entrusted to them.

If this is done the influence of medical men will be so strong—even from a political point of view—that they can fight successfully any campaigns, and they will surely come against persons who for political purposes or their own aggrandisement seek to belittle ourselves and our own work.

Dr. A. E. Hodder (Stafford) writes: When the National Insurance Bill was introduced, two of the principles on which it was based received the cordial approval of the British Medical Association, and, I think, of the medical profession as a whole.

These were, first, that insurance was compulsory, and, secondly, that the employed, the employers, and the State all contributed to the cost. Furthermore, the bill was welcomed as a first instalment of measures which could, and would, exercise an influence for good on the national health.

In considering the question of voluntary *versus* compulsory insurance too much stress is laid on the hardship to John Smith of having to give up 4d. a week as premium, willy-nilly, and not enough of the effects of national insurance on the public health, and it is with this latter aspect that we as a profession are really most directly concerned.

Even in its present crude state, few will be found to deny that the influence of the Insurance Act is for good, and the very unrest among approved societies, due to the discovery of hitherto unsuspected numbers of insured who can best perhaps be described as having lived perpetually on the verge of a breakdown in health, and are now being accorded for the first time in their industrial lives an opportunity for restoration to full economic efficiency, goes far to prove that the Act is producing a definite improvement in the public health, and, what is equally important, in the sanitary conscience of the nation; it is this very class of persons to whom I have just referred that will be the first to drop out under any voluntary scheme and relapse to their former state of chronic semi-health and impaired efficiency.

As it stands, it must be admitted that the Insurance Act is an imperfect instrument, a mere skeleton which it will be the duty of successive enlightened Governments to clothe with comely flesh; at present diagnosis is hampered by the lack of machinery for utilizing refined and particular methods such as those of the bacteriologist, the radiologist, the specialist in whatever branch of medical development, and what applies to diagnosis applies with equal force to treatment. To single out one group only, venereal diseases, in respect of which a Royal Commission is now sitting; who can doubt that as a result of its investigations the Commission will recommend that adequate public provision be made for the detection of syphilis in its earliest stages by microscopical methods and its appropriate treatment by courses of arseno-benzol and mercury controlled by Wassermann tests?

Venereal diseases are but one group of causes of economic inefficiency and national suffering, and other groups in their turn will have to be attacked and dealt with as thoroughly as the resources of medical science will permit.

Such is a bald sketch of the mission of a health authority, using as its instrument a series of Insurance Acts; and the immediate comment of "the man in the street" will be that it will cost a lot of money. Of course it will; a good thing generally does cost a good deal, and a cheap thing is commonly bad and will not wear; but a high standard of national health ranks first in the national assets, and the cost of it will be proportionate to its value. Where can the money come from unless from the national pocket by compulsory methods of insurance, aided by imperial taxation? What chance under any voluntary scheme is there of securing that general uplifting of the public health which is the great desideratum?

Under any voluntary scheme those that will insure will be those who formerly provided against sickness and invalidity by membership of a friendly society—that is to say, perhaps one-fifth of the number compulsorily insured to-day; the remainder, for various reasons, will abstain from insurance, and, as heretofore, trust to luck to escape illness or receive treatment as a charity when ill; the most modern and refined methods of diagnosis and treatment will continue to be available only for the wealthy, instead of being available for the weekly wage earners, as I hope will before long be the case under compulsory national insurance.

As a means of improving the public health as a whole, voluntary insurance has never been of any value and never can be, simply because it will not and cannot provide the necessary money with certainty and regularity that are secured by a system of national insurance which is State-aided, State-controlled, and compulsorily contributory.

Mr. B. G. M. Baskett (Rayleigh, Essex) writes: Your leader of December 6th assumes that compulsory insurance is likely to endure. Is there really any chance that it will? English experience of positive as opposed to prohibitive legislation is happily small, but what we have strongly points to your assumption as a very large one. Sumptuary, religious, even Vaccination and Contagious Diseases Acts—all have gone. Education laws are not on the same footing; they protect the natural rights of infants, and do not nor can compel education, but only punish a parent for depriving a child of its right. But even they only survived by the enactment of "free" access to the school. The elections show plainly that the matter is doubtful. Even if the preposterous claims of the Ministers who calmly credit the Act with all the benefits and all the medical attendance which our poorer neighbours would have had in any event, did not prove that, the one chance of its survival was by its authors felt to be a specious, if fallacious, demonstration of its material advantages.

But English people are not built that way; if one looks at the matter without party or any other bias, one is bound to admit that it is improbable that the system will remain obligatory.

I think one's *a priori* belief has been fully confirmed; doctors can only benefit by the Act if they live in crowded poor districts, and then only as long as there is not a decided influx of medical men into the towns. In the country, or where wages are high, it seems certain to be a loss sooner or later. Personally, I have lost heavily, and

others have written to me in the same sense. But that is only the beginning; as the fall in real wages which has begun goes on, the bad debts which were to be abolished but have not been touched, will become worse than ever. I went on the panel under a threat; and if men could be found to go to Wisbech it looks as if the threat of an even greater loss could be carried out. Judged by work done, the pay in my own case is ridiculous. And those who have seen a young gentleman who had not left the nursery before they began practice, sent to revise their diagnosis in "query tuberculous" cases, or criticize their request for more nourishment for such cases; or who have watched the Isle of Ely Committee censuring Dr. Meacock for appealing to the law of his country to protect his honour and the fame of helpless women; or seen the Radical press (and now the Commissioners) forbidding patients to supplement a remuneration which they feel to be inadequate—all such will be glad of an opportunity of shaking off this locust swarm of officials.

However, our loss matters little if the general good is served. Is it? I defy any man, after due research, to deny that the working class is, as a whole, the poorer for the Act. That individuals have gained no more proves the gain of the class than the rise in salary of our late Secretary proves the rise of income of all the other members of the British Medical Association. Any one who has experience will, I believe, agree with me that (except officials) the people who have most unequivocally gained are the well-to-do parents of "employed" children who have, in cases which I know, saved more in doctors' bills than would pay many years' subscriptions. In this district I have seen several insured women gain who have had long illnesses this year; necessarily they will be paying in raised prices the rest of their lives. Also some employers have gained who have felt themselves relieved from the need of paying wages and doctors' bills during their servants' sicknesses. Not a man or woman here has had more medical attendance; they had, every one, what they needed before.

The problem Ministers had to face was the relief of poverty; in order to relieve one phase of it they have made the people poorer. They have applied anodynes to a clamant pain, obscured the cause, and so aggravated the disease. There is not a single one of Dr. Farr's famous requisites for national health which is not imperilled by their measure. The question of lowered real wages has been persistently shirked from the day Mr. Asquith refused to meet Sir Charles Macara's deputation. But it is vital. No one can pretend that the well-to-do working man needs the Act. If wanted at all it was for the class on the borderland of want, and it is just that class which must go without food to that extent if their budget is raised by a few pence per week.

Voluntary insurance raises self-respect and wages, compulsory lowers both, as may be seen by comparison of the Danish and German systems. You argue that under a voluntary system many people would have to be insured free by the State. At this moment *all* are being so insured in part, and I am bold to say that any one who knows how persistently the Act is being evaded will be ready to prophesy that in the end, if the Act endures, it will only be at the cost of a free system similar to compulsory education.

I believe that compulsion must fail; I see evidence that it is failing. As a Radical myself, I am indignant at a system which imposes a non-contractual status on a man not because he is a citizen, but because he is poor, or is under a "master."

Dr. J. CHARLES (Stanley, co. Durham) writes: As the medical profession is now wedded to the Insurance Act, "for better or for worse," it behoves it to take more than a passing interest both in the modifications introduced by the Regulations of the Commissioners from time to time and in any movement, political or otherwise, which aims at producing some fundamental changes in its character.

The "Insurance Act Resisters' Defence Association" is the latest organization seeking to attack the Act in one of its vital principles—namely, compulsory contribution—and although at present of no great strength or importance, it is making an appeal to a certain section of the electorate, which may grow in vigour and volume if the society is allowed to enjoy an unopposed development.

Without attempting any searching examination of the articles of faith possessed by the Resisters' Defence Association, it must be confessed that they do not impress one as being founded on any firm basis of sociological theory or experience. It is urged, *inter alia*, that the Insurance Act is based on a fundamental injustice—that of dealing differently with rich and poor. But the same principle is observable in the incidence of the income tax, and for the same reason—namely, that where a financial obligation of citizenship is concerned, such difference of treatment between rich and poor is inevitable and unavoidable.

The Insurance Act was introduced for a definite purpose and with a specific object. Its sphere of activity is necessarily limited and defined. It is not concerned with encouraging thrift among the well-to-do or in compelling employers of labour to make provision for their own sickness or unemployment For the poorer wage-earners insurance against sickness and unemployment is a necessity, for the well-to-do a superfluity. Hence the Insurance Act deals differently with each class.

The Resisters' Association does not attempt to show how a national scheme of provident insurance could be made workable on a voluntary basis and remain financially stable, but tacitly gives its cause away by admitting that for a large body of the poorer insured workers "some wise and generous provision should be made"—in other words, greater assistance from the national exchequer. This does not strike me as good statesmanship or sound finance.

Under the régime of the friendly societies voluntary provident insurance has been tried and found wanting. Not more than a third of the entire wage-earning class availed itself of its benefit. Is it to be anticipated that what was ignored as a family responsibility by a large section of the workers in the past, would be regarded as a civic duty under a voluntary State system in the future?

But the demand of the Resisters' Association makes an appeal which is not wanting in plausibility, and which, we may be sure, will be worked for political ends with little regard for interests other than its own. It behoves the profession, therefore, to watch closely the progress of the association; to anticipate, and if possible lessen, the effects of its propaganda if likely to prejudice the interests of the profession.

In its experience of the "voluntary" working of the Vaccination Act, the medical profession has received an object lesson on the results of "voluntaryism" which it will not readily forget. Since it ceased to be compulsory, vaccination is little practised nowadays by the general practitioner, not because it is less necessary or effective as a prophylactic of small-pox, but because it has been left to the option of an indulged community.

Without dwelling on the difficulties of the practical working of the voluntary system, since the principle would apply to the employers as well as the workers, and thus introduce endless complication and confusion, the purely medical aspects of the change from the present compulsory basis may be briefly stated.

Those who know the thoughtless, improvident nature of many of the poorer working class will agree that this very numerous body would soon cease to contribute under a voluntary system, and would take refuge, as in the past, in a beneficent Providence, sponge on the profession for medical treatment or apply to the Poor Law. The better-class and more thrifty workers, on the other hand, having once experienced the advantages of "free doctoring," would most likely continue to contribute for this benefit alone. In any case the number of contributors would fall off tremendously, and the stability of the Act, especially in times of bad trade, would be severely tested. There would be an immediate outcry for economy, and the medical remuneration would be pulled down to the minimum. Is this a prospect that the profession can view with equanimity?

No; the interests of the great bulk of the profession are now so deeply involved in the Insurance Act, and the incomes of so many thousands of medical panel workers are so dependent upon it, that they simply cannot afford to see the foundations of the Act tampered with. The stability and success of the Act and the welfare of the profession are inseparably bound together.

Naval and Military Appointments.

ROYAL NAVY MEDICAL SERVICE.

THE following announcements are published by the Admiralty: Fleet Surgeon EDWIN FOLLIOTT to the *Majestic* and for group of Third Fleet ships, January 1st, 1914. Fleet Surgeon HENRY W. FINLAYSON, M.B., to the *King Edward VII* and for general staff duties, January 4th, 1914. Fleet Surgeon GEORGE T. BROATCH, M.B., to the *Victory* for Royal Naval Barracks, January 4th, 1914. Fleet Surgeon JAMES W. A. STANTON to the *Indus*, January 6th, 1914. Fleet Surgeon THOMAS C. MEIKLE, M.B., to the *Colossus*, January 6th, 1914. Fleet Surgeon WILLIAM H. POPE to the *Essex* on commissioning, January 1st, 1914. Fleet Surgeon HUGH W. MACNAMARA has been placed on the retired list at his own request, December 10th. Staff Surgeon JAMES MCCUTCHEON, M.B., to the *Hazard*, vice Harley, January 2nd, 1914. Staff Surgeon EDWARD M. W. HEARN, M.D., to the *Pembroke*, additional, for Chatham Hospital, additional, December 19th, and as Anaesthetist and Radiographer, vice McCutcheon, January 2nd, 1914. Staff Surgeon BRYAN PICK to the *Ganges*, additional, for Shotley Sick Quarters, vice Hearn, December 19th. Staff Surgeon ARTHUR LA T. DARLEY to the *St. George*, vice Baker, January 2nd, 1914. Staff Surgeon E. R. L. THOMAS to the *Cressy*, vice Pope, January 1st, 1914. Staff Surgeon EDWARD C. SAWDY to the *Cressy* and for group of Third Fleet ships, vice Pope, January 1st, 1914. Staff Surgeon WILLIAM W. KEIR, M.B., to the *Iphigenia*, vice Folliott, January 1st, 1914. Surgeon CECIL R. M. BAKER, M.B., to the *Cornwall*, vice Pick, January 2nd, 1914. Surgeon CAMPBELL ROSS, M.B., to the *Vengeance*, January 4th, 1914. Surgeon PERCY F. MINETT to the *Pembroke*, additional, for Chatham Hospital, January 4th, 1914.

ARMY MEDICAL SERVICE.

SURGEON-GENERAL W. BABTIE, V.C., C.B., C.M.G., to be Director of Medical Services, H.M. Forces in India, vice Surgeon-General A. T. Sloggett, selected for the post of Director-General when the latter becomes vacant.

Colonel W. G. MACPHERSON, C.M.G., to be Deputy Director-General, vice Surgeon-General Babtie.

Colonel W. G. BEDFORD, C.M.G., to be Deputy Director-General, Medical Service, South Africa, vice Surgeon-General O. E. P. Lloyd, V.C., C.B., retiring under age limit.

Colonel F. H. TREHERNE has been appointed on the personal staff of His Excellency the Viceroy and Governor-General of India.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel C. W. R. HEALY has been appointed to Woolwich to take charge of the Medical Division of the Royal Herbert Hospital.

Major W. HARRISON has been appointed for duty in Jamaica.

Major S. A. ARCHER from India has been posted to Belfast for duty.

Major N. H. ROSS has been appointed to the charge of the Brigade Laboratory, Fyzabad, with effect from November 8th.

Major H. O. B. BROWNE MASON has been appointed Deputy Assistant-Director of Medical Services (Mobilization) Sixth (Poona) Division with effect from November 1st, vice Lieutenant-Colonel C. N. C. Wimberley, I.M.S., transferred.

Major A. W. SWAPEY has been appointed Medical Officer in charge of the Enteric Convalescent Dépôt, Wellington, with effect from November 1st.

INDIAN MEDICAL SERVICE.

COLONEL J. CRIMMIN has been appointed Assistant-Director of Medical Services, Derajat and Bannu Brigades, with effect from October 27th, vice Colonel E. B. Grayfoot, transferred.

Colonel P. HEHIR has been appointed Assistant-Director of Medical Services Sixth (Poona) Division with effect from October 17th, vice Surgeon-General T. M. Corker, A.M.S., transferred.

Lieutenant-Colonel C. N. C. WIMBERLEY has been appointed Deputy Assistant-Director of Medical Services (Mobilization) Ninth (Secunderabad) Division with effect from November 1st, vice Lieutenant-Colonel D. D. Shanahan, R.A.M.C., tour expired.

Lieutenant-Colonel J. G. HOJEL is granted privilege leave in combination with furlough for one year.

Major G. MCPHERSON on relief to be Presidency Surgeon, Second District, and in medical charge of the Common Prison, the House of Correction, and the Byculla Schools.

Lieutenant FRAMROZE JAMSETJEE KOLAPOREWALLA has been permitted to adopt the name Framroze Jamsetjee Kolapore.

SPECIAL RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

LIEUTENANT JOHN R. R. TRIST to be Captain, November 30th.

Lieutenant MORTON W. RUTHVEN, M.B., to be Captain, October 31st.

The following Lieutenants have been confirmed in their rank: GERALD F. P. GIBBONS and ROBERT MONTGOMERY, M.B.

TERRITORIAL FORCE.

ROYAL ARMY MEDICAL CORPS.

MAJOR THOMAS C. MACKENZIE, D.S.O., is appointed a Deputy Assistant Director of Medical Services of a Territorial Division, November 5th.

Captain WILLIAM G. MAYDON, M.B., to be Adjutant of a School of Instruction, vice Major William M. H. Spiller, M.B., who vacates that appointment November 12th.

First East Lancashire Field Ambulance.—Lieutenant ALBERT RAMSBOTTOM, M.D., to be Captain, November 14th.

Third East Lancashire Field Ambulance.—Lieutenant EDWARD H. COX, M.B., to be Captain, November 14th.

First Northumbrian Field Ambulance.—Captain FRANK HAWTHORN, M.D., to be Major, December 13th.

Second West Riding Field Ambulance.—ROBERT GARSIDE DIXON, M.B., to be Lieutenant, November 1st.

Third Welsh Field Ambulance.—Lieutenant WILLIAM A. T. LLOYD resigns his commission, December 13th.

Attached to Units other than Medical Units.—Captain JOHN G. MARTIN, M.B., to be Major, October 26th. Lieutenant NOEL W. KIDSTON, M.B., to be Captain, November 1st. Lieutenant JAMES W. MCINTOSH, M.B., resigns his commission, December 13th. Captain LIONEL H. MOISER, M.B., resigns his commission, December 10th. WILLIAM GEORGE, M.B., to be Lieutenant, December 15th.

TERRITORIAL FORCE RESERVE.

ROYAL ARMY MEDICAL CORPS.

MAJOR WILLIAM O. EVANS, from the Unattached List of the Territorial Force, to be Major, October 11th, 1913.

COLONIAL MEDICAL SERVICES.

THE following changes have been notified by the Colonial Office:

WEST AFRICAN MEDICAL STAFF.

New Appointments.—The following gentlemen have been selected for appointment to the staff: W. E. Glover, M.B., Ch.B.Aberd., D.T.M. and H.Camb., Southern Nigeria; H. H. Stewart, M.B., B.S.Edin., Southern Nigeria; W. E. S. Digby, M.R.C.S.Eng., L.R.C.P.Lond., Northern Nigeria; J. W. B. Hanington, M.D., C.M.McGill Univ., M.C.P.S.Newfoundland, M.R.C.S.Eng., L.R.C.P. Lond., Northern Nigeria; C. R. Patton, M.B., Ch.B.Edin., Gold Coast; H. McC. Hanschell, M.R.C.S.Eng., L.R.C.P.Lond., D.T.M.Liverp., D.T.M. and H.Camb., Gold Coast; R. H. Miller, M.R.C.S.Eng., L.R.C.P.Lond., M.R.C.V.S.Edin., Gambia.

Transfers.—K. McGahey, L.R.C.S. and P.Edin., L.F.P.S.Glasg., D.P.H.Irel., Medical Officer, Northern Nigeria, has been appointed Senior Sanitary Officer in Ceylon.

Retirements.—P. H. MacDonald, M.B., C.M.Edin., Medical Officer, Southern Nigeria, retires on pension; R. C. Hiscock, L.R.C.S. and P.Edin., L.F.P.S.Glasg., M.D., C.M.Toronto, D.T.M.Liverp., Medical Officer, Southern Nigeria, retires on pension; M. W. Manuk, M.B., C.M.Edin., D.T.M.Liverp., retires on pension; J. D. Finlay, M.B., C.M.Glasg., Medical Officer, Southern Nigeria, retires with a gratuity.

OTHER COLONIES AND PROTECTORATES.

R. F. Russell, M.B., B.Ch.Aberd., has been selected for appointment as a Supernumerary Medical Officer, Jamaica: W. Tudhope, M.B., Ch.B.Glasg., E. N. Russell, M.B., B.C., B.A.Cantab., M.R.C.S.Eng., L.R.C.P.Lond, H. H. V. Welch, M.B., B.S.Lond., M.R.C.S.Eng., L.R.C.P.Lond., and F. Collar, M.R.C.S.Eng., L.R.C.P.Lond., have been selected for appointment as Temporary Medical Officers, East Africa Protectorate; H. W. Catto, M.B., B.S.Lond., M.R.C.S.Eng., L.R.C.P.Lond., has been selected for appointment as an Assistant Bacteriologist and Pathologist in the Medical Department of Jamaica.

Vital Statistics.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

[SPECIALLY REPORTED FOR THE BRITISH MEDICAL JOURNAL.]

THE Registrar-General has just issued his return relating to the births and deaths in the third quarter of the year and to the marriages during the three months ending June last. The marriage-rate during that period was equal to 14.3 per 1,000, or 2.2 per 1,000 less than the average rate in the corresponding quarter of the ten preceding years.

The 225,240 births registered in England and Wales was equal to an annual rate of 24.2 per 1,000, which was 2.2 per 1,000 below the mean rate in the ten preceding third quarters. The birth-rates in the several counties ranged from 17.0 in Cardiganshire, 17.7 in Sussex, 18.3 in Westmorland, 18.7 in Somersetshire, 18.9 in Merionethshire, and 19.1 in Dorsetshire to 27.0 in Northumberland, 27.7 in Carmarthenshire, 28.2 in Staffordshire, 29.6 in Monmouthshire, 30.1 in Glamorganshire, and 31.3 in Durham. In ninety-six of the largest towns the birth-rate averaged 25.3 per 1,000; in London it was 21.7 per 1,000, while among the other towns it ranged from 14.7 in Southport, 15.2 in Hastings, 15.3 in Bournemouth, 15.7 in Hornsey, 15.9 in Eastbourne, and 16.4 in Blackpool to 31.2 in Stockton-on-Tees, 31.5 in Stoke-on-Trent, 32.4 in Sunderland, 32.6 in Middlesbrough, 32.7 in St. Helens, and 34.3 in Rhondda.

The excess of births over deaths during the quarter was 111,785, against 122,597, 81,557, and 117,576 in the third quarter of the three preceding years. From a return issued by the Board of Trade it appears that the passenger movement between the United Kingdom and places outside Europe resulted in a net balance outwards of 65,123 passengers of British nationality and 38,097 aliens. From the Continent of Europe there was a net balance inward of 2,894 British and 43,993 of aliens: thus the total passenger movement resulted in a net balance outward of 56,533 persons.

The deaths registered in England and Wales last quarter numbered 113,455, and were equal to an annual rate of 12.2 per 1,000; this rate is 1.2 per 1,000 below the mean rate in the corresponding quarter of the ten preceding years, but is 1.2 per 1,000 above the rate in the third quarter of 1912. The lowest county death-rates last quarter were 8.4 in Middlesex, 9.0 in Buckinghamshire, 9.4 in Oxfordshire and in Dorsetshire, 9.6 in Surrey, in Northamptonshire, and in Shropshire, and 9.7 in Essex; the highest rates were 14.2 in Flintshire, 14.3 in Staffordshire, 14.6 in Lancashire, 14.8 in Merionethshire, and 15.2 in Cardiganshire. In ninety-six of the largest towns the death-rate averaged 12.7 per 1,000; in London the rate was 11.8 per 1,000, while among the other large towns it ranged from 6.7 in Ealing and in Ilford, 6.8 in Gillingham, 7.4 in Eastbourne, and 7.6 in Willesden to 16.7 in Liverpool, 16.8 in Walsall, 17.2 in Wigan, 17.5 in Aberdare, 17.6 in Dudley, and 17.8 in Stoke-on-Trent.

The 113,455 deaths from all causes included 314 from enteric fever, 1 from small-pox, 1,288 from measles, 433 from scarlet fever, 1,034 from whooping-cough, 885 from diphtheria, and 11,405 from diarrhoea and enteritis among children under 2 years of age. The mortality from diphtheria was slightly below the average, that from enteric fever was less than half the average, and that from measles, scarlet fever, and whooping-cough about two-thirds of the average.

The rate of infant mortality measured by the proportion of deaths among children under 1 year of age to registered births was equal to 112 per 1,000, or 24 per 1,000 less than the average proportions in the ten preceding third quarters. Among the several counties the rates of infant mortality last quarter ranged from 19 in Rutlandshire, 33 in Radnorshire, 40 in Huntingdonshire, 47 in Hertfordshire, 48 in Montgomeryshire, 50 in Shropshire, and 51 in Wiltshire and in Westmorland to 131 in the East Riding of York, 134 in Durham, 140 in Warwickshire and in the West Riding of York, 143 in Glamorganshire, and 146 in Lancashire. In ninety-six of the largest towns the rate averaged 125 per 1,000; in London it was 105 per 1,000, while among the other towns the lowest

rates were 38 in Bournemouth, 51 in Gillingham, 52 in Swindon, 53 in Reading, 59 in Ilford, and 60 in East Ham and in Bath; the highest rates were 175 in Blackburn, 179 in Barnsley, 185 in Birkenhead, 186 in Walsall, in Wigan, and in Rhondda, 193 in Burnley, and 235 in Aberdare. The deaths among persons aged 1 to 65 years were equal to an annual rate of 6.6 per 1,000, and those among persons aged 65 years and upwards were equal to a rate of 64.1 per 1,000 of the population estimated to be living at those ages.

The mean temperature of the air last quarter was slightly above the average in the western and northern districts generally, but a little below in the south and east. The rainfall amounted in most districts to less than two-thirds of the average, and the duration of bright sunshine was above the average in most of the western districts, but showed a deficiency elsewhere.

HEALTH OF IRISH TOWNS.

DURING the week ending Saturday, December 6th, 490 births and 367 deaths were registered in the twenty-seven principal urban districts of Ireland, as against 593 births and 382 deaths in the preceding period. These deaths represent a mortality of 16.0 per 1,000 of the aggregate population in the districts in question, as against 16.6 per 1,000 in the previous period. The mortality in these Irish areas was therefore 2.8 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 21.3 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 18.1 (as against an average of 19.0 for the previous four weeks), in Dublin city 20.3 (as against 20.5), in Belfast 15.4 (as against 16.3), in Cork 16.3 (as against 16.5), in Londonderry 17.8 (as against 16.9), in Limerick 14.9 (as against 18.3), and in Waterford 11.4 (as against 15.2). The zymotic death-rate was 1.6, as against 1.4 in the previous week.

Hospitals and Asylums.

INVERNESS-SHIRE SANATORIUM FOR THE TREATMENT OF PHTHISIS.

THE fifth annual report of this institution states that the number of patients under treatment at the beginning of the year was 8, that 16 were admitted during the year, and that 7 remained under treatment on September 30th, 1912. The total was thus 24, of whom 6 were free cases. The daily average number of patients was 7.3, the cost of their maintenance being £745 7s. Food and medicine worked out at 9s. 7½d. a week; all costs at £1 18s. 9½d. per week. In June the sanatorium was inspected; and in September it was provisionally approved by the Local Government Board for the reception of insured persons. The County Insurance Committee advised the County Council to accept a scheme giving over the existing buildings, etc., to the county, and reserving to the present trustees the right to nominate patients to five free beds. The County Council accepted this scheme, and after five years' voluntary support the sanatorium becomes a public institution.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application

ALNWICK INFIRMARY.—House-Surgeon. Salary, £140 per annum.

ARGYLL AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer (male). Salary, £200 per annum

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—(1) House-Surgeon (male). Salary at the rate of £75 per annum. (2) Dental Surgeon.

BIRMINGHAM: CITY SANATORIUM.—Junior Assistant Resident Medical Officer. Salary, £200 per annum.

BIRMINGHAM: QUEEN'S HOSPITAL.—Two House-Surgeons. Salary at the rate of £50 per annum, and £10 bonus on satisfactory completion of six months' service.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House-Surgeon. Salary, £85 per annum.

BOSCOMBE: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House-Surgeon. Salary, £100 per annum.

CANCER HOSPITAL, Fulham Road, S.W.—Medical Registrar. Honorarium, £100 per annum.

CANTERBURY: KENT AND CANTERBURY HOSPITAL.—Senior and Junior House-Surgeons. Salary, £100 and £90 per annum respectively.

CARDIFF: KING EDWARD VII HOSPITAL.—Two Honorary Assistant Physicians.

CARMARTHEN: JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary, £180 per annum, rising to £200.

CARSHALTON: QUEEN MARY'S HOSPITAL FOR CHILDREN.—Assistant Medical Officer. Salary, £150 per annum, increasing to £180.

CHESTER COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £200 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—House-Physician. Salary, £110 per annum.

DERBY: DERBYSHIRE ROYAL INFIRMARY.—(1) House-Surgeon. (2) House-Physician. (3) Assistant House-Surgeon. Salaries for (1) and (2) £100 per annum, and for (3) £60 per annum.

DOUGLAS: NOBLE'S HOSPITAL.—Resident House-Surgeon. Salary, £100 per annum.

DUMBARTON COUNTY SECONDARY EDUCATION COMMITTEE.—Medical Inspector. Salary, £300 per annum.

EDAY PARISH.—Medical Officer. Salary, £70 per annum, and appointments £20.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—(1) House-Surgeon. Salary, £75 per annum. (2) Clinical Assistants.

GOVAN DISTRICT ASYLUM.—Junior Assistant Medical Officer. Salary, £200 per annum.

GREAT YARMOUTH HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

GREENWICH UNION INFIRMARY.—First Assistant Medical Officer. Salary, £175 per annum.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—(1) Senior House-Surgeon (male). Salary, £100 per annum. (2) Assistant House-Surgeon. Salary at the rate of £80 per annum.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £80 per annum.

KENT COUNTY ASYLUM, Maidstone.—Fourth Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer. Salary, £100 per annum.

KING'S COLLEGE HOSPITAL, Denmark Hill, S.E.—(1) Senior Medical Registrar and Tutor. (2) Clinical Assistant in Out-patient Department for Diseases of Children.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH, New Cavendish Street, W.—Fifth Assistant Pathologist. Salary, £170 per annum, rising to £400.

LEEDS HOSPITAL FOR WOMEN AND CHILDREN.—Two House-Surgeons. Salary at the rate of £50 per annum.

LIVERPOOL EYE AND EAR INFIRMARY, Myrtle Street.—House-Surgeon (male). Salary at the rate of £80 per annum.

LOWESTOFT HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

MAIDSTONE: WEST KENT GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £80 per annum.

MILE END OLD TOWN INFIRMARY.—Junior Assistant Medical Officer. Salary, £140 per annum, increasing to £160.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Senior House-Physician. Salary, £50 per annum.

NEW ZEALAND: WHANGAMOMONA MEDICAL ASSOCIATION, Taranaki.—Medical Officer. Salary, £400 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—House-Surgeon. Salary, £80 per annum.

NOTTINGHAM EDUCATION COMMITTEE.—Third Medical Inspector. Salary, £300 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

NOTTINGHAM GENERAL DISPENSARY.—(1) Resident Surgeon. (2) Assistant. Salary, £220 and £180 per annum respectively.

PLAISTOW: MEDICAL MISSION HOSPITAL.—Junior Resident Medical Officer (female).

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum, and £10 on completion of appointment.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £90 per annum.

PRESTON: COUNTY ASYLUM, Whittingham.—Assistant Medical Officer. Salary, £250 per annum, rising to £300.

PRESTON COUNTY BOROUGH.—Tuberculosis Officer and Assistant Medical Officer of Health. Salary, £400 per annum.

PRINCE OF WALES GENERAL HOSPITAL, Tottenham, N.—Honorary Medical and Surgical Registrar. Honorarium, £20 per annum.

RENFREW AND CLYDEBANK JOINT HOSPITAL.—Medical Hospital (Visiting) for Blawarthill Hospital, Yoker. Salary, £125.

ROCHDALE INFIRMARY.—Second House-Surgeon. Salary, £100 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Third House-Surgeon. Salary at the rate of £50 per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon. Salary, £125 per annum.

ST. MARY'S HOSPITAL, Paddington, W.—Honorary Anaesthetist.

ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Red Lion Square, W.C.—Clinical Assistants.

SHEFFIELD: CHILDREN'S HOSPITAL.—House-Surgeon (male). Salary, £100 per annum.

SHREWSBURY: SHROPSHIRE EDUCATION COMMITTEE.—Medical Inspector. Salary, £250 per annum, rising to £300.

SOMERSET AND BATH ASYLUM, Cotford, Taunton.—Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

SOMERSET COUNTY EDUCATION COMMITTEE, Weston-super-Mare.—Male Assistant School Medical Officer. Salary, £275 per annum, rising to £350.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—Third House-Surgeon. Salary, £125 per annum.

THROAT HOSPITAL, Golden Square, W.—House-Surgeon. Salary, £75 per annum.

WESTMORLAND CONSUMPTION SANATORIUM AND HOME, Meathop.—Second Assistant Medical Officer. Salary, £150 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

WORCESTER: WORCESTERSHIRE COUNTY COUNCIL.—Two Assistant Tuberculosis Officers. Salary, £300 per annum.

CERTIFYING FACTORY SURGEONS.—The Chief Inspector of Factories announces the following vacant appointments: Denbigh (Denbigh), Glastonbury (Somersetshire), Pontyberem (Carmarthenshire), Shievereagh (co. Cork), Teddington (Middlesex).

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

ARNOTT, A. Hamilton, M.B., Ch.B., Honorary Anaesthetist to the Darlington Hospital.

BLACK, Harold, M.B., D.P.H.(Belfast), Radiographer to the Queen's Hospital, Birmingham.

BLANDFORD, J. J. Guthrie, M.R.C.S., L.R.C.P., Medical Superintendent of the Whalley Asylum, Lancashire.

CARLILL, Hildred B., M.B., M.R.C.P., reappointed Clinical Assistant to Dr. Purves Stewart at the West End Hospital for Diseases of the Nervous System, etc., Welbeck Street, W.

DARLING, H. C. R., M.D.Lond., Assistant Medical Officer of the St. Marylebone Parish Infirmary.

FAIRBANK, H. A. T., M.S.Lond., F.R.C.S.Eng., Surgeon to In-patients, Hospital for Sick Children, Great Ormond Street.

GREEN, G. E., M.R.C.S., L.R.C.P., Resident Medical Officer of the Prescot Union Workhouse.

HAYES, J. G., L.R.C.P. and S.Irel., Clinical Assistant to the Chelsea Hospital for Women.

HUWAT, Andrew Fergus, M.B., Ch.B., M.R.C.P.Edin., Physician to the Edinburgh Jewish Medical Mission, vice Henry Martyn-Clark, M.D.Edin., resigned.

JOHNSON, W. J., M.D.Lond., District Medical Officer of the Aunphill Union.

LEARY, Gerald F. V., M.B., Ch.B.Edin., Medical Officer of the Castlederg and Killeter No. 1 Dispensary, vice Dr. T. Leary, resigned.

LEITCH, Andrew, M.D., R.U.I., Medical Officer of the Castlederg Workhouse and Fever Hospital, vice Dr. T. Leary, resigned.

LLOYD, Bertram A., M.B., B.S.Lond., F.R.C.S.Eng., Surgeon for Out-patients to the Birmingham and Midland Free Hospital for Sick Children.

MCLEAN, Alex. G., M.B., Ch.B.Aberd., House-Physician to the West End Hospital for Diseases of the Nervous System, Welbeck Street, W.

PRIDHAM, F. C., M.R.C.S., L.R.C.P., Honorary Anaesthetist to the Darlington Hospital.

PRATT, Colonel J. J., I.M.S., F.R.C.S., Surgeon to the Seamen's Hospital Society (Dreadnought), with duties at the Albert Dock Hospital.

RIVERA, J. E., M.R.C.S.Eng., L.R.C.P., House-Surgeon to the Eye Hospital, Oxford.

ROBERTSON, W. A., M.B., Ch.B.Edin., Honorary Surgeon to the Hartlepools Hospital.

STEWART, F. W., M.D., District Medical Officer to the Metropolitan Water Board.

WEST, Bruce A., M.B., House-Physician to the General Hospital, Cheltenham.

WILKINSON, K. Douglas, M.D.Bham., Physician to Out-patients at the Birmingham and Midland Free Hospital for Sick Children.

MANCHESTER ROYAL INFIRMARY.—The following appointments have been made:

Honorary Consulting Dental Surgeon.—W. A. Hooton, M.R.C.S. Eng., L.R.C.P.Lond., L.D.S.R.C.S.Eng.

Acting Dental Surgeon.—E. G. Long, L.D.S.R.C.S.Eng.

Surgical Registrar.—John Gow, M.B., Ch.B.Vict.

House-Surgeon to Special Departments.—G. B. Jameson, M.R.C.S.Eng., L.R.C.P.Lond.

House-Physicians.—A. V. Stocks, B.A.Cantab., M.B., Ch.B.Vict.; F. A. Bearn, M.B., Ch.B.Vict.; F. C. Bentz, M.B., Ch.B.Vict.

Senior House-Surgeons.—H. D. Willis, M.B., Ch.B.Vict., L.M.S.S.A.; J. G. Bennett, M.B., Ch.B.Vict.

Junior House-Surgeons.—C. H. Crawshaw, M.R.C.S.Eng., L.R.C.P.Lond.; H. F. Hutchinson, M.B., Ch.B.Vict., M.R.C.S., L.R.C.P.

Resident Medical Officer at the Barnes Convalescent Hospital, Cheadle, Cheshire.—G. B. Warburton, M.B., Ch.M (Vict.), F.R.C.S. (reappointment).

Director of the Cancer Research Laboratory.—W. J. Reid, M.A., B.Sc., M.B., Ch.B. (reappointment).

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 5s., *which sum should be forwarded in Post Office Order, or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTHS.

HOLCROFT.—On November 22nd, at Mar Lodge, Aliwal North, C.P., South Africa, the wife of W. F. L. Austen Holcroft, M.B., B.Ch., of a daughter.

MASSON.—At Laheria Serai, Behar, India, on the 11th inst., the wife of Major James Masson, I.M.S., of a son. (By cable.)

MARRIAGE.

RAY—HEAVEN.—On December 9th, at St. Mark's, North Audley Street, London, W., by the Rev. C. L. Arnold, cousin of the bride, assisted by the Rev. H. P. Cronshaw, Vicar of the parish, Matthew Burrow Ray, M.D., of Harrogate, elder son of Richard Ray, of 12, Park Avenue, Harrogate, to Edith Charlotte Frances Heaven, widow of Captain Robert E. Heaven, elder daughter of the late Lord Henry Cholmondeley, and granddaughter of the third Marquess of Cholmondeley.

PUBLISHERS' ANNOUNCEMENTS.

MESSRS. J. AND A. CHURCHILL announce the following new editions: *Diseases of Children*, by Sir James Frederic Goodhart (tenth edition, revised); *A Short Practice of Midwifery for Nurses*, by Henry Jellett, M.D., Master of the Rotunda Hospital, Dublin (fourth edition, revised), with 6 plates and 169 illustrations; *Lectures on Medicine to Nurses*, by Herbert E. Cuff, M.D., late Medical Superintendent, North-Eastern Fever Hospital, London (sixth edition), 29 illustrations.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

WEST LONDON POST-GRADUATE COLLEGE, Hammersmith Road, W.—Medical and Surgical Clinics, X rays, and Operations, 2 p.m. Gynaecology: Monday, Tuesday, and Wednesday. Eye: Monday, Wednesday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, and Saturday. Skin: Tuesday. Pediatrics: Wednesday and Saturday.

[For further particulars of Lectures consult the Index to Advertisements.]

DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
	DECEMBER.
23 Tues.	**Extraordinary General Meeting**, 429, Strand, London, W.C., 2 p.m.
	Special Council Meeting immediately after Extraordinary General Meeting.
	London: Non-Panel Committee, 3 p.m.
	London: Medico-Political Medical Inspection Subcommittee.
	East Africa and Uganda Branch, Namirembe, Kampala.
	1914.
	JANUARY.
2 Fri.	London: Central Ethical Committee, 2 p.m.
3 Sat.	London: Science Committee, 11 a.m.
5 Mon.	London: Dominions Committee, 2 p.m. (*provisional*).
	London: Naval and Military Committee, 4 p.m. (*provisional*).
6 Tues.	Altrincham Division, Executive Committee, Altrincham.
7 Wed.	London: Journal Committee, 2.30 p.m.
	London: Insurance Act Tuberculosis Subcommittee.
8 Thur.	London: Conference of Representatives of Association and Society of Medical Officers of Health.
9 Fri.	London: Medico-Political Committee, 10.30 a.m.
	London: Joint Meeting Maternity Benefit and Parliamentary Subcommittee.
13 Tues.	London: Metropolitan Counties Branch Council, 4 p.m.
	London: Organization Committee, 2 p.m.
14 Wed.	London: Hospitals Committee (*provisional*).
21 Wed.	London: Finance Committee, 2.30 p.m.
22 Thur.	Altrincham Division, Annual Meeting, Altrincham.
23 Fri.	Newcastle-upon-Tyne Division, Royal Victoria Infirmary, Scientific Demonstrations, 3.15 to 6 p.m.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON: SATURDAY, DECEMBER 27TH, 1913.

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INSURANCE ACT COMMITTEE.

THE eighth meeting of the Insurance Act Committee was held at the offices of the Association on Thursday, December 11th. Dr. J. A. MACDONALD was in the chair, and the other members present were:—*England and Wales:* Dr. R. M. Beaton (London), Dr. D. E. Findlay (Gloucester), Dr. E. R. Fothergill (Brighton), Dr. Major Greenwood (London), Miss M. F. Ivens (Liverpool), Dr. I. W. Johnson (Bury), Mr. Herbert Jones (Hereford), Mr. D. F. Todd (Sunderland), Mr. E. B. Turner (London), and Dr. Crawford Treasure (Cardiff). *Ex officio:* Dr. W. A. Hollis (President); and Mr. T. Jenner Verrall (Chairman of Representative Meetings).

APPOINTMENT OF DEPUTY CHAIRMAN.

Mr. Verrall was appointed Deputy Chairman of the Committee during the absence of Dr. Macdonald at the Australasian Medical Congress.

CLAUSE 2 (II) OF 1914 AGREEMENT.

The Committee received a report that the Insurance Commissioners had intimated that they did not accept as accurate the report, published in the SUPPLEMENT of December 6th, page 512, of a conference held on November 24th between representatives of the Kent Insurance and Local Medical Committees and the Surrey Local Medical Committee concerning Clause 2 (ii) of the 1914 agreement. In view of the wide publicity given to the report, the Commissioners expressed the fear that practitioners might be led to sign the 1914 agreement under a misapprehension as to the true meaning of Clause 2 (ii), and desired that steps should be taken to correct any possibility of a misunderstanding thereon. A circular had accordingly been issued to all Local Medical Committees, drawing their attention to these facts, and the Committee approved its issue.

WISBECH CASE.

The Committee considered the correspondence with the Secretary of State for Home Affairs (SUPPLEMENT of December 20th, p. 557) as to the possibility of some judicial inquiry being held into the recent events at Wisbech.

The Committee, being of opinion that the position was most unsatisfactory, but having exhausted all other means at its disposal, has given instructions that steps be taken to have the whole question raised in the forthcoming session of Parliament.

PROPOSED SPECIAL FUND.

After consideration of various minutes of the recent Special Representative Meeting concerning the establishment of a special fund, the Committee, in view of the fact that the work of any such fund, if established, would be outside the scope of the Committee's reference, is recommending the Council to appoint a special *ad hoc* committee to deal with the question.

MEDICAL REFEREES.

The Committee noted, with a view to the inclusion in the next circular letter to Divisions and Local Medical Committees, the opinion of the recent Special Representative Meeting that where any medical practitioner not devoting his or her whole time to the work was called upon by a lay body to express an opinion as to the capacity or incapacity of an insured person, the lowest fee such practitioner should accept should be 10s. 6d., exclusive of expenses, and that such practitioner should only express his opinion after the practitioner in attendance had been given an opportunity of consultation.

DISTRIBUTION OF FUNDS AVAILABLE FOR MEDICAL BENEFIT OF UNALLOTTED INSURED PERSONS.

In view of the decision of the recent Special Representative Meeting that such portion of the unallocated funds in the hands of Insurance Committees as are attributable to insured persons who have been attended individually as private patients should be distributed as a set-off to the medical bills of these patients, the Committee has caused the following letter to be sent to the London Insurance Committee, and has given instructions that a similar letter be sent to any other Insurance Committee which it is ascertained has not settled this question:

December 18th, 1913.

Sir,—The British Medical Association notes that the question of the distribution of the funds available for medical benefit of unallotted insured persons is still under consideration by the London Insurance Committee, and I am instructed to forward an expression of opinion by the Association on this subject, in the hope that it will be of service to your Committee.

The Association has given very considerable attention to this subject, and the resolution which follows has been passed successively by a Committee of the Association, by the Council, and by the Representative Body of the Association—a meeting of over 200 representatives of the profession drawn from all parts of the United Kingdom:

> That such portions of the unallocated funds as are attributable to insured persons who have been attended individually as private patients should be distributed as a set-off to the medical bills of those patients.

If the principle contained in the above resolution should be adopted, the unallotted money would be divided into two parts—first, that composed of the funds available for the medical benefit of those persons who for various reasons have not placed their names upon the list of any doctor on the panel, but who have found it necessary during the course of the year to incur medical bills. Secondly, that part composed of the funds available for the medical benefit of those persons who have not chosen a doctor and who have not needed to employ a doctor during the course of the year.

The first part, it is suggested, should be distributed pro rata amongst the persons in the first class who can show that they have been medically attended during the year. The remainder of the fund should, it is suggested, be distributed among the practitioners on the panel.

The Association believes that such a distribution, if found to be possible, would be acceptable to all sections of the

profession, and it is because of this belief that the Association desires to press this solution of the question upon the London Insurance Committee.

I am, Sir, your obedient servant,
(Signed) ALFRED COX,
Medical Secretary.

INTERFERENCE WITH "FREE CHOICE": WHOLESALE TRANSFER OF INSURED PERSONS.

The Committee approved the following communication, which has been sent to the National Health Insurance Joint Commission, concerning the wholesale transfer of insured persons in Wales. This action was decided upon in consequence of the failure of the Welsh profession or of the Insurance Act Committee to obtain satisfaction in regard to the matter from the Welsh Commissioners:

December 2nd, 1913.

Sir,—I am instructed by the British Medical Association to approach the Joint Commissioners on a matter which specially affects Wales, but as to which the Association has not been able to secure a satisfactory answer from the Welsh Commissioners.

Some time ago the Association had brought to its notice a letter from the Welsh Commissioners, dated September 4th, 1913, addressed to the Monmouthshire Insurance Committee, referring to the subject of the transfer of insured persons to the Ebbw Vale Workmen's Medical Society. In this letter the following statement was made:

> The Commissioners have under consideration the suggestion that a collective transfer might be made on a resolution of the Committee representing the men who desire to join the society that they desire to do so. Also that there shall be submitted a written statement by the doctors to the effect that the men and the doctors consent to the transfer. The Commissioners are disposed to think that if this course were adopted it would not be necessary to obtain a written application from each of the men desirous of joining the society.

The Association is unable to find in the Act or Regulations any warrant for a suggestion in favour of collective transfer of patients. Medical benefit Regulation 17 (6) says: "Any insured person who desires to be attended by a practitioner other than the practitioner who attended him in the previous year, shall make application to the Committee . . , and any insured person not making such an application shall be deemed to have selected the practitioner from whom he was entitled to receive treatment in the previous year." Regulation 21 (1) says "that any insured person who desires to obtain treatment . . . other than that which he adopted in the previous year, shall make application to the Committee . . . and any insured person not making such an application shall be deemed to have applied to obtain treatment in the same manner as in the previous year."

The Association has been given to understand unofficially that the Welsh Commissioners gave this advice to the Monmouthshire Insurance Committee on the ground of practical convenience inasmuch as the particular circumstances of the Ebbw Vale district necessitated a large number of transfers during the course of the present year. The Association quite understands that inconvenience may at times be caused by insistence upon individual transfer; but the risks of allowing wholesale transfer are so great, in the opinion of the Association, that they far outweigh any temporary advantage which might be gained by encouraging wholesale transfer. The Association has already addressed the Commissioners on the dangers of transfer on a wholesale scale, and understands that the General Medical Council has taken a similar step. Relying not only upon the Act and Regulations, but upon the desire which the Association feels the Commissioners must have to uphold the morals of that section of the medical profession engaged in administering the National Insurance Act, the Association approaches the Joint Commissioners in the hope that they will take such steps as will induce the Welsh Commissioners to refrain from encouraging or allowing any system of transfer which is likely to lead to canvassing or organized persuasion to induce persons to change their doctors. I have to express the hope that the Joint Commission will take prompt steps in a matter which is greatly exercising the responsible and representative bodies of the medical profession.

I am, Sir, your obedient servant,
(Signed) ALFRED COX,
Medical Secretary.

The Secretary,
National Health Insurance (Joint) Committee,
Buckingham Gate, London, S.W.

CANVASSING AND ADVERTISING IN CONNEXION WITH INSURANCE ACT.

The Committee received correspondence with the General Medical Council which showed that that body had communicated with the officials and medical officers of certain medical aid societies upon the question (to which the Committee had drawn its attention) of the canvassing and advertising which it was alleged had taken place in connexion with such societies.

PANEL COMMITTEES.

The Committee has made representations to all four Insurance Commissions to the effect that provision, similar to that already in operation in connexion with parliamentary, municipal, and other elections, should be made in connexion with the counting of votes for the election of Panel or other Committees so that any candidate, if he so desire, may appoint a scrutineer to attend the counting of the votes in connexion with such election, and that the numbers of votes cast for each candidate in all such elections should be published.

COMPENSATION CASES.

The Committee received communications from four practitioners thanking the Committee for the assistance granted them from the Central Insurance Defence Fund.

Four fresh applications for grants from the fund were considered; one was deferred until after the end of the year, two were informed that the Committee did not consider that they were cases which could properly be dealt with by the fund, while the fourth, a joint application from seven practitioners, was granted.

NEXT MEETING.

The Committee decided that, unless urgent business arises in the meantime, the next meeting of the Committee be held on Thursday, January 15th, 1914.

INSURANCE COMMITTEES.

LONDON.

Examination of Applicants for Sanatorium Benefit.

AT a meeting of the London Insurance Committee, on December 18th, the Sanatorium Benefit Subcommittee reported as to arrangements to be made for the examination at local dispensaries of applicants for sanatorium benefit. At present examinations are made at Fitzroy Square, W., or at the Brompton Hospital. The Subcommittee realized that in the interests of insured persons, practitioners on the panel, and medical officers of dispensaries and other institutions, it was desirable that examinations should be decentralized. In order to preserve a uniform standard of admission examinations should be made at first by the Committee's medical adviser in company with the local tuberculosis officer. In time the medical adviser would be in a position to judge whether it would be necessary for him to examine cases personally.

The Committee authorized a beginning to be made in this direction at the Deptford and Lambeth dispensaries, and further agreed that the medical adviser (Dr. J. Edward Squire, C.B.) be empowered to appoint a physician to assist him from time to time, subject to the appointment being approved by the Committee.

In reply to a question, Sir SHIRLEY MURPHY explained that at this stage it was impossible to say what assistance the medical adviser would require.

Complaints against Practitioners.

The Committee considered nine complaints by insured persons against practitioners, in one case a counter-complaint being made by the doctor against the insured person. In a case in which a doctor declined to prescribe because the patient went to a hospital while under his treatment, it was held that the doctor had committed a breach of his agreement. Four complaints of neglect were held to be unsubstantiated. In the case in which both doctor and insured person made a complaint no action was taken beyond a transfer. In another case there was a conflict of evidence, and no action was taken. A doctor who had made a charge of 2s. to an insured person for syringing his ears was asked to refund the amount.

There was some discussion of a case in which a woman alleged that a doctor, when she asked him what was appropriate treatment for the symptoms from which she was suffering, made a reply of an improper character. These statements were fully corroborated by a woman who accompanied the insured person. The doctor denied that his conversation was of an offensive character or that he made an improper reply to the request for advice. The Medical Service Subcommittee came to the conclusion

that the practitioner did adopt an offensively familiar attitude towards the patient, but that he made no improper advances. The complaint that he gave advice of an improper and unprofessional character had been substantiated. Though it did not recommend, on the strength of one case, an application to the Commissioners for the removal of the doctor's name from the panel, the Subcommittee considered that the practitioner should be severely censured.

An amendment was moved that a copy of the report be sent to the London Panel Committee and to the Insurance Commissioners, and Mr. O. E. WARBURG, the Chairman of the Subcommittee, in deprecating such action, said that the Subcommittee was considering whether any steps could be taken which would render its censures more effective, perhaps by making communications to the Local Medical Committee or even to the General Medical Council, more particularly in cases of professional misconduct. At present the Local Medical Committee had not been recognized as a statutory body.

The amendment was withdrawn, and the Subcommittee's action was approved.

The Unallotted Funds.

Some little heat was engendered towards the end of the meeting when Mr. EDWARD SMITH endeavoured to reopen the question of the distribution of the unallotted funds by moving that the Committee's previous decision be rescinded and the allotment be proceeded with. Ultimately the Committee voted by a large majority against the question being reopened.

Statistics.

A statement submitted to the Committee showed that the number of insured persons in London on October 12th last was 1,548,203, of that number 74,613 being deposit contributors.

The following statistics as to the number of medical practitioners and chemists on the panel was submitted:

	July.	October.	November.
Medical practitioners:			
(i) General	1,324	1,357	1,370
(ii) In institutions	72	80	88
Total	1,396	1,437	1,458
Chemists:			
(i) General	791	804	808
(ii) In institutions	31	34	34
Total	822	838	842

CORRESPONDENCE.

ACCURATE RECORDS.

DR. R. W. MORGAN (Gillingham, Dorset) writes: You have recently pointed out in the JOURNAL the absolute necessity of medical men keeping careful records of their attendances on insured patients. One cannot conceive that it should be necessary to point this out were it not for the fact that one knows there are always a certain number of men who are slack in this respect. Of course they are in the minority, but the majority will have to suffer for the minority.

I would suggest that the Insurance Act Committee of the Association should instruct the secretaries of all the Local Medical Committees to send out a leaflet to all the doctors in their area pointing out the necessity for keeping accurate records and the folly of not doing so.

If records are properly kept, I feel sure from my own experience that the Commissioners will soon find that we are not overpaid, but rather underpaid.

Even when a certificate is signed it should be entered up as an attendance. It is professional work.

If the profession can only show imperfect records, the Government will have a good case in favour of reducing the capitation fee, and we shall not have a leg to stand on.

INSURANCE NOTES.

NATIONAL HEALTH INSURANCE CERTIFICATES.

THE deputy judge of Leicester County Court had before him on December 18th a case in which payment of sickness benefit had been refused on the ground that the medical certificate supplied ascribed the applicant's alleged inability to work to "debility," whereas some specific disease should have been particularized.

The defendant society maintained that the court had no jurisdiction in the matter under the National Health Insurance Act; that the plaintiff was bound under the rules of the society to allow the dispute to be settled by a committee of the society itself; and that the society under its rules, as also on general principles, was entitled before making payment of sickness benefit to receive a certificate stating that the claimant was suffering from a specific disease, and also, if it thought fit, to make further inquiries as to the nature and origin of that disease, and judge from the answers as to whether the claim should be granted. The society did not allege that the plaintiff was malingering, or that the illness was due to personal misconduct.

On behalf of the plaintiff it was argued that the court had jurisdiction; that the interpretation put upon its rules by the society was *ultra vires*; and that all the society was entitled to receive before paying sickness benefit was a certificate from a duly qualified medical man stating that a claimant was unfit to work.

The court held that it had jurisdiction in the matter, and that since there was neither allegation nor evidence that the plaintiff's inability to work was due to personal misconduct, the certificate presented was all that, according to its rules, the society was entitled to exact.

In the course of the hearing, Dr. E. Lewis Lilley, who had signed the certificate, stated that he had first seen the plaintiff on April 16th, and she then complained that she was feeling "run down." On April 21st he was called to see her at her house and found her in bed, the symptoms being the same as before, but somewhat more marked. He gave her the certificate on that day, and saw her again at her own house on April 22nd, April 24th, and April 26th. He came to the conclusion she was quite unfit for work, and in a condition to which the term "bodily disablement" mentioned in the Act properly applied. He was unable to specify her illness as anything but "debility," for which there was some explanation in the fact that she had recently lost her father and was a hard worker. There were many cases in which it was at first impossible for a medical man to give any more definite description of an illness. Internal cancer, for instance, often showed no external symptoms for weeks or months, except progressive weakness. He had written to the society offering to explain his certificate if necessary, and to add words stating that the plaintiff's illness was not due to personal misconduct. The society had sent him a reply to the effect that it would not accept "debility" as a diagnosis, but had taken no further advantage of his offer. "Debility" meant weakness, and in the witness's opinion it would have been sufficient if he had mentioned on the certificate that the plaintiff was suffer- from weakness, for weakness constituted a bodily disablement. He regarded it not as a disease itself, but as evidence of a disease that had not been diagnosed. It might be due to causes such as arsenical poisoning, an accident, or misconduct; but while he was treating the plaintiff he did not discover its special cause in her case. At the time he gave the certificate he had not read the rules of the society; he had patients belonging to several hundred societies, and he had no leisure to read all their rules.

Dr. Astley Clarke said there were many cases in which it would not be possible for a medical man to write down anything more specific than "debility" as the cause of a patient's unfitness for work. It was a pathological condition, not a pathological entity, and in any particular case its latent cause might subsequently appear.

Dr. C. F. Bryan and Dr. Douglas Bryan, who appeared for the defence, both stated that in their opinion the term "debility" was not a sufficient description of the cause of incapacity on a certificate. The former had sometimes used the term in a certificate when unable to say positively what the disease was, but he always in such cases added further particulars later. If he could not diagnose

a disease in the first fortnight he would get some one to help him. It was true that in certain circumstances it might take a month to diagnose a condition such as incipient cancer.

British Medical Association.

EXTRAORDINARY GENERAL MEETIN...

Members are hereby informed that as there was not a quorum present at the Extraordinary General Meeting of the British Medical Association called for Tuesday, the 23rd day of December, 1913, at 2 o'clock in the afternoon, at the registered offices of the Association, 429, Strand, London, W.C., by notice published in the Supplement of 13th December, 1913, such meeting stands adjourned to Tuesday, the 30th day of December, 1913, at 2 o'clock in the afternoon, at the registered offices of the Association, in accordance with the provisions contained in the By-laws of the Association.

By order of the Council,
Guy Elliston,
Financial Secretary and Business Manager.

Dated this Twenty-third day of December, 1913.

Association Notices.

QUARTERLY MEETING OF COUNCIL.

The Quarterly Meeting of Council will be held on Wednesday, January 28th, in the Council Room, 429, Stand, London, W.C.

By order,
Guy Elliston,
Financial Secretary and Business Manager.

December 23rd, 1913.

SUGGESTED CHANGES OF BOUNDARIES.

Notice of Proposal for Alteration of Areas of Boston and Spalding and Lincoln Divisions.

Notice is hereby given under By-law 73 to all concerned, of a proposal made by the Boston and Spalding Division to the effect that the area of the Division be made co-terminous with that of Holland County Council, and that the remainder of the area of the existing Division be transferred to the Lincoln Division. Formal written notice of the proposal has been given, pursuant to Article 13, to the Midland Branch and Lincoln Division, and the matter will be determined in due course by or on behalf of the Council. Any member affected by the proposed change and objecting thereto is requested to notify the fact, and his reason therefor, to the Medical Secretary, 429, Strand, London, W.C., not later than January 27th, 1914.

THE LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

A list of periodical publications, official reports, and Blue Books in the Library of the British Medical Association available for issue to members on loan has been printed, and copies can be obtained free on application to the Librarian, at the house of the Association, 429, Strand, W.C. The regulations governing the loan of these publications are stated in the introduction to the list. The Library is open for consultation from 10 a.m. till 5 p.m. (on Saturdays till 2 p.m.).

BRANCH AND DIVISION MEETINGS TO BE HELD.

North of England Branch: Newcastle-on-Tyne Division.—Mr. R. J. Willan, F.R.C.S., 25, Ellison Place, Newcastle-upon-Tyne, gives notice that a scientific demonstration meeting will be held at the Royal Victoria Infirmary, Newcastle-upon-Tyne, on Friday, January 23rd, 1914, from 3.15 to 6 p.m. Dr. T. M. Allison: Respiratory Diseases: Some Points in their Diagnosis and Treatment. Professor Sir Thomas Oliver: Gold-miner's Phthisis. Tea. Mr. W. G. Richardson: Malignant Diseases of the Mouth. Mr. A. S. Percival: Errors of Refraction in School Children. Dr. E. Napier Burnett: Fibroid Conditions of the Uterus.

Vital Statistics.

HEALTH OF ENGLISH TOWNS.

In ninety-six of the largest English towns 8,408 births and 4,952 deaths were registered during the week ending Saturday, December 13th. The annual rate of mortality in these towns, which had been 13.4, 14.1, and 13.2 per 1,000 in the three preceding weeks, rose to 14.5 per 1,000 in the week under notice. In London the death-rate was equal to 14.2, against 13.5, 14.1, and 12.7 per 1,000 in the three preceding weeks. Among the ninety-five other large towns the death-rate ranged from 3.6 in Wimbledon, 4.8 in Newport (Mon.), 5.2 in Enfield, 7.9 in Aberdare, 8.3 in Hornsey, and 8.8 in Bury to 19.8 in Oldham, 20.8 in South Shields, 21.0 in Great Yarmouth, 21.4 in Swansea, 24.1 in Middlesbrough, and 26.3 in Dudley. Measles caused a death-rate of 1.4 in Middlesbrough, 3.0 in Barnsley, and 5.3 in Burnley. The mortality from the remaining infective diseases showed no marked excess in any of the large towns, and no fatal case of small-pox was registered during the week. The causes of 33, or 0.7 per cent. of the total deaths, were not certified either by a registered medical practitioner or by a coroner after inquest; of this number 5 were registered in Liverpool, 4 in Birmingham, 3 in Coventry, 3 in St. Helens, and 2 in Warrington. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3,980, 4,112, and 4,143 at the end of the three preceding weeks, had slightly fallen to 4,137 on Saturday, December 13th; 552 new cases were admitted during the week, against 558, 618, and 524 in the three preceding weeks.

HEALTH OF SCOTTISH TOWNS.

In the sixteen largest Scottish towns 1,107 births and 734 deaths were registered during the week ending Saturday, December 13th. The annual rate of mortality in these towns, which had been 15.8, 17.0, and 15.6 per 1,000 in the three preceding weeks, rose to 17.0 in the week under notice, and was 2.5 per 1,000 above the rate in the ninety-six large English towns. Among the several towns the death-rate ranged from 9.2 in Ayr, 11.0 in Clydebank, and 12.0 in Kilmarnock to 20.2 in Aberdeen, 22.3 in Perth, and 25.3 in Coatbridge. The mortality from the principal infective diseases averaged 2.0 per 1,000, and was highest in Kirkcaldy and Motherwell. The 363 deaths from all causes in Glasgow included 16 from measles, 6 from scarlet fever, 6 from diphtheria, 5 from infantile diarrhoeal diseases, 4 from whooping-cough, and 1 from enteric fever. Five deaths from measles were recorded in Motherwell; 3 deaths from scarlet fever, 4 from measles, and 4 from diphtheria in Edinburgh; and 7 from diphtheria and 3 from infantile diarrhoeal diseases in Aberdeen.

HEALTH OF IRISH TOWNS.

During the week ending Saturday, December 13th, 589 births and 407 deaths were registered in the twenty-seven principal urban districts in Ireland, as against 490 births and 367 deaths in the preceding period. These deaths represent a mortality of 17.7 per 1,000 of the aggregate population in the districts in question, as against 16.0 per 1,000 in the previous period. The mortality in these Irish areas was therefore 3.2 per 1,000 higher than the corresponding rate in the ninety-six English towns during the week ending on the same date. The birth-rate, on the other hand, was equal to 25.6 per 1,000 of population. As for mortality of individual localities, that in the Dublin registration area was 17.6 (as against an average of 18.4 for the previous four weeks), in Dublin city 18.4 (as against 19.9), in Belfast 18.0 (as against 16.2), in Cork 21.1 (as against 16.5), in Londonderry 8.9 (as against 13.4), in Limerick 12.2 (as against 15.2), and in Waterford 9.5 (as against 13.3). The zymotic death-rate was 1.7, as against 1.6 in the previous week.

Vacancies and Appointments.

VACANCIES.

WARNING NOTICE.—Attention is called to a Notice (see Index to Advertisements—Warning Notice) appearing in our advertisement columns, giving particulars of vacancies as to which inquiries should be made before application.

ARGYLE AND BUTE ASYLUM, Lochgilphead.—Assistant Medical Officer (male). Salary, £200 per annum.

BATH: ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary, £120 per annum.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.—Dental Surgeon.

BIRMINGHAM: CITY SANATORIUM.—Junior Assistant Resident Medical Officer. Salary, £200 per annum.

BIRMINGHAM MATERNITY HOSPITAL.—House-Surgeon (lady). Salary at the rate of £50 per annum.

CARDIFF: KING EDWARD VII's HOSPITAL.—House-Surgeon (male). Honorarium at the rate of £60 per annum.

CARMARTHEN: JOINT COUNTIES ASYLUM.—Second Assistant Medical Officer. Salary, £180 per annum, rising to £200.

CHELMSFORD: ESSEX COUNTY COUNCIL.—Two Tuberculosis Officers. Salary, £500 per annum each.

CHESTER COUNTY ASYLUM.—Third Assistant Medical Officer. Salary, £200 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—House-Physician. Salary, £110 per annum.

CREWE BOROUGH.—Assistant Medical Officer of Health (temporary). Salary, six guineas a week.

DARLINGTON BOROUGH.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary, £300 per annum.

DERBY: DERBYSHIRE ROYAL INFIRMARY.—(1) House-Surgeon. (2) House-Physician. (3) Assistant House-Surgeon. Salaries for (1) and (2) £100 per annum, and for (3) £60 per annum.

DOWNPATRICK: DOWN DISTRICT LUNATIC ASYLUM.—Junior Male Assistant Medical Officer. Salary, £170 per annum, rising to £200.

DUDLEY: GUEST HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

EDAY PARISH.—Medical Officer. Salary, £70 per annum, and appointments £20.

EDINBURGH HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident (female). Honorarium, £18 per annum.

EXETER CITY.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary, £250 per annum.

FIFE COUNTY COUNCIL.—Assistant to the County Medical Officer of Health. Salary, £250 per annum.

GREENWICH UNION.—First and Junior Assistant Medical Officers for the Infirmary and Workhouse. Salary, £175 and £125 per annum respectively.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—House-Surgeon. Salary, £100 per annum.

HASTINGS: EAST SUSSEX HOSPITAL.—(1) Senior House-Surgeon (male). Salary, £100 per annum. (2) Assistant House-Surgeon. Salary at the rate of £80 per annum.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary, £80 per annum.

HULL AND SCULCOATES DISPENSARY.—Resident Surgeon. Salary, £220 per annum.

KENT COUNTY ASYLUM, Maidstone.—Fourth Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

KING'S COLLEGE HOSPITAL, Denmark Hill, S.E.—Senior Medical Registrar and Tutor.

LIVERPOOL EYE AND EAR INFIRMARY, Myrtle Street.—House-Surgeon (male). Salary at the rate of £80 per annum.

LONDONDERRY COUNTY AND COUNTY BOROUGH INFIRMARY.—House Surgeon. Salary, £80 per annum.

MAIDSTONE: KENT EDUCATION COMMITTEE.—Medical Inspector. Salary, £300 per annum, rising to £350.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—Honorary Assistant Surgeon for Women.

METROPOLITAN ASYLUMS BOARD.—(1) Second Assistant Medical Officer at the Leavesden Asylum; salary, £210, rising to £250. (2) Second and Third Assistant Medical Officers at Darenth Industrial Colony; salary, £210 and £180, rising to £250 and £200 respectively.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—Junior Dental Surgeon.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C.—Senior House-Physician. Salary, £50 per annum.

NEW BARNET: NEW HOSPITAL FOR WOMEN HOUSE OF RECOVERY.—Resident Medical Officer (female).

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—Registration Officer. Salary, £100 per annum.

NORWICH: NORFOLK AND NORWICH EYE INFIRMARY.—(1) Surgeon. (2) Assistant Surgeon.

NOTTINGHAM GENERAL DISPENSARY.—(1) Resident Surgeon. (2) Assistant. Salary, £220 and £180 per annum respectively.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Salary, £100 per annum.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN.—Junior Resident Medical Officer (male). Salary at the rate of £70 per annum and £10 on completion of appointment.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House-Physician. Salary at the rate of £90 per annum.

POPLAR HOSPITAL FOR ACCIDENTS, E.—Assistant House-Surgeon. Salary at the rate of £80 per annum.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Salary at the rate of £50 per annum, rising to £60 on appointment as Senior.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.—House-Surgeon. Salary, £80 per annum.

ROCHDALE INFIRMARY.—Second House-Surgeon. Salary, £100 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.—Assistant Physician to have care of Out-patients.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.—Third House-Surgeon. Salary at the rate of £50 per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon. Salary, £125 per annum.

SHETLAND: PARISH OF WALLS, etc.—Medical Officer and Public Vaccinator. Salary, £90 per annum.

SOMERSET AND BATH ASYLUM, Cotford, Taunton.—Assistant Medical Officer (male). Salary, £200 per annum, rising to £220.

SOUTHWARK UNION INFIRMARY, S.E.—Second Assistant Medical Officer (male). Salary, £120 per annum, rising to £140.

STAFFORD: STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician. Salary, £100 per annum.

SWANSEA GENERAL AND EYE HOSPITAL.—Third House-Surgeon. Salary, £125 per annum.

TAUNTON RURAL DISTRICT COUNCIL.—Medical Officer of Health. Salary, £110 per annum.

THROAT HOSPITAL, Golden Square, W.—House-Surgeon. Salary, £75 per annum.

WALSALL AND DISTRICT HOSPITAL.—Assistant House-Surgeon. Salary, £110 per annum.

WARWICK COUNTY ASYLUM, Hatton.—Second Assistant Medical Officer. Salary, £200 per annum.

WILTS COUNTY ASYLUM, Devizes.—Junior Assistant Medical Officer. Salary, £200 per annum.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary, £80 per annum.

WORCESTER: WORCESTERSHIRE COUNTY COUNCIL.—Two Assistant Tuberculosis Officers. Salary, £300 per annum.

YORK COUNTY HOSPITAL.—House-Physician. Salary at the rate of £100 per annum.

To ensure notice in this column—which is compiled from our advertisement columns, where full particulars will be found—it is necessary that advertisements should be received not later than the first post on Wednesday morning. Persons interested should refer also to the Index to Advertisements which follows the Table of Contents in the JOURNAL.

APPOINTMENTS.

ALLAN, F. G., L.R.C.P. and S.Edin., L.F.P.S.Glas., Certifying Factory Surgeon for the Whaley Bridge District, co. Chester.

WHITELAW, Thomas, M.B., Ch.B., Resident Assistant Medical Officer at the Swansea Workhouse.

WILLIAMS, J. H., M.D.Edin., Certifying Factory Surgeon for the Flint District, co. Flint.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is **5s.**, *which sum should be forwarded in Post Office Orders or Stamps with the notice not later than first post Wednesday morning in order to ensure insertion in the current issue.*

BIRTH.

ODELL.—On December 14th, at Ferndale, Torquay, the wife of William Odell, M.D., F.R.C.S., of a son.

DEATH.

BROWN.—On December 12th, 1913, at 2, Edge Hill Road, Sheffield, John Henry Brown, M.D., C.M.Edin., M.R.C.S.Eng., late of 14, Bungreave Road. Born January 10th, 1859.

DIARY FOR THE WEEK.

POST-GRADUATE COURSES AND LECTURES.

THE POST-GRADUATE COLLEGE, Hammersmith.—Medical and Surgical Clinics, X Rays, and Operations, 2 p.m. daily. Gynaecology: Monday, Tuesday, Wednesday, and Friday. Eye: Monday, Wednesday, Thursday, and Saturday. Throat, Nose, and Ear: Tuesday, Wednesday, Friday, and Saturday. Skin: Tuesday and Friday. Pediatrics: Wednesday and Saturday.

[For further particulars of Lectures consult the Index to Advertisements.]

DIARY OF THE ASSOCIATION.

Date.	Meetings to be Held.
	1914. JANUARY.
2 Fri.	London: Central Ethical Committee, 2 p.m.
5 Mon.	London: Dominions Committee, 2 p.m. London: Naval and Military Committee, 4 p.m.
7 Wed.	London: Journal Committee, 2.30 p.m. London: Insurance Act Tuberculosis Subcommittee, 6 p.m.
8 Thur.	London: Conference of Representatives of Association and Society of Medical Officers of Health.
9 Fri.	London: Medico-Political Committee, 10.30 a.m.

Date.	Meetings to be Held.
	JANUARY (*continued*).
9 Fri.	London: Joint Meeting Maternity Benefit and Parliamentary Subcommittee.
13 Tues.	London: Metropolitan Counties Branch Council, 4 p.m. London: Organization Committee, 2 p.m.
14 Wed.	London: Hospitals Committee (*provisional*).
21 Wed.	London: Finance Committee, 2.30 p.m.
22 Thur.	Altrincham Division, Annual Meeting, Altrincham.
23 Fri.	Newcastle-upon-Tyne Division, Royal Victoria Infirmary, Scientific Demonstrations, 3.15 to 6 p.m.
28 Wed.	London: Council.

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AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

1. Tuberculosis in Childhood.

FRANZ HAMBURGER (*Med. Klin.*, March 30th, 1913) states that an infant is as susceptible to infection with tuberculosis as with measles, and only a single short contact with a patient suffering from advanced pulmonary tuberculosis is sufficient to cause a primary lesion which in 95 per cent. is situated in the lungs, and in 5 per cent. in the skin, intestines, or reproductive organs. In one case a child, aged 11 months, developed tuberculous meningitis without having been exposed to infection, according to the mother. Careful investigations revealed, however, that a consumptive had once played with the child for half an hour six weeks earlier. Another child had been kept in hospital for five months on account of nocturnal enuresis. During the first four months weekly tests with tuberculin were negative. One day the child played with a consumptive in another ward for half an hour, and five days later the tuberculin test was positive. The primary lesion in a child's lung varies from the size of a cherry-stone to that of a cherry. Children who die from other causes than tuberculosis, and who have daily been exposed to tubercle bacilli for several months, seldom harbour more than one or two, or at most three, tuberculous lesions in the lung. The primary lesion has therefore clearly conferred a certain degree of immunity, just as a chancre confers immunity from a second syphilitic infection. In towns children between the ages of 12 and 13 years who die of other diseases than tuberculosis, or who are tested with tuberculin, show that infection has already occurred in 95 per cent. In the first year of life infection has occurred in only 1 per cent. In the second year this percentage has risen to 10, in the third and fourth years to 30, in the fifth and sixth years to 50, and in the seventh to tenth years to 75. The death-rate from primary tuberculosis among children infected in the first year of life is about 80 per cent., and the disease is active in almost 100 per cent. The death-rate from tuberculosis among children infected in the second year is between 10 and 20 per cent., and it is only 3 to 4 per cent. among children infected in the third to the sixth year of life. After this age it is scarcely 1 per cent. It follows, therefore, that isolation from consumptives of children under 3 years is of supreme importance. The sputum flask and other contrivances against infection are futile, and can never prevent infection *per se*. After the age of 3 prophylaxis against infection is no longer as important as prophylaxis against an outbreak of tuberculosis already grafted on to the body. The most important measures are those which affect the child's general health and well-being. Cod-liver oil, with or without creosote, is the best medicine. Tuberculin can usually be dispensed with, and its vagaries are yet so little understood even by the specialist that its use in general practice is undesirable. Above all, large doses of tuberculin must not be given. Hitherto more harm than good has been done by tuberculin among children. It is also seldom necessary to use it for diagnosis, which should be based on clinical methods. The prognosis must largely depend on whether an active tuberculous lesion is primary or secondary. The latter is the most serious, and when pleurisy with a serous effusion immediately follows a primary infection the prospects of recovery are relatively good. This point is illustrated by the case of a child, aged 3 years, who developed caries of the right index finger. Recovery occurred in a few weeks. But two years later an injury to the finger caused a relapse which ended in the destruction of the bone, in fistulae, and chronic suppuration. The prognosis must also depend on the date of the primary infection, and the earlier this has occurred the worse must the prognosis be. The author points out that only by a study of tuberculosis in children can this disease in adults be understood, and that the researches of the past six years have made clear much that was hitherto obscure in the etiology of tuberlosis in children.

2. Relapses in Diphtheria.

MONTEFUSCO (*Gazz. degli Osped.*, March 16th, 1913) reports the case of a child, aged 4 years, who had three attacks of diphtheria in eight months. The first attack in June (abundant Loeffler bacilli), the second in October (the local signs typical, but no diphtheria bacilli found), the third attack in January, 1913 (diphtheria bacillus present). As diphtheria bacilli were found when convalescence was well established (in February), the author tried spraying into the throat a fresh culture of staphylococci suspended in physiological solution; this was done every four hours for two days. However, in spite of this treatment, diphtheria bacilli were still found in the throat. The addition of tellurate of potash to the culture medium renders the detection of the diphtheria bacillus more easy, as it checks the growth of other organisms. The author believes that the danger from diphtheria bacillus carriers is rather exaggerated, and practically it would not be possible to keep all diphtheritics in hospital until a negative swab was declared. In more than 4,000 cases the author has only quite exceptionally seen diphtheria occur in the homes of patients who have returned from hospital, and in the particular case reported there were four other children, none of whom contracted diphtheria from their brother after his three returns from hospital. Apart from the throat, diphtheria bacilli have been found in the urine and lungs, and may be carried in that way.

3. Ocular Changes in Dementia Praecox.

TYSON AND CLARKE (*Arch. of Oph.*, May, 1912) describe changes in the eyes which they regard as typical. The distinctive signs are certain fundus changes, an increase in the size of the pupils and diminution in the corneal sensibility, and contraction of the fields. The fundus changes can be divided into three groups. In the first, there is congestion of the discs, hyperaemia and oedema, dilated, dark-coloured veins, slightly contracted arteries and blurring of the edges of the discs, all varying in degree. These changes constitute a low grade of perineuritis of the optic nerve. A second group shows congestion of the nasal side with temporal pallor of the discs, dilated veins, and contracted arteries. The last group shows general pallor of the discs, dilated veins, and contracted arteries—changes which indicate anaemia and partial atrophy of the optic nerve. The authors examined 109 cases with the ophthalmoscope, and state that in all they found definite changes which were fully characteristic of the psychosis. As regards the increase in size of the pupils, this was found to be equal to $1\frac{2}{25}$ mm. in the 85 cases examined. Corneal sensibility was diminished in 69 cases and normal in 17. The fields of vision were taken in 81 cases. All showed concentric contraction, the largest being 30 degrees, the smallest 0 degrees. The average field extended to 10.6 degrees from the fixation point. The authors state that this syndrome is so constant that it is a valuable aid in diagnosis, especially in differentiating dementia praecox from the maniac-depressive group, from acquired neurasthenia, hysteria, and the various forms of imbecility. The syndrome supports the the view that the disease is caused by an auto-toxaemia, and that the poison is primarily vascular, which finally induces neuronic degeneration. The syndrome has a prognostic value, because the severe grades of eye changes are found in the more rapidly deteriorating cases. Finally, the optic nerve lesion is in complete accord with our best knowledge of the pathologic anatomy of dementia praecox.

4. The Blood Count in the Diagnosis of Varicella in Adults.

C. STAEUBLI (*Corr.-Bl. f. schweizer Aerzte*, February 15th and 22nd, 1913) reports several cases of varicella in adults. The majority of cases of this disease occur in the first decade. In the second decade its frequency rapidly declines, and in the third it is so uncommon that Senator and other authorities have denied its occurrence. In adults varicella is not always easily distinguished from variola. The prodromal symptoms, including headache, are often severe, and there is a tendency to infiltration of the bases of the vesicles. In doubtful cases a blood count should always be made. Leucocytosis (between 10,000 and 20,000) with a marked absolute increase of the lymphocytes is constantly found in variola. This is characteristic of the disease, and is not dependent on secondary septic "infection" of the pustules. In varicella the results of a blood count are less constant. The number of leucocytes may be normal, or occasionally even slightly increased. But frequently at the height of the

eruption leucopenia is found. In the author's cases the leucocytes vary from 4,500 to 6,430, with an absolute increase of the large mononuclear and transitional forms. Thus, marked leucocytosis renders variola probable; leucopenia is decisive as to the presence of varicella.

SURGERY.

5. Treatment of Megacolon or Hirschsprung's Disease.

VICTOR PAUCHET (*Annales internationales de chirurgie gastro-intestinale*, Tome VII, No. 1, Janvier–Mars, 1913) has had opportunities of treating no fewer than six cases of congenital hypertrophy of the colon, commonly known as Hirschsprung's disease. The diagnosis is not, as a rule, difficult; it is founded on some outstanding symptoms which manifest themselves early in life: Obstinate constipation, abdominal distension to great degree, painless intestinal contractions; contrast is marked between the poor muscular development and the great size of the abdomen. Radiography confirms the presence of an immensely distended and enlarged loop of great bowel which is the sigmoid or ileo-pelvic colon. In one of the cases, a man of 35, the affected piece of bowel was 96 cm. in length, 13 cm. in diameter, and throughout 1 cm. thick. All the operative procedures suggested are carefully reviewed—a medical method of treatment does not exist. Colopexy or fixation of the bowel to the iliac portion of the abdominal wall, and coloplicature by which the bowel is reefed, so to say, either transversely or longitudinally, or both, are dismissed from notice in a word as theoretically good but practically inferior to other methods. Colotomy may be called for where it is necessary to empty the bowel of the enormous faecal mass, and also where acute volvulus has occurred and reposition is impossible without emptying the loop. Colostomy may be done, but it is not an operation of choice. Caecostomy and appendicostomy are operations which have for their object washing through of the whole length of the colon; the former is a valvular opening. These operations, however, are only of value as preliminary to resection of the affected colon. If one of these is employed the bowel is thoroughly disinfected, and therefore the patient's general condition is greatly improved, so that he may tolerate the graver operation of resection. Or, again, caecostomy may be done after or at the same sitting as resection. Entero-anastomosis by means of ileo-sigmoidostomy, again, is to be regarded as a preliminary step to resection in cases where the whole extent of the large intestine is found to be congenitally thickened and enlarged. Colectomy or resection of the megacolon is on the whole the most satisfactory mode of treatment, preceded by one or other of these preliminary operations according to the kind of case. The author sums up his views based on personal observations on his experience of operations in 40 cases of obstinate chronic constipation, and on study of cases under the care of colleagues as follows: (1) Megacolon complicated by acute obstruction without gangrene will be incised, emptied, closed again, and put in a state of repose by a caecal fistula; this operation to be followed some weeks later by secondary ablation of the dilated loop. (2) Megacolon complicated by gangrene in acute volvulus will be dealt with by laparotomy, exteriorization of the bowel, suture of the mesocolon to abdominal wall, resection of the gangrenous bowel, fixation of the two cut extremities to skin. (3) Megacolon forming abdominal tumour by accumulation of faeces will be operated upon thus: incision of intestine, evacuation of its contents, suture of the incision, formation of caecal fistula, and later resection. (4) Megacolon without accident is treated variously according as the megacolon is segmentary, terminal, or involving the whole of the great intestine, and in all cases colectomy is aimed at either primarily or secondarily. Resection is comparatively easy on account of the laxity of the abdominal parietes and the length of the mesocolon. The author's six cases are sufficiently interesting to merit epitomizing: (1) Ileo-pelvic and descending colon affected in patient of 13 years; acute volvulus, colotomy, death. (2) Iliac and descending colon enlarged in man of 35; acute volvulus with gangrene; seen on eighth day in very grave condition; acute peritonitis, resection, death in eight hours. (3) Enormously distended loop of bowel in child of 7; ileo-sigmoidostomy, colostomy. Child lived for four years. (4) Megacolon in man of 30; caeco-sigmoidostomy, artificial anus made in distended loop; man observed for two years in excellent health; further operation declined. (5) Sigmoid megacolon in boy of 17; resection and end-to-end anastomosis, appendicostomy, gangrene of the appendix, peritonitis, death. Length of resected bowel, 32 cm.; diameter, 12 cm.; thickness, 1 cm. (6) Dilatation of terminal portion of great intestine in a girl of 20 years; extirpation of dilated intestine and of rectum; appendicostomy, perineal anus; healing with perfect control.

6. Surgery of the Spleen.

WILLIAM MAYO (*Surg., Gynaec., and Obstet.*, vol. xvi, No. 3) discusses the functions, pathology, and surgery of the spleen, and gives an analysis of the cases of splenectomy that have occurred in the Mayo clinic from April, 1904, to October, 1912. In discussing the ontogeny of the spleen, the author remarks that the organ possibly goes back to a time before the development of the cerebro-spinal nervous system. This is shown by the fact that it derives its entire nerve supply from the splanchnic sympathetic. The spleen produces an internal secretion controlled by chemical stimulation through the blood. This hormone, however, cannot be of great importance, since splenectomy does not produce any very serious effect. In the fetus the function of the organ is to produce both red and white corpuscles. After birth, however, the function of producing red corpuscles is probably lost, and, furthermore, it assumes the function of destroying the old red cells. It is in a perversion of its dual function that most of the diseases associated with the spleen have their origin. Thus over-production of white corpuscles constitutes splenic leukaemia, excessive destruction of the red cells produces hyperplasia of the spleen and the condition known as splenic anaemia. Mayo remarks that myelogenous leukaemia appears to be a reversion to the embryonic type of blood, and he draws an analogy to carcinoma. In the former the blood-making organs are concerned with the over-production of white cells, whilst in the latter there is an unlimited production of embryonic epithelial cells. Cases of movable and wandering spleens are not uncommon. The organ develops a mesentery, and may be found in the pelvis or right side of the abdomen. It is very liable to torsion of the pedicle, and is sometimes associated with a severe degree of anaemia. Splenopexy has been recommended for this condition, but Mayo considers that splenectomy is the wiser plan. The operation is easy and safe, and a complete cure results. New growths of the spleen are not common. The commonest type of non-parasitic cyst is due to haemorrhage within the capsule. Powers has dealt fully with this subject in the *Transactions* of the American Surgical Association, 1905. Occasionally proliferation of the endothelium of the venous sinuses occurs. This condition is regarded as an endothelioma by Weichselbaum. Thirty-two such cases have been collected by Jepson and Albert. Some pathologists are of opinion that the proliferation is rather of the nature of a hyperplasia and is not a true neoplasm. In discussing the surgery of the spleen, Mayo suggests that ligation of some of the secondary branches of the splenic artery might be useful in cases where splenectomy is not possible. In the analogous condition of hyperthyroidism ligation of vessels has produced remarkable results. When much hypertrophy of the spleen is present the vessels are frequently atheromatous, and great care is required in applying the ligatures should the organ require removal. Occasionally the tail of the pancreas is included in the pedicle and may be divided. This occurred in one of Mayo's cases, but no subsequent fistula developed. Accessory spleens are not uncommon, and if the disease is benign these may, of course, be left. As regards mortality, the author remarks that if the patient is in good condition the deaths should not exceed 10 per cent., and probably not more than 5 per cent. During the last eight years the splenectomies in the Mayo clinic numbered 27, with only two operative deaths. The indications for the operation were as follows: Pernicious anaemia 1, cirrhosis of liver 1, splenomegaly, probably infectious, 4. The case of pernicious anaemia was unimproved two and a half years later. The operative results in cases of splenic anaemia were comparatively good; 12 patients were well in periods varying from one to seven years after operation, 2 were improved, 1 died two and a half years later from cause unknown. Two operative deaths occurred.

7. Syphilis of the Bladder.

LEVY-BING AND DUROEUX (*Ann. des mal. ven.*, April, 1913), by means of the cystoscope, have demonstrated the occurrence of secondary and tertiary syphilis of the bladder. These lesions manifest themselves by the same symptoms as do other lesions of this organ—pain, frequent micturition, sometimes retention of urine, but especially

haematuria. In the secondary period there may be a local or general exanthem of the mucous membrane, or ulcerations resembling mucous patches. Tertiary syphilis produces ulcerations or papillomatous tumours. Ulceration may lead to perforation, with peritonitis or vesico-intestinal fistula. Vesical syphilis is rapidly cured by mercurial or mixed treatment.

OBSTETRICS.

8. Porro's Operation for a Retracted Condition of Bandl's Ring.

J. L. PASSERON (*La Semana Medica*, Buenos Aires, August 8th, 1912) describes a case in which he was called in to perform hysterectomy on a woman who had been three days in labour at full term. The indications for operation were a dead fetus, almost certain uterine sepsis, and an internal ring still only admitting two fingers. The obstruction was found to be entirely due to an extreme contraction of Bandl's ring. The uterus and its contents were removed *en bloc*, the uterine arteries being first tied and divided. The point most worthy of mention in connexion with the operation was the extreme degree to which the lower uterine segment had been stretched; so much was this the case that, in searching for the right uterine artery to tie it, the cavity of the uterus was opened, and foul-smelling fluid began to ooze out. Amputation was then quickly carried out, and the above-mentioned septic fluid carefully mopped up with sponges. Drainage was carried out by a glass tube in the vagina surrounded by gauze packing. The patient's convalescence was completely afebrile, and she was up and about on the twenty-fifth day after operation.

9. Function of the Parathyroids in Intrauterine Life.

WERELIUS (*Surg., Gyn., and Obstet.*, vol. xvi, No. 2) has recently conducted experiments with a view to ascertaining the influence, if any, of the fetal parathyroids upon the maternal organism. Influenced by the work of Carlson, who found that in pancreatectomized pregnant dogs the post-operative rise of sugar in the urine is less than in non-pregnant animals, the author reasoned that thyro-parathyroidectomy would delay the symptoms of tetany until after delivery. Werelius removed the parathyroids in ten pregnant dogs, and in each case the supposition proved entirely fallacious, inasmuch as all the animals showed tetany earlier and died sooner than non-pregnant ones. It appears that the earlier thyro-parathyroidectomy is performed in pregnancy, the longer is the post-operative life. Werelius argues, therefore, that the parathyroids exert no influence during intrauterine life. Furthermore, he thinks that the results in this work may in a sense support the parathyroid theory of eclampsia.

GYNAECOLOGY.

10. Influence of Myomata on the Blood Supply of the Uterus.

JOHN SAMPSON (*Surg., Gynaec., and Obstet.*, vol. xvi, No. 2) publishes important results obtained by the clinical and pathological examination of 150 uteri containing fibromyomata. The method employed is the injection of the arterial and venous systems with gelatine containing a pigment, or else bismuth subcarbonate, which is impervious to the *x* rays. The author finds that small subserous myomata are relatively anaemic, and have no great influence on the uterine circulation. Large subserous myomata, on the other hand, are very vascular and produce hypertrophy of the uterine artery. The nutrient vessel of the tumour arises from the uterine artery. More venous blood is returned to the uterine and ovarian veins, but, as these changes chiefly affect the peripheral zone of the uterus, the endometrium is not affected, and therefore menstruation is not excessive. Intramural myomata of moderate size are usually more vascular arterially than the myometrium. In fact, some of the large tumours are so full of vessels that the specimen, after injection, resembles an angeioma rather than a fibroid. The veins in the myometrium are always dilated, especially at the periphery of the tumour, and chiefly where pressure is least marked. The uterine muscle hypertrophies to control these venous sinuses, and when excessive bleeding occurs the cause lies in a loss of uterine efficiency. When an interstitial fibromyoma encroaches upon the uterine cavity it alters the shape of the same and displaces the radial arteries which supply the endometrium over the tumour. Atrophy and anaemia of this part of the tumour are thereby produced. This atrophied area of the endometrium takes little if any part in the menstrual function. Disturbances in the flow of blood are probably due rather to failure on the part of the uterine muscle to control the venous blood than to hypertrophy of the endometrium, distortion of the uterine cavity, or excessive amount of venous blood in the sinuses. That this is so is shown by the fact that two specimens may appear exactly alike, yet in one menstruation is normal and in the other excessive. Sampson believes that when haemorrhage occurs from changes in the tumour itself—for example, sloughing or sarcomatous—it is arterial, because of the rich arterial supply. On the other hand, all bleeding from the endometrium is venous in character. The paper is illustrated by a coloured plate and fifty photographs of injected uteri. Many of these show the value of radiography in tracing the distribution of the smaller vessels through the tissues of an organ.

THERAPEUTICS.

11. The X-ray Treatment of Psoriasis.

AFTER an experience of fourteen years of the *x*-ray treatment of psoriasis, L. Freund (*Wien. klin. Woch.*, March 29th, 1913) finds that an exposure without a preliminary curettage is usually followed by a relapse in six to eight weeks. To repeat the exposures after every relapse is to court such disasters as *x*-ray dermatitis, atrophy of the tissues, and epithelioma. An alternative to this intermittent treatment is the application of a large single dose. But this may cause severe dermatitis without freedom from relapse. These are due to the survival of the most deep-seated areas of disease, which are screened from the rays by the overlying scales and tissues. To expose these areas the author curettes the patches of psoriasis just before giving an exposure, the strength of which is one to two thirds of an exposure necessary for epilation. The slight haemorrhage which follows is arrested by gauze compresses, and at the completion of an exposure the skin is bathed in a weak boracic or saline solution. Exposures are given on four to five successive days, at the end of which the parts treated secrete actively. In about ten days the excoriations heal and the skin regains its normal appearance. During the past four years the author has thus treated 7 cases, in 4 of which recoveries were effected without relapses, although the observation period was over one year. The relapses in the 3 remaining cases occurred six months or more after the treatment, and were slight. With such a long interval between the treatment and a relapse, and with such weak exposures, there is no longer any danger in intermittent treatment, which should permanently cure these 3 cases also. The objection may be raised that curetting alone is responsible for the eradication of the disease in the author's cases. He therefore treated different areas of psoriasis in the same patient with different methods. One area he treated with curettage and the *x* rays, another he treated with the *x* rays alone, another with curettage alone, another with curettage and painting with chrysarobin-traumatizin, another with curettage and a 30 per cent. pyrogallus plaster, and others with chrysarobin, pyrogallus, and sulphur-tar respectively. In every case marked improvement followed, but in most of the areas it lasted only for a few weeks. A year and a half later the only area to show no relapse was that treated with curettage and the *x* rays. The curetting requires considerable skill and experience if every deep deposit of disease is to be reached. It is also a useful preliminary to treatment with radium, and in two cases in which radium was applied both to curetted and intact areas the disease recurred in the latter, but not in the former. As curettage predisposes to dermatitis, the radium should be cautiously prescribed. Curettage may cause the formation of scar tissue, though the author has not seen this complication yet; and even if scars did appear, they would be preferable to the disfiguring psoriasis. The author does not favour curettage followed by the *x* rays in early cases of psoriasis in which fresh outbreaks are occurring, for they effectively reduce the chances of permanent results. The combined treatment with curettage and the *x* rays should therefore be reserved for those chronic cases which have failed to react to medicinal treatment, and which present hard, dry patches persisting for years on certain exposed parts.

12. Heliotherapy.

Poncet and Leriche (*Bull. de l'Acad. de Méd.*, October 12th, 1912) give an account of the results of treatment by insolation of nearly 300 cases of the various forms of local tuberculosis. They first practised heliotherapy in cases of "white swelling" of the knee, coxalgia of tuberculous origin, and the success obtained led them to extend this method of treatment. According to the authors, heliotherapy is available in every country, and some of their most successful results were obtained in quite unlikely situations. They found that the intensity of solar radiation increased notably with the height of the sun from the horizon, and was aided by the purity of the air. Snow also considerably reinforces the active power of light. Heliotherapy by the sea and at an altitude was each in its own way equally beneficial. The drier air of the hills, the intense insolation among the snows was found to be particularly beneficial in osseous tuberculosis with existing fistulae. So, too, in the case of visceral active tuberculous lesions, in which sea air ought to be interdicted. Adenopathies, scrofula, rickets, and the osteo-articular deformities of childhood are, on the contrary, more benefited by heliotherapy by the sea. Serious accidents may occur if care is not taken at the commencement of treatment. There is in any case very frequently lassitude, headache, loss of appetite, and febrile reaction. The authors recommend a séance of ten minutes to begin, the body being naked and the head and neck protected by an umbrella or large hat. This is to be continued for four or five days. Then fifteen minutes are given night and morning. This to be progressively increased up to three hours night and morning. Revillet has noted that where pigmentation was most rapid, recovery was quickest; whereas the prognosis is not so good when the skin does not burn. This rule has been proved to be by no means absolute, however. The authors confess that renal tuberculosis is not successfully treated in this way as a rule, and agree that in such cases early nephrectomy is the only satisfactory treatment. On the other hand, they have had very good results in vesical and prostatic tubercle. The most brilliant results have been obtained in tuberculosis of the peritoneum: but if in these cases there are adhesions and abundant fluid, they recommend laparotomy as giving more rapid results than insolation alone. Cases of tuberculous adenitis present certain peculiarities. They resist simple heliotherapy, but respond to a combination of this with sea air and sea-water baths. In tuberculous osteo-arthritis heliotherapy, in the authors' experience, has greatly minimized the necessity for resection or amputation. The exception is osteo-arthritis accompanied by intra-articular cold suppuration, which is particularly resistant. Resection of the knee is a comparatively rare occurrence. Immobilization with insolation cures the greater number of cases of white swelling. If in the case of the extremities there is much pain and a faulty position of the limb, the authors employ continuous extension. Many cases, especially in the young, are cured in two or three years without apparatus of any kind. When operative measures have to be undertaken heliotherapy is a valuable post-operative procedure. In osseous tuberculosis, such as Pott's disease, insolation is invaluable, and even in the fungous type of osteitis the treatment rapidly modifies the lesions for the better. Franzoni, indeed, has recently published photographs showing the different stages of the spontaneous expulsion of a sequestrum under the influence of heliotherapy. The authors' conclusion is that the method of treatment ought to occupy an honoured place in modern therapeutics.

13. Adamon as an Anaphrodisiac.

E. R. W. Frank (*Deut. med. Woch.*, No. 49, 1912) points out that while a fair number of active aphrodisiacs are contained in the medicinal preparations in use to-day, there is scarcely one which deserves the name of "anaphrodisiac." This is regrettable, since it is by no means uncommon for the urologist to have to combat irritative conditions of the sexual organs. In about 30 per cent. of the so-called "irritable weakness" the cause of the complication is gonorrhoea. This is not merely the irritation of the acute stage, with its painful erections, but is even more common as a result of late implication of the prostatic part of the urethra. A second cause of irritation is the result of nervous stimulation of the sexual sphere, and is met with in coitus interruptus and similar conditions. A third group of cases in which this irritation is met with Frank calls "traumatic." Hitherto the drugs employed to meet this condition are as follows: (1) Adynamics—drugs which diminish the irritability of the nervous system, antispasmodics and anodynes, including scutellaria cypripedinium, cannabis indica, hyoscyamus, conium, convallaria, lupin, cicuta, lactucaria, physostigmin, nitroglycerine, atropine, morphine, camphor, bromides, and heroin; (2) hypnotics—sulphonal, veronal, adalin, luminal, etc.; (3) antipyretics and sedatives, salicylates, phenacetine, lactophenine; (4) astringents which act on the secretions; and (5) substances which alter the blood pressure, such as suprarenine. The idea of combining two mildly acting drugs to obtain an effect which is greater than the summation of the individual effects (of Bürgi's theory), has led to the introduction of a preparation bearing the name "adamon." This is a combination of bromine and borneol, and has the chemical composition of di-bromo-dihydrocinnamic acid borneolester, having the following formula: $C_6H_5CHBr–CHBrCOOC_{10}C_{17}$. It contains 35 per cent. of bromine and about the same proportion of borneol. It possesses neither taste nor odour, is insoluble in water, and but slightly soluble in ether, chloroform, and carbon tetrachloride. Frank gave it in doses of 3 grams, either as powders or in tablets. In 12 cases the patients were suffering from gonorrhoea with painful erections and repeated emissions. In 11 the effect was prompt and satisfactory. The twelfth patient did not respond to the drug. In all he gave it in 30 cases, and was satisfied with the result. In 1 patient it succeeded in reducing a pathological increase of sexual desire. The symptoms, which prevented undisturbed sleep at night, returned when the preparation was stopped, but disappeared again on renewal. Frank states that the digestive functions are not influenced by the preparation.

14. Arseno-benzol and Mercury in Syphilis.

Audry (*Ann. de derm. et syph.*, March, 1913) reports the approximate results of the treatment of syphilis with arseno-benzol and mercury. The following is a summary of his conclusions: (1) In the primary or chancre period the results of this combined administration have been infinitely better than those obtained before the discovery of salvarsan. (2) In 93 cases of so-called secondary syphilis there were 26 cases of clinical recurrences. These recurrences have been as frequent in those patients who received two or three injections as in those who received only one. Among these 26 recurrences 15 at least had had no mercury, whilst of the 67 cured the great majority had taken or been injected with mercury more or less regularly throughout. This proportion of somewhat more than a quarter of recurrences is higher than occurs in reality, because the apparently cured cases tend to stop away and are lost sight of. On the whole, we may conclude that recurrences are just as frequent in patients of the secondary period treated with arseno-benzol as in those treated without.

PATHOLOGY.

15. The Bacillus of Leprosy.

As a result of some experiments with the causal organism of leprosy, John Reenstjerna (*Deut. med. Woch.*, September 19th, 1912) has been able at times to cultivate from varied leprous material an acid-fast bacillus on a fluid medium. The bacilli were grown in pure culture, and proved to be morphologically indistinguishable from the bacillus of leprosy. These cultures were taken through four generations in the course of seven weeks. Monkeys inoculated with these acid-fast bacilli developed skin patches of short duration, from which both acid-fast and non-acid-fast bacteria could be demonstrated microscopically. The bacteria cultured from the blood of a leper, but showing non-acid-fast characters when inoculated into monkeys, produced a vesicular eruption, which the author suggests may have been a leprous pemphigus, and the contents of the vesicles or bullae showed typical leprous cells, in which acid-fast and non-acid-fast bacilli were present, while some bacilli were found free. In another case he cultured a non-acid-fast bacillus by Burri's "tusche" method, and the inoculation of a monkey with the culture produced an apparently permanent skin patch, while in another monkey contracture of all the joints developed. He therefore comes to the conclusion that the causal organism is capable of wide polymorphism, appearing at times as a diplococcus, as a streptococcus, as a diphtheroid, and as small or large rodlets. The character of being acid-fast is, in his opinion, "only a sort of dress which the leprosy microbe puts on under certain conditions."

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

16. Ringing Second Pulmonary Sound an Early Sign of Pericarditis.

TURRETTINI (*Rev. méd. de la Suisse rom.*, March 20th, 1913) states that a ringing second sound over the pulmonary area in the second intercostal space, which is frequently met with in diseases such as rheumatism and nephritis, prone to be complicated with cardiac affections, is an early sign of incipient pericarditis. This fact was first pointed out by Josserand in 1894. It is not always found. Of 4 of the writer's cases it was absent in 2. (1) A woman, aged 38, noticed a difficulty in mounting stairs, with dyspnoea. She was then attacked with lumbago, cough, and morning vomiting. A month later she was admitted to hospital. She was emaciated and presented symptoms of uraemia. The urine contained albumen, but no casts. The pulse was regular. The apex beat was in the sixth interspace outside the nipple line, and there was a systolic apical murmur (dilatation). The second pulmonary sound was ringing, and there was a distinct shock felt over the pulmonary area. The second aortic sound was well marked but less accentuated. Six days later systolic pericardial friction was heard for the first time. On the following day the friction was both systolic and diastolic. It was exceedingly loud and rough, was plainly felt by the hand, and was uninfluenced by respiration. The quantity of urine decreased and death ensued. The diagnosis—chronic nephritis and pericarditis—was confirmed *post mortem*. (2) A woman, aged 54, had caseating tuberculous lesions of the lungs, and was admitted to hospital with pneumothorax. During the fortnight before the fatal ending an extremely loud second sound was audible over the pulmonary area. Two days after admission faint systolic friction was heard over the pulmonary artery; it persisted during forty-eight hours and then disappeared. There were no other signs of pericarditis and the cardiac dullness remained normal. A few days before death the heart's action became irregular. The results of the necropsy are unknown. In two other cases the writer observed the onset and development of pericarditis, but in neither was the second pulmonary sound accentuated. In both the pericarditis was due to extension of inflammation from the pleura through the lymphatics to the pericardium. Josserand now claims that the discovery of the sign in the course of an acute disease, especially acute rheumatism, enables the onset of a cardiac affection—either carditis, endocarditis, or pericarditis—to be recognized before the occurrence of a murmur or pericardial friction. The writer believes its presence or absence depends on the method of pericardial infection. If infection occurs through the circulation or the numerous lymphatics which surround the pulmonary artery and communicate with the bronchial glands, inflammation will first attack the peri-infundibular area, and an increased pulmonary diastolic sound may be the first clinical sign. If pericarditis results from direct extension from the left pleura, a pericardial friction in the apical region will probably be the first indication.

17. Haemorrhagic Conditions in Children.

SORESI (*Arch. of Ped.*, April, 1913) discusses the pathology, etiology, and treatment of haemorrhagic diseases in children, dividing them into two classes: those in which the blood oozes from the capillaries for causes which normally would not produce oozing—for example, haemorrhagic diseases of the newborn, purpura, and scorbutus; and those in which, as in haemophilia, the haemorrhage occurs from normal causes, such as injuries to vessels, but has no tendency to stop. In the first class it seems reasonable to suppose that there is some fault in the capillaries alone in those cases where the bleeding stops spontaneously, but that, when it persists, there is an additional factor in an abnormal condition of the blood. The causes of bleeding in haemorrhagic diathesis are in the blood itself and in the blood vessels. If a case is seen early, before there has been severe loss, an injection of antitoxin serum may suffice; or if human serum is obtainable, it can be injected either subcutaneously or into the veins, and in some instances further bleeding has been stopped by applying a piece of gauze soaked with blood obtained from another person. But, since the injection of serum can only at best stop further bleeding, and cannot supply the morphologic elements lost, the best treatment is the introduction of full normal blood from another person, and it is significant that many cases have been cured thereby after receiving all other treatments, while no case in which transfusion has failed has been cured by other means. Direct blood transfusion is, therefore, the specific treatment for all haemorrhagic conditions of whatever degree and from whatever cause, and the procedure is not difficult to any one accustomed to work on the blood vessels. Transfusion directly into the heart is best, and by using a vein in the neck of the recipient the conditions of flow are more advantageous than when using the vein of a limb, since the pressure in the veins of the neck is negative and cannot oppose the blood flowing from the donor. The best technique is to use a vein for both donor and recipient—an arm vein for the donor, and the external jugular for the recipient, which even in infants has the advantage of being both superficial and of sufficient size. General anaesthesia is contraindicated, cocaine solution 1 to 500, without adrenalin, being used, and the whole procedure should not occupy more than fifteen minutes. The author uses a cannula in two halves which can be opened longitudinally, and on the side where the two halves touch each other there are four sharp hooks. The recipient's vein is compressed and inserted into one half and with small blunt forceps cuffed over the end and held by the hooks, and the same is done for the donor's vein. Each are cut close to their respective cannulae and the intima everted, and saline solution allowed to flow on to them. Compression is then relaxed, and while the blood is flowing the two halves are approximated and held in position, all the conditions for the free flow from donor to recipient being obtained without the least traumatism to the intima of the veins, which are so closely approximated as to form a continuous vessel. Saline solution should be kept flowing over both vessels from the moment they are exposed and throughout the whole procedure, and they must be handled very gently and no tension on them permitted. The author pleads for a more general use of direct transfusion, which should be resorted to in time, and only undertaken by a surgeon thoroughly conversant with the technique.

18. Corsets and Apical Respiration.

FELIX HIRSCHFELD AND A. LOEWY (*Berl. klin. Woch.*, September 2nd, 1912) observed that girls with flattened chests and marked tuberculous habit of body often become wider chested after wearing a tightly fitting corset for some years. They therefore set to work to ascertain what the truth of the tight corset really is. A number of persons were subjected to careful measurements in regard to the volume of the tidal air, the amount of air breathed per minute, etc., and graphic records of the respiration and the movements of the diaphragm, etc., by x rays were accurately observed. It appears from these observations that while the vital capacity is diminished from 10 to 28 per cent., and the volume of the air respired at each breath by 23 per cent. on an average, the respiratory frequency increases up to 73 per cent. of the original rate when corsets are worn. The volume of air respired each minute thus actually increased on wearing corsets in every case but one, in which there was a very slight decrease. Further it was shown that the upper parts of the lungs are better inflated with air when corsets are worn, and the excursions are larger. In deep breathing the lower parts of the thorax are considerably limited in their intake of air, and the diaphragm takes a higher position than without stays. They are therefore of opinion that in cases when a paralytic form of thorax exists, especially if there is reason to fear an apical tuberculosis, corsets should be employed. When the apices are already tuberculous, corsets should be avoided, since the physician must endeavour to supply as much rest to the affected part as possible.

19. Haemolytic Jaundice.

ANTONELLI (*Il Policlin.*, No. 46, vol. xx, 1913) discusses with much detail the vexed question of anaemia of pernicious type. He is inclined to think there is a true disease of specific character which it would be proper to call pernicious anaemia, but we are far from able to

recognize this with any certainty, or to indicate any pathognomonic signs in the blood. On the whole, it is wise in our present state of knowledge to speak of anaemia of a pernicious type. Haemolysis *in vivo* is clearly a more complicated process than haemolysis as seen *in vitro*, and most likely takes place in the viscera (spleen, liver, etc.) than in the blood stream. More than half the pamphlet is given up to a discussion of the many puzzling facts and theories in connexion with these differing types of pernicious anaemia, whether accompanied by jaundice, enlarged spleen, haemoglobinuria, etc., or not. Much of this is too technical for any one but a professed haematologist. The latter part is concerned with a very interesting case of anaemia of pernicious type accompanied by enlarged spleen. In spite of adequate medical treatment at the end of nine months the patient was no better, and in July, 1912, the spleen was removed with unexpectedly good results, so that in a few months all clinical symptoms had disappeared, and the blood was nearly normal and showed no evidence of perniciousness. The marked eosinophilia was due to the removal of the spleen. No haemolysins were detected in the blood serum nor in the spleen extract. The cause of the anaemia was unknown; tubercle and syphilis were excluded. Anisocytosis was well marked, much more so than the poikilocytosis. The author believes his patient has a good prospect of keeping quite well: and although it is early to speak of a cure, there is good ground for hoping this will be the case. There is a bibliography at the end of the book.

SURGERY.

20. Calculus of the Umbilicus.

R. HERZENBERG (*Deut. med. Woch.*, April 10th, 1913) records the case of a labourer, aged 32, whose umbilicus caused considerable irritation. This he attempted to relieve by scratching it with a match, but without success. In a few days there was a dull ache and swelling of the umbilicus, and a fortnight after the beginning of these symptoms a purulent discharge appeared. Three weeks later he suffered from abdominal pain on defaecation, coughing, and sneezing. The pulse was 92, and the temperature 101.3°. There was a red circular swelling, 5 cm. in circumference, and 2¼ cm. high, in the region of the umbilicus. Greenish-yellow, offensive pus trickled from a crater-like opening at the top of the swelling. The skin in the immediate neighbourhood of the swelling was swollen, tender, and macerated. On pressure, thick pus could be pressed out of the swelling, which was hard and movable. The pus contained broken-down leucocytes, epithelial cells, crystals of fatty acid, streptococci, and staphylococci. A suppurating dermoid cyst or adenoma was diagnosed, and a probe which was introduced passed only to a depth of 3 cm. The swelling was excised, leaving a funnel-shaped wound in the abdominal wall, without opening the abdominal cavity. No communication between the umbilicus and the abdominal cavity could be found. The wound healed satisfactorily, and the patient was discharged on the eighteenth day. The excised umbilicus contained much pus and a calculus of the size and shape of an almond. Its nucleus consisted of small inorganic particles about which cholesterin, crystals of fatty acid, lumps of fat, and epithelial cells had formed a yellowish-grey mass. This became swollen in water, and was soluble in ether, which on evaporation left a deposit of dust. As the pocket in which this calculus had formed was directly continuous with the fascia of the abdominal wall, the author suggests that the calculus had not developed in the spiral grove leading from the depth of the umbilicus to the surface, but in a relic of the allantoid or ductus omphalo-mesentericus. The diagnosis of calculus of the umbilicus is not easily made unless a gritty substance can be detected with a probe, or a portion of the calculus detached thereby. The possibility of a calculus being found in the umbilicus is unknown to many, whereas the existence of dermoid cysts and adenomata is well recognized. Actinomycosis may also be diagnosed by mistake. Indeed, all these three conditions may cause symptoms identical with those of calculus of the umbilicus, and the differential diagnosis is particularly difficult between a broken-down dermoid cyst and calculus of the umbilicus, for the contents of the two may be the same. It is even possible that cases of so-called dermoid cyst were really cases of calculus of the umbilicus.

21. Surgery of the Spine.

ELSBURG (*Surgery, Gynaecology, and Obstetrics*, vol. xvi, No. 2) in an important article relates his experience of 70 consecutive operations for spinal disease. These include 40 successive laminectomies without mortality, and the author is of opinion that in experienced hands the operation is neither particularly dangerous nor trying. He considers that osteoplastic flap operations are unnecessary and inadvisable, inasmuch as more time is expended upon them and more blood is lost. A wide exposure of the cord is indicated to permit of free exploration with as little manipulation of the cord as possible. It is necessary to remove at least two or three spines and laminae in every case, and occasionally five or seven must be sacrificed. An important detail in all cases is to secure absolute haemostasis before the dura is incised. The pia arachnoid can frequently be opened separately, and with care it is possible to avoid the paraesthesias and root pains which sometimes supervene after spinal operations, and are due to haemorrhage into the subarachnoid space. The wound should never be drained, and care must be taken to suture accurately the dura muscles, fascia, and skin. With regard to the significance of a positive Wassermann reaction in patients with symptoms of spinal tumour, Elsburg thinks that the value of the same has been somewhat overestimated. There is no reason why a patient with a positive reaction may not also have a spinal tumour, and upon two occasions he has removed an extramedullary glioma from patients who gave a positive Wassermann reaction. If an intravenous injection of salvarsan does not produce a marked and rapid improvement the author advocates operation without delay. His views are therefore practically in sympathy with those of Horsley. In the series which form the basis of this paper are included 22 cases of spinal tumour. Of these, 4 were extradural and 18 intradural. Intramedullary tumours are best removed in two stages by the extrusion method originally described by the author and Beer. The separation of the neoplasm from its bed is thus left to Nature, and this is accomplished with far less risk of injury than any surgical procedure. If an extradural tumour is found, the author recommends that the dura be opened nevertheless, because an intradural growth may also be present.

22. Haemorrhage after Tonsillectomy.

MALAN (*Gazz. degli Osped.*, March 11th, 1913), discussing tonsillar haemorrhage, says it may occur early or late. Amongst the causes are haemophilia, cardiac disease, leukaemia, menstruation (that is, haemorrhage after removal of the tonsils whilst the patient is menstruating), inflammation of the tonsils, and others. But the immediate cause is the rupture of some vessel, either abnormally large or irregularly distributed. The fear of injuring the carotid itself is more or less of a myth. The arteries usually affected where severe haemorrhage occurs are the palatine or the tonsillar artery, especially the posterior palatine. Since haemorrhage is much more likely to occur if the tonsil is actively inflamed, the author advises waiting for at least three weeks after an acute tonsillitis before removal is attempted. Another cause of haemorrhage is sometimes seen in exertion too soon after operation—for example, straining at stool (hence the advantage of a preliminary dose of castor oil). It is also well not to operate during menstruation. Apparently, whatever form of instrument is used for removal haemorrhage may occur. The author is not in favour of total enucleation, partly because of haemorrhage, and apparently he objects to either general or local anaesthesia. Unless the pillars of the fauces are injured, he says, tonsillectomy is almost painless. If there is special reason to fear haemorrhage some benefit may arise from giving calcium, horse serum, diphtheritic serum, or applying a ligature to the tonsil. If haemorrhage occurs—all the time he is speaking of severe haemorrhage—merely local applications of cold, adrenalin, etc., are of little good. If a vessel can be seen it should be held by forceps, or pressure applied by a gauze swab soaked in perchloride of iron. Sometimes ligature of the anterior and posterior pillar over a swab is necessary. In extreme cases it might be necessary to ligature the cut carotid, but owing to the free anastomosis this is not often successful. Total plugging of the pharynx with some tube arrangement for breathing has been tried.

OBSTETRICS.

23. Dangers of a Uterus Arcuatus.

FABRE AND TRILLAT (*Bull. de la Soc. d'Obstét. et de Gynéc. de Paris*, March, 1913) performed a necropsy on a primipara who died during the sixth month of pregnancy with all the signs of pernicious anaemia. The blood had been carefully examined. The uterus was

of the typical heart-shaped type, *uterus arcuatus*, often associated with shoulder presentation and with incarceration of the placenta in one cornu. The fundus bore the characteristic depression at the middle line, and the cornua appeared globose. Fabre and Trillat froze the deformed uterus, and made a series of vertical sections. The fetus lay in transverse presentation, the head in the right, and the breech in the left cornu. The sections showed that the thickness of the uterine wall at the median depression reached 1 cm., whilst it progressively diminished towards the cornua, falling to 2 mm., so that it was transparent at each cornu. This distinct thickening in the median part of the fundus accounts for the projection felt by the operator's hand when turning is performed in a uterus arcuatus; it forms a spur, greatly embarrassing the manœuvres. The thinness of the lateral parts of the uterus explains why the organ is so slow in expelling the placenta. The thin wall is insufficient to detach by its retraction the placenta. The uterine walls being thicker towards the middle line, their contractions tend to incarcerate the placenta in one cornu.

GYNAECOLOGY.

24. The Extended Abdominal Radical Operation for Cancer of the Uterus.

WEIBEL (*Surgery, Gynaecology and Obstetrics*, vol. xvi, No. 3), in a communication to the Clinical Congress of Surgeons of North America, gives details of the most recent results obtained in Wertheim's clinic concerning the radical treatment of uterine carcinoma. During the last fourteen years 675 cases of cervical cancer have been subjected to the radical operation. Amongst 1,430 cases seen during this period, 684 proved inoperable, giving an average operability of 50 per cent. On the last 175 cases admitted to the clinic the operability has been 55 per cent. In deciding the question of operability, the general condition of the patient as regards the heart, cachexia, and age are considered, as well as the degree of infiltration of the parametrium, the presence of enlarged glands on the pelvic wall, and the fixation of bladder and rectum. Exploratory laparotomy is necessary in some cases to determine the fact of operability. Dilatation of the ureters is not considered a contraindication for the operation, although resection of the ureters is sometimes necessary in these cases. As regards primary mortality, a progressive decrease has taken place and the death-rate has been reduced from 30 per cent. in the first 100 cases to 9 per cent. in the last 175. Weibel attributes this excellent result to continual improvement in the technique of the operation and to the correct use of the anaesthesia. General narcosis must be as short as possible. Spinal anaesthesia is employed in some cases when general narcosis is not suitable. A mixture of chloroform, ether, and oxygen, in Roth-Draeger's apparatus, is also used. Wertheim considers that improvement is possible with regard to the after-results of the operation, but not in the raising of the operability. Of the 675 cases, 380 were living at the end of five or more years. Of these, 160 were well and free from recurrence and 8 died from intercurrent diseases. The percentage of permanent cures of all cases surviving operation is at present 53, and of all cases operated upon 43. The author is of opinion that with the improvement in technique and the permanent falling of the mortality, even better results will be reported in the future.

THERAPEUTICS.

25. Dehydration Treatment of Bronchitis.

G. SINGER (*Deut. med. Woch.*, December 19th, 1912) reports several cases of bronchiectasis, fetid bronchitis, bronchial asthma, and abscess of the lung treated by systematic reduction of fluid in the diet. This treatment has long ago been recommended in acute coryza, but its advocates pushed it indiscriminately till it fell into disrepute. A too rigorous enforcement of the treatment not only is generally harmful, but it even fails to give relief locally. The author prescribes a rich and varied diet, and begins the reduction of fluid gradually. He allows 200 to 400 c.cm. of water, milk, or soup every day for the first two or three days. Thirst is relieved by sucking a lemon, rinsing the mouth out with a dilute solution of eucaine, or taking a little opium. Twice a week days of grace are allowed, when 1,200 to 2,000 c.cm. of fluid are given. During the treatment, which is usually kept up for four to six weeks, the patient first loses and then gains weight, and is heavier as a rule after than before the treatment. Besides the regulation quantity of fluid, a considerable amount is present in the cheese, vegetables, and stews prescribed. But though the treatment is not very heroic, it is contraindicated by renal disease or tuberculosis. The effect of the treatment continues after its conclusion, and, though its repetition may be necessary, the intervals between each course can be prolonged till further treatment is superfluous. This is the case both with functional disturbances of the bronchi and fetid bronchial secretion with definite lesions of the bronchi. The author gives a detailed account of nine cases illustrated by charts. One patient a man, aged 56, had suffered from cough and profuse expectoration since he developed bronchial catarrh some years earlier. Emphysema, diffuse bronchitis, and prolongation of the expiratory phase were observed. About 320 c.cm. of sero-purulent sputum were expectorated daily. Under the treatment this fell to 40 c.cm. in three weeks. Turkish baths taken every other day further reduced the expectoration till it finally ceased. This course lasted from March 24th to May 22nd. A second course was necessary from October 2nd to January 10th, when 2,000 c.cm. of fluid could be taken daily without any resulting expectoration. When the weather became cold, cough and expectoration returned, but they were less troublesome than before, and were speedily checked by a renewal of the treatment.

26. Salvarsan and Haemoptysis.

AUDRY (*Ann. de derm. et syph.*, February, 1913) records the result of the administration intravenously of 0.3 gram of salvarsan to a woman 26 years of age, with syphilis, psoriasis, and the signs of a right apical phthisis. She had been treated previously for her syphilis in April, 1912, with one injection of 606 and a course of grey oil, and the symptoms subsided entirely a few weeks later. In October of the same year she returned for treatment of the psoriasis, which had become generalized. Seeing that the Wassermann reaction was still positive, and that the patient had previously tolerated her salvarsan extremely well, she was again injected with a similar dose (0.3 gram). There was no febrile reaction, but the patient vomited, the cough became accentuated, and she brought up blood-stained sputum several times. The latter symptom persisted for two days after the injection, but there was no change in the physical signs at the right apex. The effect of the injection on the psoriasis, which had previously proved very obstinate to oil of cade, was very marked, and the guttate lesions had almost completely disappeared in ten days. The author counsels extreme caution in the administration of arseno-benzol in cases with the signs of active pulmonary phthisis, owing to the well-known congestive action of the drug.

27. Treatment of Nervous Vomiting in Infancy.

H. ROSENHAUPT (*Deut. med. Woch.*, April 17th, 1913) points out that the etiology of nervous vomiting in childhood is still obscure, and that it occurs both among breast-fed and artificially-fed infants. It is often unaccompanied by other digestive disturbances, is of an explosive character, and ceases when fats are withheld. In many cases the vomiting is apparently due to a local irritability of the stomach excited by contact with food. This hypothesis has led to the use of local anaesthetics, and cocaine has been given with the food. But it is a dangerous drug, idiosyncrasy to which may cause alarming symptoms. Besides, it does not act satisfactorily as a local anaesthetic in such cases, for it is absorbed too quickly; and its prescription with food must naturally reduce its anaesthetic action. The author has therefore replaced it with the ethyl ester of para-amido-benzoic acid, the proprietary title of which is "anaesthesin." It is practically atoxic, for more than 2 grams are necessary to induce toxic symptoms in a rabbit. A teaspoonful of a 2 to 3 per cent. solution is given in mucilage about ten minutes before meals. The drug is also useful in dysphagia due to lesions of the oesophagus and pharynx; and it is of diagnostic value in cases of vomiting in which the cause may be either central or peripheral. If it is the former it cannot be of use, whereas if the vomiting is due to some irritability or lesion of the digestive tract, the drug gives speedy relief.

28. Indications for Diathermy.

THE method of introducing heat into the tissues electrically, known as diathermy, is the subject of a long communication by BERGONIÉ (*Arch. d'électr. méd.*, March 10th,

1913). The author does not believe in the use of saturated electrodes, and he employs only the bare metal—lead, tin, or aluminium—in thin sheets, which are made adherent to the limbs by elastic bands. The surface area of these electrodes may vary between 200 and 500 sq. cm. The special indication for diathermy is that state of physiological weakness and inanition consecutive to or preceding a large number of affections. The method effectively combats the hypothermia, which is a grave symptom of certain diseases, and which appears as a complication of chronic conditions, such as cancers of the liver, stomach, and intestine. The author is also of opinion that diathermy, which produces a useful hyperthermia and reactional fever, is of value in a great number of infections. Its effect differs from spontaneous fever in that it entails no drain upon the organism which it defends, and the organism retains all its forces intact at the end of this period of artificially stimulated hyperthermia. Some experimental results are given. Arterial pressure has been raised from 15 cm. of mercury to 19 cm. after applications of five minutes, with a milliampèrage of 1,500 to 1,800, while the modification of the respiratory interchanges has proved even more remarkable. Before diathermy the oxygen consumed during ten minutes' respiration was 2.95 litres, and the carbon dioxide rendered 2.62 litres. After thirty minutes' diathermic application the figures for an equivalent time were 2.14 and 1.96 litres respectively. The author also quotes some clinical cases in which diathermy has brought about recovery from digestive troubles and what he calls "misère physiologique."

29. Effect of Exercise on the Organism.

Külbs has investigated the question of the effect of strenuous movement on the condition of the organs during the period of growth and in adolescence (*Deut. med. Woch.*, 10, 1912). Dogs were subjected to enforced exercise on a suitable treadmill during various periods, while other animals of the same litters were kept as controls. A marked increase in volume was found, especially in young animals, as the result of exercise. This was especially noticeable in the heart and liver. Similar changes were found in young swine who were subjected to exercise. The increase in the bulk of the muscles was not so great as that in the heart in dogs. A chemical analysis showed that the increase in bulk of the heart, liver, and muscles was accompanied by an increase of the lecithin content of the fat. In the long bones of the working dogs, the red marrow contrasted markedly with the yellow fatty marrow of the control animal. He further found that wild rabbits kept in cages for six months suffered a decrease in the weight of the heart. The muscle diminished by about 25 per cent., while the fat increased by nearly three times its quantity. The mass of skeletal muscles did not appreciably decrease during the confinement, but the fat increased slightly. The author claims that the results of his experiments confirm what physiologists have taught, that exercise, especially in the young, exerts a beneficial influence not only on the skeletal muscles but also on the internal organs. All animals living in a free condition indulge in violent movements and hunting games when young. The investigations further supply a parallel to the pathological finds of massive hearts in persons who have followed a strenuous calling, as compared with the hearts of those who have had a sedentary occupation. During the time of conscription, the cardiac shadow, as revealed by *x* rays, increases much more extensively in those of the latter class than in the persons who live an active life.

30. Precocious X-ray Reactions.

Marquès, in writing of the idiosyncrasies to *x*-ray treatment occasionally met with (*Arch. d'électr. méd.*, August 25th, 1912), affirms that the precocious reaction to the *x* rays, when it occurs, is most frequently attributable to an effect on the salivary glands. He quotes a colleague as stating that 25 per cent. of the patients who have been irradiated in the neighbourhood of the salivary glands have manifested an extraordinary reaction. A few hours after the sitting a swelling has appeared at the irradiated region, and sometimes has taken a severe character suggestive of epidemic parotiditis. The author instances the case of a man aged 43 years, otherwise in good health, who underwent *x*-ray treatment for a slight adenitis in the submaxillary region. A very feeble dose was given, but on the same evening during a meal the patient complained of difficulty in mastication and deglutition, which he attributed at first to the fixed position of his neck during the sitting. The irradiated region was hot and tender, and on the following morning it proved to be the site of a very large tumefaction. All these phenomena disappeared gradually in forty-eight hours. Twelve days later a second sitting was given with a smaller dose, and the reaction appeared on the following day with the same intensity as before. A third sitting also produced a similar reaction. Meanwhile the affected gland had become smaller and much more mobile.

PATHOLOGY.

31. Mallebrein's Prophylactic in Tuberculosis.

Mallebrein announced at the International Tuberculosis Congress at Rome in April, 1912, that he had discovered a means of protecting the mucous surfaces from an entrance of tubercle bacilli. The drug employed is the chlorate of aluminium ($Al(ClO_3)_3$). Jarosch (*Deut. med. Woch.*, October 17th, 1912) states that the action of the drug is supposed to be the following: On coming into contact with the mucus on the surface of the mucous membrane, the aluminium is split off and combined with the albumen to form an albuminate of aluminium. The chlorine and oxygen of the chlorate is liberated and acts as a powerful disinfectant. An excessive irritation of the chlorine is prevented by the combination with oxygen. Several clinicians in the Province of Baden have used the substance, which is known as "Mallebrein's prophylactic," and are satisfied with its local action. The author describes the correct method of applying it in tuberculosis. The patient is required to gargle with 25 to 30 drops of the watery solution in 3 tablespoonfuls of water, immediately after meals, and to inhale a dilution of the preparation of about 45 drops in 3 tablespoonfuls of water. The inhalation should be carried out three times a day, and must be done with care, the respiration being ordinary and not deep. A careful selection of suitable cases is necessary, and as contraindications he mentions haemoptysis, advanced disease with marked constitutional symptoms and general complications. He states that fever is rapidly reduced, cough is diminished, the expectoration lessened, and night sweats disappear. As a result the sleep is improved. Concurrently, the catarrhal condition of the lungs improves and often clears up altogether. He admits that his experience of this treatment is not extensive, but claims that his observations justify the statement that, given a correct selection of cases and a proper application of the remedy, the prophylactic must act well. He appends two charts of cases.

32. Intra-vitam Staining.

Goldmann (*Berl. klin. Woch.*, 1912, No. 36) describes the result of some researches as a sequel to his book on intra-vitam staining. Examining histologically animals that had been injected during life through the jugular vein, he found the central nervous system quite free from stain, except in the plexus chorcoideus of the lateral, the third, and fourth ventricles. This discovery led him to think that perhaps the choreoid plexus plays an important part in the nutrition of the fetus. He finds that glycogen is stored up in it, and thence given out into the cerebro-spinal fluid from a very early period in fetal life. With regard to the behaviour of the vital stains to the choreoid plexus, they were found there in the form of minute granules. The cerebro-spinal fluid remains entirely free, except in cases where toxic doses have been injected, and Goldmann thinks that the stain filters through in consequence of an injury to the choreoid epithelium. This view is confirmed by Evans, who found the ganglion cells diffusely stained in a case of experimental poliomyelitis in a vitally stained animal. If the stain is injected directly into the cerebro-spinal fluid it has a toxic effect, and the animal has severe spasms and rapidly sinks into a comatose condition, and dies within three or four hours. A histological examination shows diffuse staining of the spinal cord and of the pedunculus cerebri. The stain is found in the nerve roots, as also in the cerebral nerves. Throughout the whole substance of the cord, including the ganglion cells of the anterior and posterior cornua, the stain is found in the nuclei as well as in the processes. In some parts the glia cells are also stained. These results show that the choreoid plexus acts as a protective membrane, which prevents the entrance of substances injurious to the central nervous system, in the same way that the placenta prevents the entrance of substances injurious to fetal life.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

33. Resorption of Fluid by the Pleura.

T. NAEGELI (*Zeitschr. f. d. gesamte Exp. Med.*, March, 1913) says the rate and mechanism of the absorption of fluid in the pleural cavity is not yet known, although it is important to know how fluid is drained from this cavity, and whether a drainage tube, or merely a tampon, should be used after operations on the chest. To compare the rates of absorption of fluid by the pleura and peritoneum respectively, an isotonic saline solution containing 0.1 per cent. of potassium iodide was injected into the pleural and abdominal cavities of rabbits. The fluid was injected at the body temperature, and the rabbits were kept in a uniform temperature. The urine was pressed out of the bladder just before the injection, and was subsequently examined every half-hour for iodine, quantitatively and qualitatively. After an intrapleural injection iodine appeared in the urine in half an hour, the excretion reaching its maximum in an hour. Iodine was no longer found in the urine after thirty hours. Injected into the peritoneum, the iodine appeared in the urine in half an hour, but its excretion was more rapid than in the former case. From this the author concludes that the peritoneum absorbs fluid more rapidly than the pleura. The question was raised whether the lung and visceral pleura, or only the parietal pleura, absorb fluid. A pneumothorax was induced and the lung collapsed. The solution of potassium iodide was then introduced into the pleural cavity, the opening in which was closed. The appearance of iodine in the urine did not begin till two hours later, and did not reach its maximum till six or seven hours after the injection. It was not at first clear whether this diminution in the absorption of fluid was due to the cessation of movement of the lung or to lessened absorptive power of the lung. To decide this point the arteries, the veins, or both the arteries and veins supplying the lung, were ligatured, the lung not being collapsed. The absorption was now reduced to the same extent as by a pneumothorax, and the rate of absorption could be regulated according to the number of branches of the arteries ligatured. It was therefore assumed that the mechanical movements of the lung have little to do with the rate of absorption. The conclusion was also drawn that the lung plays an important part in the absorption of fluid from the pleural cavity, and that increased circulation through the lung favours the rate of absorption of fluid from the pleural cavity.

34. Serum Test in Helminthiasis.

GHEDINI, after seven years' experience (*Gazz. degli Osped.*, March 13th, 1913), is convinced that the serum reaction proposed by him in 1906 for the detection of various worms (taenia, echinococci, etc.) is valuable. The best results were obtained by the fixation-complement method. The meiostagmin and anaphylactic reactions are not so satisfactory. More than twenty different varieties of worms have been tested, and amongst them the echinococcus figures 280 times. Various liquids were used as antigens, and as regards the echinococcus, the hydatid fluid from a sheep gives the best result. Suppuration or gangrene of the cyst does not interfere with the secretion. In reply to the objection that the serum reaction is not constant, the author says (as regards echinococcus, which is the most important as far as man is concerned) it only failed 8 times out of 100—sometimes the failure is due to faulty technique, or to too small a quantity of serum, or to an unsuitable antigen. Hydatids with very thick-walled cysts may not give passage to antibodies and so the test may fail, but on the whole the failures are much less than the successes. The objection that the reaction is not specific is met by asserting that unsuitable antigens were used. On the whole the author is satisfied that after his seven years' experience the serum reaction in question is of much value in the diagnosis of helminthiasis.

35. Non-Surgical Septicaemia.

GOLUBOW (*Zentralbl. f. inn. Med.*, March 1st, 1913) states that the occurrence of septicaemia and pyaemia apart from surgical sepsis has only recently been recognized. An exception is the form of septicaemia which has long been known to accompany malignant endocarditis. The writer is convinced that septicaemia, especially in its mild forms, is one of the commonest infective diseases. Such cases were usually diagnosed as mild attacks of typhoid fever or as "febris herpetica." In ten years he has seen more cases of non-surgical septicaemia than of typhoid fever. This does not indicate that septicaemia is the commoner disease, but that it is at present less recognized and more likely to lead to the services of a consultant being requisitioned. Of the last 20 cases seen, 7 ended fatally; the remainder were mild cases ending in recovery. The symptoms in a severe case are high pyrexia with repeated rigors, endocarditis, involvement of one or more joints, and thrombo-phlebitis. In the presence of these the diagnosis is not difficult, providing the primary focus, which is frequently the pharynx, can be ascertained. In mild cases, however, the diagnosis may be difficult. In only 2 of the writer's 20 last cases was it impossible to find the primary focus (cryptogenetic septicaemia); 1 of these proved fatal. A microscopical and bacteriological examination may suggest the presence of sepsis. In other cases a diagnosis is possible only by exclusion of all other infective diseases, especially typhoid and paratyphoid (A and B) fevers, influenza, and malaria. It is unsafe to rely on an examination of the blood for micro-organisms, which gives a positive result only in severe cases. According to Lenhartz the result is negative in 50 per cent. of all cases. Hence a blood examination is of prognostic rather than diagnostic importance. If bacteria are found the infection is severe. Non-surgical septicaemia is in the majority of cases of streptococcal origin. Of 218 cases collected by Lenhartz, only 18 were due to the staphylococcus, 20 to the pneumococcus, 8 to the *Bacillus coli communis*, and 1 to the gonococcus. Mixed infection occurred in 6 cases, and the remainder were due to the streptococcus alone. Bacteriological analysis of the blood gives similar results. Of 1,200 positive cultures the streptococcus was found in 63 per cent., the pneumococcus in 18 per cent., the *Bacillus coli* in 17 per cent., and the staphylococcus in only 6 per cent. The comparative rarity of staphylococcus sepsis in "medical" septicaemia may in part be due to the fact that the staphylococcus produces metastatic (pyaemic) suppuration in 90 per cent. of all cases of septicaemia due to this organism, as compared with 20 to 25 per cent. of all cases of streptococcic septicaemia. Hence, staphylococcic septicaemia comes under the observation of the surgeon more often than the physician. Especially in the slighter forms of non-surgical septicaemia, pleurisy and pneumonic foci are frequently found. They are distinguished by an evanescent character. Well-marked pleural friction is found, and two or three days later no trace is left; or a small pleural effusion is completely absorbed in a week; or localized coarse crepitations are found, and a few days later the inspiratory murmur is normal. In even the slightest forms of septicaemia renal symptoms, such as albumen casts, renal epithelium, and red and white blood corpuscles in the urine, are frequent. Chronic sepsis probably accounts for many cases of pernicious anaemia, for Hodgkin's disease, leukaemia, peliosis rheumatica, dermato-myositis, muscular rheumatism, and other chronic rheumatoid affections.

36. Misleading Rectal Temperatures in Childhood.

E. MORO (*Monats. f. Kinderheilk.*, vol. 11) was consulted by the mother of a girl, aged 10 years, who had contracted influenza in the previous winter, and whose rectal temperature during the following five to six months had been alarmingly high. It had been taken several times a day, and the mother had several yards of temperature charts to show. But the girl looked perfectly well and lively, and nothing abnormal could be found. The temperature in the axilla was 97.7° and in the rectum 100.1°. The measurement of the temperature in the rectum was discouraged, and the mother departed reassured. The author has lately seen four similar cases, three of the patients being the children of medical men. Septicaemia, tuberculosis, nephritis, and chronic appendicitis had been diagnosed; but apart from the high rectal temperature, there was nothing amiss. The temperature of the rectum rises readily on the slightest exertion, such as restlessness in bed or dressing, and it is therefore often an "exercise temperature." It rises more in the rectum than in

the axilla, simply because exercise, such as walking, increases the work done by the lower part of the body; and, as Becquerel and Helmholtz have shown, there is a definite relation between work done and heat produced by a muscle. Were exercise to be limited to the arms, the temperature of the axilla would be more affected than that of the rectum. The rectal temperature of some children is subject to greater variations than that of others. This may be due to differences in the depth of inspiration, to differences in the mechanism of perspiration, and, above all, to differences in children's musculature. A child with flabby musculature is, *caeteris paribus*, more subject to sudden rises of temperature in the rectum than a child with well-developed muscles. The latter's heat regulation is altogether more stable. Flabby musculature may also be responsible for the rises of temperature on slight provocation which the author has observed in the subjects of orthostatic albuminuria.

SURGERY.

37. Diabetes and Vesical Calculi.

B. Goldberg (*Med. Klin.*, April 27th, 1913) points out that vesical calculi are liable to be overlooked when associated with diabetes, for the symptoms of the two may be alike, and their disappearance under treatment for diabetes may be misleading. The author can find no record of the association of the two conditions, though he has observed it in 4 out of 80 cases of vesical calculus. One patient, a man aged 60, had suffered from diabetes for many years, and from attacks of haematuria for a year and a half. On one occasion he suddenly developed complete retention of urine, and catheterization was necessary for several days. Four weeks before admission to hospital he suffered from vesical pain and tenesmus, and continuous haematuria. The tenesmus abated when he lay down, and at night the interval between micturition was six hours. But by day this interval was only half an hour to an hour. The urine had a specific gravity of 1023; it was dark red, cloudy, alkaline, and of an unpleasant smell. It contained 0.03 per cent. albumen, pus cells, crystals of triple phosphate, sugar, and many micro-organisms. The capacity of the bladder was from 50 to 100 grams, and the residual urine measured from 25 to 50 grams. The bladder was difficult to wash out, and when it contracted down on the catheter, or when this was drawn back to the prostatic part of the urethra, haematuria occurred. Lavage with silver nitrate, and the administration of hetralin and stypticin internally relieved the haematuria and dysuria temporarily, but they recurred when the treatment ceased. Frequently during lavage with an elastic catheter a hard foreign body was felt, and the diagnosis of calculus was confirmed by the passage of a sound. An operation was refused. Another patient, also aged 60, had suffered for three years from glycosuria and cystitis. The specific gravity of the urine was 1010; it was acid and cloudy, and contained a trace of albumen, much sugar, micro-organisms, leucocytes, and erythrocytes. Radiography and sounding in 1904 revealed no calculus. But in the previous year there had been haematuria, and in 1904 there had been pain in the tip of the penis on micturition. In 1906 an attack of haematuria followed a railway journey, and ceased as soon as the patient lay down at home. In July of the same year there were slight cystitis, prostatitis, and retentio urinae minima. As the urine drawn from the freshly emptied bladder was almost clear, while the sediment previously drawn from the bladder contained erythrocytes, crystals of uric acid, and epithelial bladder cells, calculus was again suspected, and this time was discovered by sounding. Treatment with silver nitrate and hetralin cured the cystitis in a fortnight, but the glycosuria increased. Of the two remaining cases, one was that of a man aged 48, whose glycosuria did not, apparently, develop till litholapaxy had been performed. He had previously suffered for a year from occasional haematuria and dysuria after exercise. The urine was cloudy, and contained erythrocytes, leucocytes, micro-organisms, and crystals of uric acid. After litholapaxy, the urine contained neither blood nor pus, and micturition was no longer painful. But the temperature was raised and the pulse accelerated for several days; and the glycosuria was very marked, and accompanied by polyuria and great thirst. The condition improved slowly under antidiabetic treatment. The last patient, aged 60, suffered from incontinence of urine whenever he failed to micturate sufficiently often. This ceased as soon as slight concomitant glycosuria was treated with dieting. After a mountain climb he suddenly developed vesical tenesmus and incontinence, accompanied by burning pain on micturition. As there was neither cystitis nor retention of urine, and the attacks of dysuria diminished in spite of increasing glycosuria, their origin in prostatic hypertrophy or diabetes was improbable. A deposit of erythrocytes and uric acid in the urine pointed to a calculus, which was found by sounding. The cystitis and retention of urine often found in diabetes may possibly favour the formation of calculi. But these factors were absent in the two last cases, and it is probable that a uratic diathesis, present in all but one of the patients, is a more important factor. It was frequently noticed that the attacks of glycosuria alternated with the symptoms of calculus, and the second patient's glycosuria increased much as soon as the retention of urine was relieved and the cystitis cured. The third patient's glycosuria was detected only after removal of the calculus. Necker has drawn attention to the disappearance of sugar from the urine as soon as prostatic hypertrophy led to distension of the bladder and stagnation of urine. In other words, obstruction to the escape of urine acts like nephritis in preventing the escape of sugar by the kidneys. The author considers, however, that this explanation does not apply to every case, for in the fourth case litholapaxy was followed by a diminution of the glycosuria. There must, therefore, be other factors relating to the influence of calculi on glycosuria which are at present unknown.

38. Implantation of Silk Tendons.

Allison (*Amer. Journ. of Orthop. Surg.*, May, 1913) describes the results obtained by implantation of silk tendons in the residual paralysis of poliomyelitis in order to supply stability by inelastic checks to motion. In paralysis of the dorsal flexors of the foot imitation of the pull of the tibialis anticus and peroneus tertius will check a toe-drop, and in paralysis of the gastrocnemius group imitation of the pull of the tendo Achillis will check calcaneous deformity, while a combination of both pulls produces stability of the foot at right angles. In a similar way varus and valgus deformities may be checked and held by imitating the pull of the relaxed tendons. The silk is introduced in a continuous cord through a small hole drilled in the tarsus across the foot from tendon insertion to tendon insertion, then passed up the tendon sheath to a point of exit high on the anterior surface of the tibia, where the ends are tied after suture to the periosteum. In the os calcis two small holes are drilled from the plantar surface to either side of the insertion of the tendo Achillis, the silk being then passed up on both sides of the tendon and sutured to the tibial periosteum after the loop at the heel has been drawn taut. The passage of the silk up the tendon sheaths is accomplished by a long flexible probe with an eyelet at its end. Hyperextension at the knee may be checked by imitating the hamstring pull with a circular loop of silk from the tibia below passed up the biceps of the semitendinosus sheath to the femur above. Of 18 cases upon whom anterior suspension of the foot has been performed for paralysis of the anterior muscles of the leg, 12 have remained functionally good, with the foot in a right-angled straight position, in 3 there was slight valgus, in 2 varus requiring correction, while in 1 the periosteal insertion was pulled loose by a fall, necessitating a second operation. There was no sign of infection, the silk remaining quiescent in the tissues of all the cases. Two further cases were successfully operated upon for varus, the pull of the peroneus tertius and peroneus longus being imitated by passing a silk cord up their sheaths after it had been passed across the foot from the insertion of the peroneus tertius to the inner border and back to the outer border, making exit at the tendon of the peroneus longus. One case of valgus from paralysis of the tibialis anticus was successfully dealt with by reversing the silk loop in the tarsus, and passing both strands up the sheath of the muscle. Satisfactory results were also obtained in three cases of flail ankles, and in one of knee hyperextension. The technique of these silk implantations is simple, and involves but little destruction of tissues, and they seem to be especially indicated in severe grades of poliomyelitis paralysis in children.

39. Foreign Bodies in the Nasal Passages.

Mapes (*Pediatrics*, April, 1913) points out that although foreign bodies may remain in the nasal fossae for long periods without producing symptoms there is generally some indication of their presence, and a muco-purulent discharge tinged with blood, coming from one nostril, almost invariably indicates the presence of a hard foreign body. Douches and sprays, in an attempt to cure a fetid unilateral discharge, are to be condemned on account of

the danger of forcing pus into the ear, and the most effective treatment consists in prompt removal with suitable forceps, the extraction being accomplished even at the risk of splitting the nasal angle. Cocaine is of value not only as a local anaesthetic, but in contracting the spongy tissues over the turbinated bones, thereby facilitating examination and extraction. Severe haemorrhage may occur as the result of the unsuspected presence of a foreign body. Short notes of several cases are given showing the diversity of symptoms and nature of the foreign substances found in the nasal fossae, which latter may be divided into two groups: (1) Animate—for example, worms, flies, leeches, maggots, and even centipedes and lizards; and (2) inanimate—for example, buttons, marbles, cherry-stones, beans, peas, coffee grains, pieces of metal, leather, paper, etc., and in one instance a supernumerary tooth in the floor of the nasal cavity. In dislodging leeches inhalations of chloroform were found to be most effectual. Besides the symptoms of irritation, tumefaction, and inflammation with a blood-stained muco-purulent discharge from one nostril, a persistent neuralgia of one-half of the face has been noted as resulting from the presence of a foreign body in the nose.

OBSTETRICS.

40. Appendicitis and Habitual Abortion.

H. NATVIG (*Norsk Magazin for Laegevidenskaben*, February, 1913) records the case of a married woman, aged 38, who had suffered as a child from abdominal pain of obscure origin. She had been subject to dysmenorrhoea, and the pain had been most severe in the lower abdomen on the right side. After marriage, at the age of 28, she suffered from pain in the right abdomen, which was most severe at the beginning of menstruation. After aborting frequently in the ninth or tenth week of pregnancy she became weak, anaemic, and nervous. The urine was normal, and there was no sign of syphilis. There was backward displacement of the uterus, which was normal in size. The right ovary, however, was enlarged and tender. There was no tenderness over the appendix, and there was no discharge from, or dilatation of, the cervix. Appendicitis followed by chronic adhesive pelvic peritonitis, with fixation of the uterus, was diagnosed, and was found at the operation, which showed the following conditions: Marked kinking of the appendix, the lumen of which was partially obliterated; adhesions between the intestine and the uterus and uterine appendages on the right side. The left uterine appendages were normal. The appendix was removed, the adhesions were separated, and the round ligaments were shortened. The correction of the uterine displacement was successful, and the symptoms referred to the intestine and reproductive organs ceased.

GYNAECOLOGY.

41. Typho-tuberculous Tubo-ovarian Abscess.

FULLERTON (*Surg., Gynaec., and Obstet.*, vol. xvi. No. 2) describes a case of combined tuberculous and typhoid infection of the uterine appendages occurring in a woman aged 25, fourteen weeks after an attack of typhoid fever. The nature of the infection was totally unsuspected until a bacteriological examination was made of the pus taken from the tubo-ovarian abscess. A rather thick short bacillus was found, which corresponded in cultural characteristics with the typhoid bacillus. The organisms agglutinated completely in one hour with typhoid serum in a strength of 1 in 50. The wall of the abscess cavity was composed of granulation tissue containing many epithelioid and giant cells. Tubercles were also present on the ovary. The author reviews the somewhat scanty literature on the subject and draws the following conclusions: (1) That in post-typhoid pelvic abscesses the *B. typhosus* probably plays a more important rôle than is suspected. (2) That puerperal infections with, or shortly following, a typhoid infection may often have the typhoid organism as a causative agent. (3) A careful inquiry into the past history for typhoid infections, together with a detailed bacteriological examination of the pus from pelvic abscesses, will probably produce some interesting results. (4) The simplest and most plausible mode of infection is by way of the blood stream. (5) That a secondary infection upon an old inflammatory focus is not improbable owing to the lessened resistance of the tissues. Fullerton suggests that hexamethylenamine may be of use in preventing post-typhoid complications in the uterus and appendages, as it does in the case of specific cholecystitis and cystitis.

42. The Ovary as an Organ of Internal Secretion.

GRAVES (*Amer. Journ. Obstet.*, April, 1913) has corresponded with a large number of his patients who had undergone supravaginal hysterectomy with removal of both appendages. 136 replies were obtained: 66 suffered from hot flushes for a few months, 42 experienced a trifling degree of the same symptoms, and 28 were entirely free from flushings; 96, in reply to the question whether they became more or less nervous than before, declared that they were actually less nervous. Only 101 replied to the question as to the effect of the loss of the ovaries on the sexual instinct: 5 stated that desire and sensation were stronger, 18 that they were diminished, and 6 spoke rather vaguely about "change," generally meaning diminution. Graves found that ovarian extract has a decidedly beneficial effect on the hot flushes of the artificial and physiological or climacteric menopause, that is to say, it is invaluable in the treatment of the vasomotor disturbances following castration. On the other hand, its value in the treatment of other gynaecological conditions is problematical, and Graves cannot feel certain that the ovary is an organ of internal secretion.

THERAPEUTICS.

43. The Treatment of Enuresis Nocturna.

MAX KLOTZ (*Deut. med. Woch.*, No. 49, 1912) does not think that the practitioner is justified in regarding the treatment of enuresis nocturna as hopeless. He claims that, save in certain cases of idiocy and imbecility, a great deal can be done for the patient. In the first place, it is necessary to examine the patient thoroughly, and especially in regard to phosphaturia, vulvo-vaginitis, balanitis, phimosis, and constipation, and also masturbation. In the next place, metabolic disturbances must be looked for, such as diabetes, and organic nervous affections should also be kept in mind. Lastly, he calls to mind that febrile attacks may give rise to nightly incontinence in previously continent children. If any changes of the foregoing kind are present, their rational treatment will lead to a removal of the symptom. On the other hand, in true enuresis nocturna, none of them are found, and the practitioner has to deal with hysteria, neuro-psychological constitution, and other forms of nervous deterioration in children. The first group of remedies are classified under suggestion. A large variety may be employed, and their success will depend on the manner in which they are applied. Klotz includes injections of strychnine in the pubic region (or of physiological saline solution, which works just as well), epidural injections of various kinds, catheterization, asafoetida, etc., injections of silver nitrate into the urethra until a mild blennorrhoea is produced (against this he adduced the fact that at times the incontinence is replaced by a retention of urine), the removal of the tonsils or adenoidotomy, and faradization. The latter frequently leads to extremely good results, provided that the treatment is not discussed before the patient, and that a great show is made of the procedure, the practitioner using a large apparatus, taking a long time in preparation, having rubber gloves, a long white operation gown, etc., on, and the patient being placed on an operation table. In a similar manner an injection of aromatic rhubarb, if carried out with complicated manipulations, or local cold douches may succeed, when faradization fails. If these or similar means do not result in a cessation of the bed-wetting, the patient should be removed to a fresh surrounding. It is advisable to select a children's home, hospital, or similar institution. If the child is to be sent to relatives, care must be taken to instruct the latter minutely in regard to the treatment of the patient, and the stay must be of several months' duration. Hypnosis has yielded immediate and complete cures at the hands of certain practitioners. A number of useful adjuvants may be added to any of the former methods of treatment. The quantity of fluid may be limited, and the child may be kept without any further drink after tea-time. The foot end of the bed may be raised, and measures may be adopted to attain sleep when the child lies on its side. Further, in some cases, it is advisable to awaken the child once, twice, or three times during the night, in order that the

bladder may be emptied. Pfaundler has suggested an automatic waker, consisting of two electrodes placed in a diaper, and connected with a battery and bell. As soon as the diaper is wetted, the bell rings and the child or nurse is awakened. Klotz has no experience of the use of this apparatus. Finally, the author gives suggestions as to what he terms "physical-dietetic" measures. The child should be lightly clothed, and exposed to fresh air as much as possible. Any feeling of cold, due to external cold, will stimulate the child to active movement, which in its turn will produce a greater excretion of moisture through the skin. Running and games in the open air will have the same effect and will also increase the quantity of moisture given off in the expired air. A vegetable diet is ideal for the patient. Coffee, beer, alcoholic drinks of all kinds, etc., should be forbidden, milk limited, and fruit given to satisfy thirst. The personal skill of the practitioner will enable him along lines of this kind to obtain good results in the vast majority of cases of enuresis nocturna.

44. Synthetic Hydrastinin.

IT is well known that the fluid extract of hydrastis is so uncertain in its action and so little constant in its composition that its uses are much limited. The active substance contained in the extract is hydrastin, while berberin, which is also contained, is far less active, and canadin is inactive. The oxidation product of hydrastin, hydrastinin, has a far more powerful styptic action, but in view of its very high price is not prescribed in practice. Decker has worked out a method of manufacturing this hydrastinin synthetically, and it has now been placed on the market by F. Bayer and Co. Starting from the odoriferous substance of heliotrope, piperonal (protocatechu-aldehyde), a reduction product, homo-piperonalamin, is formed. The formyl compound of this substance is then condensed to methylen-dioxy-dihydro-isochinolin. On treating the last named with iodomethyl, hydrastinin hydriodate is formed, which can be changed into the basic hydrastinin, and by treatment with hydrochloric acid made into hydrochlorate of hydrastinin. H. OFFERGELD (*Berl. klin. Woch.*, January 13th, 1913) reports on this preparation. It is put up in tablet form and also as a liquor hydrastinini hydrochlorici "Bayer." The liquor contains a little peppermint to flavour. The author has obtained good results with it in pure dysmenorrhoea, in dysmenorrhoea with menorrhagia, save when the causal endometritis required curetting, to check the bleeding of myomata, in non-malignant climacteric and pre-climacteric haemorrhage, in bleeding arising from retroflexed uterus, and in anaemic haemorrhage. In combination with ergot and cotarnin preparations he has found it act extremely well, and he is inclined to prefer it to the best American fluid extracts of hydrastis on the score of a more reliable action, a pleasant taste, and a cheap price. DÜHRSSEN (ibid.) has found it far preferable to the fluid extract of hydrastis, which has a most nauseous taste, chiefly because it is constant in its action, and is little toxic. He has given it with good results in severe menstrual bleeding, either in tablet form, in doses of 0.025 gram four times a day, or as the liquor, 20 drops three times a day. Freund and Ziegenspeck have also reported favourably on this substance.

45. Action of Caffeine on the Bronchi.

J. PAL (*Deut. med. Woch.*, September 19th, 1912) reports that guinea-pigs which were pretreated with peptone, β imidoazolylethylamin, or similar substances, and whose bronchial muscles became contracted, can be freed from the broncho-spasm by intravenous injections of caffeine. In the first place, he sets out to prove that peptone and β imidoazolylethylamin actually produce a broncho-spasm. When these substances are injected, the blood pressure is raised, and in a few hours the respiration stops, while the heart continues to beat. In order to obtain further information as to the method of action of these drugs on the lung, he experimented on decapitated guinea-pigs, in whom he performed artificial respiration by means of bellows. When the air pressure was sufficient partially to inflate the lungs before the injections, from thirty to sixty seconds after, this pressure proved insufficient. He adds further proof of the incidence at an early stage of peptone poisoning of broncho-spasm. The two drugs named are the only ones which he could discover which produced this effect, while the cardiac muscle and nervous apparatus is left intact. They, however, do not act thus on the cat or dog, or rabbit. In some experiments with muscarin he was able to demonstrate the fact that caffeine restored the capability of inflating the lung. Caffeine is therefore an antagonist of muscarin, but not in regard to its cardiac action. In this it differs from atropine. He finds that caffeine acts on certain fibres of the sympathetic. Its primary and most important action is directed toward the lung. He mentions that the increase of blood pressure caused by this drug is due to stimulation of the central vasomotor centres, and that this is well marked by the improved circulation through the coronary arteries. The pressure in the left ventricle is also raised. These considerations have a practical bearing on the employment of caffeine in the treatment of disease.

PATHOLOGY.

46. Experimental Leukaemia.

IN the course of the past four years, J. V. WICZKOWSKI (*Wien. klin. Woch.*, April 10th, 1913) has attempted to inoculate animals with virus taken from patients suffering from leukaemia. But though these experiments were made in every case of leukaemia, he, like other workers in this field, failed to get positive results. He has, however, at last succeeded in inducing leukaemia in a hen by inoculation from man. The patient was a man aged 24, who had previously been quite healthy, and had no hereditary disease or syphilis. He was struck by an iron rod which fell on his right foot without causing an open wound. Ten days later he felt rather ill, and the right inguinal glands were swollen. Soon all the lymphatic glands of the body were involved, and when he was admitted to hospital, fifteen days after the accident, his liver and spleen were enlarged. His general condition became worse, and his temperature showed slight daily fluctuations. The number of leucocytes rose from 27,000 to 590,000, the neutrophiles diminishing in number as the large lymphocytes became more numerous. Death followed rapidly, and a necropsy was not allowed. The blood, an emulsion of a recently excised gland, and fluid taken from the pleural cavity, were injected into the veins of five hens. Those inoculated with blood and emulsion remained healthy, whereas the hen who had been given 2 c.cm. of pleural exudate became ill in about six weeks. The comb and the mucous membranes which were visible became very pale, and the legs oedematous. The hen lost her appetite and looked very ill. At first the leucocyte count was normal, then the large lymphocytes became relatively more numerous, and the leukaemia corresponded with that of the patient, and not with the type previously observed in hens. The necropsy on the hen showed marked enlargement of the spleen and enlargement of the liver, in which diffuse white punctiform areas were visible. Under the microscope, collections of lymphoid tissue were seen in the neighbourhood of the hepatic veins and capillaries. The bone marrow was red. Emulsions were made from the organs of this hen, and were injected into the veins of ten other hens; but these experiments were not yet concluded.

47. The Pathology of Splenomegaly.

WILSON (*Surg., Gynaec., and Obstet.*, vol. xvi, No. 3) reports the result of investigations into the pathology of splenomegaly from material obtained in the Mayo clinic. He finds that the largest spleens in cases of splenic anaemia are those in which the lymphoid or endothelial hyperplasia is greatest. The organ is reduced in size when there is much overgrowth of connective tissue. The majority of cases of primary splenomegaly commence with an overgrowth of the lymphoid tissue or of the endothelium of the venous tissues. This is usually followed by a secondary overgrowth of the stroma and degeneration of the lymphoid or endothelial elements. Secondary cirrhosis of the liver is associated with connective tissue overgrowth and degeneration of the pulp of the spleen. The author is of opinion that it is unnecessary to assume hypothetically the presence of three distinct causes for the production of the three histological types of splenic anaemia. The histo-pathological appearances are quite in accord with the hypothesis of the presence of some slowly-acting toxin. In conclusion, Wilson remarks that undoubtedly spleens are met with from doubtful cases of splenic anaemia, which cannot be distinguished pathologically from cases in which the clinical diagnosis is made without difficulty. Nevertheless, the finding of marked hyperplasia of one or all of the tissue elements of the spleen apart from other lesions in the body is strong corroborative evidence of a clinical diagnosis of splenic anaemia.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

48. Arsenical Neuritis.

E. LINDSTRÖM (*Wien. klin. Woch.*, May 1st, 1913) gives an account of his own sufferings from neuritis, which was ultimately traced to arsenic present in large quantities in the wall paint. He moved with his son, aged 11 years, into a newly painted house early in January, 1911. In April he began to suffer from severe neuralgia in the right nervus axillaris and sacralis. The pain ceased as soon as he rested completely, recurred when he got up, and was aggravated by any movement. It was less troublesome in the summer, but in the middle of December it again caused much discomfort, and extended also to the right radial nerve. He found washing his hands very painful, and in January, 1912, he could scarcely do anything with his right hand. The area over the triceps was swollen and tender, and was suggestive of early phlegmon. From this point the pain radiated to the back of the forearm and hand, and to the shoulder, back, and neck. Muscular rigidity prevented his walking upright, and the pain, which was at first stabbing, became later dull and numb. Aspirin and quinine gave no relief. In the autumn and winter of 1911 his son developed conjunctivitis, although he suffered from no errors of refraction, and had previously been healthy. As the conjunctivitis persisted in spite of treatment, arsenic was suspected and found in large quantities in the urine of both father and son. The Dutch zinc-white with which the patients' bedroom had been painted contained 2.8 mg. of arsenic in every 200 c.cm., and the air of the room leading to the bedroom contained 0.02 to 0.06 mg. of arsenic in every 25,000 litres. The author now took hot-air baths and a course of cold-water treatment, but without much improvement. In the spring and summer of 1912 brown pigmented areas appeared on the back of the right hand for a short time. There was considerable improvement in June, when he began to operate again, but after three days' work the numb sensation, and then the pain, recurred, and necessitated a three to four weeks' rest. Operating in September again caused a relapse, which required a few days' rest in bed and partial abstinence from work for several weeks. The author was more than usually right-handed, as his left hand had been tuberculous in childhood. The extra work thrown on the right hand and arm is therefore probably responsible for the distribution of the neuritis, which was so violent in this case that nerve-stretching, and even amputation of the arm, were contemplated.

49. Occupational Brass Poisoning.

HAYHURST (*Amer. Journ. of Med. Sciences*, May, 1913) discusses occupational brass poisoning, or brassfounder's ague. The brass manufacturing, or non-ferruginous metal-working trade necessitates the handling of large quantities of copper, zinc, and tin, white lead, antimony, nickel, phosphorus, arsenic, and cyanide compounds sometimes enter in, as well as the fumes of muriatic, sulphuric, nitric, and hydrofluoric acids. Investigations among 2,000 brass-polishers failed to discover any affections peculiar to brass dust itself, which does not appear to be any more inherently harmful than iron dust to ironworkers, or stone dust to masons. The dust from alloys rich in copper generally produce green-stained hair, a greenish deposit on the gums, and a green tint in the perspiration, without directly affecting the general health. Brass poisoning only occurs in those exposed to the inhalations of fumes from molten brass, and any temperature short of that of the recent vaporous state of its components does not produce any intoxication peculiar to itself. The symptom-complex of brass-founder's ague is peculiar to human beings, and consists in an acute malaria-like syndrome of chill, fever, and sweating occurring a short time after inhalation of vapours arising from molten brass or pure zinc. The newer workmen, or those who have been away on a holiday for a time, are most susceptible, and it is usually after leaving work that the symptoms develop. In addition to the ague there is an increased tendency to respiratory and gastro-intestinal diseases, anaemia, and malnutrition, while the mortality from phthisis is in excess of that of occupied males by 50 per cent. Of 1,200 casters in Birmingham not more than ten were over 60, and practically only young men are found to be employed in Chicago, employers stating that when over 40 the men become slow and undependable, while the workmen complain of gradual incapacity from inhalation of the fumes, combined with the strain of piece-work, and it is significant that no such conditions prevail among ironworkers engaged on identical processes. In the volatilization process a white smoke arises above the metals, out of which small snow-like flakes sublime, and it is this smoke and its sublimation products which cause the ague. Of 89 brass foundries in Chicago, in only 6 were the furnaces separate from the moulding and casting quarters, and practically everywhere merely natural ventilation by means of roof apertures, windows, and doors was relied upon to free the quarters from noxious vapours, only 9 attempting artificial ventilation by means of fans, etc. Other deleterious influences to which workmen were exposed were carbon monoxide gas and nauseating vapours of burnt oil. Of 2,212 men and women in brass foundries 451 were engaged in processes not necessarily exposing them to the foundry atmosphere, and of the remainder 85 per cent. were under 40 years of age. There is no known antidote for the ague attack, but prevention should aim at restriction of certain persons from entering the trade, the prevention of inhalation of fumes by limiting them to certain quarters, insuring rapid ventilation, and co-operation on the part of the workmen to avoid risks. Acting upon the report of a Commission, the Illinois Legislature has adopted a special occupational disease law effectively covering the hygiene of this and kindred trades, and by similar means Germany has in recent years materially increased the age limit in this industry.

50. Alopecia and Exophthalmic Goitre.

SABOURAUD (*Ann. de derm. et de syph.*, March, 1913) in this memoir reaches the following conclusions: (1) There are some types of alopecia, usually most chronic and resistant to treatment, which appear to be directly related to Basedow's disease; (2) some of them are aggravated by its onset, others improve as the classical symptoms of the syndrome develop; (3) children of the patients with exophthalmic goitre present evidence at times of a thyroid inefficiency, and may develop alopecia without vitiligo, or vitiligo without alopecia; (4) we know nothing definite concerning the relations of the various thyroid symptoms with alopecia, except that such relations undoubtedly exist; (5) it is remarkable that, although we are ignorant of the immediate causation of alopecia, we cannot deny the genetic influences of two great "internal secretion" glands—the ovary and the thyroid body.

51. Ulceration of Duodenum in the First Year of Life.

ALTHOUGH the occurrence of duodenal ulcer in infancy is barely recognized, W. SCHMIDT (*Berl. klin. Woch.*, March 31st, 1913) concludes that it is more common in the first year of life than at any subsequent period. Out of 1,109 infants of less than 1 year upon whom necropsies were made at the Pathological Institute in Breslau, there were 20 cases of duodenal ulcer, representing 1.8 per cent. of the total. Necropsies made on 2,715 persons dying at various ages from 2 years and upwards at the same place and period revealed duodenal ulcer in 17 cases, representing only 0.6 per cent. of the total. The author attributes the present ignorance of duodenal ulcer in infancy to the frequent absence of definite signs of the disease during life. Among adults duodenal ulcer is often recognized and operated on, and only in 20 per cent. are there no symptoms before death. In 14 of the author's cases there was no symptom of duodenal ulcer, and only in 2 cases was the disease recognized during life. Knowledge of the frequency of the disease in early life must therefore clearly depend on *post-mortem* examinations in which the duodenum is invariably examined. That the disease may be spontaneously cured in infancy as well as later in life is shown by the case of an infant, 5 weeks old, who died of an infection starting in an abscess of the back and left buttock. The necropsy showed a scar, of the size of a lentil, with jagged edges and marked pigmentation in the wall of the duodenum. Most of the infants in whom duodenal ulcer was found suffered from emaciation and marasmus. Purulent inflammation, phlegmon, digestive disturbances, rickets, whooping-cough, and parenchymatous nephritis with stenosis of the duodenum were also found; but in no case could any connexion between the

duodenal ulcer and burns of the skin be established. The author attributes the ulcer in many cases to the other diseases already mentioned, and he assumes that they lowered the vitality and resistance of the duodenum. In one case of advanced pulmonary tuberculosis accompanied by meningeal and general miliary tuberculosis, the only lesion of the digestive tract was a typical duodenal ulcer. The author attaches no importance to the fact that there were only 7 girls to 13 boys in his series.

SURGERY.

52. Novocain Necrosis.

THE danger of injecting a solution of novocain prepared several weeks earlier is emphasized by V. GAZA (*Deut. med. Woch.*, April 17th, 1913), who records the case of a nurse, aged 21, whose carious upper molars on the left side were extracted under novocain. The 2 per cent. solution had been prepared several weeks earlier, but was kept in a corked bottle and boiled immediately before use. About 1 c.cm. was injected into the point of exit of the anterior palatine nerves, and altogether about 7 c.cm. were injected into the gums, from the canine to the last molar tooth. Complete anaesthesia was induced, but, though the needle and syringe had been previously boiled, the left cheek became swollen and oedematous on the same day. In the course of the following days an enormous swelling appeared which extended over the left side of the face. The eyelids on both sides were oedematous, but no pain was felt. A vesicle of the size of a bean appeared on the hard palate, and during the next fortnight the swelling scarcely abated. The patient, who had been continuously afebrile, suddenly began to bleed violently from the mouth, twenty days after the operation. The bleeding, which came from the site of injection over the hard palate, was temporarily arrested by compression with gauze. But it soon began again, and was traced to an artery at the bottom of a small ulcer in which a slough lay partially detached. Compression with forceps failed to arrest the bleeding, which ceased only after many ligatures had been applied. Throughout these manœuvres the patient felt no pain. Six days later the ligatures fell out, and another violent arterial haemorrhage occurred. As the blood appeared to come from the foramen palatinum, arrest of the bleeding was attempted by plugging the foramen with a wooden peg. But this also failed, and the bleeding did not cease till continuous pressure had been exerted on the bleeding point with iodoform gauze, which was kept in the mouth for some days. When it fell out the ulcer was clean, and the bleeding did not recur. The ulcer healed rapidly, except for two small openings of the size of a pin's head. They communicated with the nose, for liquids escaped by the nose when the patient drank. This communication was soon broken by the discharge of a small sequestrum and the formation of scar tissue over the site of the ulcer. But though the ulcer healed, complete anaesthesia over the area supplied by the left superior palatine nerves continued for several weeks, and even after six months pin-pricks stimulated the sense of touch, but not that of pain. Discussing the cause of this condition, the author excludes the presence of living organisms in the solution at the time of injection, for he had boiled it just before. He also excludes the possibility of any considerable decomposition of the drug during the weeks after it was dissolved, for its anaesthetic properties were retained. He considers that the solution may have become infected with organisms which, though destroyed by boiling, may have formed resistant toxins. He injected 5 c.cm. of the solution into his forearm, in which extensive oedema and tissue necrosis appeared and persisted for several weeks. He now uses only freshly made solutions of novocain.

53. Primary Chancre of Gums.

IN the current number of the *Bull. de la Soc. Française* (No. 5, 1913) are reports of two of these very rare cases, the first from the pen of Dr. CHOMPRET, the other from the THIBIERGE clinic. The first is a drayman of 45, whose past history, apart from alcoholism, is free from any likely etiological factor in the present condition. For five weeks he had felt pain in his left superior maxilla at the level of the lateral incisor tooth. About this time he noticed a small greyish fungating ulcer round the neck of the tooth, a lesion which in ten days' time had reached the size of a franc piece and had considerably increased in depth, so that on the day of admission the periosteum had been completely stripped off in this area, exposing a circular disc of necrosed bone. The collar of induration surrounding it was in strong contrast to the soft gingival tissue in the neighbourhood, and the subjacent three teeth (two incisors and the canine) showed evidence of mortification secondary to the maxillary destruction. The adjacent palatal surface was tender on palpation, somewhat discoloured and swollen, and doubtless in process of a similar necrotic involvement. In the absence of a history of all predisposing causes of such conditions—for example, influenza, typhoid fever, tuberculosis, and tertiary syphilis—and an examination for the presence of diabetes, tabes and general paralysis of the insane having proved negative, the author was inclined to hypothesize a local cause, and had the ulcer examined for luetic spirochaetes. At the same time the Wassermann reaction was tested. Both examinations proved positive, and a few days later a papular and varicelliform syphilide developed on the patient's back. Thibierge's patient was an old cook aged 74. He came to the hospital with a florid roseolar eruption and typical enlarged glands. Especially marked were these in the right submaxillary triangle, and their cause was clearly evident on examining the mouth. Here on the gum, above the right superolateral incisor tooth, was an irregular semilunar ulcer, its lower margin actually touching the neck of the tooth. It was of a reddish hue and ecchymotic in places. The ulcer had appeared on March 1st and the roseola on April 10th. The patient affirmed that since January 16th there had been no sexual possibilities of infection. He had, however, been in the habit of picking his teeth with anything that happened to be handy—pins, pieces of wood, and such like—and the ulcer had started in a situation where food and tartar had always been apt to lodge. The chancre had almost completely cicatrized by April 28th, ten days after an injection of salvarsan.

54. Lymphangioplasty.

PARKER SYMS (*Annals of Surgery*, vol. lvii, No. 6, June, 1913) reviews the literature upon this operation since Handley's original proposition in 1908, and reports two instances in his own practice where the procedure was undertaken respectively for brawny arm and ascites due to cirrhosis of the liver. The author finds that the operation has been performed in 20 reported cases of brawny arm, in 17 cases of elephantiasis, in 3 cases of chronic oedema of the leg, in 3 cases of solid oedema of the face and eyelids, and in 10 cases of ascites. Lymphangioplasty, undertaken for brawny arm secondary to amputation of the mamma for carcinoma, appears to be successful in about half of the recorded cases, as far as reduction in the amount of swelling is concerned. On no occasion, however, did the arm return to its natural size. With regard to elephantiasis, the operation has failed to establish its position: 17 cases have been recorded, and these represent as many failures. In elephantiasis of the lower extremities, the rapid disappearance of swelling that occurs within forty-eight hours after the operation is but temporary, and as soon as the patient commences to walk the oedema invariably returns. This is not only the result of gravity as suggested by Handley, but is a failure on the part of the threads to establish permanent lymphatic channels. This has been conclusively proved by the experiments of Madden, Ibrahim, and Fergusson. These authors have investigated the fate of the buried silk threads, both in healthy patients and in tissues, the seat of elephantiasis, and also following experimental lympangioplasty in healthy guinea-pigs. They find that the threads drain the surrounding tissues of the lymph for a short time only, and this by virtue of their capillary action. A definite cellular reaction is excited which, in from fourteen to twenty-one days, leads to the formation of dense and progressively contracting fibrous tissue. The thread is thus walled off, and adjacent lymphatics are so crushed as to be functionless. At a later period the thread is penetrated by cells, and eventually replaced by a solid column of fibrous tissue. Success is claimed for the operation in the case of three examples of chronic oedema of the leg not of the nature of elephantiasis. It was also successful in 3 cases of chronic oedema of the face and eyelids. Syms believes that lymphangioplasty will find its sphere of greatest usefulness in cases of ascites due to cirrhosis of the liver. It should be combined with omentopexy, preferably by Narath's method.

55. Meckel's Diverticulum and its Complications.

BRENNECKE (*Surg., Gynaec., and Obstet.*, vol. xvi, No. 2) in a short paper reviews the natural history and complications of Meckel's diverticulum, and gives details of five cases that have recently come under his observation. The symptomatology of the first case suggested appendicitis, and at operation the diverticulum was found to contain

faecal matter and gas. In the second case the diverticulum caused a volvulus. The patient was a boy aged 6 years, and the acute onset of symptoms followed wrestling with his companions. Cases three and four formed examples of invagination of the diverticulum with intussusception. The one occurred in a child of 5 years, and the other in a baby of 9 months old. The fifth case occurred in a male aged 25, who had suffered from several attacks of abdominal pain with bloody stools since the age of 17. At operation a Meckel's diverticulum, 2 in. long, was found about 18 in. above the ileo-caecal valve. It showed no inflammatory changes and was quite free, but was filled with dark blood. The mucosa of the same was hypertrophic, tough, white, and elastic. A well-marked Lane's kink occurred in the bowel 3 in. above the ileo-caecal valve. This was treated by dissecting away the dense Jackson's membrane which supported the kink.

OBSTETRICS.

56. Menstrual Molimina.

CATHERINE CHISHOLM (*Journ. of Obstet. and Gyn. of the British Empire*, May, 1913) has conducted an inquiry into the nature and extent of menstrual disturbance in girlhood, analysing the records of 500 girls of the middle class who had commenced menstrual life. She finds that the majority of girls commence menstruation painlessly. A number have discomfort, some occasionally, some regularly for a time varying from one hour to two days just before and with the commencement of the menstrual period. This discomfort is often slight in character. A few have more severe pain, either regularly or occasionally. A very small number, that is, 1.8 per cent. are incapacitated. A small number, that is, 1.2 per cent., have discomfort or pain for a longer period than one or two days during the whole time of menstruation. The discomfort in girls is most frequently local in character, and when there is serious general disturbance it is accompanied by severe local pain, and probably proceeds from some local abnormality, congenital or acquired. The best developed girls appear less likely to have menstrual disturbance, and this freedom from discomfort is not affected by hard mental work carried on under healthy conditions.

GYNAECOLOGY.

57. Uterine Haemorrhage in the Newborn.

A. JUDA (*Med. Klin.*, April 13th, 1913) records two cases of uterine haemorrhage in infants less than a week old. In both cases the haemorrhage was moderate in amount, lasted only a few days, and did not recur. The absence of any periodic haemorrhage in these cases excludes the diagnosis of *menstruatio praecox*. In the first case the mother was a primipara, aged 22, whose labour was normal. The infant, whose development was also normal, was breast fed. The urine and faeces presented no abnormality. On the sixth day blood oozed from the vulva as the infant was being bathed, and the haemorrhage persisted after she had been put to bed. The blood was seen to escape from the vagina, while neither the urine nor faeces were tinged with blood or mucus. Gelatine was prescribed by the mouth, chiefly *causâ solaminis*, and the haemorrhage was less on the sixth day, and had ceased on the seventh. In the second case the mother was also a primipara, aged 33, whose labour was rapid and easy. The child weighed only 5½ lb., but was otherwise normally developed. When the vulva was first washed a plug of mucus was removed, and during the first few days clear, watery mucus was discharged from the genitals. The child was breast-fed, and the urine and faeces were normal. On the fifth day bright blood escaped from the vagina. The haemorrhage ceased on the seventh day, after treatment with gelatine. The frequency with which metrorrhagia occurs among newborn children has been estimated at 0.35 per cent by Shukowsky, who found it in 35 out of 10,000 newborn female infants. Other writers have estimated the incidence somewhat higher, and Lequex and Marioton put it at 0.61 per cent. The etiology of the condition is still obscure. Some writers assume an excess of blood in the body owing to the division of the umbilical cord having been deferred till more than the usual amount of blood had escaped from the mother to the child. This view the author discredits. Others associate the haemorrhage with intestinal disturbances, but this association, according to the author, is of little significance. He also discredits the view that the haemorrhage is an expression of a haemophilic diathesis, and he prefers the theory advanced by Zappert and Halban, who find that the reproductive organs of the child *in utero* are influenced by the internal secretion of the placenta, and that abnormalities of this function of the placenta are responsible for infantile uterine haemorrhage in the first week of extrauterine life.

THERAPEUTICS.

58. The Treatment of Epithelioma.

RAVOGLI (*Amer. Journ. of Surgery*, May, 1913), starting from the base that epithelioma is a local affection remaining on the locality for years without producing any apparent infection, considers the local treatment by chemio-therapeutic means for the destruction of the growth. Previous investigations with formaldehyde had shown it to act as a powerful parasiticide, the epithelial cells becoming dry, losing their keratine and falling off necrotized, and since 1899 local applications of formalin have produced very satisfactory results. Further observations showed that pure lysol had a beneficial action on lupus, etc., due to the coagulation of the serum in the connective tissue elements and in the plasma cells which form the body of the tuberculous tissues, and are found also around the cancerous growths. By mixing the two remedies in equal parts—formalin to destroy the parasitic elements and disorganize the epithelial infiltrating cells and lysol to affect the hypertrophic connective tissues surrounding the epithelial cells—satisfactory results were obtained, especially when perchloride of iron was also added to stop the bleeding. The formula for the mixture, which has to be prepared at the time of using, is: Formaldehyde 2 parts, lysol 2 parts, ferric perchloride 1 part, and this forms a thick greenish mixture which can be applied on a piece of cotton twisted on an applicator, care being taken that the fluid does not splash on to healthy skin, and also when operating near the eyes, nose, or mouth that these parts are protected with gauze to prevent irritation from the fumes of formaldehyde. The surface of the epithelioma having been previously thoroughly washed with green soap and water, and all crusts and secretions removed, a 5 per cent. solution of cocaine is applied. The epithelioma is then scraped off with a sharp curette until the surface of the wound is felt to be perfectly smooth, care being taken to remove every hard particle at the edges. After another application of cocaine for two or three minutes the surface is dried, and a tampon saturated with the above mixture is applied for about five minutes, the time varying with the depth and extent of the growth, five minutes being usually sufficient to destroy all the remaining infiltration. The surface is then washed with alcohol, which removes the mixture and relieves the burning sensation, and on the following day there is an abundant yellowish necrotic mass covering it, which after eight to fourteen days sloughs off gradually from the periphery towards the centre while the surface is healing. There is no formation of pus, the secretion being due to serum mixed with detritus of the necrotic tissues. Occasionally, as a precautionary measure, the application is repeated at the end of ten days, until the surface has perfectly healed. The wound can be dressed with ichthyol and unguentum diachylon Hebrae, in equal parts, spread on gauze. When, however, the disease affects loose, subcutaneous tissues with lymphatic involvement, a radical surgical operation is the only line of treatment. The author states that the above mixture, which is cheap and effective, has given good results in cases of epithelioma and incipient cutaneous carcinoma, being equal, if not superior to, other physical expensive means.

59. Salvarsan in Bacterial Infections.

K. BIERBAUM (*Deut. med. Woch.*, October 24th, 1912) has experimented with salvarsan in the treatment of anthrax and erysipelas infections. In regard to the first-named, when the infection (in guinea-pigs) was undertaken simultaneously with the injection of salvarsan, no illness followed. The results were less good when two to four hours elapsed between the infection and the treatment. A few animals were saved after two hours, but this was not the case after four hours. Some highly virulent strains of anthrax bacilli proved resistant to the effect of salvarsan. Combined treatment with salvarsan and Ascoli's anti-anthrax serum gave better results than with either of

these remedies alone. In regard to erysipelas, mice were infected and treated by subcutaneous and intravenous injections simultaneously. The latter mode of treatment proved the more powerful. Even if the treatment is delayed for twenty-four hours the infection can be checked provided that the salvarsan is repeated. The author suggests that the view expressed by Friedberger and others that salvarsan is capable of raising the general antibody formation of the organism may account for the favourable results. While the therapeutic value in the case of erysipelas is not great, since Lorenz's serum is a reliable method of treatment, he considers that these experiments are important in so far as the possibilities for other forms of bacterial infections are concerned.

60. Treatment of Rhinophyma by Radium.

Degrais (*Arch. d'électr. méd.*, May 25th, 1913) describes some successful results obtained with radium in rhinophyma. This condition of irregular hypertrophy of the nose is characterized from the anatomo-pathological point of view by (1) an inflammation in the sebaceous glands, with dilatation of the walls of the vessels, and (2) sclerosis of the derma, with the formation of lymphatic lacunae covered with endothelial cells. Leloir and Vidal distinguish two varieties of rhinophyma, according to the predominance of one or other of these anatomo-pathological characteristics, the one a glandular variety in which the glands are voluminous, and the other an elephantiac variety, in which dermic sclerosis with vascular dilatation predominates. Of the three cases cited by the author, two were of the former type, and the remaining one of the latter. In the glandular cases the abnormal secretion diminished little by little under the influence of the radium, the size of the nose being similarly reduced, and in the other case also the congestive phenomena gradually disappeared, and the hypertrophied tissues sank down. The technique was as follows: Radium applied for forty-eight hours, divided into four nights of twelve hours each. The apparatus of 4 sq. cm. contained 1 cg. of pure radium sulphate with 3 cg. of barium sulphate, the radiation being filtered by traversing 2 mm. of lead. The applications were made on the sides of the nose by the Wickham's "cross-fire" method, four series of radiations being given at six weeks' intervals.

61. Antityphoid Vaccine.

Hunt (*Amer. Journ. of Med. Sciences*, June, 1913) records observations upon the use of vaccine during an epidemic of typhoid fever which was entirely waterborne from pollution by a typhoid carrier, the water being probably continuously polluted from September 15th to October 14th, 1912, with two periods of maximum pollution immediately subsequent to heavy rainfalls following droughts; 1,343 persons were exposed to infection from this source, 229 cases developing, 4 of which were secondary. A mixed vaccine was used from strains in use in the United States Army laboratories, and the inoculations were given every nine or ten days. Of the 1,343 persons exposed to infection, 761 (56.56 per cent.) received inoculations, while 582 (43.32 per cent.) were not vaccinated. After deducting 127 persons already sick, 62.5 per cent. of those exposed, but apparently well at the time of the first inoculation, received vaccine. The ages of those vaccinated ranged from 1½ to 79 years, but the greatest number were between 15 and 35, while the predominant age in relation to the morbidity was between 5 and 20. Prior to this epidemic the community had always been typhoid-free, and acute bacillary disease of the intestinal tract was relatively unknown. Of those vaccinated, 373 (49.2 per cent.) were males and 388 (50.8 per cent.) were females. Of all persons who remained well up to and including the date of the first inoculation, 4.86 per cent. of the vaccinated and 14.28 per cent. of the unvaccinated developed the disease. Analysis of 19 vaccinated cases showed that the onset was prolonged, and the type of temperature was unaltered, the average duration was four weeks, and relapses occurred in 6 cases (31.5 per cent.). Of complications, 5 cases were markedly delirious, 2 cases developed acute nephritis, 3 haemorrhage, 2 thrombosis and phlebitis, and 1 lobar pneumonia, and there was 1 death, a mortality of 0.27 per cent., as contrasted with 17 deaths among the unvaccinated, a mortality of 8.85 per cent., the case mortality for the entire epidemic being 8.29 per cent. Probably other factors were of importance in determining the value of vaccine—namely, the time, degree, and continuance of pollution, and the problems of susceptibility of the exposed and the virulence of the organisms, so that too much value must not be placed upon the use of vaccine until these factors have been considered. From the studies in this epidemic antityphoid vaccine seemed to have little value in limiting the number of cases, and in modifying the process in the individual case. Since antityphoid serum confers relatively more immediate and fairly strong immunity a serum might be of some advantage during such an epidemic, the use of vaccine being limited to those not already infected to prevent secondary cases.

PATHOLOGY.

62. The Absorption of Sodium Salicylate.

E. Levin (*Deut. med. Woch.*, No. 51, 1912) has examined the condition of absorption of sodium salicylate in goats in order to determine the optimum mode of its application. The goats were given lethal doses either subcutaneously, intramuscularly, or by the mouth, and the salicylate content of the blood was determined at intervals up to twenty-two hours after the dose. The blood samples were mixed with 5 c.cm. of a 10 per cent. dilution of sulphuric acid and 50 grams of ether. This mixture was shaken at intervals for three days, after which he satisfied himself that all the sodium salicylate contained in the 10 c.cm. of serum was converted into salicylic acid and taken up into the ether; 20 c.cm. of the ether extract was then mixed with 10 c.cm. of a 96 per cent. alcohol, and evaporated over a water-bath until all the ether was driven off. The residue was then made up to 10 c.cm. with distilled water and transferred to numbered test tubes. The test applied was the perchloride of iron test, a standard colour equal to 0.1 mg. of salicylic acid in an excess of iron chloride being used. It appears from the experiments that after subcutaneous injection, 0.05 mg. of ac. salicylic was found per c.cm. after fifteen minutes; this quantity increased rapidly up to 0.556 mg. in four hours, and remained at about this level until the twenty-second hour, when death took place. The dose given was 50 grams. In a series of cases in which 25 grams of sodium salicylate were given, the maximum salicylic content of the blood was reached between one and four hours, while the rate of disappearance was rapid, and non-measurable quantities only were found after thirty-two hours. Intramuscular injections revealed about twice the quantity as compared with subcutaneous or oral ingestion. The disappearance took place most rapidly after subcutaneous injection. The author proposed to communicate the results of his experiments in regard to salicylate concentration and the content of the excretions and secretions at a later period.

63. Bacteriology of Tonsillar Affections.

During recent years the idea that the streptococci which require haemoglobin for artificial culture and which act lytically on the pigment possess much greater pathogenic qualities than non-haemolytic streptococci has gained marked support, especially from gynaecologists. F. Henke and H. Richter (*Berl. klin. Woch.*, October 7th, 1912) have investigated this question in connexion with the bacteria found in the tonsils under normal and pathological conditions. They state that the normal tonsil frequently harbours both haemolytic and non-haemolytic streptococci. This therefore throws some doubt on the sharp distinction between these groups in respect to pathogenicity. Their studies, however, go much farther, and show distinctly that non-haemolytic streptococci may be distinctly pathogenic and virulent. Both groups may give rise to mild and severe tonsillites and peritonsillar affections, and may lead to fatal general infections. They have met with 15 lethal infections of this kind due to non-haemolytic streptococci. Zangemeister believed that the non-haemolytic cocci living normally in the mouth could at any given time find their way into wounds, take on the quality of haemolytic germs, and set up a dangerous infection. This they have disproved. Phlegmonous peritonsillitis is usually caused by streptococci, but after the process has lasted for some time it has been found that staphylococci may infect secondarily, and by overgrowing the primary microbes turn them out. These cases are at times caused by the haemolytic and at times by the non-haemolytic streptococci, and no clinical difference could be detected between the two groups of cases. The authors especially state that in their careful observations and experiments no connexion could be discovered between the haemolytic character of the cocci and the severity of the infection.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

64. Persistent High Blood Pressure and Renal Disease.

On a basis of 550 cases, in all of which the blood pressure was 140 mm. of mercury or more, Y. Fischer (*Deut. Archiv f. klin. Med.*, vol. 109, Parts 5 and 6, 1913) contends that persistent high blood pressure is more often due to renal disease than has hitherto been admitted. He discredits the common view that, in the absence of clinical signs of nephritis, every case of persistent high blood pressure is due to arterio-sclerosis; and he quotes recent investigations which have shown that even advanced arterio-sclerosis may exist without hypertrophy of the heart or high blood pressure. He uses Riva-Rocci's apparatus with Recklinghausen's cuff; and measures the blood pressure when the patients are in bed, and are not subject to such factors as bodily and mental activity. Of the 550 patients, 62.3 per cent. showed unmistakable signs of nephritis, 14.5 per cent. probably had nephritis, for they exhibited such suspicious conditions as transitory albuminuria; and 23 per cent. showed no clinical sign of nephritis. A necropsy was made in 42 cases, in 28 of which there had been clinical signs of nephritis. In most of these cases the kidneys were granular to the naked eye, and in every case the microscopic examination revealed nephritis. In some cases the lesions were very slight, and were limited to changes in the tubules, or to scattered circumscribed foci of fatty degeneration in the renal epithelium. But no relation between the severity of the clinical manifestations and the extent of the lesions of the kidneys was demonstrable. Of the remaining 14 cases, in which no sign of nephritis had been demonstrable during life, 7 showed advanced diffuse nephritis, and 7 showed punctate areas in which definite nephritis existed. In every case, therefore, of high blood pressure in which a necropsy was performed, nephritis was found. Discussing the morbid anatomy of the glomeruli, the author comments on the difficulty of recognizing pathological changes in this portion of the kidney, and he thinks that in the past even severe glomerular nephritis has often been overlooked. He therefore holds that records of cases of high blood pressure in which no disease or only slight disease of the kidneys was detected *post mortem* are misleading, and he cites Schlayer's investigations of the functions of the kidneys. Though in some cases these were much impaired, yet at the subsequent necropsies the kidneys showed only insignificant and scattered foci of nephritis. Three hundred of the author's patients had a blood pressure of 160 mm. or more. In 80 per cent. of these there was definite clinical evidence of nephritis, in 16.3 per cent. the clinical signs of nephritis were doubtful, and in only 3.6 per cent. was there no medical evidence of nephritis. In other words, the higher the blood pressure the greater the frequency of clinically demonstrable nephritis.

65. Carbon Monoxide Poisoning.

O'Malley (*Amer. Journ. of Med. Sci.*, June, 1913) records a psychosis following carbon monoxide poisoning, the patient suffering from severe intoxication, developing mental symptoms a month later, and terminating in complete recovery. A woman, aged 45, was found in deep coma after sleeping in a room with escaping gas, and she remained unconscious for four days. At the end of eleven days she had recovered from the effects of the poisoning, and was discharged from hospital, returning a fortnight later to her work as domestic servant apparently quite well. Her fellow servants, however, soon noticed that she was becoming dull and forgetful in her duties, necessitating her return to friends, where a week later her actions became peculiar, movements awkward, and memory a complete blank, and eventually she was unable to attend to her personal wants, becoming very untidy and restless, finally passing into a state of confusion necessitating return to hospital, thirty-eight days after the original poisoning. Questions were readily but incorrectly answered, and were accompanied by silly laughter. Dementia was only apparent, there being lack of power of attention and concentration, which prevented intelligent and reliable conversation. It was impossible to ascertain from inquiries to what extent her memory was impaired after the acute effect of the poisoning had worn off. When she began to regain consciousness she had a complete retrograde amnesia, but after several weeks she showed anterograde amnesia only—that is, from the time of the accident and subsequent thereto. She was able to recall the details of her life the day before the accident, but she could not recall any events occurring from that time (evening of November 2nd) until the middle of February. The case was a pure and simple intoxication uncomplicated by any neurological factor, there being no inherited predisposition and no deviation from the normal mentally prior to the accident; she was in no way emotional, having an even temperament and being intelligent for her class, and there was no suggestion of suicide. The active mental symptoms abated in March, four months after the poisoning, but she was not discharged until one month later, since when she had remained in good mental and physical health.

66. The Detection of Mercury in Urine.

Mercury is excreted through the urine and also through the faeces. The amount found in the urine after medication with one or other preparation of mercury is very small, but the excretion is extended over a considerable time. It is therefore necessary, in order to determine the extent and duration of the excretion, to have recourse to a method which is very delicate and in which the experimental error is small. J. Abelin recommends a method which Salkowski has recently introduced (*Muench. med. Woch.*, August 13th, 1912). This is carried out by concentrating the urine with hydrochloric acid and oxidizing the concentrated fluid with hydrochloric acid and potassium chlorate. The mercuric chloride thus formed can be extracted with alcohol, and purified by alternate dissolving and extracting. The mercury is then deposited on a strip of electrolytic copper. After about four or five hours the amalgamated copper and mercury is removed, washed in distilled water, dried in ether and alcohol, and placed in a dry test tube. The tube is then gently heated at the lower end, when the mercury is sublimed and is condensed on the glass higher up in the test tube. In very small traces it remains invisible, but if a trace of iodine is dropped in the tube and warmed, the iodine vapour passing over the mercury forms the red iodide of mercury, which can be detected and roughly estimated by the size of the band produced. Abelin cites some cases to show that minute quantities which cannot be detected by Fürbringer's method yield a very distinct reaction in this manner. He estimates that the daily amount excreted after inunction is about 2 mg. pro die, and between 2 and 4 mg. when calomel or mercury perchloride is injected. The quantity contained in 500 c.cm. of urine, representing about one-fifth of the daily quantity, cannot therefore have been more than $\frac{1}{2}$ mg.

67. Albumin Metabolism in Certain Dermatoses.

Neiditsch (*Archiv f. Derm u. Syph.*, March, 1913) gives many tables and much tabulated information proving the detailed labour involved in this work; he frankly states in his conclusions that his results were practically negative, for neither in psoriasis, ichthyosis, nor eczema, etc., could be found any sort of constant relation between the disease examined and the amount of amino acids present in the urine. In a case of chronic recurrent urticaria, on the other hand, there was found to be an excess and increase of the amino acids running a course identical and parallel with the renewed outbreaks of the dermatosis.

68. The Rumpel-Lerde Test in Scarlet Fever.

This test consists in the production of petechiae at the fold of the elbow after the application of an elastic ligature to the forearm. Caffarena (*La Pediatria*, February 28th, 1913) has given it a full trial in cases of scarlet fever, measles, diphtheria, typhoid, varicella, pertussis, etc., and is convinced that it is a valuable aid to diagnosis in scarlet fever. It is not that one does not get petechiae in some of the other diseases, but that they appear much more readily, more constantly, and more definitely in scarlet fever. It appears to have some more or less direct relation to the presence of the rash, for in cases of scarlatina tested at various periods of the disease, it always appeared more readily whilst the rash was out than in later periods. When it appeared in measles the appearance was much

later in coming on, and the petechiae were grouped differently, more like the grouping of measles than that of scarlet fever. In diphtheria it only appeared with difficulty and after long stasis. In the author's experience, in scarlet fever the petechiae appeared within half a minute of the application of the ligature; moreover, it never failed to appear in scarlet fever cases. He has not had any opportunity to apply the test in scarlatinal sore throat without exanthem; possibly it might fail there, as it is so closely associated with the appearance of the rash.

SURGERY.

69. Tabetic Fracture of the Calcaneum and Patella.

Two rare cases of spontaneous fracture of small bones due to tabes are recorded by J. SCHLEINZER (*Wien. med. Woch.*, May 17th, 1913). A man, aged 48, had contracted syphilis ten years earlier. During the past seven years he had suffered from pain in the legs, which was worst in bad weather and troublesome at night. After prolonged and tiring exertion one day, he suddenly noticed slight pain in both legs and the left foot, and a few days later the left heel was considerably swollen. But this caused little discomfort, and he could walk without much difficulty. Three months later the following conditions were observed: Myosis, the left pupil being smaller than the right. Reaction to accommodation, but no reaction to light by the left pupil, and slight reaction by the right. Outward movement of the right eye on convergence. Diminution of the corneal reflex, and optic atrophy. There was marked hypaesthesia in the premammillary region, and at the same level behind on the right side. The right cremasteric reflex, the patellar and Achilles reflexes were absent, but there was no ataxia, and the patient's gait was normal. From the junction of the middle with the lower third of the tibia downwards, the left leg was much thickened, and the skin pigmented. The swelling was greatest at the attachment of the tendo Achillis, and there was a moderate degree of flat-foot. A skiagram showed detachment of the tuberosity of the calcaneum from the body of the bone. The detached portion was about 1 cm. wide, and was displaced upwards and backwards. The contour of the bones was sharply outlined, but along the tendo Achillis, for a distance of 6 cm., were several ill-defined shadows of bony tissue. Similar shadows indicating irregular ossification were seen between the two portions of the calcaneum. A plaster-of-Paris bandage was applied, and the patient was able to walk with a slight limp. During the following observation period there was little change in the local condition apart from progressive ossification in the tendo Achillis. The author can find no other record of isolated tabetic fracture of the calcaneum. A fishmonger, aged 51, fell, hurting his right foot, which remained swollen, from the ankle almost to the knee, for about one year. The foot remained weak, and his gait was impaired for two years, during which he occasionally felt a grating sensation in the knee-joint. After stooping down to pick up an object, he suddenly felt something snap, and could not raise himself again. His pupils were unequal, and there was but slight reaction to light, while reaction to accommodation was prompt. Both optic nerves were pale. The reflexes were present with the exception of the patellar reflexes, and there was no ataxia of the upper limbs. The lower limbs showed slight ataxia, and Romberg's sign was present. The muscles of the right leg were flabby and slightly atrophied, so that the swelling of the right knee as compared with the left was prominent. The right patella was transversely fractured, and there was a gap of 2 cm. between the fragments. This displacement, and the extensive swelling of the extensor aspect of the knee-joint, showed that the lateral attachments must also have given way. The skin over the fracture was normal. On account of the tabes, no operation was attempted, and a plaster-of-Paris splint was applied. Two months later the swelling had subsided, but there was otherwise no change. The author can find records of only three other cases of tabetic fracture of the patella.

70. Nitrous Oxide-Oxygen Anaesthesia.

SOUTHGATE LEIGH (*American Journal of Surgery*, vol. xxvii, No. 6, June, 1913) narrates further experiences in the administration of nitrous oxide–oxygen anaesthesia, and he regards it as undoubtedly the anaesthetic of choice for all surgical work. In conjunction with Culpepper he has employed the method in 1,500 cases without a single fatality or post-operative complication. These included all varieties of surgical and gynaecological operations, and in several instances chloroform or ether were absolutely contraindicated. The ages of the patients varied from a few months to 80 years, and the anaesthetic was used in the longest operations, even up to an hour and a half. Blood pressure was not affected, and shock appeared to be much less than with ether or chloroform. The author employs the rebreathing method advocated by Gatch, using a fresh mixture every two to four minutes. The apparatus is simple, and consists of a mixing chamber with bag below, and communicating with two nitrous oxide and one oxygen cylinder. A large tube conveys the mixed gases to the inhaler from which air is effectually excluded. The advantages of the anaesthetic are many. It is essentially time-saving, the administration being commenced coincidently with the final preparation of the skin. There is no irritating effect on the respiratory tract, no sense of suffocation by the patient, the depressing effects of chloroform are absent, and the effect is prompt. Recovery from anaesthesia is just as rapid. Nitrous oxide–oxygen is undoubtedly difficult to administer in a satisfactory and systematic manner, and this appears to be the reason that the method is not universally employed. In order to obtain complete relaxation without any cyanosis, considerable practice and experience are required. As soon as the necessary technique has been acquired, however, this method of anaesthesia is in the opinion of the author without doubt the safest and best.

71. Richter's Hernia into the Funicular Process.

DEL VALLE (*Semana Medica*, Buenos Aires, August 8th, 1912) describes a case of Richter's hernia in the inguinal canal. This condition is rare, for the inguinal canal seldom presents the abnormalities essential to this form of hernia—namely, a narrow, fibrous, inelastic, and almost undilatable orifice which favours the nipping of a portion of the lumen of the entering bowel. This form of hernia is therefore less rare in the femoral, umbilical, and obturator regions. The inguinal canal may, however, provide the characteristic narrow fibrous ring in the case of a congenital hernia with unobliterated funicular process. Ramonede has pointed out that the obliteration of the funicular process does not take place in its entire length, but always commences at four definite points. These points are situated at the peritoneal orifice of the inguinal canal, at its scrotal orifice, at the mid-point of the vaginal process, and, lastly, at the situation at which the cavity of the tunica vaginalis should commence. The fibrous rings produced at any of these points by incomplete obliteration present the typical conditions required for the production of a Richter's hernia. The author's patient, a man aged 30, in good health, was seized suddenly, while at work, with acute pain which was referred to the region of the appendix and was followed by vomiting. The pain passed off, but recurred an hour later, and the patient observed that his right testicle appeared swollen. On his admission to hospital, twelve hours after the onset of symptoms, the man's abdomen was uniformly slightly distended. In the scrotum, on the right side, was a smooth, slightly tender swelling over which the skin was not adherent, and there was no redness or oedema. The swelling was dull to percussion, opaque, and freely movable, closely resembling a vaginal hydrocele. Manipulation caused abdominal pain, nausea, and hiccough. The external ring was much dilated, readily admitting the finger; the inguinal canal was blocked. When the patient coughed the anterior wall of the canal bulged, and bowel could be felt and seen to descend into the scrotum, whence it could be returned to the abdomen with the characteristic gurgle. The bowels had acted naturally on the morning of admission, and the man passed flatus while in the ward. A diagnosis was made of cystic tumour of the scrotum with inguino-scrotal hernia and (?) partial intestinal obstruction. At operation the patency of the inguinal rings was confirmed. A sac was separated with difficulty from the structures of the cord, and appeared to be adherent to the testicle below. This sac contained a loop of bowel, the extreme apex of which was tightly constricted by a fibrous ring at the bottom of the sac. Division of this fibrous ring was followed by the escape of blood-stained fluid, and the loop of bowel could now be withdrawn. There was a small area of necrosis on the free border of the gut, with some ecchymosis and haemorrhagic infarction. The necrotic area was invaginated by a Lembert suture, the operation of radical cure was performed, and the man made a good recovery. In this case the unobliterated funicular process showed only two fibrous diaphragms. One at the level of the internal ring which had allowed the passage of the

bowel, and the second, at which the partial strangulation had taken place, at the level of the upper pole of the testicle. The writer lays stress on the difficulty of distinguishing this condition from other abdominal or testicular lesions. The clinical picture is very misleading, owing to the absence of very severe symptoms from the only partial nature of the strangulation, to the patent condition of the external ring, and to the associated distension of the tunica vaginalis by fluid transuded from the bowel. Immediate operation is called for, since the above case proves that necrosis may take place within twelve hours.

OBSTETRICS.

72. Pyo-ovarium Post Partum.

A CASE of suppurating ovary following parturition is recorded by K. H. ÖHMAN (*Finska Lækarcsellskapets Handlingar*, April, 1913). The patient, who had suffered for a long time from leucorrhoea, was 31 years old. She married early in 1912, and gave birth to a mature stillborn child in July of the same year. A week after labour, which lasted forty-eight hours and terminated normally, rigors and high fever occurred, which kept the patient in bed for eight weeks. Pain, which began in the right abdomen immediately after the completion of labour, became steadily worse, till she had to go to bed six months later. At this stage menstruation had not recurred, and there was no haemorrhage from the uterus. There was some leucorrhoea, but there were no abnormalities of micturition or defaecation. A slightly movable and somewhat tender swelling of the size of a goose's egg was found to the left of the uterus on bimanual examination. The pulse and temperature were normal. A laparotomy showed the left ovary to be as large as a goose's egg and adherent to the Fallopian tube, the omentum, and the small intestine. The ovary and tube were removed, and the patient recovered. On section the ovary showed an abscess cavity, of the size of a hen's egg, containing thick pus. The stroma of the ovary had almost disappeared, and measured only 1 cm. at its broadest. Several small abscesses were scattered throughout its substance. The left tube was normal except for slight thickening. The microscopic examination of the stroma showed great proliferation of connective tissue and small cells, but no Graafian follicles. The small cells surrounding the abscess cavity proved to be plasma cells by their reaction to special stains. Similar cells were also found partially disintegrated in the pus. Throughout the sections a great number of eosinophile leucocytes were found. Although a pure culture of streptococci was obtained from this abscess, the author considers that the original infection was gonococcal, for the prolonged leucorrhoea, the plasma cells in the wall of the abscess, and the numerous eosinophile leucocytes were all suggestive of gonorrhoea. Presumably this infection paved the way for a streptococcal infection during labour. Though no lutein cells were found, the abscess may yet have been lutein, and lutein cells at first present in the pus may have disintegrated before the ovary was examined. The author regards the corpus luteum as a weak point in the ovary and favourable to abscess formation.

GYNAECOLOGY.

73. Ultimate Results of Operations for Retroflexion of Uterus.

IN the period 1903 to 1909, KARL EWALD (*Wien. med. Woch.*, May 17th, 1913) performed 47 operations for retroflexion of the uterus. The results were investigated a year or more afterwards, and the conclusion drawn was that ventrifixation of the round ligaments, as described by Doléris and performed by the author in 23 cases, is superior to shortening of the round ligaments as described by Alexander Adams and performed by the author in 14 cases. Several other operations, such as vagino-fixation of the ligaments, were also practised, but were not satisfactory. The results of fixing the round ligaments in the inguinal canal were satisfactory in 5 cases. In one case the uterus fell back after a year; it did not, however, cause any subjective discomfort. In a second case improvement lasted only two months. In a third case improvement was only partial. In a fourth case pain in the back returned after a year, although the retroflexion did not recur. In a fifth case, possibly tuberculous, the operation gave no relief. In a sixth case improvement lasted only three months. In a seventh case the round ligaments were found too fragile to be pulled on so as to correct the uterine displacement, and other measures were therefore adopted. Satisfactory information as to the remaining two cases is not forthcoming. The author is dissatisfied with the operation, which he has seldom performed of late. Throughout the operation the uterus is invisible, and whether it has been satisfactorily readjusted or not can only be ascertained after the operation. Sometimes it is impossible to pull hard enough on weak ligaments to reduce the retroflexion, and sometimes they are so badly developed that they cannot be found without opening the abdominal cavity. The wound in the inguinal region is also more liable to infection than a laparotomy. The author therefore prefers ventrifixation of the ligaments after laparotomy, which gives a clear view of the uterus and its appendages and enables the operator to separate adhesions and perform other accessory operations when necessary. He combines this operation with appendicectomy, whether the appendix be healthy or not. Seven patients thus treated could not be traced. In 10 other patients subsequent examination showed that the correction of the displacement was satisfactorily maintained. Of these, 7 were also subjectively well, while 2 suffered from symptoms due to disease of the uterine appendages, and 1 suffered from occasional backache, due apparently to tension on the sacro-uterine ligaments. The remaining 6 patients were not examined, but reports on their condition showed that the symptoms continued, in one case complicated by neurasthenia and gastric disease. In a second case there was slight dysmenorrhoea. In 2 other cases the results were perfect. The remaining 2 cases were complicated by disease of the stomach and appendix respectively. The author points out that his favourable verdict on ventrifixation of the round ligaments is confirmed by Professor Schauta's recent report on more ample material.

THERAPEUTICS.

74. Subsequent History of 1,000 Tuberculin Tests.

GELIEN AND HAMMAN (*Johns Hopkins Hospital Bulletin*, June, 1913) investigated the subsequent history of 1,000 patients who received tuberculin tests in order to throw light upon several points connected with dispensary work, and to estimate their value in doubtful cases by ascertaining whether a large percentage of those reacting became manifestly tuberculous than of those who gave no reaction. The relation of the tests to the patients' condition two years later would settle whether the intensity of the reaction bears any prognostic significance, and by repeating the tests upon a large number of patients the duration of hypersensitiveness occasioned by a conjunctival instillation could be determined. The cases were classified into six groups—non-tuberculous, doubtful, probable, incipient, moderately advanced, and advanced—and the subsequent history of such tested cases was a valuable control of this classification. Of 110 patients originally classified as non-tuberculous, 4 became definitely tuberculous, and of 258 classed as doubtful 16 became definitely tuberculous, thus fully justifying the conservative attitude taken towards early diagnosis, more emphasis being given to observation of symptoms than to pulmonary examination. In the non-tuberculous group the 4 cases which eventually became tuberculous failed to react to the 1 per cent. conjunctival test, while the one case which did react remained well. In the doubtful group, of the 16 eventually becoming tuberculous, only 4 gave the conjunctival reaction, and, as far as can be judged from the small number collected, it is clear that proportionately the same number became tuberculous of those who reacted as of those who did not, thus justifying the conclusion that tuberculin tests are of value only in reference to the condition of the patient at the time of administration. In the probable group, 69 per cent. of those reacting to the 1 per cent. conjunctival test became tuberculous, whereas only 23 per cent. of those negative to the test became tuberculous. In the incipient group, 33 per cent. of those reacting have died, while 6 who failed to react are still living. In the moderately advanced group, a larger proportion have died of those reacting than of those failing to react, while in the advanced group the proportion is practically equal. In patients dying of tuberculosis the length of life following the administration of tests is approximately the same in those reacting as in those not reacting. In rapidly advancing cases the absence of tuberculin hypersensitiveness is an ominous sign, but in early and moderately advanced cases a low grade of hypersensitiveness is more

favourable than a high, the high level hypersensitiveness rebellious to tuberculin treatment being of particularly unfavourable prognostic import. The sensitiveness occasioned by a conjunctival instillation of tuberculin generally completely disappears within two years, though in some individuals it may persist for two years and longer.

75. Guaiacose.

J. DANIEL, in discussing the treatment of tuberculosis, calls attention to the discredit into which the medicamentous treatment has fallen, in favour of the sanatorium and the tuberculin treatment (*Berl. klin. Woch.*, October 14th, 1912). The medical treatment includes medicaments which act on the general health and those which have a specific action. Among the former he mentions somatose as being peculiarly beneficial, containing as it does 85 per cent. of albumose. Of the specific medicaments he instances the creosote and guaiacol preparations as having a marked action, but, unfortunately, at the same time a caustic action. The sulphonate of guaiacol does not exhibit this caustic action. The idea of combining the tonic action with the specific has led to the introduction of a new compound called guaiacose (F. Bayer and Co.) Daniel has given this preparation in 43 cases, some of which were mild, some moderately severe, and some advanced cases. Save in 2 cases, the preparation was well tolerated by all the patients. The two patients were attacked by diarrhœa. The appetite was stimulated, and correspondingly the weight increased up to 6 lb. in the month. The specific action was manifested by relief of the cough, less difficulty in expectoration, in the disappearance of the night sweats, and in the cessation of fever. The mental attitude of the patients was improved, and even in severe, hopeless cases subjective and objective improvement was seen. The one disadvantage of the preparation is its high price.

76. Toxicity of Neo-salvarsan.

MILIAN, GIRAUD, AND DURET (*Bull. de la Soc. Franc. de Derm. et Syph.*, May, 1913, No. 5) made experiments on rabbits as to the toxicity of neo-salvarsan; the following conclusions were arrived at: (1) The degree of toxicity is not a constant, but varies between 0.14 and 0.42 gram per kilogram of body weight. The former figure represents the threshold of the fatal dose, the latter the plateau of the curve, or dose from which no animal recovered. The fatal plateau for salvarsan is 0.10 gram. (2) The volume of the excipient plays a very important part. Large volumes, such as one equal to the blood volume, up to one-third thereof, considerably augment this toxicity, whilst smaller volumes of solvent, for example, one-tenth of the blood volume, are harmless excipients. (3) Of equal importance is the nature of the solvent. Sodium chloride, in a strength of 4 per 1,000, is the best medium, superior to glucose serum, and distilled water would appear, according to these experiments, to increase the actual toxicity of neo-salvarsan. (4) Cases of idiosyncrasy to the drug exist in rabbits as among men.

77. Treatment of Graves's Disease.

MARCHETTI (*Rif. Med.*, May 10th, 1913) speaks very favourably of a new preparation of thyroid suggested by Vassall in the treatment of Graves's disease. The preparation is a fluid extract of ox's thyroid, containing the active principles of the gland minus the toxic nucleo-proteins. In the author's opinion Graves's disease is due to a perverted function of the thyroid gland, a disthyroidism. The fluid prepared by Vassall is given in three daily doses of ten drops each, increasing until 90 drops are given per diem. The number of cases recorded by the author is only six, but in every case excellent results were obtained, so that although the number of cases is small the uniformly good result is suggestive, and there are few if any remedies used for this disease about which one could confidently predict a good result, much less a cure. At any rate, if the figures quoted from Witmer are correct, surgery holds out little hope, for out of 1,423 cases only 9 are said to have been cured—and Nature *per se* can do as much as that. The good results obtained by Kocher are explained away (?) by assuming that his cases were either not true Graves's disease or of so mild a type that surgery had little if anything to do with their recovery.

78. X-ray Treatment of Syringomyelia.

A CASE of syringomyelia which showed a noteworthy amelioration after *x*-ray treatment is related by MARQUÈS and ROGER (*Arch. d'électr. méd.*, September 10th, 1912). For some months previously the patient, a man of 29 years, had been compelled to abandon his profession. Motor troubles began in his arms, and later on occurred to some extent in his legs. In the upper members it was found that, although sensibility to contact remained, sensibility to pain was abolished both in hands and arms, and sensibility to heat and cold only remained in the upper part of the arm. There was atrophy of the interosseous muscles of the thenar eminence, especially on the left side. *X*-ray treatment was started, sittings being given every other day. The dose employed was 3 to 4 Holzknecht units (less than the erythema dose), filtered through 1 mm. (presumably of aluminium). At each sitting the rays were directed upon a different part of the spinal marrow. The total number of sittings was thirty-four, and the result was a marked amelioration, with an increase of force and voluntary motility, especially in the left arm. The troubles of sensibility also were alleviated, and the trophic trouble disappeared.

79. The Treatment of Anorexia.

ROUX (*Journ. des praticiens*, 1912, xxvi) divides anorexia into (1) cellular and (2) cerebral. I. The former is due to intestinal troubles, and is of various types: (*a*) Nervous. The appetite should be excited by various means. (*b*) Asthenic. Fresh air, exercise, cold baths, and the use of thyroid gland are indicated. (*c*) Intoxications, as tuberculin, tobacco, fevers, etc. The treatment should be etiological; milk diet in uræmia, removal of any tumour if present, and the like. II. Cerebral. (*a*) Hysterical. The first indication is to treat the hysteria by the usual methods. Various bitter substances, as quinine, gentian, calumba, quassia, and the like, had often proved useful. (*b*) Mental, especially melancholic, patients should be treated for these conditions.

PATHOLOGY.

80. Acetone Extracts in Wassermann's Test.

KOLLE AND STINER published in 1911 the results of their experiments in connexion with the Wassermann test, in which they employed an extract of liver of syphilitic fetus in acetone instead of the alcoholic or aqueous extracts or other substitutes. O. Stiner now supplements this publication by an account of their further observations and experience (*Deut. med. Woch.*, No. 49, 1912). The fact that acetone is normally present in minute traces in urine and other constituents of the human organism rendered it likely that this substance would prove of use in the separation of the special lipoids implicated in the Wassermann test. This is further supported by the facts that acetone is increased in quantity in the body in fevers, in diabetes, in certain digestive disturbances, and after the ingestion of a pure meat diet. Embden found that it is formed in the liver. The author gives the results of experiments which show that the quality and quantity of the lipoids dissolved out of syphilitic fetal livers by alcohol and by acetone differ materially. The examination of the dissolved substances, in both alcoholic and acetone extracts, showed that while acetone takes up only about one-tenth of solid from the livers as compared with alcohol, the same quantity of fluid proved more active in the Wassermann test than the alcoholic extract. The latter obviously contains non-specific substances, while the author claims that the acetone dissolves practically only specific lipoids. Acetone extracts of normal organs do not contain any active substances which can be employed in the test. The same applies to extracts of plants. On comparing this with the experiments made with alcoholic extracts of normal organs, etc., Stiner comes to the conclusion that an inhibition of haemolysis and a positive Wassermann reaction may be two totally different phenomena, which must be distinguished. On further investigating this problem he found that only comparatively few syphilitic fetal livers yield good extracts. It is therefore necessary to obtain a large number of such livers and to select one which gives a large quantity of the specific lipoid. Such an extract requires dilution to the extent of 1 in 70 or 1 in 80. Take an average sized fetal liver at 12 to 15 grams (expressed as dried powdered substance), a litre of extract can be prepared containing 10,000 doses of 0.1 c.cm. each. Having tested the acetone extract and compared the results with alcoholic extracts in about 500 cases, Stiner comes to the conclusion that the former is by far the more delicate. In a considerable percentage of the negative syphilitic cases, as determined by the alcoholic extract, the former yielded a positive result. He cites a couple of striking instances of this.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

81. Diphtheritic Paralysis.

Rolleston (*Archives of Pediatrics*, May, 1913) records his observations upon the occurrence of paralysis among 2,300 cases of diphtheria under his care. As none of the children admitted with diphtheria were discharged before the end of the sixth week, opportunities for observing onset of paralysis were exceptionally favourable, seeing that it is rare for the condition to develop later. Of the 2,300 cases, 477 (20.7 per cent.) showed some form of paralysis, 184 being severe and 85 fatal, and in each series of 100 the percentage of paralysis cases was never less than 10 or more than 31. By classification of the cases into six groups according to the severity of the initial attack, it was seen that there exists a close relationship between the acute attack and the subsequent paralysis. Of the 216 very severe cases, 50 died of toxaemia before any paralysis developed, so that all but 13 of the survivors had some paralysis, and, with the exception of these toxaemic cases, of 107 showing haemorrhagic diphtheria, all had paralyses of a severe kind. Paralysis was found to be much more frequent and severe in cases in which the nostrils as well as the throat were involved than in those in which the fauces alone were affected, and not only is actual paralysis more common after severe than after mild diphtheria, but the tendon-jerks are more likely to be affected and Babinski's sign to be present. Of the total cases, 31 (1.3 per cent.) suffered relapses which were separated from the initial attack by periods varying from three to fourteen weeks, and of these two showed palatal and ocular palsies after the first attack, but none followed the relapses. The invariably mild character of the relapses is shown by their not being followed by paralyses, due in part to the administration of antitoxin and to the immunity conferred by the primary attack. Fifty (2.1 per cent.) had second attacks separated from the primary attack by intervals varying from three months to fourteen years. Early injection of antitoxin undoubtedly cuts short the disease and tends to diminish the occurrence of subsequent complications. The only paralyses occurring during the first fortnight are cardiac and palatal, the heart failure being secondary to vasomotor paralysis, and no case proved fatal in which the symptoms had not developed before the end of the second week, after which no serious paralysis usually occurs before the end of the fifth week—for example, pharyngeal and diaphragmatic—these later generalized paralyses being much less frequent and shorter in duration than the earlier forms of post-diphtheritic paralysis. The older the patient the better the prognosis. Closely associated with the cardiac paralysis is a progressive hepatic enlargement, partly due to congestion and partly to fatty degeneration, the untoward significance of which is seen in the fact that of 111 cases showing such signs 71 died—a mortality of 63.9 per cent., as compared with 6.7 per cent., among cases of diphtheria in whom a routine examination of the liver had been made. A well-marked serum reaction is a favourable sign, it being exceptional for those cases to die from cardiac paralysis in whom a well-developed urticarial eruption has occurred. Treatment consists in the early injection of antitoxin, rest in bed in recumbent position, and in cases of cardiac, pharyngeal, or diaphragmatic paralysis adrenalin, by the mouth or subcutaneously, should be given to combat the vasomotor changes.

82. Diagnosis of Pulmonary Tuberculosis by Complement Fixation.

M. Kinghorn and C. Twichell (*Zeit. für Tuberkulose*, March, 1913, vol. xx) find that the diagnosis of pulmonary tuberculosis by the Bordet-Gengou test of complement deviation or fixation is unsatisfactory. Their technique was practically that of Wassermann and Bruck; and in all their tests they used bacillen emulsion instead of old tuberculin. The serums examined were inactivated for half an hour in a water bath, at a temperature of 55° to 56°. Sheep's blood was used as the antigen, rabbit's immune haemolysin as amboceptor, and normal guinea-pig's blood as complement. This was undiluted and usually in the proportion of 0.1 c.cm. Considerable differences in the strength of serums obtained from guinea-pigs were found; and some of the serums were too weak to use. Of the thirty-eight serums examined, thirty-seven were taken from the blood, and one from the pleuritic fluid of a patient suffering from advanced tuberculosis. The serums of 7 healthy persons did not once fix complement; and of 8 cases of incipient pulmonary tuberculosis only 3 fixed complement. Of 14 advanced cases of pulmonary tuberculosis 13 fixed complement. Of 3 cases of arrested disease all fixed complement. The serums of 3 persons suspected of incipient disease fixed complement in every case. Of the total of 25 patients in whom pulmonary tuberculosis was diagnosed, 19 gave a positive reaction and 6 a negative reaction. In incipient cases complement fixation occurred only in 37.5 per cent. It was anticipated that the test would be positive in incipient cases accompanied by fever, because antituberculin amboceptors would probably be present. But in many such cases the test was negative. It was positive in 93.3 per cent. of advanced cases, presumably because tuberculous substances are thrown into the system and produce antituberculin amboceptors in the later stages of the disease. The authors conclude that a positive reaction in an incipient or doubtful case points strongly to the presence of tuberculosis, whereas a negative reaction in such a case is of little or no value, as tuberculosis may yet be present. They also hold that a negative reaction in a case of serious illness, in which the diagnosis is uncertain, does not necessarily disprove the presence of tuberculosis. They disagree with Michaelis and Eisner, who consider the appearance of antituberculin in patients not treated with tuberculin an unfavourable sign, indicative of progressive disease, for the 3 patients with arrested disease fixed complement, and 7 of the patients with advanced disease fixed complement, and yet were in excellent condition and steadily improving.

83. Hydrops Adiposus.

A case of pleural effusion in which fat was found is recorded by S. Plaschkes (*Wien. med. Woch.*, March 29th, 1913). A salesman, aged 42, who had developed pleurisy two and a half years earlier, complained of a sense of discomfort and fullness in the left side of his chest. He was subject to melancholia, and had contracted syphilis at the age of 22. He was dyspnoeic, and his temperature oscillated between 98.6° and 100.2°. His pulse was 110. Lightning pains were felt in the limbs and the left pupil was wider than the right, but both reacted to light and accommodation. The left side of the chest was much distended and lagged behind the right side on respiration. Both in front and behind the left lung the percussion note was dull, the respiratory sounds were very soft, and there was no local fremitus. The right lung was normal. The apex beat was to the right of the sternum, and the cardiac dullness on the right side was three fingerbreadths to the right of the sternum. The second aortic sound was accentuated. Two litres of a yellow creamy fluid were withdrawn. It was sterile, and its specific gravity was 1027. On standing two layers appeared, the lower being cloudy and consisting chiefly of cellular elements, the latter being transparent and of a golden yellow colour. No sugar, bile pigments, nor cholesterin could be found, but there was a trace of blood and much albumin and fat. Under the microscope droplets of fat, leucocytes, and endothelial cells were visible. In many similar cases eosinophilia has been found, but in the author's case the blood was normal. There was no sign of a new growth, and the condition was probably not due to the rupture of a lymphatic vessel, for had this been the source of the fat the droplets would have been of a small and uniform size, whereas they were large and of different sizes. The author also excludes syphilis as a cause of the condition, for Wassermann's reaction was negative, and he traces the fat to degeneration of the cells lining the pleural cavity or present in the effusion.

84. The Normal Temperature in Childhood.

D. Fraenkel (*Deut. med. Woch.*, February 6th, 1913) has investigated the temperature of 163 children in a hospital for scrofulous, nervous, and convalescent children. She could find no age differences of the rectal temperature taken in children between 5 and 16 years. In every case the rectal temperature was over 99.7° when taken immediately after the child had been walking or playing about in the afternoon. In 74 per cent. of all the children the temperature ranged at this time between 100° and 101°.

After an hour's rest it fell to 99.3° or less. It was anticipated that those whose temperature was highest after exercise would prove to be tuberculous, but no correlation between an unstable heat regulation and a reaction to tuberculin could be established. The influence of the atmospheric temperature on that of the body was investigated in 163 cases, of which 91 showed fluctuations corresponding with those of the surrounding air. It was also stated that children with a neuropathic taint were more affected by the atmospheric temperature than others.

SURGERY.

85. Intra-articular Silk Ligaments in Paralytic Joints of Poliomyelitis Anterior.

BARTOW AND PLUMMER (*Amer. Journ. of Orthopedic Surgery*, May, 1913) urge the reinforcing of joints which have been weakened or rendered useless by poliomyelitis paralysis by the implantation of silk ligaments in the articular ends of the bones and the contiguous joint, thereby obtaining improved control of movement, stability, and posture. A secondary limiting and reinforcing effect follows from reactive inflammation due to trauma of the operation and the presence of a foreign substance, the silk threads eventually undergoing a species of organization. From observations upon fifty joints treated extensively by such methods, the procedure has been taken out of the experimental stage and its value definitely proved. The cases included knee-joints in which paralysis was complete, shoulder-joints in which paralysis chiefly involved the deltoid and arm muscles, and paralytic talipes of different varieties, simple and compound. In none did any infection follow implantation of the silk ligament, nor did the latter show any tendency to cut its way out or cause trouble by its presence. A number of smaller strands, in place of a single heavy one, are advocated, as giving greater strength, being more favourable to inclusion in an abundant exudate and lessening any chance of cutting into the bones. Limitation of movement in the joint follows immediately after insertion and can be maintained indefinitely by a plastic case, five or six months being usually required before unprotected use of the joint should be allowed, and even then some form of protection should be continued for a few months longer, according to the amount of weight and strain required for the joint. Removal of fascial contraction and every kind of resistance, opposing extension of the thigh and leg and over-correction of the foot, should precede the introduction of silk ligaments into the joint. By using specially constructed drills, a long incision can be avoided and the operation rendered almost subcutaneous, very short incisions, and often only punctures, being required for introducing the silk strand. The average case so treated has represented a severe grade of disability involving several joints, some requiring from four to eight separate operations. There were only two or three instances where improvement in posture and better opportunity for a functionating limb did not follow the first operation, and two of these have been reoperated upon with distinct benefit. The limit of usefulness should not be determined by the results of a single operation, as slight advantage so gained may be still further improved by repetition after an interval, and although the procedure is not advocated to the exclusion of others, it may reasonably be expected to eventually supersede them. The technique for the various operations will naturally be modified at the option of the operator and to meet each condition, but if the need for prolonged protection of the joint afterwards is fully recognized, it is believed that such protection may eventually be discarded and the dependence placed upon the surgical reinforcement obtained.

86. Late Traumatic Haemorrhage from the Spleen.

H. HAHN (*Med. Klinik*, April 13, 1913) records the case of a coachman who was thrown from his box on to the pavement, striking the left side of his back. After lying on the ground a short time, he picked himself up and went to a doctor, who found nothing abnormal. The patient walked home, and consulted the author next day for pain in the right abdomen and lumbar region. In spite of a careful examination, no abnormality could be found apart from slight tenderness over the liver and behind the right kidney, the pelvis, and the lower lumbar vertebrae. There was also a considerable subcutaneous effusion of blood in the lumbar region. The urine was normal. In spite of orders to remain in bed, the patient got up. But on the third day he was better, and the abdominal pain and tenderness had disappeared, the pain now being limited to the lumbar region. The abdomen was perfectly flaccid, and showed no abnormal dullness. The temperature was normal, and the pulse full and slow. On the fifth day the patient travelled by train, and on the seventh day, after getting up in the morning, he suddenly felt ill and had to go to bed with severe pain in the left abdomen. At midday, when seen by the author, he was almost pulseless, the spleen was tender, and there was extensive dullness on percussion over the abdomen. A laparotomy at 6.30 on the evening of the same day showed a large quantity of fluid blood in the peritoneal cavity and a clot of blood, larger than a clenched fist, behind the spleen, the posterior surface of which was torn. The spleen was excised, but in spite of the injection of a saline solution, the patient died next day. At the necropsy the heart was practically empty, but the ligatures had prevented further haemorrhage. An effusion of blood was found under the capsule of the right kidney, the substance of which was intact. The author concludes that the haemorrhage from the spleen had at first been arrested by the pressure of a small clot of blood, aided by comparative rest. When, however, the patient was shaken by the railway journey, the haemorrhage began afresh and caused the patient's death.

87. Bismuth in Intestinal Examination.

LEDOUX-LEBARD has brought before the Société de Radiologie Médicale de Paris (*Bull. et mém.*, June, 1913) an observation which illustrates the comparative value of the bismuth meal and the bismuth enema in the examination of the large intestine. A woman upon whom some time previously a laparotomy had been performed had suffered ever since the operation from abdominal pain, localized to the right of and slightly above the umbilicus. A bismuth enema showed a temporary arrest of the fluid in passing along the transverse colon. At this point of arrest palpation was painful, inducing a certain amount of colic. The examination seemed, therefore, to point to organic stricture of the large intestine. Three days later, however, when bismuth was given by the mouth, the large intestine filled normally, and the calibre of the transverse colon appeared perfectly regular. A second bismuth enema was then administered, and the result showed the same aspect as the first, making it evident that there did exist adherences to the transverse colon in the painful region. The presumption was that these adherences were revealed when there was a spasm of the large intestine under the brusque "push" of the enema, but the absence of bridle stricture or actual obliteration of the intestinal calibre was proved by the fact that the bismuth meal, making its way more slowly and gently than the enema, was able to fill the intestine in its integrity. An operation verified this, revealing a large epiploic aggregation adherent for some centimetres to the transverse colon. The author points out that this observation does not imply that the bismuth meal was useless, but rather that the two methods should be used in combination. The enema revealed a certain amount of stricture, while the meal made it evident that the stricture was only spasmodic, thus preparing the way for the diagnosis of localized adherences to the transverse colon without actual alteration of calibre.

OBSTETRICS.

88. Hydrorrhoea Gravidarum.

NAPIER BURNETT (*Proc. Roy. Soc. of Med.*, Obstetrical and Gynaecological Section, vol. vi, No. 8, June, 1913) records a case of hydrorrhoea gravidarum in which the exciting cause appeared to be a bacterial infection of the fetal membranes. The patient, a primipara, became pregnant four months after curetting for menorrhagia and sterility. About the twentieth week of gestation she complained of a watery vaginal discharge. This persisted for sixteen days, when labour set in and the pregnancy terminated. Upon the membranes situated most distally to the placenta was an area about the size of the palm of the hand which was thickened and yellow in colour. Under the microscope this area showed a necrotic condition of the chorion and amnion, with numerous inflammatory foci resembling miliary abscesses. A broad belt of polymorphonuclear leucocytes were situated immediately subjacent to the amnion. Numerous Gram-negative small diplobacilli were present. The identity of the same is obscure, since no cultural observations were conducted. The author remarks that the case supports the view put forward by Stoeckel, who states that the escape of fluid in cases of hydrorrhoea gravidarum is due to premature rupture of the membranes. The commonest causes of this

accident are infection and traumatism. The point naturally arises in the case recorded by Burnett as to whether rupture of the membranes was the direct result of inflammatory changes due to bacterial infection, or whether the micro-organisms were simply of the nature of a secondary invasion. At the Sixth International Congress of Midwifery and Gynaecology in Berlin, 1912, Gottschalk described a case of hydrorrhoea gravidarum in which the membranes exhibited much necrobiosis and diffuse leucocytic infiltration. The tissues were not examined from a bacteriological standpoint. Burnett remarks that in similar cases in future it will be advisable to make investigations of a bacteriological nature in order to establish the relation, if any, which micro-organisms bear to the disease.

GYNAECOLOGY.

89. Abdominal Hysterectomy for Cancer.

De Boris (*Sem. méd.*, June 25th, 1913) comments on the enormous mortality of abdominal operations for cancer of the uterus, this being due in most cases to peritonitis. Up to now the principal means adopted to avoid peritonitis has been drainage by vaginal wicks, but Bumm, disappointed with his results, has now abandoned drainage altogether. He begins by suturing the vesical peritoneum and the prerectal peritoneum respectively to the anterior and posterior walls of the vagina. He then recovers the parametrium by means of a sero-serous suture. Having thoroughly dried the line of suture and expressed the air, he superimposes another continuous sero-serous suture, beginning by uniting the infundibulo-pelvic ligaments to one another across the pelvis. Laterally, in the iliac fossae, several centimetres of peritoneal surface can be used to cover the first suture of the parametrium: about the stumps of the round ligaments the tissue is scarce, but still the suture can be effected by taking in a part of the mesenteries and the covering of the sigmoid on the rectum. A second layer of sutures from the bladder to the rectum is easily applied. The peritoneum should nowhere be stretched, and no raw or bleeding surfaces should be left. This technique has been followed by greatly improved results, and in his last 41 cases Bumm has had no deaths from operation. The preparation of the patient is important, the principal points being curettage and cauterization followed by a tamponing with silver nitrate, 10 per cent. The plug remains in place till the vagina is opened, when a fresh application of silver nitrate solution is made. Instruments and gloves must be frequently boiled during the operation, and one condition of success is to leave no bleeding points in the parametrium. The author considers that if Bumm's results are confirmed by other operators the abdominal route will entirely supersede the vaginal, except in the special cases of advanced age and obesity.

90. Ovarian Grafting.

Beckwith Whitehouse (*Clin. Journ.*, May 21st, 1913) reports a successful case of autoplastic ovarian grafting, and discusses the technique and indications for the operation. In the author's case, after removal of both uterine appendages for severe inflammatory lesions, a portion of ovarian tissue, which was adherent to the wall of a pyosalpinx, was grafted into the tissues of the abdominal wall. The uterus showed no gross lesion, and was left *in situ*. The patient was re-examined ten months after the operation and found to be in excellent health. No "climacteric" symptoms had manifested themselves, and the catamenia were present and normal. Dysmenorrhoea was absent, and the patient had experienced no pain at the seat of the graft during the menstrual periods. The sexual functions had been exercised in a normal manner and to the satisfaction of both parties. The author concludes therefore that the grafts had established themselves and were functionating. Several cases of ovarian grafting have now been published, and evidence both of an experimental and operative nature appears to show that the operation can be successfully accomplished. In practically all the records, however, the graft has consisted of either the whole or a very large part of the ovary. Whitehouse is of opinion that better results will be attained if small portions of tissue are employed. The vitality of the grafts is more likely to be maintained by this means, and the chances of success are also proportionately increased by the number of grafts made. As the site of implantation, the author prefers the rectus muscle and subperitoneal tissue of the abdominal wall, because a good vascular supply is assured, grafting is most easily accomplished in this position, and there is but little increase in the time of operation. Furthermore, should it be necessary to remove the graft at any subsequent time, it may be reached without the risk of opening the peritoneum. The indications for ovarian grafting are naturally limited. One of the most important is as a conservative measure when both uterine appendages have to be sacrificed for inflammatory disease in the case of a young woman. A portion of healthy ovarian tissue may not infrequently be found densely adherent to the wall of a pyosalpinx. If this tissue can be successfully grafted into the abdominal wall, the onset of the artificial menopause is prevented. A further suggestion made by Whitehouse is that grafting may be useful in cases of severe dysmenorrhoea and ovarian pain where double oöphorectomy is occasionally practised. In the technique of the operation it is important to assure absolute asepticity and to avoid all strong antiseptics which would destroy the vitality of the tissue. Furthermore, the ovarian tissue should be left in contact with the body fluids until it is required for the purpose of the grafts.

THERAPEUTICS.

91. Autohematotherapy in certain Dermatoses.

Paul Ravaut (*Annal. de derm. et de syph.*, vol. iv. No. 5, May, 1913) describes a modification of the serum-therapy first employed by Mayer and Linser in the treatment of herpes gestationis, and used by Spiethof, Heuek, and others with considerable success in prurigo, urticaria, eczema, Dühring's disease, psoriasis, and lichen strophulus (see a recent paper by Spiethof, *Muench. med. Woch.*, No. 10, March 11th, 1913). These investigators injected serum obtained from other patients after defibrinization, but Spiethof has been just as successful with the patient's own serum, and Ravaut has still further simplified the procedure by injecting 20 c.cm. of the patient's untreated blood direct from a vein in the arm into the muscles of the buttock. He claims for his method that it is very easy, free from all risk, and just as efficacious as a heterogenic serum, with the use of which are bound up all the possible dangers of anaphylaxis and sepsis. He recounts his results with 30 cases of skin disease, which include 3 cases of psoriasis, 3 of acne, and several of various forms of eczema. Of particular interest is the control which the procedure would appear to exercise on the subjective symptom of pruritus. This appeared to be influenced as early as the following day, and in 3 cases (eczema) completely disappeared. In a case of Dühring's disease (dermatitis herpetiformis), in which the itching is notoriously difficult to cure, the treatment was immediately successful, and should prove a valuable adjunct to the local measures employed in this distressing complaint. The dose used by the author was always 20 c.cm., and the injection was repeated in most cases four days later. A third injection, when necessary, on the seventh day, and so on. In one case of generalized eczema rubrum five injections were given in a fortnight with very considerable improvement. Whilst no case of skin disease appears to have been completely cured by these injections, all, according to this author, were considerably relieved, especially those cases in which pruritus had been obstinate and persistent. The *modus operandi* of this new measure is still, of course, hypothetical. Ravaut suggests that the phagocytosis set up by the injection (for absorption of the blood injected) sets free a considerable quantity of antibodies, which become available for the cure or amelioration of the particular disease present.

92. Salvarsan in Lichen Ruber Planus.

R. Polland (*Wien. klin. Woch.*) describes the successful treatment by salvarsan of a severe and widespread lichen ruber planus of four months' duration in a woman 47 years of age. The whole skin of both forearms and hands was thickly infiltrated, so that the patient suffered considerable pain and interference with the use of the hands. The thickening on the legs was not so general but was very inconsiderable in crescentic-shaped areas, and the process also affected the tongue and the mucous membrane of the cheeks and palate. An intravenous injection of 0.3 gram salvarsan was first given, but it was not followed by any general reaction nor by any marked local reaction. After ten days the injection was repeated, 0.4 gram of salvarsan being now given. This time a strong reaction followed; the temperature rose to 39.2° C. (102.5° F.), vomiting and severe diarrhoea with abdominal pain set in, and the

patient felt miserably ill for two days. The rash now showed striking retrogressive changes. The thickening of the skin rapidly diminished, the fingers could be moved more easily and with less pain, while on the mucous membranes the most superficial layers of the patches were shed in large flakes, leaving sensitive red erosions beneath. Recovery proceeded quickly. A local treatment with baths and a 5 per cent. sulphur ichthyol paste was carried out, and after fourteen days the only sign of the disease visible was a bluish violet colouring of the affected parts; the skin everywhere was soft and supple, there was no pain, the fingers could be freely used, the buccal mucous membrane was covered with epithelium, and the patient could be discharged. The first dose given was clearly inadequate. The action of the second and larger dose on an already prepared organism was very energetic, and, as so often happens, the intoxication ran a course parallel to the healing action. The author believes that the alterant and absorbent action of arsenic is a sufficient explanation of the success of the treatment without assuming, on the score of it, that the disease is one due to spirochaetes. Schwabe had previously reported from the Herxheimer Clinic a case of the same disease, in a most widespread form, in which salvarsan treatment led to recovery, although there was afterwards a relapse; he had also reported two unsuccessful cases. Frankel-Grouven had reported a successful case.

93. Treatment of Syphilis in Sucklings.

LEVY-BING AND DUROEUX (*L'Enfance*, January, 1913) recommend a varied treatment in syphilitic sucklings. Mercury and arsenic are indicated in generalized eruptions, mercury and iodide in infiltrated lesions and also in congenital malformations and dystrophies. Mercury is well tolerated by infants provided the liver and kidneys are sound. It may be given (i) by inunction in the form of equal parts of metallic mercury and benzoated lard, 1 gram of which is rubbed in daily for ten minutes into different parts of the body; (ii) by the mouth in the form of Van Swieten's liquor (1 in 1,000 alcoholic solution of mercuric chloride), given in doses gradually increasing from 10 to 15 drops in the first week to 30 or 40 in the fourth week up to 4 or 5 grams at the end of the year, also in the form of grey powder as used in England; (iii) by injection, in the form of biniodide (mercuric biniodide and potassium iodide as 1 gram, sterilized distilled water 100 c.cm.), or benzoate (0.10 gram, isotonic serum 100), in doses of ½ mg. per kilogram of weight daily, injections being made into the buttocks or the back in series of fifteen with intervals of rest. In older infants insoluble injections of calomel or grey oil may be used; these are less rapid in action but more durable. As regards iodide, 0.05 to 0.15 gram may be given daily during the first year when indicated. As regards arsenic, the authors are not in favour of salvarsan in the case of infants. They conclude that mercury is the specific treatment *par excellence*.

94. Copper Lecithin in Epithelioma.

THE idea of treating cancer with a combination of copper chloride and lecithin emanated from the studies of Neuberg and Caspari, and by the work of Gaube du Gers, the suggestion of copper as a cancer remedy has been brought into prominence. A. STRAUSS of Barmen (*Deut. med. Woch.*, November 7th, 1912) has dealt with two cases of primary epithelioma and one of secondary epithelioma grafted on a primary lupus of the nose. The copper lecithin was made into a paste with alcohol without the addition of any fatty substance and applied to the affected part. Previous cauterization is said to have failed in two of the three cases. In all three complete healing with a firm scar resulted, and the author claims an elective action of the preparation. Similar results have no doubt been achieved by other means.

PATHOLOGY.

95. Intra-vitam Staining.

BY intra-vitam staining a specific staining of cells during life is meant, and not a diffuse, temporary dyeing of the whole animal. GOLDMANN (*Berl. klin. Woch.*, September 2nd, 1912) instances the injection of eosin as an example of this diffuse staining. He calls attention to an objection to the acceptation of neutral red as a typical vital stain, inasmuch as it is very toxic and stains so many extracellular and intracellular elements that it is difficult to ascertain with certainty what is a stained normal structure and what are merely coloured artifices produced by the toxic action of the substance. In order to place the matter on a firm footing, he claims that a vital stain must possess the following characteristics: It must remain for a considerable time in the body, it must not be highly toxic, and it must penetrate into the interior of the cells and render visible structures which are not visible by the ordinary optical means of examination. He cites trypan blue, isamin blue, and pyrrol blue as typical vital stains. Touching the work of Nicolle and Mesnil, he remarks that a dye which has the properties of a trypanocide will be found to have the properties of a vital stain. Some vital stains are rapidly absorbed, while others require a considerable time to complete their work. Thus trypan blue when injected into a mouse dyes the whole animal blue in the course of three hours, beginning at the peripheral parts and then spreading centrally. Isamin blue takes several days to achieve the same result. Correspondingly, the decolorization takes place rapidly in some cases—for instance, trypan blue stained tissues lose their stain in a few days, while others—for instance, isamin blue staining—last for nine or ten months. The more dilute the stain the slower the staining, and the more detailed the histological picture. If a vital stain is injected into a pregnant animal it will be found that it is markedly attracted by the placenta. On the other hand, if a pregnancy develops in a stained animal, the surface staining pales and the placenta claims the stain. This attraction of the placenta for vital stains is specific. Pathological factors may affect the distribution of the stain in a manner similar to the physiological. Goldmann has found that formol acts as an excellent fixative for vital staining. In turning to the staining of the individual organs he points out that in the kidney, in spite of intense staining, the glomeruli are not attacked. But vital stains seek out pathological conditions. In the liver one of the more remarkable facts is met with in the elective staining of Kupffer's cells. Now Kupffer pointed out that these cells possess phagocytic properties, and it has been proved that intra-vitam staining does not destroy this property. The author mentions the vital staining properties of other organs and tissues, including the adrenal, the generative glands, the skin, the blood, etc. These staining characteristics can be demonstrated on other species of animals besides the mouse and rat. In regard to the question whether the chemical constitution of the stain is responsible for the distribution and action of the same, he expresses himself with some caution, and while he can show that this is to some extent undoubted, he claims that the physiological condition of the cells plays a part in the process. In regard to whether the stains react with preformed structures in the cells or not, he points out that the staining is always dependent on a specific reaction product in the protoplasm. After carefully weighing the evidence on both sides, he comes to the conclusion that the stained granules in the protoplasm are preformed structures, and that they are albumin-fat compounds, the albumin forming a colloidal protective covering. Goldmann proceeds to detail his own work with a vital stain—sulpho-rhodamin. It appears that this red dye undergoes a sort of metamorphosis into a blue stain in the body. All that is known of such a possibility *in vitro* is that in solution it shows a fluorescence. Injected into the animal body, this substance finds a strong affinity in the hepatic cells. The protoplasm is stained red, while the nucleus appears blue. The author further discusses the resistance of the placenta in barring the stain from entering the organism of the fetus. The layers of the placenta in which the dye is stored up are the same as store up fat and glycogen before these substances pass over into the fetal circulation. The fetus remains unstained, but if the dye is injected subcutaneously into the newborn animal the staining takes place just as in the adult. With cyanosin, for example, a pregnant rat is rendered brightly scarlet, but the fetus is born unstained, to become stained on sucking the milk from its mother. A similar protective arrangement appears to exist in the central nervous system. In an animal treated with a vital stain the choroid plexus is dyed, but not the brain substance itself. On the other hand, when an artificial poliomyelitis is produced in a vital-stained animal, the damaged ganglion cells become diffusely dyed. Intravenous injections do not suffice to stain the brain, but if the stain is injected into the spinal cavity, a deep staining is seen. These animals immediately get convulsions, then opisthotonos, coma, and die within three hours. Goldmann points out that the placenta and the choroid plexus serve as physiological dividing or limitation membranes for vital stains.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

96. Multiple Myeloma.

In a reprint from the *Edinburgh Medical Journal* for May, 1913, Shennan considers multiple myeloma and its association with Bence Jones's albumose in the urine. The condition is provisionally defined as a primary new formation developing simultaneously in many of the cancellous bones, especially those of the trunk and skull, and less frequently the long bones; chiefly attacking males over 40 years of age, and in many cases forming visible and palpable masses composed of more or less rounded nucleated cells corresponding to one type or other of the marrow cells or their precursors, and causing extensive absorption of bone, but forming no true metastases; associated with severe neuralgic pains, intermittent high fever, and the presence of Bence Jones's albumose in the urine. Only a small proportion of cases have been correctly diagnosed during life, but the proportion has risen during the last ten years, reliance being placed on the presence of albumose in the urine. The average duration is about two years, and most of the cases have belonged to the working classes, though several have been in good circumstances. Severe pains of a stabbing character, increased on pressure or exertion, and referred to some part of the thoracic wall, vertebrae, pelvis, or head, are usually among the first symptoms, and in many cases soft, occasionally pulsating, prominences appear on the ribs, sternum, clavicles, or cranial bones. Fractures and deformities may result, and paralyses develop as the result of pressure upon nerves and spinal cord. Emaciation and a severe cachexia follow, the patient dying from exhaustion sometimes accelerated by septic bronchopneumonia. Albumosuria, which may be intermittent, is almost constantly present, and it is of fatal import, the opacity appearing on heating to a temperature of 55° to 60° C., disappearing again at 80° to 85° C., to reappear on cooling. The long bones are not often affected, but when attacked they show the same general characters as the spongy bones. Notes of three cases are given. Nothing definite is known about the etiology of the disease, but it appears to be a system disease of the haematopoietic apparatus of malignant nature, rather than a tumour growth; blastomatoid rather than true blastoma. The different varieties described in the literature are probably due to the variability of one cell type, it being doubtful whether they can be clearly differentiated from each other. The apparent metastases are due to simultaneous transformation of haematopoietic tissue present in the organs or to direct local extension, and do not result from embolism of cells of the new formation in the marrow. Myelomatosis is suggested as a better term for the disease as it connotes a definite pathological alteration, *sui generis*, of the bone marrow proper, while the termination "oma" in myeloma may suggest tumour formation.

97. Recovery after 15 Grams of Arsenious Acid.

An anonymous writer in the *Corr.-Bl. f. schweizer Aerzte* of March 8th, 1913, reports a case in which a woman, aged 21, took with suicidal intent two teaspoonfuls, estimated to contain 15 grams, or about 230 grains, of white arsenic. She expected immediately to fall down dead, but nothing occurred for half an hour. She was then attacked with nausea, vertigo, and headache. Three hours later violent vomiting of yellowish-green material occurred, and after the seventh hour each attack of vomiting was accompanied by watery diarrhoea. The writer saw her eight hours after the poison was taken. The stomach was at once irrigated, and afterwards a quantity of olive oil was introduced through the stomach tube. A teaspoonful of magnesia usta was given in water every fifteen minutes. To combat the intense thirst ice was given by the mouth, and for the abdominal pain morphine was injected hypodermically. For several days the only nourishment consisted of tea, champagne, and Vichy water. In spite of almost constant vomiting and diarrhoea the general condition was fairly good, and the pulse, though frequent and weak, was not alarming. On the third day haematemesis and melaena occurred and were followed by faintness and in the night by delirium. From the fourth day onwards the condition improved; the vomiting, diarrhoea, and abdominal pain ceased, and sleep occurred without morphine. On the fifth day milk and mucilaginous drinks were well borne, and on the eleventh day the patient got up. Recovery was complete within a fortnight. Possibly the largeness of the dose and the brisk evacuations thereby produced contributed to this termination.

98. Vestibular Galvanic Reaction.

Although the galvanic method of examining the vestibular apparatus has lost much support in recent years, owing to the perfecting of Bárány's test for the activity of the labyrinth by syringing the ear with water at different temperatures and observing the ocular movements, Ludwig Mann states (*Arch. d'électr. méd.*, June 10th, 1913) that it is a great mistake to deny all diagnostic value to electricity in this connexion. The galvanic vestibular reaction is neither uncertain nor inconstant. It is essential that the electrodes should be well attached to the tragus or to the mastoid apophyses. Rounded electrodes having a diameter of 4 cm. are employed, being kept in position by a band which goes under the chin. The examination is generally made in the upright position, the feet being placed close together, so as to obtain the smallest possible surface of support. A commencement is made with a very feeble current, which is augmented little by little, the circuit being opened and closed several times. The first reaction is an inclination of the head, frequently of the whole upper part of the body, towards the anode. This is produced with from 2 to 5 milliampères of current, and always at an intensity which is insufficient to produce nystagmus. It is an important difference, the author considers, that the Bárány method almost always produces nystagmus before lateral movement, whereas, in order to obtain nystagmus by the galvanic method, a current of from 4 to 8 milliampères is necessary. The author has made experiments with the object of discovering whether, during the galvanic excitation of a labyrinth, the muscular tonicity of one side of the body is modified. In the greater number of cases the patient finds during the passage of the current that, with an equal weight in each hand, the weight on the anode side seems to be much heavier than on the other. It is impossible, however, to excite only one labyrinth by the galvanic method. Both labyrinths are under the influence of the current, even when an electrode is applied only to one ear, the other electrode being applied to the hand. In that case the ear unprovided with an electrode is excited by a virtual electrode of the same sign as the indifferent electrode. The virtual electrode is produced by the lines of flux, and is sufficiently efficacious to cause disappearance of the buzzing in the cochlea. Therefore, even with the unilateral application of an electrode to the ear, the vestibular apparatus is excited bilaterally. The author, however, has discovered that there is a slight difference, the reaction in the case of the diseased labyrinth being obtainable only with a stronger current than is necessary in the case of the intact labyrinth, and in this way it is possible to diagnose a diminution or a unilateral suppression of function of the labyrinth. But in this respect the Bárány method is simpler and more certain. The galvanic reaction, however, furnishes the best indications of vestibular hyperexcitability, as in the vasomotor neuroses or in the cerebral disturbance which follows wounds on the head. It is much more precise in these respects than as an indication of unilateral suppression of labyrinthine function, and is to be recommended as the surest and least fatiguing method of diagnosis.

99. "Blue Bottom" in Infants.

Allaria (*La Pediatria*, February 28th, 1913), having seen six cases of this curious condition, publishes a full and excellent account of recent knowledge of the subject. At one time believed to be a peculiarity of the Japanese or of the Mongolian races, it has now been proved to be one of those atavistic phenomena which may occur in any and every race, and it is probably a purely physiological occurrence, and merely a reminder of the colour of some ancestor of far-off days. After a full account of the history and older views as to the pathogeny, the author gives the leading features. It is usually congenital but may not appear until a few days after birth, and in any case becomes more intense after birth. It rarely persists into adolescence. The typical situation of the pigmentation is the sacral region, the coccygeal, and the gluteal; the ventral region is almost always free. In the Mongolian races

the blue pigmentation may appear in other parts—for example, neck, scapula, forehead, etc. The form of the pigmented area varies widely; apart from the colour the skin is healthy. The colour does not disappear on pressure. Histologically the chief fact is the presence of certain special pigment cells. Collateral somatic defects are not often found in association, or at any rate not more than would be explained on the doctrine of averages. Diagnosis is not difficult, but raises a medico-legal question in reference to the possibility of the staining being mistaken for a traumatic ecchymosis. As regards treatment, time usually removes the colour. In one case a Japanese surgeon excised one such patch from the forehead of his daughter, leaving an indelible scar, whilst in process of time Nature removed two other pigmentations on the sacrum. Schematic drawings are given of four of the author's cases, and there is a bibliography of some thirty references.

SURGERY.

100. Polypus of Small Intestine Causing Intussusception.

SORGE (*Med. Klinik*, May 11th, 1913) records the case of a woman, aged 22, who was admitted to hospital in December, 1909, suffering from abdominal pain, which was most severe in the left iliac region. She had vomited on the previous night when she had passed no flatus. The abdomen was flaccid, and, though painful, was not tender on palpation. The rectal examination was negative. Laparotomy revealed invagination of the ileum with no apparent cause. This was reduced, and the patient discharged three weeks later. In June, 1910, she again developed her previous symptoms, from which she had not suffered since the first operation. No definite diagnosis could be made, but a laparotomy revealed a Meckel's diverticulum surrounded by adhesions. This was removed, and, no other abnormality being found, the abdomen was closed, and the patient discharged three weeks later without any symptoms. In December, 1912, she complained of having suffered for the past six months in the left abdomen from attacks of pain, which recurred every three or four weeks at first, and later every week or oftener. They were accompanied by vomiting, but not by irregular action of the bowels. Medicinal treatment had been futile. Her temperature was 100°, and pulse 78. There was no abdominal rigidity, and the rectal examination was negative. The abdomen was opened for the third time, and the small intestine drawn out. About one metre above the ileo-caecal valve, at the site of the amputated Meckel's diverticulum, invagination of the ileum was found. A second invagination was found a hand's breadth above this. No cause for these could be found till they were reduced, when tumours as large as walnuts were felt within the intestine at both sites of invagination. Examination of the whole of the small intestine now showed ten to twelve similar but smaller tumours, varying from the size of a pea to that of a hazel-nut, and limited to a tract of the small intestine, beginning at the site of Meckel's diverticulum, and extending about one meter upwards. The two large tumours were removed after ligature of their pedicles, but the small tumours were left *in situ*, as the patient's condition did not warrant a prolongation of the operation. She was discharged cured three weeks later. The polypi were covered with a dark red, velvety, and readily bleeding coat. They were nodular, and their 6 cm. long pedicles were of the circumference of quills. They consisted of fibrous tissue and smooth muscle, evidently derived from the muscularis mucosae of the intestine. The mucous membrane covering them was irregularly thickened, and contained much dilated blood vessels, lymphocytes, and eosinophile leucocytes. Most of the epithelial lining consisted of normal intestinal epithelium, but here and there, between the crypts of the small intestine, were epithelial cells and glands similar to those of the large intestine. The author can find no record of a similar case.

101. Does Appendectomy always Relieve Symptoms?

SCUDDER AND GOODALL (*Publications of Massachusetts General Hospital*, January, 1913) analysed the results, years after operation, in 640 cases of appendectomy, of which 28.8 per cent. were females and 72.2 per cent. males, the great majority occurring between 10 and 30 years of age; 61 reported from one to five years after operation, 560 from five to fifteen years, and 18 from fifteen to twenty-two; 606 cases (94.6 per cent.) reported perfectly well, and of these 95 said that they were in better health than before operation, while 26 cases (4.6 per cent.) reported poor health after operation, and 8 as in poor health both before and after operation. Drained cases were found to be more liable to hernia in the cicatrix than undrained cases. From the series examined, the operation in general benefited the patients, and there were no distressing sequelae. It was impossible to determine the reason for post-operative pain, but in 88 cases of varying severity it was thought that this was occasioned by adhesions. Since 94 per cent. were completely relieved, there is no support for the view that appendectomy is often followed by no relief of symptoms.

OBSTETRICS.

102. Pernicious Vomiting of Pregnancy and Nitrogen Metabolism.

DERVAUX (*Bull. de la Soc. d'Obstét. et de Gynéc. de Paris*, No. 4, April, 1913) draws attention to the relation which nitrogen metabolism bears to the toxaemic vomiting of pregnancy. In a case of typical pernicious vomiting he estimated the urea content in the blood and urine and found that although the output was considerably lowered, when considered in relation with the nitrogen intake, the depression is more apparent than real. The estimation of urea in the urine is by itself of little value. It must be balanced against the total nitrogenous metabolism as indicated by the loss of weight, nitrogen absorption, and degree of concentration of nitrogen in the blood. In other words, the important factor, in the writer's opinion, is the degree of "azotemia" present. In toxaemic vomiting nitrogenous destruction is considerable, as evidenced by the joint consideration of the factors enumerated. Furthermore, this destruction bears a distinct ratio to the gravity of the patient's condition. The relation between the urea content in blood and urine in this disease appears to show a lowering of the coefficient of maximum concentration, and consequently a deficient function on the part of the kidney. Dervaux thinks that further observations conducted on these lines will probably lead to results of considerable value in the diagnosis and prognosis of pernicious vomiting and the indications for operation in the same.

GYNAECOLOGY.

103. Incontinence of Urine and Prolapse of Vagina.

MURET (*Revue de. Gynéc. et de Chir. Abdom.*, April–May, 1913) shows that in a certain type of vaginal prolapse incontinence of urine must almost necessarily occur. In complete procidentia, where the uterus and vagina lie outside the vulva and the urethra runs downwards from the meatus, entirely detached from its anterior connexions, there is no incontinence of urine. In a cystocele where the anterior vaginal wall bulges freely from the anterior fornix to the junction of the bladder and ureter, there is no incontinence, and the urethra lies in its normal axis, held up by its anterior and posterior connexions. Clinical experience shows that incontinence of urine is not rare. When that complication is present it will be found, Muret declares, that the vagina is prolapsed behind the urethra down to the meatus. If the patient be requested, during examination, to bear down or cough, urine will escape from the meatus; but if the prolapse be simply supported, without pressure, by the examiner's finger, no urine will come away. The vagina and the posterior wall of the urethra are closely connected with each other. When the adjacent vaginal wall prolapses under conditions where the anterior part of the urethra is not dragged away from its attachments to the symphysis pubis, the urethral canal is gravely distorted. It is converted into a funnel, opening at the meatus, and the widening of the upper part is due to the dragging of the vaginal wall behind. This traction involves the internal sphincter of the urethra and renders it useless. The popular "anterior colporrhaphy," where a long oval piece of the anterior wall of the vagina is excised and the edges united longitudinally by suture, is insufficient in these cases. Muret dissects away an oval piece of the vaginal wall, with its long axis running vertically, as in the old operation, but he brings the dissected area close down to the meatus. Then he unites the lower part of the edges of the wound transversely by suture, and the upper part longitudinally, a T-shaped cicatrix resulting. In this way

only can the urethro-vaginal septum be restored to its normal level, so that the drag on the internal sphincter is taken off.

104. Glass Tumbler Impacted in Vagina.

J. AAS (*Tidsskrift for den Norske Laegeforening*, May 15th, 1913) was urgently summoned to an unmarried woman, aged 22, who had not menstruated for two months, and who accordingly suspected that she was pregnant. Having heard that doctors investigate the contents of the uterus with a speculum, she improvised one from a glass tumbler, the base of which was introduced into the vagina. With the help of a lamp and a mirror, she now attempted to view the interior of the uterus, but, in her efforts to obtain this view, the tumbler was pressed further and further into the vagina, till it suddenly slipped beyond the symphysis, where it became impacted. When seen by the author twenty-four hours later, the patient was in great pain, owing to retention of urine. Attempts to remove the tumbler were at first fruitless, for it simply rotated on its own axis on manipulation, and its surfaces were too slippery to afford the manipulator a satisfactory purchase. Besides, the risk of breaking the tumbler in the vagina rendered the operation yet more difficult. Finally, at the risk of rupturing the taut perineum, the tumbler was forced powerfully backwards, the patient meantime being instructed to bear down. Under these manœuvres the tumbler slipped out, and urine escaped under high pressure.

THERAPEUTICS.

105. Copper Colloid and Aspirin in Febrile Phthisis.

M. DAMASK (*Wien. med. Woch.*, May 3th. 1913) recognizes two types of fever in phthisis, that due to the tubercle bacillus, and that due to a mixed infection. Tuberculin may reduce the fever of the first type, but in the second type the fever is often high, of a hectic character, and most difficult to reduce. The success which has followed the treatment of septic conditions with injections of colloids of various metals led the author to give the colloid of copper sold by Clin and Co. as "electrocuprol." The intramuscular method of administration was found unsatisfactory and painful, and was therefore replaced by intravenous injection, which was much more certain in its action. A dose of 5 to 10 c.cm. was always followed by a rise of temperature and a violent rigor, accompanied in many cases by pallor and cyanosis. In some cases dyspnœa, tachycardia, and excessive perspiration also occurred. All these symptoms usually disappeared in half an hour, and the temperature often fell to normal in five hours. The dosage was reduced to 1 or 2 c.cm., and to a maximum of 5 c.cm. of the drug after the reaction to 10 c.cm. injected into the vein of a woman, aged 21, suffering from streptococcal pleurisy, terminated fatally. The symptoms in this case were those of cerebral irritation, but the necropsy threw no light on the cause of death. In no case was the injection of 1 to 2 c.cm. of the drug followed by other symptoms than a rise of temperature and a slight rigor. Equal quantities of the drug given to the same patient did not always induce consistent results; and this was attributed to its faulty manufacture. It was therefore found advisable to give only ½ c.cm. at first, then, if no reaction followed, to increase the dosage and to take the drug from the same package every time. Most of the thirty-eight patients treated had been febrile in spite of rest in bed and febrifugal drugs. In most of these cases a permanent reduction of the temperature was effected after several injections. The fall of the temperature after the first injection was usually transitory, and three to twelve injections, rising if necessary to 5 c.cm. at a time, were required to reduce the temperature effectively. When relapses occurred after a course of injections, one to three injections usually reduced the temperature permanently. The injections of 5 c.cm. or less of the drug were found to be as efficacious as the larger and dangerous ones. Though the injections reduced fever and had a tonic effect on the patients, they did not apparently improve the state of the lungs. Probably their action was confined to the mixed infection, and their effect on the purely tuberculous components of the disease was *nil*. The same explanation is applicable to the minority of the patients whose fever was unaffected by the injections. Here, presumably, the fever was caused by the tubercle bacillus alone. In these cases the temperature was commonly subfebrile, and often yielded to a combined treatment with aspirin and arsenic. As, however, aspirin, like other salicylic preparations, may cause haemorrhages, it is contraindicated for patients with a marked tendency to bleed. But with this exception, markedly beneficial results may be obtained with this combination of drugs, which, in contradistinction to colloid of copper, effectively improves the physical condition of the lungs. The drugs are thus prescribed:

R Aspirini	10.0
Acidi arsenicosi	0.01

Amyli qu. suff. ut fiant c. aqua destill. pil.
M. c. Ne conspergas

This pill is known as "Pill ten Kate Hoedemakeri." Two are given three times a day, the dose being increased every other day by one pill. The maximum is twenty-five pills in one day. It is unnecessary to increase the dose after the temperature has fallen to 98.4° F.

106. Treatment of Paroxysmal Haemoglobinuria with Cholesterin.

J. PRINGSHEIM (*Med. Klin.*, February 16th, 1913) has had encouraging results in a case of paroxysmal haemoglobinuria treated with cholesterin. Though the pathology of this condition has lately been partially elucidated, its treatment is still empirical and varied. The frequent existence of syphilis in patients suffering from paroxysmal haemoglobinuria has led to the latter's treatment with mercury; but the results have been disappointing, and the author's patient had been thus treated in vain. He therefore resorted to cholesterin, which inhibits haemolysis *in vitro*, and which has been successfully prescribed in cases of severe anaemia and blackwater fever in which the rapid dissolution of red cells occurs. Though other writers have given the drug by the mouth, the author administered it by intramuscular injection so as to ensure the absorption of a large quantity of the 10 per cent. emulsion. He found that in rabbits 5 c.cm. of this emulsion had completely vanished from the site of injection after eight days. To test the action of the drug on the patient he prescribed cold foot baths, and observed their effect on the haemoglobinuria. In the course of eleven days, five injections each of 5 c.cm. of the emulsion were given. On the eleventh day the cold foot bath, which had formerly induced severe haemoglobinuria lasting for eight to ten hours, now induced only slight haemoglobinuria lasting for less than three hours. A sixth injection was followed neither by haemoglobinaemia nor haemoglobinuria, but the rigor and rise of temperature formerly provoked by the cold stimulus still persisted. The cholesterin had therefore modified but not completely checked this reaction. For reasons not stated, the author was unable to pursue his investigations on the patient. He concludes that the rapid diminution of the sense of chilliness during the treatment, and its recurrence when the injections were abandoned, show that they were beneficial. During the treatment no change in the haemolytic action of the serum and no heightened vitality of the erythrocytes were demonstrable.

107. Hemiplegia and Death after Neo-salvarsan.

CARLE (*Ann. des mal. ven.*, April, 1913) reports the following case: A woman, infected with syphilis several years previously, received an intravenous injection of 0.45 gram from neo-salvarsan in August. The following week headaches (which she had before the injection) became more intense and finally intolerable. She also suffered from anorexia, vomiting, and constipation. Heart and kidneys apparently normal. In October right hemiplegia and aphasia occurred. After injections of benzoate of mercury the aphasia disappeared and the hemiplegia improved so much that she could walk. In January the headaches recurred, and in February complete left hemiplegia occurred. At the same time contractures developed in the right paralysed arm and in the muscles of the face. The jaw became fixed and the patient died in coma. Carle cites this case as an example of the so-called "neuro-recurrences" after salvarsan treatment, and proceeds to discuss the nature of these phenomena. He points out that they occur both after small and large doses; that they often persist after further treatment by salvarsan or mercury; that they often undergo spontaneous cure without any indications. He concludes that "neuro-recurrences" are more probably due to the toxic effects of the drug itself, which may differ from those of the usual arsenical compounds.

108. The Elimination of Tattoo Marks.

PELLER (*Dermatologische Zeitschrift*, October, 1912) gives a very complete literary survey both of the histological findings and the therapeutic efforts at elimination by excision, excochleation, the actual cautery, the cold

cautery (electrical), electrolysis, chemical caustics, and carbon dioxide snow. The very number of the remedies employed by some sixty authors argues their comparative inefficacy, and the fact that there is not absolute agreement even on the actual anatomical position of the pigment granules in the skin has stimulated the author to fresh histological investigation, on the basis of which he very strongly recommends a new therapeutic method invented by himself. The permanence of pigment granules in the skin in tattoo marks depends on two factors: (1) Their encapsulation; (2) their distance from lymph paths, especially when they have been deposited in the subcutis. Both these factors tend to frustrate the action of phagocytic cells, and the transference of the pigment to other parts of the body—as, for example, the lymph glands. The depth of the pigment deposit has always had a very important bearing on the results of therapeutic efforts; the more superficially they are placed the more easily they may be removed, provided there are not further unknown deposits in the subcutis, which on decortication and subsequent thinning of the epidermis by caustics, snow, etc., and by the efflux of serum towards the surface, only become revealed at some later date. The author's method is to give several preliminary (about six) injections of fibrolysin with the idea of counteracting the intracutaneous fibrosis brought about by the pigment deposit. He then introduces, as far as possible in the pigment stratum, and along the lines of most obvious distribution, several sharp-edged needles carrying threads steeped previously for several days in 50 per cent. silver nitrate. These threads are brought to the surface beyond the pigment area, and kept *in situ* under hot fomentations for two days. Two conditions of elimination along scientific lines are thereby established: (1) The production of an acute inflammation localized to the pigmented area; and (2) the establishment of artificial channels which open up new lymph paths for phagocytic invasion. The results hitherto obtained have been eminently satisfactory, and justify the author in recommending the method to a more extended trial.

109. Ovarian Extract in Graves's Disease.

BATTEZ (*Echo méd. du Nord*, 1913, No. 18) describes the case of a woman, aged 44 years, suffering from Graves's disease. Treatment by ovarian extract resulted in marked improvement in the pulse-rate, decrease in size of the thyroid gland, and amelioration of the general symptoms. The menses, formerly suppressed, recurred.

PATHOLOGY.

110. The Detection of Uric Acid in Blood.

THE exact estimation of uric acid and purin substances in the blood is necessary for reliable examination of metabolism and also for the accurate diagnosis of gout. A. SCHITTENHEIM (*Muench. med. Woch.*, October 29th, 1912) states that the errors attaching to the older methods are considerable and are due to unavoidable loss and to the insolubility of the compounds. A satisfactory method must therefore depend on the transformation of these compounds into substances which are sufficiently stabile for analytical work and which are soluble in water, forming neutral solutions. Uric acid combined with formaldehyde compounds are readily soluble in water and are readily formed. Formaldehyde also combines readily with such purin bases as guanin and xanthin. He has experimentally determined that a combination of diformalin and uric acid can be injected into a dog and that the added nitrogen is excreted chiefly as allantoin and only to a slight extent as uric acid. This combination is therefore suitable for metabolic experiments. The method of uric acid estimation which he describes is, he states, capable of demonstrating a half of a milligram of uric acid in 100 c.cm. of blood; 10 grams of potassium mono-phosphate is dissolved in 1 litre of water and 10 c.cm. of the German Pharmacopoeia formaldehyde solution is added. If the reaction is acid, this is neutralized by the addition of sodium carbonate; 100 c.cm. of blood or more is then poured into the solution, and the fluid is heated to boiling, it being stirred the whole time. As soon as all the albumin is coagulated, the heating is stopped and the fluid is sucked through a hardened filter paper, the precipitate being washed with hot water. The fluid must be clear, like water, and may not froth on being sucked through the filter. It is then evaporated down to 100 c.cm. The fluid, having been transferred to a suitable beaker, is heated with 2 grams of sodium acetate and 10 c.cm. of Kahlbaum's solution of sodium bisulphide. Later 10 c.cm. of a 10 per cent. solution of copper sulphate is added, and the whole again boiled for three minutes. The precipitate thus formed is collected on a filter paper and washed until the filtrate is no longer coloured. It is then transferred to a clean beaker, and 10 c.cm. of water added. After being again heated, sulphuretted hydrogen is allowed to pass through the fluid until the copper oxide is dissociated; then 10 c.cm. of a 10 per cent. dilution of hydrochloric acid is added and boiled up. While still boiling the fluid is sucked through a hardened filter, and the precipitate is washed with hot water. The filtrate is then evaporated to a few cubic centimetres, transferred to a small porcelain dish, the larger dish rinsed out with sodium hydrate to remove any traces of uric acid left behind, and the murexide test is applied with nitric acid. The red ring appears immediately above the sediment in the fluid and not on the vessel itself. If a quantitative estimation is required silver or copper precipitate is employed, and the precipitate is analysed for its nitrogen content. Schittenheim regards this test as one which is pre-eminently suited for all important examinations of the blood for uric acid, because it is easily carried out and is reliable.

111. Latent Faradic Reaction.

ALTHOUGH some electro-physiologists, in studying electrotonus, have employed two independent electrical circuits simultaneously, this device does not appear to have been utilized in a systematic manner in electro-diagnosis and electro-therapy. BABINSKY, DELHERM, and JARKOWSKI, however (*Arch. d'électr. méd.*, June 10th, 1913), have experimented with two current-producing sources at once, either both galvanic or one galvanic and the other faradic. Each apparatus is connected up with the patient by means of two wires, the one positive and the other negative, the complete arrangement thus including four electrodes. Each circuit is kept distinct, so that the operator can localize or diffuse the action. Two large electrodes connected with the first cell-battery are placed, one (in the case of the arm) at the hand and the other at the shoulder. In the space between these electrodes two tampons, connecting either with the second cell-battery or with a faradic apparatus, are disposed actually upon the muscle which is to be explored electrically. The muscle is first made to contract by using only the second battery or the faradic apparatus, the operator thus obtaining an indication of the intensity necessary for muscular contraction. Then, in a second experiment, the first battery is made to act upon the limb, the current being 10 to 20 milliampères, and the muscle itself is again specially excited by the second battery. The negative poles of both apparatus being distal, the contraction obtained on closing the second circuit is much stronger when the first circuit also has been closed than when this first circuit has remained open and no current has passed through it: and an analogous result is obtained when the faradic apparatus is substituted for the second battery. On the other hand, when the poles of the same name, instead of being both distal, are one distal and the other proximal, the turning on of the current of the first battery diminishes the excitation produced by the current of the second battery, and the faradic excitation is diminished in the same way. These experiments have drawn the authors' attention to a new electrical reaction which they call latent faradic excitation. They have proved that in certain cases muscles which will not react to faradic current, as strong as the apparatus will furnish, when this alone is employed, will contract very clearly, even with a much weaker current, when the double arrangement indicated is brought into play. The phenomenon is seen at its maximum when the distal poles of both the galvanic and faradic apparatus are negative. Even when by the classic exploration the reaction of degeneration appears to be complete, the authors have discovered this latent faradic excitation. They regard it as intermediate between faradic hypo-excitability and absolute inexcitability. It appears to constitute the ultimate stage of faradic contractility, and they hold that its distinction from complete reaction of degeneration is justifiable. This association of two currents also has a certain utility in therapeutics. A number of muscles which to all appearance are not excitable by faradism, become so by this procedure. The latent faradic excitation having been discovered, they can be treated by faradism. In cases also in which the muscles are very much atrophied, it is sometimes impossible to obtain good muscular contractions with the galvanic current as ordinarily employed, but by using two distinct galvanic batteries, a localized galvanic electrization may be practised more usefully.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

112. Congenital Atresia of the Duodenum.

MCDONALD (*Amer. Journ. of Med. Sci.*, July, 1913) records a case of congenital atresia of the duodenum in a baby apparently normal at birth, but in whom vomiting persisted until death four and a half days later. A diagnosis of pyloric stenosis with probable complete obstruction had been made during life, and at the autopsy the stomach was found to be dilated to three times its normal size. The pylorus was definitely constricted but patent, and the duodenum was greatly dilated until it ended in a blind sac behind the stomach and transverse colon, there being no communication or connexion with the lower intestine. The small intestine was contracted and barely permeable, and the colon and rectum were small and collapsed. The liver was normal, but the gall bladder was distended with bile, and the ducts could not be traced to the duodenum, and probably no communication existed, as the vomitus and stomach contents were free from bile, and jaundice was present. The condition was one of complete atresia with obliteration of a portion of the tract in the region of the duodeno-jejunal junction. The diagnosis is difficult and, unless the possibility of the condition is borne in mind, it may be missed entirely. Certain symptoms are suggestive and, if recognized sufficiently early, may render surgical intervention possible—namely, persistent vomiting, constipation and character of stools, distension of abdomen with visible peristalsis, anuria, emaciation, jaundice, the presence of other malformations and hydramnios in the mother. Bile will be present or absent as the obstruction is above or below the papilla of Vater, and the vomiting of drugs or food given a day or so previously is most characteristic. The stools rarely contain bacteria and, if the obstruction is complete, never drugs or digested food. Anuria is usually marked, since no fluid is absorbed from the stomach. Prognosis is hopeless unless the continuity of the bowel can be restored, and, though many operations have been attempted, there is no recorded success. Inflammatory adhesions, volvulus, or occlusion by intestinal contents may explain an isolated case, but the etiology of the condition is not manifest in the great majority. Since, however, these malformations usually occur at regions where important embryological events take place, an error in development probably accounts for the condition, especially when taken in conjunction with vascular anomalies, preventing free anastomosis of blood supply to the developing structures.

113. Bradycardia from Rupture of the Liver.

DISCUSSING the diagnosis of injuries to the liver, A. KIRCHENBERGER (*Wien. med. Woch.*, June 14th, 1913) points out the lack of uniformity in the symptoms following this class of injury, and quotes Kehr as saying that there is not one pathognomonic sign of injury to the liver, and that many cases have been recorded in which extensive fatal injuries to the liver were unaccompanied by shock, collapse or other alarming condition. This authority also states that glycosuria is a rare sign, and that jaundice occurs only in about 21 per cent., and is seldom observed till the third or fourth day. The author records the following case of bradycardia after injury to the liver: A fasting man was kicked over the right costal arch by a horse. In a few seconds he lost consciousness, which returned in about five minutes. He suffered from pain over the liver and epistaxis; and on micturition a quarter of an hour after the accident he noticed his urine was abnormally dark. An hour afterwards the pulse was 58. In the evening it was 54, and the temperature was normal. The hepatic dullness extended from the upper border of the fifth rib to the costal arch, and this area was tender. The base of the right lung behind was dull on percussion, and vocal fremitus was diminished, though respiratory sounds were still clearly audible. The abdomen was normal. The dark-brown urine contained bile pigments and a trace of sugar; but there was no jaundice. Haemothorax was diagnosed as a sequel to rupture of the liver. The signs of haemothorax gradually disappeared, and after some days neither the bile pigments nor sugar could be found in the urine. The patient recovered without an operation. It is probable that several blood vessels and biliary passages in the liver were ruptured, and that the escape of bile into the circulation was responsible for the slow pulse. The author concludes that bradycardia following an injury to the liver does not alone warrant operative interference; but on the other hand he considers that a slow, full, and powerful pulse should not deter the surgeon from operating if serious symptoms are present. Finsterer has observed 6 cases, and collected records of 13 others in which bradycardia followed rupture of the liver. The symptoms in every case were serious, and in all but 2 cases the diagnosis was confirmed by operation. His observations on animals confirmed the view that the bradycardia is due to escape of bile into the general circulation.

114. Slow Pulse in Mumps.

GRANDE (*Rif. Med.*, May 31st, 1913) reports 7 cases of epidemic parotitis occurring in young soldiers where a noticeable slowing of the pulse was observed. This slowing of the pulse in mumps has been recorded before, and particularly by Ghedini, who published several cases. From the fact that it occurred usually in cases where the swelling of the parotid was greatest, and especially if this happened to be on the right side, the author believes that the chief reason for the diminished pulse-rate was due to the mechanical pressure of the enlarged gland on the vagus. Swelling of the tonsils did not produce the same effect. Possibly cerebral stasis from compression of the jugular veins, and specific toxins may also play a part, but in all probability the chief agent was the mechanical pressure on the vagus. In one case the pulse dropped to 45, the temperature and respiration being 100.4° and 18; after the attack was over the pulse came back to 60.

SURGERY.

115. Leiomyoma of the Breast.

LAWRENCE STRONG records an example of this rare neoplasm in the *American Journal of Obstetrics* (July, 1913). The tumour occurred in a married woman, aged 46, who had noticed a swelling in the right breast for four years. The neoplasm occupied the upper and outer quadrant of the organ, and was freely movable under the skin and over the muscles. The outline was not sharp, but merged with the rest of the breast tissue. At operation a firm, encapsulated tumour was exposed, which had pushed the glandular part of the breast aside, and extended down to the fascia over the pectoralis major. The latter was exposed during removal of the tumour, which measured 6 by 3 cm. On section the growth was firm and fibrous, with a central triangular cavity measuring 1 cm. in long diameter. Under the microscope the tumour showed a ground substance of dense hyaline connective tissue, with irregular bundles of smooth muscle fibres. Capillaries were fairly numerous, and the myoma cells surrounded these in a circular formation, suggesting a possible origin from the wall of these vessels. At the same time many myomatous bundles were present without capillaries. The central cavity in the tumour appeared to be a dilated lymph space, but no definite lining membrane was present. Strong suggests that the tumour may have been an embryonal inclusion. It was not attached to the nipple, and could not therefore have had an origin from the muscle fibres surrounding the excretory ducts, or which give the erectile function to the nipple. The author reviews the literature upon the subject, and considers that in several particulars the case he records is unique.

116. Post-Typhoid Osteo-Periostitis.

TOURNEUX AND GINESTY (*Prov. méd.*, May 24th, 1913) point out that post-typhoid osteo-periostitis was first noted by Boerhaave, but its true character was recognized by Ebermaier, who showed the existence of Eberth's bacillus in the pus. The authors give details of four cases of varying types. Three of these showed Eberth's bacillus only—a comparatively rare condition, as there is usually a mixed infection. Fraenkel, indeed, goes so far as to say that this form of osteo-periostitis is due to the secondary infection only. Numerous observations, however, have proved the contrary. The inflammatory condition is most active between the periosteum and the bone. The bacilli, of course, are commonly found also in the medulla of the

bone, and assist in setting up a state of osteogenesis in some cases, and in others osteitis of a necrotic type. Several classifications have been proposed. Hutinel and Terillon distinguish (*a*) a plastic form, (*b*) an acute form, (*c*) a chronic form, and this is the classification the authors adopt. Déher describes a form of the condition corresponding to the plastic variety of the authors, which he calls "rheumatoid." This is characterized by a slight febrile state during convalescence, vague pains in the epiphysial region, aggravated by pressure and by the upright position. The acute form is accompanied by violent pains, with nocturnal exacerbations and rigors. Locally there is oedema of the skin and a swelling which may terminate in hyperostosis or by the formation of an abscess. The chronic form progresses slowly, with subacute attacks. The pain is less intense but constant, and apyrexia is the rule. Very often pain is the sole symptom. Later swelling appears, which goes on to suppuration, or the formation of an exostosis. The authors advise a period of revulsion treatment for some time, except when suppuration is early in evidence. It is useless to wait until fluctuation can be noted. In surgical intervention, which in these cases is essential, a simple periosteal incision is of no use; trepanning the bone is necessary, because under a macroscopically healthy periosteum there may exist an area of osteitis and medullitis, which must be opened and drained in order to get good results.

OBSTETRICS.

117. Diagnosis and Treatment of Eclampsia.

KOSMAK (*Bulletin of the Lying-in Hospital, New York*, June, 1913) urges the importance of the prophylaxis of eclampsia by the recognition of any signs which usher in the prodromal stages. Headaches, slight nausea, dizziness, or visual disturbances slight enough to be considered by the patient as probably digestive in origin, are significant when occurring during the last two months of pregnancy, and proper treatment will usually cut them short temporarily, though they are very likely to recur. When, however, a convulsive seizure, or a state of coma, occurs during pregnancy the condition is usually due to the presence of a toxic state rather than to epilepsy, cerebral irritation, or uraemia, though these latter must not be forgotten. The previous history will assist in diagnosing the first two, but as a matter of practical experience if a patient in pregnancy or labour has a convulsive seizure without previous warning it may be assumed that one has to deal with a toxaemia of pregnancy. Albumin is usually present, but it may not appear in some cases for a considerable time after the convulsion, and a toxaemia may be present without convulsions. As a routine treatment in a case of a toxaemia of pregnancy in the later months accompanied by convulsions, ¼ grain of morphine should be immediately injected, after which preliminary cathartics and enemata may be administered, together with the abstraction of blood in suitable cases. The indiscriminate use of chloroform is deprecated because of its dangerous effects from late chloroform poisoning. Hot packs at intervals every two or three hours will be useful to promote elimination from the skin, and dilution of the blood stream may be brought about by colonic irrigation with not less than 4 gallons of normal sugar solution at 115° F., provided that there is no considerable amount of oedema. After irrigation 30 to 40 grains of chloral may be given per rectum. If not in labour, or not more than seven or eight months advanced in pregnancy, conservative mainly sedative and eliminatory measures should be adopted before resorting to any radical operative interference. When, however, labour is imminent, especially at term, it should be completed rapidly by rupture of the membranes, manual dilatation of the cervix, version, or forceps, unless there is some indication for more radical operative delivery. The occurrence of one convulsion only should not be accepted as the criterion for radical surgical interference.

GYNAECOLOGY.

118. "Spontaneous" Recovery from Cancer of the Uterus.

HESS (*Deut. med. Woch.*, May 29th, 1913) records the case of a married woman, aged 41, who in 1909 complained of anorexia and loss of weight and strength. There had been irregular haemorrhage from the vagina for three months, and latterly an offensive discharge. She suffered no pain, and there were neither vesical nor rectal symptoms. She had aborted twice, and had given birth to a child ten years earlier. An internal examination showed no abnormality, but, when the interior of the uterus was scraped, and a microscopic examination was made by Hansemann, an unmistakable adeno-carcinoma was found. The patient refused a radical operation, as it had failed on her sister who had died of cancer. No other treatment was adopted. When seen by the author four years later she felt and looked perfectly well, she had gained weight, and the haemorrhage and discharge from the vagina had ceased. The consistency and mobility of the uterus were normal. The parametrium was healthy, and the only demonstrable abnormality was a long cervix. Discussing this case, the author is convinced of the existence of a malignant growth in 1909, but he is doubttul as to its subsequent fate. From a clinical point of view recovery was complete; but it is not certain that the disease had disappeared in a pathological, anatomical sense. It is possible that it was latent, as may be the case in tuberculosis. He also suggests that the exploratory curetting of the uterus removed all or part of the growth, the vitality of the remainder in the latter case being effectively destroyed. Another possibility is the destruction of the growth by the hyperaemia which the curetting induced. At all events it has often been noticed that permanent recoveries have been effected after operations accompanied by great loss of blood. The author holds that many factors may have been responsible for this recovery, and he adds that the therapeutic success in this case of exploratory curetting is far too rare to warrant its adoption as a substitue for a radical operation. This view is also emphasized by D. V. HANSEMANN (ibid.), who, while admitting that the recovery in this case was probably permanent and due to the curetting, considers the possibility of thus removing a malignant growth of the interior of the uterus is most remote. He has, however, seen a similar case. The patient was a girl, aged 17, whose uterus was curetted for the purpose of diagnosis. Squamous epithelioma of the body of the uterus was found. This was therefore removed, but the microscopic examination of serial sections of the uterus, which was somewhat enlarged, showed not a single carcinomatous cell. The uterus was somewhat enlarged, but the mucosa which had not been removed by the curette was perfectly healthy. The microscopic examination of the muscles of the uterus was also negative. The exploratory curetting had therefore clearly eradicated the disease. He adds that a colleague has told him of another similar case, but he regards these three cases of recovery from cancer as exceedingly rare. As for the many cases recently recorded of spontaneous recovery from carcinoma and sarcoma he is very sceptical, for such growths may be latent in the body for as long as twenty-one years and may then grow actively. The only new growth to disappear altogether by itself is chorion-epithelioma, and even this is rare.

119. "Esthiomene."

LENA KURZ, in a lengthy article in the *Journal of Obstetrics and Gynaecology of the British Empire*, June, 1913, discusses the historical, pathological, and clinical aspects of this somewhat obscure lesion. The term "esthiomène," established in medical literature by the French writers of the nineteenth century, has, in the author's opinion, been misunderstood and misapplied by many authors. She considers that it should be retained as a useful term to express "hypertrophy with ulceration," whilst "lupus vulvae" should be replaced by the expression "tuberculosis of the vulva." Lupus vulgaris, such as occurs on the face, is unknown in the perineum; on the other hand, tuberculous ulceration and hypertrophy do occur in that region. Kurz observes that esthiomène is not a disease *sui generis*, but is merely a tertiary syphilitic lesion. It has no relationship with tuberculosis, and is not merely a local inflammatory condition supervening upon irritation. Neither can it be considered as a form of chronic ulceration occurring on a soil weakened by syphilis or tubercle. In all cases of esthiomène a direct or probable history of syphilis is obtained, and the majority of early cases respond to syphilitic treatment. The fact that the more advanced lesions are not relieved by such means is no argument against the non-syphilitic origin of the lesions. Leukoplakia and some forms of stricture may be cited as similar examples. Furthermore, the microscope reveals the typical gumma of the tertiary stage. It is true that up to the present time no case has been recorded where the *Spirochaeta pallida* was found in

esthiomènic tissues. Nevertheless, it is well known that the organism does exist in small numbers in tertiary syphilitic lesions. Probably with easier methods of staining, Schaudinn's spirochaetes will be demonstrated in esthiomènic tissues with the same ease as Koch's bacillus in tuberculous lesions. Esthiomène is not due to lymph stasis, and therefore does not belong to the group of hypertrophies included under the term "elephantiasis." The masses of cicatricial tissue with contraction producing strictures and extensive deformities are typical of syphilis; also in no other constitutional disease is there such a constantly present combination of hypertrophy and ulceration as in syphilis. This is the basis of the lesions in esthiomène, and it is important to note that the hypertrophied masses of tissue are not oedematous tissue enlargements; they are granulomatous growths with a tendency to necrosis, and are typical of tertiary syphilis. The author observes, in conclusion, that with equal certainty of proof will the positive Wassermann reaction relegate all cases of esthiomène into the field of tertiary syphilitic lesions.

THERAPEUTICS.

120. Cold Baths in Enteric Fever.

BERNHEIM (*Journ. des Praticiens*, July 12th, 1913), while admitting that the tongue cleans and the nervous agitation lessens after the use of cold baths in typhoid fever, states that he has gradually given them up in favour of a warm bath once or twice a day. The warm bath produces quite as good an effect in cases of this disease with hyperpyrexia and delirium. He criticizes the statement of Brand and Glénard that all cases of enteric fever treated from the first day by balneotherapy will be exempt from complications. The author also points out that epidemics of typhoid fever vary so much in severity that the statistics of a given method of treatment may be easily falsified. The character of the illness appears to depend more upon the type of invading organism than upon the individual patient. Bernheim believes further that recent generations of Eberth's bacillus have become attenuated. Antithermic treatment first arose from the idea that hyperpyrexia settled the gravity of the case, and the use of quinine and digitalis followed this. The author admits that digitalis slows and strengthens the pulse and prevents, in a measure, hypostasis; but the evolution of the malady is unchecked in a single particular. A patient with a temperature of 40° to 41° C. for several days often shows no grave manifestations whatever; while, on the other hand, cases with a moderate temperature often present grave nervous and pulmonary signs, such as an adynamic state with stupor, delirium, and hypostasis. In some cases it may be said that the hyperpyrexia constitutes the whole malady, the toxins affecting only the heat centres. Hyperpyrexia is by no means always in consonance with the degree of gravity of the disease. The author asks the question: Are cold baths given several times daily really antipyretic? They lower the temperature in the axilla and rectum, but in two or three hours it rises again. They effect changes in the distribution of the heat of the body rather than an alteration of the heat itself. The cold bath produces an increase in the production of heat which goes on for some time after the bath. In conclusion, the author considers it by no means desirable to plunge a patient suffering from intestinal ulceration into cold water. It enhances the risk of perforation and haemorrhage. The method is brutal and destined to disappear from the modern therapeutics of this disease.

121. Administration of Tuberculous Bacteriolytic Serum per Rectum.

ROMANELLI (*Rif. Med.*, January 7th, 1913) gives brief details of 16 cases of phthisis where serum was given per rectum. The dose usually given was 5 c.cm. on alternate days, and the total amount varied in each case from a minimum of 35 c.cm. to a maximum of 85 c.cm. No bad results *qua* serum were noticed, either locally or generally. Apparently when given per rectum the antituberculous serum used does not give rise to any elevation of temperature where a certain amount of pyrexia already exists, and in patients completely apyretic no rise of temperature followed the injection. Patients so treated showed a rapid increase in the agglutinating and precipitating power of the blood serum, antibodies were increased, and at the same time the index of the antigen content of the serum was lowered.

122. Mesothorium.

WRITING of the radio-active substances of the thorium series in therapeutics, LEDOUX-LEBARD (*Arch. d'électr. méd.*, May 25th, 1913) states that for external dermatological applications mesothorium is at least the equal of radium. More particularly in lupus it gives rapid and complete results. In epitheliomas of the face some comparative experiments made by the author, in the one case with a capsule having an activity of 2 cg. of mesothorium bromide, and in the other with a radium varnish apparatus of approximately equal strength, have convinced him of the similarity in value of the two preparations. Eleven cases of facial epithelioma (seven of which were verified histologically) have been treated successfully. Three cases of inoperable epithelioma of the lower lip have shown an appreciable amelioration, and an epithelioma on the back of the hand has responded to a single irradiation of twenty minutes' duration, with a filter of 0.1 mm. of silver. The author insists particularly on the perfection of the aesthetic result, which has been equal to that obtained in the most favourable cases of radium-therapy. In angiomas of the face also he believes that mesothorium is capable of the same applications as radium. He has made some investigations with regard to the electrolytic introduction of the radio-active derivatives of thorium, employed instead of the salts of radium, and finds that the results obtained with injections of from 20 to 100 micrograms of salts of mesothorium demonstrate the innocuousness of the doses. The analgesic action which has been demonstrated by Dominici with radium in malignant inoperable tumours, particularly of the breast, is obtained in the same manner with mesothorium in doses of from 20 to 40 micrograms. It is advisable generally not to exceed 50 micrograms in subcutaneous and intratumoral injections if all reaction is to be avoided, but in intravenous injections 100 micrograms may be reached without inconvenience. The author is of opinion that, more particularly in inoperable sarcomas, injections of from 40 to 80 micrograms per week, assist in maintaining the general state for a longer time than the ordinary medications, and that they are not without action on the tumours themselves. Another application of mesothorium injections has been to simple anaemias, and in the eight patients thus treated a slow but distinct amelioration has been manifest. In these cases the dose has been feebler, not exceeding 20 micrograms per week. The author has experimented also with thorium X, which has furnished him with extremely encouraging results, and which appears to have an incontestable action on malignant tumours. Thorium X, however, is an exceedingly active substance, and requires to be used with great prudence.

123. Treatment of Epidemic Diarrhoea.

ALLAN (*Pediatrics*, June, 1913) initiates the treatment of epidemic (summer) diarrhoea in infants by the stoppage of all milk, allowing the infant to starve for twenty-four hours, merely giving sips of cold boiled water or albumin water. As a rule, this semi-starvation need not be longer than twenty-four hours, but in the severe types it may be necessary to persist for some days, and except in the case of breast-fed babies, the return to milk should not be direct, but only after an interval during which veal or chicken broth and thin whey are substituted. At the outset $\frac{1}{8}$ grain of calomel, combined with sodium bicarbonate, every hour for six hours, or an initial dose of one teaspoonful of castor oil, should be given. While no milk is being taken acetyl-tannin may be useful, and the following prescription: Acetyl-tannin gr. xvi, ol. ricini ʒij, tinct chloroform. co. ♏xvi, mucil. acaciae ♏ij, syrupi ʒj, aq. anethi. ad. ʒj; ʒj every two hours for the first day, four-hourly the second day, and three times during the third day will effect a cure in the majority of instances. Should the diarrhoea become chronic and the motions very offensive, bismuth and salol should be given, and zinc oxide and sodium bicarbonate in grain doses form a useful combination for offensive stools, or 1 or 2 grains of bismuth subgallate with mistura cretae three times a day may be given to a child 3 or 4 years old. When stimulation becomes necessary, from 5 to 15 ♏ of brandy, according to the age of the child, may be given with albumin water, or if the stomach will tolerate it, teaspoonful doses four to six times a day of a mixture containing liq. strych. ♏xii, tinc. strophanth. ♏xxiv, sp. ether ♏xl, syrupi aurant. ʒiij, and aq. chloroform. ad. ʒiij will be useful. To counteract

the extreme collapse resulting from the great drain of fluids from the tissues normal saline, either subcutaneously or per rectum, should be administered, and it is often a good thing at the outset of an attack to irrigate the large bowel with sterile water or normal saline. Gastric lavage may be called for if vomiting is troublesome, but should not be repeated more than once, because in young infants it may produce collapse. Good hygiene is essential with plenty of fresh air, and precautions against the house-fly as an important agent in spreading the disease, the three principal factors in prevention being a clean milk supply, education of the public, and compulsory notification.

124. Treatment of Syphilis by Hectine.

DUDUMI (*Ann. des mal. ven.*, March, 1913) states that hectine has a curative action in cutaneous and mucous syphilides and gummatous syphilides, whether ulcerated or not, but that this treatment should be followed by mercury and iodides. He considers that hectine is indicated not only in cases of mercurial intolerance but in all cases of syphilis, primary, secondary, tertiary, and hereditary, and especially in ulcerative forms, but that it cannot replace mercury, which still remains the fundamental treatment. The dose given was 20 cg. daily by intramuscular injection; from five to twenty-five injections in all. Comparing hectine with salvarsan, the author regards the cicatrizing action of salvarsan superior to that of hectine, but the latter has the great advantage of being free from the dangers inseparable from the use of salvarsan. Hectine gives rise to no visual or auditory troubles, and causes no disturbance of the circulatory, digestive, or nervous systems.

125. Galvanic Current in the Treatment of Chilblains.

CHUITON (*Arch. d'électr. méd.*, February 25th, 1913) states that he has obtained uniformly good results during the last two years by treating chilblains of the hands and feet with the galvanic current. Patients addicted to chilblains have not only been immediately relieved, but have had no recurrence of this annual trouble in the following winter. The technique consists in placing the hands or feet in two baths of saline water into which the galvanic current is directed. The current is applied at whatever intensity can be supported by the patient; if the chilblains are inflamed, it may be reduced to 5 or 6 milliampères, and the result is correspondingly slow, although in the author's hands it has always been sure. The more irritating spots may be covered with collodion before beginning the treatment. The sittings are repeated daily for as long as necessary, each sitting lasting twenty minutes, and the current being passed in one direction for the first ten minutes, and in the opposite direction for the second ten. From the first sitting the itching diminishes or disappears.

PATHOLOGY.

126. Avian Tuberculosis in Man.

THREE cases are recorded by E. LÖWENSTEIN (*Wien. klin. Woch.*, May 15th, 1913) in which tubercle bacilli of the avian type were isolated. Two children, aged 3 and 12 years respectively, suffered from renal tuberculosis, and, while not reacting to human tuberculin, were very sensitive to avian tuberculin, to which they reacted violently with as weak a dilution as 1 in 100,000. The course of these two cases was similar; in both there had been a high evening and a low morning temperature for two years. But, in spite of this persistent fever, the general condition was satisfactory, and it was only the frequency of night sweats that made the tuberculous nature of the fever probable. This was unaffected by the common febrifuge drugs, and was even increased by pyramidon. There were no signs of pulmonary tuberculosis, but in the case of the 3-year-old girl acid-fast bacilli were found in large quantities in the urine at almost every examination: and the 12-year-old boy's urine yielded similar bacilli in large quantities after an injection of avian tuberculin. Guinea-pigs, rabbits, and hens were inoculated with the urinary sediment, the former subcutaneously, the two latter intravenously. The rabbits usually died in four to six weeks, and, though they presented no macroscopic lesion, the bacilli could be recovered from the blood in the heart and grown on glycerine-agar. The hens did not become ill till four to six months after inoculation, when their lungs contained grey, sharply-defined tubercles. In one hen a cavity formed in the spleen, and in another nodules were found in the liver and kidneys, as well as in the lungs. Although the peritoneum was not involved, tubercle bacilli were found in the ovary and in the eggs, even when these were of the size of hazel nuts. Both the yolk and membranes of the egg contained bacilli. Similar observations have been made by Lydia Rabinowitsch and M. Koch. The bacilli were also found in the blood of the inoculated hens. The guinea-pigs, however, were perfectly immune to pure cultures of the bacilli. Tested with Old Tuberculin and avian tuberculin, they reacted only to the latter. The bacilli formed a moist, greasy growth on glycerine-agar, whereas tubercle bacilli of the human type never grow thus. Dry growths of avian tubercle bacilli may, however, be obtained, and in their relation to other animals avian bacilli are apt to be erratic sometimes. The two patients were treated with avian tuberculin, and had been "symptom-free" for over a year. While the diagnoses in these cases was relatively easy, it was difficult in the third case, in which multiform abscesses formed under the skin and swellings appeared in the skin itself. There were also ulcers of the nose, mouth, and of the intestinal mucosa. Gummata, atypical cutaneous tuberculosis and sporotrichosis were suspected, as was also leprosy, when a number of acid-fast bacilli were found; but no Hansen cells were demonstrable. A few weeks before the patient's death the bacilli were obtained in a pure culture, and found to be innocuous to guinea-pigs which survived for years, and when killed showed only calcified inguinal glands, and a few tubercles in the spleen and kidney. Rabbits developed miliary tuberculosis of the lung, kidney, and liver after a large intravenous injection, but did not succumb readily. Hens, on the other hand, after one-tenth of the same dose injected into a vein, became very ill and emaciated at first; then temporarily recovered, and finally died in six to nine months, with single nodules in the lungs and liver. The author concludes that avian tuberculosis is commoner in man than has hitherto been realized. The distinction between the two forms in children can easily be made by testing with human and avian tuberculin. A positive reaction to the latter or a negative reaction to the former indicates the nature of the infection. In adults, however, who commonly react to human tuberculin, a positive reaction to avian tuberculin is alone of diagnostic value. The source of infection is the egg of a tuberculous hen, and, after artificially infecting eggs with tubercle bacilli, the author has shown that even hard-boiled eggs may contain virulent germs.

127. Nephrotoxins in Chronic Nephritis.

THÉVENOT (*Prov. méd.*, May 17th, 1913), after referring to the fact that Castaigne and Rathery had made a minute study of the cystolysins in 1903, mentions that from that point his own researches arose. Rathery suggested that the necessary experiments ought to be carried out *in vitro* rather than *in vivo;* but, in the author's opinion, the latter method is the more convenient. His practice is to inject a rabbit intravenously with the blood serum of patients suffering from this disease to the amount of from 8 to 12 c.cm. These injections were given four times in twenty-four hours, and the rabbit died the following day. The subsequent pathological technique followed that of Rathery—fixation in alcohol-chloroform-acetic acid, followed by staining with haematoxylin and fuchsin after Sauer. The author then gives the pathological report on these experiments, and gives details of the various types of nephritis from which the patients suffered whose serum was used in these injections. His conclusions are: (1) That the nephrotoxins of the blood of those suffering from nephritis are in accord with the gravity of the clinical phenomena: (2) that they are in inverse ratio to the state of permeability of the kidney—estimated according to the method of Claude and Balthazard: (3) that they are in direct relationship with the albumins in the serum; (4) that they appear to present no parallel with the amount of urea in the serum. It seems therefore probable that the nephrotoxins developed in man in the course of chronic nephritis belong to the albuminoids. This is not surprising, because the poisons of diabetic coma seem likewise to be quaternary substances. These nephrotoxins do not represent by themselves the poisons of uraemia, which are in direct relation with the urea and toxicity of the blood serum, but constitute a part only of these poisons.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

128. The Effect of Temporary Occlusion of Renal Circulation on Renal Function.

FITZ AND ROWNTREE (*Arch. of Intern. Med.*, July 15th, 1913) studied experimentally the effect of temporary occlusion of renal circulation upon renal function, because of the surgical importance attached to the question concerning the length of time that the renal vessels can be clamped without permanent injury to renal function or renal tissue. The vessels in rabbits and dogs were clamped for varying periods of time, the renal function being subsequently tested by the excretion of phenolsulphonephthalein, lactose, potassium iodide, and salt and water. The presence or absence of albumin or casts was also observed, and the functional results were controlled by histological examination of the kidneys. Previous observers had noted that such clamping for periods up to an hour may produce temporary anuria, albuminuria, and cylindruria, and that permanent interstitial tissue increase follows prolonged interference with the renal circulation, but beyond this no systematic study had been made. In the authors' experiments etherized rabbits and dogs were employed, the abdomen being opened aseptically in the median line, the left kidney exposed, and the vessels freed from the surrounding tissues and clamped with a small rubber-protected bulldog clamp. No attempt was made to prevent the capsular circulation, and after the left vessels had been clamped the right renal vessels were ligated and the right kidney removed and weighed. In a few animals, for control, the right kidney was left untouched. With the clamp *in situ* the abdomen was closed and covered with a warm saline pad and towel, light anaesthesia being maintained, and, the desired time having elapsed, the clamp was removed, and, after the macroscopic appearance of the kidney had been noted, the peritoneum and abdomen were sewn up, the bladder emptied, and the animals placed in metabolism cages. The clamp was applied in series of animals for ten, twenty, thirty, forty, and sixty minutes, and repeated studies of renal function were made, the animals being finally killed, and the kidneys examined histologically. The excretion of lactose was regarded as the index of vascular functional capacity; that of phthalein as an index of total renal function (though predominantly tubular); and the excretion of salt and iodide as the index of tubular functional capacity. In the majority of cases clamping of the renal circulation up to forty minutes produced a definite disturbance of renal function the intensity of which bore no relation to the length of time the vessels were clamped, nor was the vascular or tubular function chiefly affected, as shown by the presence of albumin and casts, diminished phthalein output, and delayed lactose and iodide excretion. Salt was constantly well secreted, and after recovery nearly normal function was regained within six days, showing that the disturbance was slight and temporary. One animal failed to return to normal phthalein output, and two died quickly with marked signs of renal insufficiency. In every instance with one kidney removed and the other clamped for an hour death took place within eight days. The important rôle in renal surgery of the unoperated kidney was seen in the series with a normal kidney remaining in which clamping for an hour produced but slight temporary disturbance. Pathologically the gross changes were marked congestion with scattered minute haemorrhages, and microscopically haemorrhage, oedema, necrosis, and cellular infiltration. There was no evidence of any progressive lesion. Except in extreme cases, no definite relation was demonstrable by functional tests between the pathological and functional disturbances produced.

129. Ankle Clonus.

TILESTON (*Amer. Journ. of Med. Sci.*, July, 1913) discusses the importance of ankle clonus in diagnosis and prognosis, pointing out those conditions in which its presence is unaccompanied by other evidence of disease of the nervous system. True ankle clonus only is considered—that is, when continuous upward pressure on the sole of the foot is followed by a series of rhythmical oscillations with a frequency of from five to seven a second, and often continuing as long as the pressure is maintained. The symptom is never found in normal persons, and it is usually associated with exaggerated tendon reflexes. Cases are recorded illustrating the occurrence of clonus in infectious diseases—for example, septicaemia, typhoid, and tuberculosis either unilaterally or bilaterally, and generally not persisting for more than a few days or weeks. Ankle clonus is not uncommon in uraemia, arising in chronic cases several days before a seizure, thus furnishing a valuable prognostic indication, and during narcosis from ether and chloroform its presence has been frequently noted. Its occurrence in hysterical and neurasthenic patients should always arouse suspicion of organic nervous disease, suspicion becoming a certainty if the Babinski toe sign is also present. After the use of hyoscine in medicinal doses ankle clonus was noted in from one quarter to one half the cases, while the Babinski toe sign was present in the still greater proportion of 86 per cent., indicating a curious selective action on the part of the drug not found after any other drug, and forming an exception to the rule that a positive Babinski sign in adults indicates organic nervous disease. Chronic arthritis often causes increased reflexes of the corresponding limb, and, if the ankle is involved, clonus is by no means uncommon apart from any organic nervous disease. Since the condition may appear in many toxaemias quite apart from any demonstrable lesion of the central nervous system its diagnostic importance is restricted, but in the absence of toxic states it is still of practical value in the diagnosis of organic nervous disease. In infectious diseases its presence adds to the gravity of the prognosis, as it indicates a high degree of toxaemia, but it does not preclude the possibility of recovery.

130. Glycosuria and Syphilis.

FOLLOWING the publication by Laurent of a case of syphilis associated with glycosuria, MALHERBE of Nantes (*Ann. de Derm. et Syph.*, June, 1913) describes the case of a man aged 50 who consulted him ten years ago for the symptoms of diabetes. His urine contained 5 grams of sugar per litre, which, in spite of a month's strict régime, showed no diminution at the end of that time. A thorough examination revealed the presence on his forehead of seven or eight ham-coloured papules and other suspicious macular and papular lesions on the front of the arms along the veins. There was typical enlargement of the inguinal and retro-mastoid glands. The patient, after much pressing, admitted having had a sore some months previously, and the penile scar was still evident. It was thought at first that the diabetes had existed before the syphilitic infection and had only lately produced symptoms, but in view of the multiplicity of the lesions and the general state of the patient, an energetic mercurial and iodide administration was immediately instigated, with the result that three weeks later the sugar had disappeared from the urine, and after six weeks the eruption was no longer visible.

SURGERY.

131. Cerebellar Tumour after Slight Injury.

THEILAND-POULSEN (*Ugeskrift f. Laeger*, June 19th, 1913), in support of his contention that apparently trivial injuries may cause fatal cerebellar tumours, records the case of a farmer, aged 30, who was tripped over, and falling backwards into a shallow ditch, struck the soft grass-covered border with the back of his neck. He felt violent pain in the back of his head, but as there was no other sign of an injury he continued his work. From this date he suffered from constant headache, which was most severe in the back of the neck, although he had been perfectly well before the accident. After about three months he could not continue his work on account of headache radiating from the back of the neck to the forehead, vomiting, giddiness, and dimness of vision. His gait was unsteady, but there was no paralysis of the limbs nor tender areas over the brain. The sensory and motor functions were normal, and Romberg's sign was not present. The left patellar and cremasteric reflexes were absent. The pupils were equal and their reactions normal. The optic disc was infiltrated and blurred, and the congested veins in this area disappeared under greyish-white stripes and spots. Surrounding the optic disc were some small,

scattered haemorrhages, which were most numerous below the disc. Potassium iodide and mercury did not improve matters; the ocular symptoms progressed, and the headaches necessitated the use of morphine. Lumbar puncture was also fruitless, and retinal haemorrhages appeared in both eyes. About five months after the accident the right parietal bone was trephined, and the dura mater was found distended, but otherwise normal. The brain substance protruded somewhat through an incision in the dura mater, but it showed no pulsation. The vomiting and headache ceased after the operation, the wound healed satisfactorily, and the patient was afebrile till the eighth day, when a fatal attack of pneumonia set in. At the necropsy the brain was found to be somewhat congested, with a few flakes of fibrin on its surface. The base of the right cerebellar hemisphere was rather firm and prominent, and on section showed a sharply defined cyst, of the size of a hen's egg, containing a firm, greyish-brown tumour, and about 30 grams of serous fluid. The microscope showed a system of cubical cells surrounding a network of capillaries. The alveolar growth was diagnosed as a perithelioma, originating either in the meninges or the choroid plexus. In some places the tumour exhibited cystic degeneration and haemorrhages. The author is convinced that the fall caused a haemorrhage into the cerebellum, and thereby started the development of the tumour.

132. Anaesthesia and Anoci-association.

CRILE (*Surgery, Gynaecology, and Obstetrics*, June, 1913) summarizes his theories upon operative and post-operative "shock," and the relation this has to anaesthesia, in a paper read before the Clinical Congress of Surgeons of North America, at New York, on November 12th, 1912. He observes that the technique of surgery the world over is now well standardized; but one of the greatest of outstanding problems is the elimination of the harmful effects of the necessary procedures, including the anaesthetic. These effects are due to exhaustion of the brain cells from psychic and traumatic stimulation. Under inhalation anaesthesia these traumatic stimuli reach the highest centres and cause a discharge of brain cell energy by a process of oxidation. Nitrous oxide, by interfering with the use of oxygen by the brain cells, protects the latter during a surgical operation. By so doing it prevents the destruction of the chemical compounds in which is stored the energy of the brain cell. This explains its great value as an anaesthetic. Crile also draws attention to the fact that powerful stimuli, whether psychic or traumatic, and whether received by the brain while awake or under inhalation anaesthesia, cause a lowering of the threshold to stimuli. This "lowering of the threshold" is the source of the nervousness, irritability, and altered personality which so frequently follow operation. To the principle of the exclusion of all harmful stimuli during operation the author has applied the term "anoci." Its successful practice requires careful personal management, united with the use of such chemical agents as will exclude from the brain all harmful stimuli. The technique employed by Crile is briefly as follows: One hour before operation $\frac{1}{6}$ grain of morphine and $\frac{1}{150}$ grain of scopolamine are administered. Nitrous oxide, either alone or with ether, added as required, is then given until the patient is unconscious. Infiltration of the skin and subcutaneous tissue with $\frac{1}{400}$ grain of novocain is next made, and in order to spread the latter immediate local pressure with the hand is applied. Anaesthesia is immediate and the incision may be made at once. The fascia, muscle, and peritoneum are infiltrated in turn and divided. The latter is also everted and injected with $\frac{1}{2}$ per cent. solution of quinine and urea hydrochloride, completely surrounding the line of proposed sutures. If "blocking" has been complete, upon opening the abdomen no increased intra-abdominal pressure will be found. There is no tendency to expulsion of the intestines and no muscular rigidity is present. During the past year Crile and his associate, Lower, performed 629 abdominal sections under anoci-association, with a mortality-rate of only 1.7 per cent.

133. Arthritis Tarsi Paratyphosa.

J. TILLGREN AND A. TROELL (*Wien. klin. Woch.*, May 29th, 1913) record the case of a boy, 6 years old, who had previously suffered from no other illness than whooping-cough. In the end of April, 1912, he and his sister were out for several hours in cold and wet weather, and suffered in the evening from tiredness, anorexia, and general malaise. The sister recovered in a few days, while the boy developed diarrhoea, with green and very offensive motions. Fever, headache, and abdominal pain led to the patient being sent to an isolation hospital. The pharynx was rather red, but there was no cervical rigidity, no enlargement of the spleen, or a characteristic roseola. Ficker's reaction was positive in dilutions of 1 in 50 and 1 in 100. The temperature rose gradually with remissions in the morning, and was suggestive of typhoid fever. After a month the patient was about to get up when the temperature became subfebrile, and the left foot became painful. Ficker's and Widal's tests were made, with positive results for the paratyphus bacillus. But this bacillus could not be grown from the urine or faeces. There was a diffuse red swelling on the dorsum of the foot, which was slightly tender. Deep fluctuation was demonstrable in a small area over the outer aspect of the navicular bone. An incision yielded a small quantity of thin, greyish-yellow pus, which was found between the navicular and the third cuneiform bone. A tampon was inserted and a splint applied. No bacteria could be found on staining the pus with methylene blue; but cultivation of the pus on various media yielded several colonies of bacteria, the reaction of which to bacteriological tests placed them in the group of paratyphus bacilli. The patient made a slow but uneventful recovery, and was able to walk in two months' time. The striking features of this case are the late appearance of the abscess after the general symptoms had subsided, and its localization, to which the authors can find no parallel. In the scanty records of metastatic abscesses due to the paratyphus bacillus, the ribs, the sterno-clavicular joint, the lower end of the femur, and the mastoid process appear to be the sites most often affected. The recognition of this type of abscess is often difficult, as the preceding general symptoms of infection may be slight, and interpreted as those of simple enteritis. In doubtful cases a definite diagnosis can alone be made by a serological examination.

OBSTETRICS.

134. Cystic Degeneration of Kidneys and Liver: Pregnancy.

HEINSIUS (*Zentralbl. f. Gynäk.*, August 16th, 1913) reported at the Obstetrical Society of Berlin an instance of a woman, aged 32, who since her first confinement, four years previously, had been under treatment for floating kidney. She became pregnant once more, and went on satisfactorily until the eighth month, when she had a sudden attack of vomiting, headache, extreme dyspnoea, and disturbance of vision with temporary blindness. There was a high degree of anasarca and scanty secretion of albuminous urine, but no loss of consciousness. The extremities were cold, the pulse 140. Colpo-hysterotomia, anterior, was performed and the child delivered by the forceps. The patient's condition at once improved. There was a tumour like an ovarian cyst on the right of the uterus, which was rightly taken for a cystic kidney. It diminished in size during the puerperium, and the patient seemed convalescent. A few days later the tumour increased in size again, and the right lower extremity became swollen; the urine contained blood and pus. Rigors set in, and the integuments over the right loin became swollen, red, and shiny. Infected hydronephritis, pyelonephritis, and perinephritic abscess were diagnosed, and the tumour was removed. It proved to be an enormous suppurating small cystic degenerated kidney. The patient died. The left kidney and the liver were found to be in a similar condition. There was hypertrophy of the left ventricle. Heinsius concluded that pregnancy was gravely compromised by the presence of bilateral small cystic degeneration of the kidneys, but the complication was fortunately rare.

135. Diabetes and Pregnancy.

FRUHINSHOLZ (*Ann. de gynéc. et d'obstét.*, August, 1913) analyses in full three cases which have recently come under his care, since Le Folliet and Parisot published their experiences in 1911 and 1912. In the first, diabetes developed during gestation in a patient aged 35, a primipara, whose father died of diabetes. The fetus was big, and died during delivery; the forceps was used on account of uterine inertia, and there was difficulty in delivering the shoulders. The placenta was very large, and had to be extracted manually. The perineum was slightly torn, and was sutured. The child was a male, nearly 10½ lb. in weight. The patient did well, and the perineal wound healed. The second case was attended by Fruhinsholz during the patient's third pregnancy; she was 35, and had given birth within a year of her marriage to a male child weighing 7 lb. six weeks before term; it was cyanosed, and died in forty-eight hours. Hydramnion was marked, and was

also present in the second pregnancy, where a macerated male fetus weighing 8 lb. was delivered in the eighth month. Fruhinsholz found that the patient was given to drinking water freely, and complained of pruritus vulvae, and he discovered that she was diabetic. There was hydramnion as before. The patient was put on the iodo-mercurial treatment. Labour set in during the eighth month; 2½ pints of liquor amnii came away, and a male child weighing nearly 11 lb. was delivered asphyxiated. It was revived, but died on the next day; the mother did well. The third case was a remarkable instance of diabetes and syphilis combined. The patient was 35 years old; her grandmother died of diabetes, her father appears to have been syphilitic, and the mother, whose only child she was, succumbed to tuberculous phthisis at the age of 33. The husband seemed free from syphilis. She married at 24, and had three abortions between the ages of 25 and 29; she suffered at the same time from intolerable thirst, polyuria, and bulimia, and later from neuralgia, intercostal and radial, in both arms. Then diabetes was detected by a physician. At 31 there was abortion in the fourth month, and next year pregnancy again occurred. A macerated fetus, dead about ten days, yet weighing 8½ lb., was delivered at term. All trace of sugar disappeared during this pregnancy, but septic symptoms developed in the puerperium, with rheumatic pains, scarlatiniform erythema, otitis, cystitis, and albuminuria, yet the patient recovered, whilst the diabetic symptoms, on the other hand, reappeared. Once more, and this time when under Fruhinsholz's care, she became pregnant. At first the urine held much glucose, yet it disappeared, and no sugar could be detected down to her spontaneous delivery at term. She was kept under treatment from the fifth month, Déret's *élixir biiodé* being given. On this occasion the child weighed only 5 lb., and as it was being reared the appearances of hereditary syphilis developed. The mother recovered speedily, yet directly after delivery the glucose reappeared (September, 1911), and when the report was published the patient's urine contained a high proportion of sugar. Fruhinsholz notes how diabetes resembles syphilis in respect to the big fetuses and placentae, the frequency of hydramnion, and the low vitality of the fetus. But whilst specific treatment is most beneficial to mother and child in the case of syphilis, no method of treatment seems of any avail to the child when the mother is diabetic. Her malady undergoes a kind of eclipse during gestation, only to reappear in the puerperium. Thus it is highly inadvisable for a diabetic woman to become pregnant.

GYNAECOLOGY.

126. Acute Miliary Tuberculosis; Primary Disease in Female Genital Tract.

VON KUBINGI (*Zentralbl. f. Gynäk.*, August 9th, 1913) recently discussed at a meeting of a society in Budapest the question of primary tuberculosis of the uterus and appendages and its possible diffusion. He reports a case where this complication, in his opinion, followed an abortion. The patient was 26; she had married when 15 years of age, and had suffered from long ill health after an abortion at the fourth month. She became pregnant again and aborted in the middle of the third month. Feverishness followed, and she was admitted into hospital. The uterus was enlarged and the appendages swollen. Hard infiltration, clearly of old standing, was detected in the posterior fornix. Rigors set in, with the physical signs of pleuropneumonia and pyaemic changes. Extreme dyspnoea and cyanosis developed, without any cerebral or mental symptoms. Death occurred on the forty-fifth day after admission. At the necropsy, old-standing tuberculous disease of the uterus and tubes was discovered, and acute miliary tuberculosis of the lungs. Scipiades, in discussion, observed that Krönig denied that absolutely isolated genital tuberculosis without isolated foci elsewhere had ever been authenticated at a necropsy. The bones in particular were often entirely overlooked. Von Kubingi replied that some living authorities thought otherwise. When all surgeons and physicians could demonstrate the existence of primary tuberculosis in almost every other part of the body, it seemed strange that so well known a disease as tuberculosis of the Fallopian tube could never be primary. No doubt tubercle bacilli might be concealed in an enlarged gland or in an old scar, overlooked by a clinical reporter, but still the lungs, kidneys, and other organs were undoubtedly the seat of primary tuberculosis, and nobody urged that in every case there might be an overlooked primary focus. The evidence that primary tuberculosis of the internal organs might occur was very strong, and there could be no doubt that tubercle in the uterine appendages often extended beyond the genital tract.

127. "Giant Ovary" free from Neoplasm or Inflammation.

POZZI AND ROUHIER (*Bull. et mém. de la Soc. Anat. de Paris*, July, 1913) publish an account of an instance where a painful ovary was amputated, and, though distinctly enlarged, was free from any fibromatous or sarcomatous elements and showed none of the appearances seen in oöphoritis. It measured 3 in. in length, nearly 1½ in. in breadth, and ⅔ in. in thickness, and thus was nearly six times the bulk of a normal ovary, its relative proportions being maintained. The patient was an embroiderer, aged 28. She had been subject to leucorrhoea and attacks of pain in the heel, temporo-maxiliary joint, and phalangeal articulations. This had been followed by severe abdominal pains aggravated by walking, coitus, etc. Pozzi detected a tender mass in Douglas's pouch, and apparently two enlarged and tortuous tubes. There was slight elevation of temperature. He suspected double salpingitis and operated. The uterus was found three times as big as when non-gravid, congested, and softened. The Fallopian tubes were normal, the ovaries greatly enlarged without alteration of form. The right ovary, which was smooth, was not removed; the left was amputated, as it was somewhat irregular, and was the mass in Douglas's pouch which had been very painful when touched. Convalescence was speedy. The amputated ovary, of which the proportions are given above, bore a big corpus luteum. On section the cicatrices of atresic follicles and slight oedema were detected. There was no sclero-cystic degeneration of the stroma. The condition seemed to be pure hyperplasia.

THERAPEUTICS.

128. Secretin in the Gastro-Intestinal Disorders of Children.

HARROWER (*Pediatrics*, July, 1913) draws attention to "this new idea in the treatment of summer dyspepsias." Wentworth found that secretin was absent in the duodenum of children dying from infantile atrophy and malnutrition. Boardman Reed has used secretin in the form of a preparation called "secretogen," in cases of digestive insufficiency; he regards it as superior to ordinary digestives and tonics. Secretin acts as a very effective stimulus to gastro-intestinal digestion, controls flatulence and fermentation, and is not followed by any injurious reaction. It acts not only on the stomach and pancreas, but also on the production of bile and of succus entericus from the pylorus to the ileum. Its therapeutic use does not interfere with ordinary dietetic or drug treatment. The author praises it in achylia gastrica, gastric and duodenal catarrh, "indigestion," and pancreatic insufficiency. He considers it is equally indicated in adults. Up to the present time but little pathological study has been directed to the subject of secretin; but it is probable that in many intestinal disorders, such as typhoid fever, dysentery, sprue, pellagra, etc., there is diminution or loss of secretin in the intestinal mucosa, or a perversion of its secretory functions. The whole subject, then, may possibly have a great future in front of it.

129. Cerebritis following Salvarsan.

CAESAR of Dresden (*Dermat. Zeitschr.*, xx, No. 7) describes the clinical and pathological features of 7 cases in great detail, and draws some valuable conclusions from his findings. In all 7 cases there was a history of alcohol, epilepsy, mild dementia from birth, or some other ill-defined cerebral condition in which the brain or its capillaries were probably to some degree abnormal, even before the salvarsan injections. He is of opinion that salvarsan has a toxic action on the cerebral capillaries, tending to paralyse their contractile elements. In the cases where encephalitis supervenes there must have been, he thinks, preceding capillary damage, and therefore every patient who is to be injected should be previously most minutely questioned and examined for the possible existence of this, and excluded from the treatment if positive evidence is forthcoming. Besides arterio-sclerosis as a causation or concomitant of cerebral capillary degeneration, he instances the chronic intoxications, particularly alcohol and existing disease of the central nervous system. In conclusion he cites the confirmation of his views by the pathologist, Schmorl of Dresden,

who from microscopic examination of Caesar's *post-mortem* specimens, in which he found fatty degeneration of the endothelial capillary wall entirely apart from thrombosis and cerebral softening, is in agreement with the former's hypothesis of a toxic action of salvarsan on the capillaries of the brain.

140. Duodenal Ulcer in Infancy.

AT a meeting of the American Pediatric Society held in May, 1913, EMMETT HOLT (*American Journ. of Obstet. and Dis. of Women and Children*, July, 1913) described 4 cases of duodenal ulcer that occurred at the Babies' Hospital, New York. The ulcers averaged about a centimetre in diameter, and were all situated just below the pyloric ring in the posterior wall of the duodenum. No inflammatory reaction was present, and the base was necrotic without any sign of repair. The author noted that since 1903 groups of such cases had been published by several observers, and the increasing number of reports appeared to show that the condition had previously been overlooked, and is not at all uncommon. Certainly, as compared with gastric ulcers, duodenal ulcers in infants are relatively common. Thus in 1908 Entz of Budapest found 10 cases of duodenal ulcer and only 1 of gastric ulcer in 364 autopsies. Helmholz found 16 cases in six months in various European hospitals, and Schmidt has reported 20 cases in 1,109 autopsies upon infants during the first year of life. In several of the recorded cases marasmus and infantile atrophy have coexisted, but Holt regards this connexion as an accidental one. The diagnosis during life is very difficult, and has been made in but a small proportion of cases. In a few instances the vomiting of blood or "coffee-ground" material occurred, but in many the only symptom was acute collapse, followed by death due to peritonitis or internal haemorrhage. In the majority of cases the condition was fatal, although spontaneous recovery has occurred in a small proportion. Owing to the uncertainty of diagnosis, surgical treatment is practically out of the question. In one of the author's cases the passage of a duodenal catheter led to the diagnosis of a duodenal ulcer which was confirmed at autopsy. Holt urges upon all those who perform autopsies upon infants to make a careful and systematic search of the duodenum, since ulcers may readily be overlooked in a superficial examination of the intestine.

141. The Treatment of Bronchial Asthma with Tuberculin.

DURING the past six years, O. FRANKFURTER (*Wien. klin. Woch.*, June 12th, 1913) has observed 8 cases of bronchial asthma in which he also suspected the presence of pulmonary tuberculosis. Some authors have conclusively demonstrated that a patient does not suffer simultaneously from asthma and pulmonary tuberculosis, while others have with equal assurance found a close relation between these conditions. All the author's patients exhibited suspicious signs of pulmonary tuberculosis, such as dullness and diminution of respiration over the apices; and in one case râles were heard over the right apex. Treatment suitable for consumptives was accordingly prescribed, but rest combined with other hygienic, dietetic measures was futile. Tuberculin (Béraneck) was then cautiously prescribed in the first 6 cases with excellent results. These can hardly be attributed to the psychic effects of the subcutaneous injections, for improvement was seldom marked till several had been given, in one case eleven and in another nine injections. The fact that on two occasions relapses occurred after appreciable intervals suggests the presence of a potent, if not a permanently active, factor. A detailed account of the 6 cases shows that the recovery effected by the first patient was maintained two years later; that the second patient relapsed after an interval of two years; that the third patient improved much after nine injections, but was unable to continue the treatment for private reasons; that the fourth patient's condition was "satisfactory" a long time after the completion of the treatment; that the fifth patient had no serious attack after the treatment was started, her cough and dyspnoea becoming much less troublesome; that the sixth patient was unable to continue the treatment after the second injection for various reasons. It is possible that peribronchial, tuberculous foci may have been responsible for the asthma in these cases, and that the tuberculin affected them beneficially. If this be so a large dose of tuberculin should cause a focal reaction, and thereby precipitate an attack of asthma. This test of his theory the author has not carried out, and he leaves it to others to investigate the effect of rapidly increasing doses of tuberculin, as used for diagnostic purposes in tuberculosis, on cases of asthma suspected of pulmonary tuberculosis. He also suggests the injection of a series of control cases of asthma with normal saline solution.

PATHOLOGY.

142. The Sensory Fibres of the Phrenic Nerve.

IN the course of an experimental study of the innervation of respiratory muscles, G. C. MATHIESON (*Rev. of Neurol. and Psychiat.*, December, 1912) observed the effects of stimulation of the central end of the divided phrenic nerve or of one of its roots in more than twenty-five dogs, five rabbits, and five cats. The anaesthetic was varied according to the animal used; on several occasions decerebrate cats were employed. In dogs Mathieson found, on half a dozen occasions, that the right phrenic nerve gives off, near the diaphragm, branches which ascend in two strands along the inferior vena cava to be distributed to the pericardium, one branch going to the auricular portion; this arrangement corresponds with that described by Luschka in 1853 for the right phrenic nerve of man. The left phrenic gives off two small branches, as it passes behind the heart, which go to the pericardium; they are composed of about a dozen medium-sized medullated fibres and a similar number of non-medullated fibres. Mathieson found that stimulation of the central end of the phrenic nerve brings about a reflex rise of blood pressure due to excitation, partly of muscle-sense fibres from the diaphragm, partly of sensory fibres from the serous membranes. The pleura and pericardium have apparently additional sensory fibres to those supplied by the phrenics. Stimulation of the central end of the phrenic nerve brings about an increase in rate and depth of respiratory movements, a result similar to that produced by stimulating any sensory nerve. In no case was any expiratory reflex evoked; "sensory impulses passing up the phrenic nerve play little or no part in the normal regulation of respiratory movements." At the same time Mathieson holds that afferent impulses from the diaphragm, namely, its muscle—afferent nerve—fibres which constitute the somatic afferent fibres of the phrenic nerve, probably play a part in the maintenance of reflex tonus of the muscle, and in bringing about its steady co-ordinated contraction. His paper contains other points of anatomical and physiological interest.

143. Histological Studies of Intestinal Polyadenoma during and after X-ray Treatment.

THE results of two comparative biopsies in a case of polyadenoma of the large intestine, which was submitted to *x*-ray treatment, are given by AUBERTIN and BEAUJARD (*Arch. d'électr. méd.*, July 10th, 1913). For three years previously the patient had been subject to diarrhoea, with muco-sanguineous stools. Rectoscopic examination showed that the mucosa of the intestine was covered with polypi of various sizes, some having the dimensions of a cherry. The first histological examination, made after only a few *x*-ray sittings, showed the usual aspect of mucous polypi of the rectum: the second was made after an interval of eighteen months, by which time the patient had considerably improved in health; the polypi had diminished in number and size, and there were sound mucous areas between the polypous zones. The patient had had twenty-five *x*-ray sittings, at each of which three applications (two abdominal and one perineal) of 4 Holzknecht units had been given, the rays having been filtered through aluminium (1½ to 3 mm.). At the second biopsy the histological modifications, corresponding to the diminution in volume of the tumours, were found to be essentially: (1) diminution in volume of the glandular culs-de-sac; (2) transformation of mucous cells into indifferent cylindrical cells, with, correlatively, diminution of the mucous secretion; (3) condensation of the stroma, with transformation of the connective cells into plasma cells, the stroma at the same time becoming less vascular, and the eosinophile granules, which formerly were very numerous in the middle of the stroma, emigrating to the interior of the glandular culs-de-sac; (4) disorganization and atrophy of the lymphoid masses. *X* rays brought about, in short, the loss of the specific character of the epithelial cells of the tumours; from the state of being muciparous, the cells became indifferent. It is interesting to place by the side of this disappearance of the muciparous cells the disappearance of the muco-sanguineous diarrhoea. The histological result is therefore in accord with the clinical, showing that *x* rays act indisputably on such adenomatous tumours.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

144. Spontaneous Pneumothorax following Artificial Pneumothorax.

IN two cases of pulmonary tuberculosis in which an artificial pneumothorax was induced by J. HORNUNG (*Med. Klin.*, May 11th, 1913) rupture of the collapsed lung occurred, leading to a spontaneous pneumothorax. The first patient was a doctor, aged 39, whose left lung was collapsed by the introduction of 1,500 c.cm. of nitrogen injected according to Forlanini's method. The intrapleural pressure changed from − 15 to + 5 during the injection, which was well tolerated in spite of marked displacement of the heart. The patient, who was subject to violent fits of coughing, developed subcutaneous emphysema after such a fit next day. On the eighth day a second injection of 1,000 c.cm. was given, the intrapleural pressure again changing from negative to positive. During this injection an adhesion evidently gave way, for both the patient and the operator felt "something give" in the chest at the same time that the intrapleural pressure suddenly fell somewhat. On the sixteenth day a third injection of 300 c.cm. was given, the pressure being slightly positive, and the patient experiencing some discomfort. Three days later he suddenly felt "something give" in his chest; and severe pain in the left chest was accompanied by marked dyspnœa and cyanosis. The heart was found displaced to the right, and a trocar thrust into the pneumothorax yielded gas under persistent high pressure. Death followed in a few hours. The necropsy showed complete collapse of the left lung, which was compressed from below upwards against the vertebral column. Many vascular bands, 0.5 to 4 cm. long, passed from the left aspect of the lung to the chest wall; and between the second rib and the upper lobe of the lung was a dense band, 6 cm. long and 0.4 cm. wide. On the left aspect of the lower lobe, close to its lower margin, was a triangular wound of the pleura under which a clot of blood had formed. Water injected into the respiratory passages escaped in a fine jet through this wound, which had apparently been made by the stretching of one of the aforementioned bands. Sections of the lung showed that the pulmonary tissue about the wound was perfectly healthy. In the second case a large pneumothorax was induced. Five days after the third injection there was sudden pain in the chest, severe dyspnœa and cyanosis, and a temperature of 104.4°. No pulse could be felt, and the state of collapse was extreme. When a trocar was introduced gas escaped under high pressure, which was unaffected by the withdrawal of 1,500 c.cm. Spontaneous pneumothorax was therefore diagnosed. The patient recovered, and was afebrile a month after this accident. The author argues that in this case, also, healthy lung was wounded, for, had the air entered the pleural cavity through a broken-down tuberculous focus, empyema would have followed, whereas only a serous effusion occurred. In such cases the diagnosis may be confused with that of dislocation or perforation of the mediastinum. Patients are usually too ill for a skiagram to be taken, and percussion and auscultation are not invariably of use in the differential diagnosis, which is best made by puncture of the chest wall. This gives immediate relief if the mediastinum is ruptured, but it is futile if a spontaneous pneumothorax has occurred. The author considers this complication unavoidable, for, if an artificial pneumothorax is to benefit the patient, adhesions preventing the collapse of the lung must be broken down. The risk of this complication, which is fortunately rare, must therefore be taken in view of the benefit accruing to the patient if the lung is successfully collapsed. Forlanini, who has experienced this complication in 8 cases, considers it avoidable, and due to excessive exertion by the patient, and to the intrapleural pressure being allowed by the operator to fall too low. With a markedly negative pressure the bursting of a tuberculous focus in the direction of the pleural cavity is, he thinks, facilitated. In one of his cases the lung was not completely collapsed, and it is possible that the destructive changes in the lung extended to the visceral pleura. In the remaining 7 cases the complication was probably traumatic. But in all his cases the perforation of the visceral pleura occurred at a point where the lung was already diseased, and in this respect the author's two cases are instructive.

145. Accidents following the Subdural Injection of Antimeningitic Serum.

IN a reprint from the *Journal of the American Medical Association*, June 21st, 1913, SIMON FLEXNER discusses the accidents that may follow the administration of antimeningitis serum in order to determine their causes, and thus to separate the avoidable from the unavoidable. Such accidents, though few in number, have been variously attributed (1) to anaphylaxis; (2) to rapid lysis of the meningococci; (3) to excessive intracranial pressure; and (4) to poisoning by the phenol preservative sometimes present in the serum. That the latter cause can be dismissed is evident from the facts that serious symptoms have followed the injection of Dopter's serum prepared in sterile containers without preservative, and that the injection of phenolized serum with the lateral ventricle is quite as well borne as when injected into the lumbar meninges, although the path to the fourth ventricle is most direct in the former instance. Anaphylactic shock, such as occasionally follows a first subcutaneous injection of diphtheria antitoxin, can also be excluded, since in certain instances a severe reaction followed, not on the first, but on the second or third injection, given at brief intervals. The theory that the severe symptoms are due to a rapid lysis of the meningococci within the cerebro-spinal exudate causing an acute poisoning of the nervous system is inadequate to explain the severe symptoms sometimes following the first injection, since it does not apply to cases in which severe symptoms arose, although the number of the meningococci within the inflammatory exudate was very small and altogether insufficient to give rise to the soluble toxin in question, or in which the meningitis has been caused by the pneumococcus and not by the meningococcus. A close relationship, however, exists between the effects of increased intracranial tension and the serious symptoms sometimes following an injection of antimeningitis serum, it being recognized early in the inception of the serum treatment that a dangerous degree of increased intracranial pressure might be produced, whence it was advised to inject less serum than cerebro-spinal fluid removed, and to avoid maximal doses. The severest symptoms relate to disturbance of respiration mainly, and in a much less degree to the heart's action, respiration failing while the heart may continue to act well, so that artificial respiration has frequently sufficed to restore the patient. In death from a fatal increase of intracranial tension the arrest of respiration precedes that of the heart, and it has been pointed out that in clinical states representing conditions of general compression, among which is acute meningitis, the tension of the fluid in the cerebral meninges more nearly corresponds with the degree of pressure capable of producing the symptoms of compression. Injection of the serum by gravity instead of by the syringe minimizes this danger, since it permits the immediate withdrawal of fluid on the first sign of any respiratory embarrassment, and a further safeguard is suggested in the registration of the blood pressure as an ocular guide to the injection by gravity, and, using this combination, Sophian reports 1,500 injections without a single serious accident. It seems certain that in practically all cases excessive intracranial pressure was the source of the accident, but it is not justifiable to withhold the remedy because of such small risk, since the disease itself exposes the patients to far greater dangers.

146. A Directly Excitable Region in the Human Endocardium.

ARGAUD (*Compt. rend. Académ. des Sci.*, June, 1913) noted the presence of spontaneous contractions in the exposed heart of a man, aged 20, forty-five minutes after decapitation. From the forty-fifth to the fifty-second minute after death contractions appeared about every ten seconds on mechanical stimulation, especially when it was applied over the right auricle. At the fifty-second minute the contractions became slighter and more capricious, being sometimes auricular, sometimes ventricular, and showing often a slight inco-ordinate fibrillation. At the sixty-second minute the application of mechanical and electrical stimulation to the outside of the heart failed to evoke contractions; the heart was now opened, and it was found that electrical stimulation of the endocardium of the right ventricle and left heart failed to cause contractions, but

stimulation of the surface of the right auricular endocardium gave a contraction of the whole heart. From the seventy-second to the seventy-fifth minute three induction shocks were necessary to evoke contractions; and at the eighty-third minute after decapitation the heart was inexcitable. Argaud states that he has often found numerous nerve ganglia in the substance of the valve of Thebesius in man and other mammals; he offers the suggestion that in cardiac massage, instead of trying to evoke ventricular contractions, we ought to make light taps with the fingers at intervals over the right auricular region, and watch for the myocardial response as far as possible.

SURGERY.

147. Nascent Iodine in the Treatment of Wounds.

A. Reuterskiöld (*Hygiea*, May, 1913) has investigated the action of nascent iodine on both septic and aseptic wounds, and has obtained very satisfactory results. He adopted Pfannenstill's procedure of giving iodides by the mouth, and applying an oxidizing agent, such as H_2O_2, locally. The latter combines with the iodides circulating in the blood and liberates iodine, the bactericidal action of which is increased in the nascent state. At first the commercial 3 per cent. solution of H_2O_2 was used. Later, "oxygenol," which is free from acid impurities, was used. But this gave less satisfactory results, which improved when free acid was added to it. Pfannenstill has pointed out that free alkali is liberated by the action of H_2O_2 on the iodide. This alkali combines with the iodine set free, neutralizing it. But when free acid is added, it combines with the free alkali, preventing the latter's union with the nascent iodine, which is therefore free to act on the tissues. From 1 to 1.25 per cent. of acetic acid should therefore be added to the H_2O_2. In order to bathe the affected part continuously with the solution of H_2O_2, the author has devised the following procedure. Two bottles, each of 200 grams capacity, are used. The upper of these contains the solution of H_2O_2, which is drained into the lower after it has filtered over the wound. The upper bottle is drained by rubber tubing through which a previously moistened gauze wick is passed, so as to project at both ends and fit loosely. The wound is first covered by a layer of gauze, then by the frayed- ut wick, then by more gauze, and then by rubber sheeting the area of which is a little smaller than that of the wound. Over this, again, a layer of gauze, the frayed-out wick leading to the lower bottle, and yet another layer of gauze are successively applied. Over all these layers a piece of rubber sheeting, covering the whole wound, is laid, its edges being secured with lanolin and sticking plaster to the skin. The afferent and efferent wicks are sealed by a solution of rubber to the openings in the sheeting to prevent leakage at the points of entry and exit. The H_2O_2 is conducted by the afferent wick to the surface of the wound, and is forced by the deeper of the two rubber sheets to escape by the margins of the wound, and thus reach the more superficial layers of gauze and the efferent wick. By timing the rate of flow of H_2O_2 from the upper bottle, it is easy to calculate when it will need refilling. One gram of sodium iodide is given by the mouth early in the morning, another gram is given in the evening, and two doses, each consisting of 0.5 gram, are given during the day at intervals of four hours. One patient was a man, aged 57, who had suffered for many years from varicose ulcers of the right leg. After three weeks' treatment all the ulcers had healed completely, and when examined three months later the healthy scar tissue did not show that cyanosis which commonly follows healing of a varicose ulcer. In another case of varicose ulcer in a woman, aged 73, the treatment was less energetically pushed on account of her age, the dosage being 2 grams of sodium iodide every day, the strength of the H_2O_2 being 2 per cent., and that of the acetic acid being 0.5 per cent. Only after a week did improvement begin, but recovery was complete within five weeks. A year later the only sign of the ulcer was pigmentation of the skin. The author advocates the prescription of 3 grams of sodium iodide every day, and a solution containing 3 per cent. H_2O_2 and 1 per cent. acid till the wound has become clean. Then he reduces the sodium iodide to 1 gram, the H_2O_2 to 1 and the acid to 0.25 per cent., and he supplements the treatment with skin grafting when a large area of skin has been destroyed. The scar left by the treatment is softer than that which follows simple granulation. The treatment is therefore of special value when the hands and fingers have been injured. But it favours the discharge of sequestra—a complication which followed its adoption in a septic wound of the head in one of the author's cases. Two cases of empyema reacted rapidly and satisfactorily to the treatment, and 5 cases of paronychia were also successfully treated, the technique being somewhat modified for these latter cases in order that the treatment might be ambulatory. As the nascent iodine is a powerful stimulus to the growth of epithelium, it was also prescribed for an aseptic wound caused by the amputation of a breast for cancer. An area, for which no flap of skin was available, rapidly developed healthy granulation tissue which had grown flush with the surrounding skin after a week. The further course of this case was satisfactory. The treatment did not provoke serious symptoms of iodism.

148. Pituitrin in Surgical Shock.

Hill (*Boston Med. and Surg. Journ.*, May, 1913) has used pituitrin successfully in 800 abdominal operations. In only two or three cases was there a subsequent condition of heart exhaustion, possibly due to over-stimulation; this disappeared when pituitrin was stopped and other stimulant treatment substituted. His hospital patients are treated thus: 15 minims of pituitrin are given hypodermically before the patient leaves the operating room, usually before closure of the abdominal wound. After recovery from the anaesthetic, the head of the bed is raised 15 in.; enteroclysis is used, the glass nozzle having two or more openings; 15 minims of pituitrin are given hypodermically every three hours for four doses; ice-caps are applied to the abdomen; sips of hot water and hot tea are given, but no cracked ice or cold water for the first twelve hours; morphine $\frac{1}{6}$ grain, and physostigmin $\frac{1}{75}$ grain are given hypodermically for pain or restlessness, to be repeated in three hours if needed; if the blood pressure be below normal pituitrin is continued, and hypodermics of camphorated oil are added, 2 grains every three hours; if blood pressure be high, pituitrin must be stopped; catheterization every eight hours only, if necessary; before the first action of the bowels, water, tea, coffee, orange juice, meat juice, and broths are allowed; after first action, milk and soft diet. Some other points are mentioned by Hill. He finds, as other surgeons have found, that pituitrin is very useful in eliminating gas from the intestine, and in increasing peristalsis.

149. Oriental Sore.

Ufferte and Pellier, of whom the former was the patient, publish a monograph on this subject in the *Ann. de derm. et syph.* for June (vol. iv. No. 6). Ufferte is a military surgeon, and towards the end of 1911 was stationed with troops who had orders to move their quarters from Gabes to Tabarka (North Africa). On September 16th he spent a day at Gafsa while en route, and records that he had at that time some abrasions, contracted in camp, on the backs of both hands. So little notice did he take of these, however, that, at the request of the local practitioner, he made a vaginal examination on a European patient of his. Fifteen days later two flat little warts developed on the dorsum of his left and right hand. They were sharply limited, apparently sessile, papillary tumours, one the size of a lentil, the other that of a millet seed. They were quite painless, and no reaction was evident. Twenty days later they had not increased in size. Nitric acid was applied to both. The tumour on the left hand was transformed into a soft, reddish, keloid-like mass, which did not enlarge. That on the right hand assumed the characters of a chronic ulcer, with a depth and diameter of 2 mm., situated on a red indurated base the size of a 50-centime piece. At times it was covered by a crust, the removal of which gave issue to a small drop of yellow pus. There was no pain, except when accidentally jarred, and the hand movements were not at all affected. The lesions persisted thus, torpid and reactionless, for five months, at the end of which time Major Ufferte returned to France and tried radio-therapy, which also failed to cure. Ultimately, after all antiseptic treatment had failed, he showed the lesions to Dr. Audry of Toulouse, giving him a complete history of his movements from the autumn of 1911. The latter diagnosed verruca necrogena (anatomical tubercle) or, as a remote possibility, Oriental sore. The lesions were curetted thoroughly and dressed with alcohol for twenty-four hours, then with dry dressings, under which they both healed perfectly, and there has been no recurrence to date. The scrapings, stained with Giemsa's medium, revealed the parasitic inclusions, closely resembling those described by their authors for kala-azar, and corresponding doubtless to the bodies associated with the names of Leishman and Donovan in the English literature of the subject—namely, "little oval bodies with round or oval nucleus and rod-shaped blepharoplast" (Manson). The case differs from the usual type in its

commencement, which, when typical, develops from a primary erythematous lesion into one resembling the papular elevation caused by the sting of a mosquito.

OBSTETRICS.

150. Abortifacients and Tubal Gestation.

ROSENSTEIN (*Zentralbl. f. Gyn.*, August 23rd, 1913) gave rise to an active discussion by reading a report of a case which he considered threw light on this question. For ages, unfortunately, women have taken abortifacients, and during very recent years extrauterine gestation, or, at least, the tubal form, has been shown to be an almost common affection. A married woman, aged 31, had borne five children of which the youngest was 5 years old. Since then she was in the habit of taking for several days powders containing quinine, hydrastinin, and ergotin whenever the periods ceased. Pains followed ending in abortion. At the beginning of November, 1912, she believed herself to be gravid and took the powders. Pains set in, worse than usual, and accompanied by haemorrhages. There was a pause and then a severe attack, and the pain became permanent. On January 21st, 1913, Rosenstein examined the patient. There appeared to be a characteristic tubal sac on the right side, and on that account he operated. The sac which he removed was the size of a small fist, and contained a clot in the centre of which lay a cavity as big as a pigeon's egg, lined with chorionic membrane. No embryo could be detected. Rosenstein lay stress on the fact that several small lacerations, from which blood had issued into Douglas's pouch, were discovered on the surface of the inferior portion of the tubal sac. He believed that the uterine contractions set up by the drugs caused the small ruptures of the sac. Küstner was sceptical about this explanation. Crampy pains were an almost constant symptom in tubal gestation even when the patient was kept at rest, and there was no evidence that they were entirely due to the drugs taken by Rosenstein's patient. The pains represented uterine contractions, and the thin wall of the sac was seldom able to contract like the uterine wall. It seemed doubtful if quinine and hydrastinin could specially set up tubal contractions. Asch believed that it was clear that the uterine contractions caused by the drugs favoured indirectly rupture of the sac. Again, he did not feel sure that the previous abortions had been caused by drugs. Women thought that they could shake off all responsibility and escape from justice if they made out that their abortions were induced by physic often prescribed by their doctor, yet they very probably had recourse to mechanical devices as well, some of which were easily concealed. Rosenstein maintained that the drugs might well have caused the lacerations in the capsule in his case. No doubt the tubal sac usually gave way through the villi destroying its firmer elements, but contractions of the sac wall have been detected on palpation in many patients with tubal gestation, and such contractions might surely be excited by abortifacients.

GYNAECOLOGY.

151. Treatment of Pelvic Infiltrations.

FALGOWSKI (*Semaine Méd.*, No. 30) describes his method of dealing with inflammatory exudations of the lesser pelvis in cases where conservative treatment has failed. Having incised the anterior wall of the vagina and retracted the bladder, he endeavours to find the anterior fold of the pouch of Douglas by making traction on the uterus; if the fold is not found thus, it is because the uterus is bound down by adhesions. He then frees the anterior surface of the uterus, breaking down adhesions with the bistoury and the finger, afterwards freeing the posterior surface by means of a posterior colpotomy. The uterus can now be fixed in a normal position. The whole pelvis can be explored with the finger, and the subsequent proceedings will be governed by the conditions found. The advantage of the method is that it leaves the uterus in a corrected position and provides free drainage. To this end the freed uterus is fixed by three catgut sutures to the lower part of the anterior vaginal incision, and two long gauze drains, soaked in oil of camphor, are inserted —the one in the gap left above the point of fixation of the uterus, the other in the posterior vaginal wound. About the sixteenth day the plugs are partially withdrawn and shortened several times a day, taking as much of the anterior as of the posterior one, so that the wound may retract equally. The posterior colpotomy wound is kept open by plugs for several weeks, after which simple lavage through the wound is practised. In from four to five weeks the discharge disappears. There is no danger in the operation and no fear of complications; it is particularly indicated in chronic cases with violent pains which other means fail to relieve. The author insists particularly on the amelioration of the nervous condition and on the good effect of the operation on the genito-urinary symptoms which nearly always accompany these cases.

THERAPEUTICS.

152. Ovarian Opotherapy in Pulmonary Tuberculosis.

JAQUEROD (*Rev. méd. Suisse Romande*, May, 1913) maintains, as the outcome of a large experience of tuberculosis at Leysin, that the congestive and inflammatory affections of women suffering from pulmonary tuberculosis, which are often seen both before and during the menstrual periods, are also by no means uncommon quite apart from any menstrual troubles. He finds that ovarian opotherapy is very useful in these pulmonary complications of menstruation, and are very well borne; indeed, he has never seen any harm from its use even after several years' experience of it. In his hands it has led to the return of the menses in amenorrhoea, and to their increase when they have previously been scanty, and also to coincident disappearance of febrile attacks and improvement in the pulmonary condition. Occasionally his success has been less marked, but he has always obtained some benefit. He believes that, in addition to its power of regulating menstruation, ovarian opotherapy has a direct beneficial effect on pulmonary tuberculosis. He mentions in support of this belief that in 1909 Wittgenstein found that ovarian extract *in vitro* diminishes the virulence of tubercle bacilli; that these attenuated bacilli have some vaccinal power against experimentally induced tuberculosis; and that animals which have been inoculated with tuberculosis and are then given ovarian extract, resist infection longer than the control animals. Jaquerod prefers the use of the dry ovarian extracts of the sheep or pig in the form of pilules or powder. He begins with doses of from 20 to 50 cg. daily, and keeps up this dose for a month; then he gives it for only eight or ten days before the period is due. This treatment can be safely and usefully kept up for months or years; one of his patients has continued it for four years. When haemoptysis is present he gives a smaller dose, and in this case he keeps it up throughout the period. If, owing to the expense of the dry ovarian extracts, there be any fear that the treatment may have to be suspended, it is still possible in large towns to use the fresh pulped ovary in doses of 2 or 3 grams daily.

153. Belladonna in the Treatment of Obesity.

F. FRANKE (*Med. Klin.*, June 22nd, 1913) advocates the use of belladonna in obstinate cases of obesity associated with a voracious appetite which renders every dietetic measure futile. By its inhibitory action on the secretion of the gastric glands the drug reduces the hyperacidity of the gastric juice, and thus takes the edge off the patient's appetite. For the same reason the drug is also often useful in cases of gastric ulcer combined with hyperacidity of the gastric juice. One patient was a married woman who, two years earlier, at the age of 46, suffered from progressive obesity. She was childless, and the menopause had begun. Her weight was 199 lb., and various courses of treatment, including one at Marienbad, had left her weak and dyspnoeic without appreciably reducing her weight. The heart was dilated, its sounds were weak, its apex beat was not palpable; and the pulse was 86, weak, small, but regular. Walking round a table a few times raised it to 116, dyspnoea being simultaneously provoked. After six weeks' dieting and the prescription of such drugs as magnesium bicarbonate, magnesium usta, and bismuth to lessen the sense of hunger, the weight was reduced only to 193 lb., and the cardiac weakness and dyspnoea showed no improvement. Fifteen minims of belladonna tincture (Austrian strength) were now given three times a day, fifteen to twenty minutes before each meal. The appetite was much reduced, and in a month the weight had fallen to 185 lb. A month later it was 182 lb., the patient could walk for one to two hours at a time, and walking round a table

raised her pulse to 96 only. Cardiac dilatation was no longer demonstrable. During the treatment with belladonna it was possible to relax the usual dietetic precautions without an increase of weight. After a few months the drug was given intermittently with satisfactory results, but when it was withheld altogether the obesity returned and the weight rose to 202 lb. A rapid reduction of weight was now effected by the resumption of the drug, 7 lb. being lost in a fortnight. The satisfactory completion of the second course of treatment was again followed by a relapse, the patient returning for a further course of belladonna. The regularity with which the drug on each occasion reduced the weight, after many other methods had failed, clearly shows its value in such cases. It is especially indicated in cases of obesity combined with cardiac weakness which prohibits physical exercises. The drug, which caused no discomfort, was successfully prescribed in two other cases of obesity.

154. Intrathyroid Injections of Boiling Water in Hyperthyroidism.

Miles F. Porter (*Journ. Amer. Med. Assoc.*, July 12th, 1913) has found by experiments on dogs that injection of boiling water into the thyroid body destroys its normal tissue and is perfectly safe. He has used it in exophthalmic goitre in those patients who were not well enough or who declined surgical treatment, in those who showed mild symptoms, and in cases of diving or substernal goitre where removal would be extra-hazardous. He has thus treated over 20 patients, representing in all over 100 injections. The immediate effect of the injection is destruction of thyroid tissue and colloid; a further destruction of thyroid cells occurs as a result of the formation of fibrous tissue, consequent on the injection. Local anaesthesia in the skin at the point of puncture prevents pain from the puncture and the heat. Usually slight discomfort is felt by the patient, owing to the feeling of distension of the gland, and some pain is felt up the back of the neck to the occiput; only on two or three occasions was this pain severe. The skin, after cleansing, is anaesthetized with Schleich's solution by producing a small wheal at the points where the needle is to be inserted. A large all-glass graduated syringe is used, with a long, rather fine, needle. The syringe is boiled by the side of the patient in the water to be used for injection, and the water is kept boiling until the treatment is finished. The heat is furnished by an alcohol lamp or a Bunsen burner. When more than one injection is given at a treatment the syringe is reboiled after each injection, to ensure that the water shall enter the gland as near boiling point as possible. The syringe is handled by a long pair of forceps, the points of which are heated, and a piece of sterile gauze or muslin. Further details of the technique are given. The quantity injected at each point varies from 40 to 230 minims; from one to three injections are given at each treatment; the largest quantity used was 660 minims, equally divided between the isthmus and the right and left lobes; the greatest number of injections given to any one patient was eleven. Injections usually slow the pulse, even when it has previously been uncountable. The immediate effect is to increase the size and density of the goitre; later on the gland becomes diminished in size and in some cases impalpable. The symptoms improve within twenty-four hours, and improvement goes on for a week or two. An interval of a week is allowed between two treatments. Particulars are given of 22 cases treated by this method and 6 protocols of canine experiments, with six figures of human and canine thyroids subjected to it. Dog 6 is of special interest; it had a goitre at the age of 3 months. Both lobes were injected in the spring of 1909; the goitre disappeared almost entirely. The dog is living four years after injection. There is no mention of any post-operative state resembling myxoedema in any of the patients or animals.

155. Neo-salvarsan in General Paralysis.

Leredde (*Bull. de la Soc. Franç. de Derm. et Syph.*, No. 7, July, 1913) says he has escaped all serious accidents with the drug, which he administered continuously in these cases. He began with very small experimental intravenous injections, and then rose gradually till he reached or even exceeded a dose of 0.02 per kilogram of the body weight, always carefully examining for the prescribed contraindications, as, for example, cardiac and renal disease. Both blood and cerebro-spinal fluid were examined by the Wassermann method, and the injections were given in mounting series at weekly intervals (seven days). In all of the 13 cases described in full detail in his lengthy paper he observed a marked cerebral improvement, with return of memory, affection, and energy, but he is careful to add that such recovery can only be expected in early cases. The restoration of faculties in every case went hand in hand with serological improvements, as evidenced by the Wassermann reaction. To the question as to whether the disease can be cured—that is, arrested in its progress—Leredde replies that there is nothing to prevent such a belief, and there is no reason to suppose that a sterilization of the brain in general paralytics is not just as possible as that of the spinal cord in tabetics.

PATHOLOGY.

156. A Reaction in Guinea-pigs to Tuberculous Effusions.

R. Hagemann (*Med. Klin.*, June 15th, 1913) describes a method of diagnosing obscure cases of surgical tuberculosis by an intracutaneous injection of the suspected material into a tuberculous guinea-pig. It is often difficult to diagnose tuberculous effusions of the knee-joint, for example, as tubercle bacilli are seldom found in the fluid, and there are several conditions other than tuberculosis which may cause an effusion into the knee. The tuberculous guinea-pig reacts to an intracutaneous injection of tuberculin in a characteristic manner; and Römer, after experiments with more than 350 guinea-pigs, has described three types of reaction. The most characteristic reaction occurs in eighteen to twenty hours after an injection, and consists of a cutaneous swelling as large as a coin. The cyanosed centre of this swelling is surrounded by a porcelain-white zone, outside which the skin is inflamed. In about four days the cyanosed area becomes necrosed, and a crust is subsequently discharged, leaving an underlying scar. The second type of reaction differs from the first merely in the absence of the central cyanosis. It appears in about forty-eight hours, and is followed by circumscribed necrosis. The third type, which is variable and unreliable, consists of swelling and redness of the skin, which is nodular for about ten days. Römer uses 0.000002 c.cm. of tuberculin in 0.1 c.cm. of fluid, and advises against the use of a greater quantity of fluid lest the injection cause a purely traumatic reaction apart from the specific reaction. He never got this reaction in non-tuberculous animals. The author suspected that the products of metabolism of tuberculous foci in the body contained tuberculin, which when injected into the tuberculous guinea-pig would cause a specific cutaneous reaction. He injected effusions and pus through a fine syringe directly into the skin of guinea-pigs, while sputum and urine were injected as such, or after antiformin treatment or sedimentation. There were 48 cases, of which 33 were definitely tuberculous. In 3 cases the clinical diagnosis was doubtful, and tuberculosis could be excluded in 12 cases. Control healthy guinea-pigs never gave a specific reaction, nor did it appear when non-tuberculous material was injected into tuberculous guinea pigs. The reaction failed to appear in two of the 33 definitely tuberculous cases, the failure being due to the guinea-pig's condition. The author finds this reaction of special value in obscure cases of effusion into the knee, and he records the case of a man, aged 18, who had suffered for some years from stabbing pain in the left knee. An effusion had recently become evident without much pain. There was no history of trauma, and an exploratory puncture yielded slightly purulent and cloudy fluid containing flakes of fibrin. Tuberculosis was accordingly suspected, though no tubercle bacilli were demonstrable. Intracutaneous inoculation of a tuberculous guinea-pig with 0.1 c.cm. of the fluid caused extensive cutaneous rubor, which disappeared in forty-eight hours, and was unaccompanied by infiltration. The reaction, in fact, was negative. The patient's antecedents, and the subsequent course of the case, including the appearance of an effusion into the right knee-joint, confirmed the diagnosis of rheumatism. The author has examined 25 cases of effusion into the knee-joint during the past six months. In 12 cases the effusions were non-tuberculous, in 8 they were tuberculous, and in 3 the diagnosis was doubtful. Of the definitely tuberculous cases, 7 gave a positive reaction and 1 a negative reaction. The remaining 15 cases gave a negative reaction. A positive reaction is practically irrefutable evidence of tuberculosis, but a negative reaction does not infallibly exclude tuberculosis. The author gives a detailed description of the steps to take in treating the guinea-pigs so as to ensure an unequivocal reaction.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

157. Disturbances of Equilibration in Tuberculous Meningitis.

D'Espine (*Arch. de méd. des enfants*, August, 1913) publishes a case of disturbance of equilibration in a child, aged 4 years, suffering from tuberculous meningitis. In a recent number of the same journal, Lesage recorded a case of this disease in a child, aged 4 years, which proved fatal in five days; the child's state was such that at first he diagnosed a condition of inebriation before he obtained the true history of the illness from the mother. He pointed out that, apart from the classical form of tuberculous meningitis, we can have a very variable clinical picture, so that it may simulate tetany, meningeal haemorrhage, cerebro-spinal meningitis, and in the adult patients apoplexy and delirium tremens; in his case autopsy revealed the lesions of tuberculous meningitis. D'Espine mentions that equilibratory disturbances are not rare at the onset of tuberculous meningitis. He described some years ago a condition of static ataxia as being sometimes an early sign of the disease; it may be so marked that the child may fall if not held up. Sometimes a state of inebriation may be simulated with signs of anguish expressed in the face. This static ataxia indicates a clear disturbance of the vermis cerebelli or the semicircular canals by compression of the vestibular nerve, a phenomenon analogous to the case of optic papilloedema. The child whose case is here recorded by D'Espine died on the fifth day of the disease. Autopsy revealed tuberculous meningitis: the pia mater was thickened, adherent, and in places of milky colour; plenty of tuberculous granulations were found on the blood vessels of the base of the brain, especially the Sylvian arteries; the cerebral ventricles were markedly dilated. A greenish fibrino-tuberculous track was found on the upper aspect of the cerebellum on the superior vermis, and was continued to the third ventricle; there were many small haemorrhages in the cerebellum. Various tuberculous lesions were also present in the thoracic and abdominal viscera. Here the lesions of the vermis cerebelli explained the disturbances of equilibration. The writer draws attention to the rapid course of the meningitis in his case, as in that of Lesage, both cases proving fatal in five days.

158. Recurrent Vomiting in Children.

Mercer (*Arch. of Ped.*, June, 1913) considers that recurrent vomiting in children undoubtedly occurs more frequently than is generally recognized. It may be provisionally defined as a toxic neurosis characterized by uncontrollable, but self-limited, attacks of vomiting attended with great prostration and wasting, lasting from a few hours to several days, recurring at intervals of weeks or months, and tending to cease before puberty, or to be replaced in adult life by migraine. Etiologically the condition appears to be due to an acidosis, as revealed by the presence of one or more acetone bodies in the urine, and from a neurotic aspect related to migraine. Normally at 6 years of age creatinin, and not creatin, is present in the urine, but observation of two attacks in a boy of this age showed the constant presence of creatin, and several days prior to any other sign of an approaching attack the excretion of creatin gradually increased, while that of creatinin decreased, thus rendering it possible to predict the onset of symptoms. With or without premonitory signs vomiting of a violent projectile character usually begins abruptly in the night, and continues at intervals varying from fifteen minutes to a few hours. The vomiting is uncontrollable, the stomach retaining nothing swallowed, and the vomitus may or may not contain free hydrochloric acid or smell sour or of acetone, this latter being in some instances so strong as to be noticeable throughout the room. Convalescence is remarkably rapid and the progress is good, the attacks, although sometimes extremely severe, being self-limited. On the hypothesis that the condition is an acid auto-intoxication, sodium bicarbonate in 10 to 30 grain doses three times a day during the intervals and every hour or two at the onset, up to 120 grains in the twenty-four hours, should be given and continued afterwards in sufficient quantity to keep the urine alkaline. Successful abortive treatment largely depends upon early administration during the prodromal period, and prophylactic treatment may be carried out on the same lines at regular intervals, somewhat shorter than the shortest interval noted in the history of a particular case. If the sodium bicarbonate cannot be retained by the stomach a drachm or two may be given per rectum dissolved in 8 oz. of normal saline solution, and if vomiting continues the latter may be administered by high enemata or subcutaneously. If incomplete catabolism of fat with acidosis were a fundamental etiological factor, an enemata of dextrose might be indicated. During the intervals any dietetic, physical, or psychical factors tending to lower resistance or act as a source of reflex irritation should be eliminated.

159. A New Internal Secretion Gland.

Pende (*Rif. Med.*, May 31st, 1913) describes an organic structure having the character of an internal secretion gland, and situated near and in connexion with the thyroid, parathyroid, and thymus, especially with the superior parathyroid and with the superior pole of the thymic lobes. The new gland is found constantly in the human fetus from the fifth month, and persists for about a year after birth; it has also been found in the dog. It is highly vascular, and consists of some fifteen to twenty lobules of epithelial character; the individual cells are rich in lipoid content, and in some cases showed evidence of karyokinesis, pointing to the fact that the gland is functionally active. The author says it can easily be differentiated from aberrant sections of thymus gland, and in cases where his new gland and outlying pieces of thymus coexisted there was no difficulty in making out which was new gland and which thymus. In size the new gland exceeds the parathyroid tissue. As his is only a preliminary communication, dealing mainly with the morphology, the author promises further details as to function, etc., when his researches are more advanced.

160. Spontaneous Gangrene of One Finger.

H. Hartung (*Berl. klin. Woch.*, January 27th, 1913) records the case of a painter, aged 66, who had retired from his profession eight years earlier. Since receiving a blow on the back of his head with the butt end of a gun in 1870 he had suffered from deafness and slight epileptiform convulsions. A fortnight after developing a severe but transitory attack of bronchitis, he noticed a curious sensation in his right index finger, as if it were covered with fur. A week later the terminal, the second, and part of the first phalanx, were mummified and black. Between the gangrenous and the living tissues was a purulent zone. The back of the hand was swollen, reddened, and in one place ulcerated. There was also an ulcer on the radial aspect of the first phalanx of the middle finger. The cause of the dry gangrene is obscure. Raynaud's disease may be excluded, as gangrene following this disease is usually symmetrical, and is preceded by violent pain. Shortly before the gangrene appeared there had been a phlegmon of the right hand, which necessitated a dorsal and a plantar incision; but disinfectants, such as carbolic acid, which may cause gangrene, had not been used. There was no abnormality of the nervous system, Wassermann's reaction was negative, the urine contained neither albumin nor sugar, and there was no lymphocytosis. The heart was displaced to the left, its sounds were muffled, there was an aneurysm of the ascending aorta, the peripheral vessels were hard and rigid, and the systolic and diastolic blood pressures were 145 and 105 respectively. The patient was a heavy smoker, but consumed little alcohol. Probably arterio-sclerosis was responsible for an obliterating endarteritis of a vessel supplying the right index finger. Though the patient had never apparently suffered from plumbism, that finger was affected which he used most in his work. As arterio-sclerosis is provoked locally by over-exertion of one organ, it is conceivable that the patient's trade indirectly caused the gangrene. The writer does not discuss the possibility of the phlegmon of the hand being a direct cause of the gangrene; but he suggests that a relation between it and the bronchitis is not inconceivable, for during bronchitis thrombi may form in the lung, which are capable of inducing embolism in a peripheral artery. This explanation has also been discussed by Wandel in 1909, who recorded the case of a tanner, aged 22, who developed symmetrical gangrene of the fingers after an attack of pneumonia.

SURGERY.

161. Abscess of the Liver.

An important article upon this subject is contributed by Sambuc to the *Arch. gén. de chir.* for June, 1913. The paper is based upon a hundred observations of suppuration in the liver occurring at the hospital of Haiphong during a period of thirteen years. In the majority of cases the author finds that the origin of hepatic abscess lies in amoebic dysentery. At the same time several accessory causes have a distinct bearing upon the etiology of the condition. One of these is alcohol. Sambuc observes that it exerts an undeniable influence upon the genesis of hepatic suppuration, either by diminishing the resistance of the organism, producing lesions in the liver, or favouring the occurrence of dysentery. Opium appears to occupy an analogous rôle to alcohol in this connexion. Contrary to European experience, biliary calculi and appendicitis are rarely the cause of liver abscess in the East. Ascarides and other intestinal parasites of this order are also but occasional causes of the condition, although intestinal and hepatic parasites of all kinds are extremely frequent amongst the native population of Tonkin. As regards sex, the author notes that liver abscess is extremely rare in females. The predominance in the male sex is due to alcohol and excess in eating. A further point of interest is the fact that the natives are much more immune to the disease than Europeans. This is due to several causes, the chief being that the yellow races are rarely alcoholic, they suffer to a less degree from dysentery, and their diet is less harmful to the liver than is the case with Europeans. As regards the position of hepatic abscess, the most frequently observed site is the antero-superior part of the right lobe. Abscess in the left lobe is four times less frequent, whilst the quadrate and Spigel's lobes are very rarely affected. Multiple abscesses occur in the proportion of 40 per cent., and in a large proportion of these cases they occupy the lower surface of the organ. When the abscess bursts into neighbouring viscera it usually leads to a fatal issue. In the case of perforation into the intestine, death occurs in 75 per cent. of cases. On the other hand, should the pus escape into the oesophagus and be vomited, recovery takes place in about 50 per cent. of cases. The diagnosis of liver abscess is frequently very difficult since in many cases the affection presents an atypical course, and simulates pleurisy, pulmonary tuberculosis, or appendicitis. There is no sign that is pathognomic, and the characteristic hepatic pain and enlargement are often absent. Furthermore the frequent existence of congestion of the liver in the course of amoebic dysentery renders mistakes still more liable to occur. Sambuc observes that in the presence of continued evening hyperpyrexia of obscure origin, the possible presence of hepatic suppuration should always be borne in mind. The diagnosis can only be confirmed by exploratory puncture—an operation quite harmless, and often of extreme value. Even this fails in the case of suppuration in close proximity to the diaphragm because the puncture is usually at too low a level. It is impossible as a rule to diagnose multiple abscesses. The presence of several foci of suppuration is usually only established by the continuation of symptoms after the evacuation of one abscess. Amongst post-operative complications, the writer observes that one is frequently overlooked, namely, pleural effusion. Nevertheless, it is liable to lead to a fatal issue. Other occasional complications are haemorrhage, parotitis, and a phagedaenic infection of the incision. Operative mortality is high, being as much as 30 to 50 per cent. It is influenced, according to Sambuc, by three factors, namely, the general condition of the patient, the number of abscesses present, and the site of the suppuration. With regard to the last point, an abscess in the left lobe has the most favourable prognosis, since it is usually single, easily reached, and has little tendency to perforate into neighbouring viscera.

162. "Focal" Reaction in Osseous Tuberculosis.

Delitala (*Archiv. di Ortoped.*, An. 30, f. 1) gives brief details of 38 cases of surgical tuberculosis (osseous and articular), illustrating the value of the tuberculin test in its effect locally (that is, in the suspected area of disease). As the result of his experience he says that this local reaction in the site of disease is of greater value in diagnosis than the cuti, intradermo, or ophthalmic, reaction. Within the limits of the doses given by the author no bad results, either immediate or remote, have followed. The test is as applicable to children as to adults. A positive focal accompanied by a positive general reaction is definitely in favour of tubercle. Per contra, a negative focal and general reaction excludes tubercle; a negative focal reaction associated with marked signs of general reaction does not exclude tubercle. The intensity of the reaction varies according to the part of the body affected, to the period of the disease, and in a less degree to the dose of tuberculin introduced. The kind of manifestation differs with the different articulations, but in general consists in an intensification of pre-existing symptoms—for example, pain on pressure, spontaneous pains, swelling, and limitation of movement. The test is of greatest use just at the time when it is most needed—namely, in the initial forms of tuberculosis; in advanced cases it is not necessary. In the author's view it is more valuable than radiography, and also serves to differentiate osseous from synovial or mixed types of tuberculosis. Old tuberculin is used, starting with an initial dose of $\frac{2}{10}$ mg., followed if necessary two days later by a second dose of $\frac{5}{10}$ mg., and going on every second day up to 5 mg. If this dose produces no reaction, tubercle may be excluded. The injections should be given at some point remote from the diseased area.

163. Kronlein's Operation.

Krönlein's operation is a resection of the outer wall of the orbit which allows the orbital contents to be exposed, and permits the surgeon to remove an orbital tumour without excising the eye—in some cases without any disturbance of its functions. The procedure consists in turning back a skin flap which is marked out by a parabolic incision whose apex lies upon the outer orbital margin. The periosteum is now detached from the inner aspect of the outer orbital wall, and a wedge-shaped piece of bone is detached and reflected outwards. The great difficulty lies in the fact that the bone here is exceedingly hard, and in old people even eburnated. Saws are difficult to apply, and chisels splinter the bone, and are apt to cause symptoms of concussion, and possibly even optic atrophy. A paper by Magitot and Landrieu is translated in *Ophthalmology* for April, 1913, which describes a most useful means for clearly and simply detaching the outer wall. The authors introduce a Gigli saw by means of a malleable conductor through the pterygo-maxillary fissure, and use it to saw through the malar apophysis of the zygoma. They now search at the extremity of the malar apophysis of the malar bone for the suture which unites the malar and temporal bones. This suture is now nicked with a protected saw, and the suture opened with a chisel. The outer wall of the orbit is now clearly separated, and can be reflected. This method marks a great advance in the technique of a useful operation.

164. Rare Form of Dislocation of Humerus.

Owing to its rarity, Cipollino (*Gazz. degli Osped.*, August 5th, 1913) reports the following injury to the shoulder: A man, aged 51, caught his sleeve in the cogwheel of some machinery, and had his arm violently dragged upwards. After the accident he pulled the arm down by means of the uninjured arm, and it was then found to dangle uselessly, and rotated so that the anterior aspect became posterior. The glenoid cavity was empty, and on adducting the limb the head of the humerus was projecting into the axilla through a button-hole in the skin. Under chloroform it was disinfected and reduced, and a drain left in the wound. Prolonged suppuration followed, and eventually the humeral head had to be excised for necrosis and a false joint made. No other lesions could be detected, no fracture, and if the dislocation could have been reduced at once and before the bone had become infected, probably the joint would have been saved. Apparently the exit of the head of the bone through the skin without any other complication is so rare that the writer has not been able to find any similar case recorded. From the history of the accident the arm seemed to have been dragged upwards in a position of forced abduction.

165. Plexus Anaesthesia with Paralysis of the Phrenic Nerve.

Kulenkampff's method of inducing anaesthesia of the arm by the injection of anaesthetics into the brachial plexus has been favourably reported on by several writers, but the operation requires careful technique, without which alarming sequels may occur. Kulenkampf mentions the puncture of the subclavian artery by the needle with which the anaesthetic is administered, but this accident, apparently, need cause no symptom. A series of accidents is recorded by several writers (*Centralbl. f. Chir.*, 1913, pp. 338, 597, and 599). Sievers has observed marked tenderness between the nipple and axillary lines in the eighth intercostal space, with great pain in the costal arch following an injection into the brachial plexus on the same side. The excursions of the borders of the

corresponding lung were diminished, and the respiratory sounds were scarcely audible. The diaphragm on this side was shown by the Roentgen rays to be paralysed. This condition, which disappeared in four days, was attributed by the author to paralysis of the phrenic nerve, which must have been injured by the injection into the brachial plexus. Stein has seen a case of paralysis or neuralgia of the phrenic nerve under somewhat similar circumstances. An attempt had been made to find the brachial plexus with a hollow needle, which was withdrawn before any anaesthetic had been injected, as the plexus could not be found by pain radiating out in the fingers. The patient, who complained of pain in the track of the needle, returned home. Within a few hours of the introduction of the needle violent pain in the chest, dyspnoea, and a sense of general discomfort were observed. This lasted for over two weeks, the symptoms being those of early pleurisy, except for the absence of fever and pleural effusion. Following the pricking of the brachial plexus Klauser has observed symptoms which he attributes to involvement of the long thoracic nerve, causing painful cramp in the serratus anticus muscle. His patients complained of severe pain between the second and seventh ribs, between the anterior axillary and the posterior scapular lines.

OBSTETRICS.

166. Inversion of the Uterus.

CLINTON JONES (*Surgery, Gynaecology, and Obstetrics*, June, 1913) publishes a critical review upon the etiology, pathology, and treatment of uterine inversion, with 252 references to the bibliography on this subject. He finds that in obstetrical inversion the primary cause is uterine relaxation. The chief secondary factors are pressure on the fundus uteri and traction on the cord, but in all probability neither of these ever produce inversion without uterine inertia. Most authorities in obstetrics condemn any traction on the cord and usually recommend Credé's method of expulsion. The writer observes, however, that either procedure may easily produce inversion if the uterus is relaxed. In inversion, not obstetrical in origin, uterine fibroid is almost the only cause. Thorne has reported four cases produced by sarcoma and two by carcinoma. The fibroids, as a rule, are submucous and inversion is effected very gradually. In obstetrical inversion a large number of instances occur which seem at present to be entirely unavoidable. The accident occurs during or immediately after a normal labour conducted according to the most approved methods. Furthermore the inversion takes place suddenly and the fundus uteri is down in the vagina before there is any opportunity to prevent the same. These cases Jones classifies as "spontaneous," and in 100 records collected by Beckman 54 were of this nature. In acute cases the cardinal symptoms are haemorrhage, pain, and shock. At a later period signs of infection may be present. In chronic inversion the symptoms are those of uterine prolapse associated with profuse menorrhagia and metrorrhagia. Diagnosis is made from the objective findings exclusively, and in obstetrical cases there is little difficulty. Abdominally no corpus uteri is found but in its place a cuplike depression. Vaginally, on the other hand, a large, soft, pear-shaped, and bleeding tumour is present. In about half the cases the placenta is attached to the same. Difficulty may arise sometimes in gynaecological cases. The chief points in making the diagnosis are, first, shortening of the uterine canal as compared with the lengthening produced by a fibroid, and, secondly, the cavity caused by the inversion on the peritoneal surface. The writer finds that the mortality in acute cases during recent years has been about 35 per cent., and in chronic ones about 6 per cent. The ideal treatment for all cases wherever possible is manual reposition. If this fails repositors may be employed for a short time. If again unsuccessful, colpohysterotomy should be performed without delay. Jones observes that this operation stands pre-eminent in the treatment of difficult cases of uterine inversion on account of the ease with which it is performed and the success that it affords in accomplishing the reduction of the inversion. The mortality of the operation is exceedingly low. In performing the operation the initial uterine incision should be made through the cervix only, and later be extended as far into the corpus as may be necessary to accomplish reduction. When inversion is produced by tumour, such as a fibroid, the treatment usually resolves itself into that appropriate to the existing neoplasm. If the tumour can be easily removed with conservation of the uterus, in about one-third of the cases spontaneous replacement occurs. Even if this does not take place, reduction of the inversion can usually be accomplished in these cases without difficulty by non-operative methods.

GYNAECOLOGY.

167. Chorion-epithelioma of Fallopian Tube.

HUGUIER AND LORRAIN (*Bulletins et mém. de la Soc. Anat. de Paris*, July, 1913) report very clear clinical details of an instance of this disease which Jeanneret and others have recently shown to be less common than is generally supposed. A woman, aged 30, applied to a hospital believing herself to be pregnant. She had been married for twelve years and borne three children, the youngest being five years of age. On December 2nd, 1911, she aborted at the third month, and free haemorrhages followed: in November, 1912, the curette was used, as the periods had been very free. There was no period in March this year (1913), and the patient began to feel shooting pains in the abdomen. In June the catamenia were still absent. Huguier detected slight enlargement of the uterus with distinct yet not marked softening of the cervix. A tender, firm tumour, as big as two adult fists, lay in front and to the right; it seemed to spring directly from the uterus. The nipples showed signs of gestation. Tubal pregnancy was diagnosed. Huguier operated on June 10th. The tumour was covered with adherent omentum, and was extremely vascular. The left ovary was undergoing cystic degeneration. The tumour appeared to be a fetal sac developed in the left tube. Huguier found it convenient to remove the uterus with the appendages above the cervix. He divided the structures from left to right, after Kelly's method. Recovery was rapid, but signs of recurrence developed speedily, and by the third week (in July, 1913) the patient was reported as dying, with symptoms of metastatic growths in the liver. The uterus was empty. The tumour, reddish-brown on the surface, on which large veins ran, had developed in the isthmus of the right Fallopian tube, the right round ligament ran across its anterior wall. On section, the substance of the tumour was found to consist of a very friable dark red material freely marked with yellow patches. There was no trace of the canal of the tube, although the infundibulum and ostium, outside the tumour, were patent. The adjacent walls of the uterus were invaded. Under the microscope the growth showed the characteristic signs of chorion-epithelioma. On examining the uterus the free surface of the interior was found to be lined with decidual cells, free from any malignant elements.

THERAPEUTICS.

168. Sodium Bicarbonate in Shock.

SEELIG, TIERNEY, AND RODENBAUGH (*Amer. Journ. of Med. Sciences*, August, 1913) conducted an experimental study of sodium bicarbonate and other allied salts in shock. If it be assumed that shock is due to a deficiency of CO_2 in the circulating blood, the introduction of a solution of sodium bicarbonate into the blood stream will furnish a direct and immediate increase of the CO_2 content since the haemoglobin, serum albumin, and primary (acid) sodium phosphate in the blood split up the sodium bicarbonate molecule, and set free CO_2. Every such infusion of sodium bicarbonate caused a pronounced rise of blood pressure, a rise of 18 mm. being the average, though it was not uncommon for the injection to be followed by a rise of 40 mm., and concurrently with the rise in pressure there was an increase of amplitude of the heart beat, and both were well maintained over a fairly long period of time. One experiment contrasted the effects of sodium bicarbonate and adrenalin, the first adrenalin injection (1 to 5,000) raising the blood pressure without influencing the low amplitude of the beat, and the blood pressure after an inappreciable interval falling to and remaining at a lower level than prior to the injection. A second adrenalin injection (1 to 1,000) caused a more marked blood pressure rise, and an increased amplitude lasting one minute, followed by a fall in both, while an injection of 50 c.cm. sodium bicarbonate solution caused a well sustained rise of pressure, and an increase in amplitude. In all the fifty experiments with sodium bicarbonate the rate of the heart beat was unaffected, but the respiratory-rate was sometimes increased, sometimes slowed, and sometimes unaffected. The depth of respiration was always markedly increased, the respiratory phenomena following injection of sodium bicarbonate being practically

identical with those noted after injection of pure CO_2 gas. Experiments showed that the rise of blood pressure following the injection could not be attributed to mere bulk of fluid, neither was it due to the hypertonicity of the fluid injected, since infusing shocked dogs with hypertonic salt solution, and with hypertonic basic sodium phosphate solutions, had no effect on the low blood pressure. Other experiments further conclusively proved that the pressor effect of the salt does not depend solely upon its alkalinity. From experiments with CO_2 gas injected directly into the blood in cases of shock it was seen that, although such administration stimulated the respiratory function, it had no influence upon the rate of heart beat, amplitude of pulse, or height of blood pressure, thus showing that the pressor effect of sodium bicarbonate does not reside in the CO_2 radicle, and that shock itself cannot be referred to acapnia. Since, therefore, none of the factors of bulk, hypertonicity, alkalinity, or free CO_2 gas showed itself the sole cause of this pressor effect, we are forced to assume that sodium bicarbonate acts specifically upon the heart muscle, and this theory receives corroboration from the fact that, with both vagi cut, and even with all the higher cerebral centres destroyed, an injection of the salt is followed by a rise of blood pressure.

169. Coal Tar in Dermatology.

L. BROCQ (*Ann. de dermat. et de syph.*, June, 1913, vol. iv, No. 6) warns practitioners who are in the habit of using coal tar for eczema, pruritus, and other inflammatory conditions of the skin that its wholesale application is not free from the risk of producing artificial dermatitis of varying appearances and degrees. He cites a case of MM. Hallopeau and François Dainville, in which the substance had been extensively and repeatedly applied for urticaria. The patient returned after four days with an acute bullous eruption on the hand, which was proved to be due solely to his own idiosyncrasy against tar, for the same sample was tested without reaction in other subjects. The author relates his own experience in a case of disseminated eczema of two years' duration, in which similar huge blisters filled with a yellow serous fluid made their appearance in the parts treated and took a fortnight to heal. In several other cases in which tar was used there ensued an intense erythema of a dark red colour, an erythema which, if neglected, went on to the formation of vesicles and bullae, reminiscent of pemphigus, and most obstinate to treatment. That these lesions were not consecutive to an inferiority of the carefully washed coal tar used in his wards is proved by the absence of symptoms in patients treated simultaneously with the same sample. He urges that in order to avoid bringing discredit on this very valuable therapeutic aid all its users should be constantly on the look-out for symptoms of intolerance, should make a trial first over a small area, should not allow its too frequent application, and should immediately substitute some other medicament when the dusky erythema above described is beginning to make its appearance.

170. Ethylhydrocuprein in Pneumonia.

H. J. VETLESEN (*Berl. klin. Woch.*, August 11th, 1913) has used Professor Morgenroth's preparation, ethylhydrocuprein, since the spring of 1912 in 9 cases of croupous pneumonia, in 1 case of pulmonary tuberculosis, and in 1 case of endocarditis, both the 2 latter at first being mistaken for pneumonia. To avoid ocular disturbances, only 1.5 gram was given in the twenty-four hours, in three doses of 0.5 gram each. The number of patients treated was small because, according to Morgenroth's advice, only cases in an early stage of the disease were selected, and these are rare in hospital practice. The author gives a very detailed account of each case, accompanied by temperature charts and a record of the pulse, the time between the onset of the disease and the administration of the drug, and the dosage of the latter. Practically no other treatment was simultaneously employed. The temperature charts showed an early fall by crisis or lysis, defervescence occurring within forty-eight hours of the onset of the disease in 3 cases. In 2 cases defervescence occurred within two a half days, in 2 cases within three and and a half days, in 1 case within four days, and in 1 case within eight days. In this last case the pneumonia was very virulent, and probably contagious, for 2 of the patient's children also developed pneumonia at the same time. The other cases were not slight, and were picked only in this that none but early cases were chosen. The treatment was a failure in the cases of pulmonary tuberculosis and endocarditis, and the author holds that the affinity which ethylhydrocuprein possesses for the pneumococcus does not extend to other organisms, such as the tubercle bacillus. Two of the patients developed tinnitus and deafness, which passed off as soon as the drug was withheld. Otherwise no discomfort was experienced and no ocular symptoms were observed. The author admits the inadvisability of drawing conclusions dogmatically from such scanty material, especially as pneumonia tends to heal spontaneously: but he expresses a very favourable opinion of the drug, and emphasizes the importance of giving it at the earliest possible stage of the disease, when the pneumococcus is not yet firmly established in the system.

171. Geraseptol in Gonorrhoea.

BORELLINI (*Gazz. degli Osped.*, No. 56, 1912) has tried the above drug in fourteen patients suffering from acute gonorrhoeal anterior urethritis. Each case, in addition to suitable dieting and rest, was given eight to ten capsules of geraseptol per diem. After a few days' treatment most of the patients felt better locally, had less heat and burning, and the discharge became thinner. As things remained more or less stationary after this point was reached, local injections of 1 to 2 per cent. argyrol were also given. In a few weeks the secretion was almost reduced to nothing—only 4 cases proved rebellious, and these developed some posterior urethritis. In another group of 9 cases where an acute urethra-cystitis was set up on an old gonorrhoea, the drug in question proved very useful, without the assistance of any local treatment. The author's conclusion is that geraseptol alleviates the condition of things in the early stages of acute gonorrhoea and is especially useful in those cases where reinfection or fresh inflammation appears in the course of an old-standing gonorrhoea.

PATHOLOGY.

172. The Influence of Fasting on the Structure and Functional Activity of the Dog's Testis.

E. POÏARKOV (*Compt. rend. Soc. de Biol.*, lxxiv, No. 3, January 24th, 1913) subjected two male dogs to a partial fast for a period of about three months: they received daily about a quarter of a Russian pound of oats in meat-bouillon. Their body weight fell in each instance about one-third. At the end of their fast they were put on a substantial diet, and in two months' time regained their normal weight. During the fast the volume of their seminal emissions fell from 10 c.cm. to 1 or 2 drops: with recovery of weight the quantity of semen became gradually re-established, but more slowly than the gain in body weight. During the fast the number of spermatozoa fell considerably. Before the fast the spermatozoa showed movements which persisted for two or three days; at its beginning their vitality was but little altered, but when inanition was complete they showed little or no movement. The tail of the spermatozoon was twisted, instead of being straight, then it failed to develop. Some spermatozoa showed only a head with a protoplasmic fragment or a head surrounded by a ring of protoplasm; some showed two heads. These changes in the spermatozoa persisted for a long time after cessation of the fast. Even now one of the dogs shows poor vitality of his spermatozoa; thus they cease to move at the end of eight or ten hours. During the period of inanition a testis of one of the dogs was removed: it showed in numerous places nothing but the cells of Sertoli, in others plenty of spermatocytes; very few spermatogonia were present, and of these many showed evident signs of degeneration. Poïarkov hopes to continue his researches on this subject.

173. A New Culture Medium for the Gonococcus.

SABOURAUD AND NOIRÉ (*Annales de derm. et syph.*, vol. iv, No. 7, July, 1913), sensible of the difficulties of obtaining and sterilizing the commonly used ascitic fluid at a moment's notice, have devised the following medium, which in their hands has been yielding excellent results in a twenty-four hours' incubation: (1) A litre of fresh milk is boiled for five minutes: (2) the casein is then precipitated with 2 c.cm. of hydrochloric acid, and the serum recovered by simple passage through a piece of linen; (3) the filtrate is added to half its quantity of water and the mixture neutralized with 10 per cent. soda solution; (4) it is then autoclaved at 120° for ten minutes: (5) the following are then added in the strength indicated: Peptone 1 in 100, glucose 1 in 100, urea 0.3 in 100, agar 1.6 in 100; (6) filtration through filter paper and division into separate test-tubes, which are sterilized for ten minutes at 110° C., completes the preparation.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

174. Congenital Miliary Tuberculosis.

Commenting on the rarity of congenital tuberculosis, H. Rollet (*Wien. klin. Woch.*, July 31st, 1913) quotes Harbitz, who failed to collect more than 20 such cases in which the evidence was satisfactory. The author records the following case: A woman, aged 26, was confined at term, the child being a well-developed boy. The mother had been febrile a few days before her confinement, and the fever continued till she died on the twelfth day of the puerperium. Her lungs, liver, spleen, and kidneys contained numerous miliary tubercles, but even a microscopic examination of the uterus revealed no tuberculosis. The microscopic examination of a fragment of retained placenta was also negative till it was dissolved in antiformin, when the centrifugalized solution showed numerous tubercle bacilli. The necropsy on the infant, who died 48 hours old, showed healthy meninges and brain. The lungs contained small caseous nodules, 1 to 2 mm. in diameter, scattered uniformly throughout their their substance. Both the lower lobes showed many areas of atelectasis. The glands of the hilum of the lungs, the bronchial glands, the broncho-pulmonary and paratracheal glands were caseous. The liver was somewhat enlarged, and contained numerous and uniformly distributed, small, greyish-yellow nodules of about 1 mm. in diameter. The glands of the hilum of the liver and of the mesentery were caseous. The heart, thymus, kidneys, intestine, reproductive organs, the lymphatics of the axilla and inguinal region, and the suprarenal bodies were healthy, but the spleen contained many caseous nodules. Under the microscope, these nodules presented circumscribed necrotic areas surrounded by granulation tissue. No giant cells were demonstrable, but Ziehl-Neelsen staining showed numerous acid-fast rods. There was no history of syphilis in the mother, and no spirochaetes could be found in the child. Discussing this case, the author points out that it is impossible for the disease to have reached such an advanced stage in only forty-eight hours, and that the intrauterine infection of the child is, therefore, clearly proved. As there was no lesion in the child which appeared older than the rest, he assumes that the primary lesion was present in the mother, and that all the lesions in the child were secondary. These were most numerous in the liver, which is directly supplied with blood from the placenta, while they were relatively scarce in the lungs, which during intrauterine life receive but little blood, most of which comes, not from the umbilical cord, but from the superior vena cava. The distribution, therefore, of the disease in the child clearly points to infection through the placenta.

175. Paratyphoid Fever.

Hunt (*Arch. of Internal Med.*, July 15th, 1913) records the result of a serologic study in relation to the epidemiology of paratyphoid fever from four epidemics under his charge. Apart from the clinical course, which has been considered indistinguishable from typhoid, it is important to know the sources of infection, methods of transmission, association of the micro-organism with the *B. typhosus*, the relation of its types to atypical forms of typhoid, and in what proportional relationship typhoid, paratyphoid, and infections by other members of the typho-colon group may occur, while in prevention and treatment it is necessary to appraise the value of antityphoid vaccine in mixed infections, and ascertain the advisability or otherwise of using a polyvalent vaccine for the prevention of group infection. There is no doubt that a true *B. typhosus* infection is in many instances diagnosed as "catarrhal fever," "gastric fever," "gastro-enteritis," or "abdominal influenza," and still more frequently does this occur with infections by some pathogenic member of the paratyphoid group. Each unreported, or incorrectly diagnosed, case escaping sanitary control is the potential source of an epidemic. The incubation period appears to be the same as for typhoid, though the prodromal period is shorter for paratyphoid infections, the onset being more abrupt, and the clinical expression of invasion and multiplication more varied. Four general types occur, (1) that closely resembling typhoid fever and most often due to *B. paratyphosus* A; (2) that closely resembling abdominal influenza and most probably due to *B. paratyphosus* A or B, or to mixed infections; (3) that suggesting a general gastro-enteric inflammation with nausea and vomiting, and often diagnosed as ptomaine poisoning, and due to one of the lower members of the paratyphoid group: and (4) that closely resembling dysentery, but in which *B. dysenteriae* is absent. *B. enteritidis* and *B. paratyphosus* B being present. As to source the various members of the paratyphoid group come from the intestinal tracts of domestic animals, and have also been recovered from the meat of calves, geese, swine, sausage, ham, tripe, mincemeat, Hamburger steak, spoiled oysters, ice cream, and public water supplies. They have also been recovered from blood, faeces, urine, abdominal and periosteal abscesses, ovarian carcinoma, pyelonephritis, and on autopsy from the liver, spleen, and kidneys of human beings. No observations are recorded as to the appearance of agglutinins peculiar to paratyphoid infections, but there is no reason to believe that the time of appearance differs from typhoid fever. The results of these studies indicate (1) the great variation of types of injecting microorganisms, (2) the fact that paratyphoid infections are probably endemic in Pennsylvania, (3) the importance of differentiating infections by types of the typho-colon groups, (4) the possibility of the infection of water supplies from faecal discharges of domestic animals and human beings, and (5) the suggestion that a mixed vaccine is of more value than one of *B. typhosus* only.

176. Return Cases of Scarlet Fever.

Sexton (*Arch. of Pediatrics*, May, 1913), from observations upon 10,093 cases of scarlet fever, concludes that so long as the nasal, pharyngeal, and aural discharges exist just so long will the case be infective, and the isolation should be continued until the patient is entirely free from these discharges. Such a conclusion extends the isolation period often for eight to twelve weeks or even longer, in one case over eight months. No case was allowed to leave the hospital as long as a mucous discharge persisted, and in the majority of cases the source of transmission seemed to be those in which nasal discharges appeared late, and often long after the period of quarantine had passed. Many of these cases run a regular course without complications, so that infection may be carried and remain quiescent for weeks, and then become active owing to a cold and subsequent rhinorrhoea having been contracted. During three years there were 16 return cases traceable to some member of the family having been discharged from the Scarlet Fever Hospital, and a personal investigation showed that in every instance the discharged patient was suffering from a rhinorrhoea, desquamation being present slightly in only two. In a large percentage, if not in all, of the infecting cases the morbid condition is rhinorrhoea or otorrhoea, and a most virulent type of the disease may be contracted from one that is correspondingly mild, as instanced by 2 cases quoted in which children who had suffered from a mild uncomplicated form were discharged as cured, only to be followed in a few days by a fatal development in their respective mothers. There is no proof that desquamation is infectious, and the facts that infectivity begins prior to, and continues long after, desquamation has ceased, and that the latter may continue far beyond the infectious stage, lead to the conclusion that it plays no part in the transmission of the disease.

177. Double Aneurysm of Thoracic Aorta.

Broussolle and Roudovska (*Soc. Anat. de Paris*, June, 1913) found a double aneurysm of the thoracic aorta at the autopsy of a man aged 54; it had compressed and eroded the left side of the vertebral column from the sixth to the eleventh dorsal vertebrae, and had opened into the left pleura. The upper aneurysm, sacculated, was of the size of an orange; the lower one, also sacculated, was rather smaller, and was situated immediately below the upper. There were present also the characteristic lesions of syphilitic aortitis. During the patient's life there had been no reason to affirm, or even to suspect, the presence of aneurysm. The man went into hospital for a left-sided pleurisy which seemed to be of a simple nature; paracentesis was performed twice, and the patient died suddenly. The only unusual symptoms were the intensity of the neuralgic intercostal pains, and the absolute rigidity of the dorsal part of the vertebral

column. The clinical history of this unrecognized aneurysm is summed up by the writers as a slight degree of vertebral ankylosis, severe intercostal pains, and a left pleural effusion.

SURGERY.

178. Fibromatosis of the Stomach.

ALEXIS THOMSON, in a paper read before the American Surgical Society and published in *Annals of Surgery*, July, 1913, draws attention to this condition, which is so frequently mistaken for carcinoma. The lesion is always found associated with ulcer, and the writer suggests that "ulcer fibromatosis" would therefore be a more accurate term. The condition has been known for almost a century, and there are still many divergent views as to its nature. The writer's observations are based upon the following material obtained by operation: Fibromatosis, 9; fibromatosis with ulcer-cancer, 5; tuberculosis with cancer, 1; cancer, 35. The material was fixed in Jeré's fluid, and sections were stained with haematoxylin and eosin. Thomson believes that fibromatosis of the stomach is essentially a benign condition, but that it may be associated with cancer as an independent lesion. Much of the controversy that has arisen on the matter owes its origin to the fact that the stomach is sometimes the seat of a diffuse form of scirrhous cancer which resembles fibromatosis, and at the same time differs both in macroscopical and microscopical details from the classic forms of gastric carcinoma. Furthermore, when cancer occurs in a stomach the seat of fibromatosis it is not easy to find, although evidence of its presence is easily noted in the adjacent lymph glands. Fibromatosis of the stomach occurs in two forms—namely, localized and diffused, involving the entire organ. The former is the more frequent. It usually commences in the vicinity of the pylorus and gradually spreads towards the cardia, preferably along the lesser curvature. The affected portion is hard and rigid, white and smooth in appearance, and free from adhesions. The tumour resembles carcinoma, but the surface is more flattened and smooth. The cicatricial contraction leading to pyloric stenosis or hour-glass contraction of the stomach is absent. Further difficulty in diagnosis is produced by enlargement of the lymphatic glands along the curvature of the organ. As a rule, however, the normal shape of the gland is retained, which is not usual with malignant disease. On section the pylorus presents much increase in thickness, and in some of the author's specimens it measured 2.5 c.m. In most of the specimens examined there was situated about the centre of the affected area a deeply punched-out ulcer. The surrounding mucosa was firm and closely adherent to the submucosa. This change ceased abruptly at the pyloric ring and gradually merged into the normal tissues towards the cardia. The submucous tissue was converted into a thick tough white mass resembling in consistence a hard fibroma. There is no difficulty in distinguishing this fibromatosis from cicatricial tissue accompanying chronic ulcer owing to its uniform distribution. The muscularis commonly presents a marked hypertrophy of the circular fibres and segmentation of the muscle into bundles by septa of fibrous tissue. Microscopically there is a marked increase of interstitial interglandular tissue consisting of a cellular infiltration composed of plasma cells, small lymphocytes, endothelial cells, and fibroblasts. No polymorpholeucocytes are present. Some of the glands show cystic dilatation and remarkable elongation. On the surface there is usually loss of the covering columnar epithelium. Thomson believes that this superficial ulceration is primary, and that the fibromatosis in the submucosa is secondary. In view of its selective and spreading characters the writer draws an analogy between the condition and neurofibromatosis, but this analogy goes no further. Thomson has not observed any features to suggest that the lesions are of syphilitic origin. Characteristic granulation tissue and endarteritis was entirely absent, and Wassermann's reaction was always negative in the cases examined. He also is disinclined to accept the view that fibromatosis is due to tuberculous infection. On the other hand, he most positively affirms that the condition may occur without the presence of cancer. It cannot, therefore, be regarded as an atrophic infiltrating scirrhous carcinoma. The lesion that is followed by fibromatosis is either a punched-out chronic ulcer or chronic superficial ulceration. This breach of surface admits of the access of some irritant to which the submucous tissue reacts. The distribution of the fibrous tissue suggests that the path taken by the irritant or toxin is by way of the lymph channels. As regards the clinical features of ulcer-fibromatosis, the symptomatology is practically that of ulcer. Considerable difficulty, however, may be experienced in the recognition of the tumour when exposed by operation. In seven of the cases collected by the author a wrong diagnosis was made in spite of full clinical data. Thomson does not consider immediate microscopical examination of lymphatic glands or gastric tissue of much value, owing to the detail and care required in the investigation. Where reasonable doubt exists, it is justifiable to resect the glands along the lesser curvature and perform a gastro-enterostomy. Should carcinoma be found in the glands removed, a radical operation may be performed after a suitable interval for recuperation. The more usual course, however, is a resection of the affected portion of the stomach. This treatment is advocated by the author, owing to the undoubted risk of cancer supervening upon the chronic ulcer that is usually present.

179. Transplantation of Vein in the Urethra.

CUTURI (*Rif. Med.*, April 6th, 1913), after epitomizing the history of various plastic operations on the urethra, refers to 12 cases where part of a vein was implanted in the urethra. Of these cases 6 were performed for gonorrhoeal or traumatic stricture and 6 to remedy scrotal hypospadias. The results were not very encouraging, since of the first 6 cases 5 ended in fistula and elimination of the vein. In the other group 2 were successful. Success seems so dependent on strict antisepsis, which is very difficult to maintain, especially in gonorrhoeal cases, that vein transplanting is better for the hypospadial cases. The vein recommended is the internal saphenous at the root of the thigh, and the portion excised is kept in physiological serum until fixed in its new position. Before operating the urine should be deviated by means of a suprapubic cystotomy. The portion of vein is introduced by means of a sound, which latter should not remain in long. Dilatation of the new urethra should not be tried until a month after operation. The author has carried out a series of experiments on dogs, excising part of the urethra and then transplanting a portion of the femoral vein. The dogs were then examined at periods of fifteen, twenty, thirty, and forty days, and at the end of this period the transplanted vein was hyperplastic and infiltrated, and the elastic fibres disintegrated, but if infection of the wound could be avoided a good channel could be maintained. Drawings are given of the photomicrographic appearance of the new canal forty days after operation.

180. Interposition of Free Aponeurotic Flaps in the Formation of New Joints.

PUTTI (*Archiv. di Ortoped.*, An. 30, f. 1) contributes a lengthy article on the above subject based on experimental and clinical study. Contrary to expectation, the interposed aponeurotic tissue manifested all the characters of a true limiting membrane like the periosteum. The best results occurred in traumatic conditions or after articular tuberculosis has subsided, leaving an ankylosis, but it is absolutely contraindicated after resection for tuberculosis. In no case is the method advisable before a year after all activity of disease has ceased. The kind and degree of ankylosis is of course a factor, for cases occur where the existing ankylosis is less deleterious than a movable joint would be, and each case must be taken on its merits. The age, the mental and social state of the patient, have also to be taken into consideration in deciding whether to operate or not. The author then goes through each joint seriatim, and illustrates his points by cases and excellent photographs, the results being exceedingly satisfactory if one can judge by the photographs taken before and after operation. The important post-operative treatment is fully gone into, and indications given as to when it is safe to fix the joint and when it may be left free; no general rule can be laid down as the practice differs for the different joints. The right time to begin passive and later active movements of the joint is carefully examined and valuable information given, the result of much experience. Detailed reports are given of 22 cases. In the 3 cases of arthrodesis of the jaw, the author shows how very important it is in his class of case to keep up special exercises after the arthrodesis has been relieved, otherwise only partial cure results.

181. Syphilis of the Bladder.

DREYER of Cologne (*Dermat. Zeitschr.*, XX, No. 7) says the affection of the bladder by lues is commoner than is supposed. It may occur in both secondary and tertiary stages of the disease, but more commonly in the latter.

The disease has no pathognomonic features and is usually mistaken for tuberculosis or malignant growth, occasionally even for calculus vesicae. Recto-vesical fistulae have been recorded. In the secondary period cystoscopy reveals a papular or ulcerated condition, and in the tertiary gummatous smooth or papillary tumefaction with or without calcareous incrustation and ultimate fistula formation. In cystitis in which tuberculosis, carcinoma, stone, etc., can be more or less confidently excluded, it is always worth while to examine the patient's blood for the Wassermann reaction, and, if positive, to institute an energetic antisyphilitic constitutional treatment with iodides, mercury, and salvarsan, under which the lesions —except in a very rare interstitial type of the disease, for which as yet no treatment has been of avail—will clear up.

OBSTETRICS.

182. Abderhalden's Serum Reaction in Pregnancy.

S. GOTTSCHALK (*Berl. klin. Woch.*, June 23rd, 1913) reports his and Dr. Uhlmann's observations on the reliability of Abderhalden's serum reaction in pregnancy. This reaction is based on the following conditions: The fertilized human ovum becomes attached to the mucous membrane by the aid of the actively proliferating trophoblasts. The much dilated maternal capillaries soon communicate with the periphery of the ovum, which throughout pregnancy is bathed in maternal blood. It follows that a certain number of chorio-ectodermal cells and their decomposition products become washed away into the maternal system, where they act as foreign albuminous bodies. In response to these, protective ferments are developed in the maternal system as the result, probably, of leucocytic activity. On the demonstration of such ferments Abderhalden adduces the existence of pregnancy, and he tests the proteolytic action of serums on placental tissue. This may be done by polarization or dialysis. The latter is simpler than and as delicate as the former. After describing his technique, the author gives an account of 41 cases in which dialysis was employed. In 33 cases the women were pregnant, and in 8 they were not. Of the former group, 21 were in the first two months of pregnancy, and these early cases were selected because it is of special importance to test the value of the reaction in the first months of pregnancy. All the pregnant women gave a positive reaction, but in one case the reaction was not positive till a second quantity of serum was tested. But if the reaction is really to be valuable, it must also be negative in the absence of pregnancy. Two of the non-pregnant women, however, gave a positive reaction, although no error of technique had been committed. In one case a married woman, aged 21, had given birth to one child, and had aborted once. Her uterus was retroflexed. In the other case a woman, aged 27, had given birth to two children, and had aborted three times. In both cases the uterus was enlarged, and menstruation had been regular, and had continued till six to seven weeks before the reaction was tested. The author dismisses as improbable the hypothesis that in these cases pregnancy existed temporarily, and terminated spontaneously by autolysis without a symptom. He therefore holds that the reaction is not sufficiently reliable to be decisive without the corroboration of diagnosis by palpation, but he regards it as a useful supplement to the latter. When the two methods give contradictory results, neither should be considered reliable.

GYNAECOLOGY.

183. Cervical Decidua.

LYNCH (*Surgery, Gynaecology, and Obstetrics*, June, 1913) reports an example of decidual reaction occurring in multiple cervical polypi removed from a primipara, aged 22, on account of repeated haemorrhage during the third month of pregnancy. The polypi numbered twelve to fifteen, and varied in length from 4 mm. to 1 cm. In texture they resembled brain substance, and were very soft and friable. The base of the growths covered at least one-fourth of the lining of the canal. Under the microscope the tissue showed areas presenting a typical decidual change. The surface epithelium was low and flattened. The cell margins were distinct, and the nuclei round. In some cases two nuclei were present in the individual cells. Many lymphocytes were seen in the tissue, and the blood vessels were markedly dilated. The author observes that cervical polypi have long been recognized as a cause of bleeding during pregnancy, but no case has been recorded which presents the same picture as that now reported. The majority of records deal with polypi in association with cases of placenta praevia. Nevertheless, the presence of decidual tissue in the cervix was first demonstrated in two cases by Bayer in the folds of the "arbor vitae." The observation was apparently overlooked, and the majority of case reports credit V. Weiss with being the first to control the observation with specimens. Lynch concludes his paper with a full bibliography on the subject of cervical decidua.

THERAPEUTICS.

184. Analgesic Action of Radium Injections.

THE persistent radio-activity of the organism under the influence of radium given in an insoluble form was demonstrated not long ago by Dominici and others before the Academy of Sciences of Paris, and it was stated that the blood of a horse which had had an intravenous injection of radium sulphate one year previously was still radio-active. LEDOUX-LEBARD (*Arch. d'électr. méd.*, August 10th, 1913) recommends strongly that preparations of an extremely minute quantity of radium sulphate, held in isotonic suspension, be injected to relieve pain in inoperable cancer. When, without any great enthusiasm, he essayed injections of radium sulphate in seeking to relieve the sufferings of a patient who had a large inoperable cancer of the breast, he was surprised at the good results obtained. His lack of enthusiasm previously was not due to any want of confidence in the action of radium, but to the minuteness of the dose utilizable in the form of injection. The tubes of radium sulphate used for the purpose, prepared according to the Jaboin method, contained from 10 to 20 micrograms of the salt, a microgram being one-thousandth part of a milligram. Larger doses, however, did not appear to give better results, and the particular form of syringe or needle employed was a matter of indifference. The injection was made very much in the manner of cocaine, and the point of puncture might be in the sound skin at the periphery of the lesion, or in the lesion itself. In general the puncture was only slightly painful, and did not necessitate local anaesthesia. The relief, which might be preceded by a slight exacerbation of the pain, began at the end of a few hours, and continued for a variable period. The sedation in many cases was sufficiently complete to enable the use of morphine to be suspended. If, however, the first injection proved unavailing, it was of no use to persist; a preliminary check was an indication for abandoning the method. The author had obtained his best results in inoperable cancers of the breast, especially in the forms much ulcerated and very painful. The sixteen cases in which the method had been tried had all been relieved without exception. The histological character of the tumour did not appear to signify. A recurrent sarcoma of the abdominal wall was as sensitive in this instance as an epithelial cancer. The price, of course, forbade any large application of the method, but the author thought that mesothorium might serve as a substitute, and also that injections of the emanation of radium might be made serviceable.

185. Treatment of Non-pulmonary Tuberculosis.

HAWES (*Amer. Journ. of Med. Sciences*, July, 1913) regards surgical interference in the majority of cases of non-pulmonary tuberculosis as but an incident in the treatment, since it is impossible thereby to remove all traces of tuberculosis, as evidenced by the history of recurrence in cases of cervical adenitis discharged from hospital as cured after operation. Careful and constant supervision for many months, both before and after operation, is needed, and such supervision prior to operation will vastly increase the benefit derived therefrom, and in many instances even render it unnecessary. By means of home sanatorium treatment, where patients are taught by weekly meetings and home supervision how best to combat the disease, good results have been obtained, and in the out-patient department of the Massachusetts General Hospital a clinic is held once a week, patients being referred from other departments, especially the male and female surgical and genito-urinary departments. After a physical examination, to rule out any pulmonary condition, the methods of treatment and reasons for everything are explained in detail, and, with the co-operation of the Social Service Department, the home conditions are investigated and discussed. Tuberculin is administered once a week, commencing with an initial dose of 0.0001 mg., which is gradually increased, with

avoidance of constitutional reaction if possible. Many patients continue at work during the entire course of active treatment, although it is advisable in the majority of cases that all work or school should be given up for the first two or three months. Sleeping out of doors is advocated, and in many instances continuance at work or school is permitted on condition that there is sufficient fresh air at night. Beyond an extra quart of milk a day, in addition to the usual three meals if the patient is under weight, nothing else is ordered, provided that it is certain that there are three really good meals. Of 116 patients under more or less constant supervision, and coming to report periodically, there were 60 cases of adenitis, 46 of which were completely cured, 13 markedly improved, and in only 2 did the disease progress in spite of treatment; 28 cases with ocular tuberculosis have had the disease arrested in 9, markedly improved in 17, while in 2 the process had advanced. Of 28 remaining cases, including various forms of non-pulmonary tuberculosis, 14 have had the disease arrested, 12 have improved, while in 2 the disease has progressed. Though not startling, these results are eminently satisfactory, when the want of sanatorium facilities, adequate home supervision, and financial status of the patients is considered, and they point to the value of a judicious combination of proper hygiene, conservative surgery, and tuberculin, together with individualization in each case and the employment of applied common sense.

186. The Thorium Derivatives.

IN a communication on the physiological and therapeutic action of the derivatives of thorium (*Arch. d'élect. méd.*, July 10th, 1913) DE NOBELE levels the reproach against mesothorium that its activity is essentially variable, both in therapeutic value and in form, with the result that it is scarcely possible to establish any scientific basis for its application. Of the radio-active products issuing from thorium, the most interesting is thorium X, which appears at the fourth generation in the disintegrating process. The activity of thorium X increases by 10 or 20 per cent. during the first day of its production, but diminishes afterwards by about 17.5 per cent. per day, so that by the third or fourth day it has fallen to half value. It is applied by means of subcutaneous and intravenous injection, inhalation, drinking, baths, and electrolytic introduction. The author quotes Plesch and Karczag as stating, on the basis of animal experiment, that only 12 to 18 per cent. of the thorium X is eliminated by the bladder and intestines, the remainder being retained in the body and fixed in the tissues. The fixation takes place more especially in the bone marrow, which appears to have an elective action for thorium X. Next in order come the intestines, the liver, and the suprarenal capsules. Thorium X is said to assist metabolism, increasing the production of CO_2 and the consumption of O. It is being used in the treatment of obesity and gout, but its employment should be girt about with great precautions. The author recommends intravenous rather than subcutaneous injections, because with the latter the prolonged stay of thorium X at the point of inoculation may produce local burning; further, the solution of thorium X frequently encloses small quantities of radiothorium, which is insoluble, and may fix in the tissues at the point of inoculation and provoke lesions. Thorium X taken by the mouth has often given rise to profuse and even haemorrhagic diarrhoea, which is attributed to the local action of the substance on the intestine. To avoid this trouble an abundant alimentation, of such a nature as to leave large residues, should be taken at the same time as the thorium X, and lavements or purgatives should be administered for the two or three days following. According to Plesch, the maximum dose for a man is 3,000 to 5,000 Mache electrostatic units.

187. Vaccination against Tuberculosis.

MARAGLIANO (*Rif. Med.*, June 28th and July 5th, 1913), who has worked for so many years at the above subject, sums up some of his results. All along he has been a stout upholder of the doctrine that, like other germs, the pathogenic action of tubercle bacilli is due to the toxins evolved by them, and that immunization could be procured by the injection of dead and not living bacilli. On the whole the subcutaneous method of administration is the best for man, but good results may be obtained per os. As material for injection the author first kills the bacilli by hourly exposures to a temperature of 80 C. for three successive days, then triturating with two parts of glycerine. This mixture is introduced over the deltoid region, just as in Jennerian vaccination, three places being injected. Such inoculations have been shown to be quite free from danger. In about 8 to 10 per cent. of those vaccinated in the deltoid region there is a glandular reaction. Defensive substances increase after vaccination, and reach their maximum seventy to eighty days later. The immunization so procured is not absolute any more than it is in the case of small-pox. That it may last several years is shown by certain clinical records—for example, out of 465 cases vaccinated between 1903 and 1910, none are as yet affected with tuberculosis. Some families with marked tuberculous history showed immunity in those members which were vaccinated—for example, in one family the father and four sons were tuberculous (? died of tubercle), four were living and vaccinated in 1909, and remain well, and the author gives eleven families "decimated by tuberculosis" where similar good results obtained after vaccination of the surviving members. Another group of ten families consists of those where the children were tuberculous and the parents healthy, whilst a third group of eight families showed one of the patients affected.

PATHOLOGY.

188. Histological Changes Produced by Radium and X Rays.

LOUIS WICKHAM (*Arch. d'électr. méd.*, May 25th, 1913), in a report on the histological modifications produced by radium and *x* rays on tissues, lays it down as a first principle that all rays which strike a cell, whatever their source, influence or "perturb" that cell to a variable degree, and modify its vital equilibrium. The extent of this influence depends upon several factors, but firstly upon the degree of receptivity of the cell, or its sensitiveness to the rays. The author distinguishes this from what is called "specific action" of the rays. It is not, he says, a question of specificity, but of the special sensitiveness of the young and evolving cell, and from this sensitiveness or receptivity of the neoformation there results the capital fact that all penetrating rays, after traversing a certain thickness of healthy tissue without altering it, may act therapeutically on the deeply situated pathological cells. The author goes on to compare the modifications induced by radium and *x* rays in epitheliomas on the one hand and sarcomas on the other, and states that in each case the mechanism is the same. The cells undergo a great degree of atrophy, and their disappearance is effectuated by phagocytosis. The latent period which elapses before the effect becomes manifest is shorter in the case of sarcomas, and certain sarcomas are not, properly speaking, destroyed by the radiations, but are simply transformed by them into benign tumours, and these into cicatricial tissue. The author is not inclined to put forward any conclusions with regard to lesions of the haematopoietic organs, but so far as quantitative and qualitative modifications of the blood are concerned he states that in the case of white corpuscles the first result of *x*-ray or radium treatment is a fugitive polynucleosis, followed by a diminution of leucocytes. The effect of treatment on the red corpuscles of the blood is to multiply their number, and the increase, which follows a temporary diminution, is rapid and lasting. Together with Degrais, the author has treated by means of radium a case of splenomegaly in which the blood count gave 3,200,000 red corpuscles and 360.000 leucocytes. Six weeks after the beginning of treatment the respective figures were 4,900,000 and 77,000, and by the eighth month the leucocytes had fallen to 10,000, and the spleen had resumed its normal dimensions. With regard to angiomas, the author states that here the processes are entirely different from those which govern the disappearance of the epitheliomatous or sarcomatous cells or the leukaemic globules. In this instance a para-embryonic metaplasia of the vasculo-connective tissue takes place, with hyperplasia of its elements. The process is essentially a rejuvenation of tissue, and the same is true of the modification of keloids. The author points out, in conclusion, that while histologically the different rays (*x* rays, radium, light and actinic rays) produce modifications of the same order, the clinical results contradict this finding. The discordance is partly explained by the fact that histological study is still in its infancy, and future investigation may bring to light differences which at present pass unperceived. But the decisive reason is bound up with the question of technique and instrumentation. The clinical differences mainly arise from external factors, such as appropriate filtration or position of the radiant apparatus. Given a suitable technique to meet the case, the clinical results would probably bear out the uniformity of the histological findings.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

189. Obscure Gastro-Intestinal Haemorrhage.

E. Stadelmann (*Berl. klin. Woch.*, May 5th, 1913) discusses the rare forms of haemorrhage from the gastro-intestinal tract, with special reference to those cases in which a fatal haemorrhage was confidently traced to a gastric ulcer during life, but in which the necropsy failed to reveal any ulceration or macroscopic lesion. In a class closely allied to this he includes cases of insignificant erosions of the duodenal mucosa which lead to fatal haemorrhage. In one such case, a waiter, aged 42, had suffered from abdominal discomfort for two to three months, when he suddenly vomited bright red blood. The haematemesis continued till the eighth day, when death occurred. The necropsy showed dark-red faeces in the large intestine, and a trace of blood in the stomach, where no gross ulceration could be detected, in spite of close scrutiny. The only abnormality found was great thickening of the muscular wall of the pylorus and adjoining duodenum. Several small erosions of the size of a lentil were found in the mucosa of the pyloric ring, and immediately below this. They did not extend to the muscular wall of the gastro-intestinal tract, nor even to the submucosa. No large blood vessel could therefore have been involved: yet the haemorrhage was fatal. Another rare cause of haemorrhage is the rupture of idiopathic varicose veins, the origin of which is unknown. They are distinct from the varicosities due to cirrhosis of the liver, renal, pulmonary, or heart disease. Their importance is illustrated by the case of a mason, aged 35, who, after previously being quite well, suddenly felt unaccountably ill one afternoon. In the evening he suffered from severe haematemesis. This continued for several days, and was accompanied by constant nausea, giddiness, and restlessness. Death occurred on the fifth day. The necropsy showed no ulceration of the stomach or duodenum, and no disease of the liver, heart, and kidneys to account for the development of varicose veins. In the greater curvature of the stomach, a handbreadth from the oesophagus, there was a small opening, of the size of a pin's head, covered with blood. This yielded fluid blood on pressure, and admitted a bristle which could be passed into a large plexus of varicose veins. When systematically looked for, such veins are often found in the oesophagus, stomach, and intestine. One patient, a man aged 73, was admitted to hospital in a moribund condition, due to internal haemorrhage. No reliable history was obtainable. The necropsy showed rupture of a varicose vein in an hour-glass stomach. No other abnormality could be found. In another case large varicose veins were found in the stomach of a builder who was killed by a fall from scaffolding. Though intact, it is clear that these veins were a potential source of a fatal haemorrhage. Idiopathic varicose veins may also develop in the submucous and subserous coats of the small intestine. They seldom grow to the dimensions of a split pea, and may never rupture. The author has found them intact in two cases in which death was due to other causes. A very rare condition is a large, single idiopathic varicose vein, as found by the author in the intestine of a builder, aged 83, who died of apoplexy and bronchopneumonia; and in the intestine of a woman, aged 84, who died of an incarcerated hernia. Another source of obscure intestinal haemorrhage is the superior haemorrhoidal plexus, situated about 10 to 15 cm. above the anus. Recognition of this source of haemorrhage requires the use of the sigmoidoscope. The plexus may bleed when lightly touched, and give rise to profound anaemia and general weakness.

190. Acromion Process Auscultation.

Abrahams (*Arch. of Diagnosis*, April, 1913) considers that auscultation at the acromion ends of the clavicles is of value in physical diagnosis. The hard rubber, ivory, or metallic chestpiece is the best (soft rubber being of no advantage and the phonendoscope useless), and it should be adjusted carefully over the acromion end of the clavicle, it being sometimes necessary, in order to ensure perfect adaptation, to cover the acromion process of the scapula as well. It is important to bear in mind the physiological auscultatory differences between the two apices, the right being characterized by broncho-vesicular breathing, distinct spoken voice, and clear whispered sound, while the left shows vesicular breathing, indistinct spoken voice and muffled whispered sound. Given perfectly healthy apices, acromion auscultation emphasizes these physiological differences. In the case of early infiltration of the right apex acromion auscultation yields an appreciable, prolonged expiratory sound, louder spoken voice, and slightly increased whispered sound, changes which may not be as yet evident to direct auscultation over the apex. In a similar condition of early infiltration of the left apex acromion auscultation shows pronounced broncho-vesicular breathing, and increased voice and whispered sound, while the same changes are with difficulty perceived by direct auscultation of the apex. In first stage tuberculosis of the right apex the usual acoustic phenomena at the apex are greatly exaggerated and unmistakable to acromion auscultation, being heard as tubular breathing, bronchophony, and whispered pectoriloquy, signs which, when present over lung tissue, would indicate consolidation. In the first stage at the left apex the signs directly over the apex become clearer, more demonstrable and pathognomonic to acromion auscultation, breathing assuming a tubular character, and bronchophony and whispered pectoriloquy being heard. This method is of great value when the tuberculous focus is situated behind the clavicle, and also in revealing crepitant, subcrepitant, mucous or sibilant râles, which are too indistinct to be noticeable by direct apical auscultation.

191. Hysteria Complicating Uraemia.

A case is reported by Engelen (*Deut. med. Woch.*, May 22nd, 1913) of a woman aged 38, whose uraemia was for some time masked by hysterical phenomena. She had suffered for five years from chronic nephritis, and two years ago hysterical convulsions had lasted for three days. Since then she had been perfectly well in spite of persistent albuminuria. When seen by the author she had just developed an "apoplectic seizure," followed by convulsions. Her respiration was laboured, and diffuse bilateral bronchitis was accompanied by fever. On the right side Babinsky's sign was positive and the arm and leg were paralysed. The contracted pupils did not react to light. There were clonic contractions of the left arm and leg suggestive of hysteria. This condition was also indicated by the patient's theatrical gesticulations, and by the greater frequency and violence of the convulsions when doctors and nurses were present. She pulled her hair and attempted to scratch the attendants who held her limbs. Treatment by suggestion was therefore adopted, and a peremptory order to lie still and go to sleep was instantly obeyed, the patient sleeping for several hours. This treatment was almost useless next day, when she was more somnolent, and the voluntary component of the convulsions had practically disappeared. She soon became comatose, the convulsions ceasing shortly before death. The author considers that the hysteria was the result of uraemic toxaemia, and that the unilateral convulsions were due to the involvement of the pyramidal tract, either by a haemorrhage or localized oedema.

192. Fatal Diphtheria from Puncture of Ear.

R. Pollak (*Wien. klin. Woch.*, August 7th, 1913) records the case of an infant, 2½ weeks old, whose ears were pierced by a midwife. On the sixth day purulent crusts appeared at both the sites of puncture, and two days later a purulent vesicle appeared on the upper lip. Later several similar vesicles appeared on the lips, gums, and tongue, the temperature meanwhile slowly rising to 104°. Consciousness was lost, and death followed on the twenty-ninth day. The necropsy showed in the lobe of the left ear a circular ulcer, about 2 mm. in diameter, surrounded by discoloured and partially decomposed skin. The discoloration extended to the external auditory meatus, to the back of the ear, and to the mastoid process. Over this area the skin was red, and the epidermis partially detached from the underlying oedematous structures. A somewhat similar condition was observed on the right side. The tongue was coated and the pharynx was pale and without any false membrane. The lower lobe of the right lung showed lobular pneumonia, the heart, liver, and kidneys were degenerated, and numerous haemorrhages were scattered throughout the surfaces and interior of both lungs. As the cardiac and pulmonary changes were characteristic of diphtheria a bacteriological

examination was made of the spleen and the haemorrhagic portions of the lungs. The examination of the former was negative, but a few colonies grown from the lungs proved to consist of diphtheria bacilli. These were found by experiments on guinea-pigs not to be particularly virulent, death occurring eight days after a subcutaneous inoculation, and the necropsy showing changes characteristic of diphtheria. In this case there were no signs before or after death of involvement of the tonsils, uvula, pharynx, or larynx, while the condition of the ears and the neighbouring structures was characteristic of diphtheria of the skin.

SURGERY.

193. Suture of the Heart.

STEWART (*Ann. of Surg.*, July, 1913) records 5 cases of suture of the heart with 3 recoveries. In all cases the diagnosis of wound of the heart was made previous to operation. The general symptoms of shock and acute anaemia were pronounced, but the pulse, although exceedingly weak and irregular, was 100 or below in 3 of the 5 cases. The classical sign of distension of the veins of the face, neck, and arms was present in only 1 case. The writer is of opinion that no conclusion as to the participation of the heart in a wound can be drawn from the amount of external bleeding. This is accounted for partly by the valvular nature of the tracts leading from the skin to the heart. Furthermore, if the pleural cavity is also opened by the trauma, the organ is displaced farther by the resulting pneumothorax, and the wound in the latter may be temporarily closed. The technique employed by Stewart is as follows: After disinfection of the skin wound with tincture of iodine and excision of the orifice, the finger is passed into the thorax and an attempt made to feel the opening in pericardium. A chondro-cutaneous flap is then made of sufficient size and shape to uncover a large area of the pericardium. If the pleura has not been injured, it is of the greatest importance to preserve this membrane intact. The writer thinks that resection of the sternum is but rarely necessary. The pericardial opening is then enlarged in the axis of the heart and the organ is explored by palpation. In no case in the present series was the wound in the heart seen before it was discovered with the finger, owing to the copious haemorrhage. The bleeding must be controlled temporarily by digital compression and the blood removed by sponging until a suture has been inserted. This may then be used as a tractor whilst the remaining part of the wound is closed by a rapidly inserted continuous suture. The needle in the writer's cases was passed deeply without reference to systole or diastole. In 2 cases silk was the material employed for suture, but as a sinus developed upon one occasion it was subsequently discarded, and catgut is now recommended. The longest wound sutured by Stewart measured 1 in., and in 2 cases it was necessary to tie a large branch of the coronary artery. The patient recovered and was apparently not inconvenienced by the obliteration of the left descending coronary vessel. Drainage of the pericardium is not recommended by the writer. In one case, where the pericardial cavity was drained with gauze, purulent pericarditis followed. In 4 other cases it was closed without drainage. Drainage does not prevent infection, and rather favours the same. An analysis of the writer's 5 cases showed that one lived for five years after operation and eventually died with pulmonary tuberculosis; another is healthy four years after operation; a third, last seen and quite healthy two years after operation, has since been lost sight of; a fourth died forty-one hours after suture of the heart with acute purulent pericarditis and myocarditis; the fifth died one hour after operation. This patient was much collapsed when brought into hospital, and artificial respiration was necessary during the course of the operation. At the autopsy a wound half an inch long was found, involving the right ventricle, interventricular septum, and left ventricle. The mitral valves were badly diseased and both ventricles hypertrophied.

194. Thrombosis in an Arm after Weight-lifting.

H. A. BAUM (*Deut. med. Woch.*, May 22nd, 1913) points out that thrombosis of large veins in the arm, following indirect trauma and unaccompanied by apparent injury to the walls of the veins, is far more common in the upper than in the lower limbs, and is more often seen by the general practitioner than by the surgeon or gynaecologist. The condition was not recognized till 1884, when Schrötter recorded a case in which, owing to a mistaken diagnosis, amputation of the arm had been recommended. The condition is probably often mistaken for rupture of a muscle, myositis, or neuritis. The author records the case of a married woman, aged 54, whose right arm became painful, weak, and swollen directly after lifting heavy furniture. The skin was mottled and tense, and rupture of a muscle was diagnosed. Work aggravated the symptoms, which abated when the arm was rested. A severe relapse followed the lifting of a mattress, the arm becoming powerless and painful and the swelling extending to the supraclavicular fossa and the adjacent area over the right chest. The superficial veins in the swollen area were dilated, but though the internal bicipital sulcus, the axilla, and supraclavicular fossa were tender, no firm strand could be felt either in the arm or axilla. The patient could not raise her arm above the shoulder nor clench her fist owing to the oedema, which also induced paraesthesia in the area supplied by the median and ulnar nerves when the arm was held in certain positions. With rest, followed by cautious massage, some improvement was effected and the patient could write letters again, but eighteen months after the accident the circumference of the right arm was still slightly greater than that of the left, paraesthesia was still easily provoked, and the sense of heaviness and tiredness in the arm was readily aggravated by slight exertion. The author does not anticipate much further improvement, and estimates the patient's capacity for work at about 50 per cent. or less of the normal. Evidently the venous circulation in the arm was only partially restored, either by the reopening of the large trunks or by the compensatory dilatation of the basilic, cephalic, and cutaneous veins of the right chest, and the circulation thus re-established was sufficient only when the arm was but little used. Seven similar cases have been recorded, the second of which was observed in 1910, when Schepelmann demonstrated a man aged 21, whose left arm was strained by curbing a restless horse. The thrombosis which developed was mistaken for a phlegmon, and was not recognized till an operation had been performed and the thrombosed vein removed. Pulmonary embolism occurred three weeks later, in spite of which the patient recovered. Apart from this case, there is no record of pulmonary embolism as a sequel to the detachment of the thrombus, and the thrombosis is seldom fatal, provided it is undisturbed. The prospects of complete recovery are, however, bad, for the collateral circulation established is seldom sufficient when much work is required of the arm. Discussing the pathology of this condition, the author points out that it has been erroneously attributed to clotting of the blood in a vein. But the process is not one of coagulation, but of conglutination, the red cells leaving their central position in the blood stream to form a compact plug, in the formation of which leucocytes and fibrin play but a secondary part. This process is probably favoured by the obstruction to the venous circulation which follows hard exercise and by the injury to the small valves in the veins induced by the back pressure. But it is not clear why the red cells should migrate in the manner described.

195. Diagnosis of Chronic Appendicitis.

BASSLER (*Amer. Journ. of Med. Sci.*, August, 1913) describes a method of pinching the appendix in the diagnosis of chronic appendicitis. Believing that an appendix must be tender before it can be of significance in causing dyspeptic symptoms, he points out that pressure directly backwards over McBurney's point is either internal to or over the caecum and not over the appendix, and consequently advises the following plan as being more successful: If the patient is not too stout the lower border of the caecum is sought by percussion from Poupart's ligament upward, and then its outer and inner edges are determined by percussion transversely, and with these points noted pressure on the abdomen can be made directly over where the appendix lies. Another plan is to note the position of the right edge of the rectus muscle on the umbilical-spine line. Maintaining a finger on this point and standing at the right and facing the patient, the thumb is placed vertically on the abdomen with its tip pointing to the ensiform cartilage, when it is slowly pressed directly backwards into the abdomen. When the thumb has been sunk about half-way down to the back of the abdominal cavity, it is swung to the right of the patient at a right angle to the downward pressure line, thus pinching the appendix against the iliacus muscle and unyielding structures under and at the side of it, and eliciting pain or tenderness if diseased. If this procedure in the mid-distance between the anterior superior spine and the umbilicus produces no pain or tenderness, it is well to move the thumb down about ½ in.

and repeat the performance, and so on downward almost to the brim of the pelvis. By this method of downward and then lateral pressure it is possible to elicit tenderness in the average case of chronic appendicitis. When tenderness is obtained on transverse pressure to the left it may be a Lane's kink, and when below it may be a tender ovary instead of an appendix.

OBSTETRICS.

193. Pituitary Extract in Uterine Inertia.

CLIFTON EDGAR (*Amer. Journ. of Obstet.*, July, 1913) records his experience of the use of pituitary extract to prevent or relieve uterine inertia in the first or second stages, and immediately after the third stage. He has also employed it in 6 cases of Caesarean section and upon 6 occasions for the induction of abortion. For decided action Edgar finds that 0.4 gram of the drug is usually required, although in ordinary cases half this dose is, as a rule, sufficient. The effect lasts only thirty minutes, and therefore repetition of the dose is often required. The author observes that although theoretically the uterine contractions are intermittent in the face of resistance, practically they approach to the continuous, and clinically must be so considered. Even small doses of the drug administered during the first stage of labour produced in some of the author's cases fatal compression of the fetus, premature separation of the placenta, and deep laceration of the cervix requiring suture. Its use during the first stage is therefore dangerous. Edgar found that pituitary extract acted promptly and efficiently in most cases of inertia, but that its action was more positive in multiparae than in primiparae. Also it acted better at full term than in premature cases. When employed for *post-partum* haemorrhage due to inertia, the results in 19 cases were disappointing, and the author considers its action here most disappointing and not as positive as ergot. In 6 cases of Caesarean section also no advantage was observed of pituitary extract over ergot. The action was perhaps more prompt, but the effect passed off more rapidly. For primary inertia in cases of abortion the results were disappointing, and for atony of the bowel and bladder and as a galactogogue they were frankly negative. The author considers that the action of the drug is most uncertain. One can never predict in a given case either from the dose administered or from the character of inertia and the obstruction to be overcome how powerfully the drug will act upon the uterus. It should not be employed for inertia unless anaesthesia is at hand and preparations are complete for immediate delivery if necessary, to avoid rupture of the uterus. With these reservations, it is a valuable addition to our resources for the treatment of uterine inertia.

GYNAECOLOGY.

197. Galactorrhoea with Amenorrhoea.

E. BILSTED (*Ugeskrift for Laeger*, June 26th, 1913) records the case of a married woman, aged 30, who had previously been well, and who had last been confined five years earlier. Labour had been normal, only a little blood had been lost, and the puerperium had also been normal. The child was weaned after six months, during which breast feeding had been satisfactory. The secretion of milk persisted, and menstruation did not occur. The patient at first felt tired and nervous; later she gained strength, but at irregular intervals she suffered from headaches, tiredness, and cardiac discomfort, without, however, definite menstruation. The persistent escape of milk from the breasts was depressing, and a source of discomfort. Her appetite was good, and though rather pale, she was not emaciated. Hot douches and iron were prescribed in vain, and the patient regarded herself as incurable, for the galactorrhoea and amenorrhoea had lasted for over four and a half years. Her heart, lungs, and urine were normal, and her blood contained 50 to 55 haemoglobin (Sahli). The breasts were not tender, but were distended with milk, which escaped freely on pressure. The uterus was rather small, but not atrophic. The ovaries were firm, and of the size of almonds. There was a free discharge of watery, white fluid from the uterus, and the cervix was lined with a somewhat red and swollen mucous membrane. Bier's congestion treatment of the uterus was prescribed, Everman's speculum being used. The collar of this speculum rendered its passage through the vagina difficult and painful. Suction was applied for periods of ten to fifteen minutes, with pauses every two minutes. For about half an hour after each operation she experienced slight labour-like pain, and the uterus exuded a little watery blood. This became gradually darker and more plentiful. The treatment was at first practised every other day for a fortnight, later every third day, and finally, only every eighth or fourteenth day. The general condition was unaffected, but the galactorrhoea was less profuse, and every third week there were signs of molimina menstrualia without, however, definite menstruation until the treatment had lasted four months, when it occurred and lasted three days. With the return of menstruation the galactorrhoea ceased completely, and five months later the patient again became pregnant. The author traces this recovery to Bier's treatment, which has not, he claims, hitherto been practised with success in cases of galactorrhoea. Even when galactorrhoea is not accompanied by amenorrhoea, he thinks it probable that Bier's treatment applied to the uterus would cure the former.

THERAPEUTICS.

198. Serum Treatment in Epidemic Meningitis.

IN a reprint from the *Journal of Experimental Medicine*, vol. xvii, No. 5, 1913, Dr. SIMON FLEXNER publishes the results of 1,300 cases of epidemic meningitis treated with the antimeningitis serum prepared and distributed by the Rockefeller Institute. Caused bacteriologically by the *Diplococcus intracellularis*, opsonic experiments have shown that meningococci derived from different sources are digested by leucocytes with varying facility, the variations depending upon the particular strain of the micro organism, and, in estimating the content of opsonizing substances in different samples of antimeningococcic serums, the strains digesting slowly should be chosen. The injection of antimeningitis serum into the subdural space causes the diplococci to lie more and more within the leucocytes, and, as recovery from meningitis progresses, even when no serum has been used, a corresponding phenomenon occurs. The virulence of the meningococcus is the chief factor in causing death, differences among peoples in race and occupation being far less important. Death occurs either rapidly after sudden onset, or by a gradual intensification of symptoms and after a duration of from six to ten days, or slowly after the acute stage has been survived and the condition has become chronic, and fulminant cases appear to be more frequent at the beginning of an epidemic than at the end. Among 1,481 fatal cases, 25 per cent. died in the first three days, 24 per cent. from the fourth to the seventh day, and almost 50 per cent. later than the seventh day, so that survival of the first week does not afford greater insurance of ultimate recovery. Among recoveries a small percentage took place in the first week, and almost all were after several weeks or months of illness. The disease is most fatal to infants, and adults after the third or fourth decennium, the most favourable period to spontaneous recovery being from the 5th to the 30th year. Ear complications are numerous, but the most serious is metastatic ophthalmia leading to destruction of the ball of one or both eyes. Of serum-treated cases, fulminant cases being included in the analysis, the influence of the serum is marked, and the earlier the injections are begun the better the results. The most favourable cases for treatment fall between the 5 and 10 year period, the least favourable being those above 20, the lessened fatality among infants being most striking. The usual mode of spontaneous termination is by lysis, while of those injected the termination by crisis and lysis occurs about equally when the treatment is begun in the first three days of illness. In some instances of relapse terminating fatally, it was noted that the meningococci seemed to acquire a serum fastness thwarting its specific action. Complications and sequelae are reduced in number, and recovery is as a rule complete, with the exception of deafness, which, though still remaining, is diminished. The conclusion is warranted that antimeningitis serum given in subdural injections, suitable doses, and at proper intervals, is capable of reducing the length of illness, of largely preventing the chronic lesions and types of the infection, of completely restoring health in all but a very small number of recoveries, and of greatly diminishing mortality.

199. Vaccines in Gonorrhoeal Urethritis.

GUERCHOUNE AND FINNKELCHTEINNE (*Vratchebnaia Gazetta*, October 12th, 1912, *Ann. des mal. vén.*, March,

1913) find that vaccines are useful in acute and chronic gonorrhoeal urethritis, as well as in the complications of gonorrhoea. In 27 cases of acute and subacute urethritis the gonococci disappeared in 10. A polyvalent heterogenous vaccine was used. The initial dose was 2 million cocci, and this was doubled at each injection, the maximum dose being 50 million. The authors recommend the use of two vaccines, one containing small doses, the other large. The injections were given subcutaneously every six or seven days. No other treatment was given so as to determine the effect of the vaccine, but the authors advise that vaccine treatment should be combined with other methods. The vaccine reaches gonococci which have penetrated deeply or become generalized, and its action is probably due to the formation of antibodies. ERLACHER (*Deut. med. Woch.*, January, 1913) also recommends vaccines in acute and chronic gonorrhoeal urethritis, not only on account of their therapeutic action, but also because of their diagnostic value, for vaccines will produce a gonorrhoeal discharge in cases apparently cured by local treatment with silver nitrate. Erlacher begins with a dose of 5 million cocci given every four days and increased in some cases up to 28 million. In his cases local treatment was given at the same time.

200. Conduction Anaesthesia of the Inferior Dental Nerve.

A. NEUMANN-KNEUCKER (*Wien. klin. Woch.*, April 24th, 1913) describes a method of anaesthetizing the teeth supplied by the inferior dental nerve. He sprays ethyl chloride on the mucous membrane overlying the inferior dental nerve as it enters the inferior dental canal. This procedure is distinct from direct anaesthesia of a given area by freezing with ethyl chloride, for in the former the nerve endings are not directly anaesthetized, but are rendered anaesthetic by the temporary abolition of conductivity at the point where the nerve trunk is frozen. As direct freezing of a tooth with an inflamed nerve is impracticable owing to the pain excited by the cold, this distant method of anaesthesia is of special value in pulpitis, and it also possesses the advantage of being rapid, certain, and safe. It can be employed by the practitioner as well as by the dentist, and should be of special advantage in out-patient departments, where many teeth are drawn. Sufficient anaesthesia to extract a premolar tooth is induced by spraying for twenty-five seconds. There is no risk of that abscess formation which occasionally follows the injection of anaesthetics—in itself a painful operation. A further advantage of the author's method is the avoidance of the introduction into the system of such drugs as cocaine, which may cause serious symptoms. Anaesthesia with cocaine, again, requires the preparation of solutions, the sterilizing and filling of syringes, and the waiting for an injection to take effect. The following technique is adopted when, for example, extraction or anaesthesia of the dentine of the right lower first or second bicuspid is contemplated. A pad of cotton-wool is applied to the lingual side of the right lower jaw, so as to dry that part. The patient holds this pad in position with the middle finger of his left hand, keeping both upper and lower incisors in touch with this finger, so that the mouth is almost shut, and the facilities for inhaling the ethyl chloride are reduced to a minimum. Another pad is placed between the cheek and the right upper canine and bicuspids to intercept the saliva from the parotid gland. With his left hand the operator now draws the patient's right lower lip as far down as possible, and with his right hand he rapidly dries the alveolar process with a pad and then sprays ethyl chloride on it. The ethyl chloride acts undiluted on the mucous membrane when this has been carefully dried beforehand; and as the mouth is almost shut, there is no narcosis from inhalation of the drug. Similar manœuvres are carried out when operations on the left lower jaw are necessary. The anaesthesia is transient, and is therefore suitable for short operations only.

201. Salvarsan.

EMERY (*Bull. de Soc. Franç. de derm. et syph.*, January, 1913), in a paper, entitled, New Proofs of the Responsibility of Mineral Impurities in Distilled Water in the Production of Toxic Reactions, read before the society in January of this year, quoted verbally from a letter of Professor Ehrlich to himself, in which the former expressed approval of his results, stated that he himself was at work on similar lines, and encouraged him to further research. The gist of the paper amounts to complete condemnation of the use of metal distilling apparatus, and the recommendation to utilize only the hardest Jena glass ware for this purpose. Even the best glass will in time, states Emery, as a result of the frequent heating to which it is necessarily subjected for sterilizing purposes, lose certain of its stable properties, and give off to the water contained minute unweighable traces of silica or other metallic salts. These, he states (and he quotes several biochemical authorities in support), can effect much in the same way as diastases, the metabolic or catalytic processes of life—for example, traces of manganese 0.000,000,1 gram to the litre are absolutely necessary for the due growth and fructification of *Aspergillus niger*, while the minutest trace of zinc in the culture will produce a crop eight times as large as that without it. It is a well-known fact, moreover, that water from a copper distiller when used as the solvent for neosalvarsan will cause that product to turn brown when exposed to the air very much more rapidly (when it becomes three times as toxic to rabbits) as a similar solution in glass-distilled water. The clinical importance of Wechselmann's observation in this connexion can hardly be overrated. He used a copper distiller for his male and a glass distiller for his female wards. Although no copper could be demonstrated by Ehrlich by chemical test in the water from the former, it is an irrefutable fact that reactions were frequent among the men and were completely absent among the female cases.

PATHOLOGY.

202. Gas Cysts of the Intestine.

ATTENTION is drawn to this rare and interesting condition by TURNURE (*Annals of Surgery*, June, 1913). He describes in considerable detail a case that recently came under his notice, and discusses fully the pathology and various etiological theories that have been advanced in explanation of this obscure disease. The essential lesion is the occurrence of localized emphysematous areas in the intestine, occupying any layer of the wall and involving either the large or small gut, or both. The gas cyst formation is usually extensive, and for the most part is situated outside the longitudinal muscular coat. The cysts present a characteristic appearance, and vary in size from a split pea to a crab apple. They are usually sessile, but may be pedunculated. A special feature in the wall of the same is the presence of an endothelial-like lining and "giant" cells. In close proximity to the bullae there exist spaces or channels lined by endothelium and partly filled with giant cells, endothelial cells and leucocytes. Positive evidence is available that these spaces may be the result of dilatation of lymphatics. There is, however, an absence of communication between the cysts. Inflammatory processes are present in the pericystic area which sometimes lead to the production of fibromatous masses and the obliteration of the gas-containing spaces. Bacteria are, as a rule, absent, and in the few cases where they have been present they are probably *post-mortem* invaders. In the author's case, highly refractive needles were present in the interior of many of the cysts which chemically appeared to represent the soaps of the higher fatty acids. Turnure draws attention to the fact that almost all the reported cases of intestinal pneumatosis show the presence of gastric or duodenal ulcers, or some chronic disease of the intestinal tract. Many theories have been put forward to account for the origin of these cysts. The most generally accepted is the bacterial theory which refers the formation of the bullae to the action of gas-producing micro-organisms. Other suggestions are that the condition is analogous to traumatic emphysema, the gas escaping through minute ruptures in the bowel wall; that the lesions are the result of degeneration occurring in multiple neoplasms; or that the gas is produced by chemical action in the protoplasm of the cells of the intestinal wall. The author is of opinion that neither the bacterial nor mechanical theory alone adequately explain the formation of the cysts. The pathogenesis is complicated, and both bacterial, chemical, and mechanical factors are probably involved in the same. Turnure refers to the somewhat analogous condition of vaginal emphysema known to occur in the human subject, but observes that the microscopical appearances are somewhat different in the two lesions. Attention is also drawn to the formation of gas cysts in the intestines of animals—more particularly the pig—a condition that has been long recognized, and which is attributed by Dupraz to a proliferating lymphangitis caused by gas-producing bacteria. The author concludes his paper with a valuable series of 49 abstracts of cases reported in the literature.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

203. Persistent Intermittent Fever in Mucous Colitis.

On several occasions Couto (*Deut. med. Woch.*, April 17th, 1913) has observed cases of mucous colitis in which intermittent fever, of several months' duration, gave rise to mistakes of diagnosis. When fever occurs during an acute attack of mucous colitis it is easy enough to identify the one with the other; but when the colitis is chronic, and unaccompanied by crises, the patient may forget to mention his intestinal symptoms to the physician, who is deprived of the necessary clue to an intermittent quotidian fever. During the crisis of mucous colitis fever may be transitory, intermittent, or persistent. It may also persist as an intermittent quotidian fever after the crisis has passed, and may disappear for a few days without treatment, and then return to its former state. This type of fever usually lasts for four to eight hours every evening, and causes slight discomfort and headache, but no rigors or excessive perspiration. In one case a married woman, aged 38, suffered from mucous colitis. Colic and constipation alternated with diarrhoea, during which gravel and mucus escaped with the motions. For seven months the evening temperature ranged from 99.5° to 100.4°, and was accompanied by the usual symptoms of fever. Malaria had been diagnosed, but corresponding treatment caused no improvement. The fever ceased as soon as calomel, followed by a saline purge, was prescribed. In another case a medical man, aged 40, suffered from obstinate constipation and the passage of much mucus. For four months his abdomen had been repeatedly distended, and a cylindrical swelling of variable size could sometimes be detected in the iliac region, extending obliquely from right to left. For five months there had been an evening temperature ranging from 99.5° to 100.4°, and the patient suspected tuberculosis or a new growth. The fever ceased as soon as the mucous colitis was treated. In another case a child, aged 6 years, had suffered from diarrhoea, colic, abdominal distension, and the passage of much mucus since artificial feeding had been adopted at an early age. For one year there had been intermittent quotidian fever, ranging from 99.1° to 100° between the crises of colitis. In another case a man, aged 32, suffered from alternate constipation and diarrhoea, during which nummular, membranous, and filamentous mucus was expelled in large quantities. For six months there had been fever, ranging from 99.3° to 100.4° every day. Malaria was diagnosed, but recovery was not effected till the colitis was treated.

204. Tuberculosis of the Kidney.

Keene and Laird (*Amer. Journ. Med. Sci.*, September, 1913) discuss the diagnosis of tuberculosis of the kidney. It is generally accepted that the tubercle bacilli reach the kidney by way of the blood stream, the infection being primarily unilateral in the majority of instances, and, probably because of the intimate vascular connexion between the two kidneys, a specific infection of the opposite kidney more frequently originates from the sister organ than from any other focus. It is important to remember that the enlarged kidney may be the healthy one, because of the compensatory hypertrophy resulting from the impaired function of the diseased organ. Every bladder presenting symptoms should be regarded as the site of some organic lesion, the exact nature of which must be determined, and although it must not be thought that every irritable bladder is the seat of tuberculosis, it is only by observance of this rule that a diagnosis can be made sufficiently early to give the best chance for proper surgical treatment. From a study of the histories of twenty-five cases of tuberculosis of the kidney, it is noticeable how rarely are the symptoms directly referable to the kidney itself, even in cases of enormous pyonephrosis, or of complete ureteral occlusion. The first and most prominent symptoms of renal tuberculosis during the whole course of the disease are those referable to deranged bladder function, from painless polyuria, passing through all degrees of dysuria to the most intense strangury and incontinence, such symptoms often being markedly intermittent, with intervals of comparative comfort. A cystitis which does not readily yield to treatment should arouse suspicions of renal tuberculosis. Some degree of pyuria is the rule, but haematuria the exception, and a pyuria which is intermittent, or without demonstrable bacteria by smear or culture in a catheterized specimen, is suggestive of renal tuberculosis. In the absence of mixed infection the temperature is usually normal, and irregular fever, with chills and sweats, points to a mixed infection or a generally disseminated tuberculous process. Cystoscopy is the most important agent in diagnosis, and only by this means can the extent of the disease be determined as well as the condition of the anatomical and functional integrity of the opposite kidney. In every suspected case the diagnosis should be made by combined clinical and laboratory examination, the Bloch method of inoculation of guinea-pigs being used because a diagnosis may be made, in at least 77.3 per cent. of cases, in ten days as compared to six weeks by the subcutaneous or intraperitoneal methods. Since the manifestations of the disease are intermittent, a single negative result is insufficient for an absolute negative diagnosis.

205. Ichthyosis Thysanotrichica.

S. Weidenfeld (*Wien. med. Woch.*, April 5th, 1913) describes a condition in which numerous small, tuft-like hairs grow from the same follicle and look, to the naked eye, like ordinary sebaceous plugs or comedos. This condition has latterly been recognized by Franke, who called it thysanotrix; and by Nohl, who called it trichostachis spinulosa. The author's case is that of a man, aged 32, who had lived an outdoor, athletic life, and who suffered from folliculitis of the neck, and seborrhoea of the nose, forehead, and cheeks. The complexion of the face was brown, and the skin leathery and dry, except in the seborrhoeic area. Many black spots on the cheek and forehead were at first diagnosed as comedos, but it was impossible to squeeze them out, although they readily came away when pulled on by forceps. Only on the nose were true comedos found. Under the microscope each hair of the bundle was seen to be rounded off at the base, and to branch out into a fine spray distally. The base of the hair was pigmented, and surrounded by a cluster of epithelial cells. The localization of this condition varies in different patients, for in Franke's case it involved the middle of the body, and in Nohl's case the shoulders and back. The comedo-like colour of the hair was noticed by both these observers, who did not, however, notice the brown leathery appearance of the skin as seen in the author's case. In all the 3 cases, hair grew out of follicles, perfectly distinct from lanugo, and forming bundles the component hairs of which were equally short. The author ascribes the condition to hyperkeratosis of the base of the follicles, and as the condition had lasted for as long as the patient could remember, it should be classed among the malformations of the skin to which ichthyosis belongs. The author has accordingly applied to this condition the term "ichthyosis thysanotrichica."

206. Syndrome of Hanot and Syphilis.

Castaigne (*Journ. des praticiens*, July 5th, 1913) points out that sufficient attention has not been paid so far to the syphilitic origin of Hanot's disease. He relates the case of a man of 34 who, three years after having developed a syphilitic chancre, suffered from paralysis of the right side and transient aphasia. He was treated by injections of grey oil and by iodides. Later he showed signs of chronic cirrhosis with icterus. There was enlargement of the liver and also of the spleen. In this case improvement followed under mercurial treatment. The author mentions another case, however; symptoms of hepatic insufficiency developed and the patient succumbed. The liver showed typical syphilitic lesions. Leroux has described a similar case, and in the author's view these cases are more numerous than is supposed. Hanot's disease was not always due to syphilis, but in every case the patient's antecedents in the connexion ought to be examined. Hitherto Hanot's disease has been considered as being a slowly progressive but inevitably fatal malady, but the evidence of its syphilitic origin in many cases encourages the hope of amelioration or even cure. Alcohol was to be regarded as a predisposing cause, and assisted in the localization of the disease in the liver. It would have to be rigidly forbidden if treatment was undertaken in those cases.

SURGERY.

207. Partial Occlusion of the Thoracic and Abdominal Aorta.

Halsted (*Annals of Surgery*, August, 1913) reports the result of experimental partial occlusion of the thoracic and abdominal aorta by bands of fresh aorta and of fascia lata. He observes that ligation of the human abdominal aorta has been made 19 or 20 times, and always with fatal result. In 1904 he began a series of experiments on dogs in an attempt to find a safe method of occluding the aorta for the cure of aorta aneurysm. The material originally employed consisted of bands of silver and aluminium, and in the case of dogs the procedure was found to be quite safe. Halsted has applied an aluminium band to the human aorta 4 times—twice in one subject, and twice with promising results so far as the cure of the aneurysm is concerned. Considerable risk exists, however, of the band eventually ulcerating through the wall of the vessel and leading to fatal haemorrhage. This actually occurred in the case of an aged woman with a dilated and badly functioning heart. The author therefore attempted to replace the metal bands by cuffs and spiral strips taken from either aorta or fascia lata. On April 29th, 1912, he operated upon 2 dogs, partially occluding the aorta of one with a spiral aortic band, and of the other with a cuff removed from the same vessel. One animal was killed at the end of two months, and it was found that the cuff was organized and had not stretched to any great extent. Above the band the pulse was forcible, but below it was very feeble and accompanied by a thrill. The other animal died three weeks after the operation, the cause of death being unascertained. The aorta in this case was completely occluded by the strip. The author has since performed 25 similar experiments with encouraging results. These have shown, however, that whereas spiral bands seem to be perfectly safe, it is dangerous to employ cuffs only. In two instances in which marked constriction of the vessel had been made four months previously it was found that no diminution in the blood pressure was present, and on investigating the band in each case the same was found to be relaxed and partially absorbed. Other observations have shown that the bands may become almost completely absorbed, and that the lumen is thus restored. At the same time, Halsted observes that these findings are not discouraging, since if the constriction can be safely maintained for even one or two months it might effect a cure of aneurysm.

208. Appendicitis and Foreign Bodies.

Heinsius (*Zentralbl. f. Gynäk.*, No. 36, 1913) recently demonstrated at a meeting of the Obstetrical and Gynaecological Society of Berlin a vermiform appendix, in order to turn attention to the question of foreign bodies as a cause of inflammation of that part of the alimentary canal, now so well known to physicians and surgeons. He exhibited an appendix removed from a single woman aged 37, the subject of chronic inflammation with the usual symptoms. The adhesions were unusually dense and the appendix was thickened and shortened. After detachment from its connexions and amputation, its cavity was laid open. The mucosa was much thickened and vascular, and it bulged prominently at one point. The swelling was due to a splinter of bone about 8 mm. thick lodged in a cystic cavity under the mucosa. Perhaps foreign bodies might be occasionally overlooked, but Heinsius considered that the theory once prevalent that inflammation of the appendix was usually due to foreign bodies—such as cherry-stones—was, as was now generally admitted, quite a mistake. Operative experience, now almost unlimited, had proved that the diseased appendix was often quite void of any true foreign body.

209. Operation for Embolus of the Femoral Artery.

E. Key (*Wien. klin. Woch.*, June 5th, 1913) records the case of a Swedish non-commissioned officer, aged 43, who had suffered from dyspnoea for several years and from occasional slight haemoptysis without any sign of pulmonary disease. At the age of 33 he suffered from rheumatism in several joints, and he was subject to attacks of dyspepsia, which were immediately relieved by sodium bicarbonate. He had been feeling perfectly well, when, in November, 1912, he suddenly developed acute abdominal pain and blood-stained diarrhoea as he was defaecating. A cold sweat broke out, and sudden weakness prevented his getting to bed unaided. An attack of vomiting which ensued, as well as the previous symptoms, suggested perforation of a gastric ulcer, but the abdominal pain was limited to an area below and to the left of the umbilicus, where a slight swelling was demonstrable. Elsewhere the abdomen was neither rigid nor tender. Several watery, blood-stained motions were passed, but the pulse and temperature were at first normal. In the evening the temperature rose to 100.4°, and a diagnosis of embolus or thrombosis of a mesenteric vessel was made. After five days the pain, fever, and malaena had disappeared. On the thirteenth day the abdominal pain recurred, but there was no melaena. Next day the pain had vanished. On the twenty-second day the left leg was numb and the left popliteal space painful. A similar condition in the right arm had been noticed on the previous day. In a few hours the leg became cold and anaesthetic from a hand-breadth below the knee downwards, while the popliteal space became very painful. The limb was paralysed, and no pulsation of the arteries distal to the common femoral artery could be detected. Fries's apparatus, with a pressure of 120 mm., showed definite capillary pulsation in the right, but not in the left calf, and it was therefore clear that the collateral circulation was interrupted on this side. A few hours after the onset of the symptoms an incision was made over the dorsum of the foot, when, in spite of apparent congestion of blood in this area, the tissues were found practically bloodless. An incision over the popliteal artery under local anaesthesia also scarcely induced any haemorrhage and the artery was empty. The wound was therefore closed, the patient was put on his back, and the common femoral artery and the upper portions of the superficial and deep femoral arteries were exposed. No pulsation in the two latter could be detected. The upper part of the common femoral artery was pulsating and much dilated, and for 2½ cm. from its point of bifurcation it was discoloured, hard, and pulseless. The vessel was opened, and the embolus, which bifurcated and extended a little way into the branches of the common femoral artery, was removed. The withdrawal of the embolus was followed by brisk haemorrhage from collateral blood vessels. The artery was sutured according to Carell's technique, and after the completion of the operation strong pulsation was detected in the popliteal artery, the circulation through which had ceased for seven hours. Next day pain and a sense of distension in the calf of the leg and in the foot necessitated the use of morphine. Warmth and the sensory functions returned to the calf of the leg and to the foot early on the second day, when the toes were still cold and numb. On the evening of the second day these symptoms also disappeared. The pain persisted for some days, but ultimately recovery was complete except for slight ischaemic contraction of the muscles of the calf, probably due to the temporary interruption of the circulation. The cause of the embolism was mitral stenosis. Commenting on the recovery in this case in spite of the considerable interval between the embolism and the operation, the author points out that interference with the circulation by an embolus is presumably not so complete as when the whole limb is ligatured; in the former case the veins and lymphatics are not involved nor are the nerves compressed. It is, however, probable that irreparable harm would be done were an embolus left to itself for much more than seven hours.

210. Epigastric Hernia.

Delbet (*Journ. des praticiens*, August 23rd, 1913) relates the case of a man of 22 who suffered from this complaint. The swelling was situated below the xiphoid process of the sternum rather to the left of the middle line. This is the usual situation for epigastric herniae, which are rarely found in the middle line, although the reason of this is not known. In these cases the swelling does not adhere to the skin, and is freely mobile, but, except in the case of herniae of some standing, it is difficult to introduce the extremity of the finger into the sac. The intestine, epiploon, or possibly the stomach, are the only organs which occupy these epigastric hernias. They frequently cause severe girdle pains almost like tabes, and even attacks comparable to the gastric crises of tabes. Various explanations have been offered to account for this. Chaillon explains the attacks by the anastomosis of the intercostal nerves with the solar plexus through the diaphragmatic plexus. Others have supposed that hernia of the epiploon drags up the great curvature of the stomach. In the author's view these hypotheses are not justified. He quotes several cases in which the radical operation failed to relieve these attacks. In one case gastric ulcer was found to be present, and a gastro-enterostomy completely cured the patient. Another symptom noted is a distinct vibratory thrill on coughing—

apart from the ordinary impulse. Radical cure is required in all these cases, although it is not easy to obtain a solid cicatrix.

OBSTETRICS.

211. Induction and Augmentation of Labour Pains.

WELZ (*American Journ. of Obstetrics*, July, 1913) is of opinion that the inception of parturition is caused by an anaphylactic action of proteid birth substances from fetus to mother, and which also probably act as hormones in stimulating the secretion of the posterior lobe of the pituitary gland. Following the experiments of Von Der Heide, the author injected fetal serum intravenously in the buttocks of six pregnant women near term. In four of these cases uterine contractions were initiated, terminating in expulsion of the uterine contents within a short time of the injection. None of these patients had either objective or subjective signs of labour until after the administration of the serum. In one case of pre-eclamptic toxaemia an injection of fetal serum was successfully employed to induce labour at the thirty-fourth week. Welz refers at length to the observations of Von Der Heide, who, in the case of twenty-six patients, successfully induced labour by this means in ten. This author also believes that the birth act is the result of anaphylaxic action. This at first appears impossible, since anaphylaxis occurs as the result of the introduction of a foreign protein into an organism which has been previously sensitized by injection of the same foreign protein. The fetus, however, must be considered as a separate organism which derives its nourishment by dialysis and osmosis through the placenta. Its blood cells are different to the maternal organism, whilst, on the other hand, there is a lack of development in some fetal structures and increase in others. It is possible therefore that some of the fetal protein constituents differ from those of the mother. As this protein is carried into the maternal circulation it results in the increase in quantity of the enzyme specific for the digestion of this protein, as shown by Abderhalden. Welz suggests that this enzyme remains as an intracellular fixture, and that the maternal organism is thus sensitized towards the birth substance which at present is unknown. If this protein is the end product of fetal metabolism the amount would be increased towards the end of fetal development, and it finds its way into the maternal circulation through areas devoid of syncytium. A process of serodigestion is then initiated by the enzyme already stored in the blood, which results in the liberation of a poisonous group capable of producing an anaphylactic shock centred in the uterus. Vaughan has shown that certain proteins have predilections for certain places, and Dale has pointed out that the uterine muscle of the guinea-pig reacts strongly and immediately to anaphylaxis. The author suggests that missed labour and over-time pregnancy are possibly due to an insufficient flow of birth protein into the maternal organism. He also observes that in anaphylaxis is found an interesting explanation of the frequent abortions and premature labours of syphilis. Owing to inflammatory disturbances in the placenta, large amounts of birth substances are thrown into the maternal circulation before the usual time. Furthermore, eclamptic toxaemia may be explained as due to excessive amounts of toxins freed from the birth protein attacking the liver and other viscera. In employing fetal serum as a therapeutic oxytocic agent, Von Der Heide and Rongy think that the patient should be sensitized before the final injection. Welz does not consider this necessary, since towards the end of pregnancy the patient is probably already sensitized. The failure, after certain of the experimental injections, possibly lay in the insufficiency of the amount of birth protein injected. Another factor in determining the onset of labour is the sensitiveness or susceptibility of the uterus, as shown by the experiments of Sauerbruck and Von Der Heide. When labour has once begun, the uterine contractions are stimulated by the secretion of the posterior lobe of the hypophysis cerebri. Abortion cannot be produced by pituitary extract alone, but there is an increasing susceptibility of the uterus to the action of pituitrin as pregnancy advances. Welz thinks that in cases of uterine inertia there is probably a deficiency either of the birth substances from the fetus or of the pituitary secretion. By the combined use of these substances it is possible to control labour at term; at the same time, the danger of anaphylactic shock must be remembered because of the possible harm to the individual who receives the injection.

GYNAECOLOGY.

212. X Rays in Diseases of Women.

LACASSAGNE (*Ann. de gynéc. et d'obstét.*, August, 1913) sums up recent experimental evidence. The results of the treatment on rabbits and larger mammals deserve, in Lacassagne's opinion, deep consideration in regard to the therapeutic aspect of the question. Sterilization has been too much taken for granted. Heavy doses are insufficient to sterilize rabbits, and in the case of bitches a large number of normal follicles are often found after that kind of treatment. In woman it is more difficult to make sure that the rays reach the ovaries. Hence, the author was not surprised when, on examining the ovary of a woman who had undergone *x*-ray treatment a year and a half before it had been removed, he found that the organ was perfectly normal, bearing not only numerous follicles, but also a recent corpus luteum. Whilst full doses fail to sterilize, they may set up fatal complications: this is shown to be the case with the dog, as in three instances cachexia, due to atrophy of Lieberkühn's glands, ulcerations, and even perforation followed full treatment, the animals lingering several months; yet in all three subjects the ovaries bore many follicles quite sufficient to maintain the function of those organs. On the other had, clinical evidence has proved that *x*-ray treatment undoubtedly arrests menstruation and brings about the atrophy of uterine fibromyomata. The rays act rather on the tumour direct than on the ovaries, which are even more inaccessible than under more normal conditions. Lacassagne, concluding as to the therapeutic action of *x* rays on the ovaries themselves, considers that weak doses delivered regularly ought to cause atresia of the ripening follicles, month by month, as they develop; but no dose, not even one sufficient to cause grave lesions in adjacent viscera, can ensure permanent sterility.

THERAPEUTICS.

213. Intramuscular Injections of Salvarsan.

FARERA (*Rif. Med.*, May 17th, 1913) admitted a patient into hospital on March 3rd, 1912, who had been injected with an oily solution of salvarsan on September 5th, 1911. On admission in the previous March two largish nodular masses were seen in the intrascapular region, corresponding to the places where the salvarsan had been injected. As it seemed likely that the skin might give way the two nodules were excised and carefully examined. In one of the nodules, weighing 5.30 grams, enough arsenic was found to correspond to 0.036 gram of salvarsan. The other nodule was larger, weighing 21.10 grams, and if this contained a relative proportion it seems that a good deal of the salvarsan had been unabsorbed even 186 days after its injection. Of course, it is now known that oily solutions of salvarsan are absorbed with much greater difficulty than aqueous ones. The author explains the non-absorption after this long period partly by the necrotic destruction of the adjacent blood vessels, and partly by the absence of cellular elements (polynuclear leucocytes), partly by the negative chemiotoxic action of the drug, and partly by the formation of thick connective tissue capsule. Moreover, a process of calcification may set in which further limits the possibility of ultimate absorption. Probably some of these necrotic foci remain indefinitely as foreign bodies, and it is a question whether they ever get absorbed; what happens to the arseno-benzol in these cases—whether it undergoes any dangerous decomposition—is at present unknown.

214. Benzene in Leukaemia.

DISCUSSING the large output of papers dealing with the treatment of leukaemia with benzene, and the conflicting evidence on this score, A. RÖSLER (*Wien. klin. Woch.*, May 22nd, 1913) considers that the brilliant successes and utter failures recorded indicate the existence of more than one disease in the group now labelled "leukaemia." He reports the two following successful cases: A miner, aged 36, was struck by a stone over the spleen, and the open wound thus inflicted kept him in hospital for four months. Subsequently he suffered from stabbing pain in the left chest and shoulder, lassitude, and insomnia. There was enlargement of the cervical, axillary, and inguinal glands, and the splenic dullness reached upwards to the seventh rib, and downwards below the level of the umbilicus. There was a loud perisplenetic rub, and occasional fever. A blood count showed 200,000 leucocytes and marked myelocytosis. The erythrocytes numbered 5,120,000, and the haemoglobin was 81.25 per cent. (Sahli). Temporary improvement was effected by *x*-ray and levico treatment,

but five months later the spleen was larger than before, and the general condition was worse. Repetition of the former treatment was followed by an exacerbation of the disease, and the leucocyte count rose to 320,000. After treatment with benzene for sixty-three days, during which 230 grams were given, a blood count showed 6 million erythrocytes, and 55,200 leucocytes, consisting of neutrophils 77.52 per cent., myelocytes 7.79 per cent., and lymphocytes 4.2 per cent. The haemoglobin was 77 per cent. The spleen was much smaller, and the patient felt well and vigorous. Ten weeks after the completion of the treatment he had returned to his work. The last blood count showed 8,000 leucocytes and 6,400,000 erythrocytes. The haemoglobin was 97.55 per cent. The second patient was a married woman, aged 33, who suffered from pain in the left chest, lassitude and headache in December, 1911. Six months later enlargement of the spleen was found. Ambulatory treatment with benzene failed owing to headache, giddiness, and gastric symptoms. But when it was prescribed after the patient was confined to her bed, she tolerated it well. Before this treatment was adopted, the spleen extended upwards to the eighth rib, downwards to a point 10 cm. below the level of the umbilicus, and laterally to a point 4 cm. to the right of the middle line. It was very firm and somewhat tender. A blood count showed 237,000 leucocytes, of which 24 per cent. were myelocytes. The leucocytes increased during the first ten days of the treatment, and then decreased rapidly, falling to 60,000 in thirty-eight days. Altogether 208 grams of benzene were given in sixty-three days, the largest amount given in one day being 4 grams. The spleen became much smaller, and the general condition was markedly improved. The treatment was discontinued before complete recovery was effected, as its action continues for some time after the benzene has been withheld. About two months after the cessation of the treatment she reported herself, when her appearance was excellent, her general health and capacity for work were restored, and a blood count showed only 13,200 leucocytes, with scarcely one myelocyte. The spleen could no longer be detected below the costal margin. In both these cases the benzene was supplemented by arsenic. Benzene appears to have both a quantitative and a qualitative action on leucocytes in leukaemia; and the author prescribes it with equal quantities of olive oil in capsules. Anorexia and gastric symptoms were occasionally observed, but they ceased when the drug was withheld for a day. Dyspepsia and a sense of pressure in the stomach were relieved by the prescription of chloroform water, apples, and oranges; and giddiness was treated by rest in bed. Although carefully sought, no signs of renal or hepatic disturbances were found. It was, however, noticed that during the treatment menstruation occurred every three instead of every four weeks. The author admits that a permanent recovery cannot yet be claimed in these cases, but he does not anticipate a relapse, as the improvement was maintained several weeks after the conclusion of the treatment.

215. The Rational Treatment of Tetanus.

Ashhurst and John (*Amer. Journ. Med. Sci.*, June, 1913), from experience in 23 consecutive cases of tetanus, together with a review of recent literature, endeavour to inculcate rational methods of treatment founded upon a knowledge of the pathogenesis of the disease. Being a pure toxaemia, the bacilli or their spores may exist indefinitely in the tissues, and no symptoms will be produced unless toxins are formed. In man, tetanus descendens is nearly always the form assumed, the symptoms commencing in the muscles of the neck and jaws, no matter where the point of inoculation. Tetanus ascendens and mixed forms sometimes occur, initial cramps and stiffness in the wounded extremity being overlooked. The symptoms are due to the action of the toxin on the central nervous system, especially the spinal cord, and the incubation period depends upon the distance from the cord of the site of inoculation. The toxin ascends the nerves by way of the axis cylinders, and in this way can produce a severe tetanus ascendens, while some of the toxin may pass through the perineurium and endoneurium, and thus give rise to local tetanus. The toxin spreads to neighbouring parts of the spinal cord, and invasion of the sensory portion of the cord also occurs, while some enters the general circulation and, eventually reaching the cord, produces descending tetanus. The recovery of the bacillus from the point of inoculation is often impossible, and was never successful in the few cases examined of the 23 under observation, though Huber recovered it from the wound in 8 out of 15 cases. Porter and Richardson excised the inguinal lymph nodes in two patients inoculated in the lower extremity, and found the bacilli in each instance in the nodes, proving that the organism does not always remain in the immediate vicinity of the wound, and thus accounting for the persistence of symptoms of toxin absorption even after wide excision of the primary focus. Inoculation is favoured by anaërobic conditions of the wound, and those which are sloughing or contain dead organic tissue afford the best culture medium for the bacilli. In treating a suspected wound the surrounding skin is painted with a 3 per cent. alcoholic solution of iodine, and all parts are made accessible by wide incision, cleansed by scissors and forceps, and swabbed out with iodine solution, and it is then lightly packed with gauze soaked in iodine solution, caustics being avoided because of the danger of forming sloughs. The apparent failure of antitoxin as a prophylactic is most probably due to faulty administration, and although antitoxin is all eliminated in about ten days after injection, it is important that it should be present in the system for at least two or three weeks after the injury, since the bacilli may not begin to produce toxin for this length of time or even longer, and therefore the necessity for a second injection about the eighth or tenth day, and a third during the third week, is apparent, and in this connexion it is significant that in cases of reported failure the injection was not repeated. At least 1,500 units should be given in the immediate neighbourhood of the wound and injected deeply into the muscles, and this should be repeated in about eight days, and again in the third week, Solieri insisting that it should be renewed every eight or ten days until all necrotic tissues are removed from the wound, and there is a clean granulating surface.

PATHOLOGY.

215. Treponema in the Brain of General Paralytics.

Levaditi, Marie, and Bankowski (*Ann. de l'Inst. Pasteur*, July, 1913) show that by proper technique and systematic examination of each cerebral convolution the *Treponema* can be found in the great majority, if not in every case, of general paralysis. Fresh brains should be used, the necropsy having been performed as early as possible. Each convolution is examined, beginning with the posterior zones of the frontal. After dissection of the pia mater a small fragment of cerebral cortex is cut off and an emulsion made by adding a few drops of saline. The emulsion serves to make a preparation for the ultramicroscope and for smears, care being taken to first dilute it. The smears are coloured (1) with Indian ink, (2) by Fontana's method (see *Pathologica*, 1913, No. 109), (3) by Loeffler's process. By the second method the spirochaetes are coloured brown-black on a yellow ground; it is easy to distinguish the nerve fibrils, which are coloured clear yellow. Nine fresh brains of typical general paralytics were examined by the above processes with eight positive results. On the other hand, sections impregnated with silver gave only one positive result, in one instance being negative when the rapid methods showed enormous quantities of spirochaetes. Of the rapid methods, examination by the ultramicroscope appears to be the best, and the authors recommend beginning with an examination of the convolutions of the anterior region of the brain by this means, afterwards controlling by the other methods. All eight subjects died after apoplectiform seizures; it may therefore be concluded that *Treponema* constantly exist in the cerebral cortex of general paralytics who die in ictus. The quantity varies sensibly, and a striking fact is the disposition of the parasites in more or less circumscribed foci. They are only found in the cortex proper, and an examination of the white matter immediately adjoining a rich focus gave negative results. In one case spirochaetes were found in the fluid from the left lateral ventricle. From these facts the authors deduce that general paralysis is a disease due to the pululation of the *Treponema* in the cerebral cortex and to the lesions which this pululation engenders. The proliferation of the parasites appears to proceed by successive attacks; the localization varies, being most frequent in the anterior zones. When a parasitic focus is spontaneously sterilized after having caused indelible lesions, another forms in a convolution hitherto intact; which explains why the areas most affected macroscopically are not always the richest in parasites. It seems probable that the ictus apoplectiforme of paralytics corresponds to these acute treponemic attacks, especially when localized in the motor zones, for in the only case in which the parasite was not found in spite of well-marked lesions the patient had no apoplectiform attacks, but died of general enfeeblement.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

217. Negative Wassermann Reaction in Syphilis.

THE significance of a negative Wassermann reaction is, according to A. DREYER (*Med. Klinik*, May 4th, 1913), not altogether unequivocal, even when it has been consistent for years, and he records the following case in which the reaction was negative for four years and then became positive. The patient developed a chancre on his penis in 1893. This was followed by a rash, and a six weeks' course of mercurial inunction was given. During the following seven years there were no symptoms of syphilis. In 1900 an ulcer appeared on the heel, and injections were accordingly given for four weeks. In the autumn of the same year a four weeks' course of mercurial inunction was also given, although no other symptoms of syphilis had appeared. This treatment was also continued in 1901. In 1903 an ulcer of the tongue yielded readily to a four weeks' course of mercurial inunction and treatment with iodine. In 1904 injections of mercury and jodipin were given, but in the summer of the same year iritis occurred. A four weeks' course of mercurial inunction was accordingly prescribed. In 1905 symptoms of angina pectoris disappeared in half a year under treatment with potassium iodide. In 1906 300 grams of jodipin were injected during October and November. In 1907 pain in the left arm, which was worst at night, was interpreted as an aberrant form of angina pectoris and was treated with iodine and mercury. These were again given in 1908, when the pain recurred. The cardiac symptoms ceased, and in March, 1909, Wassermann's reaction, which was taken for the first time, was negative. Between 1909 and 1913 several attacks of iritis occurred. In August 1910, in September 1911, and in May 1912, Wassermann's reaction was negative. But in February, 1913, it was positive for the first time. At the Dermatological Congress of 1912 in Stuttgart about a dozen cases were recorded in which Wassermann's reaction was negative for a period of one to three years and then became positive. In the matter of treatment and prognosis in connexion with marriage a negative Wassermann reaction, if considered apart from other features of the case, may therefore be misleading.

218. Morphine Poisoning in an Infant.

AN account is given by H. WASENIUS (*Finska Lackaresaellskapets Handlingar*, April, 1913) of morphine poisoning in an infant 3 weeks old, 4 minims of liquor morphinae hydrochloridi being given by the mother at 7.30 a.m. for fits, intestinal disturbances, and vomiting. The infant went quietly to sleep, and at 1.30 p.m. he was cold and pale and his respiration was slow. It was impossible to awaken him, and passive movements caused convulsions, cyanosis, and temporary cessation of respiration. Some improvement followed the subcutaneous injection of caffeine and sodium benzoate. At 4.30 p.m. the convulsions recurred and left the child with half-closed eyes and eyeballs slowly moving from side to side. The corneal reflexes were active, but the pupils were much contracted. The lower lip showed fibrillary contractions, the patellar reflexes were lively, and were evoked on both sides when only one side was tested. The respirations were 24, and the strong and regular pulse was 140. When undisturbed the infant became cyanosed and respirations fell to 12, but when he was touched he would start, open his eyes, raise his arms, and cease breathing at the end of inspiration. Artificial respiration would start the breathing again, the cyanosis decreasing, and the pulse improving. The author saw these attacks only when the patient was touched, and he witnessed no spontaneous convulsions. Treatment with caffeine and brandy was prescribed, as well as a large water enema. A warm bath at 40° C. was followed by a douche of cold water at 18° C. About eight hours after the morphine had been given the pupils were still contracted, but the infant had recovered sufficiently to take food. The author calculates that as the infant weighed 3.800 grams the dosage of morphine must have been 2 mg. to the kilo. This corresponds to five times the maximum dose for an adult. As the susceptibility of an infant to morphine is far greater than that of an adult the chances of this case ending fatally were considerable. It is generally considered inadvisable to give any morphine to children under three years, and Tappeiner considers that 1 mg. of morphine or 1 minim of opium tincture is dangerous for an infant under one year old. At this age 2 mg. of morphine to the kilo are usually fatal. The reflex excitability and the tonic and clonic contractions observed in this case are also observed when morphine or opium is given to the lower vertebrates, such as the frog. In man these phenomena are observed only in early life, when the inhibitory mechanism of the central nervous system is imperfect, the differentiation between the grey and the white substance is not completed, and the pyramidal tracts, among others, are not fully developed. Discussing the treatment of such cases, the author points out that clinical and experimental studies have recently shown that the use of atropin is irrational, and that the determination of the amount of atropin to give to an infant must be difficult. He also quotes the investigations of Thomson and Holder, who have shown that potassium permanganate is useless as an antidote.

219. Pyodermatitis and its Treatment.

LAPORTE (*Gazz. degli Osped.*, August 26th, 1913) deals with the common types of pustular superficial skin lesions usually due to staphylococci or streptococci. He first discusses the dry impetigos commonly seen on the face in the form of pityriasis and a true streptococcic infection. The treatment is to wash with boracic lotion, then apply glycerol of starch, and if this is not sufficient one can use a solution of salicylic acid in alcohol (ac. salicyl. 1 gram, alcohol 10 grams, aq. 90 grams), and after that a weak calomel ointment. In the more obstinate cases he uses a sulphur, or oil of cade ointment. Next he discusses the common impetigo, and points out the importance of looking out for any primary irritant—for example, pediculi. Special varieties are impetigo of the hairy scalp, epidemic pemphigus neonatorum, and a rare variety simulating tuberculosis verrucosa. To remove the crusts of impetigo he advises a spray of an aqueous solution of resorcin (1 in 200), followed by compresses soaked in the same solution or in vaseline. When the crusts are removed, he suggests some weak antiseptic, for example, aqua d'Alibour, followed by a zinc ointment, to which may be added later some calomel or yellow oxide. The next group are the ecthymata due to staphylococci. There are two rather special varieties mentioned, namely, a deeply excavating type often confounded with gumma, and the other an ulcerating type seen in little children and simulating syphilis, but differing from this in selecting prominent surfaces—for example, the convexity of the thigh and the nates. By opening the early pustules and swabbing with tr. iodi the spread of the disease may be curtailed considerably. Folliculitis, sycosis, certain forms of acne and furunculosis are also discussed, and brief mention is made of anthrax and elephantiasis. Speaking generally, the syphilitic lesions are situated on an indurated base, whilst the pyodermatites are on a soft base.

220. Diabetes in Infancy and Childhood.

MORSE (*Boston Med. and Surg. Journal*, April 10th, 1913) gives a number of statistics of the incidence of this condition. He notes that the frequency of the disease increases with the age of the child, and that the sex incidence is practically equal. It is more frequent in childhood than is supposed. The author suggests that the lesser incidence of the disease in childhood may be due to the greater sugar capacity at this age than in adult life per unit of weight. Heredity is an important factor, a neuropathic family history being very common. The symptomatology is essentially the same as in adult life, polyphagia being rather more common, and also gastric disturbances. Marked changes in disposition are very common, the child becoming quiet and morose. Enuresis is often the first symptom to call attention to the disease, or the presence of flecks of sugar on the clothing. The onset in childhood is usually acute. The prognosis is almost uniformly bad, according to von Noorden, although the cases reported by Hunter and others would seem to show that recovery even in definitely established cases does take place. Diabetes has been reported as occurring in infancy, but, in the author's view, there is little doubt that in the majority of these the condition is one of lactosuria. Only those cases in which the sugar is in the form of glucose can be regarded as diabetic. The treatment is essentially the

same as in adult life. In infancy the diet has to be made up of cream, sugar free milk, white of egg, and beef juice. If more starch is necessary soya-bean flour is a good form in which to give it. In older children the starch necessary is best given in the form of bread and potatoes. Sodium bicarbonate should be given from the commencement of the treatment. Drugs are of no avail in the diabetes of childhood.

SURGERY.

221. Resection of Thoracic Portion of the Oesophagus for Carcinoma.

FRANZ TOREK (*Surgery, Gynaecology, and Obstetrics*, June, 1913) records the first successful case of resection of the thoracic portion of the oesophagus for carcinoma. Until now the dictum of Sauerbruch has been generally accepted—namely, that growths in the middle portion of the oesophagus were not removable owing to inaccessibility, and the danger arising from injury to the pneumogastric nerves. The method of access employed by Torek was by means of an incision carried through the whole length of the seventh intercostal space, from the posterior end of which it was extended upward by cutting through the seventh, sixth, fifth, and fourth ribs close to their tubercles. Extensive adhesions between lung and parietal pleura were separated, and the tumour was found just below the lower border of the transverse arch of the aorta. The vagi were carefully dissected, and at the site of the neoplasm it was necessary to divide some of the branches. Contrary to expectation, no collapse occurred, the pulse remaining between 93 and 96. The greatest difficulty occurred during the dissection of that part of the oesophagus behind the arch of the aorta. It was necessary to dislodge the vessel after ligation and division of several of its thoracic branches. The neoplasm was attached to the left bronchus, which was accidentally incised during its separation from the same. The cut in the bronchus was sutured with silk. To avoid the danger of leakage from the upper stump, Torek dissected the oesophagus loose from its attachments as far as the neck, and brought it out through an incision at the anterior border of the left sterno-cleido-mastoid muscle. Division of the tube was effected by means of a cautery at a safe distance below the carcinoma, the stump being invaginated by a double purse-string suture. No drainage was employed. The oesophagus was next placed under the skin of the chest through a transverse incision corresponding to the second intercostal space. The margins of the tube were sutured to the skin edges of this incision, and the wound in the neck was closed. The patient made a good recovery, the wound being completely closed on the seventh day. Up to the eighth day nourishment was effected through a gastrostomy tube, a gastrostomy having been performed some time previously to the radical operation. After this time the free end of the gastrostomy tube was introduced into the cut end of the oesophagus, and the patient now swallows food such as bread, cereals, eggs, potatoes, spinach, etc., without the slightest trouble.

222. Radiographic Measurement of Shoulder Movements.

MIRAMOND DE LAROQUETTE (*Arch. d'électr. méd.*, No. 360, 1913) expounds a method of measuring the movements of the shoulder by means of successive radiographs. The method is based on a measurement of the displacement of the scapula during abduction of the arm, and particularly of the variations of the angle formed by the humerus and the axillary border of the scapula. Such measurements are possible roughly with the aid of a pair of compasses applied to the skin during the movement of the arm, but they are made much more precise by the radiographic picture. The movements of the scapulo-thoracic junction may partially supplement those of the scapulo-humeral articulation, and this may give rise, when examining superficially, to an inexact idea of the degree of ankylosis of the shoulder. From the prognostic and also the therapeutic point of view it is of great importance to learn whether the scapulo-humeral ankylosis is absolute, or whether a certain movement persists, and if so, the degree of that movement. Radiographic measurement of the variation of the humero-axillar angle alone can give the necessary precision. The point of departure in this method of examination lies in the measurement of the normal variation of the humero-axillar angle in different attitudes of abduction and lateral elevation of the arm. The author gives the following as normal constants of these variations in four principal attitudes of frontal elevation. Angle A is that which lies between the humerus and the axillary border, thereby giving the displacement of the humerus on the scapula. The increase of this angle from one attitude to another represents the movement of the scapulo-humeral articulation. The other two angles are divisions of this first. Angle A' lies between the humerus and a vertical line drawn directly downwards from the same point in the upper extremity of the humerus, and its increase gives the movement of the arm in space. Angle A'' lies between this same vertical line and the border of the axilla, and its diminution with the elevation of the arm gives the displacement of the scapula on the thorax.

	Arm at Rest, Vertically Downwards.	Arm at 45°.	Arm Horizontal.	Arm Raised to Maximum Vertically.	Total Movement.
Angle A ...	47°	58°	95°	145°	—
Increase ...	—	11°	37°	50°	98°
Angle A' ...	7°	30°	75°	150°	—
Increase ...	—	23°	45°	75°	143°
Angle A'' ...	40° (inside)	28°	20°	5° (outside)	—
Diminution..	—	12°	8°	25°	45°

In pathological cases the measurement of the angles in the movements which are still possible, when compared with the normal measurements, will give a precise idea of the respective impotence of the scapulo-humeral and scapulo-thoracic articulations. The author instances a case in which there was a small fracture of the head of the humerus. Only the scapulo-humeral articulation was involved, the scapulo-thoracic junction remaining anatomically right. Nevertheless, the movements of the shoulder were very limited; the active abduction of the arm did not pass 50 degrees, beyond which all further movement was prevented by severe pain. If the examination had been based on the old method of taking account of the immediate displacement of the scapula and the age of the lesion, a complete and definite ankylosis of the scapulo-humeral articulation would have been concluded, but radiography of the shoulder gave the following figures:

	Angle A.		Angle A'.		Angle A''.	
	Side of Lesion.	Sound Side.	Side of Lesion.	Sound Side.	Side of Lesion.	Sound Side.
Arm at rest	44°	46°	8°	6°	34°	40°
Arm at 50° (extreme position, wounded arm)	58°	72°	50°	50°	6°	22°
Movement	+14°	+26°	+42°	+44°	−28°	−18°

A study of these figures showed that the functional limitation of the scapulo-humeral articulation, though important, was far from being complete. It suggested that good might be done by mechano-therapy, and gave a much less sombre prognosis than the non-radiographic examination indicated.

223. Scotoma Helioclipticum.

IMMEDIATELY after the eclipse of 1912 the Ophthalmological Society of Copenhagen instituted inquiries as to the extent of injuries to the eye incurred from sun-gazing throughout Denmark. K. K. K. LUNDSGAARD and K. RÖNNE (*Ugeskrift for Laeger*, May 22nd, 1913) publish the results of this inquiry, which showed that 143 persons sought medical aid for ocular symptoms following incautious sun-gazing. As the reports on these cases came from many different sources, there was great lack of uniformity, and the authors limit their analysis to the leading features about which satisfactory information was forthcoming in most of the reports. Of the patients, 99 were men and 44 women. In 116 cases the age of the patients was stated. There was no patient less than 9 years old, and between the ages of 10 and 19 there were only 15 patients; between 20 and 29 there were 60 patients, and between 30 and 39 there were 28 patients; there were only 13 patients over 40. Most of the patients had looked at the sun with the naked eye, but 26 had used coloured glass, and 12 had looked through their fingers or small crevices. Smoked glass had been used in 4 cases, a hole in cardboard in 2 cases, and 1 patient had looked at the reflection of the sun on a sheet of water. The symptoms were bilateral in 57 cases, unilateral in 73. Presumably the reports in the remaining cases did not state whether the symptoms were

unilateral or bilateral. Of the 73 unilateral cases, 35 were right-sided and only 18 were left-sided. Of these 18 patients, 9 used their left eyes on account of amblyopia of the right eyes, and only in 3 cases of injury to the left eyes were the right eyes previously normal. It follows that in an overwhelming majority the right eye is used more than the left. The effects on vision were too varied for the purposes of statistical analysis; but in general it was observed that acuity of vision was usually restored in a short time, whereas the troublesome, flickering, paracentral scotoma often persisted indefinitely. In the severe cases, particularly in those in which the second eye was already abnormal, the scotoma was probably incurable. The authors emphasize the importance of cautioning the public against looking at the sun except through darkened glasses, and they advocate the publication of warning notices in the daily press and elsewhere just before the eclipse of 1914.

OBSTETRICS.

224. Caesarean Section: The Uterine Cicatrix.

AUDEBERT (*Rev. de gynéc. et de chir. abd.*, April–May, 1913) denies Couvelaire's theory that the cicatrix of a Caesarean section wound in the uterus is always purely conjunctive tissue, without restoration of any of the essential elements of the uterine wall. In fact, according to Couvelaire, it is purely a common scar and as in the case of all other such scars, the more convalescence is compromised by local and even general complications, the weaker will it be. Audebert relates an instance where he had an opportunity of examining a scar left by a Caesarean section which he had himself performed, four years previously. Pneumonia with pleurisy developed after the operation, with endometritis and suppuration of the abdominal parietes. The patient became pregnant again, and Audebert amputated the uterus above the cervix. He had to separate numerous adhesions between the uterine walls and the omentum and parietes, and the uterine scar appeared as a vertical groove 2 mm. deep. On making sections across the cicatrix and adjacent tissue, he found that the thinning of the wall at the scar amounted to about 2 mm. only, yet the scar was of the same consistence as the uterine tissue around. On microscopical examination the connective tissue was found to be barely more abundant in the cicatrix than in the uterine muscle around, and there were no fibrous cicatricial bands. Muscular fibres were continued from the uterine wall on to, and through, the scar almost without interruption. Thus the uterine tissue was regenerated in Audebert's case almost to perfection, though there had been severe local and general complications after recovery from the Caesarean operation. In discussing this case Pozzi and Patel observed that in two myomectomies the uterus was examined in one instance four months and in the other five years after the operation, and in both all trace of the scar had vanished.

GYNAECOLOGY.

225. Radio-active Substances in the Treatment of Uterine Cancer.

E. BUMM (*Berl. klin. Woch.*, June 2nd, 1913) claims that during the past year the treatment of cancer of the uterus by radio-active substances has advanced much in two directions. The dosage has been enormously increased, filtration of harmful rays enabling large quantities of the other rays to penetrate to a considerable depth. Indeed, from the present standpoint, the dosage of radio-active substances a year ago seems ludicrously small. Secondly, the production in large quantities of mesothorium is of special value for the interior of the body where the application of the Roentgen rays is difficult. The author finds the mucous membrane of the genitals tolerates large doses of hard rays better than the skin. He gives a detailed account of 12 cases of cancer of the uterus and vagina illustrated by drawings of the disease before and after treatment. Though the results from a clinical standpoint were extraordinarily good, the doubt remains whether secondary deposits of disease remained active or not; only an observation period of several years can decide this. It is, however, certain that cancer cells undergo vacuole formation and disintegration of their nuclei when exposed to a sufficiently strong dose of rays. In one case in which the uterus was amputated, only nine days' treatment with the rays was found to have destroyed the cancer cells to a depth of 1 cm. from the surface. How much further the rays may penetrate is not yet known. A uterus was removed after twenty-one days' treatment with mesothorium, when the necrotic carcinomatous tissue had completely disappeared. In the deeper parts of the uterus cell nests were still demonstrable, although they showed degenerative changes. Every case of rapidly growing soft cancer of the uterus should be treated by operation, as only thus can the infected lymphatic glands be removed. The operation scar should be treated with the rays; for it is superficial enough for their action, and is the most common site of a relapse. By routine treatment with the rays of every woman operated on for cancer the author anticipates an appreciable reduction of post-operative relapses. An operation may be dispensed with in cancer of the vagina, the external genitals, and the urethra. Slow growing malignant ulcers of the cervix in elderly women may also be treated at the outset with the rays. All these relatively superficial growths react satisfactorily to the rays which do not interfere with the functions of the parts involved as an operation does. Inoperable cancer of the genitals reacts more satisfactorily to the rays than to any other method, and it is better to prescribe the rays in post-operative relapses than to repeat the operation.

223. Traumatic Rupture of Prolapsed Vagina: Protrusion of Intestine.

VOGEL (*Muench. med. Woch.*, No. 24, 1913) was consulted by a woman, long subject to procidentia. When milking a cow in a stable she received a kick on the protruding mass and noted that the bowel was slipping out of a rent on its surface. She wrapped it up in some old rags which she found in the stable and walked into her dwelling, about forty paces from the stall where she had milked the cow. Then she discovered that the protruding bowel was as big as a man's head. Vogel found it covered with dirty rags, in part mixed up in the coils of intestine. Already these coils were beginning to adhere. Reduction proved difficult, but the bowel was replaced when the patient was put in the knee-elbow position. On the following night the bowels acted freely, and there were hardly any symptoms of peritoneal irritation. The laceration healed by second intention in about a month, discharging freely.

THERAPEUTICS.

227. Effects of Extract of Pituitary Gland.

MUSSER (*Amer. Journ. of Med. Sciences*, August, 1913) investigated the effect upon the blood pressure of pituitary extract administered by the mouth over a prolonged period, together with other phenomena attributable to such administration. Others have shown that injections of extract of the infundibular portion of the pituitary gland cause a rapid and pronounced rise in the blood pressure, usually persisting longer than that produced by adrenalin, while repeated injections are each followed by a less marked rise in pressure, until finally a fall occurs. This effect is probably due to saturation of the blood with extract, the secondary depressor effect being due to the larger quantity necessary to produce the result. In giving fair sized doses of the glandular extract by the mouth the overwhelming action of the larger doses is obviated, and the effects are mainly those that result from its primary action. Observations were made upon 18 people, the first few being selected because they showed persistent low blood pressure. The extract was given over a period of from one week to ten months, the preparation being the extract of the whole gland made up in tablets containing 0.065 gram of dried gland, equivalent to 0.26 gram of the fresh gland. At first two tablets were given twice a day, but no effect was noticed until the dose was increased to one tablet four times a day. The blood pressure was taken one or more times before administration, and then later at each visit to the dispensary, the blood pressure readings being taken two or more hours after ingestion of the extract, and after half an hour or more rest. After discontinuance of the extract a tendency was noted for the pressure gradually to return to its previous level. Of the 18 individuals 17 showed a rise in systolic blood pressure, the greatest being 28 mm. of mercury, and this was usually accompanied by a rise in diastolic pressure. The changes in the pulse-rate were inconstant, an increase being most usual, though in 2 cases the rate was decreased. Six noted a diuretic effect, but glycosuria was never observed. Diarrhoea developed in 7 cases, and 4 previously constipated had daily movements while the drug was being taken. Four persons were much

benefited by the rise in blood pressure and stimulative effect of the extract upon the unstriated muscle, and I felt better through the diuresis produced. Prolonged administration of extracts of the pituitary gland therefore exert a distinct pressor effect upon the peripheral vascular apparatus, which persists for an appreciable time after discontinuance of the drug. This appears to be the only consistent effect following continued administration by the mouth, other results being variable and indefinite.

228. Treatment of Tuberculous Adenitis.

JOPSON (*Arch. of Pediatrics*, August, 1913) calls attention to some fallacies regarding the treatment of tuberculous (cervical) adenitis, regretting the tendency to disregard the proved value of operation in favour of newer therapeutic agents or reversion to old conservative measures. In cervical adenitis, which constitutes about 90 per cent. of the cases surgically met with, the superficial glands are arranged in a collar about the upper part of the neck communicating in turn with the deep descending cervical chain lying beneath the sterno-mastoid muscle and around the internal jugular vein and thence into the supraclavicular triangle. There is no lymphatic connexion with the interior of the skull nor direct communication with the mediastinal glands and the lymphatic thoracic system. The pharyngeal and faucial tonsils and the teeth are generally accepted as being the usual avenues of entrance, and it is almost the invariable rule that the upper glands enlarge first, the infection travelling from above downwards, and the fact that they are involved by direct continuity and not by metastasis from an internal or irremovable site constitutes the strongest argument for removal. The after-histories of untreated or unsurgically treated cases shows that tuberculosis develops in other regions, whereas under radical treatment 90 per cent. can be permanently cured, as against 24 per cent. of recoveries without operation. Even in adults, where results are usually considered to be less favourable, 649 reported cases showed only 28 deaths from tuberculosis and no operative mortality. In children the existence of tuberculous glands does not necessarily mean a greatly increased susceptibility to tuberculosis above the normal, and experience shows that when the glands have been thoroughly extirpated the health of the patients becomes greatly improved, so that they grow up into robust children. *X*-ray treatment, by its tediousness and from the fact that it exerts no direct bactericidal action upon the tubercle bacilli, cannot supplant surgery when indicated, though it may be adjuvant in simplifying the operation, preventing recurrence, or promoting health in suppurating cases, and by improving the cosmetic results. With regard to tuberculin, the opinions of experts go to show that its use should be restricted to very early stages of bacillary invasion and to post-operative persistent sinuses, the best results being obtained in incipient cases, while it is contraindicated where there is advanced caseation and liquefaction necrosis.

229. Treatment of Obesity.

FRANKE (*Semaine méd.*, No. 29) recommends tincture of belladonna in this condition. He first tried it in the case of a woman who had been submitted to all the "cures" without benefit. Cardiac dullness was increased both to the left and to the right, the impulse was imperceptible and the sounds were feeble. Slight exertion sent the pulse up from 86 to 116 and quickly brought on dyspnoea. Dietetic treatment proved useless, and was insupportable owing to excessive hunger. Tincture of belladonna, fifteen drops thrice daily, twenty minutes before meals was prescribed, and the sensation of hunger soon diminished. In a month the weight was reduced by 8 lb., the cardiac dullness became normal and the patient was able to take long walks. Two subsequent relapses were treated in the same way with the same success. Franke has found the treatment efficacious in other cases.

230. Neo-Salvarsan.

LEREDDE (*Journ. des praticiens*, 1912, xxvi) employs neo-salvarsan as follows: 0.10 gram of neo-salvarsan in 10 c.cm. of water (50 c.cm. for 0.50 gram, 90 c.cm. for 0.90 gram, and so on) are injected, and at intervals of eight days increased to 0.30, 0.60, 0.90 gram. The author considers the drug is at least as active as salvarsan. Gastro-intestinal reactions are often, but not always, less marked than those provoked by salvarsan; the urinary deposit is less abundant than after salvarsan. Its contra-indications are myocarditis, nephritis (non-syphilitic), tabes, and general paralysis (terminal stage only). In syphilis of the nervous system it should be employed systematically, but with care, until the necessary doses are reached.

PATHOLOGY.

231. Experiences with the Bacillus Bulgaricus.

SINCLAIR (*Archiv. of Ped.*, July, 1913) reports clinical experiences with the *Bacillus bulgaricus* in 32 cases of acute gastro-enteritis and ileo-colitis, for the most part severely ill and poorly nourished, admitted to hospital during the summer of 1912. The ages ranged from 17 days to 2 years, and there were 20 cases of gastro-enteritis and 12 of ileo-colitis. Of the 20 cases of gastro-enteritis 17 were of the severe and 2 of the toxic type, and of the 12 cases of ileo-colitis all but 4 were desperately ill, 6 of the 11 deaths occurring in the whole series of 32 being due to ileo-colitis, with or without complications. The mild cases of gastro-enteritis had been ill for a fortnight, and the duration of the severe cases varied from three days to three months before treatment with the *Bacillus bulgaricus* was begun, only 8 of the 17 severe cases receiving this treatment before the end of the third week. The putrefactive process was cleared up and the stools became normal in the gastro-enteritis cases on an average within five days from the institution of the treatment. In 1 case the stools became green two days after the administration of *Bacillus bulgaricus* was stopped, while in another the stools were free from mucus after treatment was started, although the baby had suffered from chronic gastro-enteritis for three months. In 7 of the 12 cases of ileo-colitis the stools became normal within nine days on an average, and of the 5 showing no improvement 2 were only two days under treatment before death. All the cases recovering had gained weight upon their discharge. The babies were fed either naturally or artificially, as the needs of each indicated, and most were put upon either water, tea, barley water, albumin water, 5 per cent. dextro-maltose solution, whey, buttermilk, or modified milk mixtures. In addition to the administration of the *Bacillus lactis bulgaricus* an initial dose of castor oil was given, with subsequent colon irrigation or gastric lavage as occasion demanded. Brandy and champagne were given, if indicated, as were also hot or cold packs, adrenalin, serum, tannalbin, starch, and laudanum enemata, and bismuth subnitrate in only 2 cases. Considering the severity and general condition of the majority of these cases on admission, and the length of time they had been ill before receiving treatment, the *Bacillus lactis bulgaricus* was of distinct value in controlling the putrefactive process in the intestines and in establishing a normal condition of the stools, and of the 20 cases of gastro-enteritis only 5 were fatal.

232. The Malignancy of Giant-Celled Sarcoma.

CLARK STEWART (*Surgery, Gynaecology, and Obstetrics*, July, 1913) records two cases which go to disprove the theory now largely held that giant-celled sarcoma does not form metastases and possesses but a low malignancy. The first patient, aged 35, developed a small tumour at the base of the great toe. It developed slowly and later a growth developed in the middle of the tibia. Amputation of the leg was performed above the second tumour; nevertheless the patient died a few months afterwards with recurrences in the stump and a metastatic tumour in the brain. The primary neoplasm was central in the metatarsal bone of the great toe. Microscopically, it proved to be a giant-celled sarcoma containing large giant cells in a mixed cell matrix. The metastases were true to type. In the second case, a typical giant-celled sarcoma developed in the humerus of a patient, aged 30. Amputation of the shoulder was performed, but recurrence was prompt and death occurred within six months. The microscope showed typical giant-celled sarcoma with spindle cell matrix. Stewart observes that these cases certainly prove malignancy, and that one fatal case is enough to disprove all theories of non-malignancy. Many of the cases reported as cured contained no definite facts as to microscopical details, and therefore cannot be regarded as undoubted giant-celled sarcoma. Furthermore, at the present day, diagnosis is easy and early by means of the *x* rays, and therefore many of these neoplasms are removed before marked malignancy has developed. If such cases were investigated, it is more than probable, in the author's opinion, that they would prove to exhibit marked signs of malignancy. The degree of the latter depends upon the character of the sarcoma matrix. In these tumours, the most usual type of matrix is spindle-celled. This accounts for their slow growth and for the reason that they appear to be less malignant than many other types of sarcoma.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

233. Pulsating Interlobar Empyema.

A CASE is recorded by E. LEVI (*Wien. Klin. Woch.*, July 31st, 1913) of pulsating interlobar empyema in a lad, aged 17, who squeezed out a boil under the right eyebrow. Four days later he went to bed with pain in the sacral region. A fortnight later the left knee became swollen and painful, and there was stabbing pain in the chest. The temperature was 101.3°, and the pulse 116; but though slight dyspnœa and cyanosis were present there was no rigor, cough, nor expectoration. The left chest was more prominent than the right, and its excursions were smaller. There were marked tenderness in the posterior axillary line and marked dullness from the angle of the scapula to the base. There was also dullness in front from the first intercostal space downwards. The respiratory sounds were diminished over the dull area where vocal fremitus was not demonstrable. Traube's space was much diminished. The respiration was bronchial above the dull area, and crepitations were audible in the posterior axillary line at the end of inspiration. The heart was displaced to the right, and the apex beat was not palpable. As the dullness over the left lung did not extend to its base, an interlobar effusion was suspected, but an exploratory puncture was negative. During the following week the displacement of the heart increased. Traube's space disappeared, and the dullness extended upwards both in front and behind. The Roentgen rays showed a shadow involving the two lower thirds of the left lung. A cavity of the size of a walnut, at the level of the interlobar space, was filled with air and fluid. A week later there was a markedly metallic percussion note over the interlobar space in front and in the axilla. Diffuse pulsation of the whole chest, most marked in the intercostal spaces corresponding with the interlobar space, was visible and palpable when the patient lay on his back or side. Three days later the percussion note was no longer metallic; but a tympanitic note over the interlobar space in front shifted with the patient's movements, which probably changed the position of the air in the chest. An exploratory puncture in the axilla now yielded pus containing numerous Gram-staining diplococci. About 2 litres of pus were evacuated from the interlobar space by costal resection in the axilla. A slow but uninterrupted recovery followed, and the swelling of the knee disappeared spontaneously. Probably the lung was perforated in the interlobar space, and the pyopneumothorax which ensued was practically limited to this space by the rapid formation of adhesions. The pulsation was evidently due to the proximity of the encapsuled empyema to the heart and aorta.

234. Patent Ductus Arteriosus Complicated by Pregnancy.

ROSENTHAL (*Amer. Journ. Obstet.*, August, 1913) gives details of a case of this rare abnormality complicated by pregnancy. The patient, aged 20, had never exhibited any degree of cyanosis. The left chest bulged in the precordial region. The lower right anterior border of the lung reached the sixth rib. The apex of the heart was visible in the sixth intercostal space. In the second left intercostal space a well-defined movement synchronous with systole was noted. Over the first to third intercostal spaces a strong harsh thrill was felt. The pulses were equal, regular, and of good tension. Over the base of the heart a harsh rasping murmur was audible, interrupted at frequent intervals by short sharp snaps. The characteristic murmur was best heard in the second left intercostal space, and was transmitted most loudly towards the distal end of the cavity. The diagnosis was made upon the following points: (1) The absence of any etiological factor for the lesion; (2) the rarity of an acquired pulmonary lesion; (3) the lack of subjective symptoms; (4) the absence of cyanosis; (5) the character and position of the murmur; (6) the presence of Gerhardt's sign (the presence of a narrow band of dullness extending from the upper border of the heart towards the middle of the clavicle); (7) the marked pulsation in the second left intercostal space; (8) the position and character of the thrill. Rosenthal observes that, although the clinical picture as a rule is a clear one, it may occasionally be simulated by other congenital lesions. Thus Muller has described a case in which the thrill and Gerhardt's sign were present, which later proved to be a defect in the ventricular septum with a dilated pulmonary conus. Pulmonary stenosis may be differentiated from the present lesion by the absence of cyanosis, lack of Gerhardt's sign, and the general condition of the patient. The author permitted the pregnancy in his case to continue to term. Delivery was effected by Cæsarean section, and sterilization was performed at the same time. Both mother and child at the time of writing were in the best of health. The paper includes two electro-cardiographic curves and also polygraphic tracings demonstrating the nature of the radial pulse and thrill.

235. Trichotillomania in Infancy.

C. RASCH (*Hospitalstidende*, April 30th, 1913) records a case of trichotillomania, some features of which are probably unique. The patient was a female child, aged 4 years, whose baldness was at first diagnosed as alopecia areata. Apart from a history of worms, there was no record of any previous illness. There was no neuropathic taint in the family, and the parents were alive and well. The child, who was vivacious and seemed mentally and physically normal, had lost patches of hair at irregular intervals since she was 6 months old. In hospital a sharply defined bald area, a little larger than a child's hand, was found on the left side of the head and temple, extending exactly to the middle line of the head. During the child's stay in hospital the bald area spread backwards in the form of a triangle, one side of which was in the median sagittal plane. A few short and light-coloured hairs were scattered over this area. Later another bald area appeared on the right temple, and formed a rectangular triangle. When the hair on one side of this triangle was cut close to the scalp it ceased to fall out, while the baldness spread at the point where the hair remained uncut. There was such complete analgesia over the cranium that the hair could be pulled out painlessly, although it was firmly attached to the scalp, except in a few places. A close watch set on the child led to the observation that she sucked her right thumb vigorously, while with her left hand she plucked hair out of her scalp with lightning-like rapidity, and placed it in the hollow of her right hand, where she rubbed it with the second and fourth fingers of this hand. She did not apparently attempt to eat the hair, which, when it had been held for some time in the right hand, was let fall and replaced by another lot. Analgesic areas were scattered over the body, and deep pin-pricks of the scalp evoked no pain; but there was no anæsthesia of the cornea or pharynx, and the eyes were normal. Discussing this case, the author interprets the thumb-sucking as an act of infantile autoerotism, and he thinks that the trichotillomania was also an expression of sexual perversion. But it is difficult to account for the definite patterns which the bald patches assumed; and in previous records of trichotillomania in children the hair was pulled out from one round spot or from all over the scalp. It may be added that *Trichocephalus dispar* was found in the fæces, and that a blood count showed 13 per cent. eosinophilia.

236. Cervical Rib.

SEYMOUR (*Amer. Journ. of Med. Sciences*, September, 1913) records 7 cases of cervical rib, 1 simulating aneurysm. In 6 the condition was discovered during the course of routine chest examination, no attention having been drawn to it by the symptoms, and in 6 pulmonary tuberculosis had been suspected, though only 2 showed positive signs, and in only 1 was the disease active. In only 1 case, aged 40, were there symptoms due to pressure or stretching of the lower branches of the brachial plexus, and these did not develop until her thirty-eighth year. From these and previously reported cases it would seem that cervical rib, especially bilateral, is not very rare, and probably exists more frequently than it is recognized. A positive diagnosis cannot be made without the *x* rays, as the condition may occur without symptoms, or such slight ones as to cause no inconvenience, even when the rib may be of unusual size and prominence. It occurs more frequently in females than in males, and is often associated with scoliosis, or accompanied by pulmonary tuberculosis, though this latter coincidence appears to be without clinical significance except in diagnosis. Symptoms may

develop at any age, though usually in later life and with or without any known cause. In some cases the abnormal course of the subclavian artery may simulate aneurysm, although true aneurysm is probably rare in these cases, and can only be demonstrated by operation. Where the associated symptoms are sufficiently severe as to warrant operation, resection affords every reasonable prospect of complete recovery. Of clinical significance is the fact that in some cases the recognition of early pulmonary tuberculosis may be rendered difficult through the presence of a rib obscuring definite apical signs beneath it, or a mistaken diagnosis of apical lesion may result from the confusion of supraclavicular signs due to its presence.

SURGERY.

237. Pancreatic and Peripancreatic Lymphangitis.

Deaver and Pfeiffer (*Ann. of Surg.*, August, 1913) observe that the pathogenesis of pancreatic inflammations is a subject not only of academic interest, but of extreme importance in the therapy and prevention of these affections. It has been shown by clinical observation and experiment that the different phases of acute and chronic pancreatitis do not depend on any single factor or set of factors. The authors group the causes into circulatory disturbances, toxaemia, obstructions of the excretory ducts, and bacterial infections. Of these, infection and duct obstruction are the two most potent causes of inflammation. As a rule the lesion is not primary, but occurs secondarily to some other focus of disease within the abdomen. Thus Cammidge has noted that in 414 cases the pancreatic condition was secondary to some other lesion of the digestive tract in 51 per cent. Robson has reported that the pancreas was involved in 60 per cent. of his cases of common duct cholelithiasis. Deaver and Pfeiffer call attention to the fact that pancreatitis is more common in men than women, the reverse of what is found in biliary disease. This appears to cast doubt upon the origin of pancreatitis through infection from the biliary tract, but is on a parallel with the greater frequency of gastro-duodenal catarrh in males. The authors have also noted that in the case of duodenal ulcer pancreatic involvement is more frequent when the ulceration is situated in the second portion of the duodenum than when in its more usual position just distal to the pyloric ring. During the last year and a half they have investigated the pancreas in the case of 99 examples of cholelithiasis, 14 of cholecystitis, 16 of duodenal ulcer, and 3 of gastric ulcer, particularly with a view to the manner in which the organ has become secondarily involved. The avenues by which infection may reach the pancreas are (1) the blood stream, (2) through the ducts, and (3) by way of the lymphatics. As regards the first named, this mode of infection may occur as shown by participation of the organ in miliary tuberculosis, syphilis, or pyaemia. It is, however, rare, and the weight of clinical evidence is against this source of infection in the majority of cases. With regard to duct infection, Deaver and Pfeiffer do not deny the importance of this portal of entry, but ask if the theory has not been overworked as an explanation of swellings and induration frequently noted in connexion with other abdominal inflammations. It is not at all uncommon to find a culture of the bile negative when pronounced inflammation is present in the tissues of the gall bladder and ducts. Thus, in 49 cases examined bacteriologically the bile was sterile in 24. Furthermore, it is difficult to explain on the theory that the induration results from duct-borne infection why the tail of the organ remains, as a rule, unaffected. The authors observe that a path of infection to the head of the pancreas, which has received too little attention, is that by way of the lymphatics. The organ is well supplied with lymph vessels, which course in the interlobular septa, together with the blood vessels and ducts. They emerge at various points along the course of the organ and pass through the retroperitoneal cellular tissue to join the thoracic duct. Here they anastomose with trunks coming from the stomach, duodenum, spleen, liver, gall bladder, bile ducts, colon, and left suprarenal. A very close connexion exists between the lymphatics of the gall bladder and the head of the pancreas, as shown by Franke. It is, therefore, highly probable that this relationship is of considerable clinical importance. The authors have seen many cases in which it is possible to trace directly the march of the infection from gall bladder to pancreas, as shown by enlargement of the cystic lymph glands, periductal lymphangitis, involvement of the glands at the head and margin of the pancreas, and swelling of the regional lymphatic distribution in the head of the latter. They also suggest that it is not beyond the range of probability that some cases of haemorrhagic pancreatitis may be produced by infection of the pancreas through the lymph channels. With infection of the gland distribution of the ducts, together with the resulting engorgement and stimulation of the active pancreatic secretion by hormone action, all the conditions necessary are present for focal necrosis, erosion of blood vessels, diffuse haemorrhage, and later, extensive gangrene and suppuration.

238. Removal of Bullet from the Third Ventricle.

A. Exner and J. P. Karplus (*Wien. klin. Woch.*, July 10th, 1913) have removed a bullet from the third ventricle of the brain, and, though the patient died, they are optimistic as to the future of their operation. The patient was a man, aged 25, who attempted to commit suicide in December, 1905, by discharging a bullet into the right temporal region from a 6 mm. bore revolver. In spite of severe temporary paralyses, he regained his normal condition, except for slight paresis of the left arm and leg. In 1911 he developed violent headaches, which were most troublesome at night. In January, 1912, a futile attempt was made to relieve the pain by removing a piece of bone, of the size of a "krone" piece, at the point where the bullet had depressed the skull. The headaches became more frequent, and were increased by walking down stairs. Impairment of vision, nausea, vomiting, and fits were also complained of. The bullet was shown by the Roentgen rays to be 1.5 cm. to the left of the middle line in the sagittal plane: and, when the head was examined from the side, the bullet was shown to be 3 cm. above the petrous portion of the temporal bone. These observations in two planes, when compared with the measurements of the cadaveric skull, located the bullet under, and 2 to 3 cm. in front of, the posterior portion of the corpus callosum. As the symptoms progressed and the bullet was found to be moving a little during several months' observation, its removal was demanded by the patient and his relatives. The operation was based on Karplus's and Kreidl's experiments on monkeys. The first stage of the operation was the formation on the left side of a skin, periosteum, and bone flap, larger than a hand, and reaching to a point 2 cm. from the middle line. The whole of the occipital lobe was thus exposed, and the wound extended in front to the outer angle of the orbit. The inferior border of the wound was carried down low enough to render the dislocation of the left cerebral hemisphere easy. The second stage of the operation was performed six days later, when the dura was incised in the line of the flap, and the occipital lobe was displaced without difficulty. A vein on its medium aspect bled profusely. The corpus callosum was now brought into view, and incised 3 cm. to the left of the middle line. A large vein was exposed passing over the third ventricle, in the region of which there was some scar tissue. A cyanosed tumour, of the size of a hazel nut, was found in the anterior portion of the incision in the corpus callosum. When incised it yielded the bullet and a considerable amount of fluid from the third ventricle. After the haemorrhage had been arrested and the occipital bone replaced, the dura mater and skin were sutured. The patient did not recover consciousness, and died an hour after the operation. The necropsy showed that the track of the bullet through the right occipital lobe was marked by yellow softening and fibrosis. The lower cornu of the right lateral ventricle was lined by a thin and much pigmented membrane. There was also partial adhesion of the injured cortex with the leptomeninges. On the left side the cyst from which the bullet had been removed was found close to the middle line, and in the upper portion of the thalamus. The third ventricle had evidently been invaded from its dorsal aspect. There was no sign of recent haemorrhage in the brain substance or the ventricles. The authors who performed the second stage of the operation in less than thirty minutes found it easy, and they trace the patient's death partly to the great loss of blood, and partly, perhaps, to manipulation of the brain near the third ventricle. The haemorrhage might have been less had they prolonged the interval between the two stages of the operation.

239. The Diazo Reaction in Surgical Tuberculosis.

Rosati (*Rif. Med.*, January 7th, 1913) has tried the above test in a fairly large number of cases of surgical tuberculosis (539 in all). He divided the cases into two groups: (1) Those with "closed" foci (250); and (2) those with foci contaminated by other germs (289). Some attempt was also made to classify the cases according to the extent of the lesion. Taking all the cases together, the "closed"

lesions gave positive reaction in 28.8 per cent., and in the "open" lesions 5.4 per cent. Cases of error due to the ingestion of drugs, etc., were carefully excluded. In general, out of the 539 cases, 12.9 per cent. were positive and 87.1 per cent. negative, and, as previously pointed out, the greatest percentage of positive results was seen in the "closed" cases. As regards clinical varieties, the positive reaction was more frequent in exudative forms, and in peritoneal and articular disease. It it difficult to say what bearing the diazo reaction has on prognosis, as the results varied very much, and were rather inconstant. Out of 75 cases watched more or less for two or three years, 52 gave a negative result at the outset, and of the 23 giving positive reaction 15 were clinically cured, and no longer gave any positive reaction, 6 in more or less stationary conditions or slightly improved have given a negative reaction for some time, and 2 gave a varying reaction.

OBSTETRICS.

240. "Expression" and Intrauterine Rupture of Fetal Liver.

DIETRICH (*Monats. f. Geb. u. Gyn.*, June, 1913) reported before a society in March an instance of intrauterine rupture of the liver. The mother was an old primipara 41 years of age. Labour was lingering on account of uterine atony. The long forceps was applied, and extraction assisted by Kristeller's "expression": free pressure applied to the fundus with both hands. The fetal heart-sounds were strong and regular until delivery, but the child was born dead. There were deep stellate lacerations in the substance of the liver near the lower border of the right lobe, whence issued blood which filled the peritoneal cavity. There was no cerebral haemorrhage. A discussion ensued on the exhibition of the fetus. Baumm (Breslau) considered that the "expression" was undoubtedly the cause of the injury to the liver. The fetal trunk was bent forcibly, so that the capsule of the liver was ruptured. Fraenkel had never known of injury to the liver due to forcible "expression," but in a case of breech presentation that manœuvre caused fatal injury to the brain, which showed numerous haemorrhagic foci. There had been no difficulty in extraction, the fetal pulse was good before expression was practised, and the pelvis was roomy. Baumm reminded Fraenkel that cerebral haemorrhages were often seen in fetuses born quite easily when the breech presented. Hannes maintained that injury associated with forcible "expression" with both hands, and the cerebral haemorrhages in breech cases, represented asphyxia rather than direct damage to the parts injured. "Expression" might cause premature separation of the placenta. Küstner observed that injuries to the liver in new-born infants could be traced to several causes. Attempts to revive asphyxiated subjects, particularly Schultze's swinging of the child by the arms, might cause the damage, but, as a rule, this method was blamed unjustly. Asphyxia undoubtedly caused haemorrhages under the peritoneal investment of the liver, and in such cases was almost always associated with bleeding in other organs, especially in the meninges, pleura and pericardium. In Dietrich's case the laceration close to the sharp edge and confined to the convexity must have been caused by a contusion. The bruising agent was the edge of the ribs when, during expression, the trunk of the fetus was forced into strong kyphosis.

GYNAECOLOGY.

241. Primary Cancer of the Fallopian Tube.

FOUYÓ, of Budapest (*Zentralbl. f. Gynäk.*, No. 36, 1913), notes that 120 cases have been collected, though he does not include Herbert Spencer's, Walter Tate's, Bryden Glendinning's, and T. P. Legg's, published together in 1910, nor does he refer to Siegfried Boxer. He admits that it is a gloomy subject, and that panhysterectomy with removal of both appendages is demanded when the disease is limited to one tube. Bilateral disease is hardly suitable for operative treatment. Supravaginal hysterectomy is unsurgical, as the operator can never be sure that the vaginal portion of the cervix may not be the seat of metastases. It remains to be seen what radiography can do. Fouyó dwells on the pathology of this disease, and publishes photographs of sections from 2 cases in his own practice. Comparing clinical and pathological evidence, it is clear that primary cancer of the tube is nearly always found out too late. The symptoms, even after the new growth has begun to extend beyond its original limits, are seldom very acute, the cardinal phenomenon—sanious watery discharge—may be wanting. Fouyó illustrates his views by the report of his two cases, the first simulating multiple subserous fibromyomata of the uterus, yet there was a large metastatic tumour involving the liver, and the patient died on the third day after the operation. On the other hand, primary cancer of one tube was detected in its early stage quite by accident in the second case. The patient had a cystic adenoma of the right ovary reaching to the epigastrium, and a sausage-shaped tumour lay applied to its left side, and could be slid about on its surface. Ovariotomy was performed, and the cyst proved quite free from cancer: the sausage-shaped tumour was not a cyst of the left ovary, but a true cancer of the right Fallopian tube, which came away easily with the cystic ovarian tumour. The isthmic part of the tube was stretched and thickened and quite free from disease, so that a pedicle could be made far from the growth. It is interesting to learn that the patient was alive and well three years after the operation, but had there been no ovarian cyst, the condition of the tube would in all probability have excited little notice until the disease had reached the inoperable stage.

242. Glycogen in Mucosa of Fallopian Tube.

VICTOR MCALLISTER (*Journ. of Obst. and Gyn. Brit. Emp.*, August, 1913) has investigated tubes to discover whether the mucosa ever contained glycogen, and whether, if positively found, the glycogen content was subject to a cyclic variation in relation to menstruation, as was the case with the endometrium. In seven tubes glycogen was present in considerable amount in the cells of the mucous membrane. Pregnancy, V. McAllister found, was not essential to the presence of glycogen. Without doubt the glycogen content of the mucosa underwent considerable variations. At a time when the endometrium presented all the signs of secretory activity, and the epithelial cells of its glands were loaded with glycogen, the mucosa of the tube could be glycogen-free, and, on the contrary, when the endometrium was devoid of glycogen the tubal mucosa might contain it in considerable amount. The extremely small glycogen content of the tubal decidual cells in the samples investigated was interesting as contrasting with the usually large content of intrauterine decidual cells. Inflammation seemed to exercise no effect in increasing the amount of glycogen present in the tubal epithelial cells. In only one subject was glycogen found in the cells of the corpus luteum, and even then the amount was very small. Further investigations showed that glycogen was not the only substance in the mucous membrane of the female genital tract which underwent cyclic changes in relation to menstruation.

THERAPEUTICS.

243. Thyroid Extract in Adipositas Dolorosa.

KLONINGER (*Berl. klin. Woch.*, July 21st, 1913) reports favourably on the action of thyroid extract on adipositas dolorosa, a case of which he records. A woman, aged 51, complained of pain throughout the body, and most severe in the legs. She was restless, nervous, and too tired to work. Two years earlier one ovary had been removed on account of a tumour; and menstruation, which had previously been irregular, had ceased altogether. Subsequently she had grown very fat, and her other symptoms had begun. The subcutaneous fatty tissue was both painful and tender, and her movements were crippled by this pain and by general muscular weakness. The thyroid gland was not palpable; and as the head, hands, and feet were not involved, and the fat was mainly deposited on the thighs and legs, the nature of her disease was not obvious when the patient was clothed. There were irregular brown patches of pigmentation on the face, most marked around the eyes. Thyroid tablets were prescribed, and were well tolerated. They were given for several months, and were supplemented by various hydropathic measures. After four months there was marked objective and subjective improvement. There was less pain, the nervousness had ceased, the weight had diminished by 20 lb., without any change of diet, and the patient was able to resume her domestic duties. At first the pain prevented massage of the whole body, but with the loss of weight massage became bearable, and hastened the general improvement. In this case the antitryptic action of the blood was subnormal. In exophthalmic goitre this action of the blood has been found excessive. It would therefore appear that these two diseases are the outcome of a too slow and a too rapid metabolism respec-

tively. Ordinary adiposity is not associated with abnormality of the antitryptic action of the blood, and is thus essentially distinct from adipositas dolorosa. This disease does not invariably yield to treatment with thyroid extract. In a typical case, however, lately recorded by Claude and Sézary, ovarian tablets proved futile, while the fresh extract of the thyroid gland caused great improvement. When the extract was withheld after six weeks' treatment a relapse occurred, and when the treatment was resumed a complete recovery was effected.

244. Marmorek's Serum in Surgical Tuberculosis.

PARCAIO (*Rif. Med.*, August 21st-23rd, 1913) gives short details of 19 cases of surgical tuberculosis treated by him with Marmorek's serum. The patients were mostly young adults. The serum was given either subcutaneously, in local injection, endovenously, or per rectum. Most of the cases showed phenomena of anaphylaxis after the fifth injection, but only in one case were there symptoms sufficiently marked to cause the treatment to be abandoned, and usually they ceased after the twelfth injection. When the serum was given per rectum, no anaphylactic symptoms were noticed. No bad effects were observed in other organs. In every case an improvement in the general state of the patient was noticed, especially after the rectal mode of administration. In some cases of old-standing tuberculous adenitis rebellious to other treatment very good results were obtained by injecting the serum into the glands, beginning with a dose of 1 c.cm.: for example, a girl of 15 years with cervical glands of three years' history, after three injections showed signs of softening of the glands, a little puriform fluid was expectorated and fresh serum injected. After the fifteenth injection the glandular mass could no longer be felt: finally ten rectal injections of 5 c.cm. of the serum were given. The girl put on 3 kilograms in twenty days.

245. Treatment of Pertussis.

ROUX (*Prov. méd.*, March, 1913) deprecates the routine use of antispasmodics in this affection. In cases without temperature and with no bronchial symptoms or expectoration the classical antispasmodics may be prudently employed, preferably half an hour before meals and before bedtime. But if the temperature rises and bronchial signs appear this treatment must be stopped and expectorant medication adopted. The so-called specifics should be entirely rejected since they paralyse the cough reflex and dull the bronchial muscle, thereby causing retention of sputum and toxic products. Antispasmodics may be associated with expectorants to some extent, but simply with a view to moderating the violence of the cough, calming the nervous system and checking vomiting. The author recommends the following formulae:

Expectorant.

Syrup of ipecacuanha	5 to 10 grams.
Syrup of polygala	40 to 45 ,,
Oxymel scillae	10 to 20 ,,
Benzoate of soda	2 to 4 ,,
Infusion of limes	to 300 c.cm.

Antispasmodic.

Bromide of strontium	1 to 3 grams.
Syrup of codeine	10 to 30 ,,
Syrup of belladonna	5 to 20 ,,
Tincture of aconite	5 to 20 drops.

A teaspoonful, dessertspoonful or tablespoonful according to age. The doses must be adapted to the conditions, but in any case the expectorants should predominate. In addition mustard leaves should be applied from one to three times a day. In cases complicated by bronchopneumonia antispasmodics should be entirely suppressed and the patient given expectorants, sinapisms and especially hot baths at 38° raised progressively to 39° and 40°.

246. Roentgen-therapy in Acne Vulgaris.

FISHER (*New York Med. Journal*, July, 1912) says the beneficent effect of small repeated doses of *x* rays in cases of acne, whether pustular, seborrhoeic, indurated or not, is an established fact. He describes the satisfactory results of their use in 22 cases. Twenty exposures are required to cure as a rule, and the disappearance of the lesions, often permanently, is good evidence of the local nature of the predisposing causes. The author's procedure is to treat each side of the face separately, after carefully protecting the eyebrows, lashes, moustache, etc., with lead foil. The tube is at a distance of 8 to 10 in., and the rays are filtered through leather. A current of ½ milliampère in the secondary circuit is the usual strength, and each side is exposed for six to ten minutes at a time according to the amount of induration present. The treatment is at first bi-weekly, later only once a week, and especial care should be taken in cases susceptible to the sun, as these often exhibit a peculiar sort of idiosyncrasy to the *x* rays.

247. The Gastric Administration of the I.K. Bodies of Spengler.

PERRIN (*Prov. méd.*, June 14th, 1913) reviews the general indications for the use of the I.K. bodies of Carl Spengler, specially commenting on the usefulness of the preparation in renal tuberculosis, glandular tuberculosis, and tuberculous rheumatism. In those cases in which the hypodermic method is inadvisable Spengler has recommended the transcutaneous administration, and Castaigne, among others, has demonstrated the efficacy of this method. Spengler has further advocated the administration of the preparation by the mouth in certain cases, and affirms that he has noted in such cases the usual reaction. The same doses and intervals are recommended as in the subcutaneous method. The author has employed this method in a number of cases, which he gives in detail. He administered the preparation in various grades of dilution prepared by himself, and considers the hour of waking in the morning the best time. He has come to the conclusion from these observations that in a number of cases the results were negative, in a number they were uncertain, and in about a third of the cases noted that favourable results followed. In these there was decided diminution of the cough, increase of resistance, a lessening of the intoxication, characterized by a lowering of the temperature curve, increase of appetite, diminution of the night sweats, and improvement in the general condition. He suggests, further, that the I.K. bodies appear to aid recalcification and the fixation of mineral substances in the affected area of the lung. In every case the preparation administered in this way was perfectly tolerated, and caused no unpleasant symptoms, gastric or otherwise.

PATHOLOGY.

248. Tubercle Bacilli in the Blood in Surgical Tuberculosis.

BRANDES AND MAY (*Deut. med. Woch.*, June 12th, 1913) record their observations on 40 cases of surgical tuberculosis in which the blood was examined for tubercle bacilli by the Schnitter-Uhlenhuth method. There were 6 early cases, 24 fully developed cases, and 10 in which the disease was healed or removed by operation. Tubercle bacilli were found in the blood in 18 cases, being present, with one exception, in every case of renal and testicular tuberculosis. About half the cases of articular tuberculosis were associated with tubercle bacilli in the blood; and it was observed that the older the patient the more frequent was the discovery of bacilli. The authors' verdict on this method of investigation is unequivocally unfavourable. The method is tedious, and involves laborious technique. It is unreliable, for the results were negative in about 55 per cent. of definitely tuberculous cases. The demonstration of tubercle bacilli in the blood has also no prognostic significance, for they were often found in cases in which, from a clinical point of view, recovery had been established for some time. The fact, too, that acid-fast rods are present in the blood of both healthy and tuberculous persons, and are easily confused by the unwary with tubercle bacilli, further reduces the value of this method. The authors quote the observations made by Liebermeister, who found acid-fast rods in the blood of seventy healthy persons. By careful technique it is possible to eliminate acid-fast rods normally present in tap water, but there yet remain the acid-fast particles composed of cholesterin, lecithin, and the sheaths of red corpuscles which occur in the blood, and are a source of error. When the microscopic detection of tubercle bacilli in the blood has been controlled by inoculations into animals, the latter method has given much fewer positive results than the former. Indeed, inoculations from the blood of healthy persons into animals has never yet induced tuberculosis. The authors regard the acid-fast rods they found as true tubercle bacilli, and the moral they point is the importance of regarding tuberculosis as a general, not a local, disease. It is not, therefore, sufficient to mete out merely local treatment, as was done a few years ago; but it is essential to treat the whole body, and thus prevent local outbreaks of the disease. The fact that tubercle bacilli may be found in the blood after a local lesion has healed shows how complete a clinical recovery may be effected without the elimination of the exciting cause.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

249. Diabetes Insipidus with Tuberculosis of the Pituitary Gland.

L. Borelli (*Giorn. della R. Accad. di Med.*, Turin, 1913, lxxvi, 91) describes the case of a man, aged 31, who had tuberculous periostitis at 9, and was operated on for tuberculous maxillary glands at 29. About four and a half months before his death he complained of anorexia, nausea, fever, and inability to do his work. Two months before his death the vision of his right eye failed completely in four days, beginning on the external side (of the field of vision?). At the same time the sight of his left eye began to fail, particularly on the external side. Six days later he was taken into hospital with faint perception of light in his left eye, blind in his right eye, very thirsty, and with occipital headache that prevented him from sleeping at night. The urine exceeded 6 litres a day, the bowels acted regularly; the gait was normal; there was a small amount of exophthalmos, which the patient said he had always had. He was very deaf in his left ear, less deaf in his right ear. The thyroid gland was not enlarged, the heart and lungs were natural, the spleen was normal, so were the sexual organs. The blood count showed 80 per cent. of haemoglobin, 3,320,000 red cells, 12,500 white cells per cubic millimetre, with a moderate lymphocytosis. The cutaneous tuberculin reaction was positive, the test for alimentary glycosuria was negative. The exophthalmos increased, the cheeks looked myxoedematous, and ptosis of the right eyelid appeared. A month later a skiagram showed that the sella turcica was normal; the exophthalmos and ptosis were less marked, the patient was delirious; six weeks after this the patient died comatose. At the autopsy the brain was oedematous, the pia mater contained numerous tubercles, especially at the base and along the Sylvian fissures. In front and at the sides of the sella turcica, and in the middle cerebral fossae was a rounded mass of newly-formed tissue, 5 cm. in diameter, 1.5 cm. thick in the middle; it was caseating, yellow-grey in colour, with an irregular surface; it raised up the dura mater and had eroded the bone a little. Its anterior part included and involved the hypophysis; below the optic chiasma was a caseous node partly involving the optic nerves. The caecum and appendix were tuberculous, but the kidneys were sound both to the naked eye and microscope. It was found that the tuberculous mass had entirely destroyed and replaced the nervous and paranervous (posterior) parts of the gland; and had also invaded the antero-superior and lateral parts of the glandular (anterior) lobe, leaving about four-fifths of it untouched. This uninjured part seemed unduly rich in fibrous tissue, rich in blood vessels, free from colloid secretion and from haemorrhages; the secreting cells here preserved their characteristic staining reactions, the eosinophile cells being increased in number. The invading tuberculous tissue was rich in giant cells; no traces of the nervous or paranervous lobes could be discovered. Numerous urinary analyses are detailed. The author combats the generally accepted view that irritation of the paranervous lobe of the pituitary gland is the main or only cause of diabetes insipidus. Administration of extra quantities of sodium chloride to his patient showed that there was complete inability to secrete a concentrated urine, until towards the end when coma appeared; the specific gravity varied from 1004 to 1008, and the addition of sodium chloride to the diet augmented the quantity of urine passed (from 5 to 10 litres), but did not increase its specific gravity. Borelli thinks it more reasonable to assume that the diabetes insipidus was due to irritation of the base of the brain, particularly of the region around the third ventricle, the corpora mamillaria, and the posterior perforated space.

250. The Prevalence of Ascaris in Man.

During the past two years G. Liebermeister (*Med. Klin.*, August 17th, 1913) has examined microscopically the faeces of every patient admitted to his section of the Communal Hospital in Düren. Among the last 100 cases there were 21 in which the eggs of ascaris were found. In many cases the patients' symptoms were independent of the worms, but in 7 cases they were the only cause of the patient's illness. Many were adults, who for months had been treated for such conditions as ulcer of the stomach, cholelithiasis, colic of unknown origin, hysteria, malingering, etc., without improvement. The author prescribes oil of chenopodium, followed four hours later by a purgative. About four days after this treatment he examines the faeces and repeats the treatment if eggs of ascaris are still found. It is seldom necessary to repeat the treatment more than once; but in one case, after the treatment had been prescribed eight times, and santonin as well as oil of chenopodium had been given, eggs were still present in the faeces, although more than fifty ascarides had been expelled. A corpulent woman was admitted to hospital for incarcerated hernia and severe intestinal obstruction. This persisted after the hernia had been reduced by an operation. The patient's condition did not warrant a second operation, and death occurred. The necropsy showed a tightly knotted ball, consisting of numberless ascarides, in the ileum, where it caused complete obstruction. Another patient was a lad, aged 13, who suffered from partial intestinal obstruction. A tender tumour, of the size of an apple, could be felt in the left mesogastrium. Two days later both tumour and obstruction had disappeared, only to reappear after an interval of two days. The faeces contained numerous eggs of ascaris. After two courses of treatment, during which twenty-five ascarides were expelled, the tumour and obstruction vanished permanently, and the much exhausted patient recovered rapidly. A third patient was a woman, aged 30, who had been treated in vain for biliary colic. She was admitted to hospital, where the diagnosis of cholelithiasis certainly seemed plausible, but there were also definite signs of hysteria. The faeces contained eggs of ascaris. All the symptoms disappeared permanently after a single course of treatment had expelled four large ascarides.

251. Acute Epidemic Poliomyelitis.

Kling and Levaditi (*Ann. de l'Inst. Pasteur*, September 25th, 1913), as the result of epidemiological and experimental researches, have reached the following conclusions: The epidemiological facts concord with Wickman's theory of transmission by human contact. This transmission is brought about by typical cases, but especially by the abortive forms which may easily pass unrecognized and, consequently, unisolated, and which generally constitute the majority. In a restricted and isolated epidemic area (the observations were made on two islands in the Bay of Slätbaken), the disease appears suddenly, spreads rapidly, reaches its maximum in a little time, and then disappears completely. The incubation may be as short as two or three days, and the patients appear to be infectious during the incubation period. Poliomyelitis may evolve in two stages, separated by a period of days or even weeks, during which the patient appears to be well, but is capable of conveying infection. Experiments on monkeys failed to reveal the virus of poliomyelitis outside the human body. The hypothesis of the transmission of the disease by means of water, milk, dust, flies, bugs, and mosquitos was not confirmed either by experimental results or by the epidemiological data. The problem of the intervention of *Stomoxys calcitrans* in the spread of the disease was not definitely settled. Man appears to be the sole depository of the virus. The naso-pharyngeal and tracheal secretions and also the intestinal contents of the subjects of the disease may contain the typical virus; but the writers were unable to find the typical virus in the throat secretions of patients suffering from the abortive form, or of supposed carriers.

SURGERY.

252. Rare Cysts in the Inguinal Region.

After discussing the varieties of cysts to be found in the inguinal region, C. Permin (*Hospitalstidende*, July 13th, 1913) records two cases which gave rise to difficulties in diagnosis. The first patient was a woman, aged 47, who, while she was working hard, suddenly felt pain in the right groin. A swelling was detected here, and, though there was no intestinal obstruction, vomiting or fever, incarceration of a femoral hernia was diagnosed. She had hitherto been well, had shown no sign of tuberculosis, and felt the pain only when standing. The swelling was as large as a goose's egg, and was apparently connected

with a pedicle which extended upwards and disappeared under Poupart's ligament. A hard nodule, as large as a hazel nut, could be felt in the outer aspect of the swelling, which was dull on percussion and irreducible. Below the swelling there was fluctuation without gurgling on manipulation. An omental hernia was diagnosed; but an operation showed a cyst underlying the superficial fascia and adherent to a couple of hard, greyish-white glands. The hour-glass shaped cyst contained opaque, yellow fluid, like that commonly found in the sac of the hernia. But the cyst was unconnected with the peritoneum, and its inner lining was trabecular, irregular, and covered with white necrotic flakes. It was shelled out, leaving a cavity as large as a fist, bounded by the inner side of the os pubis and the iliac vessels. No micro-organisms were found in the cyst, the outer lining of which was formed of structures resembling granulation tissue. The presence of clusters of lymphocytes and the ease with which the cyst was detached support the view that it originated in a lymphatic gland, probably tuberculous. The second patient was a man, aged 68, whose left inguinal region became swollen and tender after being struck. Six weeks later a hard, nodular, oval tumour, as large as a hen's egg, was found running parallel with Poupart's ligament. The tumour was outside the inguinal canal, and was not adherent to the skin or the neighbouring slightly enlarged lymphatic glands. There was no fluctuation or impulse on coughing. An operation showed a nodular tumour embedded in the subcutaneous fatty tissue. Incision of the tumour yielded yellow, watery, and slightly turbid fluid, which escaped from a cavity as large as a Tangerine orange. A small portion of the tumour left in the body was treated with the thermo-cautery. The microscopic examination of the excised portion left the diagnosis in suspense; for, though the cells were like those of epithelium, their arrangement was not that of an epithelioma. When, however, the patient died seven months later, owing to the rapid extension of the growth, it was found to consist of a perithelioma. Probably the blow in the inguinal region caused a haematoma in a pre-existing vascular new growth, and thus led to the formation of the cyst.

253. Steinmann's Nail-Extension Method in Fractures of the Femur.

GERSTER (*Amer. Journ. of Med. Sciences*, August, 1913) describes experience with Steinmann's nail-extension method in fractures of the femur, the essential feature of which is that the sole point of attachment for suitable traction upon the lower fragment is a steel nail 3½ mm. thick and 18 to 20 cm. long, which, after transfixing the soft parts and the bone, is left *in situ* projecting 2½ to 3 cm. beyond the skin, an adjustable pair of tongs being adapted to the nail ends as the most convenient means of attaching extension apparatus. Under gas anaesthesia the limb, having been rendered sterile with iodine, is steadied by an assistant, who pulls the skin of the thigh upwards. In fractures at the middle third the nail is inserted through the soft parts at right angles to the shaft, and drilled through the bone a finger-breadth above the upper margin of the external condyle. As soon as the nail point is felt emerging from the bone the overlying skin is drawn upwards before transfixion, which is stopped when the two nail heads project equally on either side of the limb, tincture of iodine, aristol, and collodion being applied, and flat pieces of folded gauze run down the nail as a dressing, and held in place by a figure-of-eight bandage. The thigh is placed in semiflexion, and maintained in position by sandbags, and the pulley at the foot of the bed is so placed that the wire leading from the tongs is in line with the axis of the semiflexed thigh. Shortening is usually overcome within a week, and the broken limb should be allowed to stretch 1 cm. longer than its fellow to facilitate proper approximation of the fragments. Massage and passive motion may be begun five days after nail extension has been commenced, and a good callus is usually developed by the end of three weeks, longer than which nail extension should, if possible, not be continued, and certainly never longer than five weeks, the nail being withdrawn under gas, tincture of iodine injected into the nail holes, and a dressing applied. In inserting the nail it should avoid the haematoma at the site of fracture, the marrow cavity, the joint capsule, and the epiphyseal line. In fractures of the lower third of the femur the nail is inserted two and a half finger-breadths below the upper margin of the tibia on a level with the lower margin of the head of the fibula. No pain is felt during extension, and the method is indicated wherever the usual traction methods fail, pertrochanteric fractures, those of the shaft in the obese, and supracondylar fractures giving excellent results with nail extension. Notes of twelve cases, with skiagrams, are given in which this method was employed.

254. Nasal Calculus.

TWO cases of nasal calculus are recorded by O. HEINEMANN (*Deut. med. Woch.*, July 24th, 1913), who points out that calcium salts may become deposited on foreign bodies when these have been left undisturbed within the nose for some time. One patient was a man, aged 18, who had passed a foreign body into his nose at the age of 5. It could not then be found by the medical attendant, who assumed that it had escaped spontaneously. From the child's nose an offensive smell escaped, which did not disappear, although a family doctor and later a specialist undertook its treatment. The latter prescribed the galvano-cautery for two months. When the author saw the patient thirteen years after the introduction of the foreign body, he detected it in the lower nasal passage with the help of a nasal probe. The calculus, which was easily removed by a pair of forceps, was coated with yellow mucus, and, when dried, weighed only 0.5 gram. Its surface was porous, and its nucleus consisted of a round body which had probably once been a pea. The offensive smell and the unilateral purulent nasal catarrh ceased at once. The other patient was a woman, aged 20, who had introduced a foreign body into her nose about thirteen years earlier. There was no offensive smell or nasal discomfort, and she sought medical advice merely at the suggestion of her singing mistress, who suspected nasal obstruction. On the left side the purulent nasal catarrh and a yellow mucous and purulent mass were found. The mass could not be removed by syringing, and behind it the nasal probe showed a hard foreign body. Posterior rhinoscopy showed a large yellow plug of mucus in the left posterior nares, and underneath this plug a hard body could be felt by one finger. As only small fragments could be broken off this foreign body, which was firmly wedged between the septum of the nose and the turbinate bones, resection of the lower turbinate bone was contemplated. In the meantime, the cocaine, which had been freely used, had reduced the swelling of the surrounding structures so effectively that the foreign body slipped out of itself into the mouth, whence it was expectorated. It was a calculus weighing about 5 grams. The nature of its nucleus was not ascertained, for the specimen was preserved almost intact. Discussing the nature of these calculi, the author points out that they invariably contain a foreign body as a nucleus. When the outer layer of the calculus is porous, gas-forming organisms lodge in it, and the smell of the patient's breath becomes almost as offensive as in syphilitic ozaena. This need not, however, be the case when the calculus is dense. Sometimes the only symptom may be that of unilateral nasal obstruction. Provided a nasal probe is used, there should be no difficulty in making a correct diagnosis.

255. Spur of the Patella.

IN two cases of inflammation of the knee-joint, in which the etiology was obscure, F. BARR (*Deut. med. Woch.*, July 24th, 1913) has demonstrated with the Roentgen rays bony spurs growing from the patella. One patient was a mechanic, aged 47, who had suffered from pain and swelling in the left knee for four months. When the knee was rested the swelling almost disappeared, only to become prominent again with exercise. There were tenderness over the inner aspect of the joint, and abnormal firmness and swelling of the capsule below and internal to the patella. Jarring of the knee was painful, but the suspicion of early tuberculosis was not confirmed by the Roentgen rays, which clearly showed a spur of bone projecting upwards from the upper end of the patella. The author gives no account of the further course of the case; and he is not certain as to the nature of the spur, which may have been congenital, the result of chronic trauma, or a sequel to a chronic degenerative process. The second patient was a man, aged 26, who struck his left knee as he was vaulting over an obstacle. The joint became much swollen, and half a year later the patient consulted the author for pain below the patella on flexion and walking upstairs. Pressure on the patella caused acute pain, but there was no crepitation or other sign of disease, and the movements of the joint were unimpaired. A skiagram showed a small projecting shelf of bone at the lower posterior border of the patella, where the bone is normally rounded off. It is evident that this shelf had become inflamed owing to its exposed position, and that the localized periostitis, started by the blow on the knee, was responsible for the symptoms.

OBSTETRICS.

255. Puerperal Meningitis.

A. PELZ (*Berl. Klin. Woch.*, July 28th, 1913) warns against the too ready diagnosis of a cerebral tumour, however pathognomonic the symptoms may seem, if their onset coincides with pregnancy or the puerperium. This mistake was made in the following case. A woman, aged 24, was confined for the second time, pregnancy and labour being normal. In the second or third week of the puerperium she began to suffer from violent headaches, which succeeded each other at short intervals, and were accompanied by giddiness and nausea. She also suffered from exhaustion, somnolence, and hallucinations; and several physicians who attended her diagnosed psychosis or hysteria. In the sixth week of the puerperium, the left eyeball protruded somewhat, and both optic discs were choked. The right arm and left leg were weaker than their fellows, but there was neither ataxia nor any sensory disturbance. There was slight ankle clonus, most evident on the left side. The Achilles and patellar reflexes were present. Throughout the illness the temperature was subnormal, and the pulse was slow, falling to 44 on one occasion. A lumbar puncture yielded about 35 c.cm. of fluid under a pressure of 55 mm. of mercury. The patient became delirious, and an epileptiform attack occurred which lasted a quarter of an hour. There were general convulsions, deviation of the head to the right, foaming at the mouth, and complete loss of consciousness. Both the patellar reflexes were exaggerated, and Babinski's sign was present. This attack was followed by complete amnesia. Three days later the left arm became very weak, but not ataxic. The senses of touch and pain were diminished on the left side of the body, and sensation in the joints of the left thumb and fingers was completely lost. The tongue was displaced to the right, and there was marked hemiopia on the left side. After these symptoms had lasted for some time the patient developed agraphia and apraxia, which soon passed off. A spontaneous and complete recovery was effected in four to six weeks. Discussing this case the author points out that, had the spontaneous recovery been delayed by one day, the patient's skull would have been trephined for a hypothetical tumour. He attributes all the symptoms to a meningitis serosa due to a toxaemia of pregnancy or the puerperium. The patient had suffered from a violent and intractable headache which appeared a fortnight after her first confinement and disappeared spontaneously after it had lasted two to three weeks. This was probably of the same nature as the illness which followed the second confinement. The author gives a short summary of two similar cases reported by Oppenheim and Nolen respectively. In both cases the symptoms were those of a cerebral tumour, and they recurred at successive pregnancies or soon after successive confinements.

GYNAECOLOGY.

257. True Malignant Fibroid (Myosarcoma).

LIHOTSKI (*Zentralbl. f. Gynäk.*, August 9th, 1913) reported in January an authentic case of malignant fibroid and exhibited the tumour at a medical society in Vienna. The clinical history, he noted, gave no hint of malignancy; the patient was 41 years of age; she had borne six children. There was no excess or irregularity in the catamenia. The tumour had developed slowly, but there had recently been rapid increase in bulk, with pain and pressure symptoms, common complications in patients with innocent fibromyoma of the uterus. Lihotski operated, and noted as soon as the tumour was exposed that it was grey in colour and very friable; this R. Meyer had already found to be the usual appearance of a myosarcoma of the uterus where secondary changes in the cells were already in active progress. Hysterectomy was performed; the tumour was of the size of a man's head. Lihotski exhibited sections which showed the characters of myosarcoma distinctly. Seven months after the operation the patient showed no evidence of recurrence. Now that reliable microscopy allied to advanced knowledge of histology are available, statistics on the relative frequency of malignant fibroid are more reliable than heretofore. Yet Lihotski reminds gynaecologists that whilst recent observers make this tumour as existent in from 2 to 3 per cent. of all "fibroids of the uterus," Warnekros, working in Bumm's clinic, made the percentage as high as 10. Schottländer, discussing Lihotski's observations, distrusted Warnekros's statistics, but made out, according to his own researches in a large clinic, that the frequency of myosarcoma certainly reached 3.5 per cent.

258. Melano-sarcoma of Ovaries and Prognosis.

VOGT (*Zeitschr. f. Geburtsh. u. Gynäk.*, vol. 73, Part I, 1912) closely followed up 2 cases of secondary melano-sarcoma of the ovary—one in a woman aged 44, the other in a *post-mortem* subject, where the patient was 37. He compared them with two similar instances of metastatic ovarian melano-sarcoma already published. In Vogt's first case the primary growth had developed in the eye, and one ovary was converted into a large black mass, and the growth was not clearly definable from the normal tissue. In cases of bilateral tumour of the uterine appendages with ascites it is important to make sure that there is no pigmented tumour elsewhere. Death always ensues within two years after the development of the primary growth. Prognosis is absolutely bad, so that where a primary tumour exists elsewhere a radical operation is out of the question. In the *post-mortem* case the melano-sarcoma had developed originally in the integuments.

THERAPEUTICS.

259. Inhalations of Radium.

HIS, Löwenthal, and others have used radium emanations administered by inhalation in the treatment of various diseases, whilst Plesh and Lazarus have given it by ingestion. REBATTU of Lyons (*Prov. méd.*, March 29th, 1913) discusses the question very fully and describes his own experience of the method. Gout and certain subacute and chronic forms of rheumatism, trigeminal neuralgia, and phthisis pulmonalis were all submitted to the treatment in the inhalatorium. This was given daily, the seance as a rule lasting for two hours. The doses were measured by the electroscope, and generally corresponded to an activity varying between 200 and 400 electrostatic units. The length of time required for a cure was on an average forty séances. The results in the author's cases were, on the whole, parallel with those of His. In the cases of gout the cure, according to the author, had been complete. No effect was produced in a case of arthritis deformans, nor yet in the case of pulmonary tuberculosis, which clinically remained *in statu quo ante*. His of Berlin states that he has hardly ever had a case of relapse following this method of treatment. The leucocytic equilibrium showed an augmentation in the number of lymphocytes, while the neutrophiles showed a deviation of the formula of Arneth towards the right. A fall in the arterial pressure was also noted in cases treated by the method. The author's conclusions are that the cure in an emanatorium ought to be advised in cases of gout and gouty rheumatism. The relief of pain is almost immediate, and the mobility of diseased joints is frequently restored. In neuralgia the sedative effect of the cure in an emanatorium is equally beneficial.

260. The Dietetic Treatment of Oxyurides.

L. REVILLIOD (*Rev. méd. de la Suisse rom.*, April 20th, 1913) claims that the persistence of oxyurides in certain individuals in spite of repeated courses of vermifuges and enemata can be explained only by predisposition. If a single pair escape destruction, or if some of the numerous ova remain behind, the condition of the patient is soon as bad as ever. Other individuals, though exposed to infection, never harbour the parasite—that is, are immune. Treatment which neglects to increase the resistance of the individual is thus irrational. A case reported by Stettiner indicates the lines on which a rational treatment is possible. A man, who had long had oxyurides, developed diabetes. The usual antidiabetic diet was prescribed, and the oxyurides disappeared. Stettiner concluded that oxyurides and their ova require a soil rich in hydrocarbons. He then treated five other cases of oxyurides by diet. Four completely recovered, and, in the one which proved refractory, the diet was not strictly adhered to. The writer recently saw a man, aged 50, who in spite of treatment by numerous physicians, had harboured oxyurides all his life. In other respects he was healthy. No other person of his household was affected in this way. In July, 1912, he was placed on an antidiabetic diet. The parasites soon disappeared, and in March, 1913, the cure persisted in spite of the dietetic measures having been relaxed. The urine in this case did not contain sugar, but the fact that oxyurides throve in the intestine indicated an excess of hydro-

carbons. These observations explain why oxyurides are commonest in children who are fed on pap.

261. Biokinetic Treatment in Radio-dermatitis.

JACQUET AND DEBAT have brought before the Société de Radiologie Médicale de Paris (*Bull. et mém.*, No. 47, 1913) a case of severe radio-dermatitis of the face which, if not completely cured, had been greatly ameliorated by a biokinetic method of treatment. The *x* rays had been injudiciously applied for hypertrichosis of the lip in a young woman, and the treatment was followed by ulcerations with sclerosed cicatrices and pigmented telangiectasis. Various methods were tried unavailingly for relieving this condition, and when the case came to the authors all that part of the face corresponding to the masculine moustache and beard had a varnished appearance and was greatly hardened. The patient was treated by a biokinetic method consisting on the one hand in the suppression of visceral and local irritation, and on the other in the passive and active mobilization of the tegument by means of plastic massage and cervico-facial gymnastics. The plastic massage was performed regularly each day with gradually increasing energy, and the cervico-facial exercises were repeated ten times per day. The result of this energetic treatment was rapidly appreciable. The cutaneous hyperaesthesia (which at the beginning only permitted a light form of massage) disappeared, and energetic manœuvres became possible. The atrophy and sclerosis, which rendered the movements awkward and incomplete at first, were also greatly diminished. The treatment went on for two months, and by the end of that time there was a remarkable amelioration, attested by the comparison photographs which the authors brought forward.

262. Intractable Hiccough arrested by Adrenalin.

SÉGAL of Jerusalem (*Journ. des praticiens*, August 23rd, 1913) relates the case of a patient who was suddenly seized with violent pains in the right side, constipation, and vomiting. The symptoms were suggestive of appendicitis, but the existence of haematuria and other indications proved that it was renal colic. Three days later he was seized with violent and painful hiccough. To relieve this large doses of bromide, chloral, chloroform, and cocaine were in turn given, but with no result. Gastric lavage with a solution of silver nitrate, and finally general anaesthesia under chloroform were equally unsuccessful. This went on for eleven days, the patient's sleep being constantly disturbed and his strength becoming rapidly exhausted. Finally adrenalin was given in a dose of 10 drops of a 1 in 1,000 solution, when the hiccough immediately became less frequent, and on a repetition of the dose ceased entirely, and did not recur.

PATHOLOGY.

263. Diabetic Coma.

THE pathology of diabetic coma has been the source of much speculative theorizing for many years. The condition was first accurately described by Kussmaul in 1874, although other observers, including Marsh, had recognized it twenty years before. As early as 1857 Petters recorded the presence of acetone in connexion with diabetic unconsciousness, and in 1865 Gerhardt discovered the presence of aceto-acetic acid as a constant accompaniment of this condition. It was not until well on in the Eighties that the presence of laevo-rotatory β-oxybutyric acid was discovered in this connexion. R. EHRMANN gives a good account of the development of our knowledge in regard to diabetic coma, and discusses in detail the pathology of this termination of the disease (*Berl. klin. Woch.*, January 6th and 13th, 1913). The theory that diabetic coma was due to a diminution of the alkalinity of the blood resulting from the action of the aceto-acetic, butyric, and other acids was built up by Stadelmann on the basis of Walter's work on acid poisoning in rabbits. This theory was supported by the discovery of a definite diminution of the blood alkalinity, and by the recovery of large quantities of oxybutyric acid in the organs of patients who had died of diabetic coma. It had previously been held that acetone was responsible for the coma; but the new theory killed this assumption. The next point of importance in the story was the discovery that β-oxybutyric acid, when applied intravenously was non-toxic, but it must be pointed out that the substance which was used in the laboratories was usually the inactive and not the laevo-rotatory acid. The sodium salt, however, was found to be toxic. Others came to the conclusion that while β-amino-butyric acid produced a coma similar to that of diabetes, this substance might be the mother substance of laevo-rotatory β-oxybutyric acid, and thus the primary cause of the coma. Further investigation, however, proved that this view was incorrect, and further that a specific poisonous action of oxybutyric acid could not be made responsible for the symptoms. Naunyn set up the thesis that the coma was merely an expression of acid poisoning. A number of reasons were raised in opposition to this view, the chief of which was that while medication with alkalis was able to postpone the onset of coma, it certainly was incapable of either preventing it altogether or curing it. On careful analysis it was seen that the similarity between acid poisoning and diabetic coma was only superficial. Ehrmann points out that in spite of this, it is clear to any one who watches a case closely, that the general impression is that of an acute poisoning. In order to ascertain whether laevo-rotatory β-oxybutyric acid is really responsible for the symptoms, he investigated the pharmacology of the mother substance—namely, butyric acid, since it was impossible to procure a sufficient quantity of pure β-oxybutyric acid for experimental purposes. It was found that sodium butyrate given intraperitoneally to fasting young dogs (strong adult animals are not suitable for the purpose) produces a condition identical with that of diabetic coma in man. The related fatty acids also produced a similar result, but racemic oxybutyric acid proved itself the least toxic. Ehrmann was able to study the symptoms very closely in varying degrees of severity of the coma, and discovered some new ones, which on comparison with cases of human diabetic coma, he was also able to note in the latter. A spasmodic, jerky type of expiration was well seen in the dogs and also in man. The blood pressure always sinks before the onset of the coma, and although this had not been observed in man, he found on taking observations in cases of diabetic coma, that the same takes place in the human subject. In the state of coma, the eyeball is non-elastic, and pits on pressure. This also occurs in man, and when a patient is first seen in a state of deep unconsciousness, it may be utilized as a differential sign between uraemia and diabetic coma. There is also at times a slow nystagmus-like movement of the eyes. Another common symptom is a fall in temperature, which is never of the type of the collapse drop seen in acid poisoning. Ehrmann states that the experiments prove that diabetic coma cannot be a true acid poisoning, since the salts which produce the symptoms are faintly alkaline salts. He enters into a detailed discussion of other points, and comes to the conclusion that the butyric acids act as cerebral poisons, acting on the respiratory centre, the vasomotor centre, and the cerebrum generally. When the acid acts chiefly on the vascular system, a cardio-vascular form of coma is produced. He further explains the action of sodium carbonate and bicarbonate in diabetic coma by showing that it produces a more rapid and more profuse washing out of the butyric acid out of the organism, and also a stimulating action on the vascular system.

264. The Bacteriology of Pemphigus.

E. S. HENDRY (*Surg., Gynaec., and Obstet.*, July, 1913) issues a preliminary report upon the bacteriological finding in a case of pemphigus. The procedure that the author employed was to make cultures upon human muscle in agar, according to the Noguchi method. The anaërobic method was employed since aërobic cultures taken upon various media were all contaminated by *Staphylococcus epidermidis albus*. Anaërobically the growth was extremely slow, but in three weeks a small white area was found on the muscle. It consisted of a very short small motile bacillus, with a tendency to occur in clumps. With the patient's own blood serum a positive agglutination was obtained. It was found impossible, either aërobically or anaërobically, to make subcultures upon broth, milk, agar, blood serum agar, or serum glucose agar. Subcultures, however, were readily made upon human muscle, growth being detected in forty-eight hours. From the fact that the bacillus agglutinated with the patient's serum, and that the micro-organism was only present in the blebs, Hendry argued that the germ was the cause of the lesion, and prepared a vaccine from the same. The patient showed gradual improvement after inoculation. At the same time the author observes that this fact cannot be regarded as a proof of the curative value of the vaccine, since the disease frequently shows improvement during its course without any apparent reason. Hendry has since isolated the same organism from two other cases of pemphigus, one of these being impure culture.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

265. Anaemia due to Pediculosis.

A CASE is recorded by W. HOLLAND (*Tidsskrift for Den Norske Laegeforening*, September 15th, 1913) of severe anaemia, the only cause of which seemed to be generalized pediculosis. The patient was a painter, aged 60, who had been admitted to hospital two years earlier for anaemia and extreme debility. Frequent attacks of fainting necessitated injections of camphor and ether. The pediculi swarmed not only all over his body, but were also found crawling over his purse and goloshes, and forming large, creeping clusters. The patient's face was puffy, and the colour of his skin waxy. He suffered somewhat from cough and digestive disturbances. There was bronchitis, but the abdomen and urine were normal. A generalized rash gave a copper-like colour to the skin. After several months' treatment in hospital with potassium iodide and iron the bronchitis and anaemia disappeared, and the patient gained weight. On readmission to hospital two years later the anaemia had returned, and the pediculi were so numerous that the outside of the patient's clothes was grey with them, and the inside presented a layer of vermin several millimetres in thickness. A blood count showed 1,890,000 red cells, haemoglobin 32 (Sahli), colour index for red cells 0.80, leucocytes 6,100. There were no microcytes or megaloblasts. The erythrocytes were normal, but there were a few megalocytes and normoblasts. The number of eosinophile leucocytes was normal. The blood count was, therefore, characteristic of secondary, not pernicious anaemia. Though the pediculi could be counted by the hundred thousand, there were no macroscopic lesions of the skin, apart from a few scratches. Possibly his age and familiarity with the vermin rendered the patient insensitive to their attacks. The author compares this condition with the anaemia due to ankylostoma. True, the latter induces changes in the blood similar to those found in pernicious anaemia; but it is probable that this condition would also have developed in the author's case had the persistent drainage of blood by the pediculi continued much longer. The author, who compares this case with that of Sulla and Herod, does not record the ultimate fate of his patient.

266. Hepatic Colic.

CHAUFFARD (*Journ. des praticiens*, August 2nd, 1913) calls attention to the early diagnosis of latent cholelithiasis, and quotes Mignot as having noted a number of indications which justify operative interference in those cases. Amongst these are frequent attacks of indigestion, flatulence, epigastric distension—occurring about an hour after a meal; intolerance of articles of food such as apples, cheese, and pudding. To these must be added eggs, which are badly digested by these patients. According to the author, Mignot has further noted slight attacks of vomiting, which relieve the patient, and pain localized in the hepatic region and right flank. The patient is unable to breath deeply, as the contraction of the diaphragm appears to cause pain. All these symptoms constitute the premonitory phase of cholelithiasis. Dyspepsias of hepatic origin, too, are particularly resistant to the ordinary therapeutic treatment of gastropathy. The author attaches more importance still to the gastralgia or epigastralgia which occurs without any known cause and independently of food. When there is a determining cause it is generally fatigue or some emotional shock. Following on these gastric crises hepatic colic is the next stage. The diagnostic value of a painful point on pressure depends on several circumstances, such as the method of eliciting it and the nervous reaction of the patient. Several examinations are necessary in order to get a reliable result. There are two points of painful pressure which the author refers to as the "cystic point"—which is to be found at the level of intersection of the lower costal margin and the outer border of the right rectus—and the epigastric point. Pain may be provoked by deep pressure, or by the lightest touch. According to Mackenzie there is a definite band of cutaneous hyperaesthesia. Over this area slight pinching of the skin provokes severe pain. Another less known painful spot is the phrenic point, situated between the two heads of the sterno-mastoid on the right side. Posteriorly there is the "scapular" point and painful points at the level of the eighth, ninth, tenth, and eleventh dorsal vertebrae, as insisted on by Mackenzie. Sometimes hepatic colic is complicated by tetaniform symptoms, as shown by Gilbert. More frequently there is a vasomotor reaction causing a shivering or chilliness. The hepatic crisis generally coincides with the end of gastric digestion and the commencement of the physiological function of the gall bladder. The simple attacks terminate readily, and require hot applications and lavements of antipyrin or chloral. The author has seen death follow the injection of a centigram of morphine in a severe case of hepatic colic in an alcoholic subject. To obviate such a contingency the author suggests the simultaneous injection of ether.

267. Insects as a Factor in Pellagra.

JENNINGS AND KING (*Amer. Journ. Med. Sci.*, September, 1913) studied the possible relation of insects to pellagra in Spartanburg County, investigating the premises and neighbourhoods of pellagrins with special reference to the presence, distribution, and biologies of insect groups, the observations in some instances being extended to the homes of non-pellagrous inhabitants of mill villages and elsewhere for comparative purposes. Of 282 cases 75 per cent. were females, of whom 173 were adults, and of these 82 per cent. were mainly engaged in housework, a close correlation being found to exist between pellagrous incidence and the amount of time spent in or about the home. A marked characteristic of pellagra is its rural nature; and although sometimes appearing to originate in cities, an analysis of the conditions in such cities will generally show that the rural element governing the presence and abundance of insects predominates. Ticks, lice, bed-bugs, cockroaches, horse-flies, fleas, mosquitos, buffalo gnats, house-flies and stable-flies were studied, and all of these may be eliminated with the exception of the house-fly and stable-fly. The former must be regarded with suspicion until the transmissibility of pellagra is disproved, or the nature of its virus and mode of communication discovered, but the stable-fly (*Stomoxys calcitrans*) presents certain salient characteristics qualifying it for the rôle of a transmitter of the disease. Its range covers and exceeds that of pellagra, and its seasonal activity is coincident with that of the disease, while it is abundant in rural districts, thus corresponding with the rural nature of pellagra. It bites by day only, thereby affording an explanation of the phenomenon of sex incidence and age distribution, and the highest percentage (55 per cent.) of reports of bites by *Stomoxys* was received from mill villages, which furnish the greatest number of pellagra cases, clearly indicating a definite correlation between the abundance of the fly, the character of its distribution, and its biting of man.

268. The Quantitative Estimation of Free HCl in the Stomach.

QUANTITATIVE estimation of the free HCl in the stomach, as is well known, is peculiarly difficult, since organic acids and acid salts may also be present, and a certain amount of HCl may be combined loosely with the proteins present, so that methods that are too delicate give an excessive proportion, or if they exclusively reckon the free HCl, give too low an estimate. FITTIPALDI (*Gazz. degli Osped.*, March 6th, 1913), having tried the methods of Topfer, Fischer, and Gunzberg, advises another test—namely, tropaeolin, used titulo-metrically. His experience with the tropaeolin method is satisfactory, both as a control or as a substitute for the Gunzberg (phloroglucin-vanillin reaction) reaction. It may be used under artificial light, and is easily managed. The author thinks the dimethyl-amido-nitro-benzol reaction is so unreliable (chiefly owing to the presence of lactic acid) that it should be abandoned. In using the tropaeolin method the porcelain dish should be slightly warmed.

SURGERY.

269. Pseudo-myxoma following Appendicitis.

P. PACZEK (*Wien. klin. Rundsch.*, July 6th, 1913) points out that while hydrops and empyema of the appendix are common sequels to obstruction of its proximal end,

a pseudo-myxomatous growth of the appendix following such obstruction is rare. He records the case of a married woman in whom an attack of acute appendicitis was preceded by slight pain in the right side of the abdomen for six weeks. The temperature was 101° and the pulse 130. The abdominal wall was somewhat rigid over the appendix; elsewhere it was flaccid. A finger introduced through an incision in the abdominal wall showed a swelling, suggestive of a tense abscess, behind the caecum. The rest of the abdominal cavity was accordingly shut off by tampons, and an attempt was then made to open the hypothetical abscess with a finger. But gelatinous fluid, instead of pus, escaped, leading to the suspicion of colloid cancer. Further exploration showed the capsule enclosing the gelatinous fluid to be as large as a fist and adherent to the kinked, hydropic appendix, which was as thick as a thumb, and shaped like a post horn. The tumour and appendix were excised and the patient recovered. The appendix, when opened longitudinally, yielded gelatinous fluid containing small bubbles. The proximal third of the appendix was practically occluded, and scarcely admitted a pin. The middle third was much dilated, and the folds of mucous membrane were obliterated. The distal third was normal in circumference, and the folds of mucous membrane were retained. The appendix was abnormally long, its walls were thickened, and its serous coat was dull, and covered with flakes of fibrin. Numerous punctiform haemorrhages occupied the serosa and mucosa. The nodular and firm tumour, which fluctuated on palpation, communicated with the middle third of the appendix by a 0.5 cm. wide opening. The tumour contained two cavities separated from each other by firm connective tissue. Another cyst, of the size of a cherry-stone, communicated with the distal third of the appendix, and also contained gelatinous fluid. Hydatid cyst of the appendix was excluded, for the blood was normal and showed no eosinophilia. Besides, no succinic acid, scolices, membranes, or hooks were found. Colloid cancer could also be excluded, for the microscopic examination showed no extension of epithelium beyond its physiological limits. The extensive formation of fibrous tissue which radiated throughout the gelatinous masses and the patient's flourishing appearance shortly after the operation also excluded cancer. The author also excludes enterocystoma, lymph cyst, and Waldeyer's plexiform angiosarcoma; and he regards the condition as a pseudo-myxoma arising from obstruction of the proximal end of the appendix.

270. Arterio-venous Anastomosis.

FREEMAN (*Annals of Surgery*, July, 1913) observes that although arterio-venous anastomosis for threatened gangrene of the foot is justifiable in a few carefully selected cases, it seldom has been followed by success. It is difficult to estimate correctly the value of the operation, since spontaneous recoveries occasionally occur with as much frequency as do operative successes. Operations upon the upper extremities especially should be considered with reservation, owing to the comparative frequency of spontaneous recoveries. The author is of opinion, therefore, that owing to this uncertainty of the value of the operation, as little harm should be done as possible, and it is better to do a side-to-side anastomosis or to implant the distal end of the vein into the side of the artery than to unite the two vessels end to end. In this way the remaining arterial circulation is preserved to the limb, little though it may be. Between 50 and 60 arterio-venous anastomoses have been recorded, and the great majority of these cases have terminated unfavourably. The circulation of the affected part has shown no immediate improvement, or this improvement has been but temporary. In the author's own case, a marked change for the better occurred on the morning after operation. This lasted for several weeks, but became gradually less manifest as time progressed. The gangrene due to Raynaud's disease slowly returned, and progressed from the patient's toe to the dorsum of the foot, requiring amputation of the leg below the knee, eight and a half weeks after the original operation.

271. Tuberculosis of the Penis.

LEWINSKI (*Dermat. Zeitsch.*, xx. No. 8) says infection of the penis with the tubercle bacillus is among the varieties of clinical pathology, but it is for this very reason that mistakes in diagnosis, as occurred in the second of the two cases related by the author, are apt to be made. This was a man aged 31, with a healthy wife and family, though himself of rather delicate appearance and suspicious pulmonary history. The ulcer, which appeared at the external meatal orifice in May, 1912, and was constantly associated with burning pains on micturition, was regarded at first as a primary chancre, and the patient was treated with an intravenous injection of salvarsan (0.9 gram) and by mercurial inunction. The condition steadily progressed, however, and the patient continued to lose weight. On examination at the hospital copious auscultatory evidence of pulmonary tuberculosis, confirmed by the discovery of bacilli in the sputum, accounted for his progressive emaciation, and the enlargement of the left epididymis left no doubt whatever as to the real etiology of the meatal ulcer. The centrifugalized urinous deposit was found to be swarming with tubercle bacilli, leucocytes, and red blood cells. The Wassermann reaction was negative. The patient did not long survive his admission to hospital, and a *post-mortem* examination revealed an extensive tuberculous infection of both lungs, right kidney, ureter, and bladder. The histological sections of the penile ulcer were typically tuberculous. The faulty diagnosis of primary chancre should never have been made for the following reasons: It was markedly soft to palpation, had no definite margin, and was not accompanied by enlargement of the inguinal glands. A more pardonable error would have been the diagnosis of ulcus molle, though here again the absence of a bubo, and the bacillus of Ducrey and the long duration of the ulcer would have kept a more careful observer from committing the mistake. The literature of penile tuberculosis is a very small one, and even so experienced a dermatologist as Yadassohn has never seen lupus vulgaris of the organ. (1) The best known type of primary tuberculous infection is that caused in infants by uncleanly circumcision, though even this once common occurrence is now rarely met with: (2) there is no certainly authenticated case of tubercle bacilli infection of the penis *post coitum* to be found in the literature. The secondary tuberculous infection by way of the urogenital tract is by no means a rarity, and cases by way of blood and lymph stream are occasionally met with. There are three clinical types of tuberculosis of the penis hitherto described—namely, lupus vulgaris, colliquative tuberculous ulceration, and the tuberculide (Nobl), but by far the commonest is the second.

272. Haemorrhagic Infarct of the Testicle.

W. MASCHKE (*Med. Klinik.*, June 1st, 1913) records a case of haemorrhagic infarct of the left testicle which he attributes to direct injury and not to torsion of the spermatic cord. A clerk, aged 19, noticed pain in the left testicle, which became swollen in a day. Although this testicle had occasionally been tender since he was 12, it had never swollen, and he had apparently suffered neither from venereal disease nor trauma. Five days after the pain began the testicle was of the size of a hen's egg, and the overlying skin was tense and inflamed. The body of the testicle was tender, but there was no enlargement of the epididymis or thickening of the cord. The right testicle was normal; the patient was afebrile, and his lungs were apparently healthy. Tuberculosis of the left testicle was considered the most likely diagnosis, although the condition was not typical of this disease. Treatment with wet compresses failed, and the testicle was therefore removed under local anaesthesia on the eleventh day. No fluid was found in the tunica vaginalis, and there was no torsion of the cord. The testicle was somewhat enlarged, tense, and very dark red on section. Sections of the cord and epididymis were normal. In the body of Highmore some blood vessels were patent, and others thrombosed. There was complete necrosis of the peripheral seminiferous tubules, the cells of which stained imperfectly and showed no nuclei. As the tubules were traced towards the body of Highmore the necrosis became less evident, till well-defined tubules with clearly marked nuclei were demonstrable. The tissues between the tubules were permeated with erythrocytes and supplied with dilated blood vessels. Apart from the dilatation and thrombosis of the veins of the body of Highmore, there was no change in the blood vessels. Discussing the cause of this condition, the author admits that torsion of the cord is considered the most common cause of haemorrhagic infarct of the testicle, and that torsion may disappear spontaneously and therefore may not be found on operating. But had it occurred it could scarcely have effected such profound changes in the testicle without damaging the epididymis also. It is, accordingly, more probable that the infarct was due to thrombosis in the veins of the body of Highmore, and that the thrombosis was started by a slight unnoticed blow on the testicle. The diagnosis of haemorrhagic infarct is easy when there are definite signs of torsion of the cord: but when the onset of the disease is insidious, as in the author's case, the diagnosis is difficult.

OBSTETRICS.

273. Myxoedema of the Menopause.

Dalché (*Journ. des praticiens*, June 28th, 1913) discusses myxoedema of the menopause. He points out the singular character of the swellings, which are transient and elastic to touch, affecting especially the extremities of the limbs and the face. They are usually painless, and the patients generally imagine they are albuminuric or rheumatic. The swelling is not so soft as that caused by the oedema of albuminuria, and does not give the same sensation of liquid infiltration; there is rather a sense of resistance and elasticity. While it generally affects certain parts of the body, it may, on the other hand, become generalized. The urine contains no albumin in these cases, and the normal phosphates are sometimes diminished. The only cardiac indications are palpitation and tachycardia, and at times an aortic bruit. The skin has an earthy appearance, and the extremities generally look marbled and cyanotic. The mucous membranes are pallid. There may be semi-indications of chronic articular rheumatism such as frequently occurs at the menopause, but in the majority of cases the absence of any articular trouble shows that it is a case of simple pseudo-myxoedema. It is due, in the author's view, to ovarian insufficiency. When thyroid insufficiency occurs in these cases it is accidental for the most part. There is, as a rule, compensatory activity on the part of the thyroid in these cases. The treatment ought not to include a purely milk dietary as in albuminuric oedema, a certain allowance of meat being desirable. For the rest, opotherapy in the form of ovarian extract, given in doses of 10 cg. night and morning, has given marvellous results. To this may be added 25 mg. of thyroid extract to be given at midday. The dose of ovarian extract may be increased freely, but any increase in the dose of thyroid must be made cautiously.

GYNAECOLOGY.

274. The Surgical Treatment of Pelvic Thrombosis.

In *Surgery, Gynaecology, and Obstetrics*, August, 1913, Jellett discusses the value of operation in cases of thrombosis in the pelvic veins secondary to puerperal sepsis, and reports the histories of 5 cases which have recently come under his notice. He divides severe cases of puerperal infection into two classes—namely, (1) those in which bacteria pass in large numbers into the blood vessels and lymphatics and rapidly bring about a fatal result in spite of all treatment; (2) those in which, owing to the lesser virulence of the bacteria or greater resistance of the patient, protection from general infection in the form of phlebitis and thrombosis in one or more of the pelvic veins prevents the general dissemination of the poison. In the first class there is no place for surgical treatment, but in the second Jellett, from his personal experience and from the results of other operators, believes that there is a distinct and hopeful place for surgical interference. Some of these patients undoubtedly get well without operation, but more usually the thrombi break down and emboli containing bacteria are introduced into the general circulation. In 1911 two patients died in the Rotunda Hospital of pyaemia, and in both thrombosis was found in the ovarian veins at the autopsy. Jellett decided therefore, in cases presenting similar features, in the future to operate and try to remove the affected veins. He has since interfered in 5 cases. Three of the patients recovered and two died. In the first case, which presented the typical symptoms and signs of pelvic thrombosis, the author found at operation a hard, brawny swelling in the right broad ligament that could be traced to the infundibulo-pelvic ligament and upwards towards the lumbar vertebrae. The uterine end of the broad ligament was ligatured and the mass of thrombosed vessels in the latter enucleated and traced upwards along the course of the ovarian veins almost as far as the insertion of the vein into the vena cava. It was not possible to get completely above the clot in the ovarian vein. Nevertheless, after operation the patient's temperature fell to normal almost at once, and she left the hospital well on the forty-first day after confinement. In the second case thrombosis of the right ovarian vein did not extend above the infundibulo-pelvic ligament. The ovarian artery, however, was thrombosed in addition. The broad ligament was removed, together with the ovarian vessels, and the patient made a rapid and permanent recovery. In the case of the third patient the condition had been allowed to progress to a much more advanced degree, and septic peritonitis was commencing. Abscesses were also present in the broad ligament in the course of the thrombosed vessels. Pus was seen within the lumen of the vessels themselves. An immediate improvement occurred after operation, but a superficial oedema at the upper part of the right thigh and right labium majus developed later and suggested further thrombosis. Jellett reopened the abdomen in the expectation of finding thrombosis in the internal iliac veins. Small collections of pus were present around the uterine vessels, but the internal iliac vessels were not thrombosed. Hysterectomy was performed, and the patient again showed a temporary improvement. Septic infarctions in the lungs developed, however, and led to a fatal termination. In the fourth case there was an absence of physical signs, but definite pyaemic symptoms were present. No improvement followed the use of vaccines, and the author therefore decided to operate. No thrombosis was present, but the uterus was large. Hysterectomy was performed, but the patient died about three weeks after the operation. The author's fifth case clinically resembled the preceding, but in view of the unfavourable result attending operation upon the same, Jellett decided to tie the ovarian vein only, in order to cut off the supply of infected emboli coming from the placental site. The temperature fell to normal on the fourth day after operation, and the remainder of the convalescence was practically afebrile. The author, in conclusion, observes that the present position is not to demonstrate the advisability of operation in suitable cases, but rather to recognize what is the suitable case. The factors which are of importance are primarily the symptoms of the patient, and secondly, the results of bimanual examination. The symptoms which indicate septic pelvic thrombosis are the occurrence of rigors, intermissions of temperature, and fluctuations in the range of the pulse. At the same time rigors sometimes occur apart from thrombosis. On bimanual examination, however, definite and fairly characteristic physical signs are always present. These are the presence of a cord-like or firm swelling in the broad ligament, not markedly tender, not firmly fixed to the pelvic walls, and not fluctuating. The two conditions which are most likely to be confused with thrombosis are, in the author's opinion, pyosalpinx and cellulitis in the broad ligament.

275. Ovarian Teratoma.

Stanley White (*Amer. Journ. of Obstet.*, August, 1913) classifies ovarian teratoma under the following headings, namely: (1) Epidermoid cysts, in which the only primitive germ layer there represented is from the ectoderm. This is represented by a layer of stratified epithelium and connective tissue simulating a layer of skin. The surface is fissured and scaly, and the cavity contains saponified débris. (2) Pure dermoid cysts. These constitute the most frequent type and present a more true likeness to epithelium or skin. The cysts contain small papilla, hair follicles, and sebaceous glands, and frequently tufts of hair. The cavity is filled during life with yellowish granular fat and epithelial scales. (3) Compound dermoids or simple teratomas. These somewhat resemble the preceding class, but contain in addition bone and teeth. The former in some cases bears a likeness to the inferior maxilla; the teeth resemble both temporary and permanent set. (4) Compound teratomas. These neoplasms are much rarer and contain structures which originate in the mesoderm and entoderm; thus, tissue resembling mucous membranes, salivary glands, muscle fibres, brain substance, rudimentary eyes, and occasionally limbs has been noted.

THERAPEUTICS.

276. Scarlatiniform Eruptions produced by Neo-Salvarsan.

Bulliard (*Ann. d. derm. et syph.*, iv, 8 and 9) records the occurrence of scarlatiniform eruptions produced by neo-salvarsan. These rashes were undoubtedly produced by injections of the drug in a woman of 27. The first injection of 0.4 gram on March 4th was well tolerated; the second of 0.45 gram on March 11th was followed after three days by an intensely pruriginous, erythematous, punctiform eruption, localized mainly on the arms and forearms, without involving the wrists. Four or five days later there was branny desquamation. The third injection on March 18th of 0.45 gram was well tolerated, and only signalized by mild itching. A fourth injection of 0.6 gram on April 1st had the same sequel as the second injection, only on this occasion the eruption appeared on the following day and was far more widespread, involving all the extremities and dorsal and plantar surfaces of hands and feet. The exanthem incapacitated the patient

by reason of the pruritus for three days, and lasted five or six days, being then followed by desquamation. On April 8th a fifth injection of 0.6 gram was given, and on the following day a fugitive erythema without itching lasted a few hours. Fifteen days later, however, there was a severe generalized eruption, involving particularly the face. The eyelids were oedematous and there were associated fever and visual disturbances, and the patient could do no work for a fortnight. The progressive increase in severity of the cutaneous phenomena, *pari passu* with increased dosage, leave no doubt in the author's mind that he had to deal here with a case of idiosyncrasy to arseno-benzol, of which he had previously reported a more malignant case in the same journal.

277. New Arsenical Compounds in Syphilis.

MOUNEYRAT (*Presse méd.*, 1913, p. 388) has endeavoured to discover arsenical compounds which shall be free from the neurotropic and vaso-dilator effects of salvarsan, and also possess an energetic parasitropic action in spirochaetes and trypanosomes. These desiderata seem to be obtained with two new bodies, which he terms "galyl" and "ludyl," the former being tetraoxydiphosphaminodiarsenobenzene; the latter, phenyldisulfaminotetraoxydiaminodiarsenobenzene. These are yellow powders, easily soluble in water. Experiments on animals showed that these bodies have a marked parasiticidal action on *Trypanosoma gambiense*, the spirilla of African recurrent fever and the spirillosis of fowls. Remarkable results were obtained in 220 cases of human syphilis. Chancres healed in two to twelve days, and cases treated at this stage presented no secondary symptoms. Mucous patches, erosive and papular syphilides, and condylomata healed in a few days, and gummatous infiltrations in ten to twenty days. Palmar and plantar keratosis improved after the first injection. The Wassermann reaction was usually negative a month after healing of the lesions. Galyl and ludyl may be given by intravenous injection in solution in distilled water. The dose is 45 to 60 cg. for a man, 40 to 50 cg. for a woman. Three injections at intervals of eight days are usually sufficient. The injections are usually well tolerated, and no albuminuria or affection of the optic or auditory nerves were noticed. They can also be given by intramuscular injection in an oily suspension containing 20 to 30 cg. of the drug.

278. Regenerin and Arsenic-Regenerin.

K. DIETL (*Muench. med. Woch.*, No. 16, September, 1913) deals with his clinical experience of two new substances for which therapeutic properties are claimed. Regenerin is a compound of iron and manganese with ovo-lecithin (0.6 per cent. of iron and 0.1 per cent. of manganese). Arsenic-regenerin is a mixture of regenerin with 0.04 per cent. arsacetin and the same quantity of lithium cacodylate. Its arsenic content is given at 0.03 per cent. The dose which Dietl has given of each of these compounds is three teaspoonfuls, which corresponds to about 45 mg. of arsenic. His patients were children, many of whom were suffering from loss of appetite, and were nervous and badly nourished children. In a number of cases these symptoms were dependent on latent tuberculosis, insufficient food, anaemia, etc. The author recognizes that suggestion may play a part in the beneficial action of any medicament applied for the treatment of nervousness, but he is inclined to regard the improvement in the weight of the patients, the increase of haemoglobin, and the general improvement of the patients as evidence of the pharmacological action of the preparation. He gives details of a few of the cases treated by these tonics, and shows that while a satisfactory improvement took place as a result of giving either regenerin or arsenic-regenerin, no undesirable effects of the drugs were noted. He advises giving arsenic-regenerin for about a month and then giving the simple regenerin.

279. Treatment of Impotence by Epidural Injections.

BOULANGER (*Journ. des praticiens*, March 22nd, 1913) points out that, as the various drugs used hitherto in the treatment of impotence have been chosen in a purely empirical fashion, it is not surprising that the results have not been encouraging. The method of epidural injection is, however, a rational one, introduced by Cathelin in 1903, for the treatment of certain disorders of the urinary tract, notably incontinence of urine. The author then reviews the different types of impotence, and excludes for the purposes of treatment impotence resulting from a medullary lesion, ablation of the prostate, or due to old age. In his opinion one of the most frequent causes of impotence is onanism, abnormal coitus, or the abuse of normal coitus. Violent emotion, long-continued mental strain act similarly. It is likewise the case that the homage rendered to Bacchus is inimical to that of Venus. Apart from the pathological conditions noted above as being causative of impotence, the author gives inhibition of the genito-spinal centre of Eckardt as one of the commoner functional causes, and it is in such cases in particular that epidural injections are of benefit. The mechanism of the action of these injections is simple. The nerves which leave the medulla connected with the genito-spinal centres traverse the epidural space existing between the dura mater and the intravertebral periosteum, and the injection of the solution used by the postero-inferior opening of the sacral canal acts as a shock to the nerves which is transmitted to the genital nerve centres, which are thereby stimulated to renewed activity. It is to be noted that the injection is extradural and not subarachnoid, thus differing from ordinary lumbar puncture. The solution employed is simply an artificial serum in sodium chloride solution. The injections are perfectly innocuous, and the author has not seen any untoward result in the course of his experience, while the treatment has been efficacious in a great number of cases.

PATHOLOGY.

280. The Reaction of Degeneration.

CULZET (*Comptes rendus de la Soc. de Biologie*, No. 23, 1913) brings forward some investigations into the reaction of degeneration undertaken with a condenser of regulable capacity from 0.005 to 10 microfarads. His work is interesting in view of the idea which is gaining ground among British electro-therapeutists that the partial R.D. will have to be split up into several components. With the condenser the attempt is made to stimulate muscular contraction tentatively by increasing the capacity of the condenser little by little. With a potential of 110 volts, the active and indifferent electrodes having respectively 1 and 100 sq. cms. of surface contact, normal nerves and muscles begin to be excited generally by the discharge of one two-hundredth of a microfarad. In cases in which the electrical examination reveals complete R.D. the affected nerves are completely non-excitable, and the muscles are only excited by strong capacities, generally higher than one microfarad. When the R.D. is partial the nerves are excitable by strong capacities and the muscles by mean capacities (generally 0.1 to 1 microfarad). Thus the results of an electrical examination may be expressed simply by characterizing each nerve or muscle by the charge which produces the first flicker of response. The muscles for which one obtains a prefatory capacity of 0.02 of a microfarad are normal; those for which the number is high (0.1 to 1), but which still have a certain indirect excitability, present the partial R.D.; while the muscles for which the prefatory capacity is above 1 microfarad, with the complete abolition of the indirect excitability, present the complete R.D. Thus a condenser of regulable capacity brings into evidence, by a single determination for each nerve or muscle, the different degrees which are presented by the reaction of degeneration.

281. Rhinophyma.

KYRLE (*Dermatologische Zeitschr.*, vol. xx, No. 8), in a detailed histological study of rhinophyma, reviews the current opinions on the much-disputed question of sebaceous new formation. His conclusions are based on an analysis of serial sections taken from the tissue of a deformed organ under local anaesthesia, and his careful illustrations are strong evidence of a development of the sebaceous from the simple epithelial element. The picture is that of a solid downgrowth of stratified epithelial cells branching in various directions into the vascular connective tissue of the corium. In the centre of one of these branches are depicted eight sebaceous cells. They are quite isolated from the corium by a ring of epithelial elements, and the possibility of an interpretation of their position by the assumption that the section itself is optically fallacious is excluded by following out the serial prolongation. In not one of the series from beginning to end is a single cell of the sebaceous group found outside the epithelial ring, whereas the normal sebaceous gland is never found thus surrounded, but always either as an apparent outgrowth of the epithelial elements of a hair follicle or as an independent isolated structure in the corium. If Kyrle's conclusions are confirmed, his discovery is certainly of the greatest importance, for it proves the possibility of a post-fetal transmutation of cells from those of one type and simple function into others of a different morphological category with a highly specialized physiological function.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

282. Conditions simulating Sciatica.

Two cases are recorded by E. Plate (*Med. Klin.*, September 7th, 1913) in which the symptoms resembled those of sciatica. One patient was a farm labourer, aged 56, who had suffered several years earlier from pleurisy. Three years earlier a blow on the left side of the chest had caused pain and cardiac disturbances which continued for a long time. A swelling appeared at the site of the blow, and similar swellings appeared in many other parts of the body. The patient suffered from violent attacks of pain in several superficial areas, and one night shooting pains in both legs were very severe and prevented movement. On admission to hospital the pain was worse in the left than in the right leg, and more troublesome by night than by day. He readily became faint and pale without appreciable provocation. The trunk of the body showed an irregular distribution of lipomata, some of which were very painful on pressure and active and passive movements. Rotation of the thighs caused no pain, but a certain amount of pain was caused by marked abduction of the thighs. Tapping the femur and tibia on both sides caused some pain, and slight periostitis of the tibiae was revealed by the Roentgen rays. The urine and temperature were normal, and Wassermann's reaction was negative. After two months' treatment in hospital with sun baths the patient's general condition was improved, and he had lost 2 lb. He no longer felt faint, and, though some of the lipomata still caused pain on pressure and movement, there was hardly any spontaneous pain. The author diagnoses the condition as adipositas dolorosa. The second patient was a workman, aged 46, who had suffered from a goitre since adolescence. Fifteen years earlier he had been operated on for a right inguinal hernia. He subsequently suffered from frequent attacks of sciatica on the right side. On admission to hospital he complained of pain radiating from the lumbar region to the right leg. This appeared after long walks or prolonged standing; and sometimes also involved the left leg. There was no pain at night. He had lost much weight, and his legs became easily tired. His complexion looked healthy when he lay down, but in the upright position he was very pale. The abdominal wall was flaccid, and there was an easily reducible inguinal hernia on the right side. Above the hernia there was a horizontal scar left by the operation. The right lower half of the abdomen sagged forward in the vertical position. There was considerable weakness of the extensors of the right thigh; but when the pelvis was fixed by an assistant, the action of the extensors was improved. The right psoas muscle was tender. The urine and temperature were normal, and Wassermann's reaction was negative. The prominent region in the right lower abdomen showed complete loss of reflexes and of muscular reaction to electrical stimulation. As there was no sign of disease of the central nervous system, it was evident that this condition of the abdominal wall was caused by the division of muscles, and possibly also of nerves, during the operation several years earlier. The patient's gait was hesitating and uncertain, and he kept his knees partially flexed when walking or standing, his appearance resembling that of a horse the joints of whose forelegs are diseased. The author attributes the patient's weakness and pallor on standing to the flaccidity of the abdomen which prevented the maintenance of tone in the circulatory system. The partial paralysis of the abdominal muscles upset the balance between these and the muscles of the back, and thus a state of unstabile equilibrium was set up which was partially remedied by the increased action of the extensors and flexors of the thigh. Hence the tenderness over the right psoas muscle due to overwork. The application of a plaster-of-Paris corset to support the weakened abdominal muscles immediately banished the pain, and enabled the patient to walk and stand steadily.

283. Spinal Gliosis.

Price (*Amer. Journ. of Med. Sciences*, September, 1913) reports three cases of spinal gliosis occurring in members of the same family—two brothers and a sister—and suggesting a familial type. The symptoms were practically identical in all three, those of the eldest being detailed. A female, aged 24, single, had the usual diseases of infancy and childhood and influenza when 16. When 8 years old a small sore appeared on the right second toe, which her mother, thinking there was a splinter, opened, a small spicule of bone being removed, and the wound healing rapidly. Two years later a similar condition developed on the right second finger, and the patient cannot remember ever having been able to button her clothing at the back, nor has she been able properly to recognize touch, pain, heat, or cold on her hands and feet, though these sensations were normal elsewhere. Examination showed marked tropic changes and spontaneous amputation of several fingers and toes, and all forms of sensation were entirely lost over both hands, feet, ankles, and lower third of legs, diminished from the wrists to the elbows and to just above the knees, and slightly diminished from the elbows to the shoulders and to the hips. Reflexes and ankle clonus were absent, but there was no muscular wasting, tremor, or paralysis, and mentality was normal. One of the cases—a physically active boy, aged 13—in addition to the above changes, presented superficial trophic ulcers over both lower extremities, the result of trivial contusions. One of the brothers, aged 22, had functional concomitant squint of the right eye, but, with this exception, the eye examinations were negative, as also were the urinalyses and Wassermann reactions. X-ray examinations of the right foot of the sister and the right hand of the younger brother showed trophic changes in all the bones of the foot except the os calcis, astragalus, and scaphoid, and in the terminal phalanges of the hand. No etiological factor in the family history could be discovered, the father and mother being alive and well and two other children, aged 4 and 6, in perfect health, though with regard to these latter it should be noted that they had not reached the age at which the symptoms first appeared in their brothers and sister. The symptom-complex is comparable to the condition described by Morvan as occurring among the fishermen of Brittany, and regarded as a form of spinal gliosis associated with peripheral neuritis, but the above cases are the first recorded of the syndrome appearing in more than one member of a family and presenting a marked familial tendency.

284. Suppuration in Malta Fever.

G. Trotta and C. Cantieri (*Wien. klin. Woch.*, August 28th, 1913) record two cases of Malta fever with suppuration simulating Pott's disease. One patient was a widow, aged 52, who contracted Malta fever in June, 1910. By November of the same year she was afebrile, and she remained well till March, 1911, when the areas supplied by both sciatic nerves became painful, and the temperature in the evening became febrile. At first there was nothing found to account for the pain and fever, but in October, 1911, a small, indolent, movable swelling appeared in Scarpa's triangle on the right side. A similar swelling appeared in the same position on the left side in April, 1912. The lower abdomen was painful on deep palpation, and firm pressure on the spinous processes in the lumbar region evoked some pain. The patient found it difficult to stoop forward to pick up an object from the ground. In July, 1912, the swelling on the left side was as large as a fetal head, and was covered by cyanosed and shining skin, the veins of which were much dilated. The swelling was soft, fluctuating, of uniform consistency, irreducible, and almost painless. The swelling on the right side presented the same features, but was much smaller. A litre of thick, yellow, stinking pus, containing no sequestra or traces of bone, was evacuated. The lining of the abscess cavities was fungous and suggestive of the contents of a rapidly disintegrating sarcoma. The track of the pus was explored as far as to the root of the thigh, beyond which it probably extended still further. The patient recovered. The second patient was a married woman, aged 47, who contracted Malta fever in June, 1910. By September of the same year she was afebrile. Severe pain was now felt in the left lumbar region. The pain subsequently extended to the right thigh, and ultimately became limited to both inguinal regions, where no signs of disease were demonstrable. In May, 1911, a small and almost painless swelling appeared in the left crural region, where, a month later, an incision yielded much pus. Subsequently similar abscesses appeared in the left gluteal region and in the right inguinal region. Their incision yielded much pus and was followed by complete recovery. In neither case

was the *Micrococcus melitensis* found in the pus, which was apparently sterile. But in both cases 1 in 200 dilutions of serums agglutinated this micrococcus. This observation and the history of a recent attack of Malta fever confirm the authors in their view that the suppuration was directly due to the *Micrococcus melitensis*. The condition is comparable with suppuration occurring several months after typhoid fever. Probably the symptoms referred to the spinal column were due to inflammation within the pelvis, where the suppuration presumably began behind the iliac fascia. Pott's disease can be excluded in the absence of girdle pain, of deformity or rigidity of the spine, of compression symptoms, and of bony particles in the pus, which was unlike that of actinomycosis. The authors point out that the inclusion of the *Micrococcus melitensis* among pyogenic organisms has but recently been made. Yet it may be responsible for subphrenic abscess, effusions into joints, cholecystitis, endocarditis, pyonephrosis, and lymphadenitis.

SURGERY.

285. Surgery of the Pancreas.

IN *Annals of Surgery*, August, 1913, WILLIAM MAYO reviews the surgery of the pancreas. He points out that the pancreas is derived from two or three buds from the foregut, and during early fetal life is an intraperitoneal organ. At a later period rotation takes place, and the organ is turned on its right side, thus losing its posterior peritoneum, the latter being converted into fibrous tissue. The author suggests that possibly the diffuse character of fatty necrosis within and without the peritoneal cavity from peritoneal perforation can be accounted for in this way. Access to the pancreas for operative purposes is usually best obtained through the gastro-colic omenta, the stomach being drawn upward and the transverse colon downward. As a rule the organ is fixed in position, but occasionally during routine abdominal operations the attachments are found to be so loose that it can be completely drawn outside the abdominal cavity. Mayo discusses the surgery of the viscus under the headings of (1) injuries to the pancreas in the course of operations on the stomach, (2) injuries to the pancreas in the course of operations on the spleen, (3) resection of half the pancreas for tumour. With regard to the first-named, he quotes Haberkant, who reports a mortality of 76 per cent. in cases of resection of the stomach for cancer. Mikulicz, on the other hand, found a mortality of 70 per cent. in cases when the pancreas was injured, as against 27.5 per cent. when it was not injured. Mayo's own figures show a mortality of 11 per cent. in the case of 448 resections of the stomach for benign and malignant disease up to December, 1912. In none of these operations, however, was the main pancreatic duct touched. When the pyloric end of the stomach is excised for cancer, the author closes the end of the duodenum with two purse-string sutures, and applies the closed stump directly to the wound in the pancreas, according to the method suggested by Willy Meyer. With regard to the second group, Mayo observes that in 31 splenectomies the pancreas was injured three times. All the patients, however, recovered. Resections of the pancreas for tumour have seldom been made. In 1884 Billroth successfully removed the organ for adenocarcinoma. Finney also has reported 16 cases, including 9 recoveries and 8 deaths. The latter all occurred in cases of resection for malignant disease. The author concludes with a case occurring in his own clinic, in which pancreatectomy was performed for what proved later to be a benign, thick-walled cyst buried in sclerosed pancreatic tissue. Clinically, the neoplasm was thought to be malignant. The patient made a good recovery, regained her normal weight, and was in good health at the time of writing. The operation was performed in June, 1912.

286. Spontaneous Fracture of the Scapula.

A CASE is recorded by GRÖNDAHL (*Norsk Magazin for Lægevidenskaben*, August, 1913) of fracture of the scapula in the absence of syphilis, tuberculosis, tumour, or any other factor which might account for its spontaneous character. The patient was a workman aged 31, who was brushing the floor with a long brush from left to right. Though he had not exerted himself much, he felt something snap suddenly in his right shoulder, his arm becoming painful and weak. A swelling which he noticed in his shoulder next day increased during the following days, and extended to the neck, the front of the chest, and arm. The right shoulder, which was lower than and anterior to its fellow, showed several subcutaneous haemorrhages. The right arm, which was held in a position of slight abduction, could be easily moved about the shoulder-joint. Crepitation and a groove in the middle of the spine of the scapula were, however, observed. The outer portion of the spine moved with the arm, while the inner portion was almost stationary. Yet these separate movements of the two portions caused no pain. The Roentgen rays showed a fracture passing through the spine and the surgical neck of the scapula, so that the coracoid process and acetabulum retained their normal relation to the humerus. The acromion, apparently, still followed the movements of the acetabulum. Part of the lateral border of the scapula was broken off and displaced backwards. Firm union of the fractures was obtained after six weeks, during which the shoulder was first bandaged and later massaged, active and passive movements also being prescribed. Though the right arm became practically as strong as the left, considerable deformity and limitation of movement persisted. The course of this case was similar to that of ordinary fractures due to violence: and as there were no signs of fever, inflammation, or tenderness, it is highly improbable that osteomyelitis was present. About a month before the accident the patient had noticed for two days that his right shoulder was painful on movement, and that it crepitated: but as the pain was slight, and did not interfere with his work, he ignored it. He had previously suffered from rheumatism of the left knee, and from persistent suppuration due to furunculosis on his back. The author can offer no other explanation than that of muscular strain to account for this accident.

287. Prepericardial Thoracectomy and Pericardiolysis.

DELAGÉNIÈRE (*Arch. Prov. de Chir.*, June, 1913) describes an operation designed and performed by him with the object of freeing the pericardium throughout the whole extent of its anterior surface. For this purpose it is necessary to resect a portion of the anterior thoracic wall corresponding to the projection of pericardium so that the anterior surface of the heart shall be completely free to move with the pericardium adherent or not—a more extensive operation than thoracectomy hitherto performed consisting merely of resection of 6 to 9 cm. of third, fourth, and fifth ribs. This latter operation, precordial thoracectomy has been performed thirty-eight times in all, and in only one case (Thorburn's) was any portion of sternum removed; of these, thirty-one were successes, six failures, and one died on the table, the failures being due to presence of intracardial disease with the pericardial disease. The difficulty of making certain that valvular disease is not present at the same time hinders the more frequent performance of such operations. His patient was a married woman of 24 years, who for upwards of two years had suffered cardiac symptoms of indefinite kind characterized by palpitation, vertigo, precordial and interscapular pain, jugular venous pulse, painful oedema and cyanosis of legs. These symptoms were accompanied by soft murmurs heard at apex and tricuspid area. The patient was so ill that she could not leave her bed. Delagénière thought that there was such embarrassment of the right heart that he ought to give it more room to act. Accordingly, under chloroform, he made a large incision from first left sterno-costal articulation across to second right, then down right side of sternum to seventh right sterno-costal junction, then across base of xiphoid transversely to 7 cm. to left of middle line. A flap of tissues down to bone was raised, and the piece of sternum and ribs lying below was removed. The portion of sternum was 14 cm. long and had pieces of four ribs on each side attached. The only damage done was to injure the left internal mammary artery in cutting costal cartilage. The immediate result was rapid bounding action of the heart, so that the great vessels were actually bent over the lower edge of the upper piece of sternum. This quieted down, and the patient ultimately made an excellent recovery, leaving the hospital two months later. When seen two years after operation it was found that she was "enchanted" with her operation, that all her symptoms had disappeared, that she was working regularly as a charwoman, her only trouble being the necessity of wearing a pad of cotton-wool over the gap in the antero-thoracic bony wall. In discussing this case the author says that all cases of adhesive mediastino-pericarditis should be treated surgically by the simpler operation of removal of 6 to 9 cm. of fourth, fifth, and sixth ribs at their sternal end; also that the larger operation is indicated in ill-defined cardiac affections exhibiting the phenomena of stasis with mischief in the right heart. The author is optimistic, and hopes for a great future for the operation. The difficulties in selecting the proper case should lessen with radiography and increased skill in physical diagnosis of pericardial and mediastinal disease.

OBSTETRICS.

288. Rupture of the Membranes in Labour.

BASSETT (*Zentralbl. f. Gynäk.*, August 23rd, 1913) recently reported before a society a series of 500 cases where rupture of the membranes occurred prematurely, but not before the os externum was dilated to the diameter of a five-mark piece. Under such conditions delay in delivery was inappreciable, but there could be no doubt that the opening of the cavity of the ovum caused germs to enter the uterus from the vaginal canal. Physometra was noted in some cases, and febrile temperatures in the puerperium were frequent. Artificial rupture should never be undertaken in a primipara till the os is completely dilated, nor in a multipara till it is all but fully dilated. Van der Hoeven had advocated premature rupture much earlier. Küstner, in discussing Bassett's report, felt sure that its principles were sound. Midwives in maternities once practised artificial rupture under numerous indications, but experience had greatly limited these indications. It mattered little whether induced or spontaneous premature rupture delayed labour for a quarter of an hour or more, but the earlier the membranes yielded the earlier would be the opening up of the oval and uterine cavity to germs.

289. Leucoplakia Uteri.

SWEENEY (*Amer. Journ. Obstet.*, August, 1913) draws attention to involvement of the uterus in a leucoplakic condition similar to leucokeratosis of the vulva. The disease is very rare, and little was known of the same until Jayle and Bender published a paper upon the subject in 1905 (*Rev. de gyn. et de chir. abd.*). These authors divided the cases into those in which the surface was affected, and those in which the uterine mucosa was the seat of the disease. Leucoplakia involving the cervical canal can only be explained by admitting a metaplasia of epithelium, since a simple hyperplasia of the normal columnar epithelium cannot produce the same. There seems to be no doubt that cases of true metaplasia of the corporeal endometrium do occur, as shown by the observations of Zeller and Rubinovitch. At the same time, the author points out that the presence of squamous epithelium inside the uterus is not synonymous with leucoplakia. The latter is only present when epidermization takes place under the influence of some irritant, and when the superficial layers become keratinous and a stratum of eleidene cells is produced. The etiology of leucoplakia is very obscure. It is most frequent between the ages of 40 and 45. Amongst causal factors that had been suggested, diabetes, arthritis, and syphilis have been mentioned. Landau and Gougher believe that syphilis is the sole cause. The author, however, believes these diseases to have been merely coincidental and of little etiological importance. The disease is characterized by the formation of irregular whitish plaques which frequently coalesce into patches. They are not readily detached, but when removed leave a bleeding surface. The older patches are considerably thickened, of a dirty yellowish-white colour, and considerably raised above the surrounding healthy tissue. Leucoplakia of the body of the uterus gives rise to no symptoms, and is recognized only by curetting or after hysterectomy. As regards prognosis, the course of the disease is slow and progressive. The importance of the condition lies in the fact that it is probably a pre-cancerous lesion. This, according to Berkeley and Bonney, is certainly the case with leucoplakia of the vulva. The author concludes the paper with a detailed report of a case of extensive involvement of the cervix uteri occurring in a patient aged 33 at the Post-Graduate Hospital Clinic, New York. A continuous sero-sanguineous discharge was present, and the surface bled freely at the slightest friction. A Wassermann reaction was positive upon two occasions. Complete hysterectomy was performed, and the patient made a good recovery.

GYNAECOLOGY.

290. True Teratoma and Thyroid Tumour of Ovary.

ROSENSTEIN (*Zentralbl. f. Gynäk.*, August 23rd, 1913) recently exhibited before a society a dermoid removed from a girl of 15 who had menstruated regularly for a year and a half. Recovery was uninterrupted. The tumour, smooth without and within, contained abundance of hair and pulpy material. At its lowest part there lay a hard flat body looking superficially like a fetus with a big head, trunk, and four extremities. In the head abundance of cerebral substance was found, together with teeth and choroid tissue. The trunk contained much bone and cartilage, the latter assumed the shape of phalanges, and the covering of the fetus-like body was skin, with sebaceous and sudoriparous glands. The interior bore muscle, glandular bodies, and intestine with typical epithelium. A second tumour which Rosenstein exhibited was removed from a married parous woman aged 42. On section it showed the naked-eye appearances of a thyroid alveolar tumour with characteristic contents, but the stroma outside the alveolar spaces held bone as well as thyroid tissue. Both these tumours must be held to be teratomata.

291. The Sigmoid Colon and Inflammation of Uterine Appendages.

PATEL (*Revue de gynéc. et de chir. abd.*, April-May, 1913) reported at a meeting of the French Gynaecological Congress in March two instances of close association of inflammatory lesions of the sigmoid colon and its mesentery, and salpingitis or oöphoritis. An abscess developed in a left ovary. Abdominal section was performed, and a second collection of pus was found between the layers of the sigmoid meso-colon; incision and drainage were followed by cure. In another case a woman was subject to obstinate constipation, with symptoms of bilateral inflammation of the appendages. The abdominal cavity was opened and both appendages were found closely adherent to the sigmoid meso-colon, whilst inflammatory changes in its mesentery had caused the serous membrane to contract so that the two extremities of the omega were drawn close together. The nutrition and musculature of the bowel were thus impaired, and hence, in Patel's opinion, the constipation. The reporter considers that the inflammatory disease begins in the appendages, not in the bowel, in these cases, and is rapidly communicated to the sigmoid meso-colon, to which an inflamed tube or ovary is ever prone to adhere.

THERAPEUTICS.

292. The Treatment of Thymic Asthma by X Rays.

T. LUZZATTI (*Riv. Osped.*, Rome, 1913, iii, 689) details two severe cases of thymic asthma in infants that were much improved by *x*-ray treatment. The first infant, a girl, was apparently normal at birth; at the beginning of the second month it began to breathe noisily always, and presently it had an acute suffocative attack with cough and slight fever. Two injections of antidiphtheritic serum were given at once, and as they were without effect a third was given on the third day. After that the breathing improved but remained noisy. In the third month it had a similar suffocative attack, and this too was treated by the injection of serum and gradually passed off. At 5 months it had a still worse attack; antidiphtheritic serum was again injected, though the bacteriological examination was negative. It was taken into hospital—a well-nourished child but pale, with cyanosed lips and nails. Small lymphatic glands could be felt freely about it; the tonsils were much hypertrophied; so were the follicles at the root of the tongue. The back of the pharynx could not be seen. There was a continuous inspiratory stridor, with indrawing of the base of the thorax. During expiration a soft rounded mass could be felt in the jugular fossa, disappearing during inspiration; the manubrium sterni was dull on percussion over a triangular area 4 cm. wide above, below merging into the cardiac dullness. A skiagram showed definite enlargement of the thymus; there were no signs of tetany, no eosinophilia; the spleen was enlarged and hard. Bronchitis and slight emphysema were observed. Treatment by *x* rays was given; between November 20th and the following March 11th forty-one applications were made without producing any *x*-ray dermatitis. The tube was at first 40 cm. distant; latterly, 10 cm.; the exposures mostly for ten minutes. The thymus ceased to be palpable or demonstrable by percussion, and the asthmatic attacks ceased at the end of February. The spleen, tonsils, and lingual lymphatic tissue remained unaltered in size. The second case, a boy aged 10 months, had been healthy until the last three weeks, when he began to cough; presently fever was noted, and for three days before admission to the hospital the breathing had been continuously stridorous. Croup was diagnosed, antidiphtheritic serum was injected, the bacteriological examination was negative. On examination the child was found to be fairly nourished, pale, cyanosed; the glands

generally were enlarged, the tonsils a little hypertrophied; palpation of the naso-pharynx was negative, as it was in the first case. There was inspiratory retraction of the base of the thorax and jugular fossa, lessened when the child was allowed to lie, as it preferred to do, on its abdomen. A finger placed in the jugular fossa felt something like the blow of a foreign body at expiration: this was the enlarged thymus, which caused marked dullness behind the manubrium sterni 4½ cm. wide at the top. The spleen was palpable, enlarged, and hard: the nervous system was normal. In the next twenty-four days twenty-two exposures of the thymus region to *x* rays were made; the stridor had then disappeared except on deep inspiration, the retrosternal dullness remained, the nightly exacerbations of thymic asthma had ceased. The asthma was cured after ten further daily exposures to *x* rays; no dermatitis was provoked. There was a certain amount of bronchopneumonia about this child, but Luzzatti concludes that its attacks of asthma were really due to the chronic hypertrophy of its thymus. He discusses the literature of the subject. In 1912 Weil could collect only 11 cases in which the *x* rays had been employed for the treatment of the enlarged thymus—in all the cases with success. One failure has since been recorded. As to the strength of the irradiation, Regaud and Crémieu (1912) recommended a single massive dose, 16 Holtzknecht units in thirty-five to forty-five minutes, with a second smaller dose three weeks later if necessary. Luzzatti gave weak daily doses with *x* rays, taking half an hour to change the colour of a Sedillot pastille.

293. Abortive Treatment of Syphilis by Salvarsan.

JEANSELME AND VERNES (*Paris méd.*, March 29th, 1913) are of opinion that syphilis can be sterilized or aborted by salvarsan treatment in the primary and early secondary periods. In 16 cases injected in the primary stage, secondary symptoms were absent during periods of observation ranging from five to nineteen months, 8 cases being observed for more than a year. In 6 cases injected in the early secondary stage there were three failures and two successes, which remained free from further symptoms for eighteen and nineteen months respectively, and one case of sterilization, proved by reinfection. The number of injections was from two to six, usually five or six. The doses were—0.30 gram for the first, 0.40 to 0.50 gram for the following, and occasionally 0.60 gram. The total quantity of salvarsan required for sterilization is estimated at 2 grams. The authors attribute failure of abortive treatment to insufficient doses and number of injections, and remark that it is better not to use salvarsan at all than to use it too timidly. They consider that treatment should be regulated by the Wassermann reaction and by lumbar puncture. LEVY-BING, on the other hand (*Ann. des mal. vén.*, September, 1913), does not believe that syphilis can be aborted by salvarsan, even by repeated injections in the early stages. In 10 cases of primary syphilis, with chancres dating from three to fifteen days, treated with two to seven intravenous injections of salvarsan in doses of 0.40 to 0.60 gram or 0.45 to 0.75 gram neo-salvarsan, secondary syphilis followed in all but three cases, and in these the Wassermann reaction remained positive.

294. Hypophysial Opotherapy in Diabetes Insipidus.

FARINI (*Gazz. degli Osped.*, September 11th, 1913) relates the case of a girl, aged 23, suffering from marked diabetes insipidus successfully treated by means of pituitrin. The father suffered from hemiplegia; the mother died, aged 33, of tuberculous meningitis; four brothers died in infancy from acute illnesses, and four brothers died later of phthisis. One sister is alive and well. The patient was quite well up to 7 years, when she had pneumonia; at 18 years she had a miscarriage, at 22 tuberculous pleurisy and a positive Wassermann reaction. Five months ago she suffered from amenorrhœa, and developed symptoms of polyuria and polydipsia; no hypertrophy of the thyroid; the arterial pressure was 110 to 112 mm. The daily amount of urine was 5 to 6 litres, specific gravity 1000, no albumin, no sugar. There were no signs of hysteria. The skin acted poorly. There was some evidence of syphilitic retinitis, but no optic neuritis. Opium, valerian, cacodylate of iron, mercury, and pot. iod. were each tried without any effect. She was then given injections of 20 centigrams of pituitrin (Parke, Davis) in 1 c.cm. of water and 10 centigrams of Burroughs and Wellcome's hypophysial extract, and immediate success followed this treatment, as seen in diminished polyuria and polydipsia. Whether this acted directly by replacing an abnormal secretion of the hypophysis, or partly on the ovaries, or on the system at large, the author does not venture to decide, but there was no doubt as to the directly beneficial effect of the extract. Unfortunately the effect was not lasting, and soon disappeared when the drug was discontinued. No ill effects were observed. The author refers to the physiological and pathological evidence in favour of some connexion between the hypophysis and the urinary reaction, and appends a short bibliography of the subject.

295. "Radicular Radiotherapy."

ZIMMERN, COTTENOT, AND DARIAUX (*Arch. d'électr. méd.*, No. 361, 1913) publish 21 cases of neuralgias which have been treated by *x* rays applied, not to the periphery, but to the point of emergence of the respective nerves; 14 of the cases were those of sciatica, and among these only 3 complete checks were encountered. The results were favourable also in brachial neuralgia, and one remarkable case is instanced of pruritus localized in the whole region of the brachial plexus, which resisted five irradiations of the peripheral territory, and yielded at a single sitting to radicular irradiation applied to the cervical region. In a case of meralgia paraesthetica three sittings, at which the second and third vertebrae were irradiated with weak doses, brought about a swift cure. As to sciatica, the authors maintain that their results justify them in according the juxtavertebral irradiation a very high place in the therapeutics of this condition. Radiotherapy directed to the root is a causal procedure, removing the cause of the nerve irritation, which is most frequently a subacute or chronic inflammatory lesion attacking the meningeal sheath, the envelopes of the nerve at the point of conjugation, or localized to the cellular tissue surrounding the roots of the sciatic. Whatever its nature, the effects which have been proved clinically in the way of resolution in regions accessible to view testify to the effective action of the rays.

PATHOLOGY.

296. The Salomon-Saxl Reaction.

MARENDUZZO (*Rif. Med.*, October 18th, 1913) has tested this reaction in cases of cancer and in healthy subjects, also in patients suffering from non-cancerous affections. His general conclusion is that it is not a specific test for cancer. The reaction depends on the oxidation of neutral sulphur body in the urine, by means of hydrogen peroxide, after the oxidized sulphur has been removed by barium chloride; and, since this body was found very frequently in cancerous subjects, it was thought to be of some value in differential diagnosis, but the author has found it almost as frequently in non-cancerous subjects and in well-nourished as much as in emaciated subjects. He has not only used the test qualitatively, but also quantitatively. Antipyrin and creosote disturb the reaction. The author introduced some slight modifications in the technique—for example, not boiling the filtrate immediately, but leaving it for twenty-four hours at the room temperature and then boiling for fifteen minutes. His cases were divided into two groups—(1) where the Salomon-Saxl technique was followed and (2) where the author's modifications were introduced. The results were practically the same—a positive reaction (that is, a considerable excess of neutral sulphur) was found in 68.7 per cent. of the cancer cases (16 in all), but in 12 cases suffering from non-cancerous diseases, the amount of neutral sulphur was equally great, and, indeed, slightly surpassed the highest figure found in the cancerous cases—0.0096 gram, as against 0.0090.

297. A Rapid Method of Staining Tubercle Bacilli.

As the result of several experiments, MORI (*Rif. Med.*, October 25th, 1913) recommends the following method as being very quick and reliable. The material is spread lightly on the cover-glass and dried over the flame as usual; the cover-glass is then immersed for fifteen seconds in a cold solution of carbolic fuchsin (fuchsin 0.5 gram, alcohol 10 grams, phenol 2.5 grams, aq. dest. 100 grams), washed in water, and then immersed for fifteen seconds in a solution of methyl blue (ac. sulphuric. 1 gram, methyl blue 1.5 grams, aq. dest. 100 grams), dried, washed, and mounted. Attempts at differentiating paratuberculous bacilli and other acid-resisting bacilli were also made, but the results at present are not sufficiently reliable to be depended on.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

298. Gaseous Embolism during the Production of Artificial Pneumothorax.

SILLIG (*Rev. méd. de la Suisse rom.*, July 20th, 1913) saw a woman, aged 22, who, in December, 1912, had an attack of dry pleurisy. In January, 1913, the temperature rose. On February 18th the pulse was over 120 and respiration was rapid. There were signs of consolidation at the right apex, both anteriorly and posteriorly, the dulness being above the third rib and in the supraspinous fossa. The sputum was viscid and contained tubercle bacilli. Towards the end of March there were signs of a cavity, and the temperature ranged from 99.5° F. to 102.2° F. Later the process rapidly progressed and involved the right base posteriorly, the *x* rays showing a well-defined shadow between the sixth and seventh dorsal vertebrae and the angle of the scapula. On April 14th 250 c.cm. of nitrogen were injected in the posterior axillary line between the seventh and eighth ribs. The negative manometric pressure was slight (−1). Injections of 300 c.cm. were repeated on April 15th, 19th, and 23rd, and of 400 c.cm. on April 21st and 27th and May 5th. The results were inconclusive. The gas appeared to diffuse and to cause but little compression of the lung, though after the fifth injection the sounds at the apex appeared somewhat distant and muffled. On May 12th a seventh injection of nitrogen was given. The manometric pressure varied between −2 during inspiration and + 2 during expiration. After a little over 150 c.cm. had entered the patient gave an agonized cry. The needle was withdrawn. She complained of vague pains and was fully conscious. There were conjugate deviation of the eyes to the left, nystagmus, and complete left hemiplegia. The reflexes were abolished. Respiration was regular at 40 and the pulse was 150. The body was raised and the head was placed as low as possible. Faeces and urine were passed involuntarily. During the night, after sleeping for a few hours, she woke in a state of violent excitement; the right arm was wildly agitated and inarticulate cries were uttered. From this time she recognized no one; 1 c.cm. of omopon was administered. On May 13th she was still excited and had not ceased to wave the right arm. There was ptosis of the left eyelid. If addressed, the patient babbled incomprehensibly. She swallowed a few sips of beef-tea and egg. At 1.30 p.m. the throat was punctured to test whether the pressure was excessive, but no manometric oscillation occurred. At 1.30 she swallowed beef-tea and egg without difficulty and articulated a few words clearly. At 10 p.m. she asked for the urinal and micturated normally. The right arm was still agitated, and the left was somewhat contracted. There was no reaction on the left side to pinpricks. On May 14th the pupils were equal and the ptosis had disappeared. At 9 a.m. faeces were passed involuntarily. At 3 p.m. there was an attack of motor unrest involving both sides; the eyes were turned upwards. On May 15th there was distinct improvement. The patient recognized people, and talked normally. The movements of the left side returned, and the conjugate deviation of the eyes disappeared. The pupils reacted, and there was no nystagmus. On May 16th the hemiplegia had completely disappeared. Thenceforward the condition was the same as before the occurrence of the embolism. Evidently during the injection of nitrogen some of the gas entered a gaping vessel, exposed by the rupture of a pleural adhesion, and obstructed the cerebral arteries in the right fissure of Rolando (inferior and ascending frontals). To this was due the left hemiplegia. The aphasia was possibly caused by the entrance of a few bubbles into an artery supplying Broca's convolution, or possibly in this case the centre for speech was situated on the right side. It is now generally held that slight and transitory nervous symptoms, such as syncope, paresis, and convulsions, may be due to a pleural reflex, but that if the symptoms persist for some time, and especially in fatal cases, they are due to embolism. Of 50 cases of artificial pneumothorax made by the author nervous complications were observed in 6. Four of these were benign, and consisted of slight unilateral paraesthesia, transitory amaurosis, and a sensation of impending death, of a few seconds' duration. In one death occurred suddenly, any the last was the case now reported. The issue in the fatal case was possibly due to shock from the pleural reflex. In all 6 cases serious disease of the pleura (extensive adhesions) existed.

299. A New Sign for the Early Diagnosis of Pulmonary Tuberculosis.

A. LOMBARDI (*Giorn. Internaz. d. Sci. Med.*, Naples, 1913, vol. xxxv) believes he lighted in 1903 on an important physical sign for the early diagnosis of tuberculosis of the lungs. The sign consists in the early appearance of venous varicosities near the seventh cervical and first three dorsal vertebral spines. These varices are 1 to 1½ cm. long, almost always bluish in colour, sometimes obvious, sometimes seen only on drawing the skin to one side. They are oftenest seen near the seventh cervical spine. Rarely a slight oedema is seen here and the patient may feel a little pain. This sign is oftenest seen in primary tuberculosis of the apices, and is present in 88 to 90 per cent. of the cases. Lombardi calls it the "varicose zone of alarm." The varicosity is produced by venous obstruction; the venules in this region discharge into the vertebral veins and the upper intercostal veins. The vertebral veins emerge from the transverse processes of the sixth cervical vertebra and enter the innominate veins. As for the upper intercostal veins, on the left the first two or three unite to form the left superior intercostal, which crosses the arch of the aorta and enters the left innominate vein together with the left bronchial vein. On the right the superior intercostal vein opens into the vena azygos major, and are closely bound to the pleura here. Lombardi concludes that any infiltration of the apices of the lungs that obstructs these veins will give rise to the varicosities he describes; so will hypertrophy or congestion of the bronchial glands, by compressing the left superior intercostal vein where it crosses the aorta; so will pleural thickening at the apices. In bronchitis and emphysema or asthma similar varicosities are found all over the chest, particularly its lower part. In early pulmonary tuberculosis they almost always appear, and only in the "zone of alarm," and chiefly on the right. The sign is particularly valuable when it occurs in children aged 5 to 10, or about puberty. When it is present, active hygienic, alimentary, and therapeutic treatment for tuberculosis should be begun at once. A figure of the sign is given.

300. Nocturnal Enuresis in Adults.

SINCE 1911 F. TREMBUR (*Med. Klin.*, September 14th, 1913) has examined thirteen soldiers suffering from characteristic nocturnal enuresis. Cystoscopy, *x*-ray examination of the sacrum, and examination of the nervous system led to the conclusion that a large proportion of the adult subjects of nocturnal enuresis shows the following abnormalities: Disturbances of tendon and skin reflexes, thermal hypaesthesia, thermal anaesthesia and hypalgesia, or merely delayed perception of sensations in the distal portions of the lower limbs, principally over the plantar aspect of the smaller toes. Frequently a more or less developed spina bifida occulta was discovered, and the lining of the bladder was often abnormally trabecular. He concludes that when nocturnal enuresis has continued throughout childhood till adult life, there is in all probability arrested development of the lower segments of the cord, to which the term "myelodysplasia" has been given. Only in one case did the nocturnal enuresis begin at the age of 13. In all the others it had persisted since infancy. In 3 cases the grandfather, the father and a brother respectively, had suffered similarly, and in 2 cases all the brothers and sisters also suffered similarly. External abnormalities and degenerative features were seldom observed among the patients who were fit for military service. The author points out that Fuchs and Mattauschek in 1909 concluded that in over five-sixths of all cases of nocturnal enuresis in adults there were definite signs of congenital hypoplasia of the lower portion of the spinal cord in persons otherwise mentally and physically healthy.

301. The Phenol-sulphone-phthalein Test.

NUMEROUS methods of ascertaining the degree of functional activity of the kidneys have been introduced, but none of these have succeeded in giving a reliable index. This is true of the nitrogen determination, cryoscopy, and the excretion of indicarmine after injection. Roundtree and Geraghty have worked out a better method, and published

their account of the same two years ago. This is the injection of phenol-sulpho-phthalein and the estimation of the rate of excretion. MAX ROTH (*Berl. klin. Woch.*, September 1st, 1913) calls attention to a few of the more important sources of error in this test, and deals with their prevention. In the first place, he finds that the test may not be applied with utility in women who are either pregnant or who are suffering from diseases of the genital organs. In the next place, he finds that it is absolutely essential to see that the whole quantity of fluid is really injected, and that none either remains in the needle or syringe or escapes along the outside of the needle. Further, the physician should always be on the look-out for residual urine, and when he suspects that the bladder is not emptied during the period of testing, the catheter should be resorted to. A still more important source of error is the fact that different chemical firms supply phenol-sulpho-phthalein which differs materially from other samples, and which yield very different results. It is therefore necessary to work with a good stock of material, and to adjust the colorimeter to the standard made from the material actually used. Lastly, he points out that the solution should be injected intramuscularly into the lumbar muscles and not into the gluteal muscles, as the latter site frequently gives rise to subnormal values. Roundtree and Geraghty recommended the lumbar route in their original account.

SURGERY.

302. Calcareous Degeneration of Cancer of Breast.

TOURNEUX AND BASSAL (*Arch. générales de chirurgie*, July 5th, 1913) discuss this form of degeneration of cancer under the title of "le cancer psammeux." They give details of six cases, two of which are their own. Case I was a man of 45 who had a malignant tumour of the breast with involvement of axillary glands of four months' duration. The complete operation was performed. Macroscopically the tumour presented no special features. Microscopic examination showed it to be an alveolar cancer, and in the middle of the epithelial masses and also in the connective tissue small hard concretions were seen. These appeared as irregular masses (which in places lacerated the epithelial tissues proper) with concentric arrangement, staining unequally with haematoxylin. These sandy bodies were found also in the connective tissue lodged in clefts between bundles of connective tissue. The glands were entirely invaded by new growth exhibiting the same type of sandy degeneration as the original tumour, but containing the concretions in greater abundance. In Case II the microscopic examination showed the sandy grains to be very abundant, occupying the whole of the section, and obscuring the appearance of the tumour proper. The concretions were composed of calcium carbonate, and some of them enclosed cellular débris within their interior. The glands were similarly affected. This kind of degeneration of cancer is found in ovarian tumours in which it appears to be associated with a heightened degree of malignancy; in the breast this does not hold good. Ordinary naked-eye examination is not sufficient to distinguish this form of degeneration; the knife in cutting does not grate the surface of the section, which is white and waxy. Flaischlen and Kolisko and the authors agree that the first event in this degenerative process is fusion of epithelial elements and the formation of homogeneous colloid or hyaline masses, and that the development of sandy grains does not take place till the colloid or hyaline degeneration is complete. Complete destruction of protoplasmic structure is essential for the ultimate formation of calcareous masses. That it really is a degeneration of cancer cells is proved by finding within the sand masses protoplasmic and nuclear remains. None of the authors admit that connective tissue cells will degenerate into sand.

303. Intra-articular Injections of Vaseline.

T. ROYSING (*Hospitalstidende*, July 13th, 1913) advocated in 1902 the injection of vaseline into painful and grating joints. He has now treated 44 patients with 52 injections, and considers the treatment admirable in carefully selected cases, including morbus coxae senilis and dry traumatic arthritis. Far less satisfactory results were obtained in other forms of arthritis associated with pain, stiffness, and grating due to such conditions as gonorrhoea and rheumatism. Ten patients belonging to this class usually suffered from violent pain, fever, and great swelling and tension of the capsule of the joint after an injection. When they tried to walk again their movements were unchanged, slightly better, or even more painful and limited than before. In all these cases the joints already contained fluid, the further secretion of which was evidently stimulated by the vaseline. If, therefore, exploratory puncture of a joint yields fluid, the injection of vaseline is contraindicated. Only in an advanced stage of rheumatic arthritis, when synovial fluid has completely disappeared and ankylosis has begun, may the treatment be useful. Fortunately it is not irrevocable, and if unsatisfactory, the vaseline can be withdrawn by aspiration. The withdrawal of vaseline was in one case followed by irrigation with a 3 per cent. solution of carbolic acid, the result being very satisfactory. In 29 cases of traumatic arthritis the results were excellent. In one such case an unmarried woman, aged 32, suffered from congenital dislocation of the left hip. The head of the left femur formed a prominence, covered by the gluteal muscles, in the external iliac fossa. During the past four years there had been increasing pain and crepitation in the joint on walking. The capsule of the joint was incised, but no synovial membrane was found. The much deformed and denticulated head of the femur was partially resected. Only temporary improvement was achieved. Ten c.cm. of vaseline were therefore injected, enabling the patient to walk without pain or grating for some weeks. When the symptoms returned it was evident that insufficient vaseline had been injected, and 25 c.cm. were therefore introduced through an incision made under general anaesthesia. The freedom from pain and grating thus obtained in 1902 has continued throughout an observation period of eleven years. In the case of a farmer, aged 25, the right hip had become inflamed at the age of 16. Ankylosis followed, and threw additional work on the left hip, which became increasingly painful and made the patient incapable of work. The puncture of the left hip, which yielded no synovial fluid, was followed by the injection of 20 c.cm. of vaseline. Four days later the patient could walk freely without pain or grating, and there was no relapse during the following observation period of nine years. Of the 9 patients suffering from morbus coxae senilis 7 were enabled by the treatment to resume work after being chronic invalids. The two other patients were much relieved. In 8 cases vaseline was injected to prevent ankylosis or stiffness in a joint after an arthrotomy or arthrectomy. In 1 case arthrotomy was performed on a man, aged 42, who suffered from chondritis dissecans with multiple free cartilaginous bodies in the right knee joint as a sequel to an accident. An incision was made along the inner border of the patella, and some viscid fluid was evacuated with many flat cartilaginous bodies. After the joint had been irrigated with a 4 per cent. solution of carbolic acid and closed, 25 c.cm. of vaseline were injected. There was no relapse during the following observation period of two years. The treatment is also suitable for tuberculosis of joints after all the diseased tissue has been removed, and the wound has been completely closed without the introduction of a drainage tube. The danger of embolism is avoided by the use of a blunt cannula, which cannot easily puncture a blood vessel. As the tube of vaseline is not connected with the cannula when introduced, blood would be seen to flow from it if a blood vessel were punctured. The cannula must be felt to move freely within the joint before the vaseline is injected. The dose suitable for the hip of an adult is 20 to 25 c.cm. The maximum dose for the knee joint is 15 c.cm., which is a suitable quantity for the shoulder joint. The tubing containing the yellow vaseline is boiled for fifteen minutes with the rubber tubing which connects the vaseline with the cannula. The vaseline is expelled from the tubing in the same way as paint is squeezed out by an artist; and thus the risk of infection by transferring the vaseline from one vessel to another is avoided.

304. Congenital Scoliosis due to Presence of a Half Vertebra.

DURREUIL-CHAMBARDEL (*Arch. gén. de chir.*, July 25th, 1913) describes congenital scoliosis when due to the presence of one or more half vertebrae between and in addition to the normal vertebrae. He has observed 4 cases in all, and all the children (from 2 to 7 years) were strong, healthy, well developed, otherwise quite normal. This observation does not agree with the experience of others who have seen such cases. The author's example of cervical hemi-vertebra is the only cervical one on record. It was situated between the sixth and seventh, and was in all respects a perfect half vertebra. When hemi-vertebra occurs in the dorsal region there generally accompanies it a super-

numerary rib. The commonest situation, though actually rare, is in the lumbar region. Clinically scoliosis is appreciable in the first months of life, tending to increase in degree with increasing limitation of movement. In the neck this deformity results in the appearances associated with congenital torticollis. The diagnosis is made by help of skiagraph. The author suggests that it will be interesting to know whether such a supernumerary bone, like all other anatomical variations, is not predisposed to morbid changes more than the other segments of the vertebral column, and whether, as is hinted by Le Double, Pott's disease may not often have in such a segment its point of origin.

OBSTETRICS.

305. The Influence of the Thyroid Glands on Pregnancy.

THOMPSON (*Surgery, Gynaecology, and Obstetrics*, August, 1913) discusses the relation which the thyroid glands bear to gestation, and records the history of a patient in which partial thyroidectomy was performed during the early months of gestation. The patient had a hypertrophied thyroid, but exhibited no symptoms of thyroidism. Half of the organ was excised, and subsequently the uterus decreased in size until it was almost normal, and of the same consistency as a non-pregnant organ. No history of bleeding was given, and later, when curetted, only some atrophied decidua and villi were removed. Six months later the patient again became pregnant. The remaining portion of thyroid was much enlarged until the fourth month. Gestation continued to term, and was followed by a normal labour. The thyroid then subsided. Thompson concludes his paper with a critical review upon the important literature on the subject, and observes that there is abundant clinical evidence in support of the theory that what is termed a physiological hyperactivity of the thyroid is a valuable safeguard against the toxaemia of pregnancy. He also notes that there is both clinical and experimental evidence to show that the gland has a direct connexion with the sexual system of man and higher mammals through its secretions. Thus a lack of thyroid secretion influences sexual activity adversely. On the other hand, sexual activity, whether physiological or pathological, causes a hyperactivity of the thyroid. Finally, this hyperthyroidism constitutes an index to the toxaemia of pregnancy, to counteract which the thyroids raise their antitoxic protective power.

306. Fatal Rupture of Varices in Oesophagus in Labour.

RIZZACASA (*Archivio di Ostet. e Gyn.*, vol. iii, 1912) reports the case of a woman, a multipara 25 years of age, the subject of chronic cirrhosis of the liver. For two days before labour she suffered from free haematemesis and died suddenly almost at the moment of delivery. The haemorrhage was traced to varices in the oesophagus.

GYNAECOLOGY.

307. Cancer of the Cervix after Supravaginal Hysterectomy.

NEWTON LEONARD (*Ann. of Surg.*, September, 1913) records two instances of the development of malignant disease of the cervical stump after supravaginal hysterectomy. In the first case, the body of the uterus and both appendages had been removed eighteen years previously for tubo-ovarian abscess. When readmitted to the hospital on account of profuse bleeding of one month's duration, Cullen found that the posterior lip of the cervix was the seat of a friable malignant growth. The neoplasm was limited to the cervix and the tumour was removed by Wertheim's method. The second patient, aged 38, was first treated in January, 1900, when Kelly removed the corpus uteri and both appendages for a large double ovarian cystomata associated with numerous adhesions. In November, 1903, an offensive discharge was noted, and in July, 1908, she was readmitted to the hospital on account of severe haemorrhage. The entire cervix and anterior vaginal wall was then the seat of a fungating carcinomatous neoplasm. The tumour was excised, together with a portion of the bladder, but the patient died on the sixteenth day after operation. Leonard appends a table to his paper, containing references to 36 cases in which cervical carcinoma has developed after the supravaginal operation. About 20 other cases have been mentioned in the literature, making a total of less than 60 reported up to the present time. The author observes that when one considers that of the many thousands of supravaginal hysterectomies performed this complication has been reported in less than 60 cases only, it would seem that the abandonment of the operation on this account and its replacement by panhysterectomy is unjustified. In 26 of these cases, or 22 per cent., the uterus had been removed for fibroids. The cases in which malignancy has developed in the cervix after removal of the uterus for conditions other than myomata are so few as to be practically negligible. Leonard points out their percentage of frequency would certainly not exceed, and probably not equal, that of carcinoma of the cervix in any group of women. On the other hand, the question resolves itself rather into a consideration of the pathological relationship of fibroids to cancer. Recent statistics appear to show that fibroids have a distinct bearing upon the incidents of carcinoma. Of 3,786 cases of uterine fibroids reported by Hofmeyer, Winter, Noble, and Cullen, 124, or slightly over 3 per cent., showed cancer, either corporeal or cervical. Similarly, of 2,513 cases of uterine cancer reported by Hofmeyer, Cullen, and other observers, 184, or 7.4 per cent., were carcinoma of the body. On the other hand, of 215 cases of cancer in association with fibroids, 134, or 62.3 per cent., were cancer of the body. Leonard points out that this remarkable contrast can only be explained by the assumption that fibroids bear a definite etiological relationship to cancer of the uterus.

THERAPEUTICS.

308. Immunization against Septic Infections.

H. KROHL (*Berl. klin. Woch.*, October 20th, 1913) points out that the therapeutic measures employed in septic infections such as septicaemia, pyaemia, puerperal fever, erysipelas, inflammations of various kinds, septic sore throats, and scarlatina, are highly unsatisfactory, and to a great extent merely symptomatic. The only specific treatment in general use appears to be the antistreptococcic serum, which fails in the majority of cases, because the micro-organism involved has no exact counterpart in the cocci used in the preparation of the serum. He has therefore sought for some means which could be used indiscriminately in all septic conditions, and which would attain a disinfection of the blood and tissues, provided that the remedy is applied before the invasion is too extensive or widespread. He believes that he has found such a drug in mercury benzoate. The idea underlying his therapeutic experiments was that of the observation that women who were taking mercury at the time of childbirth or shortly before do not suffer from puerperal infections even when the surroundings are very unhygienic. He has also noticed that syphilitics who are undergoing treatment with mercury rarely catch the ordinary infective diseases, and have even proved themselves more than usually resistant to cholera. He applied the mercury benzoate by intramuscular injection. Using a 1 per cent. solution, he injects 10 c.cm., which represents on the average about 1.5 mg. of the salt per kilo body weight. He finds that if this dose is repeated sufficiently often or if larger doses are given the body attains a resistance against streptococcic infection, while smaller doses will inhibit the generalized growth of the cocci, and if applied early will limit the affection to the site of origin. He has tried mercury benzoate in a large number of cases, of which he cites 4 typical instances, which show that when the injections are carried at an early stage in the infection the process is rapidly arrested and recovery follows smoothly. He admits that in spite of the favourable clinical results which he has obtained in this manner the whole question is by no means exhausted, and he is therefore now carrying out chemical, microscopical, bacteriological, and therapeutic observations and experiments in order to place the matter on a sound footing. In conclusion he asks the reader to regard his communication as a preliminary one, and the action as prophylactic rather than curative.

309. The Ammoniacal Diaper and its Correction.

SOUTHWORTH (*Arch. of Ped.*, October, 1913) discusses the etiology of the ammoniacal diaper and points out its indications in the dietetics of infancy. From observations upon 5 cases, he concludes that a noticeable ammoniacal odour may yield either to the administration of alkalis, or

to a reduction of the fat in the milk mixtures, or to a combination of both measures, and, paradoxical as it may seem for a medication producing alkalinity of the urine to reduce the production of ammonia, in one of the cases in which potassium citrate was administered to cure pyelitis the ammoniacal odour always returned after repeated attempts to discontinue the drug long after the pyelitis was cured. Two factors determining the amount of ammonia excretion are the condition of the infant and the type of its food, and if the child's condition affords a reduced power of absorbing or oxidizing acids other resources are brought into play, and consequently ammonia may appear in the urine. The type of food, however, plays the most important part through the formation of fatty acids, and in gastro-intestinal disturbance the ammonia excretion may be increased or decreased experimentally by variations in the quantity of fat given, it having been shown that neither protein nor sugar, even when given in excess, produce any increase. In cases where acids are produced abundantly neutralization is not effected solely by the ammonia, but the fixed alkalis are also called upon to neutralize the unoxidized acids, and thus alkalis are lost in both the urine and faeces, so that when in gastro-intestinal cases in infants there is sufficient ammonia in the urine to be perceptible by its odour there is also a loss of the fixed alkalis. Treatment aims at preventing: (1) The improper formation of acids by promoting a better metabolism of the fats, the food administered being such as to be fully digested and oxidized with the least formation of acid products; and (2) the undue loss of alkalis by the immediate administration of alkalis by the mouth, and in this connexion experience points to calcium, magnesium, and potassium being better bases than sodium. The repeated occurrence, therefore, of an ammoniacal odour upon recently removed diapers points to a definite disturbance of metabolism, and the fat of cow's milk appears to be the more frequent offender when given in excess of the individual's capacity, and it is urged that more attention in the future should be paid than has been paid in the past to the ammoniacal diaper as a clinical sign.

310. Adrenalin in Whooping-cough.

MULAS (*Gazz. degli Osped.*, October 16th, 1913) speaks very favourably of his experience with adrenalin in the treatment of whooping-cough, and publishes details of 15 cases so treated. The ages of the patients varied from 1 month to 23 years, but with the one exception were mostly under 5 years. The dose varied from 2 to 4 minims every three hours, and the solution used was that prepared by Parke, Davis, and Co.—1 in 1,000. The symptoms were markedly relieved, and cure was obtained on an average in two weeks. No bad effects were observed and no relapses occurred. In one case malaria complicated matters and in another there were also signs of tuberculosis. The author suggests that the drug acts freely by causing diuresis and so facilitating the elimination of the poisons of the disease; and, lastly, as a specific against the microbe of whooping-cough. Whatever its *modus operandi*, he is convinced that it is of great value in the treatment of this complaint.

PATHOLOGY.

311. The Heart in Syphilis.

BROOKS (*Amer. Journ. of Med. Sci.*, October, 1913), from a study of the heart and aorta in 50 consecutive autopsies in cases of syphilis, considers that syphilitic involvement of these organs is much more frequent and serious in its direct effects than has been generally supposed; 28 of these showed specific changes in the visceral pericardium; in 44 the myocardium was seriously affected, true gummata being present in 5 instances; and in 35 the coronary arteries were diseased to a relatively greater degree than the general arterial changes. Such cardiac involvement may develop early in the infection although the symptoms arising therefrom may not become apparent until late, and this almost certainty of cardiac invasion emphasizes the importance of energetic treatment being commenced immediately upon the diagnosis of syphilis. The signs and symptoms are generally those of cardiac disorder without any clue to their specific etiology—in the earlier stages irregularity and rapidity of action incited by conditions which normally would fail to elicit such a response, while in the later stages the symptoms become those of a myocarditis, aneurysm, heart-block, etc. Diagnosis depends largely upon the history, aspect, and Wassermann reaction; but as these may often be inconclusive the most definite and only certain criterion is a betterment or cure under purely specific treatment. The special line of treatment adopted must depend upon the individual results, and no two cases permit of identical methods. The patient should only be kept in bed when the cardiac signs suggest this necessity independent of the syphilitic question, the case being treated primarily as one of primary circulatory disease. Mercury by the mouth or by inunction, or preferably the salicylate administered hypodermically, can then be commenced and pushed until definite indications of its effect are noted, and in suitable cases, after a few days' observation, salvarsan intravenously. Iodides do not appear to exert any appreciable effect in acute secondary syphilis, but in tertiary cases, and particularly in those which show persistent evidences of heart-muscle infiltration, the iodides sometimes act better than either salvarsan or mercury. Good results, and in many instances cures, follow appropriate antisyphilitic treatment, and this should be continued until a permanent negative Wassermann is attained; and subsequently the management of the case should be upon circulatory rather than syphilitic lines.

312. A New Parasite of Scarlet Fever.

A. AMATO (*Lo Sperimentale*, Florence, 1913, lxvii) has found an intraleucocytic parasite in the circulating blood of patients with scarlet fever during the recent epidemic of that disease at Palermo. The parasite was found in every case examined, whether on the first day of the eruption or the second or third day of desquamation. The blood films were stained by a modification of the azur II-eosin method; details are not given. The stained parasites are very minute, and are best seen under very high magnifications and by artificial light. They occur in the protoplasm of the neutrophil polymorphonuclear leucocytes. They take the form of small blue bodies, of variable shape (rounded, oval, elongated, crescentic, angular), blue in colour, with a variable number of bright red dots inside them. A coloured plate is given, and here the dots are shown to resemble the fine neutrophil granules of the leucocytes themselves. Not rarely there is only one of these dots inside the parasite, occupying a central or peripheral position in it. In the crescent-shaped parasites the dots (or chromatic granules) are collected at the extremities of the blue crescents. The parasite may occupy any position in the protoplasm of the polymorphonuclear leucocyte; generally there is only one in each. The parasites occur in every scarlatinal patient, but in very variable numbers; they are most to be seen in the early cases, at the beginning of the rash. Amato has not been able to find them in normal blood or the blood of patients with other common diseases; he thinks they are not identical with intracellular forms of the *Spirochaeta scarlatinae* recently described by Döhle, and believes they may well be the specific protozoan cause of scarlet fever.

313. Importance of Calcium in the Genesis of Atheroma.

SCANDOLA (*Gazz. degli Osped.*, September 7th, 1913) draws attention to the retention of calcium salts which occurs in atheroma and arterio-sclerosis, and to the advantage to be gained by a calcium-free diet. Animal experiences show that it is much easier to induce atheromatous changes in rabbits fed on a diet rich in calcium than in rabbits fed on food poor in this constituent. It is now recognized that the calcium introduced in flesh foods is more easily absorbed than that introduced in vegetable foods. The author has examined the calcium content in various organs, and at different ages, and his results confirm those of other observers: he has also examined the calcium content in the different arteries, and at various ages. He further removed part of the right carotid in dogs, and then gave them a hypercalcium diet, and found that after such a diet the tunica media showed certain changes (photomicrographs are given) corresponding to those seen after adrenalin injections; the tunica intima was not affected. Testing the elimination of calcium in the healthy and in the arterio-sclerotic, he found that more calcium was retained in the latter case. If this is the whole truth as to calcium, it is clear that a diet rich in calcium should not be given to arterio-sclerotics, and that the diet usually suggested—for example, milk, eggs, broths, etc.—is all wrong, as these contain a greater percentage of calcium than meat, potatoes, etc. The author gives brief dietary lists showing the calcium content in various foods. As regards elimination, he says that the retained calcium is not eliminated by the administration of sodium iodide, phosphoric acid, or sajodin, the drugs with which he experimented.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

314. Abderhalden's Sero-reaction in Epilepsy.

O. BINSWANGER is of opinion that the etiology of epilepsy and classification of the diseases included under the term "epilepsy" has become less clear and more extended during the past few years (*Muench. med. Woch.*, October 21st, 1913). He therefore advises an avoidance of the term "genuine" epilepsy, and the adoption of a dynamic, constitutional, and an organically produced epilepsy. These two forms of true epilepsy could be further divided into subgroups, such as the toxic form, the chronic infective form, the traumatic form, and so on. But the clinical distinction of these forms is not always easy, and indeed it is at times difficult to determine whether a given attack is epileptic or not. He therefore came to the conclusion that Abderhalden's ferment reaction might be utilized for the diagnosis and prognosis of these conditions. The first problem to be settled was whether in the epileptic convulsion the cerebral cortex undergoes disintegration regularly. In seven cases samples of blood were collected immediately after the fit, while in two further cases the sample was taken two days after the attack. In a tenth case a sample was collected five days after the attack. In all these ten cases the reaction proved positive. Fourteen days after the attack a negative reaction was met with. In spite of the smallness of the number of his experiments, the author considers that the evidence suffices to prove that the cortex does undergo some dissociation during the epileptic attack. The next question to be studied was whether the reaction was negative or positive during the interval. The author holds the view that true epilepsy need not be a chronic progressive affection, and he recognizes a stationary type of this disease. He cannot accept Alzheimer's discovery of cortical gliosis as an anatomical basis of all cases of so-called genuine epilepsy, since this has only been observed microscopically in about 40 per cent. of the cases examined. The problem of the Abderhalden reaction during the interval therefore promised to be of value in clearing up some of the disputed points. He examined 22 samples of blood, but for valid reasons 5 of these cases proved of no value and were therefore discarded. Of the remaining 17, 9 gave a positive reaction; 5 gave a definite negative reaction. In 6 of the 9 positive reaction there was well-marked sign of dementia, while in the other cases slight deterioration of intelligence was noticed. In 1, however, a traumatic one, no diminution of intelligence could be determined for the time. Binswanger raises the question whether in this case a night attack shortly before the taking of the sample had escaped notice, or whether some other explanation must be sought for the reaction. In the negative cases the clinical course revealed that no progressive deterioration of intellect was present. In 1 case he discusses the essential difference between a congenital developmental defect and progressive intellectual deterioration. The 5 cases in which the reaction was not further utilized to solve these questions gave negative reactions, and proved to be either hysteria or some other non-epileptic condition. In regard to therapeutic measures, he finds that cases giving a negative reaction during the interval promise well if energetically treated; while, when the reaction is positive, the most that the physician can hope to do is to diminish the frequency of the attacks, and thus delay the progress of the intellectual deterioration.

315. Bronchopneumonia in Young Adults.

RIESMAN (*Amer. Journ. of Med. Sci.*, September, 1913) records 7 cases presenting a lobar form of bronchopneumonia of long duration occurring in children and young adults which cannot be readily classified or easily named. In the absence of autopsies and *x*-ray examinations the actual pathological anatomy is inferred, and while the condition is not an ordinary bronchitis, pleurisy, or lobar pneumonia, it is best explained as a lobular pneumonia becoming confluent or assuming a lobar distribution. The chief symptoms are cough and a moderate fever, rarely over 101°, and lasting from several weeks to three or four months. The expectoration varies in quantity and may contain a little blood, but it is not rusty, and the physical signs are out of all proportion to the symptoms. There is always some dullness on carefully comparing the two sides usually extending to the angle or middle of the scapula. Moist consonating râles are abundant and heard best in inspiration, and are often increased by coughing. In the majority of the cases the lower lobe of the left lung was affected, and all ended in complete recovery without any trace of mischief remaining. Treatment consisted in counter-irritation to the chest, abundant feeding, and either a simple cough mixture with a small dose of opiate, or one of the creosote preparations. In favourable weather the patient should be taken out of doors, and a stay at the sea is beneficial. The disease appears to be a confluent lobular pneumonia of lobar distribution characterized by long duration, low fever, with impairment of resonance, broncho-vesicular breathing and showers of crackling râles, and always ending in complete recovery, both symptomatically and anatomically. It must be regarded as one of the causes of obscure long-continued fever, and in its early stages may give rise to the suspicion of typhoid fever or, in the later stages, of tuberculosis.

316. Pyelocystitis in Infancy.

ACCORDING to S. WIDERÖE (*Tidsskrift for den Norsk Laegeforening*, October 1st, 1913) there is little uniformity in the symptoms of pyelocystitis in infancy. They vary with the child's age, and according as the disease is primary or secondary. Before the age of 2 years local symptoms are seldom marked, and may even be wanting altogether. There is usually high fever, which may be continuous or intermittent, a temperature of 98.6° in the morning, rising to 104° in the evening. At first the child is restless, but the appetite is good, the general condition appears satisfactory, and there is no tenderness over the kidneys or bladder. In a few days, however, the face is pale and drawn, and anorexia is accompanied by rigidity of the neck and spine suggestive of meningitis. The lips are dry and the tongue is coated. At this stage enlargement and tenderness of the kidneys may be demonstrated unless rigidity of the abdominal wall prevents deep palpation. The urine is usually acid and turbid; it usually contains a trace of albumin, and the microscope shows leucocytes and bacteria. Frequent examination of the urine is necessary, for two or three specimens may be practically clear, and a fourth may contain much pus. In such cases the ureter on the affected side has probably been obstructed temporarily. After the age of 3 years local symptoms are more prominent, and dysuria is often accompanied by tenderness over the symphysis and kidneys. Even at this age, however, the symptoms may be general rather than local, and may be confused with those of typhoid fever, septicaemia, or tuberculosis. The difficulties of diagnosis are illustrated by the following case of a female child, admitted to hospital with the diagnosis of rickets. The pulse was 96, and the temperature 98.2°. There was no oedema or rash, the heart and lungs were normal, and the abdomen was flaccid. Both tibiae were distorted, and there was a rickety rosary. After three weeks in hospital the patient was irritable and emaciated. There was no cough, and the thoracic organs were normal, but the temperature was 103.4° in the evenings. The turbid, alkaline, and offensive urine contained pus, albumin, and the colon bacillus. A vaccine was prepared from the urine, and injected subcutaneously, the first dose of 25 million bacilli being followed a week later by a dose of 60 million. Six days later 200 million were given; and a week later a fourth injection of 250 million was given. Nine injections were given altogether, a violent local and general reaction being invariably provoked. Three days after the last injection the temperature was normal. About six weeks after the beginning of this treatment the general condition was much improved, and the patient was quieter and less irritable. The urine was acid, clear, and sterile. The disease, when secondary, is often a sequel to measles and diseases of the respiratory and digestive tract. Not infrequently the fever may persist after the other signs of a bronchitis or pneumonia have disappeared. Tuberculosis is now often suspected, particularly when the symptoms are subacute, the temperature is not higher than 100.4°, and the general condition is fairly satisfactory. The urine may be almost clear, but the microscope shows a few leucocytes and bacteria. In severe cases the patient dies of pyonephrosis, meningitis, or pyaemia after a week's

illness. But the disease may also last for years and scarcely provoke a symptom. Relapses are common, and may be induced by a sore throat or a cold in the head. The disease is four times commoner in girls than in boys—a ratio probably dependent on anatomical differences in the sexes. Staphylococci, streptococci, and other organisms may be responsible as well as the colon bacillus. The latter is the most common cause, and when present indicates a relatively favourable prognosis. The prognosis is worse when the child has previously been weakly and underfed. The author considers that vaccines are useful when pushed vigorously, and that they are of special use in obstinate cases showing no improvement under treatment with salol. He admits, however, that the verdict in favour of vaccines is not unanimous.

SURGERY.

317. Central Dislocation of the Head of the Femur.

M. Haudek (*Wien. klin. Woch.*, July 24th, 1913) records the case of a man, aged 60, who jumped on to a railway platform while his train was still in motion. He landed on his left foot, rotated to the left, and fell on his left side without much force. He felt no pain, and could walk five or six paces after he got up. Then he suddenly lost all power in his left leg, and had to be carried home. The point of insertion of the adductors was much swollen, and here and over the great trochanter there was pain on movement. Great pain was momentarily felt in the pelvis when this was raised. No fracture could be discovered, and a skiagram was too blurred to be instructive. The diagnosis of a mere bruise was confirmed by the patient being able to walk after three weeks. After six weeks he could walk upstairs, and after six months climbing mountains for eight hours at a time. He felt, when defaecating, a sense of obstruction in the left side of the pelvis. After about a year and a half the whole of the left leg was much atrophied, and the point of insertion of the adductors and the great trochanter were painful when he rose from a chair or turned in his bed. There was 1.25 cm. of shortening of the left leg, which was in a position of slight outward rotation and adduction. The great trochanter was raised 2 cm. above its fellow, and the limb could be flexed to an angle of 70 degrees. The pelvis followed the limb in movements of abduction, adduction, and rotation. A hard spherical body could be felt above the left Poupart's ligament in the depths of the pelvis. The left trochanteric region was somewhat flattened, and the distance between the trochanter and symphysis was somewhat shortened. A second skiagram showed central dislocation of the head of the femur, two-thirds of which had penetrated to the true pelvis, where a secondary capsule had been formed. The great trochanter almost touched the anterior, inferior spine of the ilium. The ischium and the horizontal ramus of the os pubis seemed intact. The ilium was in direct bony contact with the new capsule formed around the head of the femur. It is rare to find such a lesion unaccompanied by others, and, out of 41 cases collected by Wörner, only 16 were unaccompanied by other lesions. The cause is usually a fall on to the hip or feet from a considerable height, and it is the exception for a slight accident, as in the author's case, to result in this lesion. The head of the femur must occupy a central position in the acetabulum, and the femur must be in a position half way between adduction and abduction if a direct blow on the trochanter is to effect a central dislocation. But such a relation between the bones of the hip-joint is rare. Other factors favourable to a central dislocation are a strong neck between the femur and its head, and a weak acetabulum. Hence this dislocation is exceedingly rare among elderly people, in whom the neck of the femur is relatively fragile, while the acetabulum is firmly ossified. Two cases have been recorded by Wolff of young adults, aged 18 and 21 respectively, in whom the lesions of the acetabulum followed the lines of union of its component bones. Enumerating the diagnostic signs of central dislocation of the femur, the author recapitulates the signs observed in his case, which was, apparently, typical. Latterly this dislocation has been reduced in a few early cases under anaesthetics. The limb is flexed and forcibly adducted, a wooden prop held on the inner side of the thigh acting as a pivot. Extension, lasting for at least six weeks, is then applied; and yet another four to six weeks must be spent in bed to avoid a relapse. Extension is also advisable if the dislocation is not reduced. In 70 per cent. of the recorded cases this accident was fatal, and in many others it was followed by much crippling. The author's patient was therefore unusually fortunate.

318. Diverticulitis of the Sigmoid.

Douglas (*Ann. of Surg.*, September, 1913) discusses the pathology, symptoms, and treatment of intestinal diverticula. He observes that diverticula may occur anywhere in the intestine from the duodenum to the rectum, but are most frequent in the descending colon and sigmoid. They may be single or multiple, as many as 400 having been noted in a single individual. At the commencement they are quite small, and include all coats of the intestine. At a later period, owing to the pressure from within, the muscle becomes thinned out, together with atrophy of the mucosa and hypertrophy of the submucosa. Ulceration of the mucus layer may occur from retained faecal concretions. Carcinoma is liable to develop at the site of a diverticulum. According to Mayo, this occurred in 7 out of 27 cases of diverticulitis of the large intestine. Telling records that the condition is twice as frequent in men as in women. The most probable predisposing factor in the author's opinion is a congenital weakness in the musculature of the intestinal wall. This weakness exists chiefly at the points of exit of the veins in the intestinal walls. As regards symptoms, in the absence of inflammatory changes, diverticula of the intestine probably causes little or no symptoms. Owing to the greater frequency of the condition in the sigmoid colon, inflammatory symptoms are usually manifested in the lower left quadrant of the abdomen. The symptoms usually noted are pain and tenderness over the affected area, sometimes associated with vesical discomfort and pain on emptying the bladder. Occasionally a tumour may develop owing to chronic inflammation, which simulates, and may be mistaken for carcinoma. Perforation, due to ulceration of the wall of the diverticulum, may also occur, resulting in general peritonitis or localized abscess.

319. Severe Haemorrhage from a Urethral Angioma.

A. Wolf (*Wien. klin. Woch.*, August 21st, 1913) was consulted by a student, aged 21, for severe haematuria, which had lasted for eight days. The haemorrhage, which was independent of micturition, had made the patient profoundly anaemic. He had not contracted venereal disease, and there was no history of trauma. The inguinal glands were not enlarged, and the external genitals were healthy. Clear, bloodless urine was withdrawn from the bladder with a catheter, by the side of which blood continued to escape from the urethra. An injection of gelatine arrested the haemorrhage for six hours only. Cocaine and adrenalin were now injected, and an endoscope was introduced, through which a red, flattened prominence as large as a lentil was seen in the upper wall of the urethra about 6 cm. from the meatus. It was formed of capillary blood vessels in the centre of which there was a clot of blood. The galvanocautery was applied, a catheter was kept in the bladder for twenty-four hours, and a complete cure was effected. Probably the immediate cause of the haemorrhage was an erection, to which the haematuria of gonorrhoea is also commonly traced. The author can find only 3 similar cases recorded. In one of these, recorded by Klotz, there was no haemorrhage. In the two other cases, recorded by Seifert, the severe haematuria was permanently arrested by cauterization. While vascular tumours of the female urethra are relatively common, angiomata of the male urethra appear to be very rare.

OBSTETRICS.

320. Abderhalden's Test for Pregnancy.

Herbert Williamson (*Journ. of Obstet. and Gyn.*, October, 1913) recently made some researches in the obstetrical and chemical pathology departments of St. Bartholomew's Hospital to test the correctness of Abderhalden's observations, which were based on his discovery that the blood of a pregnant or recently delivered woman contained a ferment specific to placental albumin. The researches were made in co-operation with Mackenzie-Wallis. For experimental purposes the test was applied to 50 patients, 20 recently delivered or in the last three months of pregnancy, and in each subject the result was positive. Thirty were not pregnant, and in all the result was negative. In 16 the test was applied for diagnostic purposes; the history was well followed up. In 12 the deduction drawn from the test proved correct, in 2 it proved wrong, and in 2 the result still remains doubtful. In 3 ectopic gestation

was suspected. In the first the result was positive, and a left tubal sac was discovered by operation: in 2 it was negative, and 1 proved to be a twisted hydrosalpinx, the other a case of abdominal pain and amenorrhoea not associated with gestation. In 5 there were abdominal tumours suspected to be wholly or in part the pregnant uterus, and in 3 of the 5 the test proved correct, but in 2 Abderhalden's test proved positive, yet there was no pregnancy; in 1 there was tuberculous pyosalpinx and in the other a suppurating ovarian cyst: pus in both cases. The remaining cases were: Suspected chorion-epithelioma (2), chorea in a woman aged 21 (1), heart disease and amenorrhoea (1), nephritis with exacerbation of symptoms and amenorrhoea (2), and lastly, late puerperal sepsis (2). The results proved true excepting in two subjects still under observation. Williamson concluded that Abderhalden's discovery was correct. The polarimeter was more reliable than dialysis for the demonstration: the ferment was only found when chorionic tissue was present in the body, though it was probable that under other conditions than pregnancy the colour reactions and optical effects produced by the test might be simulated. Williamson and Mackenzie-Wallis insisted that it was only in the hands of an expert that the results could be relied upon, and that they had detected already most of the common sources of error. In the near future, the test might be expected to give reliable results.

GYNAECOLOGY.

321. The Early Diagnosis of Uterine Cancer.

RUBIN (*Amer. Journ. of Surgery*, November, 1913) issues a plea for the early diagnosis of uterine cancer by the routine microscopy of curettings of all doubtful cervical lesions. He observes that, notwithstanding the improved technique of the Wertheim operation for cancer of the cervix uteri, the general operative mortality from the operation has varied from 5.7 per cent. in the most favourable cases to 21 and 26 per cent. in those less favourable. In America, Paterson has stated that the mortality from operations for uterine cancer varies between 20 and 50 per cent., whilst Taylor has observed that in New York only one case out of twenty dying from cancer of the uterus has had an operative chance for cure or treatment. Operative mortality varies directly with the degree of carcinomatous invasion of the uterus and adjacent structures. Thus, in any series, the less advanced cases are attended with a favourable percentage of post-operative recovery. Rubin, therefore, observes that the ideal surgical requirement must be to get the cases at the earliest possible time for operation. Quoting Schottlaender, patients suffering from cancer may be divided into three categories: (1) Those who know nothing of the disease; (2) those who have very vague notions concerning the same; (3) those who are well informed on the subject of cancer. The extent to which the education of women in regard to the so called early symptoms can be carried out will probably always be very limited, one reason being that some growths may attain a very large size without giving rise to any alarming symptoms. Again, cases are not infrequent in which the first sign is a well-marked cachexia, such growths being of a decidedly proliferating type and of extreme malignancy. The author thinks that the ideal safeguard to women against the disease would seem to be a regular, systematic, medical consultation at stated intervals. Anything short of a routine prophylactic examination is, in Rubin's opinion, absolutely worthless. The importance of diagnostic curettage and excision cannot be too strongly emphasized. All erosions of the cervix, particularly in the fourth decade of life, should be suspected and watched, and those that do not respond to treatment should, after a reasonable allowance of time, be partially excised for microscopic examination. Thus, in 106 exploratory excisions from the vaginal portions of the cervix reported from the second university gynaecological clinic under von Rosthorn, where cancer was clinically suspected, 49 proved to be this disease, whilst 57 showed other than cancerous lesions. When curettage is performed for diagnostic purposes the cervical mucosa should unfailingly be removed, since primary corpus cancer, as compared to that of the cervix, is approximately as 1 to 14. The criteria for the diagnosis of malignancy, as laid down by the author, are: (1) A well marked atypical condition of epithelium, which is converted from a simple cylindrical to a metaplastic many-layered variety. (2) A well-marked difference in size of the individual cells in shape, arrangement, and chromatin content. (3) The presence of atypical mytosis. (4) The presence of giant nuclei or giant cells. Isolation of alveoli and a penetration into the depth of such epithelium may be present even at an early stage, but is not to be regarded as an essential characteristic of malignancy.

322. Calculus in Ureter Removed through Vagina.

HEINSIUS (*Zentralbl. f. Gynäk.*, September 6th, 1913) operated on a woman, aged 47, who had suffered four months previously from symptoms which induced him to employ the *x* rays, but no calculus could be detected. Rigors, high temperature and pulse, and pains in the right side developed; yet, on palpation, a hard body, over 1 in. long and as thick as a lead pencil, was detected immediately behind the symphysis, but on the left side. The cystoscope made manifest a hemispherical bulging of the tissues at the site of the orifice of the left ureter, bearing in the middle a deep pit, at the bottom of which lay a brown body half-hidden under flakes of mucus. The ureteral catheter could be passed along beside the calculus up to the pelvis of the kidney, whilst it could not be introduced for more than about 7 in. up the right ureter. Injections of silver nitrate solutions in glycerine were tried, but failed to make the impacted ureter movable. Heinsius made a semilunar incision through the vaginal walls behind the left side of the bladder, set the vesical coats free, and separated from their connexions the adjacent fibres of the left parametrium. He then was able to press the calculus into the wound, cut down on it, and remove it. There were no subsequent complications.

THERAPEUTICS.

323. Periodic Hydrarthrosis and Thyroid Opotherapy.

P. RIBIERRE (*Bull. et mém. Soc. Méd. des Hôpitaux de Paris*, November 13th, 1913) draws attention to the real influence of thyroid opotherapy, in some cases, on the attacks of periodic hydrarthrosis, and also to the difficulties of interpretation which often face us in therapeutic facts of this kind. He refers to the case he published in the same journal in 1910. The patient, a woman, was the first case of periodic hydrarthosis which he treated by this method. Her recovery under thyroid therapy persisted up to the end of 1911—that is, for three and a half years—when she committed suicide. He cites a case of Lecêne. A patient for many months had attacks of periodic hydrarthrosis, and was contemplating surgical treatment, when under thyroid therapy she was cured in a few weeks. There had been no return of attacks after many months. Ribierre cites another personal case of a man. For a year attacks every nine days. Thyroid treatment was begun in March, 1913, was well borne, and immediately the intensity and duration of the attacks was reduced. At the end of a month they had disappeared. The patient was followed up for another month, but then came no more. Ribierre, in commenting on these three cases, admits that in one of the cases there has not yet been a long enough time to enable us to decide as to the real influence of the thyroid therapy. He cites also a case of Gandy—a woman, in whom it failed to influence the perfectly typical attacks of periodic hydrarthrosis. She has, however, been for a year now under Ribierre's care. She mentioned that her attacks had always ceased during pregnancy. So, in spite of previous failure of thyroid treatment, he advised her to try the effect of thyroid and ovarian therapy on alternate days. Three weeks later she announced that the attacks had disappeared, and for three months they remained absent; but soon they returned, and some months later she wrote to say that a renewed trial of thyro-ovarian therapy had given no result. Ribierre insists, as he did in 1910, that we must always bear in mind the possibility of spontaneous remissions in parallel cases. Yet he holds that, in this discouraging and disabling disease, facts warrant us in giving a trial to thyroid therapy, for sometimes its good effects seem perfectly clear.

324. A Non-toxic Antigonococcic Vaccine.

C. NICOLLE AND L. BLAIZOT (*Compt. Rend. de l'Académie des Sciences*, October 6th, 1913) point out that the toxicity which is a feature of all microbian vaccines is specially marked in the case of the antigonococcic; they have

attempted to produce a vaccine that shall be entirely non-toxic and so stable that it shall preserve its therapeutic properties indefinitely. Their improved anti-gonococcic vaccine has given a much increased curative power when given in the same doses as those previously used by them, and also a quicker recovery; when it is given in still larger doses it has been even more efficacious without causing the least general or local reaction. The following particulars are given of the results obtained in 200 patients treated by this vaccine: Twenty-four cases of gonorrhoeal ophthalmia have all recovered in from three to ten days, the inoculations of the vaccine having been repeated daily or on alternate days. The improvement is immediate, so that on the day after the first inoculation the patient can open his eyelids, and the integrity of the eye is assured. Twenty cases of gonorrhoeal orchitis recovered after four to six inoculations, repeated every other day. The pain ceases twenty-four hours after the first inoculation, and resolution begins at once; the patient can resume his work after a day's interval; so rapid a recovery protects him from sterility. Three cases of gonorrhoeal arthritis recovered after two to eight inoculations, given every two or three days; after four injections one patient, who had been bedridden for eight months, was out of bed. One hundred and twenty-seven cases of acute or chronic urethritis, simple or combined with cystitis, were thus treated. Pain, oedema, and tension ceased rapidly, and the discharge was controlled so that it often vanished after the third inoculation. But relapse may occur after the discharge has ceased; it is wise, therefore, to continue the inoculations; usually seven or eight are desirable; discharges of eighteen months' duration have yielded to this treatment, but the writers advise that local treatment should be combined with it. They promise further work on gonorrhoea in women, and on the action of their vaccine given at the onset of an attack of gonorrhoea, as a certain preventive of its extra-urethral complications, especially orchitis.

325. Coryfin in Otology.

CORYFIN is the ethylglycol ester of menthol which has been introduced as a substitute for menthol by Bayer and Co. It is a colourless, almost odourless fluid. It is very little soluble in water, but readily soluble in alcohol or ether. The advantages which are claimed for coryfin over menthol are that the sensation of cold after application lasts longer, and it has a marked vaso-constrictor action, which enables it to be used to reduce congestive conditions of the skin or mucous membrane. K. KIRCHNER gives an account of its employment in otological practice (*Muench. med. Woch.*, September 2nd, 1913). He found that coryfin did not produce any signs of irritation or burning sensations, such as are not uncommonly met with after the application of menthol. For neuralgic conditions, including the accompanying headache of acute ear troubles, it acted promptly and well. He was further able to cure an otitis media caused by a severe catarrh of the upper respiratory passages by painting the nasal mucous membrane with coryfin. In applying it to the Eustachian tube for middle-ear affections he advises the use of an equal parts mixture of coryfin and liquid paraffin. This mixture acted very well in all cases, reducing the swelling and removing the troublesome feeling of pressure. For itching of the external ear he found the preparation useful, and in conclusion he states that the jujubes in which coryfin is put up are of use in hoarseness and irritation of the throat. The dose of coryfin in each jujube is 0.02 gram.

326. Protective Inoculation against Chicken-pox.

C. A. KLING (*Hygiea*, Stockholm, 1913, lxxv) argues that chicken-pox is not always the harmless infection it is generally supposed to be, but may prove serious or fatal by means of such complications as sepsis, erysipelas, nephritis, pneumonia, and concludes that protective inoculation against it might well be worth while. An epidemic of varicella broke out in the Stockholm General Hospital (or Home) for Children in August, 1913, with 42 cases, one patient being a nurse. Out of 95 infants in the home's two sections, 31 were inoculated, 64 were not. Of the 31, only 1 had caught varicella, and had a very mild attack; of the 64, 40 were attacked, mostly with a copious eruption and several days of fever, rising to 103° to 104° F., up to October 15th. Altogether 49 infants were inoculated with success, and the inoculation failed only in exceptional cases (number not stated). The method of inoculation and its course were as follows: Lymph was taken directly from a fresh clear varicella pock on an ordinary inoculation lancet. It was inoculated directly into the skin of the infant's arm in such a way as to avoid drawing blood. A slight inflammatory reaction occurred at once and then settled down; on the eighth day small red papules appeared on the inoculated spots, like ordinary vaccination papules, but smaller. Next day typical varicellar vesicles on an inflamed base appeared, drying up after three or four days, when the surrounding inflammation also went down. The scabs separated during the third week, leaving small and delicate scars. The incubation time, usually eight days, might extend to thirteen; in a given infant the papules on the three inoculation spots might appear on the eighth, ninth, and tenth days after inoculation. The papules might stop short and not vesiculate. The inoculation might be carried on from one infant to another up to the fifth generation. Many of the children thus inoculated against chicken-pox had recently been vaccinated against small-pox; this did not prevent the varicellar inoculation from taking. In most cases the inoculation produced no disturbance of the general health of the infants; in only a few instances was there any rise of temperature (up to 100.4° F.). No general varicellar eruption was produced, though in 6 of the 49 cases a doubtful scanty papular eruption came out two or three days after inoculation with some tendency to the formation of vesicles. Kling leaves the nature of this eruption unsettled. He believes that this inoculation affords infants a good measure of protection against varicella. A coloured plate of the appearances of the inoculation pocks at various stages of their development is given.

PATHOLOGY.

327. Experimental Plication of the Aorta.

MATAS AND ALLEN (*Ann. of Surg.*, September, 1913) record their conclusions drawn from an experimental investigation into the practicability of reducing the calibre of the thoracic aorta by infolding of its walls with a lateral parietal suture. The experiments were performed upon dogs, and, in all, 151 animals were subjected to the operation. No attempt was made to occlude the vessel, but a tractor of stout silk was passed around the vessel at the origin of the left subclavian. When the sutures were satisfactorily applied the authors found that dogs tolerated with impunity a reduction of one-fourth to one-third circumference of the vessel. After an interval of from three to six weeks a second plication was performed, commencing just below the point where the first terminated. The lumen of the vessel was then further reduced so that only a small pulse could be felt below the suture. In their series, Matas and Allen found that the first operation was remarkably well borne; 75 of the animals survived sufficiently to undergo a second plication, proving that the heart adjusts itself to the demands made by the obstruction, and that in healthy young and vigorous animals, the collateral circulation is ample. Of 73 secondary plications 29 died of haemorrhage, 15 of marasmus, 7 from post-operative pleural infections, 4 died of the anaesthetic, and 4 escaped. Eleven animals reached the third or obliterative stage of the operation; 6 of these died of haemorrhage—2 from pleural infection and 3 from parasitism. The authors observe that in the most extreme cases of stenosis it is of considerable interest to note that some of the animals were able to survive as long as seven days without showing any evidences of peripheral ischaemia or other disturbances which are characteristic of acute aortic obstruction either experimental or pathological. This is accounted for by the gradual reduction of the aortic circulation and the compensatory hypertrophy of the cardiac muscle, together with the development of an adequate collateral circulation. If the experiments had been entirely successful, it was the intention of the authors to divide completely the aorta in the thorax and seal the stumps by suture or ligature. This has been accomplished successfully by Allen in the case of the abdominal aorta. The writers are of opinion that the following applications may be made from these experimental facts in the case of human surgery: (1) The practicability of blocking the thoracic aorta sufficiently to favour the decomposition of clot in an aneurysm situated in front or behind the constriction. Furthermore, the stenosis obtained by suture is probably a safer and more certain method than the employment of bands of metal or other material to attain the same end: (2) to reduce the calibre of fusiform, saccular, or cylindrical aneurysms that otherwise are inoperable.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

328. X Rays in Diagnosis of Ulcer of Stomach and Duodenum.

FRIEDENWALD AND BAETJER (*Amer. Journ. of Med. Sciences*, October, 1913) regard *x*-ray examinations as of great practical value in the diagnosis of ulcer of the stomach and duodenum. Of 20 selected cases reported, 10 were instances of duodenal and 10 of gastric ulcer, in all of which the diagnosis was undoubted. After being studied clinically they were sent without any note of information for *x*-ray examination, and the two reports thus obtained were on comparison strikingly in correspondence. Experience shows the incorrectness of the old theory of the possibility of diagnosing ulcer by bismuth adhering to its surface, since the irritability of its raw surface causes hypermotility and violent contractions, rendering such adherence impossible. Reliance must be placed more upon the functioning of the stomach and intestines than upon any actual demonstration of the ulcer. The diagnosis of duodenal ulcer is easier than that of gastric ulcer, so that while it is practically always possible to rule out the presence of the former, it is not always possible to rule out the presence of the latter. In duodenal ulcer certain characteristics are more or less present in all cases. With decided hypermotility the contractions are quite uniform without any tendency toward hour-glass formation of the stomach, the pylorus being patulous, so that the bismuth flows freely into the duodenum which is in active contraction. In many uncomplicated cases there is a vacant area which persists throughout the examination, and at times the bismuth may be seen running along either side with the vacant area between the two streams, this vacant area being the seat of the ulcer. This area, free from bismuth, is not seen in all cases, its appearance depending upon the condition of the surface of the ulcer at the time of examination, being absent in cases of old ulcer complicated by adhesions. In simple cases uncomplicated by adhesions the presence of a duodenal ulcer can practically always be determined by *x*-ray examination. The diagnosis of gastric ulcer is more difficult since the normal motility of the stomach is open to debate, and from the *x*-ray standpoint only one surface and a portion of the greater and lesser curvatures can be observed, and it is only when the ulcer is situated in one of these regions that a conclusion can be arrived at. From the excessive irritation set up by the ulcer hypermotility and a spastic condition of the pylorus are present, so that for a time the stomach contents are not expelled and there is retention. When the spasticity of the pylorus relaxes a portion of the bismuth is driven through, to be followed by a further complete closure, so that the expulsion is spasmodic and in spurts instead of being regular and rhythmical, and there is frequently a tendency to hour-glass formation which is never observed in duodenal ulcer. While the clinical diagnosis between duodenal and gastric ulcer is often difficult and impossible, the *x*-ray findings differ so markedly as to afford an almost positive means of differentiation. By this method also the degree of healing can be more approximately determined than by any other, the motility of the stomach becoming more normal as the ulcer heals, so that by making repeated *x*-ray observations over a long period of time it can be seen when the ulcer is healed.

329. Differential Diagnosis between Pyloric Spasm and Stenosis.

G. HOLZKNECHT AND M. SGALITZER (*Muench. med. Woch.*, September 9th, 1913) insist on the importance of a reliable method of distinguishing between spasm and organic stenosis of the pylorus. They point out that the former usually responds to the various forms of treatment for gastric ulcer, while the latter requires the operation of gastro-entero-anastomosis. Various means have been devised for this purpose, but none of them appears to yield satisfactory results. They include the employment of little soluble visible capsules to estimate the size of the pylorus, the effect of belladonna and atropin on the motility of the stomach, Sahli's method of determining the propulsion of the organ, and Holzknecht and Fujinami's modification of the same, *inter alia*. Quite recently Pal and his co-workers Popper and Frankl have shown that papaverin, one of the alkaloids of opium, has a powerful action in depressing the tone of unstriped muscle, although it has practically no narcotic or constipating action. The action on the tone is slight in the case of normal muscles, but is very marked under pathological conditions; at the same time, peristalsis is unaffected. The authors have considered it advisable to test the action of papaverin for the differential diagnosis of the two conditions mentioned. The test is carried out by giving a Rieder's test meal, and determining the time occupied for the stomach to empty itself: this is repeated on the following day, and on the third it is again carried out after a dose of papaverin has been given. They used the papaverin hydrochlorate (Merck's and also Hoffman-La Roche's), and gave up to 0.07 gram by mouth. No harmful effects have been noted. The normal time is about three hours. Under pathological conditions the stomach is found to contain more or less considerable amounts of the bismuth-containing meal after six hours. In one class of case the authors found that the time was prolonged by papaverin. There were 7 such cases in the series. The diagnosis of stenosis was made on this find, and in 3 cases an operation was performed and the diagnosis confirmed. In 6 further cases the period was shortened, at times to within the normal limit. In these cases the diagnosis of spasm was made and confirmed by treatment. In 12 other cases the dose of papaverin did not alter the motility, and each case had to be investigated in order that the significance of this could be ascertained. It was found, however, that in the majority of the cases there was a combination of spasm and stenosis. In some of these cases the diagnosis could be confirmed by operation. The authors give full details of the series in support of their conclusions. They add an observation which shows that under given conditions papaverin may be of therapeutic use in spastic constipation.

330. The Anaemic Vertigo of Old Age.

P. GALLOIS (*Soc. de Thérapeut. de Paris*, October 22nd, 1913) points out that the vertigos of old persons may be due not only to arterio-sclerosis or to cerebral arteritis, but also to gastric disturbances, Menière's disease, or anaemia. This anaemia is explained partly by the general decay of the organism, partly by the less active and more confined life, and partly by the diminished activity of the digestive functions which follows loss of teeth. Any debilitating treatment which may be directed to the coexisting arterio-sclerosis only increases the vertigo, whereas it is rapidly lessened by supporting treatment and iron internally.

SURGERY.

331. Osteochondritis Deformans Juvenilis.

J. PERTHES (*Archiv für klin. Chir.*, vol. ci. 1913), on a basis of 21 cases which he has observed, describes the characteristics of osteochondritis deformans juvenilis, the pathology of which has but recently been elucidated. Its frequent confusion with tuberculosis is all the more serious because the treatment for the two conditions is essentially different. The upper epiphysis of the femur is affected, and the disease, which is more common in boys than in girls, is almost invariably unilateral. The patient's age is 5 to 10 years, and the first symptom is a slight limp unaccompanied by any difficulty in walking. In more than half of the cases there is no pain, and in the remainder there is slight pain radiating from the hip to the knee. This does not prevent the child playing with his fellows. His gait is suggestive of congenital unilateral dislocation of the hip; for the body inclines to the affected side when he supports himself by the leg of the same side. At rest the femur occupies a normal position, or one of slight adduction. The great trochanter is often 1 to 2 cm. higher than its fellow, and it also projects more laterally. The most important symptom is marked limitation or abduction, flexion and extension being meanwhile unaffected. The degree of limitation of rotation varies considerably in different cases. Pressure upon the great trochanter or joint is painless, there is no reflex muscular contraction, and crepitation is not evoked by movements in the joint. The Roentgen rays show flattening of the epiphysis, and

deformity of the head of the femur due to loss of bony substance. In extreme cases the head may be broken up into two or more fragments. When the neck of the femur is also affected the rays show areas of rarefication. Only in advanced forms of the disease is the acetabulum involved. The disease has reached its usual limits when abduction is completely arrested. This condition may persist for several months and even for a couple of years, after which movements again become freer, even when the destructive process in the head of the femur is progressive. The limp may last for more than four years, and then gradually disappear. Ultimately there is slight limitation of abduction, but this causes no discomfort. After arrest of the disease the rays show considerable deformity of the head of the femur, which is attached by a short and thick neck to the shaft of the bone. Instead of the enforced rest necessary for tuberculosis of the hip, massage and allied treatment are prescribed to prevent atrophy of the abductor muscles.

332. Rupture of Lung without Fracture of Ribs.

Two cases of rupture of lung without fracture of ribs are recorded by S. Wideröe (*Norsk Magazin for Laegevidenskaben*, September, 1913). One patient was a boy, aged 5 years, whose body and head were bruised by a tram. He became partially unconscious and very thirsty. The temperature was 98.6° and the pulse 140. The respiration was 52 to 60. There was no haemorrhage from nose, ears, or mouth; but there was marked general pallor, and the lips were cyanosed. The pupils were equal and reacted to light. A dull area was demonstrable at the base of the left lung, while the upper part of the lung was tympanitic. There was no respiratory sound except over the upper portion of the lung, where distant, blowing respiration was audible. The cardiac dullness was apparently normal. The patient died four hours after admission to hospital without an operation having been performed. The necropsy showed much displacement of the heart to the right. After the trachea had been plugged with a cork the left pleural cavity was opened, and air escaped under pressure. There were no pleural adhesions, and the completely collapsed and empty lung was displaced upwards and inwards. There were about 150 grams of blood in the most dependent part of the pleural cavity. The lung showed a 5 c.cm. long and a 1 c.cm. deep tear with irregular borders running vertically down the front of the upper lobe. The front of the lower lobe showed a similar tear, and between the two lobes and on the surface of the lower lobe were several subpleural extravasations of blood. Similar small extravasations were found in the right lung, which was otherwise normal. The ribs were intact, but the left clavicle was fractured. The pleura under this fracture was intact, and there was no pulmonary tuberculosis. The second patient was a girl, aged 2 years, who fell from the third story of a house. A few hours later the pulse was 100 and the respirations 36. Inspiration was short and expiration was prolonged and stertorous. The heart was not displaced. The left lung was tympanitic in front and behind. During the twenty-four hours the condition improved, the respiration falling to 26 and becoming less laboured. A small area of dullness was found over the base of the left lung, where an exploratory puncture yielded air and dark fluid blood. No operation was performed, and the patient recovered. Discussing the mechanism of this condition, the author points out that a blow on the chest may induce involuntary deep respiration, followed by closure of the glottis. When the thorax is now compressed the much-expanded lung is unable to collapse, and a tear ensues.

333. Thymectomy in Exophthalmic Goitre.

Haberer (Soc. de Langue Allemande, in *Rev. de Chir.*, October, 1913) has removed the thymus in 5 cases of exophthalmic goitre with satisfactory results; in 4 of these part of the thyroid body was removed in addition, but in the fifth case the recovery could be attributed solely to the thymectomy. For this reason the history is given: A man of 30 developed all the signs of exophthalmic goitre after an acute infection, namely, exophthalmos, thyroidal hypertrophy, and especially violent palpitations, which increased rapidly and resisted all medical treatment; in addition hemithyroidectomy gave no good result, and two years later thyroidal ligature on the opposite side was likewise of no avail. When the patient came under Haberer's care his state was very precarious; there were constant severe dyspnoeic crises and a tachycardia which rendered life very distressing. The thymus was now removed under local anaesthesia. Relief followed immediately after the operation, although the thymus was found to be very small, so that there could be no question of its having caused the thyroidal disturbances by means of compression. Four months after the operation the patient was rid of his dyspnoea, tachycardia, and nervousness, and returned to his work. In the discussion which followed Haberer's paper Capelle mentioned a similar success of his own in a case of exophthalmic goitre in which the thyroid was left intact.

OBSTETRICS.

334. Clinical Significance of the Urine in Pregnancy.

Bailey (*Amer. Journ. of Obstet.*, August, 1913) publishes an important critical review of recent work upon the composition of the urine during pregnancy, particularly in relation to the contained ammonia and amino acids. He draws attention to the fact that in chloroform and chloral poisoning the hepatic lesions do not differ largely from those present in fatal cases of pernicious vomiting. The degenerations produced in this organ by substances such as phloridzin, chloroform, hydrazine, and haematoxic serums lead to profound changes in the metabolism, as shown by an increase in the total nitrogen excretion. At the same time, the nitrogen fractions retain approximately their normal ratios. During the past year work reported by Folin appears to show that deamination of amino acids takes place in the tissues rather than in the liver; and, furthermore, the observations of Murlin and others indicate that the liver functionates normally during pregnancy. Investigations recently made by Murlin and the author seem to prove that the amino and amino-acid nitrogen are not necessarily increased in eclampsia and pre-eclampic conditions. When an increase in the ammonia occurs, the author suggests that it may possibly be explained by changes in the diet, under-nutrition, or to decomposition of the urine by contamination. Bailey concludes that, except for a lowering of the total nitrogen and changes in the various fractions due to the diet and the amount of absorption, the nitrogen partitions in eclampsia will probably show no great difference in relationship when the urine is collected and preserved with scientific precision.

335. Treatment of Umbilical Stump.

Nadory (*Zentralbl. f. Gynäk.*, No. 21, 1913) devotes an article to the treatment of the umbilical stump. He considers that August Martin's plan of applying a silk or catgut ligature to the junction of the integument and the tissue of the stump and cutting the latter away close to it is good, and tincture of iodine, as Lewis of Buffalo has shown, is the best application. Rinaldo and Crossonini found, after observing 38 cases, that the stump came away in on an average 4.39 days, the cicatrization of the integument becoming complete in about eight and a half days. Tincture of iodine is the best agent for the destruction and keeping out of germs without irritation of the tender infantile skin. Nadory combines Martin's and Lewis's methods. Directly the pulsations cease the cord near its attachment to the umbilicus is washed with a 1 per cent. solution of sublimate on wool. A short silk ligature is then applied to the junction of the cord with the integument and tied, and then the cord is cut through just above it, having been previously tied in the usual manner at about the ordinary distance from the umbilicus. The stump is immediately well swabbed with tincture of iodine and the ends of the ligature cut short. The infant is then bathed, and after the bath the stump is again swabbed with the tincture, before the usual dressings are applied. The swabbing must be continued after every daily bath until the stump comes away, and the tincture should be applied to the umbilicus even for a few days longer should the healing of the scar remain incomplete. Nadory has made use of this method in 50 cases, and always with the best results. The tincture of iodine acts like a cautery on the divided vessels, and is an ideal antiseptic.

GYNAECOLOGY.

336. "Roentgen Castration."

The mode of action of x rays in gynaecological therapeutics has been the subject of a discussion in the Société de Radiologie Médicale de Paris (*Bull. et mém.*, October,

1913). Bouchacourt, who opened it, expressed himself as rather unfavourable to the theory of what is called "Roentgen castration." X-ray action in fibroma, he said, was not preponderating on the ovarian tissue. With much more reason might one invoke an elective action on the uterine mucosa and on the fibroma itself. In his experience the menopause induced by *x* rays was quite different from the natural and spontaneous cessation. In the former case such phenomena as flushing, vertigo, palpitations, etc., were much more intense than he had generally encountered them in the latter. In the same discussion d'Halluin also stated that, although he had used the term "Roentgen castration," he did not believe that the action on the ovary was a principal one. It was probable that there was a certain action on the ovary, but he had known cases in which fibroma had been cured by guarded and well spaced-out *x*-ray doses without ovarian sterilization. Laquerrière was of opinion that the rôle of the ovary was undeniable in the treatment of fibroma, and the reason why women of 45 years were more amenable to radiotherapy than women of 35 was the slackened vitality of the ovaries at the greater age. Henri Béclère said that he had proved the adult ovary in a woman of over 40 to have nothing of the histological character of the ovary of a woman of 20 to 25. At the earlier age the ovary was lymphoid, and after a certain time its lymphoid character disappeared, giving place to sclerous tissue. It was evident that in older women the rôle of radiotherapy was strictly limited, since its peculiar action on lymphoid tissue was no longer exercised. The action of radiotherapy on fibromas in women aged 40 to 45 was, therefore, something quite different from an action on the ovary. A. Béclère, while believing that in a certain number of women radiotherapy brought about prematurely the modifications of the ovary which ordinarily were spontaneous, said that his own observations had proved to him, that, as a general rule, there was a rapid and progressive diminution of the fibroma before there was cessation of the menses. He believed the principal action in treatment should be directed to the fibroma itself rather than to the ovaries.

337. Results of Operations for Prolapse of the Uterus.

S. A. GAMMELTEFT (*Ugeskrift for Laeger*, September 25th, 1913) has analysed the results of various operations for prolapse performed at two hospitals in Copenhagen during the period 1900–13. Of the 150 patients, 6, or 4 per cent., died directly after the operation. Of the remaining 144 patients, 132 were subsequently traced, of whom 5 had died before the results of the operations could be investigated. Of the remaining 127 patients, 62 were examined by the author, 5 were reported on by their medical attendants, and the rest sent in their own reports. These 127 patients are thus classified: (1) Subjective and objective cure; (2) subjective without objective cure, or the reverse; (3) objective failure or, in the absence of a physical examination, subjective failure; (4) primary cure, followed by hypertrophy of the cervix (three cases); and (5) cure followed by relapse, due in one case to labour requiring forceps, and in another case to a fall. The two last classes, representing only 5 cases, affect the general analysis but slightly. The first three classes contain 81, 17, and 24 cases respectively. It was anticipated that the failures would be proportional to the duration of prolapse before operation; but the analysis shows no such relation. Of special interest are the 24 total failures. Among these, 7 showed total prolapse, and 11 showed both rectocele and cystocele. In 13 cases only colporrhaphy anterior and colpoperineorrhaphy were performed. Westermark's operation was performed in 3 cases, and the Schauta-Wertheim operation in 3. In 4 cases, in addition to plastic vaginal operations, fixation of the uterus was effected either after a laparotomy or by the Alexander-Adams operation. When the date of relapse was stated, it was usually found to have occurred as soon as the patient came home, and three months was the longest interval between the operation and the relapse. The conclusions to which the analysis points are decidedly in favour of operations which correct the original displacement and maintain the uterus in its normal position. Plastic operations on the vagina and perineum are often insufficient alone to cure prolapse. An additional argument in favour of fixation of the uterus is the plausible supposition that in many cases of prolapse the patient's sufferings are mainly or wholly due to retroflexion of the uterus; and this yields rather to fixation of the uterus than to operations limited to the vagina and perineum.

THERAPEUTICS.

338. The Treatment of Severe Sepsis.

THE late H. BENNECKE (*Muench. med. Woch.*, September 2nd, 1913) has invented a method of treating very severe cases of sepsis which he has applied in 5 cases. Having observed the failure of collargol and antistreptococcic serum to bring about an improvement in an apparently dying woman, he performed venesection and infused a large quantity of normal human serum, with the result that the patient recovered. Of his 5 cases the first was one of *Streptococcus longus* sepsis, with throat symptoms, and a suppurating plaque on the under lip. The infection became general, gingivitis set in, the spleen became enlarged, the leucocytes increased in number, and a septic rash appeared; 400 c.cm. of blood were extracted and 420 c.cm. of normal human serum injected intravenously. The blood was obtained from the doctors and nurses of the clinic. The recovery was complete. The second case was one of enteric fever, with a scarlatinal exanthem and sore throat. The bacteriological examination of the faucial mucus revealed diphtheria bacilli and a few streptococci. The venesection enabled him to extract 200 c.cm. of viscid, quickly-clotting blood: 380 c.cm. of serum were injected. The condition improved at first, but two days later the child died of heart failure, probably due to diphtheria paralysis. The *post-mortem* examination revealed marked hyperaemia of the spleen, dilatation of both ventricles, with acute degeneration and interstitial myocarditis. The blood clot exuded a perfectly clear serum, proving that the injection had not caused any haemolysin. The third case was one of septic scarlatina, with petechial rash and blood-stained diarrhoea. Haemorrhage also took place from the mouth, and noma was noted. The necrotic areas of the lips and tongue were cleaned up by a sharp spoon and cautery, and 300 c.cm. of thick blood were withdrawn; 210 c.cm. normal human serum were injected. The haemorrhages ceased on the following day, and recovery took place steadily from that time onwards. The fourth case was also one of septic scarlatina. The boy was almost moribund, and did not react to the usual remedies. The venesection with injection of normal serum were applied, but at first the heart's action was so feeble that no blood flowed from the open vein. After about 250 c.cm. of the serum were injected, the blood began to flow from the vein which had been opened, and 300 c.cm. were extracted. Recovery took place in this case. The last case was one of very severe scarlatina in a very badly nourished young man. In this case the treatment failed to save the patient. The author points out that the two patients who died were extremely severe cases, and both were so undernourished that recovery was almost impossible. He discusses the rationale of the treatment, stating that the blood-letting is intended to reduce the amount of toxins circulating in the blood, and the injection of the normal serum is supposed to act both mechanically and by introducing antibodies which would enable the body to combat the infection. He is convinced that no other treatment could have achieved the same degree of improvement as the venesection and injection of normal serum did in his 5 cases.

339. Thorium X in Leukaemia.

G. ROSENOW (*Muench. med. Woch.*, October 7th, 1913) recalls that about eighteen months ago Plesch, Falta, Kriser, and Zehner published some most astoundingly beneficial results of treating leukaemia and pernicious anaemia with thorium X. The first named, however, admitted at a later date that this drug did not cure these diseases, but maintained that the symptomatic improvement was far better than that obtainable by any other means. The author has employed thorium X in leukaemic and aleukaemic blood diseases and in pernicious anaemia in the medical clinics of the Königsberg University. In regard to the dosage, he states that since Gudzent published a case of fatal thorium poisoning, the doses have by general consent been diminished. On the basis of a dose emitting approximately the same amount of rays as 0.5 mg. of radium being a safe one, he has given thorium X every six to eight days, without observing any toxic effects. He gives full details of some of his leukaemia cases, and in summing up states that, with the exception of one case of lymphatic and one of myeloid leukaemia, the treatment failed in every instance. The action of thorium X in these cases was to diminish the number of leucocytes to about the same extent as is seen after *x*-ray treatment, but in regard to the differential count, the proportion of the varieties of white cells remained unaffected. He is not inclined to

believe that this failure was due to the smaller doses used than those given by Plesch, chiefly because Minkowski and others have also failed to obtain satisfactory results with larger doses. But he is of opinion that since the results were practically the same as those obtained with *x* rays, the preference must be given to thorium X, on account of an exact dosage being more readily obtained, and because no special apparatus is required. In some of his cases, however, he has noted that thorium X may fail and good results may be obtained with Roentgen rays. He has not come across a case in which the reverse took place.

340. Epithelioma Treated with Jequirity.

CHIRI (*Gazz. degli Osped.*, September 4th, 1913) reports the case of a woman, aged 67, admitted October 22nd for an epitheliomatous ulcer at the tip of the nose which began about a year ago and is now (October 22nd) about 2 cm. in diameter; a similar nodule could be seen on the left cheek. There was slight enlargement of the submental glands. Microscopic examination showed the growth to be epitheliomatous. On October 30th gelatine discs containing jequirity, prepared according to the formula of Professor Rampoldi, were given, alternating with the application of a 30 per cent. ointment. After the first few days a rather intense reaction was set up in the wound and the base became covered with serous exudation and crusts; these latter were removed and the discs reapplied. In a month's time the whole thing was healed and a further treatment of twenty days sufficed to cure the ulcer on the cheek. The Wassermann and cuti reactions were negative. A photograph of the condition before and after treatment is given.

341. Staphylococcal Vaccines in Progressive Paralysis.

W. V. JAUREGG (*Wien. med. Woch.*, September 29th, 1913) began to treat progressive paralysis two and a half years ago with staphylococcal vaccines because tuberculin had proved useful in this disease, and it was therefore conceivable that other bacteriological preparations would be effective. The observation that remissions of general paralysis frequently follow intercurrent maladies, particularly when associated with suppuration, was a further inducement to attempt therapeutic injections of staphylococcal vaccines. Of 33 cases of progressive paralysis thus treated, 20, or 62 per cent., showed a remission after the injections. This is a much higher percentage of remissions than is observed in cases of progressive paralysis not thus treated. Remissions following an injection were much more frequent in the early than in the advanced stages of paralysis, the percentage of remissions for the early and late cases being 74 and 30 respectively. But even in an advanced stage of the disease great improvement was sometimes effected. The degree and duration of improvement varied considerably. Five patients returned to work and 4 others were able to live active, independent lives; but 15 of the 20 who showed remissions also relapsed. In one of these cases the remission lasted a year and a half, during which the patient led a normal life. Sometimes repeated courses of vaccine effected remissions in the same patient, and this has also been observed after tuberculin treatment of progressive paralysis. These consecutive remissions following the treatment further support the claims to its efficacy; for, while one spontaneous remission is not rare, several spontaneous remissions in the same patient are seldom seen. In one case a remission lasting four months was followed by a second course of vaccine treatment which effected a remission lasting only two months. In another case the first course of vaccine treatment induced a remission lasting two months, but the second course proved futile. The author gives no particulars as to the number of injections given in each case, or to the technique practised, or to the reaction observed. His maximum dose was 1,000 million staphylococci. Apparently, however, a much higher dose can be given with impunity, and Dölken has given a dose of 5,000 million staphylococci in cases of tabes.

342. Tuberculin in Diseases of the Eye.

IN the course of six years ST. BERNHEIMER (*Wien. med. Woch.*, October 11th, 1913) has given tuberculin for diseases of the eye to 425 patients, most of whom were markedly scrofulous. It was observed that when scrofula was complicated by streptococcal or staphylococcal infection tuberculin did no good until the mixed infection was removed by drugs or an operation. Tuberculin was of special value in parenchymatous keratitis when Wassermann's reaction was negative and there was neither a history nor a clinical sign of syphilis. Such cases—which constituted 8 to 10 per cent. of the total of 300 cases of parenchymatous keratitis—differed in no respect clinically from those of congenital syphilis. In many cases of parenchymatous keratitis in the subjects of congenital syphilis, a positive reaction to tuberculin was observed. In these cases antisyphilitic treatment, succeeded by treatment with tuberculin, gave very satisfactory results, particularly when repeated at certain intervals. Several cases of chronic iritis, irido-cyclitis, and disseminated choroiditis, in which syphilis was excluded, gave a positive reaction to tuberculin, and rapidly recovered under treatment with tuberculin. The permanent, as well as the immediate, effects were usually excellent, and the percentages of relapses was reduced from 50, as observed before tuberculin was given, to 20. At first bacillary emulsion was injected. Later, albumose-free tuberculin was found to have a less violent action. In 70 cases this tuberculin, diluted with glycerine in the proportion of 1 to 5, was given by the percutaneous method. This is less effective, but is suitable for ambulatory treatment. The combination of the subcutaneous and percutaneous methods was the most effective, and was continued for four to six weeks in adults. Sometimes it was followed by a course of percutaneous treatment only. In the case of children, particularly when weakly, the treatment consisted of inunction only, and this was followed by injections only when a more powerful stimulus was required. The same procedure was adopted three to six months or more after the first course to prevent a relapse. The author points out the advantages of sunlight and mountain air as supplements to the treatment of tuberculous diseases of the eye with tuberculin.

PATHOLOGY.

343. Haemorrhagic Pancreatitis.

WHIPPLE AND GOODPASTURE report (*Surg., Gyn., Obstet.*, November, 1913) the result of experiments upon the toxicity of the peritoneal exudate in cases of acute haemorrhagic pancreatitis. They observe that this exudate is looked upon by the majority of surgeons as very poisonous, and various methods have been evolved for its removal and drainage. In fact, some writers have gone so far as to say that there can be no recovery without drainage. In their experiments Whipple and Goodpasture produced acute pancreatitis in dogs by the injection of pig's bile into the pancreatic duct. They found that the peritoneal exudate so produced is not harmful to normal dogs, nor to animals with acute pancreatitis. Furthermore, they believe they are justified in stating that it is protective, and that its outpouring causes more or less dilution, neutralization, and absorption of the ferments and probably of toxic substances; thus, sulphonephthalein when introduced on the day following the production of the pancreatitis was rapidly absorbed from the peritoneal cavity. It is probable that the rapid absorption is via the blood vessels rather than the lymphatics. A point of considerable interest is that in those cases where two experiments were done at the same time, the same amount of bile being introduced into the pancreatic ducts, the dog which was subsequently explored and from which the haemorrhagic peritoneal exudate was removed, was invariably more sick or died sooner than the control animal. These experiments seem to prove that the pancreas can survive remarkable grades of injury, and this must always be considered in drawing deductions from any surgical procedure. Nevertheless, its capability of repair seems greatest when the gland is left undisturbed in a *closed* abdomen.

344. Specificity of the Defensive Ferments.

IN a brief note, EMIL ABDERHALDEN and ERWIN SCHIFF (*Muench. med. Woch.*, September 2nd, 1913), having been challenged on the question of the true specificity of the so-called defensive ferments in the serum have brought forward evidence in favour of this. They claim that the serum of persons with haematomata dissociates not only blood itself but also muscular tissue, but not liver or placenta. Turning to the ferments found in pregnancy, they have tested the serum of pregnant rabbits, and find that the dissociation only occurs toward placenta and those organs which cannot be completely freed from blood. In about 500 cases of pregnancy (human and animal), the reaction proved positive in 5 per cent. of the examined cases when liver was used, 2 per cent. when thyroid gland was used. But they found that the more care they exercised in their tests, and the more they attempted to exclude all sources of error, the smaller were the number of instances in which tissues other than placenta was dissociated.

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